

SUP APR 12

PROJECT ID: 1198-00-61  
WITH: 1198-00-75

COUNTY: DOUGLAS

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. 5	Plan
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
<del>Section No. 8</del>	<del>Structure Plans</del>

TOTAL SHEETS = 150

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

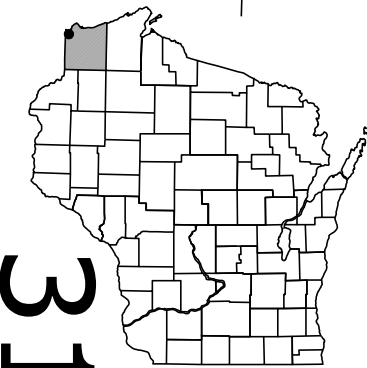
## STATE HIGHWAY REHABILITATION-MAINTENANCE PROJECT

### SUPERIOR - DULUTH

BELKNAP STREET TO BLATNIK BRIDGE

### USH 53 DOUGLAS

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1198-00-61	WISC 2012176	1



BEGIN PROJECT 1198-00-61  
STA 23+45.0

N = 306000.0  
E = 156000.9



CITY OF SUPERIOR

STATE PROJECT NUMBER  
**1198-00-61**

STATION EQUATION  
60+12.5BK = 60+41.38AHD

EXCEPTION TO NET  $\varnothing$  LENGTH  
STA 71+67-75+85 (B-16-10)

EXCEPTION TO NET  $\varnothing$  LENGTH  
STA 75+85-77+38 (B-16-11)

STATION EQUATION  
85+08.87BK = 85+09.42AHD

EXCEPTION TO NET  $\varnothing$  LENGTH  
STA 86+52-93+02 (B-16-12)

END PROJECT 1198-00-61  
STA 125+00.0

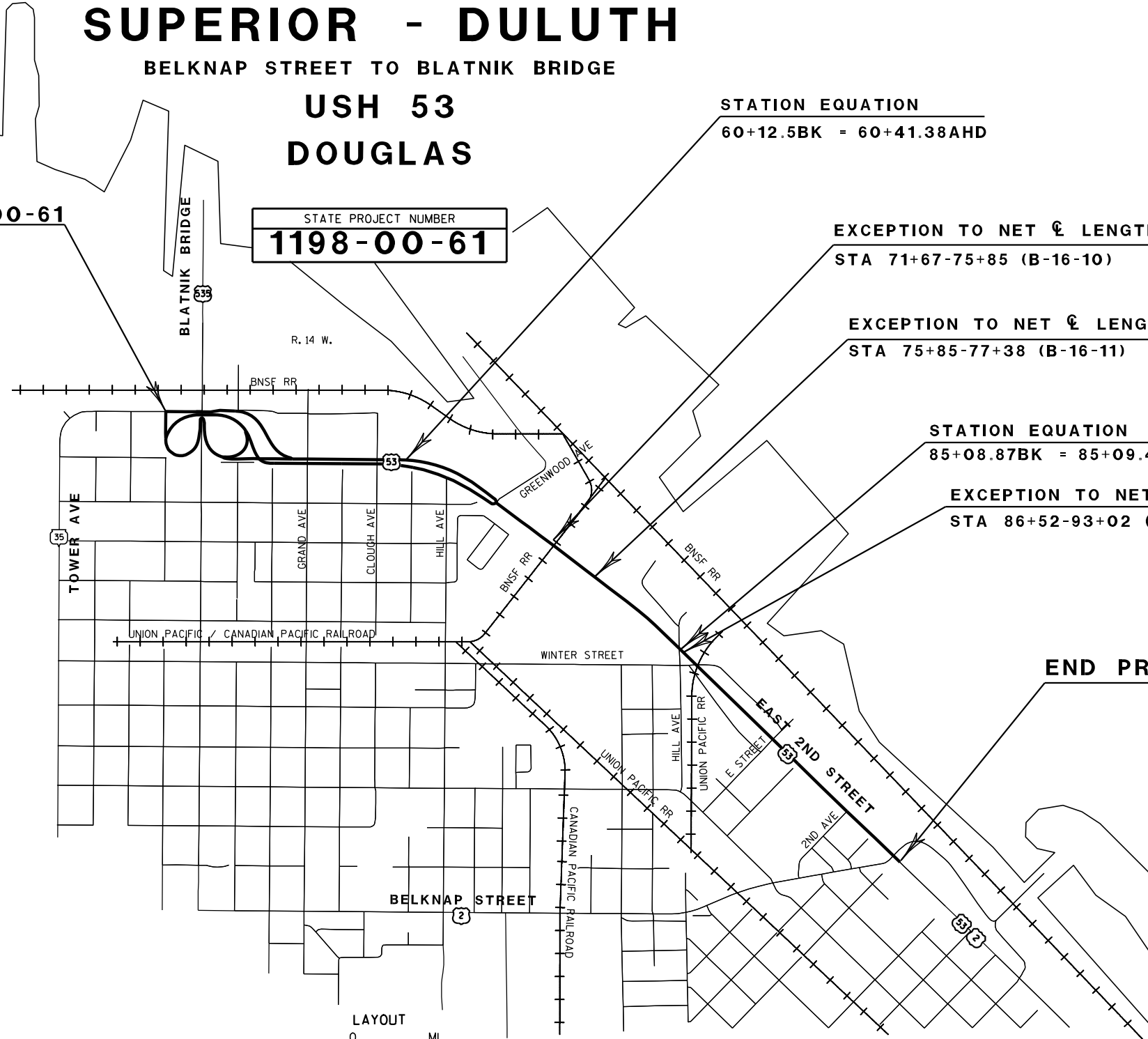
N = 306000.0  
E = 156000.9

DESIGN DESIGNATION

A.A.D.T. (2012)	= 17,300
A.A.D.T. (2032)	= 21,700
D.H.V.	= 5,600
D.D.	= 58/42
T. (DHV)	= 9.0
DESIGN SPEED	= 35/45 MPH
ESALS	= 5.146.500

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
REFERENCE LINE	
COMBUSTIBLE FLUIDS	
UTILITIES	
ELECTRIC	— E —
FIBER OPTIC	— FO —
GAS	— G —
SANITARY SEWER	— SAN —
STORM SEWER	— SS —
TELEPHONE	— T —
WATER	— W —
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	



LAYOUT  
SCALE 0 MI.

TOTAL NET LENGTH OF CENTERLINE = 1.75 MI.

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WIDOT NW REGION
Designer	BRIAN MATTSON
Project Manager	BRENDAN DIRKES PE
Regional Examiner	DONALD DAHLE
Regional Supervisor	ROBERT ANDERSON PE
C.O. Examiner	JANE ENGBRETTSEN

APPROVED FOR THE DEPARTMENT

DATE: 02/01/12

(Signature)

## DNR CONTACT

AMY CRONK  
WDNR - NORTHWEST DISTRICT  
HEADQUARTERS  
810 WEST MAPLE STREET  
SPOONER, WI 54801  
PHONE: (715) 635-4229

## UTILITIES

CENTURYLINK  
135 N 21ST STREET.  
SUPERIOR, WI 54880  
ATTN: STEVE HAUGE  
PHONE: (715) 566-3879

SUPERIOR WATER LIGHT AND POWER  
2915 HILL AVENUE  
SUPERIOR, WI 54880  
ATTN: AARON ANDERSON - WATER & GAS  
PHONE: (715) 395-6317  
KEVIN HABERMAN - ELECTRIC  
PHONE: (715) 395-6315

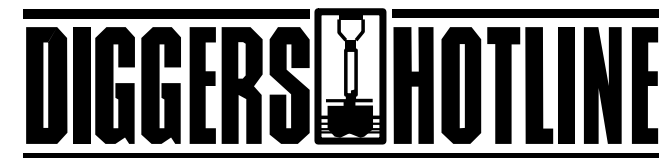
CITY OF SUPERIOR SEWER DEPARTMENT  
(SANITARY AND STORM SEWER)  
51 E 1ST STREET.  
SUPERIOR, WI 54880  
ATTN: CHRIS CARLSON  
PHONE: (715) 394-0392

CHARTER COMMUNICATIONS  
640 GARFIELD AVENUE  
DULUTH, MN 55802  
ATTN: JOHN QUADE  
PHONE: (218) 529-8042

CALUMET  
2407 STINSON AVENUE  
PO BOX 2066  
SUPERIOR, WI 54880  
ATTN: SAM TALARICO  
PHONE: (715) 398-8264

## DOUGLAS COUNTY CONTACT

PAUL HALVERSON  
DOUGLAS COUNTY HIGHWAY DEPARTMENT  
7417 COUNTY ROAD E  
PO BOX 174  
HAWTHORNE, WI 54842  
PHONE: (715) 374-2575



**Toll Free (800) 242-8511**  
**Milwaukee Area (414) 259-1181**  
**Hearing Impaired TDD (800) 542-2289**  
**www.DiggersHotline.com**

## CITY OF SUPERIOR CONTACT

TODD JANIGO  
CITY OF SUPERIOR STREET DEPARTMENT  
7417 HILL AVENUE  
SUPERIOR, WI 54880  
PHONE: (715) 394-2575

BRIAN OLSON  
CITY OF SUPERIOR STREET DEPARTMENT  
7417 HILL AVENUE  
SUPERIOR, WI 54880  
PHONE: (715) 395-7300

CHRIS CARLSON  
CITY OF SUPERIOR SEWER DEPARTMENT  
7417 HILL AVENUE  
SUPERIOR, WI 54880  
PHONE: (715) 394-0392 EXT151

## GENERAL NOTES

CONSTRUCTION LONGITUDINAL JOINTS SHALL NOT BE LOCATED WITHIN A DRIVING,PASSING, OR TURN LANE.

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

CONTROL POINTS ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM DOUGLAS COUNTY. BENCHMARK ELEVATIONS ARE REFERENCED TO NGVD 29.

ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE IMPERVIOUS AREAS, GRAVEL SURFACES, AND SODDED AREAS SHALL BE FERTILIZED, SEEDED AND EMATED.

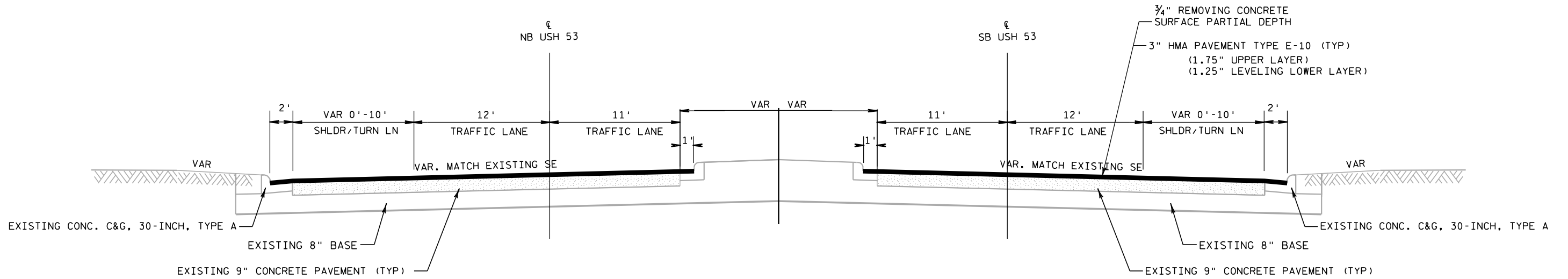
NO TREE SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

## DOT CONTACTS

TRAFFIC: MORRIS LUKE 715-392-7886  
RAILS: ANNA DAVEY 715-392-7960  
UTILITIES: SUSAN HELLER 715-392-7933  
DESIGN: BRIAN MATTSON 715-395-3035  
1701 NORTH FOURTH STREET  
SUPERIOR, WI 54880

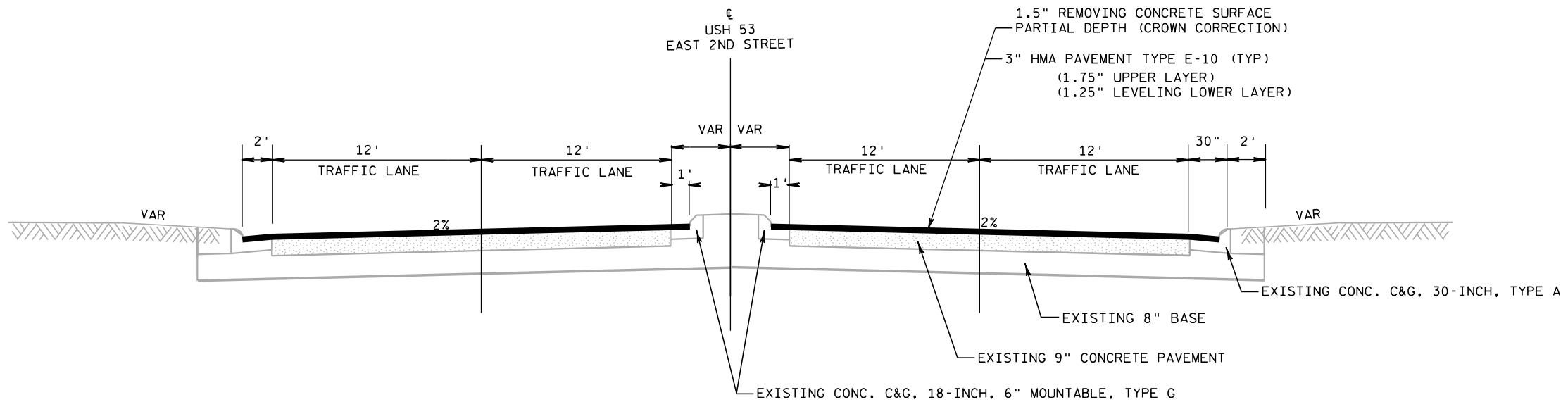
## RAIL ROAD CONTACT

BURLINGTON NORTHERN SANTA FE RAIL ROAD  
3611 W 38TH STREET  
CHICAGO, IL 60632  
ATTN: FRENCH THOMPSON III  
PHONE: (773) 579-5092  
FAX: (773) 579-5013



**FINISHED TYPICAL SECTION**

STATIONS 23+45 - 36+00

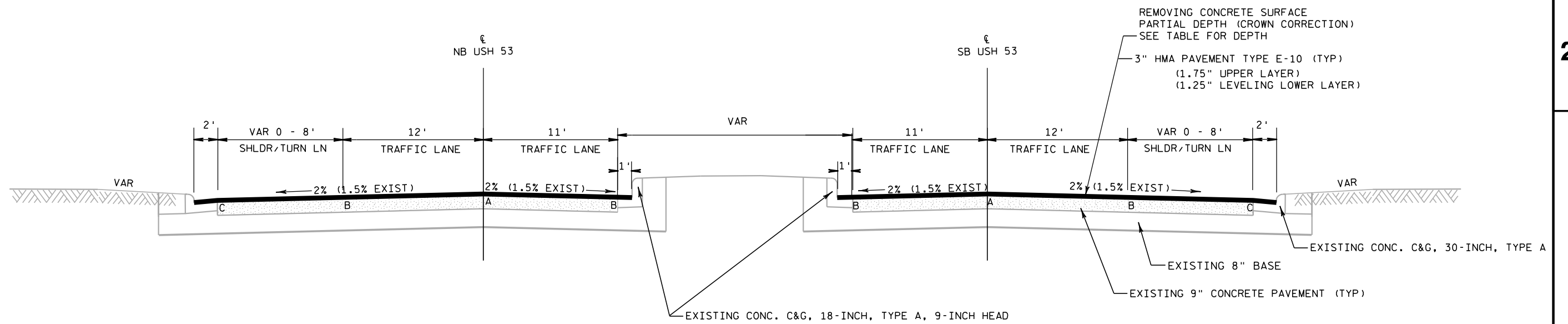


**FINISHED TYPICAL SECTION**

STATIONS 71+67 - 75+85  
STATIONS 77+38 - 86+52  
STATIONS 93+02 - 125+00

**\* NOTE:**

SOME AREAS WILL REQUIRE FULL DEPTH CONCRETE PAVEMENT REPAIR OR CONCRTE PAV'T REPLACEMENT  
LOCATIONS TO BE DETERMINED BY FIELD ENGINEER.  
SEE STANDARD DETAIL DRAWINGS FOR CONCRTE PAVEMENT REPAIR.

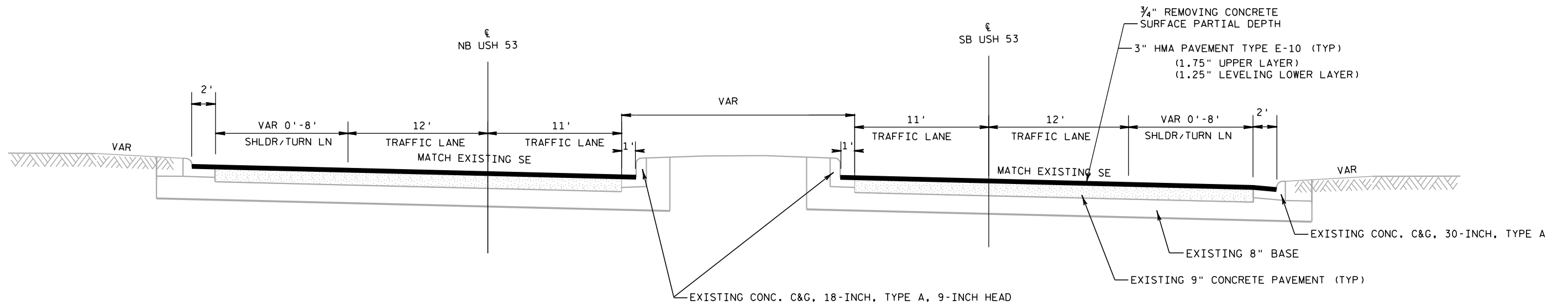


**FINISHED TYPICAL SECTION**

STATIONS 36+00 - 47+79

**REM. CONCRETE SURFACE  
PARTIAL DEPTH**

POINT	A	B	C
REMOVAL DEPTH	3/4"	1.4"	1.9"



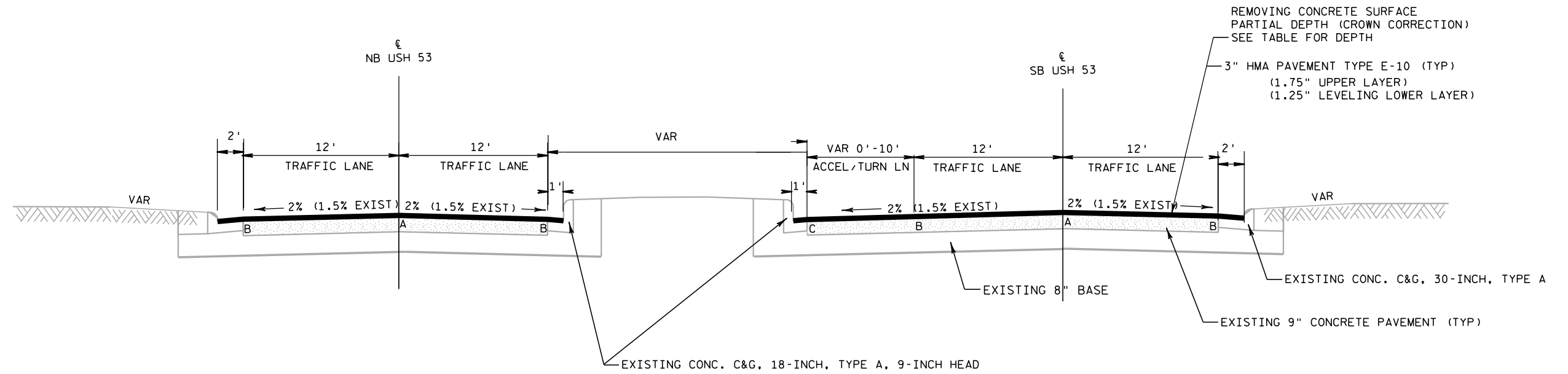
**FINISHED TYPICAL SECTION**

STATIONS 47+79 - 61+59

**\* NOTE:**

SOME AREAS WILL REQUIRE FULL DEPTH CONCRETE PAVEMENT REPAIR OR CONCRTE PAV'T REPLACEMENT LOCATIONS TO BE DETERMINED BY FIELD ENGINEER. SEE STANDARD DETAIL DRAWINGS FOR CONCRTE PAVEMENT REPAIR.



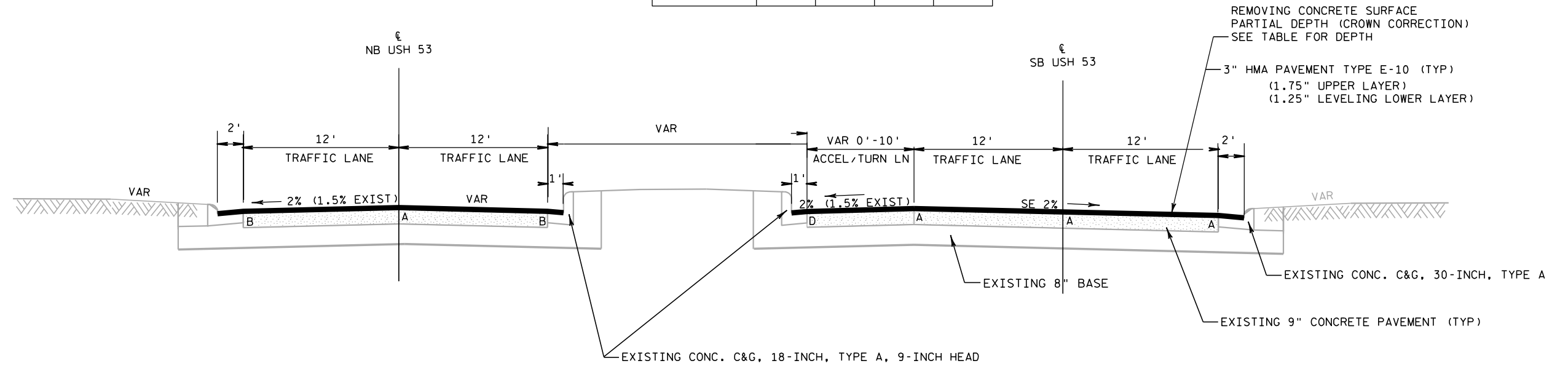


**FINISHED TYPICAL SECTION**

STATIONS 61+59 - 63+67

**REM. CONCRETE SURFACE PARTIAL DEPTH**

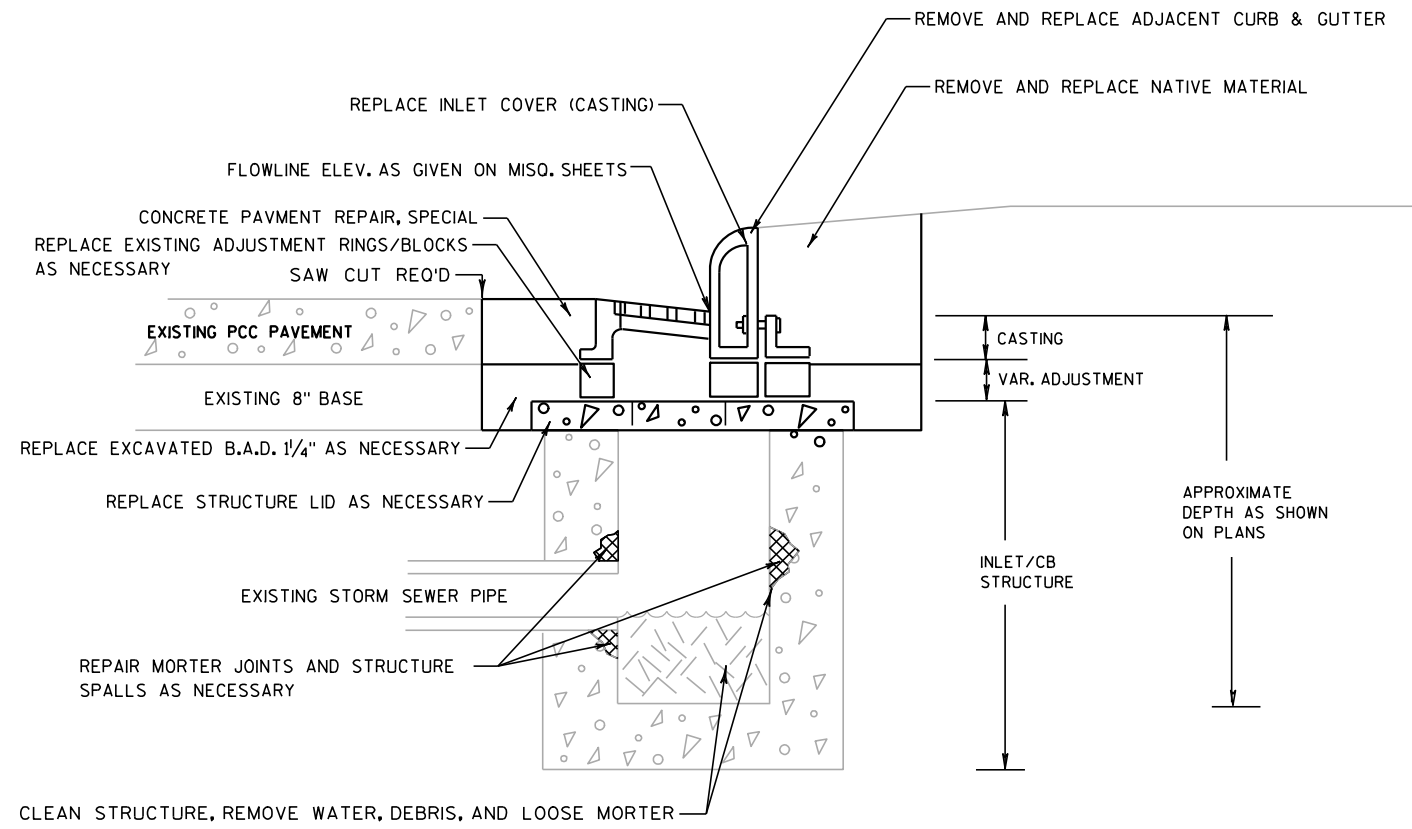
POINT	A	B	C	D
REMOVAL DEPTH	3/4"	1.5"	2.0"	1.4"



**FINISHED TYPICAL SECTION**

STATIONS 63+67 - 69+70

\* NOTE:  
SOME AREAS WILL REQUIRE FULL DEPTH CONCRETE PAVEMENT REPAIR OR CONCRTE PAV'T REPLACEMENT  
LOCATIONS TO BE DETERMINED BY FIELD ENGINEER.  
SEE STANDARD DETAIL DRAWINGS FOR CONCRTE PAVEMENT REPAIR.



### MANHOLE/INLET/CATCH BASIN DETAIL

SEE PLANS AND QUANTITIES FOR LOCATIONS

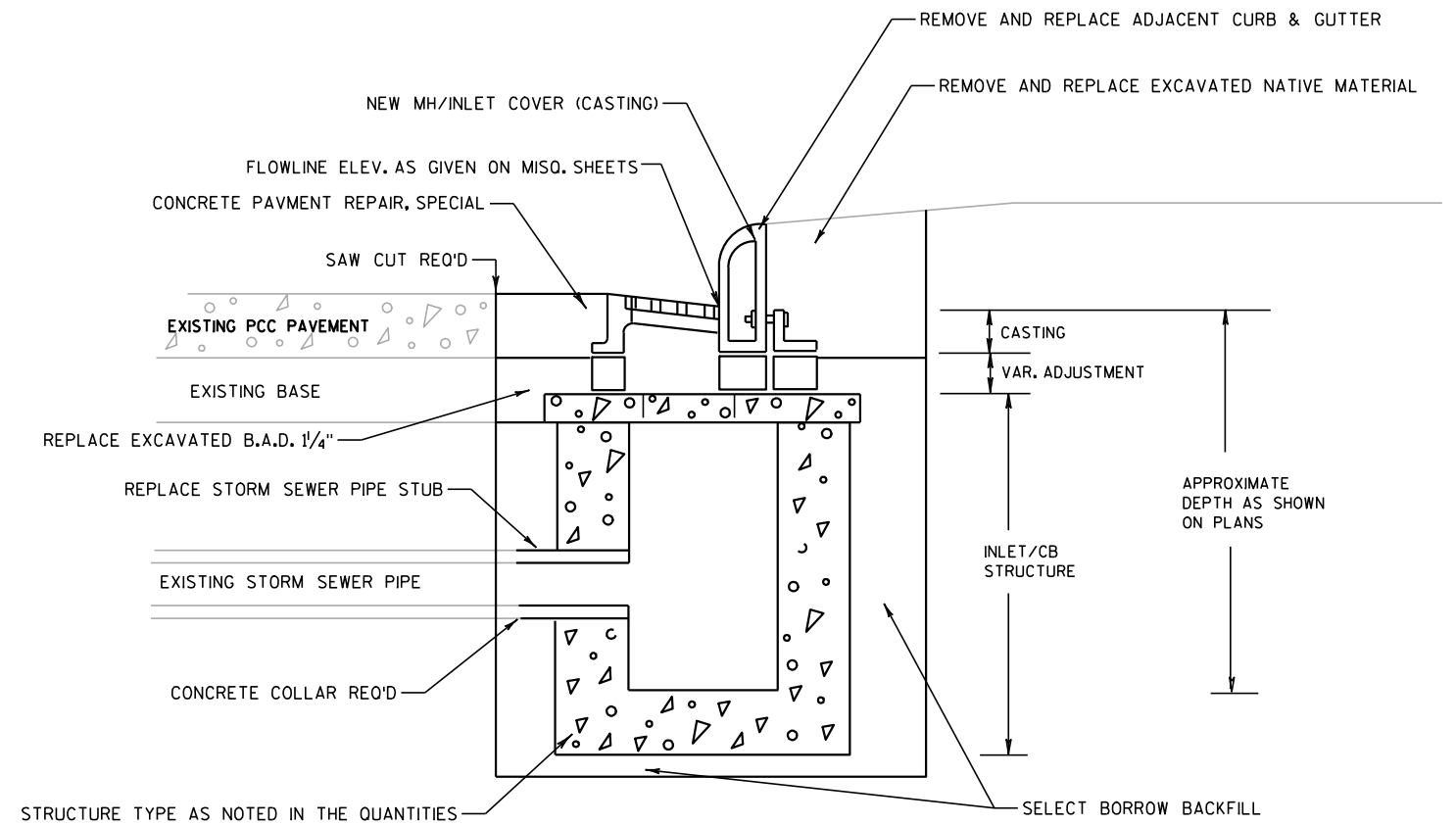
#### INCIDENTAL WORK, NO SEPARATE MEASUREMENT & PAYMENT

- ADJUSTMENT RINGS OR BLOCKS
- REMOVE AND REPLACE STRUCTURE LID
- STRUCTURE JOINT AND SPALL REPAIR
- REMOVE AND REPLACE NATIVE MATERIAL
- CLEAN STRUCTURE
- CASTING REMOVAL

#### WORK MEASURED & PAID SEPARATELY

- INLET/ MANHOLE COVER (CASTING)
- CONCRETE PAV'T REPAIR (REMOVAL INCIDENTAL)
- REMOVE AND REPLACE CURB & GUTTER
- BASE AGG. DENSE 1/4- INCH
- SAWING PAVEMENT

## RECONSTRUCTING CATCH BASIN/MANHOLE



### MANHOLE/INLET/CATCH BASIN DETAIL

SEE PLANS AND QUANTITIES FOR LOCATIONS

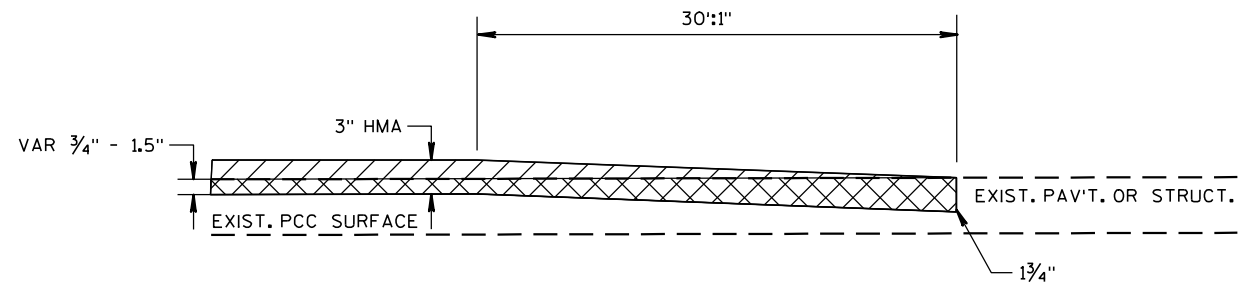
#### INCIDENTAL WORK, NO SEPARATE MEASUREMENT & PAYMENT



- ADJUSTMENT RINGS OR BLOCKS
- STORM SEWER PIPE STUB
- SELECT BORROW BACKFILL
- REMOVE AND REPLACE NATIVE MATERIAL
- CASTING AND OLD STRUCTURE REMOVAL

#### WORK MEASURED & PAID SEPARATELY

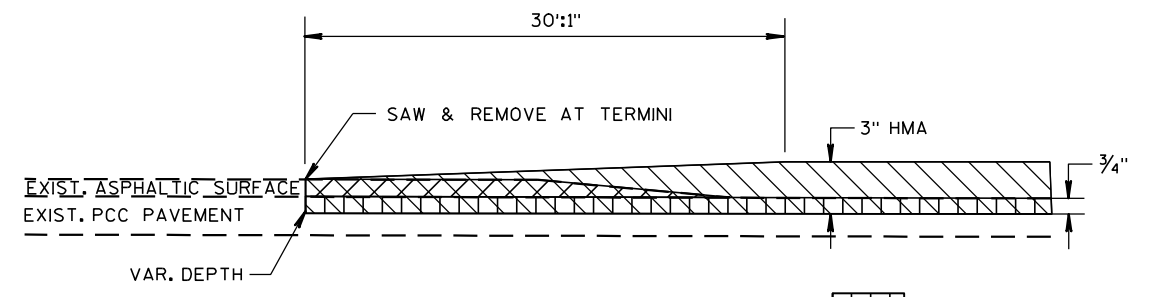
- INLET/ MANHOLE COVER (CASTING)
- CONCRETE PAV'T REPAIR (REMOVAL INCIDENTAL)
- REMOVE AND REPLACE CURB & GUTTER
- BASE AGG. DENSE 1/4- INCH
- NEW STRUCTURE
- SAWING PAVEMENT
- CONCRETE COLLAR




## CATCH BASIN/MANHOLE REPLACEMENT



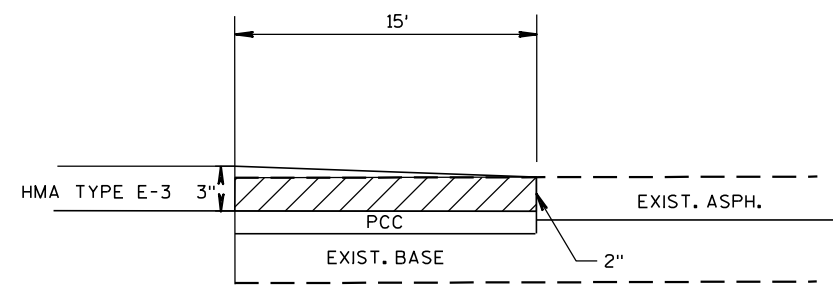
 CONC. SURFACE REMOVAL, PARTIAL DEPTH  
 HMA PAVEMENT TYPE E-10

**MAINLINE BUTTED JOINT DETAIL**  
BRIDGE ABUTMENTS



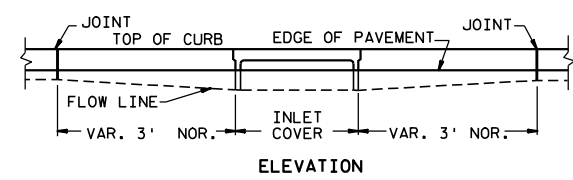
 3/4" CONC. SURFACE REMOVAL, PARTIAL DEPTH  
 HMA PAVEMENT TYPE E-10  
 REM. ASPHALTIC SURFACE BUTT JOINT

**MAINLINE BUTTED DETAIL**  
STA. 23+45

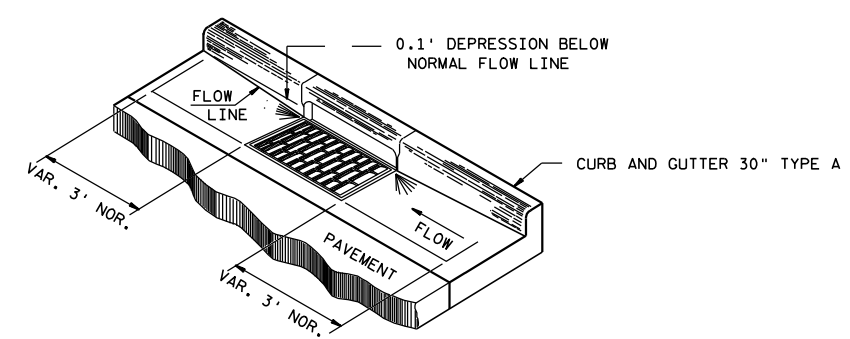


 CONC. SURFACE REMOVAL, PARTIAL DEPTH

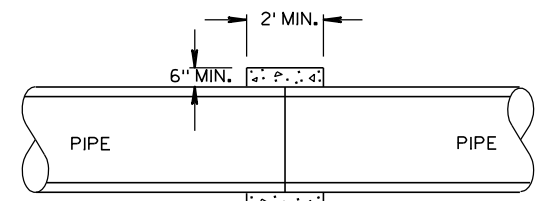
**SR BUTTED JOINT DETAIL**  
ALL SIDEROADS



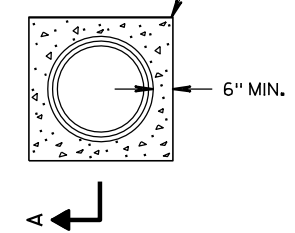
**ELEVATION**



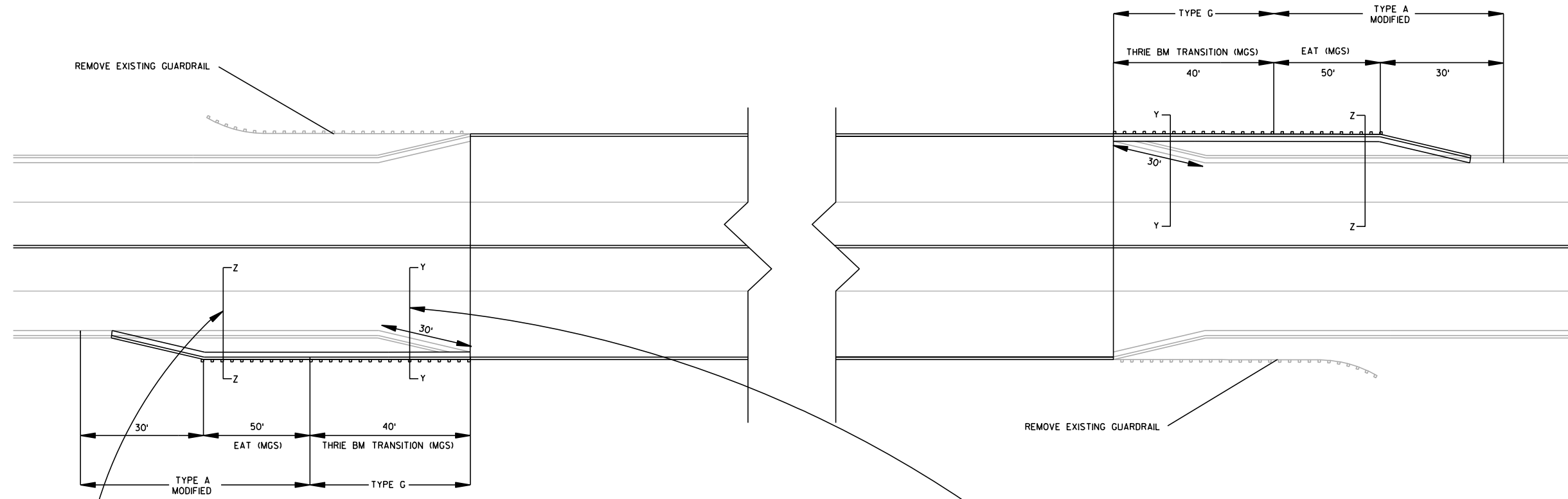
**INLETS AT CURB AND GUTTER**



SECTION A-A  
CONCRETE MASONRY COLLAR WHERE REQ'D. TO SEAL PIPE



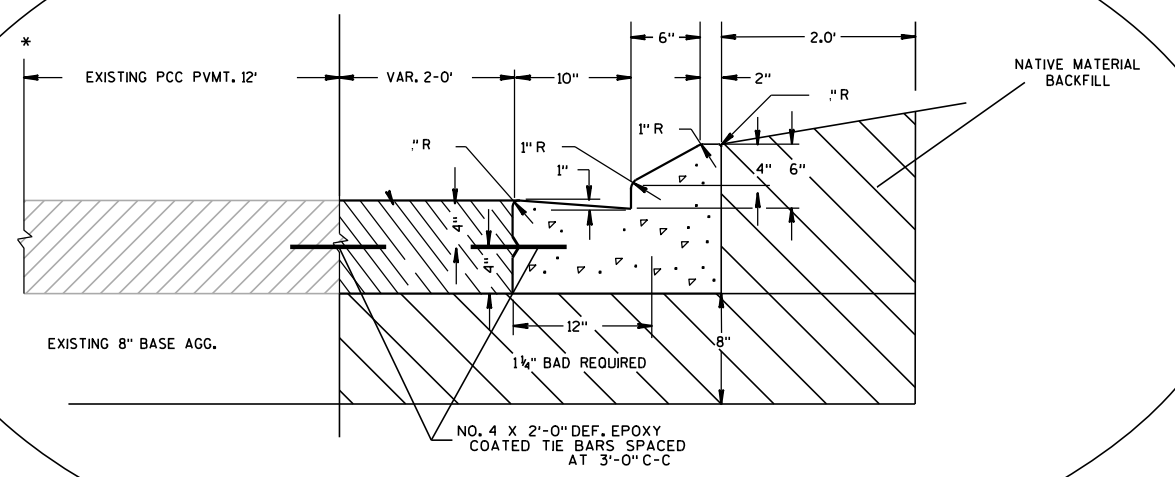
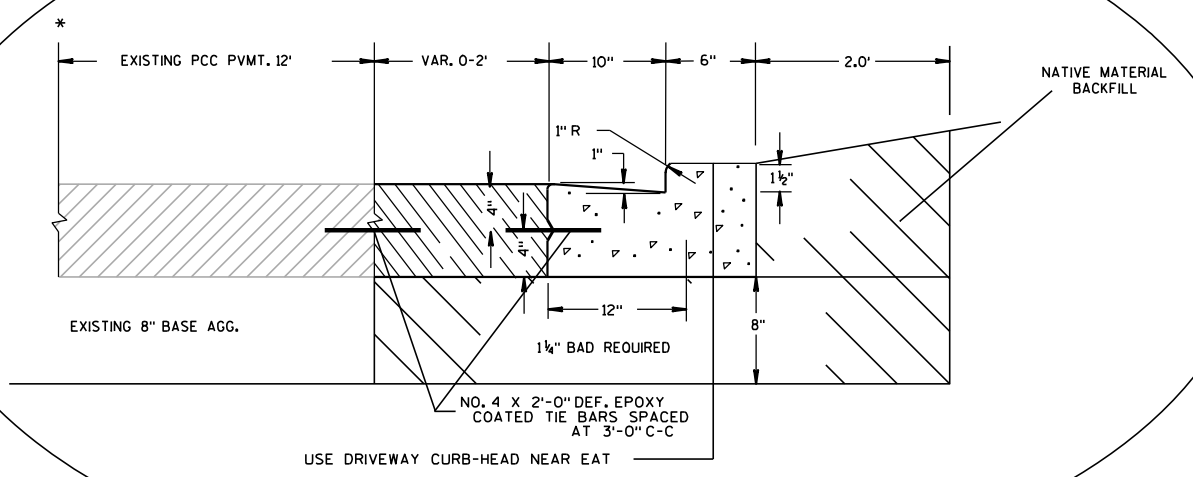
**CONCRETE COLLAR DETAIL**



**GUARDRAIL DETAIL AT BRIDGES**  
 STRUCTURE B-16-10  
 STRUCTURE B-16-11  
 STRUCTURE B-16-12

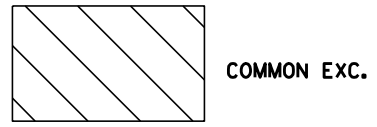
**SECTION Z-Z**

**SECTION Y-Y**



**CONCRETE CURB & GUTTER.**  
 30-INCH, TYPE A\*

**CONCRETE CURB & GUTTER.**  
 4-INCH SLOPED, 30-INCH TYPE G



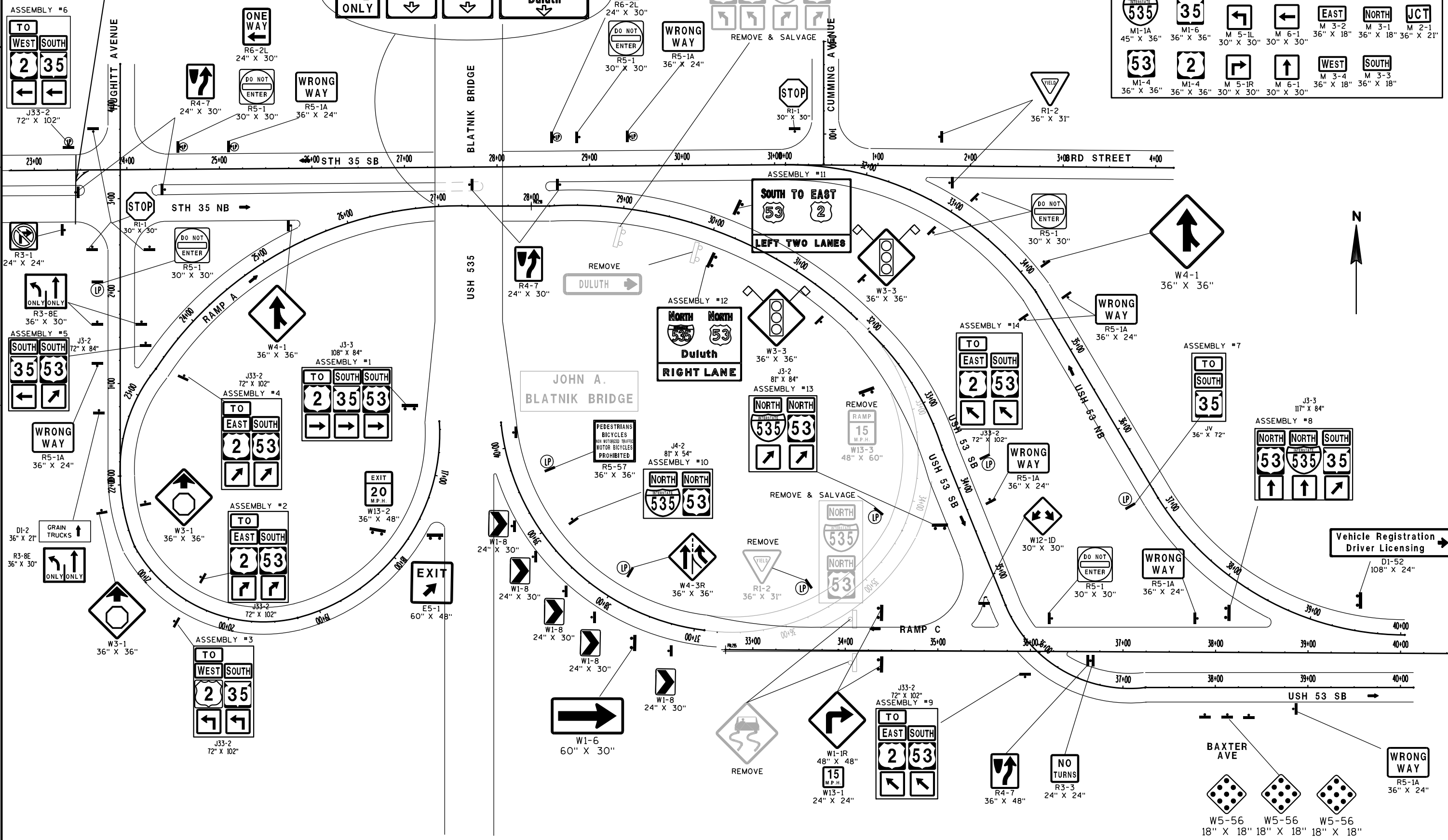
\* ENTIRE LENGTH TO BE CURB CUT AS DETAILED

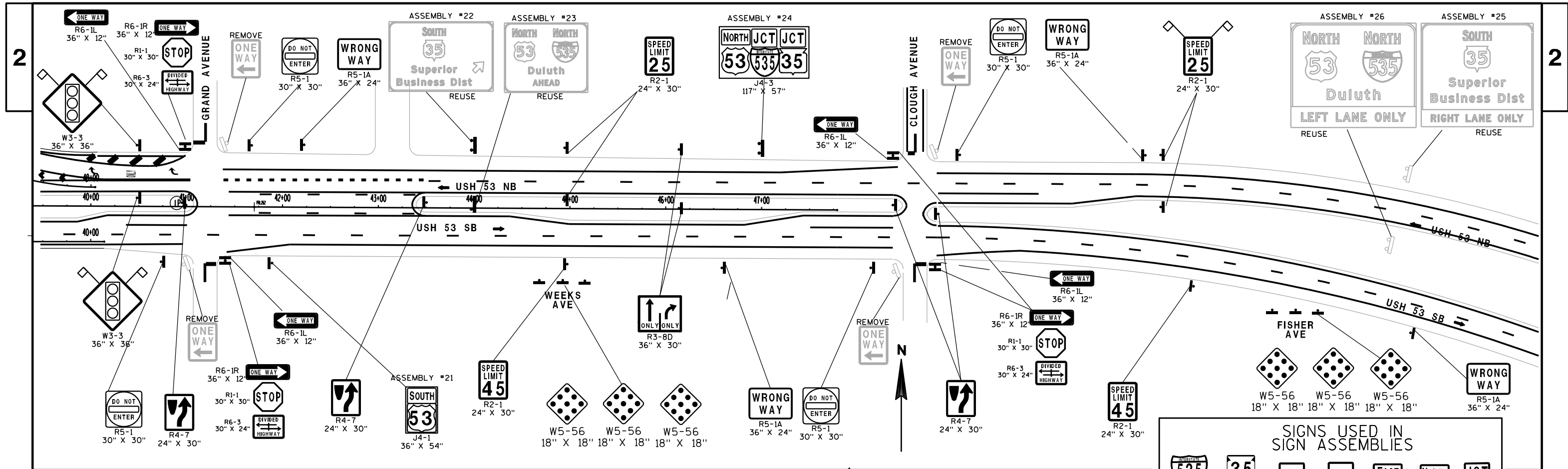
BEGIN PROJECT  
STA 23+45

BRIDGE MOUNTED GROUP

SIGNS USED IN SIGN ASSEMBLIES

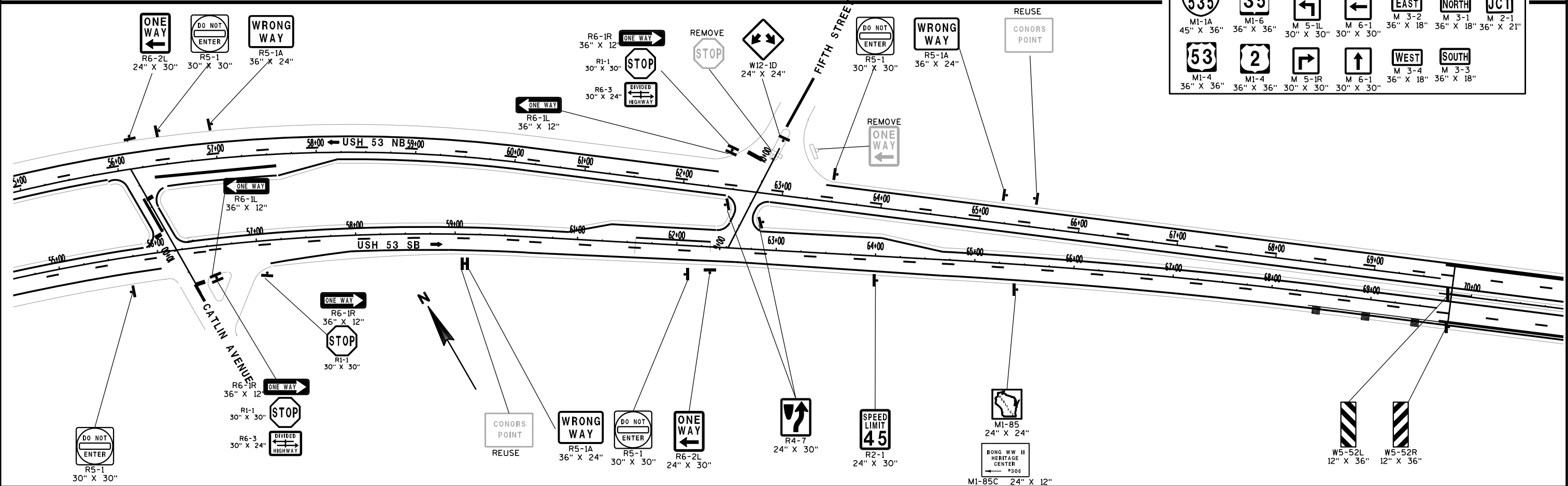
M1-1A 45" X 36"	M1-6 36" X 36"	M 5-1L 30" X 30"	M 6-1 30" X 30"	M 3-2 36" X 18"	M 3-1 36" X 18"	M 2-1 36" X 21"
M1-4 36" X 36"	M1-4 36" X 36"	M 5-1R 30" X 30"	M 6-1 30" X 30"	M 3-4 36" X 18"	M 3-3 36" X 18"	

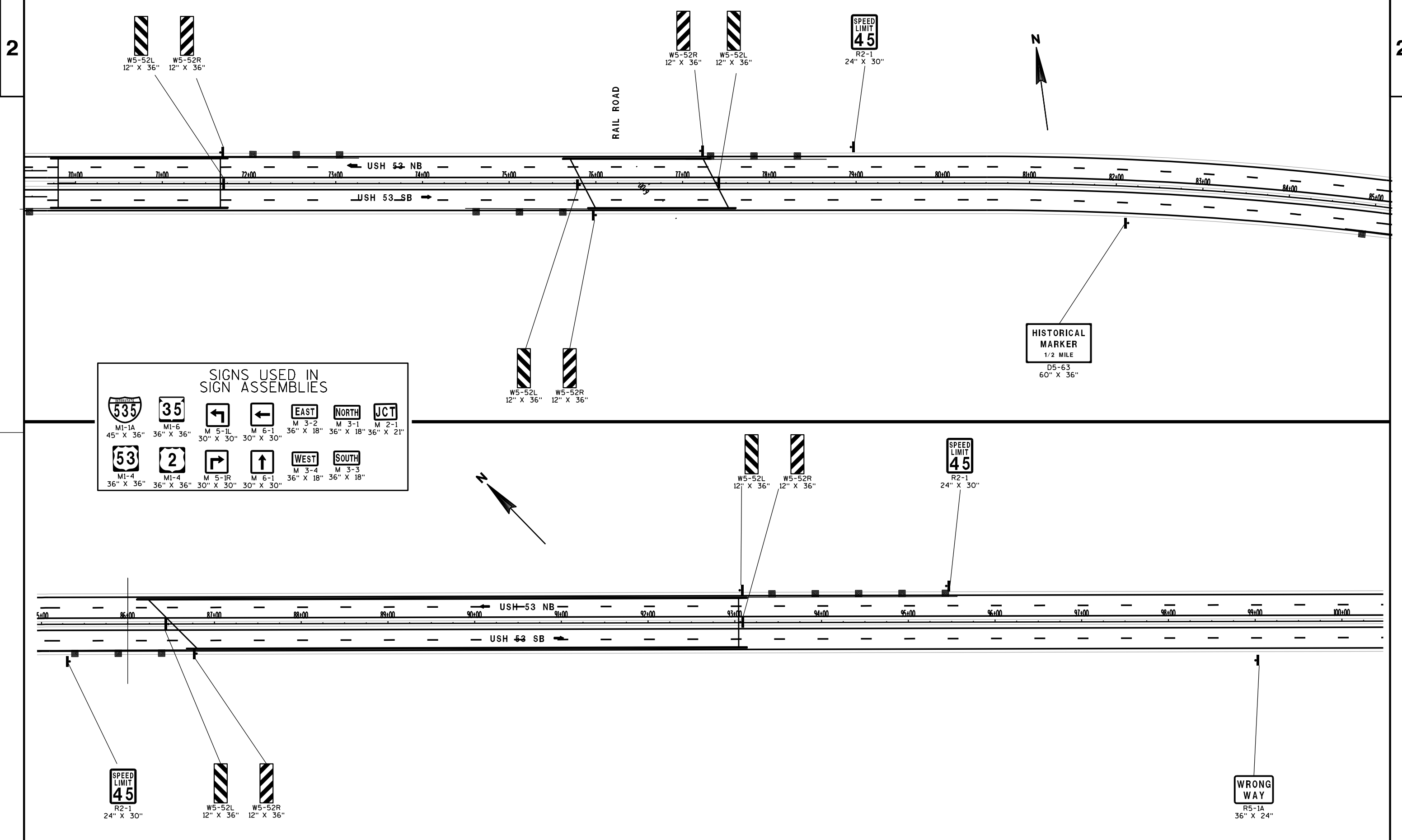


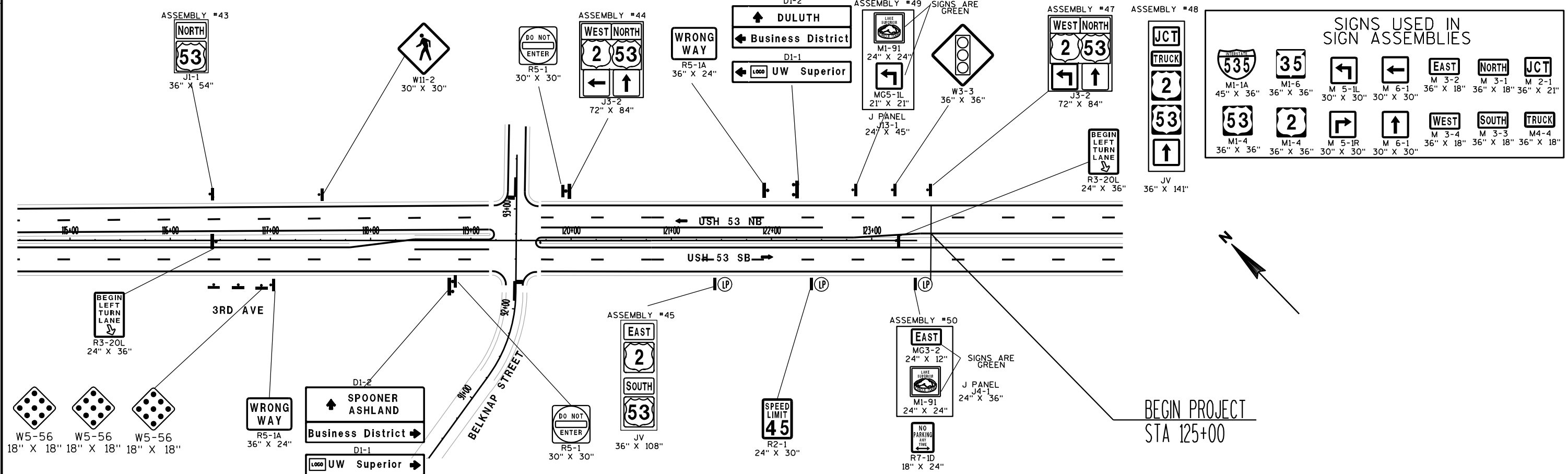
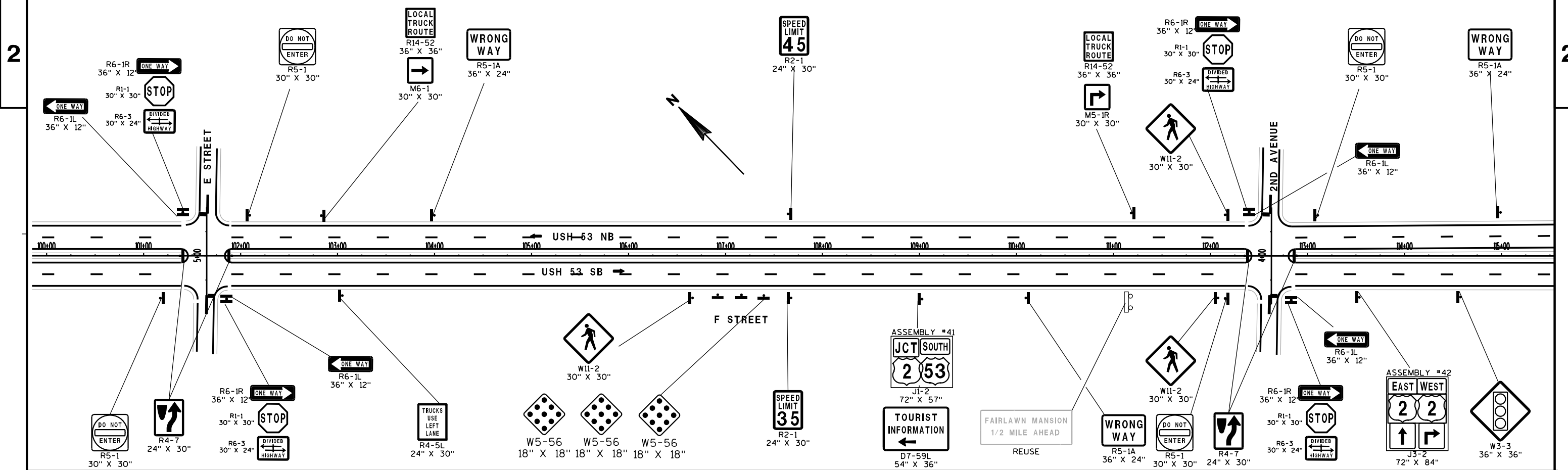


**SIGNS USED IN SIGN ASSEMBLIES**

45" X 36"	36" X 36"	30" X 30"	30" X 30"	36" X 18"	36" X 18"	36" X 21"
36" X 36"	36" X 36"	30" X 30"	30" X 30"	36" X 18"	36" X 18"	

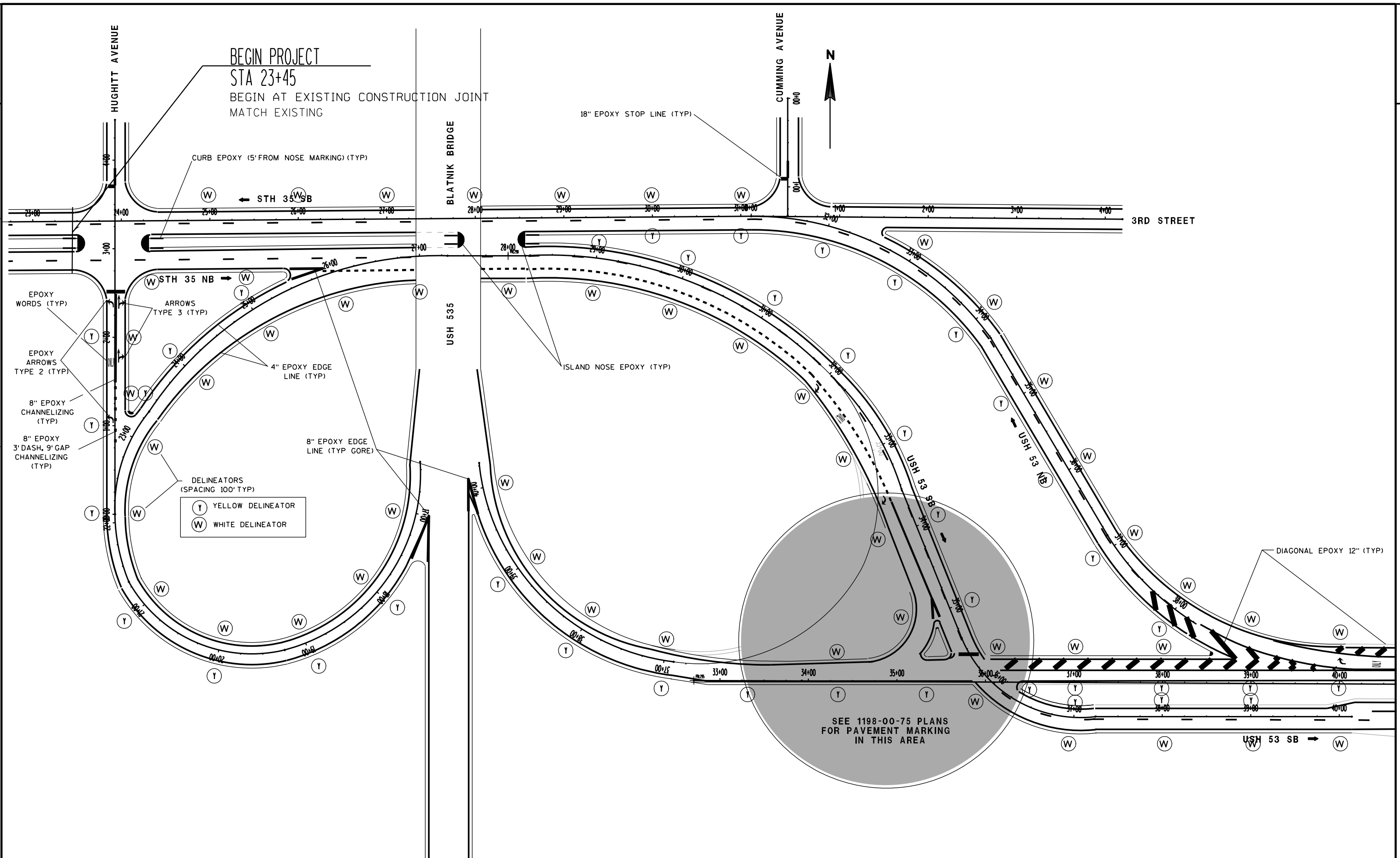




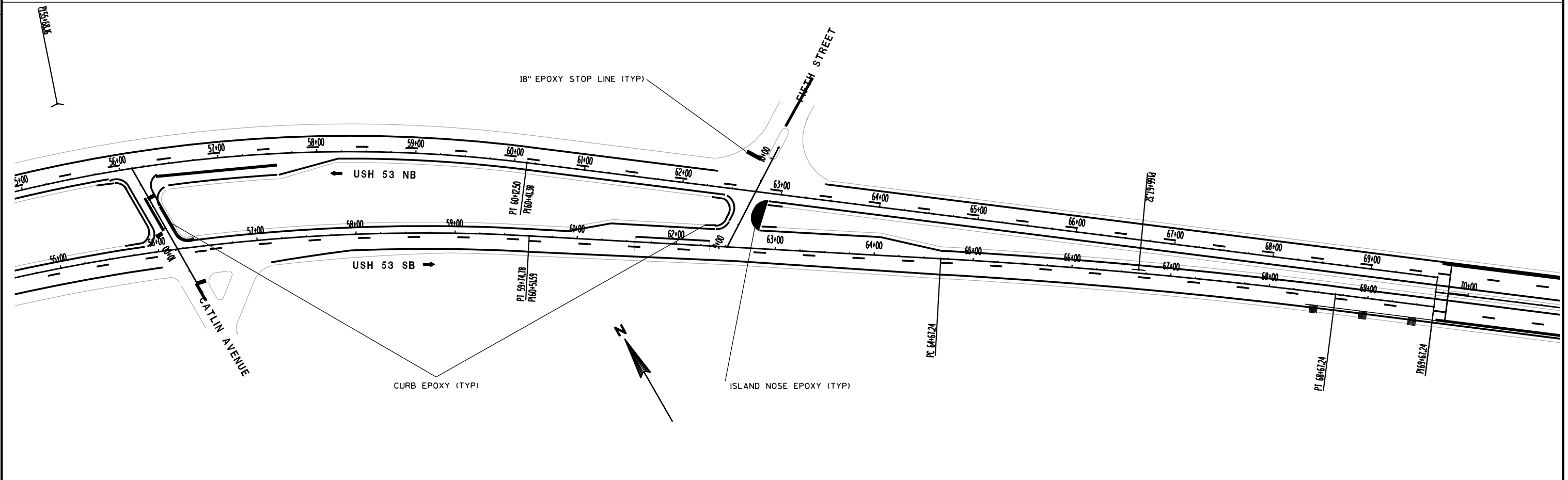
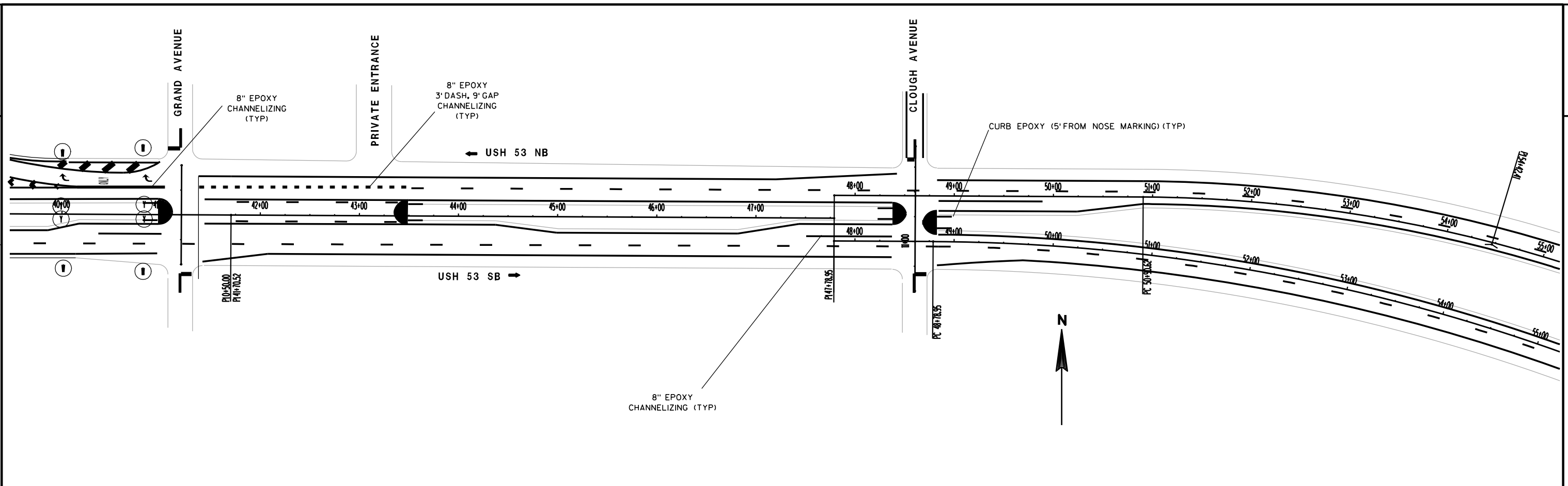


PROJECT NO: 1198-00-61      HWY: USH 53      COUNTY: DOUGLAS      PERMANENT SIGNING PLAN      SHEET      E

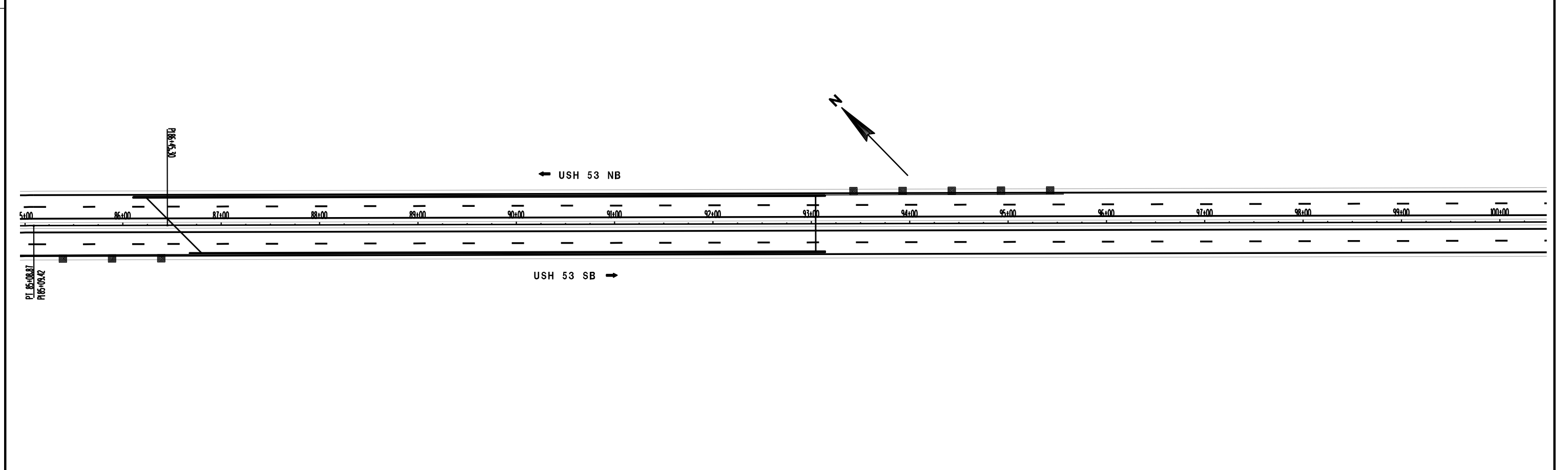
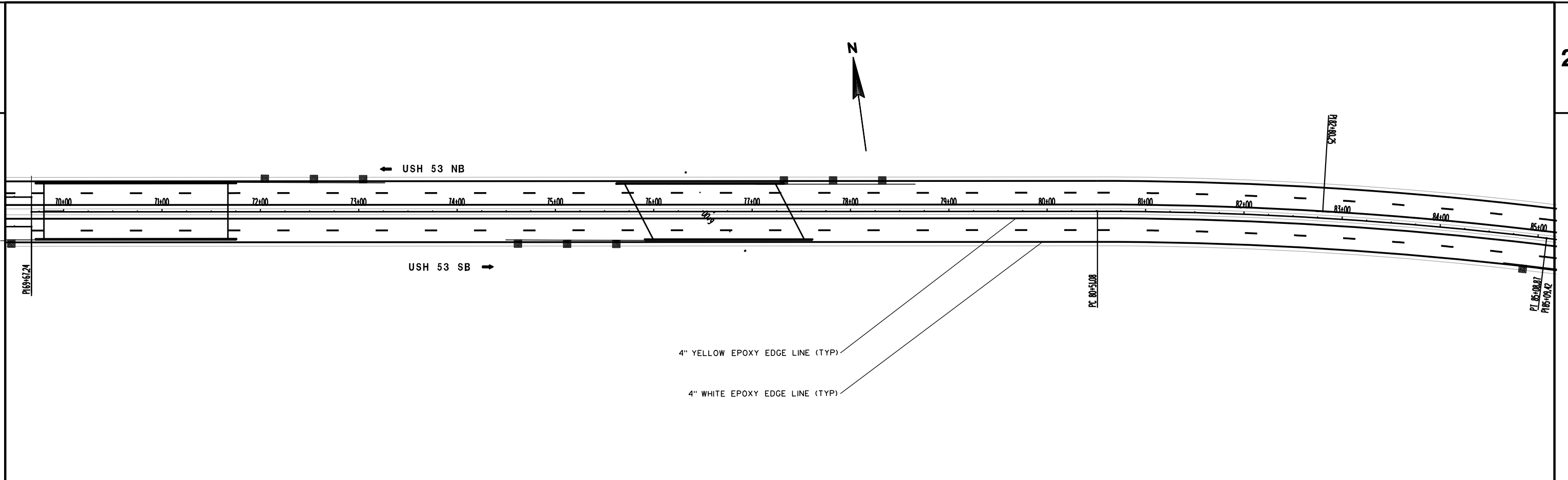




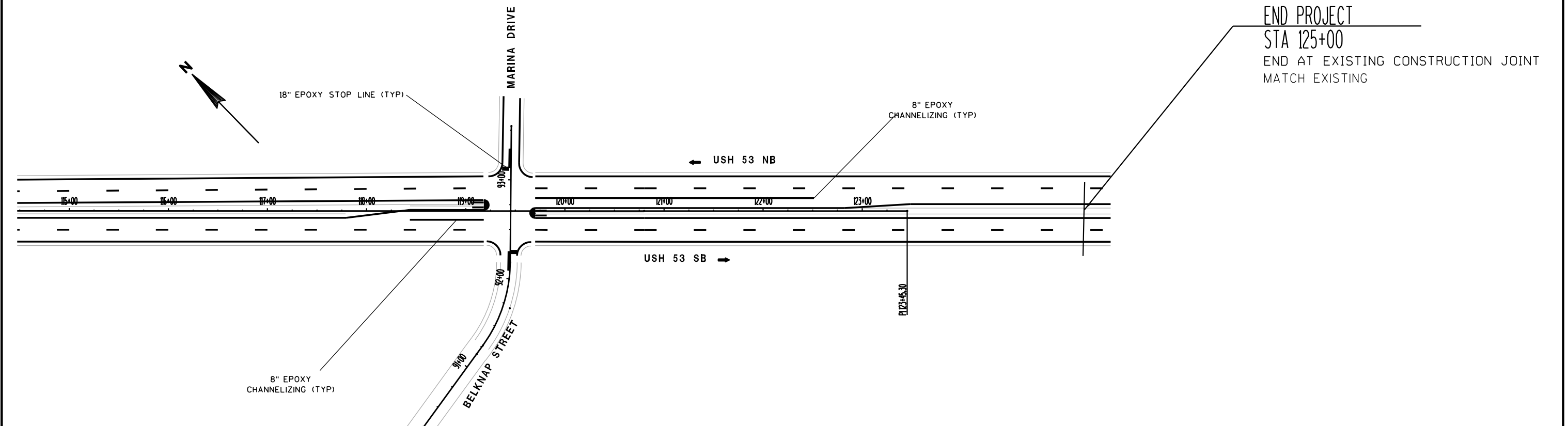
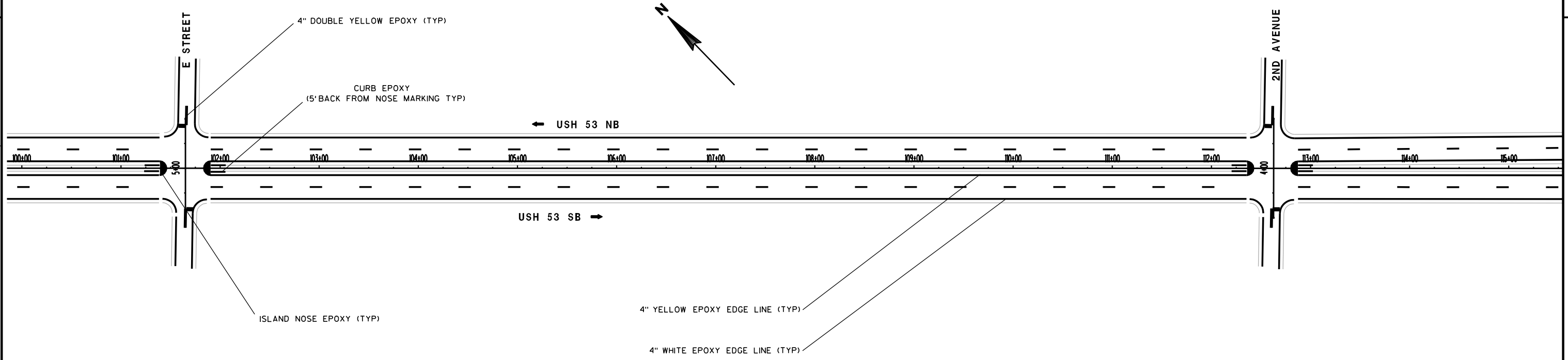
PROJECT NO: 1198-00-61	HWY: USH 53	COUNTY: DOUGLAS	PAVEMENT MARKING	SHEET	E
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PROJECT NO: 1198-00-61	HWY: USH 53	COUNTY: DOUGLAS	PAVEMENT MARKING	SHEET E
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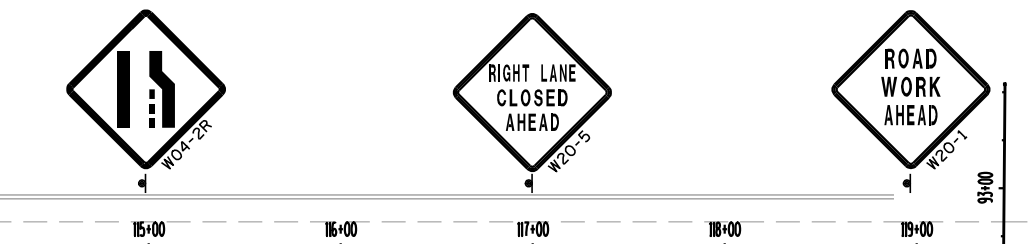
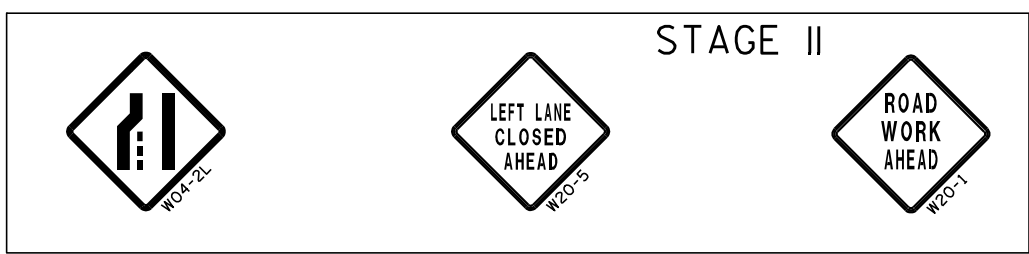
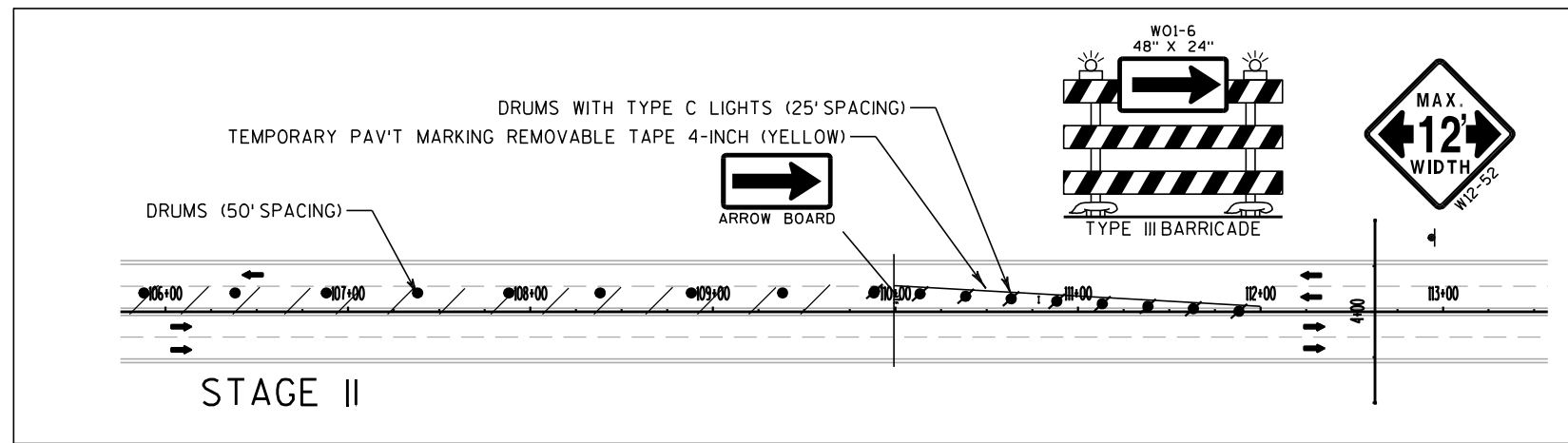
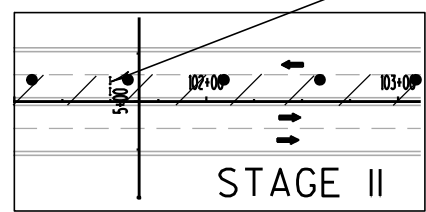
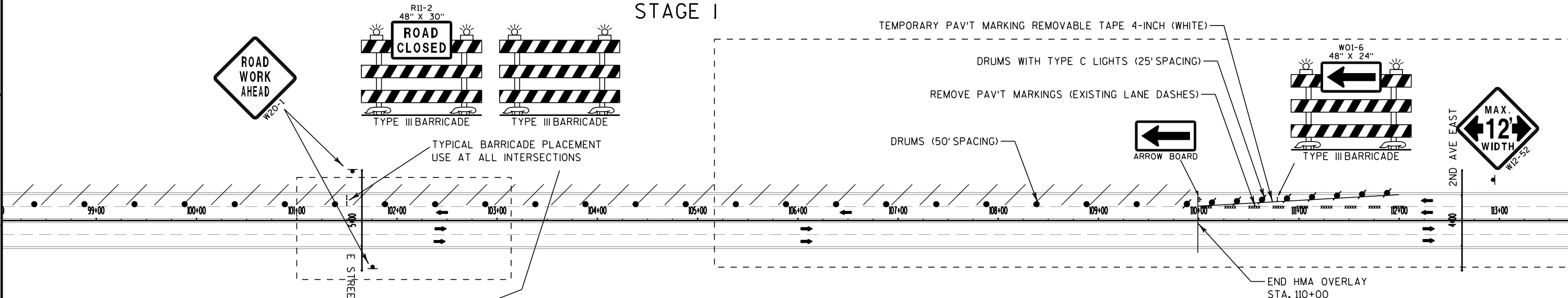
PROJECT NO: 1198-00-61	HWY: USH 53	COUNTY: DOUGLAS	PAVEMENT MARKING	SHEET	E
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END PROJECT  
 STA 125+00  
 END AT EXISTING CONSTRUCTION JOINT  
 MATCH EXISTING

PROJECT NO: 1198-00-61	HWY: USH 53	COUNTY: DOUGLAS	PAVEMENT MARKING	SHEET	E
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STAGE I



- STAGE I(NB OUTSIDE LANE) & STAGE II(NB INSIDE LANE)
- A) REPAIR & REPLACE INLETS, REPAIR & REPLACE CONCRETE PAV'T
  - B) REMOVE CONCRETE PAV'T PARTIAL DEPTH
  - C) LOWER LAYER HMA OVERLAY
  - D) PERMANENT SIGNING & GUARDRAIL
- STAGE III(NB LANES) OPEN TO TRAFFIC
- A) PAVE HMA SURFACE UNDER "MOVING OPERATIONS"
  - B) CRITICAL PERMANENT PAVEMENT MARKING

NOTES:

DRAWINGS NOT TO SCALE. ALL ITEMS NOTED ON THIS SHEET TO BE PAID FOR UNDER "TRAFFIC CONTROL". ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED

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

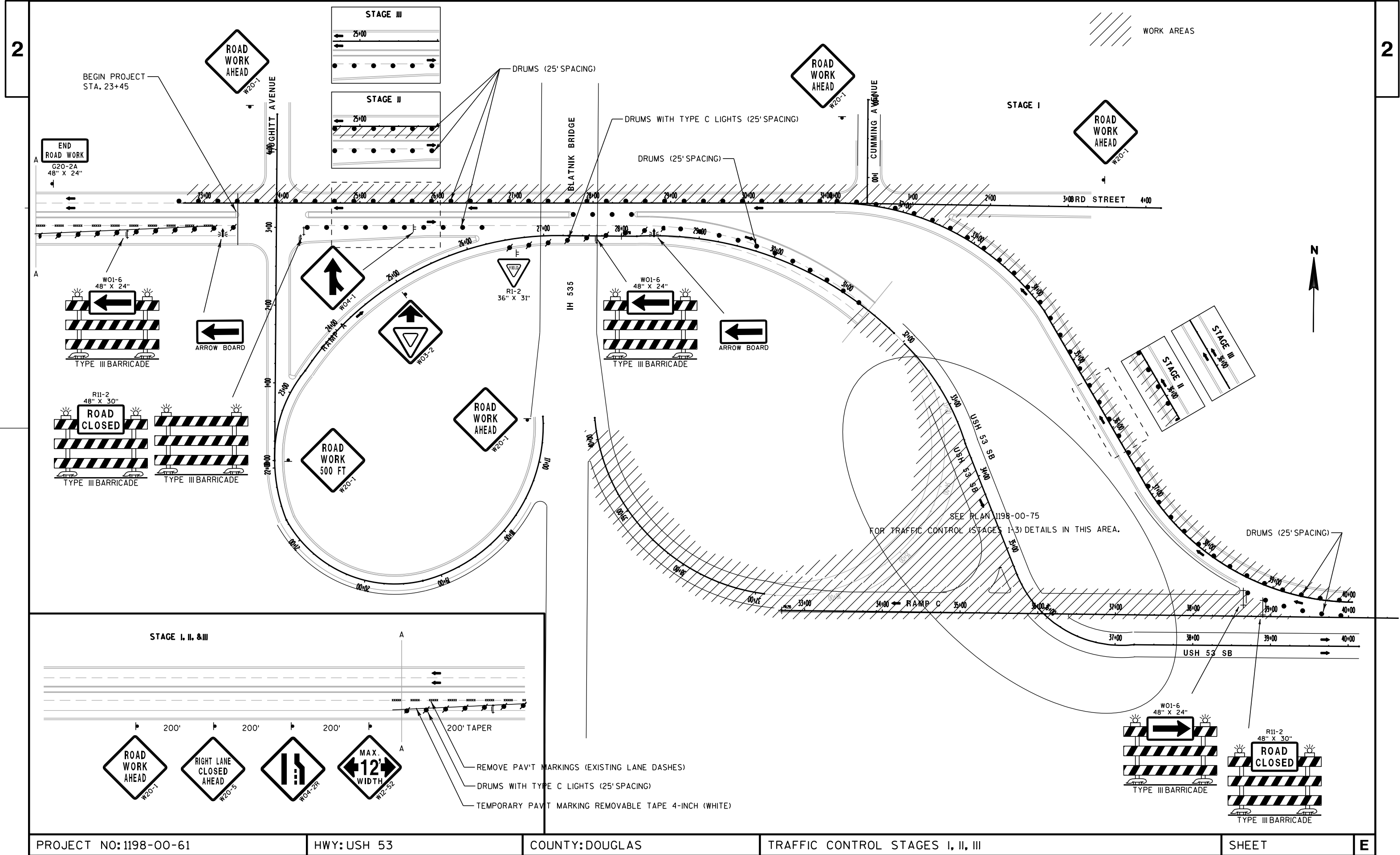
ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES, (WMUTCD)

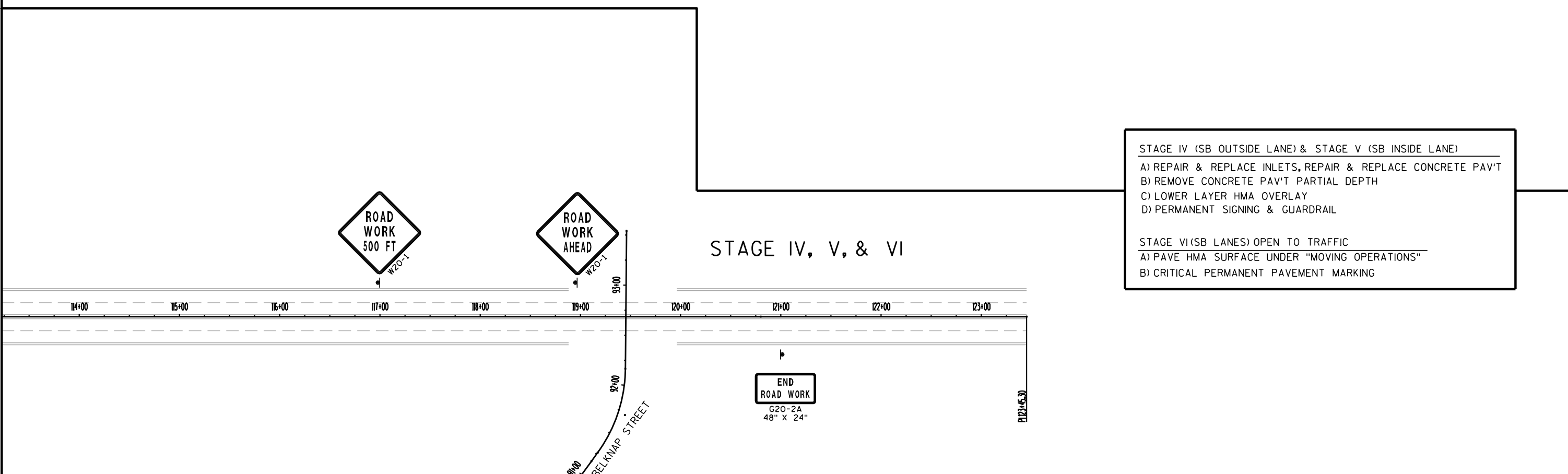
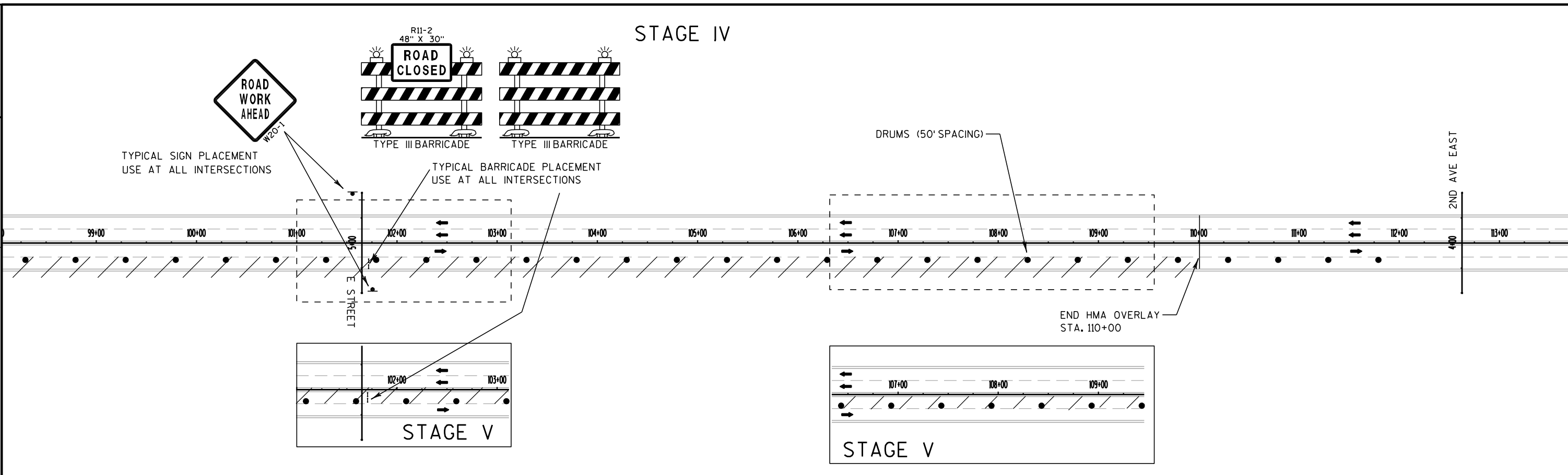
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS, OR AS DIRECTED BY THE ENGINEER.

ALL SIGN SPACING SUBJECT TO MODIFICATION BY THE ENGINEER IN THE FIELD.

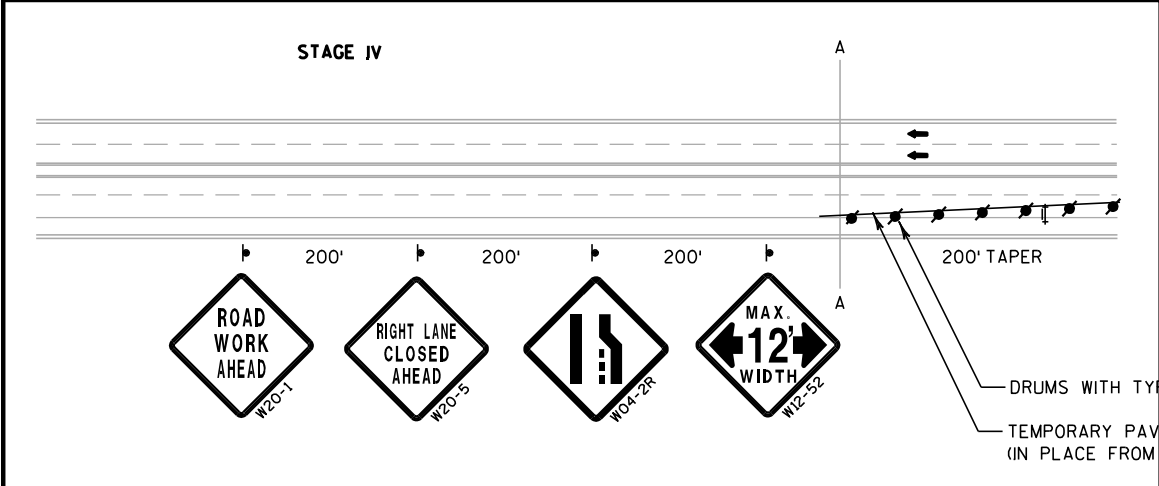
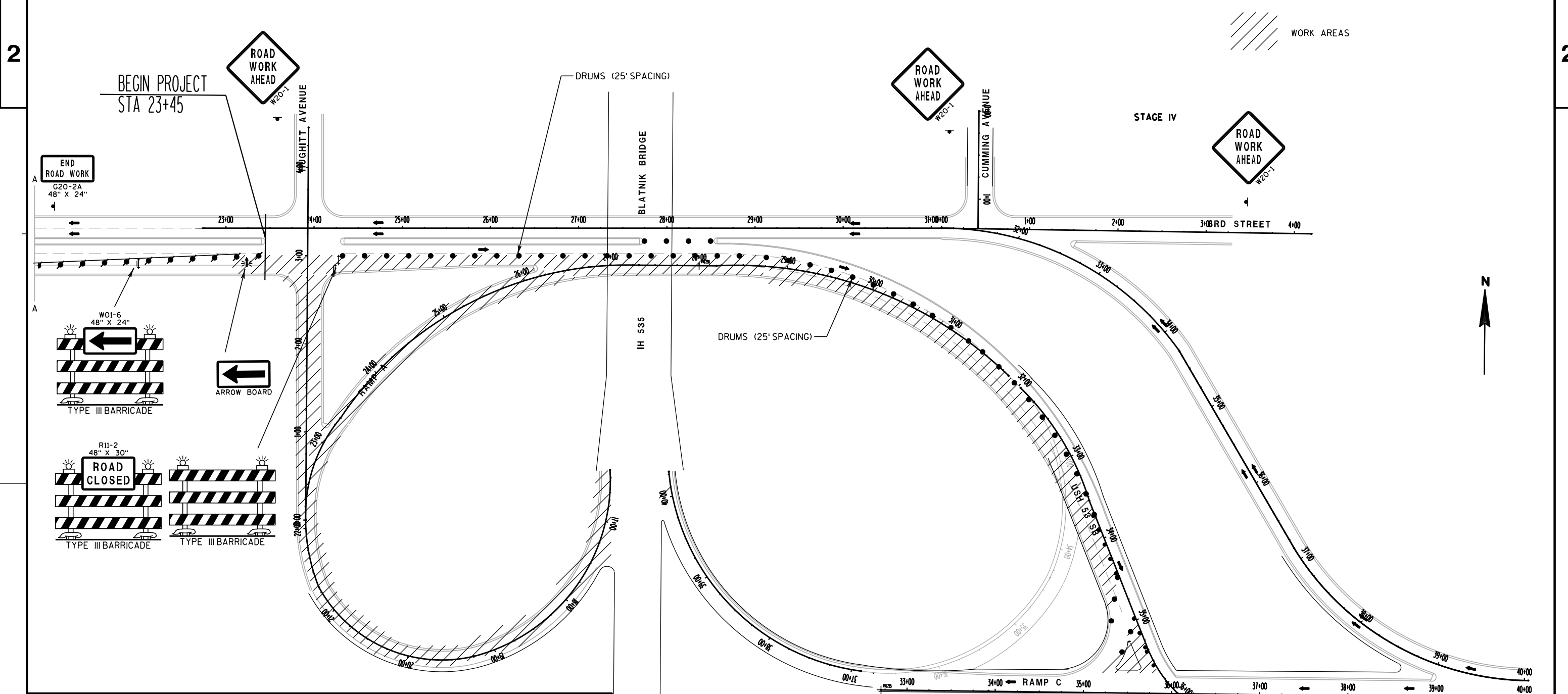
ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.





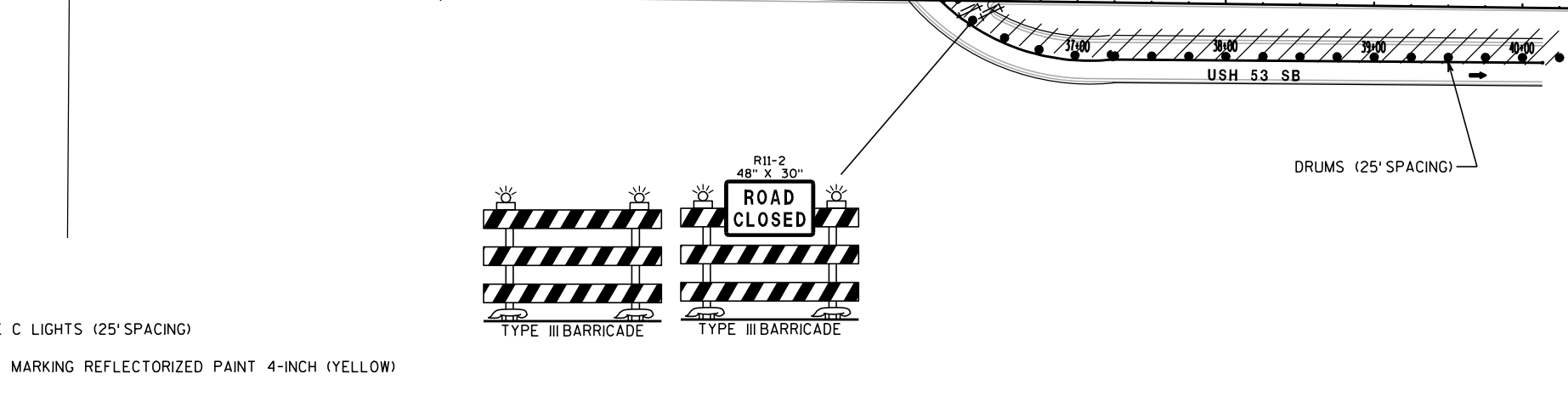
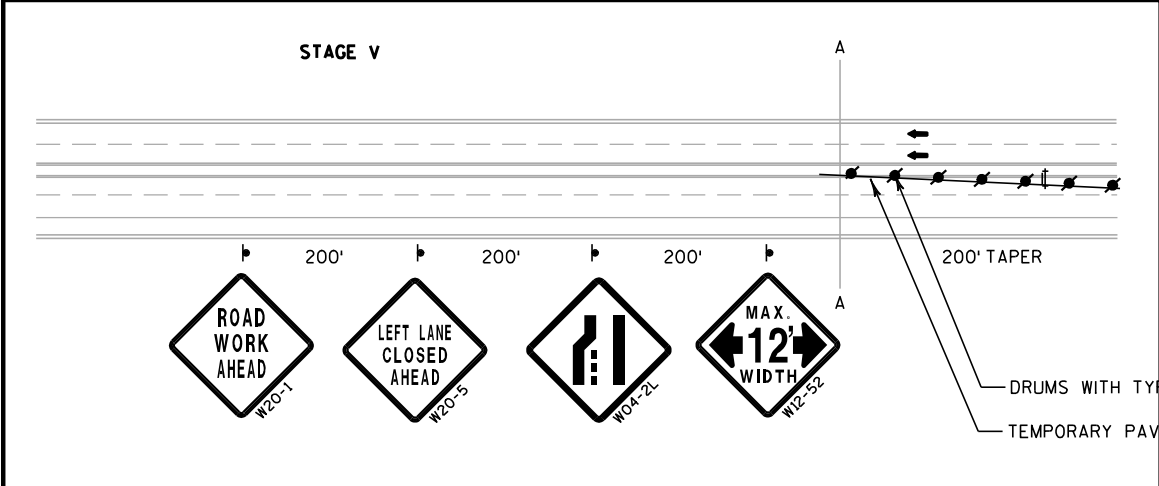
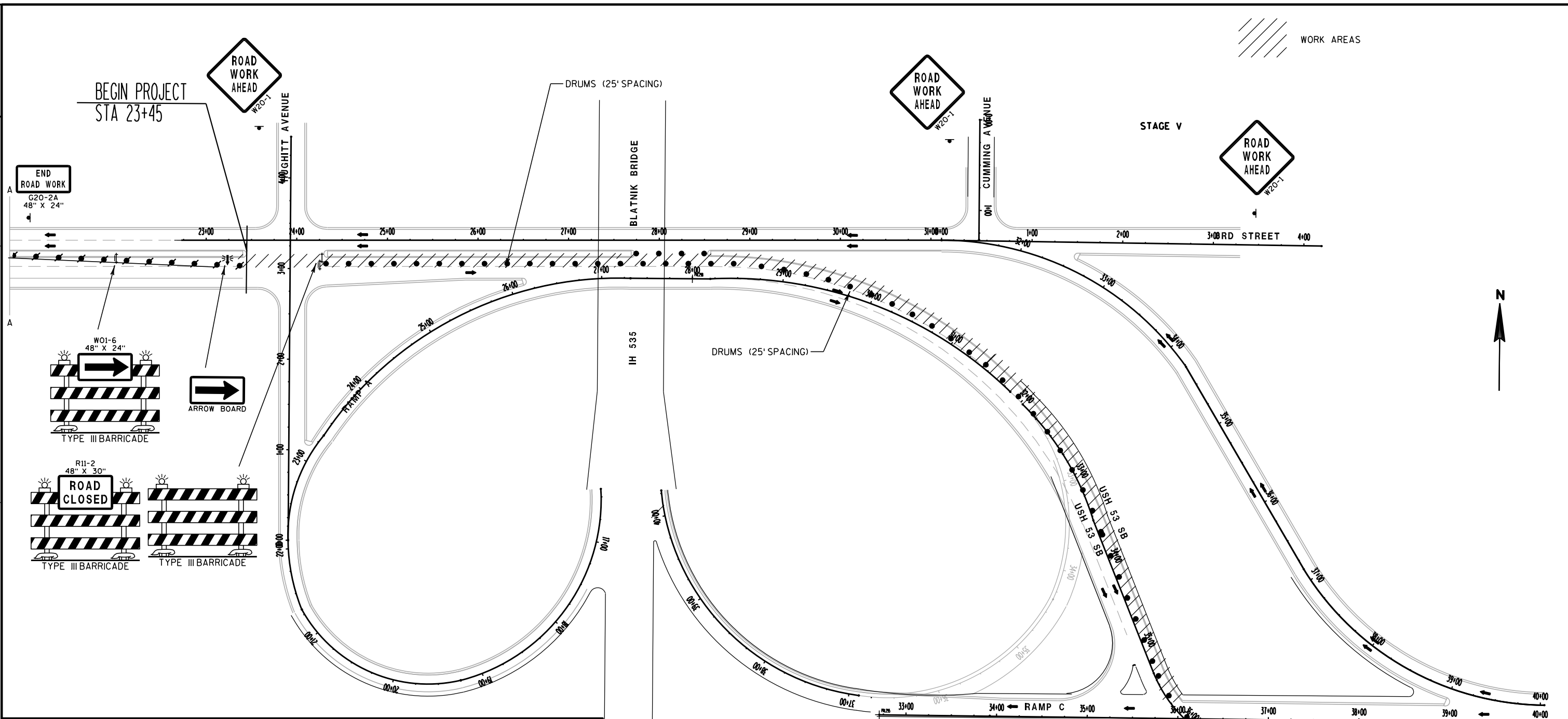
STAGE IV (SB OUTSIDE LANE) & STAGE V (SB INSIDE LANE)  
 A) REPAIR & REPLACE INLETS, REPAIR & REPLACE CONCRETE PAV'T  
 B) REMOVE CONCRETE PAV'T PARTIAL DEPTH  
 C) LOWER LAYER HMA OVERLAY  
 D) PERMANENT SIGNING & GUARDRAIL

STAGE VI (SB LANES) OPEN TO TRAFFIC  
 A) PAVE HMA SURFACE UNDER "MOVING OPERATIONS"  
 B) CRITICAL PERMANENT PAVEMENT MARKING



PROJECT NO: 1198-00-61	HWY: USH 53	COUNTY: DOUGLAS	TRAFFIC CONTROL STAGES IV	SHEET	E
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DATE 07FEB12

## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1198-00-61 QUANTITY
0020	204.0109.S	REMOVING CONCRETE SURFACE PARTIAL DEPTH	SF	499,000.000	499,000.000
0030	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	267.000	267.000
0040	204.0150	REMOVING CURB & GUTTER	LF	1,320.000	1,320.000
0050	204.0165	REMOVING GUARDRAIL	LF	1,560.000	1,560.000
0060	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	42.000	42.000
0120	205.0100	EXCAVATION COMMON	CY	216.000	216.000
0140	213.0100	FINISHING ROADWAY (PROJECT) 01. 1198-00-61	EACH	1.000	1.000
0170	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	28.000	28.000
0180	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	546.000	546.000
0210	416.0610	DRI LLED TIE BARS	EACH	468.000	468.000
0220	416.0620	DRI LLED DOWEL BARS	EACH	1,553.000	1,553.000
0230	455.0145	ASPHALTIC MATERIAL PG64-34P	TON	531.000	531.000
0240	455.0605	TACK COAT	GAL	2,632.000	2,632.000
0250	460.1110	HMA PAVEMENT TYPE E-10	TON	8,845.000	8,845.000
0260	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	5,560.000	5,560.000
0270	460.4100.S	REHEATING HMA LONGITUDINAL JOINTS	STA	174.000	174.000
0280	465.0110	ASPHALTIC SURFACE PATCHING	TON	150.000	150.000
0290	520.8000.S	CULVERT PIPE CONCRETE COLLAR	EACH	104.000	104.000
0300	601.0405	CONCRETE CURB & GUTTER 18-INCH TYPE A	LF	132.000	132.000
0310	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	1,044.000	1,044.000
0320	601.0574	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G	LF	240.000	240.000
0330	602.0405	CONCRETE SIDEWALK 4-INCH	SF	684.000	684.000
0340	602.0515	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	SF	96.000	96.000
0370	611.0101	CATCH BASINS TYPE 1	EACH	26.000	26.000
0380	611.0103	CATCH BASINS TYPE 2	EACH	6.000	6.000
0390	611.0430	RECONSTRUCTING INLETS	EACH	25.000	25.000
0400	611.0530	MANHOLE COVERS TYPE J	EACH	1.000	1.000
0410	611.0600	INLET COVERS TYPE A	EACH	19.000	19.000
0420	611.0612	INLET COVERS TYPE C	EACH	2.000	2.000
0430	611.0624	INLET COVERS TYPE H	EACH	25.000	25.000
0440	611.0630	INLET COVERS TYPE HM-GJ	EACH	2.000	2.000
0450	611.0666	INLET COVERS TYPE Z	EACH	8.000	8.000
0460	611.8110	ADJUSTING MANHOLE COVERS	EACH	16.000	16.000
0480	614.2500	MGS THRIE BEAM TRANSITION	LF	240.000	240.000
0490	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	6.000	6.000
0500	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1198-00-61	EACH	1.000	1.000
0510	619.1000	MOBILIZATION	EACH	0.550	0.550
0560	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0570	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0580	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	702.000	702.000
0590	628.7005	INLET PROTECTION TYPE A	EACH	57.000	57.000
0600	628.7015	INLET PROTECTION TYPE C	EACH	57.000	57.000
0620	629.0210	FERTILIZER TYPE B	CWT	1.000	1.000
0630	630.0120	SEEDING MIXTURE NO. 20	LB	19.000	19.000
0660	633.0100	DELINEATOR POSTS STEEL	EACH	93.000	93.000
0670	633.0500	DELINEATOR REFLECTORS	EACH	93.000	93.000
0680	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	198.000	198.000
0690	637.0202	SIGNS REFLECTIVE TYPE II	SF	2,605.000	2,605.000
0700	638.2102	MOVING SIGNS TYPE II	EACH	9.000	9.000
0710	638.2602	REMOVING SIGNS TYPE II	EACH	205.000	205.000

DATE 07FEB12

## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1198-00-61 QUANTITY
0720	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	199.000	199.000
0730	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1198-00-61	EACH	1.000	1.000
0750	643.0300	TRAFFIC CONTROL DRUMS	DAY	44,352.000	44,352.000
0760	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	1,960.000	1,960.000
0770	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	3,920.000	3,920.000
0780	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	1,680.000	1,680.000
0790	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	224.000	224.000
0800	643.0900	TRAFFIC CONTROL SIGNS	DAY	3,696.000	3,696.000
0820	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	47,460.000	47,460.000
0830	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	2,305.000	2,305.000
0840	646.0156	PAVEMENT MARKING EPOXY 18-INCH	LF	465.000	465.000
0850	646.0600	REMOVING PAVEMENT MARKINGS	LF	800.000	800.000
0860	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	6.000	6.000
0870	647.0176	PAVEMENT MARKING ARROWS EPOXY TYPE 3	EACH	2.000	2.000
0880	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	3.000	3.000
0890	647.0456	PAVEMENT MARKING CURB EPOXY	LF	500.000	500.000
0910	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	16.000	16.000
0920	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	403.000	403.000
0930	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	800.000	800.000
0940	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	57.000	57.000
0960	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	1,416.000	1,416.000
0980	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	11,460.000	11,460.000
1000	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1198-00-61	LS	1.000	1.000
1200	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	1,260.000	1,260.000
1260	657.0205	TRANSFORMER BASES BREAKAWAY 13-15 INCH BOLT CIRCLE	EACH	9.000	9.000
1390	690.0150	SAWING ASPHALT	LF	48.000	48.000
1400	690.0250	SAWING CONCRETE	LF	1,254.000	1,254.000
1420	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	1,200.000	1,200.000
1430	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	300.000	300.000
1440	SPV.0060	SPECIAL 01. REMOVE SALVAGE AND RELOCATE EXISTING LIGHT EQUIPMENT	EACH	9.000	9.000
1470	SPV.0090	SPECIAL 01. CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT	LF	1,416.000	1,416.000
1480	SPV.0105	SPECIAL 01. PREPARE FOUNDATION FOR ASPHALTIC PAVING	LS	1.000	1.000
1490	SPV.0180	SPECIAL 01. CONCRETE PAVEMENT REPAIR DOWELED SPECIAL	SY	1,039.000	1,039.000
1500	SPV.0180	SPECIAL 02. CONCRETE PAVEMENT REPLACEMENT DOWELED SPECIAL	SY	1,500.000	1,500.000

**MISCELLANEOUS QUANTITIES**

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**REMOVING CONCRETE SURFACE PARTIAL DEPTH**

204. 0109. S					
CAT.	STATION TO STATION	LOC.	WIDTH	SF	REMARKS
0010	23+45 - 110+00	SB	24	207720	
0010	23+45 - 110+00	NB	24	207720	
0010	17+00 - 27+30	RAMP A	20	20600	
0010	27+30 - 35+30	RAMP B	20	16000	
	37+00 - 39+75	RAMP B	20	5500	
0010	0+75 - 2+75	HUGH TT	24	4800	
0010	33+50 - 35+60	RAMP C	18	3780	
0010	36+10 - 39+30	RAMP C	24	7680	
0010	INTERSECTIONS			25200	
TOTAL 0010				499000	

**REMOVING ASPHALTIC SURFACE BUTT JOINTS**

204. 0115 690. 0150					
BUTT SAWING					
JOINT ASPHALT					
CATEGORY	STATION	LOCATION	SY	LF	REMARKS
0010	23+45	NB&SB	267	48	BEGIN PROJ.
TOTAL 0010			267	48	

**REMOVING DELINEATORS AND MARKERS**

204. 0180			
CAT.	STATION LOC.	EACH	REMARKS
0010	PROJECT	42	
TOTAL 0010		42	

**EXCAVATION COMMON**

205. 0100			
CAT	STATION	CY	REMARKS
0010	BEAMGUARD	216	
TOTAL 0010		216	

**FINISHING ROADWAY (1198-00-61)**

213. 0100			
CATEGORY	LOCATION	EACH	REMARKS
0010	PROJECT	1	
TOTAL 0010		1	

**BASE AGGREGATE SUMMARY**

CAT	STATION TO STATION	LOC	305. 0110	305. 0120	REMARKS
			3/4-INCH TON	1 1/4-INCH TON	
0010	UNDISTRIBUTED			100	
0010	69+12 - 69+72			36	B-16-10
0010	71+67 - 72+37			36	B-16-10
0010	75+30 - 75+90			36	B-16-11
0010	77+35 - 77+95			36	B-16-11
0010	86+00 - 86+72			36	B-16-12
0010	93+05 - 93+85			36	B-16-12
	17+00 - 22+00		28		RAMP A
	INLET REPLACEMENT			230	
TOTAL 0010			28	546	

**CURB & GUTTER SUMMARY**

CAT	STATION TO STATION	LOC	204. 0150	601. 0405	601. 0409	601. 0574	602. 0515	SPV. 0090. 01	650. 5500	REMARKS
			REMOVING	CURB & GUTTER			CURB RAMP	CONCRETE	CONST. STAKING	
			C & G	18-INCH	30-INCH	4-INCH SLOPED	DETECTABLE	C & G CURE	CURB & GUTTER	
				TYPE A	TYPE A	30-INCH TYPE G	WARNING FLD	& SEAL TRTMNT		
		LF	LF	LF	LF	SF	LF	LF		
0010	41+00 - 41+75					32				GRAND AVE
0010	48+00 - 49+00					16				CLOUGH AVE
0010	69+12 - 69+72	RT	120		80	40		120	120	SEE DETAIL
0010	71+67 - 72+37	LT	120		80	40		120	120	"
0010	75+30 - 75+90	RT	120		80	40		120	120	"
0010	77+35 - 77+95	LT	120		80	40		120	120	"
0010	86+00 - 86+72	RT	120		80	40		120	120	"
0010	93+05 - 93+85	LT	120		80	40		120	120	"
0010	101+75 - 102+25						16			E STREET
0010	112+25 - 113+25						32			2ND AVE
0010	INLET REPLACEMENT		600	132	564			696	696	
TOTALS			1320	132	1044	240	96	1416	1416	

MISCELLANEOUS QUANTITIES

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CONCRETE PAVEMENT SUMMARY

CAT	STATION TO STATION	LOC	JOINTS	416.0610	416.0620	602.0405	SPV. 0180.01	SPV. 0180.02	REMARKS	
						CONCRETE	CONCRETE			
						SIDE	REPAIR	REPLACEMENT		
				DRI LLED	DRI LLED	WALK	DOWELED	DOWELED		
TIE BARS	DOWEL BARS	4-INCH	SPECIAL **	SPECIAL						
				EACH	EACH	SF	SY	SY		
0010	69+12 - 69+72	RT		78				24	BMGRD FLAIR	
0010	71+67 - 72+37	LT		78				24	BMGRD FLAIR	
0010	75+30 - 75+90	RT		78				24	BMGRD FLAIR	
0010	77+35 - 77+95	LT		78				24	BMGRD FLAIR	
0010	86+00 - 86+72	RT		78				24	BMGRD FLAIR	
0010	93+05 - 93+85	LT		78				24	BMGRD FLAIR	
0010	41+00	RT				64			GRAND AVE	
0010	41+75	RT				100			GRAND AVE	
0010	41+75	LT				64			GRAND AVE	
0010	48+00	RT				64			CLOUGH AVE	
0010	49+00	RT				64			CLOUGH AVE	
0010	112+25	RT				64			2ND AVE	
0010	113+00	RT				100			2ND AVE	
0010	113+00	LT				100			2ND AVE	
0010	44+00 - 69+80	SB	11		242		96			
0010	44+00 - 69+80	NB	18		396		155			
0010	69+80 - 93+05	SB	4		88		40			
0010	69+80 - 93+05	NB	5		110		43			
0010	93+05 - 110+00	SB	3					622	*	
0010	93+05 - 110+00	NB	3					733		
0010	UNDI STRIBUTED				167	64	67			
0010	23+50 44+00				550		200			
TOTAL 0010					468	1553	684	600	1500	

\* INCLUDES C/L 4' @ E STREET  
 \*\* ADDITIONAL QUANTITIES LOCATED ELSEWHERE

GUARDRAIL SUMMARY

CAT.	STATION	LOC	204.0165	614.2500	614.2610	REMARKS			
							REMOVING	THRIE BEAM	TERMI NAL
							GUARDRAI L	TRANSI TION	EAT
			ATTACHMENT	LOCATI ON			LF	LF	EACH
0010	69+72	RT	120	40	1	B-16-10			
0010	69+72	LT	120			B-16-10			
0010	71+67	LT	120	40	1	B-16-10			
0010	71+67	RT	120			B-16-10			
0010	75+90	RT	120	40	1	B-16-11			
0010	75+90	LT	120			B-16-11			
0010	77+35	LT	120	40	1	B-16-11			
0010	77+35	RT	120			B-16-11			
0010	86+72	RT	150	40	1	B-16-12			
0010	86+72	LT	150			B-16-12			
0010	93+05	LT	150	40	1	B-16-12			
0010	93+05	RT	150			B-16-12			
TOTAL 0010			1560	240	6				

MAINTENANCE AND REPAIR OF HAUL ROADS (1198-00-61)

LOCATION	EACH	REMARKS
PROJECT	1	
TOTAL 0010	1	

MOBILIZATIONS EROSION CONTROL

LOCATION	EACH	REMARKS
	2	
TOTAL 0010	2	

MOBILIZATIONS EMERGENCY EROSION CONTROL

LOCATION	EACH	REMARKS
	2	
TOTAL 0010	2	

ADJUSTING MANHOLE COVERS

CATEGORY	STATION TO	LOC	EACH	REMARKS
0010	UNDI STRIBUTED		8	SANI TARY
0010	UNDI STRIBUTED		8	STORM
			16	

HMA SUMMARY

CAT	STATION TO STATION	LOC	WIDTH	455.0145	455.0605	460.1110	460.4100.S	465.0110	REMARKS
				ASPHALTI C	TACK	PAVEMENT	REHEATI NG	ASPHALTI C	
				MATL.			LONG.	SURFACE	
				PG64-34P	COAT	E-10	JOI NTS	PATCHI NG	
				TON	GAL	TON	STA	TON	
UNDI STRIBUTED									
0010	23+45 - 110+00	SB	24	233	1154	3877	87		
0010	23+45 - 110+00	NB	24	233	1154	3877	87		
0010	17+00 - 27+30	RAMP A	20	23	114	385			
0010	27+30 - 35+30	RAMP B	20	18	89	299			
0010	37+00 - 39+75	RAMP B	20	6	31	103			
0010	0+75 - 2+75	HUGH I TT	24	5	27	90			
0010	33+50 - 35+60	RAMP C	18	4	21	71			
0010	36+10 - 39+30	RAMP C	24	9	43	143			
TOTAL 0010				531	2632	8845	174	150	

MISCELLANEOUS QUANTITIES

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STORM SEWER SUMMARY																				
						611.0101	611.0103	611.0430	611.053	611.0612	611.0600	611.0624	611.0630	611.0666	628.7005	628.7015	690.0250	SPV. 0180.0	520.8000.S	
						CATCH BASIN		RECONST	MH COVER	INLET COVERS					INLET PROTECTION		SAWING	CONC. PVT	DEPTH	CONCRETE
						TYPE 1	TYPE 2	INLET	TYPE J	TYPE C	TYPE A	TYPE H	TYPE HM-GJ	TYPE Z	TYPE A	TYPE C	CONCRETE	REPAIR *	RIM	COLLAR
CAT	STRUCT	ROUTE	STA	DIST. FT.	LOC	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LF	SY	INVERT	EACH	
0010	CB3A0222	USH 53 NB	118+50	30	LT	1								1	1	1	22	11	2.35	1
0010	CB020243	USH 53 NB	102+58	25	LT	1				1					1	1	22	7	2.40	1
0010	CB020249	USH 53 NB	101+00	42	LT	1				1					1	1	22	7	2.30	1
0010	CB01194B	USH 53 NB	49+00	34	LT		1			1					1	1	22	7	2.85	1
0010	CB01195A	USH 53 NB	48+25	33	LT		1			1					1	1	22	7	2.80	3
0010	CB01195C	USH 53 SB	48+00	30	RT	1				1					1	1	22	7	2.50	4
0010	CB01196A	USH 53 NB	44+90	12	LT	1							1		1	1	22	11	2.80	2
0010	CB01189C	USH 53 SB	56+25	91	RT	1				1					1	1	22	7	3.50	3
0010	CB020247	USH 53 SB	101+00	33	RT	1					1				1	1	22	7	2.40	2
0010	CB020261	USH 53 SB	116+12	34	RT	1					1				1	1	22	7	3.30	2
0010	CB010425	USH 53 NB	71+75	27	LT	1						1			1	1	22	11	4.10	1
0010	CB020237	USH 53 NB	106+41	35	LT	1					1				1	1	22	7	6.70	3
0010	CB020255	USH 53 NB	109+55	33	LT	1					1				1	1	22	7	3.50	2
0010	CB020259	USH 53 NB	113+50	20	LT	1					1				1	1	22	7	3.40	2
0010	CB020251	USH 53 NB	97+00	32	LT	1					1				1	1	22	7	4.10	1
0010	CB021121	USH 53 NB	77+38	26	LT	1						1			1	1	22	11	4.10	1
0010	CB01188B	USH 53 NB	59+60	17	LT		1			1					1	1	22	7	2.90	1
0010	CB01191A	USH 53 NB	56+00	20	RT	1								1	1	1	22	11	3.10	1
0010	CB010417	USH 53 NB	52+00	15	RT	1								1	1	1	22	11	3.10	1
0010	CB01197B	USH 53 NB	42+67	30	LT		1			1					1	1	22	7	2.00	1
0010	CB010418	USH 53 NB	47+63	16	LT	1								1	1	1	22	11	3.40	4
0010	CB01194C	USH 53 SB	49+75	30	RT	1				1					1	1	22	7	2.80	3
0010	CB010419	USH 53 SB	48+25	54	RT	1				1					1	1	22	7	2.50	1
0010	ST010197	USH 53 NB	42+75	8	LT			1		1					1	1	22	7	UNK	
0010	CB01189A	USH 53 SB	57+17	27	RT			1		1					1	1	22	7	6.50	2
0010	CB010426	USH 53 SB	71+75	25	RT		1			1					1	1	22	7	3.60	1
0010	CB020252	USH 53 SB	107+00	33	RT	1					1				1	1	22	7	5.90	3
0010	CB020254	USH 53 SB	109+41	33	RT	1					1				1	1	22	7	3.30	1
0010	CB021123	USH 53 SB	77+75	24	LT		1				1				1	1	22	7	2.84	1

INTERIM TOTAL 21 6 2 0 1 13 8 2 5 29 29 638 231 95 50

\* ADDITIONAL QUANTITIES LOCATED ELSEWHERE

MISCELLANEOUS QUANTITIES

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STORM SEWER SUMMARY (CONT.)																				
						611. 0101	611. 0103	611. 0430	611. 0530	611. 0612	611. 0600	611. 0624	611. 0630	611. 0666	628. 7005	628. 7015	690. 0250	SPV. 0180. 0 1	520. 8000. S	
						CATCH BASIN		RECONST	MH COVER	INLET COVERS					INLET PROTECTION		SAWING	CONC. PVT	DEPTH	CONCRETE
						TYPE 1	TYPE 2	INLET	TYPE J	TYPE C	TYPE A	TYPE H	TYPE HM-GJ	TYPE Z	TYPE A	TYPE C	CONCRETE	REPAIR *	RIM	COLLAR
CAT	STRUCT	ROUTE	STA	DI ST. FT.	CON	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		LF	SY	INVERT	EACH
0010	ST020256	USH 53 SB	113+20	4.00	RT			1	1						1	1	22	7	6.10	3
0010	CB3A0218	USH 53 SB	122+12	34.00	RT			1				1			1	1	22	7	4.50	2
0010	CB3A0219	USH 53 SB	120+25	33.00	RT	1						1			1	1	22	7	3.10	2
0010	CB01172A	RAMP A	26+00		RT			1				1			1	1	22	7	3.80	2
0010	CB01172D	RAMP A	20+80		RT	1								1	1	1	22	11	2.90	1
0010	CB01173A	USH 53 NB	24+30		LT			1		1					1	1	22	7	3.10	3
0010	CB010400	RAMP B	29+65		RT			1				1			1	1	22	7	2.85	2
0010	CB01173C	HUGHITT	2+70		LT	1						1			1	1	22	7	2.85	2
0010	CB010161	USH 53 NB	40+50		LT			1						1	1	1	22	11	4.00	2
0010	CB010162	USH 53 SB	40+52	40.00	RT			1				1			1	1	22	7	3.70	2
0010	CB010163	USH 53 SB	40+91	70.00	RT			1		1					1	1	22	7	4.20	1
0010	CB010168	USH 53 SB	35+00	36.00	LT			1						1	1	1	22	11	3.20	2
0010	CB010170	RAMP C	36+58		RT	1						1			1	1	22	7	3.00	1
0010	CB020263	USH 53 NB	116+12	27.00	LT			1				1			1	1	22	7	2.80	2
0010	CB01197A	USH 53 NB	43+25	45.00	LT			1		1					1	1	22	7	3.40	5
0010	CB01194D	USH 53 SB	48+79	49.00	RT			1		1					1	1	22	7	2.75	2
0010	CB01196B	USH 53 SB	44+90	42.00	RT			1		1					1	1	22	7	2.90	1
0010	CB01189B	USH 53 SB	56+75	78.00	RT			1		1					1	1	22	7	3.80	2
0010	CB010429	USH 53 SB	66+75	2.00	RT			1		1					1	1	22	7	3.10	1
0010	CB020242	USH 53 SB	102+13	33.00	RT	1						1			1	1	22	7	2.40	2
0010	CB01153A	USH 53 SB	35 SB 84.28		RT			1				1			1	1	22	7	4.70	2
0010	CB01153B	USH 53 SB	30+84	29.00	RT			1				1			1	1	22	7	6.10	1
0010	CB01160A	RAMP C	37+68		RT			1				1			1	1	22	7	3.70	1
0010	CB010159	USH 53 NB	37+50		LT			1				1			1	1	22	7	3.90	1
0010	CB010401	USH 53 NB	34+10		RT			1				1			1	1	22	7	2.95	1
0010	CB01172C	RAMP D	23+34.42		RT			1				1			1	1	22	7	2.80	1
0010	CB01173B	USH 53 SB	TT AVE. 2+50		RT			1				1			1	1	22	7	3.70	5
0010	CB010392	USH 53 SB	38+83	6.00	LT			1				1			1	1	22	7	5.50	2
FINAL TOTAL						26	6	25	1	2	19	25	2	8	57	57	1254	439	197	104

\* ADDITIONAL QUANTITIES LOCATED ELSEWHERE

MISCELLANEOUS QUANTITIES

DELINEATOR SUMMARY

CAT	STATION	LOCATION	633.0100	633.0500	633.0500	REMARKS
			POSTS	REFLECTORS		
			STEEL	WHITE	YELLOW	
			EA	EA	EA	
0010	17+00	SB USH 535	1	1		
0010	18+00	SB USH 535	1	1		
0010	18+00	SB USH 535	1		1	
0010	19+00	SB USH 535	1	1		
0010	19+00	SB USH 535	1		1	
0010	20+00	SB USH 535	1	1		
0010	20+00	SB USH 535	1		1	
0010	21+00	SB USH 535	1	1		
0010	21+00	SB USH 535	1		1	
0010	22+00	SB USH 535	1	1		
0010	22+00	SB USH 535	1		1	
0010	23+00	SB USH 535	1	1		
0010	24+00	SB USH 535	1	1		
0010	24+00	SB USH 535	1		1	
0010	25+00	SB USH 535	1	1		
0010	25+00	SB USH 535	1		1	
0010	26+00	SB USH 535	1	1		
0010	27+00	SB USH 535	1	1		
0010	1+00	HUGHITT AVE.	1		1	
0010	1+36	HUGHITT AVE.	1	1		
0010	2+00	HUGHITT AVE.	1	1		
0010	2+00	HUGHITT AVE.	1		1	
0010	24+25	NB STH 35	1	1		
0010	25+40	NB STH 35	1	1		
0010	25+00	SB STH 35	1	1		
0010	26+00	SB STH 35	1	1		
0010	27+00	SB STH 35	1	1		
0010	28+00	SB STH 35	1	1		
0010	29+00	SB STH 35	1	1		
0010	30+00	SB STH 35	1	1		
0010	30+00	SB STH 35	1		1	
0010	31+00	SB STH 35	1	1		
0010	31+00	SB STH 35	1		1	
0010	28+00	NB USH 535	1	1		
SUBTOTAL			34	23	11	

DELINEATOR SUMMARY (CONT.)

CAT	STATION	LOCATION	633.0100	633.0500	633.0500	REMARKS
			POSTS	REFLECTORS		
			STEEL	WHITE	YELLOW	
			EA	EA	EA	
0010	29+00	NB USH 535	1		1	
0010	29+00	NB USH 535	1	1		
0010	29+00	NB USH 535	1		1	
0010	30+00	NB USH 535	1	1		
0010	30+00	NB USH 535	1		1	
0010	31+00	NB USH 535	1	1		
0010	31+00	NB USH 535	1		1	
0010	32+00	NB USH 535	1	1		
0010	32+00	NB USH 535	1		1	
0010	33+00	NB USH 535	1	1		
0010	34+00	NB USH 535	1	1		
0010	34+00	NB USH 535	1		1	
0010	35+00	NB USH 535	1	1		
0010	35+00	NB USH 535	1		1	
0010	36+00	NB USH 535	1	1		
0010	37+00	NB USH 535	1	1		
0010	37+00	NB USH 535	1		1	
0010	38+00	NB USH 535	1	1		
0010	38+00	NB USH 535	1		1	
0010	39+00	NB USH 535	1	1		
0010	39+00	NB USH 535	1		1	
0010	40+00	NB USH 535	1	1		
0010	40+00	NB USH 535	1		1	
0010	32+00	NB USH 53	1		1	
0010	33+00	NB USH 53	1	1		
0010	33+00	NB USH 53	1		1	
0010	34+00	NB USH 53	1	1		
0010	34+00	NB USH 53	1		1	
0010	35+00	NB USH 53	1	1		
0010	35+00	NB USH 53	1		1	
0010	36+00	NB USH 53	1	1		
0010	36+00	NB USH 53	1		1	
0010	37+00	NB USH 53	2	2		
0010	37+00	NB USH 53	2		2	
SUBTOTAL			36	18	18	

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**MISCELLANEOUS QUANTITIES**

**DELINEATOR SUMMARY (CONT.)**

CAT	STATION	LOCATION	633.0100	633.0500	633.0500	REMARKS
			POSTS	REFLECTORS		
			STEEL	WHITE	YELLOW	
			EA	EA	EA	
0010	38+00	NB USH 53	2	2		
0010	38+00	NB USH 53	2		2	
0010	33+00	SB USH 53	1		1	
0010	34+00	SB USH 53	1	1		
0010	34+00	SB USH 53	1		1	
0010	35+00	SB USH 53	1	1		
0010	35+00	SB USH 53	1		1	
0010	36+25	SB USH 53	1	1		
0010	36+25	SB USH 53	1		1	
0010	37+00	SB USH 53	1	1		
0010	37+00	SB USH 53	1		1	
0010	38+00	SB USH 53	1	1		
0010	38+00	SB USH 53	1		1	
0010	39+00	SB USH 53	1	1		
0010	39+00	SB USH 53	1		1	
0010	40+00	SB USH 53	1	1		
0010	33+30	NB USH 535	1		1	
0010	34+30	NB USH 535	1	1		
0010	34+30	NB USH 535	1		1	
0010	35+30	NB USH 535	1	1		
0010	35+30	NB USH 535	1		1	
<b>TOTAL</b>			93	52	41	

**PAVEMENT MARKING ARROWS & WORDS SUMMARY**

CAT	STATION	LOCATION	647.0166	647.0176	647.0356	REMARKS
			ARROWS			
			EPOXY	EPOXY	WORDS	
			TYPE 2	TYPE 3	EPOXY	
0010	2+25	HUGHITT AVE	2	2	1	
0010	32+00	SB SH 53	2		1	
0010	40+50	NB USH 53	2		1	
<b>TOTAL 0010</b>			6	2	3	

**EROSION CONTROL SUMMARY**

CAT.	STATION TO STATION	LOC.	628.2006	629.0210	630.0120	REMARKS
			E-MAT	FERTILIZER	SEED	
			URBAN A	TYPE B	MIX #20	
			SY	CWT	LB	
0010	69+12 - 69+72	RT	67	0.1	1.8	GUARDRAIL
0010	71+67 - 72+37	LT	67	0.1	1.8	REPLACEMENT
0010	75+30 - 75+90	RT	67	0.1	1.8	"
0010	77+35 - 77+95	LT	67	0.1	1.8	"
0010	86+00 - 86+72	RT	67	0.1	1.8	"
0010	93+05 - 93+85	LT	67	0.1	1.8	"
	INLET REPAIRS		300	0.4	8	UNDISTRI BUTED
<b>TOTAL 0010</b>			702	1	19	

**ELECTRICAL SUMMARY**

CAT	STATION	LOC	655.0610	657.0205	SPV.0060.01	REMARKS
			ELECTRICAL	TRANSFORMER	REMOVE, SALVAGE &	
			WIRE	BASES BRKAWY	RELOCATE EXISTING	
			12 AWG	13-15 BOLT CIR	LIGHT EQUIPMENT	
0010	47+95	LT	140	1	1	POLE 14
0010	49+10	RT	140	1	1	POLE 15
0010	55+80 NB	LT	140	1	1	POLE 16
0010	55+80 NB	RT	140	1	1	POLE 17
0010	56+60 SB	RT	140	1	1	POLE 18
0010	62+10 NB	RT	140	1	1	POLE 19
0010	63+50 NB	RT	140	1	1	POLE 20
0010	116+80	LT	140	1	1	POLE 22
0010	116+80	RT	140	1	1	POLE 23
<b>TOTAL 0010</b>			1260	9	9	

MISCELLANEOUS QUANTITIES

PERMANENT SIGNING SUMMARY

PAGE	STA.	DESC.	LOCATION	638.3000	638.2602	634.0616	638.2102	637.0202		AREA	REMARKS	
				REMOVE	REMOVE	16'	MOVING SIGNS	SIGNS				
				SUPPORT	SIGNS	WOOD POST	TYPE II	REFLECTIVE TYPE II				
EACH	EACH	EACH	EACH	SIGN CODE	SIZE	MESSAGE	S. F.					
1	16+00	RAMP A	RT	2	1	2	0	J3-3	108"X84"	TRAILBLAZER ROUTE TURN J ASSY #1	63.00	SALVAGE EXISTING SIGN
1	17+50	RAMP A	LT	2	1	2	1	E5-1	60"X48"	EXIT W/ARROW	20.00	SALV/RESET ENG BRAKING
1	17+75	RAMP A	RT	2	1	2	1	W13-2	36"X48"	EXIT 20 MPH	12.00	SALV/RESET ENG BRAKING
1	20+50	RAMP A	RT	1	1	1	0	J33-2	72"X102"	TRAILBLAZER ROUTE TURN J ASSY #2	51.00	SALVAGE EXISTING SIGN
1	20+50	RAMP A	LT	1	1	1	0	J33-2	72"X102"	TRAILBLAZER ROUTE TURN J ASSY #3	51.00	SALVAGE EXISTING SIGN
1	21+75	RAMP A	LT	1	1	1	0	W3-1	36"X36"	STOP AHEAD	9.00	
1	21+75	RAMP A	RT	1	1	1	0	W3-2	36"X36"	STOP AHEAD	9.00	
1	23+40	RAMP A	RT	1	1	1	0	J33-2	72"X102"	TRAILBLAZER ROUTE TURN J ASSY #4	51.00	SALVAGE EXISTING SIGN
1	22+25	RAMP A	RT	1	1	1	0	D?-?	48"X15"	GRAIN TRUCKS	6.00	SHARE POST
1	1+65	HUGHITT	LT	1	1	1	0	R3-8E	36"X30"	LANE DESIGNATION	7.50	
1	25+75	STH 35 NB	RT	1	1	1	0	W4-1	36"X36"	MERGE SYMBOL	9.00	PORK CHOP
1	26+95	STH 35 NB	BRIDGE	0	0	0	0	SPECIAL	114"X108"	LEFT TURN ONLY ARROW	85.50	
1	26+95	STH 35 NB	BRIDGE	0	0	0	0	SPECIAL	114"X108"	SOUTH USH 53 LANE DESIGNATION	85.50	
1	26+95	STH 35 NB	BRIDGE	0	0	0	0	SPECIAL	114"X108"	SOUTH USH 53 LANE DESIGNATION	85.50	
1	26+95	STH 35 NB	BRIDGE	0	0	0	0	SPECIAL	192"X144"	NORTH I 535/NORTH USH 53 LANE DESIGNATION	192.00	
1	27+30	STH 35 NB	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00	
1	28+25	RAMP A/B	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00	
1	0+75	HUGHITT	LT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00	
1	1+40	HUGHITT	RT	1	1	1	0	J3-2	72"x84"	ROUTE TURN J ASSY #5	42.00	SALVAGE EXISTING SIGN
1	1+65	HUGHITT	LT	0	0	1	0	R3-8E	36"X30"	LANE DESIGNATION	7.50	
1	1+65	HUGHITT	RT	0	0	1	0	R3-8E	36"X30"	LANE DESIGNATION	7.50	
1	2+00	HUGHITT	LT	0	1	0	0	R5-1	30"X30"	DO NOT ENTER	6.25	ON LIGHT POLE
1	2+50	HUGHITT	LT	1	1	1	0	R1-1	30"X30"	STOP	6.25	HUGHITT AVE (LT)
1	2+50	HUGHITT	RT	1	1	1	0	R1-1	30"X30"	STOP	6.25	HUGHITT AVE (RT)
1	3+75	HUGHITT	LT	1	1	1	0	R1-1	30"X30"	STOP	6.25	HUGHITT AVE (RT)
1	23+25	STH 35	RT	1	1	1	0	R3-1	24"X24"	NO RT TURN	4.00	
1	23+30	STH 35	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00	
1	23+30	STH 35	LT	0	1	0	0	J33-2	72" X 102"	TO ROUTE TURN J ASSY #6	51.00	ON LIGHT POLE
1	24+30	STH 35	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00	
1	24+25	STH 35	LT	0	1	0	0	R6-2L	24"X30"	ONE WAY	5.00	ON LIGHT POLE
1	24+50	STH 35	LT	0	1	0	0	R5-1	30"X30"	DO NOT ENTER	6.25	ON LIGHT POLE
1	25+10	STH 35	LT	0	1	0	0	R5-1A	36"X24"	WRONG WAY	6.00	ON LIGHT POLE
1	28+60	STH 35	LT	0	1	0	0	R6-2L	24"X30"	ONE WAY	5.00	ON LIGHT POLE
1	28+80	STH 35	LT	0	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25	
1	29+40	STH 35	LT	0	1	0	0	R5-1A	36"X24"	WRONG WAY	6.00	ON LIGHT POLE
1	0+70	CUMMING	LT	1	1	1	0	R1-1	30"X30"	STOP	6.25	CUMMING AVE (LT)
1	1+75	3RD ST	LT	1	1	1	0	R1-2	36"X31"	YIELD	7.75	3RD STREET
1	1+75	3RD ST	RT	1	1	1	0	R1-2	36"X31"	YIELD	7.75	3RD STREET
1	33+00	NB USH53	LT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25	
1	33+00	NB USH53	RT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25	
1	34+00	NB USH53	LT	1	1	1	0	W4-1	36"X36"	MERGE SYMBOL	9.00	
1	34+50	NB USH53	LT	0	0	1	0	R5-1A	36"X24"	WRONG WAY	6.00	

MISCELLANEOUS QUANTITIES

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PERMANENT SIGNING SUMMARY												
				638.3000	638.2602	634.0616	638.2102	637.0202			AREA	
				REMOVE	REMOVE	16'	MOVING SIGNS	SIGNS				
				SUPPORT	SIGNS	WOOD POST	TYPE II	REFLECTIVE TYPE II				
PAGE	STA.	DESC.	LOCATION	EACH	EACH	EACH	EACH	SIGN CODE	SIZE	MESSAGE	S. F.	REMARKS
1	16+00	RAMP A	RT	2	1	2	0	J3-3	108"X84"	TRAILBLAZER ROUTE TURN J ASSY #1	63.00	SALVAGE EXISTING SIGN
1	38+10	RAMP C	LT	2	1	2	0	J3-3	117"X84"	ROUTE TURN J ASSY #8	68.25	
1	39+50		LT	2	1	2	0	D1-52	108"X24"	VEHICLE REG/DRIVER LIC	18.00	
1	38+00	SB USH53	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	BAXTER AVE
1	38+00	SB USH53	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	BAXTER AVE
1	38+00	SB USH53	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	BAXTER AVE
1	36+75	RAMP C	LT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00	
1	36+75	RAMP C	RT	1	1	1	0	R3-3	24"X24"	NO TURNS	4.00	
1	36+75	RAMP C	RT	1	1	1	0	R4-7	36"X48"	KEEP RIGHT	12.00	SHARE POST
1	36+20	RAMP C	LT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25	
1	36+00	SB USH53	RT	1	1	1	0	J33-2	72"X102"	J ASSY #9 TRAILBLAZER	51.00	SALVAGE EXISTING SIGN
1	34+30	RAMP C	LT	2	1	2	0	W1-1R	48"X48"	RT TURN AHEAD ARROW	16.00	SHARE POST
1	34+30	RAMP C	LT	2	1	2	0	W13-1	24"X24"	15 MPH ADVISORY	4.00	SHARE POST
1	34+30	RAMP C	RT	2	1	2	0	W1-1R	48"X48"	RT TURN AHEAD ARROW	16.00	SHARE POST
1	34+30	RAMP C	RT	2	1	2	0	W13-1	24"X24"	15 MPH ADVISORY	4.00	SHARE POST
	34+00	RAMP C	LT	1	1	0	0	REMOVAL		SLIPPERY ROAD SYMBOL	-	
	34+00	RAMP C	RT	1	1	0	0	REMOVAL		SLIPPERY ROAD SYMBOL	-	
1	37+20	RAMP B	LT	1	1	1	0	W1-8	24"X30"	CHEVRON	5.00	
1	37+55	RAMP B	LT	2	1	2	0	W1-6	60"X30"	NIGHT ARROW	12.50	
1	37+90	RAMP B	LT	1	1	1	0	W1-8	24"X30"	CHEVRON	5.00	
1	38+40	RAMP B	LT	1	1	1	0	W1-8	24"X30"	CHEVRON	5.00	
1	38+75	RAMP B	LT	1	1	1	0	W1-8	24"X30"	CHEVRON	5.00	
1	39+25	RAMP B	LT	0	1	1	0	W1-8	24"X30"	CHEVRON	5.00	
1	38+80	RAMP B	RT	0	1	0	0	W4-3R	36"X36"	JUNCTION SYMBOL	9.00	ON LIGHT POLE
1	39+00	RAMP B	RT	0	0	2	0	J4-2	81"X54"	J ASSY #10 REASSURANCE	30.38	
1	39+75	RAMP B	RT	0	1	0	0	R5-57	36"X36"	PROHIBITED	9.00	ON LIGHT POLE
	29+00	SB USH53	RT	2	1	0	0	REMOVAL		J ASSEMBLY	-	SALVAGE EXISTING SIGN
	29+75	SB USH53	RT	2	1	0	0	REMOVAL		DESTINATION SIGN	-	
1	30+05	SB USH53	LT	0	0	2	0	SPECIAL	108"X66"	SPECIAL ASSY #11	49.50	
1	30+05	SB USH53	RT	0	0	2	0	SPECIAL	72"X84"	SPECIAL ASSY #12	42.00	
1	31+50	SB USH53	LT	1	1	0	0	REMOVAL		STOP AHEAD	-	
	31+50	SB USH53	LT	0	0	1	0	W3-3	36"X36"	SIGNAL AHEAD	9.00	
										ATTENTION FLAGS		
1	31+50	SB USH53	RT	1	1	0	0	REMOVAL		STOP AHEAD	-	
	31+50	SB USH53	RT	0	0	1	0	W3-3	36"X36"	SIGNAL AHEAD	9.00	
										ATTENTION FLAGS		
1	32+60	RAMP B	RT	2	1	0	0	REMOVAL		RAMP 15 MPH	-	
1	33+90	SB USH53	LT	0	1	0	0	J33-2	72"X102"	J ASSY #14	51.00	ON LIGHT POLE
1	34+10	RAMP B/53	MEDIAN	2	1	2	0	J3-2	81"X84"	J ASSY #13 TRAILBLAZER	47.25	SALVAGE EXISTING SIGN
	34+25	RAMP B	RT	0	1	0	0	REMOVAL		J ASSEMBLY	-	
1	35+25	RAMP B/53	MEDIAN	1	1	1	0	W12-1D	30"X30"	ARROWS	6.25	
1	35+60	RAMP B	RT	0	1	0	0	REMOVAL		YIELD	-	

MISCELLANEOUS QUANTITIES

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PERMANENT SIGNING SUMMARY													
				638.3000	638.2602	634.0616	638.2102	637.0202			AREA		
				REMOVE	REMOVE	16'	MOVING SIGNS	SIGNS					
				SUPPORT	SIGNS	WOOD POST	TYPE II	REFLECTIVE TYPE II					
PAGE	STA.	DESC.	LOCATION	EACH	EACH	EACH	EACH	SIGN CODE	SIZE	MESSAGE	S. F.	REMARKS	
1	16+00	RAMP A	RT	2	1	2	0	J3-3	108"X84"	TRAILBLAZER ROUTE TURN J ASSY #1	63.00	SALVAGE EXISTING SIGN	
1	35+40	SB USH53	RT	0	1	0	0	REMOVAL		TRAFFIC DOES NOT STOP	-		
1	35+40	SB USH53	LT	1	1	0	0	REMOVAL		STOP	-		
1	35+40	SB USH53	LT	0	1	0	0	REMOVAL		TRAFFIC DOES NOT STOP	-		
2	38+75	USH 53 SB	RT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00		
2	40+50	USH 53 SB	RT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25		
2	40+50	USH 53 SB	LT	0	0	1	0	W3-3	36"X36"	SIGNAL AHEAD	9.00		
2	40+50	USH 53 SB	RT	0	0	1	0	W3-3	36"X36"	SIGNAL AHEAD	9.00		
2	41+00	USH 53	MEDIAN	0	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00	ON LIGHT POLE	
2	0+40	GRAND AVE	RT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP	
2	0+40	GRAND AVE	RT	1	1	1	0	R6-1R	36"X12"	ONE WAY	3.00		
2	0+40	GRAND AVE	RT	1	1	1	0	R1-1	30"X30"	STOP	6.25	GRAND AVE (LT)	
2	0+40	GRAND AVE	LT	1	1	0	0	R6-3	30"X24"	DIVIDED HIGHWAY	5.00		
2	1+60	GRAND AVE	RT	1	1	0	0	REMOVAL		ONE WAY	-		
2	1+60	GRAND AVE	LT	0	0	0	0	REMOVAL		ONE WAY	-		
2	1+60	GRAND AVE	LT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP	
2	1+60	GRAND AVE	LT	1	1	1	0	R6-1R	36"X12"	ONE WAY	3.00		
2	1+60	GRAND AVE	LT	1	1	1	0	R1-1	30"X30"	STOP	6.25	GRAND AVE (RT)	
2	41+60	USH 53 NB	LT	1	1	1	0	R6-3	30"X24"	DIVIDED HIGHWAY	5.00		
2	41+80	USH 53 SB	RT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25		
2	42+20	USH 53 NB	LT	1	1	1	0	J4-1	36"X54"	J ASSY #21 REASSURANCE	13.50		
2	43+50	USH 53 NB	RT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00		
2	44+00	USH 53 NB	RT	2	0	2	1	R4-7	24"X30"	KEEP RIGHT	5.00		
2	44+00	USH 53 NB	LT	2	0	2	1	SPECIAL	90"X60"	SPECIAL ASSY #22	-	STH 35 (REUSE EXIST)	
2	45+00	USH 53 NB	RT	1	1	1	0	SPECIAL	72"X60"	SPECIAL ASSY #23	-	USH 53 USH 535 (REUSE EXIST)	
2	45+00	USH 53 NB	RT	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 25	5.00		
2	45+00	USH 53 NB	MEDIAN	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 25	5.00		
2	45+00	USH 53 SB	RT	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 45	5.00		
2	45+00	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	WEEKS AVE	
2	45+00	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	WEEKS AVE	
2	45+00	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	WEEKS AVE	
2	46+20	USH 53 NB	RT	0	0	1	0	R3-80	36"X30"	LANE DESIGNATION	7.50		
2	46+20	USH 53 NB	MEDIAN	0	0	1	0	R3-80	36"X30"	LANE DESIGNATION	7.50		
2	46+50	USH 53 SB	RT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00		
2	47+00	USH 53 NB	RT	2	1	2	0	J4-3	117"X57"	J ASSY #24 REASSURANCE	46.31	USH 53/535 STH35	
2	48+10	USH 53 SB	RT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25		
2	48+25	USH 53	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00		
2	0+40	CLOUGH AVE	RT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP	
2	0+40	CLOUGH AVE	RT	1	1	1	0	R6-1R	36"X12"	ONE WAY	3.00		
2	0+40	CLOUGH AVE	RT	1	1	1	0	R1-1	30"X30"	STOP	6.25	CLOUGH AVE (LT)	
2	0+40	CLOUGH AVE	RT	1	1	1	0	R6-3	30"X24"	DIVIDED HIGHWAY	5.00		

MISCELLANEOUS QUANTITIES

PERMANENT SIGNING SUMMARY													
				638.3000	638.2602	634.0616	638.2102	637.0202			AREA		
				REMOVE	REMOVE	16'	MOVING SIGNS	SIGNS					
				SUPPORT	SIGNS	WOOD POST	TYPE II	REFLECTIVE TYPE II					
PAGE	STA.	DESC.	LOCATION	EACH	EACH	EACH	EACH	SIGN CODE	SIZE	MESSAGE	S. F.	REMARKS	
1	16+00	RAMP A	RT	2	1	2	0	J3-3	108"X84"	TRAILBLAZER ROUTE TURN J ASSY #1	63.00	SALVAGE EXISTING SIGN	
	1+60	CLOUGH AVE	LT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP	
								R6-1R	36"X12"	ONE WAY	3.00		
2	1+60	CLOUGH AVE	LT	1	1	1	0	R1-1	30"X30"	STOP	6.25	CLOUGH AVE (RT)	
								R6-3	30"X24"	DIVIDED HIGHWAY	5.00		
2	48+75	USH 53	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00		
2	49+00	USH 53 NB	LT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25		
2	49+50	USH 53 NB	LT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00		
2	51+25	USH 53 NB	LT	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 25	5.00		
										ATTENTION FLAGS			
2	51+25	USH 53 NB	MEDIAN	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 25	5.00		
										ATTENTION FLAGS			
2	51+25	USH 53 SB	RT	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 45	5.00		
2	52+60	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	WEEKS AVE	
2	52+60	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	WEEKS AVE	
2	52+60	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	WEEKS AVE	
2	53+60	USH 53 NB	LT	2	0	2	1	SPECIAL	72"X48"	SPECIAL ASSY #25	-	STH 35 (REUSE EXIST)	
2	53+60	USH 53 NB	MEDIAN	2	0	2	1	SPECIAL	78"X60"	SPECIAL ASSY #26	-	USH 53 USH 535 (REUSE EXIST)	
2	55+20	USH 53 SB	RT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00		
2	55+75	USH 53 SB	RT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25		
	9+60	CATLIN AVE	RT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP	
					0			R6-1R	36"X12"	ONE WAY	3.00		
2	9+60	CATLIN AVE	RT	1	1	1	0	R1-1	30"X30"	STOP	6.25	CATLIN AVE (RT)	
					0			R6-3	30"X24"	DIVIDED HIGHWAY	5.00		
	9+60	CATLIN AVE	RT	1	0	1	0	R6-1R	36"X12"	ONE WAY	3.00	CATLIN AVE (RT)	
2					1			R1-1	30"X30"	STOP	6.25		
2	56+15	USH 53 NB	LT	1	1	1	0	R6-2L	24"X30"	ONE WAY	5.00		
2	56+40	USH 53 NB	LT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25		
2	56+90	USH 53 NB	LT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00		
2	59+40	USH 53 SB	RT	1	0	0	1	SPECIAL	-	CONORS POINT	-	(REUSE EXISTING SIGN)	
2	61+50	USH 53 SB	RT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00	SHARE POST WITH CONORS POINT SIGN	
2	62+00	USH 53 SB	RT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25		
2	62+30	USH 53 SB	RT	1	1	1	0	R6-2L	24"X30"	ONE WAY	5.00		
2	62+40	USH 53 NB	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00		
2	62+80	USH 53 SB	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00		
2	9+90	5TH ST	LT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP	
					0			R6-1R	36"X12"	ONE WAY	3.00		
2	9+90	5TH ST	LT	1	1	1	0	R1-1	30"X30"	STOP	6.25	5TH STREET	
2					0			R6-3	30"X24"	DIVIDED HIGHWAY	5.00		
2	9+90	5TH ST	MEDIAN	1	1	0	0	REMOVAL		STOP	-		
2	10+10	5TH ST	MEDIAN	1	1	1	0	W12-1D	30"X30"	ARROWS	6.25		
2	63+10	USH 53 NB	LT	1	1	0	0	REMOVAL		ONE WAY	-		
2	63+30	USH 53 NB	LT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25		

**MISCELLANEOUS QUANTITIES  
PERMANENT SIGNING SUMMARY**

PAGE	STA.	DESC.	LOCATION	638. 3000	638. 2602	634. 0616	638. 2102	637. 0202		AREA	REMARKS	
				REMOVE	REMOVE	16'	MOVING SIGNS	SIGNS				
				SUPPORT	SIGNS	WOOD POST	TYPE II	REFLECTIVE TYPE II				
				EACH	EACH	EACH	EACH	SIGN CODE	SIZE	MESSAGE	S. F.	
1	16+00	RAMP A	RT	2	1	2	0	J3-3	108"X84"	TRAILBLAZER ROUTE TURN J ASSY #1	63.00	SALVAGE EXISTING SIGN
2	65+00	USH 53 NB	LT	1	0	1	1	SPECIAL	-	CONORS POINT	-	(REUSE EXISTING SIGN)
2	65+40	USH 53 SB	RT	1	1	1	0	M1-85	24"X24"	WISCONSIN HERITAGE	4.00	SHARE POST
2	65+40	USH 53 SB	RT	1	1	1	0	M1-85C	24"X12"	BONG WUI CENTER	2.00	
2	69+80	USH 53 SB	MEDIAN	1	1	1	0	W5-52L	12"X36"	BRIDGE MARKER	3.00	
2	69+80	USH 53 SB	LT	1	1	1	0	W5-52R	12"X36"	BRIDGE MARKER	3.00	
3	71+75	USH 53 NB	MEDIAN	1	1	1	0	W5-52L	12"X36"	BRIDGE MARKER	3.00	
3	71+75	USH 53 NB	LT	1	1	1	0	W5-52R	12"X36"	BRIDGE MARKER	3.00	
3	75+80	USH 53 SB	MEDIAN	1	1	1	0	W5-52L	12"X36"	BRIDGE MARKER	3.00	
3	75+95	USH 53 SB	RT	1	1	1	0	W5-52R	12"X36"	BRIDGE MARKER	3.00	
3	77+25	USH 53 NB	LT	1	1	1	0	W5-52R	12"X36"	BRIDGE MARKER	3.00	
3	77+40	USH 53 NB	MEDIAN	1	1	1	0	W5-52L	12"X36"	BRIDGE MARKER	3.00	
3	79+00	USH 53 NB	LT	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 45	5.00	
3	82+00	USH 53 SB	RT	1	1	1	0	D5-63	60"X36"	HISTORICAL MARKER	15.00	
3	85+25	USH 53 SB	RT	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 45	5.00	
3	86+40	USH 53 SB	MEDIAN	1	1	1	0	W5-52L	12"X36"	BRIDGE MARKER	3.00	
3	86+75	USH 53 SB	RT	1	1	1	0	W5-52R	12"X36"	BRIDGE MARKER	3.00	
3	93+05	USH 53 NB	LT	1	1	1	0	W5-52R	12"X36"	BRIDGE MARKER	3.00	
3	93+05	USH 53 NB	MEDIAN	1	1	1	0	W5-52L	12"X36"	BRIDGE MARKER	3.00	
3	95+50	USH 53 NB	LT	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 45	5.00	
4	100+60	USH 53 SB	RT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00	
4	101+10	USH 53 SB	RT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25	
4	101+30	USH 53 NB	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00	
4	101+90	USH 53 SB	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00	
4	4+60	E STREET	RT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP
4					0		0	R6-1R	36"X12"	ONE WAY	3.00	
4	4+60	E STREET	RT	1	1	1	0	R1-1	30"X30"	STOP	6.25	E STREET
4					0		0	R6-3	30"X24"	DIVIDED HIGHWAY	5.00	
4	5+40	E STREET	LT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP
4					0		0	R6-1R	36"X12"	ONE WAY	3.00	
4	5+40	E STREET	LT	1	1	1	0	R1-1	30"X30"	STOP	6.25	E STREET
4					0		0	R6-3	30"X24"	DIVIDED HIGHWAY	5.00	
4	102+00	USH 53 NB	LT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25	
4	103+00	USH 53 NB	LT	1	1	1	0	R14-52	36"X36"	LOCAL TRUCK ROUTE	9.00	SHARE POST
4	103+00	USH 53 NB	LT	1	1	1	0	M6-1	30"X30"	DIRECTIONAL ARROW	6.25	
4	104+00	USH 53 NB	LT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00	
4	103+00	USH 53 SB	RT	1	1	1	0	R4-5L	24"X30"	TRUCKS USE LT LANE	5.00	
4	102+00	USH 53 SB	RT	1	1	1	0	W11-2	30"X30"	PED X-ING	6.25	
4	107+20	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	F STREET
4	107+20	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	F STREET
4	107+20	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	F STREET
4	107+75	USH 53 NB	LT	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 45	5.00	
4	107+75	USH 53 SB	RT	1	1	1	0	R2-1	24"X30"	SPEED LIMIT 35	5.00	
4	109+00	USH 53 SB	RT	1	1	1	0	J1-2	72"X57"	SPECIAL ASSY #41	28.50	SHARE POST
4	109+00	USH 53 SB	RT	1	1	1	0	D7-59L	54"X36"	TOURIST INFO	13.50	
4	110+00	USH 53 SB	RT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00	
4	111+20	USH 53 NB	LT	1	1	1	0	R14-52	36"X36"	LOCAL TRUCK ROUTE	9.00	SHARE POST

MISCELLANEOUS QUANTITIES

PERMANENT SIGNING SUMMARY

PAGE	STA.	DESC.	LOCATION	638. 3000	638. 2602	634. 0616	638. 2102	637. 0202		AREA	REMARKS	
				REMOVE	REMOVE	16'	MOVING SIGNS	SIGNS		S. F.		
				SUPPORT	SIGNS	WOOD POST	TYPE II	REFLECTIVE TYPE II				
EACH	EACH	EACH	EACH	SIGN CODE	SIZE	MESSAGE	S. F.	REMARKS				
1	16+00	RAMP A	RT	2	1	2	0	J3-3	108"X84"	TRAILBLAZER ROUTE TURN J ASSY #1	63.00	SALVAGE EXISTING SIGN
4	112+10	USH 53 SB	RT	1	2	1	0	W11-2	30"X30"	PED X-ING	6.25	REMOVE ARROW
4	112+10	USH 53 SB	RT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25	
4	112+20	USH 53 NB	LT	1	1	1	0	W11-2	30"X30"	PED X-ING	6.25	
4	112+30	USH 53 NB	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00	
4	112+85	USH 53 SB	MEDIAN	1	1	1	0	R4-7	24"X30"	KEEP RIGHT	5.00	
4	3+60	2ND AVE	RT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP
4					0		0	R6-1R	36"X12"	ONE WAY	3.00	
4	3+60	2ND AVE	RT	1	1	1	0	R1-1	30"X30"	STOP	6.25	2ND AVE
4					0		0	R6-3	30"X24"	DIVIDED HIGHWAY	5.00	
4	4+40	2ND AVE	LT	0	0	0	0	R6-1L	36"X12"	ONE WAY	3.00	SHARE POST WITH STOP
4					0		0	R6-1R	36"X12"	ONE WAY	3.00	
4	4+40	2ND AVE	LT	1	1	1	0	R1-1	30"X30"	STOP	6.25	2ND AVE
4					0		0	R6-3	30"X24"	DIVIDED HIGHWAY	5.00	
4	113+10	USH 53 NB	LT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25	
4	113+60	USH 53 NB	LT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00	
4	113+60	USH 53 SB	RT	1	1	1	0	J3-2	72"X84"	RESSURANCE J ASSY #42	42.00	USH 2 EAST / WEST
4	114+50	USH 53 SB	RT	1	1	1	0	W3-3	36"X36"	SIGNAL AHEAD	9.00	
4	116+40	USH 53 NB	LT	1	1	1	0	J1-1	36"X54"	RESSURANCE J ASSY #43	13.50	USH 53
4	116+75	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	3RD AVENUE
4	116+75	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	3RD AVENUE
4	116+75	USH 53 SB	RT	1	1	1	0	W5-56	18"X18"	(DOTS)	2.25	3RD AVENUE
4	117+75	USH 53 NB	LT	1	1	1	0	W11-2	30"X30"	PED X-ING	6.25	
4	117+75	USH 53 SB	MEDIAN	1	1	1	0	R3-20L	24"X36"	BEGIN LEFT TURN	6.00	
4	118+30	USH 53 SB	RT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00	
4					1		0	D1-3	90"X36"	DIRECTION	22.50	
4	118+80	USH 53 SB	RT	2	0	2	0	D1-1	102"X18"	DIRECTION	12.75	SHARE POST
4	118+80	USH 53 SB	RT		1		0	R5-1	30"X30"	DO NOT ENTER	6.25	
4	119+90	USH 53 NB	LT	1	1	1	0	R5-1	30"X30"	DO NOT ENTER	6.25	SHARE POST
4	119+90	USH 53 NB	LT		1		0	J3-2	72"X84"	RESSURANCE J ASSY #44	42.00	
4	122+00	USH 53 NB	LT	1	1	1	0	R5-1A	36"X24"	WRONG WAY	6.00	
4	120+00	USH 53 SB	RT	0	1	0	0	JV	36"X108"	RESSURANCE J ASSY #45	27.00	ON LIGHT POLE
4					1		0	D1-2	90"X30"	DIRECTION	18.75	
4	122+25	USH 53 NB	LT	2	0	2	0	D1-1	102"X18"	DIRECTION	12.75	SHARE POST
4	122+80	USH 53 NB	LT	1	2	1	0	J13-1	24"X45"	ASSEMBLY #49	7.50	SIGNS HAVE GREEN BACKGROUND
4	123+25	USH 53 NB	LT	1	1	1	0	W3-3	36"X36"	SIGNAL AHEAD	9.00	
4	123+30	USH 53 NB	MEDIAN	1	1	1	0	R3-20L	24"X36"	BEGIN LEFT TURN	6.00	
4	122+50	USH 53 SB	RT	0	1	0	0	R2-1	24"X30"	SPEED LIMIT 45	5.00	ON LIGHT POLE
4					2		0	J4-1	24"X36"	ASSEMBLY #50	6.00	
4	125+00	USH 53 SB	RT	0	2	0	0	R7-1D	18"X24"	NO PARKING ANYTIME ARROWS	3.00	ON LIGHT POLE
4	125+00	USH 53 NB	LT	2	1	2	0	J3-2	72"X84"	RESSURANCE J ASSY #47	42.00	
4	131+25	USH 53 NB	LT	0	0	0	0	JV	36"X141"	RESSURANCE J ASSY #48	35.25	ON LIGHT POLE
TOTALS				199	205	198	9				2,605	



MISCELLANEOUS QUANTITIES

PAVEMENT MARKING SUMMARY

CAT	STATION TO STATION	LOC	646.0106		646.0126	646.0156	647.0456	647.0606	647.0726	REMARKS
			EPOXY				CURB	ISLAND	DIAGONAL	
			4-INCH		8-INCH	18-INCH	EPOXY	NOSE	EPOXY	
			WHITE	YELLOW	WHITE	WHITE		EPOXY	12-INCH	
			LF	LF	LF	LF	LF	EACH	LF	
0010	PROJECT				700		500	16	403	
0010	31+00 - 40+25		1295	1063						NB US 53
0010	28+20 - 40+25		740	1114						SB US 53
0010	40+25 - 55+00		1683	1217						NB US 53
0010	40+25 - 55+00		1508	1208						SB US 53
0010	55+00 - 69+67		1691	1463						NB US 53
0010	55+00 - 69+67		1455	1405						SB US 53
0010	69+67 - 85+00		1661	1542						NB US 53
0010	69+67 - 85+00		1668	1541						SB US 53
0010	85+00 - 100+00		1620	1491						NB US 53
0010	85+00 - 100+00		1620	1491						SB US 53
0010	100+00 - 115+00		1864	1475						NB US 53
0010	100+00 - 115+00		1809	1474						SB US 53
0010	115+00 - 125+00		1255	1037						NB US 53
0010	115+00 - 125+00		652	1038						SB US 53
0010	28+00 - 40+00		1712	520						NB US 535
0010	16+41 - 28+00		1649	500						SB US 535
0010	0+00 - 1+00		283	283						HUGHITT AVE.
0010	0+00 - 1+00		238	39						CUMMING AVE.
0010	22+75 - 25+75		397	423						NB STH 35
0010	22+75 - 25+75		914	677						SB STH 35
0010	1+00 - 4+20		328	265						THIRD ST.
0010				39						GRAND AVE.
0010				39						CATLIN AVE.
0010				39						FIFTH ST.
0010				39						CLOUGH AVE.
0010	119+70 - 122+50	LT			300					
0010	118+44 - 119+18	RT			75					
0010	61+59 - 62+34	RT			75					
0010	48+85 - 49+89	LT			100					
0010	47+50 - 48+37	RT			90					
0010	41+50 - 43+50	LT			200					
0010	41+50 - 43+50	RT			200					
0010	1+20 - 1+84	RT			65					
0010	36+16 - 40+15	RT			400					
0010	1+50 - 2+50	C/L			100					
	SUBTOTAL		26040	21420	2305	0	500	16	403	

PAVEMENT MARKING SUMMARY (CONT.)

CAT	STATION TO STATION	LOC	646.0106		646.0126	646.0156	REMARKS
			EPOXY				
			4-INCH		8-INCH	18-INCH	
			WHITE	YELLOW	WHITE	WHITE	
			LF	LF	LF	LF	
0010	- 2+50					24	HUGHIT AVENUE
0010	- 4+30					12	HUGHIT AVENUE
0010	- 0+90					12	CUMMING AVENUE
0010	- 35+56					24	SB USH 53
0010	- 0+32					12	GRAND AVENUE
0010	- 1+60					12	GRAND AVENUE
0010	- 10+16					12	CLOUGH AVENUE
0010	- 11+33					12	CLOUGH AVENUE
0010	- 10+40					12	CATLIN AVENUE
0010	- 9+85					12	CATLIN AVENUE
0010	- 9+26					12	CATLIN AVENUE
0010	- 10+07					12	5TH STREET
0010	- 4+57					12	E STREET
0010	- 5+40					12	E STREET
0010	- 3+56					12	2ND AVENUE
0010	- 4+98					12	2ND AVENUE
0010	- 92+88					12	MARINA DRIVE
0010	- 92+27					12	BELKNAP STREET
0010	38+00 - 40+25					175	NB USH 53
0010	- UNK					50	NB USH 53
	TOTAL		26040	21420	2305	465	



MISCELLANEOUS QUANTITIES

3

3

TRAFFIC CONTROL SUMMARY																								
				643.0300			643.0420			643.0705			643.0715			643.0800			643.0900					
				TRAFFIC			BARRICADES			WARNING LIGHTS			WARNING LIGHTS			ARROW			TRAFFIC CONTROL					
				DRUMS			TYPE III			TYPE A (FLASH)			TYPE C (STEADY)			BOARDS			SIGNS			SIGN		
CAT.	STATION	TO STA.	LOCATION	EACH	DAYS	DAYS	EACH	DAYS	DAYS	EACH	DAYS	DAYS	EACH	DAYS	DAYS	EACH	DAYS	DAYS	EACH	DAYS	DAYS	CODE	MESSAGE	
STAGE 1, 2, 3 (8 WKS)																								
0010	14+75		SB RT																1	56	56	W20-1	RWA	
0010	16+75		SB RT																1	56	56	W20-5	R. LCA	
0010	18+75		SB RT																1	56	56	W04-2R	(LN REDUCE)	
0010	20+75		SB RT																1	56	56	W12-52	MAX WIDTH	
0010	21+25		NB LT																1	56	56	G20-2A	END RW	
0010	22+25		SB RT				1	56	56	2	56	112							1	56	56	W01-6	(ARROW)	
0010	23+25		SB RT															1	56	56				
0010	21+25	23+25	SB RT	10	56	560							10	56	560									
0010	22+50	110+00	NB	355	56	19880																		
0010	24+25		SB RT				2	56	112	4	56	224							1	56	56	R11-2	R. C.	
0010	24+25	26+50	SB RT	11	56	616															0			
0010	25+75		SB RT																1	56	56	W04-1	(MERGE)	
0010	16+50		A RAMP																1	56	56	W20-1	RWA	
0010	22+00		A RAMP																1	56	56	W20-1	RW 500'	
0010	25+00		A RAMP																1	56	56	W03-2	(YIELD AHD)	
0010	26+50	28+50	A RAMP																1	56	56	R2-1	(YIELD)	
0010	26+50		A RAMP																					
0010	27+50		A RAMP																1	56	56	W01-6	(ARROW)	
0010	28+50		A RAMP															1	56	56				
0010	28+50	35+00	SB	28	56	1568																		
0010	38+75		NB				1	56	56	2	56	112							1	56	56	W01-6	(ARROW)	
0010	39+00		NB				1	56	56	2	56	112							1	56	56	R11-2	R. C.	
0010	38+75		NB	7	56	392																		
0010	110+00		NB															1	56	56				
0010	111+00		NB				1	56	56	2	56	112							1	56	56	W01-6	(ARROW)	
0010	110+00		NB	10	56	560							10	56	560									
0010	113+00		NB																1	56	56	W12-52	MX WIDTH 12'	
0010	115+00		NB																1	56	56	W04-2R	(LANE REDUCE)	
0010	117+00		NB																1	56	56	W20-5	LANE CLOSED	
0010	119+00		NB																1	56	56	W20-1	RWA	
0010	121+00		SB																1	56	56	G20-2A	END RW	
0010	8 SIDE RDS		NB&SB				16	56	896	32	56	1792							8	56	448	R11-2	R. C.	
0010	11 SIDE RDS		NB&SB	11	56	616													11	56	616	W20-1	RWA	

**MISCELLANEOUS QUANTITIES**

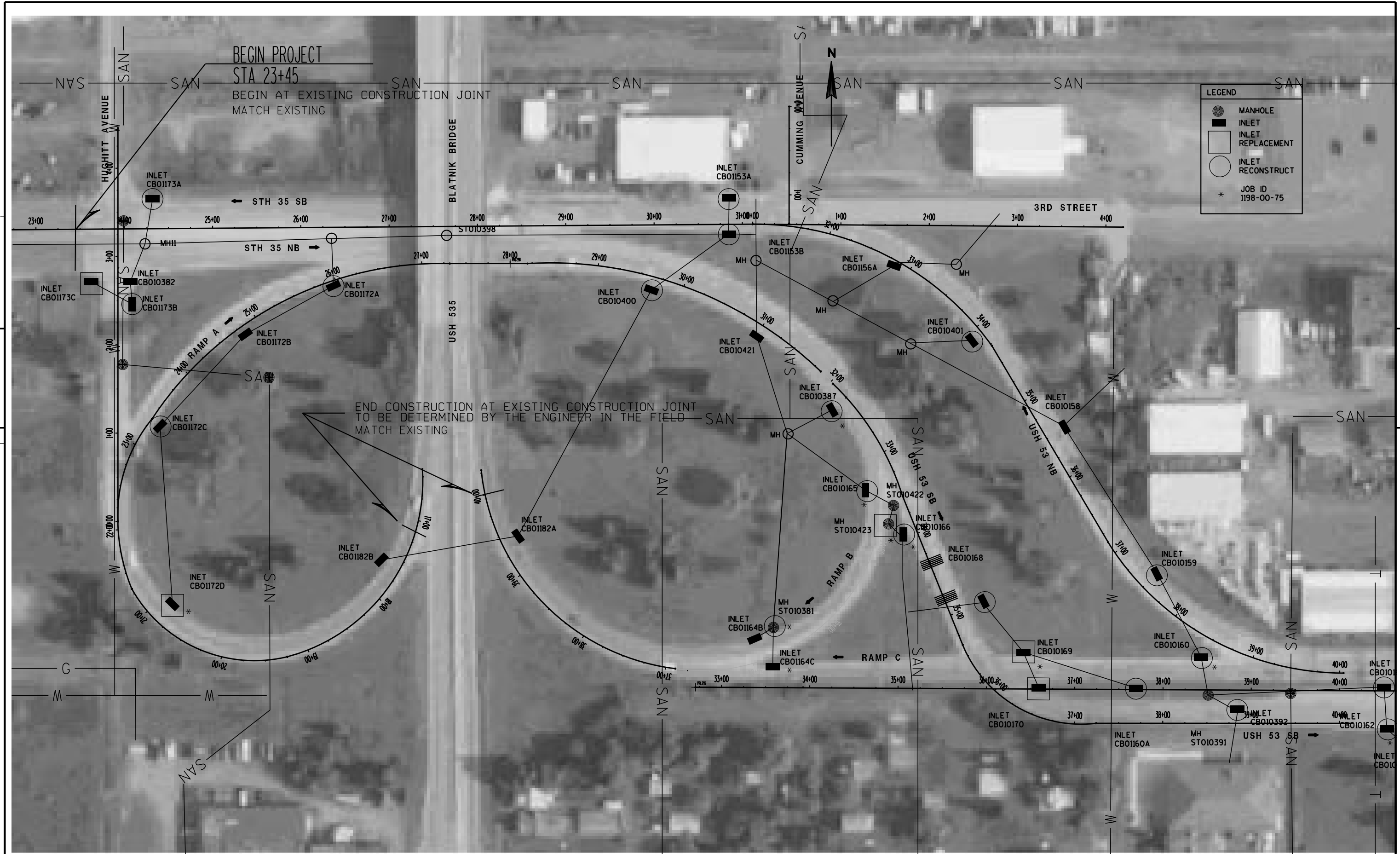
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TRAFFIC CONTROL SUMMARY																							
				643.0300			643.0420			643.0705			643.0715			643.0800			643.0900				
				TRAFFIC			BARRICADES			WARNING LIGHTS			WARNING LIGHTS			ARROW			TRAFFIC CONTROL				
				DRUMS			TYPE III			TYPE A (FLASH)			TYPE C (STEADY)			BOARDS			SIGNS			SIGN	
CAT.	STATION	TO STA.	LOCATION	EACH	DAYS	DAYS	EACH	DAYS	DAYS	EACH	DAYS	DAYS	EACH	DAYS	DAYS	EACH	DAYS	DAYS	EACH	DAYS	DAYS	CODE	MESSAGE
STAGE 4, 5, 6 (8 WKS)																							
0010	14+75		SB																1	56	56	W20-1	RWA
0010	16+78		SB																1	56	56	W20-5	LN CLOSED AHD
0010	18+75		SB																1	56	56	W04-2	(LANE REDUCED)
0010	20+75		SB																1	56	56	W12-52	MX WIDTH 12'
0010	21+25		NB																1	56	56	G20-2A	ERW
0010	22+25		SB				1	56	56	2	56	112							1	56	56	W01-6	(ARROW)
0010	23+25		SB															1	56	56			
0010	21+25		SB	10	56	560							10	56	560								
0010	24+25		SB				2	56	112	4	56	224							1	56	56	R11-2	R. C.
0010	24+25		SB	350	56	19600																	
0010	36+00		SB				2	56	112	4	56	224							1	56	56	R11-2	R. C.
0010	117+00		NB																1	56	56	W20-1	RW 500'
0010	119+00		NB																1	56	56	W20-1	RWA
0010	121+00		SB																1	56	56	G20-2A	ERW
0010	8 SIDE RDS		NB&SB				8	56	448	16	56	896							4	56	224	R11-2	R. C.
0010	11 SIDE RDS		NB&SB																11	56	616	W20-1	RWA
TOTALS				44352			1960			3920			1680			224			3696				

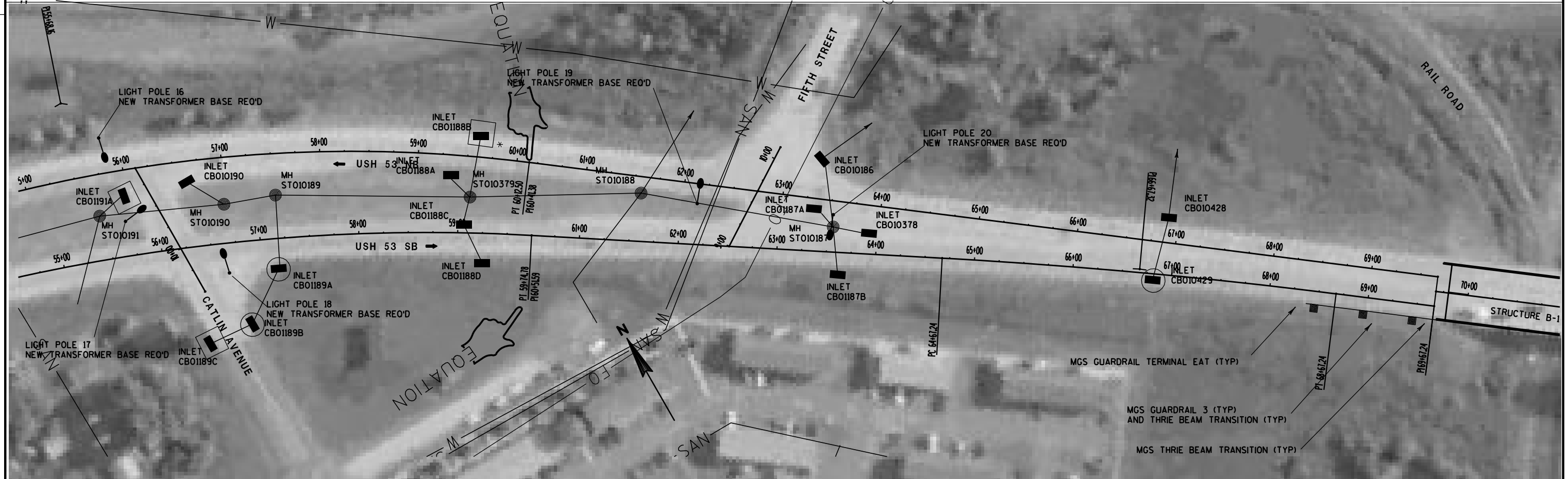
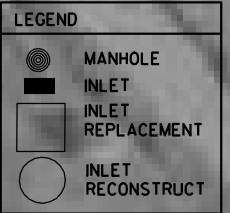
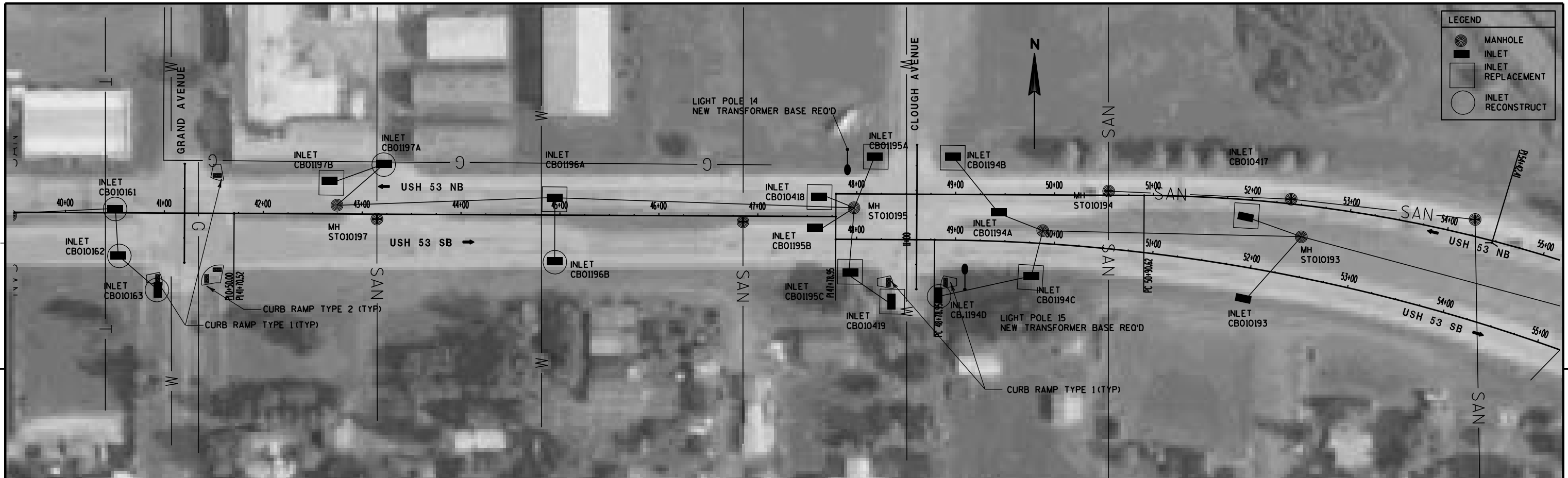
TEMPORARY PAVEMENT MARKING SUMMARY							
				646.0600	649.0400		
				REMOVING	REMOVABLE		
				PAVEMENT	TAPE		
				MARKINGS	4-INCH		
CAT	STA	TO	STA	LOC	LF	LF	REMARKS
0010	10+00	-	12+00	NB	200	200	STAGE 1, 2, 3
0010	10+00	-	12+00	NB	200	200	STAGE 1, 2, 3
0010	21+00	-	23+00	NB	200	200	STAGE 4, 5, 6
0010	21+00	-	23+00	NB	200	200	STAGE 4, 5, 6
TOTAL 0010					800	800	

CONSTRUCTION STAKING SUMMARY						
		650.4000	650.8000	650.9910		
		STORM	RESURFACE	SUPPLEMENTAL		
		SEWER	REFERENCE	CONTROL		
CAT.	STATION LOC.	EACH	LF	LS	REMARKS	
0010	PROJECT	57	11460	1		
TOTAL 0010		57	11460	1		

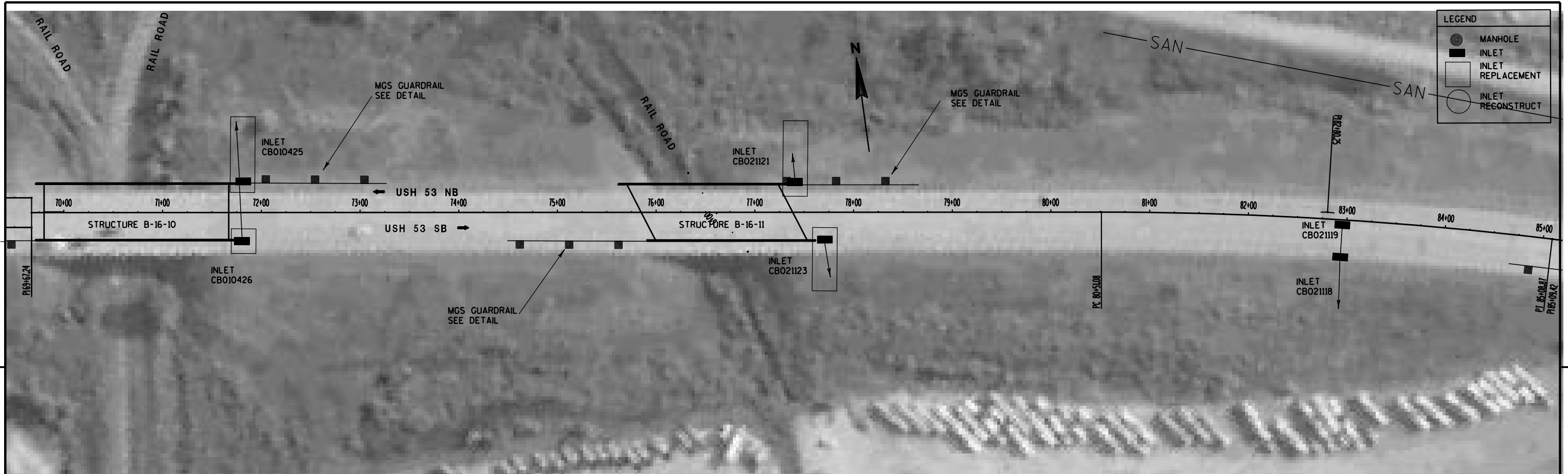


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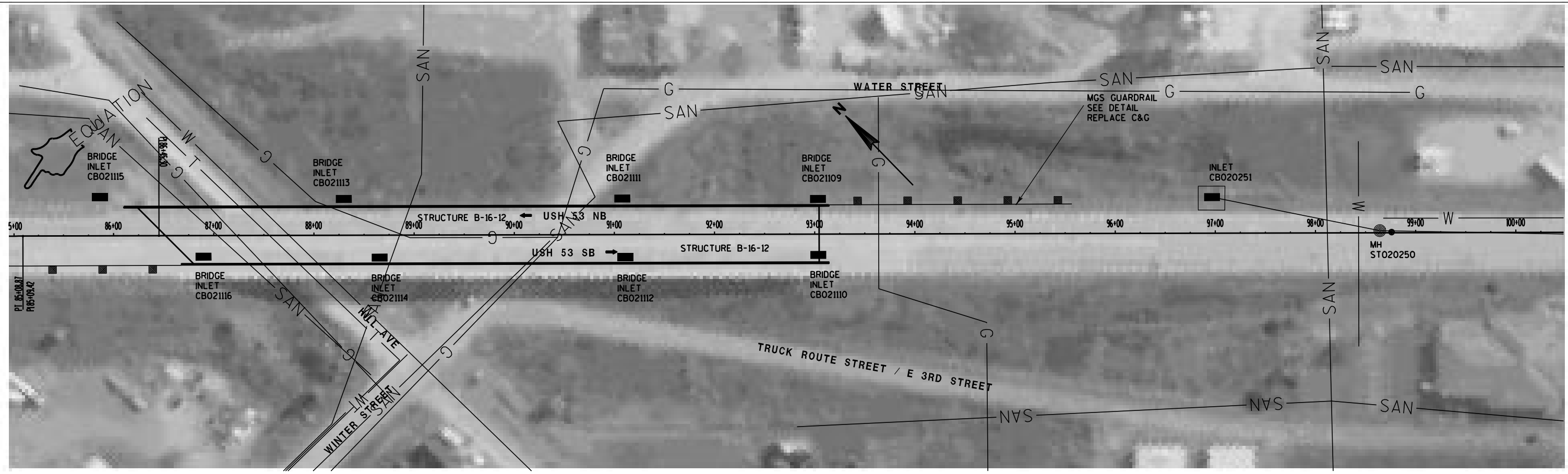


PROJECT NO: 1198-00-61	HWY: USH 53	COUNTY: DOUGLAS	PLAN	SHEET	E
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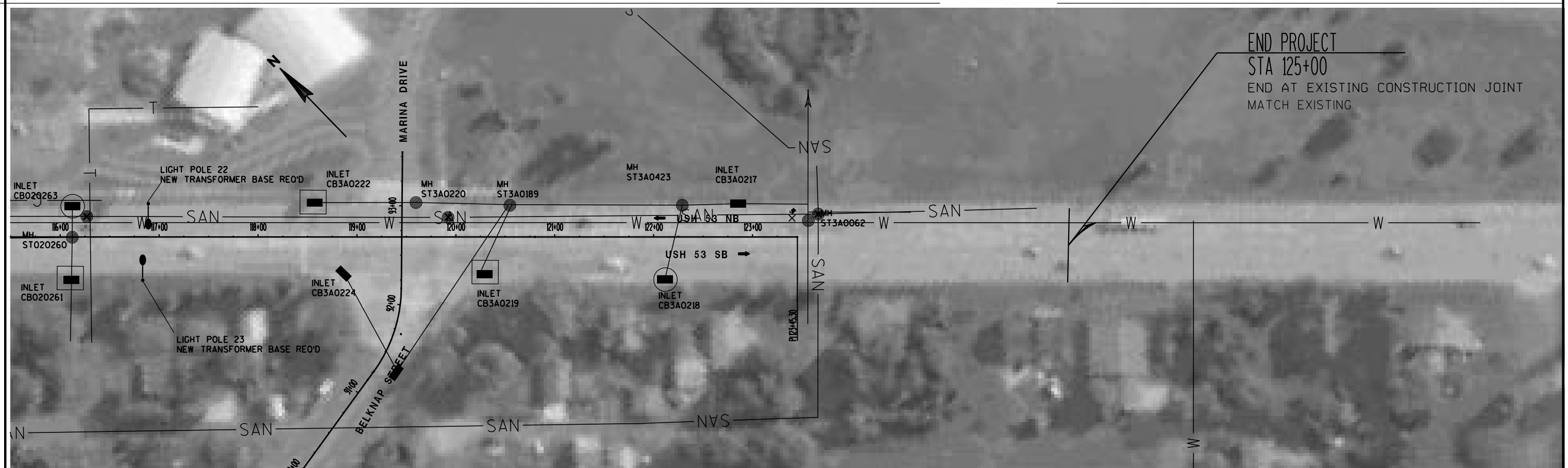
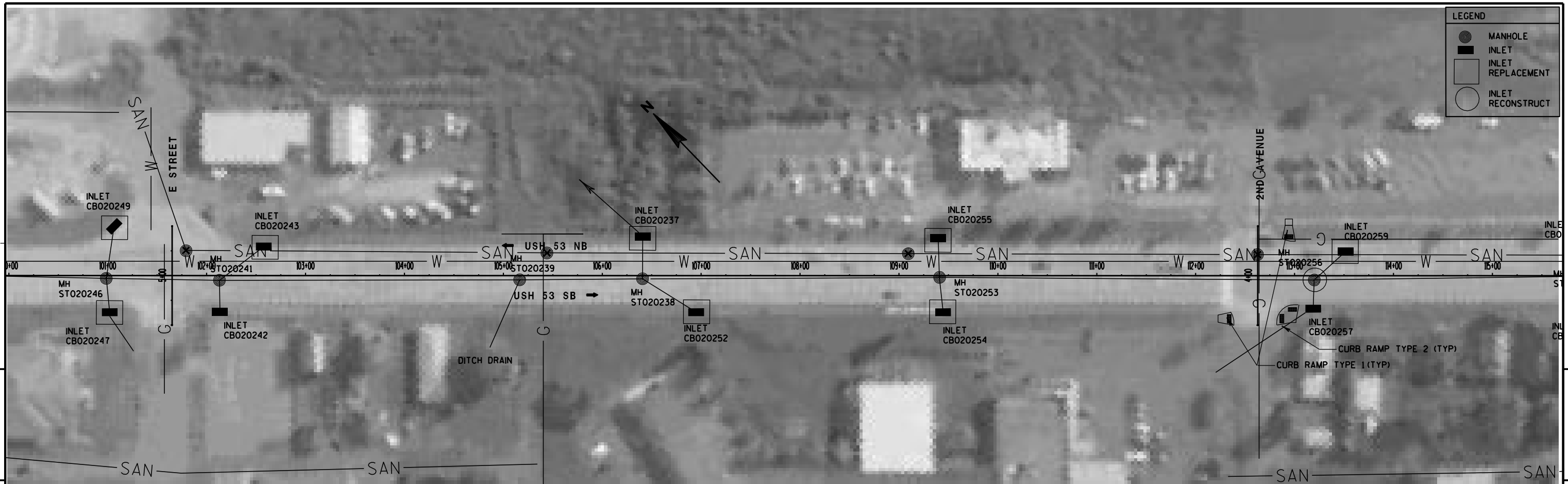


5

5



PROJECT NO: 1198-00-61	HWY: USH 53	COUNTY: DOUGLAS	PLAN	SHEET	E
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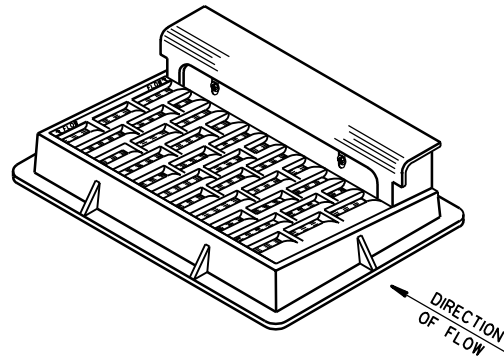
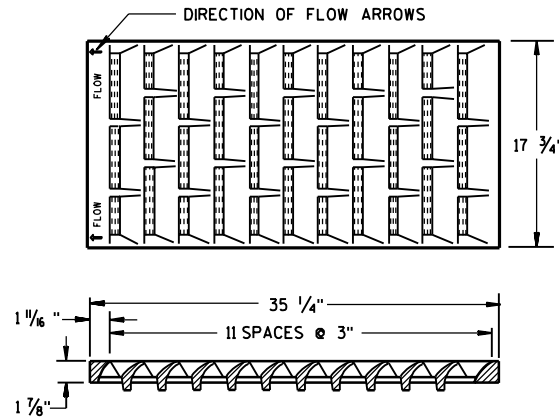


PROJECT NO: 1198-00-61	HWY: USH 53	COUNTY: DOUGLAS	PLAN	SHEET	E
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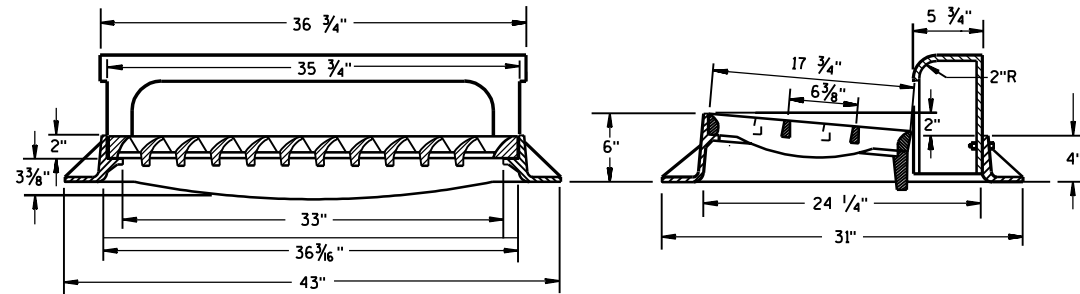
## Standard Detail Drawing List

08A5-16A	INLET COVERS TYPE A, H, A-S, & H-S
08A5-16B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A5-17C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A5-17D	INLET COVER, TYPE Z MANHOLE COVERS, TYPE K, J, J-S, J-H, J-H-S, L & M
08A6-4	CATCH BASINS TYPE 1 & 2
08D1-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D5-14A	CURB RAMPS TYPES 1 AND 1-A
08D5-14B	CURB RAMPS TYPES 2 AND 3
08D5-14C	CURB RAMPS TYPE 4A
08D5-14D	CURB RAMPS TYPE 4B
08D5-14E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E10-2	INLET PROTECTION TYPE A, B, C AND D
09C3-3	TRANSFORMER/PEDESTAL BASES
13C1-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C9-8A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C9-8B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C9-8C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C13-7	URBAN DOWELED CONCRETE PAVEMENT
13C18-1A	CONCRETE PAVEMENT JOINTING
13C18-1B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-1C	CONCRETE PAVEMENT JOINT TIES
13C18-1D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B42-1AMI DWEST	GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-1BMI DWEST	GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-1CMI DWEST	GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-1AMI DWEST	GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-1BMI DWEST	GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-1CMI DWEST	GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-1AMI DWEST	GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-1BMI DWEST	GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-1CMI DWEST	GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-1DMI DWEST	GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-1EMI DWEST	GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-1FMI DWEST	GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-1GMI DWEST	GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-1HMI DWEST	GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-1IMI DWEST	GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
15A2-7	DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR
15A6-2	DELINEATOR LAYOUT
15C5-1	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M. P. H. OR LESS
15C6-5	SIGNING & MARKING FOR TWO LANE BRIDGES
15C7-12B	PAVEMENT MARKING WORDS
15C7-12C	PAVEMENT MARKING ARROWS
15C8-14A	PAVEMENT MARKING (MAINLINE)
15C8-14B	PAVEMENT MARKING (INTERSECTIONS)
15C8-14E	PAVEMENT MARKING (LEFT TURN LANE)
15C8-14F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15C12-3	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C26-1	END-OF-ROADWAY SIGNING
15C27-1	DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-1A	PAVEMENT MARKING (RAMPS AND GORES)
15D12-2	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M. P. H.
15D16-1	TRAFFIC CONTROL, EXIT RAMP CLOSURE

NOTE:  
GRATE IS REVERSIBLE.



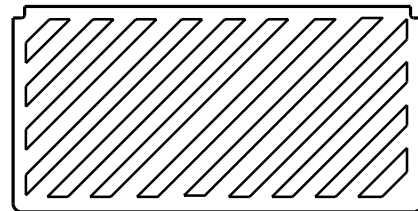
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



**TYPE "H"**

(APPROXIMATE WEIGHT 422 LBS.)  
 FRAME..... 175 LBS.  
 GRATE..... 138 LBS.  
 CURB BOX..... 109 LBS.

1/8" DIAGONAL BARS WITH 1 5/8" OPENINGS



**SPECIAL GRATE FOR  
TYPE "H" COVER**

(MEASURES 35 1/4" X 17 3/4" X 2")  
 (APPROXIMATE WEIGHT 172 LBS.)  
 GRATE..... 172 LBS.  
 (NOTED AS TYPE H-S ON DRAINAGE TABLE)

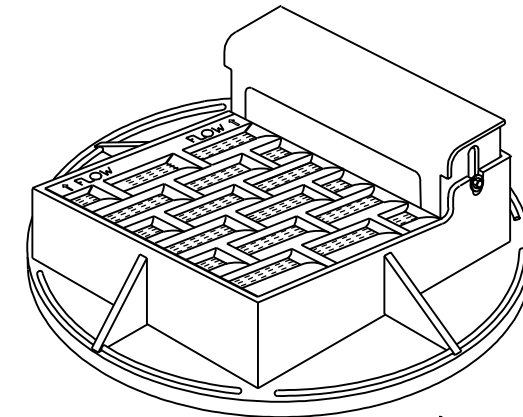
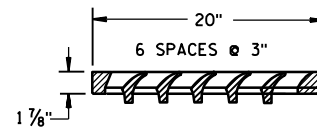
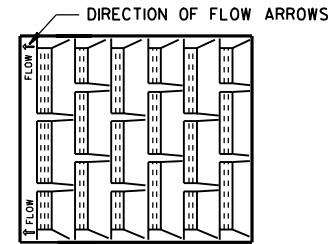
**GENERAL NOTES**

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.

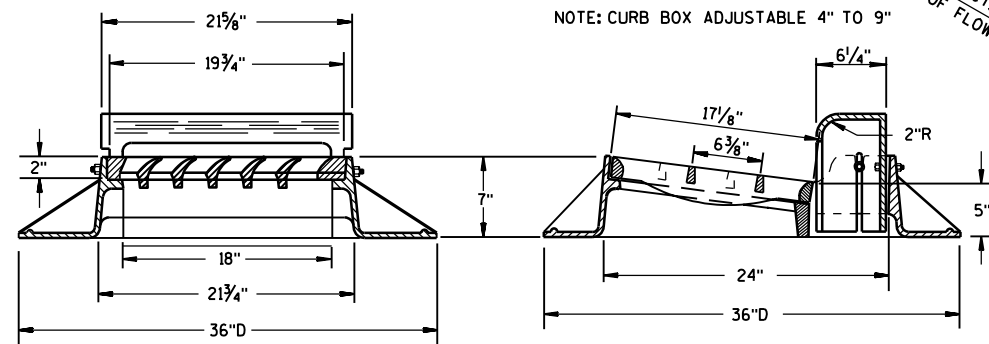
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

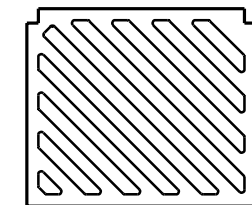


**TYPE "A"**

(APPROXIMATE WEIGHT 325 LBS.)  
 FRAME..... 157 LBS.  
 GRATE..... 84 LBS.  
 CURB BOX..... 84 LBS.

NOTE:  
GRATE IS REVERSIBLE.

1" DIAGONAL BARS  
WITH 1/2" OPENINGS



**SPECIAL GRATE FOR  
TYPE "A" COVER**

(MEASURES 19 3/4" X 17" X 1 7/8")  
 GRATE..... 84 LBS.  
 (NOTED AS TYPE A-S ON DRAINAGE TABLE)

6

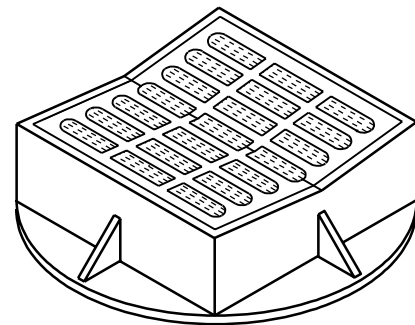
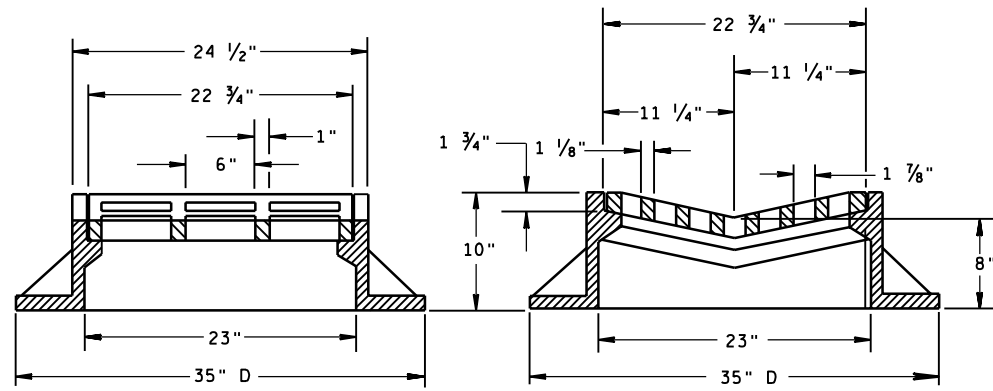
6

**INLET COVERS  
TYPE A, H, A-S, & H-S**

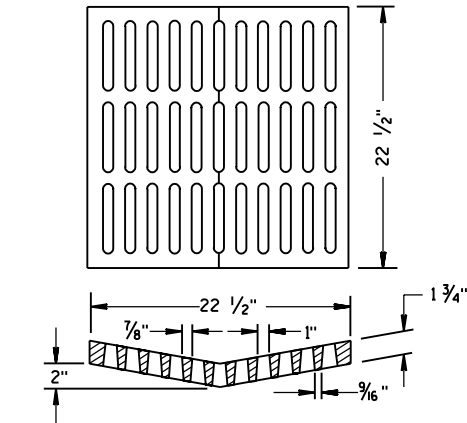
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
 10/4/99 DATE  
 [Signature] CHIEF ROADWAY DEVELOPMENT ENGINEER  
 FHWA



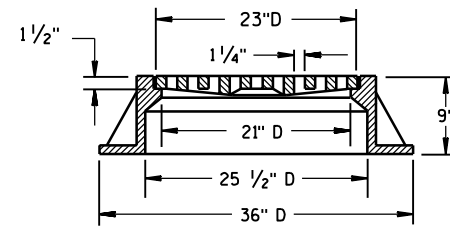
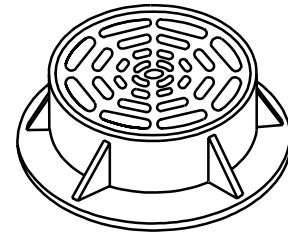


**TYPE "B"**  
(APPROXIMATE WEIGHT 395 LBS.)  
FRAME..... 285 LBS.  
GRATE..... 110 LBS.



**ALTERNATIVE GRATE FOR TYPE "B" COVER**

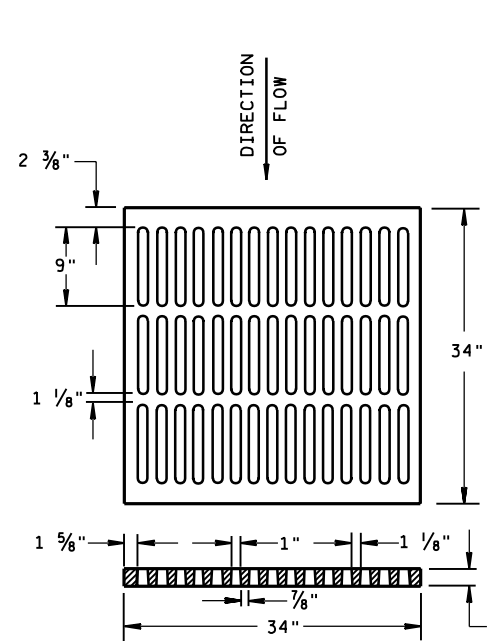
(APPROXIMATE GRATE WEIGHT 125 LBS.)  
GRATE..... 125 LBS.  
USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.  
**NOTED AS TYPE B-A ON THE DRAINAGE TABLE**



**TYPE "C"**  
(APPROXIMATE WEIGHT 340 LBS.)  
FRAME..... 235 LBS.  
GRATE..... 105 LBS.

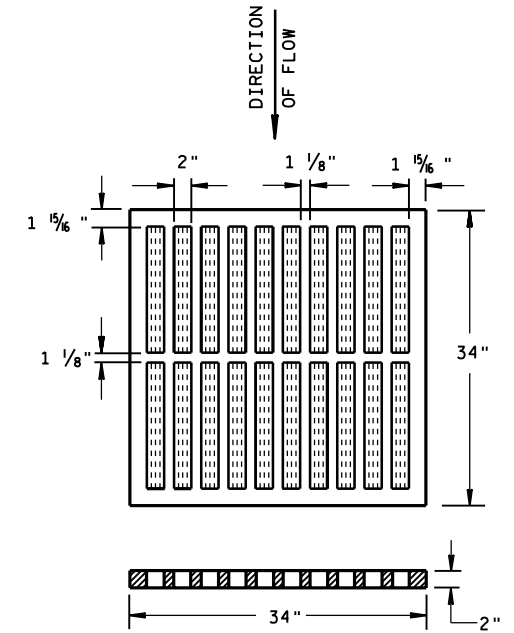
**GENERAL NOTES**

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.  
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.  
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.  
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

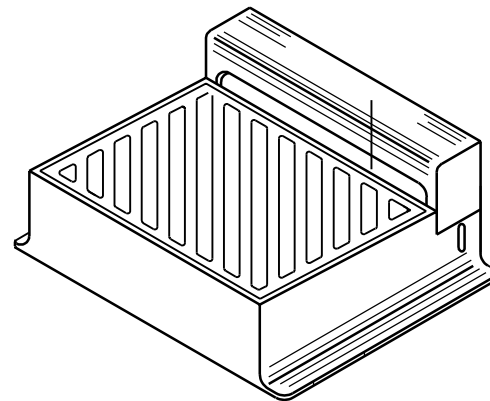


**ALTERNATIVE TYPE "MS"**  
(APPROXIMATE GRATE WEIGHT 365 LBS.)  
GRATE..... 365 LBS.

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED  
**NOTED AS TYPE MS-A ON THE DRAINAGE TABLE**

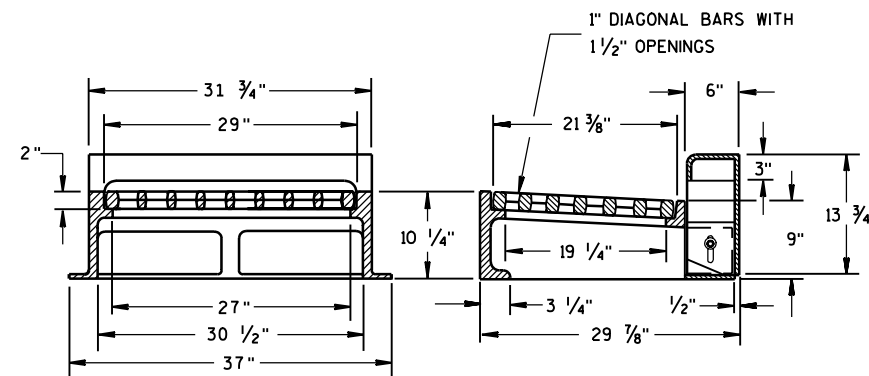


**TYPE "MS"**  
(APPROXIMATE GRATE WEIGHT 270 LBS.)  
GRATE..... 270 LBS.  
USE ON FREEWAYS AND EXPRESSWAYS  
**NOTED AS TYPE MS ON DRAINAGE TABLE**



DIRECTION OF FLOW

DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

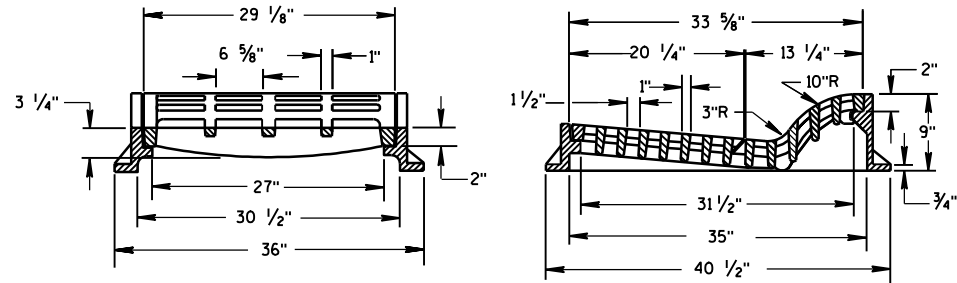
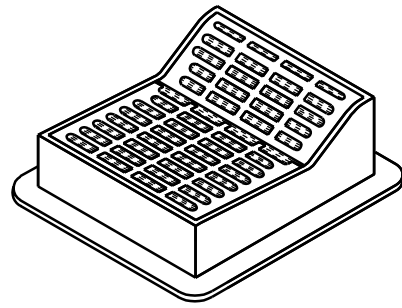
**TYPE "WM"**  
(APPROXIMATE WEIGHT 670 LBS.)  
FRAME..... 360 LBS.  
GRATE..... 160 LBS.  
CURB BOX..... 150 LBS.

**INLET COVERS**  
TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
10/4/99  
DATE  
FHWA

*[Signature]*  
CHIEF ROADWAY DEVELOPMENT ENGINEER



**TYPE "F"**

(APPROXIMATE WEIGHT 645 LBS.)

FRAME.....300 LBS.  
 GRATE.....165 LBS.  
 GRATE.....180 LBS.

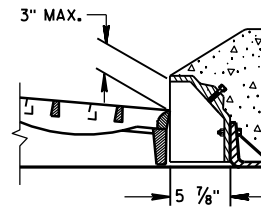
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

**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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

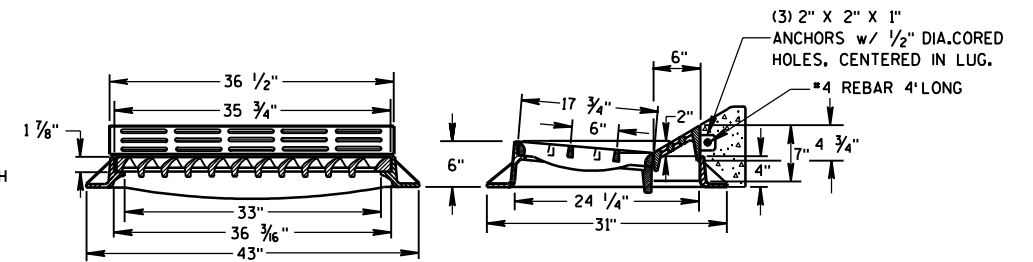
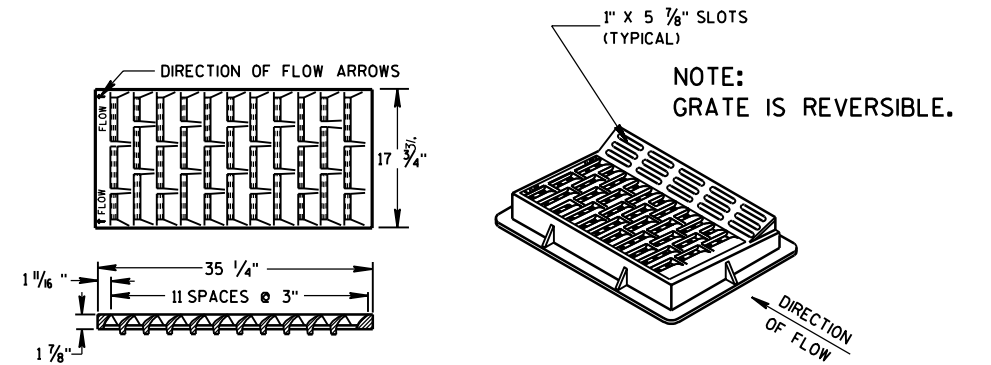


**ALTERNATIVE CURB BOX FOR TYPE "HM" COVER**

(APPROXIMATE WEIGHT 79 LBS.)

CURB BOX.....79 LBS.

USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH NOTED AS TYPE HM-GJ ON DRAINAGE TABLE



**TYPE "HM"**

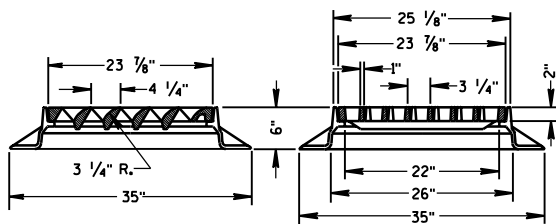
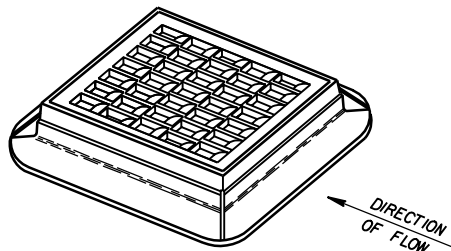
(APPROXIMATE WEIGHT 375 LBS.)

FRAME.....175 LBS.  
 GRATE.....138 LBS.  
 CURB BOX.....62 LBS.

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

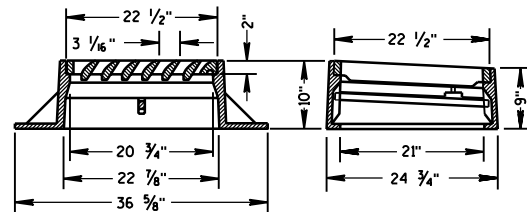
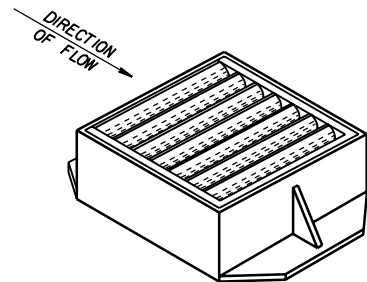
NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM" COVER NOTED AS TYPE HM-S ON DRAINAGE TABLE



**TYPE "S"**

(APPROXIMATE WEIGHT 334 LBS.)

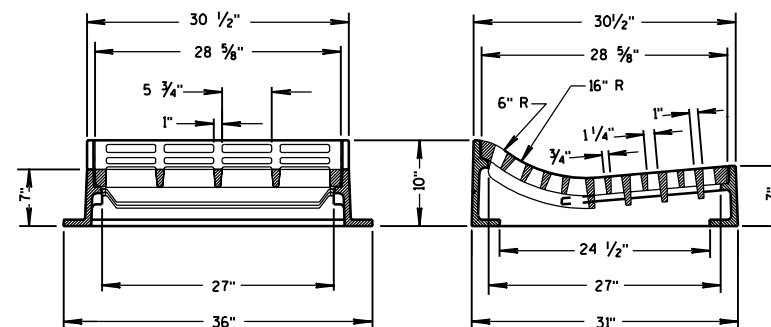
FRAME.....165 LBS.  
 GRATE.....169 LBS.



**TYPE "V"**

(APPROXIMATE WEIGHT 405 LBS.)

FRAME.....270 LBS.  
 GRATE.....130 LBS.  
 SAFETY BAR.....5 LBS.

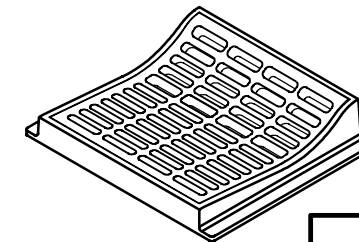


**TYPE "T"**

(APPROXIMATE WEIGHT 530 LBS.)

FRAME.....270 LBS.  
 GRATE.....260 LBS.

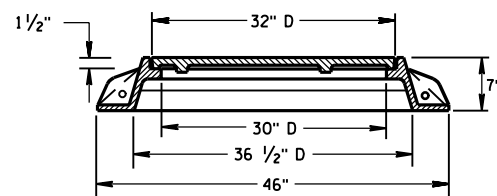
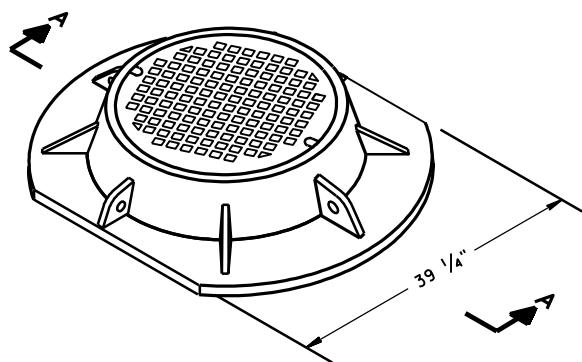
USE WITH TYPES R & T CONCRETE CURB & GUTTER, 30 INCH.



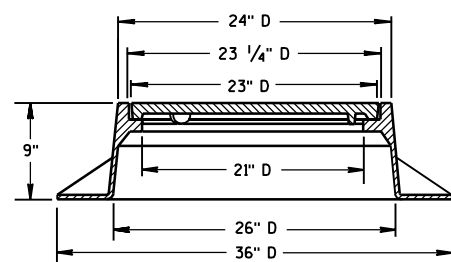
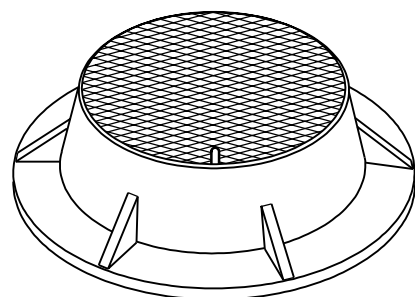
**INLET COVERS**  
 TYPE F, HM, HM-S, S, T, V,  
 HM-GJ, & HM-GJ-S

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

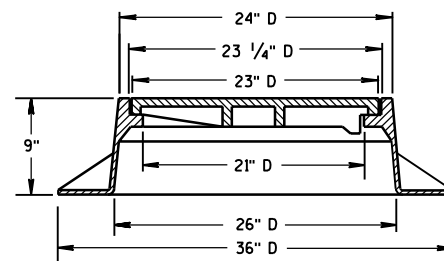
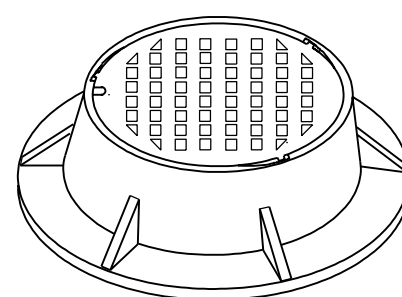
APPROVED  
 12/17/07 /S/ Jerry H. Zogg  
 DATE ROADWAY STANDARDS DEVELOPMENT  
 FHWA ENGINEER



**SECTION A-A  
TYPE "K"**  
(APPROXIMATE WEIGHT 415 LBS.)  
FRAME..... 210 LBS.  
LID..... 205 LBS.



**TYPE "J"**  
(APPROXIMATE WEIGHT 250 LBS.)  
FRAME..... 135 LBS.  
LID..... 115 LBS.



**TYPE "J" SPECIAL**  
TYPE "B" NON-ROCKING SELF-SEAL LID  
(APPROXIMATE WEIGHT 245 LBS.)  
FRAME..... 145 LBS.  
LID..... 100 LBS.  
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

**GENERAL NOTES**

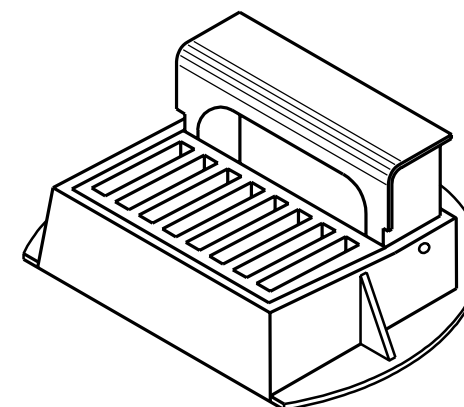
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

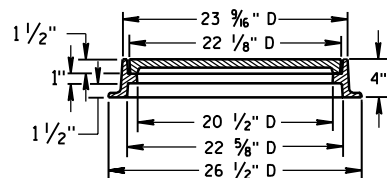
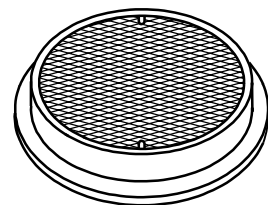
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

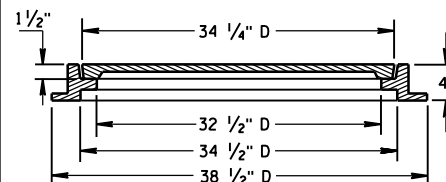
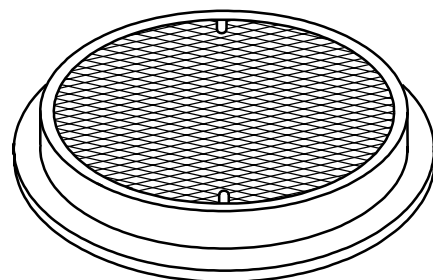
① MANUFACTURER MAY PROVIDE ADDITIONAL SEALS OR GASKETS.



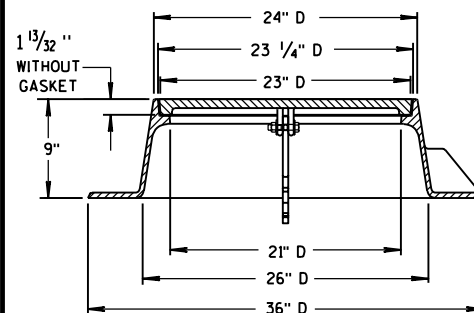
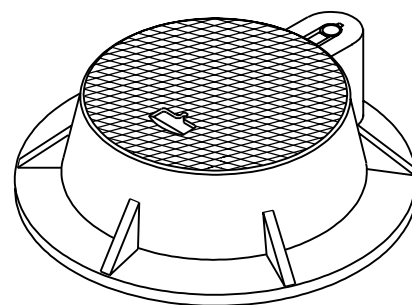
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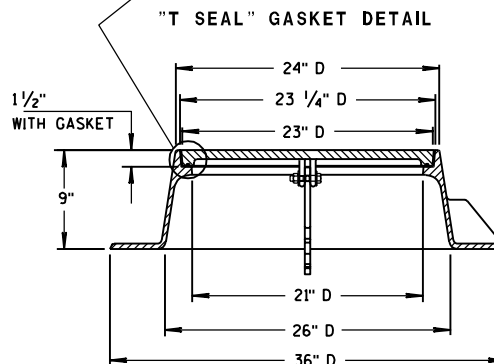
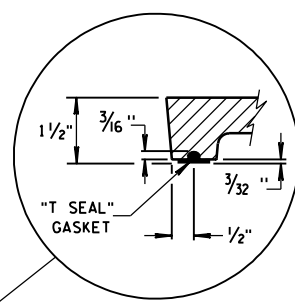
**TYPE "L"**  
(APPROXIMATE WEIGHT 145 LBS.)  
FRAME..... 75#  
LID..... 70#



**TYPE "M"**  
(APPROXIMATE WEIGHT 385 LBS.)  
FRAME..... 125#  
LID..... 260#

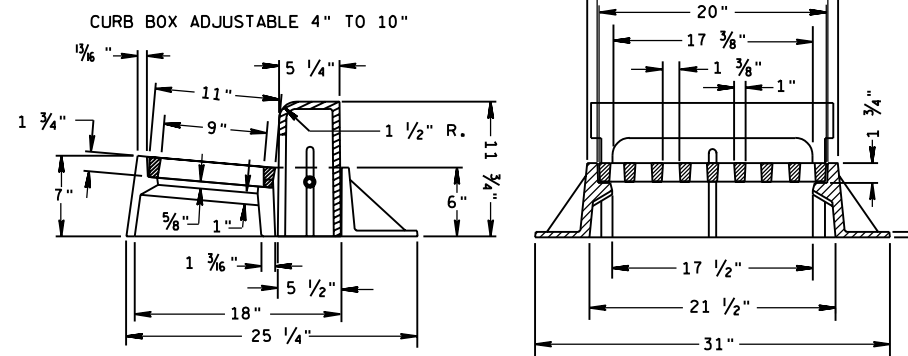


**TYPE "J" HINGED**  
LID WITHOUT "T SEAL" GASKET  
(APPROXIMATE WEIGHT 310 LBS.)  
FRAME..... 190 LBS.  
LID..... 120 LBS.  
(NOTED AS TYPE J-H ON THE DRAINAGE TABLE)



**TYPE "J" HINGED-SPECIAL** ①  
LID WITH "T SEAL" GASKET  
(APPROXIMATE WEIGHT 310 LBS.)  
FRAME..... 190 LBS.  
LID..... 120 LBS.  
(NOTED AS TYPE J-S-H ON THE DRAINAGE TABLE)

6



**INLET COVER TYPE "Z"**  
(APPROXIMATE WEIGHT 340 LBS.)  
FRAME..... 198 LBS.  
GRATE..... 50 LBS.  
CURB BOX..... 92 LBS.

S.D.D. 8 A 5-17d

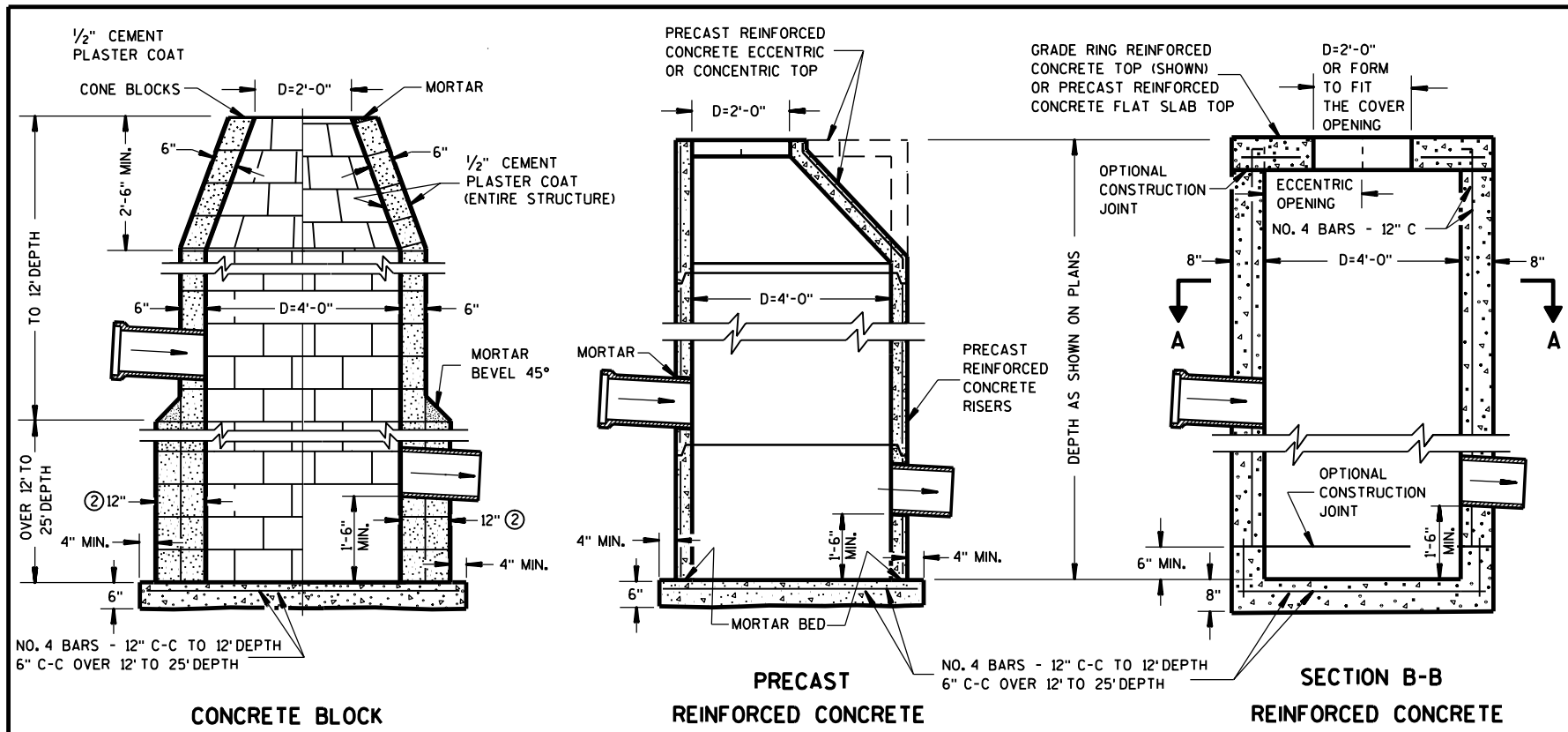
S.D.D. 8 A 5-17d

**INLET COVER, TYPE Z  
MANHOLE COVERS, TYPE  
K, J, J-S, J-H, J-H-S, L & M**

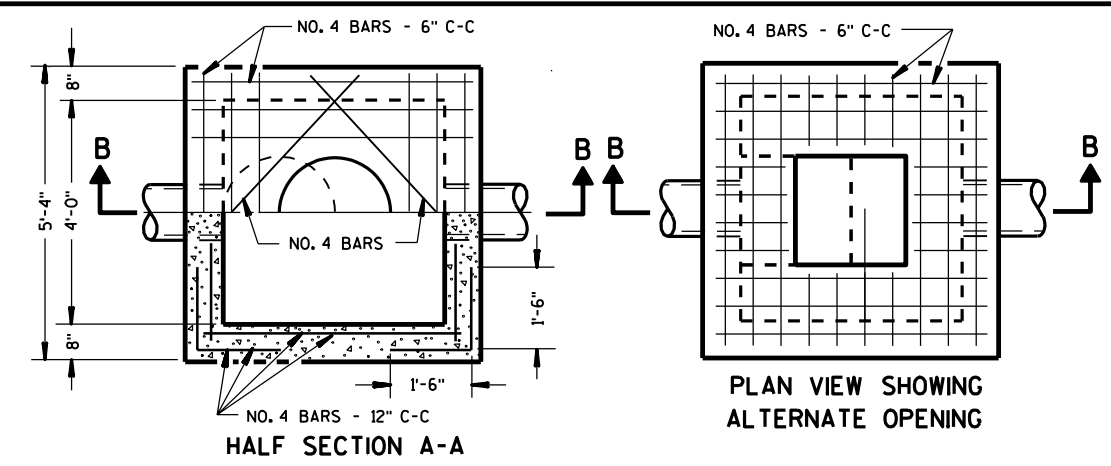
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
4-29-05  
DATE  
FHWA

*[Signature]*  
CHIEF ROADWAY DEVELOPMENT ENGINEER



**CATCH BASINS, TYPE 1**



**GENERAL NOTES**

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

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

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 1-C", "CATCH BASINS 1-B", "INLETS 3-H", ETC. THE FIRST DIGIT DESIGNATES THE MASONRY PORTION OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE.

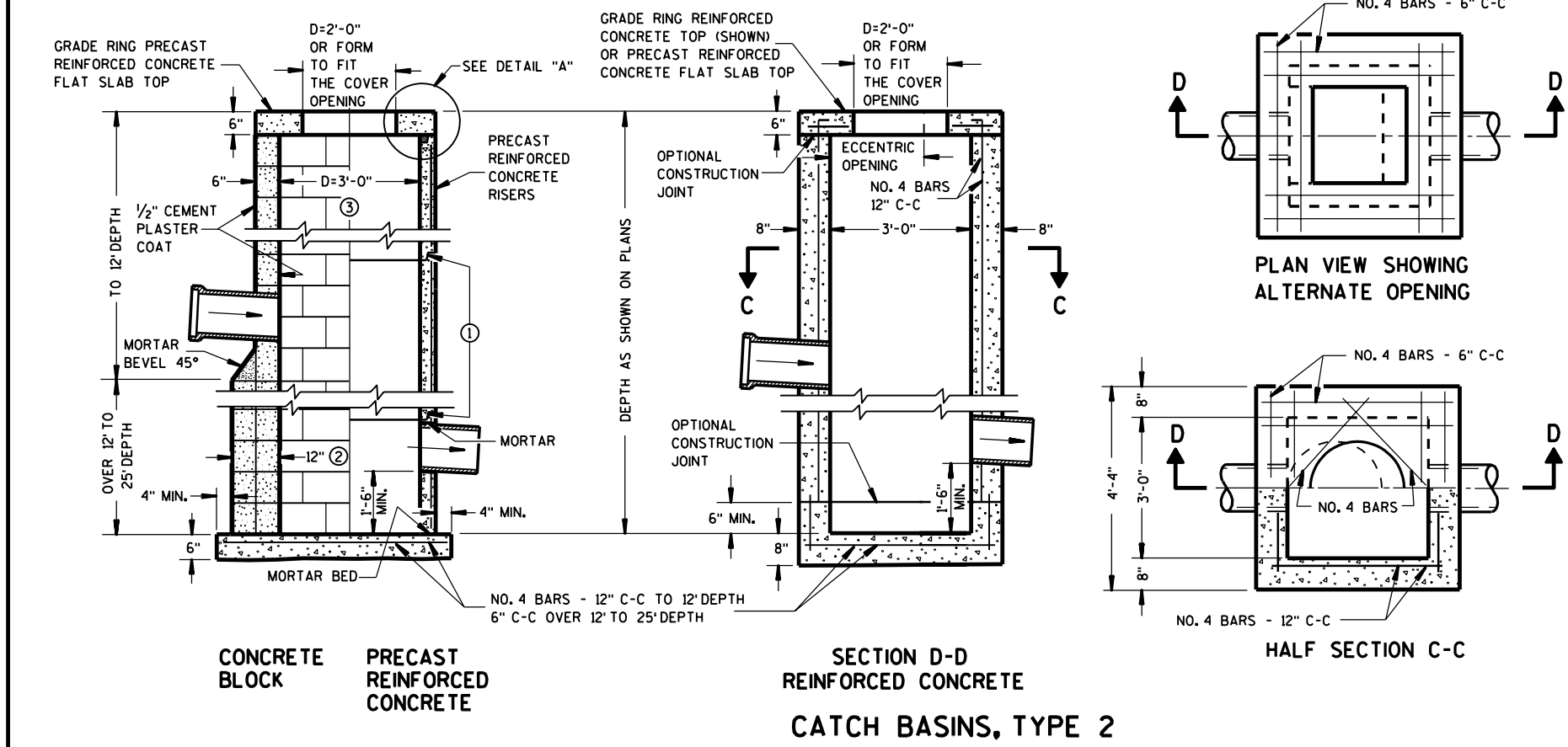
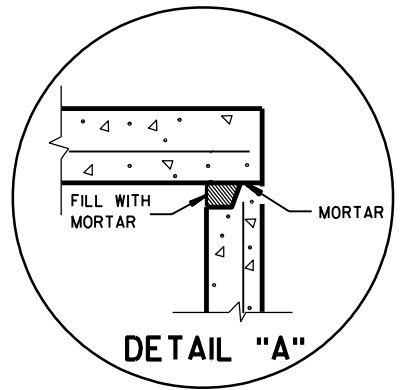
CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

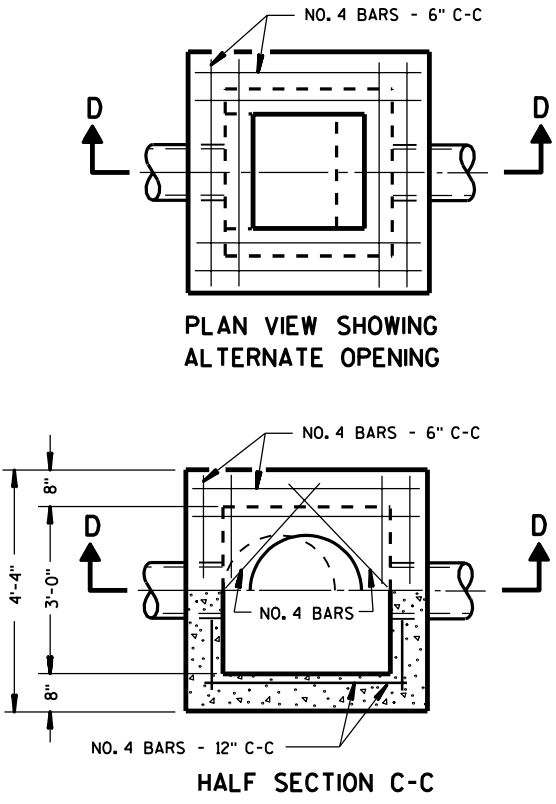
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

THE "PRECAST REINFORCED CONCRETE FLAT SLAB TOP" OPTION IS REQUIRED ON CATCH BASINS, TYPE 1 WHEN 2' X 3' OPENING INLET COVERS ARE REQUIRED.

- ① PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH THE TONGUE DOWN WHEN GRADE RINGS ARE USED FOR THE SLAB TOP.
- ② 2 COURSES 6" BLOCK.
- ③ WHEN THE CONNECTING PIPES ARE 24" OR LARGER THE PRECAST CATCH BASIN MAY BE INCREASED TO 42" DIA.



**CATCH BASINS, TYPE 2**



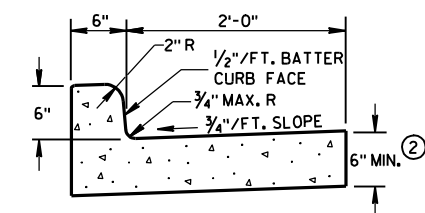
6

6

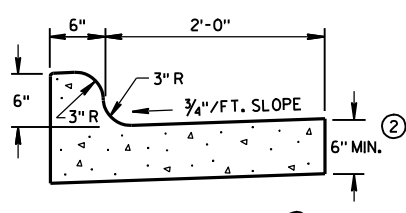
S.D.D. 8 A 6-4

S.D.D. 8 A 6-4

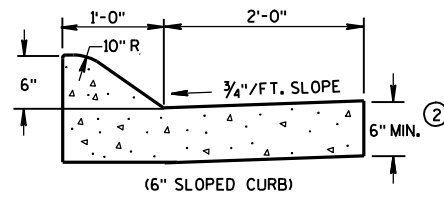
<b>CATCH BASINS TYPE 1 &amp; 2</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/9/99 DATE	 CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



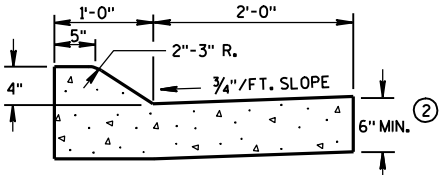
TYPES A & D ①



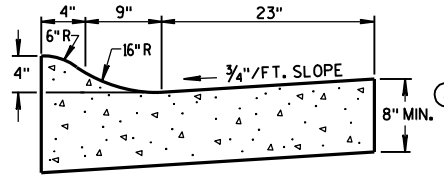
TYPES K & L ①



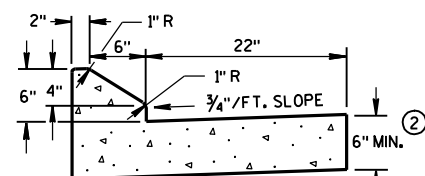
(6" SLOPED CURB)



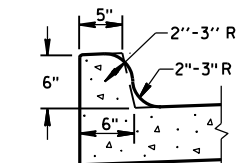
(4" SLOPED CURB)



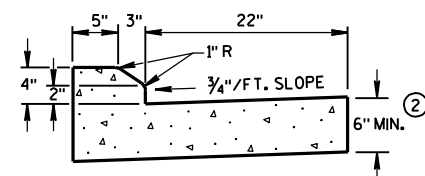
4" SLOPED CURB TYPES R & T ① ④



6" SLOPED CURB TYPES G & J ①

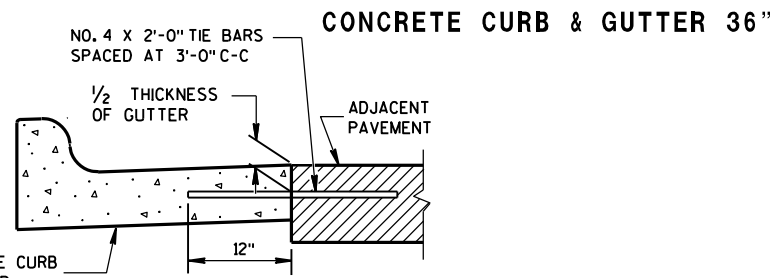


OPTIONAL CURB SHAPE FOR TYPES K & L ①

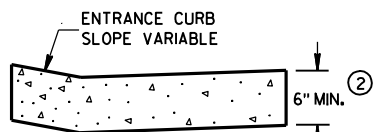


4" SLOPED CURB TYPES G & J ①

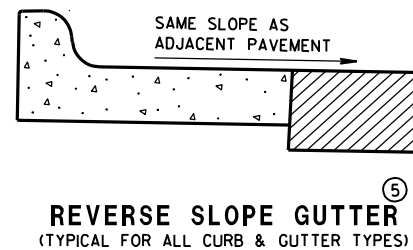
CONCRETE CURB & GUTTER 30"



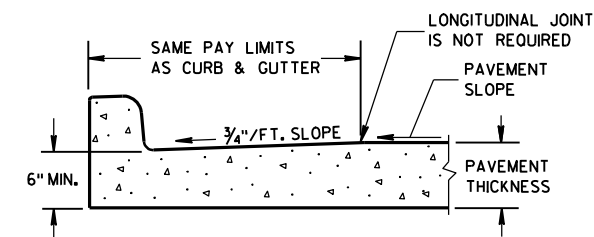
TYPICAL TIE BAR LOCATION ①



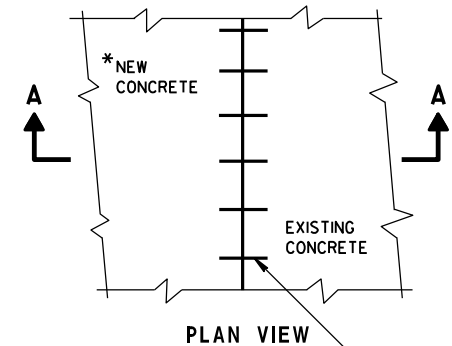
DRIVEWAY ENTRANCE CURB (WHEN DIRECTED BY THE ENGINEER)



REVERSE SLOPE GUTTER (TYPICAL FOR ALL CURB & GUTTER TYPES) ⑤



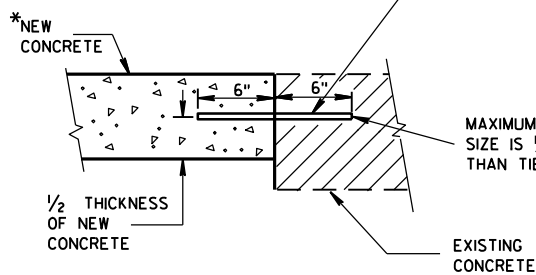
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



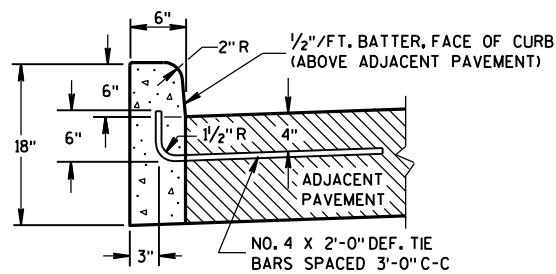
PLAN VIEW

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

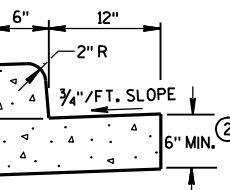
NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.



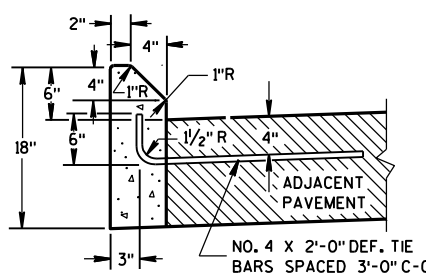
SECTION A-A TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPES A & D ①



TYPES A & D CONCRETE CURB & GUTTER 18" ①



TYPES G & J ①

CONCRETE CURB

**GENERAL NOTES**

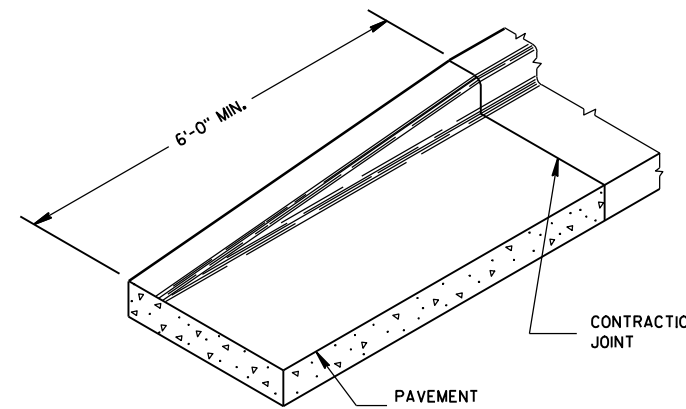
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT. PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



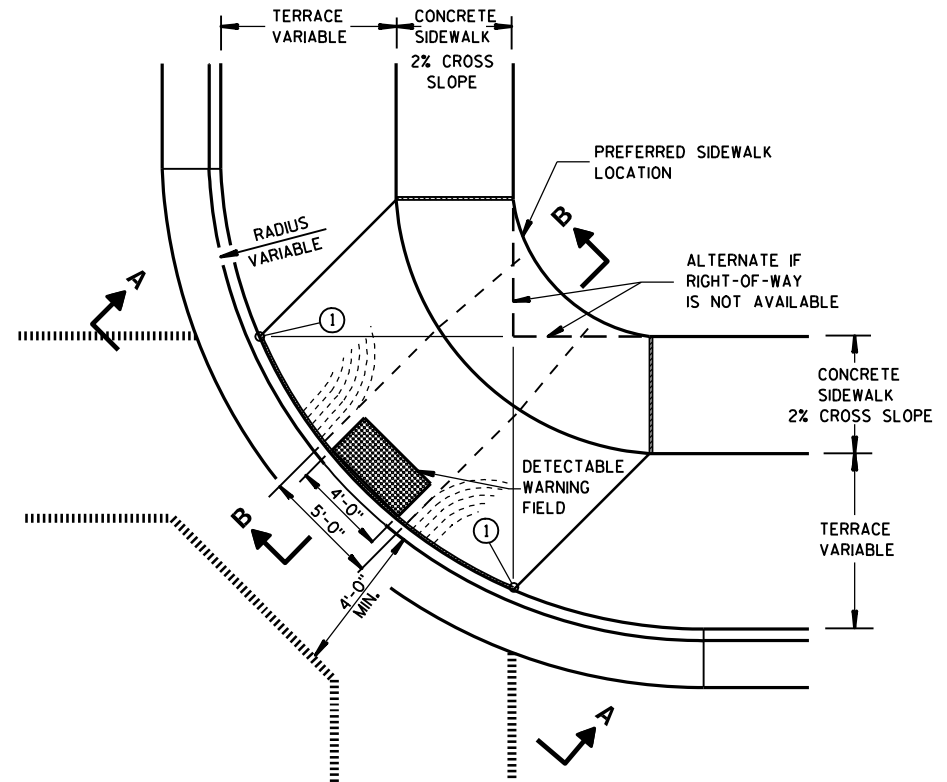
END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

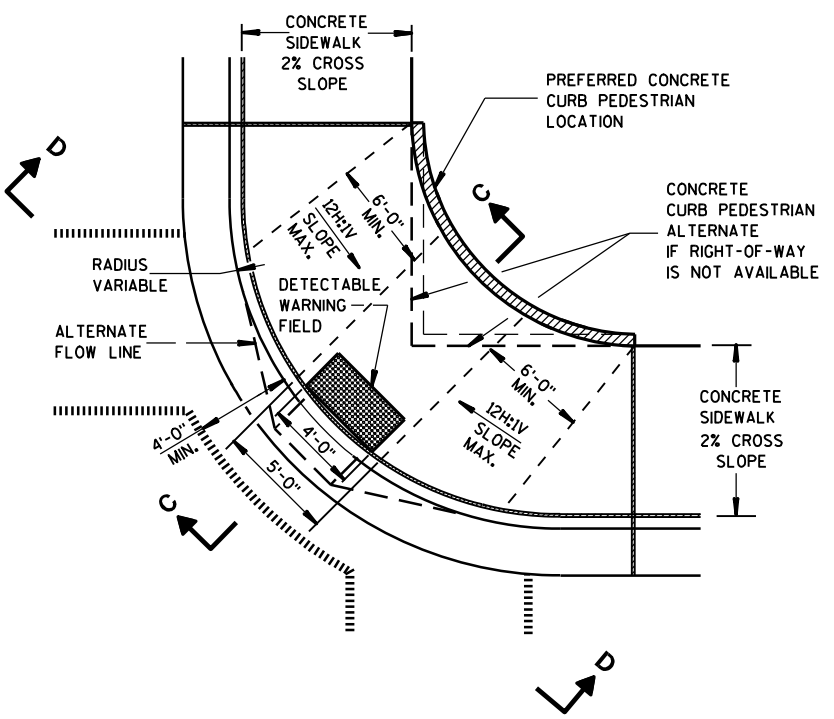
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED  
9/4/08 DATE /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA





**PLAN VIEW  
TYPE 1 RAMP**  
(CENTER OF CORNER RADIUS)



**PLAN VIEW  
TYPE 1-A RAMP**  
(NO TERRACE)

**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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

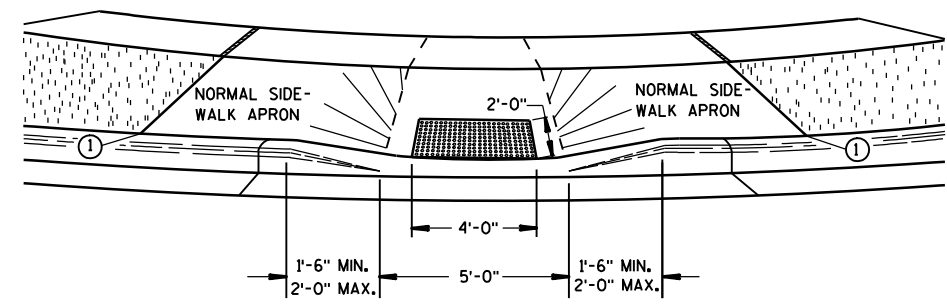
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

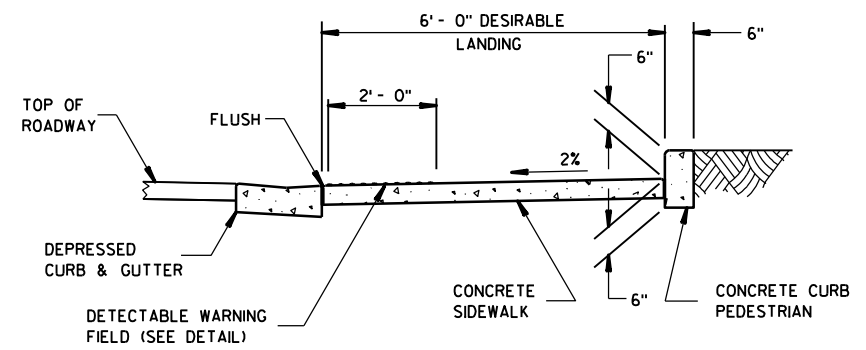
② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

**LEGEND**

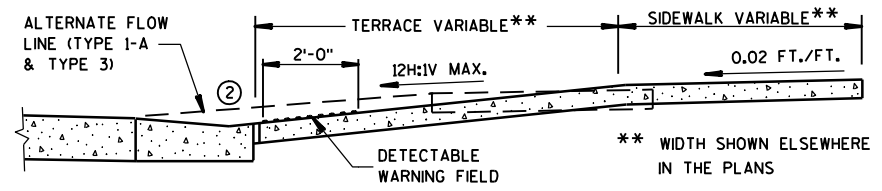
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- - - ALTERNATIVE LAYOUT



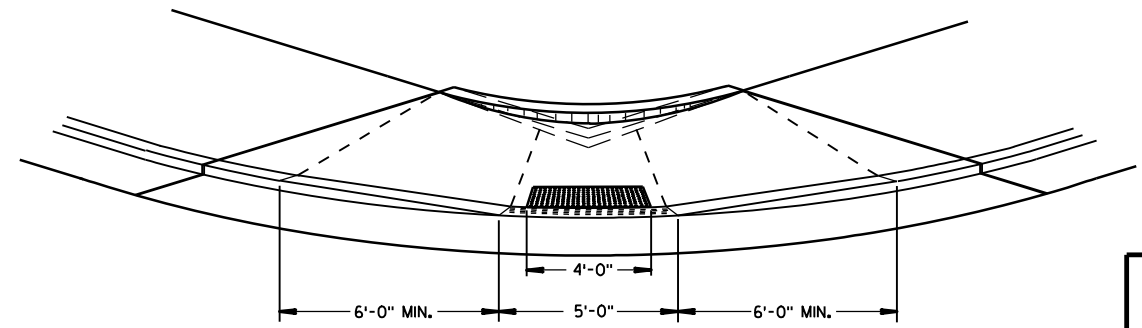
**VIEW A-A**



**SECTION C-C**



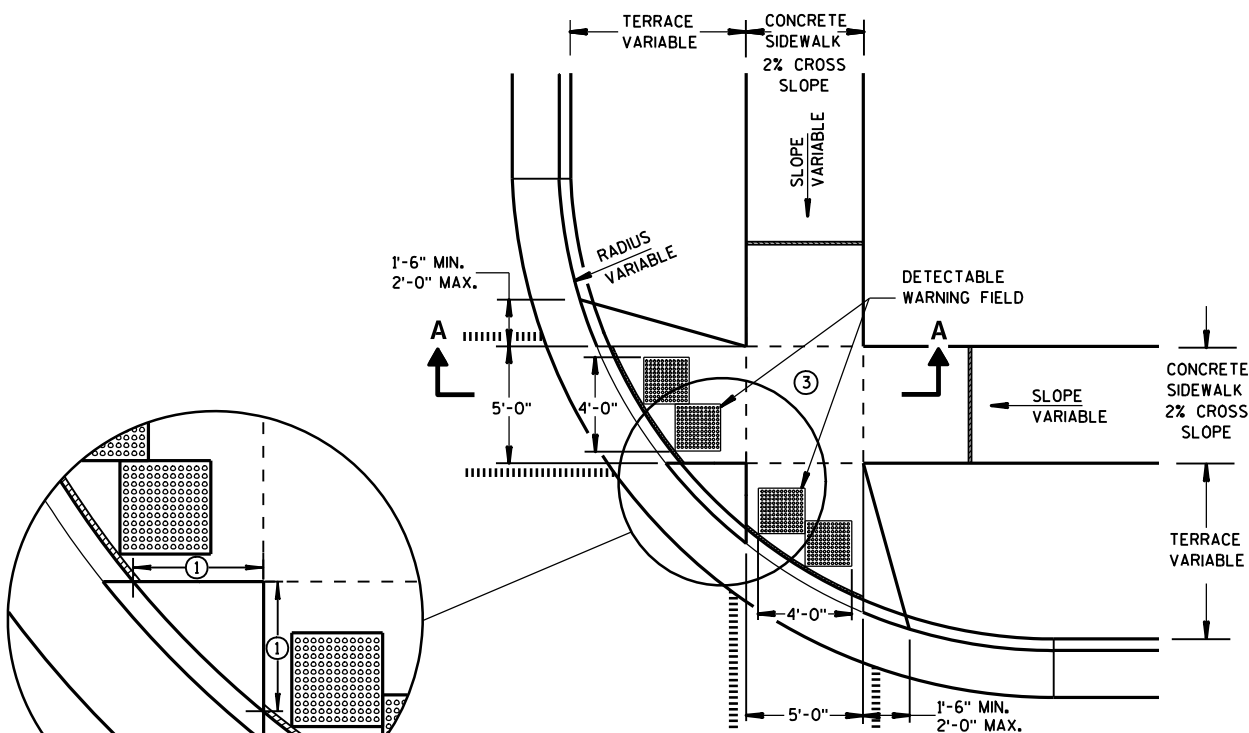
**SECTION B-B**



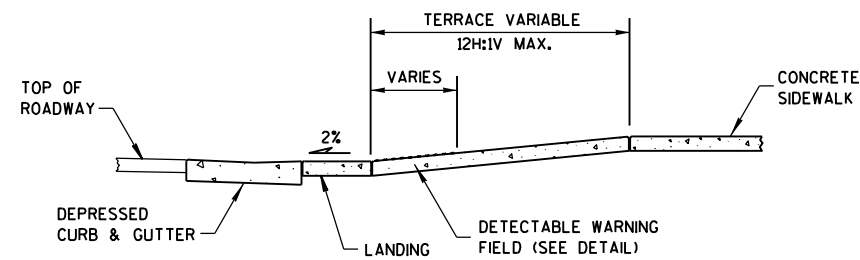
**VIEW D-D**

**CURB RAMPS  
TYPES 1 AND 1-A**

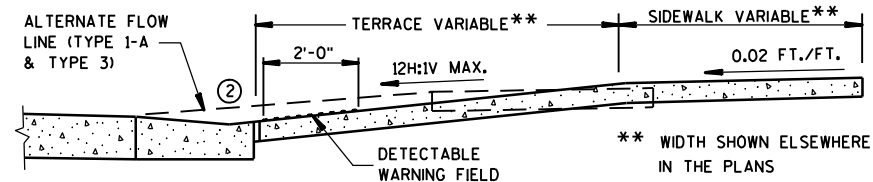
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**PLAN VIEW  
TYPE 2 RAMP**  
(ON LINE WITH SIDEWALK)



**SECTION A-A**



**SECTION B-B**

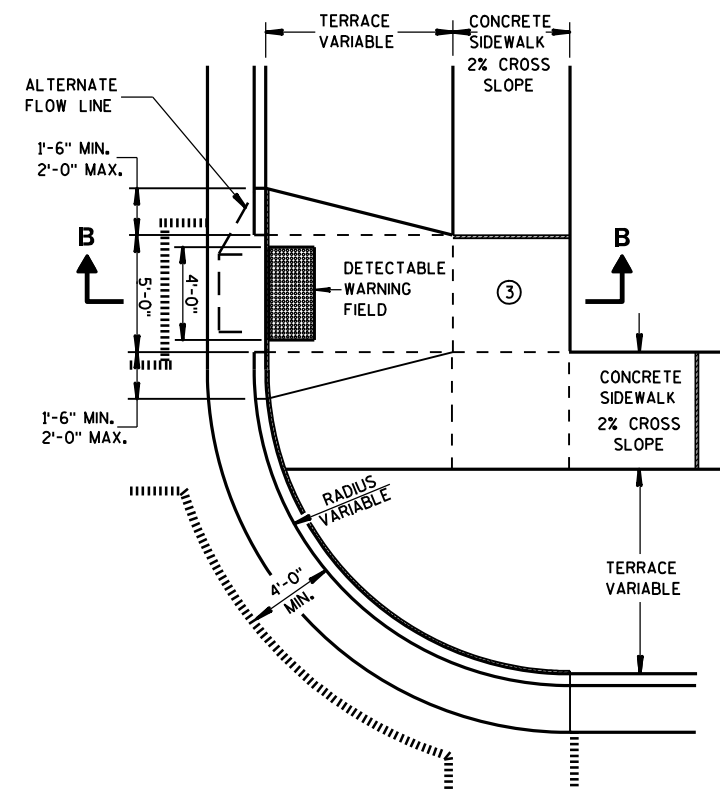
**GENERAL NOTES**

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP, REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 1%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ PROVIDE LANDING AT TOP OF RAMP WITH NO MORE THAN 2% SLOPE IN ANY DIRECTION.

**LEGEND**

- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- - - ALTERNATIVE LAYOUT

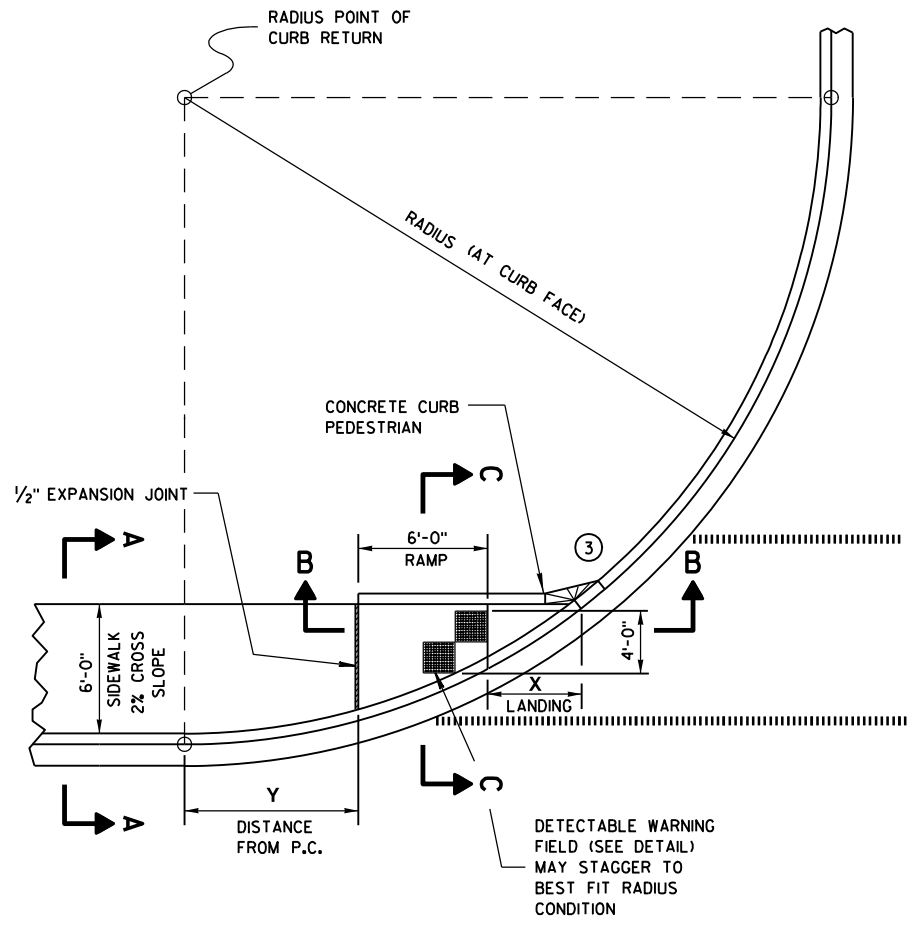


**PLAN VIEW  
TYPE 3 RAMP**  
(OUTSIDE OF CROSSWALK AREA)

**CURB RAMPS  
TYPES 2 AND 3**

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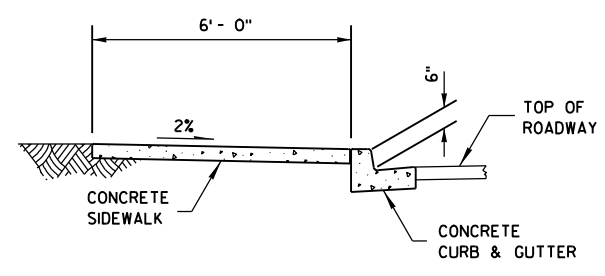
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



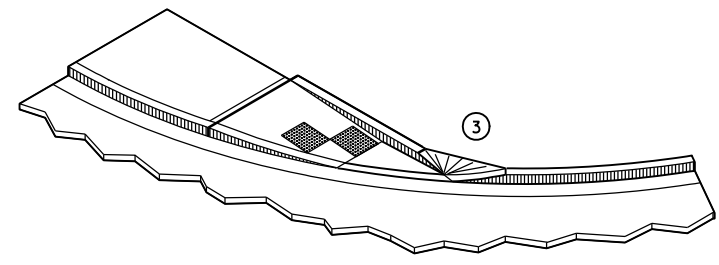
**CURB RAMP TYPE 4A  
PLAN VIEW**

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1 <sup>3</sup> / <sub>4</sub> "	2'-7 <sup>1</sup> / <sub>4</sub> "
30 FEET	7'-11 <sup>3</sup> / <sub>4</sub> "	4'-8 <sup>1</sup> / <sub>4</sub> "
40 FEET	9'-5 <sup>1</sup> / <sub>4</sub> "	6'-5"
50 FEET	10'-8 <sup>3</sup> / <sub>4</sub> "	7'-11 <sup>1</sup> / <sub>4</sub> "
60 FEET	11'-10 <sup>1</sup> / <sub>4</sub> "	9'-3 <sup>1</sup> / <sub>2</sub> "

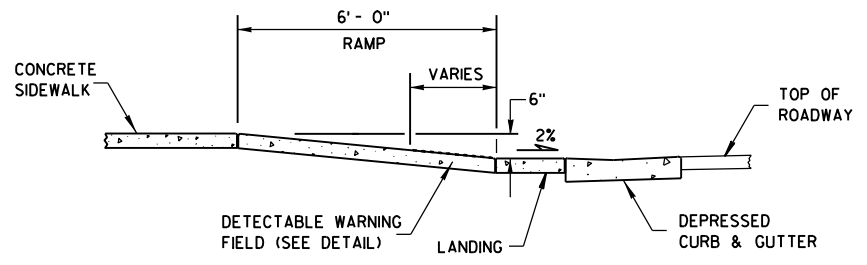
INTERMEDIATE RADII CAN BE INTERPOLATED



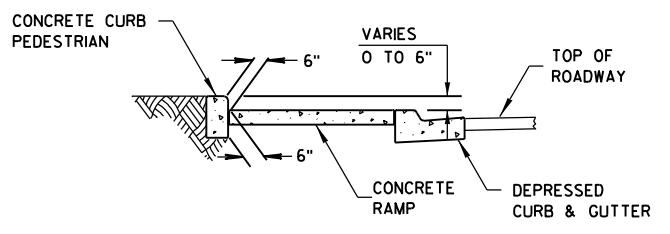
**SECTION A-A**



**ISOMETRIC VIEW**



**SECTION B-B**



**SECTION C-C**

**GENERAL NOTES**

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

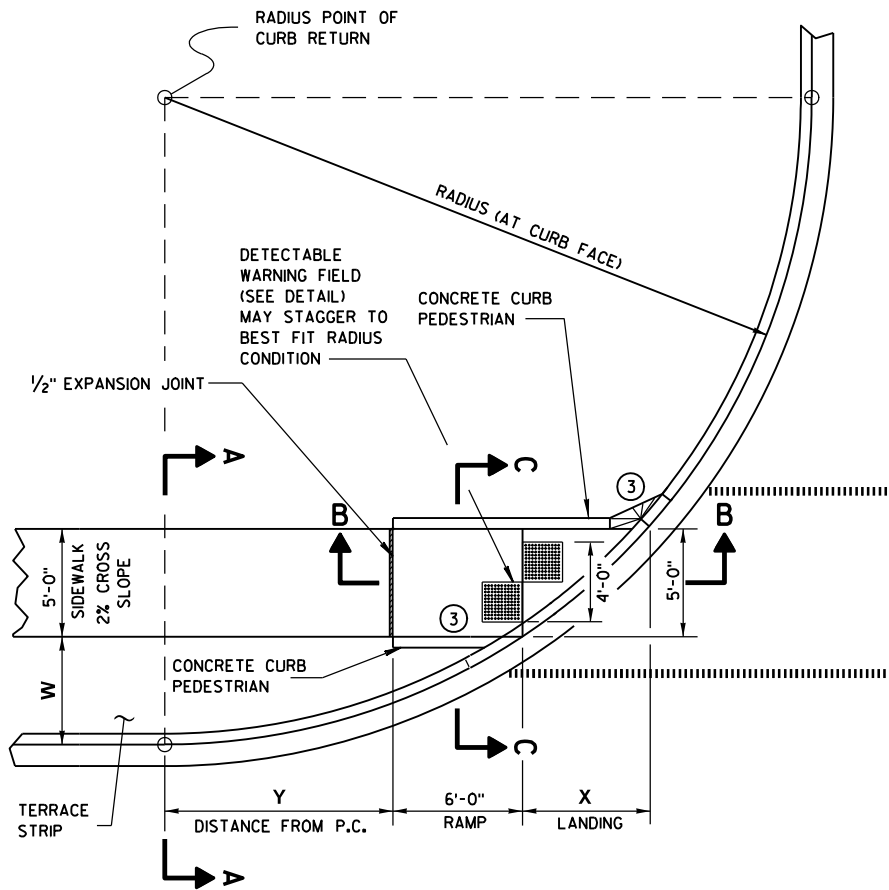
**LEGEND**

- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

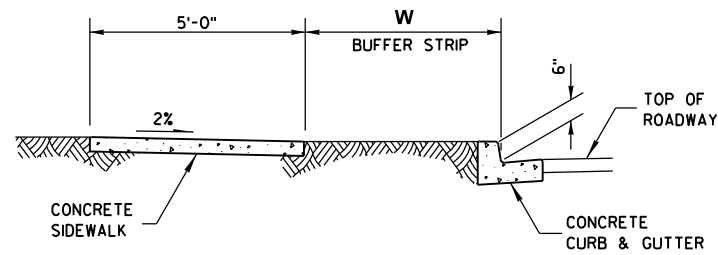
**CURB RAMPS  
TYPE 4A**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

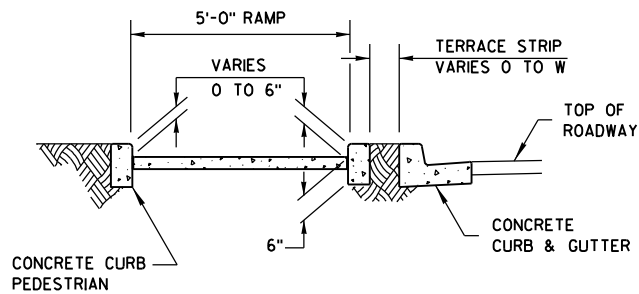




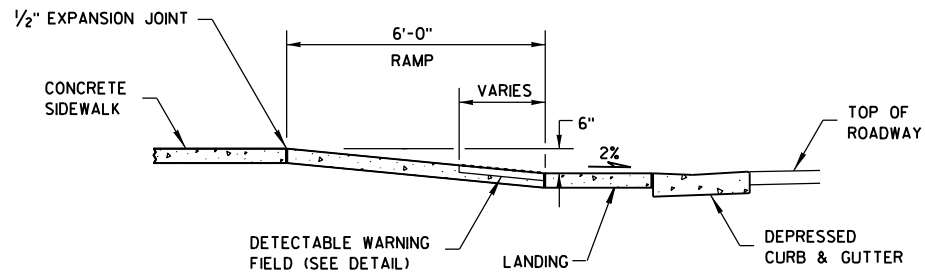
**CURB RAMP TYPE 4B  
PLAN VIEW**



**SECTION A-A**



**SECTION C-C**



**SECTION B-B**

**GENERAL NOTES**

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

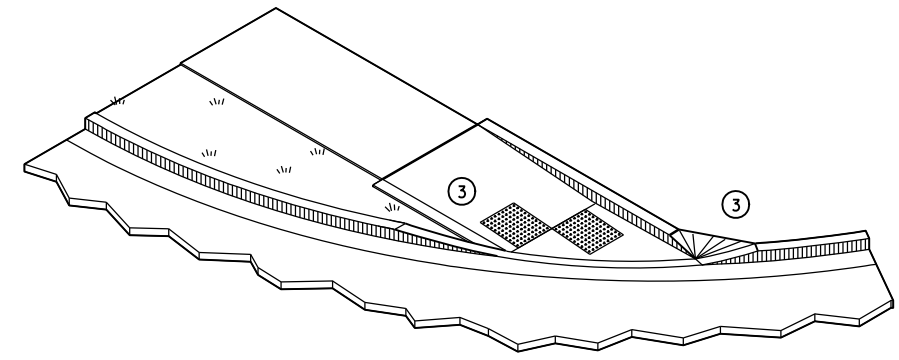
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3 1/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3 3/4"	11'-3 3/4"	9'-1 1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3 3/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"
70 FEET	12'-2 3/4"	14'-3 1/4"	11'-1 1/4"	17'-4"	10'-1"	19'-11 3/4"	9'-3 3/4"	22'-4 1/4"	8'-8 1/4"	24'-6 1/4"
80 FEET	13'-2"	15'-8 1/2"	11'-10 1/2"	18'-11 3/4"	10'-10 3/4"	21'-10"	10'-1"	24'-4 3/4"	9'-5"	26'-8 3/4"
90 FEET	14'-1 1/2"	17'-1 1/2"	12'-8 1/4"	20'-6 1/2"	11'-7 3/4"	23'-7"	10'-9 3/4"	26'-3 3/4"	10'-1 1/4"	28'-9 1/2"
100 FEET	14'-10 1/2"	18'-3 3/4"	13'-5 1/2"	22'-0"	12'-4 1/4"	25'-2 3/4"	11'-5 3/4"	28'-1 1/2"	10'-9"	30'-9"

INTERMEDIATE RADII CAN BE INTERPOLATED



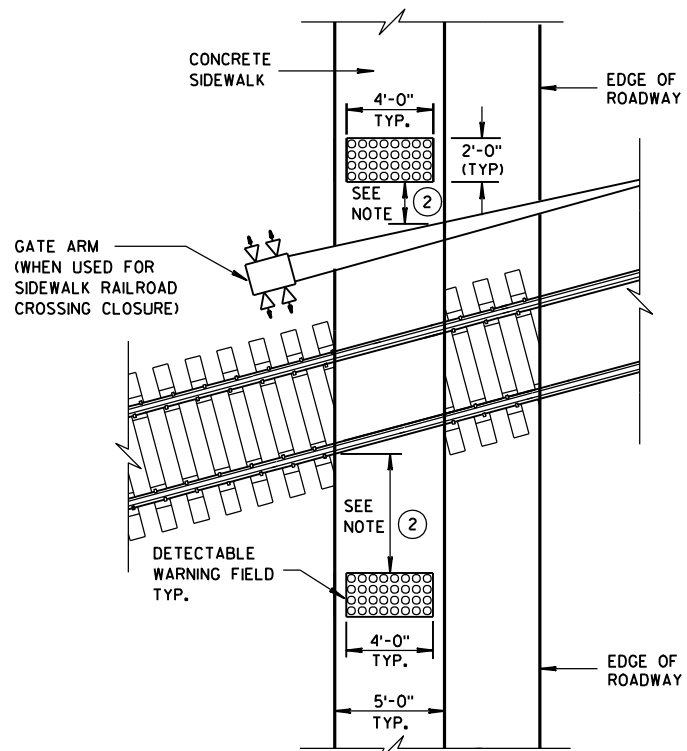
**ISOMETRIC VIEW**

**LEGEND**

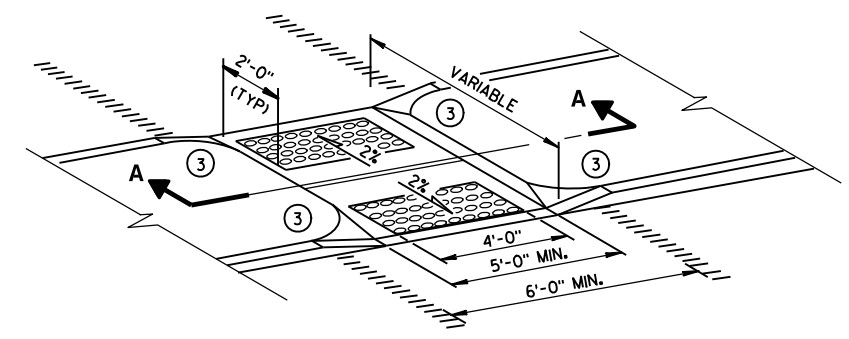
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ..... PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS  
TYPE 4B**

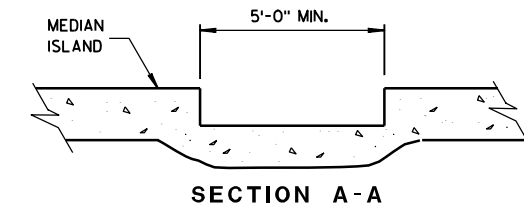
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**TYPE 8  
DETECTABLE WARNINGS  
AT RAILROAD CROSSING**



**MEDIAN ISLAND  
NON-ELEVATED CROSSING  
TYPE 5**



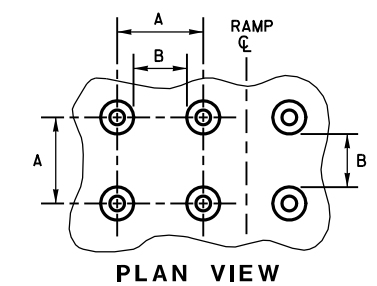
**GENERAL NOTES**

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

- ① SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ② THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

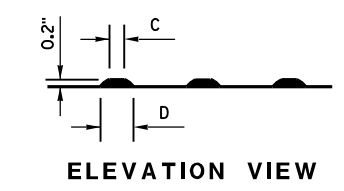
**LEGEND**

- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

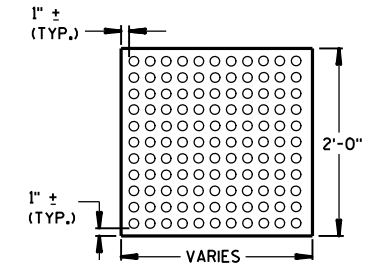


	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

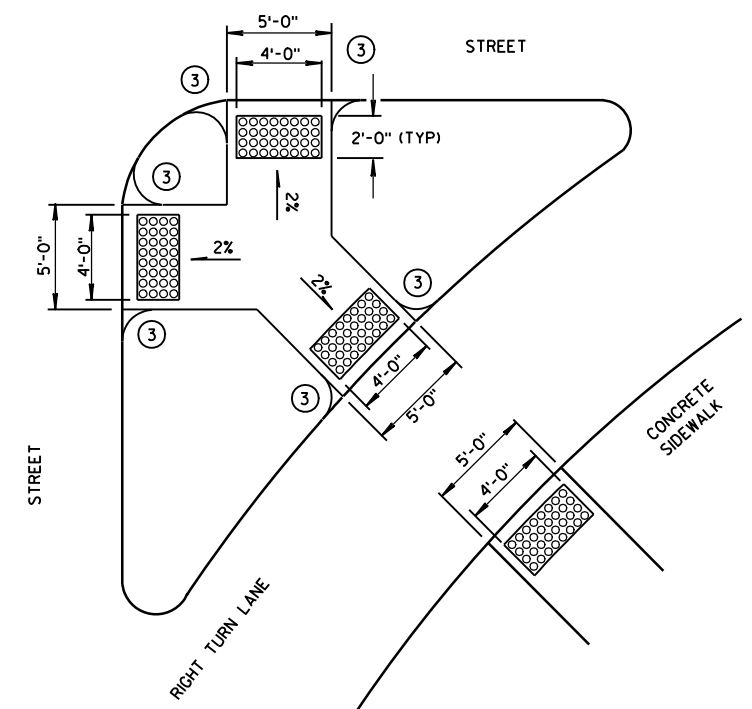
\* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



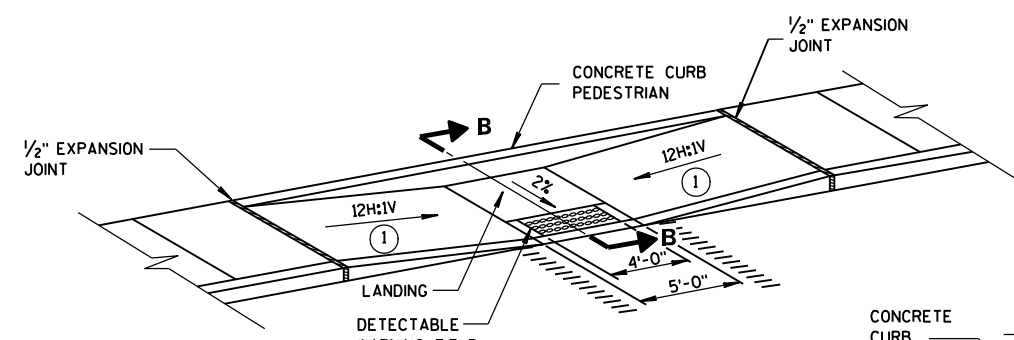
**TRUNCATED DOMES  
DETECTABLE WARNING  
PATTERN DETAIL**



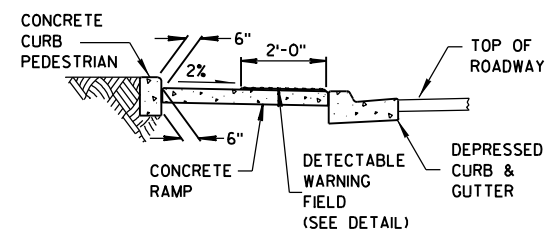
**DETECTABLE WARNING  
FIELD (TYPICAL)**



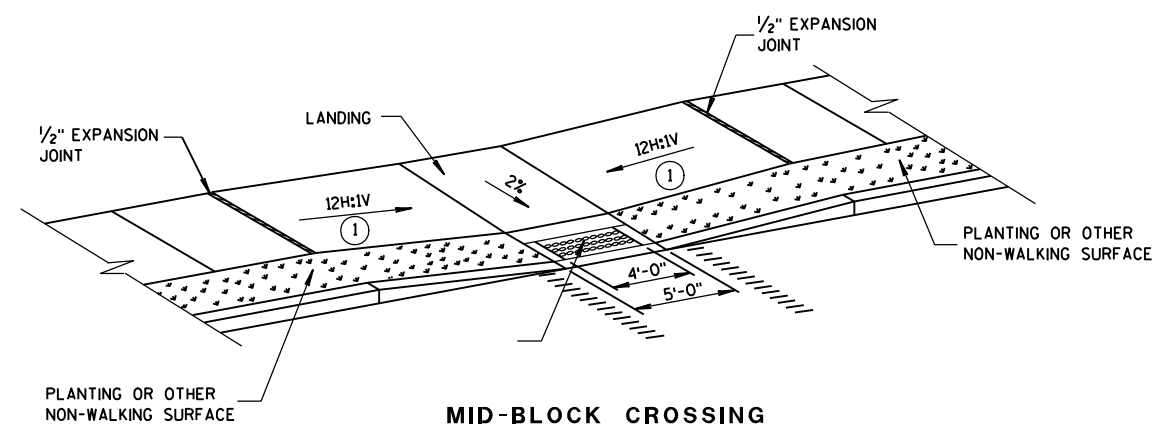
**TYPE 6  
DETECTABLE WARNING AT ISLANDS**



**MID-BLOCK CROSSING  
TYPE 7A**



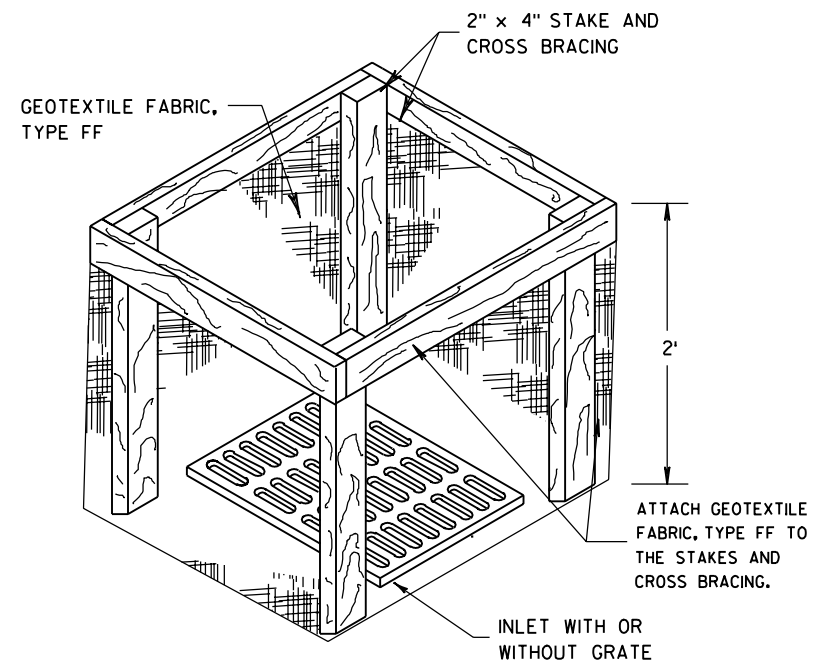
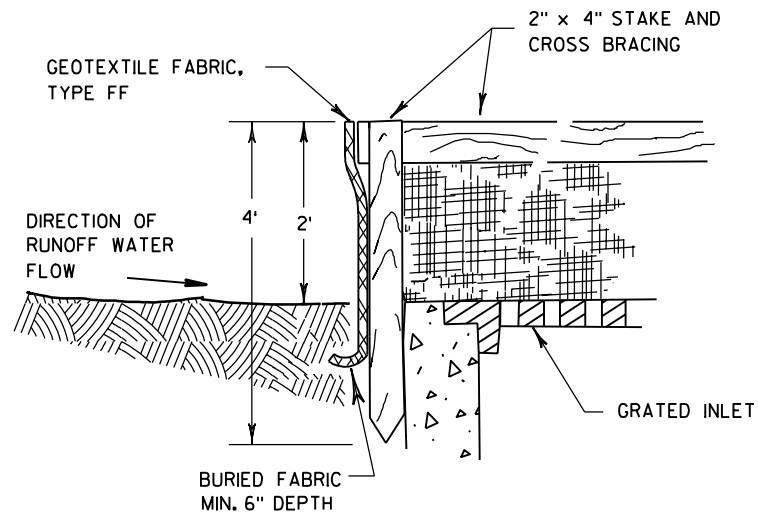
**SECTION B-B**



**MID-BLOCK CROSSING  
TYPE 7B**

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

<b>CURB RAMPS TYPES 5, 6, 7A, 7B &amp; 8</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
2-9-10 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



**INLET PROTECTION, TYPE A**

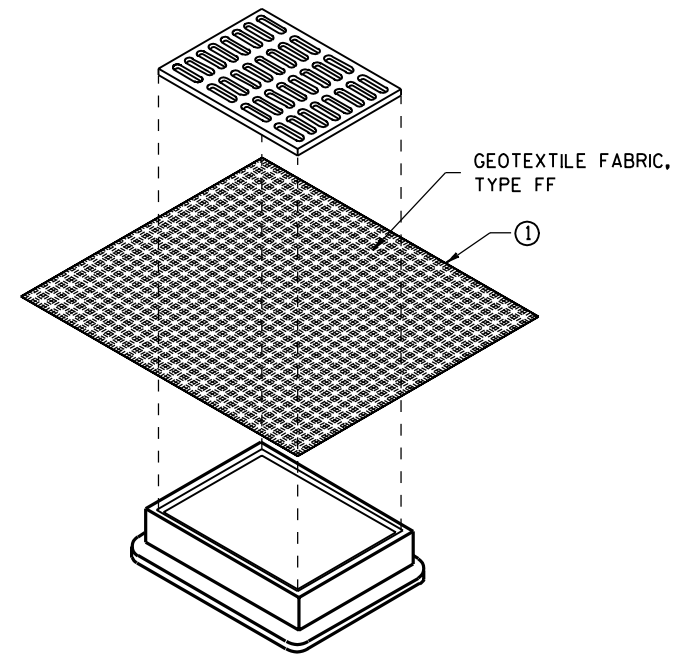
**GENERAL NOTES**

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

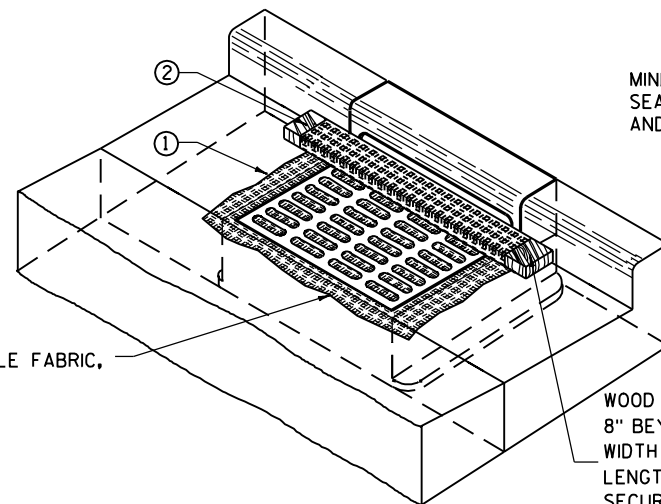
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

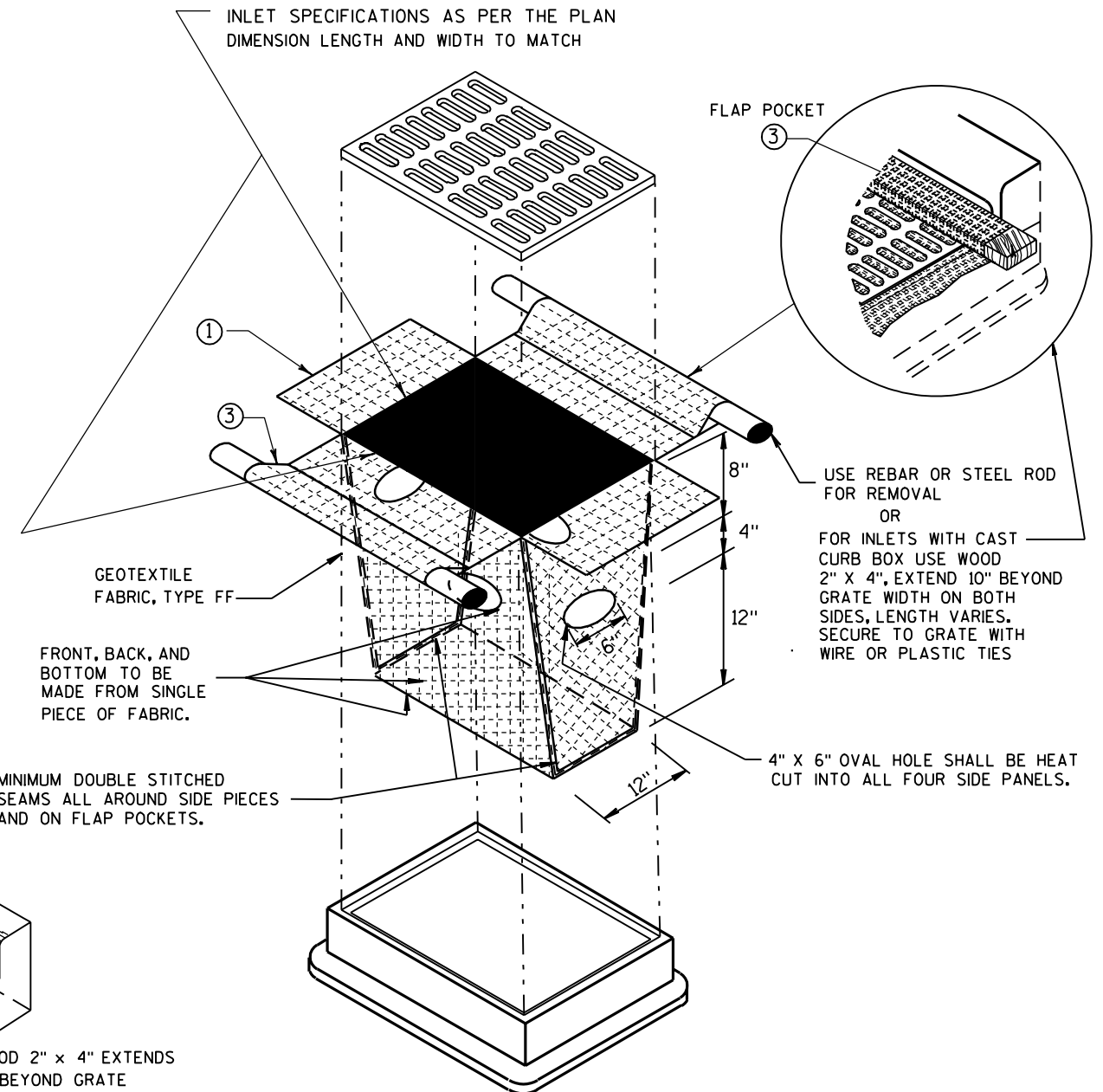
**INSTALLATION NOTES**

**TYPE B & C**

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.  
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.  
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.  
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



**INLET PROTECTION, TYPE D**

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

<b>INLET PROTECTION TYPE A, B, C, AND D</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE FHWA	 CHIEF ROADWAY DEVELOPMENT ENGINEER

6

6

S.D.D. 8 E 10-2

S.D.D. 8 E 10-2

**GENERAL NOTES**

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

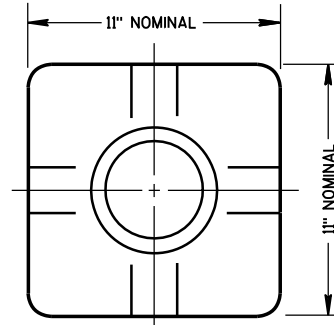
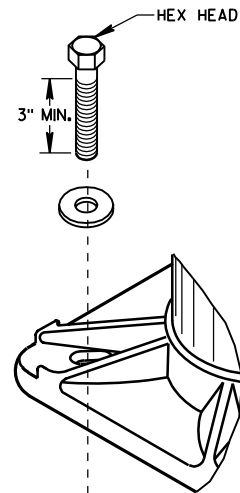
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

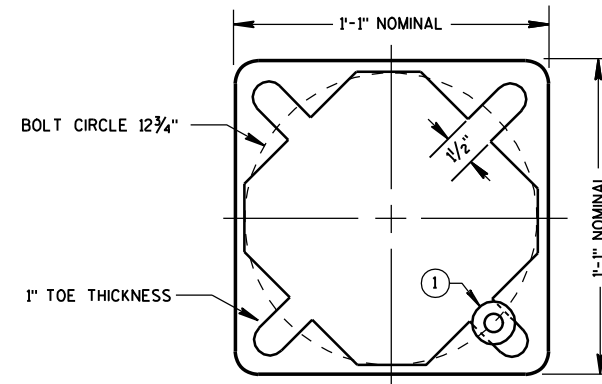
PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

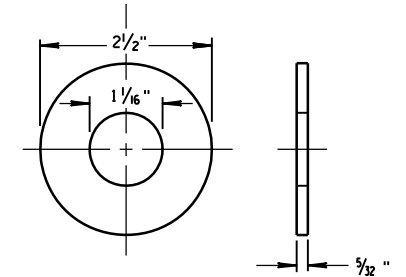
THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



TOP VIEW  
(PEDESTAL BASE)

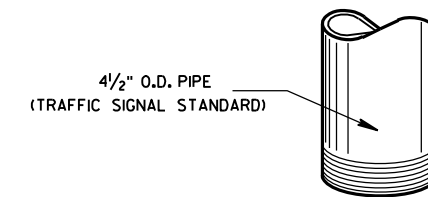


BOTTOM VIEW  
(PEDESTAL BASE)

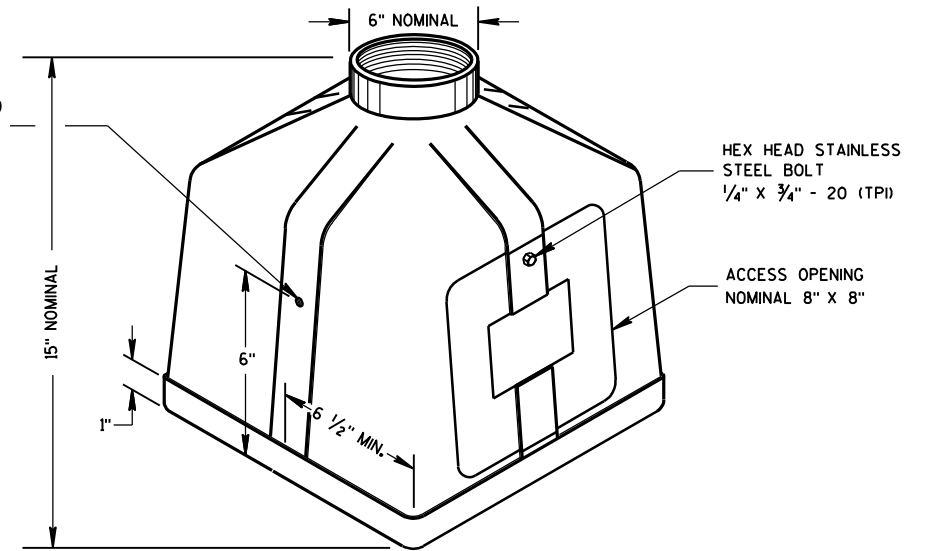


ZINC COATED STEEL WASHER  
TO BE PROVIDED BY THE CONTRACTOR

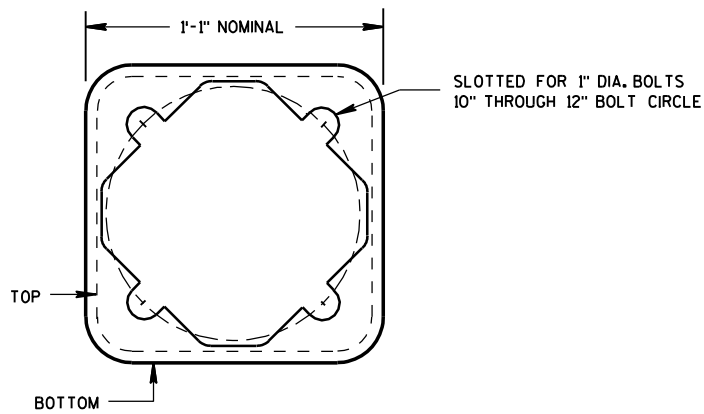
PEDESTAL  
BASE WASHER ①



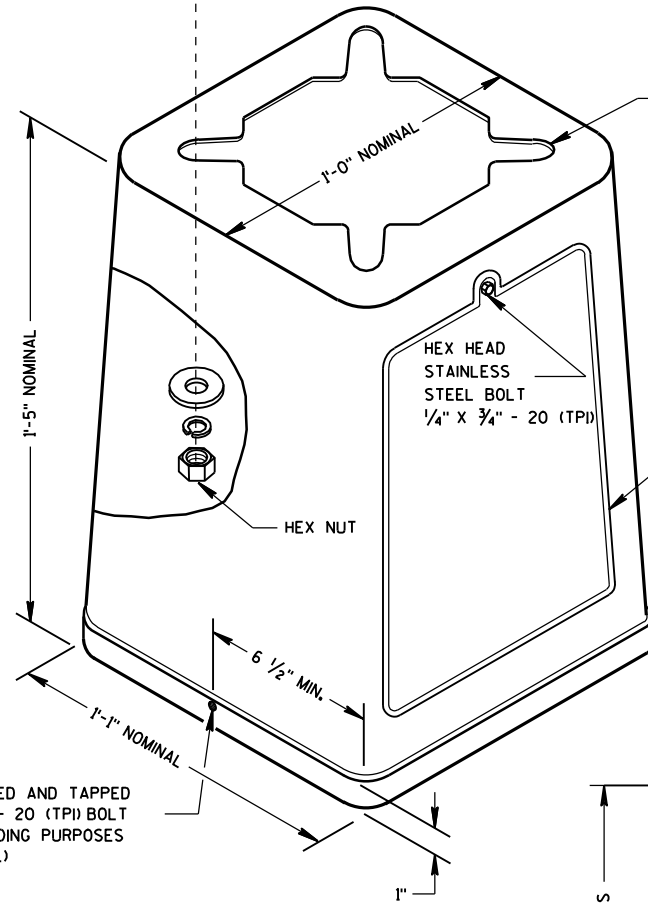
4 1/2" O.D. PIPE  
(TRAFFIC SIGNAL STANDARD)



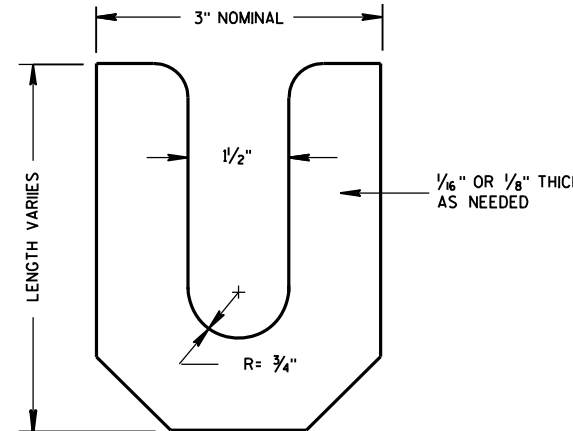
ISOMETRIC VIEW  
PEDESTAL BASE



BOTTOM VIEW  
(TRANSFORMER BASE)

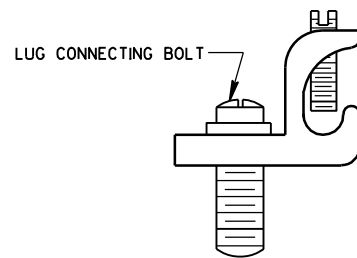


ISOMETRIC VIEW



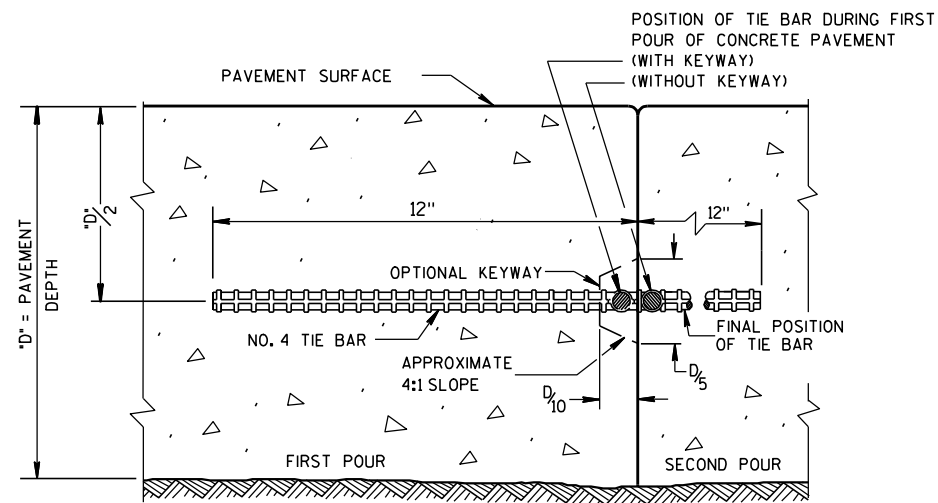
LEVELING SHIM

TRANSFORMER BASE  
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES

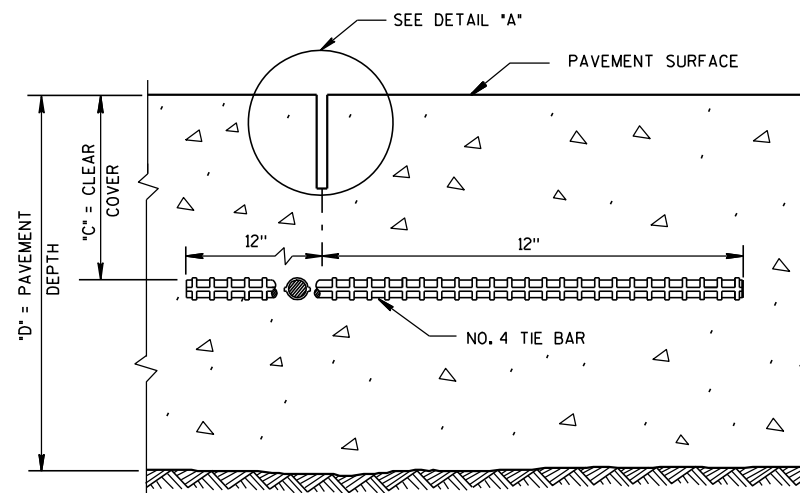


TYPICAL MECHANICAL  
CONNECTOR LUG  
TO BE FURNISHED WITH EACH BASE

<b>TRANSFORMER/PEDESTAL BASES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/27/09 DATE	/s/ Joanna L. Bush STATE ELECTRICAL ENGINEER FOR HIGHWAYS
FHWA	



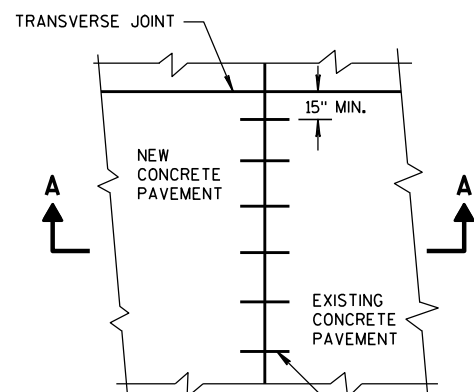
**CONSTRUCTION JOINT**



**SAWED JOINT**

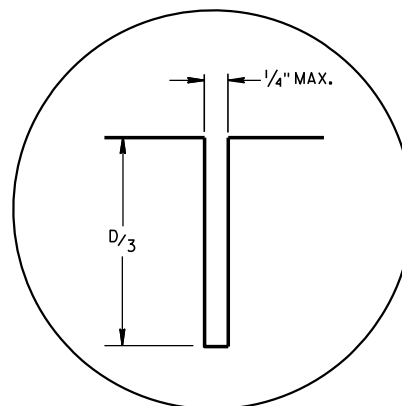
**GENERAL NOTES**

- DO NOT SEAL OR FILL LONGITUDINAL JOINTS.
- CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

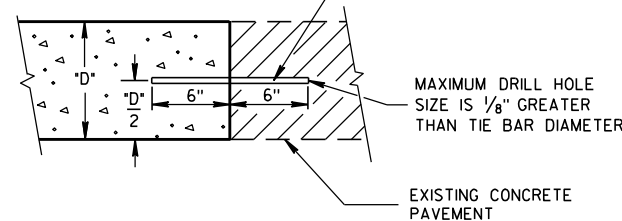


**PLAN VIEW**

NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①

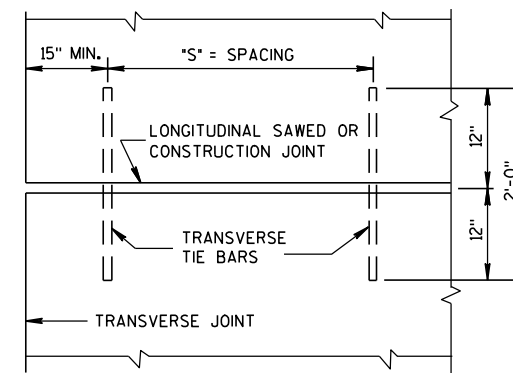


**DETAIL "A"**



**SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT**

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6. 6 1/2"	3" ± 1/2"	48"	42"
7. 7 1/2"	3 1/4" ± 1"	45"	36"
8. 8 1/2"	3 3/4" ± 1"	39"	30"
9. 9 1/2"	4 1/4" ± 1"	33"	27"
10. 10 1/2"	4 3/4" ± 1"	30"	24"
11. 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"



**PLAN VIEW  
SHOWING LOCATION OF TIE BARS**

**CONCRETE PAVEMENT  
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
10-5-2010 /S/ Deb Bischoff  
DATE PAVEMENT POLICY & DESIGN ENGINEER  
FHWA

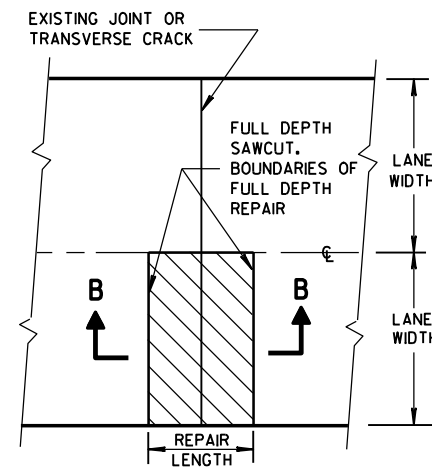
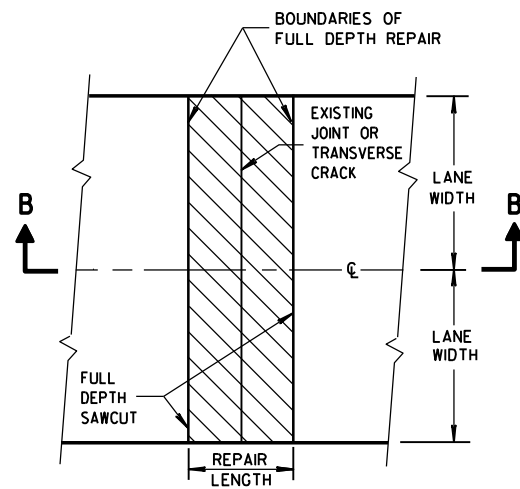
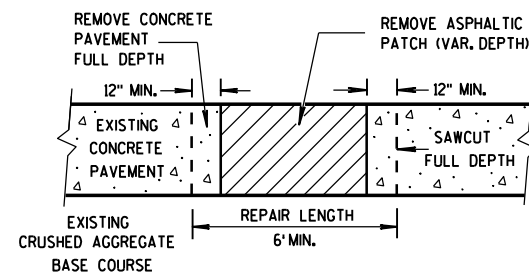
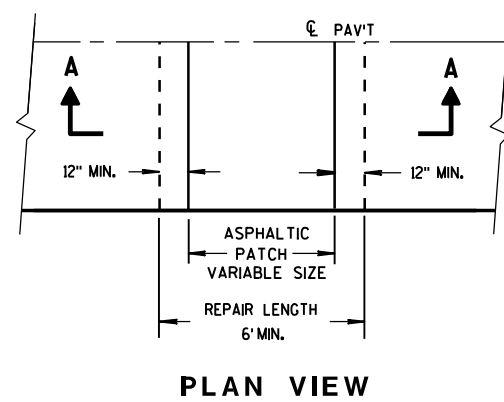
**GENERAL NOTES**

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

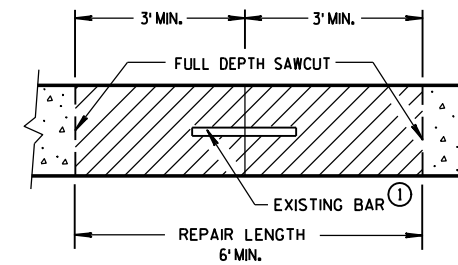
THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

① DOWEL BARS MIGHT NOT EXIST.



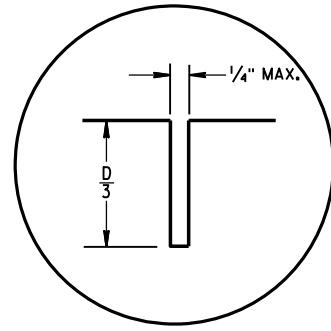
**FULL DEPTH CONCRETE PAVEMENT REMOVAL**

(SEE NOTE)

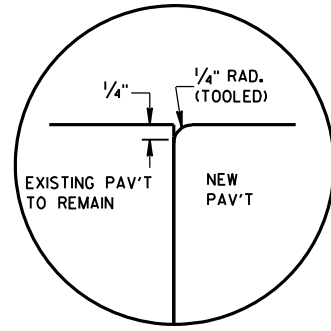


**CONCRETE PAVEMENT REPAIR  
AND REPLACEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

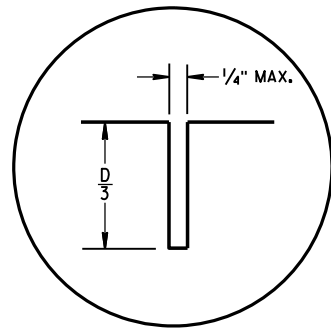


C1

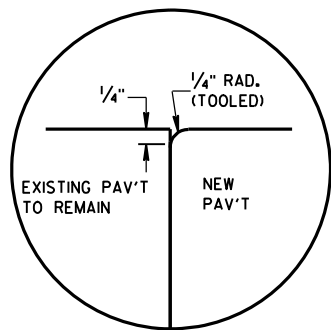


C2

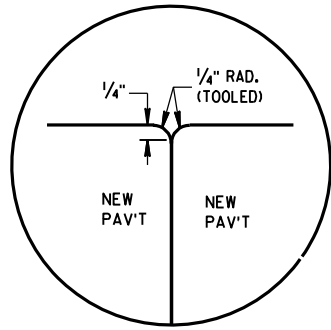
**TRANSVERSE JOINTS**



L1

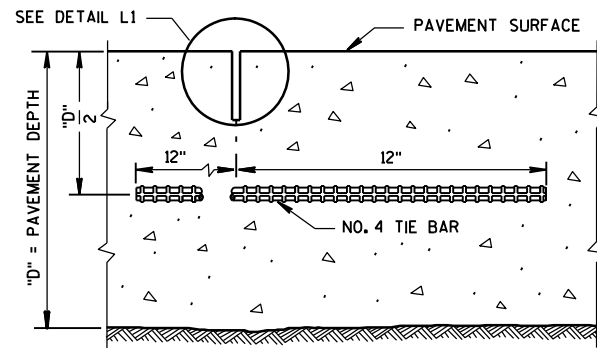


L2

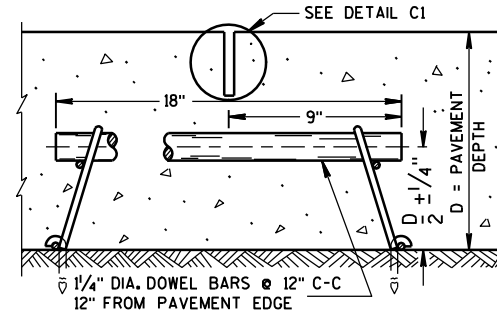


L3

**LONGITUDINAL JOINTS**



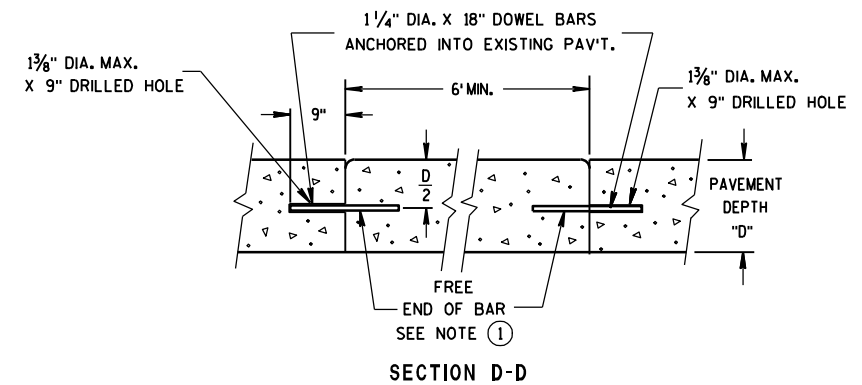
**SECTION C-C  
SAWED LONGITUDINAL JOINT**



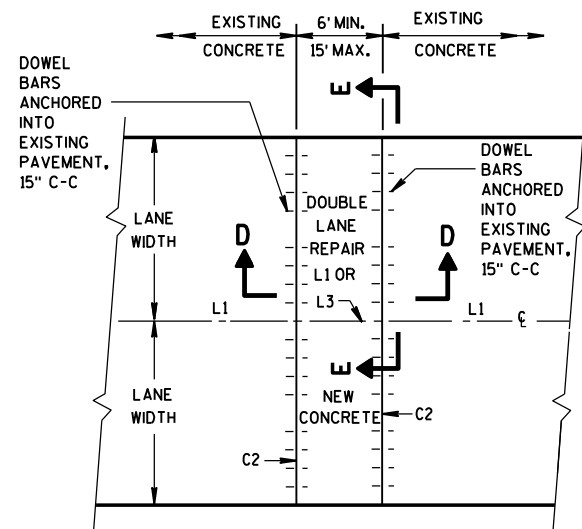
**SECTION F-F  
CONTRACTION JOINT**

**GENERAL NOTES**

- INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.
- CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.
- DO NOT SEAL OR FILL JOINTS.
- ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.
- ① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

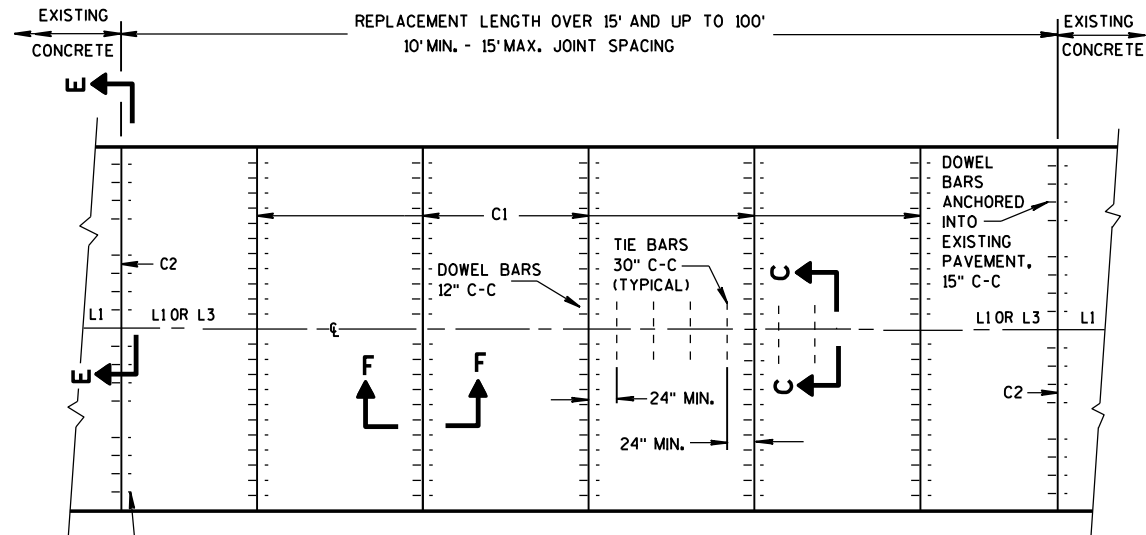


**SECTION D-D**



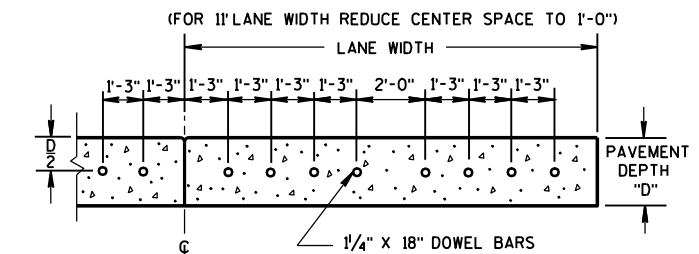
**PLAN VIEW**

**MULTI-LANE CONCRETE PAVEMENT REPAIR**



**PLAN VIEW**

**MULTI-LANE CONCRETE PAVEMENT REPLACEMENT**



**SECTION E-E**

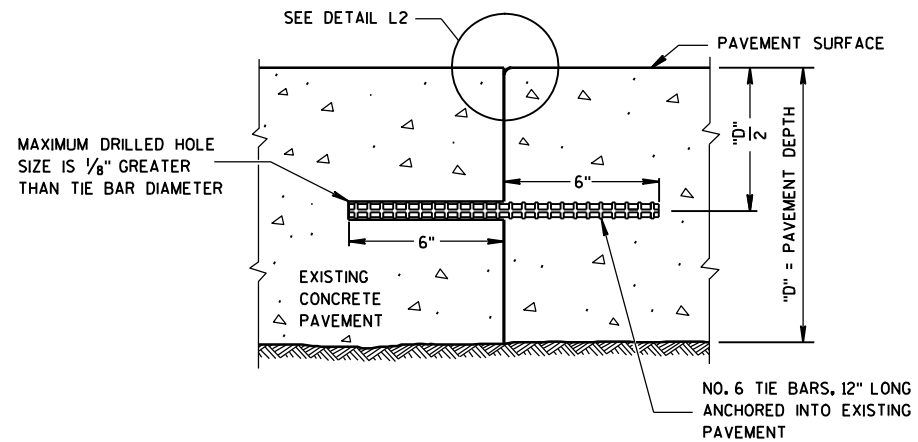
**SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT**

**CONCRETE PAVEMENT  
REPAIR AND REPLACEMENT**

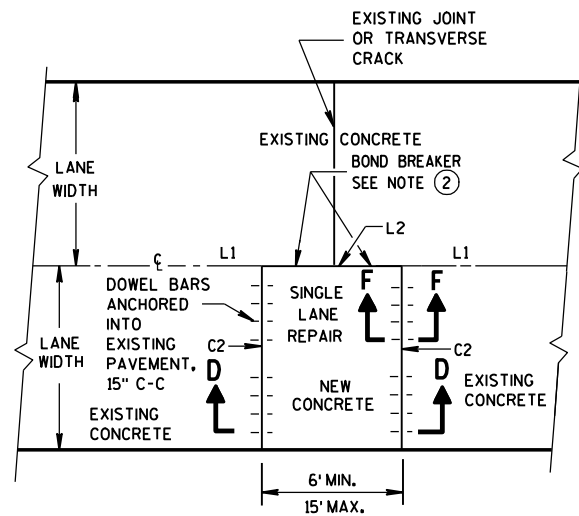
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

### GENERAL NOTES

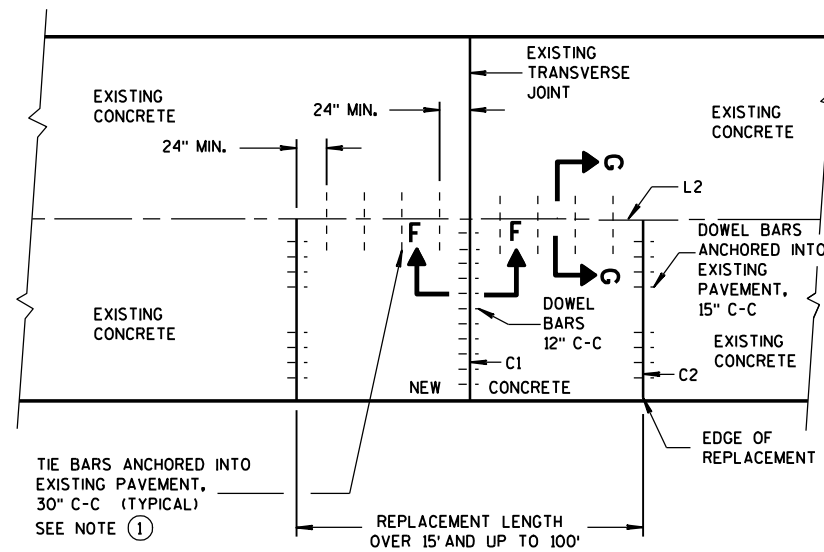
- ① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ② USE AN ENGINEER-APPROVED BOND BREAKER FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



SECTION G-G  
**TIE BARS ANCHORED  
 INTO EXISTING PAVEMENT**



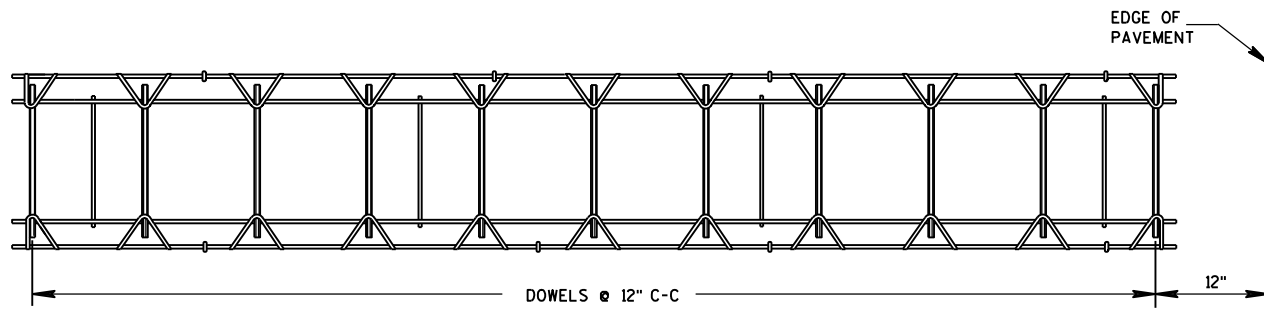
PLAN VIEW  
**SINGLE LANE  
 CONCRETE PAVEMENT REPAIR**



PLAN VIEW  
**SINGLE LANE  
 CONCRETE PAVEMENT REPLACEMENT**

<b>CONCRETE PAVEMENT REPAIR AND REPLACEMENT</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12-11-09 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	





PLAN VIEW

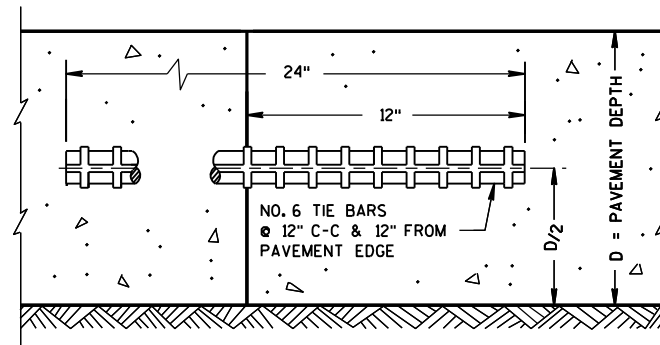


SIDE VIEW

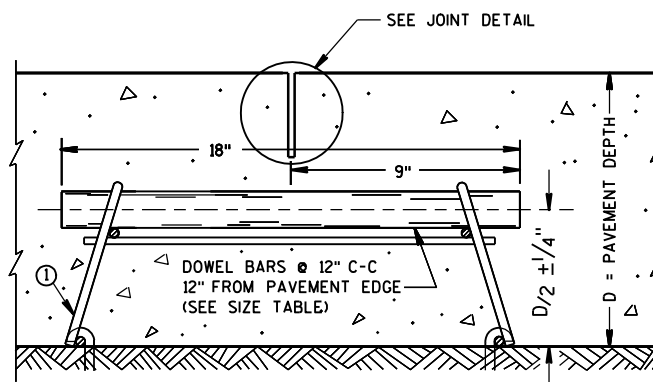
CONTRACTION JOINT DOWEL ASSEMBLY

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

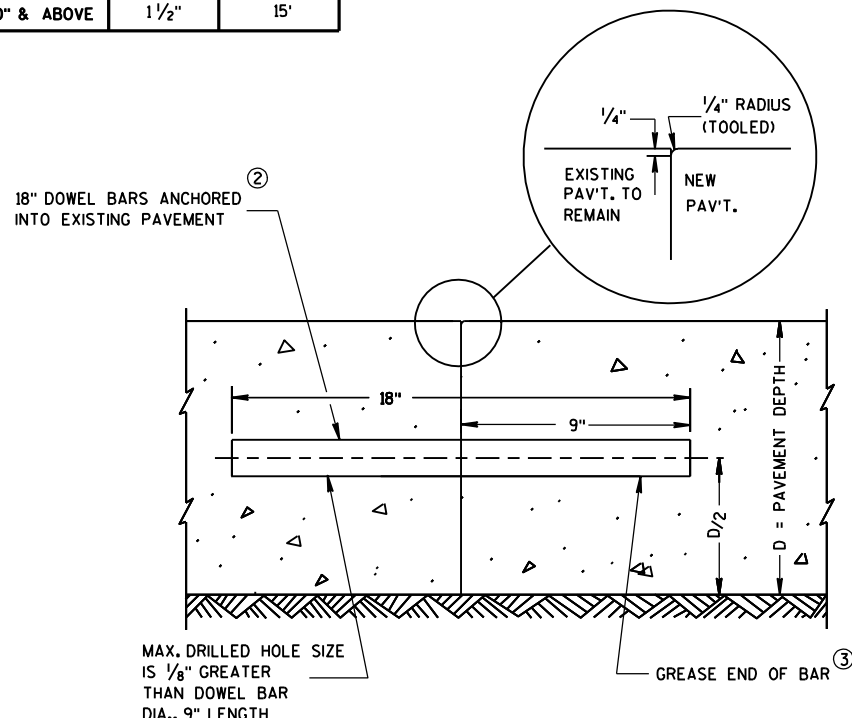
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12"
7", 7 1/2"	1"	14"
8", 8 1/2"	1 1/4"	15"
9", 9 1/2"	1 1/4"	15"
10" & ABOVE	1 1/2"	15"



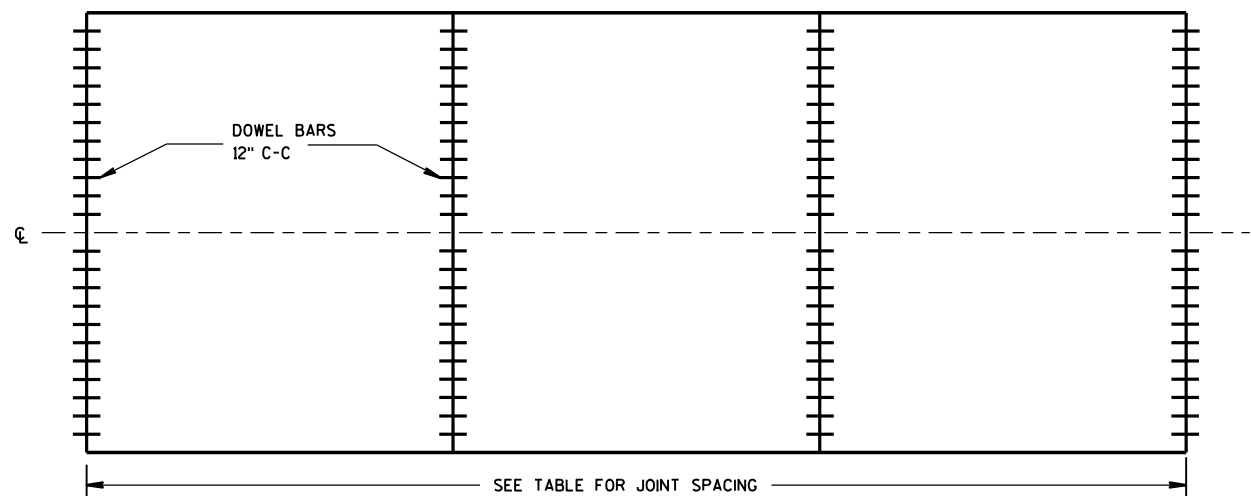
TRANSVERSE CONSTRUCTION JOINT



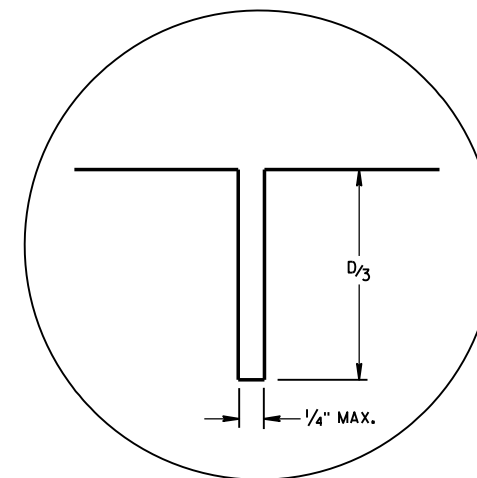
DOWELED CONTRACTION JOINT



TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT  
DOWEL BAR DETAIL



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

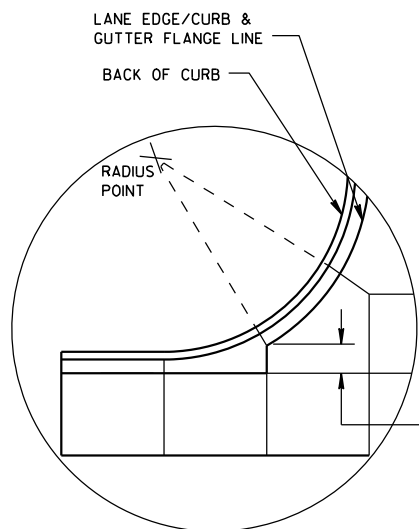
THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

- ① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.
- ② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.
- ③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:  
  
BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.
- ⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

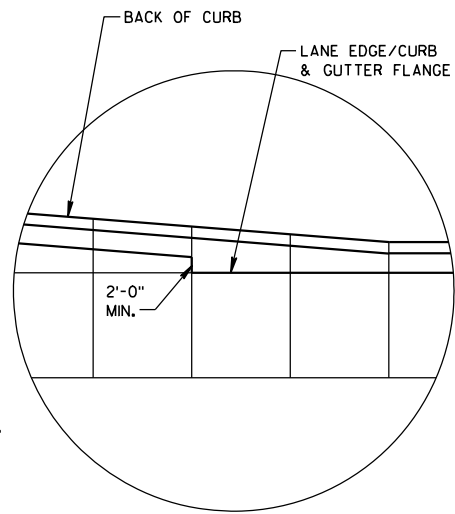
URBAN DOWELED  
CONCRETE PAVEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

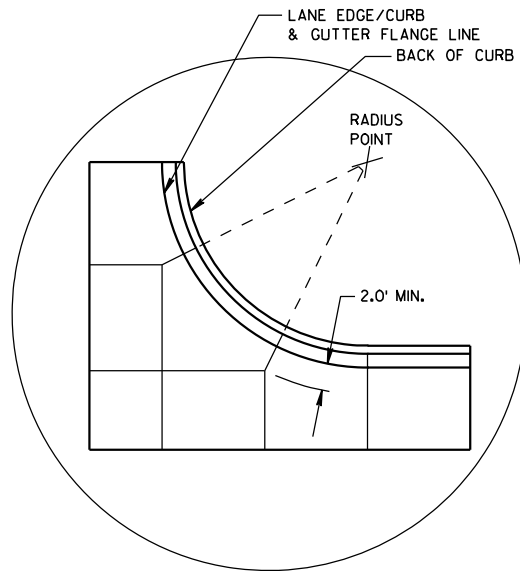
APPROVED  
12/11/2009 /S/ Deb Bischoff  
DATE PAVEMENT POLICY & DESIGN ENGINEER  
FHWA



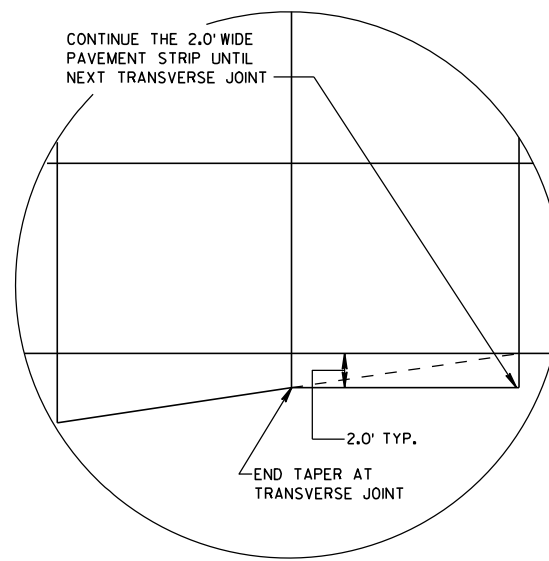
**DETAIL "A"**



**DETAIL "B"**



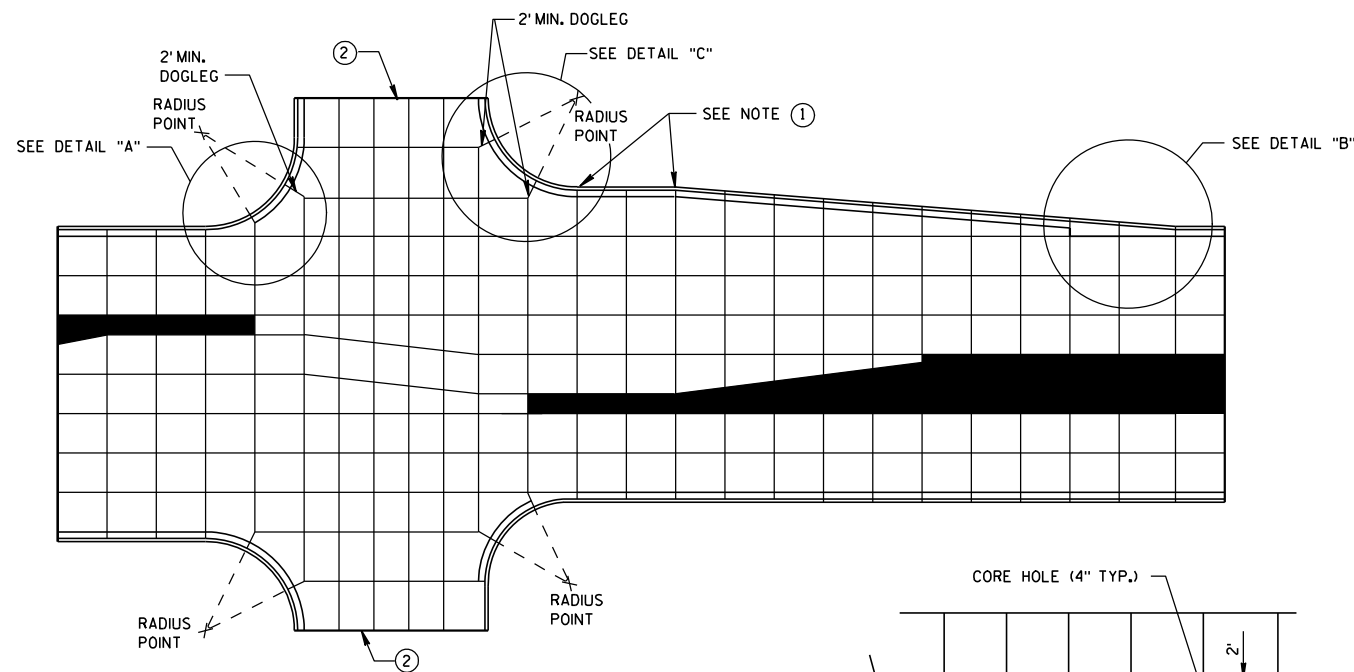
**DETAIL "C"**



**DETAIL "D"**

**GENERAL NOTES**

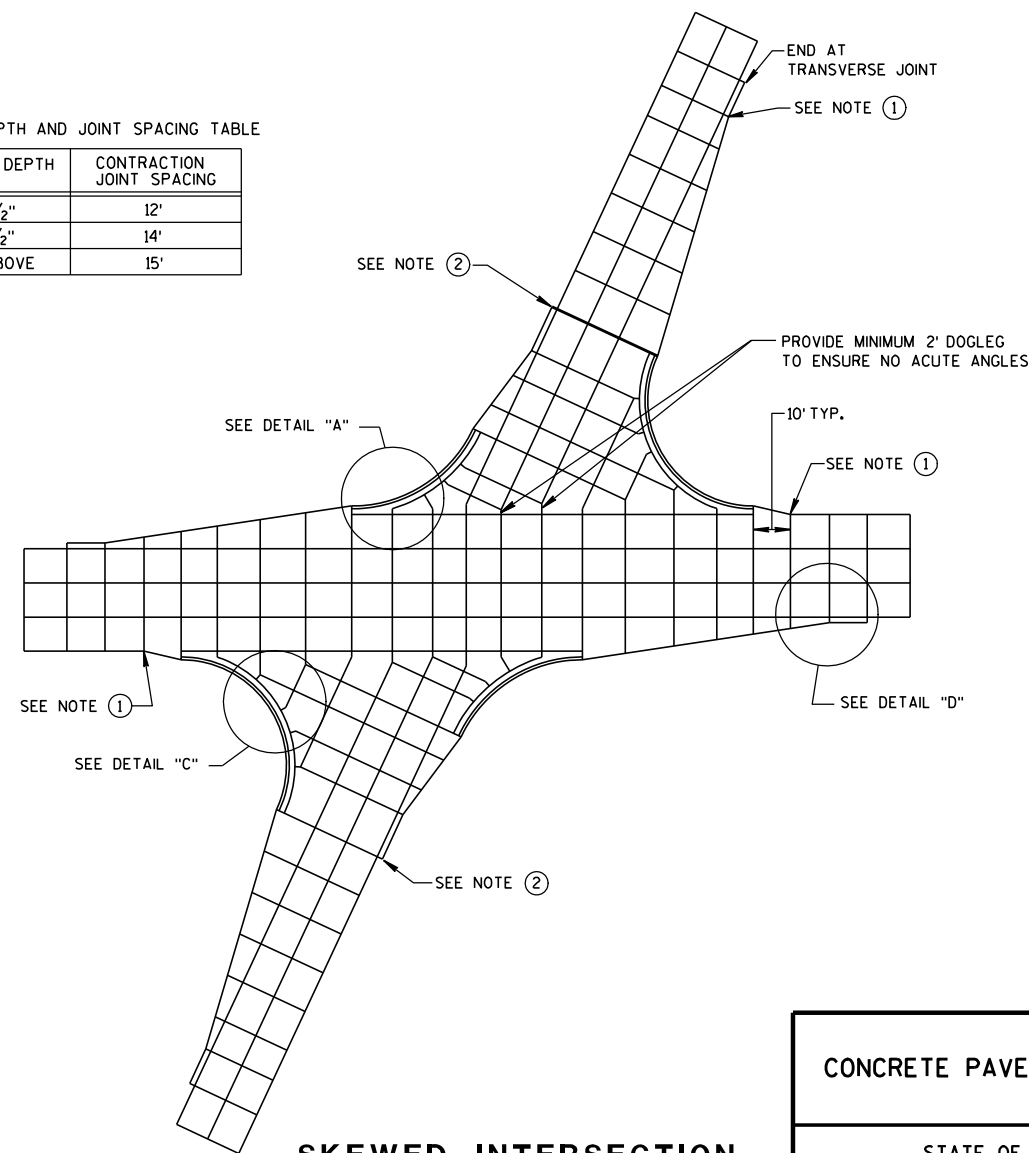
- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
- AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
- SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
- AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
- 1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
- 2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
- 3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



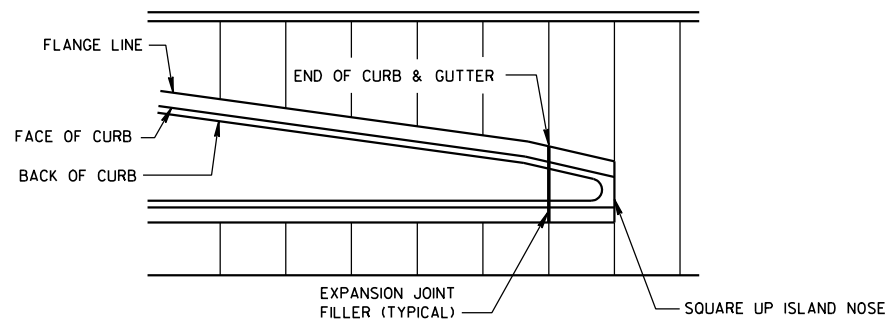
**STANDARD INTERSECTION**

**PAVEMENT DEPTH AND JOINT SPACING TABLE**

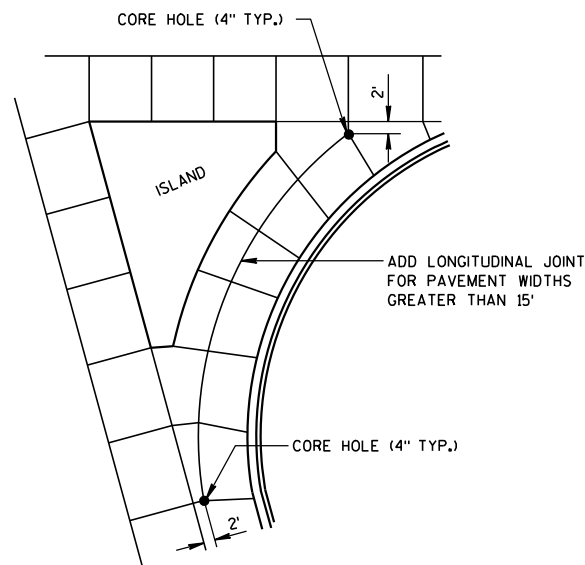
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



**SKEWED INTERSECTION**



**APPROACH TO MEDIAN**



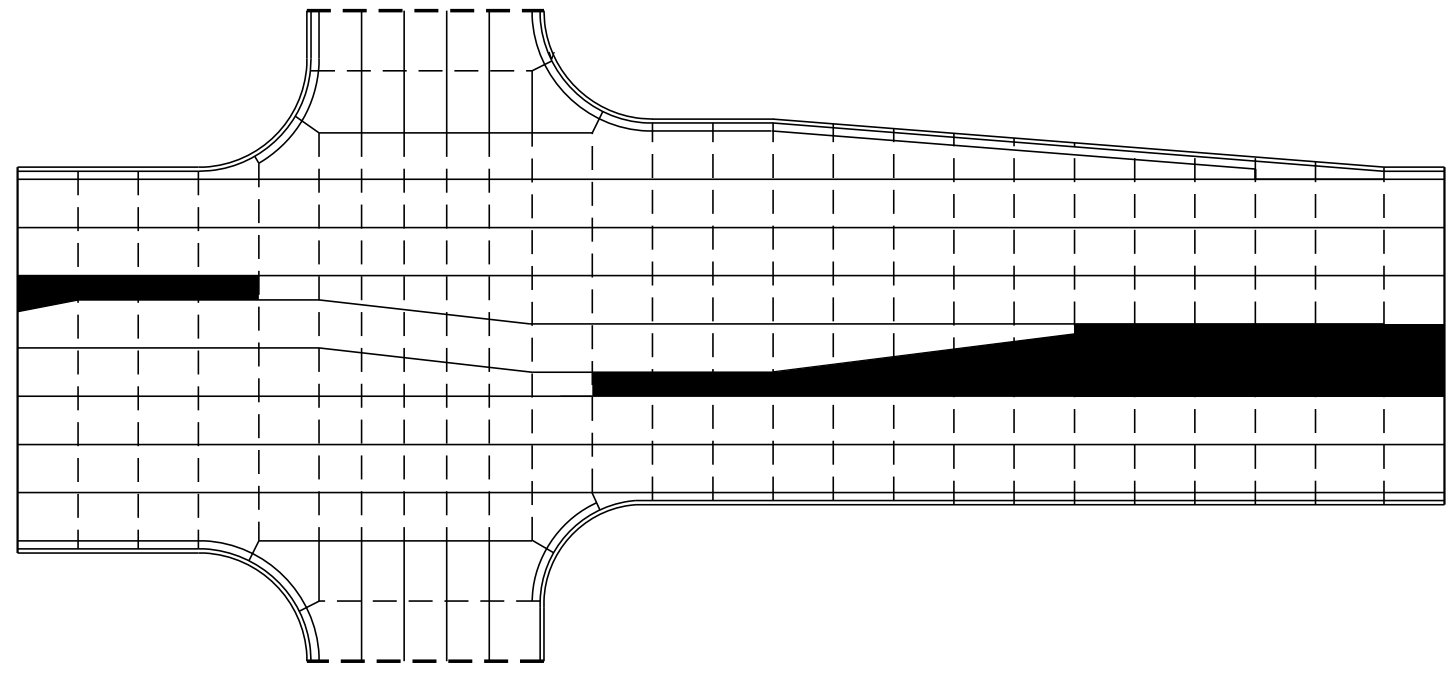
**LARGE RIGHT TURN**

**LEGEND**

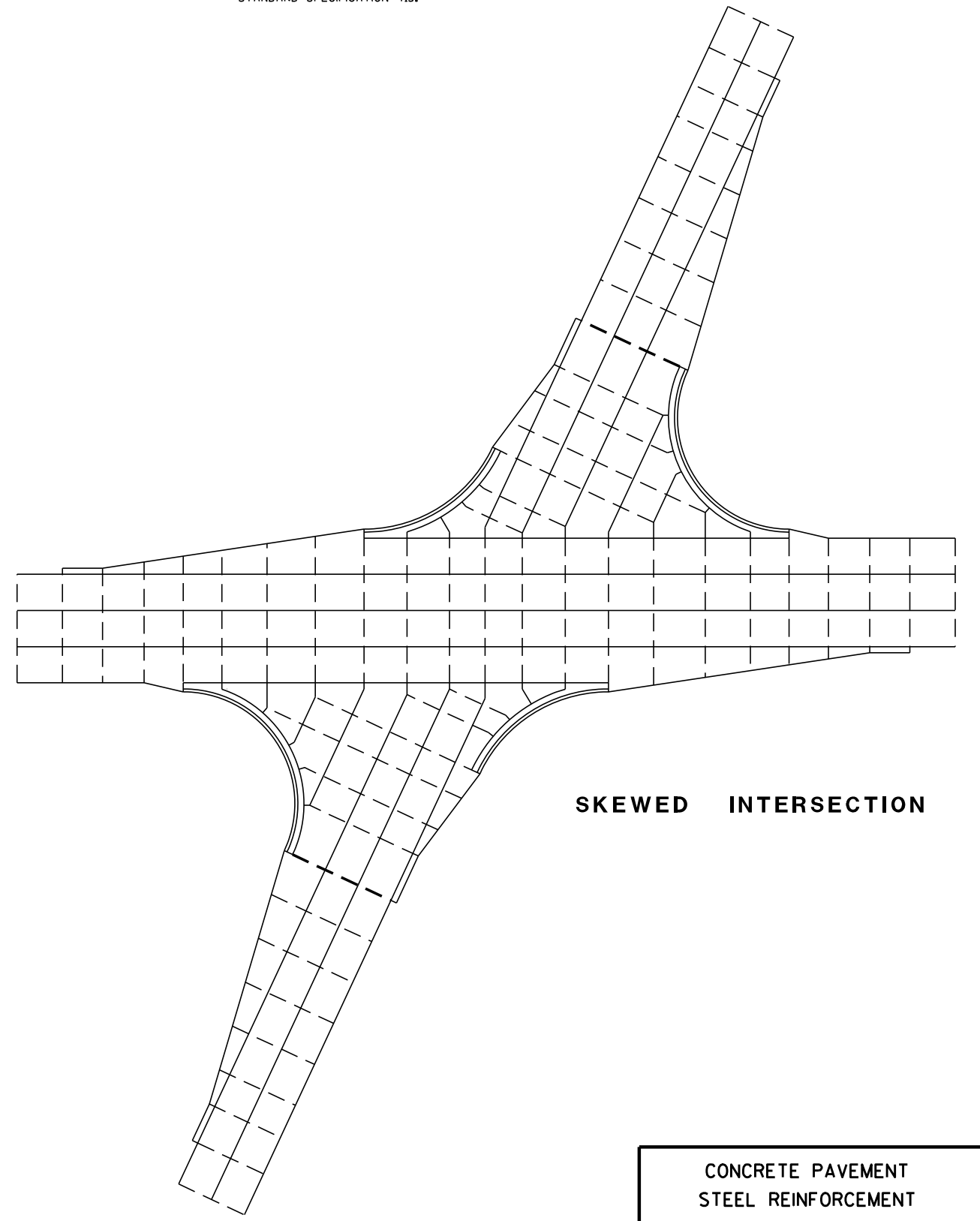
- POTENTIAL DOWELED EXPANSION JOINT
- - - DOWELED JOINT
- TIED JOINT

**GENERAL NOTES**

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



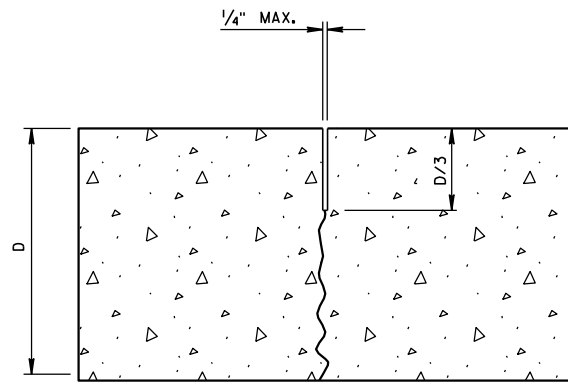
**STANDARD INTERSECTION**



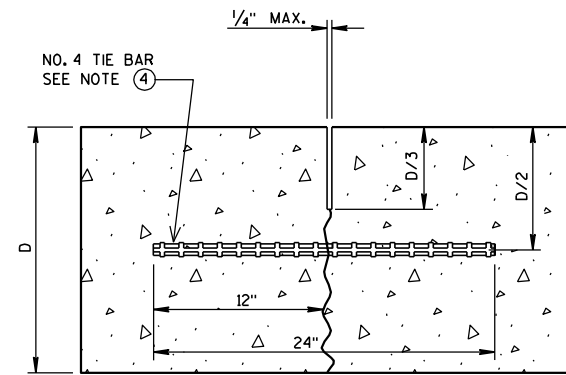
**SKEWED INTERSECTION**

CONCRETE PAVEMENT  
STEEL REINFORCEMENT

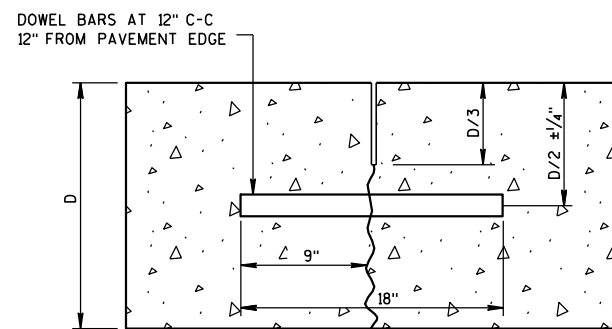
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



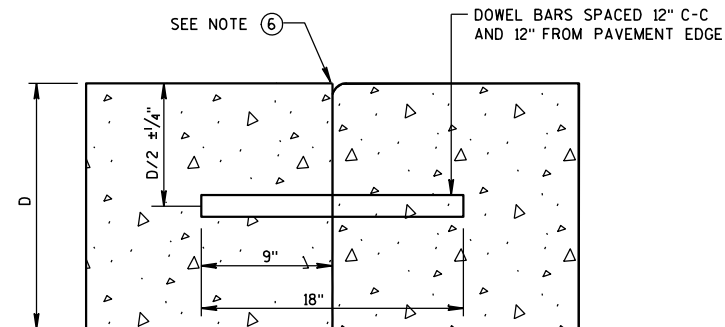
**UNDOWELED-TRANSVERSE**



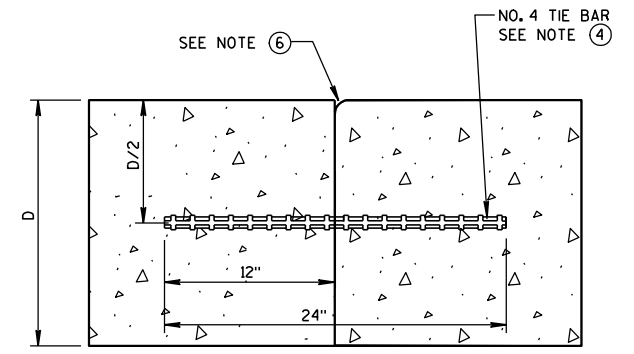
**TIED LONGITUDINAL**



**DOWELED-TRANSVERSE**



**DOWELED TRANSVERSE**



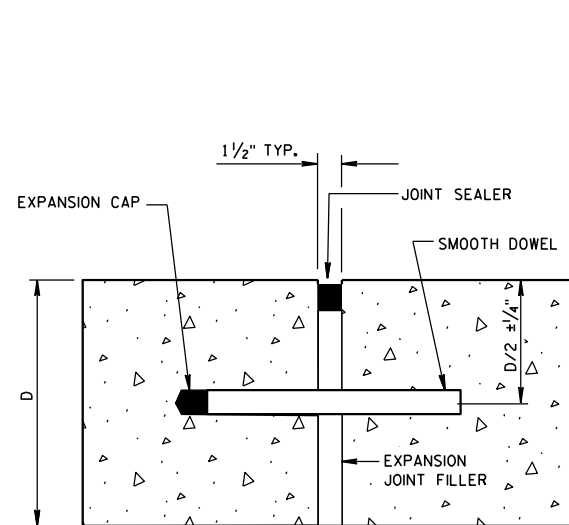
**TIED LONGITUDINAL**

**CONTRACTION JOINTS**

SEE NOTE ②

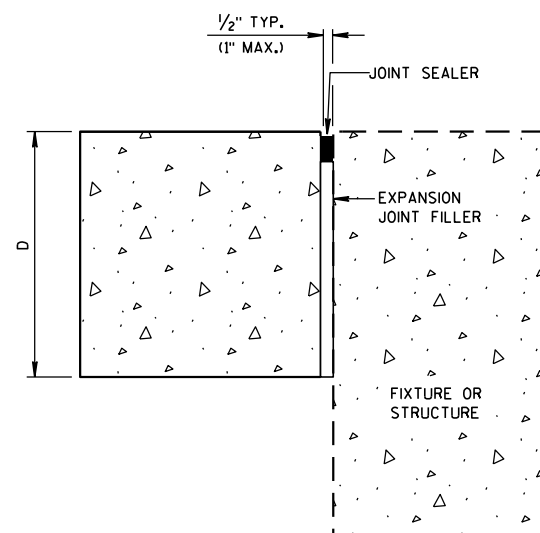
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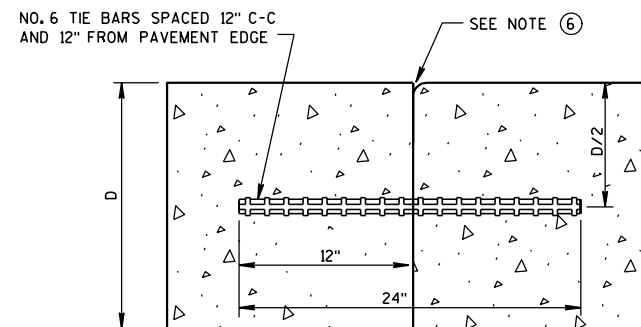
**DOWELED-TRANSVERSE**

SEE NOTE ①



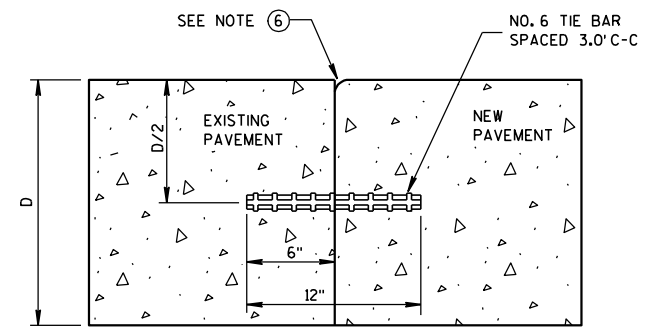
**UNTIED-LONGITUDINAL**

**EXPANSION JOINTS**



**TIED TRANSVERSE**

SEE NOTE ③



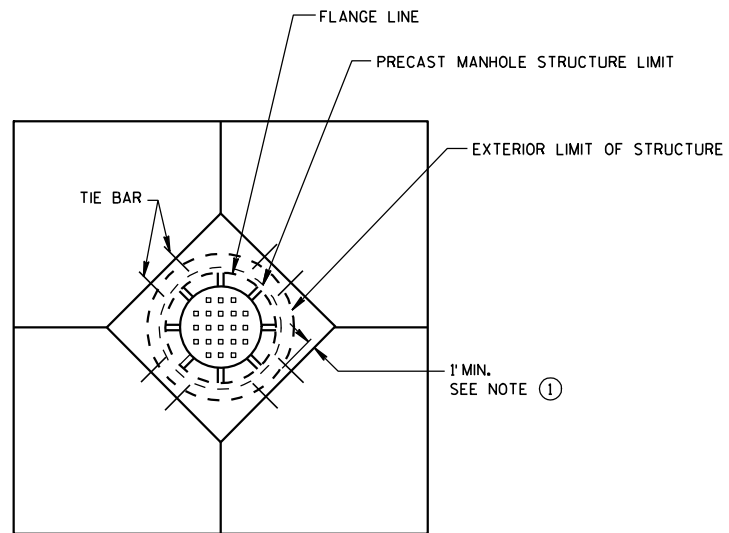
**TIED LONGITUDINAL TO EXISTING**

**CONSTRUCTION JOINTS**

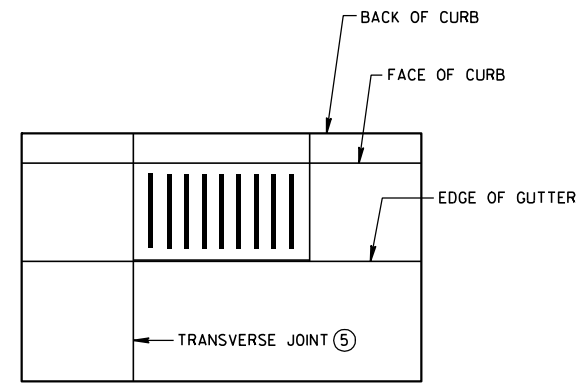
SEE NOTE ⑤

**GENERAL NOTES**

1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13CL.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



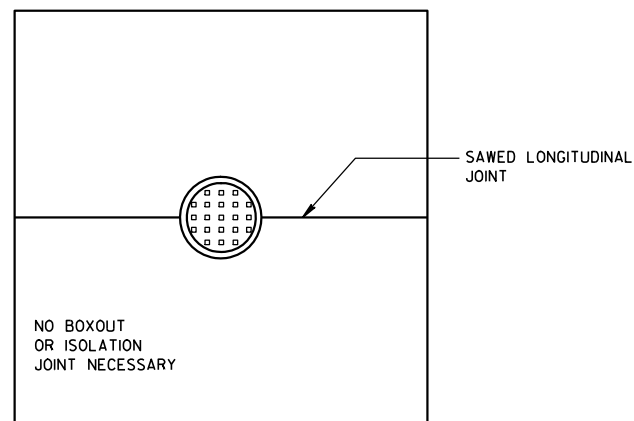
**DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS**



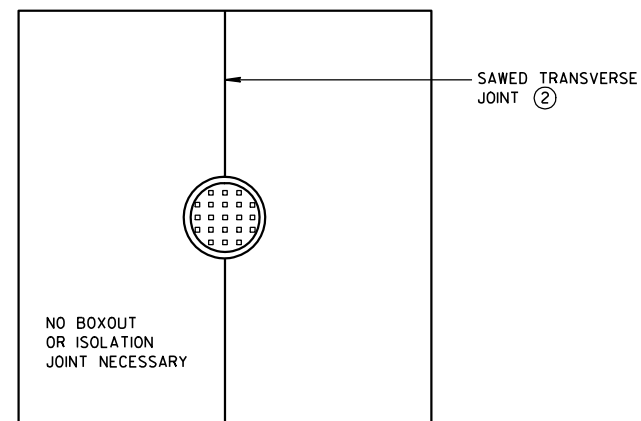
**INLET WITH TRANSVERSE JOINT**

**GENERAL NOTES**

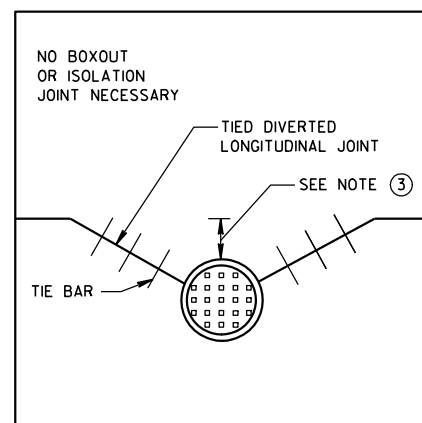
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS GREATER THAN 2 FEET, DO NOT DIVERT JOINT AND SAW LONGITUDINAL JOINT AS NORMAL. IF DISTANCE IS 2 FEET OR LESS, DIVERT LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE.
4. IF DISTANCE FROM THE EDGE OF MANHOLE TO THE NEAREST TRANSVERSE JOINT IS GREATER THAN 4 FEET, REDIRECT JOINT TO INTERSECT MANHOLE. IF DISTANCE IS 4 FEET OR LESS, PLACE REBAR REINFORCEMENT AROUND MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



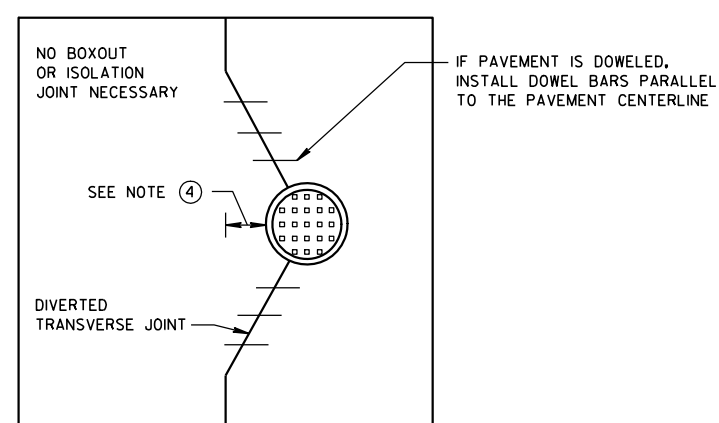
**MANHOLE WITH LONGITUDINAL JOINT**



**MANHOLE WITH TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT**



**MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT**

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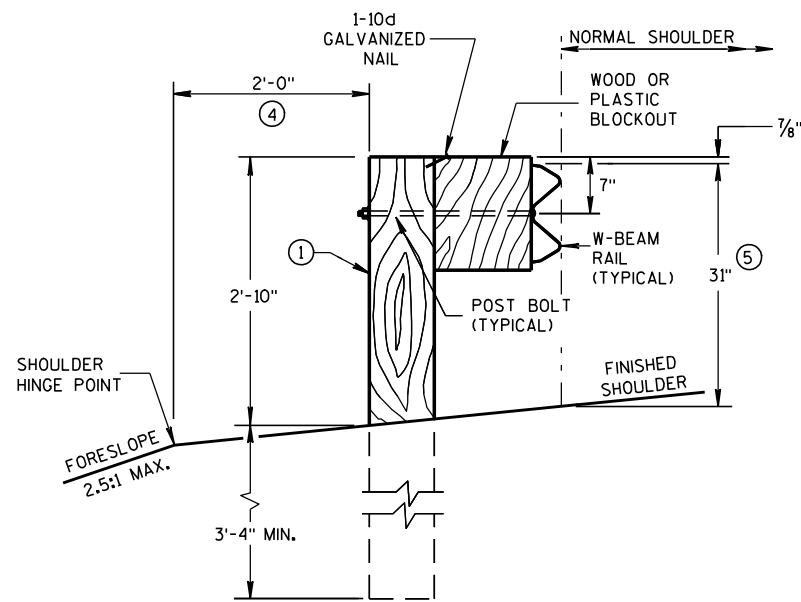
S.D.D. 13C18-1d

S.D.D. 13C18-1d

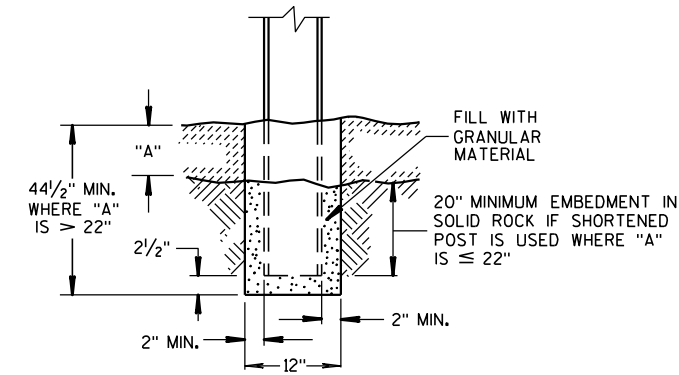
<b>CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10-5-2010 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	

## GENERAL NOTES

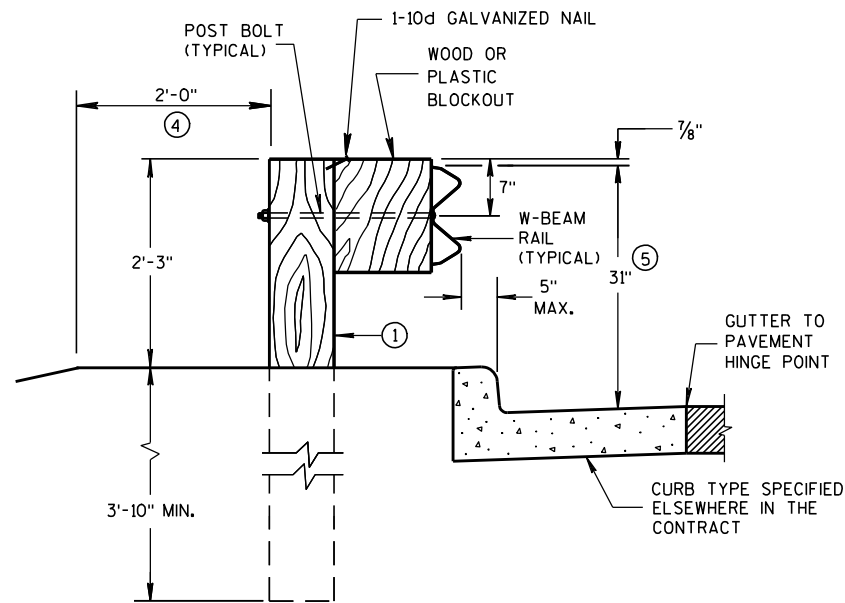
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL.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



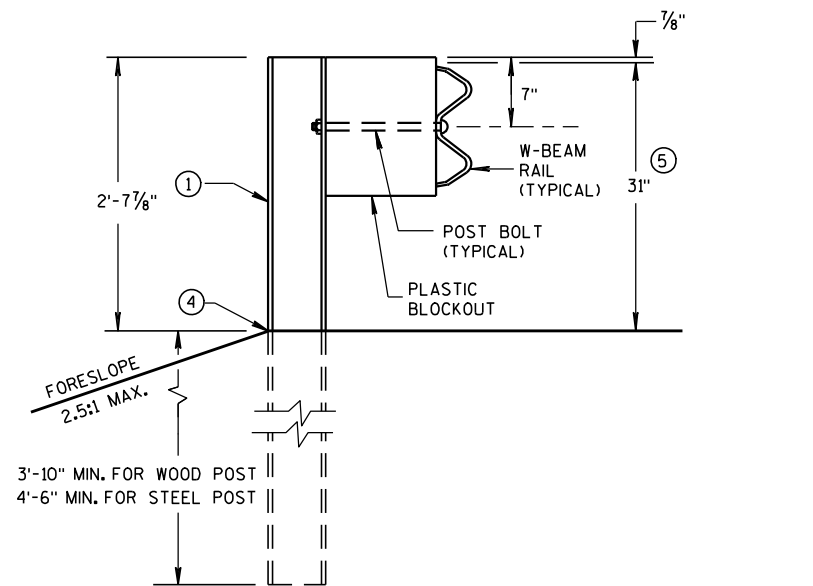
**END VIEW**  
LOCATED ALONG A ROADWAY SHOULDER  
STANDARD INSTALLATION



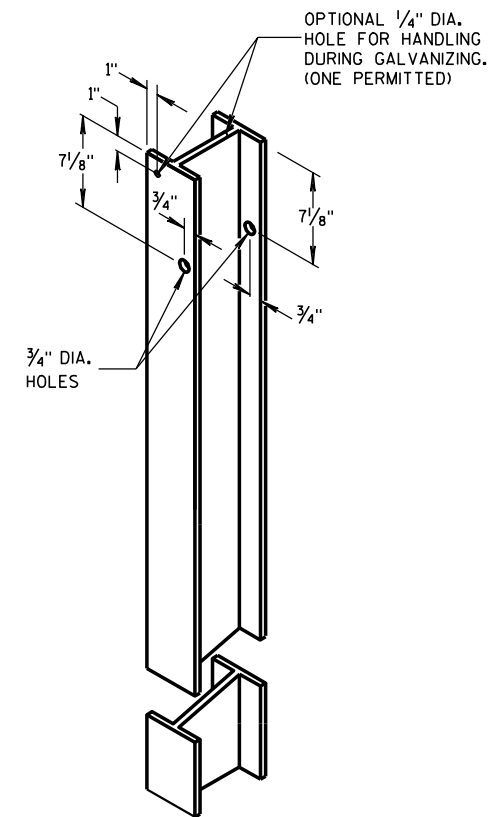
**END VIEW**  
SETTING STEEL OR WOOD POST IN ROCK ③



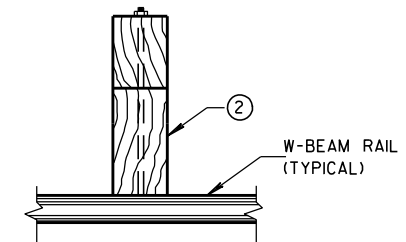
**END VIEW**  
LOCATED ALONG A CURBED ROADWAY



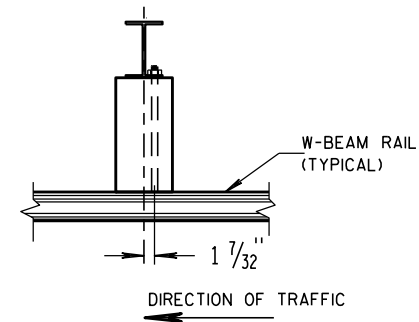
**END VIEW**  
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



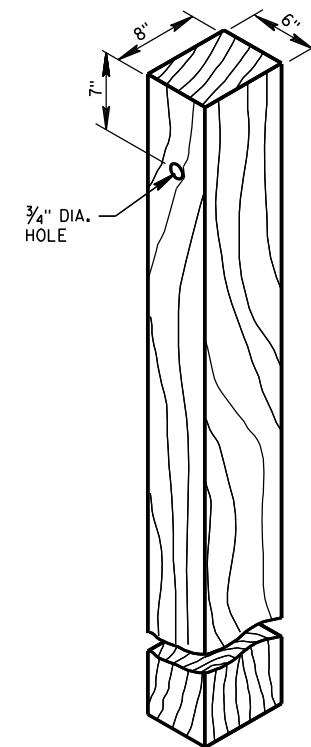
**STEEL POST & HOLE PUNCHING DETAIL**  
(w6X9) ①



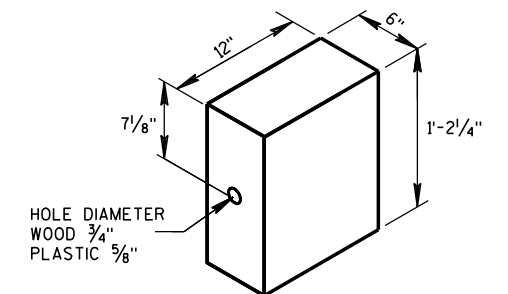
**PLAN VIEW**  
WOOD POST,  
BLOCKOUT & BEAM



**PLAN VIEW**  
STEEL POST,  
PLASTIC BLOCKOUT & BEAM



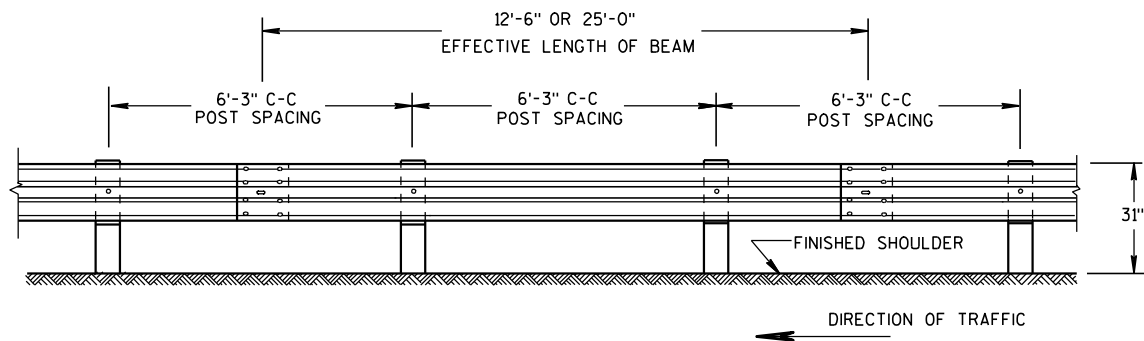
**WOOD POST**  
(6" X 8") NOMINAL ①



**WOOD OR PLASTIC BLOCKOUT** ②

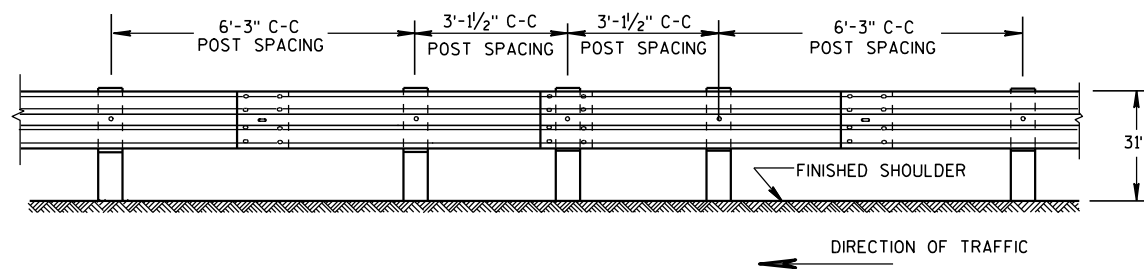
**MIDWEST GUARDRAIL SYSTEM**  
(MGS) GUARDRAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



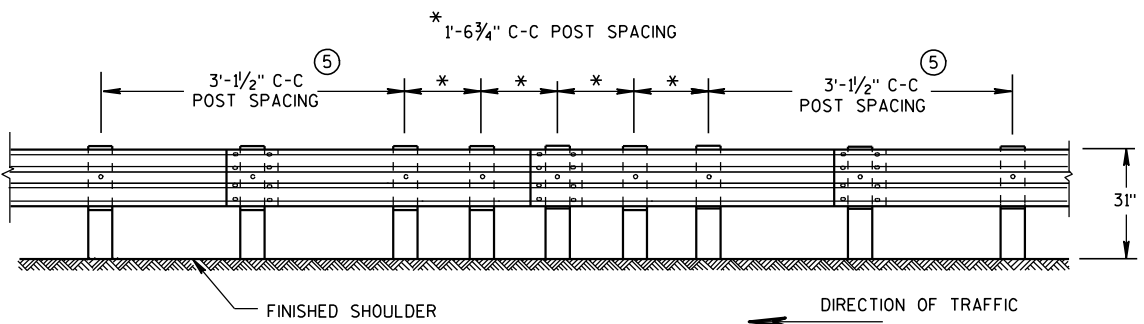
FRONT VIEW

**POST SPACING STANDARD INSTALLATION**



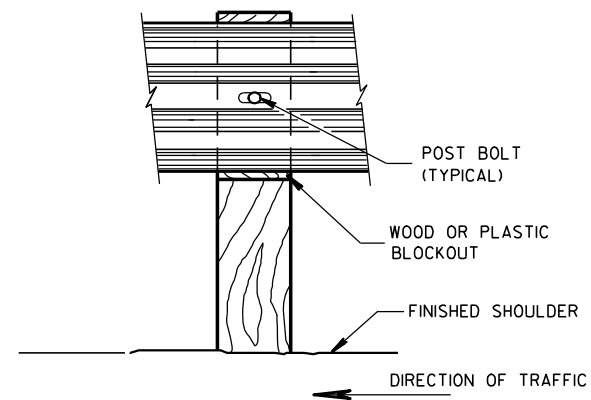
FRONT VIEW

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

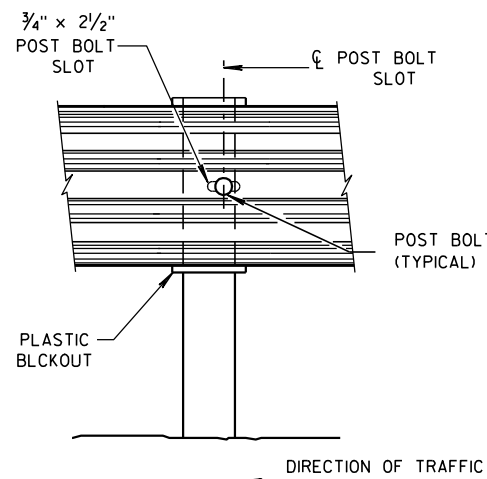


FRONT VIEW

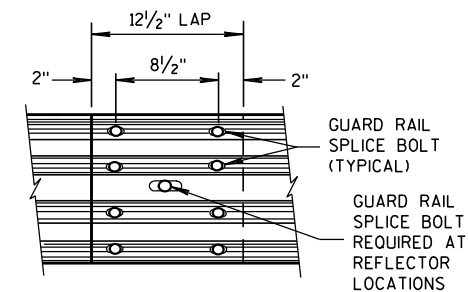
**QUARTER POST SPACING (QS)**



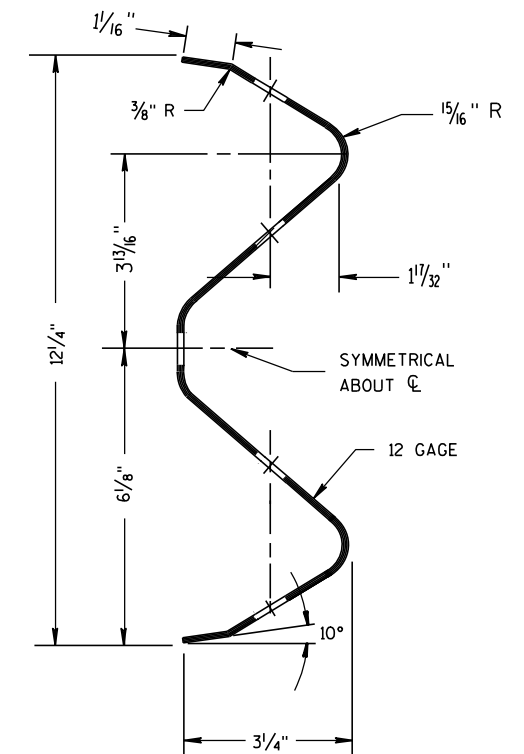
FRONT VIEW AT WOOD POST



FRONT VIEW AT STEEL POST



FRONT VIEW  
MID-SPAN BEAM SPLICE



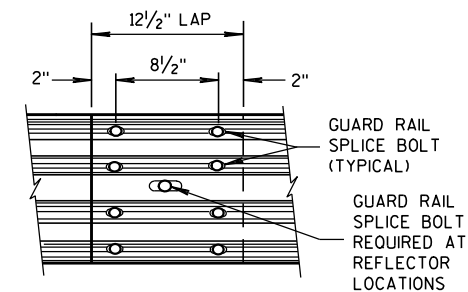
SECTION THRU W-BEAM RAIL

**GENERAL NOTES**

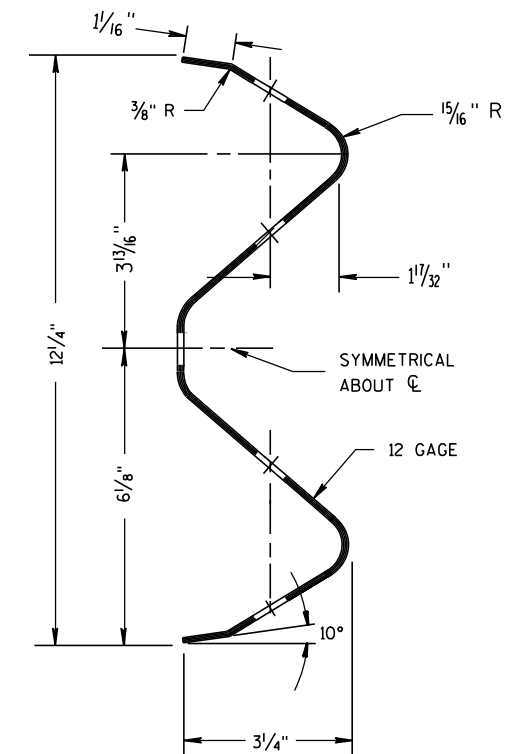
- ① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
- ② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL 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° ± 1° 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 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. POST BOLTS ARE 21 INCHES LONG FOR WOOD POSTS AND 10 INCHES LONG IN STEEL POSTS. A POST BOLT REQUIRES 5/8" DIAMETER A563 DH MODIFIED (RECESSED) HEAVY HEX NUT AND 5/8" DIAMETER F436 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

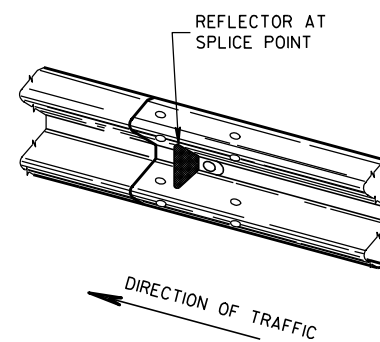
GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER X 1 1/4" LONG ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563 DH (RECESSED) HEAVY HEX NUT AND 5/8" DIAMETER F436 FLAT WASHER.



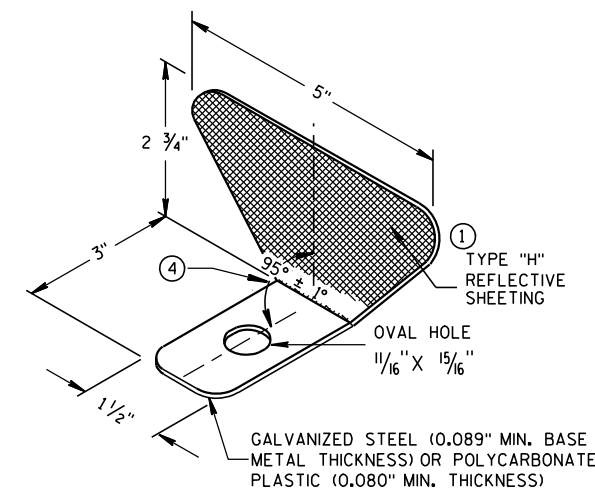
FRONT VIEW  
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



**ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION**

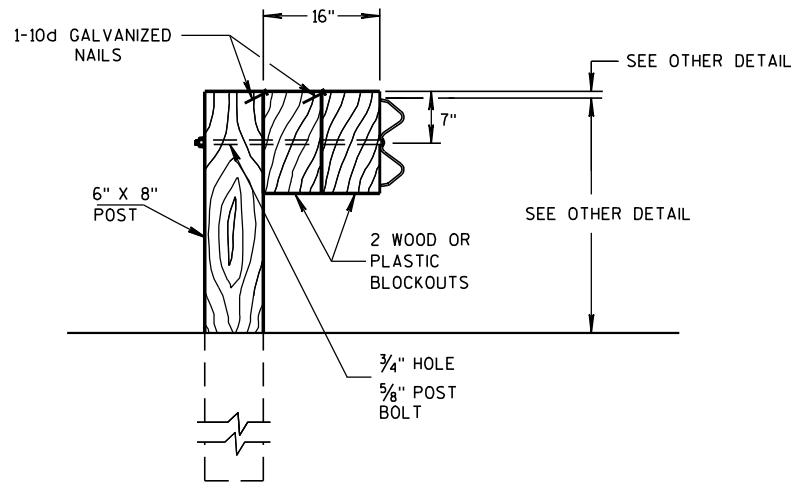


**REFLECTOR SPACING**

	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	3
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	6
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	3

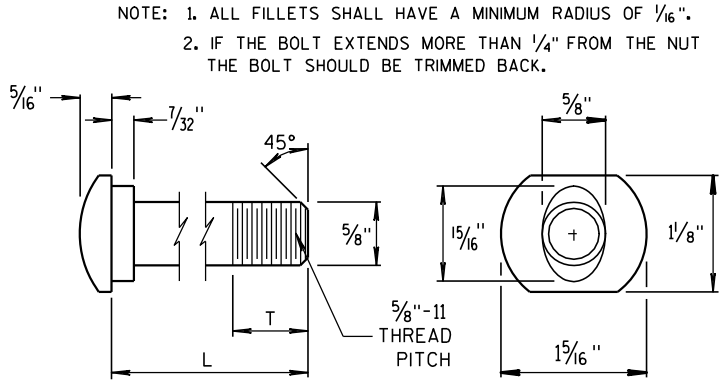
**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



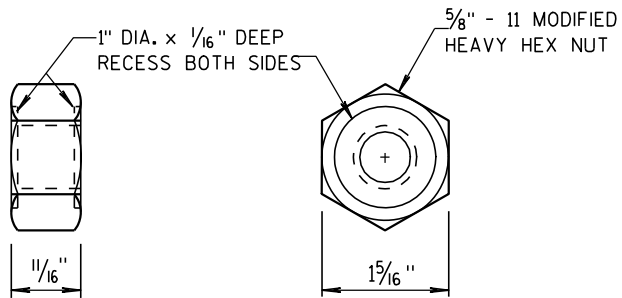
**DETAIL FOR 16" BLOCKOUT DEPTH**

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

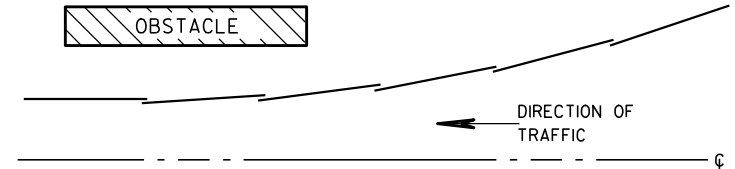


**POST BOLT TABLE**

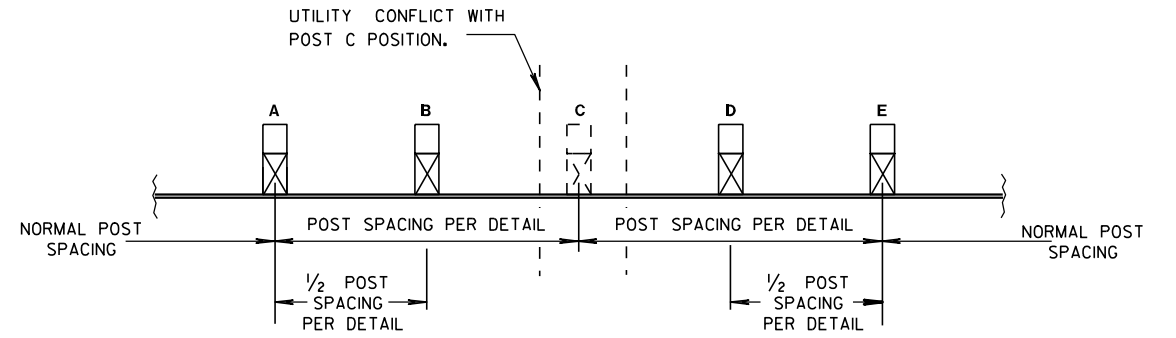
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



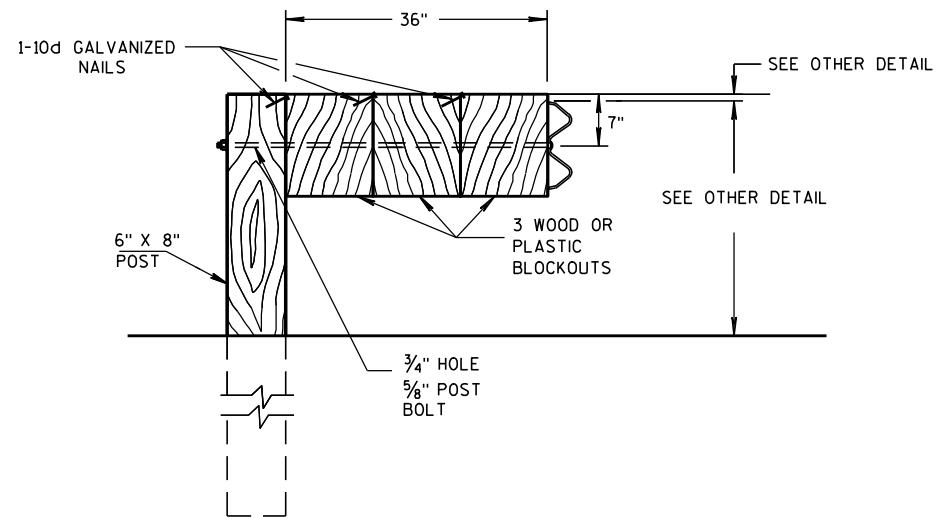
**POST BOLT AND RECESS NUT**



**PLAN VIEW  
BEAM LAPPING DETAIL**



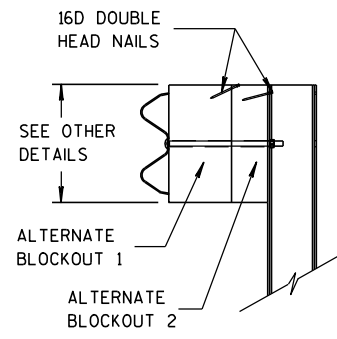
**POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION**



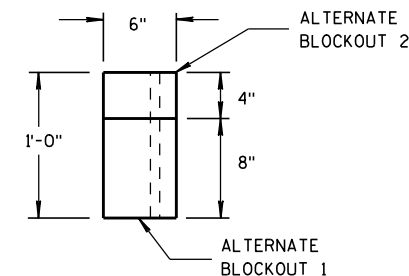
**DETAIL FOR 36" BLOCKOUT DEPTH**

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

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



**SIDE VIEW**



**TOP VIEW**

**ALTERNATE WOOD BLOCKOUT DETAIL**

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/2011 DATE /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA

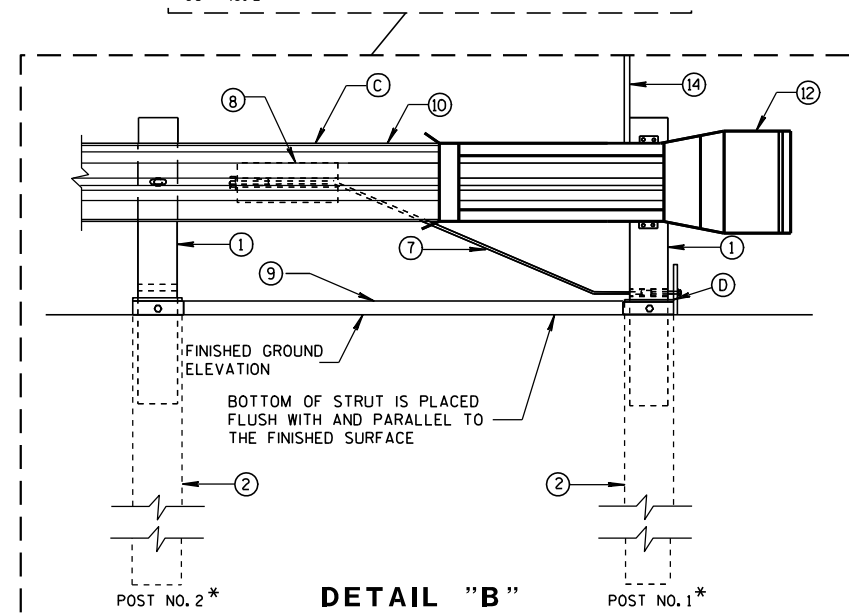
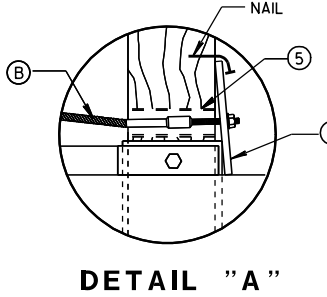
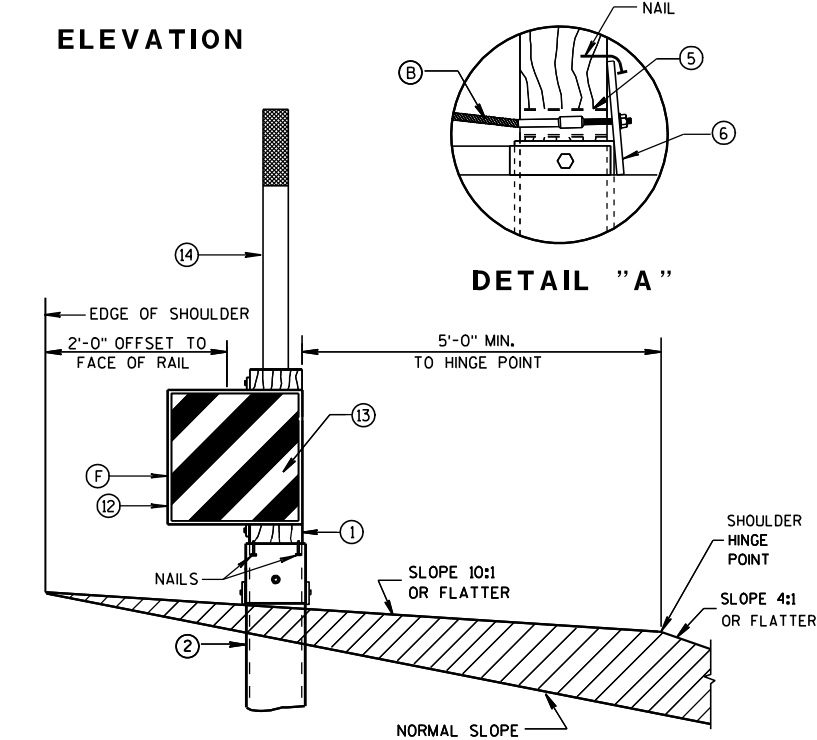
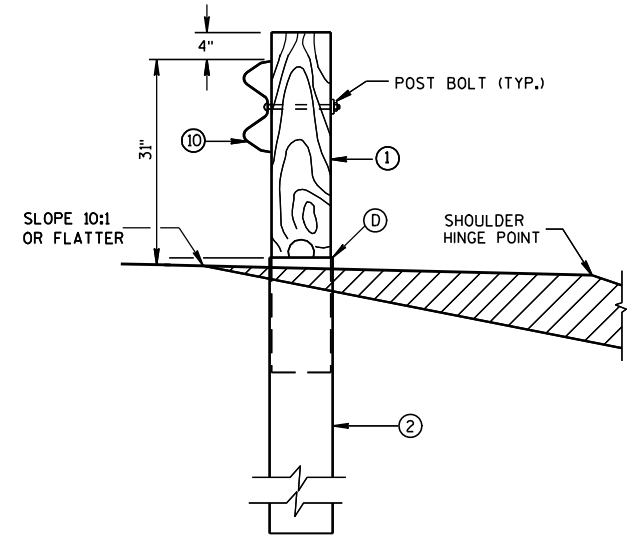
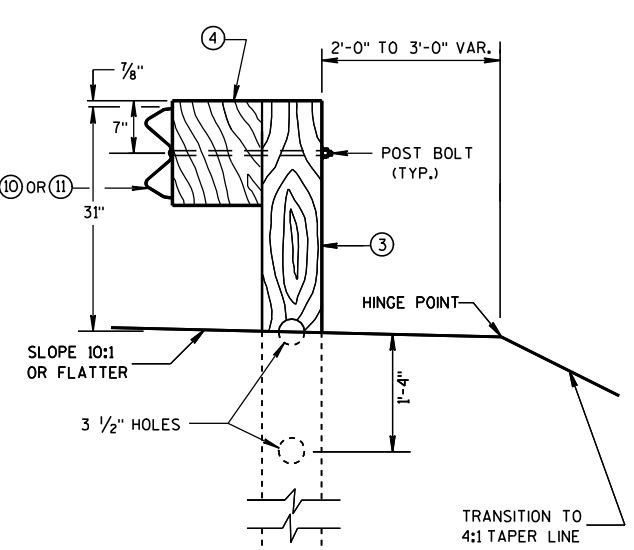
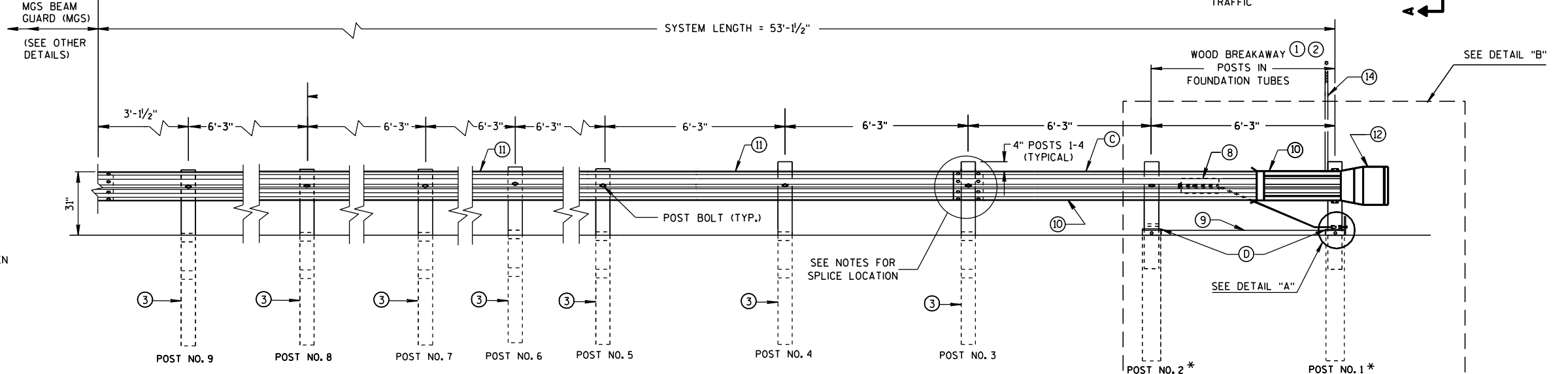
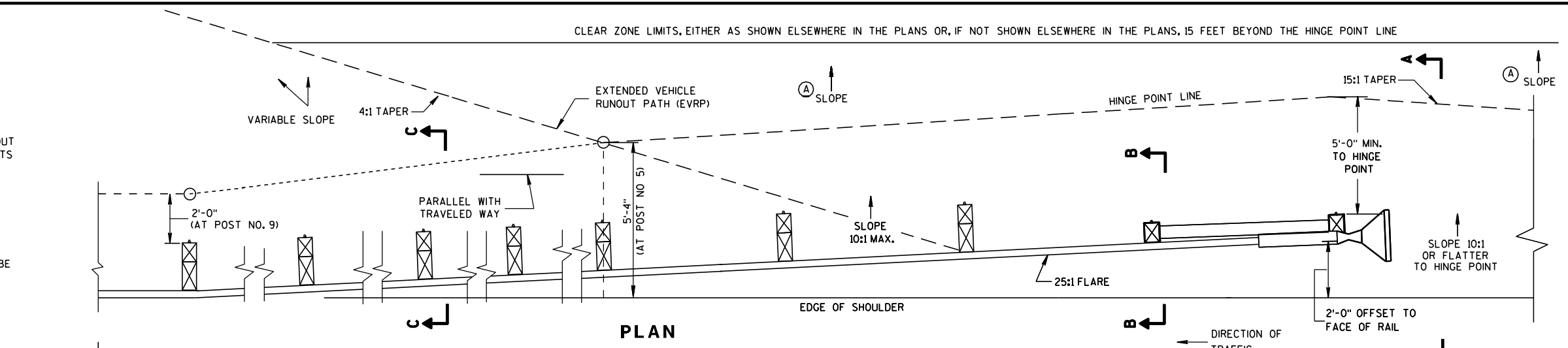


CLEAR ZONE LIMITS, EITHER AS SHOWN ELSEWHERE IN THE PLANS OR, IF NOT SHOWN ELSEWHERE IN THE PLANS, 15 FEET BEYOND THE HINGE POINT LINE

**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 MANUFACTURERS REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURER'S 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.
- (G) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURERS. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- (H) DIMENSIONS MAY VARY. SEE MANUFACTURER'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 ( $\pm 3/4$ ")



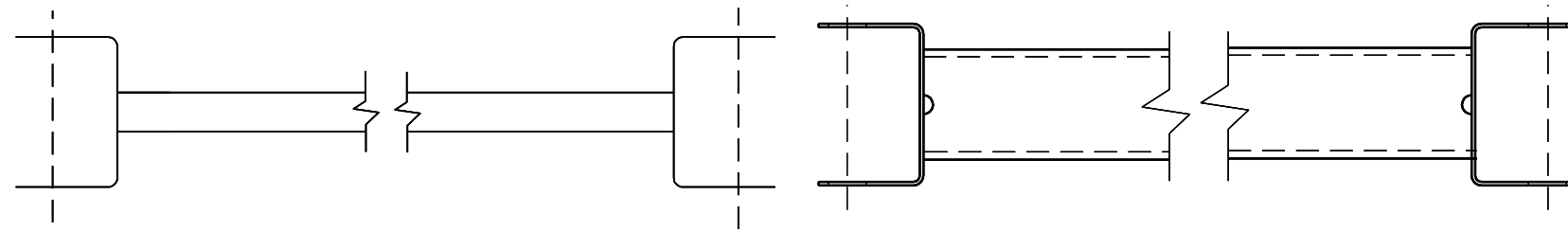
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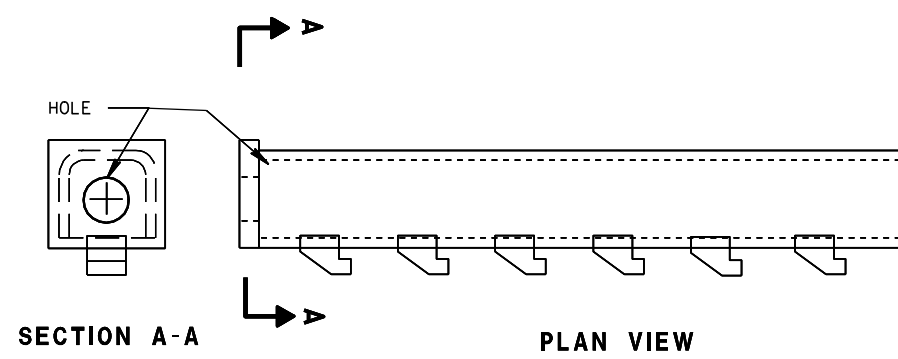
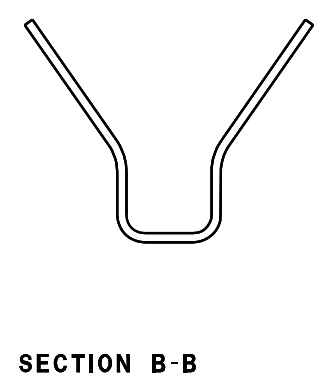
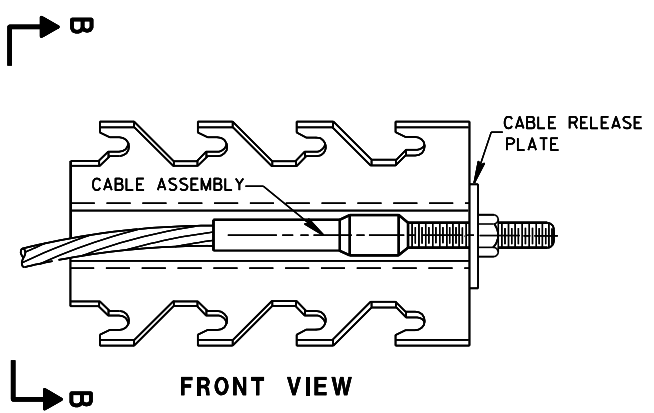
S.D.D. 14 B 44-1a

S.D.D. 14 B 44-1a

**MIDWEST GUARDRAIL SYSTEM  
 ENERGY ABSORBING TERMINAL  
 (MGS)**  
 STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION



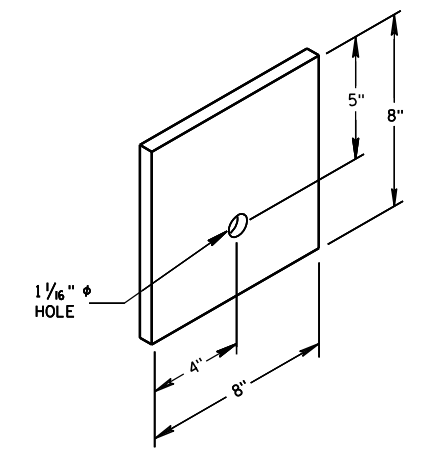
⑨ H  
**GENERIC GROUND STRUT**



⑧ H  
**GENERIC ANCHOR CABLE BOX**

**BILL OF MATERIALS**

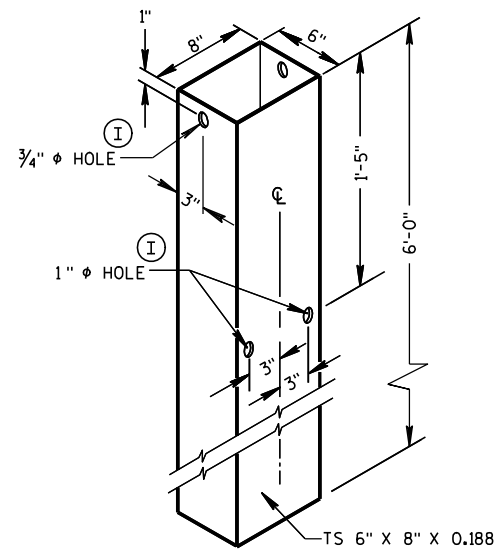
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND 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)



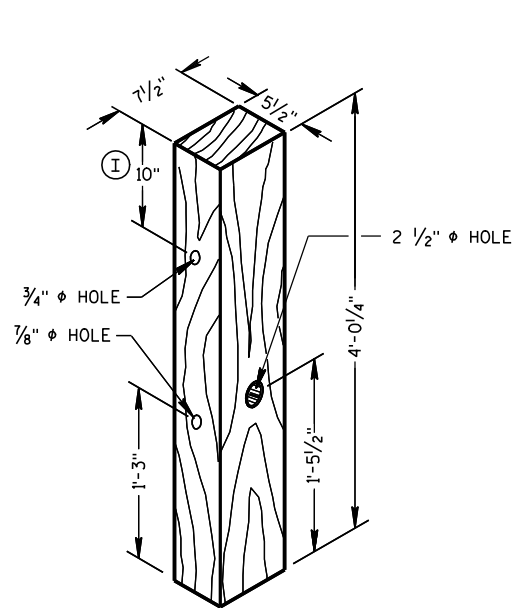
⑥  
**BEARING PLATE**

6

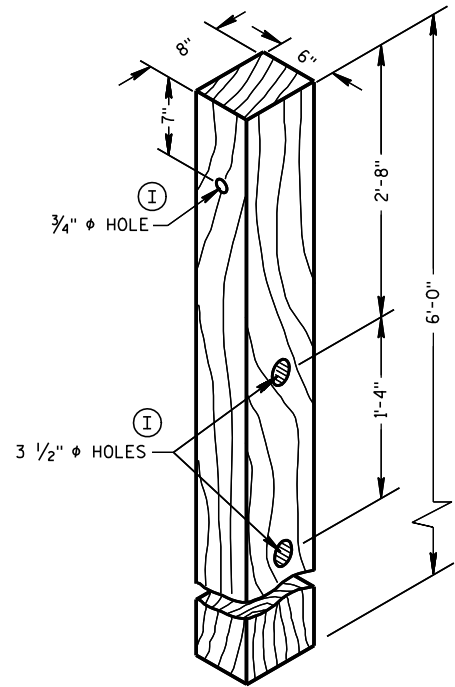
6



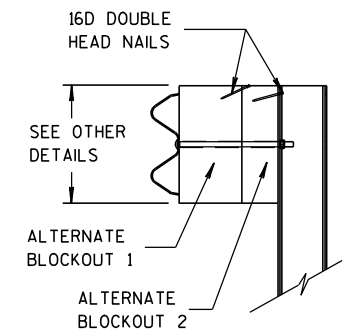
**FOUNDATION TUBE** ②



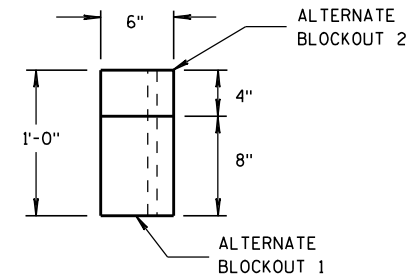
POSTS NUMBER 1 AND 2  
**WOOD BREAKAWAY POST** ①



POSTS NUMBER 3-9  
**WOOD CRT POST** ③

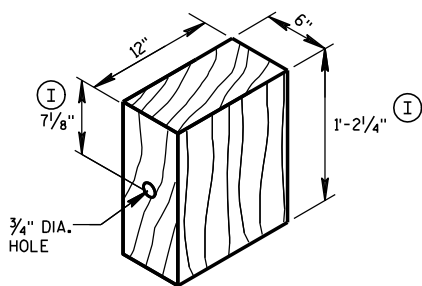


**SIDE VIEW**



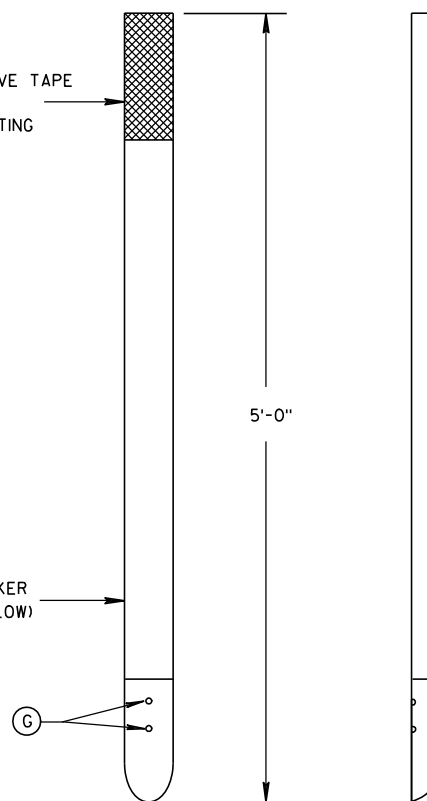
**TOP VIEW**

**ALTERNATE WOOD  
BLOCKOUT DETAIL**



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

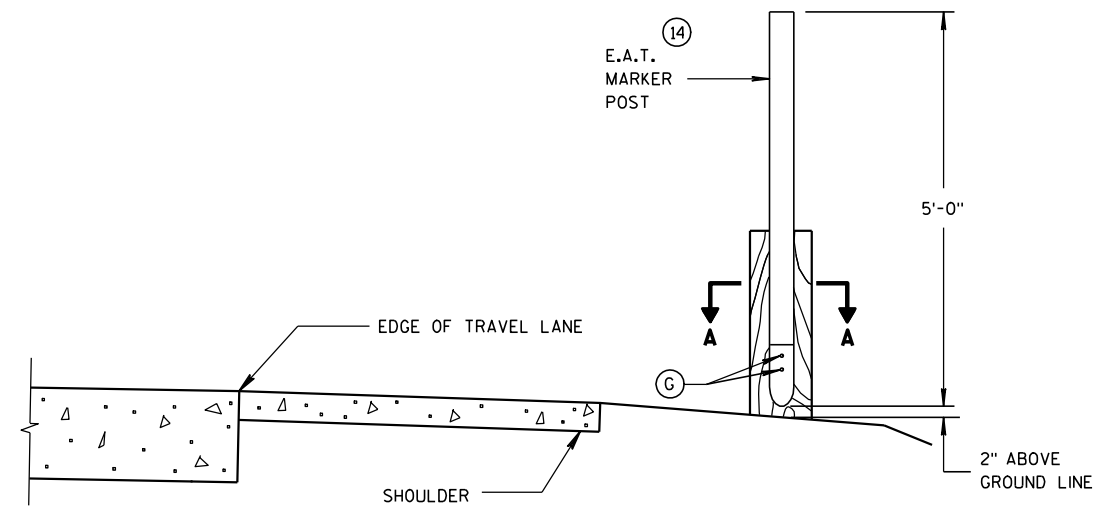
YELLOW REFLECTIVE TAPE  
3" X 9" TYPE H  
REFLECTIVE SHEETING



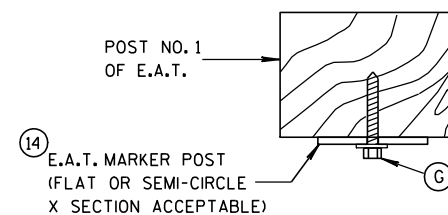
**FRONT VIEW**

**SIDE VIEW**

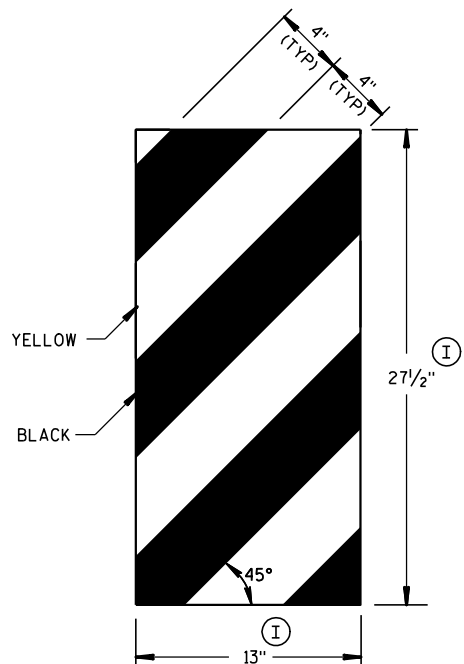
**E.A.T. MARKER POST** ⑭



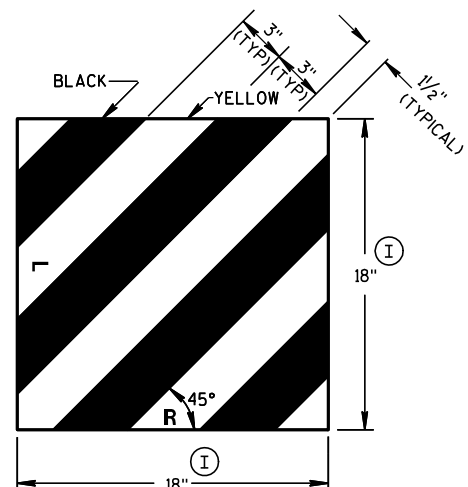
**TYPICAL INSTALLATION OF E.A.T.  
MARKER POST BACKSIDE OF POST NO. 1**  
(E.A.T. AND RAIL REMOVED FOR CLARITY)



**SECTION A-A**



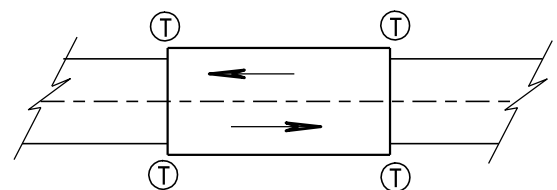
**GENERIC REFLECTIVE SHEETING** ⑬ ①



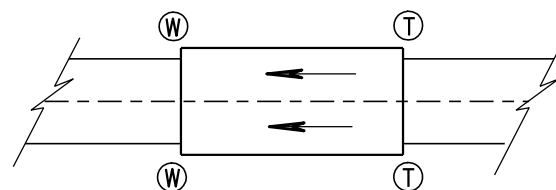
**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/2011 DATE /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓜ 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".

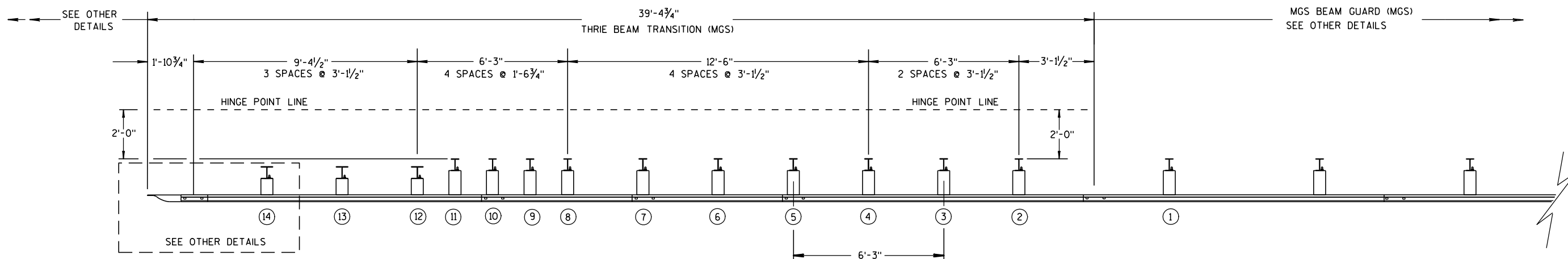
IF ROCK IS ENCOUNTERED DURING EXCAVATION, SEE STANDARD DETAIL DRAWING 14 B 15-g.

TRANSITION USES STEEL POSTS ONLY.

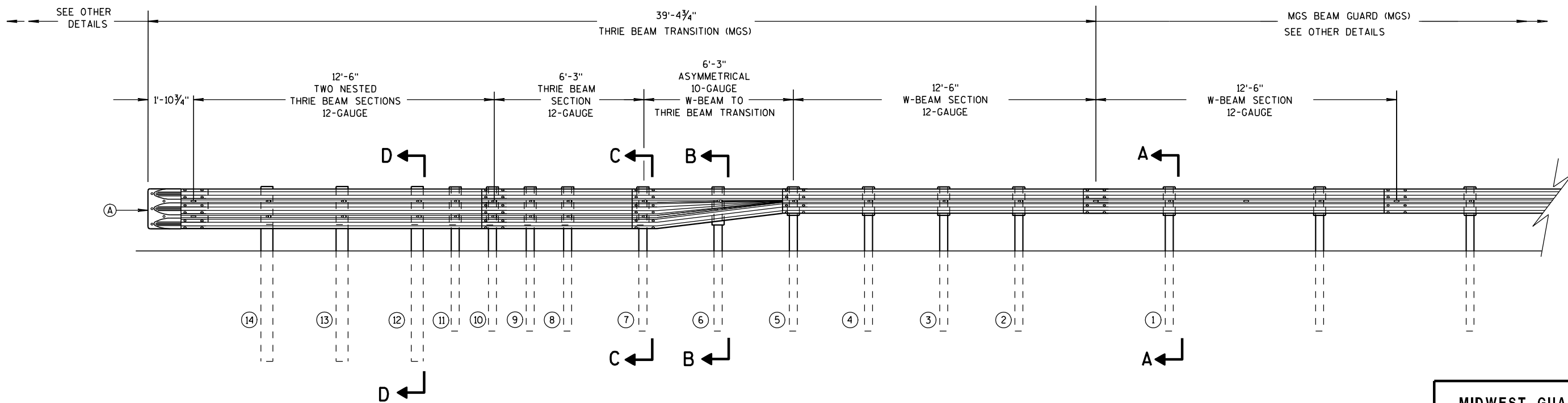
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ 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

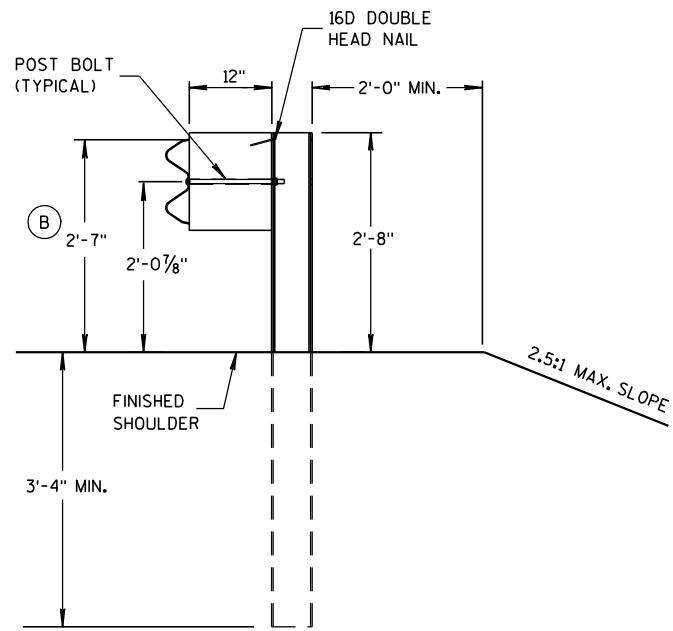
6

S.D.D. 14 B 45-1a

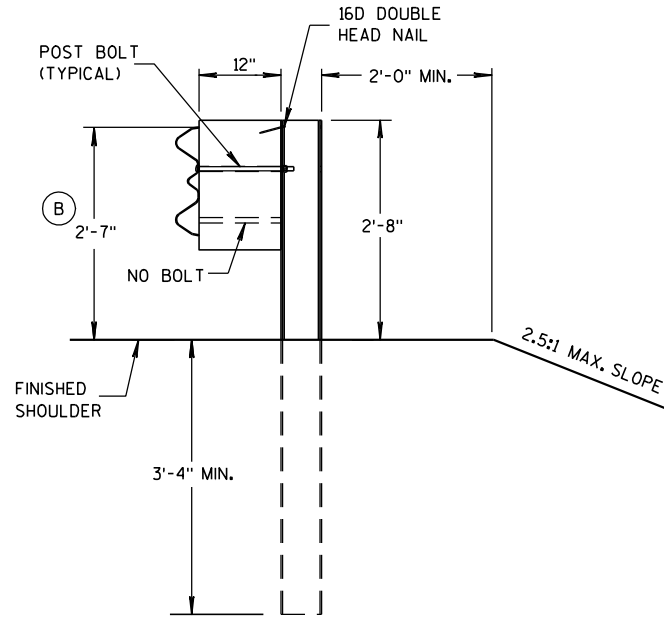
S.D.D. 14 B 45-1a

**GENERAL NOTES**

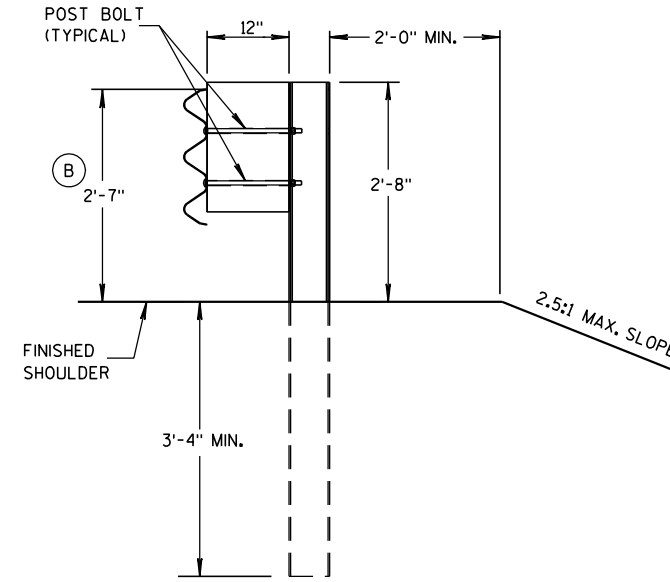
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .



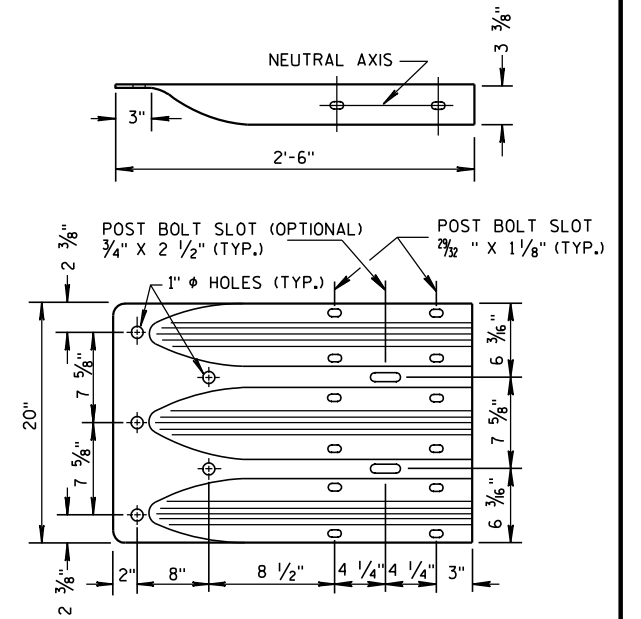
**SECTION A-A  
POSTS 1-5**



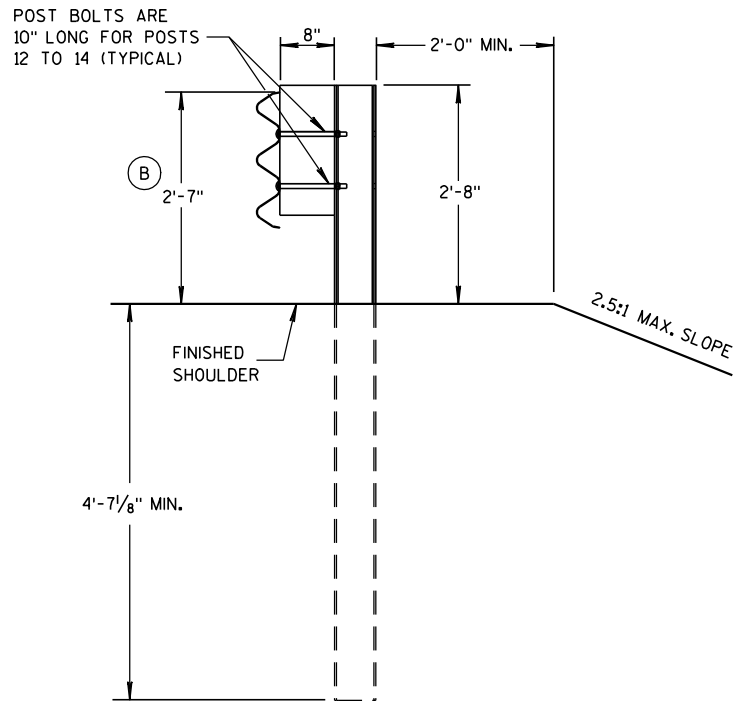
**SECTION B-B  
POST 6**



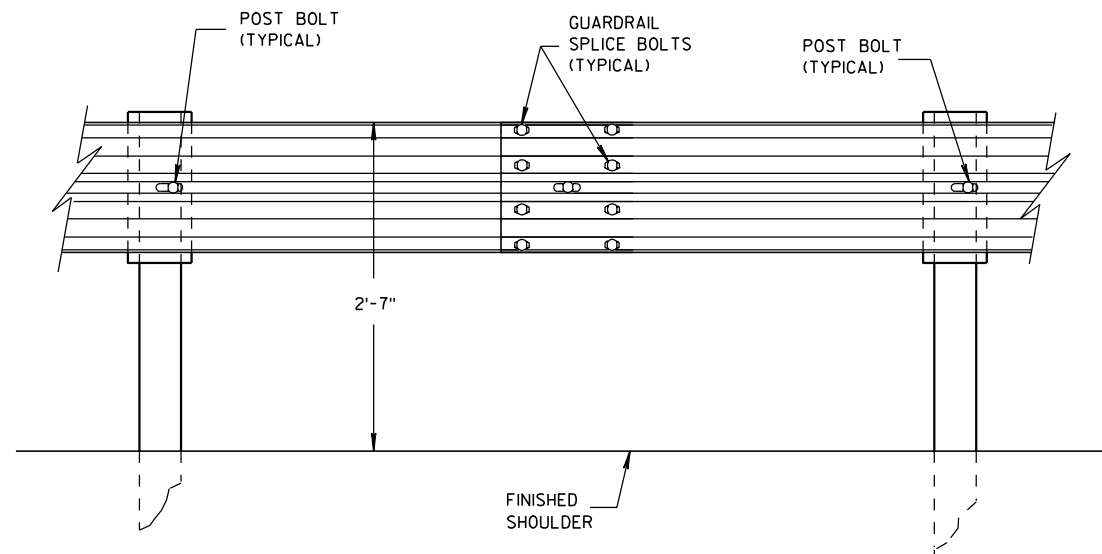
**SECTION C-C  
POSTS 7-11**



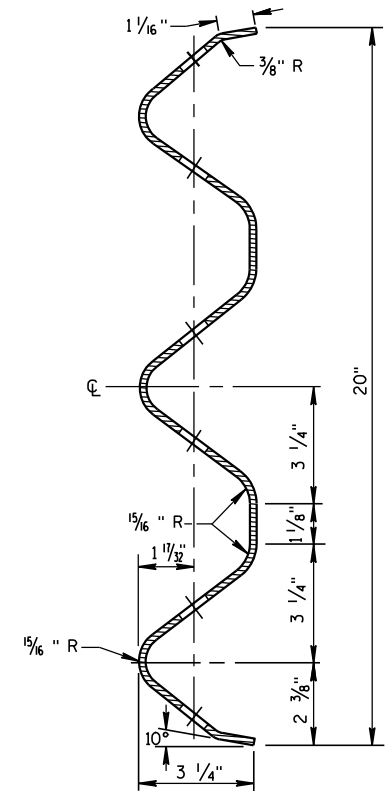
**THRIE BEAM  
TERMINAL CONNECTOR**



**SECTION D-D  
POSTS 12-14**



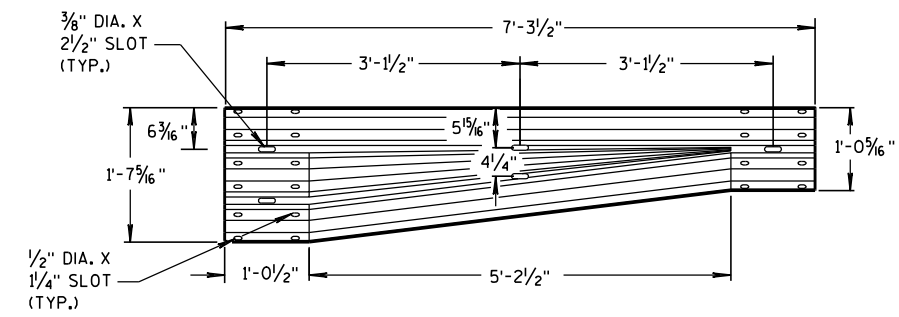
**SPlice DETAIL**



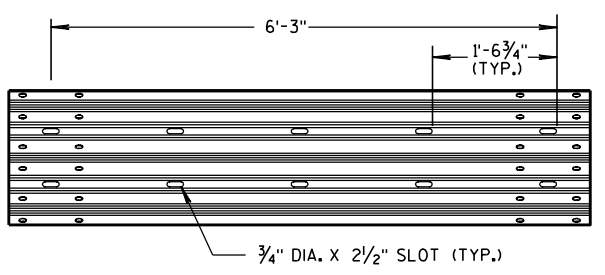
**SECTION THRU THRIE  
BEAM RAIL ELEMENT**

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

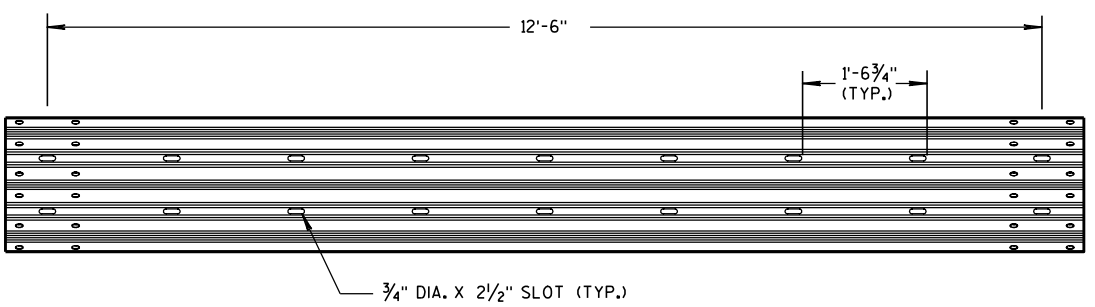
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



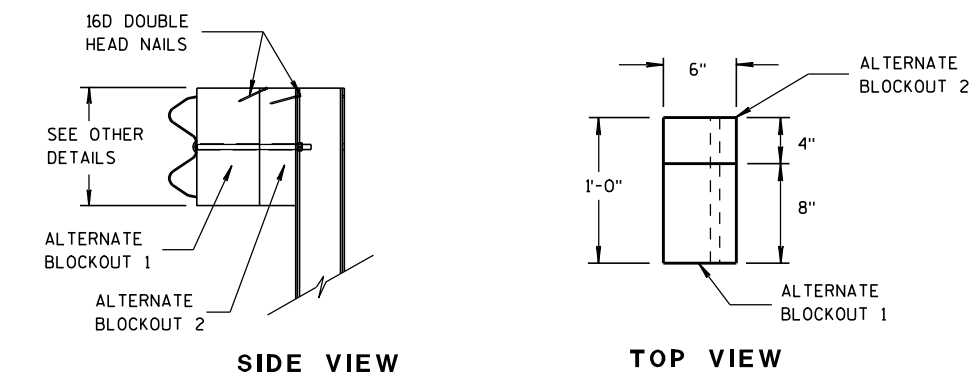
**W-BEAM TO THRIE BEAM TRANSITION SECTION**



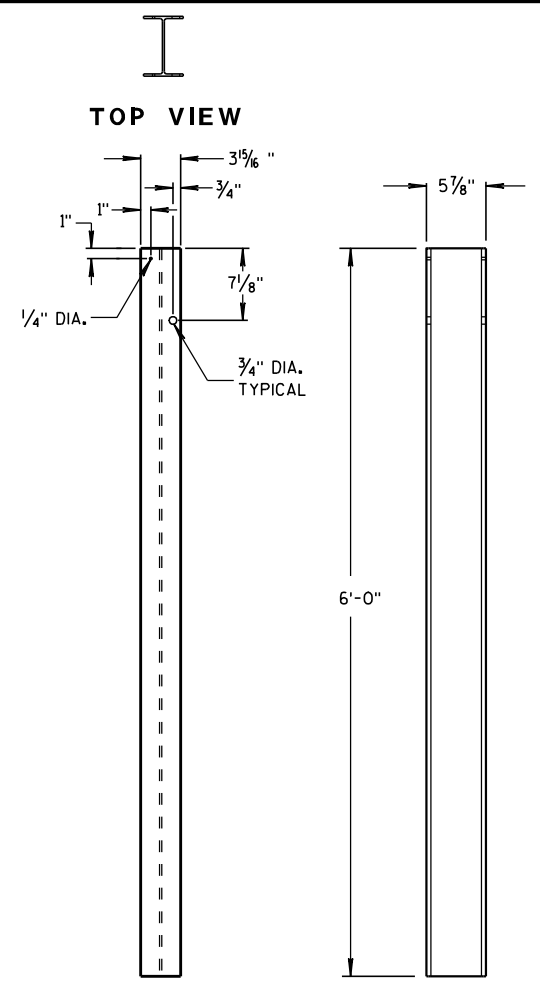
**6'-3" THRIE BEAM SECTION**



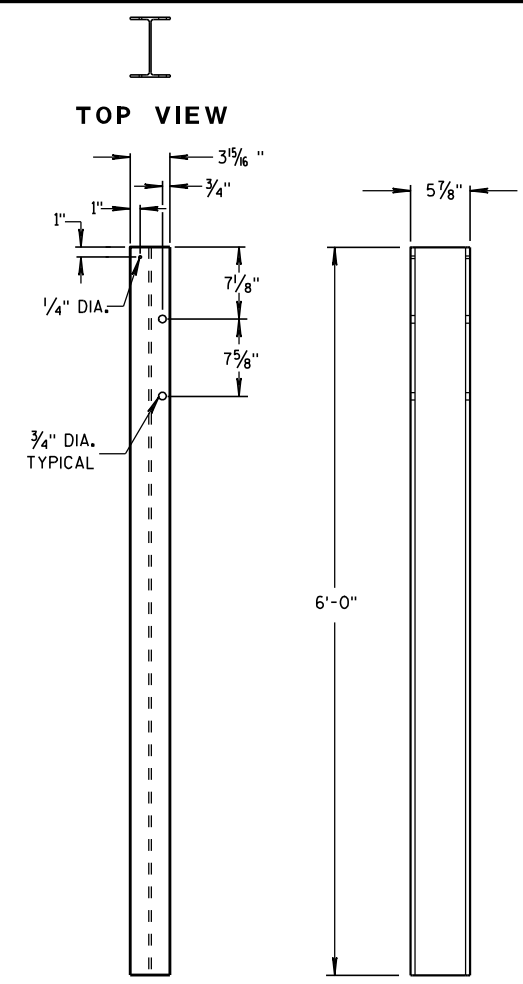
**12'-6" THRIE BEAM SECTION**



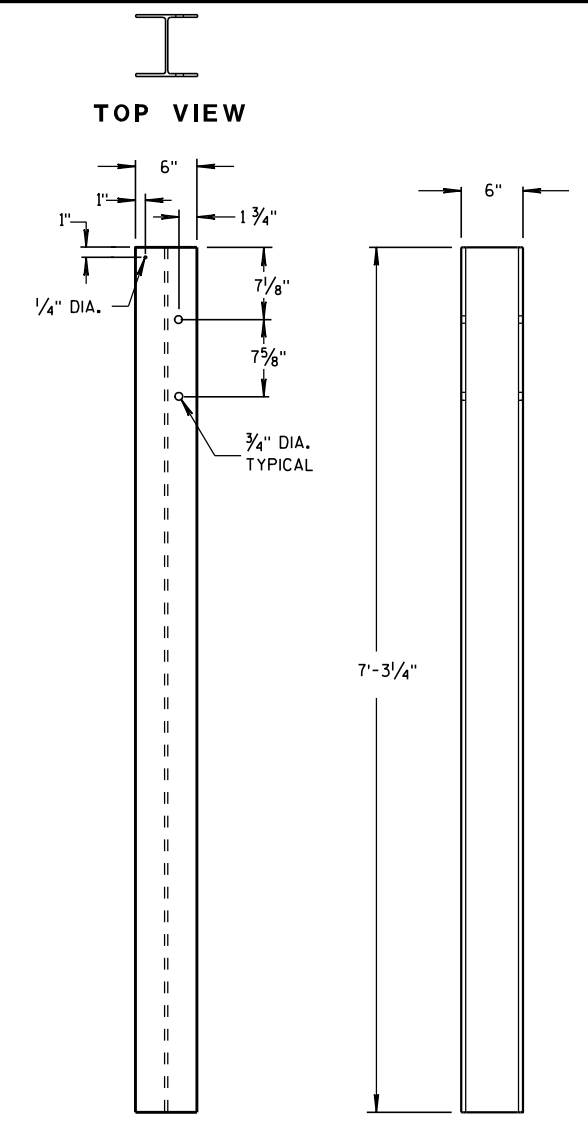
**ALTERNATE WOOD BLOCKOUT DETAIL**



**STEEL POSTS 1-5**

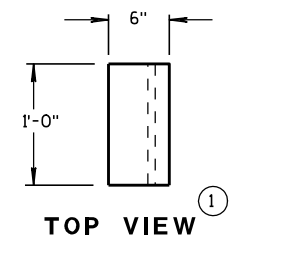


**STEEL POSTS 6-11**

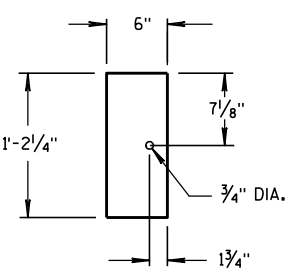


**STEEL POSTS 12-14**

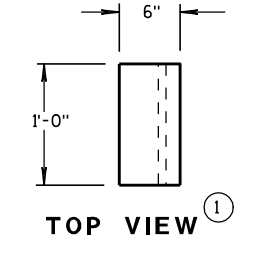
① WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



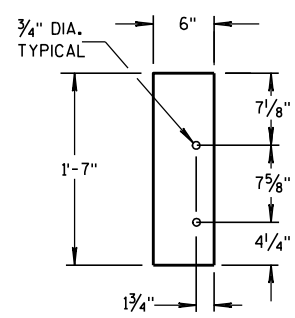
**TOP VIEW**



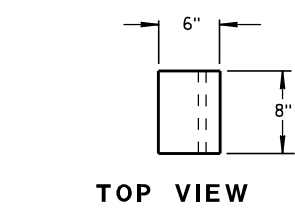
**FRONT VIEW  
BLOCKOUT  
POSTS 1-5**



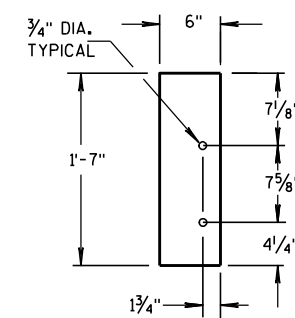
**TOP VIEW**



**FRONT VIEW  
BLOCKOUT  
POSTS 6-11**



**TOP VIEW**

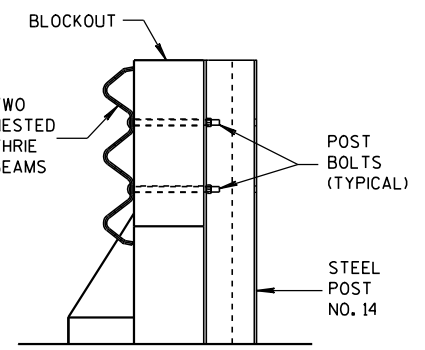
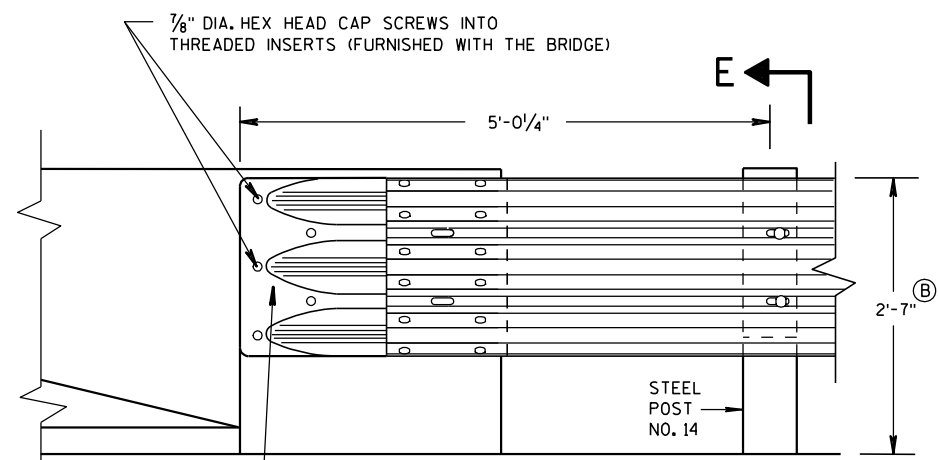


**FRONT VIEW  
BLOCKOUT  
POSTS 12-14**

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 7/8"
⑬	W6x15	87 7/8"
⑭	W6x15	87 7/8"

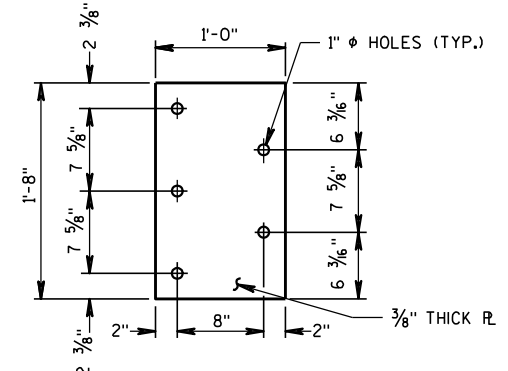
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



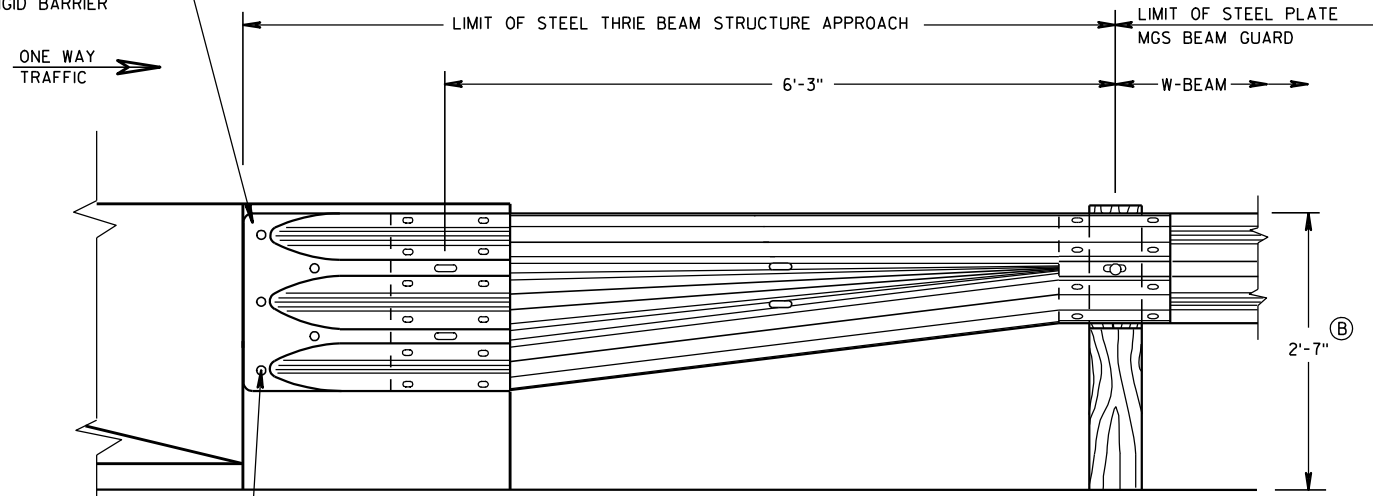
**FRONT VIEW**  
**THRIE BEAM CONNECTION TO BRIDGE**  
**PARAPET WITH SQUARE ENDS**

WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL A BACKUP PLATE ON BACKSIDE OF RIGID BARRIER



**② BACKUP PLATE DETAIL**  
**(USE ONLY AT BRIDGE PARAPET CONNECTIONS)**

WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL A BACKUP PLATE ON BACKSIDE OF RIGID BARRIER



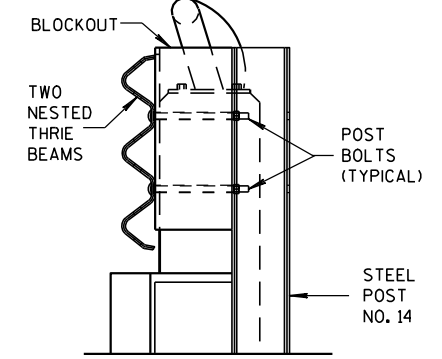
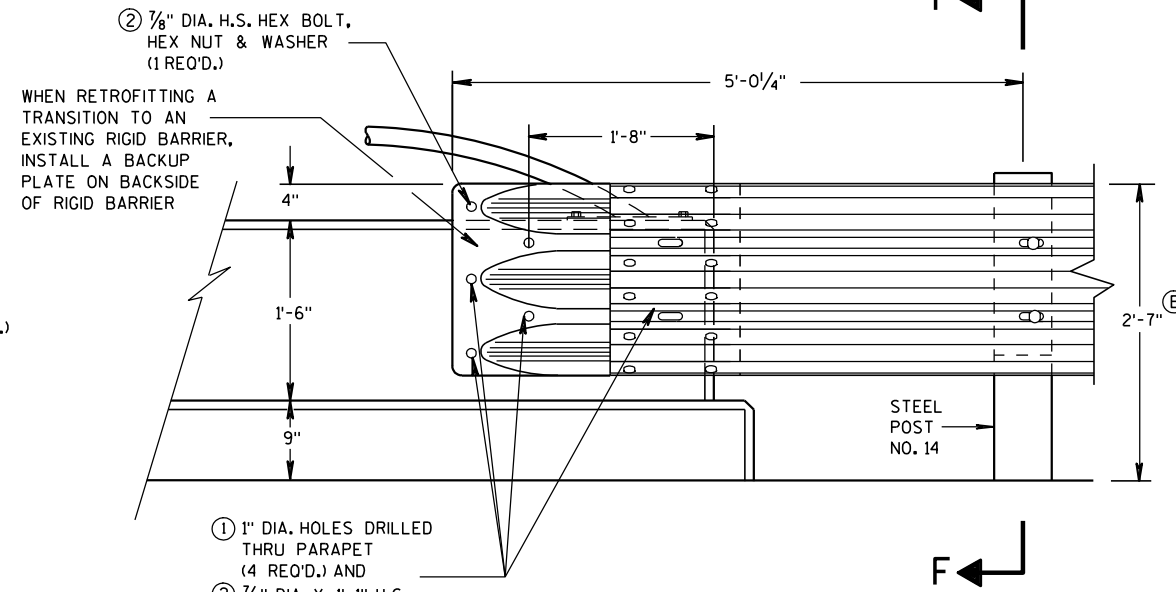
**FRONT VIEW**  
**W BEAM TRANSITION AND CONNECTION TO**  
**BRIDGE PARAPETS WITH SQUARE ENDS**  
**(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)**

7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE)

**GENERAL NOTES**

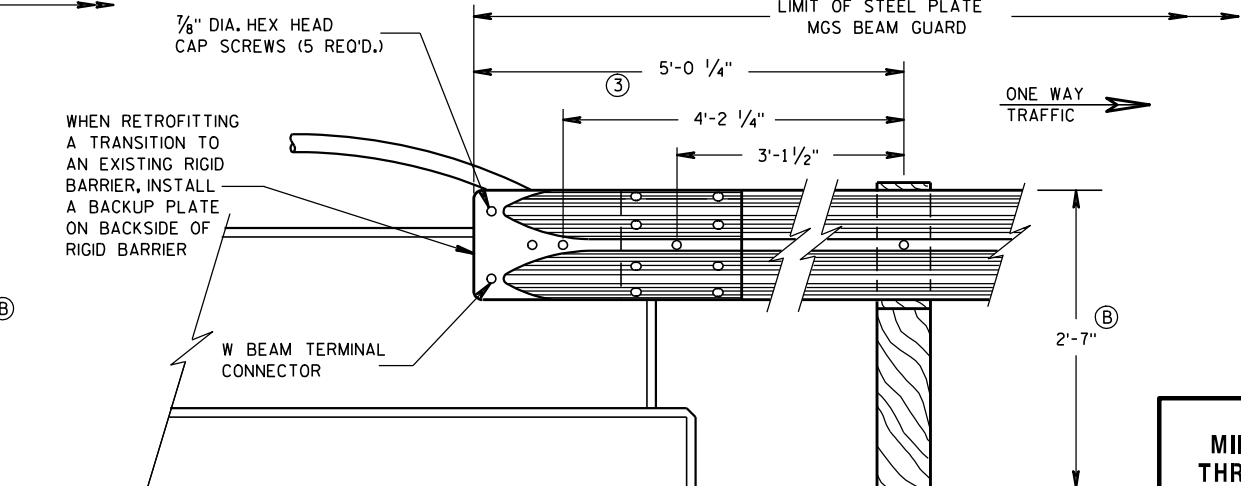
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- ① INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND THE BACKUP PLATE AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".
- ② EACH BOLT AT THE BACK FACE OF THE PARAPET REQUIRES A HARDENED ROUND STEEL WASHER WITH A 2 1/4" O.D. X 5/32" THICK.
- 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".
- ⓑ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



**FRONT VIEW**  
**THRIE BEAM CONNECTION**  
**TO VERTICAL FACED PARAPETS**

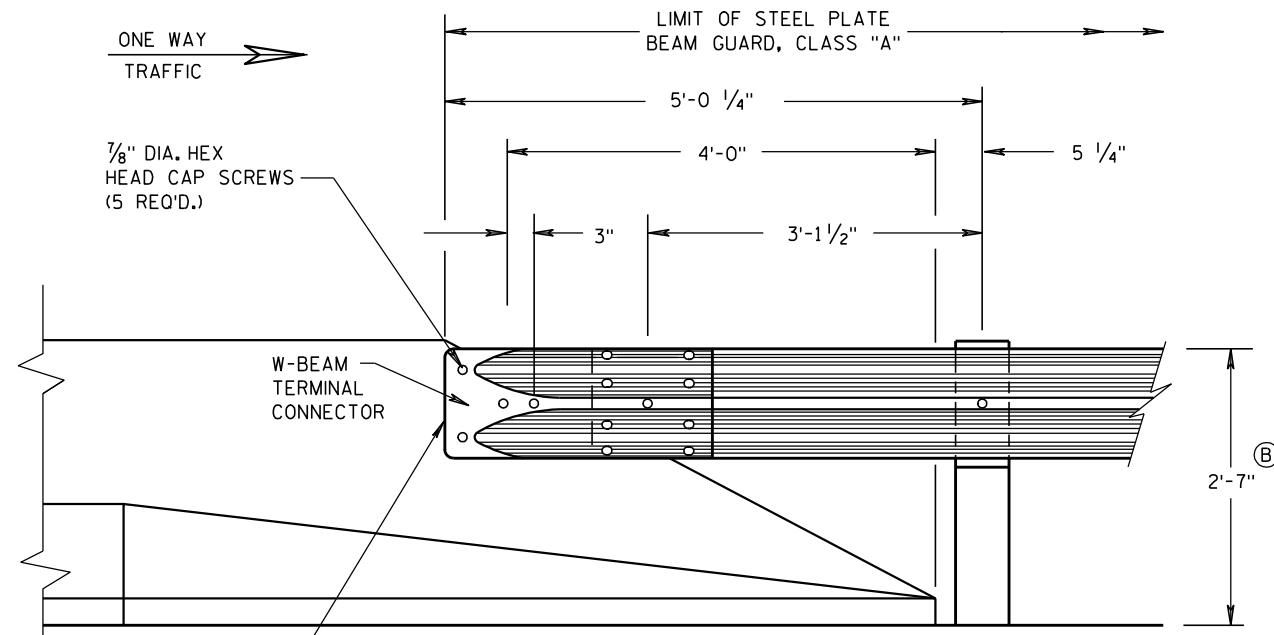
- ① 1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.) AND
- ② 7/8" DIA. X 1'-1" H.S. HEX BOLT, HEX NUT AND ROUND WASHER (4 REQ'D.)



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

WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL A BACKUP PLATE ON BACKSIDE OF RIGID BARRIER

<b>MIDWEST GUARDRAIL SYSTEM</b> <b>THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/23/2011 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

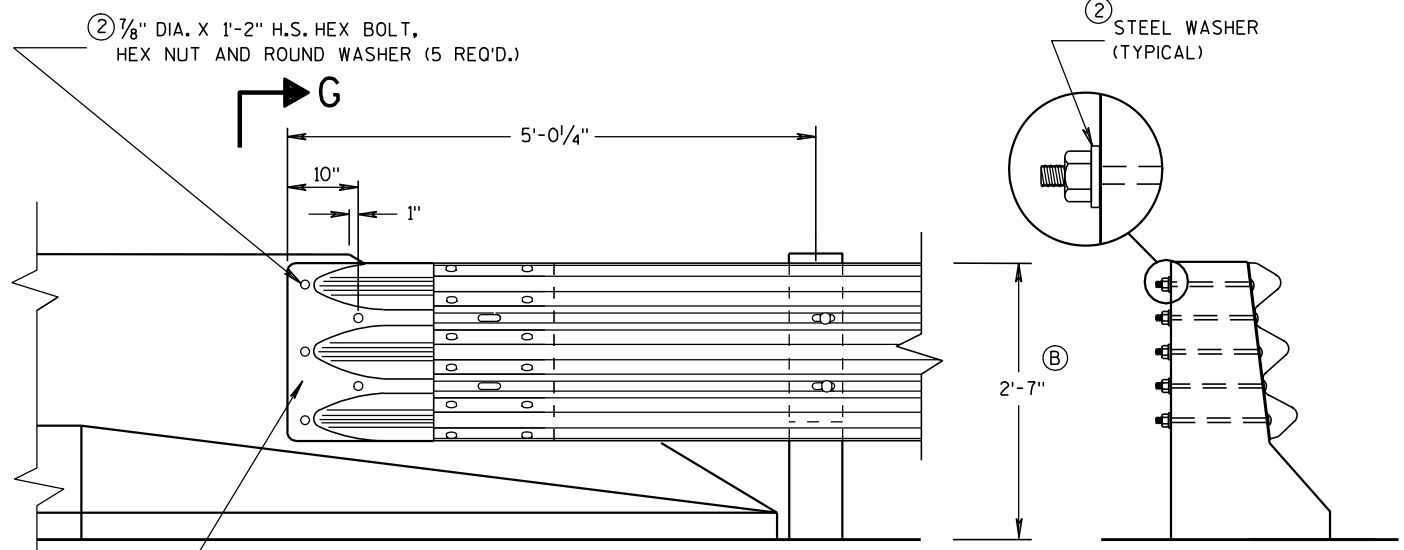


WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL A BACKUP PLATE ON BACKSIDE OF RIGID BARRIER.

**FRONT VIEW**  
**W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS**  
 (USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

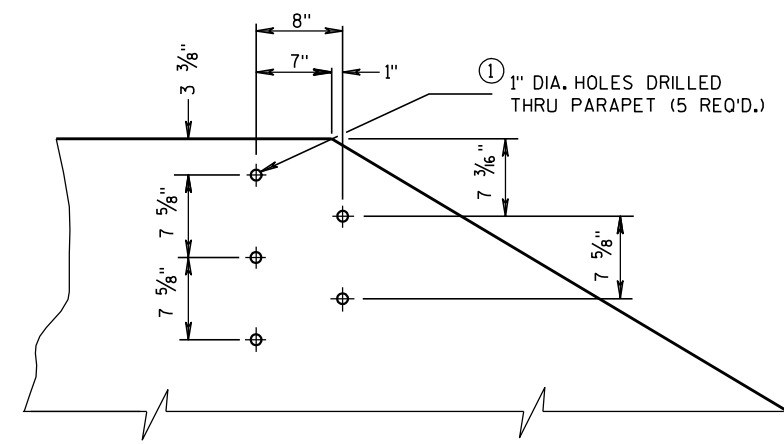
**GENERAL NOTES**

- ① INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND THE BACKUP PLATE AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".
- ② EACH BOLT AT THE BACK FACE OF THE PARAPET REQUIRES A HARDENED ROUND STEEL WASHER WITH A 2 1/4" O.D. X 5/32" THICK.
- ⓑ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL A BACKUP PLATE ON BACKSIDE OF RIGID BARRIER.

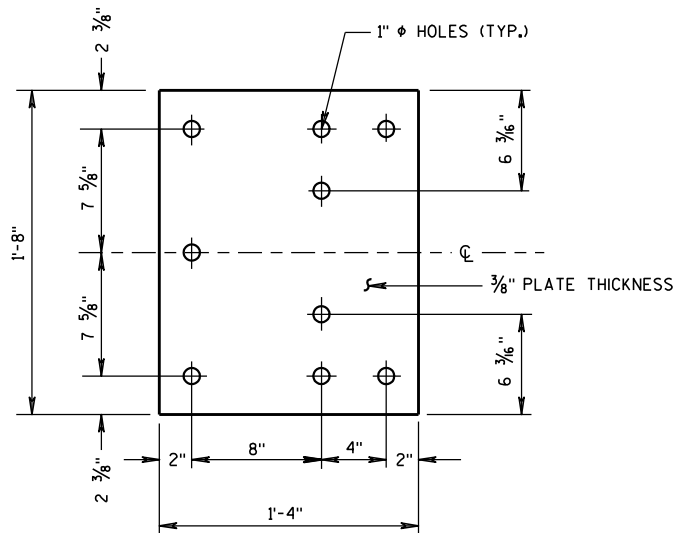
**FRONT VIEW**  
**THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS**  
**SECTION G-G**



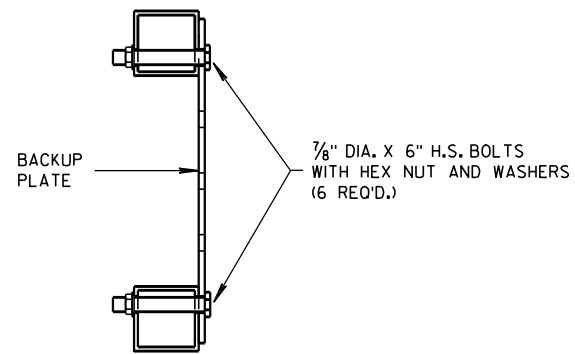
**DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION**

<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5-23-2011 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

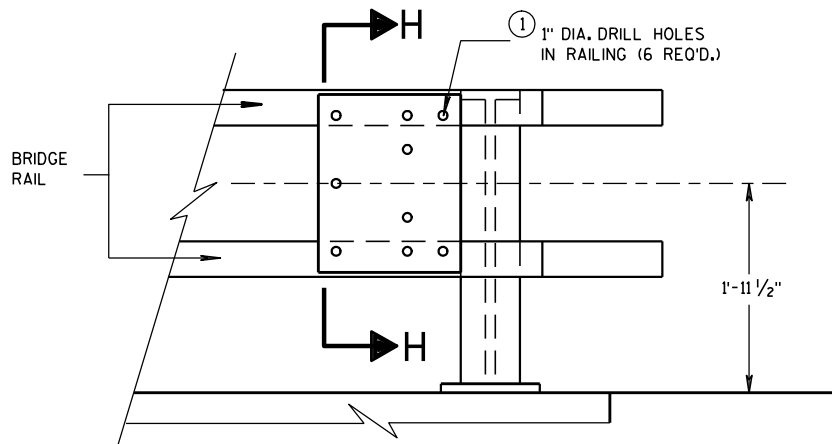




**BACK-UP PLATE DETAIL**



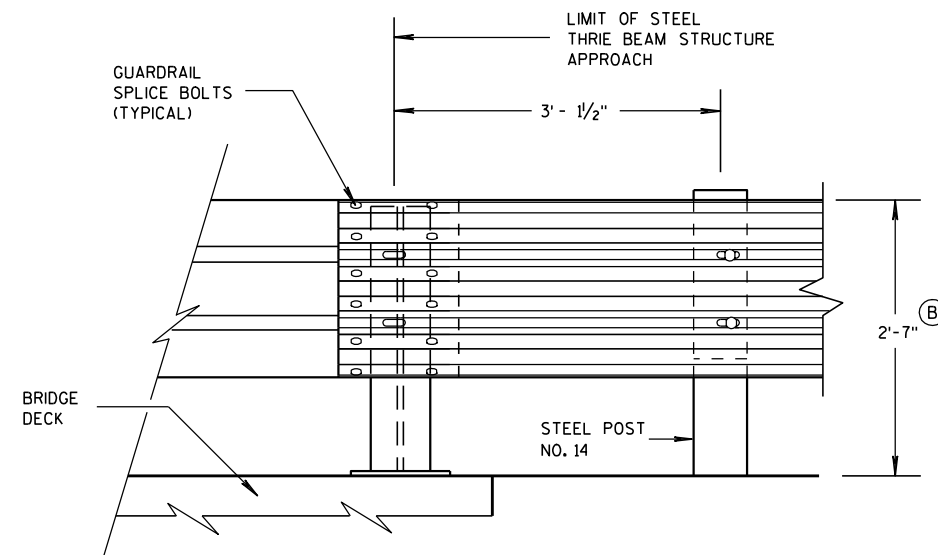
**SECTION H-H**



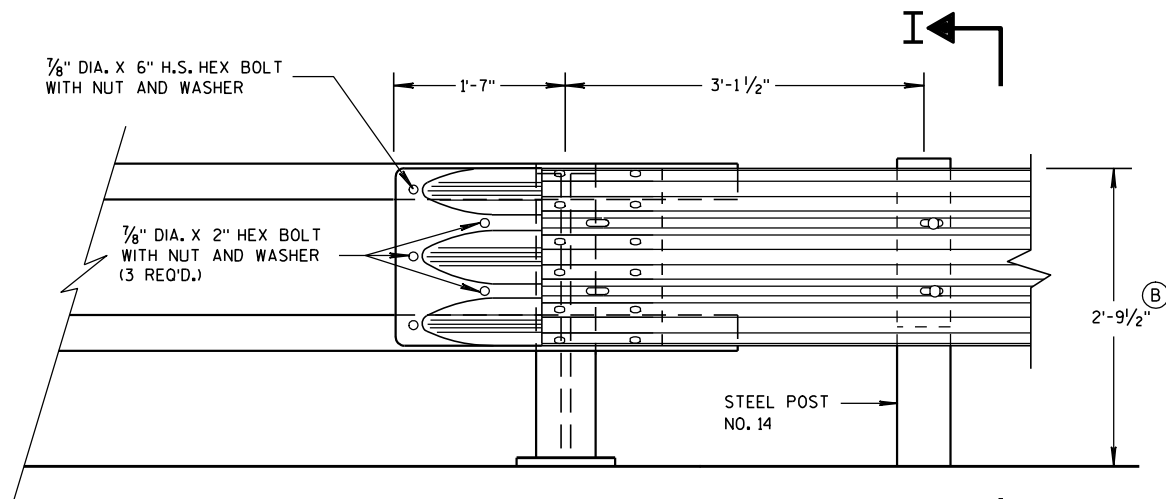
**BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING**

**GENERAL NOTES**

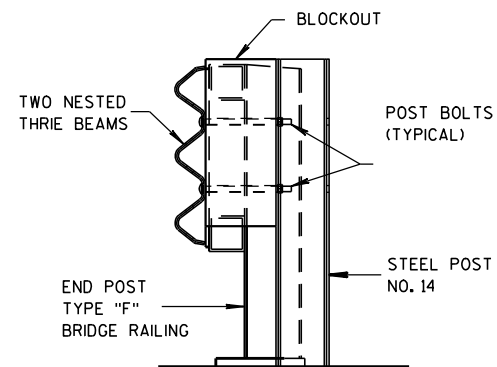
- ① INCLUDE THE PAYMENT FOR DRILLING HOLES IN RAILING IN THE ITEM "STEEL THRIE BEAM STRUCTURE APPROACH".
- ② TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



**FRONT VIEW THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"**



**FRONT VIEW THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"**



**SECTION I-I**

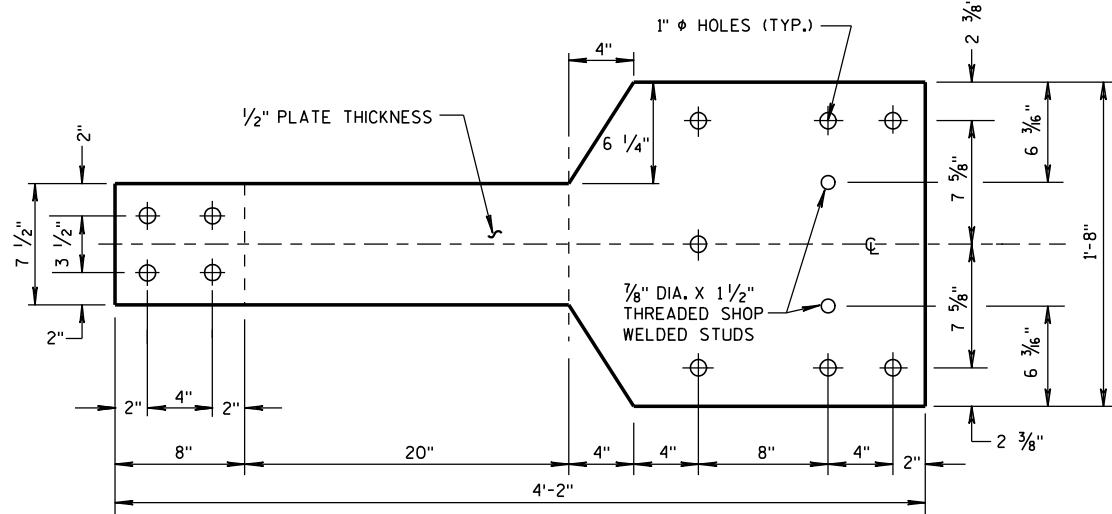
**MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

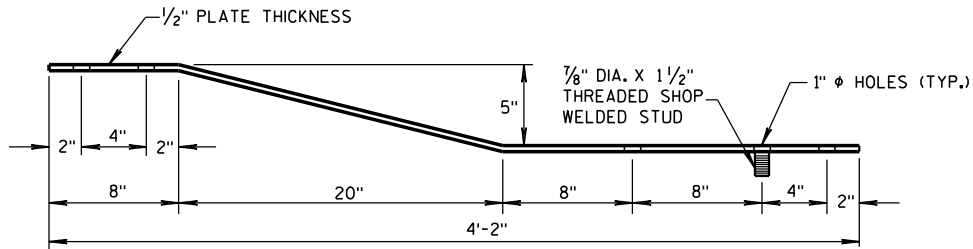
APPROVED  
5-23-2011 DATE /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA

**GENERAL NOTES**

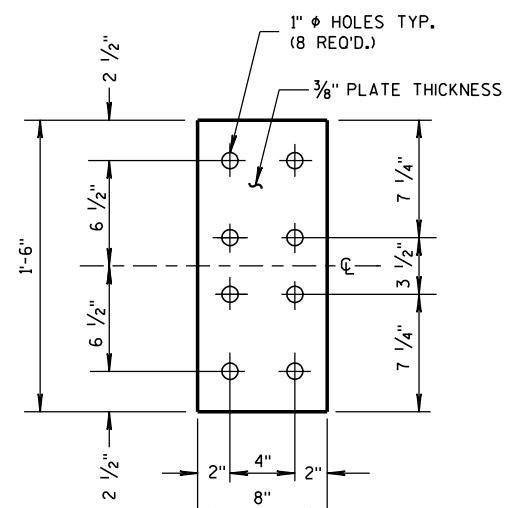
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .



**FRONT VIEW**

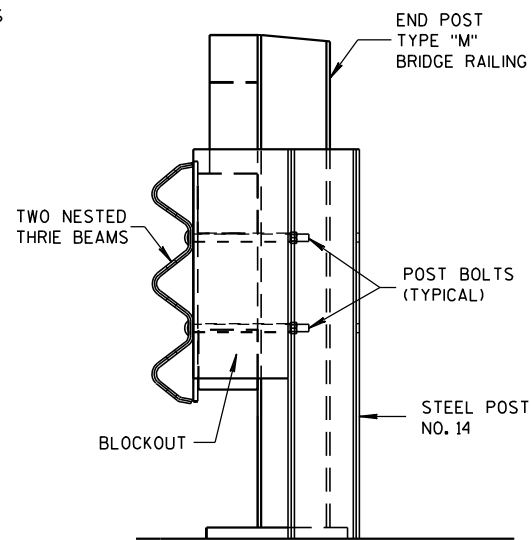


**PLAN VIEW  
BACK-UP PLATE DETAIL, TYPE "M"**

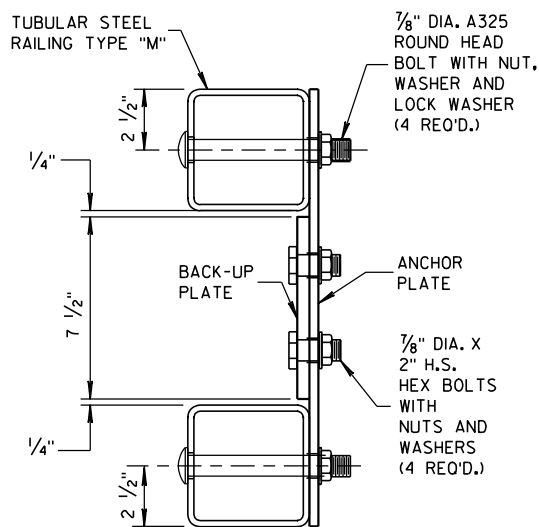


**FRONT VIEW**

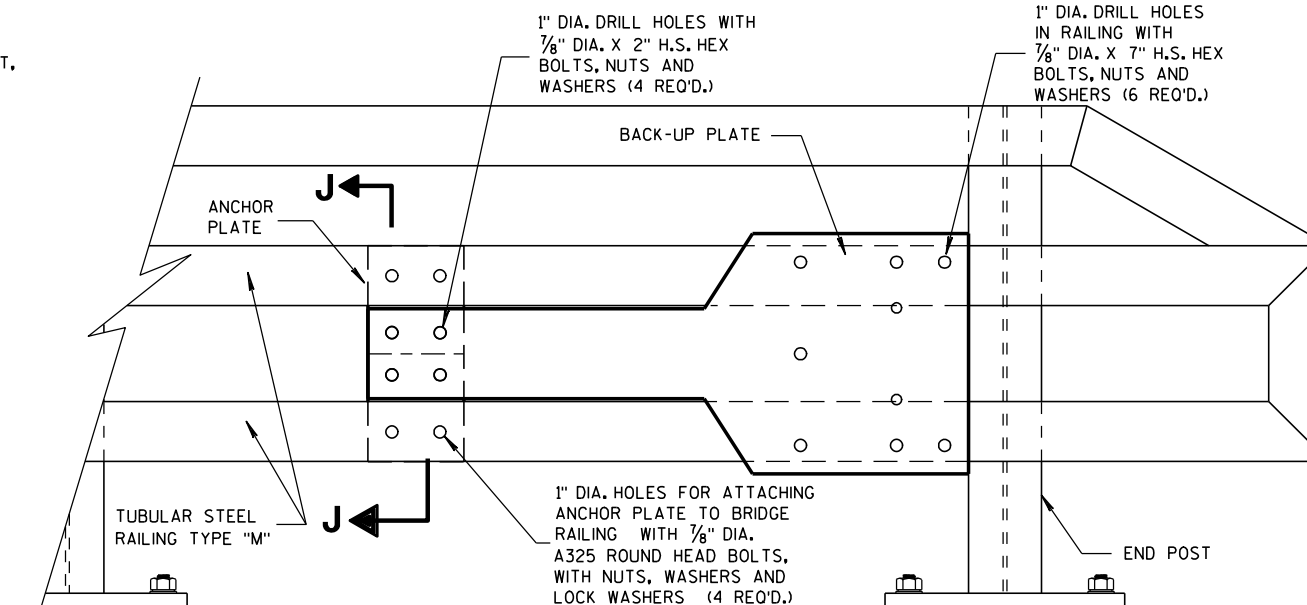
**ANCHOR PLATE DETAIL, TYPE "M"**



**SECTION K-K**

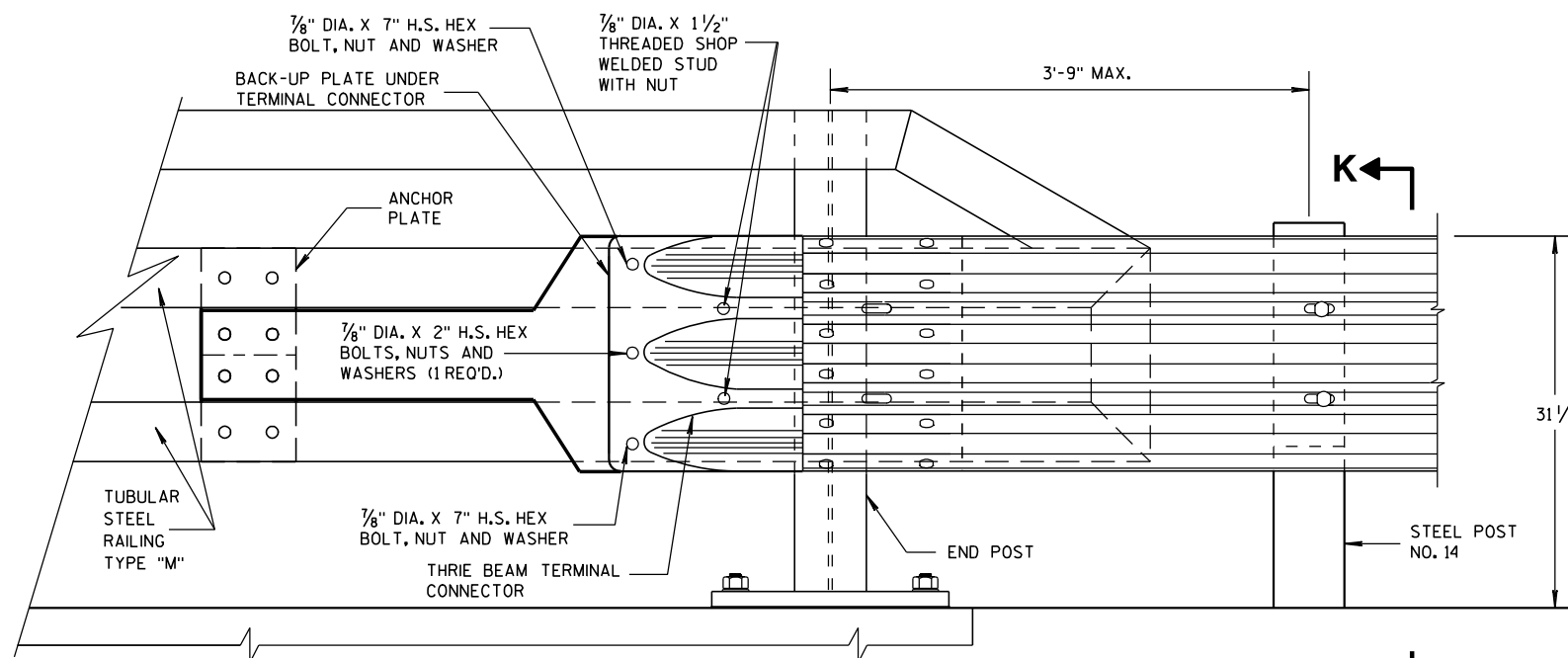


**SECTION J-J**

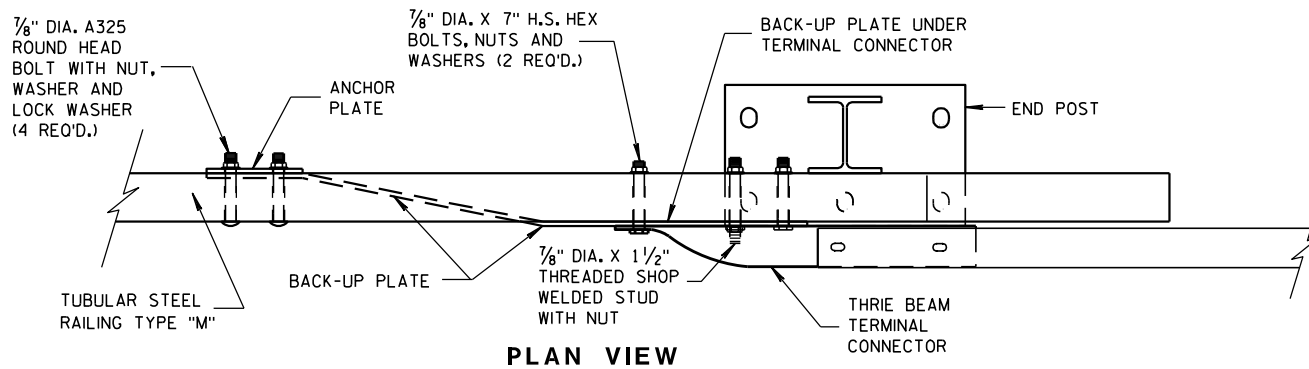


**FRONT VIEW**

**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

5-23-2011

DATE

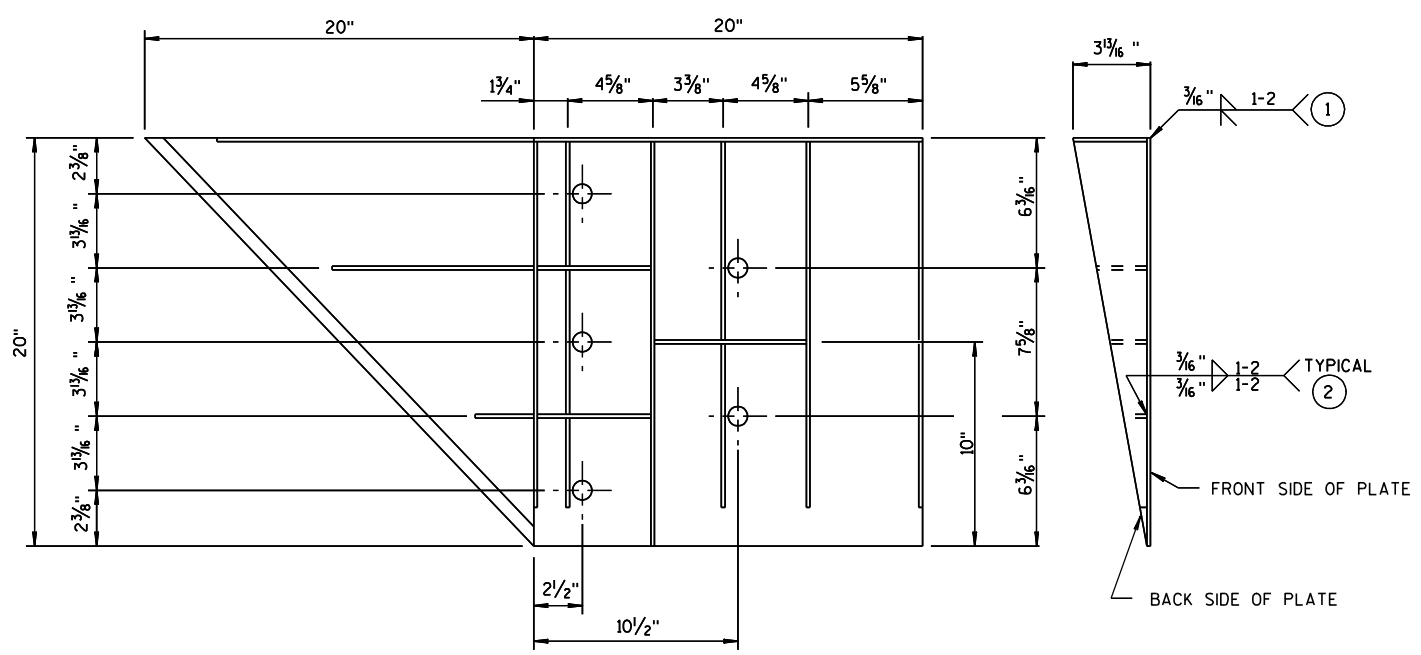
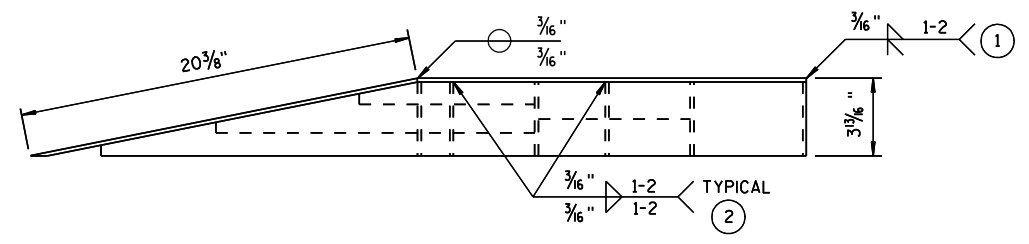
FHWA

/s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

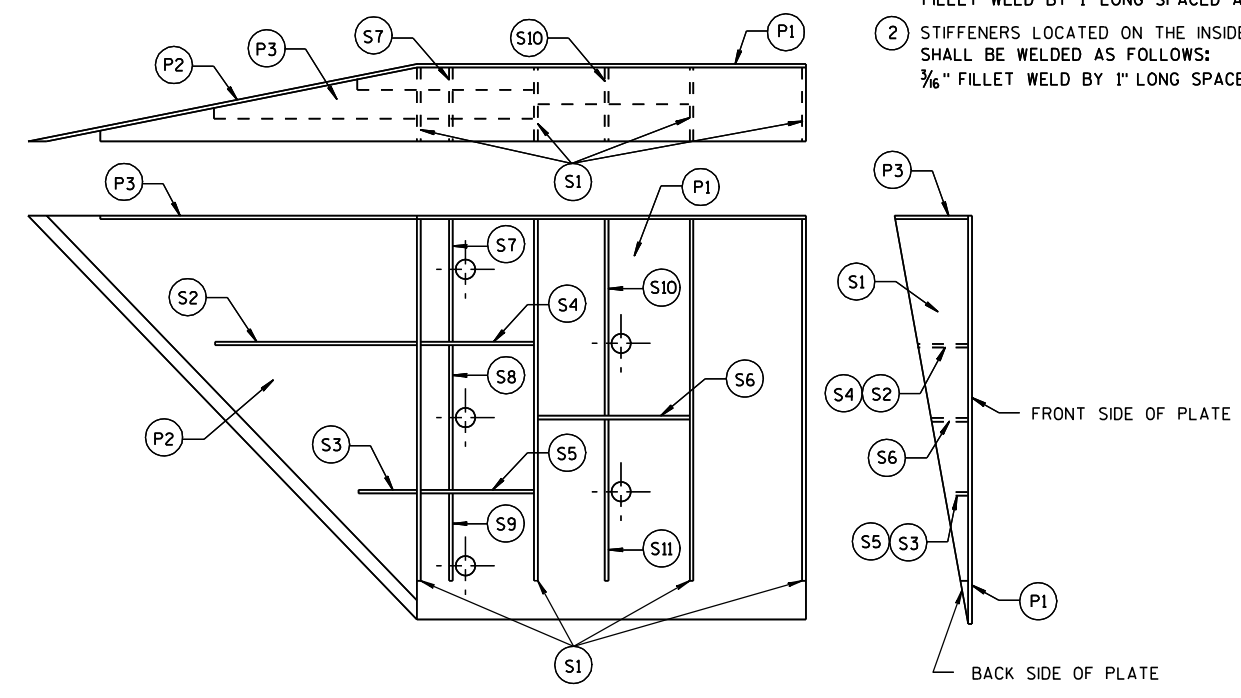
**GENERAL NOTES**

- 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".



**WELDING INSTRUCTION**  
(VIEWED FROM BACK SIDE OF PLATE)



**PLATE AND STIFFENER IDENTIFICATION**  
(VIEWED FROM BACK SIDE OF 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 7/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 1/16" x 3 3/8" 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 3/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	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 7/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 7/16" 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"

**SINGLE SLOPE CONNECTION PLATE**

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

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STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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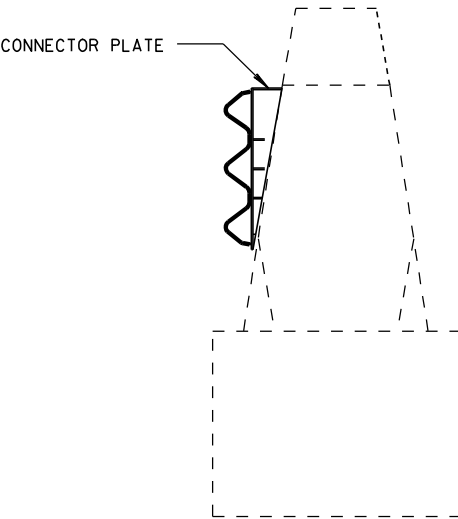
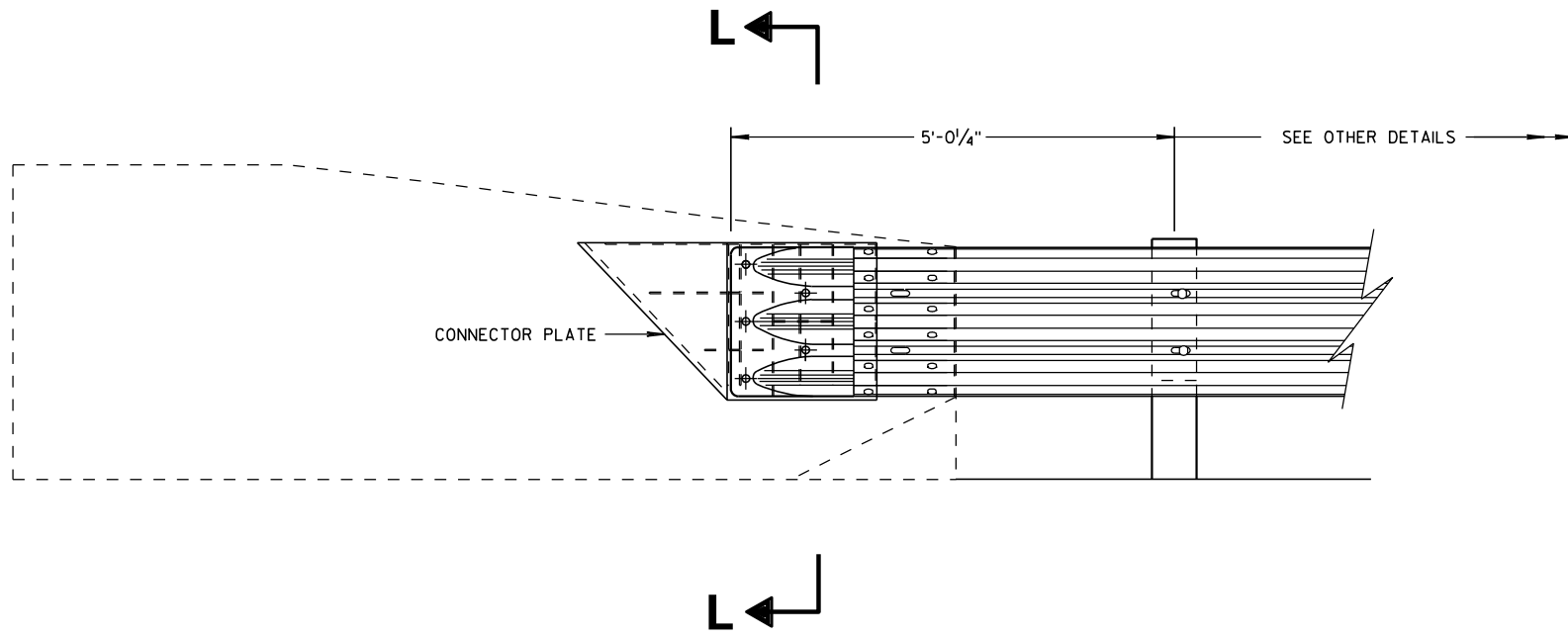
APPROVED \_\_\_\_\_  
DATE 5-23-2011 /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

**GENERAL NOTES**

CONNECTION PLATE INCIDENTAL TO STEEL THRIE BEAM STRUCTURE APPROACH.

- ① USE 7/8" DIAMETER A325 BOLT WITH HEX HEAD AND, NUT, AND WASHER.  
 EXTEND 7/8" DIAMETER BOLT COMPLETELY THROUGH BARRIER.  
 BACK FACE OF BARRIER REQUIRES A HARDENED ROUND STEEL WASHER WITH 2 1/4" OUTER DIAMETER.  
 GROUT ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

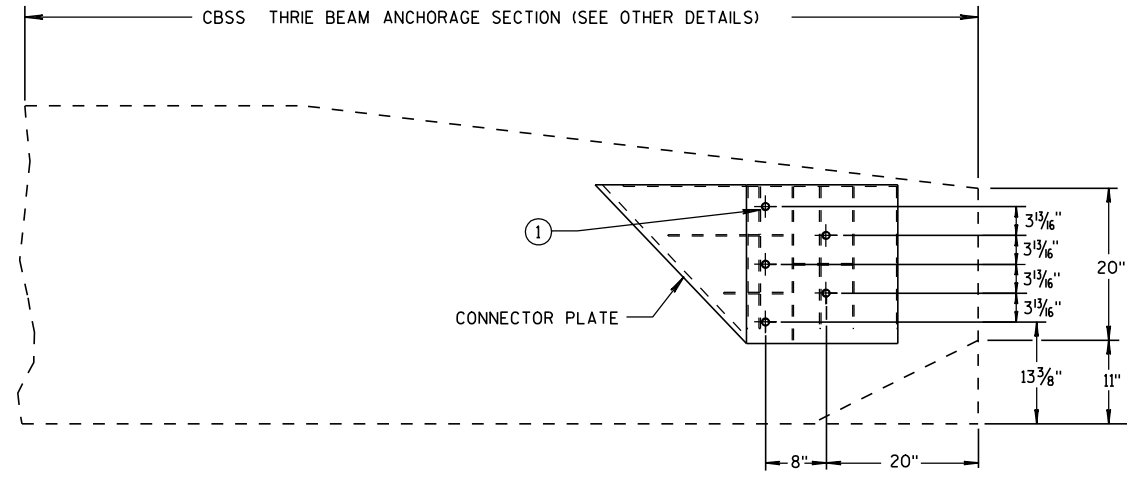


**THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER**

**SECTION L-L**

6

6

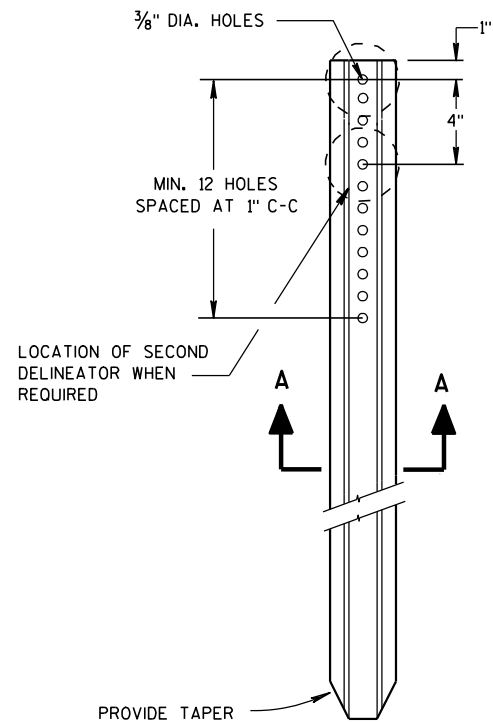


**SINGLE SLOPE CONNECTION PLATE PLACEMENT**

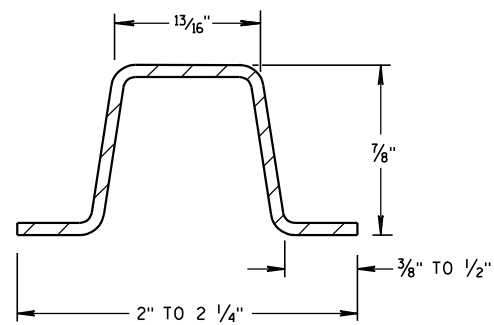
S.D.D. 14 B 45-1i

S.D.D. 14 B 45-1i

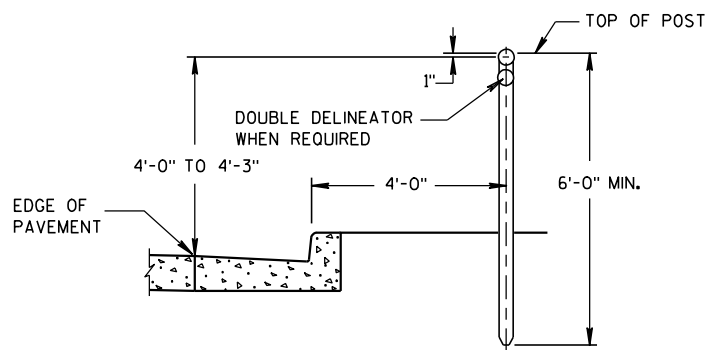
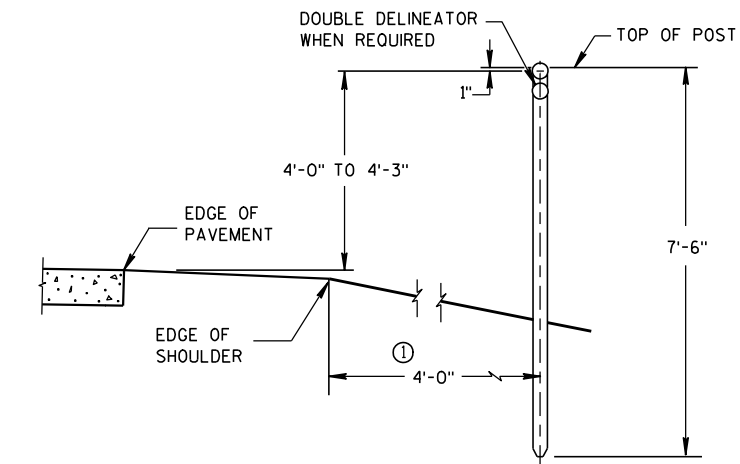
<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	/s/ Jerry H. Zogg
5-23-2011 DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



**DELINEATOR POST**



**SECTION A-A**  
WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

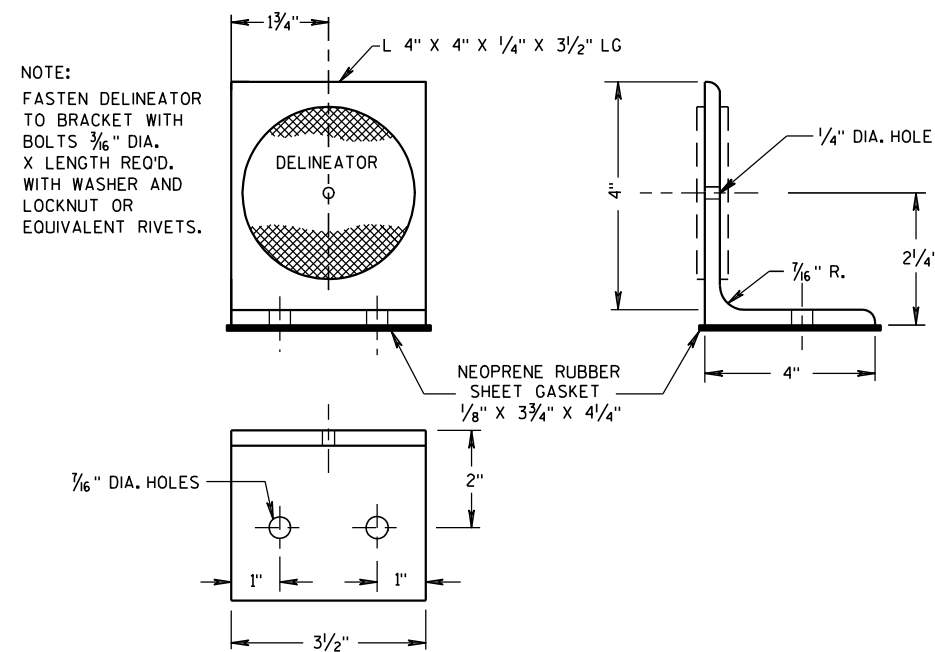


**TYPICAL INSTALLATIONS OF DELINEATOR POSTS**

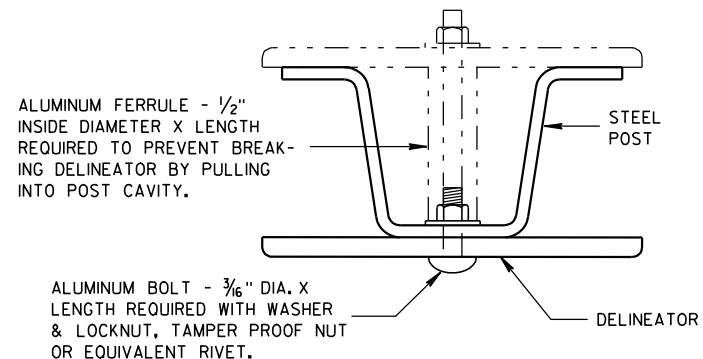
**GENERAL NOTES**

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

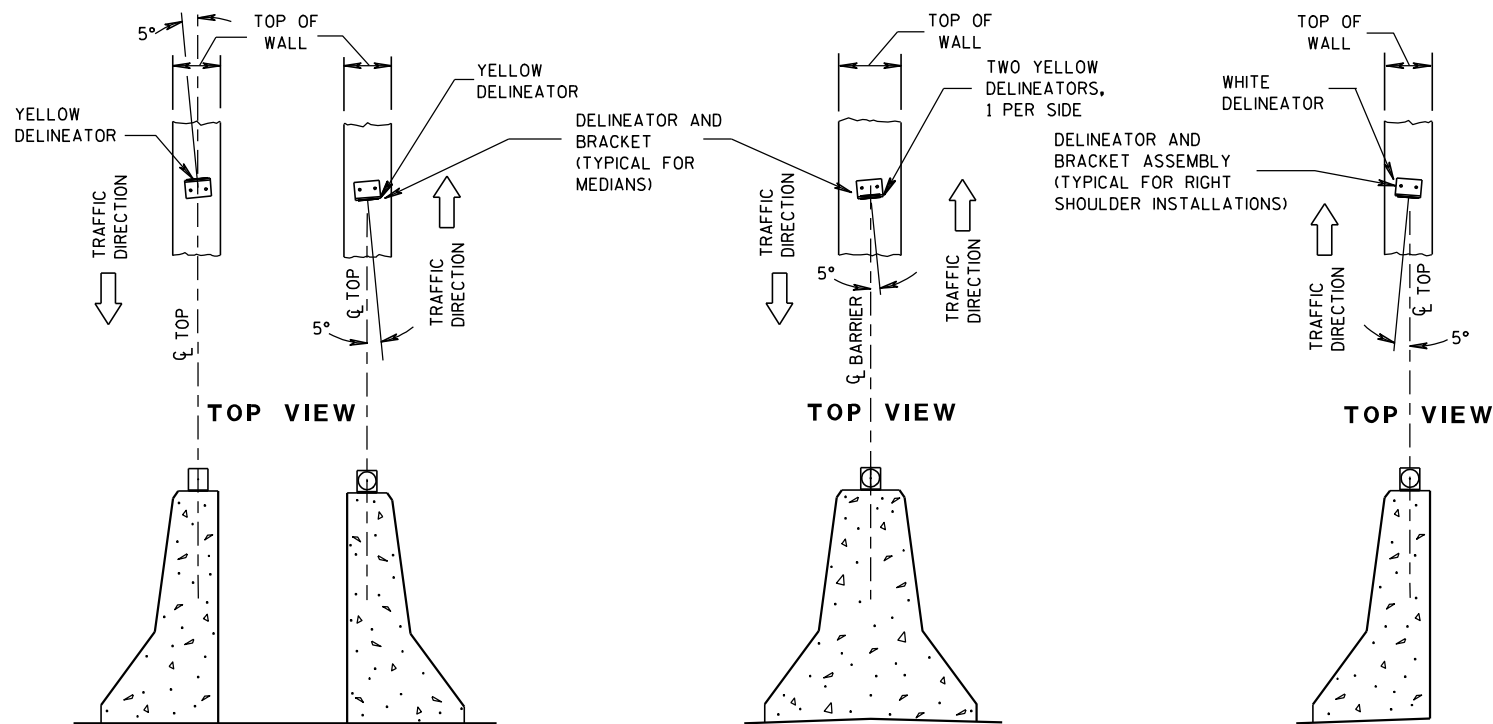
- ① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



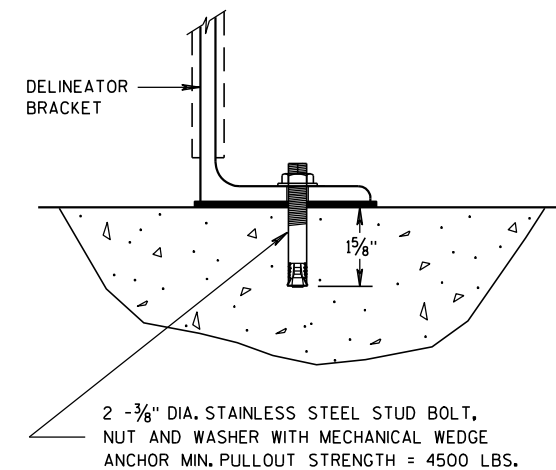
**DELINEATOR BRACKET**



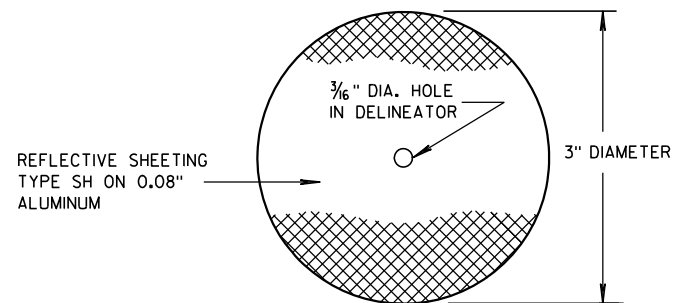
**MOUNTING DETAIL FOR DELINEATOR**



**DOUBLE BARRIERS IN MEDIAN**  
**MEDIAN BARRIER**  
**BARRIER LOCATED TO RT. OF TRAFFIC FLOW**  
**LOCATION AND AIMING DETAILS FOR DELINEATORS MOUNTED ON CONCRETE BARRIERS**



**DELINEATOR BRACKET MOUNTING DETAIL**



**DELINEATOR**

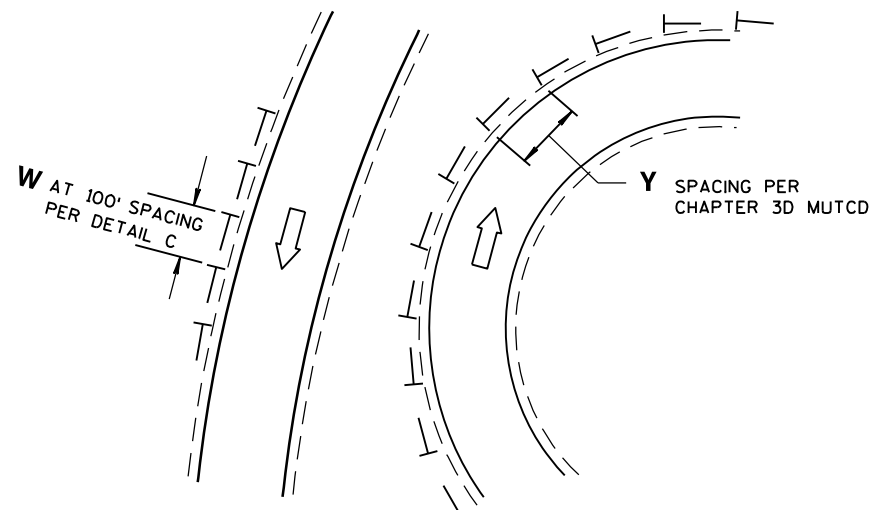
**DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

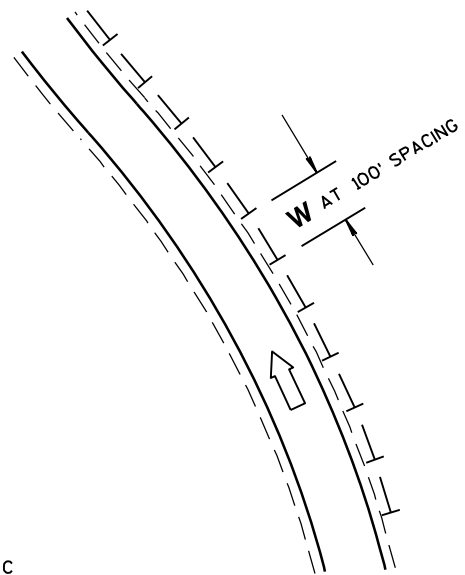
APPROVED  
1/25/2011 DATE /S/ Thomas N. Notbohm  
STATE TRAFFIC ENGINEER OF DESIGN  
FHWA

**GENERAL NOTES**

\* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS. USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



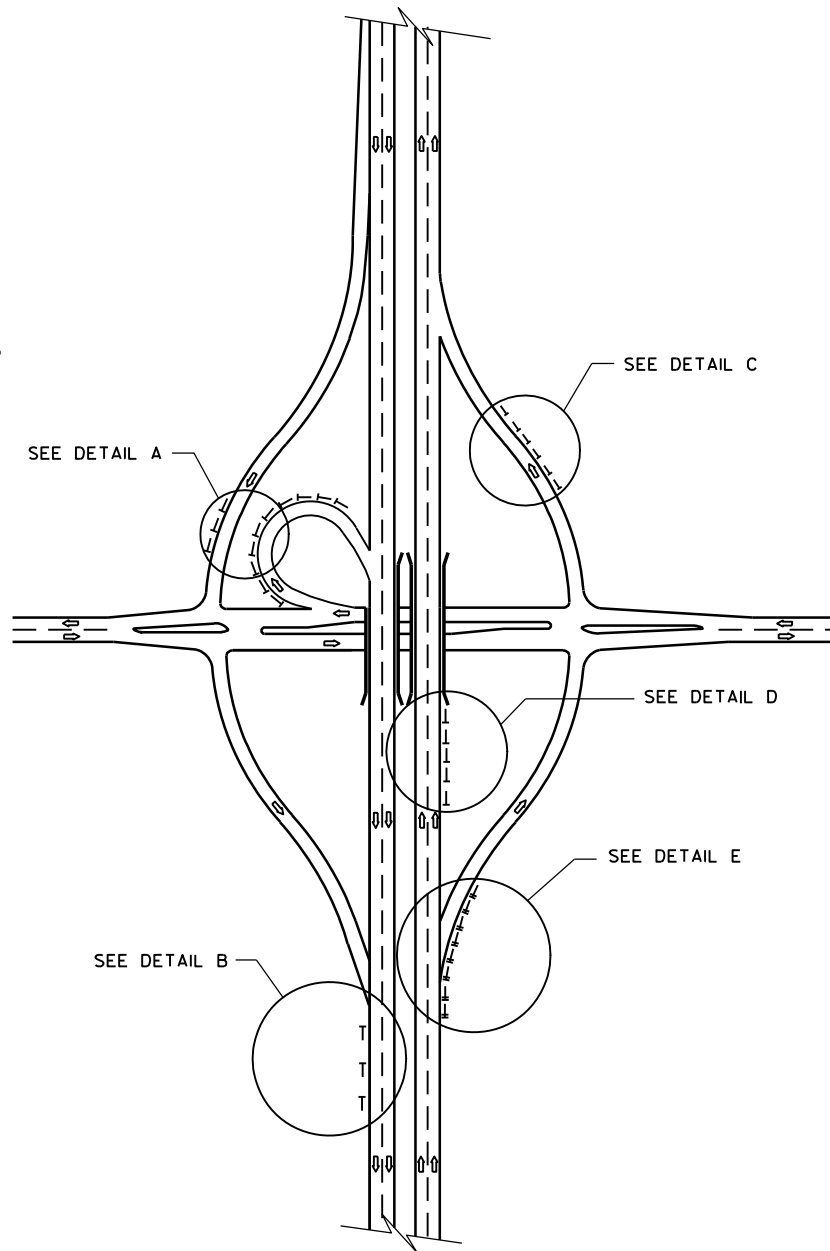
**DETAIL A  
DELINEATOR LAYOUT AT CURVED RAMP**



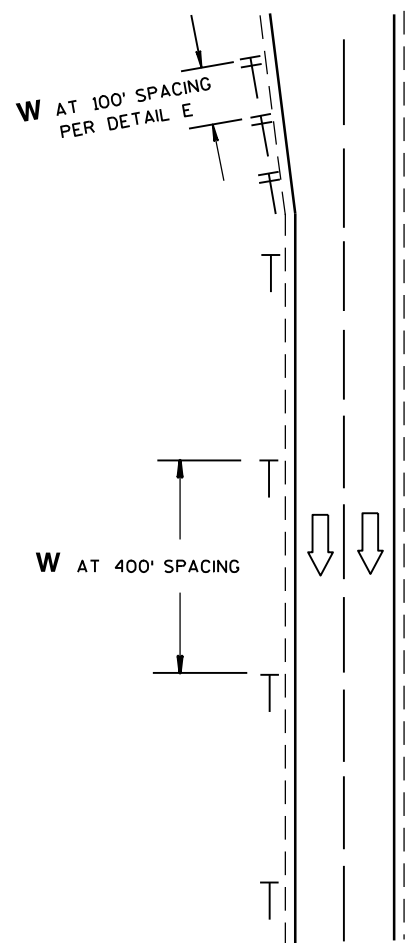
**DETAIL C  
DELINEATOR LAYOUT ALONG RAMP**

**LEGEND**

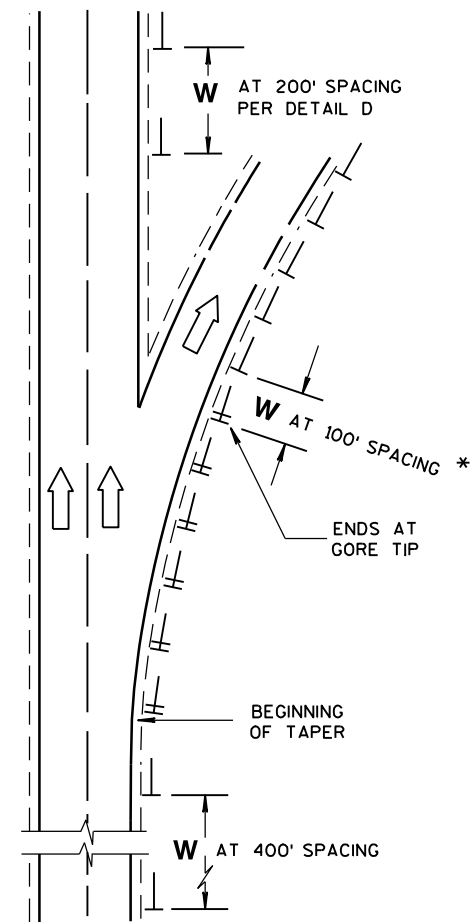
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W** WHITE
- Y** YELLOW



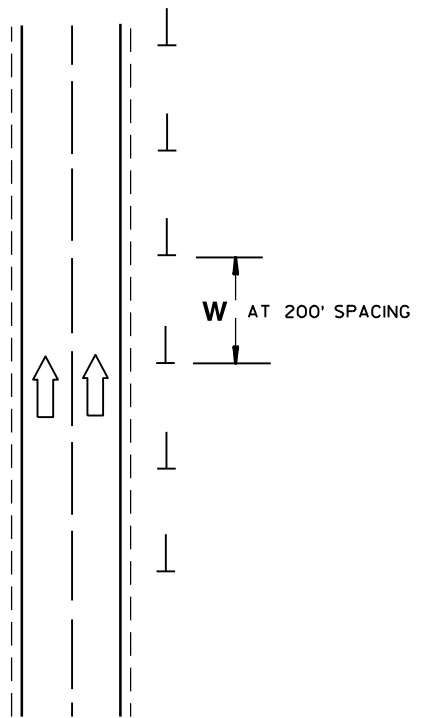
**DELINEATOR LAYOUT**



**DETAIL B  
DELINEATOR LAYOUT  
ALONG MAINLINE**



**DETAIL E  
DELINEATOR LAYOUT FOR ACCELERATION  
- DECELERATION LANES AND TAPERS AT RAMPS**



**DETAIL D  
DELINEATOR LAYOUT  
BETWEEN INTERCHANGE RAMPS**

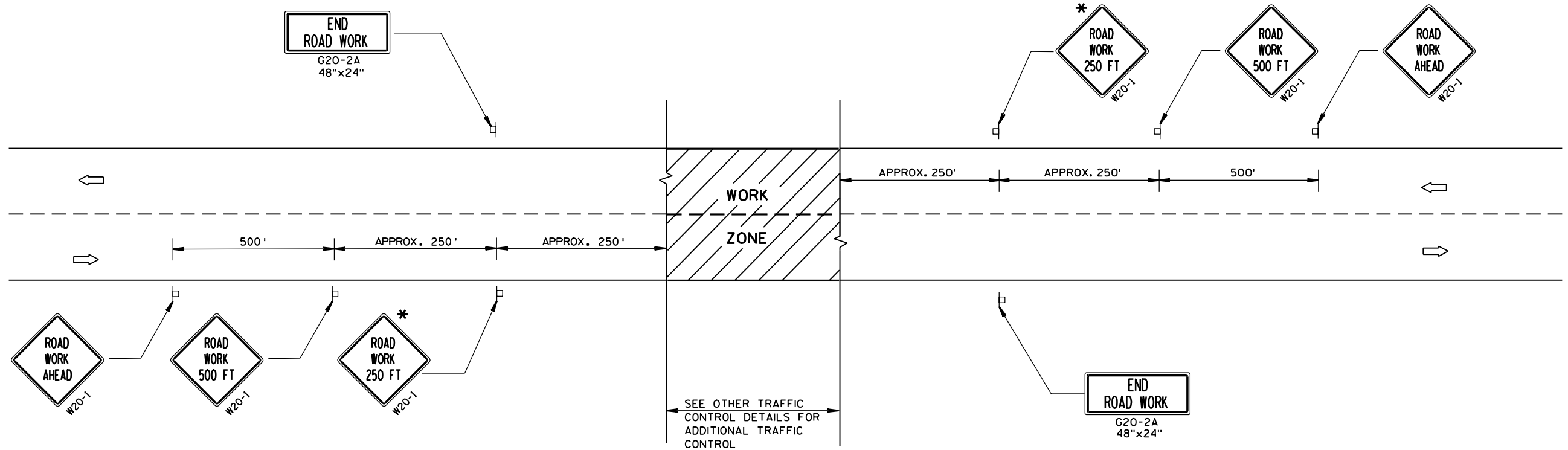
6

6

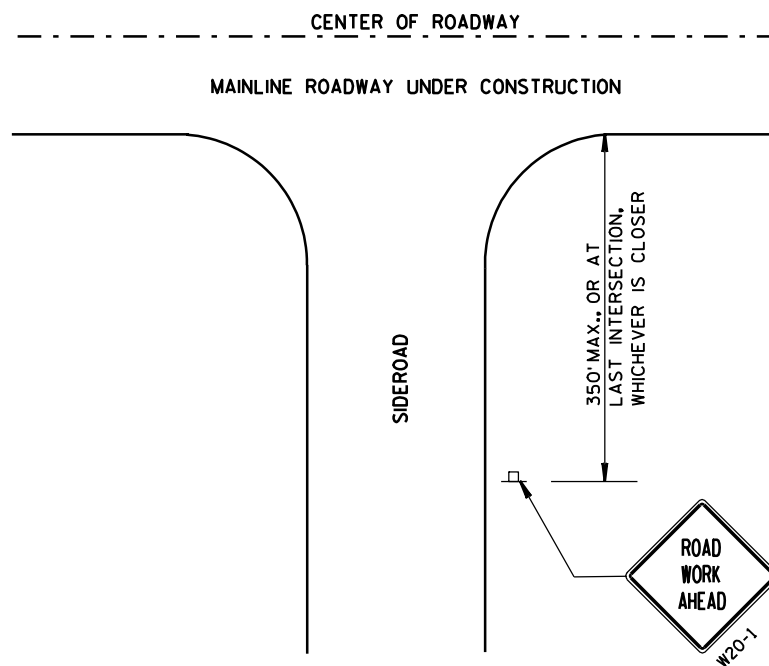
S.D.D. 15 A 6-2

S.D.D. 15 A 6-2

<b>DELINEATOR LAYOUT</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2/5/09 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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.

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

LEGEND

- POST MOUNTED SIGN
- ➡ DIRECTION OF TRAFFIC FLOW

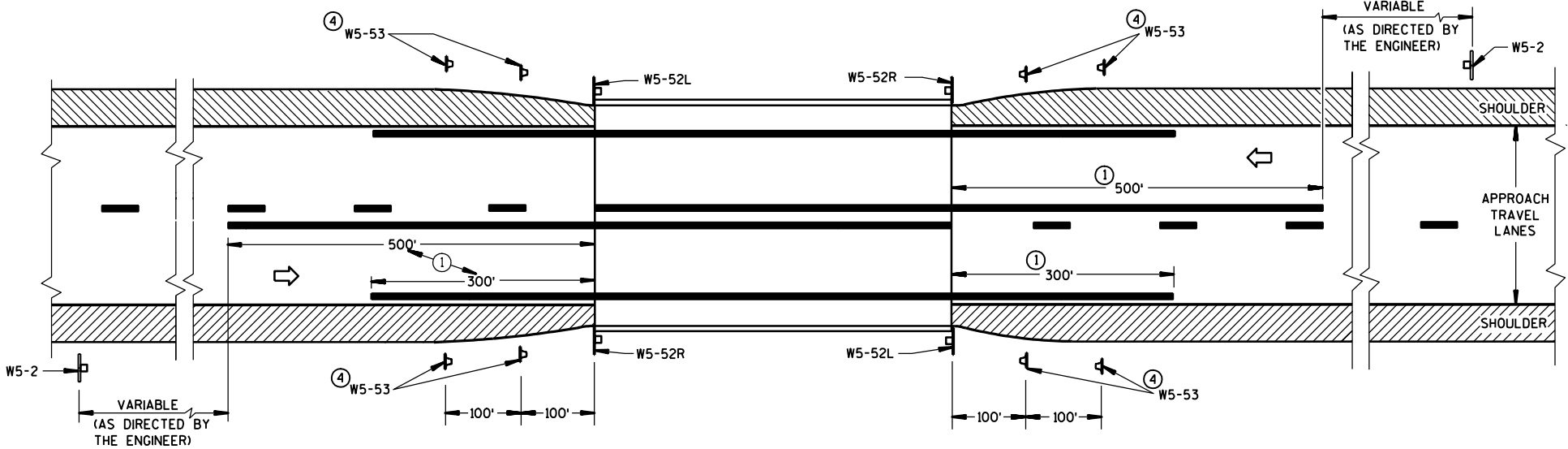
<b>TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/23/00 DATE	 CHESTER J. SPANG CHIEF SIGNS AND MARKING ENGINEER
FHWA	

**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.

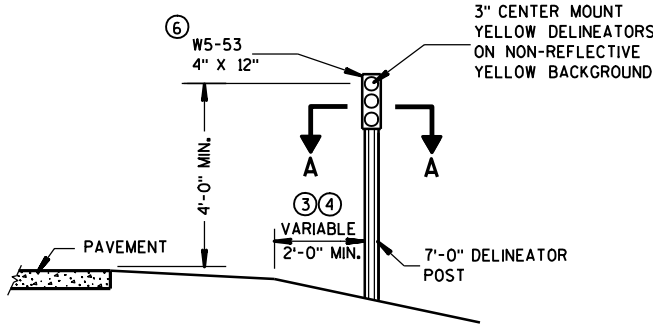
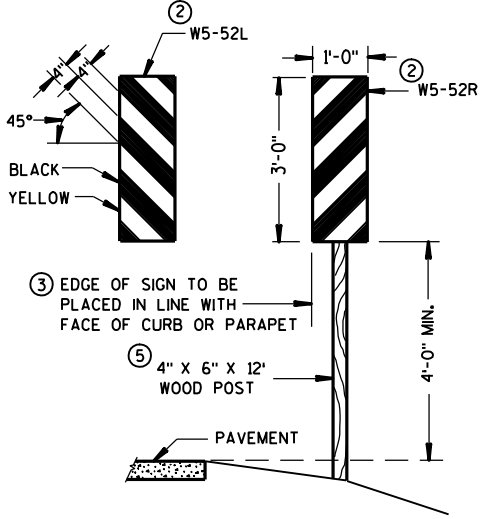
- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R AND W5-52L SHALL BE COVERED WITH TYPE H REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ④ OBJECT MARKERS (W5-53) SHALL BE LOCATED ALONG A LINE FLARED AWAY FROM THE BRIDGE 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.



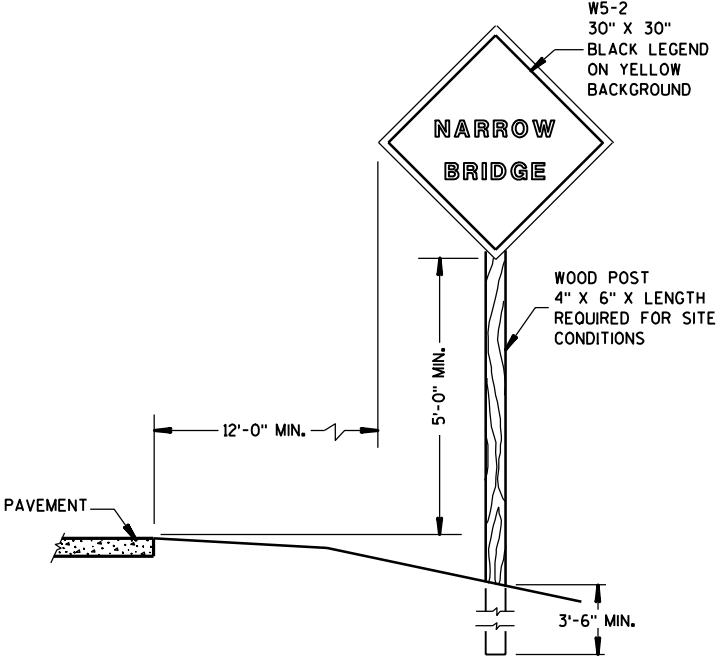
**SITUATION 1**

WARRANTING CRITERION:

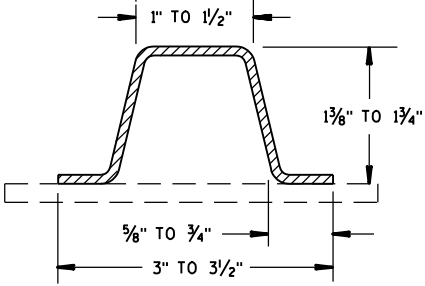
BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET



**OBJECT MARKER PLACEMENT**

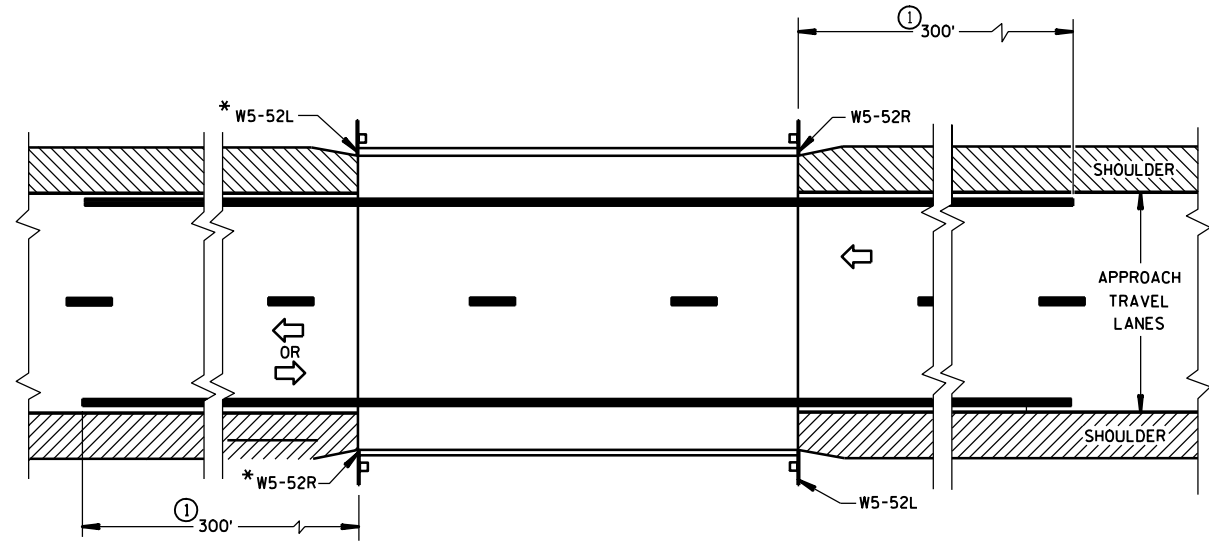


**SIGN PLACEMENT**



**SECTION A-A**

(MINIMUM WEIGHT 1.9 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.

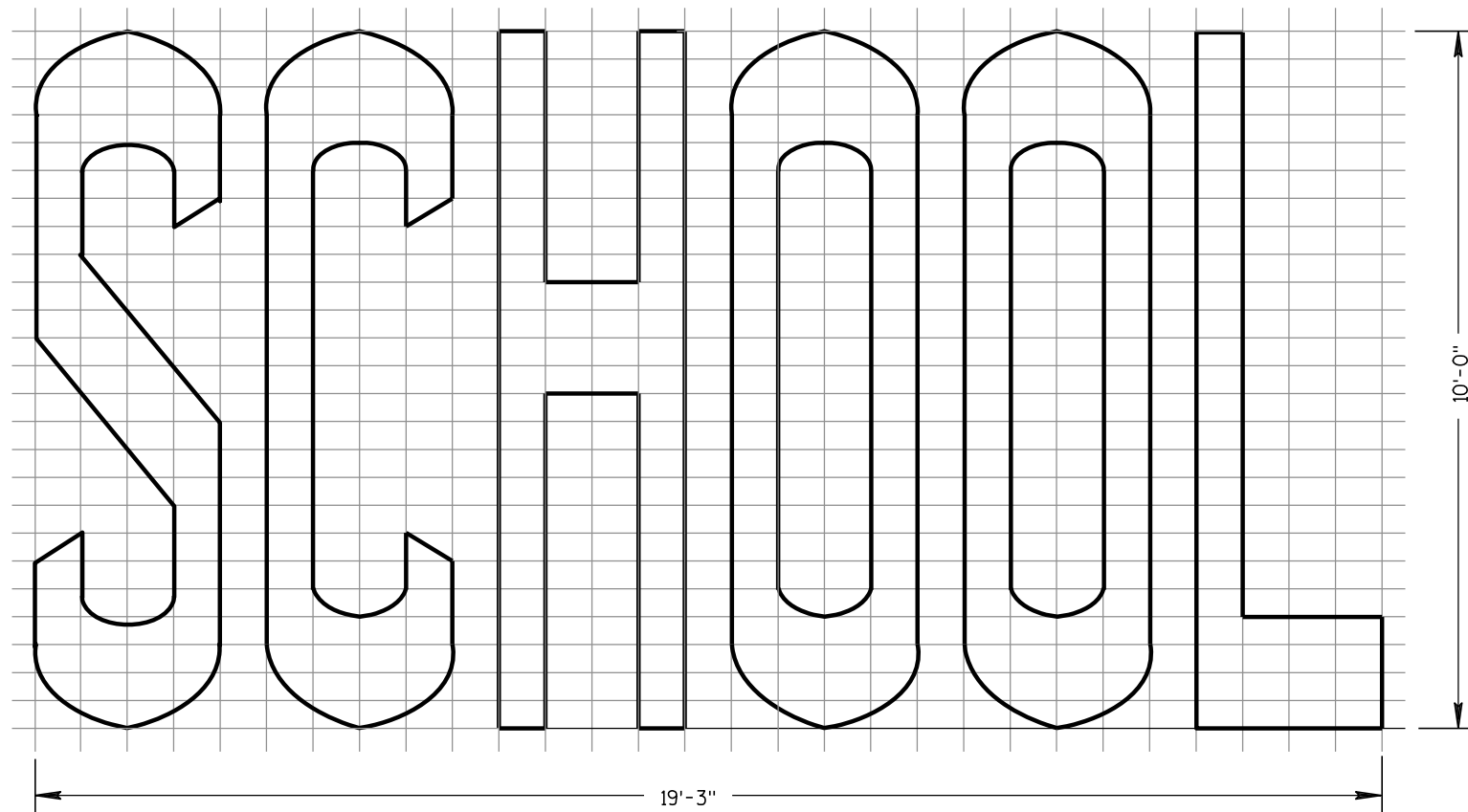
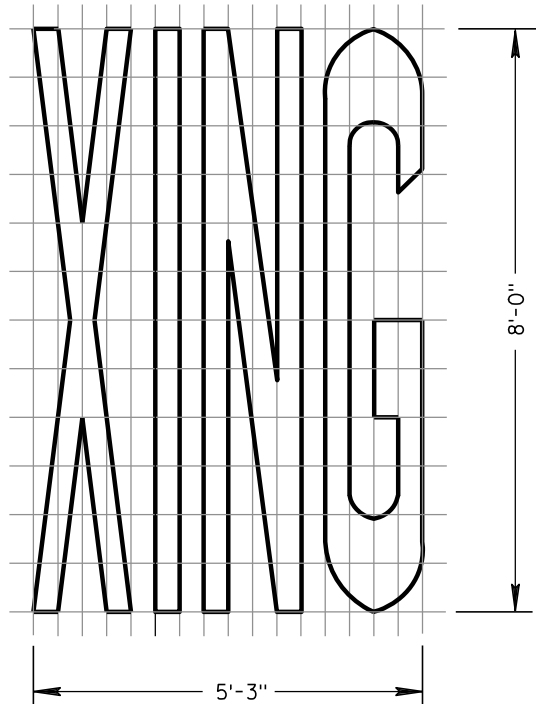
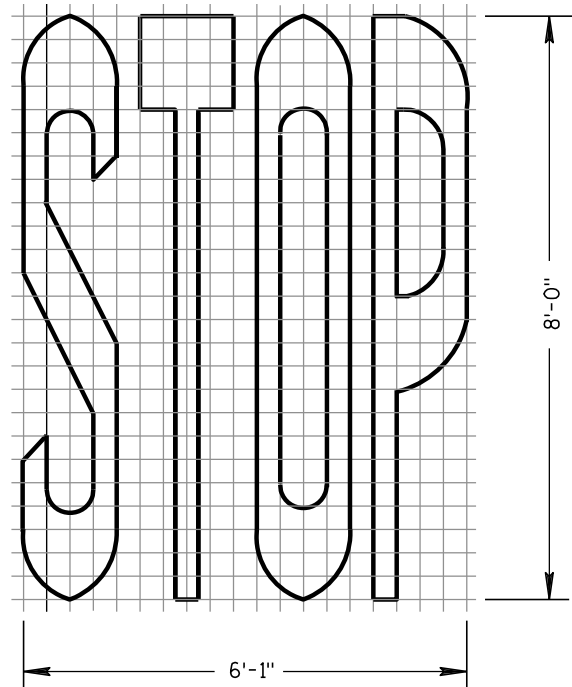
<b>SIGNING &amp; MARKING FOR TWO LANE BRIDGES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 9/5/06 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



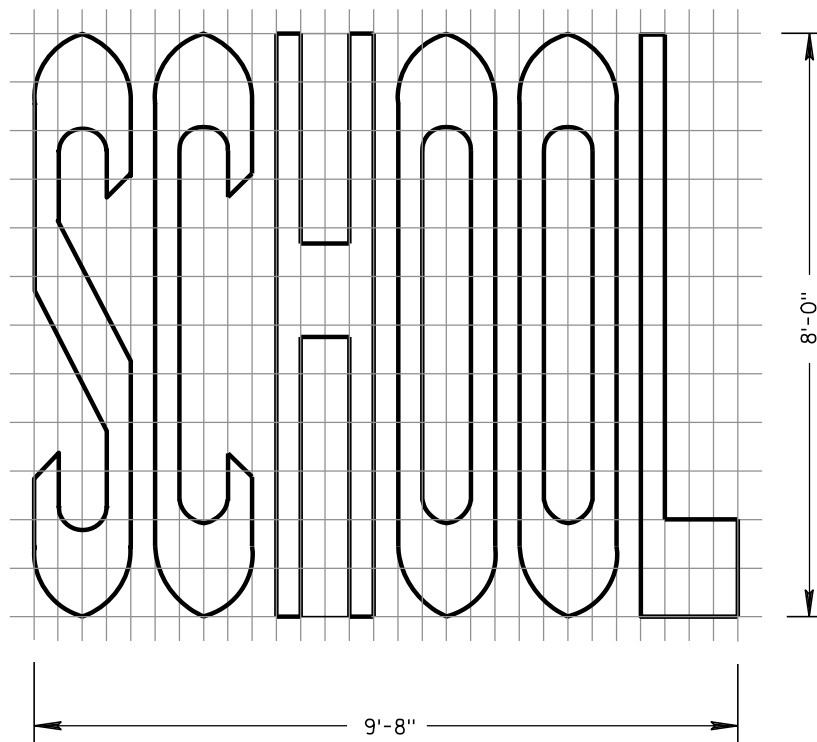
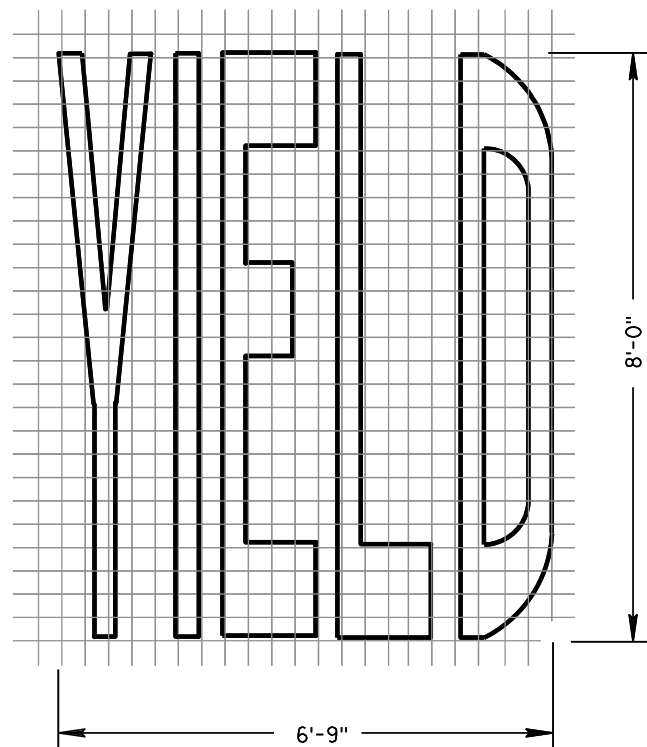
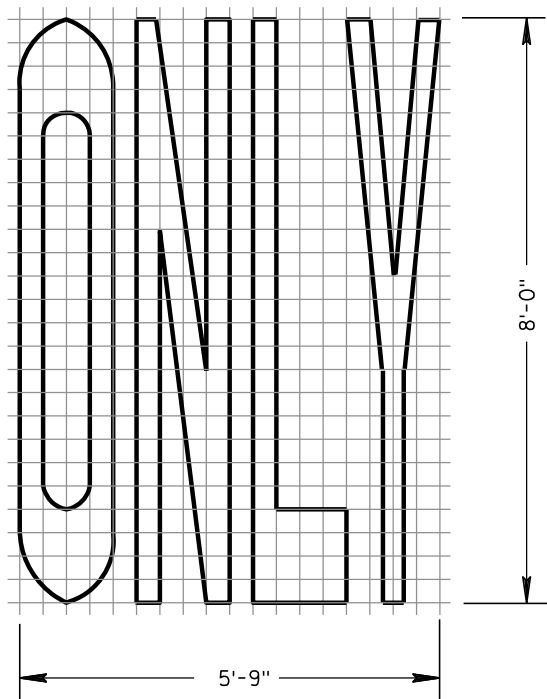
**GENERAL NOTES**

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.

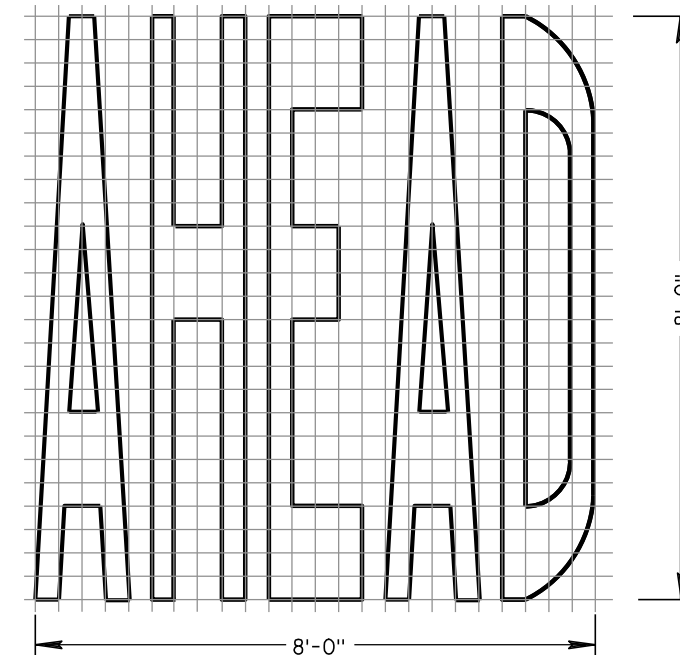
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



**TWO-LANE**



**SINGLE-LANE**



**PAVEMENT MARKING WORDS**

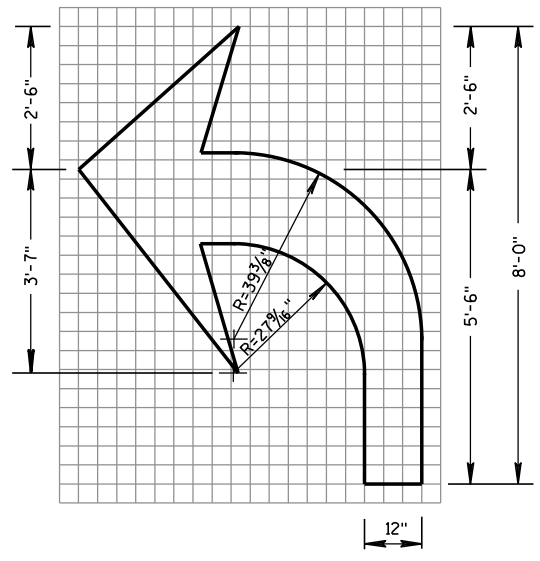
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

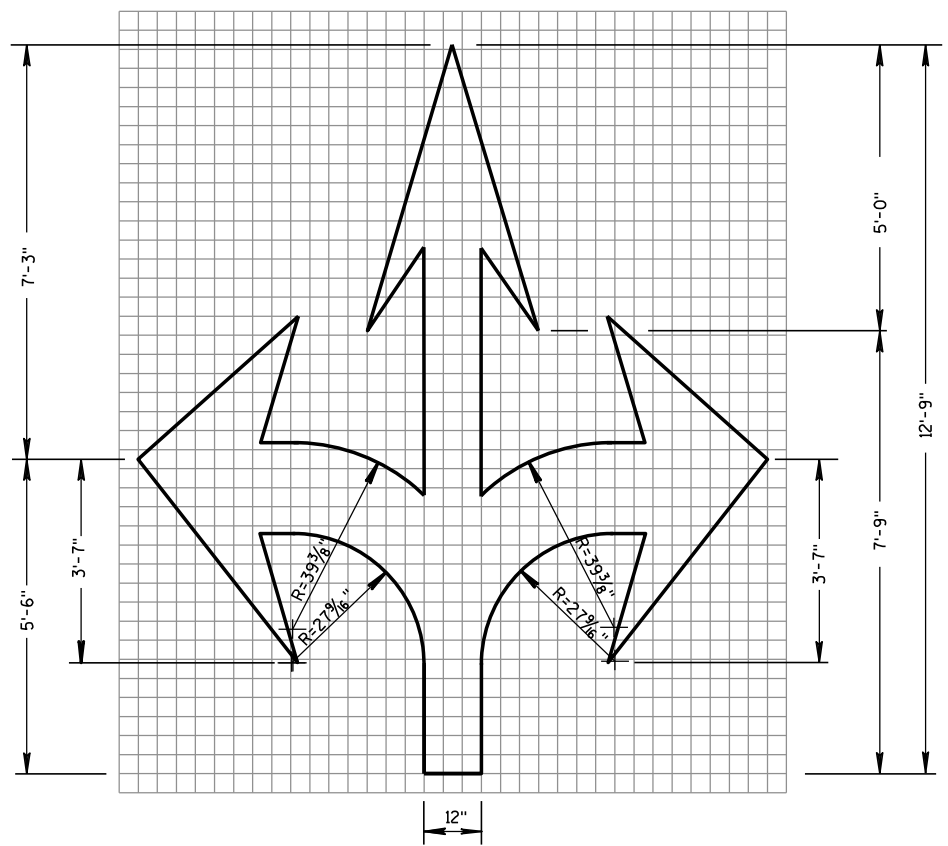
7-1-11  
DATE

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

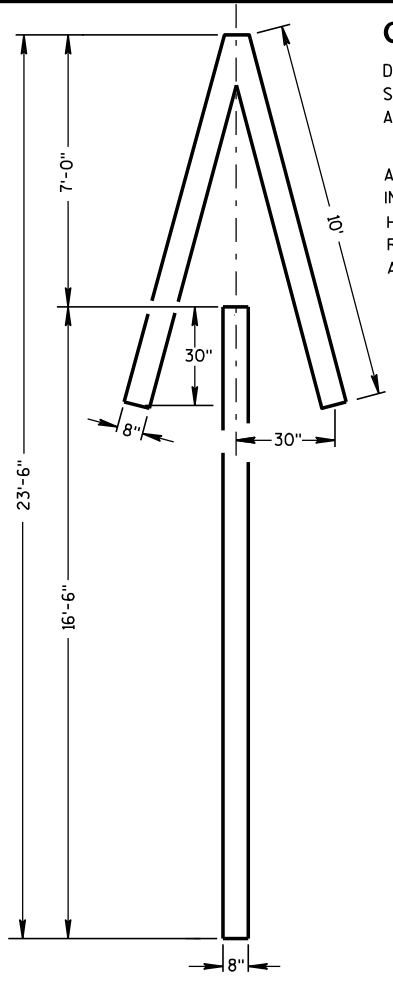
FHWA



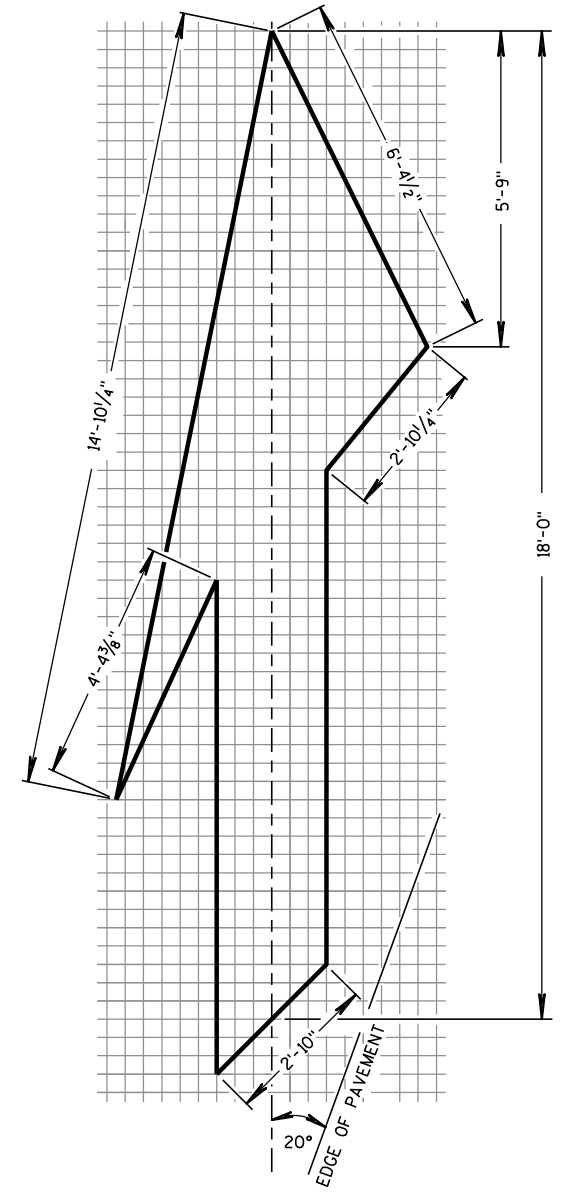
TYPE 2



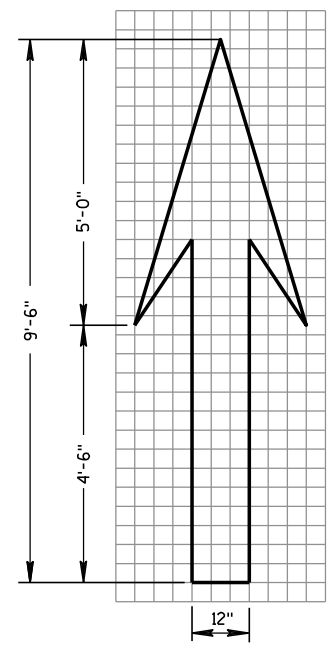
TYPE 6



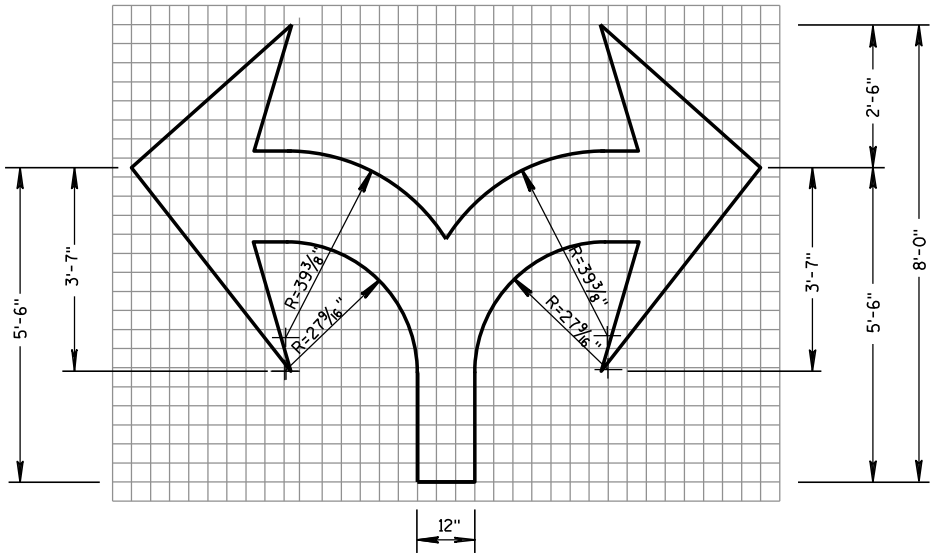
TYPE 4



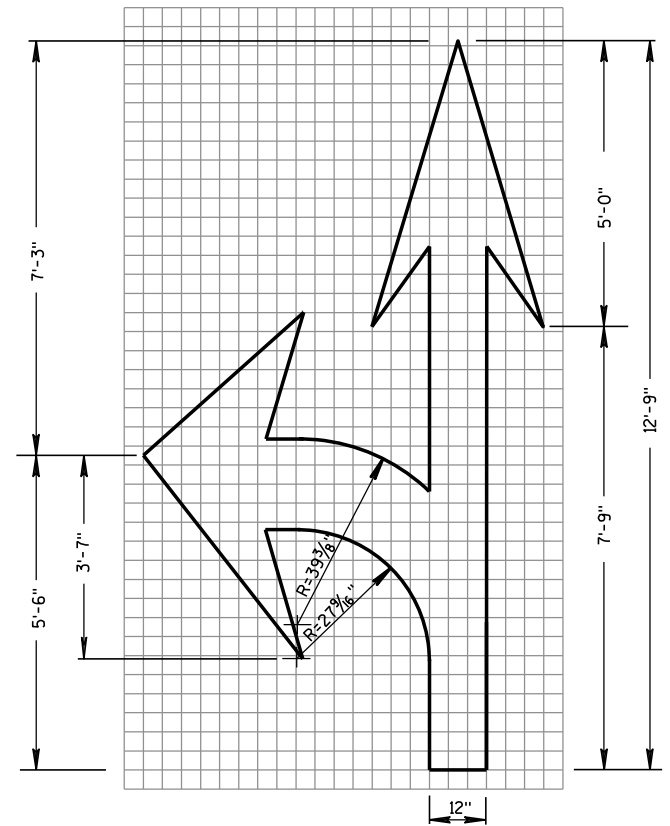
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



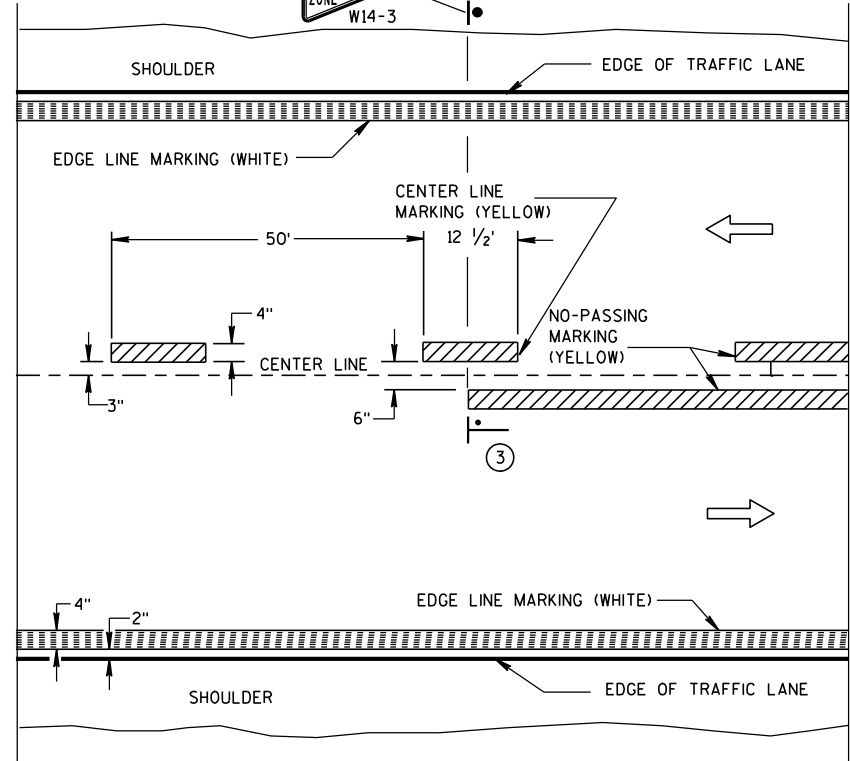
TYPE 3

GENERAL NOTES

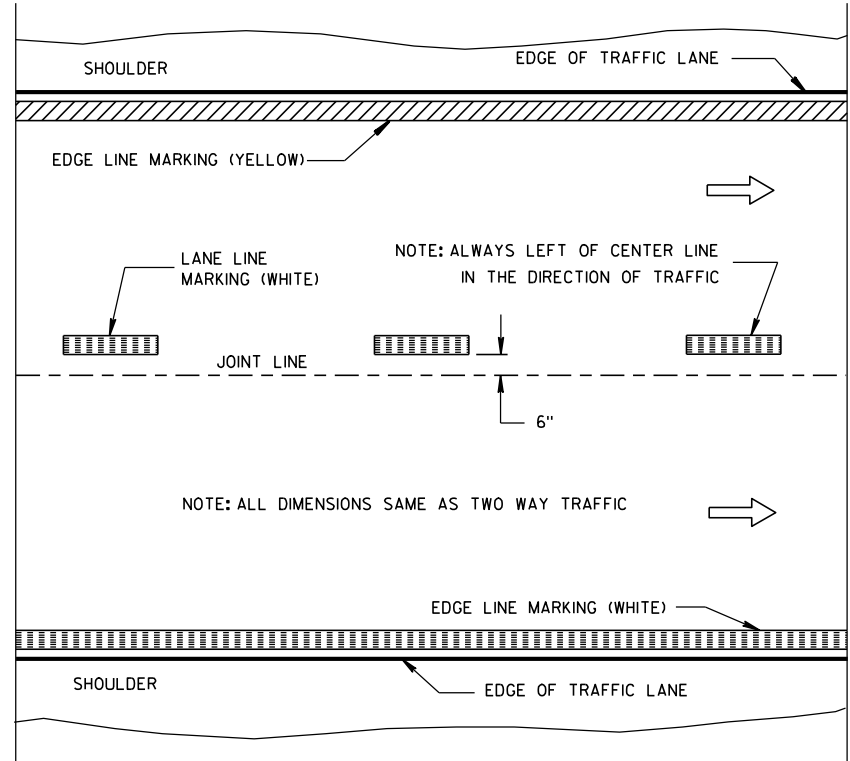
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

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

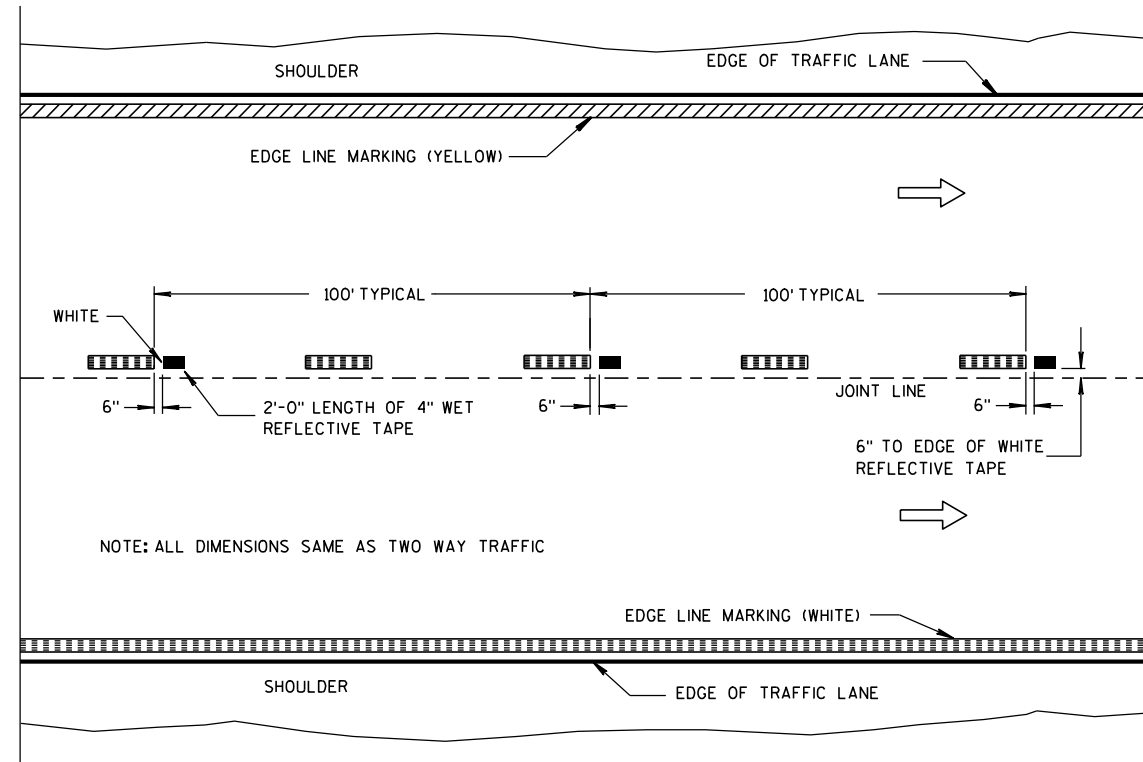
GENERAL NOTES

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

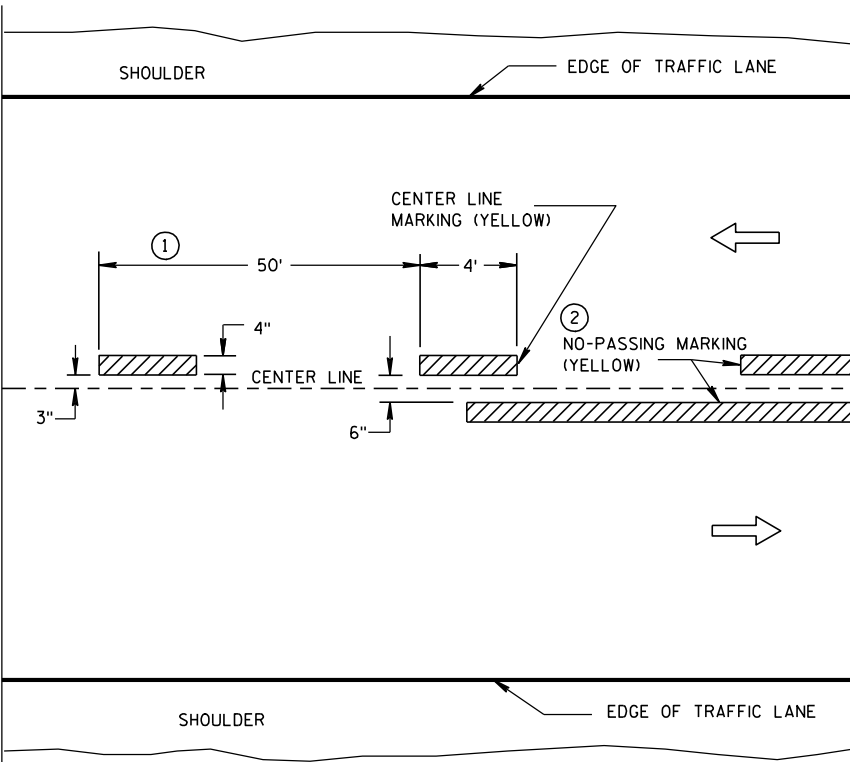
- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING 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.

NOTE

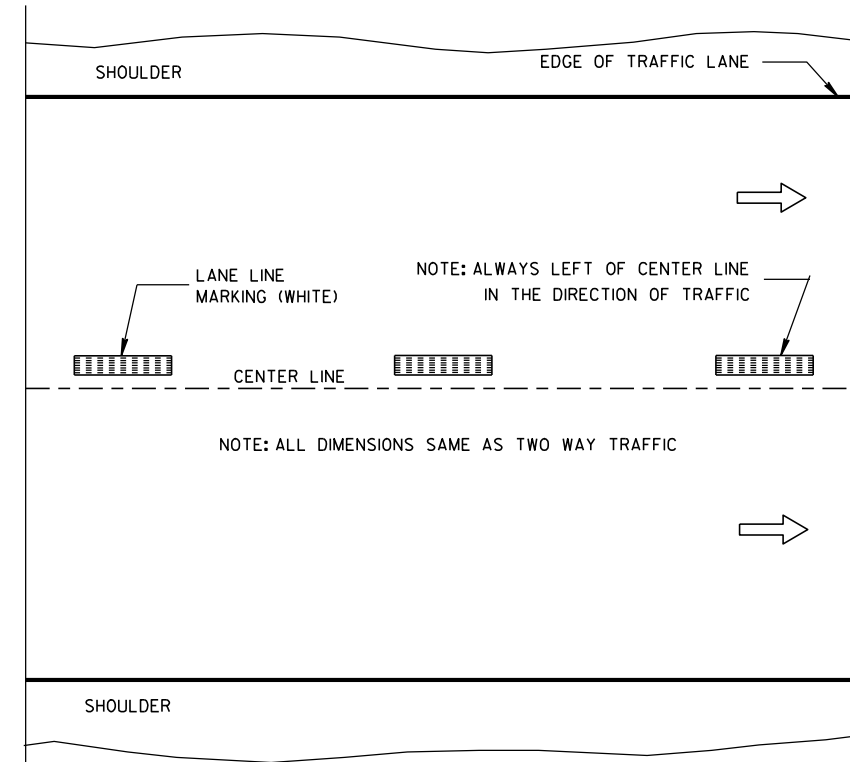
ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL



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



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

LEGEND

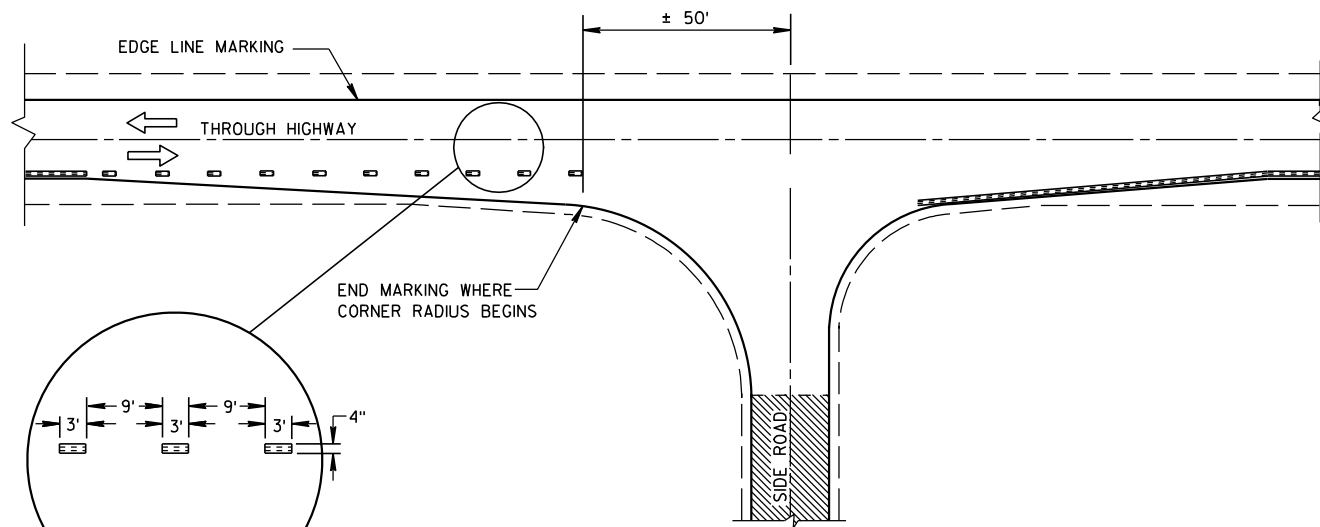
—●— "T" MARKING

● POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

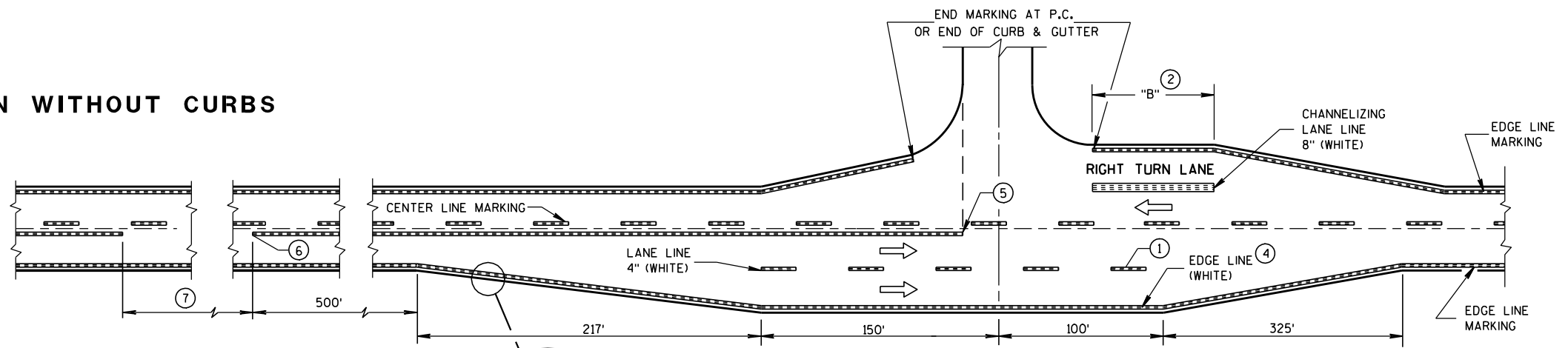
APPROVED  
 6-23-11 /S/ Thomas N. Notbohm  
 DATE STATE TRAFFIC ENGINEER OF DESIGN  
 FHWA



**MINOR INTERSECTION WITHOUT CURBS**

⑦

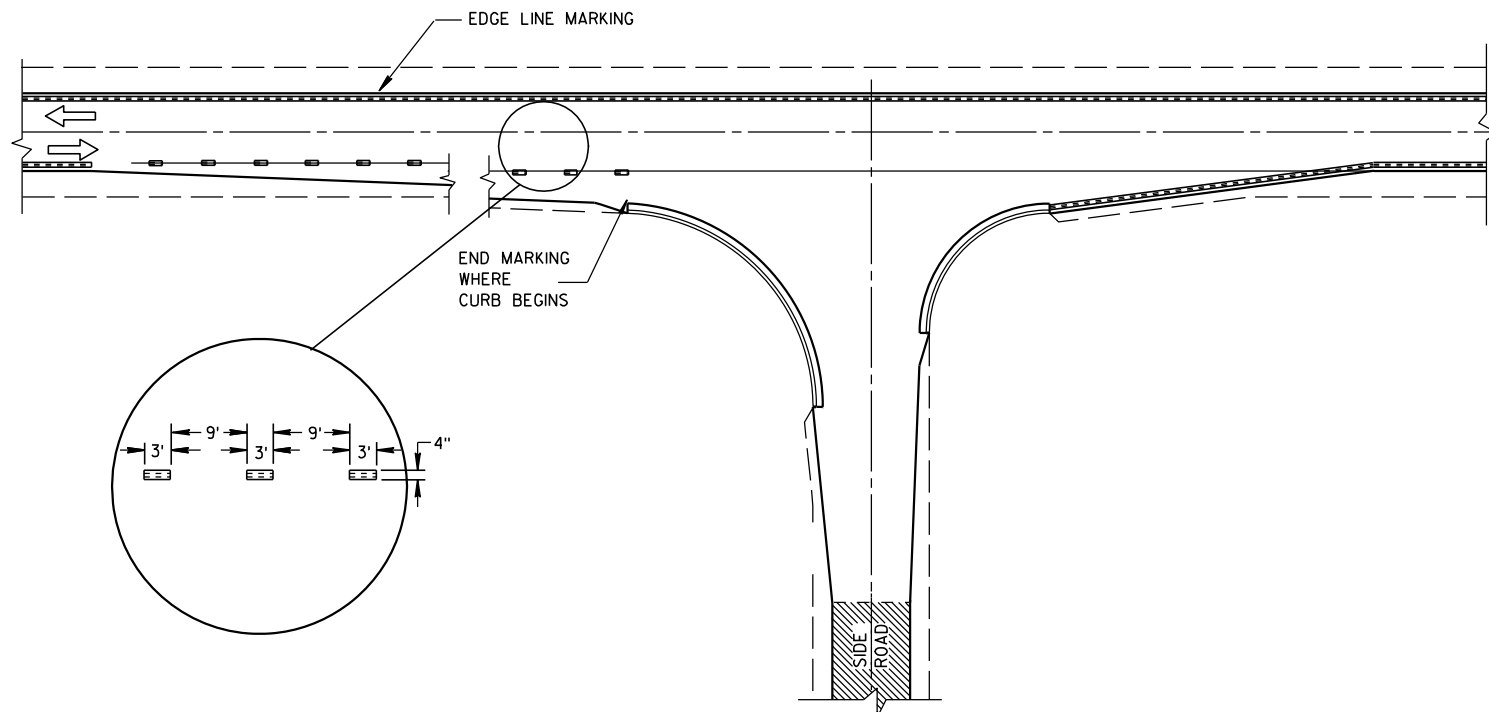
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



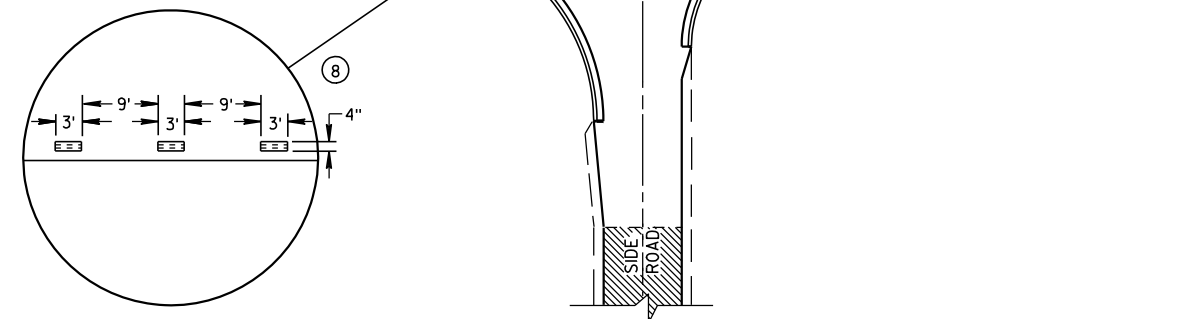
**MAJOR INTERSECTIONS  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)**

**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



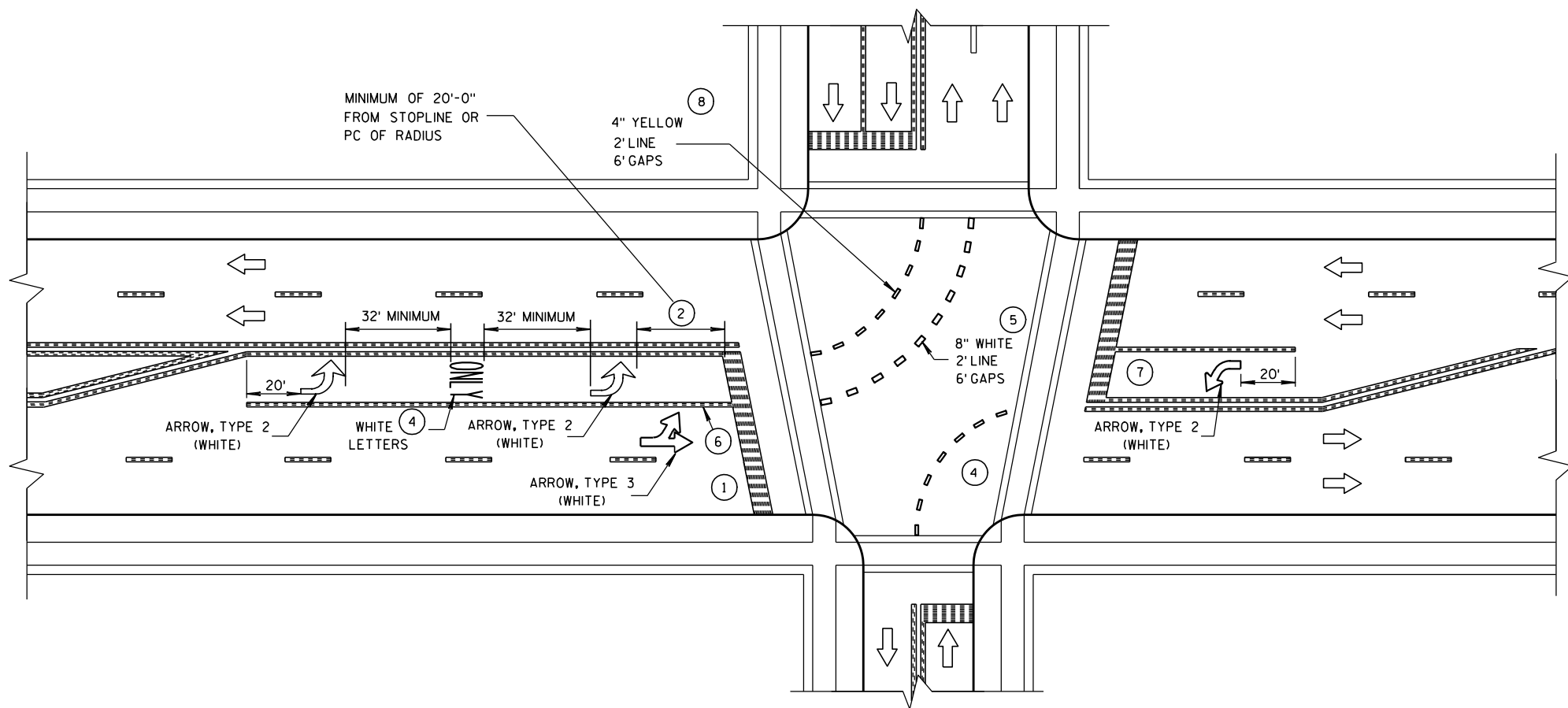
**MINOR INTERSECTION WITH CURBS  
(TYPICAL MARKING)**



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

**PAVEMENT MARKING  
(INTERSECTIONS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



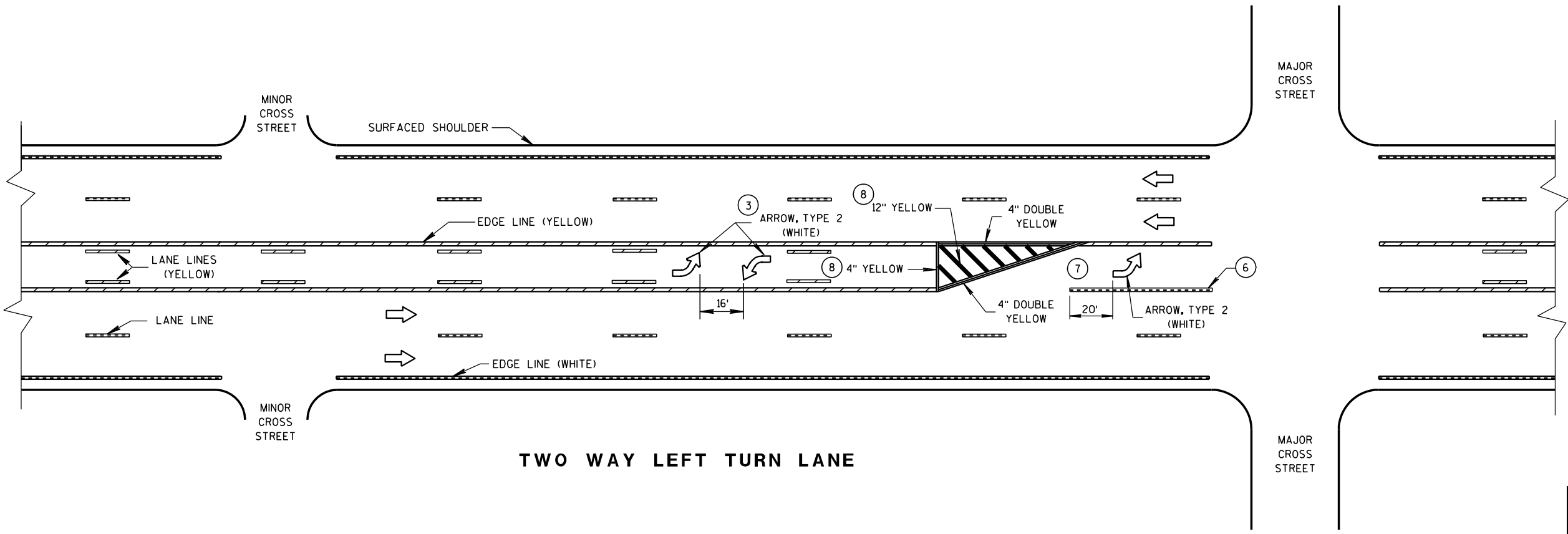
**GENERAL NOTES**

- ① STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DISTANCE MAY BE ADJUSTED TO ACCOMMODATE SHORT LEFT TURN LANES, AS APPROVED BY THE ENGINEER.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400' OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ④ ADD EXTRA ARROW AND ONLY PER 160' OR WHEN ON A CURVE.
- ⑤ 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
- ⑥ 8" WHITE
- ⑦ ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108'.
- ⑧ REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:  
ARROW SYMBOL ( → )  
SHOWS DIRECTION OF TRAVEL

6

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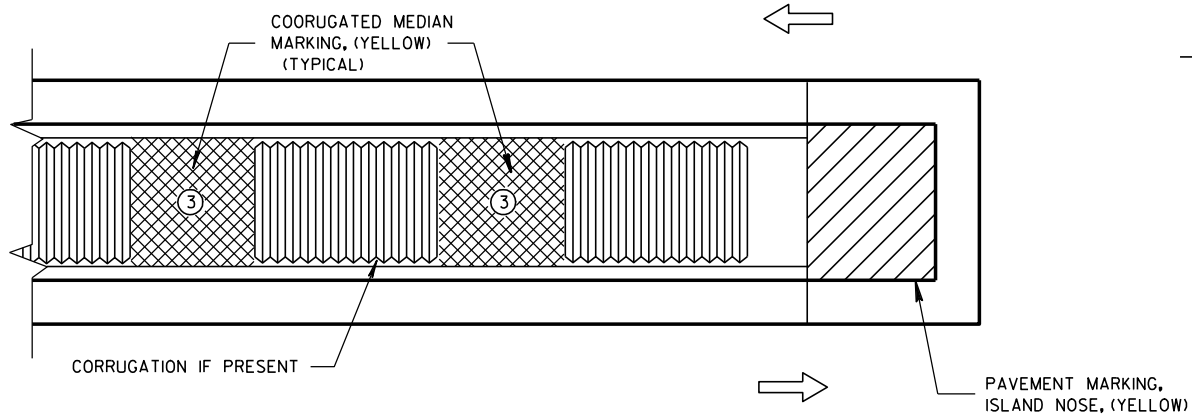


**TWO WAY LEFT TURN LANE**

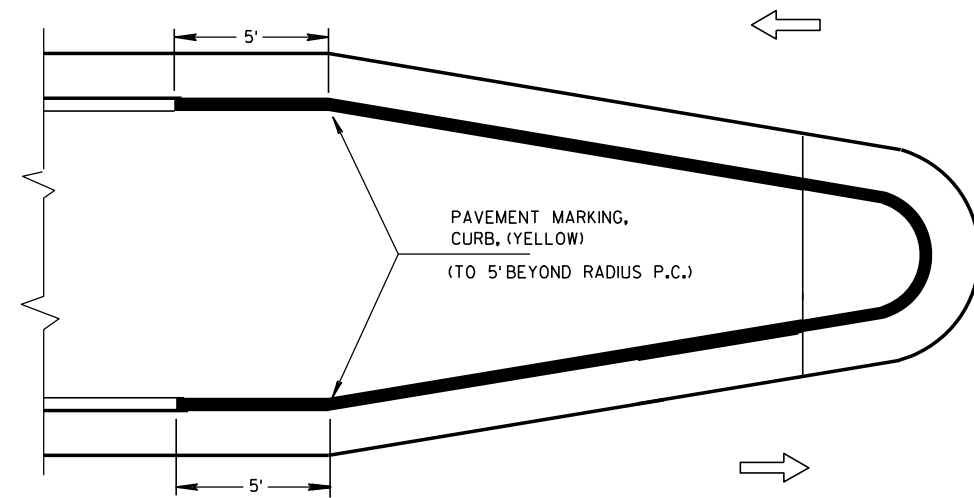
<b>PAVEMENT MARKING (LEFT TURN LANE)</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

S.D.D. 15 C 8-14e

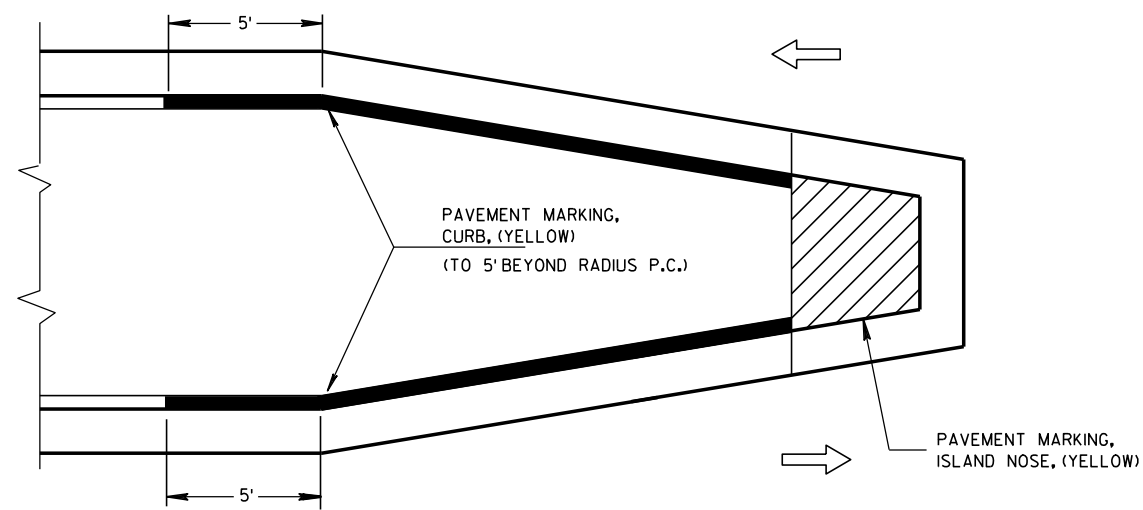
S.D.D. 15 C 8-14e



**MEDIAN ISLAND WITH SQUARE BLUNT NOSE**

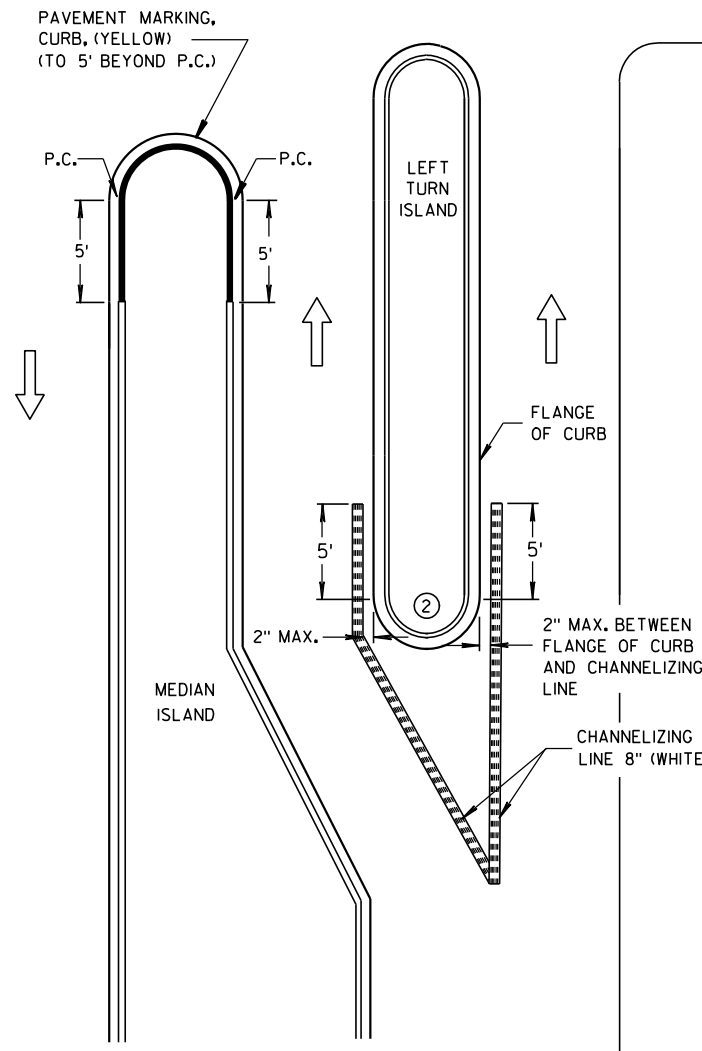


**MEDIAN ISLAND WITH ROUND BLUNT NOSE**



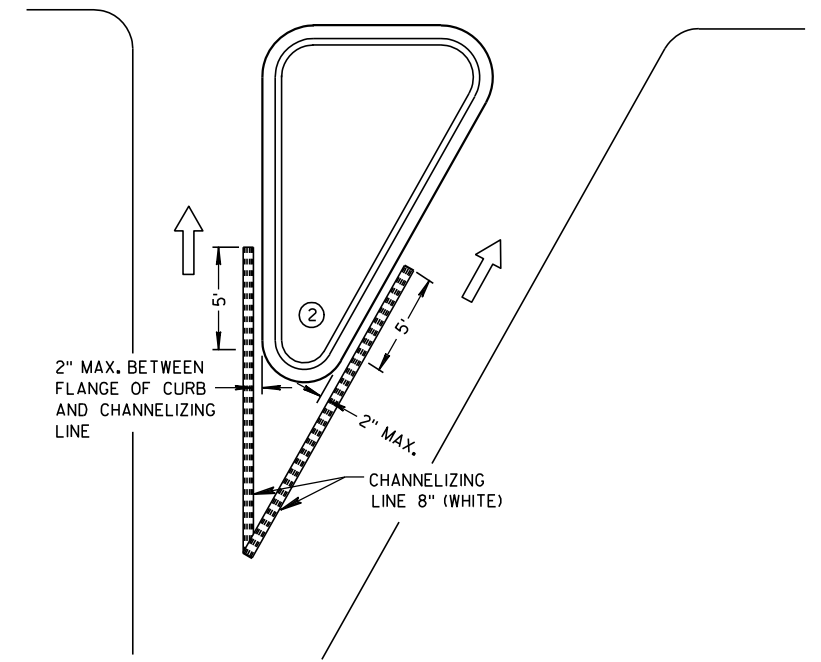
**MEDIAN ISLAND WITH SLOPED NOSE**

**TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS**

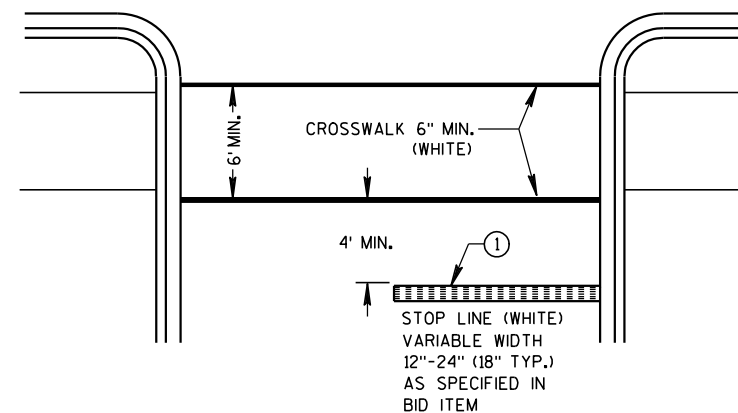


**LEFT TURN & MEDIAN ISLAND**





- GENERAL NOTES**
- 1 STOP LINE IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
  - 2 DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
  - 3 WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



**RIGHT TURN ISLAND**



**STOP LINE AND CROSSWALK**


- LEGEND**
-  ISLAND NOSE MARKING
  -  CURB MAKING
  -  CORRUGATED MEDIAN MARKING
  -  DIRECTION OF TRAVEL


**PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)**


STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

TWO-LANE ROADWAY

**SYMBOLS**

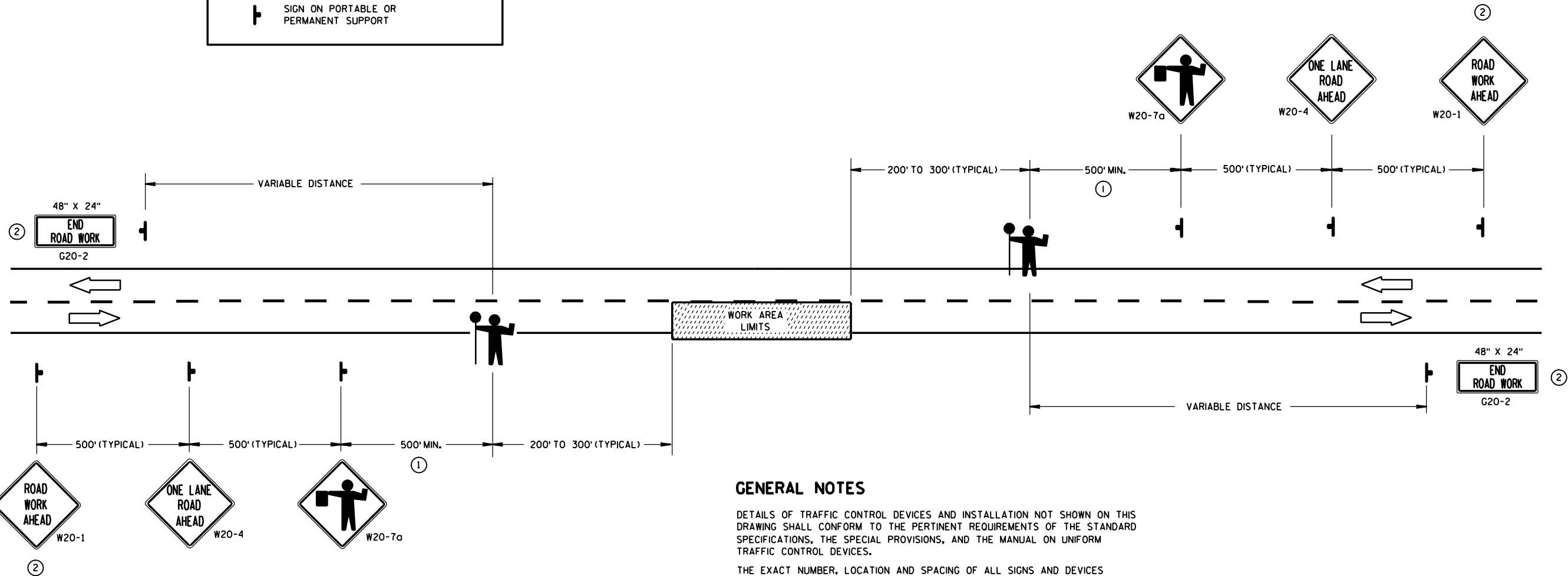
 WORK AREA

 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.

<b>TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 9/5/06 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

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S.D.D. 15 C 12-3

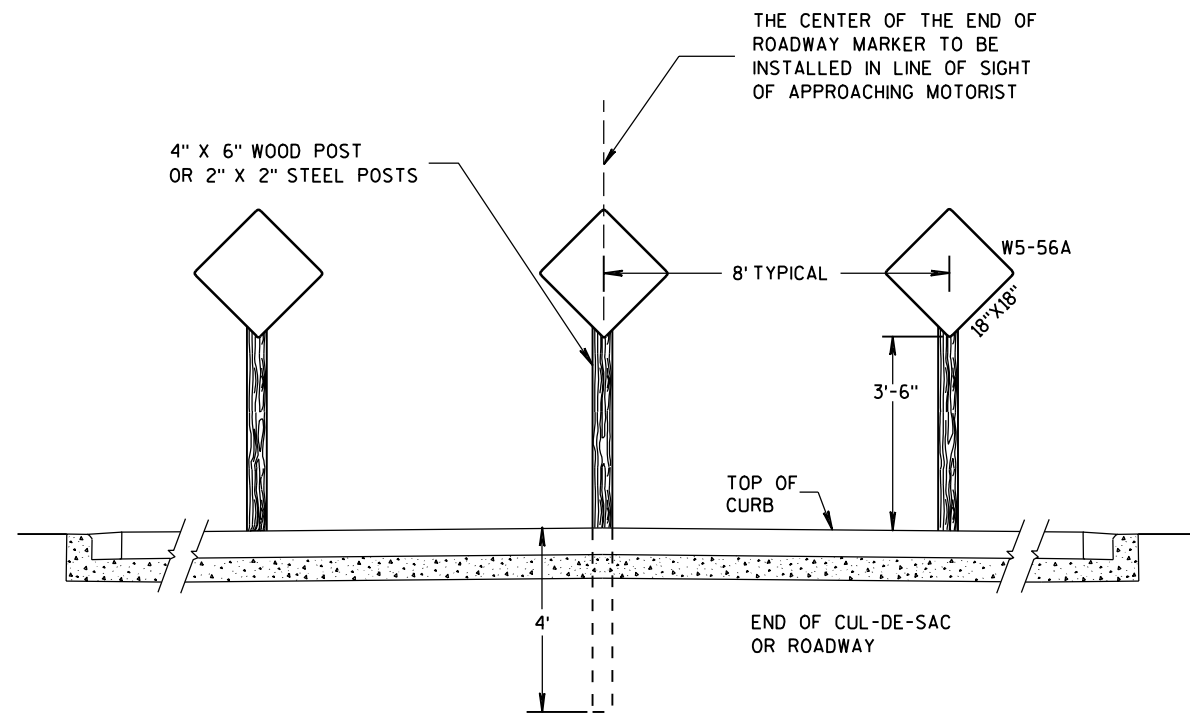
S.D.D. 15 C 12-3

**GENERAL NOTES**

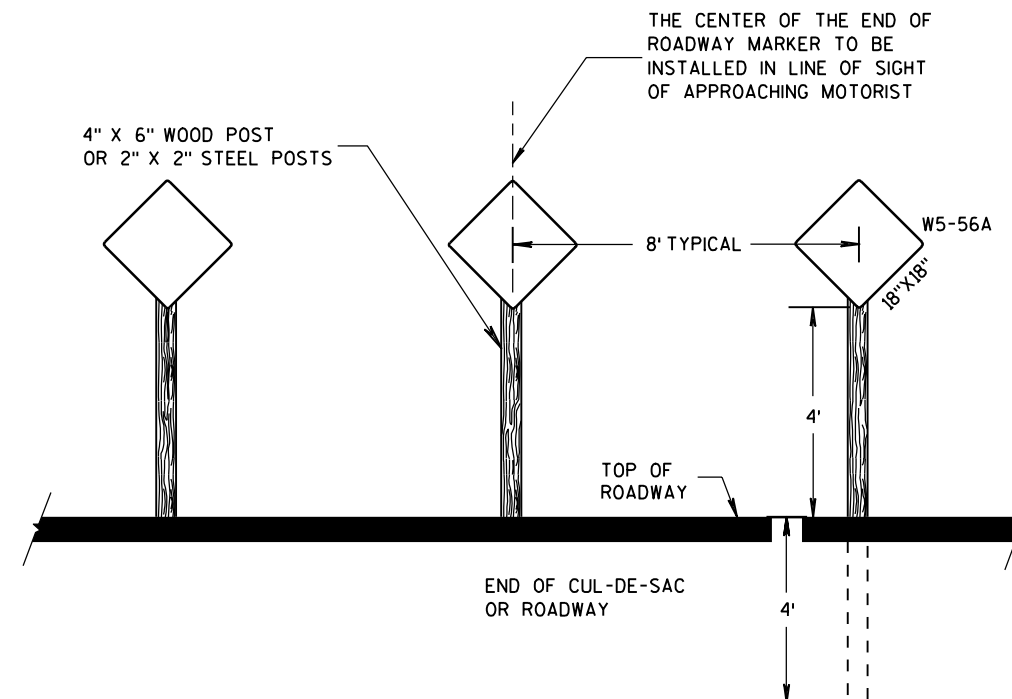
SIGN LOCATIONS SHOWN ARE TYPICAL PLACEMENT AND MAY BE ADJUSTED BY THE ENGINEER AS FIELD CONDITIONS DICTATE.

THE MINIMUM NUMBER OF END-OF-ROADWAY SIGNS ARE THREE (AS SHOWN). ADDITIONAL END-OF-ROADWAY SIGNS MAY BE INSTALLED AS FIELD CONDITIONS DICTATE. (SEE SIGNING PLAN).

WHEN BEAMGUARD IS REQUIRED, PLACE END-OF-ROADWAY SIGNING BEHIND BEAMGUARD.



**TYPICAL URBAN SIGN INSTALLATION**  
(WITH CURB & GUTTER)



**TYPICAL RURAL SIGN INSTALLATION**  
(WITHOUT CURB & GUTTER)

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S.D.D. 15 C 26-1

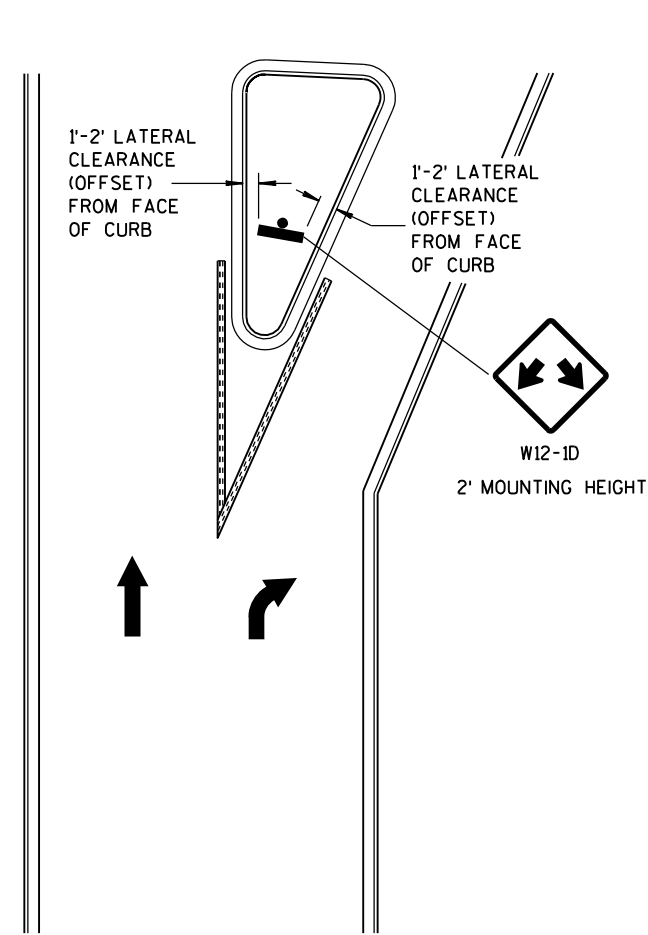
S.D.D. 15 C 26-1

<b>END-OF-ROADWAY SIGNING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12-5-07 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

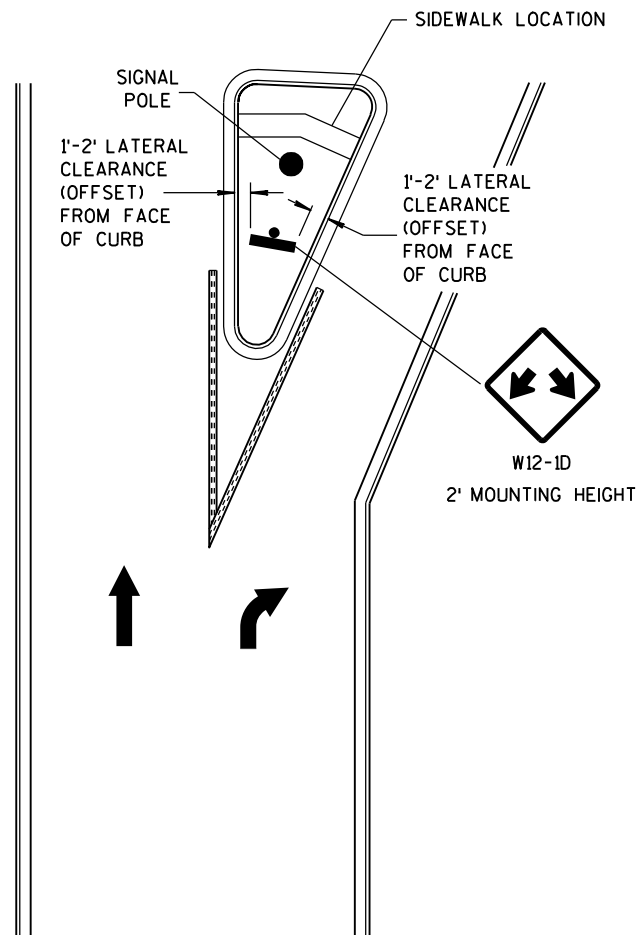


**GENERAL NOTE**

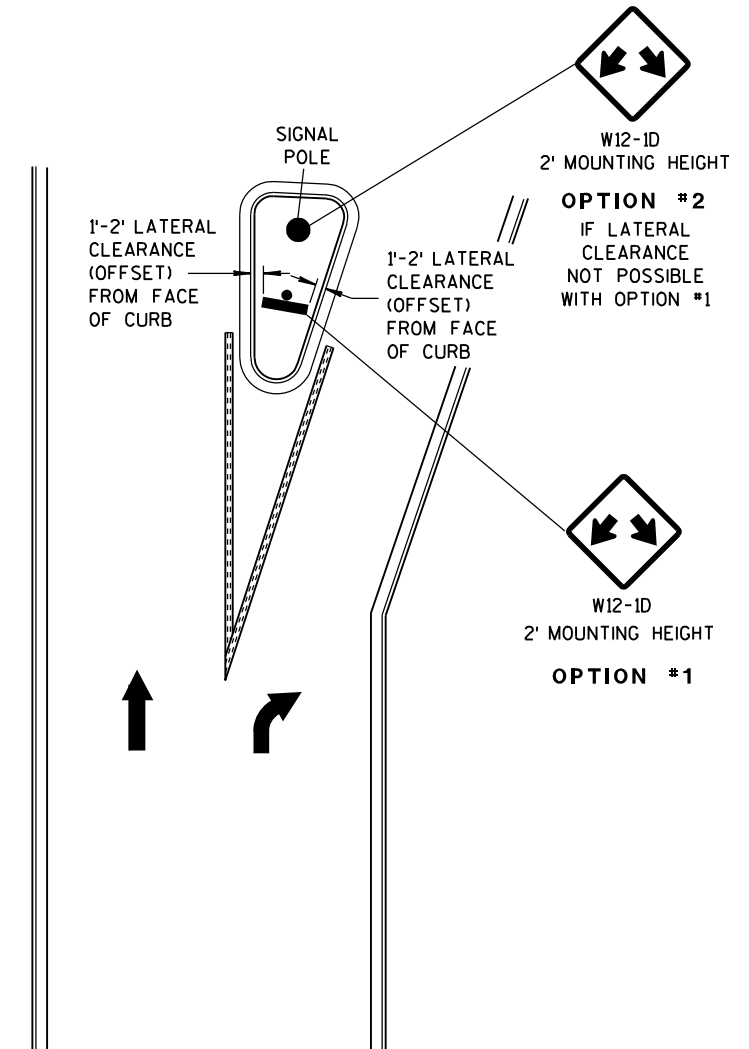
APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.  
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



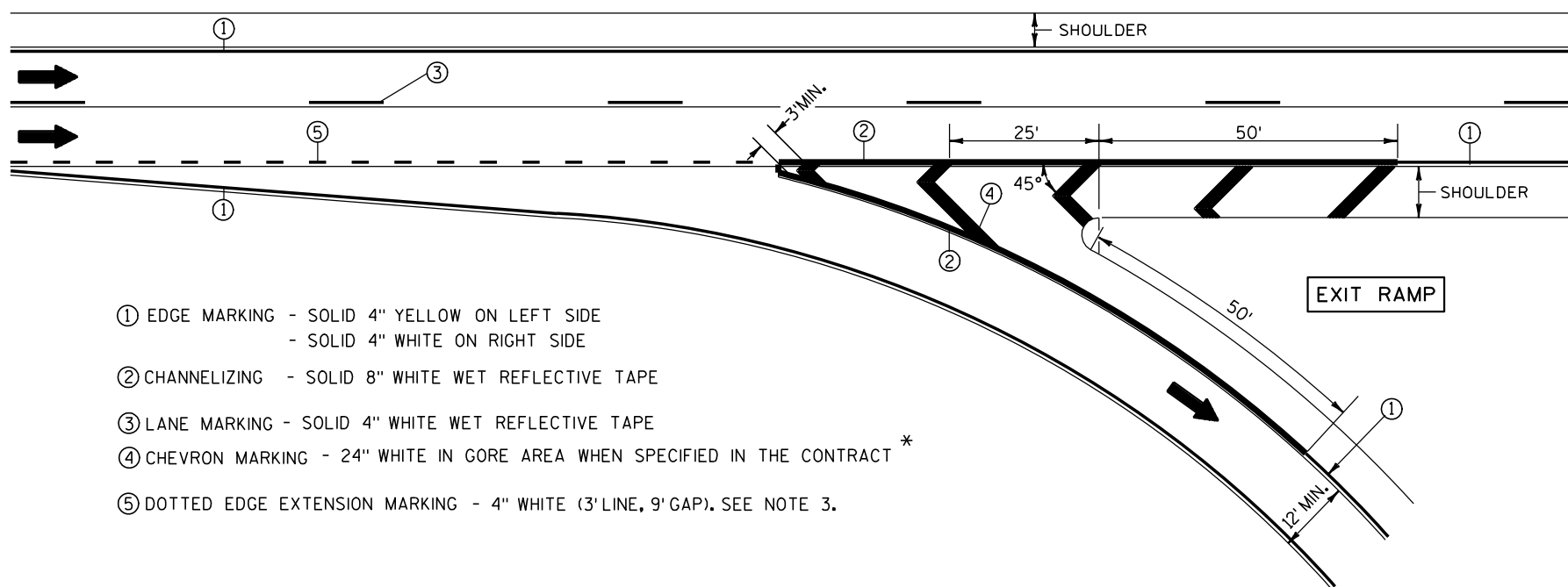
LARGE RIGHT TURN ISLAND  
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

**DOUBLE ARROW WARNING SIGN PLACEMENT**

<b>DOUBLE ARROW WARNING SIGN PLACEMENT</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10-22-08 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

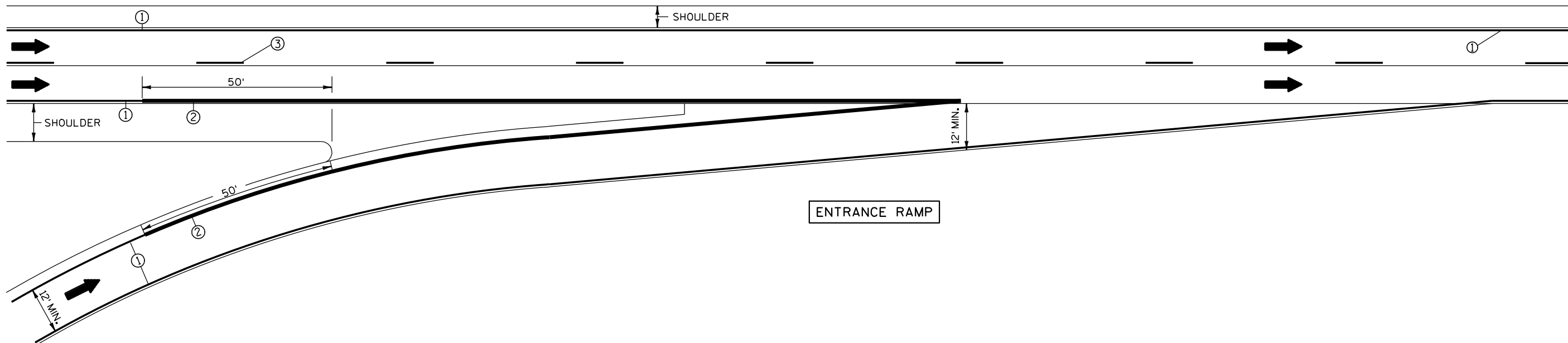


- ① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE  
- SOLID 4" WHITE ON RIGHT SIDE
- ② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE
- ③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE
- ④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT \*
- ⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

- 1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
- 2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.
- 3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- 4. RETRACE EXISTING DIAGONAL MARKINGS.

\* REFER TO DESIGN NOTES.



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S.D.D. 15 C 31-1a

S.D.D. 15 C 31-1a

<b>PAVEMENT MARKING (RAMPS AND GORES)</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**LEGEND**

- ⊣ POST WITH ATTACHED SIGN
- Ⓢ POST WITH ATTACHED SIGN IN DRUM
- ⚡ DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ➔ ARROW BOARD
- ⌈ 8' TYPE III BARRICADE
- \*-x-\* REMOVING PAVEMENT MARKING
- ➔ DIRECTION OF TRAFFIC

**GENERAL NOTES :**

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

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

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

- ① CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

**GENERAL NOTES CONTINUED:**

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

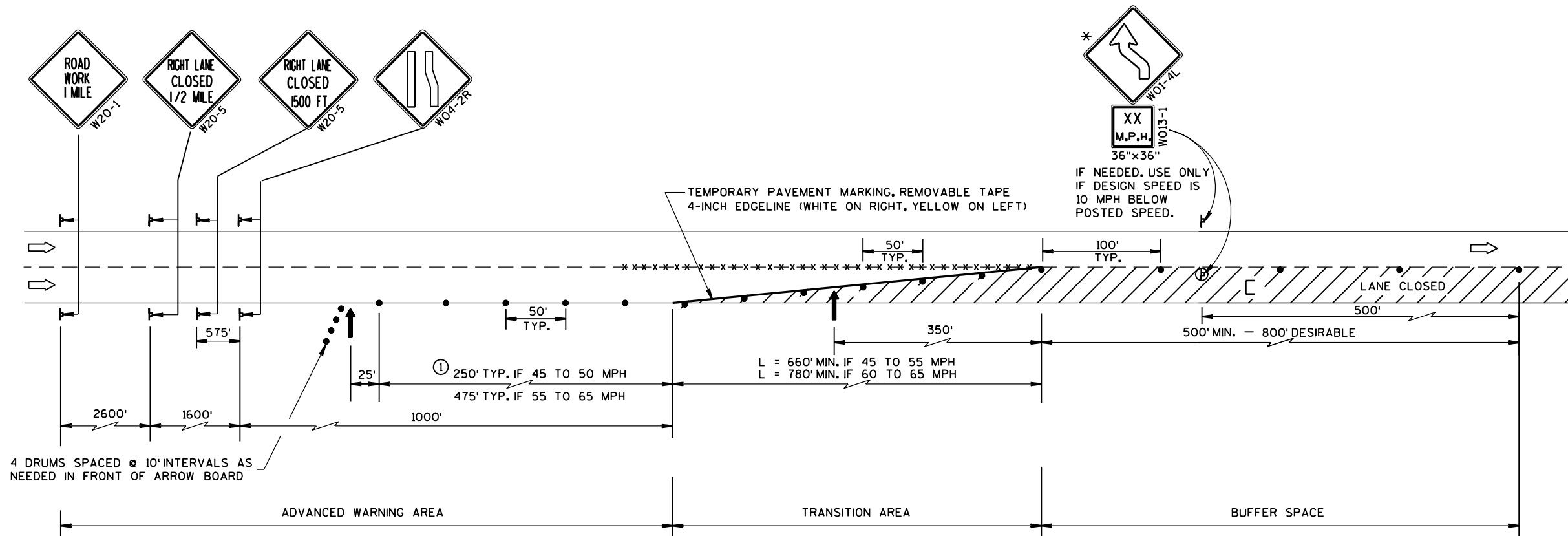
IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

- \* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

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






<b>TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8-7-95 DATE	<i>Charles J. Spang</i> for DIRECTOR, OFFICE OF TRAFFIC
FHWA	

S.D.D. 15 D 12-2

S.D.D. 15 D 12-2

**SYMBOLS**

-  TYPE III BARRICADE (8' EQUIVALENT) WITH/WITHOUT SIGN
-  DRUM
-  POST MOUNTED SIGN
-  WARNING LIGHT, TYPE A (FLASHING)
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

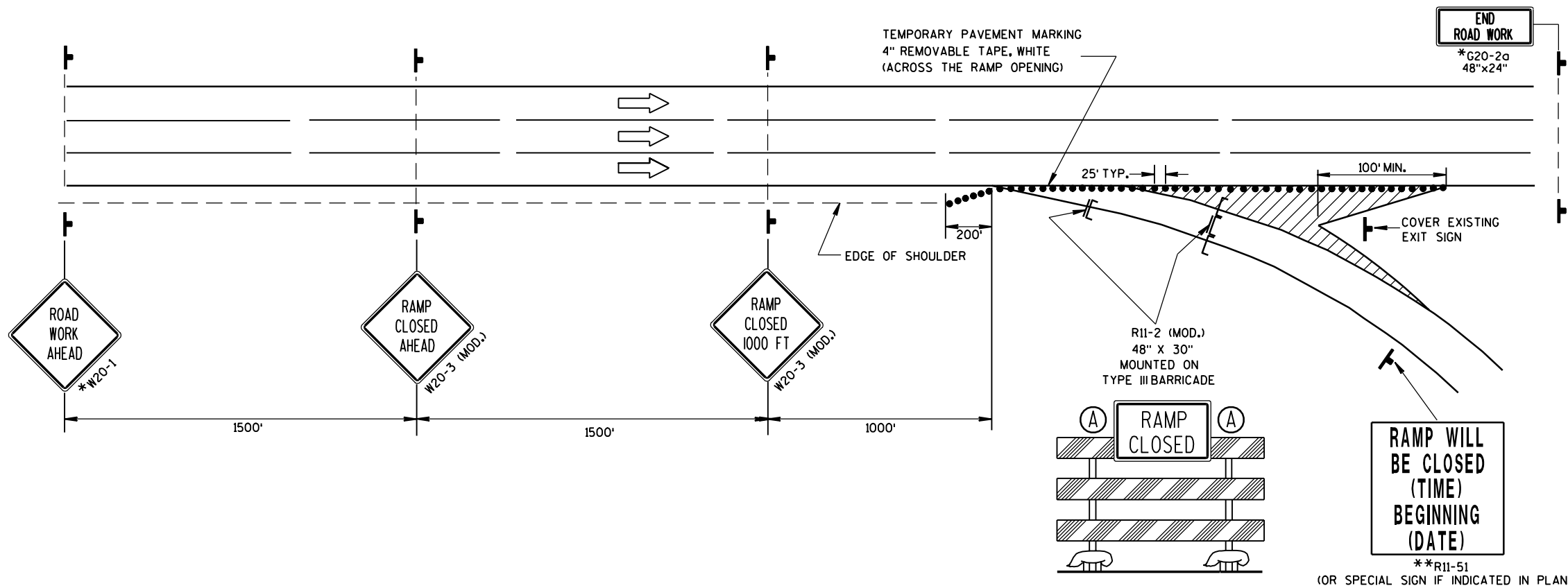
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

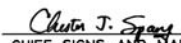
\*W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

\*\*USE THE "RAMP WILL BE CLOSED" SIGN IF INDICATED IN MISCELLANEOUS QUANTITIES. PLACE 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

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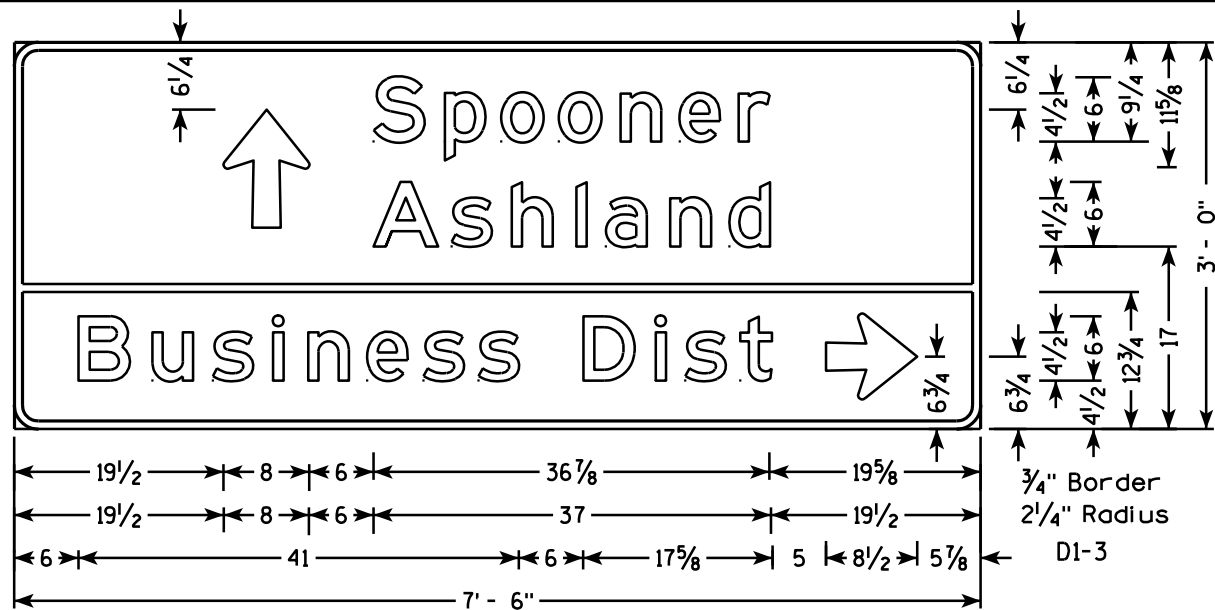
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<b>TRAFFIC CONTROL, EXIT RAMP CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/23/00 DATE	 CHIEF SIGNS AND MARKING ENGINEER
FHWA	

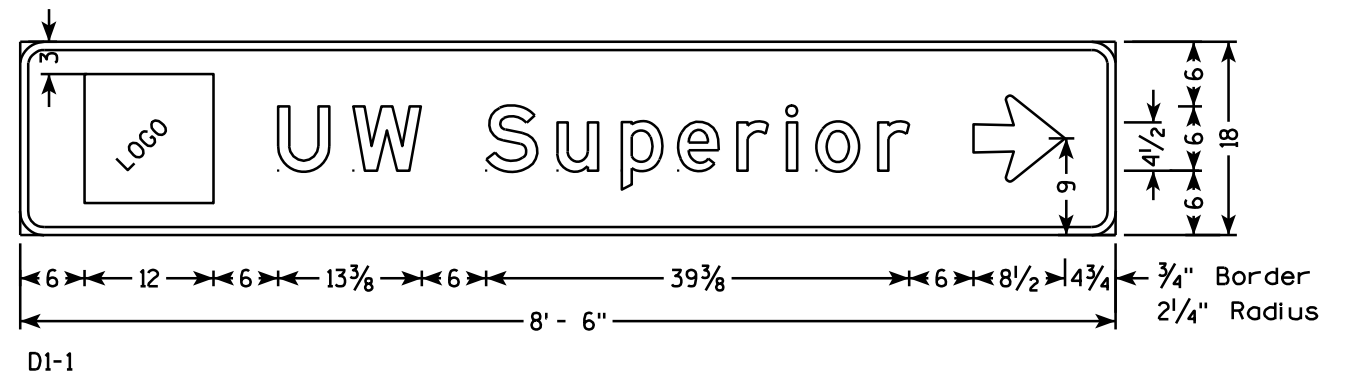
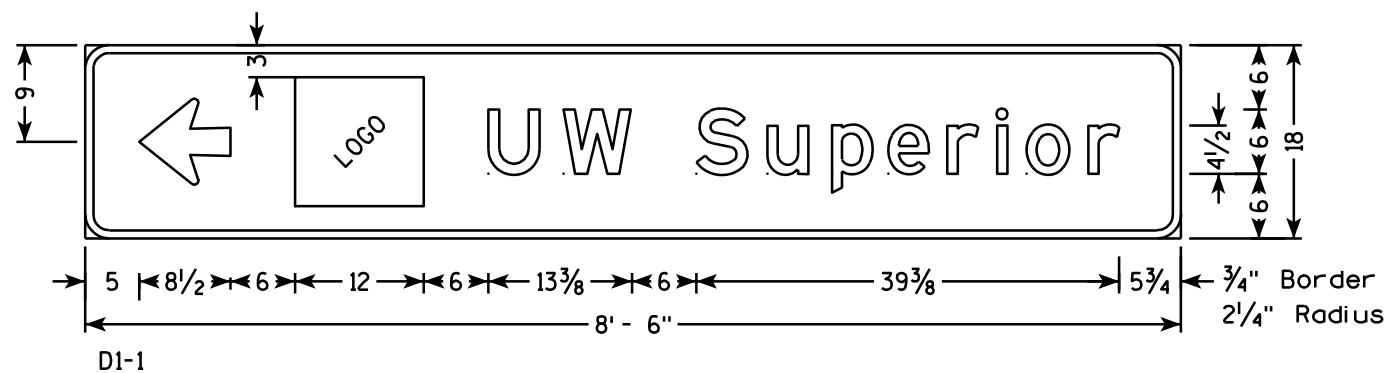
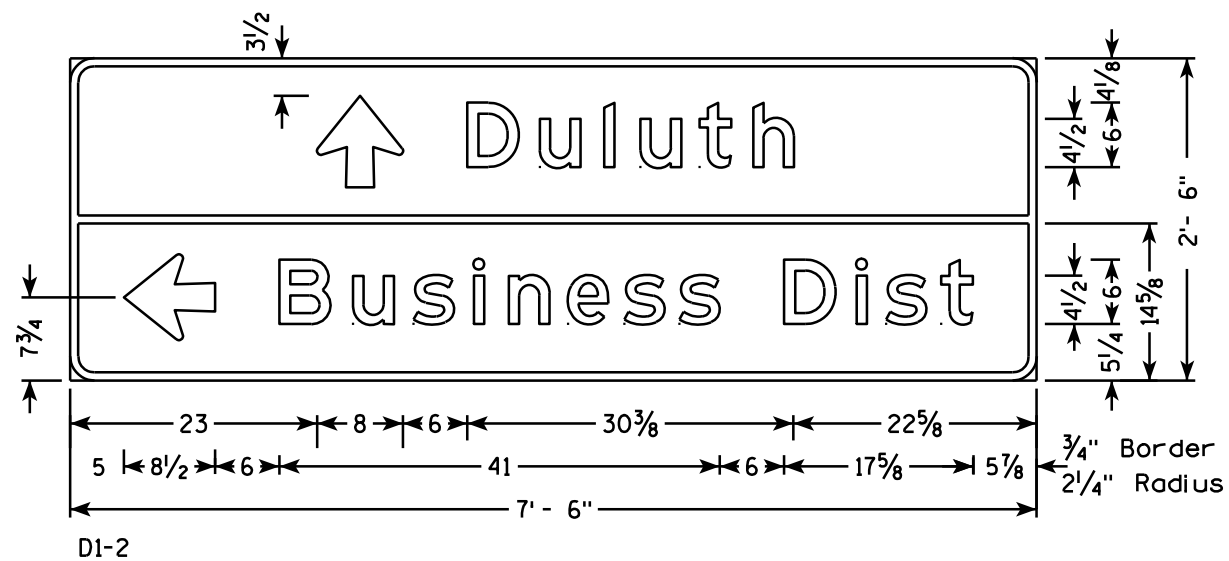
S.D.D. 15 D 16-1

S.D.D. 15 D 16-1



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

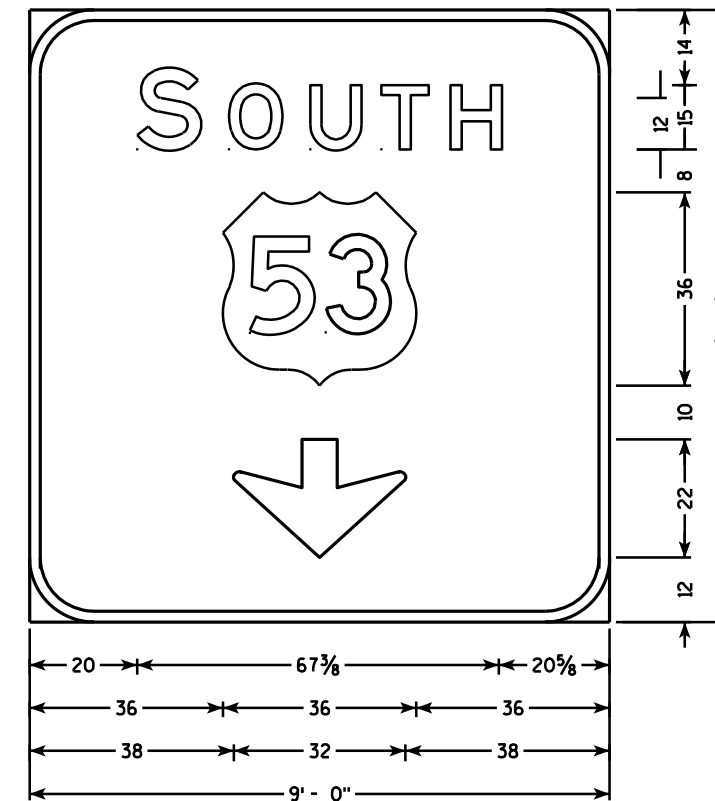
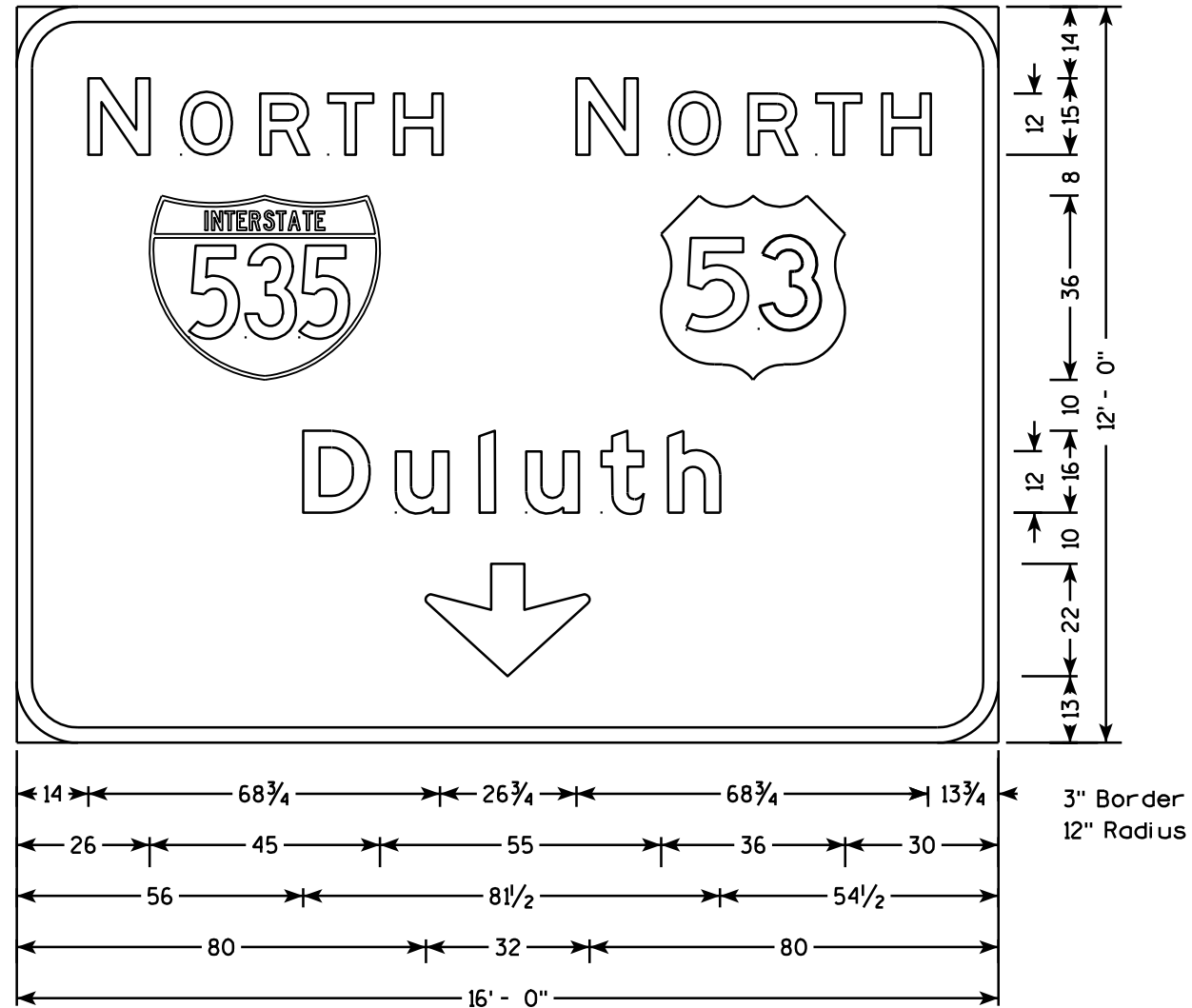


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NOTES

1. All Signs are Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
 Background - Green  
 Message - White
3. Message Series - E

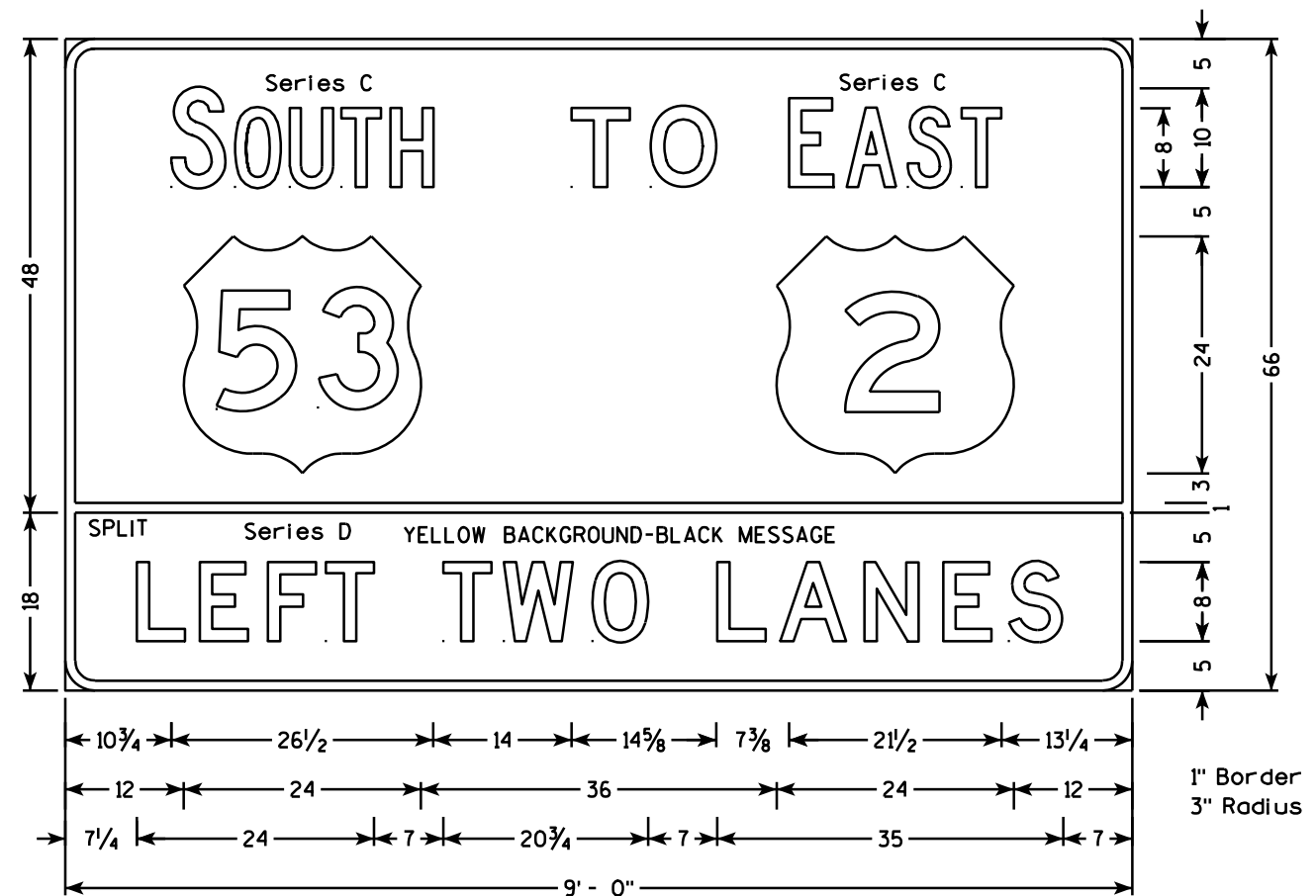
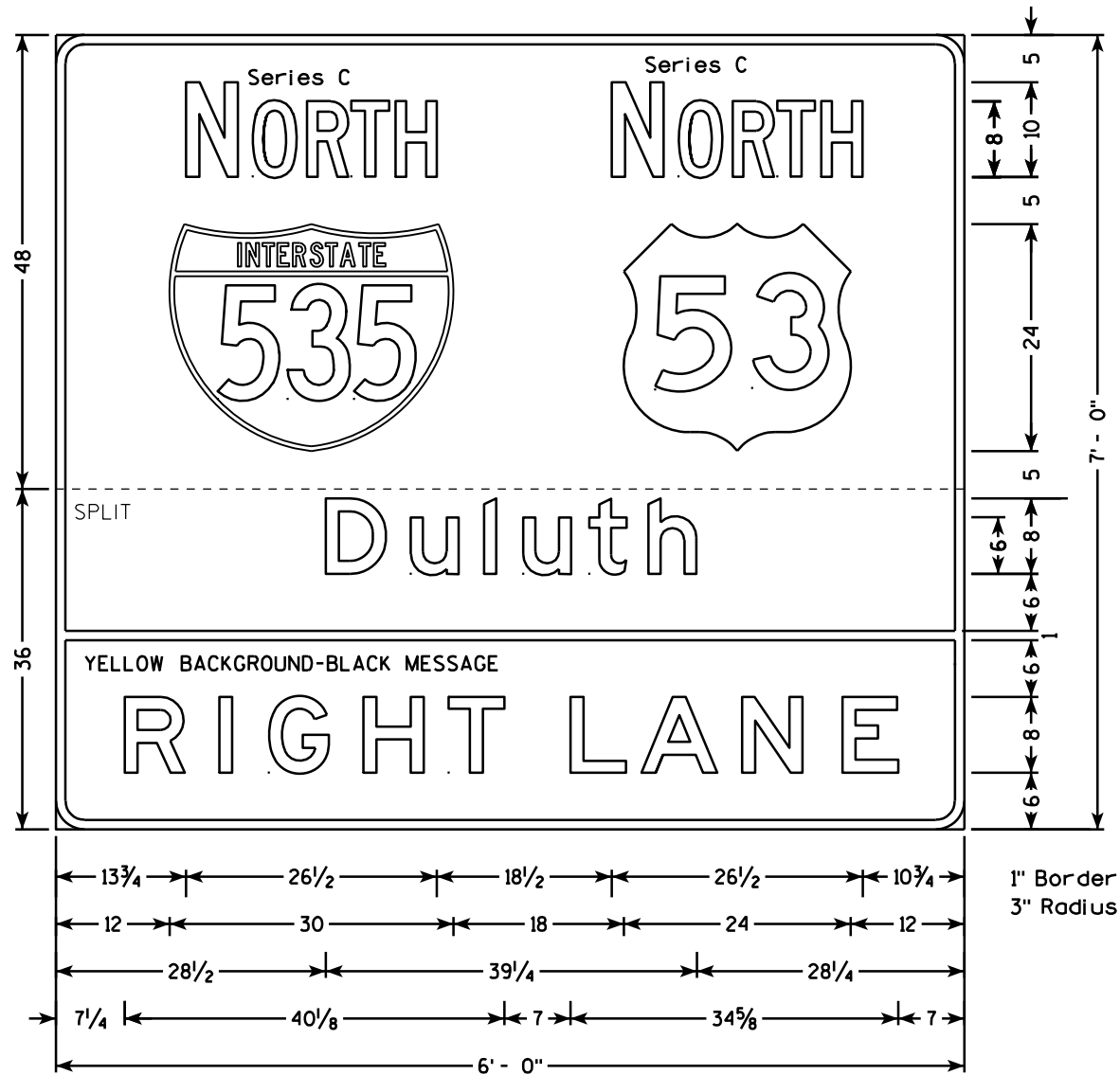


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**NOTES**

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

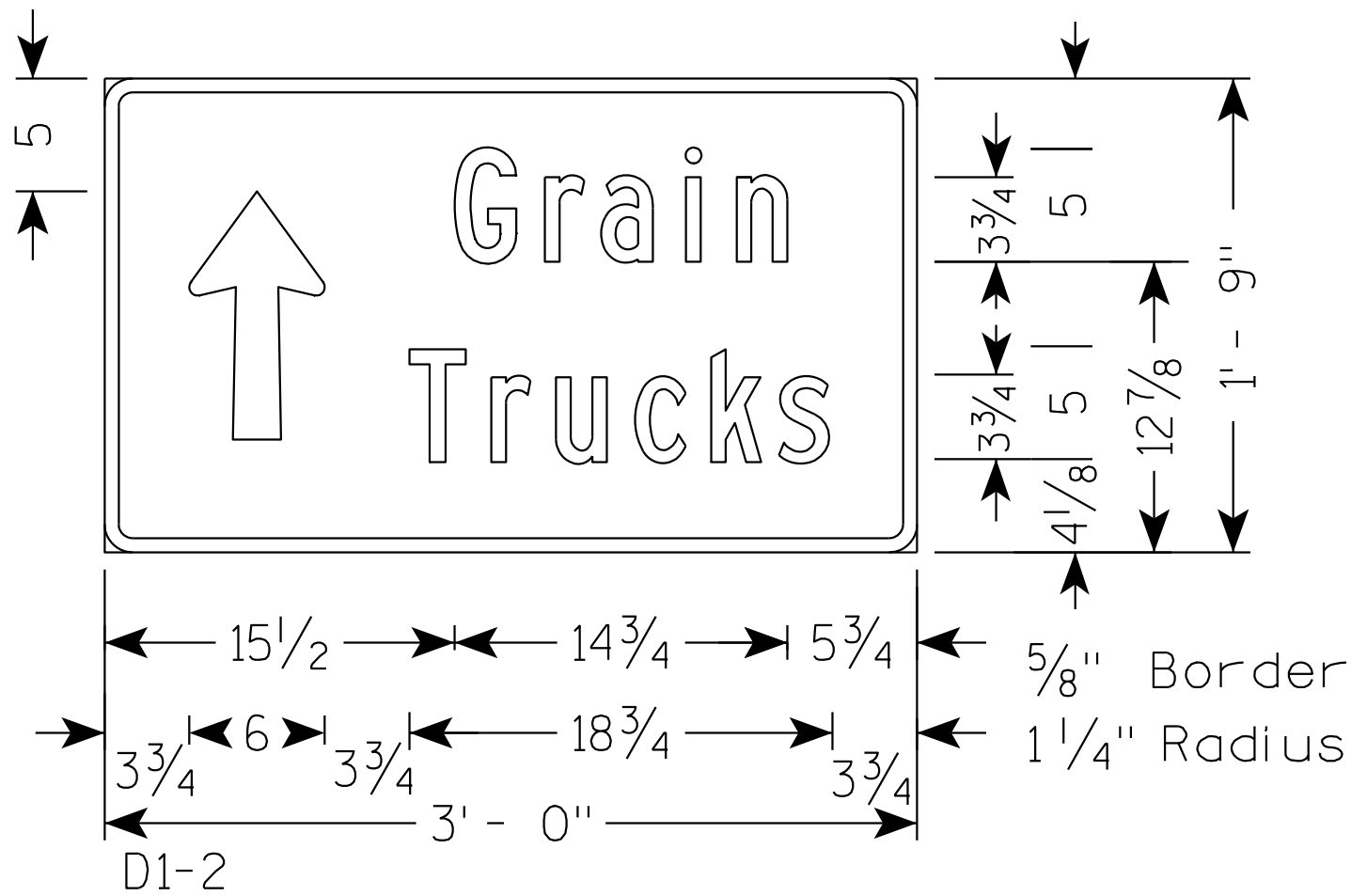


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NOTES

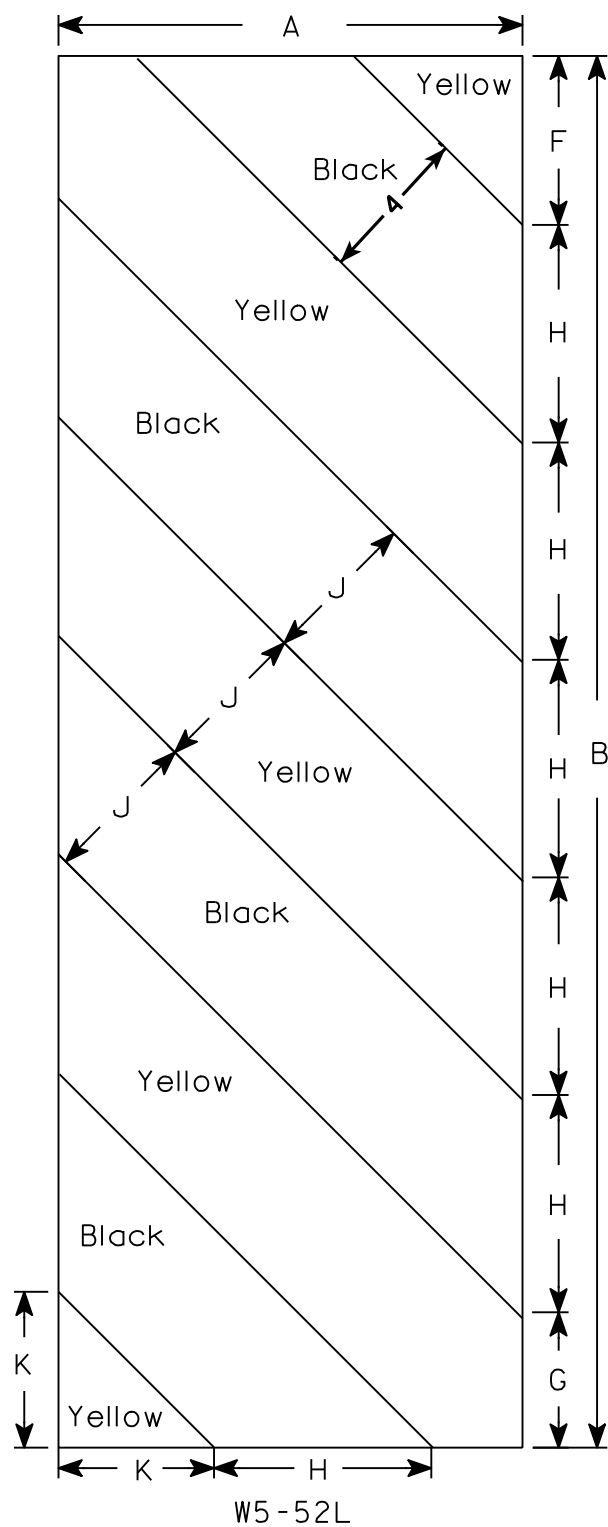
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - GREEN  
Message - WHITE
3. Message Series - C



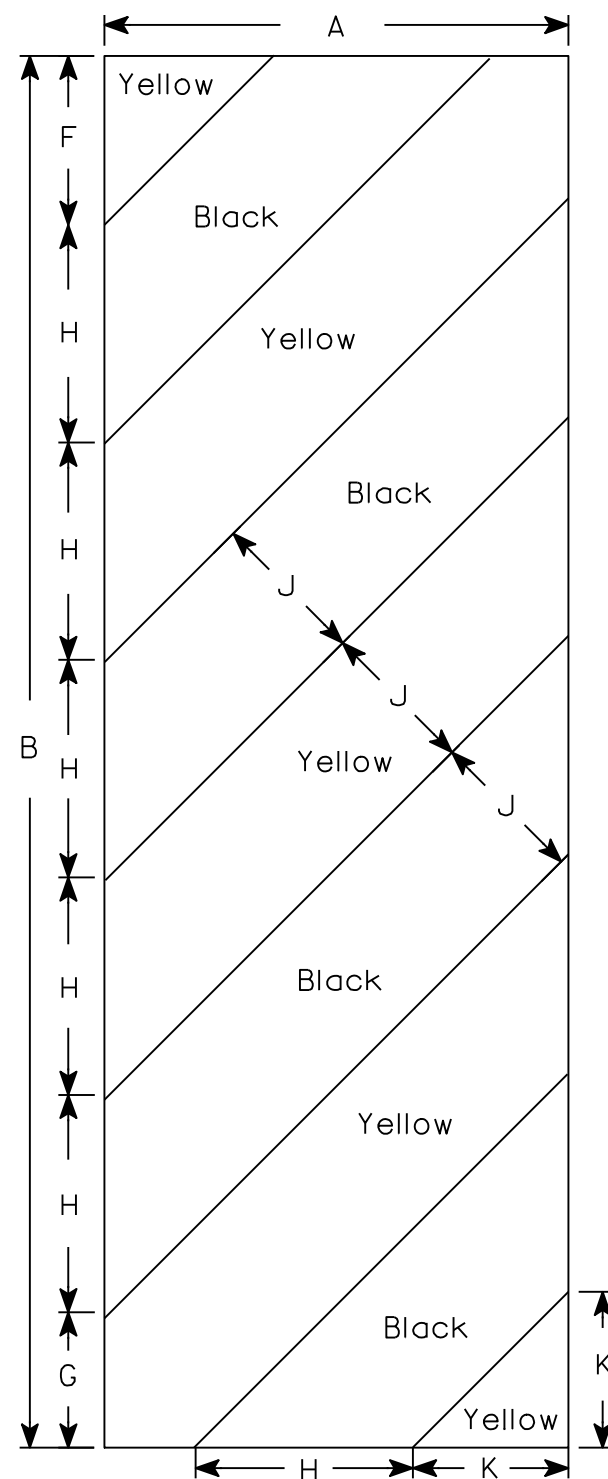
7

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W5-52L



W5-52R

NOTES

1. Sign is Type II - Type H 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.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

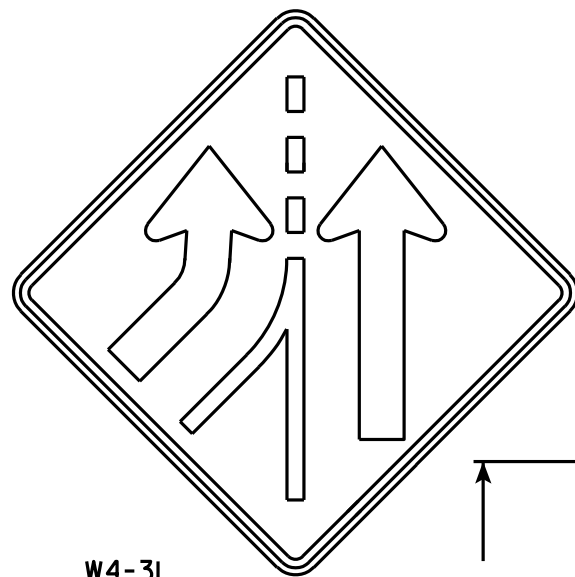
STANDARD SIGN  
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

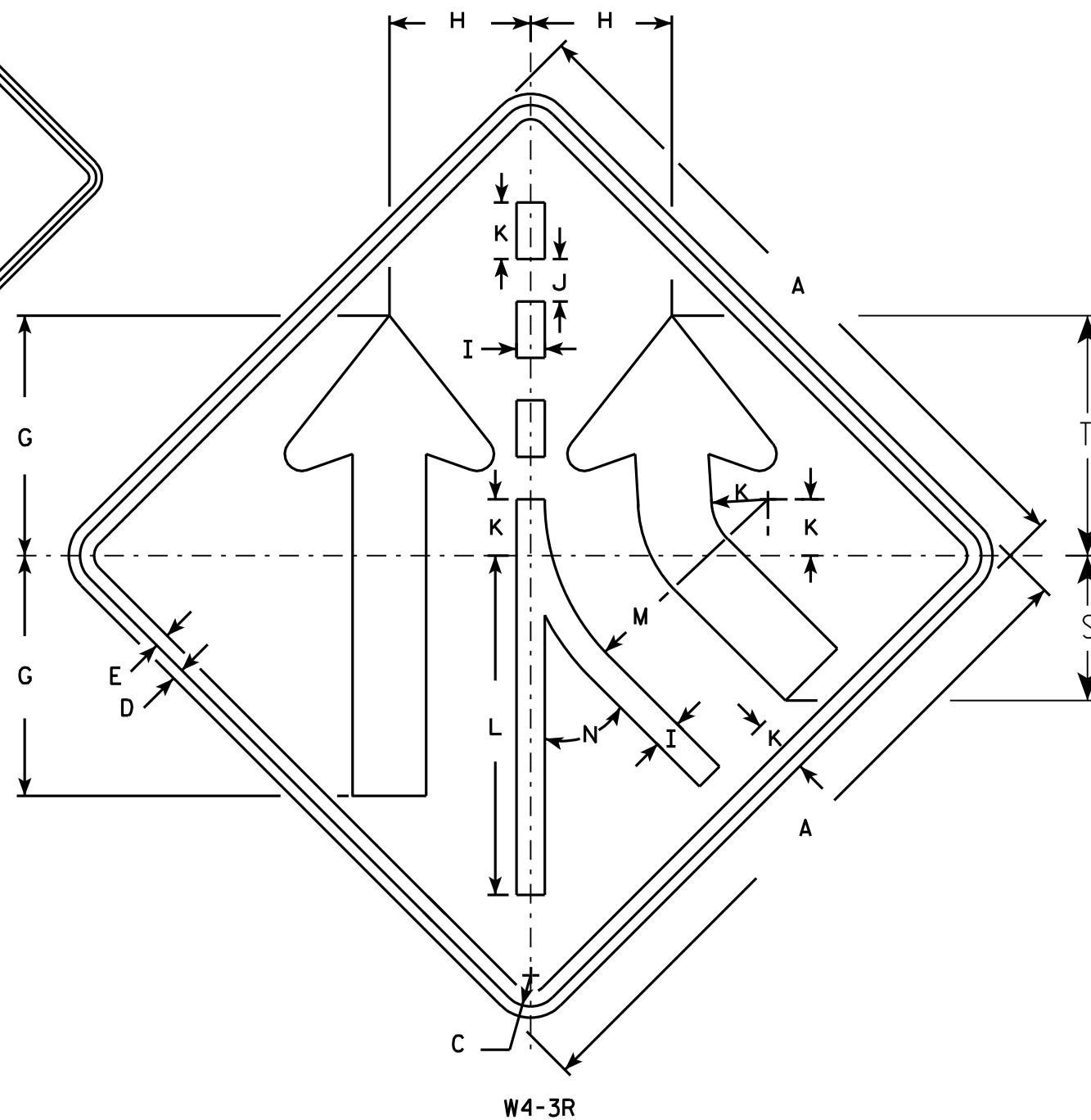
APPROVED *Matthew R Raub*  
For State Traffic Engineer

DATE 3/22/11 PLATE NO. W5-52.8

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

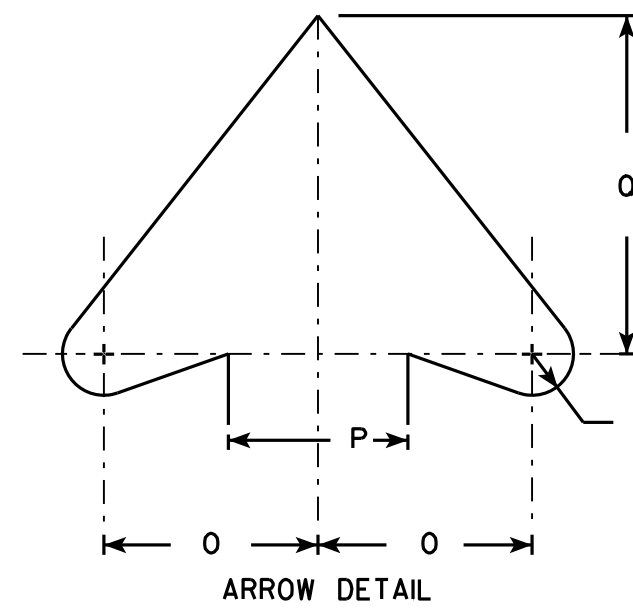


W4-3L



**NOTES**

1. Sign is Type II - Type H 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. W4-3 L is the same as W4-3 R except the arrow is reversed along the vertical centerline.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		10 5/8	6 1/4	1 1/4	1 7/8	2 1/2	15	9 7/8	45°	3 7/8	3 1/4	6 1/8	3/4	6 3/8	10 5/8							6.25
2S	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2M	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
3																											
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

**STANDARD SIGN**  
W4-3

WISCONSIN DEPT OF TRANSPORTATION

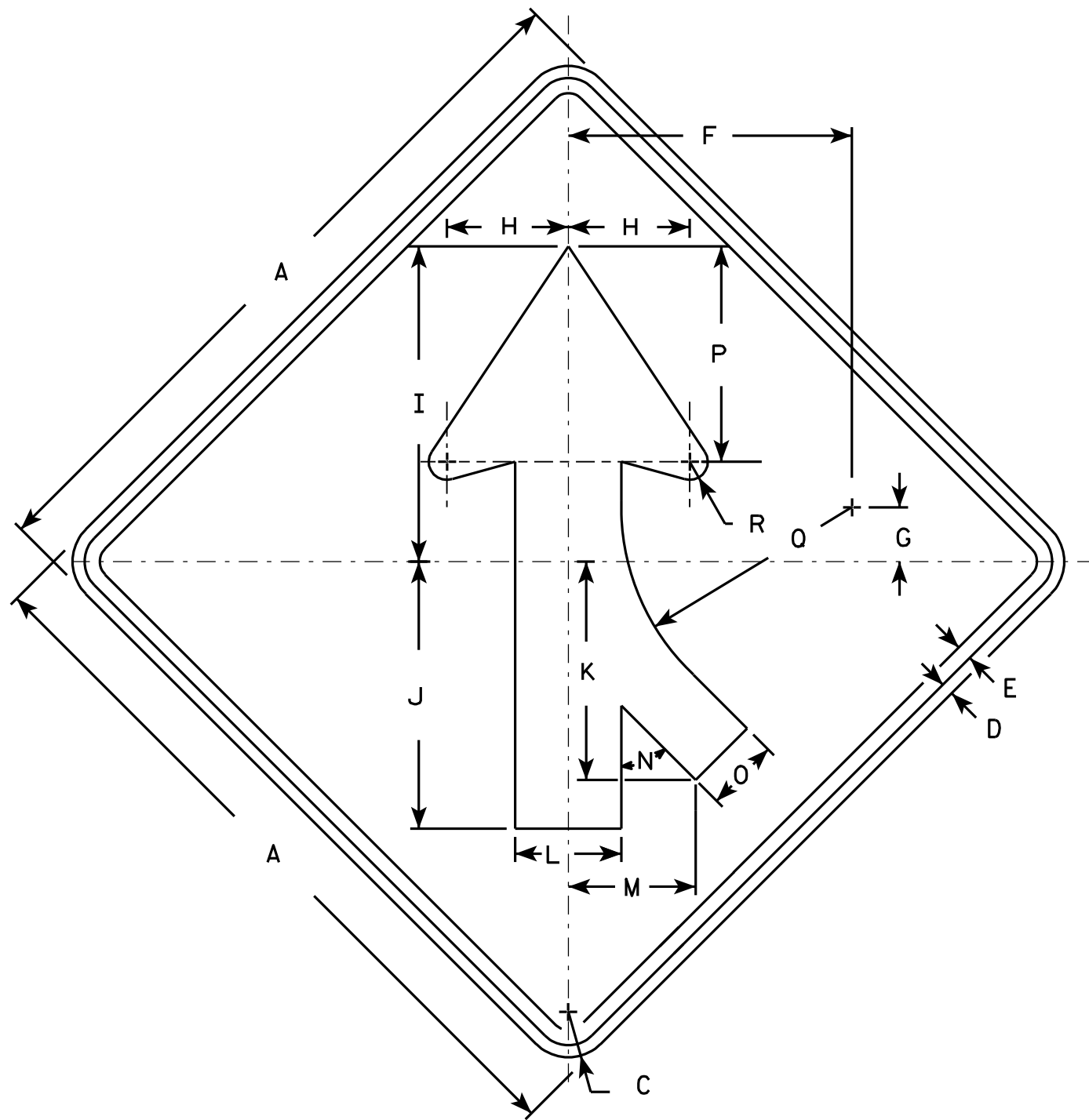
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/21/11 PLATE NO. W4-3.7

PROJECT NO:

SHEET NO:

E



W4-1R

NOTES

1. Sign is Type II - Type H 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. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

7

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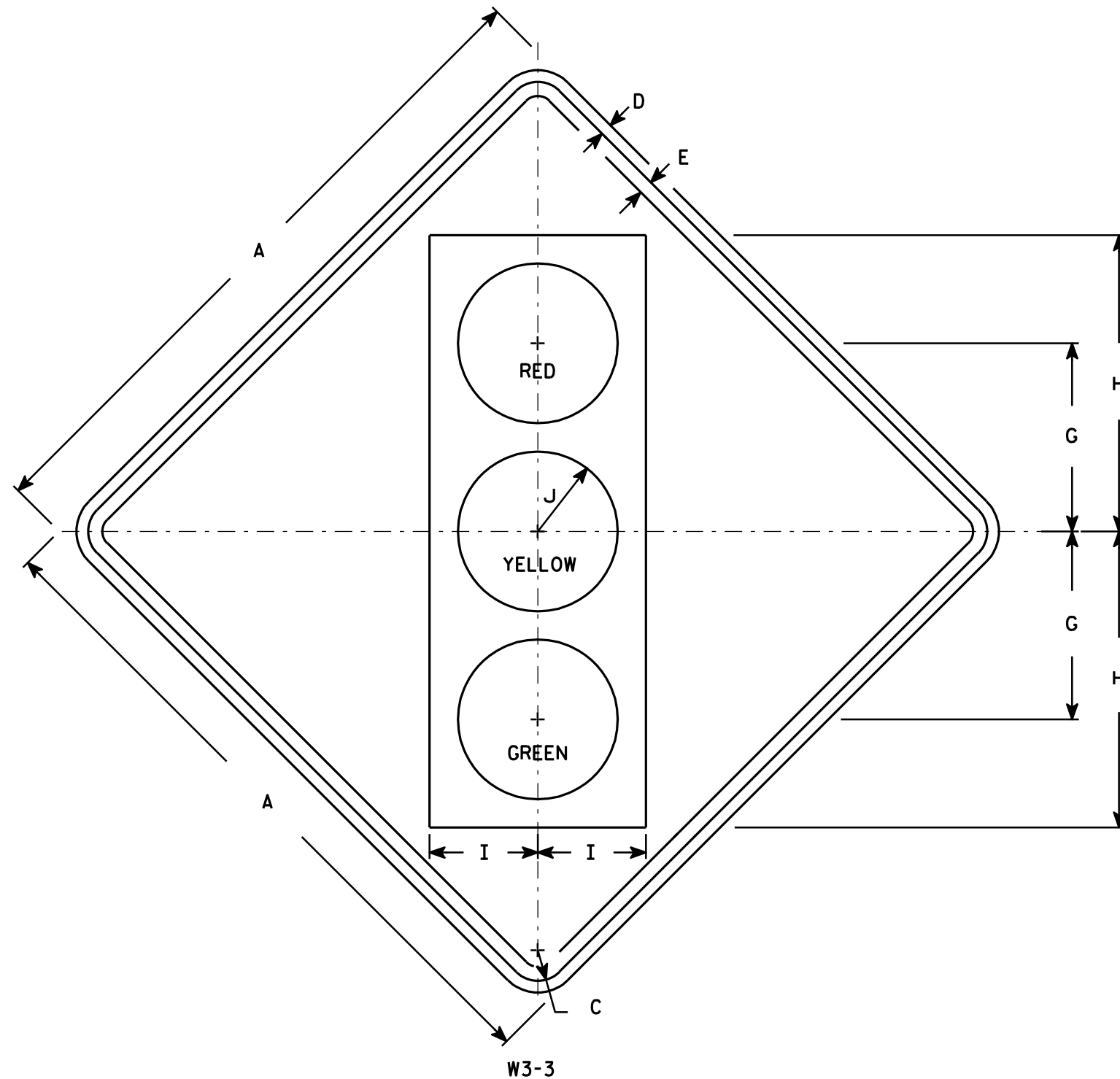
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

**STANDARD SIGN**  
W4-1

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W4-1.13



**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 - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.  
Top circle - Type H ReflectORIZED Red  
Center circle - Same as background  
Bottom circle - Type H ReflectORIZED Green

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

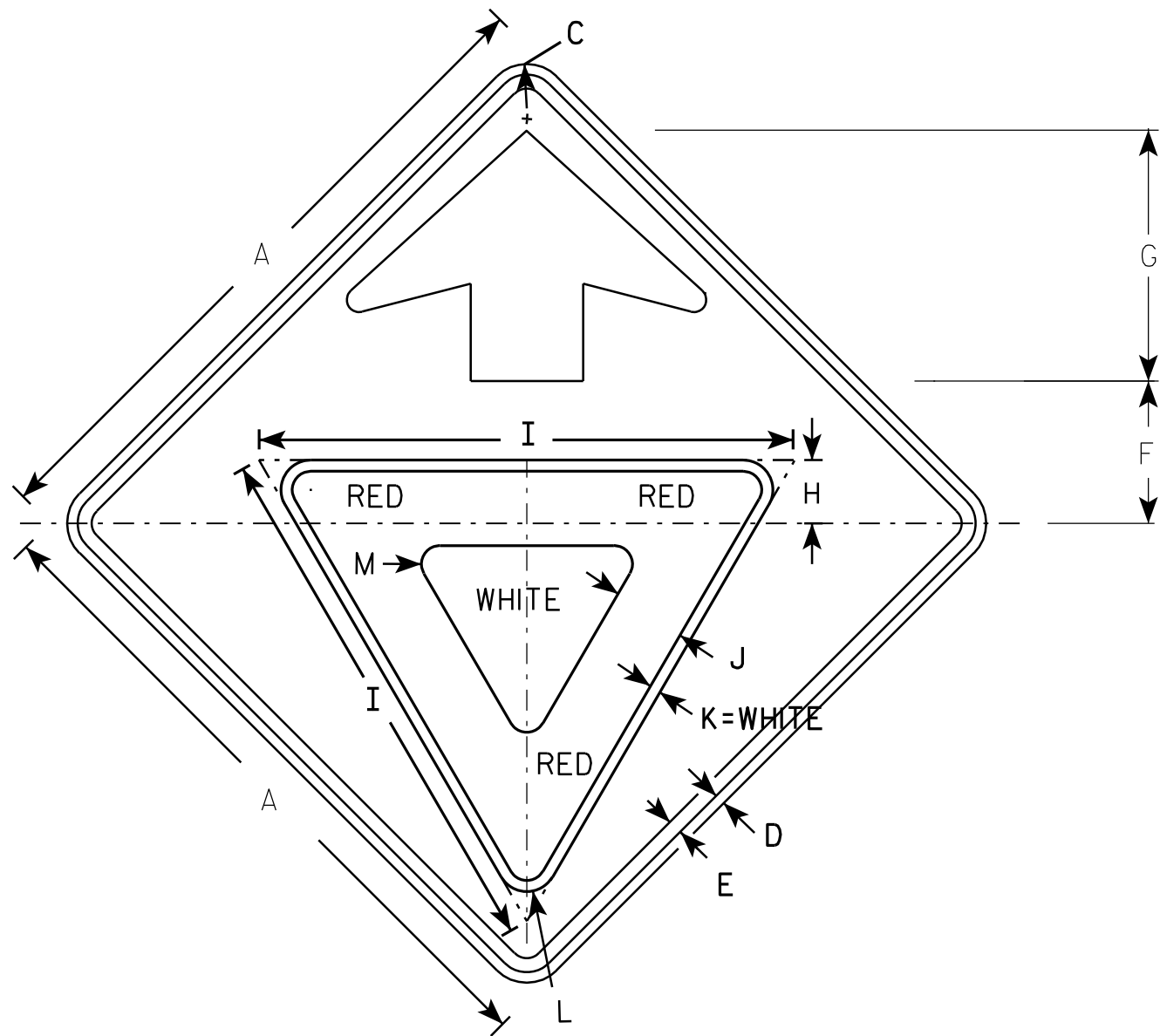
**STANDARD SIGN**  
**W3-3**

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

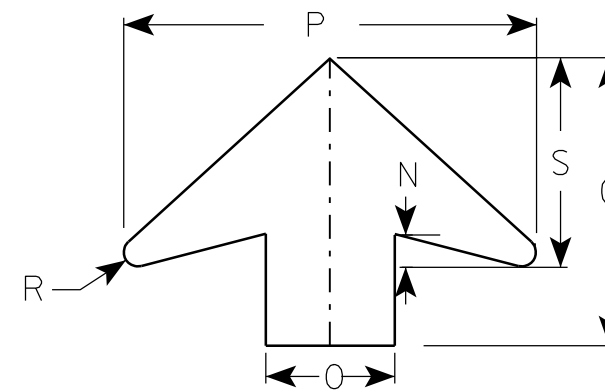
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**



W3-2

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  
 Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	3	25	3 3/8	1/2	1 3/8	7/8	1 1/4	5	16		1/2	8								6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

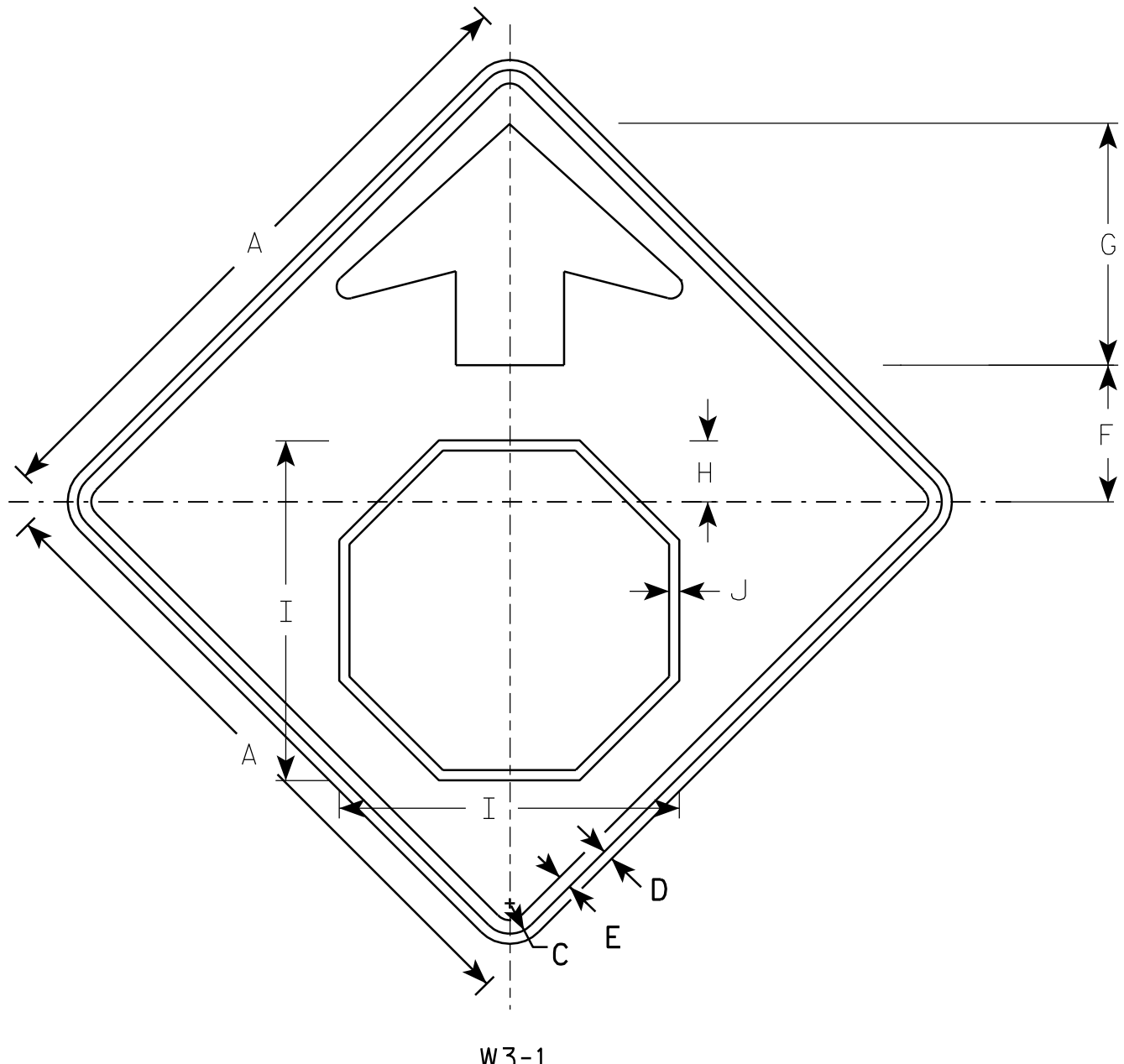
**STANDARD SIGN**  
W3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-2..9

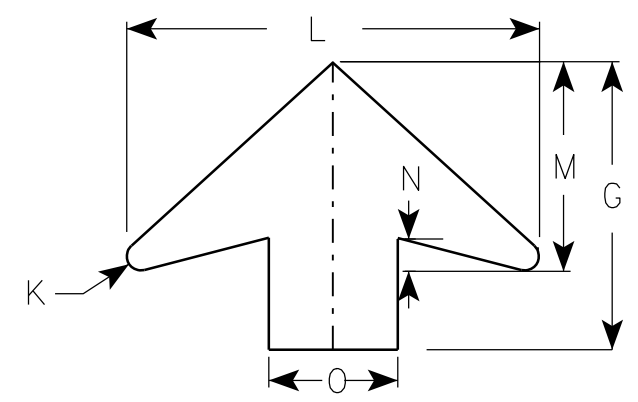
PROJECT NO: \_\_\_\_\_ SHEET NO: **E**



W3-1

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

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	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

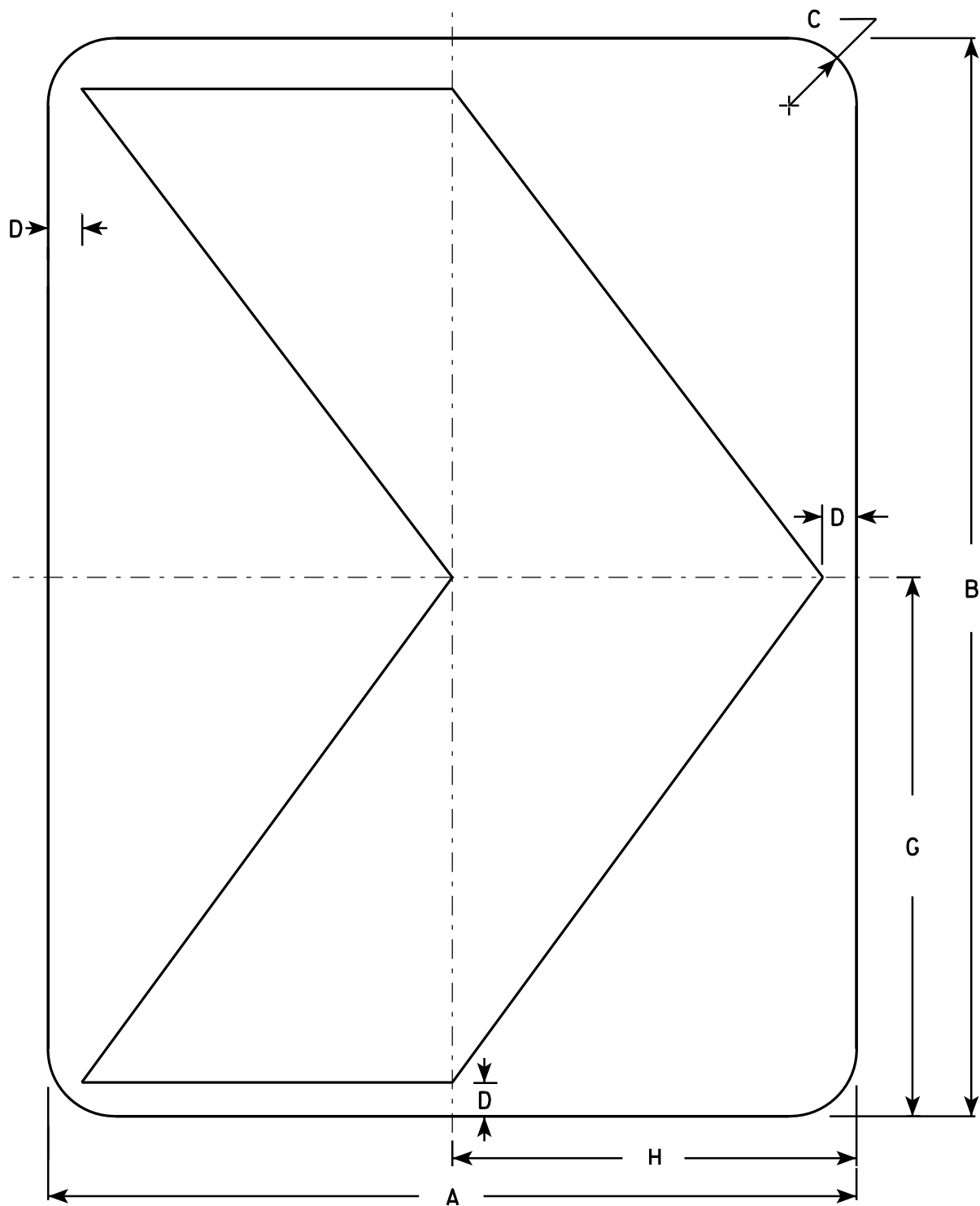
**STANDARD SIGN**  
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



NOTES

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

7

7

W1-8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/2	1/2			9	6																			1.5
2S	18	24	1 1/2	3/4			12	9																			3.0
2M	18	24	1 1/2	3/4			12	9																			3.0
3	24	30	1 1/2	1			15	12																			5.0
4	30	36	1 7/8	1 1/4			18	15																			7.5
5	36	48	2 1/4	1 1/2			24	18																			12.0

**STANDARD SIGN**  
W1-8

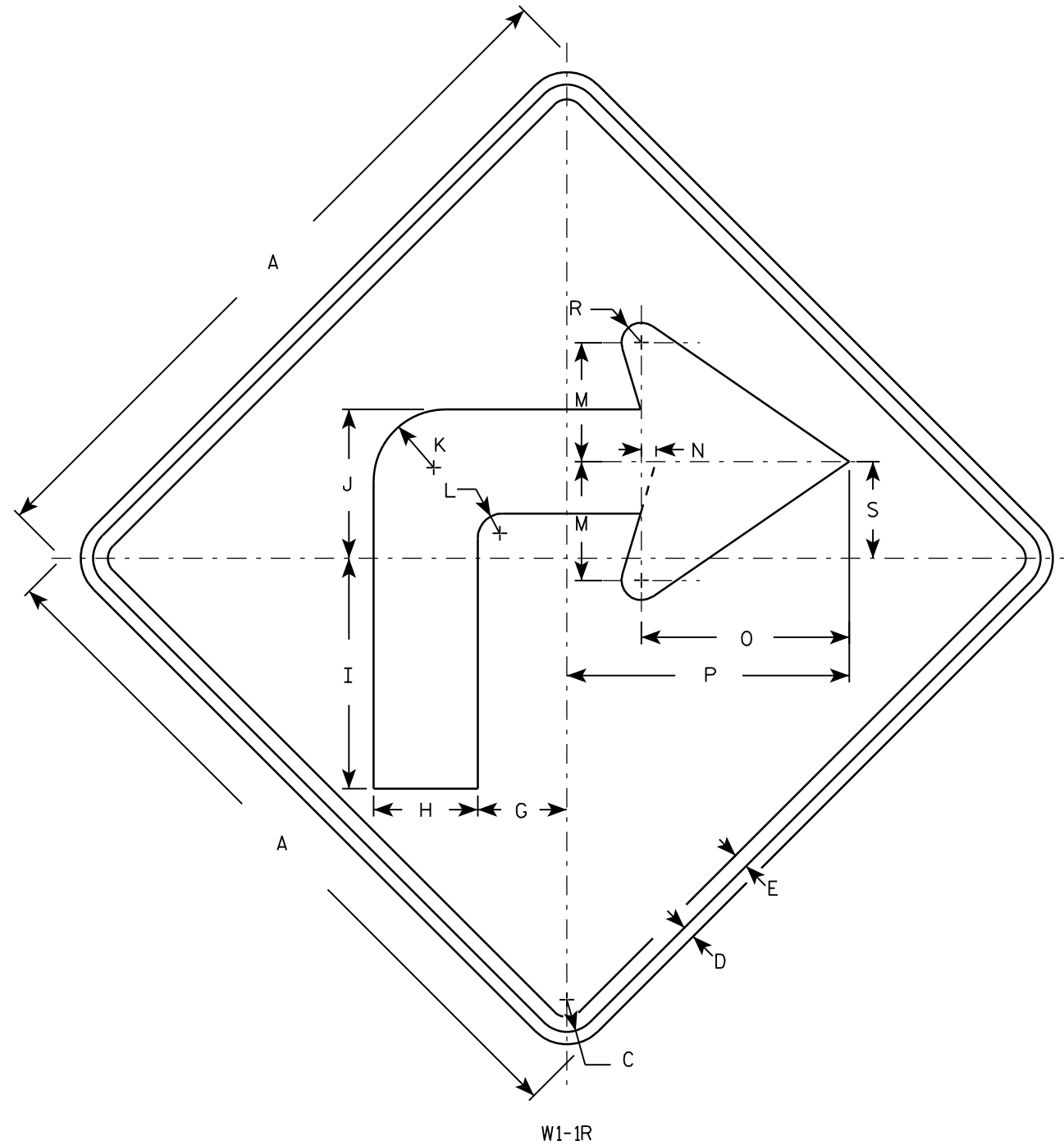
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

NOTES

1. Sign is Type II - Type H 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. W1-1L is the same as W1-1R except the arrow is reversed along the vertical centerline.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		3	3 1/2	7 3/4	5	2 1/2	7/8	4	1/2	7	9 1/2		5/8	3 1/4								4.0
2S	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
2M	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
3	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
4	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0
5	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0

**STANDARD SIGN**  
W1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W1-1.10

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



NOTES

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



R14-52

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	3/8	5	2 1/4	10	10 1/4	9 3/4	9 3/8	10															4.00
2M	24		1 1/8	3/8	3/8	5	2 1/4	10	10 1/4	9 3/4	9 3/8	10															4.00
3	30		1 1/8	3/8	3/8	6	3	12 1/2	13	12 3/4	11 3/4	12 1/2															6.25
4	42		1 3/8	1/2	5/8	8	4 1/2	16 3/4	17 3/8	17 1/4	16 3/4	17															12.25
5																											

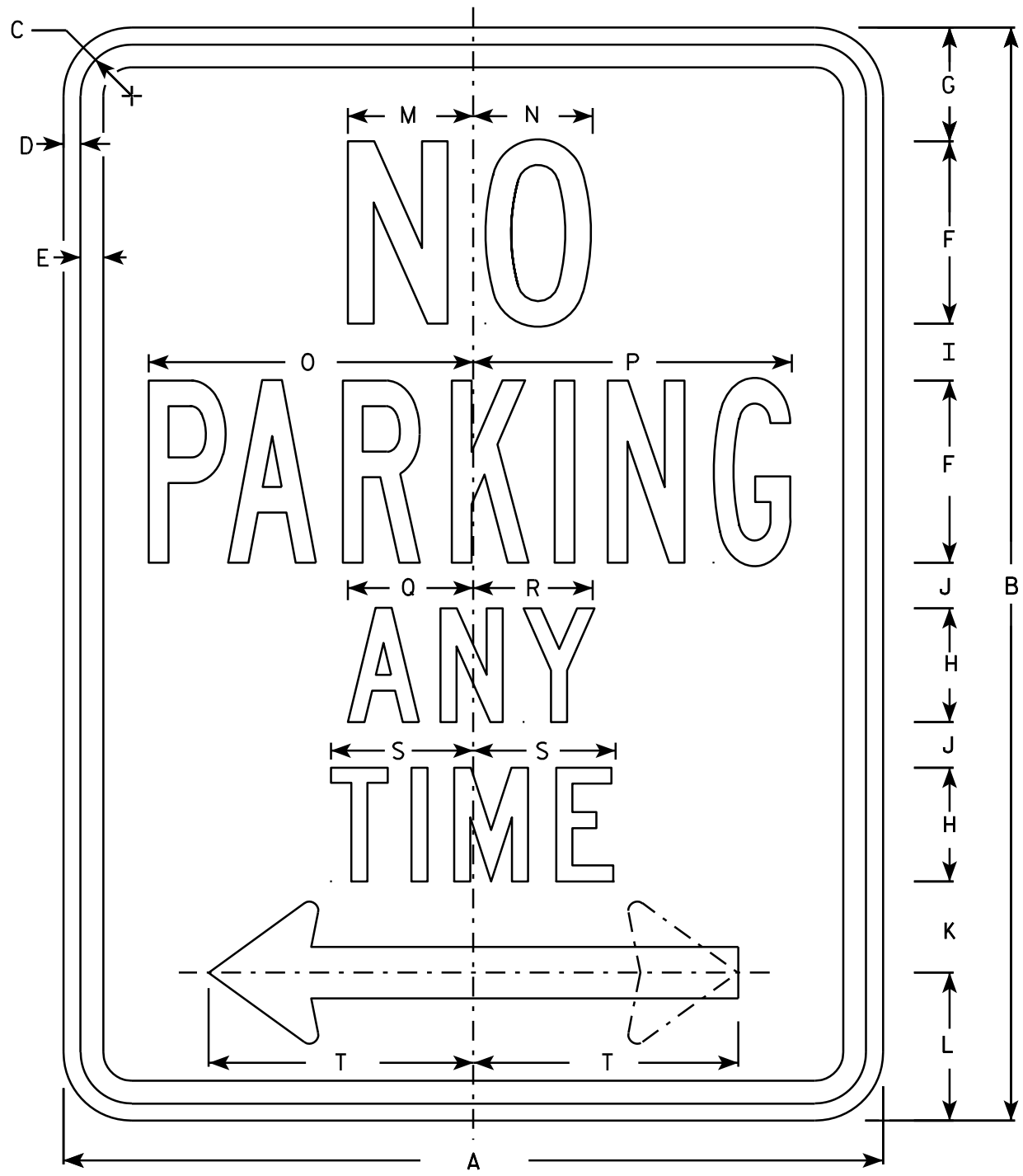
**STANDARD SIGN**  
R14-52

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/30/11 PLATE NO. R14-52.3

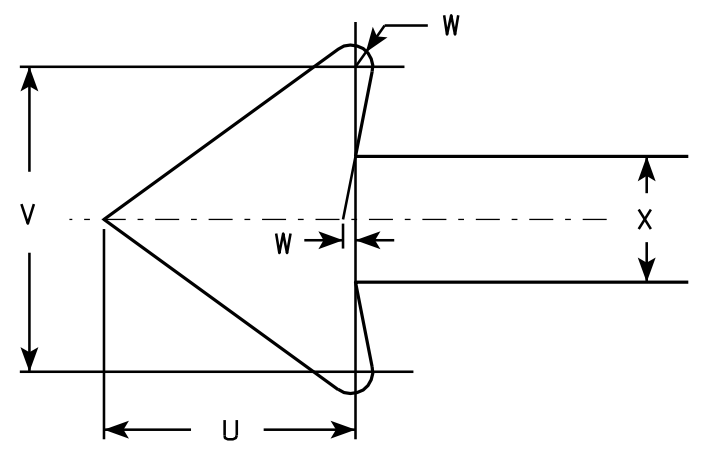
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



R7-1

**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 - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)  
R7-1L (left arrow)  
R7-1R (right arrow)



7

7

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

**STANDARD SIGN**  
R7-1

WISCONSIN DEPT OF TRANSPORTATION

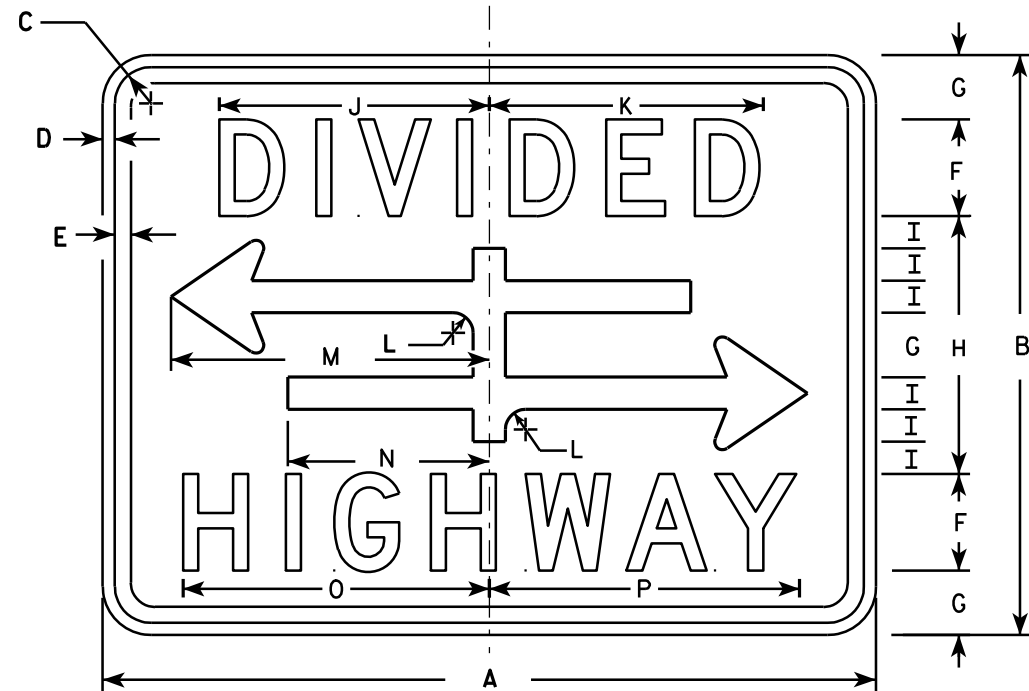
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

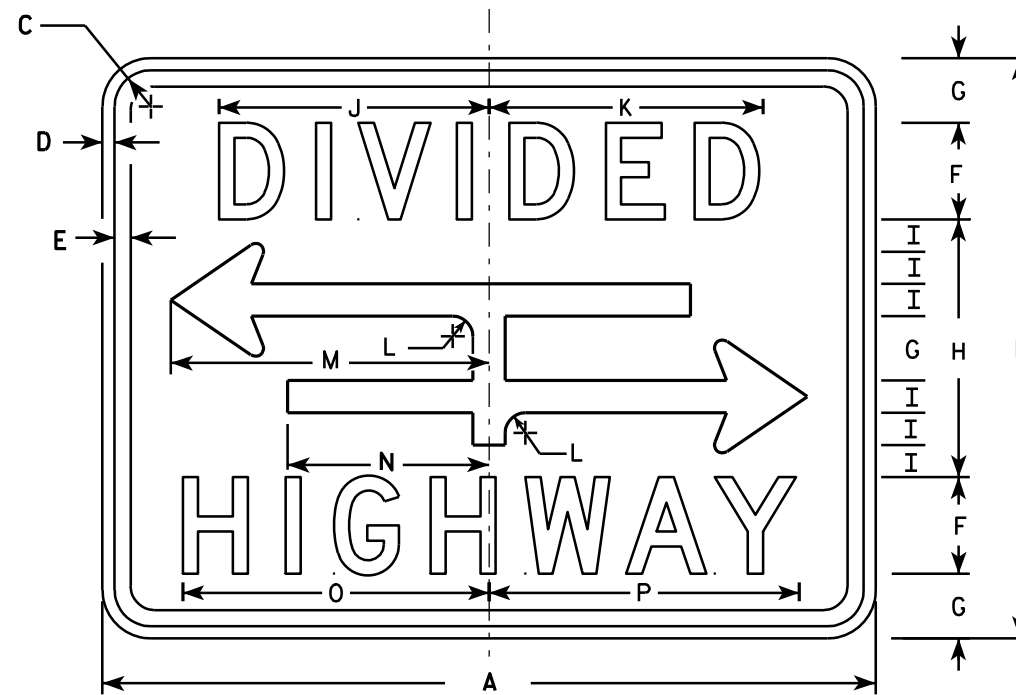
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

**NOTES**

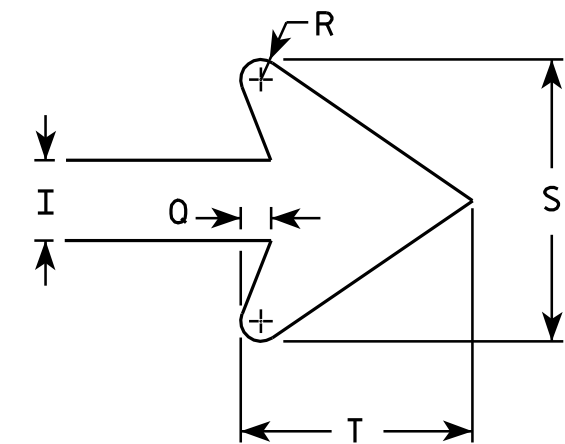
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded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



R6-3



R6-3A



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	24	18	1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

**STANDARD SIGN  
R6-3 & R6-3A**

WISCONSIN DEPT OF TRANSPORTATION

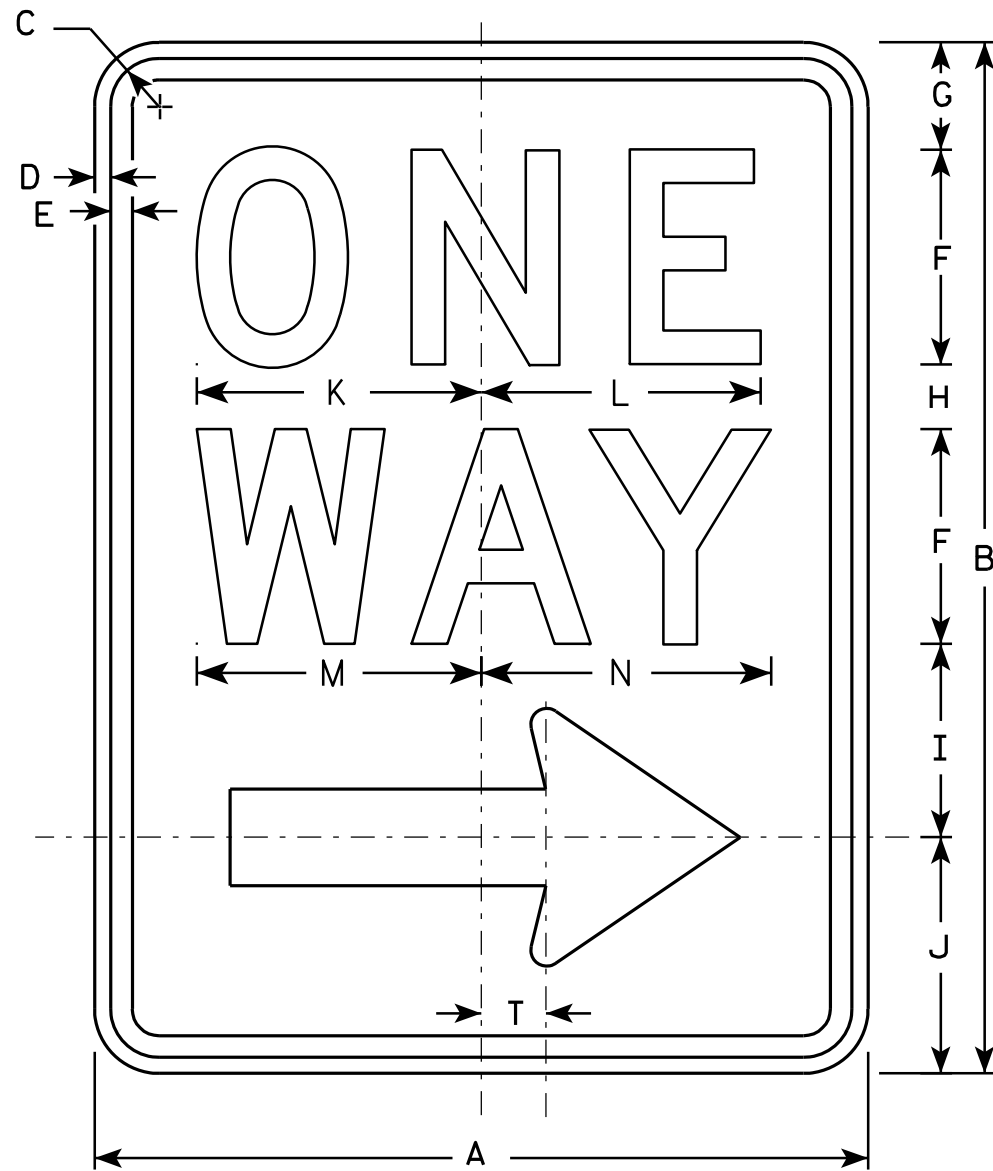
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

SHEET NO:

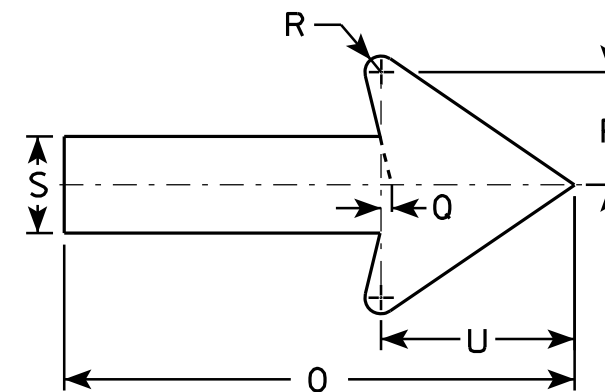
E



R6-2R

**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 - 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. R6-2L same as R6-2R except arrow points to the left.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

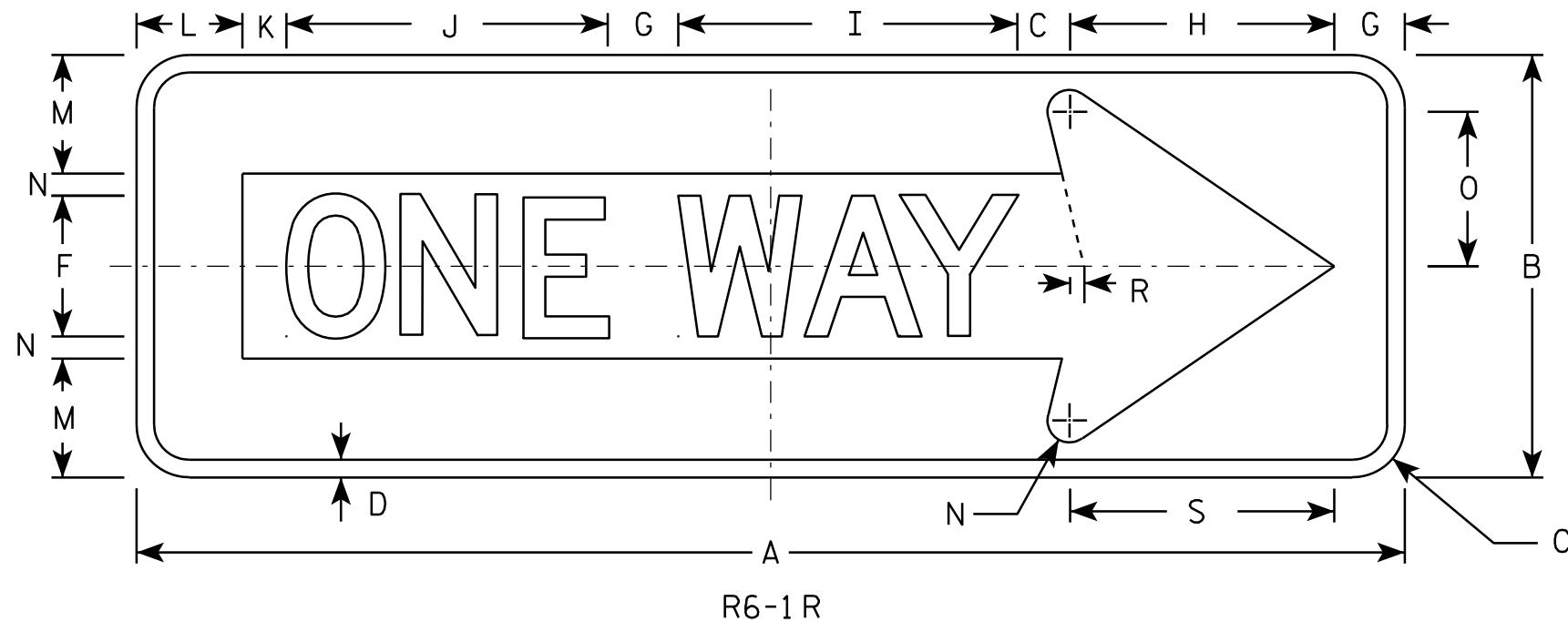
**STANDARD SIGN**  
**R6-2 R&L**

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

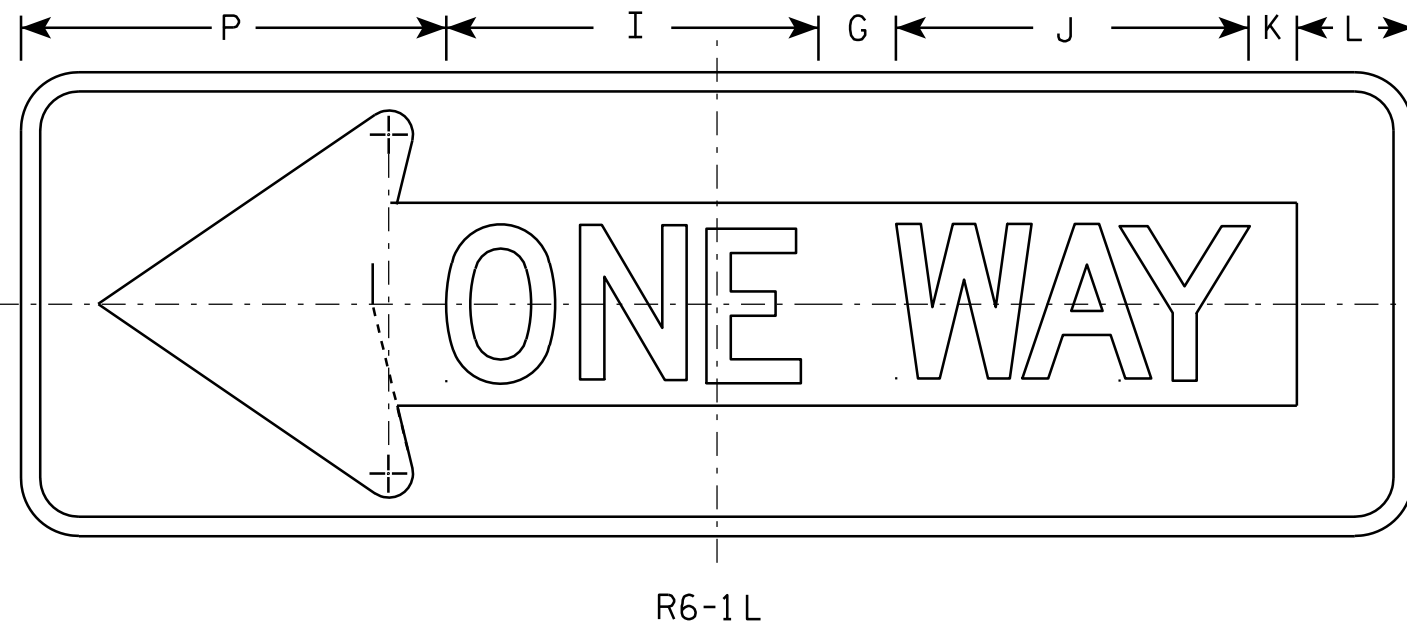
DATE 11/2/10 PLATE NO. R6-2.8

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



**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - BLACK  
Message - BLACK LEGEND & WHITE ARROW & BORDER
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.



7

7

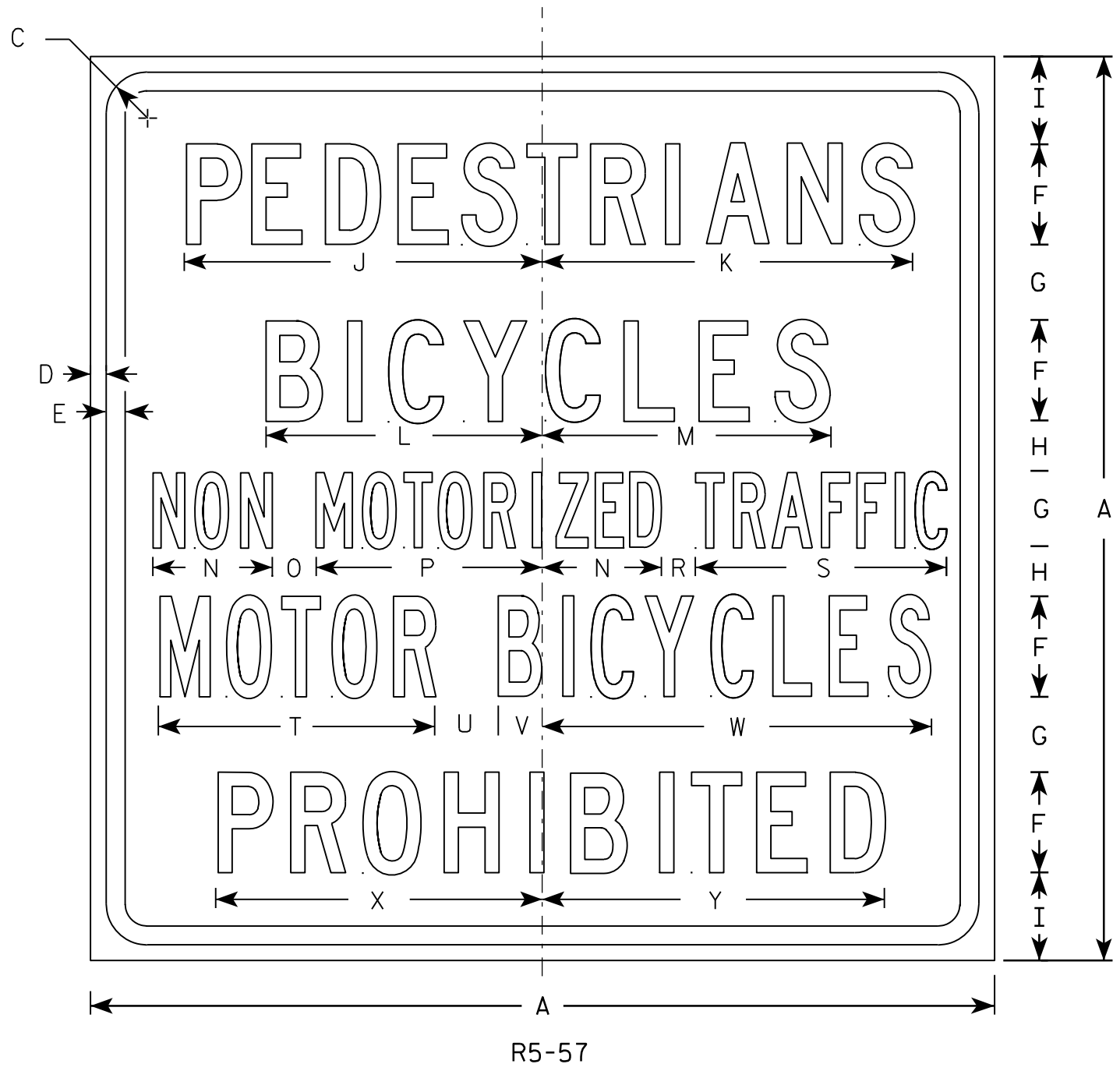
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2								3.0
2M	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
3	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
4	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
5																											

**STANDARD SIGN**  
**R6-1 L & R**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 12/17/10 PLATE NO. R6-1.2



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 - Lines 1, 2, and 5 are Series C.  
Lines 3 and 4 are Series B.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

7

R5-57

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																											
2M																											
3																											
4	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8	9.0	
5	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8	9.0	

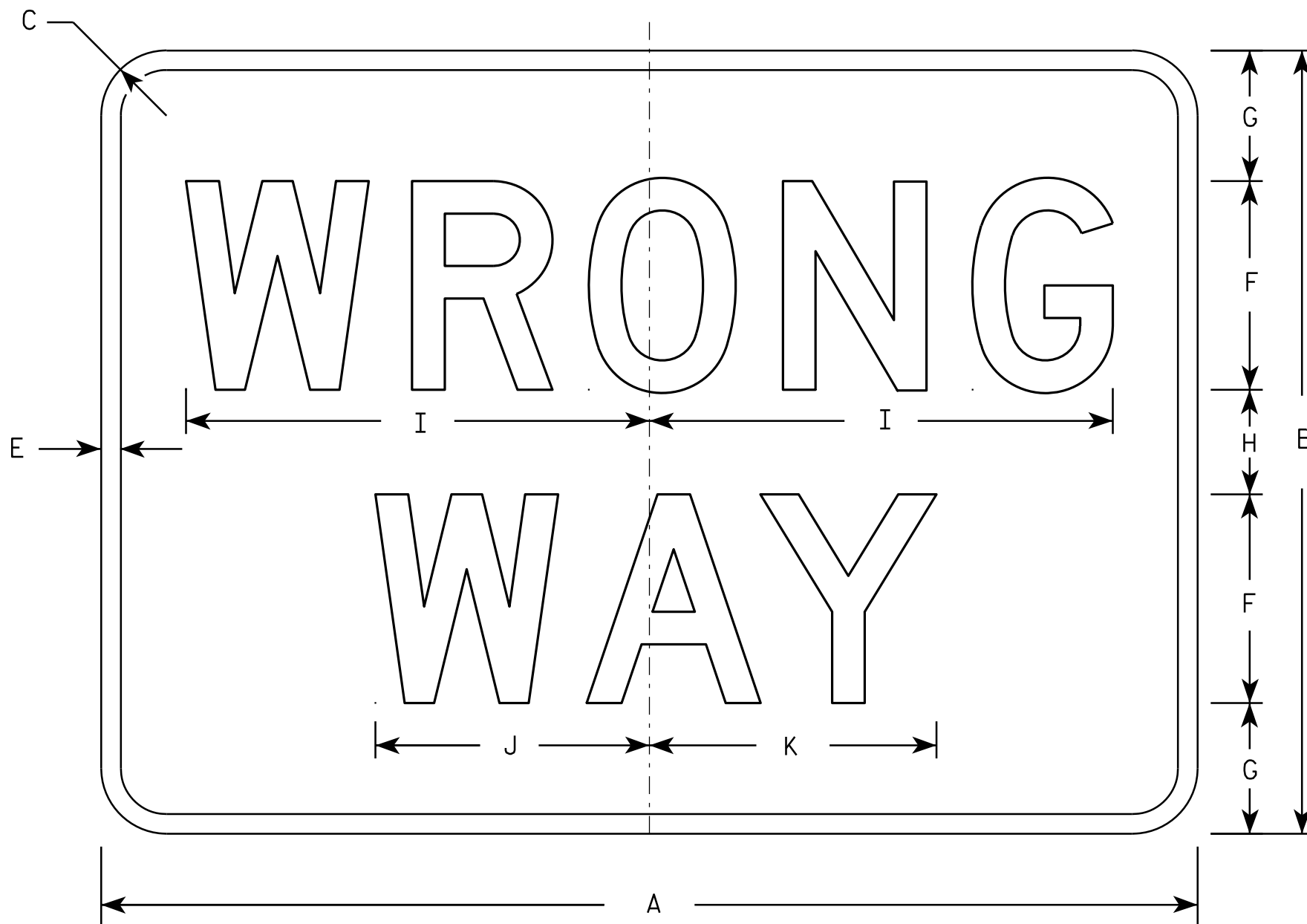
STANDARD SIGN  
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

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



**NOTES**

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

7

7

R5-1A

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	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

**STANDARD SIGN**  
R5-1A

*WISCONSIN DEPT OF TRANSPORTATION*

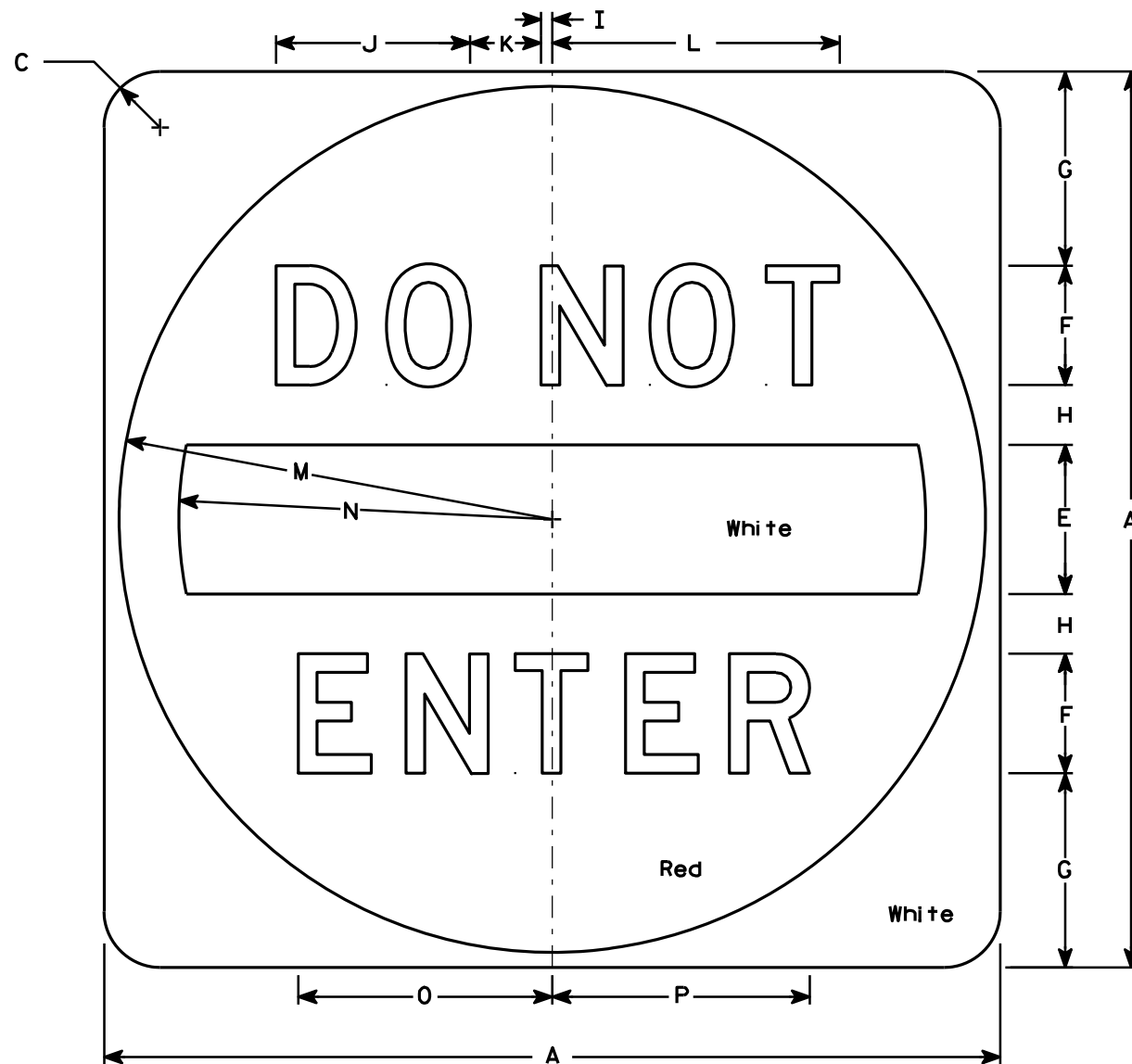
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

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

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - See detail  
Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the corners shall be rounded.



R5-1

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

**STANDARD SIGN**  
R5-1

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

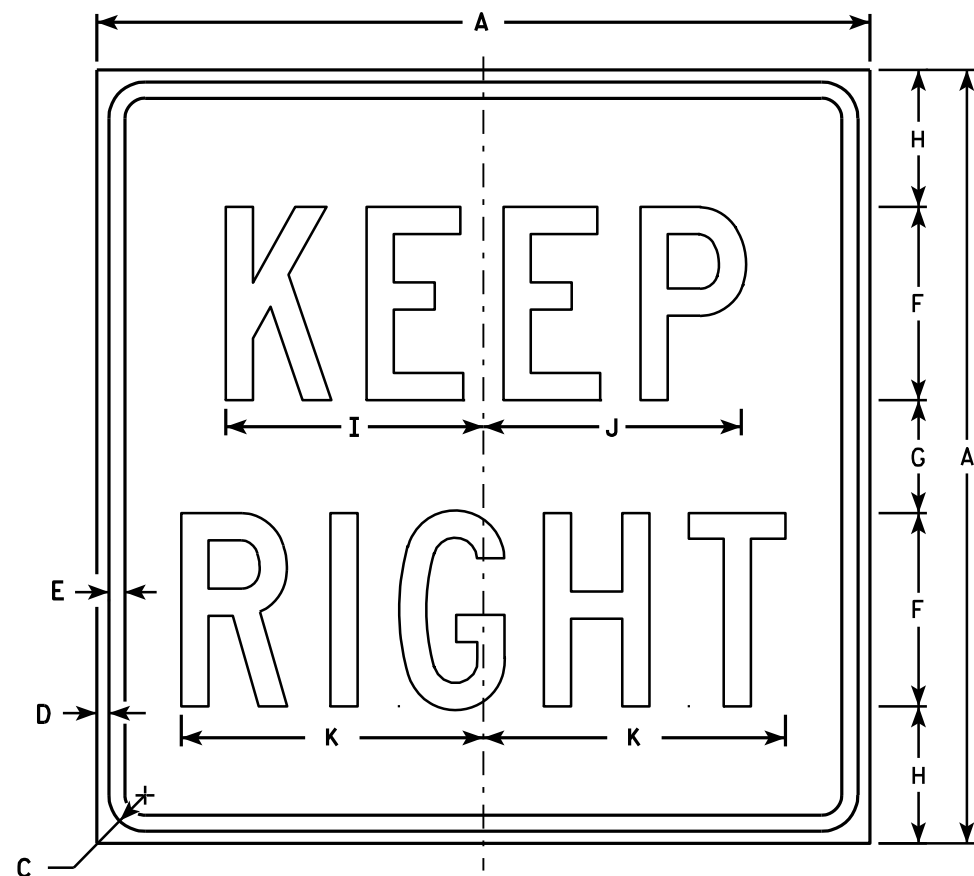
DATE 12/17/10 PLATE NO. R5-1.15

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

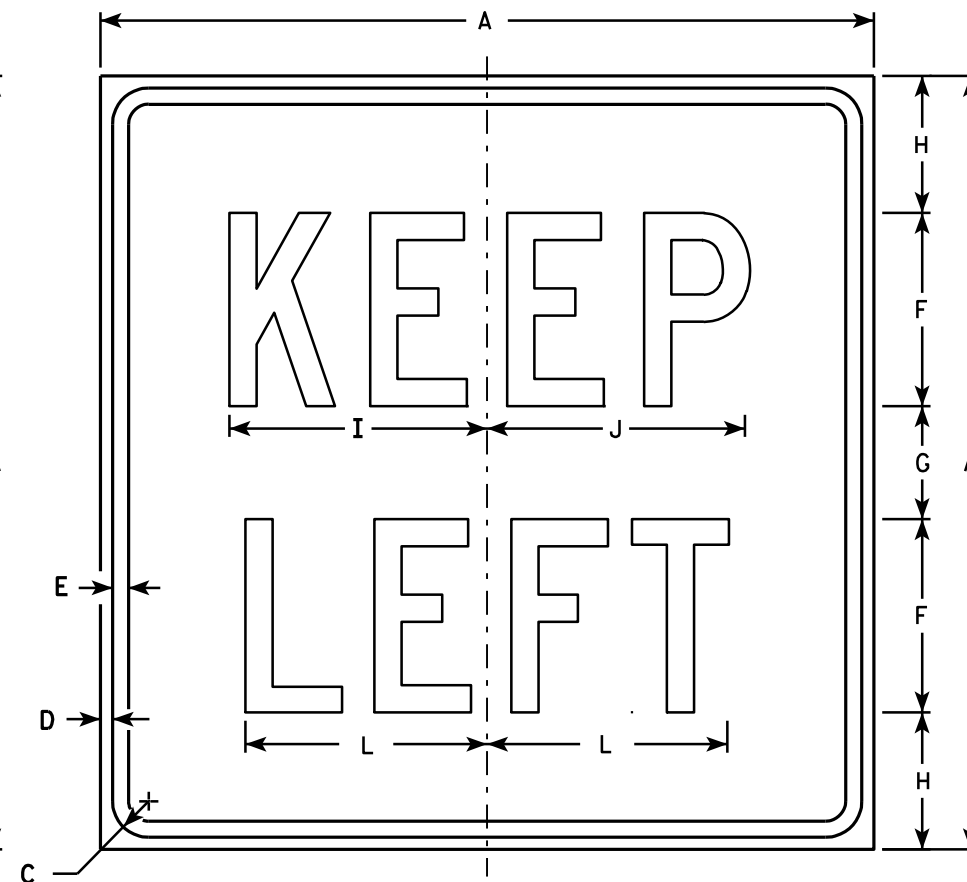


**NOTES**

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



R4-52R



R4-52L

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18		1 1/8	3/8	3/8	5	2	3	6 3/4	6 5/8	7 1/2	6 1/4															2.25
2S	24		1 1/8	3/8	1/2	6	3 1/2	4 1/4	8	8	9 3/8	7 1/2															4.0
2M	24		1 1/8	3/8	1/2	6	3 1/2	4 1/4	8	8	9 3/8	7 1/2															4.0
3	36		1 5/8	5/8	3/4	10	5	5 1/2	13 1/2	13 3/8	14 1/2	12 1/2															9.0
4																											
5																											

**STANDARD SIGN**  
R4-52R & R4-52L

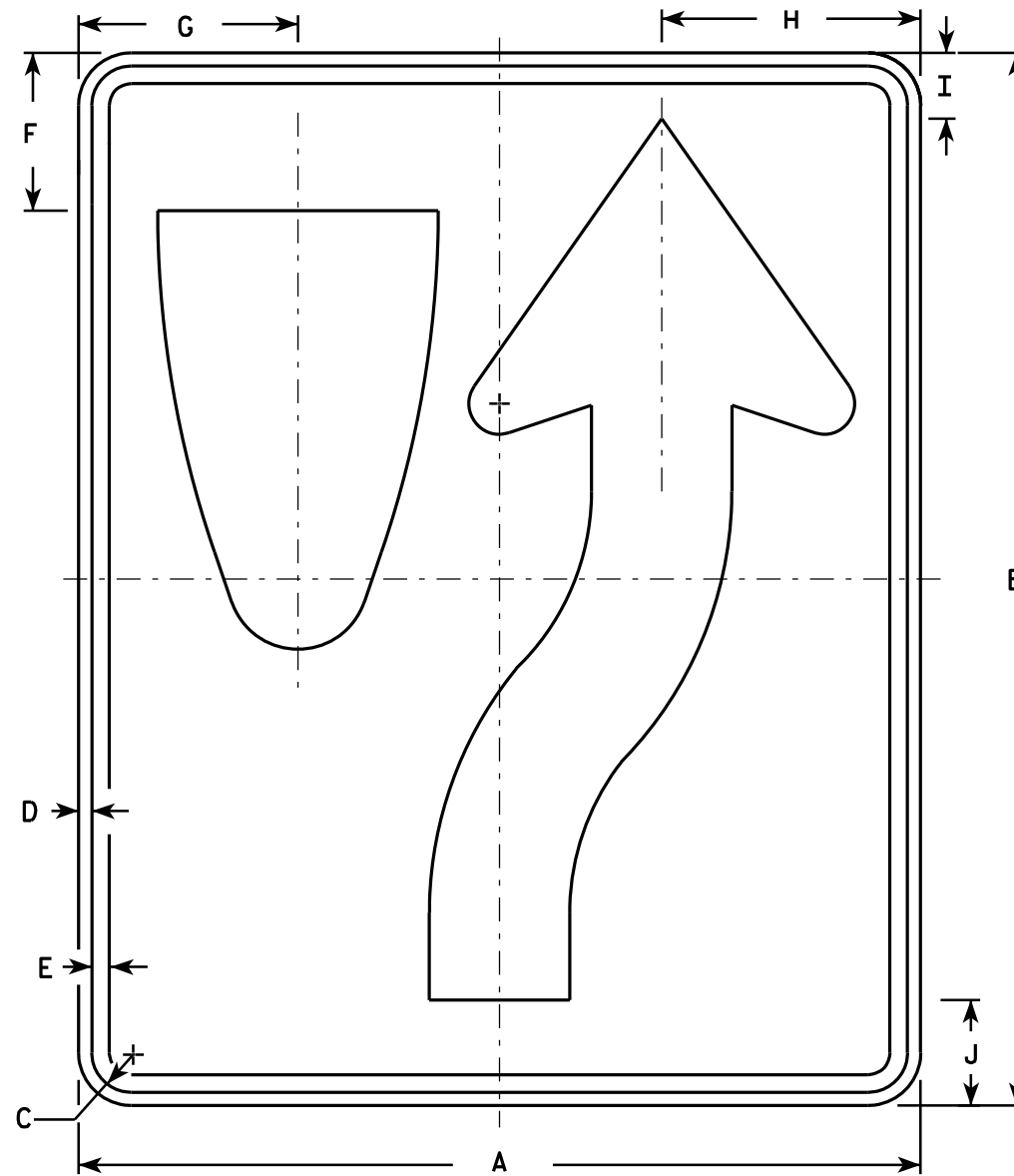
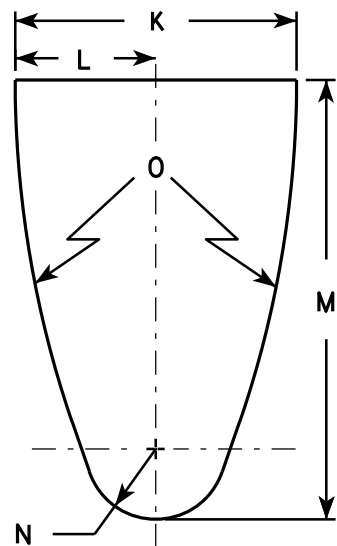
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

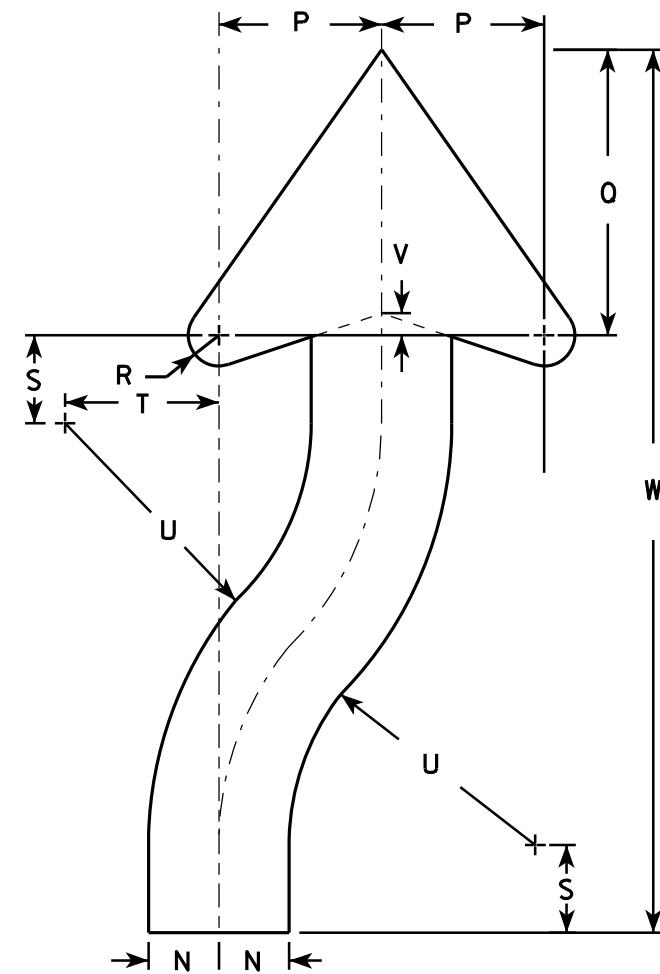
DATE 3/29/2011 PLATE NO. R4-52.6

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:  
Background - White  
Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



R4-7



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	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

**STANDARD SIGN**  
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

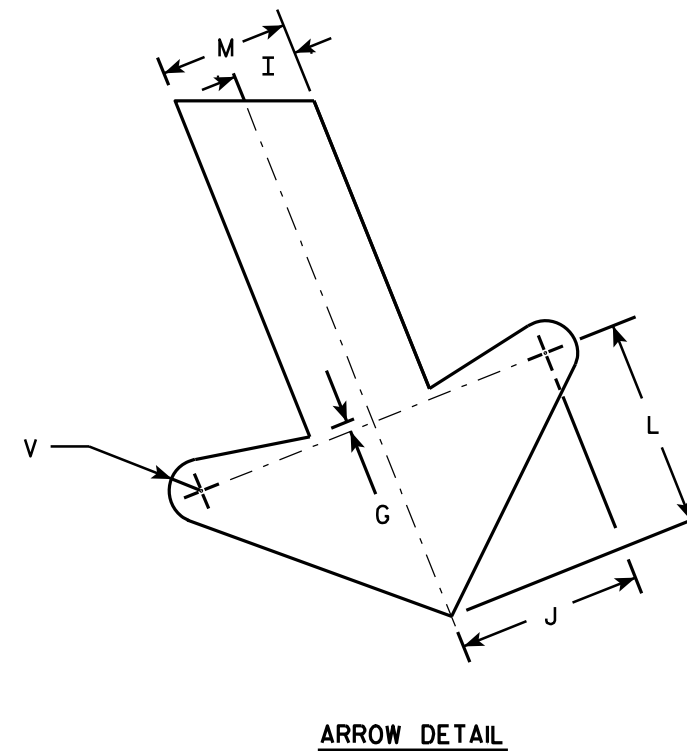
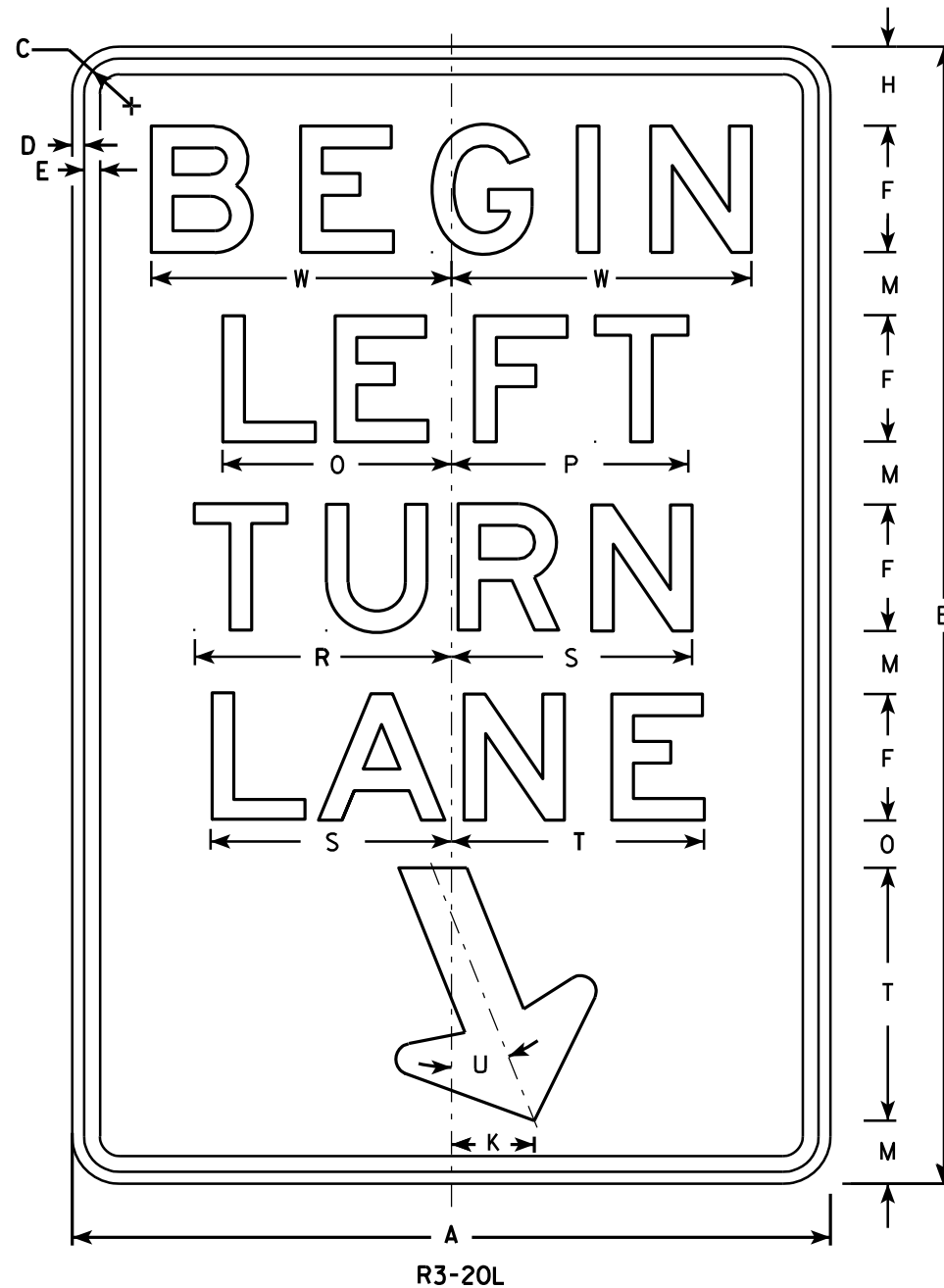
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

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

**NOTES**

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



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	
1																												
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5	
4																												
5																												

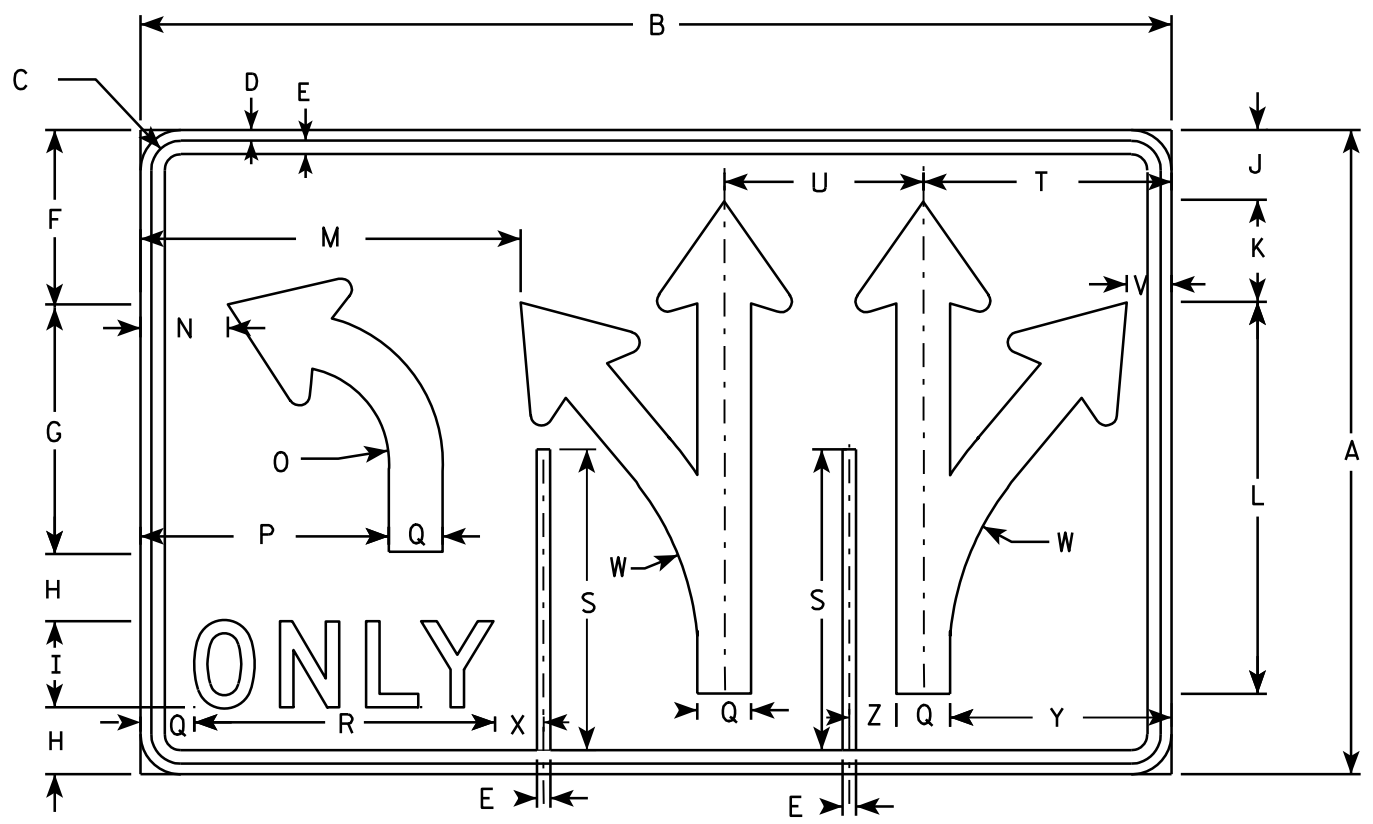
**STANDARD SIGN**  
**R3-20L**

WISCONSIN DEPT OF TRANSPORTATION

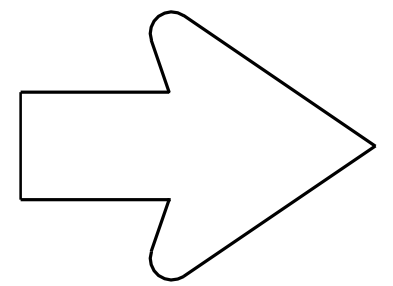
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

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

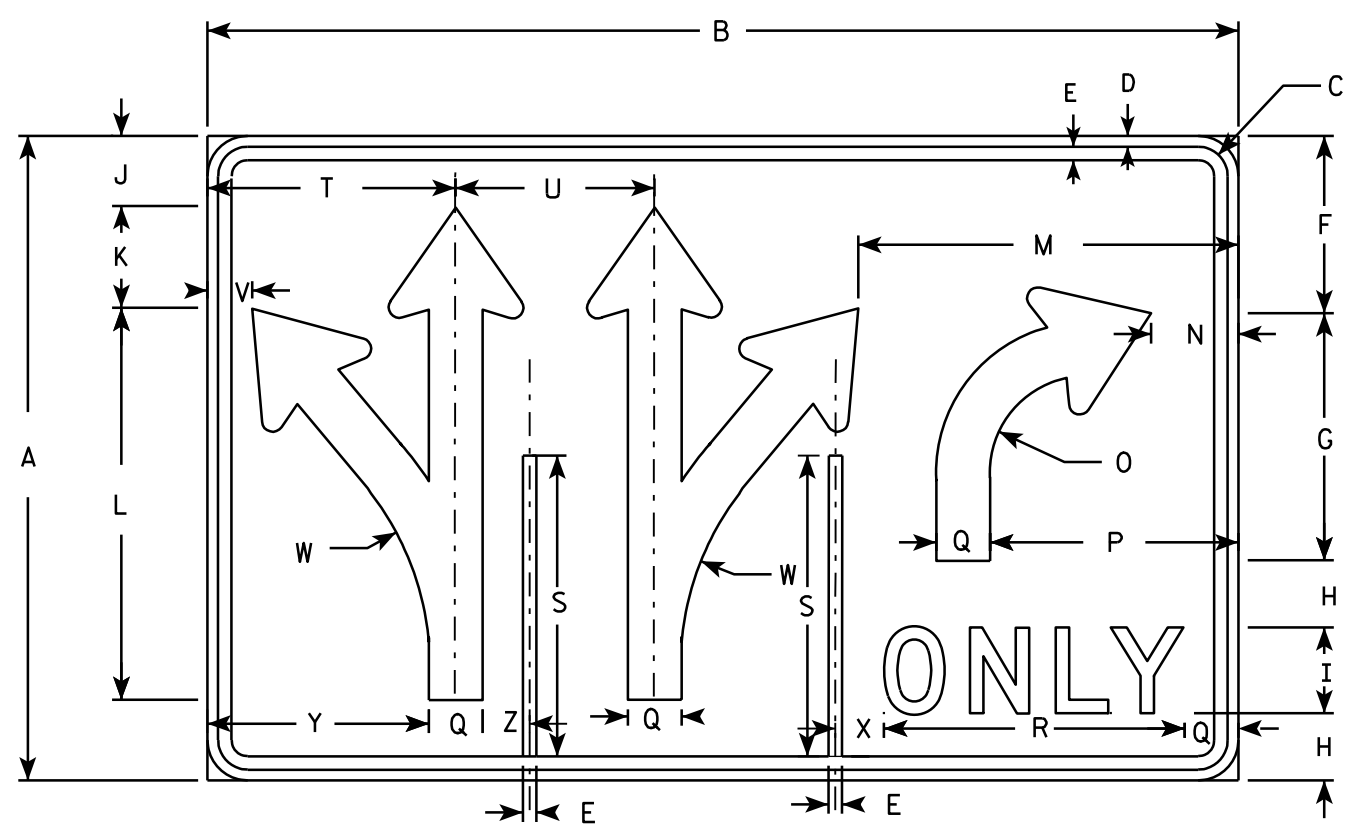


R3-8N



SEE R3-8 FOR ARROW DETAIL

- 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 - 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.



R3-80

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	48	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	17 3/4	4	4 1/2	11 1/2	2 1/2	14	14	11 1/2	9 1/4	2 1/8	13 1/4	2 1/4	10 1/4	2 1/4	10.0
2M	30	48	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	17 3/4	4	4 1/2	11 1/2	2 1/2	14	14	11 1/2	9 1/4	2 1/8	13 1/4	2 1/4	10 1/4	2 1/4	10.0
3																											
4	48	72	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7	29 1/8	26 1/2	6	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	17 3/8	13 7/8	3 1/8	21 7/8	3 3/4	15 1/2	3 1/4	24.0
5	48	72	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7	29 1/8	26 1/2	6	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	17 3/8	13 7/8	3 1/8	21 7/8	3 3/4	15 1/2	3 1/4	24.0

**STANDARD SIGN**  
**R3-8N & R3-80**

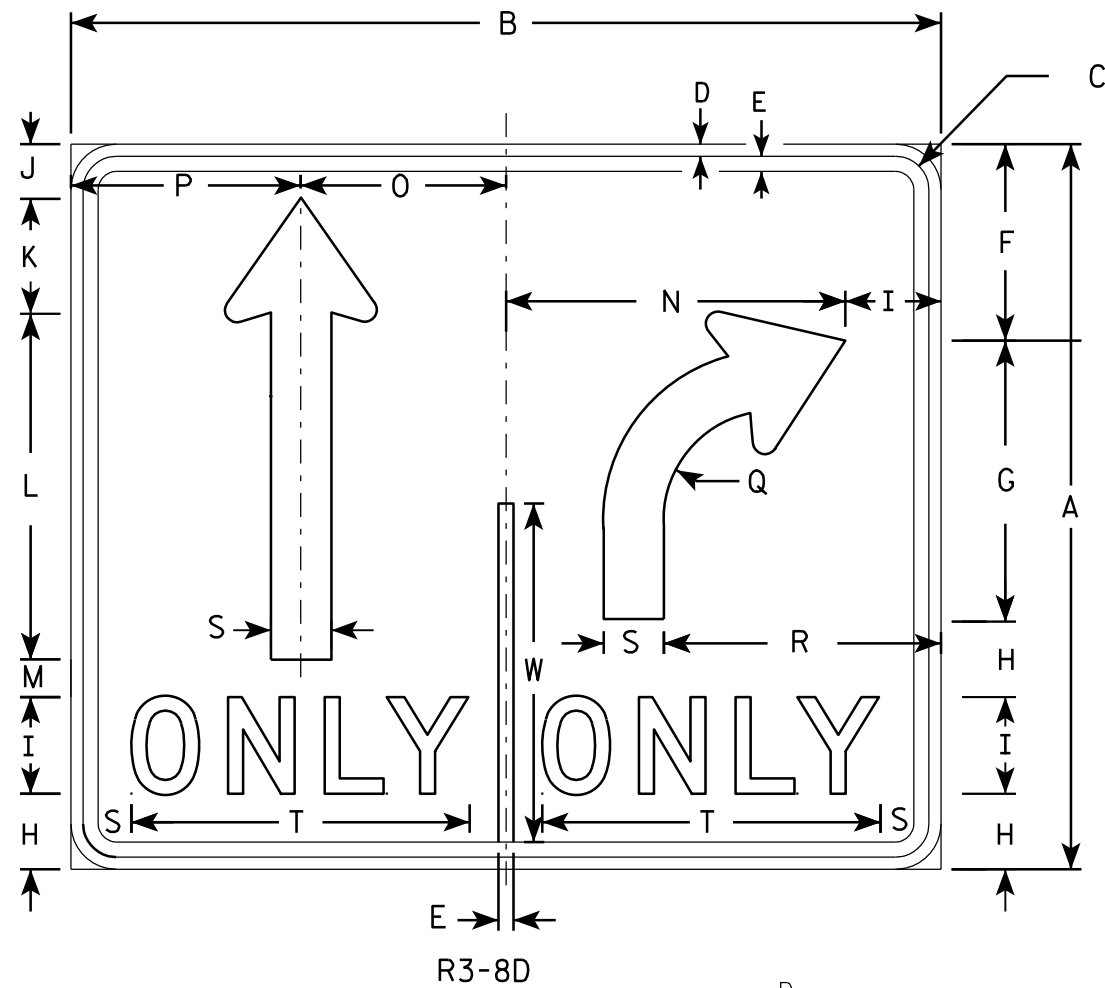
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

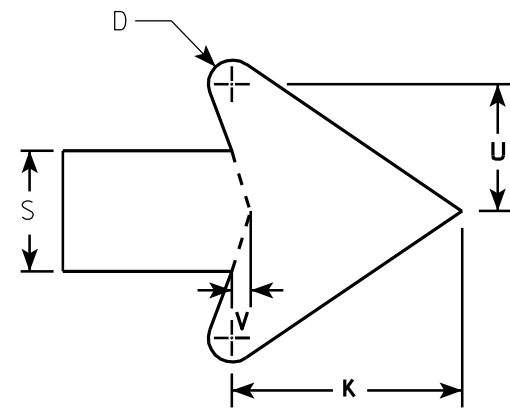
DATE 3/21/2011 PLATE NO. R3-8N.2

**NOTES**

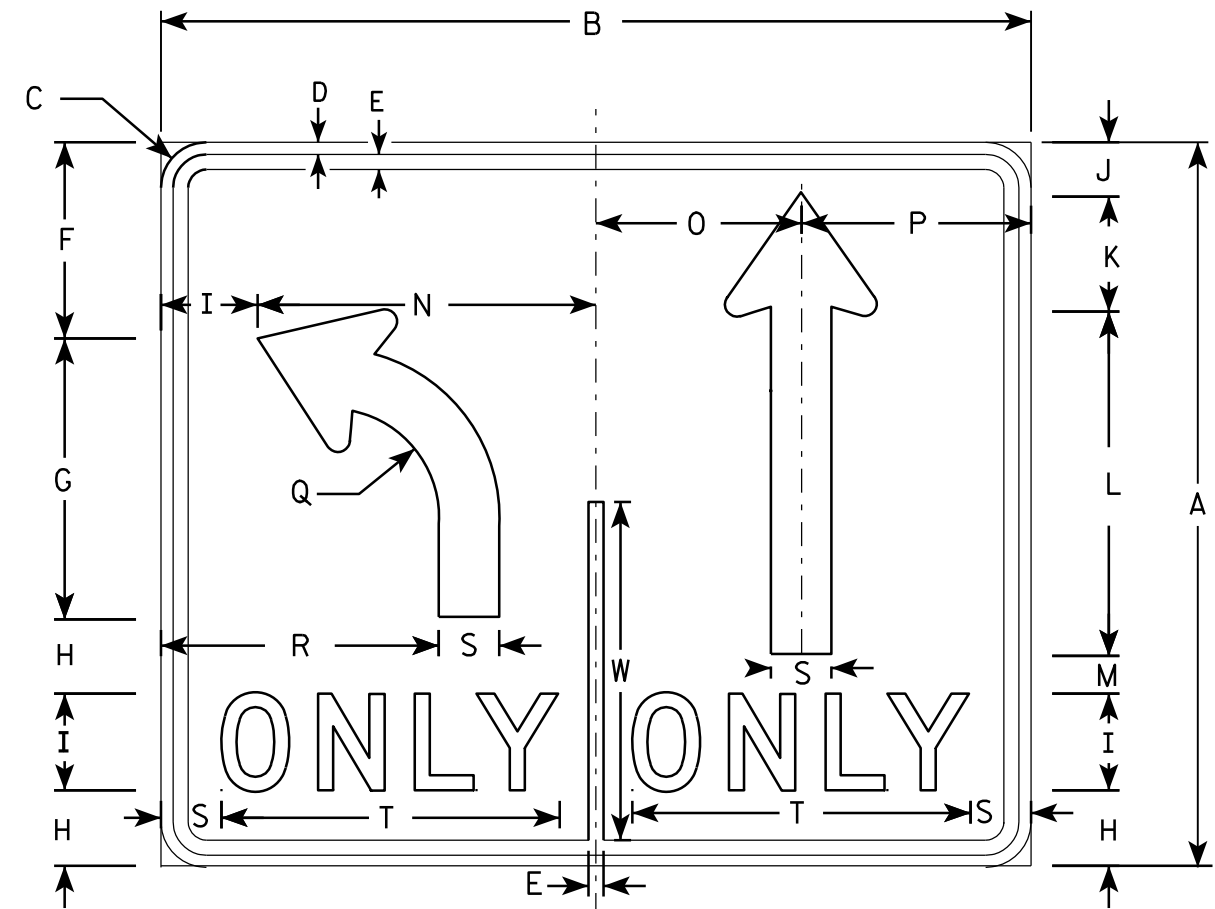
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - WHITE  
Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded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



R3-8D



ARROW DETAIL



R3-8E

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	14	8 1/2	9 1/2	4 1/2	11 1/2	2 1/2	14	2 5/8	3/8	14			7.5	
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	14	8 1/2	9 1/2	4 1/2	11 1/2	2 1/2	14	2 5/8	3/8	14			7.5	
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7 1/8	21 1/2	4 3/4	21	12 3/4	14 1/4	7 1/4	17 1/8	3 3/4	20 5/8	4	5/8	22 3/8			18.0	
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7 1/8	21 1/2	4 3/4	21	12 3/4	14 1/4	7 1/4	17 1/8	3 3/4	20 5/8	4	5/8	22 3/8			18.0	

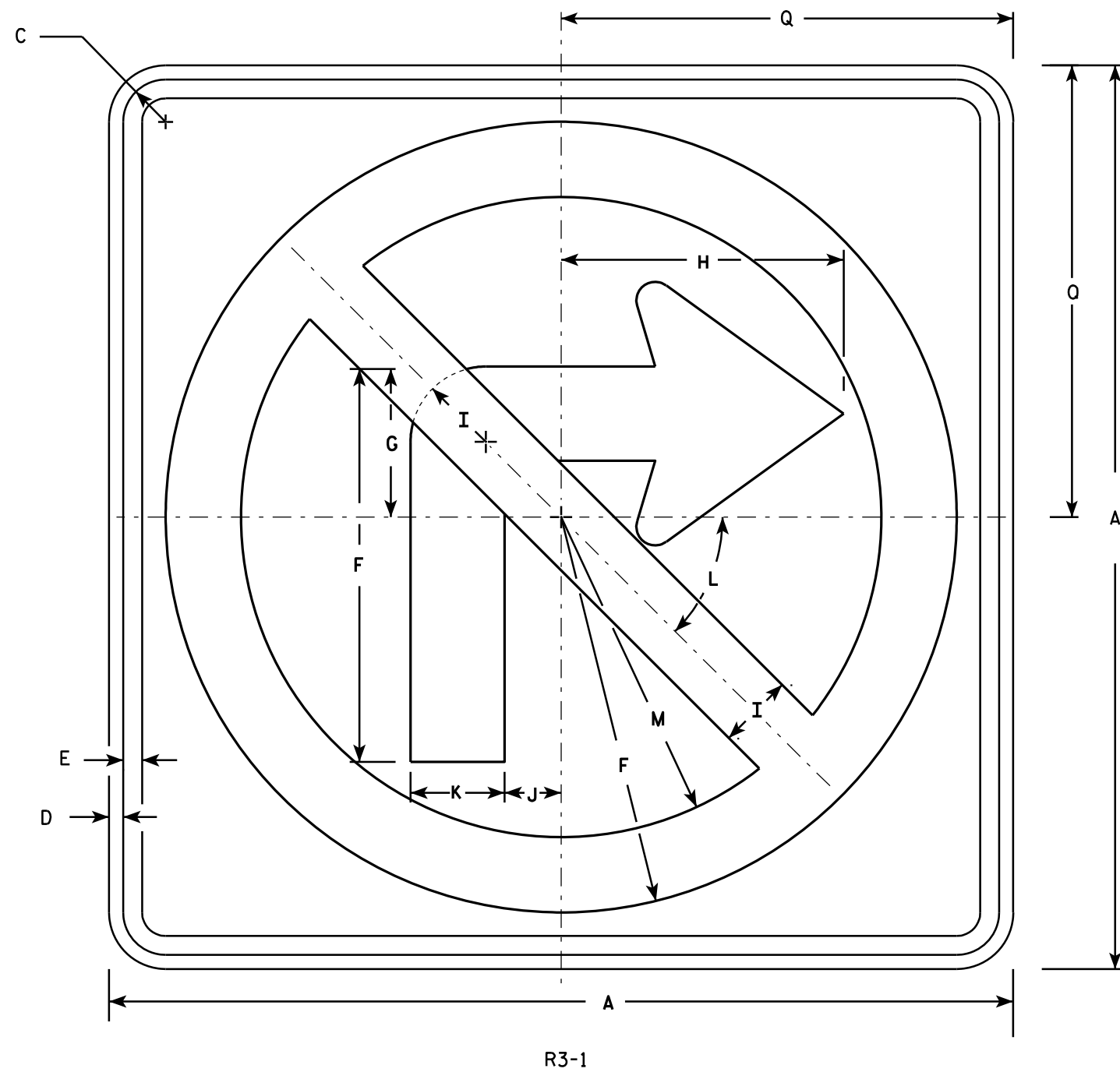
STANDARD SIGN  
R3-8D & R3-8E

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

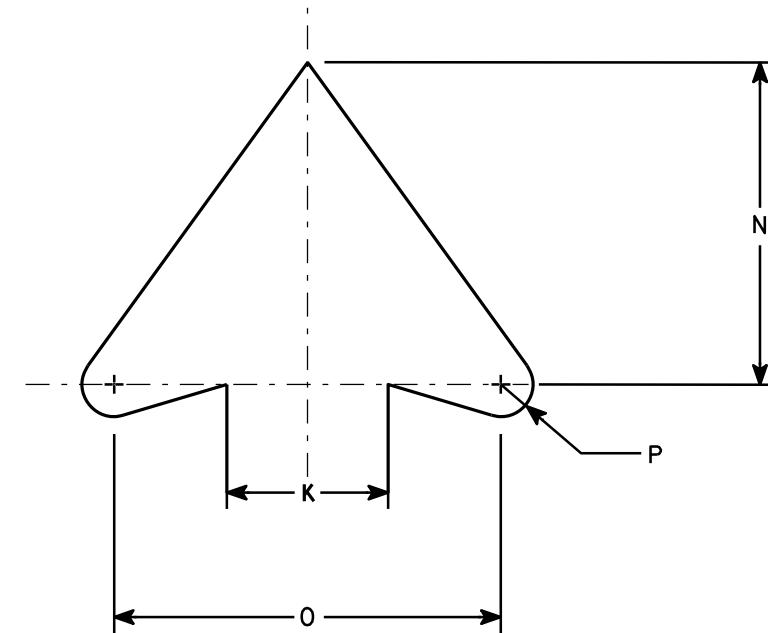
DATE 3/18/2011 PLATE NO. R3-8D.2

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



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



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	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24									16.0	

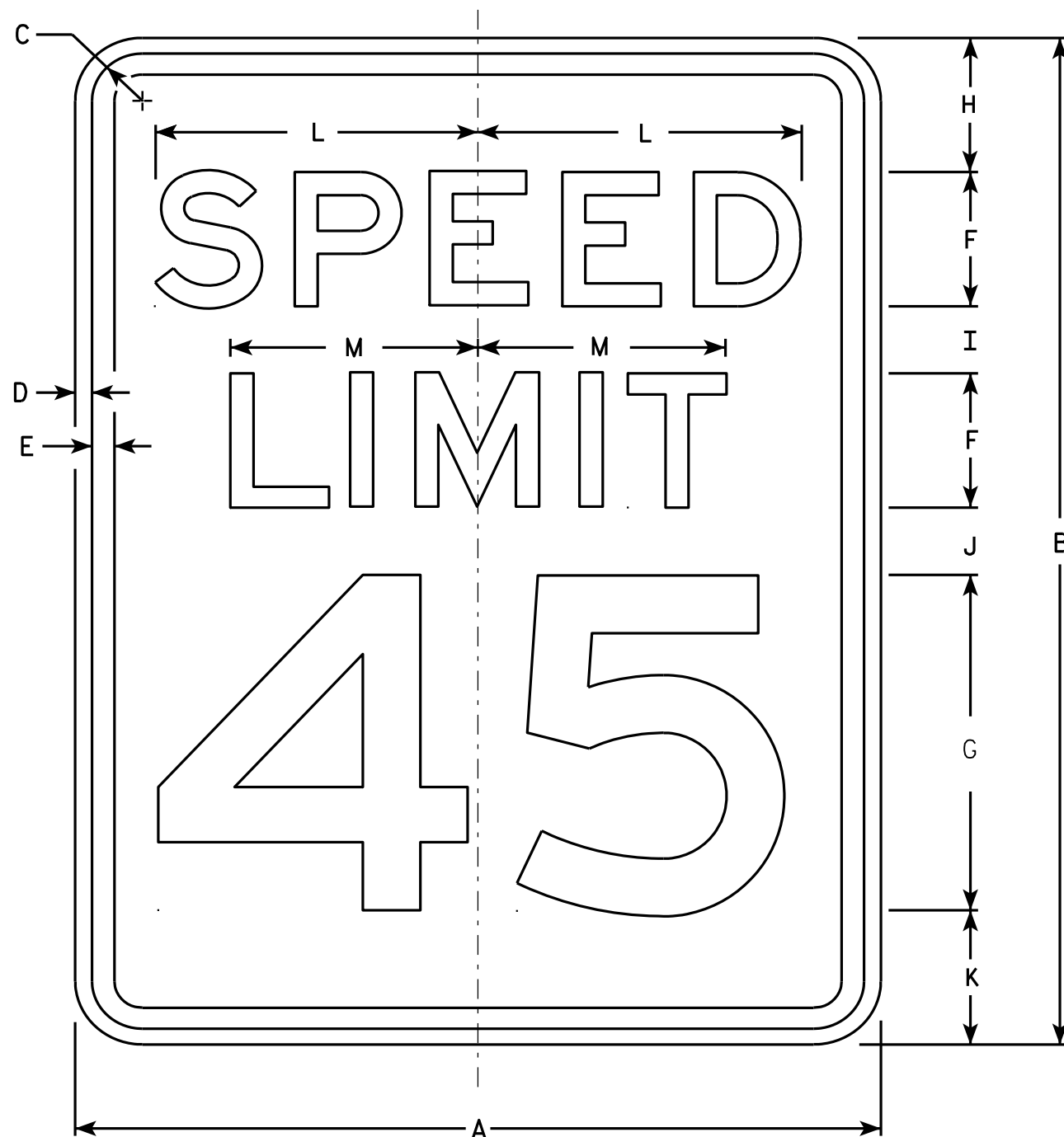
**STANDARD SIGN**  
**R3-1**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

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.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	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

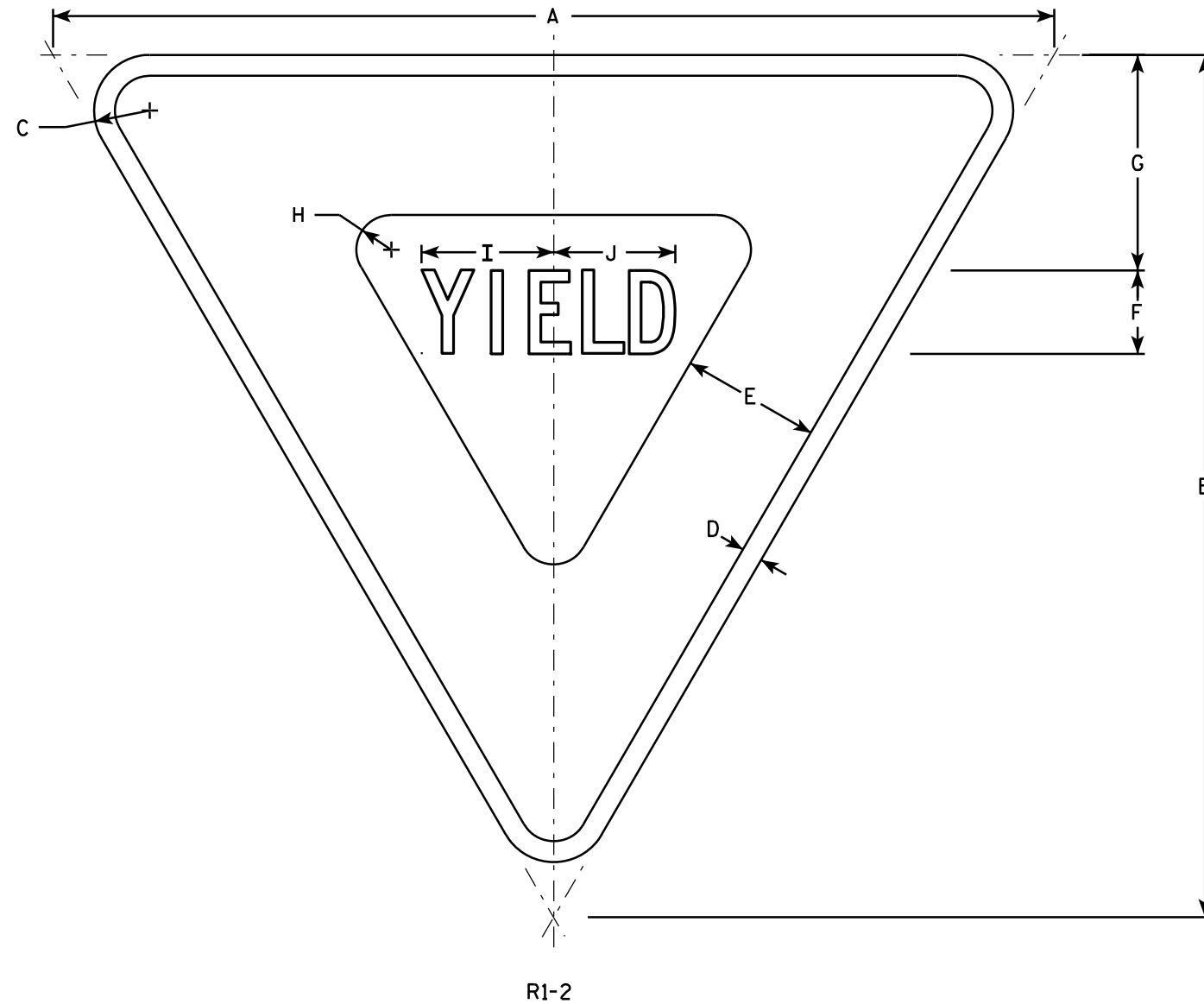
STANDARD SIGN  
R2-1

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. 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 - 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. The border strip and word message are reflectorized red.

R1-2

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6	24	21	1 1/2	3/8	3	2	4 3/4	7/8	3 1/4	3																	1.75
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

**STANDARD SIGN**  
**R1-2**

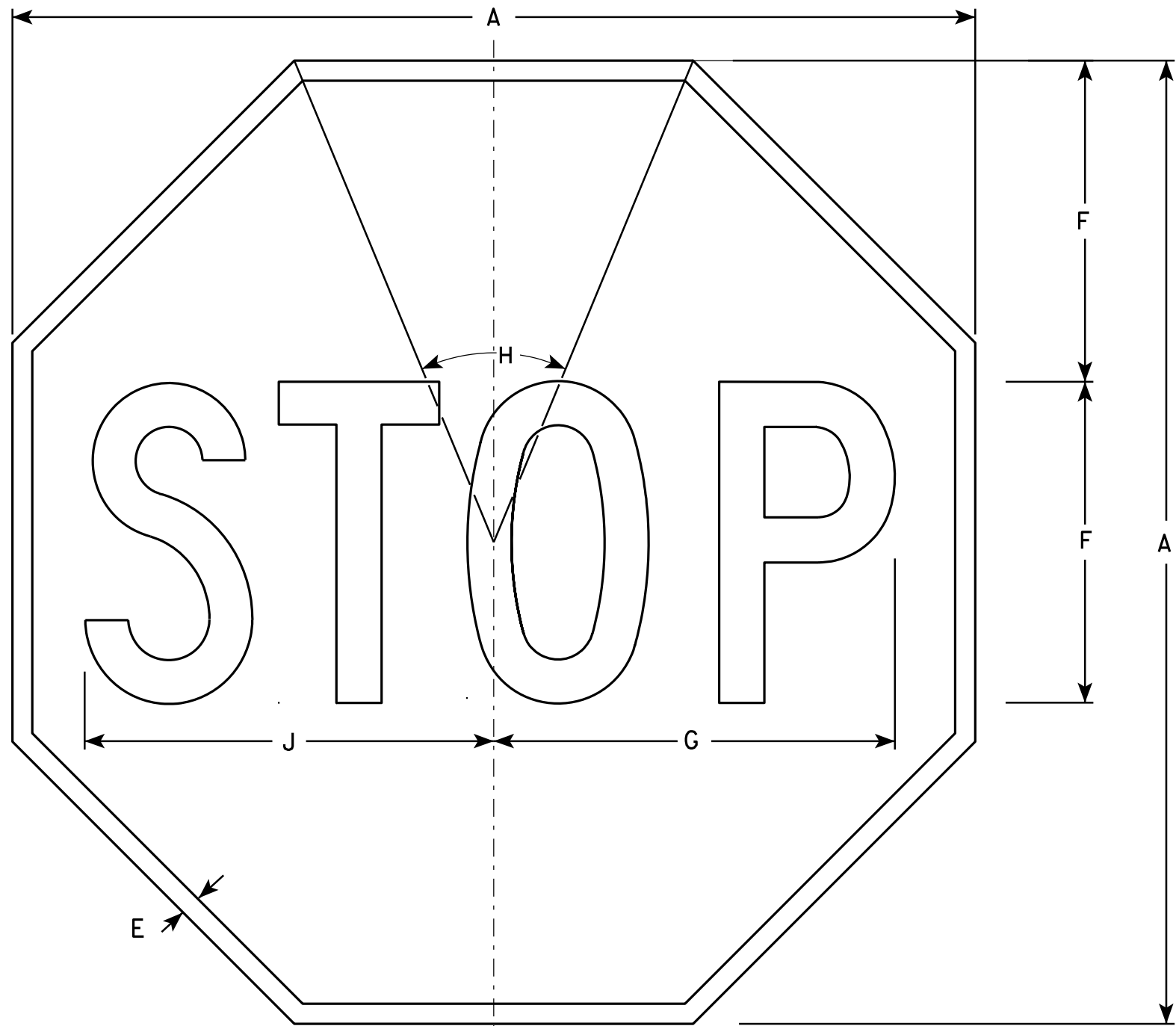
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-2.11

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





**NOTES**

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

7

7

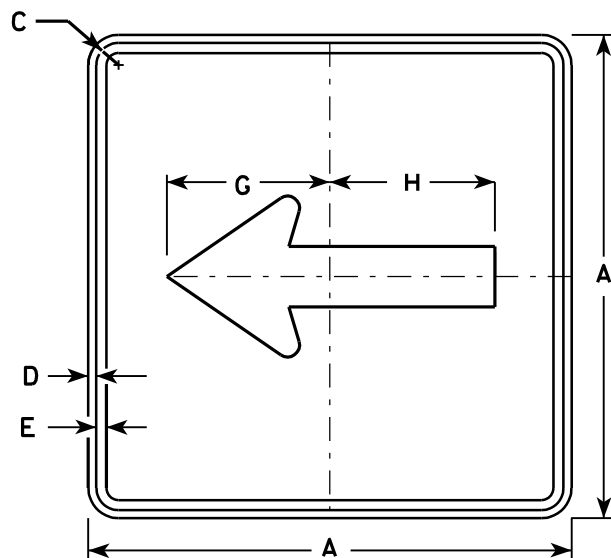
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. Ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 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**

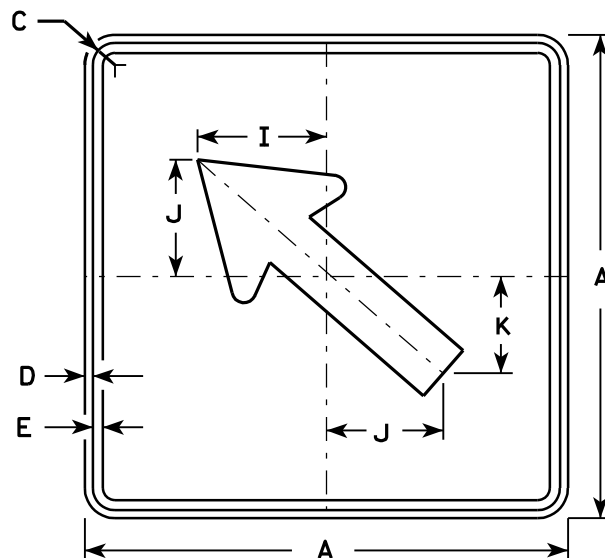
WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R. Rauch*  
 for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

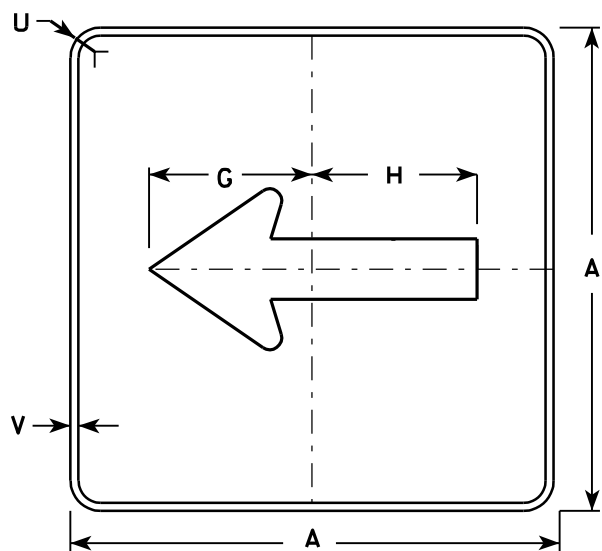
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



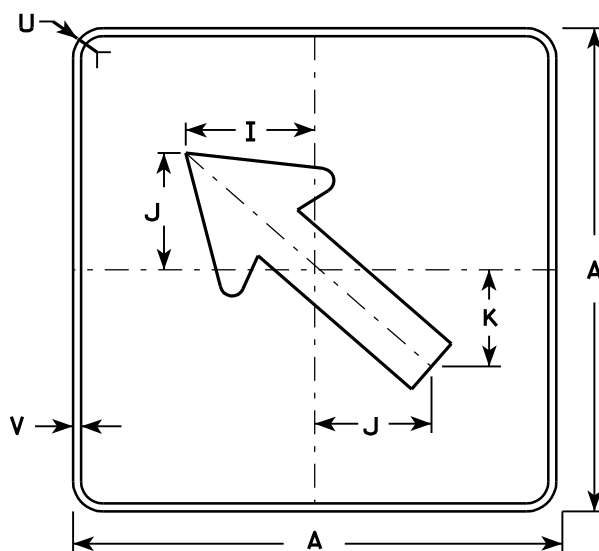
M6-1  
MK6-1  
MM6-1  
MO6-1  
MR6-1



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



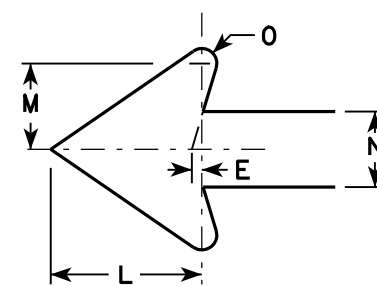
MB6-1  
MG6-1  
MN6-1



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



7

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 <sup>2</sup>
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

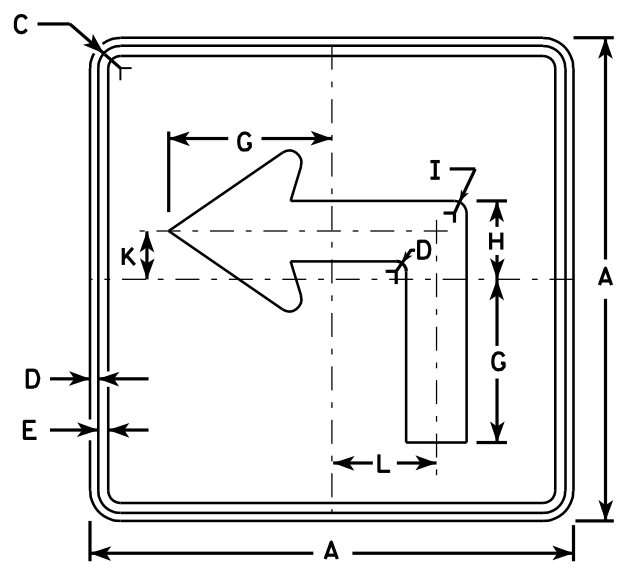
**STANDARD SIGN  
M6-1 & M6-2  
SERIES**

WISCONSIN DEPT OF TRANSPORTATION

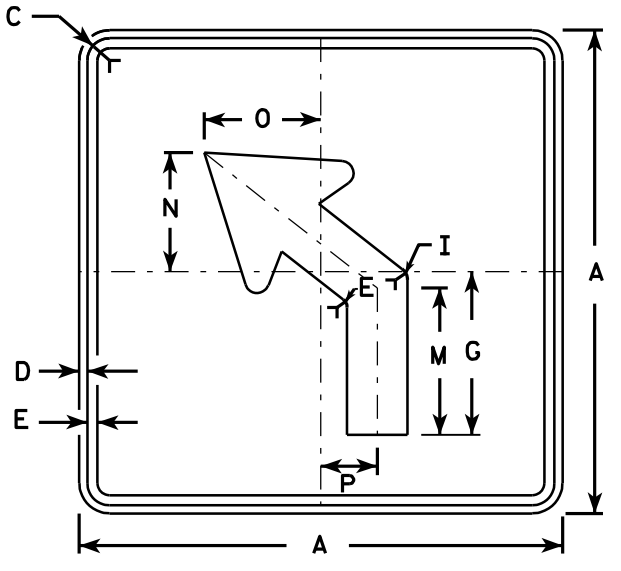
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-1.12

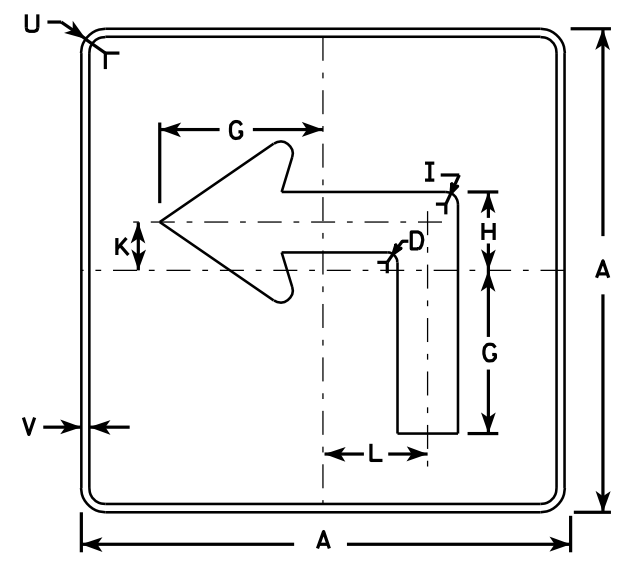
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



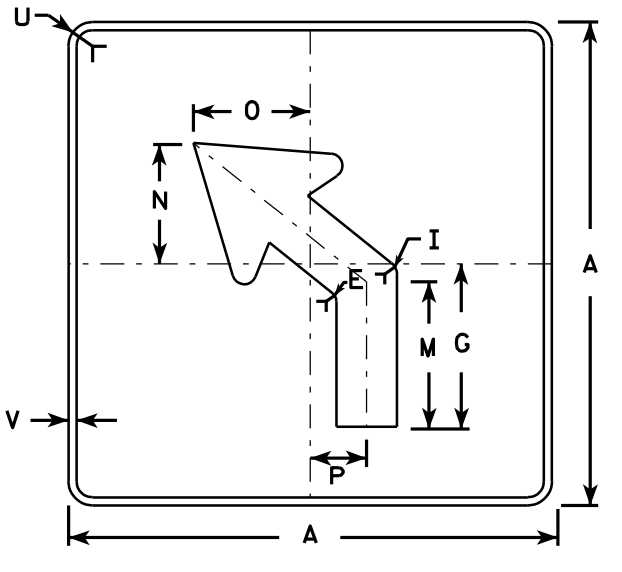
M5-1L  
MK5-1L  
MM5-1L  
MO5-1L  
MR5-1L



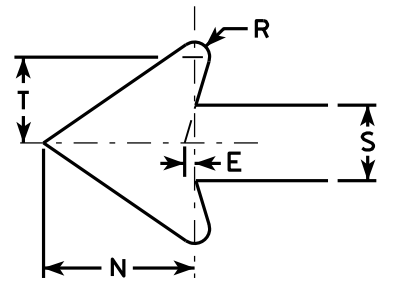
M5-2L  
MK5-2L  
MM5-2L  
MO5-2L  
MR5-2L



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



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



**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.

7

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 sq. m.
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

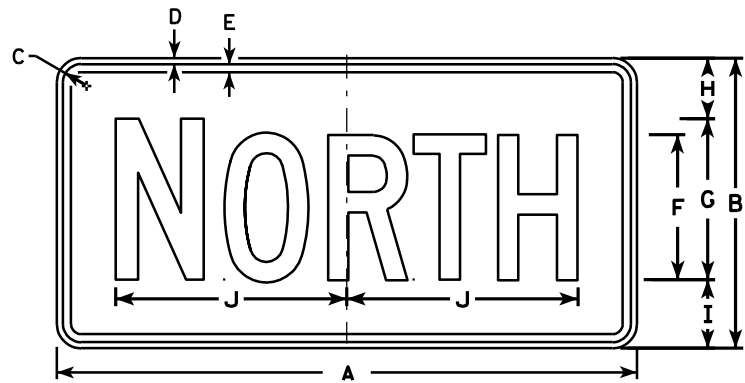
**STANDARD SIGN**  
**M5-1 & M5-2**

WISCONSIN DEPT OF TRANSPORTATION

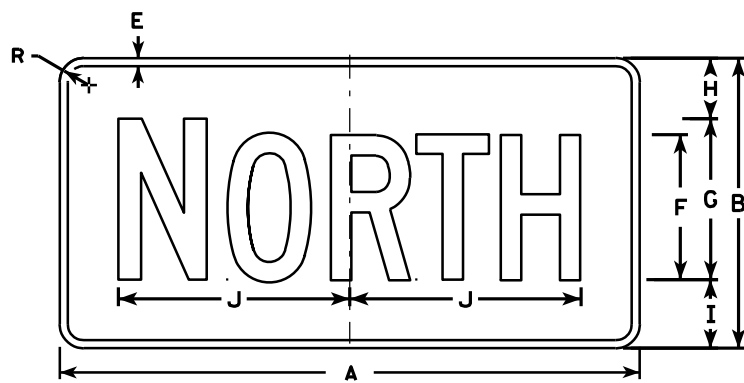
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

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

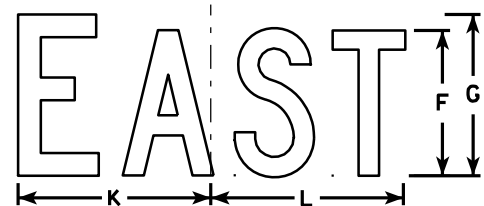
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



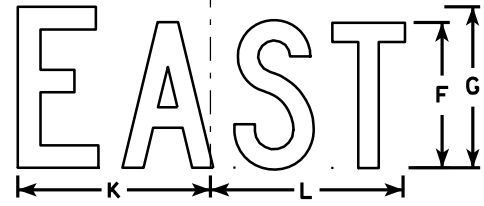
M3-1  
MK3-1  
M03-1



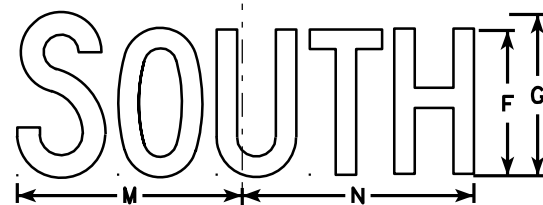
MB3-1  
MG3-1  
MM3-1  
MN3-1



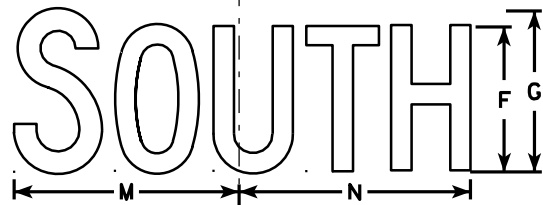
M3-2  
MK3-2  
M03-2



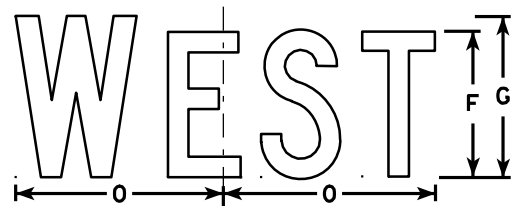
MB3-2  
MG3-2  
MM3-2  
MN3-2



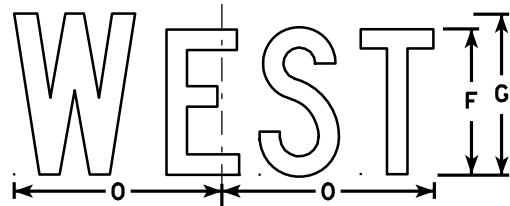
M3-3  
MK3-3  
M03-3



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



M3-4  
MK3-4  
M03-4



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

**NOTES**

- All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - See note 5  
Message - See note 5
- Message Series - C
- 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.
- 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
- Note the first letter of each direction is larger than the remainder of the message.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
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

**STANDARD SIGNS**  
M3-1 thru M3-4  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

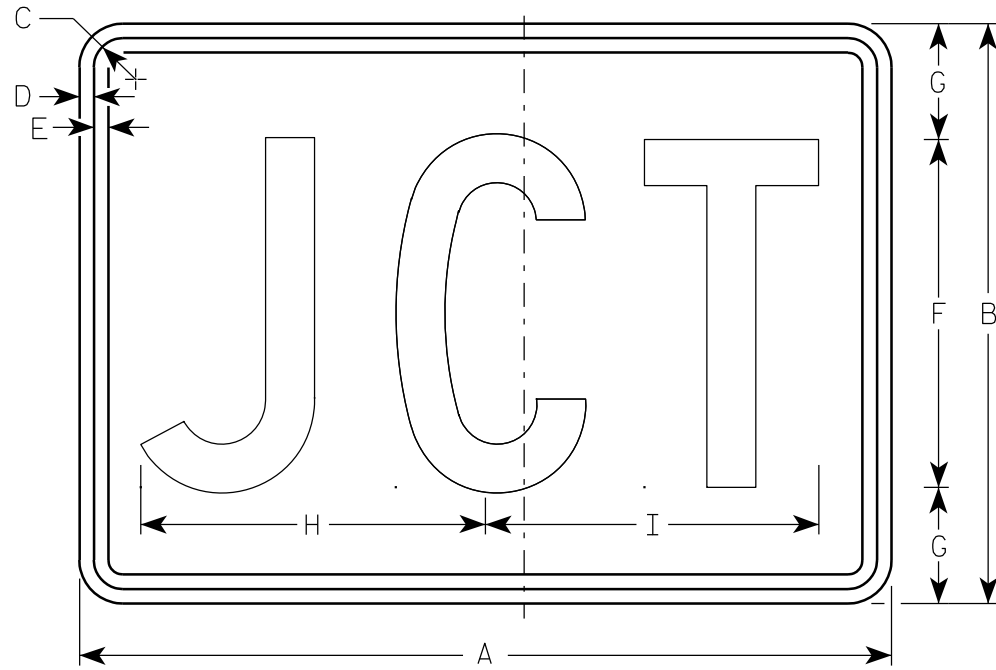
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

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

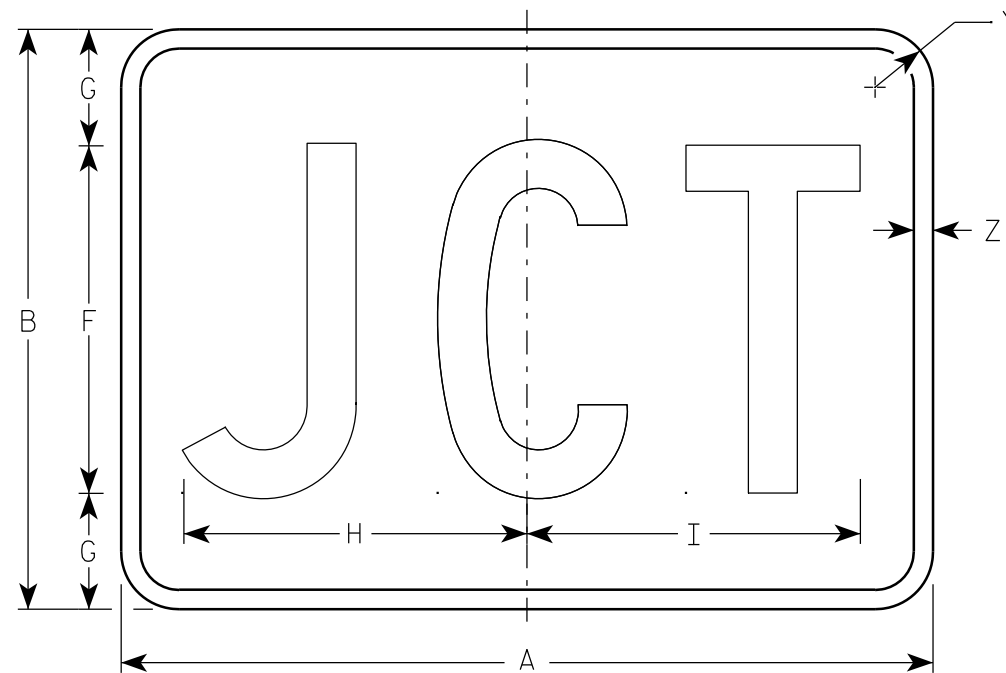
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

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

7

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

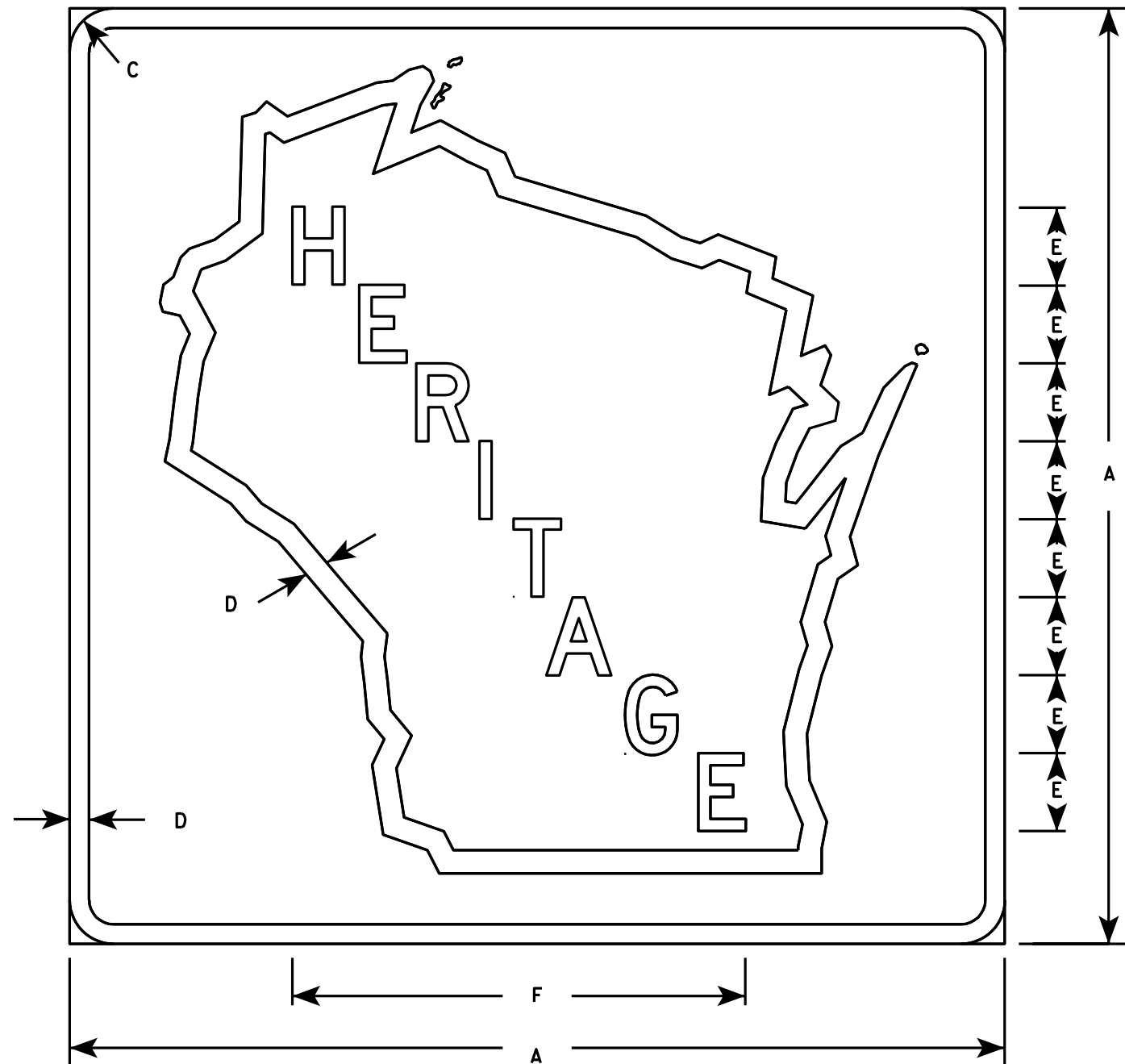
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m <sup>2</sup>
1																												
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8															1 1/2	1/2	2.20	0.20	
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8															1 1/2	1/2	4.40	0.20	
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	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



**NOTES**

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

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm x 600 mm
3	
4	
5	

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 <sup>2</sup>
1																												
2	24		1 1/8	1/2	2	11 3/4																					4.0	0.36
3																												
4																												
5																												

STANDARD SIGN  
M1-85

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 1/30/02

PLATE NO. M1-85.2

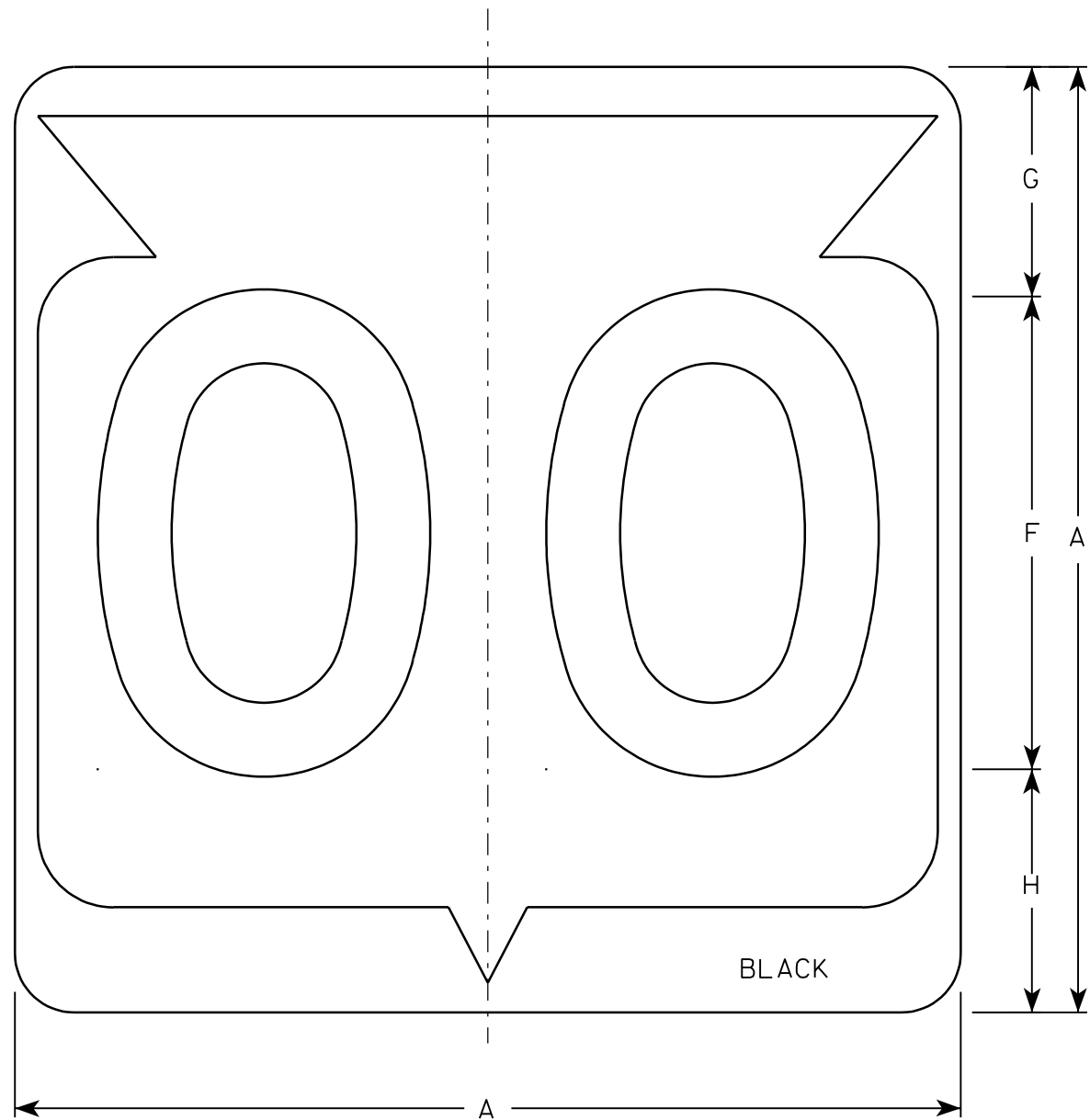
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



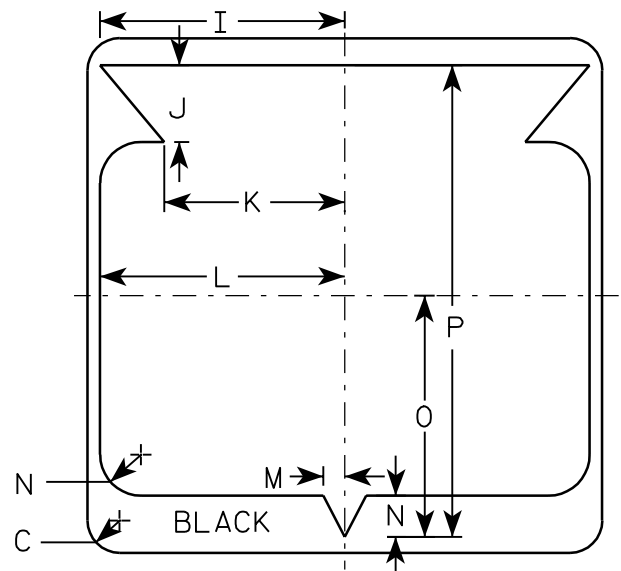
M1-6

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

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 Series numerals and adjust spacing as per plate A10-1.
6. 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.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33										9.0	.81	
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33										9.0	.81	
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33										9.0	.81	

STATE ROUTE MARKER  
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

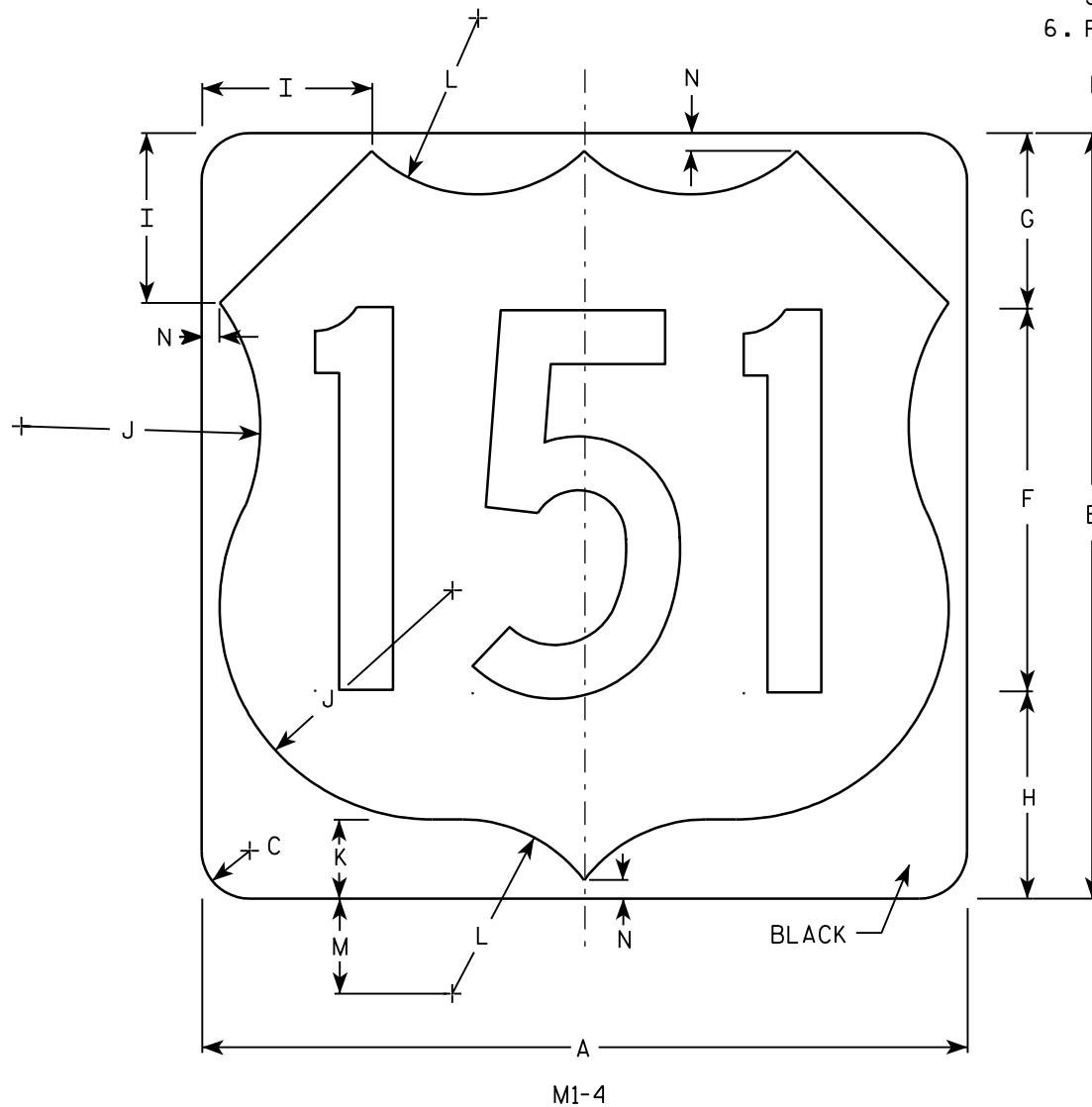
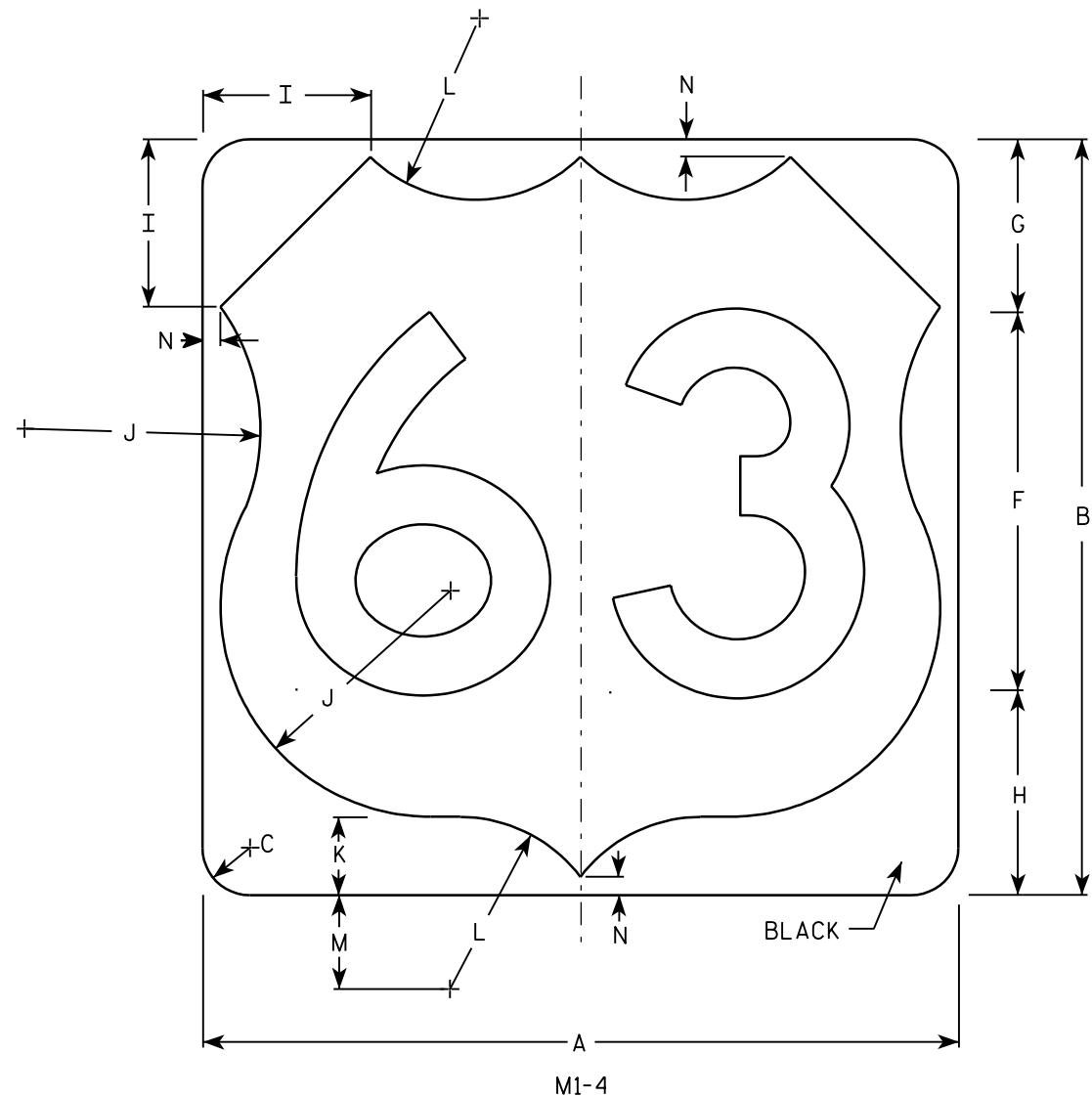
APPROVED *Chester J. Spang*  
for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

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	Area sq. ft.	Area m <sup>2</sup>
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

**USH MARKER**  
**M1-4 FOR ASSEMBLIES**

WISCONSIN DEPT OF TRANSPORTATION

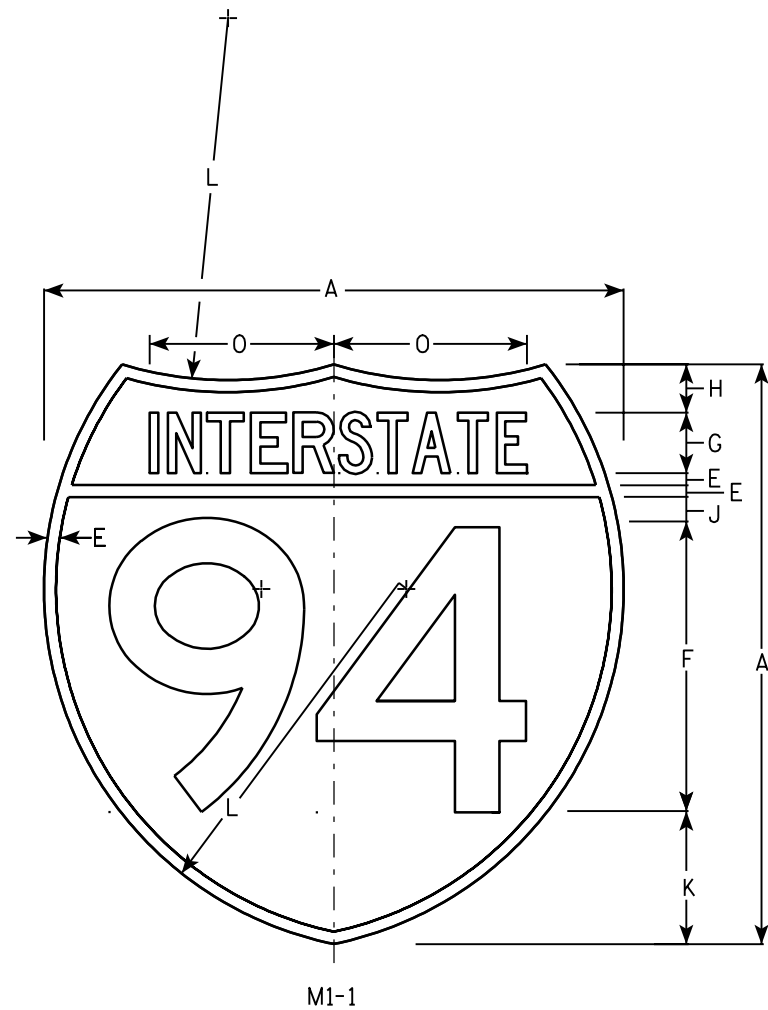
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

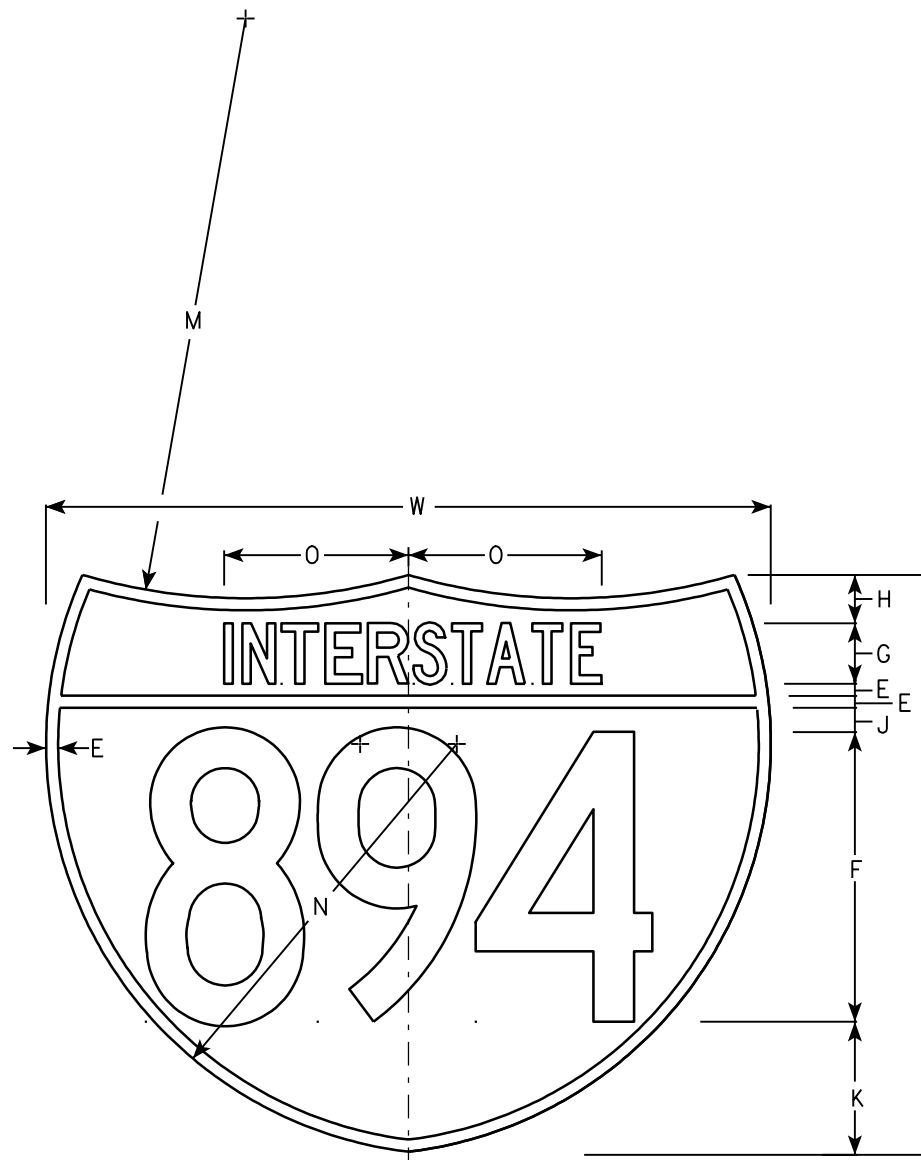


NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Top Red - Bottom Blue (See Note 6)  
Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & adjust spacing as per plate A10-1.
5. M1-1 - Numerals - D  
Interstate - C  
M1-1A - All copy - C
6. Permanent Signs  
Message - Type H Reflective  
Detour or other temporary signs  
Background - Reflective  
Message - Reflective



M1-1



M1-1A

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 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	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m <sup>2</sup>	M1-1A Area m <sup>2</sup>
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8									30		3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4									45		7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4									45		7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4									45		7.03	8.79	.81	1.05

INTERSTATE ROUTE MARKER  
M1-1 FOR ASSEMBLIES

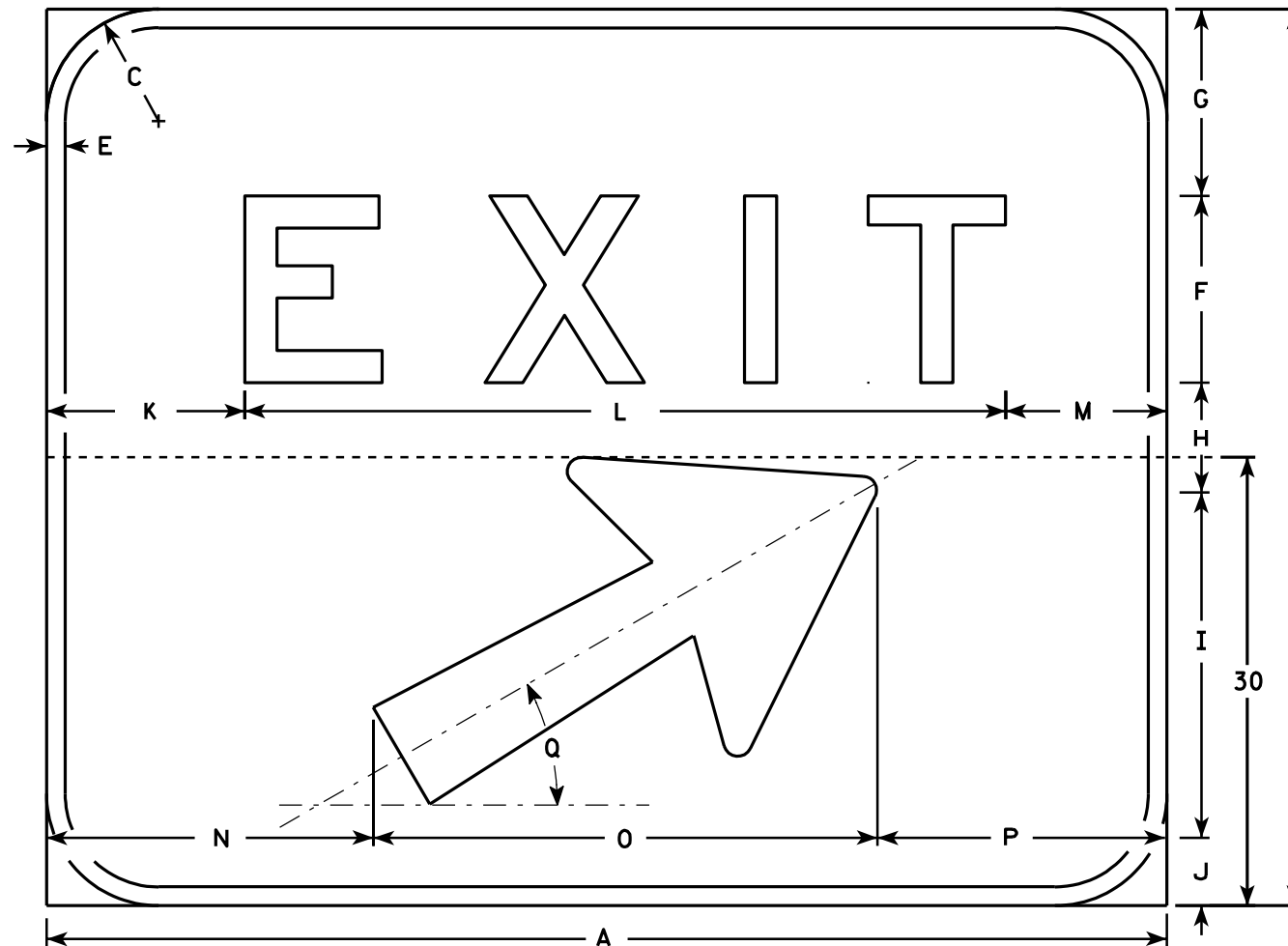
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

**NOTES**

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Green  
Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but borders shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two separate pieces for the 72 x 60 size as shown on the detail by the dashed line (-----).
6. Arrow is Type "A" from sign plate A1-1.
7. As per the Standard Spec's, this sign shall not have a vertical joint.



E5-1

7

7

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	1500 mm X 1200 mm
5	1800 mm X 1500 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 <sup>2</sup>
1																												
2																												
3																												
4	60	48	6		1	10	10	5 7/8	18 1/2	3 5/8	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°									20.0	1.80	
5	72	60	6		1	12	12	10	18 1/2	7 1/2	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°									30.0	2.70	

**STANDARD SIGN**  
E5 - 1

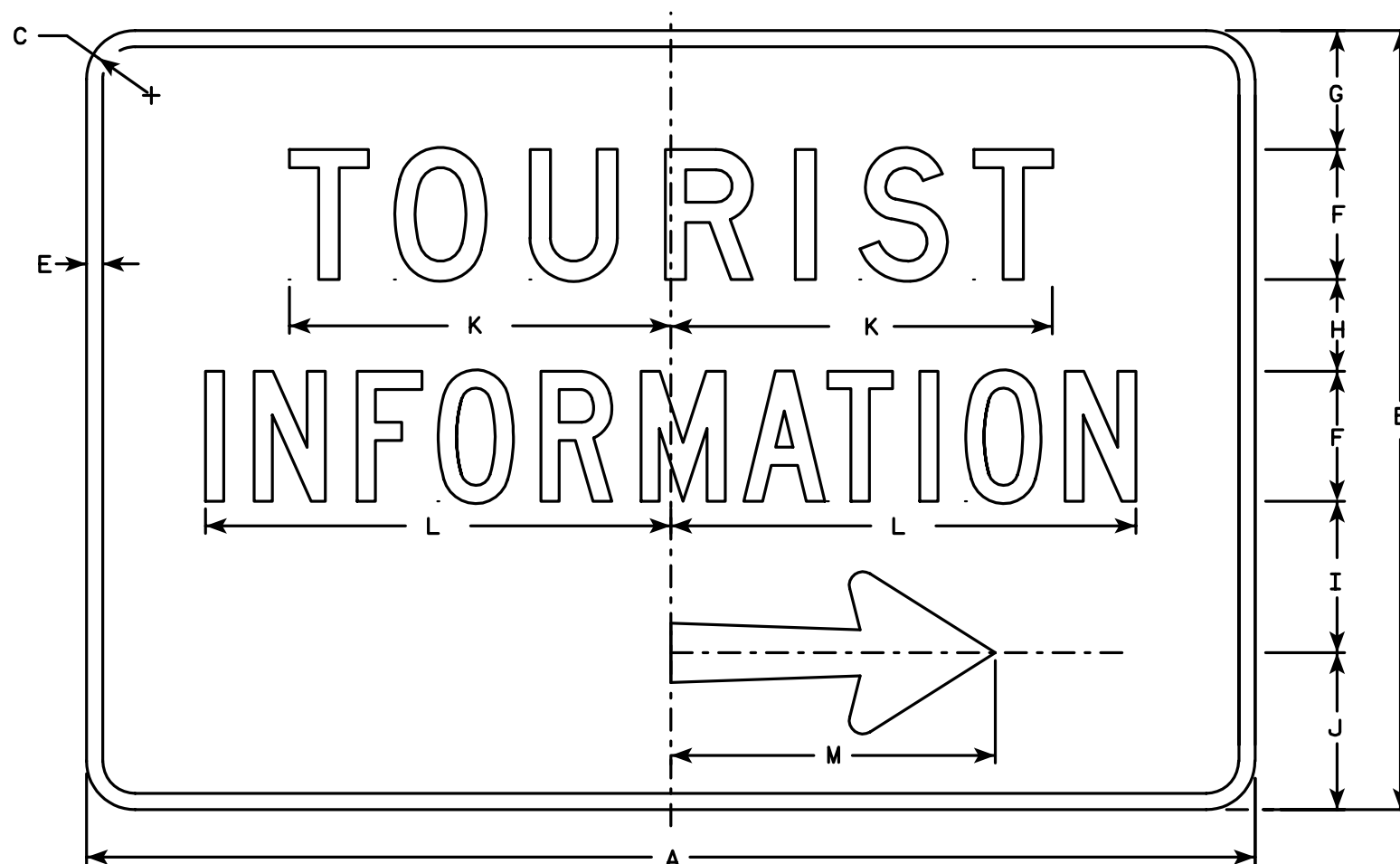
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chester J. Spang*  
for State Traffic Engineer

DATE 6/22/00 PLATE NO. E5-1.8

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

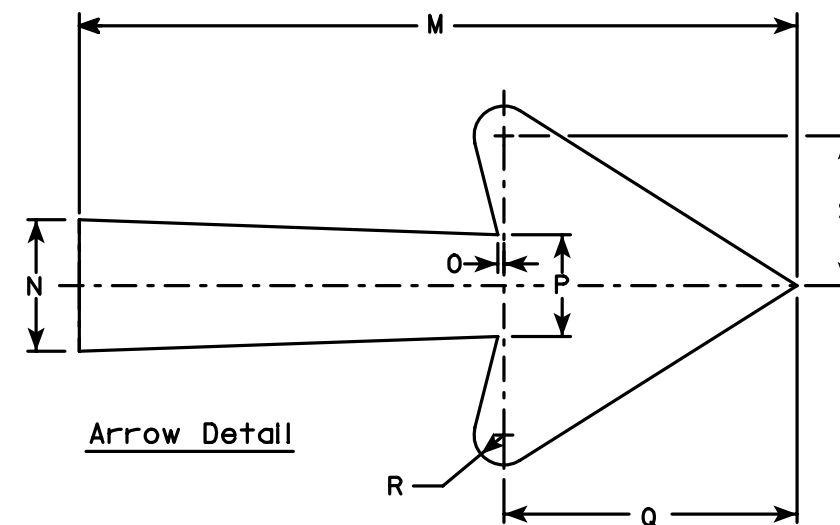
58, 59, 60, 61, 62, 63



D7-59R

**NOTES**

1. Sign Is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Blue  
Message - White - Type H Reflective
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 are series D  
Line 2 is series C
6. D7-59L is same as D7-59R except the arrow is reversed.



Arrow Detail

7

Metric equivalent for this sign is:

SIZE	
1	
2	1350 mm X 900 mm
3	
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. m.
1																												
2	54	36	2 1/4		3/4	6	5 1/2	4 1/4	7	7 1/4	17 5/8	21 1/2	15	2 3/4	1/8	2 1/8	6 1/8	5/8	3 1/8								13.5	1.22
3																												
4																												
5																												

STANDARD SIGN  
D7-59

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chita J. Spang*  
for State Traffic Engineer

DATE 1/11/02 PLATE NO. D7-59.6

LEVELS ON - 2, 3, 5, 6

50, 59, 60, 61, 62, 63



NOTES

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

D5-63 \* See Note 5

7

7

Metric equivalent for this sign is:

SIZE	
1	
2	1500 mm X 900 mm
3	
4	
5	

LEVELS ON - 2, 3, 5, 6

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 <sup>2</sup>
1																												
2	60	36	2 1/4		3/4	6	4	5 1/2	4 1/4	25	17		5	1	12												15.0	1.35
3																												
4																												
5																												

STANDARD SIGN  
D5-63

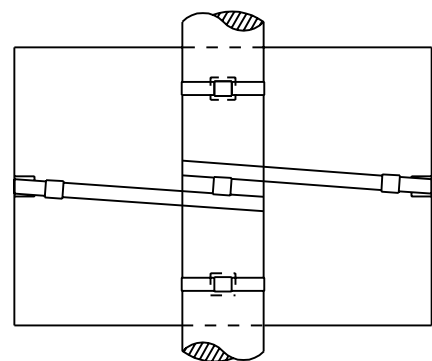
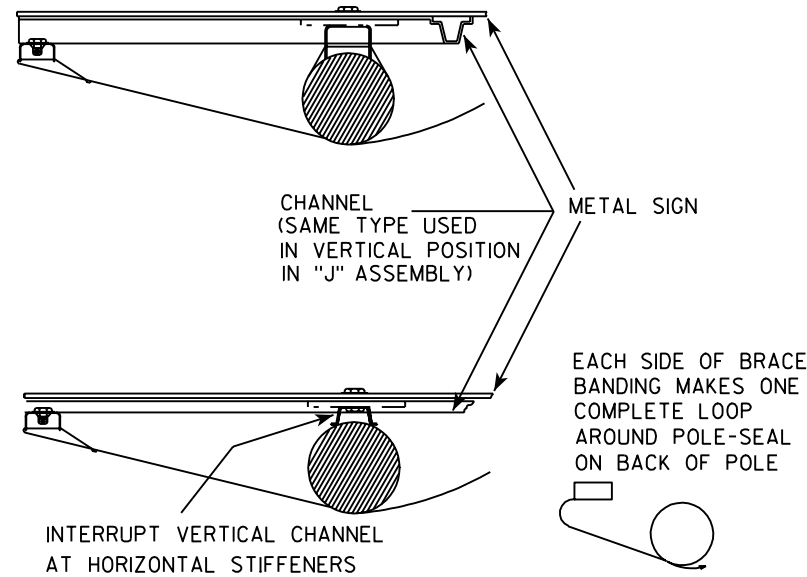
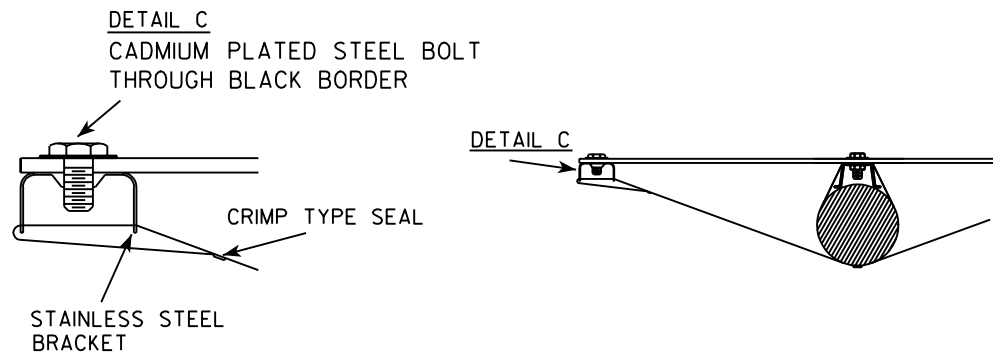
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chester J. Spang*  
for State Traffic Engineer

DATE 3/23/99 PLATE NO. D5-63.9

STATE PROJECT NUMBER: \_\_\_\_\_ SHEET NO: **E**

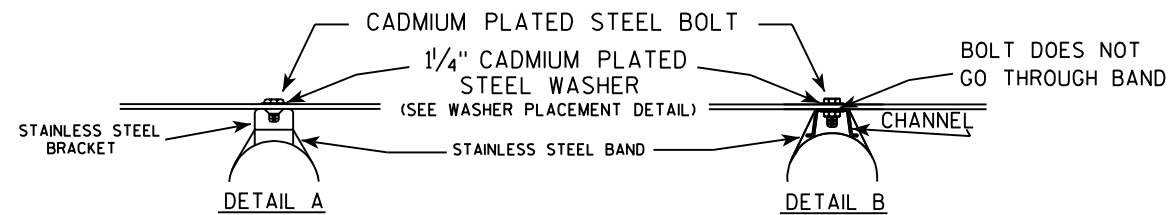
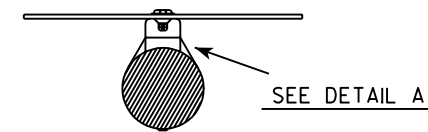
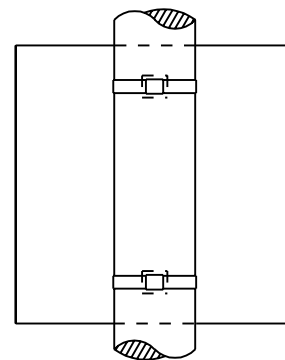
BRACE BANDING



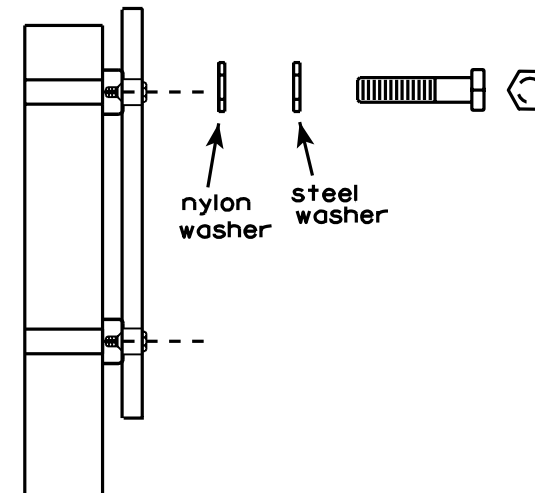
BRACE BANDING SHALL BE TIGHTENED FIRMLY BUT NOT SO TIGHT AS TO APPRECIABLY CURVE FACE OF SIGN.

BRACKET BANDING

SINGLE SIGN



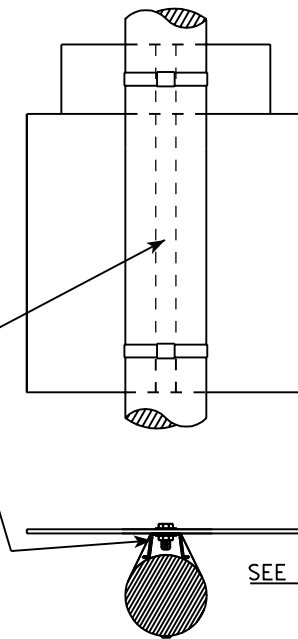
WASHER PLACEMENT



WASHERS (ALL POSTS) -

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

"J" ASSEMBLY



GENERAL NOTES

1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2

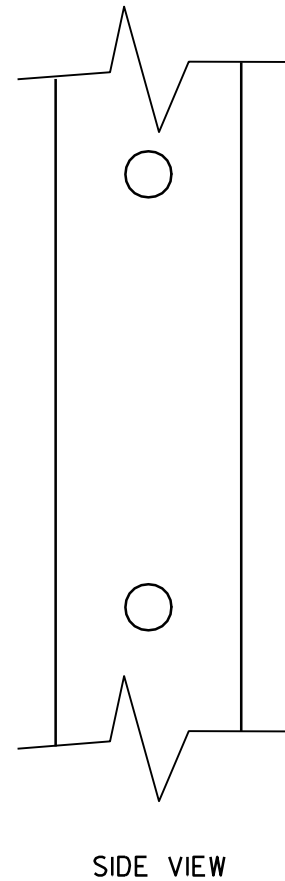
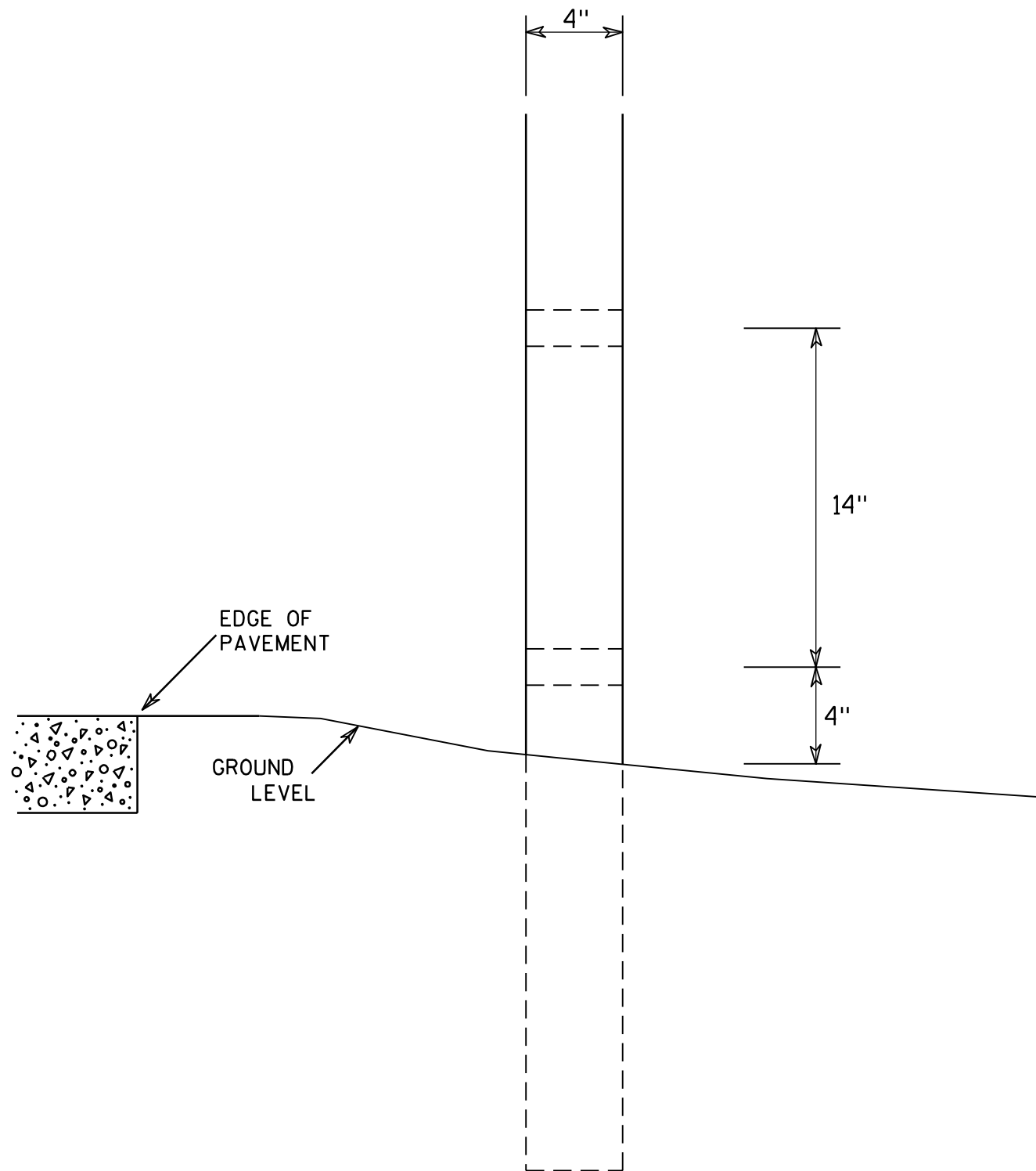
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

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

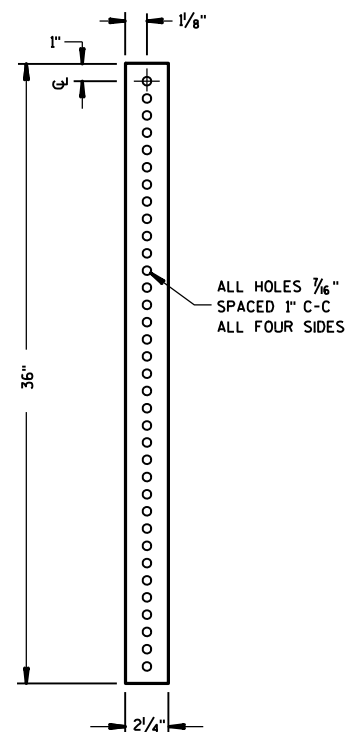
7

7

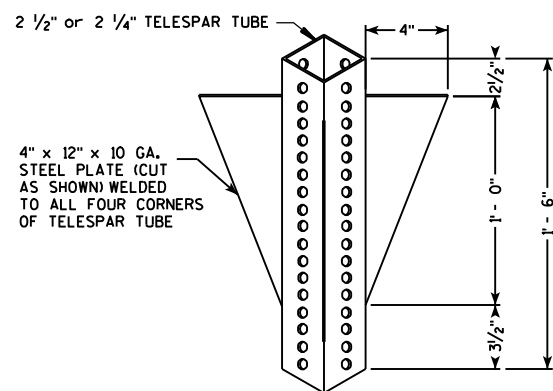
<b>4 X 6 WOOD POST MODIFICATIONS</b>	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

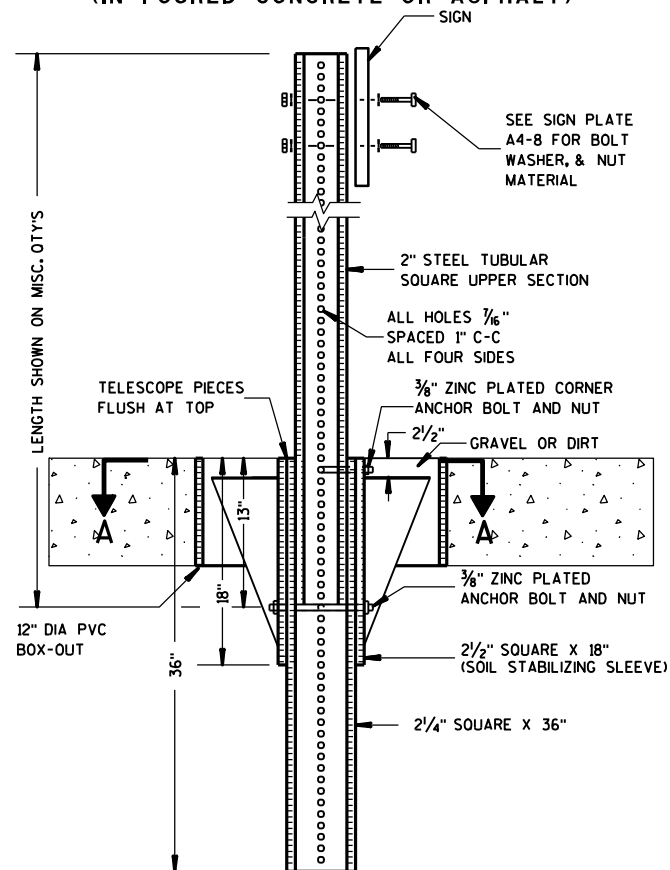
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



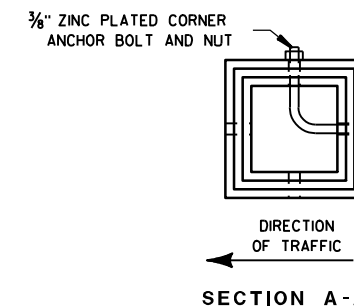
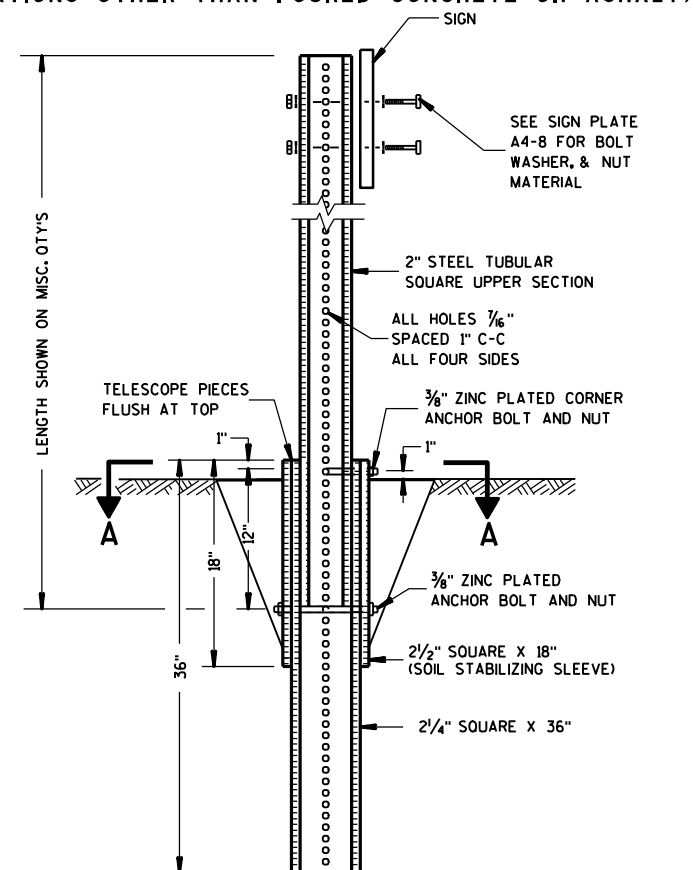
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



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



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



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

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

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer  
DATE 3/9/11 PLATE NO. A4-9.6

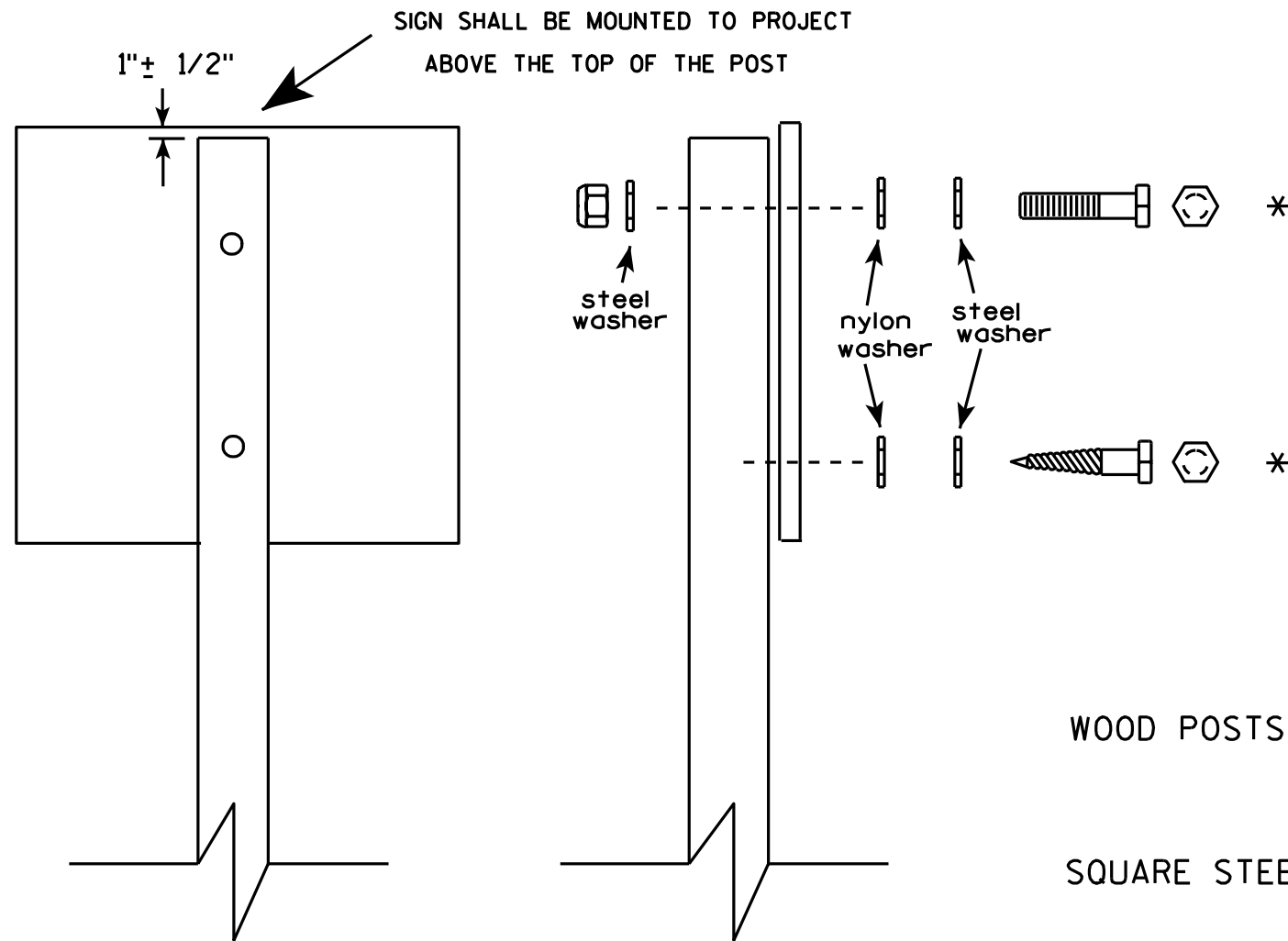
PROJECT NO:

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

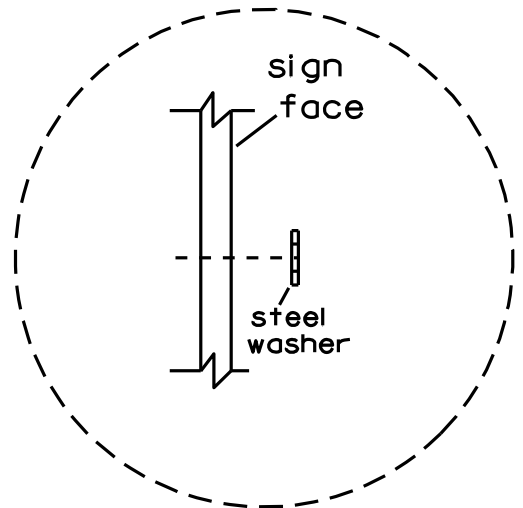
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL

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 *Matthew R Rauch*  
For State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7



**GENERAL NOTES**

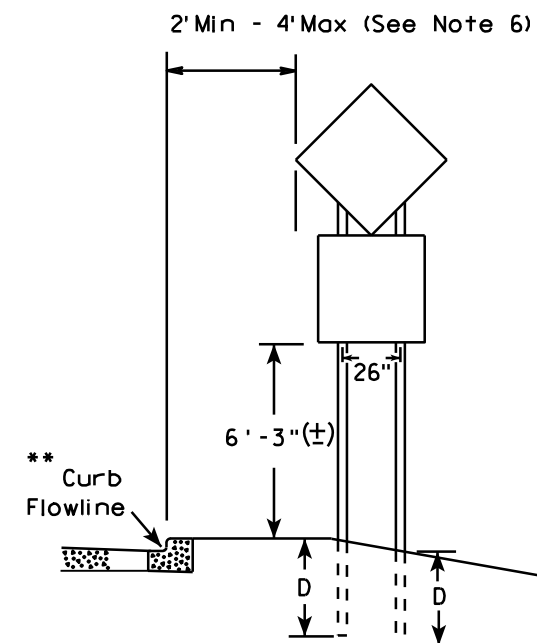
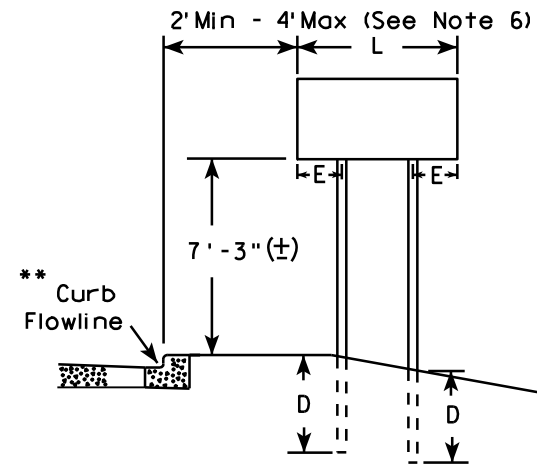
1. For multiple post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.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

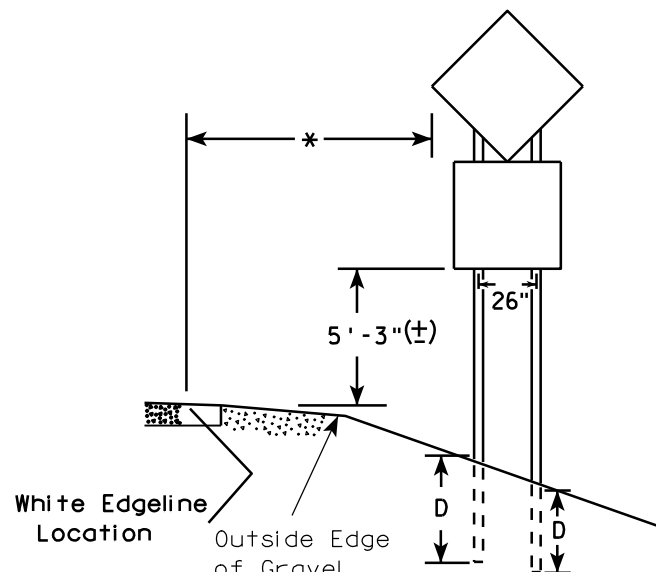
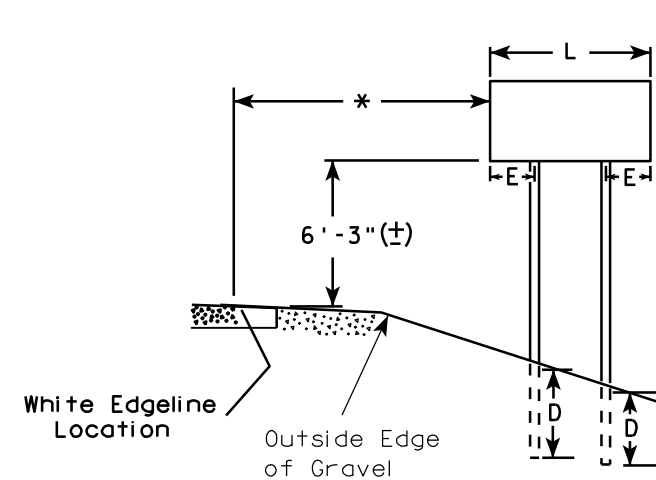
\*\*\* See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

**URBAN AREA**

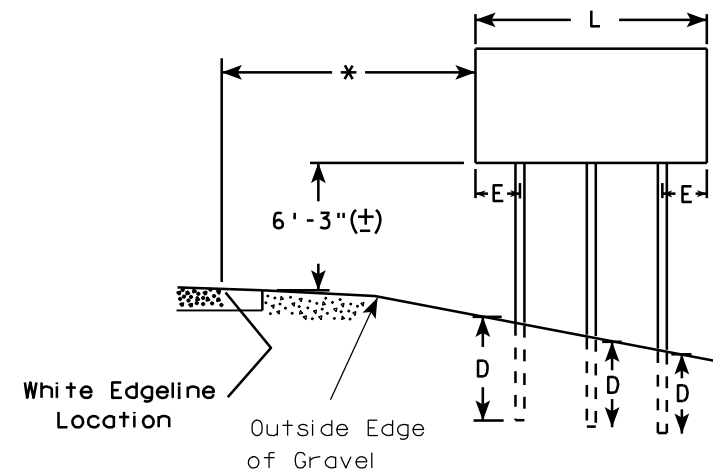


**48" DIAMOND WARNING SIGN**

**RURAL AREA (See Note 3)**



**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"

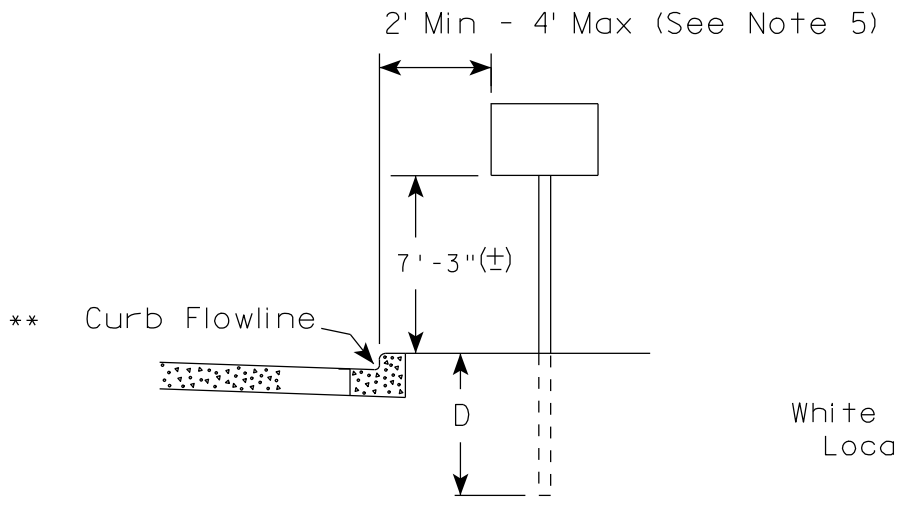
SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

**POST EMBEDMENT DEPTH**

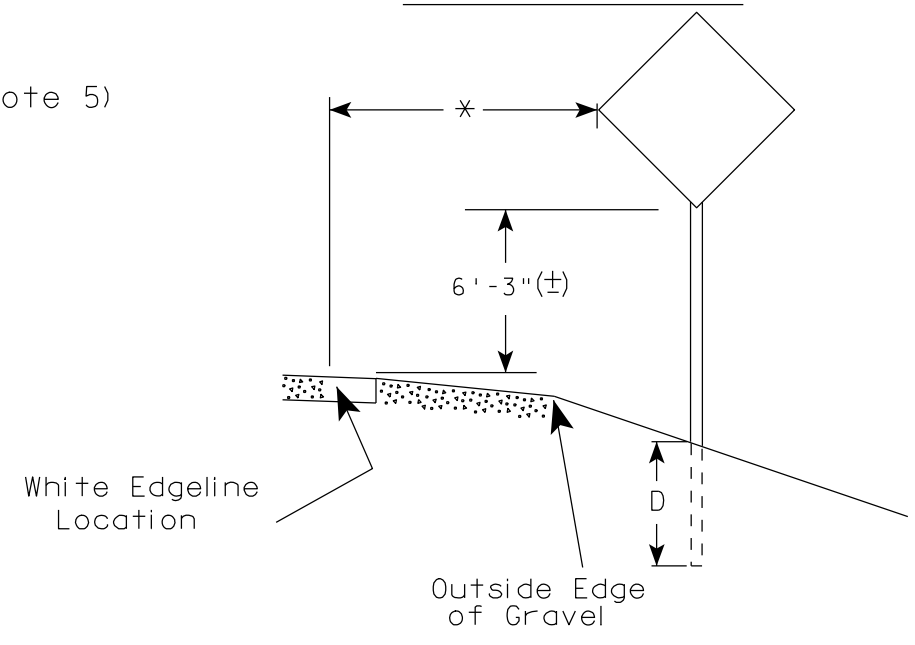
Area of Sign Installation ( Sq. Ft. )	D ( Min )
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 9/21/2011	PLATE NO. A4-4.11

URBAN AREA



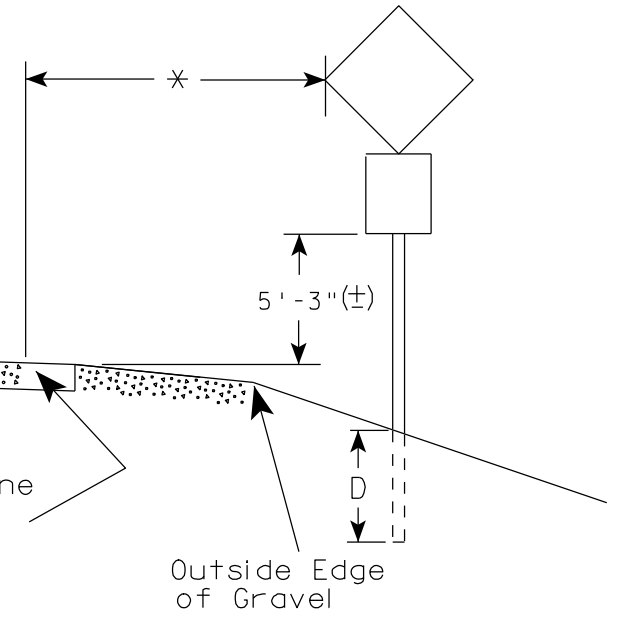
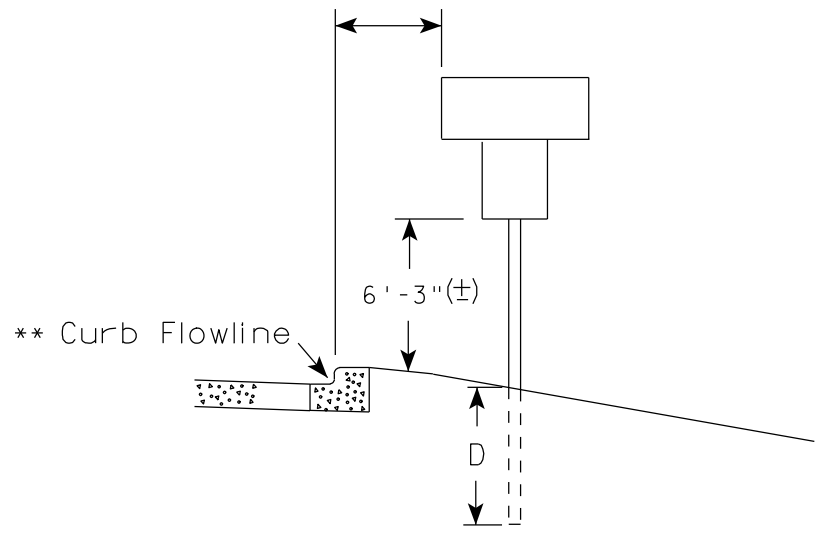
RURAL AREA (See Note 2)



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" ( $\pm$ ) or 6'-3" ( $\pm$ ) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" ( $\pm$ ) or 6'-3" ( $\pm$ ) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" ( $\pm$ ).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The ( $\pm$ ) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" ( $\pm$ ) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" ( $\pm$ ). 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" ( $\pm$ ).

2' Min - 4' Max (See Note 5)



POST EMBEDMENT DEPTH

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

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

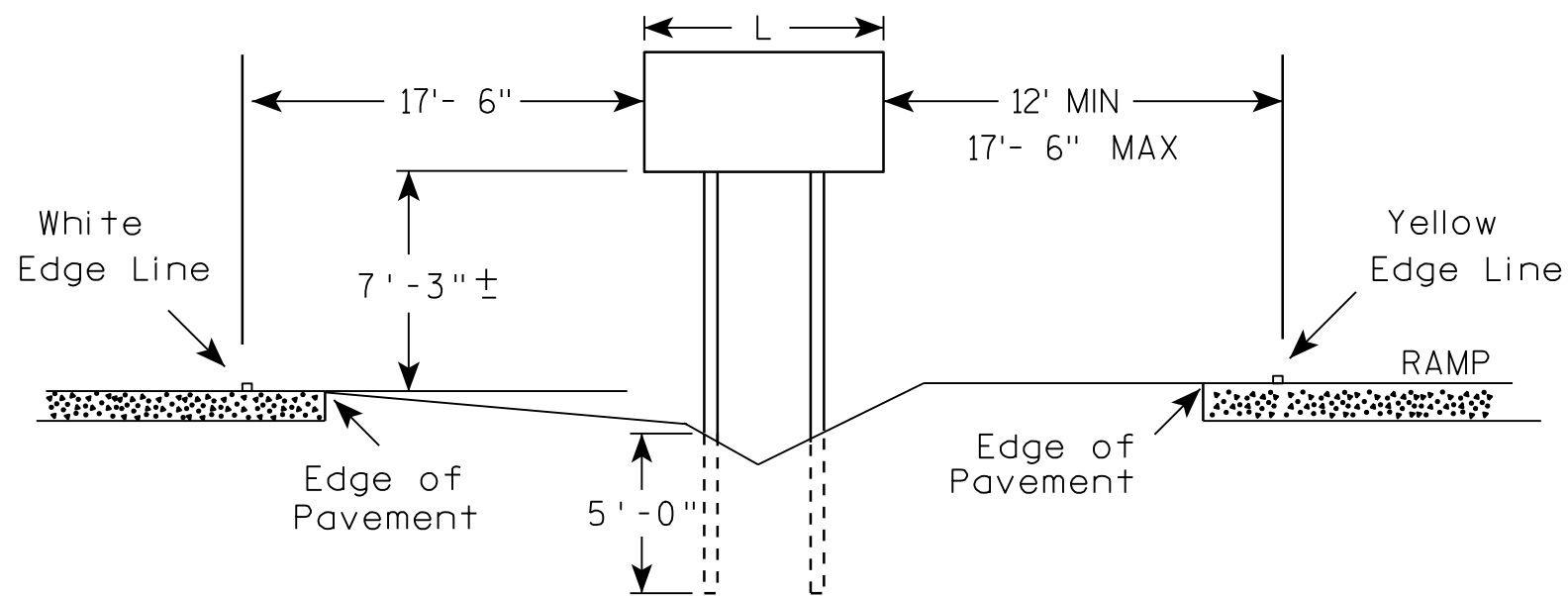
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

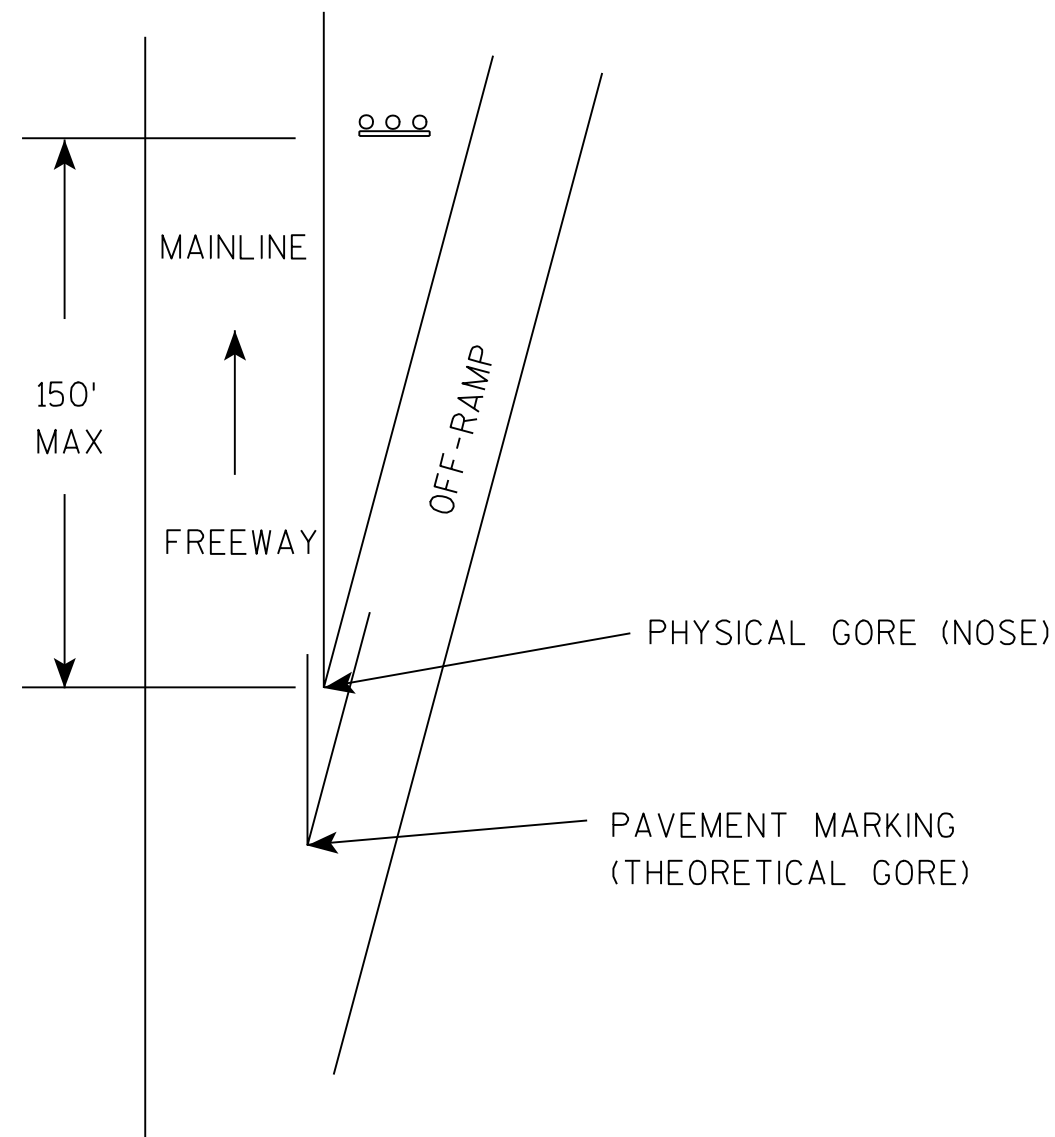
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16



GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 9 feet, use 3 posts as per A4-4.
6. The ( $\bar{\pm}$ ) tolerance for the mounting height is 3 inches.



7

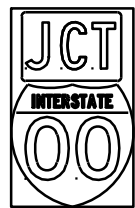
7

TYPICAL INSTALLATION OF TYPE II SIGNS ON WOOD POSTS IN GORE	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Chester J. Spang</i> for State Traffic Engineer
DATE 4/4/00	PLATE NO. A4-2.2

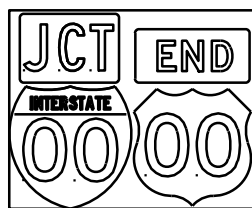
PROJECT NO:

SHEET NO: **E**

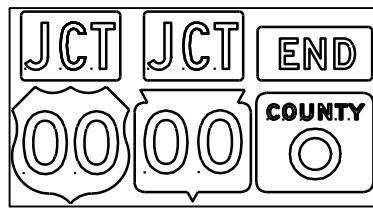
# TYPICAL ASSEMBLIES



J1-1



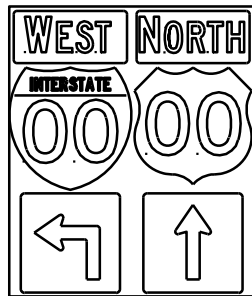
J1-2



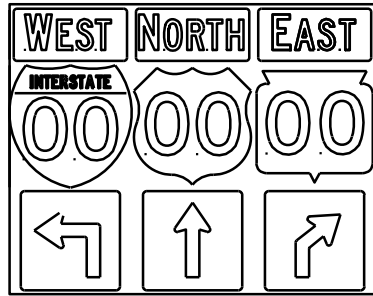
J1-3



J2-1



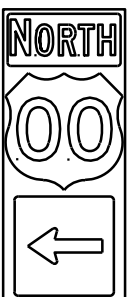
J2-2



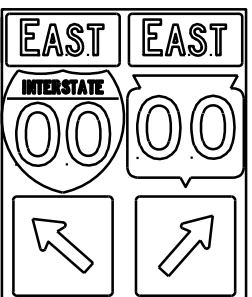
J2-3



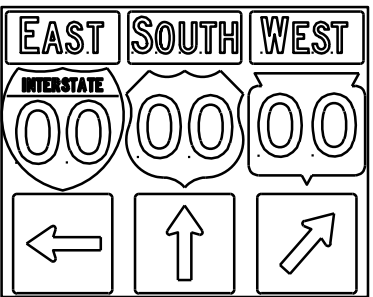
JV



J3-1



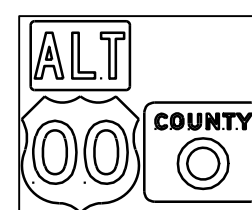
J3-2



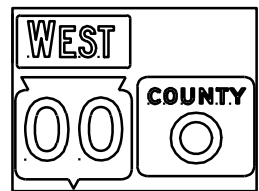
J3-3



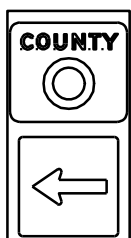
J4-1



J4-2



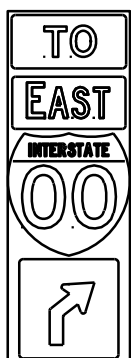
J4-2



J13-1



J12-1



J32-1



J33-1

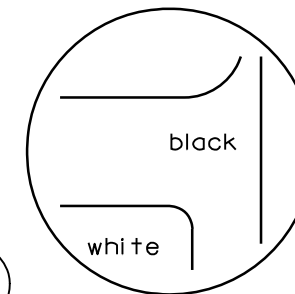
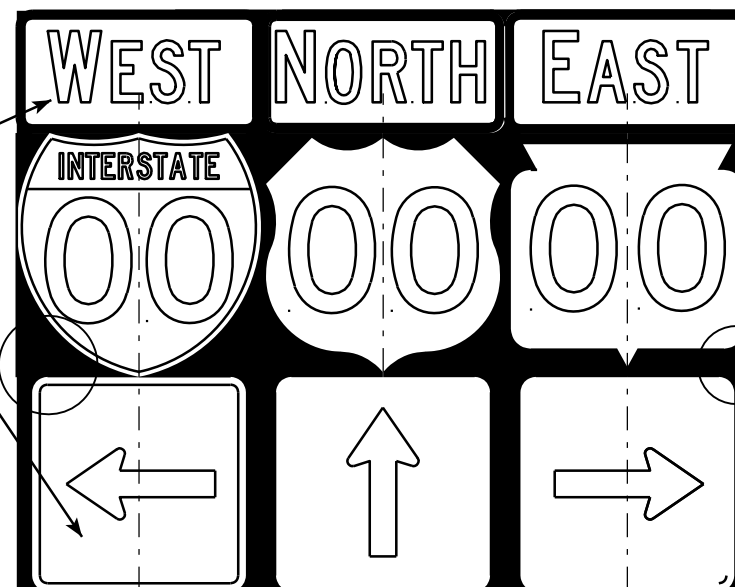
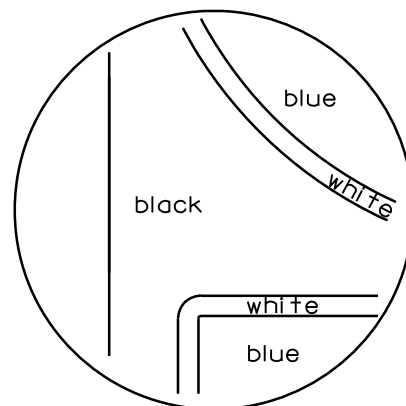


J23-1



J22-1

[blue background with interstate]

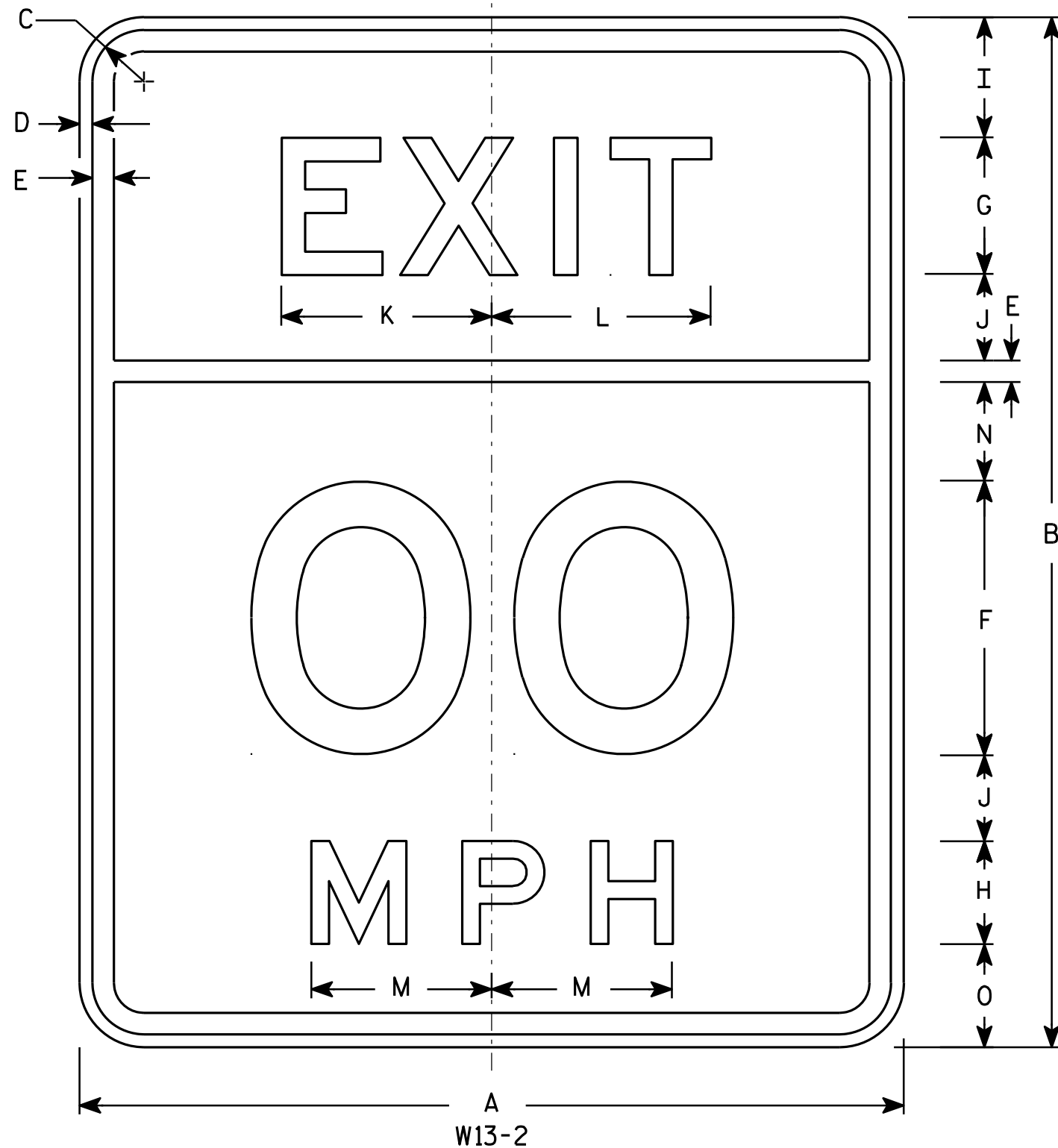


[black background]

## NOTES

- Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - Black Non-reflective  
Message - see Note 5
- Message Series - See Note 5
- Corners shall be square since base material is plywood.
- The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
- 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.
- 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.
- 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.
- 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.

ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 10/21/09	PLATE NO. A2-15.6



**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
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 space about centerline to achieve proper balance.

7

7

W13-2

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areg. sq. ft.
1																											
2S	24	30	1 1/2	3/8	5/8	8	4	3	3 1/2	2 1/2	6 1/8	6 3/8	5 1/4	2 7/8	3												5.0
2M	24	30	1 1/2	3/8	5/8	8	4	3	3 1/2	2 1/2	6 1/8	6 3/8	5 1/4	2 7/8	3												5.0
3	36	48	2 1/4	5/8	7/8	12	6	4	6	4	9 1/4	9 1/2	7 1/8	5 1/8	6												12.0
4	36	48	2 1/4	5/8	7/8	12	6	4	6	4	9 1/4	9 1/2	7 1/8	5 1/8	6												12.0
5	48	60	2 1/4	3/4	1	16	8	6	7	5	12 1/4	12 3/4	10 5/8	5 3/4	6												20.0

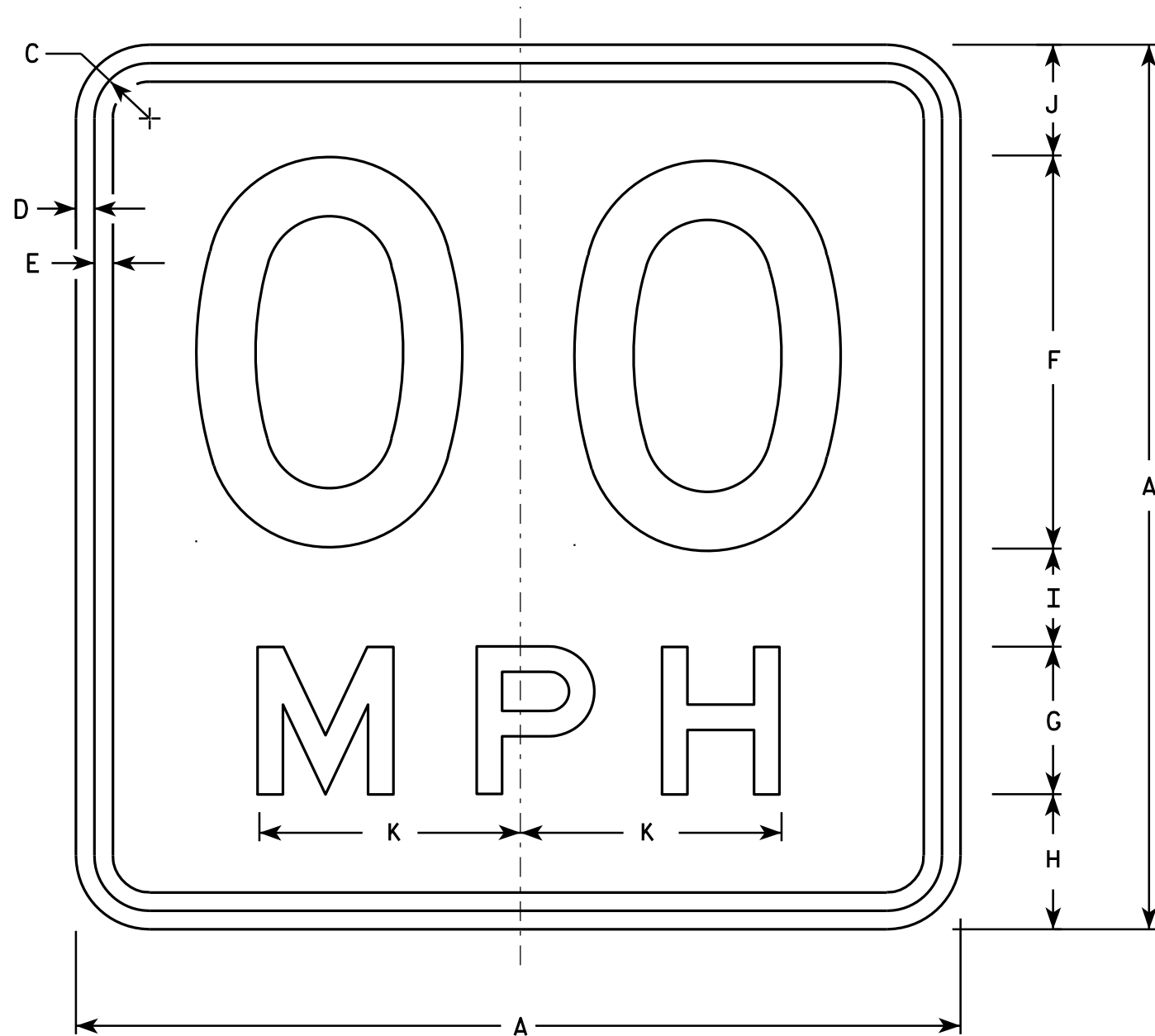
**STANDARD SIGN**  
W13-2

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/16/11 PLATE NO. W13-2.8

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



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D  
Line 2 is Series E

W13-1

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN  
W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W13-1.15

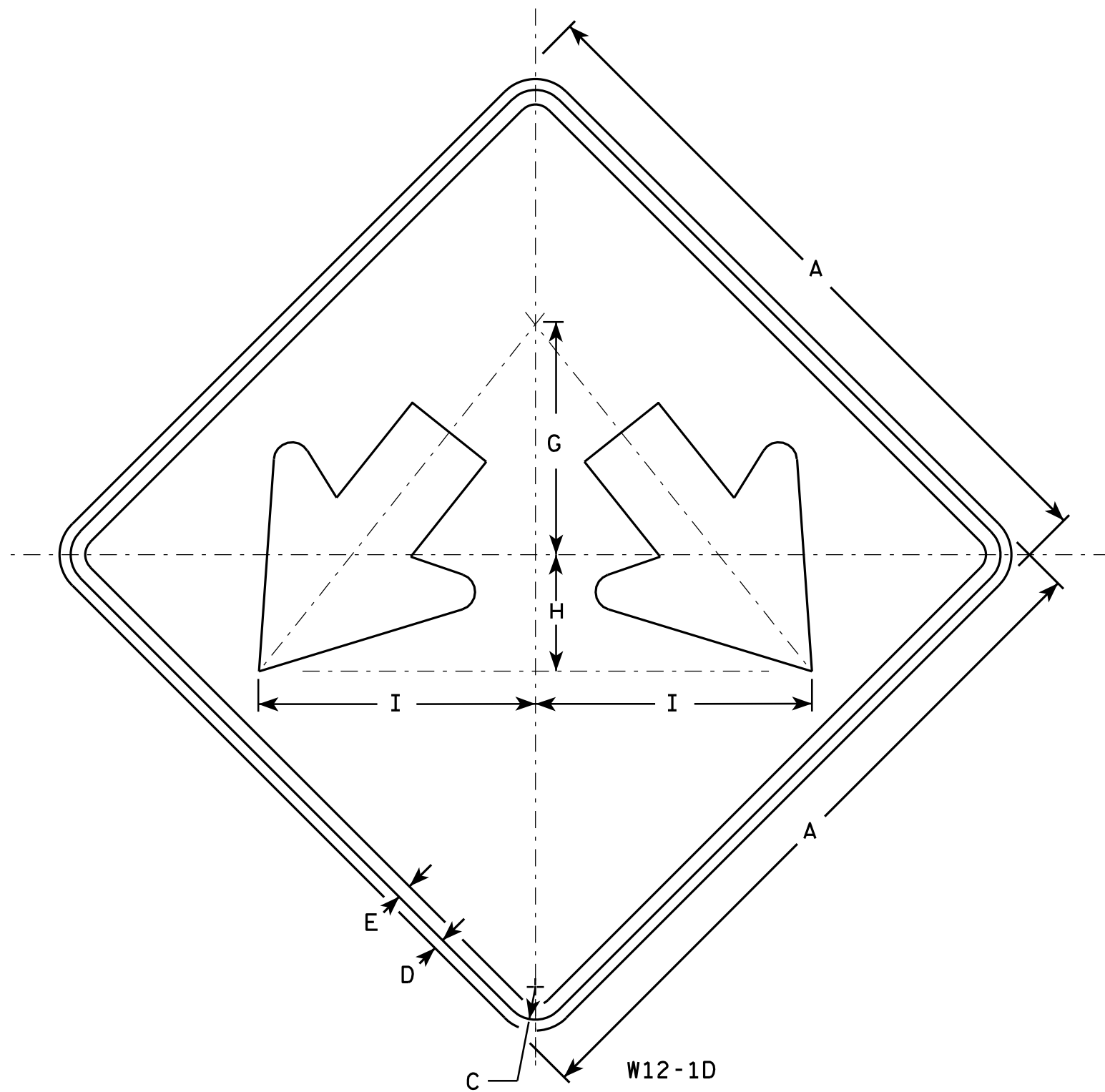
PROJECT NO:

HWY:

COUNTY:

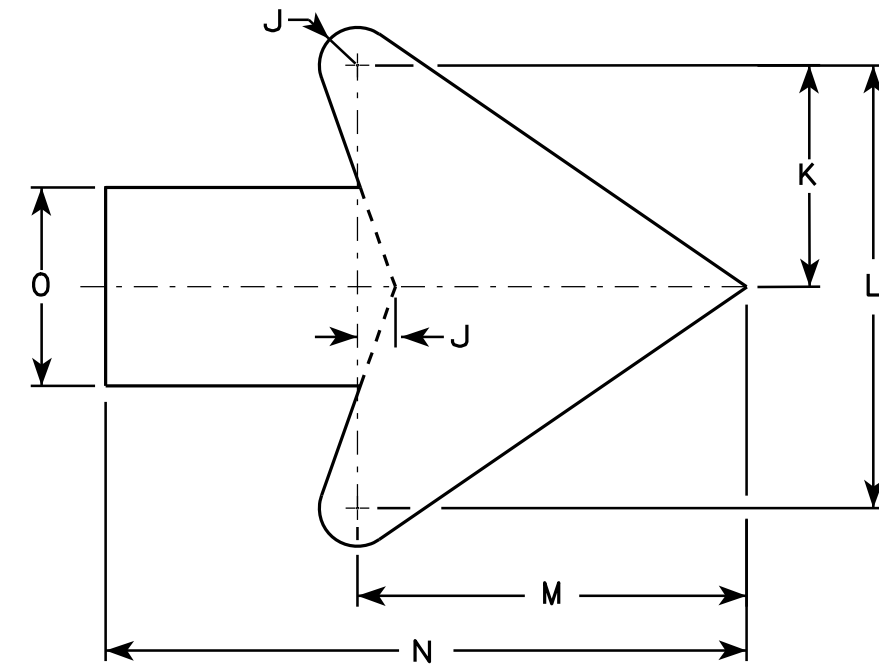
SHEET NO:

E



**NOTES**

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

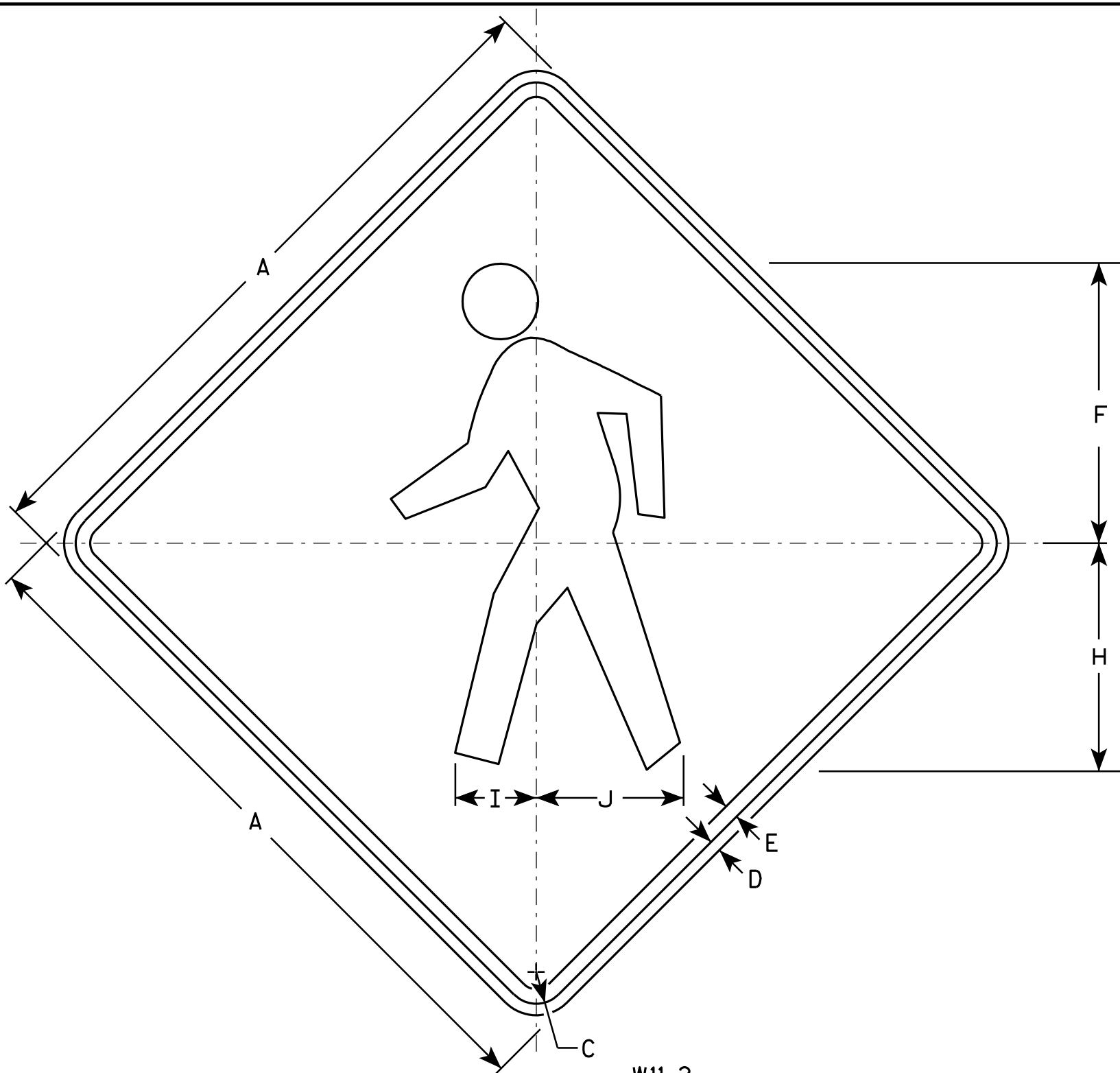
**STANDARD SIGN**  
**W12-1D**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/15/11 PLATE NO. W12-1D.14

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

7

7

W11-2

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	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

**STANDARD SIGN**  
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

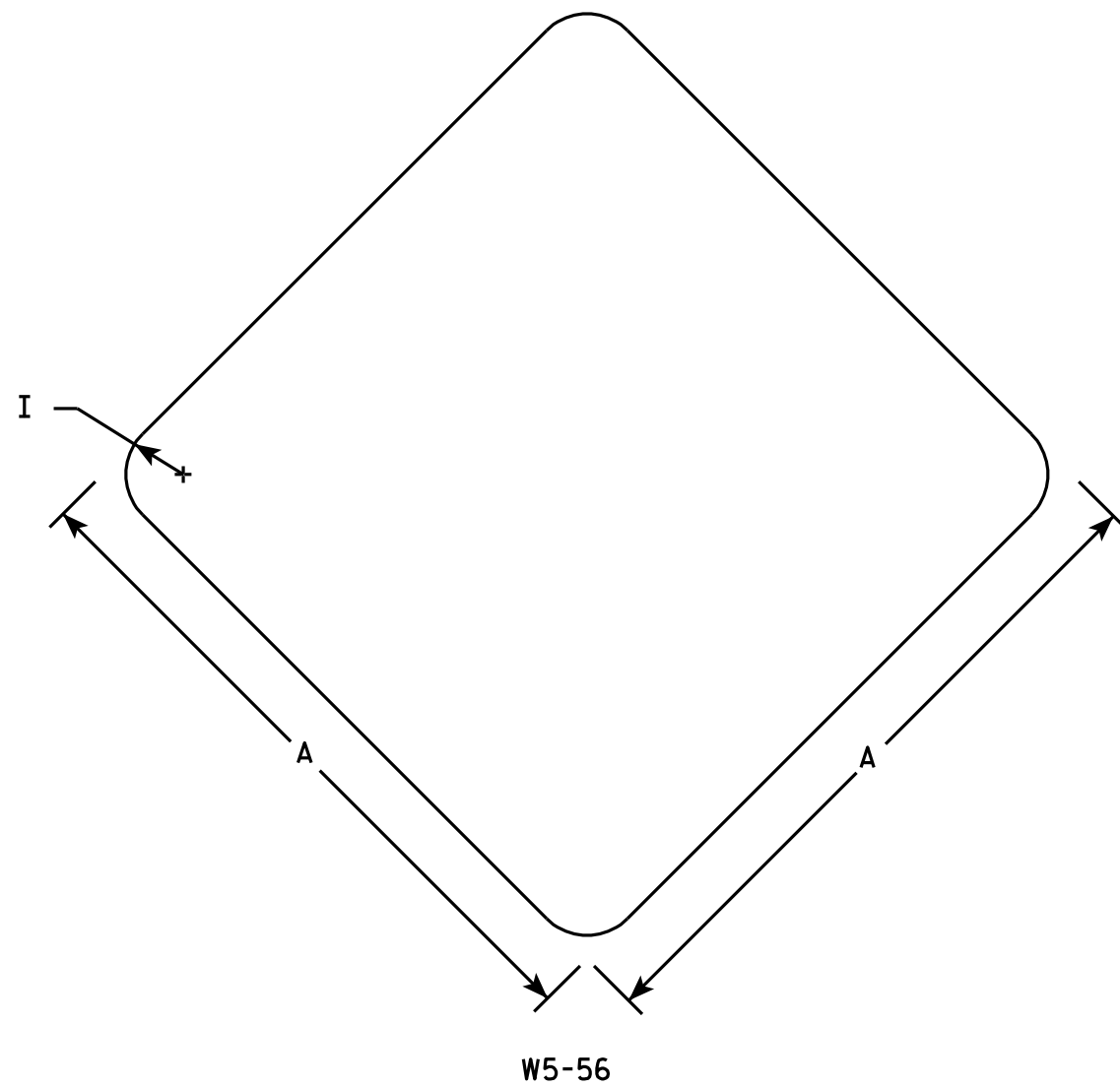
DATE 6/7/10 PLATE NO. W11-2.7

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



NOTES

1. Sign is Type II - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Red
3. Corners may be square or rounded when base material is plywood. When base material is metal the corners shall be rounded.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12								1																		1.0
2S	18								1 1/2																		2.25
2M	18								1 1/2																		2.25
3																											
4																											
5																											

**STANDARD SIGN**  
**W5-56**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 11/2/10 PLATE NO. W5-56.6

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



## *Wisconsin Department of Transportation*

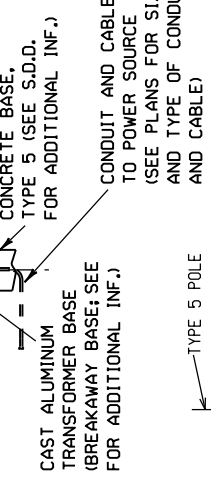
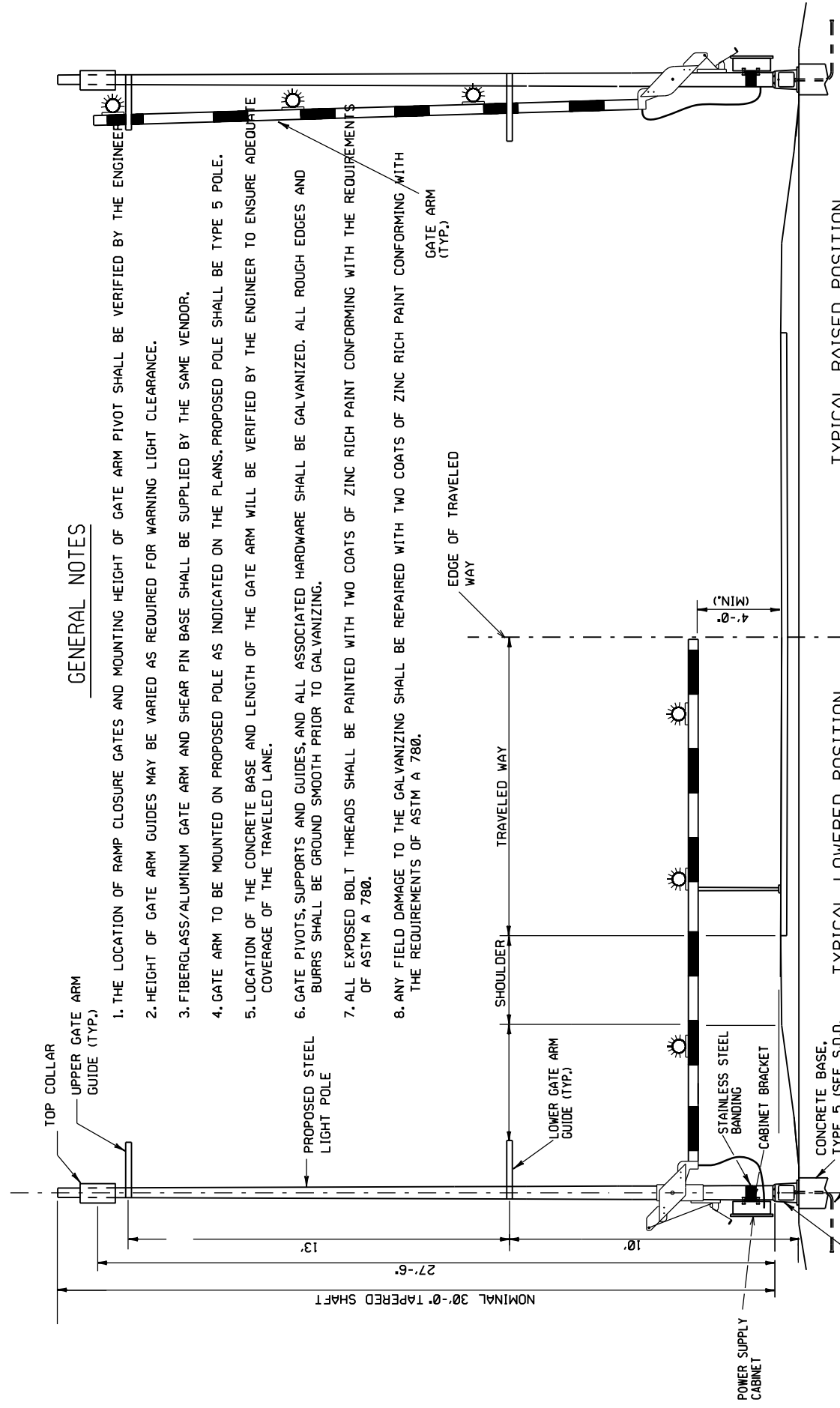
Dedicated people creating transportation solutions through innovation and exceptional service.

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

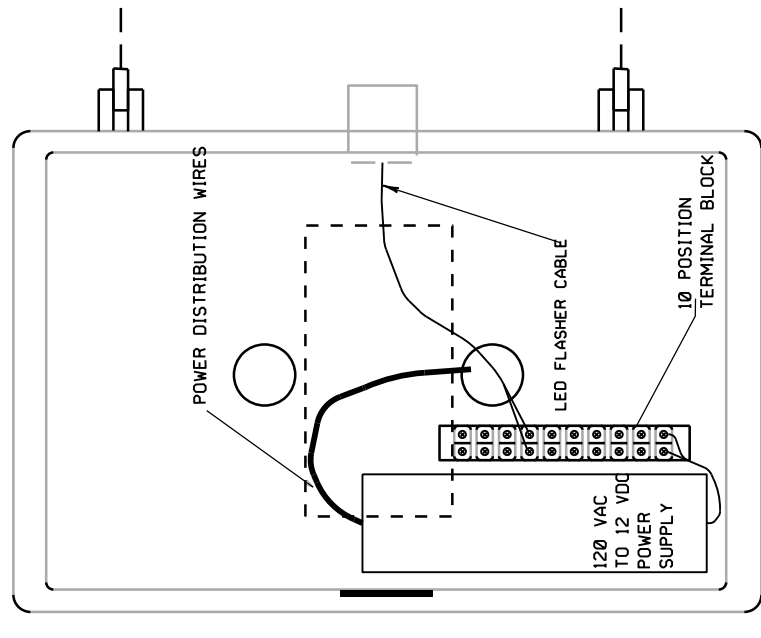


**GENERAL NOTES**

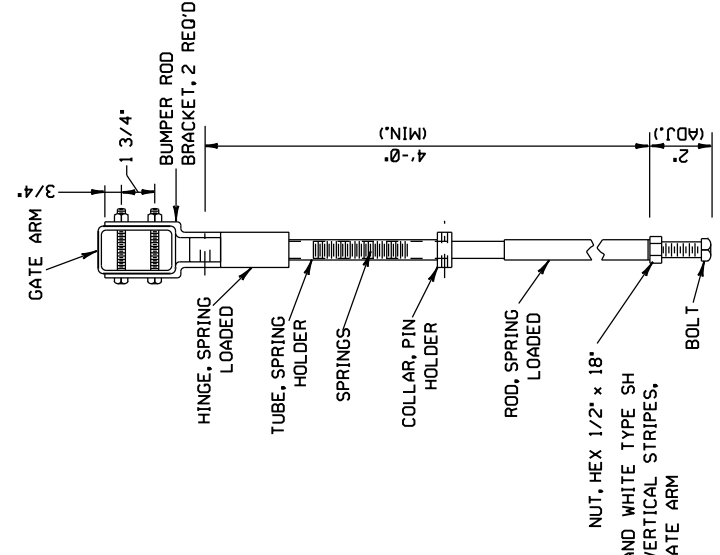
1. THE LOCATION OF RAMP CLOSURE GATES AND MOUNTING HEIGHT OF GATE ARM PIVOT SHALL BE VERIFIED BY THE ENGINEER.
2. HEIGHT OF GATE ARM GUIDES MAY BE VARIED AS REQUIRED FOR WARNING LIGHT CLEARANCE.
3. FIBERGLASS/ALUMINUM GATE ARM AND SHEAR PIN BASE SHALL BE SUPPLIED BY THE SAME VENDOR.
4. GATE ARM TO BE MOUNTED ON PROPOSED POLE AS INDICATED ON THE PLANS. PROPOSED POLE SHALL BE TYPE 5 POLE.
5. LOCATION OF THE CONCRETE BASE AND LENGTH OF THE GATE ARM WILL BE VERIFIED BY THE ENGINEER TO ENSURE ADEQUATE COVERAGE OF THE TRAVELED LANE.
6. GATE PIVOTS, SUPPORTS AND GUIDES, AND ALL ASSOCIATED HARDWARE SHALL BE GALVANIZED. ALL ROUGH EDGES AND BURRS SHALL BE GROUND SMOOTH PRIOR TO GALVANIZING.
7. ALL EXPOSED BOLT THREADS SHALL BE PAINTED WITH TWO COATS OF ZINC RICH PAINT CONFORMING WITH THE REQUIREMENTS OF ASTM A 780.
8. ANY FIELD DAMAGE TO THE GALVANIZING SHALL BE REPAIRED WITH TWO COATS OF ZINC RICH PAINT CONFORMING WITH THE REQUIREMENTS OF ASTM A 780.



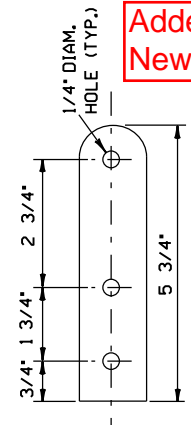
GATE DETAIL  
(HARDWARE POWER OPTION)



POWER SUPPLY CABINET



GATE ARM BUMPER ROD DETAIL

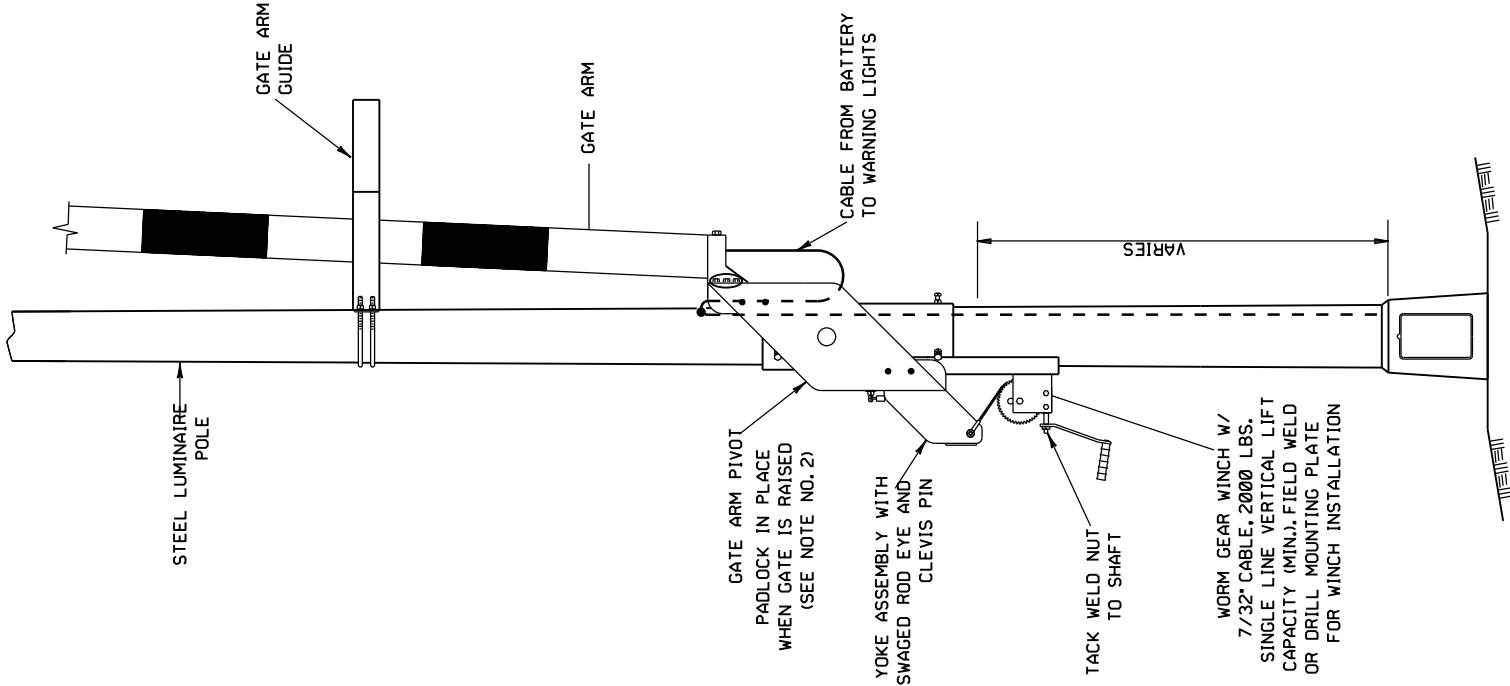


BUMPER ROD MOUNTING BRACKET DETAIL

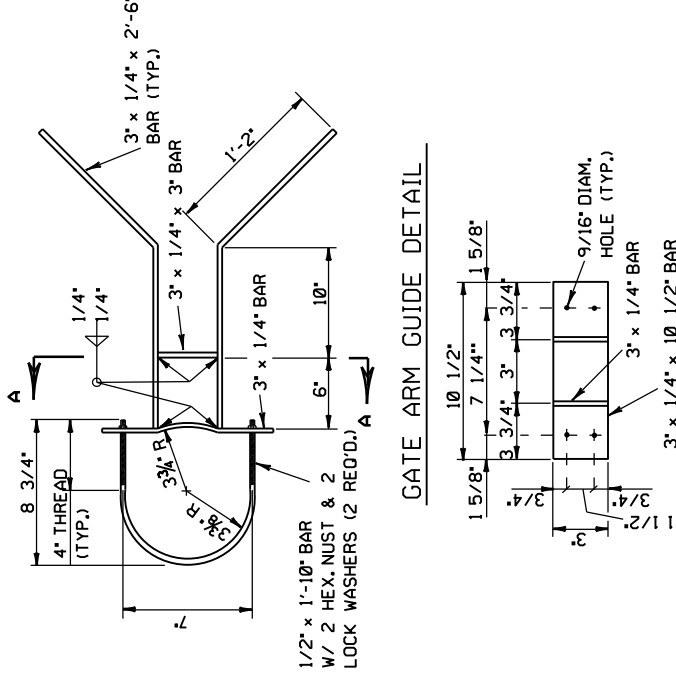
Addendum No. 1, ID 1198-00-61  
New Sheet 8A, March 29, 2012

GENERAL NOTES

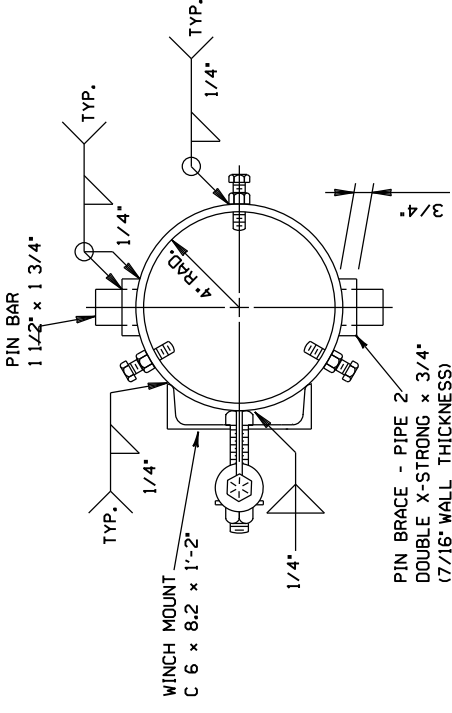
1. WHEN THE GATE IS FULLY RAISED, THE NUT AND WASHER SHALL BE PLACED SNUGLY AGAINST THE OUTSIDE OF THE REAR CHANNEL AND PADLOCKED IN PLACE.
2. WHEN THE GATE IS FULLY LOWERED, THE NUT AND WASHER SHALL BE PLACED SNUGLY AGAINST THE INSIDE OF THE REAR CHANNEL AND PADLOCKED INTO PLACE.
3. ANTI-SEIZE LUBRICATING MATERIAL SHALL BE USED ON ALL BOLT THREADS BEFORE INSTALLATION.
4. ALL BOLTS SHALL CONFORM TO ASTM A 307, GRADE A, UNLESS DESIGNATED AS HS (HIGH STRENGTH), WHICH SHALL CONFORM TO ASTM A 325.



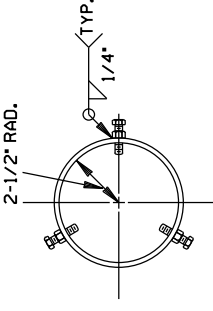
GATE PIVOT ASSEMBLY



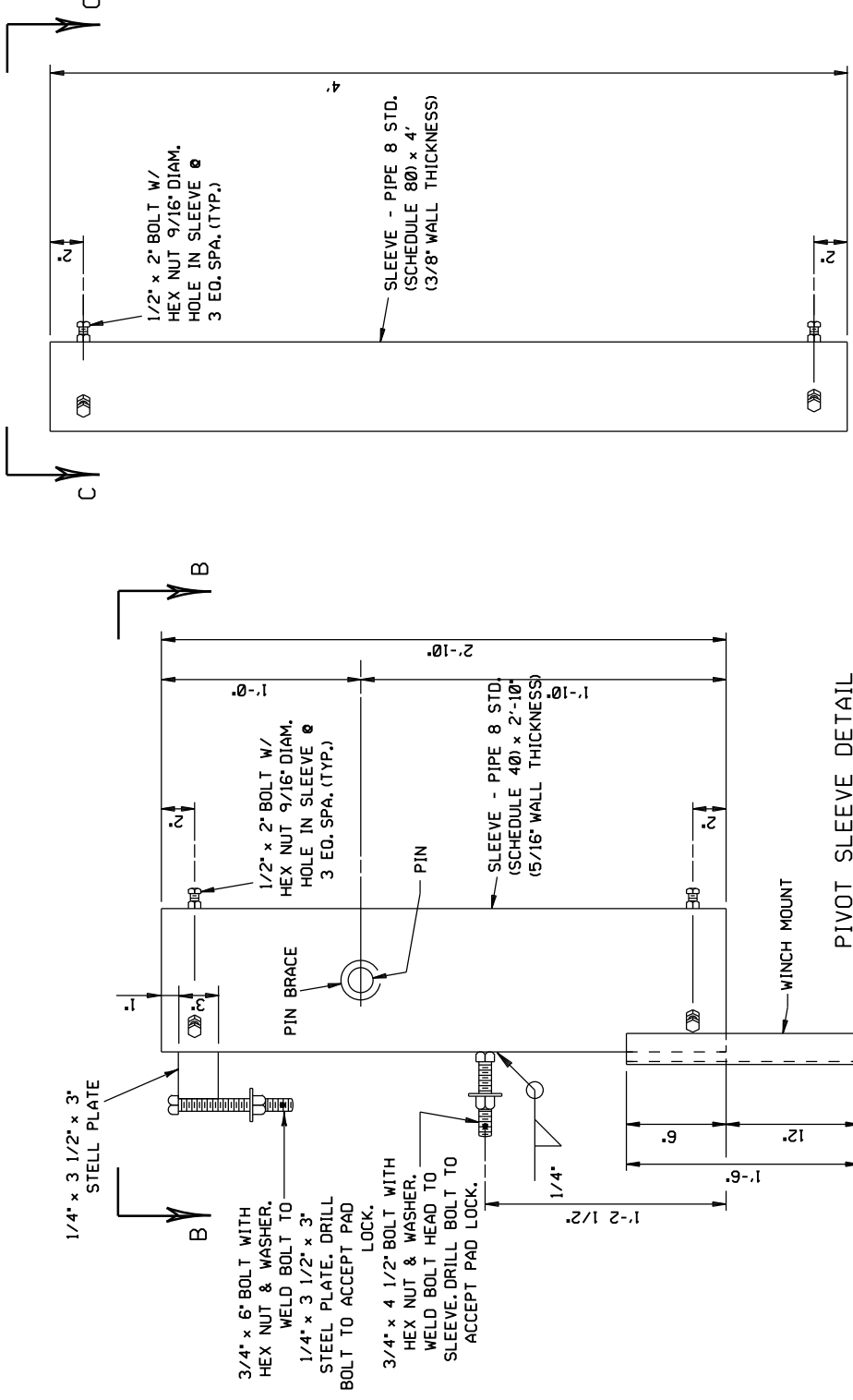
GATE ARM GUIDE DETAIL



SECTION B-B



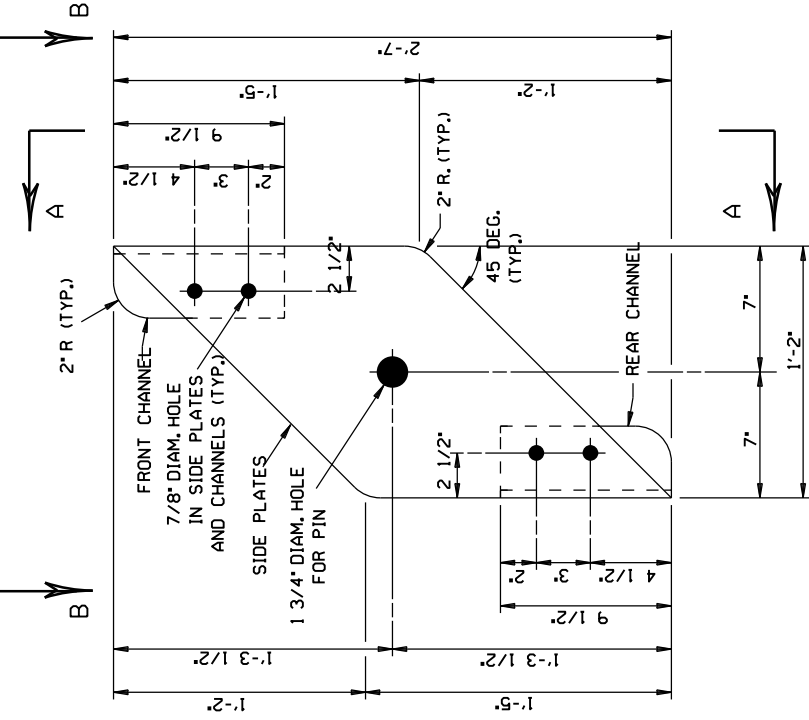
SECTION C-C



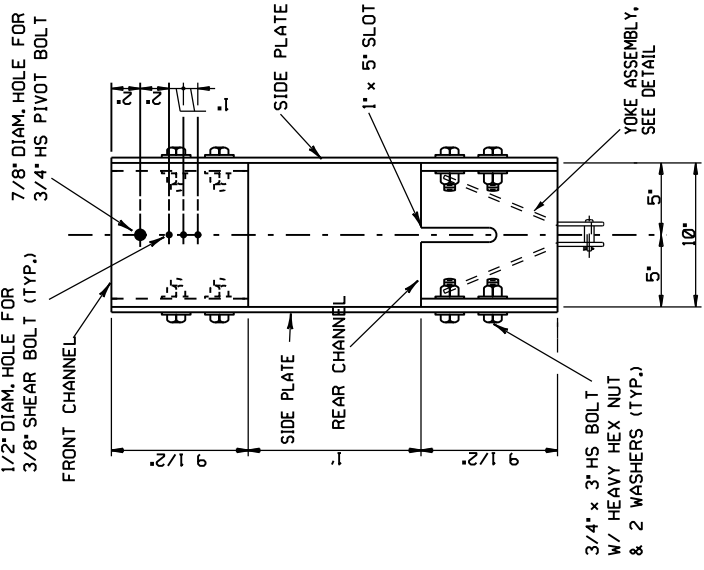
PIVOT SLEEVE DETAIL

TOP COLLAR

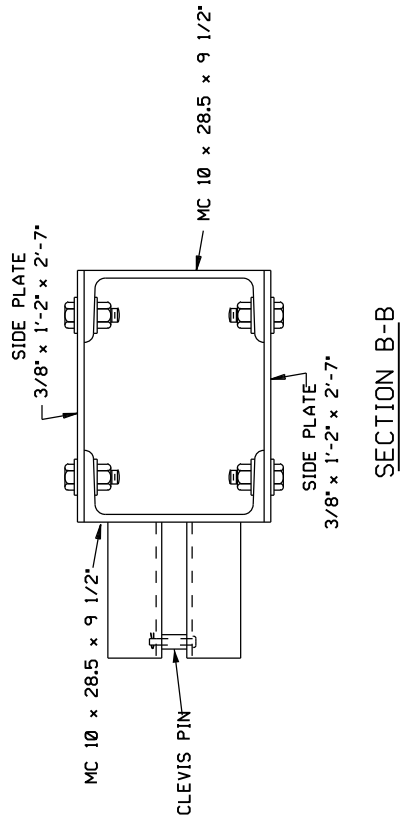
Addendum No. 1  
ID 1198-00-61  
New Sheet 8B  
March 29, 2012



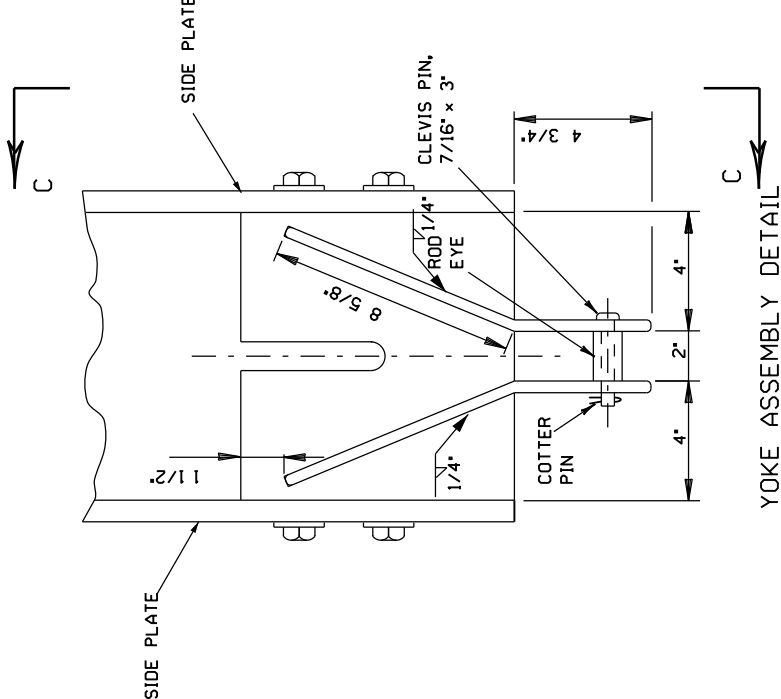
SIDE PLATE DETAIL



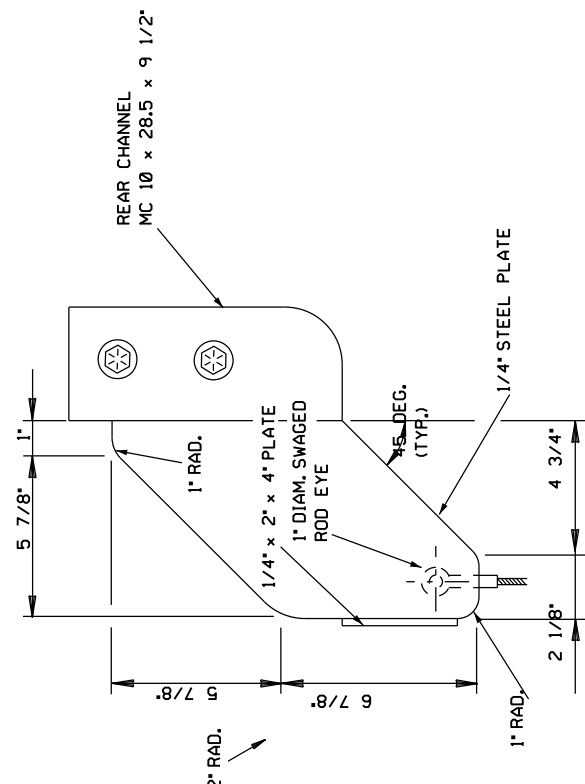
SECTION A-A



SECTION B-B

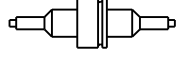
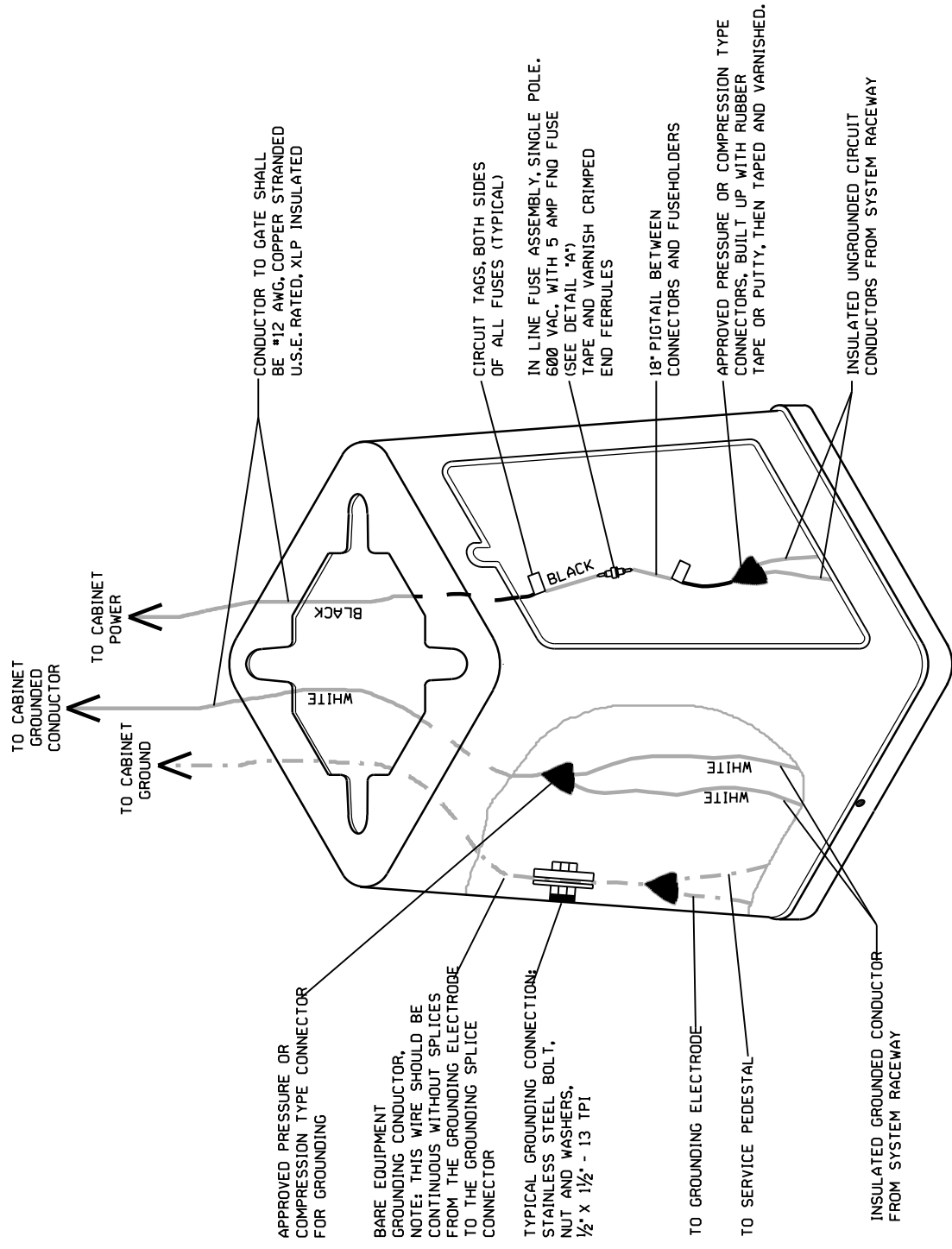


YOKE ASSEMBLY DETAIL



SECTION C-C

Addendum No. 1  
 ID 1198-00-61  
 New Sheet 8C  
 March 29, 2012

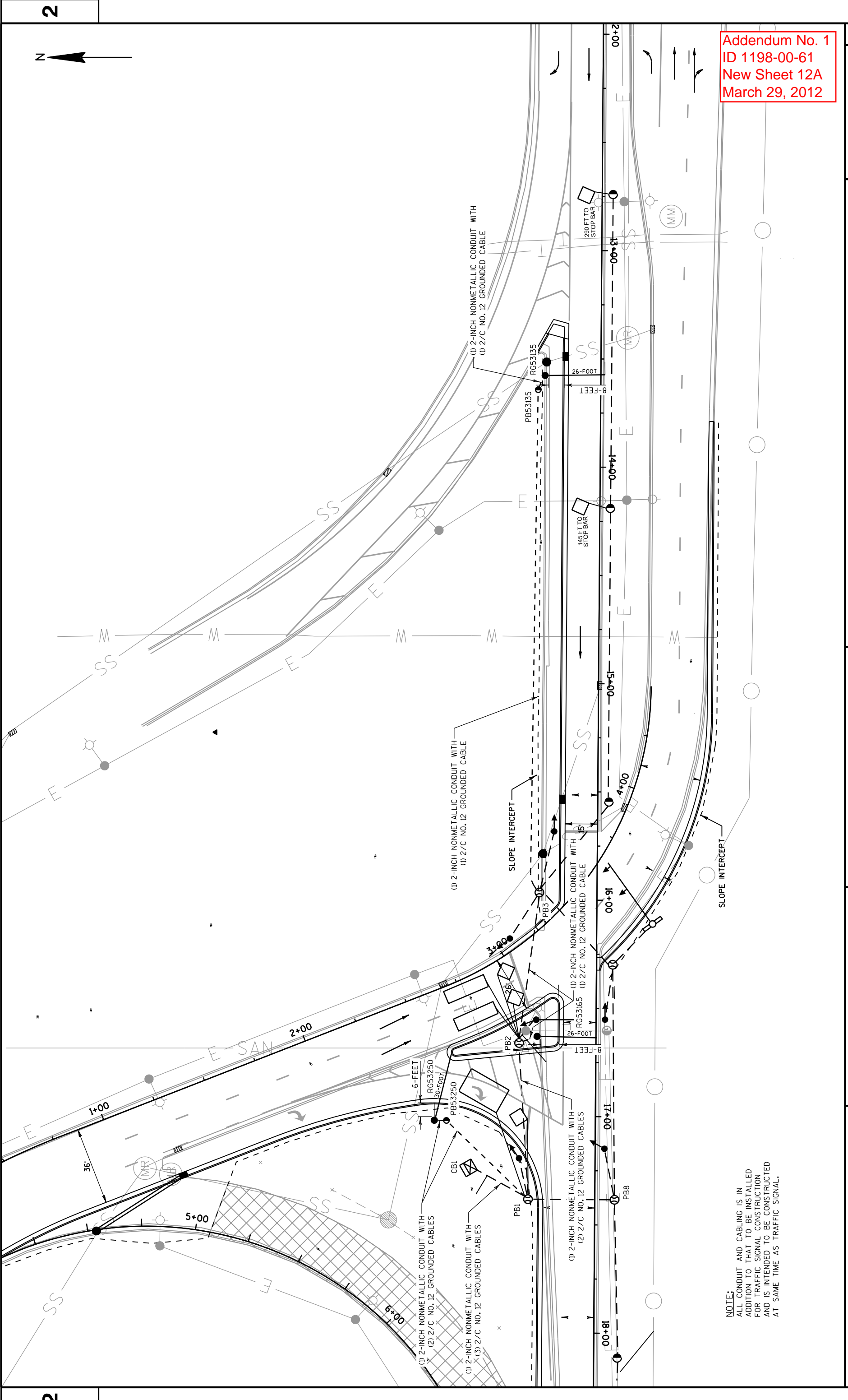


DETAIL "A"  
SINGLE POLE

Addendum No. 1  
ID 1198-00-61  
New Sheet 8D  
March 29, 2012

Addendum No. 1  
 ID 1198-00-61  
 New Sheet 12A  
 March 29, 2012

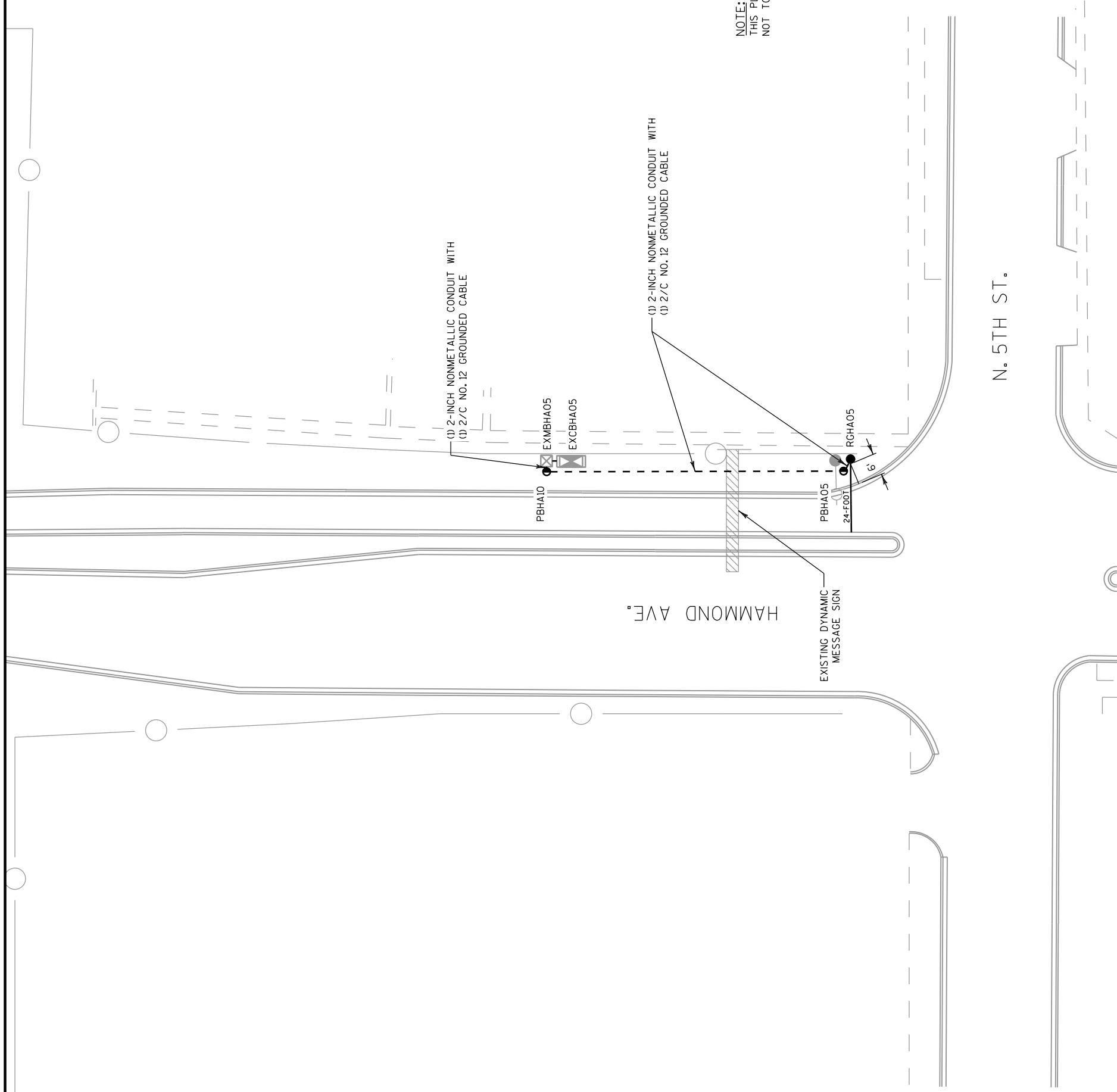
2



NOTE:  
 ALL CONDUIT AND CABLING IS IN  
 ADDITION TO THAT TO BE INSTALLED  
 FOR TRAFFIC SIGNAL CONSTRUCTION  
 AND IS INTENDED TO BE CONSTRUCTED  
 AT SAME TIME AS TRAFFIC SIGNAL.

2





Addendum No. 1  
 ID 1198-00-61  
 New Sheet 12B  
 March 29, 2012

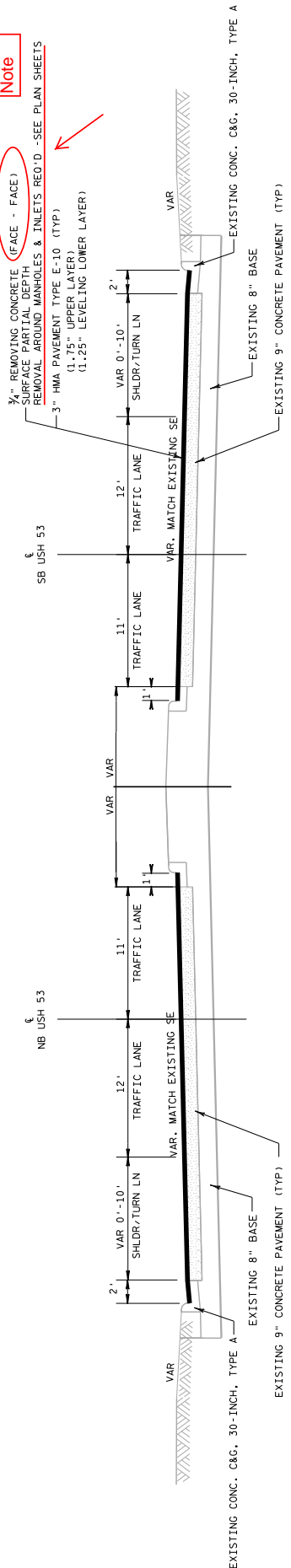
PROJECT NO: 1198-00-61	HWY: US 53	COUNTY: DOUGLAS	RAMP CLOSURE GATES PLANS	SHEET 12B	E
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RAMP CLOSURE GATE ITEMS

CATEGORY	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010	0010
	652.0225	CONDUIT	653.0135	654.0105	655.0305	657.0255	SPV.0060.02	SPV.0060.03	SPV.0060.04	SPV.0060.05	SPV.0060.06	SPV.0060.07	SPV.0060.08	SPV.0060.09					
	RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	PULL BOXES STEEL 24X36-INCH EACH	CONCRETE BASES TYPE 5 EACH	CABLE TYPE UF 2-12 AWG GROUNDED L.F.	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	RAMP CLOSURE GATES HARDWIRED 24-FT EACH	RAMP CLOSURE GATES HARDWIRED 26-FT EACH	RAMP CLOSURE GATES HARDWIRED 30-FT EACH	RAMP CLOSURE GATE ARMS STOCKPILE 24-FT EACH	RAMP CLOSURE GATE ARMS STOCKPILE 26-FT EACH	RAMP CLOSURE GATE ARMS STOCKPILE 30-FT EACH	RAMP CLOSURE GATE ARMS STOCKPILE 30-FT EACH	RAMP CLOSURE GATE ARMS STOCKPILE 30-FT EACH	RAMP CLOSURE GATE ARMS STOCKPILE 30-FT EACH					
US 53	RG53250	W-N RAMP	1		1			1											
	RG53135	E-N RAMP	1		1														
	RGHA05	HAMMOND AVE.	1		1														
	RG53165	E-N RAMP	1		1														
	UNDISTRIBUTED																		
	CB1 - PB1			90															
	PB1 - PB2			150															
	PB1 - PB53250		1	55															
	PB53250 - RG53250			10															
	PB2 - RG53165			10															
	PB2 - PB3			70															
	PB3 - PB53135		1	235															
	PB53135 - RG53135			10															
	EXMBHA05 - PBHA10		1	10															
	PBHA10 - PBHA05		1	105															
	PBHA05 - RGHA05			10															
TOTALS	620	4	4	755	4	1	2	1	1	1	1	1	3	4					

Addendum No. 1  
ID 1198-00-61  
New Sheet 38A  
March 29, 2012

Added Note

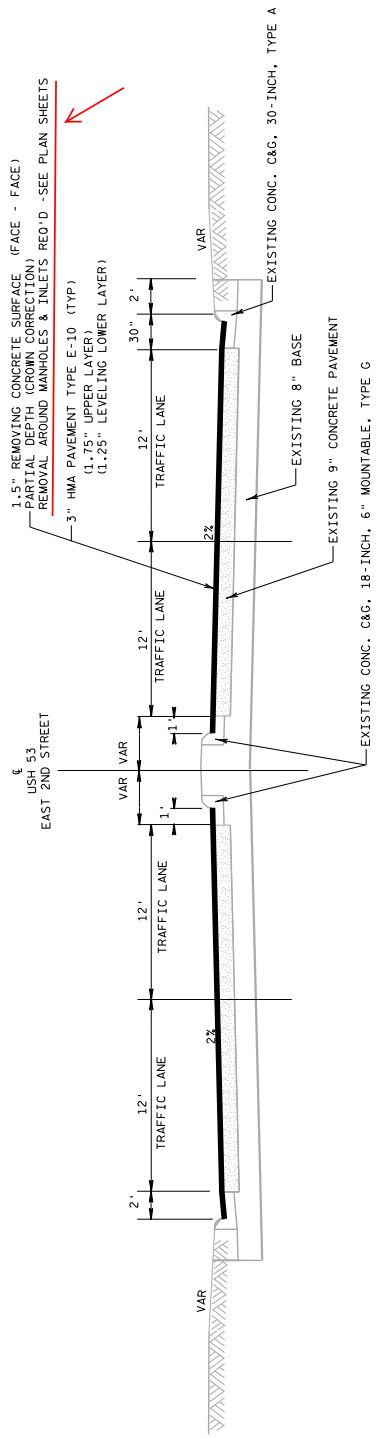


**FINISHED TYPICAL SECTION**

STATIONS 23+45 - 36+00

Addendum No. 2  
ID 1198-00-61  
Revised Sheet 3  
April 3, 2012

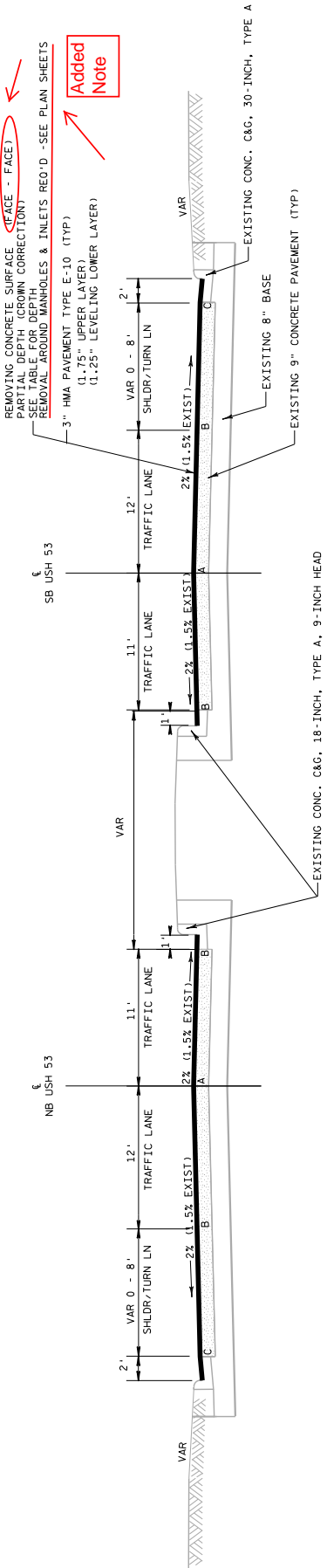
Added Note



**FINISHED TYPICAL SECTION**

STATIONS 71+67 - 75+85  
STATIONS 77+38 - 86+52  
STATIONS 93+02 - 125+00

\* NOTE:  
SOME AREAS WILL REQUIRE FULL DEPTH CONCRETE PAVEMENT REPAIR OR CONCRETE PAVEMENT REPLACEMENT LOCATIONS TO BE DETERMINED BY FIELD ENGINEER.  
SEE STANDARD DETAIL DRAWINGS FOR CONCRETE PAVEMENT REPAIR.



Added Note

Added Note

Addendum No. 2  
ID 1198-00-61  
Revised Sheet 4  
April 3, 2012

**FINISHED TYPICAL SECTION**  
STATIONS 36+00 - 47+79

**REM. CONCRETE SURFACE PARTIAL DEPTH**

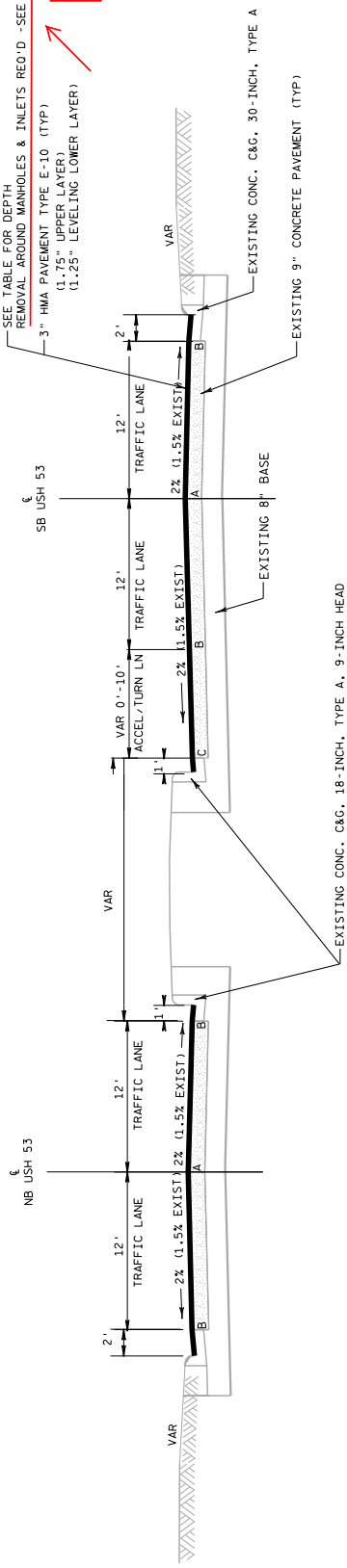
POINT	A	B	C
REMOVAL DEPTH	3/4"	1.4"	1.9"

**FINISHED TYPICAL SECTION**  
STATIONS 47+79 - 61+59

\* NOTE:  
SOME AREAS WILL REQUIRE FULL DEPTH CONCRETE PAV'T REPLACEMENT LOCATIONS TO BE DETERMINED BY FIELD ENGINEER. SEE STANDARD DETAIL DRAWINGS FOR CONCRETE PAVEMENT REPAIR.

REMOVING CONCRETE SURFACE (FACE - FACE)  
 PARTIAL DEPTH (CROWN CORRECTION)  
 SEE TABLE FOR DEPTH  
 REMOVAL AROUND MANHOLES & INLETS REO'D -SEE PLAN SHEETS

Added Note



**FINISHED TYPICAL SECTION**

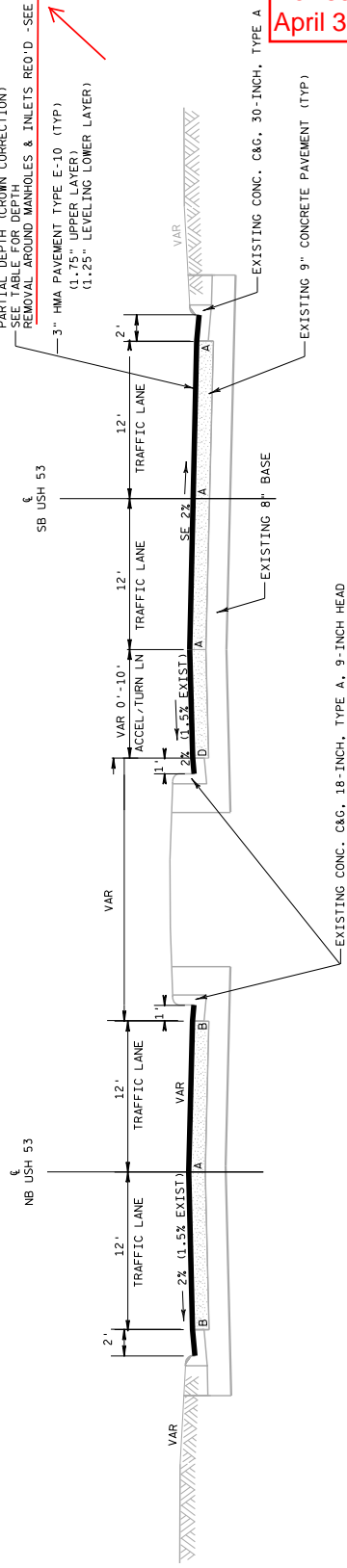
STATIONS 61+59 - 63+67

**REM. CONCRETE SURFACE PARTIAL DEPTH**

POINT	A	B	C	D
REMOVAL DEPTH	3/4"	1.5"	2.0"	1.4"

Added Note

REMOVING CONCRETE SURFACE (FACE - FACE)  
 PARTIAL DEPTH (CROWN CORRECTION)  
 SEE TABLE FOR DEPTH  
 REMOVAL AROUND MANHOLES & INLETS REO'D -SEE PLAN SHEETS

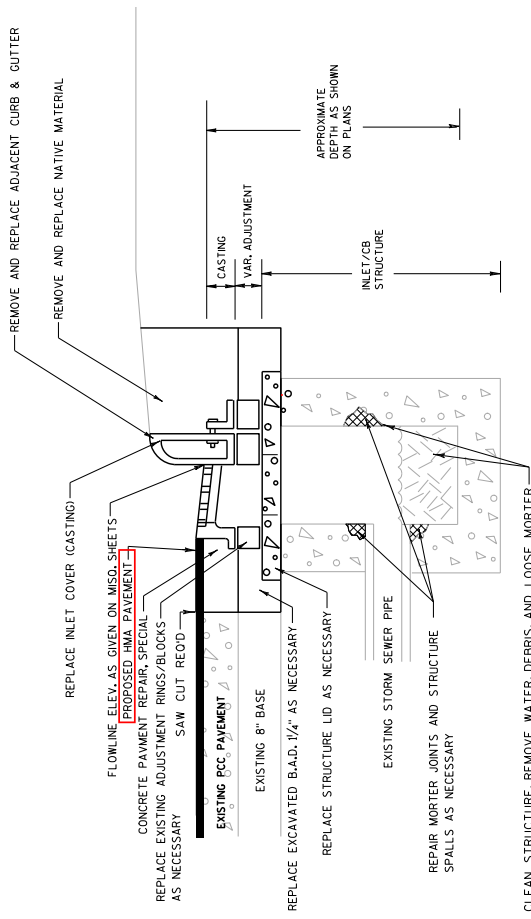


**FINISHED TYPICAL SECTION**

STATIONS 63+67 - 69+70

Addendum No. 2  
 ID 1198-00-61  
 Revised Sheet 5  
 April 3, 2012

\* NOTE:  
 SOME AREAS WILL REQUIRE FULL DEPTH CONCRETE PAV'T REPLACEMENT  
 LOCATIONS TO BE DETERMINED BY FIELD ENGINEER.  
 SEE STANDARD DETAIL DRAWINGS FOR CONCRETE PAVEMENT REPAIR.

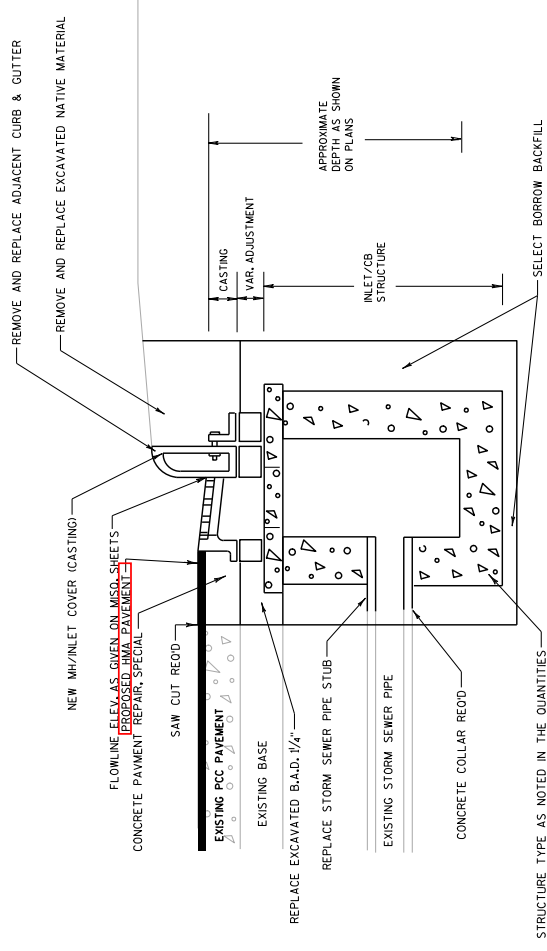


### MANHOLE/INLET/CATCH BASIN DETAIL

SEE PLANS AND QUANTITIES FOR LOCATIONS

- INCIDENTAL WORK, NO SEPARATE MEASUREMENT & PAYMENT
- ADJUSTMENT RINGS OR BLOCKS
- REMOVE AND REPLACE STRUCTURE LID
- STRUCTURE JOINT AND SPALL REPAIR
- REMOVE AND REPLACE NATIVE MATERIAL
- CLEAN STRUCTURE
- CASTING REMOVAL
- WORK MEASURED & PAID SEPARATELY
- INLET/ MANHOLE COVER (CASTING)
- CONCRETE PAVEMENT REPAIR (INCIDENTAL)
- REMOVE AND REPLACE CURB & GUTTER
- BASE AGG. DENSE 1/4" INCH
- SAWING PAVEMENT

### RECONSTRUCTING CATCH BASIN/MANHOLE



### MANHOLE/INLET/CATCH BASIN DETAIL

SEE PLANS AND QUANTITIES FOR LOCATIONS

- INCIDENTAL WORK, NO SEPARATE MEASUREMENT & PAYMENT
- ADJUSTMENT RINGS OR BLOCKS
- STORM SEWER PIPE STUB
- SELECT BORROW BACKFILL
- REMOVE AND REPLACE NATIVE MATERIAL
- CASTING AND OLD STRUCTURE REMOVAL
- WORK MEASURED & PAID SEPARATELY
- INLET/ MANHOLE COVER (CASTING)
- CONCRETE PAVEMENT REPAIR (INCIDENTAL)
- REMOVE AND REPLACE CURB & GUTTER
- BASE AGG. DENSE 1/4" INCH
- NEW STRUCTURE
- SAWING PAVEMENT
- CONCRETE COLLAR

### CATCH BASIN/MANHOLE REPLACEMENT

Addendum No. 2  
 ID 1198-00-61  
 Revised Sheet 6  
 April 3, 2012