

SUP

JUNE 2020

PROJECT ID:

8060-04-72

WITH:

16

COUNTY:

POLK

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	8	Computer Earthwork Data
Section No.	8	Gross Sections

TOTAL SHEETS = 48

DESIGN DESIGNATION

8060-04-02

A.A.D.T.	2020	=	7600
A.A.D.T.	2040	=	8300
D.H.V.		=	950
D.D.		=	60/40
T.		=	15.9%
DESIGN SPEED		=	40
ESALS		=	2,251,758

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS

PROPERTY LINE

LOT LINE

LIMITED HIGHWAY EASEMENT

EXISTING RIGHT OF WAY

PROPOSED OR NEW R/W LINE

SLOPE INTERCEPT

REFERENCE LINE

EXISTING CULVERT

PROPOSED CULVERT (Box or Pipe)

COMBUSTIBLE FLUIDS

MARSH AREA

WOODED OR SHRUB AREA

PROFILE

GRADE LINE

ORIGINAL GROUND

MARSH OR ROCK PROFILE (To be noted as such)

SPECIAL DITCH

GRADE ELEVATION

CULVERT (Profile View)

UTILITIES

ELECTRIC

FIBER OPTIC

GAS

SANITARY SEWER

STORM SEWER

TELEPHONE

WATER

UTILITY PEDESTAL

POWER POLE

TELEPHONE POLE

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

V DRESSER, STH 35

CTH F TO WEST AVENUE NORTH

STH 35

POLK COUNTY

STATE PROJECT NUMBER

8060-04-72

STATE PROJECT

8060-04-72

FEDERAL PROJECT

PROJECT

WISC 2019761

FEDERAL PROJECT

CONTRACT

1

END PROJECT 8060-04-72

STA 982+04.82

BEGIN PROJECT 8060-04-72

STA 960+39.61

N. 252312.6100

E. 463908.6529

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor

THOMAS ARMSTRONG

Designer

MICHAEL PEARSON

Project Manager

BETH CUNNINGHAM

Regional Examiner

Regional Supervisor

ANDREW STENSLAND

APPROVED FOR THE DEPARTMENT

DATE: 7/31/19

Andy Stensland

(Signature)

E

FILE NAME:

N:\PDS\C3D\80600402(72)\SHEETSP\PLAN\80600402_TL.DWG

PLOT DATE:

7/16/2019 8:37 AM

PLOT BY:

PEARSON, MICHAEL R

PLOT NAME:

LIST OF STANDARD ABBREVIATIONS

ABUT.	ABUTMENT
AGG.	AGGREGATE
AH.	AHEAD
APPROX.	APPROXIMATE
A.E.W.	APRON ENDWALL
ASPH.	ASPHALTIC
A.D.T.	AVERAGE DAILY TRAFFIC
AZ.	AZIMUTH
BK.	BACK
BEG.	BEGIN
B.M.	BENCH MARK
C/L	CENTER LINE
CONC.	CONCRETE
CONST.	CONSTRUCTION
CO.	COUNTY
C.T.H.	COUNTY TRUNK HIGHWAY
X-SEC.	CROSS SECTION
CR.	CRUSHED
CFS	CUBIC FEET/SECOND
C.Y., CU. YD.	CUBIC YARD
CULV.	CULVERT
C.P.	CULVERT PIPE
D.O.T.	DEPARTMENT OF TRANSPORTATION
D.H.V.	DESIGN HOUR VOLUME
DIA.	DIAMETER
D.	DIRECTIONAL DISTRIBUTION
DISCH. OR DIS.	DISCHARGE
EA.	EACH
ELECT.	ELECTRIC
EL. OR ELEV.	ELEVATION
EMB.	EMBANKMENT
E.B.S.	EXCAVATION BELOW SUBGRADE
EXIST.	EXISTING
FERT.	FERTILIZE
F.E.	FIELD ENTRANCE
FIN.	FINISHED
FT.	FOOT
F.L.	FLOW LINE
GA.	GAUGE
HORIZ.	HORIZONTAL
CWT.	HUNDREDWEIGHT
INL.	INLET
LT.	LEFT
L.H.F.	LEFT-HAND FORWARD
LIN.	LINEAR
LIN. FT.	LINEAR FOOT
L.S.	LUMP SUM
MAX.	MAXIMUM
MI.	MILE
MISC.	MISCELLANEOUS
N.E.	NORTH EAST
N.W.	NORTH WEST
PAV'T	PAVEMENT
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
P.O.T.	POINT ON TANGENT
LB.	POUND
P.E.	PRIVATE ENTRANCE
PROJ.	PROJECT
R.	RANGE
REQ'D	REQUIRED
RT.	RIGHT
R.H.F.	RIGHT-HAND FORWARD
R/W	RIGHT OF WAY
RD.	ROAD
SHR.	SHRINKAGE
SL.	SLOPE
STD.	STANDARD
S.D.D.	STANDARD DETAIL DRAWINGS
S.T.H.	STATE TRUNK HIGHWAY
STA.	STATION
S.P.P.A.	STRUCTURAL PLATE PIPE ARCH
STRUCT.	STRUCTURE
SURF.	SURFACE
TEL.	TELEPHONE
TN.	TOWN
T.	TRUCKS (PERCENT OF)
UNCL.	UNCLASSIFIED
U.G.	UNDERGROUND
V.	VELOCITY OR DESIGN SPEED
V.C.	VERTICAL CURVE

GENERAL NOTES

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.

SOME UTILITY LOCATIONS HAVE CHANGED. THE CONTRACTOR SHALL LOCATE UTILITIES PRIOR TO ANY EXCAVATION.

WHEN THE QUANTITY OF BASE AGG. DENSE AND ASPHALTIC PAVEMENT ARE MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS AS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND UPON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

CURVE DATA SHOWN ON THE PLAN IS "ARC DEFINITION".

CROSS SLOPES AS SHOWN ON THE TYPICAL SECTION WILL VARY AT THE INTERSECTIONS.

PRIOR TO SHOULDER WORK, INSTALL SIGNS W20-1A AND G20-2A PER SDD 15 C 12-6.

PRIOR TO INLET RECONSTRUCTION AND CURB AND GUTTER REPLACEMENT, COORDINATE THE WORK WITH THE VILLAGE OF DRESSER TO ASSESS FIELD CONDITIONS OF THE FACILITY. CONTACT: ROB THOMPSON (715) 808-3397 OR MATT KOCH (715) 220-8137.



Dial 811 or (800)242-8511
www.DiggersHotline.com

UTILITIES

WE ENERGIES - GAS/PETROLEUM
104 W. SOUTH STREET
RICE LAKE, WI 54868
ATTN: STEVEN SHAVERS
PHONE: (715) 234-9605
steven.shavers@wecenergygroup.com

XCEL ENERGY - ELECTRICAL TRANS.
1414 W. HAMILTON AVE.
P.O. BOX 8
EAU CLAIRE, WI 54702-0008
ATTN: CORISSA SEELY
PHONE: (715) 737-4097
corissa.e.seely@xcelenergy.com

CHARTER COMMUNICATIONS
2304 MAIN STREET
RICE LAKE, WI 54868
ATTN: JAMEY OLDEEN
PHONE: (715) 651-7488
jamey.oldeen@charter.com

CENTURYLINK
20 S WILSON AVE
RICE LAKE, WI 54868
ATTN: MONTY PARKER
(715)234-5528
monty.parker@centurylink.com

VILLAGE OF DRESSER-SEWER/WATER
102 W MAIN ST; PO BOX 547
DRESSER, WI 54009
ATTN: JODI GILBERT
PHONE: (715) 755-2940
VODPW@centurytel.net

DESIGN CONTACT
MICHAEL PEARSON
WISDOT NORTHWEST REGION
1701 N. 4TH STREET
SUPERIOR WI, 54880
PHONE: (715) 395-3024

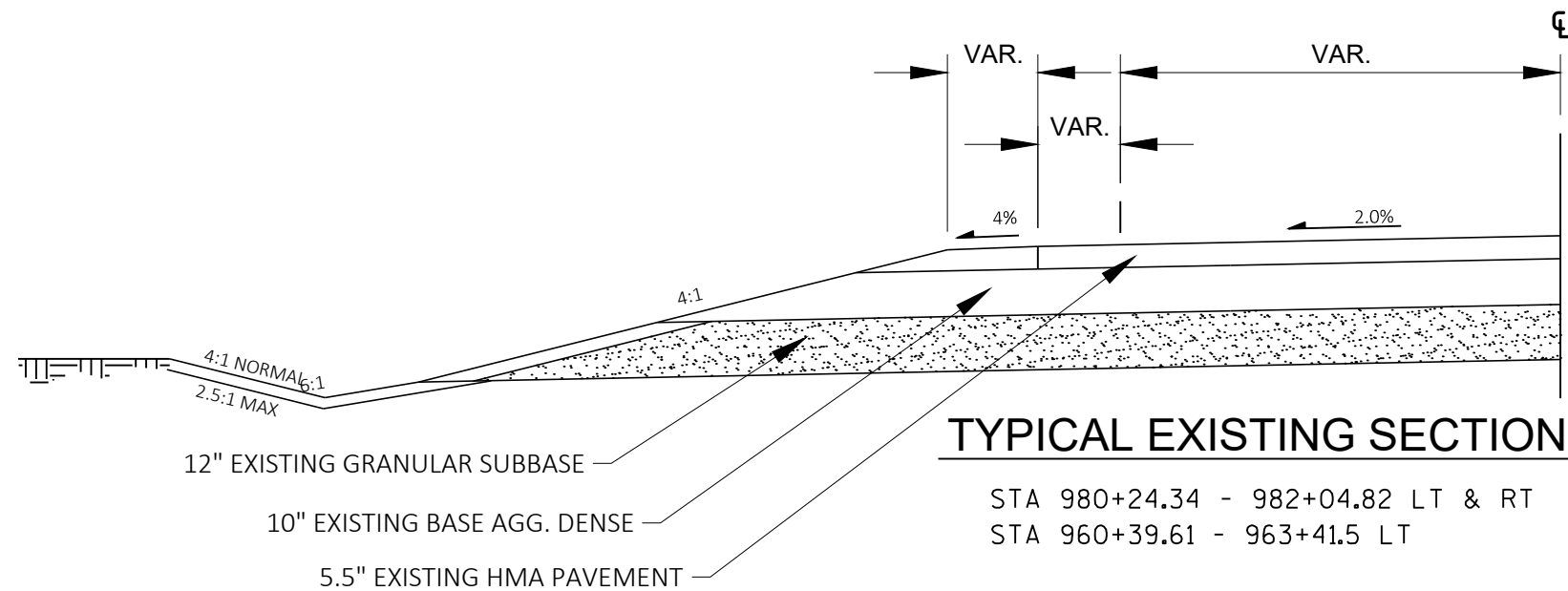
POLK COUNTY HIGHWAY COMMISSIONER
EMIL NORBY
518 MAIN ST.
BALSAM LAKE, WI 54810
PHONE: (715) 485-8723

VILLAGE OF DRESSER
PRESIDENT: BRYAN BESLER
330 PETERSON DRIVE
DRESSER, WI 54009
PHONE: (715) 755-3015

TOWNSHIP OF OSCEOLA
CHAIRMAN: DOUG SCHMIDT
516 EAST AVENUE NORTH
P.O. BOX 216
DRESSER, WI 54009
PHONE: (715) 338-5946

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

VILLAGE OF OSCEOLA - AIRPORT
P.O. BOX 643
OSCEOLA, WI 54020
ATTN: DAVE GIESE
PHONE: (612) 327-3297
dave.giese@gmail.com



TYPICAL EXISTING SECTION

STA 980+24.34 - 982+04.82 LT & RT
STA 960+39.61 - 963+41.5 LT

12" EXISTING GRANULAR SUBBASE

10" EXISTING BASE AGG. DENSE

5.5" EXISTING HMA PAVEMENT

4:1 NORMAL 6:1
2.5:1 MAX

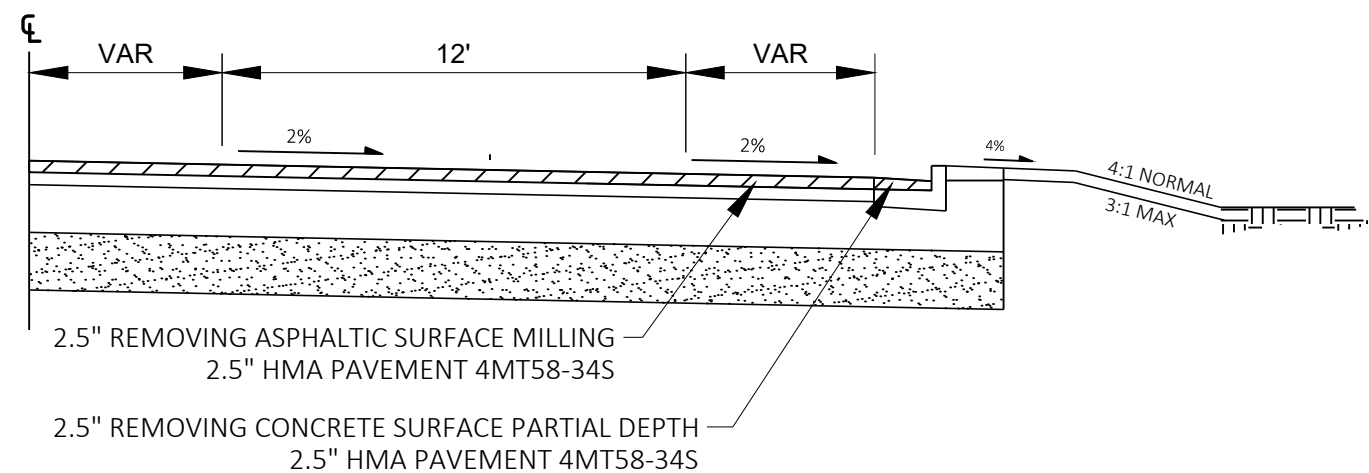
SHAPING SHOULDERS

2.5" REMOVING ASPHALTIC SURFACE MILLING
2.5" HMA PAVEMENT 4MT58-34S

TYPICAL FINISHED SECTION

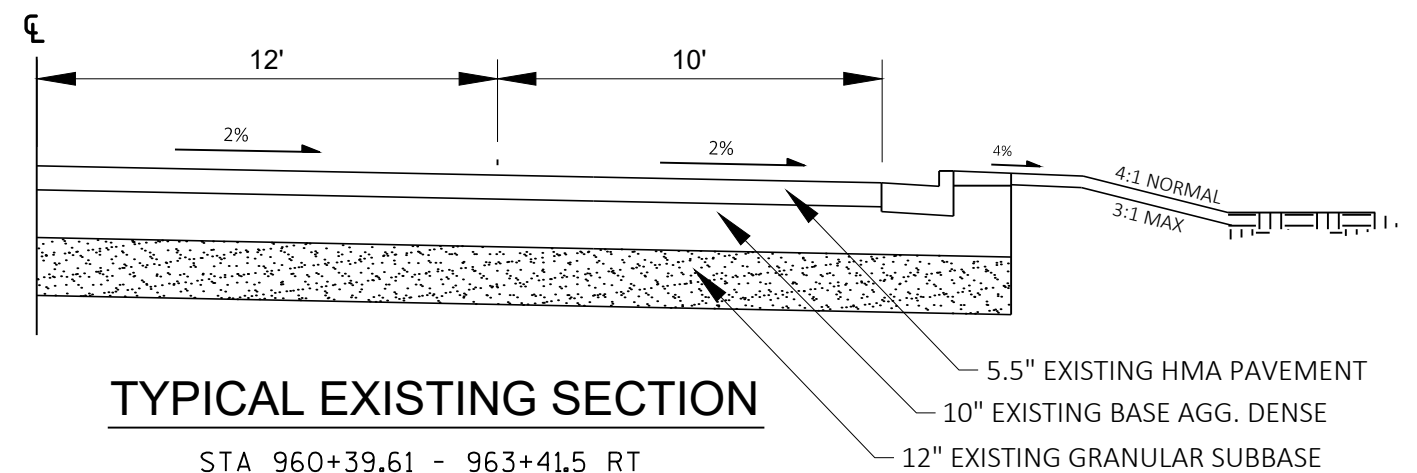
STA 980+24.34 - 982+04.82 LT & RT
STA 960+39.61 - 963+41.5 LT

NOTE: INSTALL BASE AGGREGATE DENSE 3/4-INCH AS NEEDED TO FINISH SHOULDERS



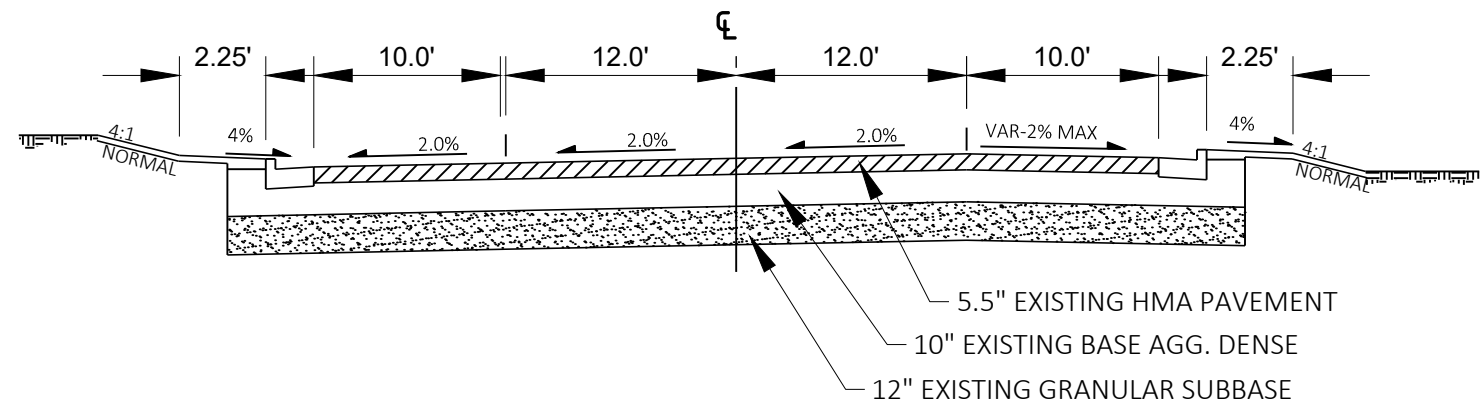
TYPICAL FINISHED SECTION

STA 960+39.61 - 963+41.5 RT



TYPICAL EXISTING SECTION

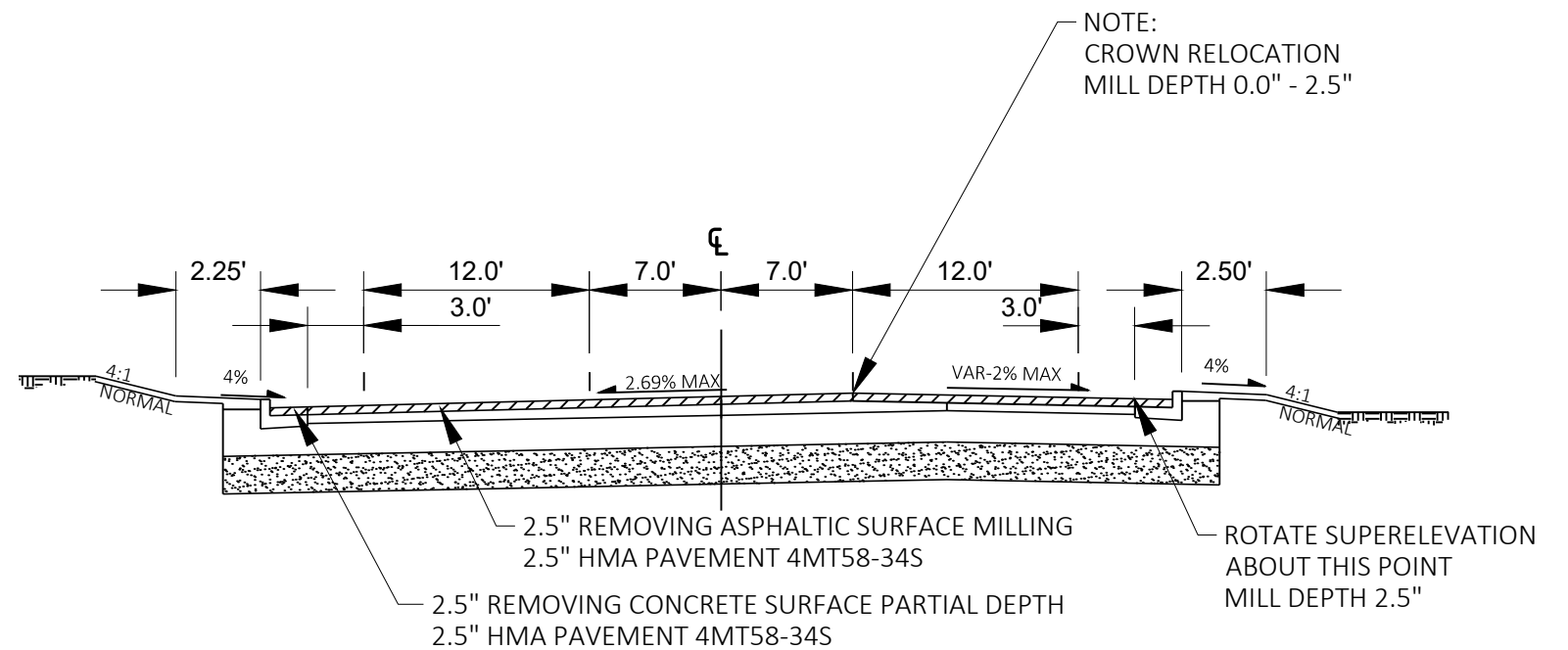
STA 960+39.61 - 963+41.5 RT



TYPICAL EXISTING SECTION

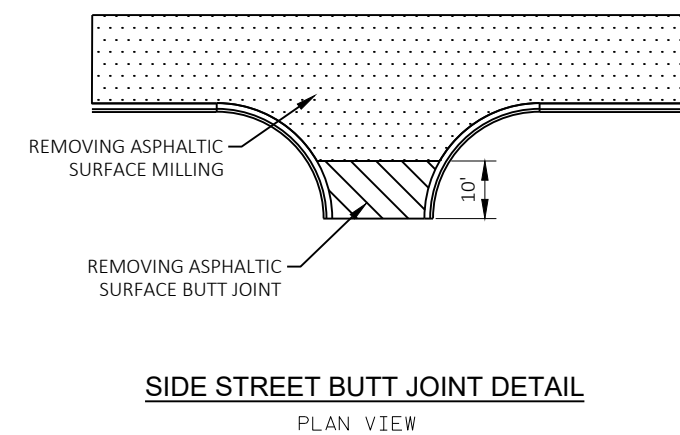
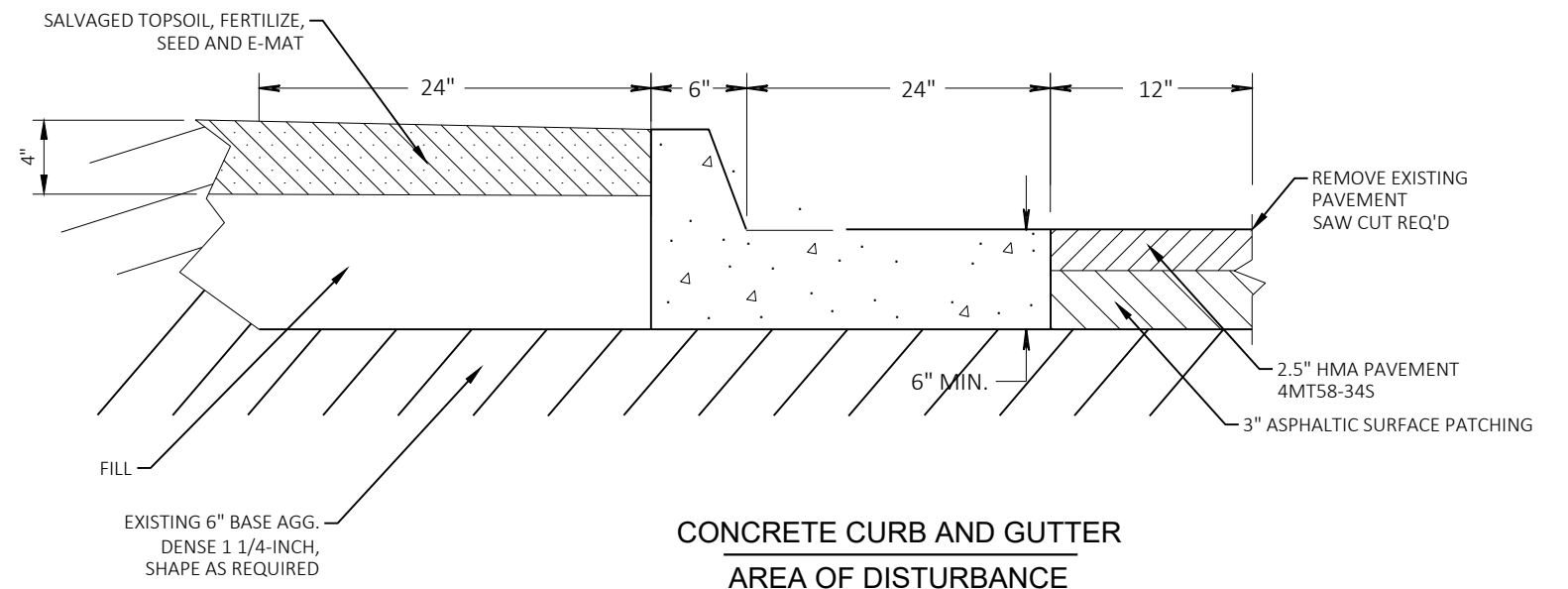
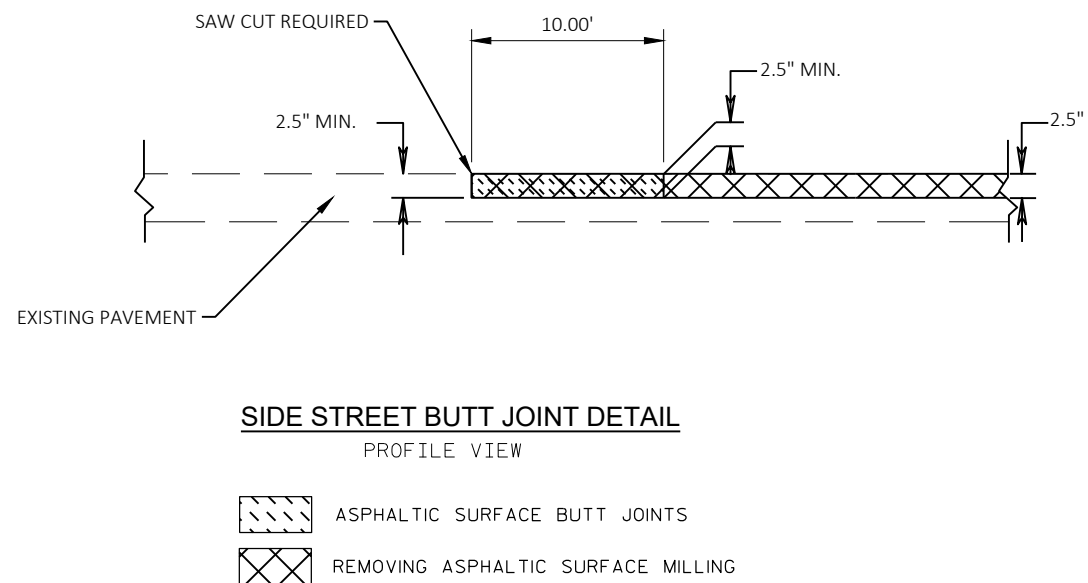
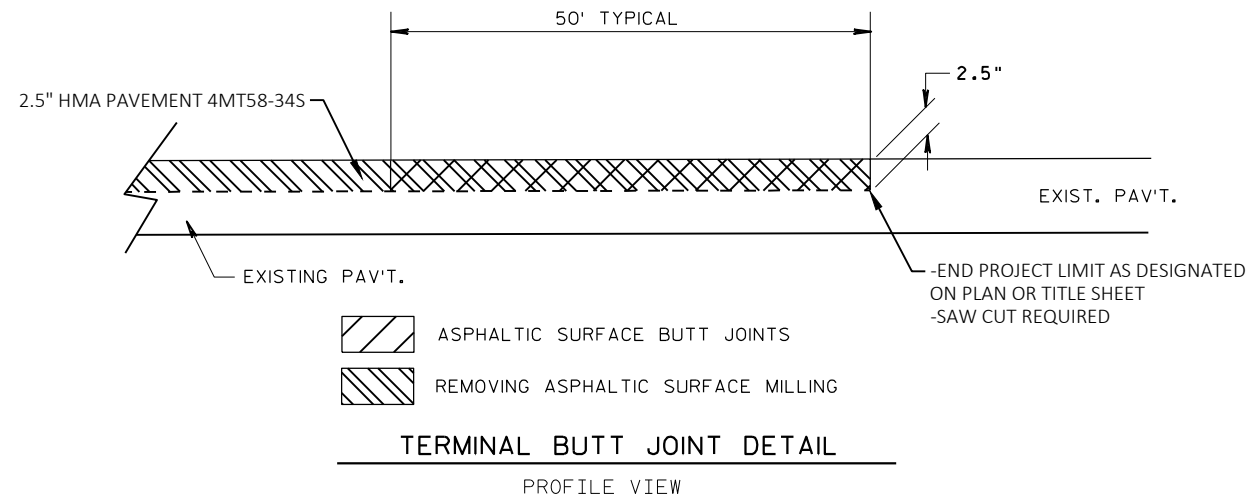
STA 963+41.5 - 980+24.34

SUPERELEVATION TABLE			
STATION	MILL DEPTH 7' RT	LT LANE	RT LANE
976+98.57	.0.0"	-0.0269	-0.02
977+39.57	1.2"	-0.023	0.00
978+21.57	2.5"	-0.02	+0.02
982+29.0		-0.02	+0.02
983+11.0		-0.02	0.00
983+52.0		-0.02	-0.02



TYPICAL FINISHED SECTION

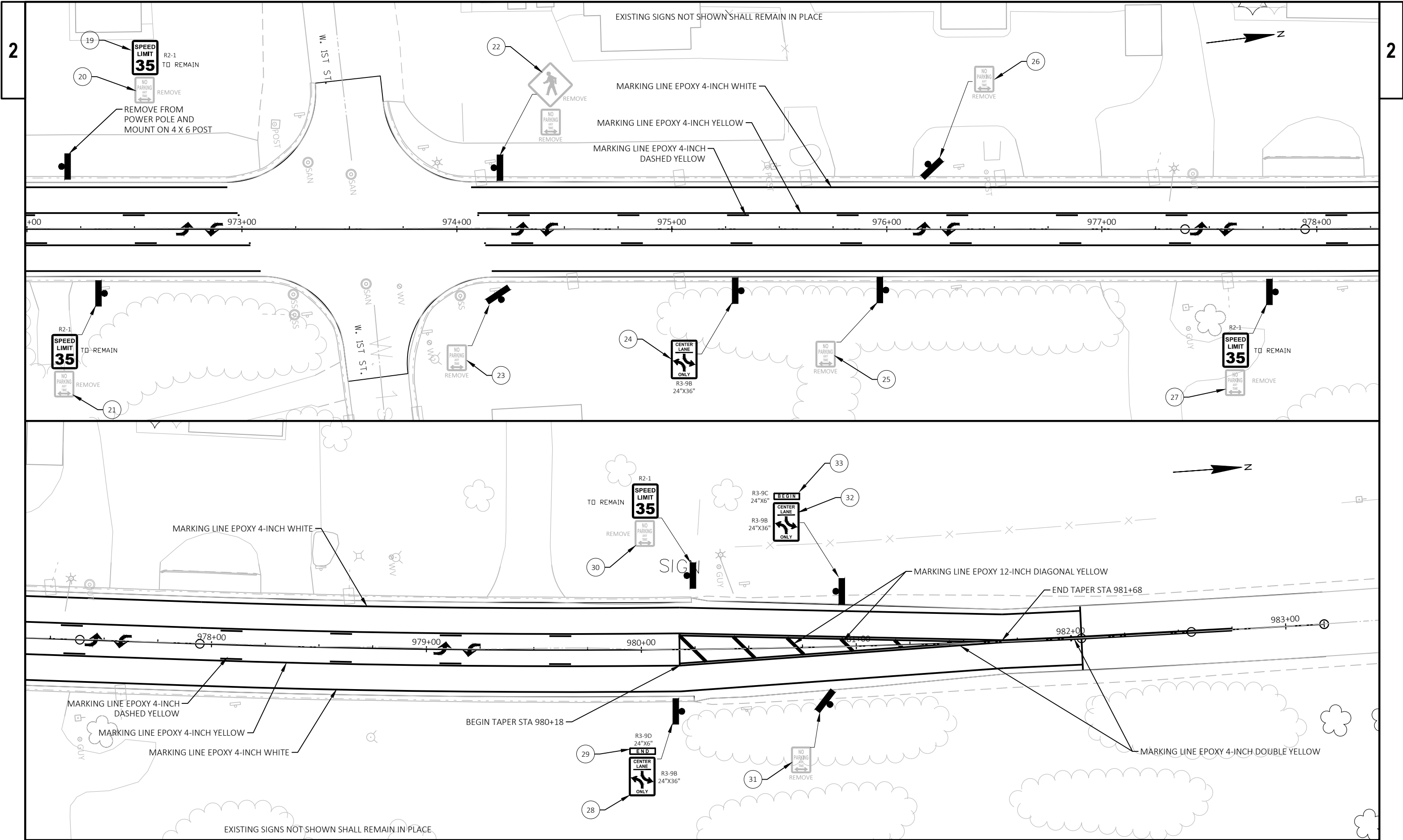
STA 963+41.5 - 980+24.34



Control Point Table							
Point #	Station	Offset	Raw Description	Side	Elevation	Northing	Easting
400	960+53.61	62.623	PROP 1 1/2IP	RT	923.684	252318.6930	463972.5340
912	0+00.00	0.000	CP IR/ CAP		910.035	254802.0910	464117.5420
1472	963+33.42	-39.157	RWGP METAL	LT	916.270	252609.0140	463906.4640
401	963+18.49	40.543	PROP IR W/ CAP	RT	918.070	252584.2560	463983.6780
913	973+49.80	-231.112	CP IR/ CAP	LT	908.553	253641.4030	463842.8340
402	963+47.77	75.466	PROP 3/4IR BENT AND LEANING	RT	918.582	252608.9500	464021.9820
914	964+70.92	972.653	CP IR/ CAP	RT	947.175	252619.1790	464927.5230
403	964+11.02	40.666	PROP 3/4IR LEANING	RT	917.041	252676.0500	463995.3470
915	0+00.00	0.000	CP IR/ CAP		929.837	251876.8890	463886.0780

Control Point Table							
Point #	Station	Offset	Raw Description	Side	Elevation	Northing	Easting
909	970+21.42	35.533	CP PK	RT	913.467	253282.3200	464066.4200
910	978+44.40	21.791	CP PK	RT	914.836	254100.8200	464155.2560
911	0+00.00	0.000	CP DISC 6N52		917.643	255537.0740	464228.1840
900	0+00.00	0.000	CP AC9117		1103.312	263621.7910	463400.7650
902	0+00.00	0.000	CP AC9120		1056.711	242003.8200	491574.6940
905	0+00.00	0.000	CP AC9065		1153.893	263128.6520	485059.9040
906	0+00.00	0.000	CP AC9115		1075.402	231494.0010	474489.3600

Control Point Table							
Point #	Station	Offset	Raw Description	Side	Elevation	Northing	Easting
1436	963+18.01	40.374	RWGP METAL	RT	918.065	252583.7960	463983.4500
901	0+00.00	0.000	CP AC9088		930.268	250424.2170	463449.8620
2181	969+49.26	40.372	RWGP	RT	912.398	253210.1130	464062.2160
2429	970+10.86	-40.082	RWGP	LT	910.881	253281.2680	463990.0770
2295	970+29.67	40.994	RWGP	RT	913.465	253289.8210	464072.8670
903	0+00.00	0.000	CP NL		914.390	254669.5560	464204.9660
904	960+55.30	23.090	CP PK	RT	922.310	252325.3010	463933.5210
907	973+06.82	-29.323	CP PK	LT	912.952	253573.5780	464037.6830
908	963+43.97	-38.969	CP PK	LT	916.709	252619.4610	463907.9680



PROJECT NO: 8060-04-72	HWY: STH 35	COUNTY: POLK	SIGNING AND PAVEMENT MARKING	SHEET	E
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Estimate Of Quantities

8060-04-72

Line	Item	Item Description	Unit	Total	Qty
0002	204.0109.S	Removing Concrete Surface Partial Depth	SF	8,157.000	8,157.000
0004	204.0115	Removing Asphaltic Surface Butt Joints	SY	625.000	625.000
0006	204.0120	Removing Asphaltic Surface Milling	SY	10,856.000	10,856.000
0008	204.0150	Removing Curb & Gutter	LF	584.000	584.000
0010	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 8060-04-72	LS	1.000	1.000
0012	213.0100	Finishing Roadway (project) 01. 8060-04-72	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	21.000	21.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	17.000	17.000
0018	305.0500	Shaping Shoulders	STA	6.000	6.000
0020	455.0605	Tack Coat	GAL	826.000	826.000
0022	460.2000	Incentive Density HMA Pavement	DOL	1,140.000	1,140.000
0024	460.6244	HMA Pavement 4 MT 58-34 S	TON	1,770.000	1,770.000
0026	465.0110	Asphaltic Surface Patching	TON	30.000	30.000
0028	520.8700	Cleaning Culvert Pipes	EACH	8.000	8.000
0030	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	584.000	584.000
0032	611.0430	Reconstructing Inlets	EACH	8.000	8.000
0034	611.8110	Adjusting Manhole Covers	EACH	7.000	7.000
0036	611.8115	Adjusting Inlet Covers	EACH	18.000	18.000
0038	611.8120.S	Cover Plates Temporary	EACH	7.000	7.000
0040	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8060-04-72	EACH	1.000	1.000
0042	619.1000	Mobilization	EACH	1.000	1.000
0044	624.0100	Water	MGAL	1.000	1.000
0046	625.0500	Salvaged Topsoil	SY	195.000	195.000
0048	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0050	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0052	628.2008	Erosion Mat Urban Class I Type B	SY	202.000	202.000
0054	628.7015	Inlet Protection Type C	EACH	18.000	18.000
0056	629.0210	Fertilizer Type B	CWT	0.123	0.123
0058	630.0140	Seeding Mixture No. 40	LB	5.300	5.300
0060	630.0500	Seed Water	MGAL	0.300	0.300
0062	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	12.000	12.000
0064	637.2210	Signs Type II Reflective H	SF	61.000	61.000
0066	638.2102	Moving Signs Type II	EACH	1.000	1.000
0068	638.2602	Removing Signs Type II	EACH	20.000	20.000
0070	638.3000	Removing Small Sign Supports	EACH	11.000	11.000
0072	642.5001	Field Office Type B	EACH	1.000	1.000
0074	643.0300	Traffic Control Drums	DAY	955.000	955.000
0076	643.0900	Traffic Control Signs	DAY	384.000	384.000

Estimate Of Quantities

8060-04-72

Line	Item	Item Description	Unit	Total	Qty
0078	643.5000	Traffic Control	EACH	1.000	1.000
0080	646.1020	Marking Line Epoxy 4-Inch	LF	9,161.000	9,161.000
0082	646.3020	Marking Line Epoxy 8-Inch	LF	20.000	20.000
0084	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	4,200.000	4,200.000
0086	646.5020	Marking Arrow Epoxy	EACH	21.000	21.000
0088	646.6120	Marking Stop Line Epoxy 18-Inch	LF	25.000	25.000
0090	646.7120	Marking Diagonal Epoxy 12-Inch	LF	116.000	116.000
0092	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	100.000	100.000
0094	649.0105	Temporary Marking Line Paint 4-Inch	LF	2,200.000	2,200.000
0096	650.8000	Construction Staking Resurfacing Reference	LF	2,200.000	2,200.000
0098	650.9910	Construction Staking Supplemental Control (project) 01. 8060-04-72	LS	1.000	1.000
0100	690.0150	Sawing Asphalt	LF	864.000	864.000
0102	690.0250	Sawing Concrete	LF	108.000	108.000
0104	740.0440	Incentive IRI Ride	DOL	1,641.000	1,641.000
0106	SPV.0060	Special 01. Adjusting Water Valves	EACH	4.000	4.000
0108	SPV.0090	Special 01. Concrete Curb and Gutter Cure and Seal Treatment	LF	594.000	594.000

3

REMOVING CONCRETE SURFACE PARTIAL DEPTH

204.0109.s					
CAT	STATION	TO STATION	LOC	SF	REMARKS
0010	963+41	- 980+25	LT&RT	8157	CURB PAN
TOTAL 0010				8157	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

204.0115				
CAT	STATION	TO STATION	SY	REMARKS
0010	960+39	- 960+89	239	TERMINI
0010	981+54	- 982+04	168	TERMINI
0010	963+50	LT	32	SIDE ST
0010	963+75	RT	41	SIDE ST
0010	969+75	LT	33	SIDE ST
0010	970+00	RT	46	SIDE ST
0010	973+50	LT	34	SIDE ST
0010	973+75	RT	32	SIDE ST
TOTAL 0010			625	

REMOVING ASPHALTIC SURFACE MILLING

204.0120			
CAT	STATION	TO STATION	SY
0010	960+89	- 961+89	502
0010	961+89	- 980+18	9755
0010	980+18	- 981+54	599
TOTAL 0010			10856

REMOVING CURB & GUTTER

204.0150				
CAT	STA	STA	LOC	LF
0010	962+50	962+85	RT	35
0010	964+25	965+90	LT	165
0010	966+10	966+48	LT	38
0010	966+20	966+30	RT	10
0010	967+70	968+30	LT	60
0010	968+48	968+58	LT	10
0010	968+48	968+58	RT	10
0010	969+00	969+30	LT	30
0010	970+50	972+60	RT	10
0010	971+20	971+30	RT	10
0010	971+35	971+63	LT	28
0010	971+72	971+82	RT	10
0010	972+00	972+50	LT	50
0010	974+45	974+55	RT	10
0010	975+75	976+13	LT	38
0010	977+20	977+30	LT	10
0010	978+20	978+68	LT	48
0010	979+41	979+53	LT	12
TOTAL 0010				584

3

CLEANING CULVERT PIPES

520.8700			
CAT	LOC	EACH	REMARKS
0010	PROJECT	8	UP TO 8' FROM THE MOUTH
TOTAL 0010		8	

BASE AGGREGATE DENSE 3/4-INCH

305.0110 305.0120			
BASE AGG. DENSE			
3/4-INCH 1 1/4-INCH			
CAT	STATION	TO STATION	TON
0010	960+89	- 982+00	21
0010	960+89	- 982+00	17
TOTAL 0010		21	17

SHAPING SHOULDERS

305.0500			
CAT	STATION	TO STATION	STA
0010	960+89	- 961+89	2
0010	980+18	- 982+00	4
TOTAL 0010			6

TACK COAT

455.0605			
CAT	STATION	TO STATION	GAL
0010	960+39	- 982+04	826
TOTAL 0010			826

RECONSTRUCTING INLETS

611.0430			
CAT	STATION	LOC	EACH
0010	966+25	RT	1
0010	968+55	LT	1
0010	968+55	RT	1
0010	970+55	RT	1
0010	971+25	RT	1
0010	971+78	RT	1
0010	974+50	RT	1
0010	977+25	LT	1
TOTAL 0010			8

HMA PAVEMENT 4 MT 58-34 S

460.6244			
CAT	STATION	TO STATION	TON
0010	960+39	- 982+04	1577
0010		963+75	31
0010		963+75	34
0010		969+80	24
0010		969+80	37
0010		973+50	35
0010		973+50	32
TOTAL 0010			1770

ASPHALTIC SURFACE PATCHING

465.0110			
CAT	LOC	TON	REMARKS
0010	PROJECT	20	SURFACE PREP.
	PROJECT	10	INLETS AND C&G
TOTAL 0010		30	

ADJUSTING MANHOLE COVERS

611.8110			
CAT	STATION	EACH	REMARKS
0020	PROJECT	7	SANITARY
TOTAL 0020			7

ADJUSTING INLET COVERS

611.8115		
CAT	EACH	
0010	PROJECT	18
TOTAL 0010		18

CONCRETE CURB & GUTTER 30-INCH TYPE D

601.0411				
CAT	STA	STA	LOC	LF
0010	962+50	962+85	RT	35
0010	964+25	965+90	LT	165
0010	966+10	966+48	LT	38
0010	966+20	966+30	RT	10
0010	967+70	968+30	LT	60
0010	968+48	968+58	LT	10
0010	968+48	968+58	RT	10
0010	969+00	969+30	LT	30
0010	970+50	972+60	RT	10
0010	971+20	971+30	RT	10
0010	971+35	971+63	LT	28
0010	971+72	971+82	RT	10
0010	972+00	972+50	LT	50
0010	974+45	974+55	RT	10
0010	975+75	976+13	LT	38
0010	977+20	977+30	LT	10
0010	978+20	978+68	LT	48
0010	979+41	979+53	LT	12
TOTAL 0010				584

COVER PLATES
TEMPORARY

611.8120.S		
CAT	STATION	EACH
0020	PROJECT	7
TOTAL 0020		7

MAINTENANCE AND REPAIR OF
HAUL ROADS (8060-04-72)

618.0100		
CAT	LOC	EACH
0010	PROJECT	1
TOTAL 0010		1

TRAFFIC CONTROL DRUMS

FIELD OFFICE TYPE B

642.5001		
CAT	LOC	EACH
0010		1
TOTAL 0010		1

643.0300					
CAT	STATION	LOC	DAY	REMARKS	
0010	966+25	RT	55	11 DRUMS FOR	
0010	968+55	LT	55	5 DAYS EACH	
0010	970+55	RT	55	INLETS	
0010	971+78	LT	55		
0010	971+78	RT	55		
0010	975+05	RT	55		
0010	977+25	LT	55		
0010	978+65	LT	55		
0010	962+00 - 963+50	RT	80	C & G	
0010	964+00 - 969+50	RT	105	5 DAYS EACH	
0010	970+50 - 973+00	RT	60	C & G	
0010	964+00 - 969+50	LT	105	C & G	
0010	970+50 - 973+00	LT	60	C & G	
0010	974+00 - 979+75	LT	105	C & G	
TOTAL 0010			955		

CONSTRUCTION STAKING
RESURFACING REFERENCE

650.8000		
CAT	LOC	LF
0010	PROJECT	2200
TOTAL 0010		2200

WATER

624.0100			
CAT	STATION	MGAL	REMARKS
0010	PROJECT	1	BASE AGG COMPACTION
TOTAL 0010		1	

SALVAGED TOPSOIL

625.0500				
CAT	STATION TO STATION	SY	REMARKS	
0010	962+50 - 979+50	195	CURB & GUTTER	
TOTAL 0010		195		

EROSION CONTROL SUMMARY

					628.1905	628.1910	628.2008	628.7015	630.0140	630.0120	630.0500
					MOBILIZATION		E-MAT	INLET	FERTILIZER	SEED	SEED
					EROSION	EMERGENCY	URBAN	PROTECTION	TYPE B	MIX	WATER
					CONTROL	EROSION	TYPE 1	TYPE C		NO. 40	
					CONTROL		CLASS B				
CAT	STATION	TO	STATION	LOC	EACH	EACH	SY	EACH	CWT	LB	MGAL
0010	962+50	-	962+85	RT	1	1	12	1	0.0074	0.32	0.01
0010	964+25	-	965+90	LT			55	1	0.0347	1.49	0.10
0010	966+10	-	966+48	LT			13	1	0.0080	0.34	0.02
0010	966+20	-	966+30	RT			4	1	0.0021	0.09	0.02
0010	967+70	-	968+30	LT			20	1	0.0126	0.54	0.01
0010	968+48	-	968+58	LT			4	1	0.0021	0.09	0.01
0010	968+48	-	968+58	RT			4	1	0.0021	0.09	0.01
0010	969+00	-	969+30	LT			10	1	0.0063	0.27	0.02
0010	970+50	-	972+60	RT			4	1	0.0021	0.09	0.01
0010	971+20	-	971+30	RT			4	1	0.0021	0.09	0.01
0010	971+35	-	971+63	LT			10	1	0.0059	0.25	0.01
0010	971+72	-	971+82	RT			4	1	0.0021	0.09	0.01
0010	972+00	-	972+50	LT			17	1	0.0105	0.45	0.01
0010	974+45	-	974+55	RT			4	1	0.0021	0.09	0.01
0010	975+75	-	976+13	LT			13	1	0.0080	0.34	0.01
0010	977+20	-	977+30	LT			4	1	0.0021	0.09	0.01
0010	978+20	-	978+68	LT			16	1	0.0101	0.43	0.01
0010	979+41	-	979+53	LT			4	1	0.0025	0.11	0.01
TOTAL 0010					1	1	202	18	0.123	5.3	0.30

TRAFFIC CONTROL SIGNS

643.0900			
CAT	LOC	DAY	REMARKS
0010	SIDE STREETS	144	INSTALL W20-1A AND
0010	ADVANCE WRNING	240	SDD 15C4-5
TOTAL 0010		384	

TRAFFIC CONTROL

643.5000		
CAT	LOC	EACH
0010	PROJECT	1
TOTAL 0010		1

3

PERMANENT SIGN SUMMARY											
			634.0616	637.2210	638.2102	638.2602	638.3000				
			POSTS	SIGNS	MOVING	REMOVE	REMOVE				
			4X6	REFLECTIVE	SIGNS	SIGNS	SMALL SIGN				
			SIGN	16-FOOT	TYPE H	TYPE II	TYPE II	SUPPORT	SIGN		
CAT	STATION	LOC	NO.	EACH	SF	EACH	EACH	EACH	NUMBER	REMARKS	
0010	960+60	RT	1	1	3.00				R7-1L	NO PARKING	
0010	961+90	RT	2	1	6.00				R3-9B	CENTER LANES W/ARROWS	
0010	961+90	RT	3	0	1.00				R3-9C	BEGIN	
0010	961+90	LT	4	1	6.00				R3-9B	CENTER LANES W/ARROWS	
0010	961+90	LT	5	0	1.00				R3-9D	END	
0010	964+25	LT	6	0			1		R7-1D	NO PARKING	
0010	964+40	RT	7	0			1		R7-1D	NO PARKING	
0010	965+55	LT	8	0			1		R7-1D	NO PARKING	
0010	966+35	RT	9	0			2	1	W11-2	PED XING/NO PARKING	
0010	966+35	RT	10	1	6.00				R3-9B	CENTER LANES W/ARROWS	
0010	968+20	LT	11				1	1	R7-1D	NO PARKING	
0010	968+35	RT	12				1	1	R7-1D	NO PARKING	
0010	968+95	LT	13	1	6.00				R3-9B	CENTER LANES W/ARROWS	
0010	969+30	RT	14				1	1	W11-2	PED XING	
0010	970+20	LT	15				1	1	W11-2	PED XING	
0010	970+50	RT	16				1	1	R7-1D	NO PARKING	
0010	971+15	LT	17	1	6.00				R3-9B	CENTER LANES W/ARROWS	
0010	971+20	RT	18	1	6.00				R3-9B	CENTER LANES W/ARROWS	
0010	972+20	LT	19	1		1			R2-1	SPEED LIMIT 35	
0010	972+20	LT	20				1		R7-1D	NO PARKING	
0010	972+30	RT	21				1		R7-1D	NO PARKING	
0010	974+20	LT	22				2	1	W11-2	PED XING/NO PARKING	
0010	974+20	RT	23				1	1	R7-1D	NO PARKING	
0010	975+30	RT	24	1	6.00				R3-9B	CENTER LANES W/ARROWS	
0010	975+95	LT	25				1	1	R7-1D	NO PARKING	
0010	976+20	LT	26				1	1	R7-1D	NO PARKING	
0010	977+75	RT	27				1		R7-1D	NO PARKING	
0010	980+15	RT	28	1	6.00				R3-9B	CENTER LANES W/ARROWS	
0010	980+15	RT	29	1	1.00				R3-9D	END	
0010	980+25	LT	30				1		R7-1D	NO PARKING	
0010	980+80	RT	31				1	1	R7-1D	NO PARKING	
0010	980+90	LT	32	1	6.00				R3-9B	CENTER LANES W/ARROWS	
0010	98090	LT	33		1				R3-9D	BEGIN	
TOTAL 0010				12	61	1	20	11			

SAWING ASPHALT				
690.0150				
CAT	STATION	LOC	LF	REMARKS
0010	960+39	BEGIN	44	
0010	963+75	CTH F	36	
0010	963+75	STATE ST	28	
0010	969+75	MAIN ST. E	30	
0010	969+75	MAIN ST. W	40	
0010	973+50	W.1ST E	30	
0010	973+50	W.1ST W	28	
0010	982+04	END	44	
0010	C & G AND INLETS		584	UNDIST.
TOTAL 0010			864	

CONSTRUCTION STAKING SUPPLEMENTAL
CONTROL (8060-04-72)

650.9910			
CAT	STATION	LOC	LS
0010	PROJECT		1
TOTAL 0010			1

ADJUSTING WATER VALVES

SPV.0060.01			
CAT	LOC	EACH	REMARKS
0020		4	PROJECT
TOTAL 0020		4	

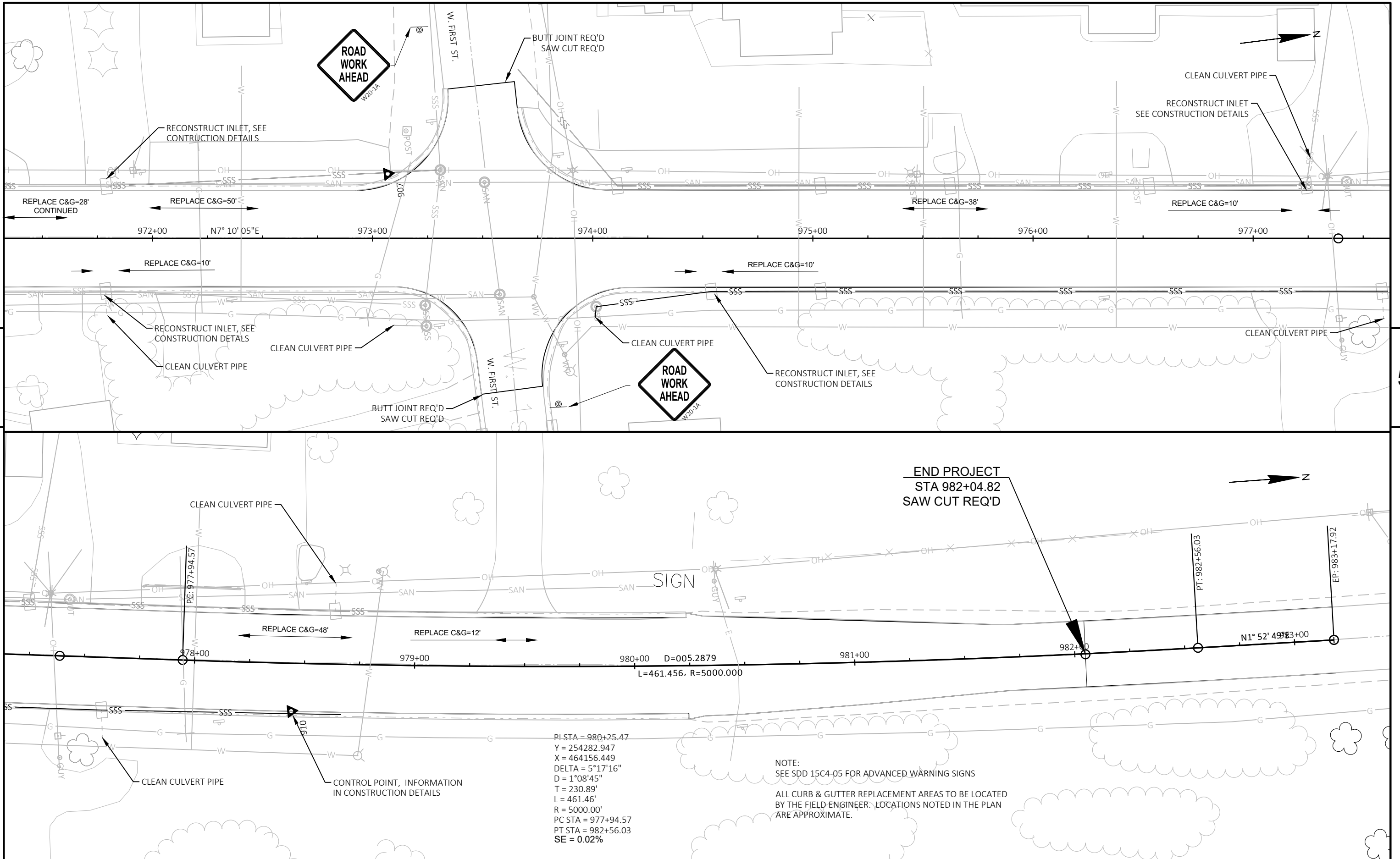
SAWING CONCRETE				
690.0250				
CAT	STATION	LOC	LF	REMARKS
0010	962+50	RT	6	C & G
0010	964+25	LT	6	C & G
0010	966+10	LT	6	C & G
0010	966+20	RT	6	C & G
0010	967+70	LT	6	C & G
0010	968+48	LT	6	C & G
0010	968+48	RT	6	C & G
0010	969+00	LT	6	C & G
0010	970+50	RT	6	C & G
0010	971+20	RT	6	C & G
0010	971+35	LT	6	C & G
0010	971+72	RT	6	C & G
0010	972+00	LT	6	C & G
0010	974+45	RT	6	C & G
0010	975+75	LT	6	C & G
0010	977+20	LT	6	C & G
0010	978+20	LT	6	C & G
0010	979+41	LT	6	C & G
TOTAL 0010			108	

CONCRETE CURB AND GUTTER
CURE AND SEAL TREATMENT

SPV.0090.01			
CAT	LOC	LF	REMARKS
0010		594	
TOTAL 0010		594	

MARKING LINE SUMMARY														
					646.1020	646.1020	646.3020	646.4520	646.5120	646.6120	646.7120	646.7420	649.0105	
					MARKING LINE				MARKING					TEMPORARY
					EPOXY			SAME DAY	ARROW	STOP LINE	DIAGONAL	CROSSWALK	EPOXY	MARKING LINE
					4-INCH	4-INCH	8-INCH	EPOXY	EPOXY	EPOXY	EPOXY	TANSVERSE	LINE	PAINT
					YELLOW	WHITE	WHITE	4-INCH		18-INCH	12-INCH	6-INCH		4-INCH
CAT	STATION	TO	STATION	LOC	LF	LF	LF	LF	EACH	LF	LF	LF	LF	REMARKS
0010	960+38	-	982+04	PROJECT	5069	4092		4200	20					2200
0010	961+80			CTH F			20		1	25				
0010	BEGIN		END	TAPERS							116			
0010	969+00			CROSSWALK								100		
TOTAL 0010					5069	4092	20	4200	21	25	116	100	2200	

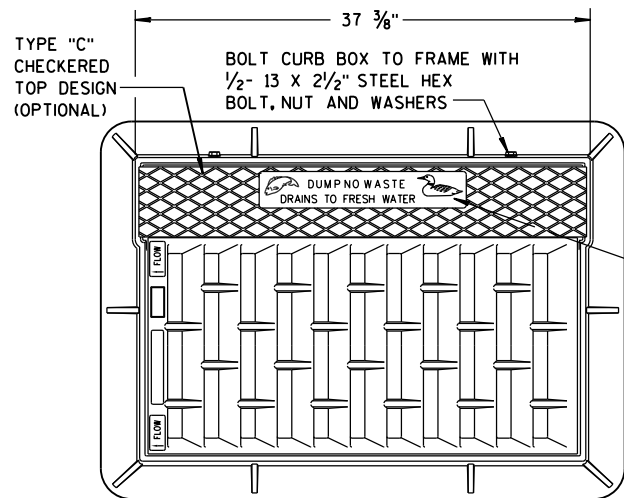
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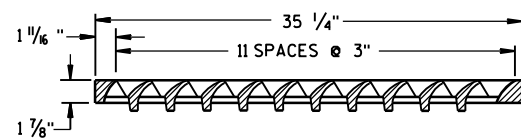
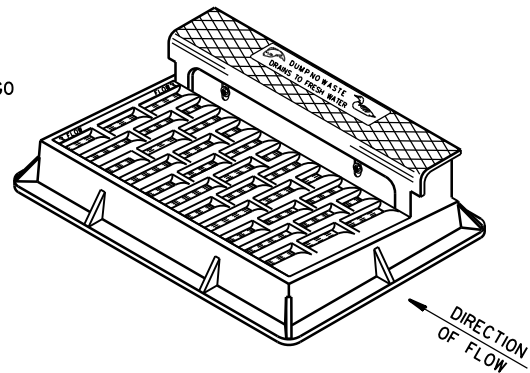
PROJECT NO: 8060-04-72	HWY: STH 35	COUNTY: POLK	PLAN	SHEET	E
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Standard Detail Drawing List

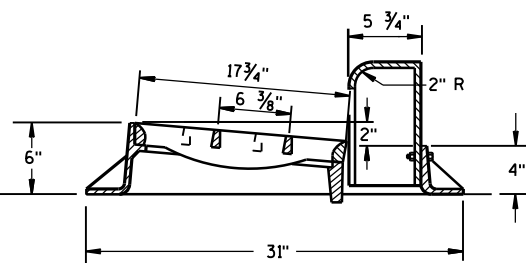
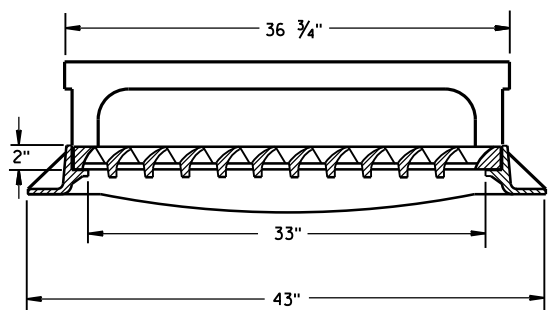
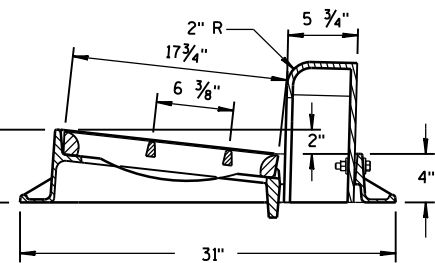
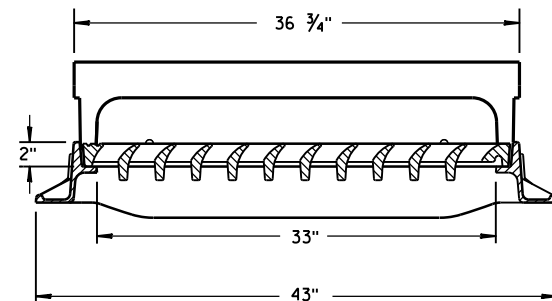
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A08-02	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-20A	CONCRETE CURB & GUTTER
08D20-01	DRIVEWAYS WITH CURB & GUTTER RETURNS
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13C19-01	HMA LONGITUDINAL JOINTS
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-14C	PAVEMENT MARKING ARROWS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19B	PAVEMENT MARKING (TURN LANES)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



**NOTE:
GRATE IS REVERSIBLE.**

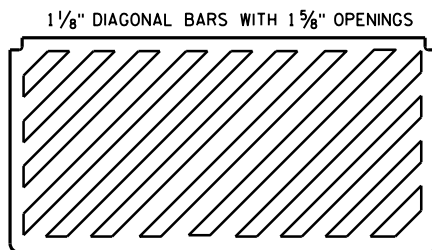


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



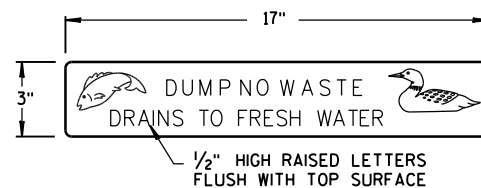
TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

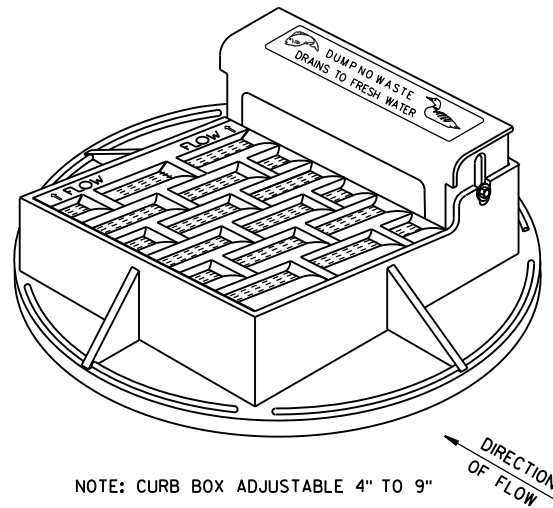


**SPECIAL GRATE FOR
TYPE "H" COVER**

(MEASURES 35 1/4" X 17 3/4" X 2")
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

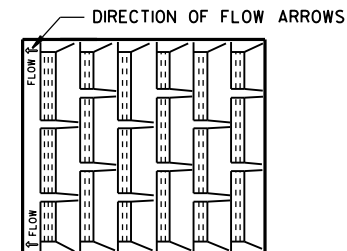


LOGO DETAIL

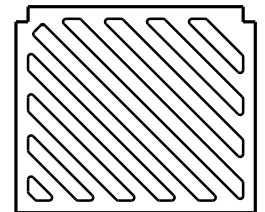


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

**NOTE:
GRATE IS REVERSIBLE.**

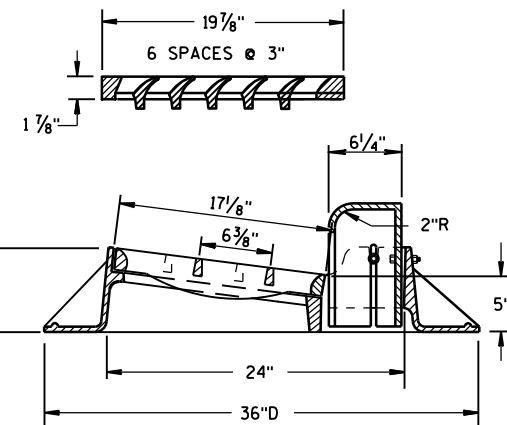
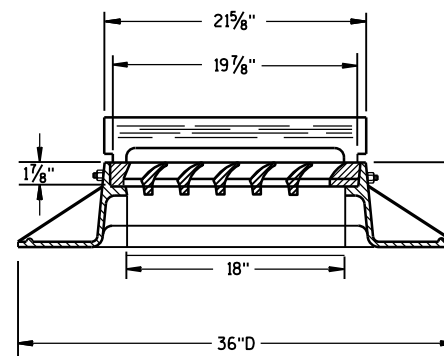


1" DIAGONAL BARS
WITH 1 1/2" OPENINGS

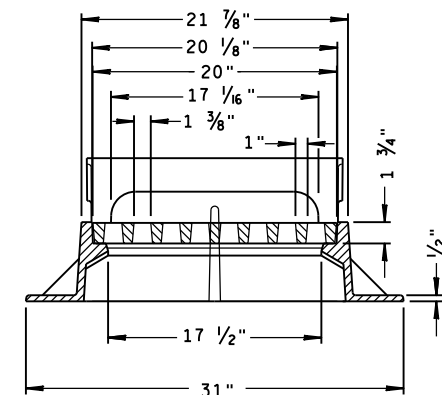
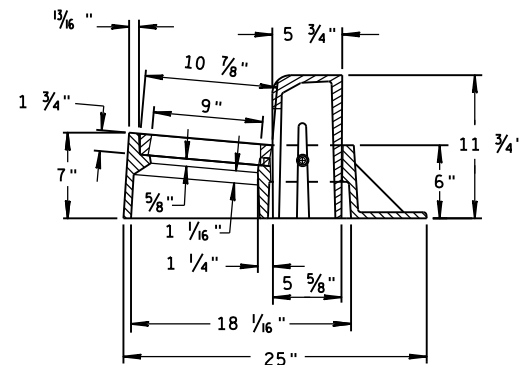


**SPECIAL GRATE FOR
TYPE "A" COVER**

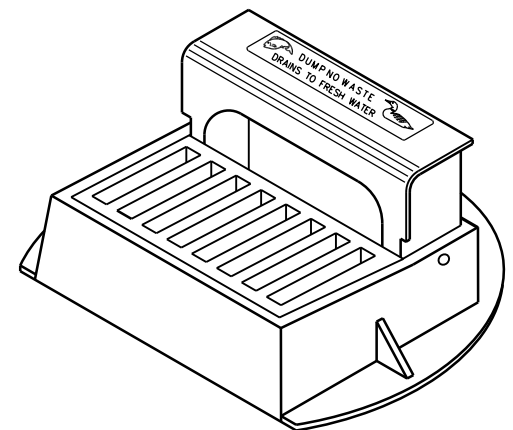
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



TYPE "Z"



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11-27-13

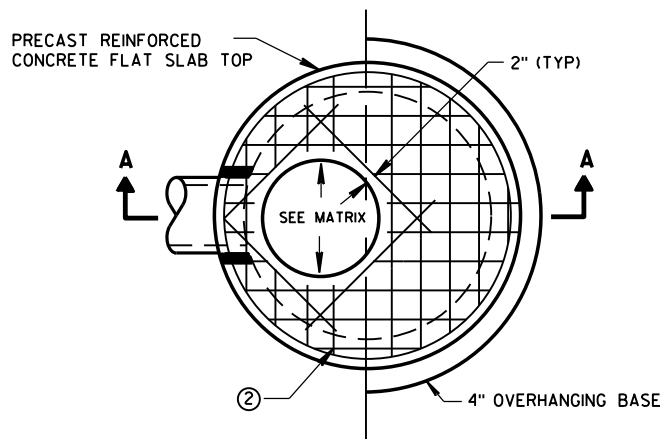
DATE

FHWA

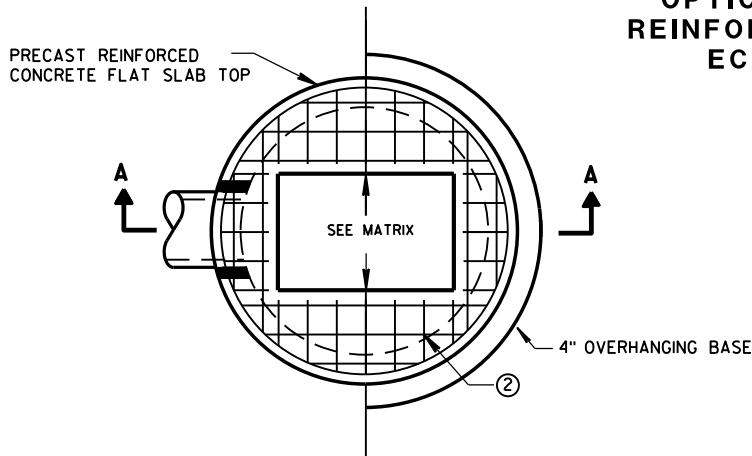
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

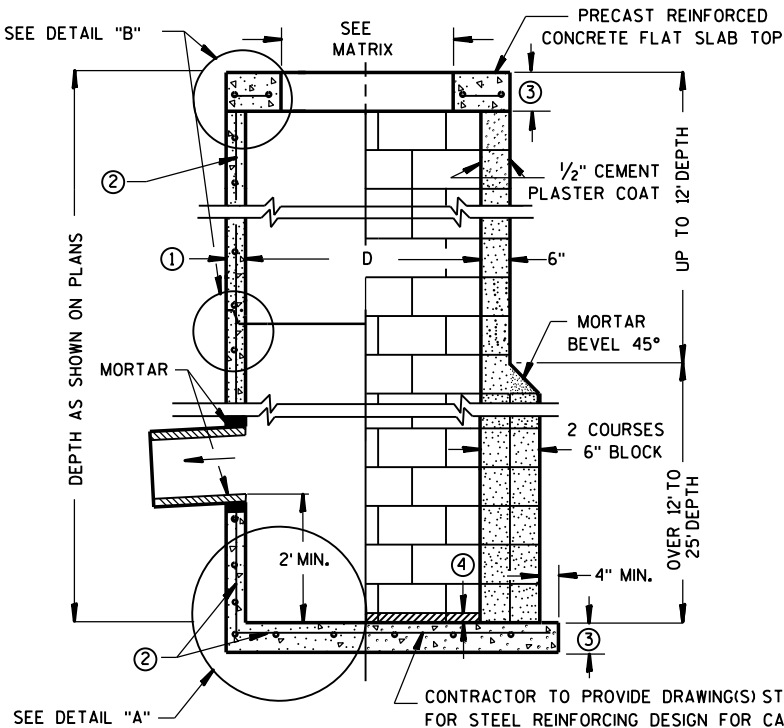
ENGINEER



PLAN VIEW CIRCULAR OPENING



PLAN VIEW RECTANGULAR OPENING

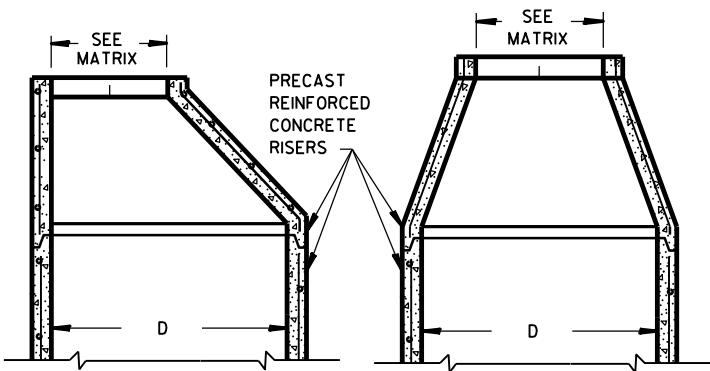


SECTION A-A

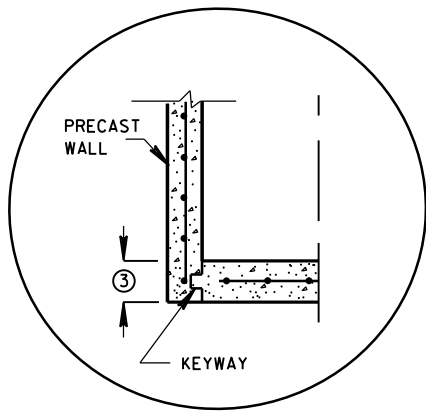
PRECAST REINFORCED
CONCRETE WITH
MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-
IN-PLACE OR PRECAST
REINFORCED CONCRETE BASE ②

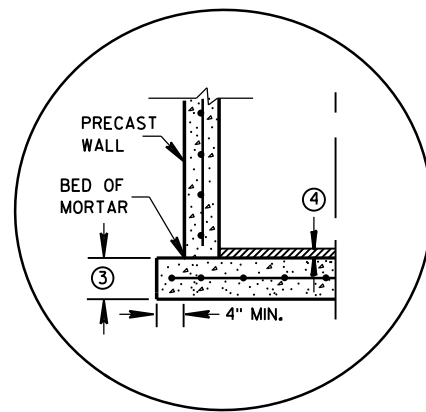
OPTIONAL PRECAST
REINFORCED CONCRETE
ECCENTRIC TOP



OPTIONAL PRECAST
REINFORCED CONCRETE
CONCENTRIC TOP



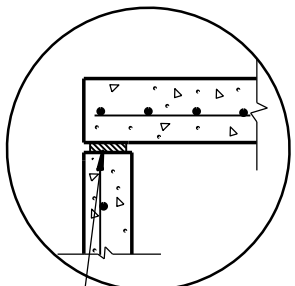
PRECAST REINFORCED
CONCRETE WITH INTEGRAL BASE OPTION



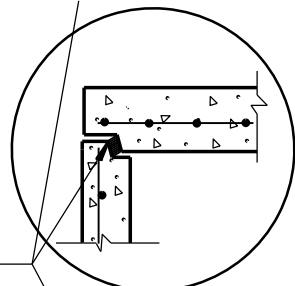
SEPARATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"

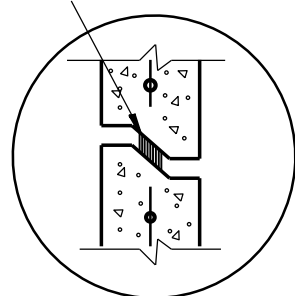
JOINTS TO BE SEALED WITH
A BUTYL RUBBER SEAL PER
SEALANT MANUFACTURERS
RECOMMENDATIONS
CONFORMING TO ASTM C 990
(TYP)



TOP WITH PLAIN END JOINT

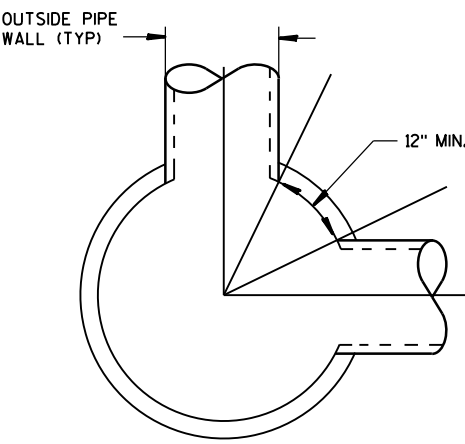


TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.
- FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".
- 1" CONCRETE KEY POURED AFTER INSTALLATION. 2" SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN SIZE	INLET COVER TYPE OPENING SIZE (FT)	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
3-FT	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT- 6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

PIPE MATRIX

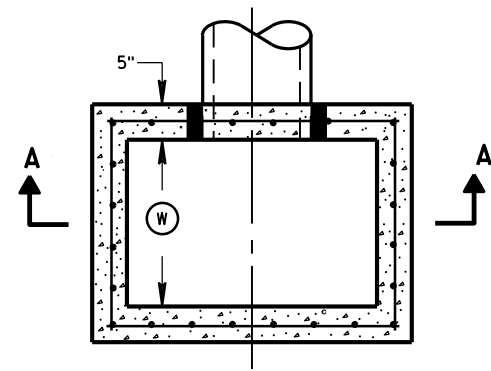
CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	30

CATCH BASINS 3-FT,
4-FT, 5-FT AND
6-FT DIAMETER

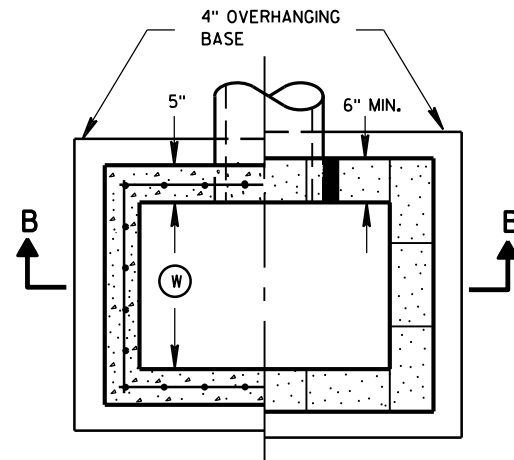
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

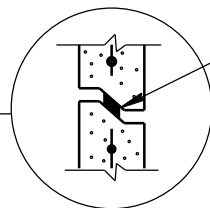
CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER



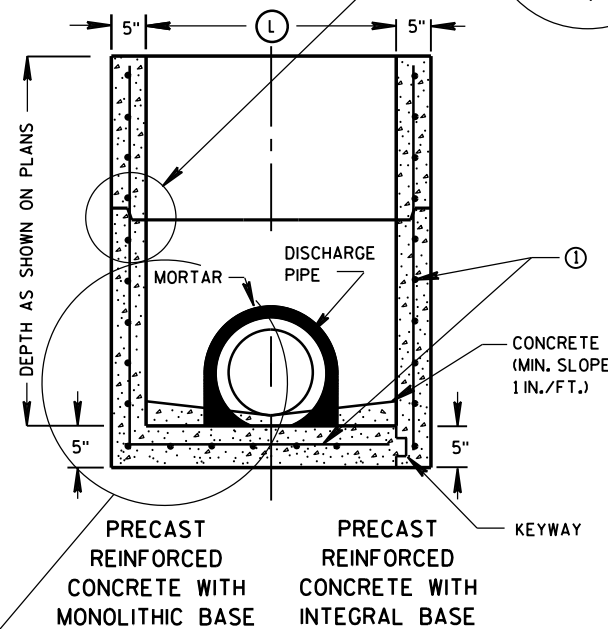
PLAN VIEW



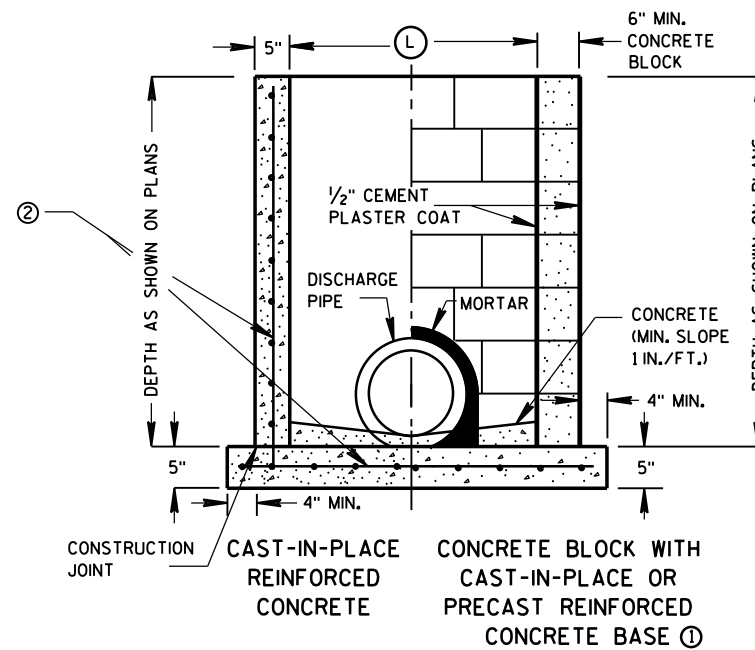
PLAN VIEW



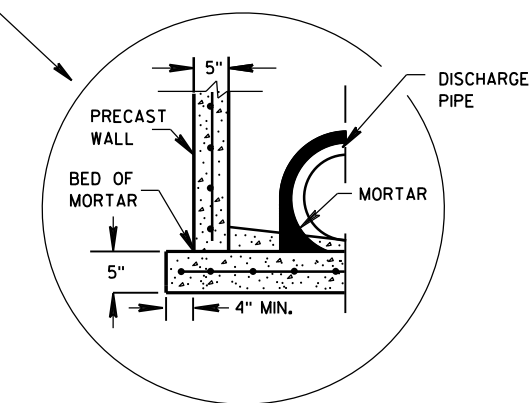
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

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

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

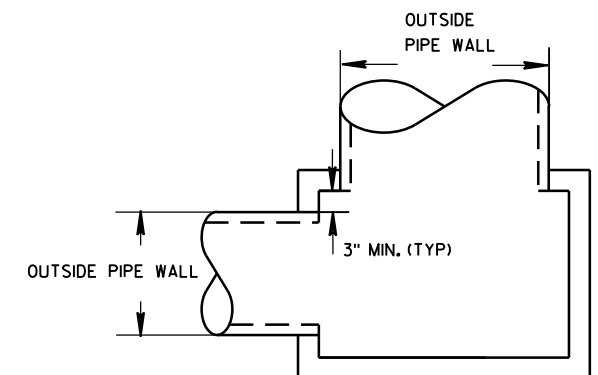
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE	WIDTH ① (FT)	INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
		LENGTH ② (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



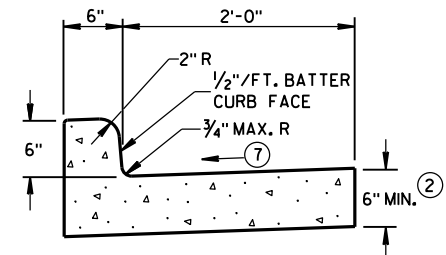
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

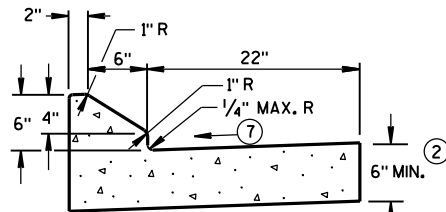
INLETS 2X2-FT, 2X2.5-FT,
2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

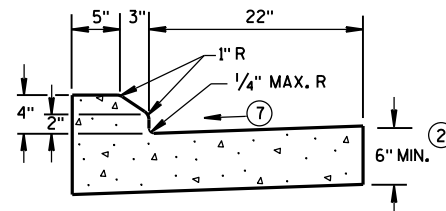
APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



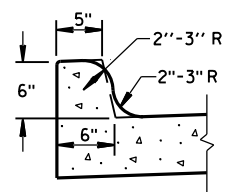
TYPES A^① & D



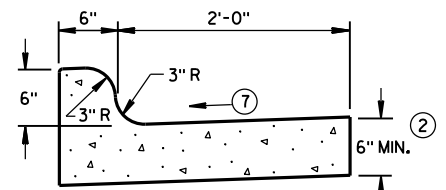
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

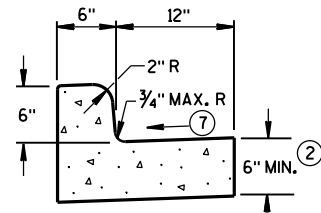


TYPES K^① & L
(OPTIONAL CURB SHAPE)



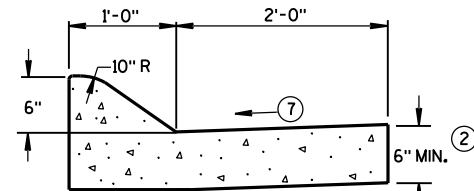
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

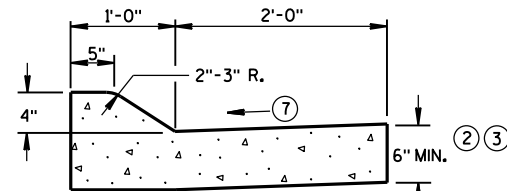


TYPES A^① & D

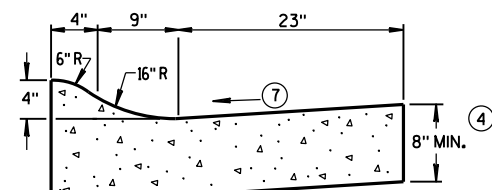
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

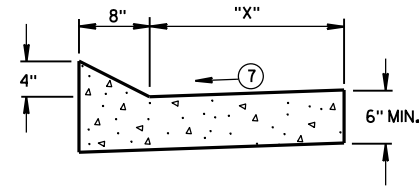


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

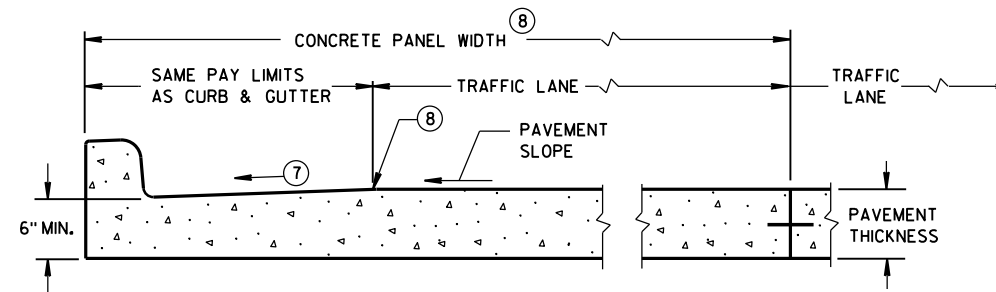
CONCRETE CURB & GUTTER 36"



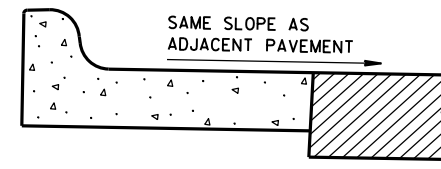
TYPES TBT & TBTT^①

CONCRETE CURB & GUTTER

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



PARTIAL SECTION OF PAVEMENT^{*}
WITH INTEGRAL CURB & GUTTER



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

GENERAL NOTES

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

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

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

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

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

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

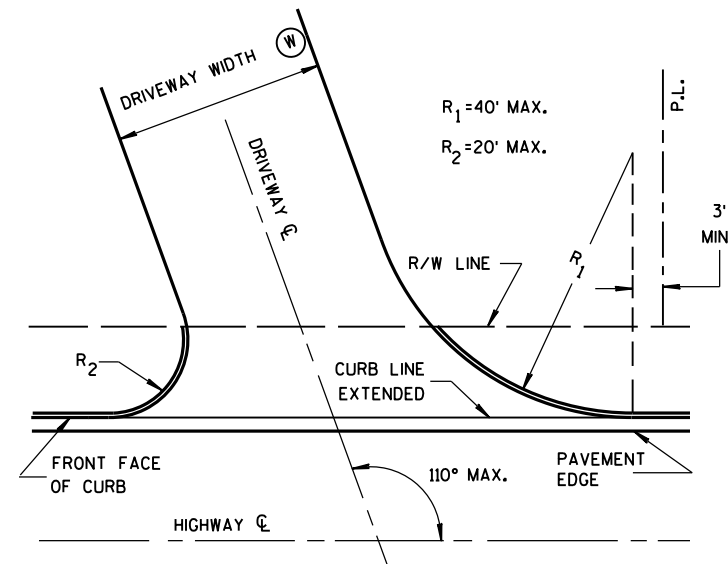
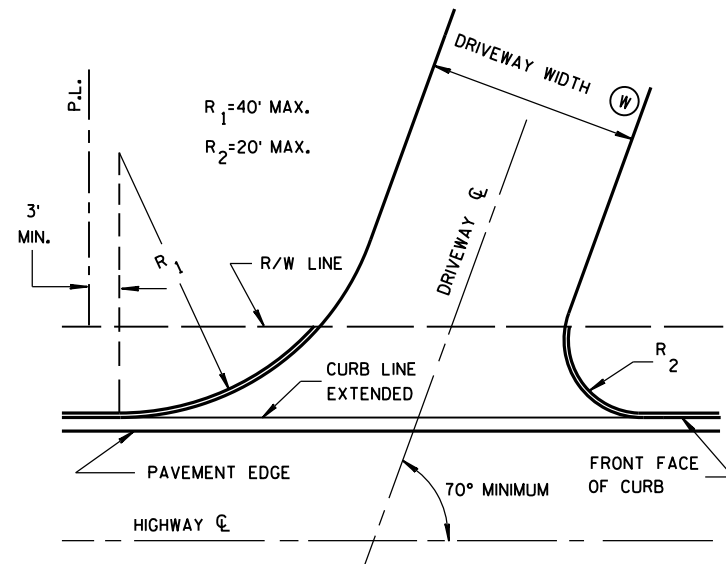
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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

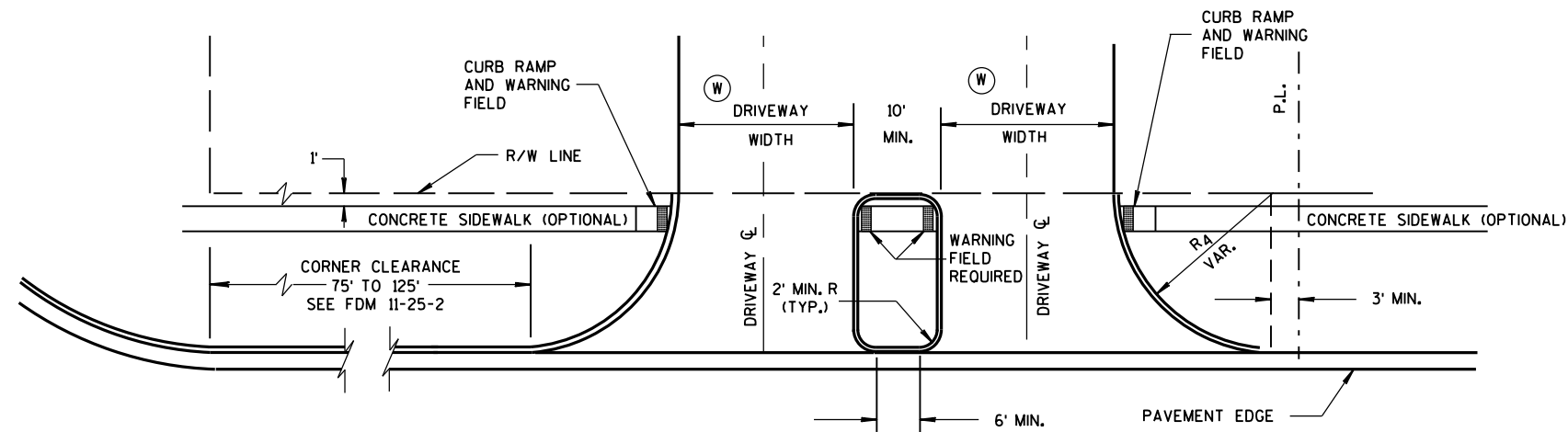
* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**SKewed DRIVEWAY DETAILS
(COMMERCIAL AND NON-COMMERCIAL)**
SIDEWALK NOT SHOWN



DRIVEWAY LOCATION AND SPACING DETAILS
SIDEWALK SHOWN

NOTES

A MAXIMUM RADIUS OF 10 FEET SHALL BE USED FOR NON-COMMERCIAL PRIVATE ENTRANCES. RADII FOR COMMERCIAL DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER BASED ON TRAFFIC AND DRIVEWAY PERMIT RESTRICTIONS.

THE MINIMUM ANGLE OF INTERSECTION BETWEEN THE DRIVEWAY AND HIGHWAY CENTERLINES SHALL BE 70°.

ALL CURVILINEAR PRIVATE ENTRANCE OUTLINES SHALL BE CONTAINED WITHIN THE HIGHWAY R/W.

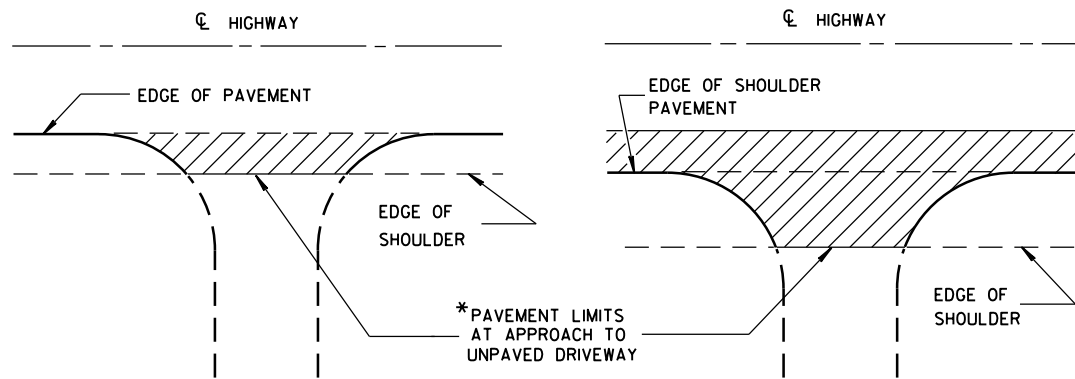
NO DRIVEWAY SHALL BE BUILT WITHIN 3 FEET OF THE PROPERTY LINE EXCEPT FOR EXISTING JOINT DRIVEWAY SHARED BY TWO OWNERS.

Ⓢ DRIVEWAY WIDTHS:
COMMERCIAL - 35' MAX., 16' MIN.
RESIDENTIAL AND NON-COMMERCIAL - 24' MAX., 12' MIN.

**DRIVEWAYS WITH
CURB & GUTTER RETURNS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

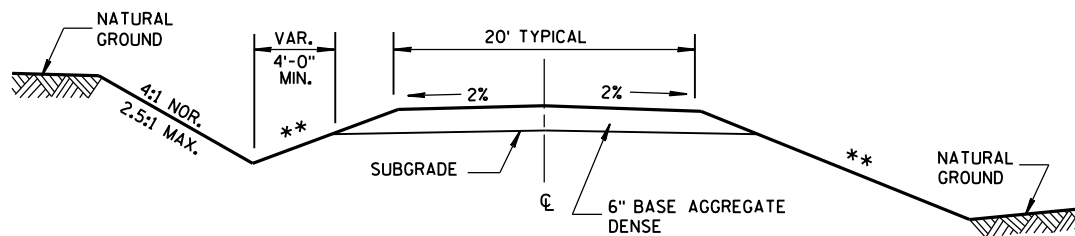


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

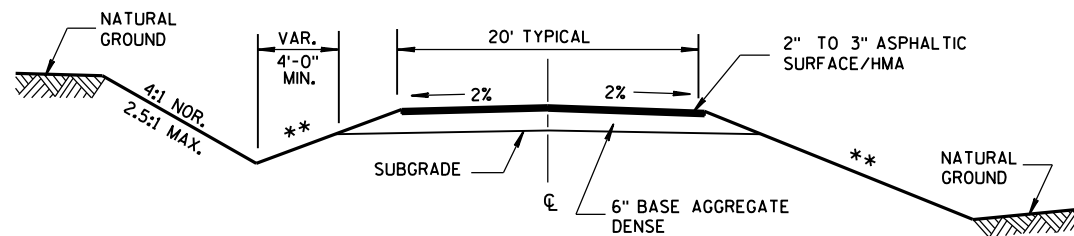
RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB & GUTTER OR SIDEWALK)



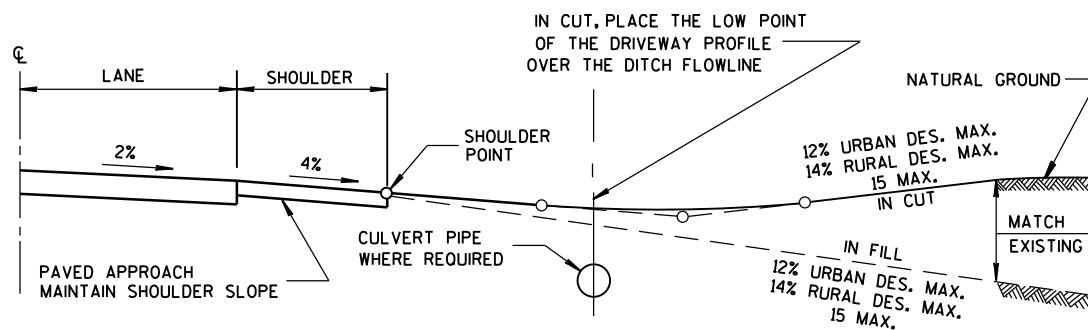
TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥35 TO <60	6:1
≥60	10:1

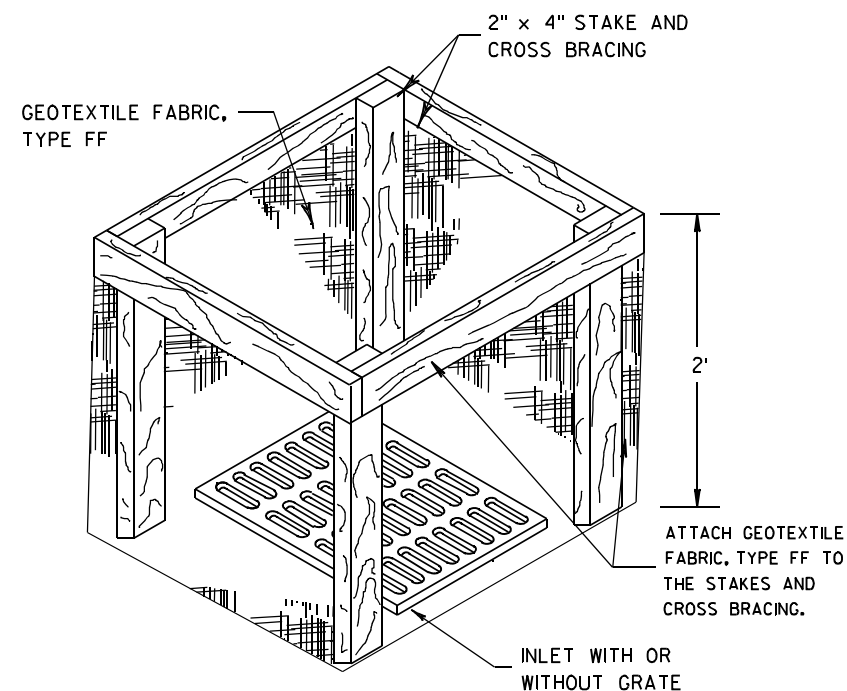
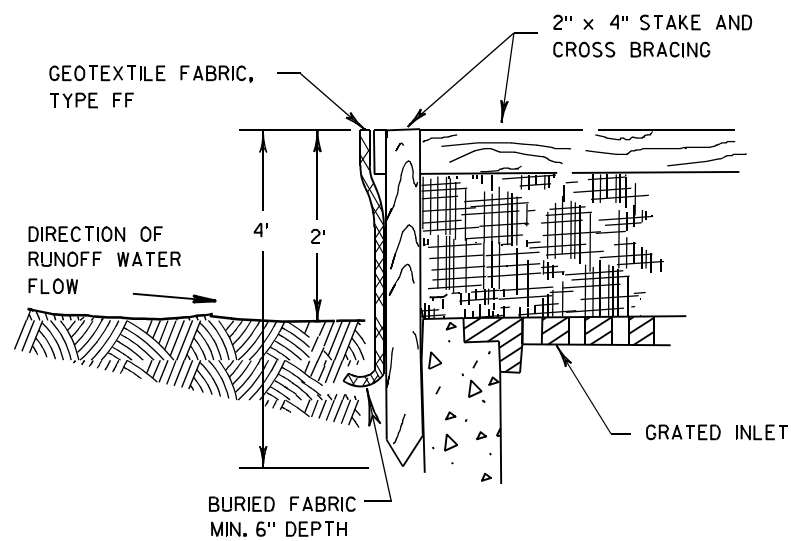


TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE



TYPICAL DRIVEWAY PROFILES

DRIVEWAYS WITHOUT CURB & GUTTER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December, 2016 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	



INLET PROTECTION, TYPE A

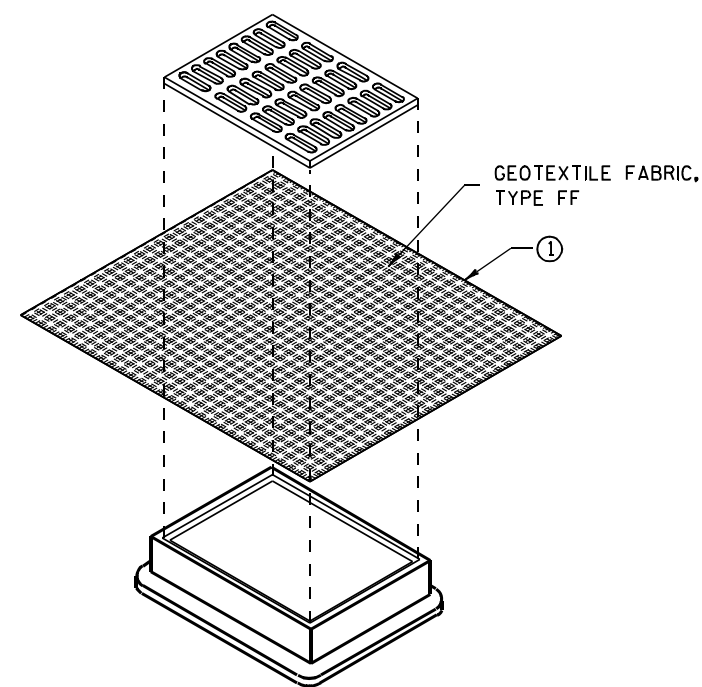
GENERAL NOTES

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.

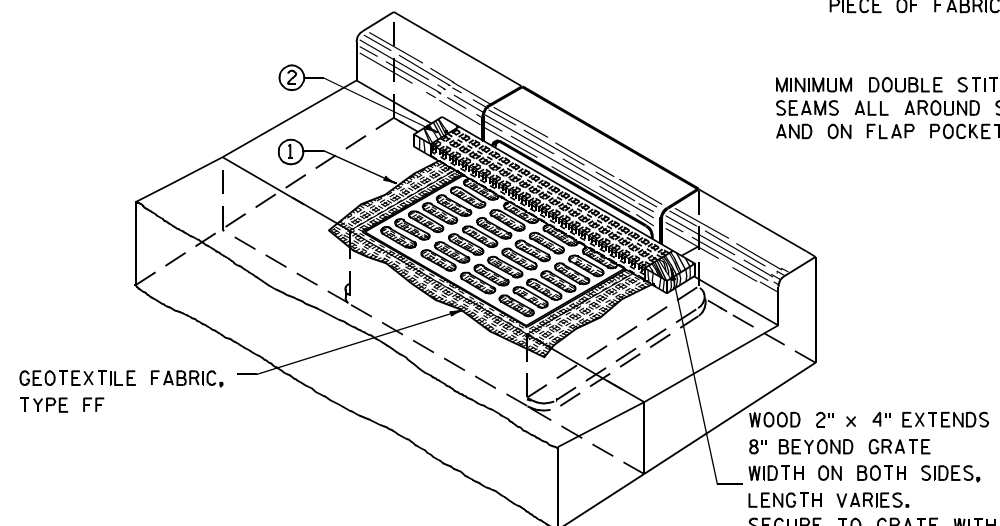
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

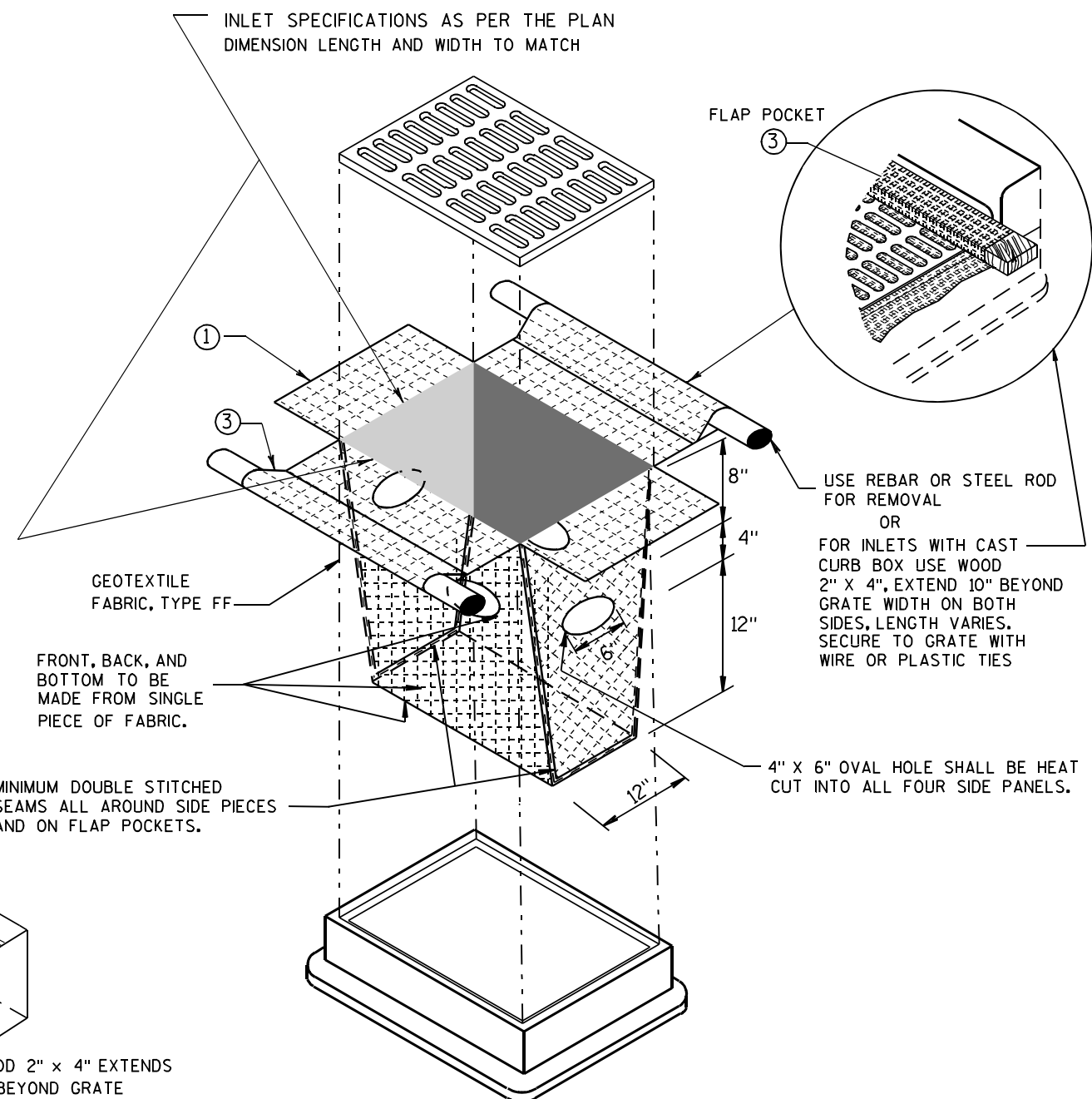
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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)

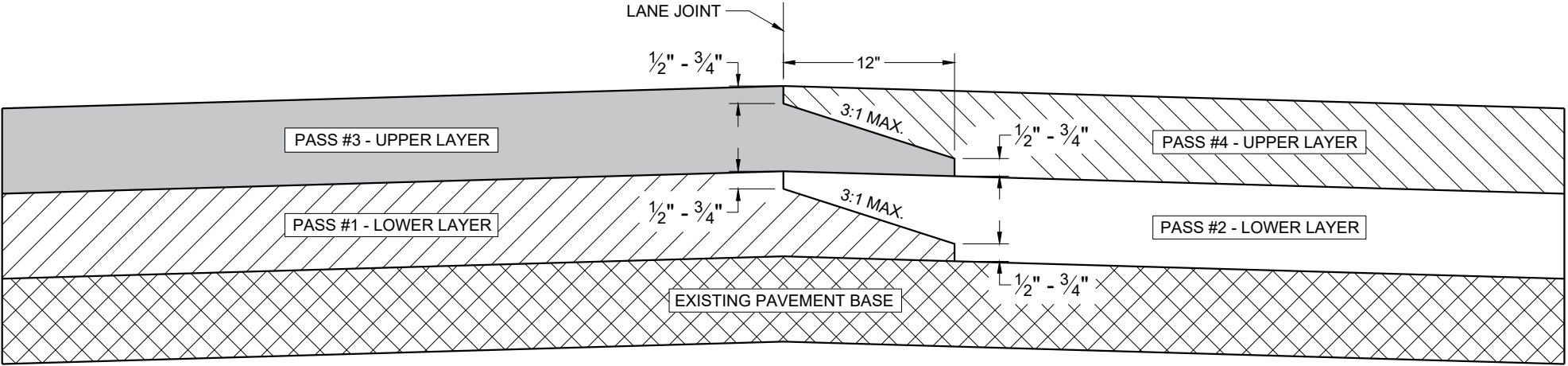
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Cannestra
DATE
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

GENERAL NOTES

CONFORM TO STANDARD SPECIFICATION 450.3.2.8



TYPICAL PAVEMENT CROSS SECTION
OF NOTCHED WEDGE LONGITUDINAL JOINTS

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Steven Hefel
DATE HMA PAVEMENT ENGINEER

FHWA

GENERAL NOTES

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

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

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

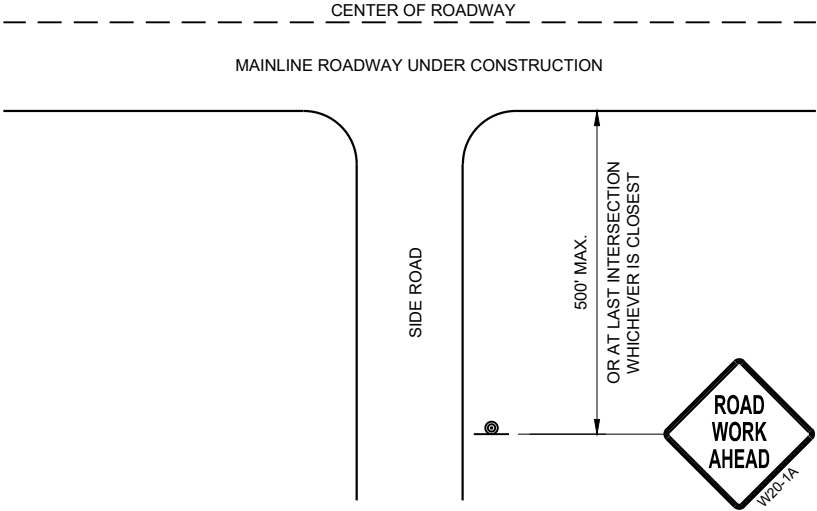
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

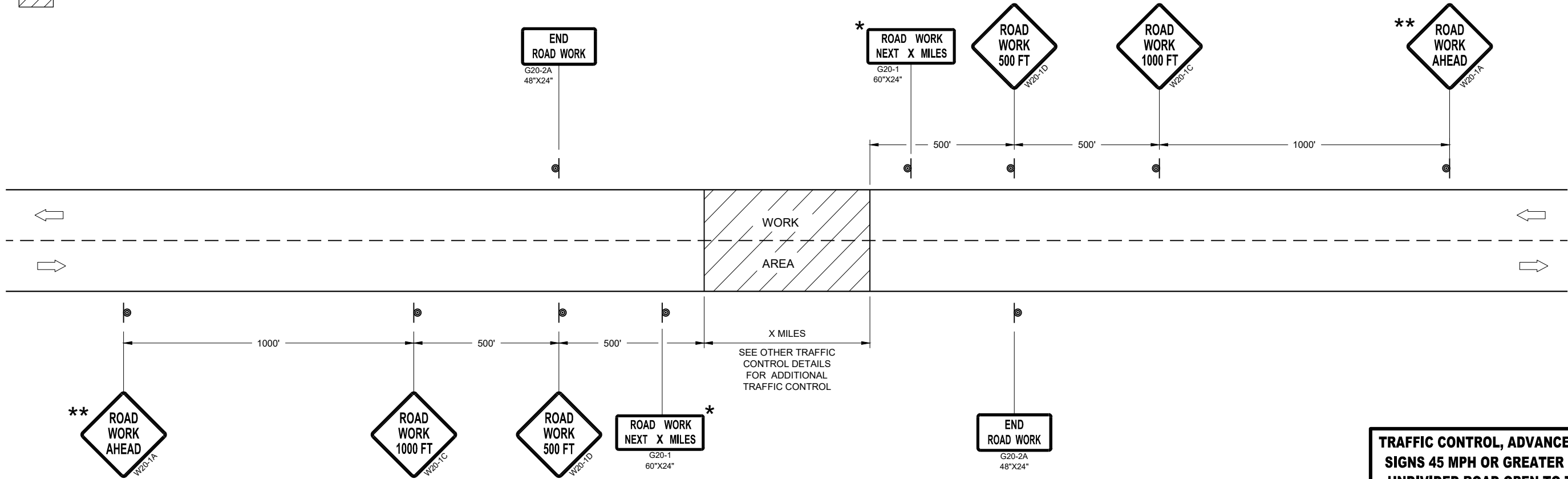
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL

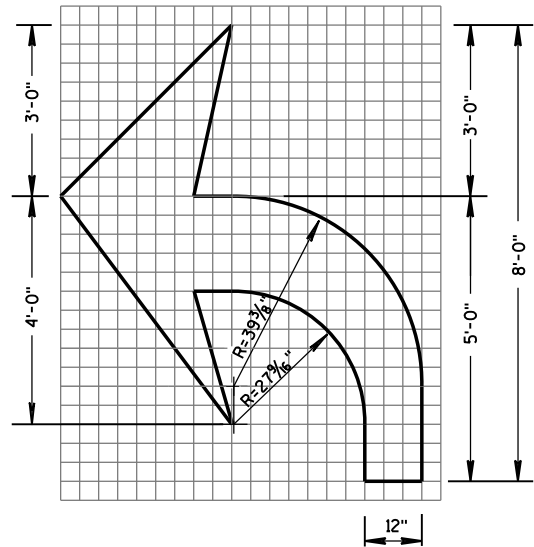


TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

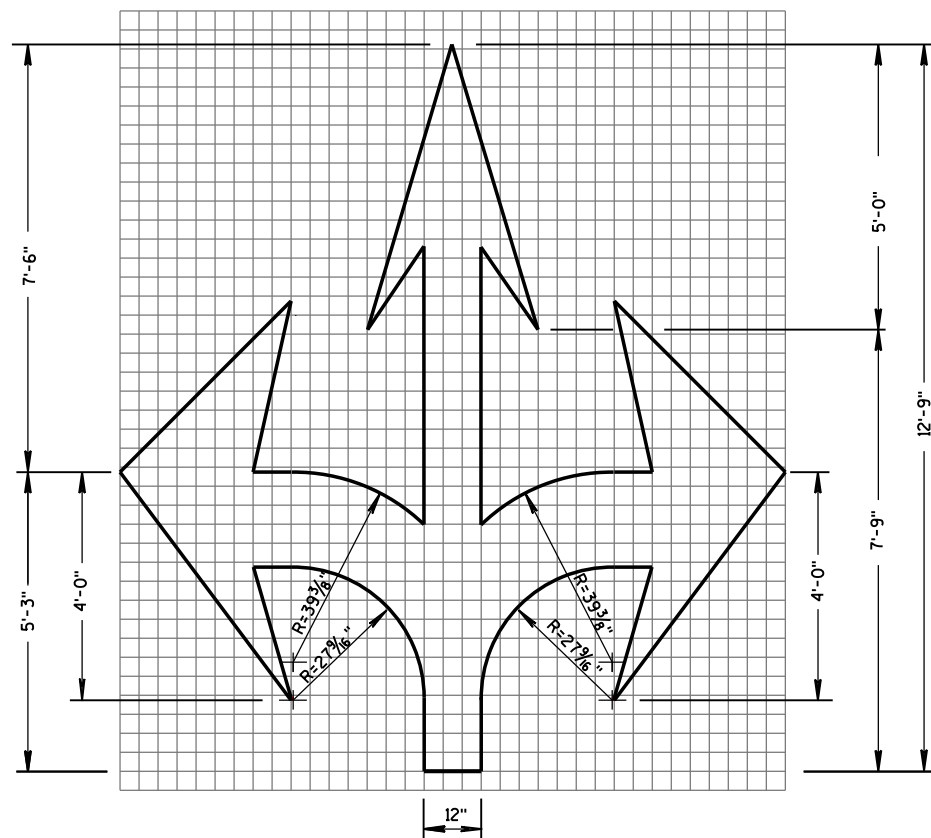
TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

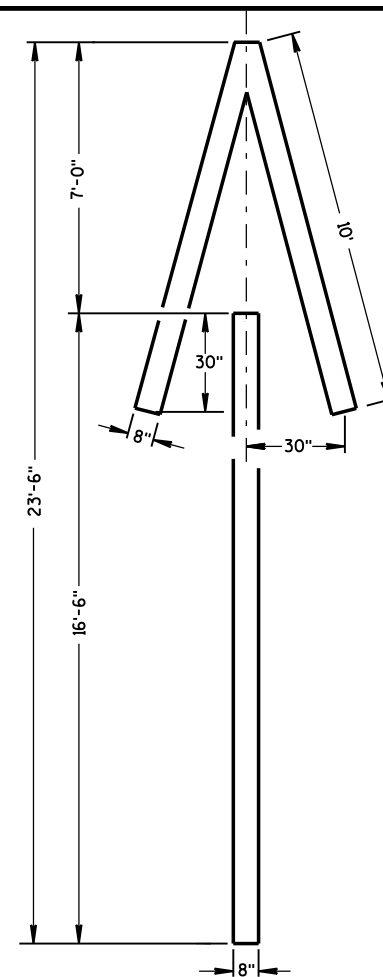
APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



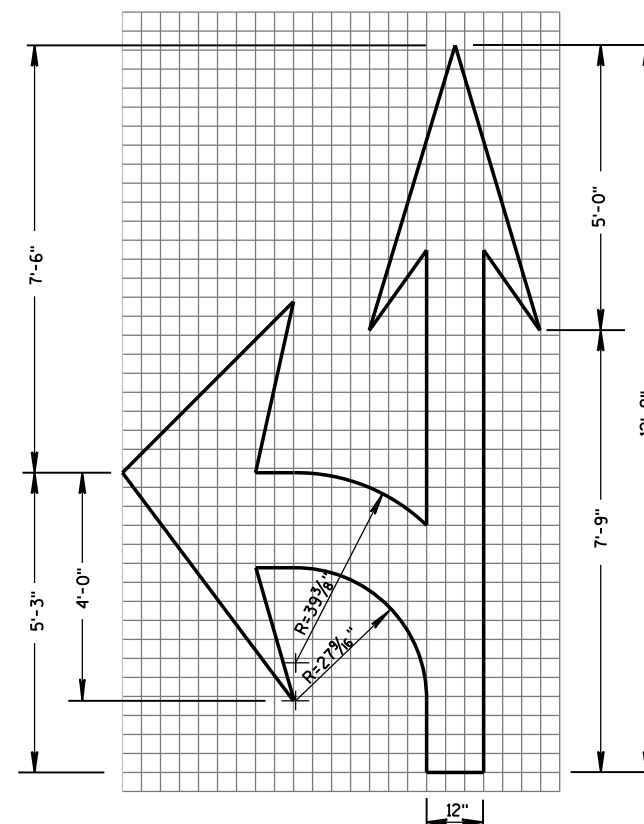
TYPE 2



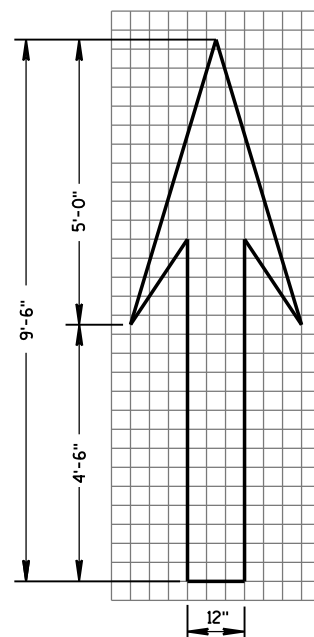
TYPE 6



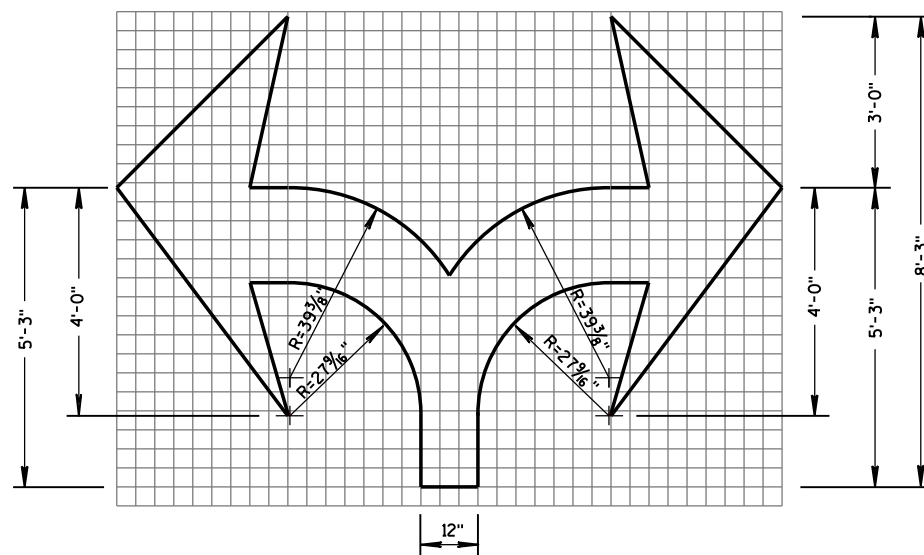
TYPE 4



TYPE 3



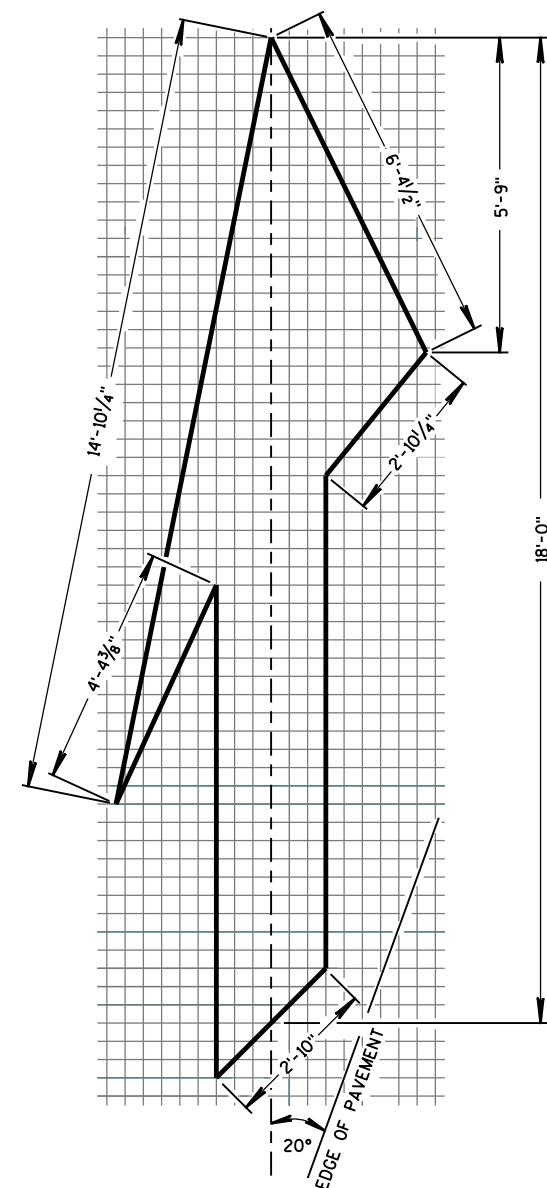
TYPE 1



TYPE 7

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.



TYPE 5 LANE DROP ARROW

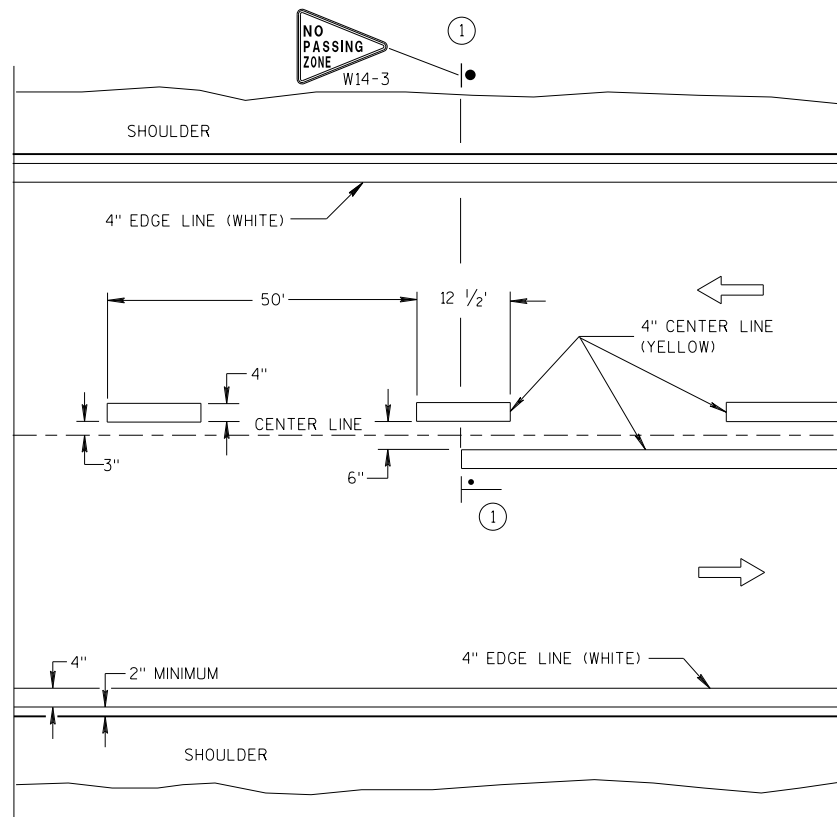
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

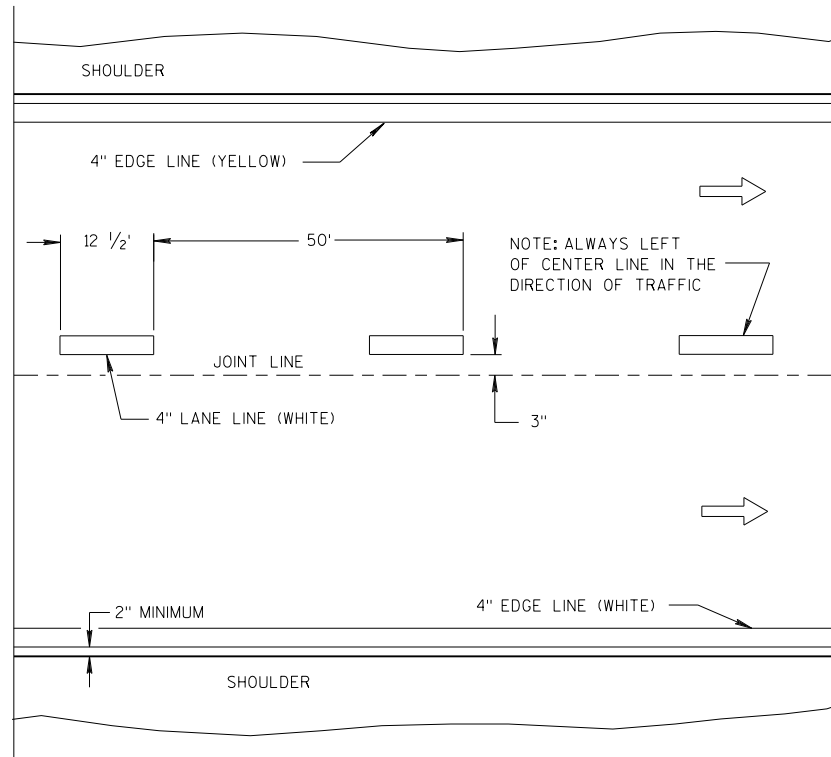
APPROVED

June 2017
DATE/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

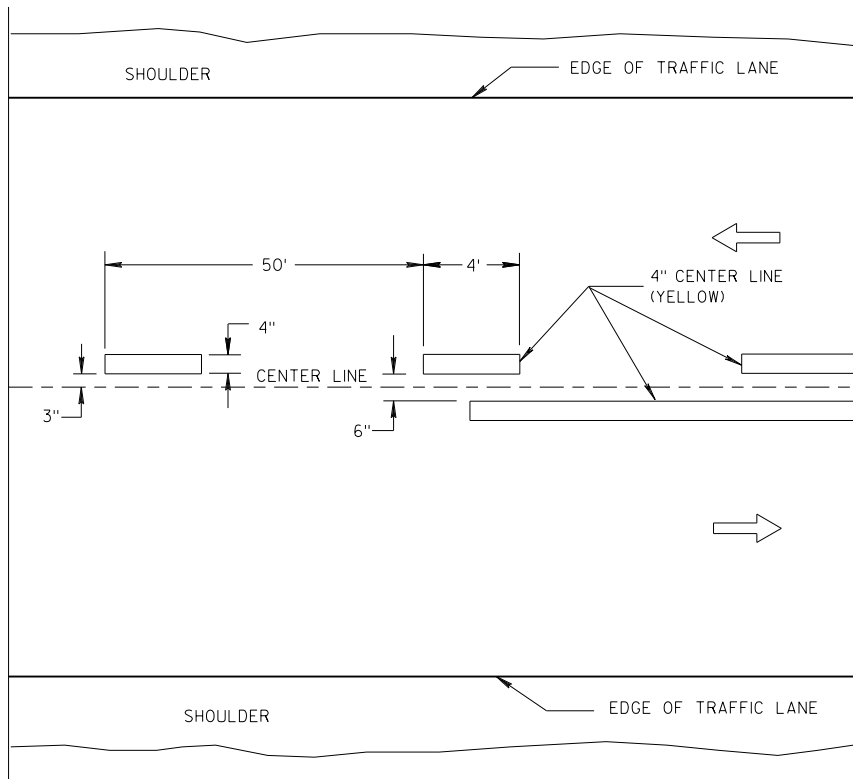


TWO WAY TRAFFIC

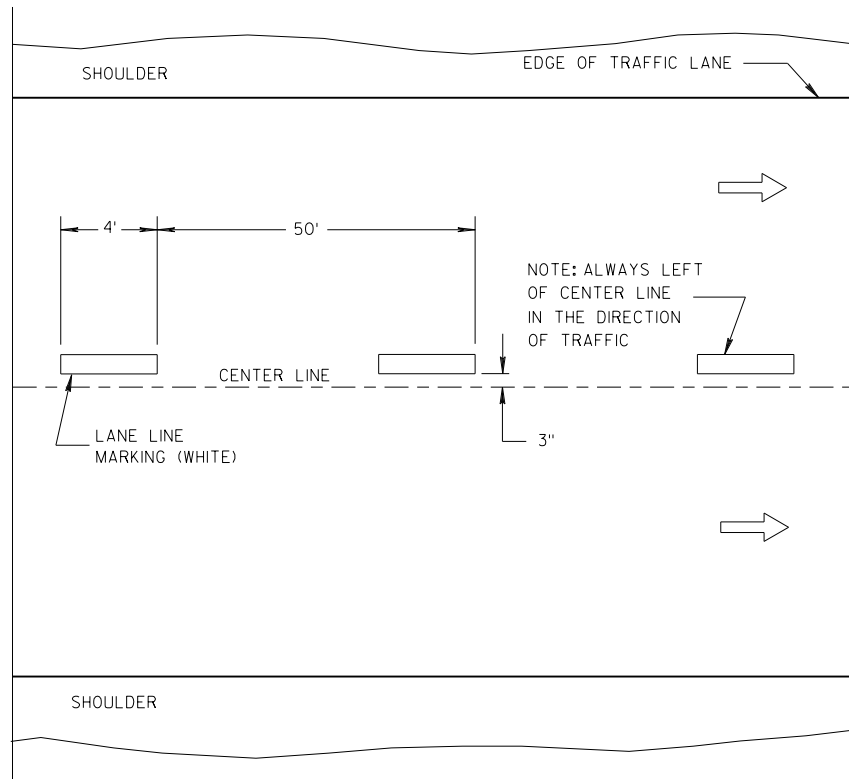


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

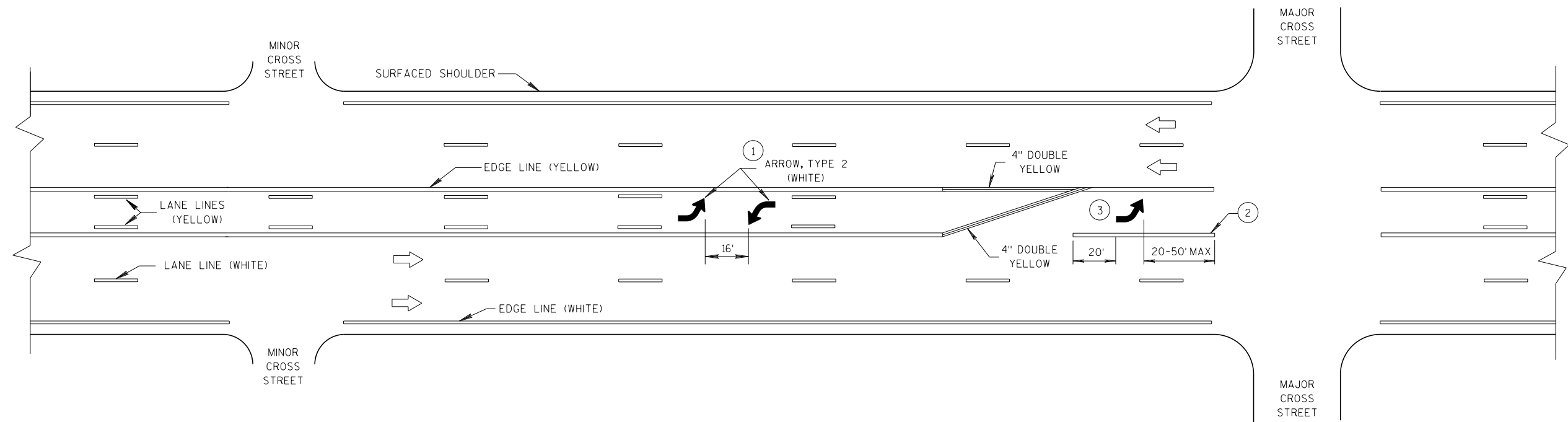
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 8" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT

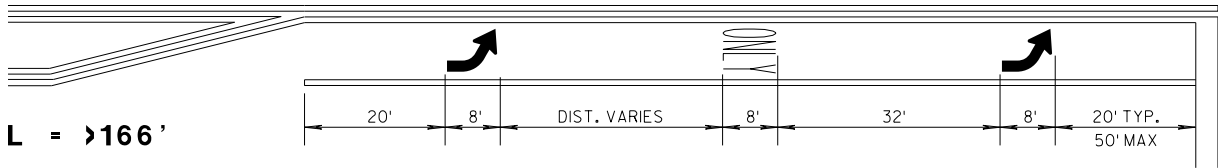
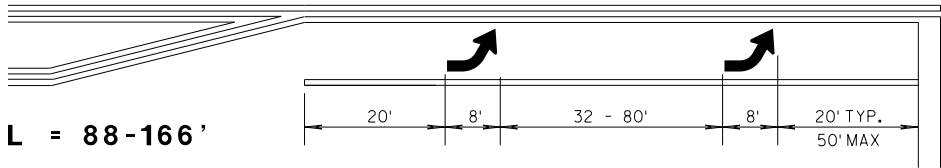
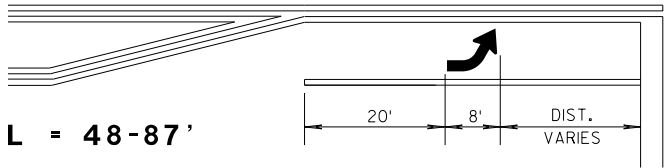
➔ DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

TURN LANE OPTIONS

LENGTH OF TURN BAY (L) OF 0-47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



*(SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

GENERAL NOTES

- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

→ DIRECTION OF TRAFFIC
L = LENGTH OF TURN BAY

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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.

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

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

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND 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.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' 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.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

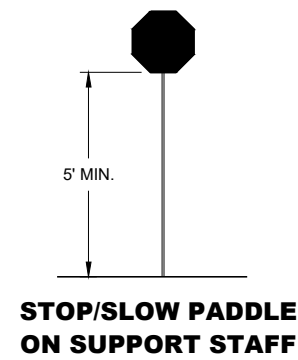
③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

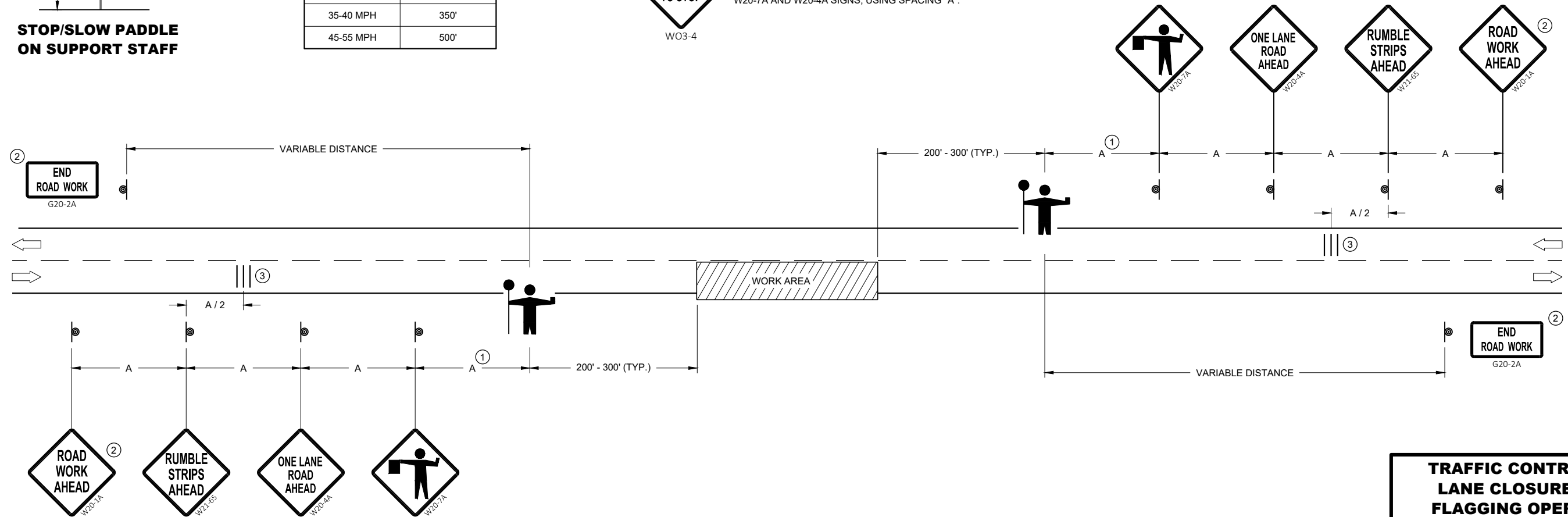
DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



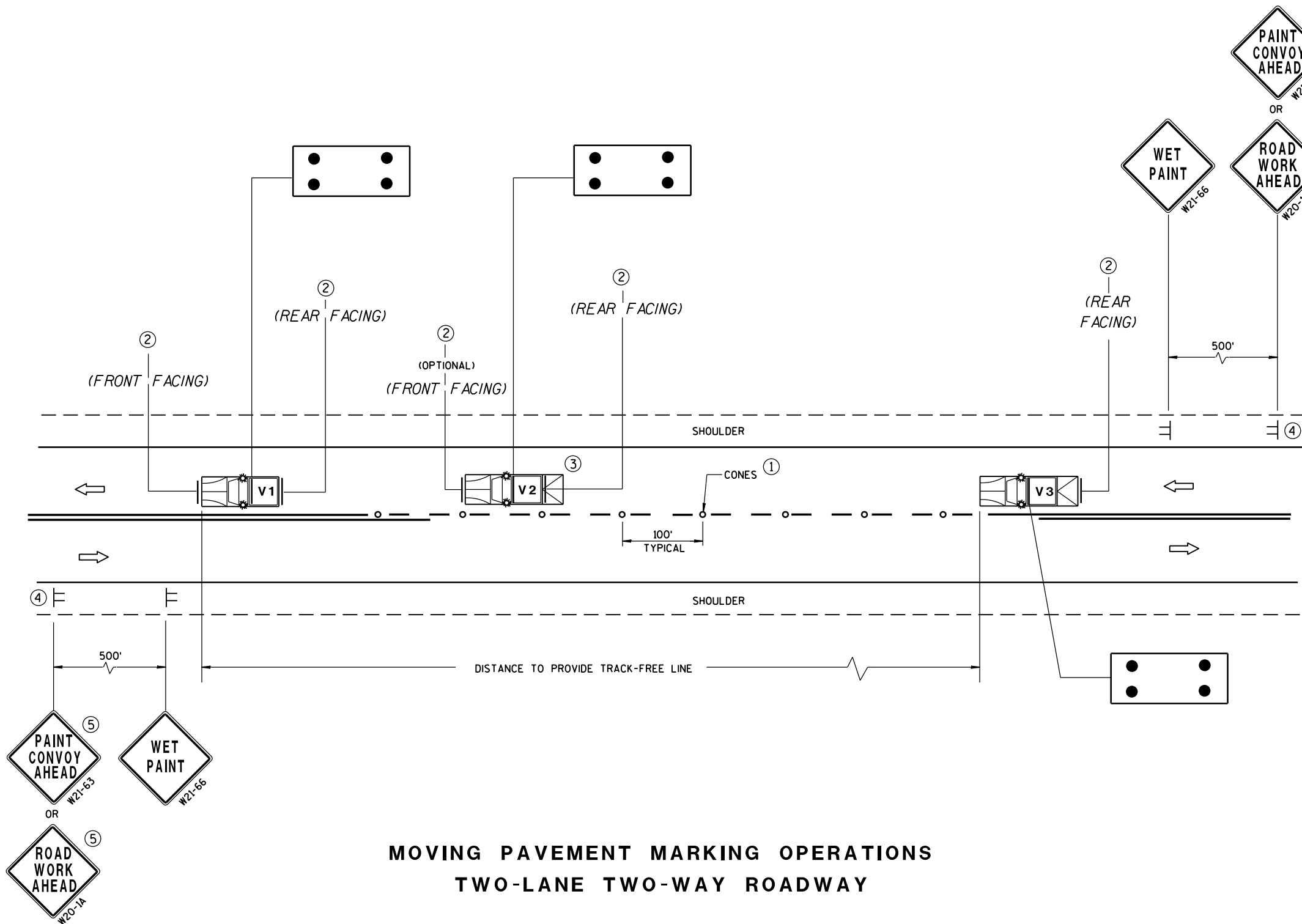
SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



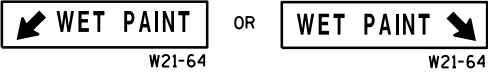
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>May 2019</u> DATE	<u>/S/ Andrew Heidtke</u> WORK ZONE ENGINEER



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

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



OR



LEGEND

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

≡ SIGN ON TEMPORARY SUPPORT

➡ DIRECTION OF TRAFFIC

○ CONES

⬢ FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

LEGEND

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

TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER
L = WS² / 60 AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = 1/3L

GENERAL NOTES

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

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

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

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

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

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

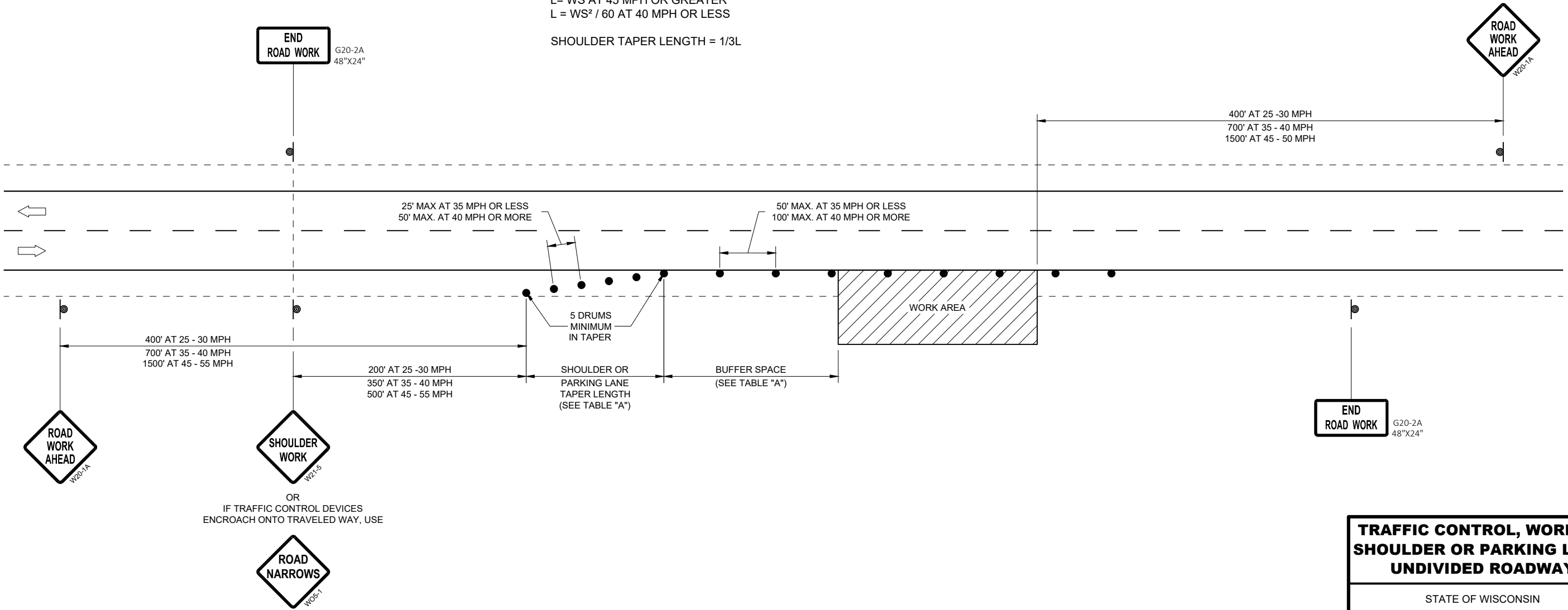
W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY RESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

6

SDD 15D28 - 03

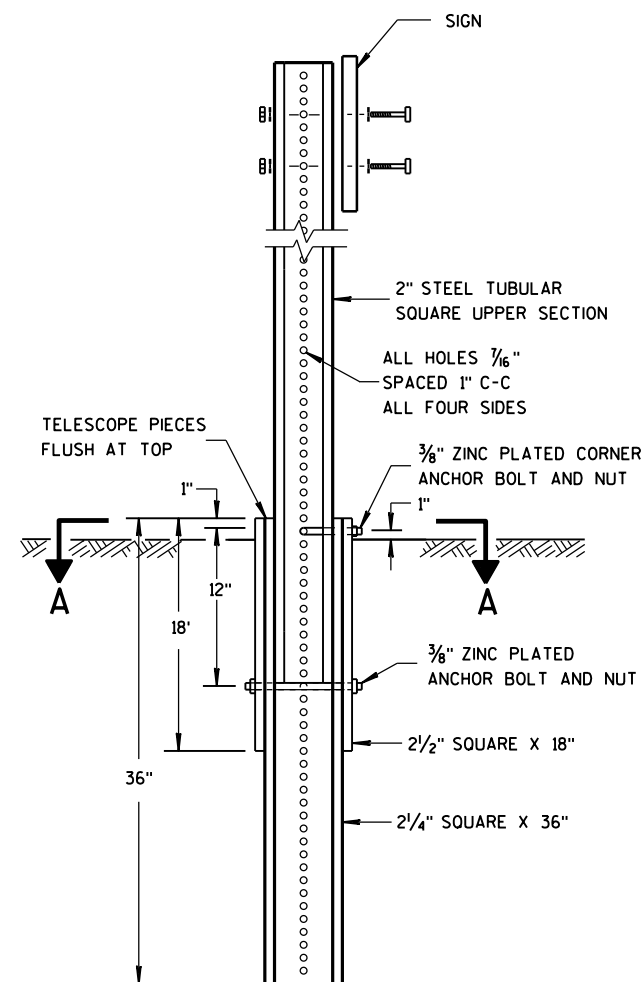
SDD 15D28 - 03



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019
DATE /S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER
FHWA

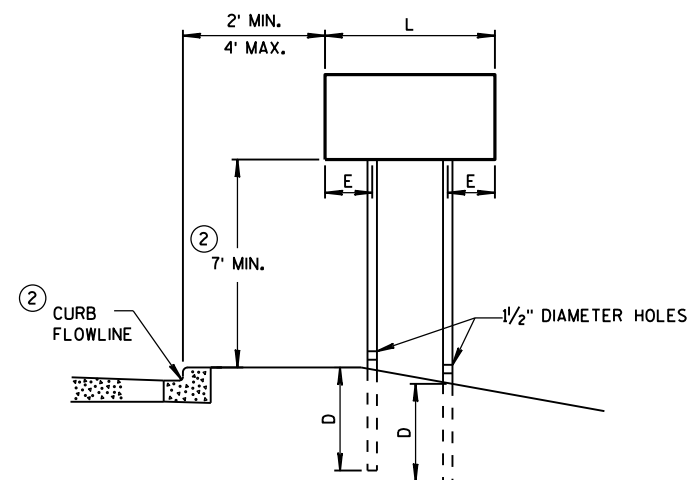
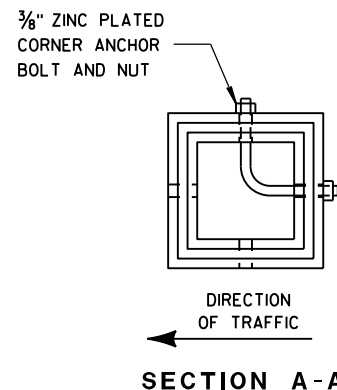


DETAIL OF TUBULAR STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

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

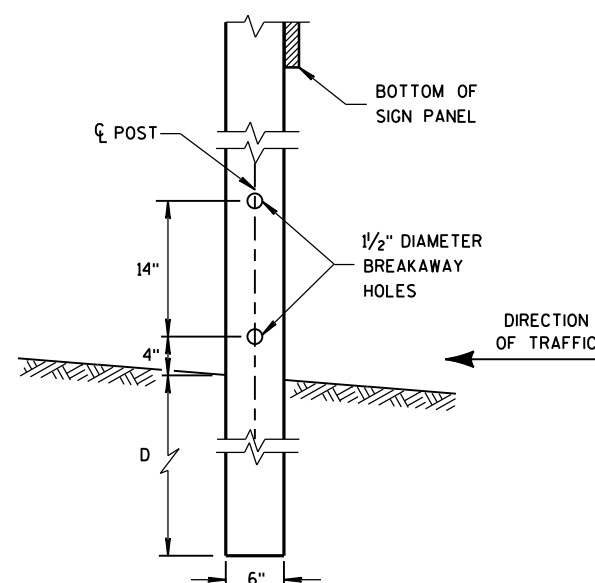


URBAN AREA

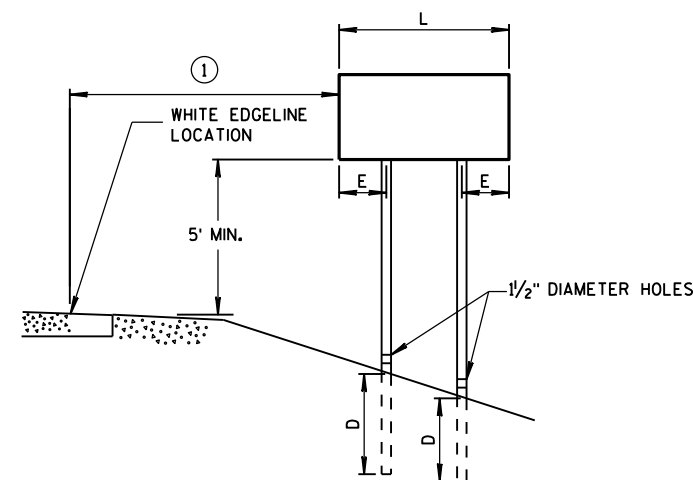
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH

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



4"x6" WOOD POST MODIFICATION



RURAL AREA

4" X 6" WOOD POST

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

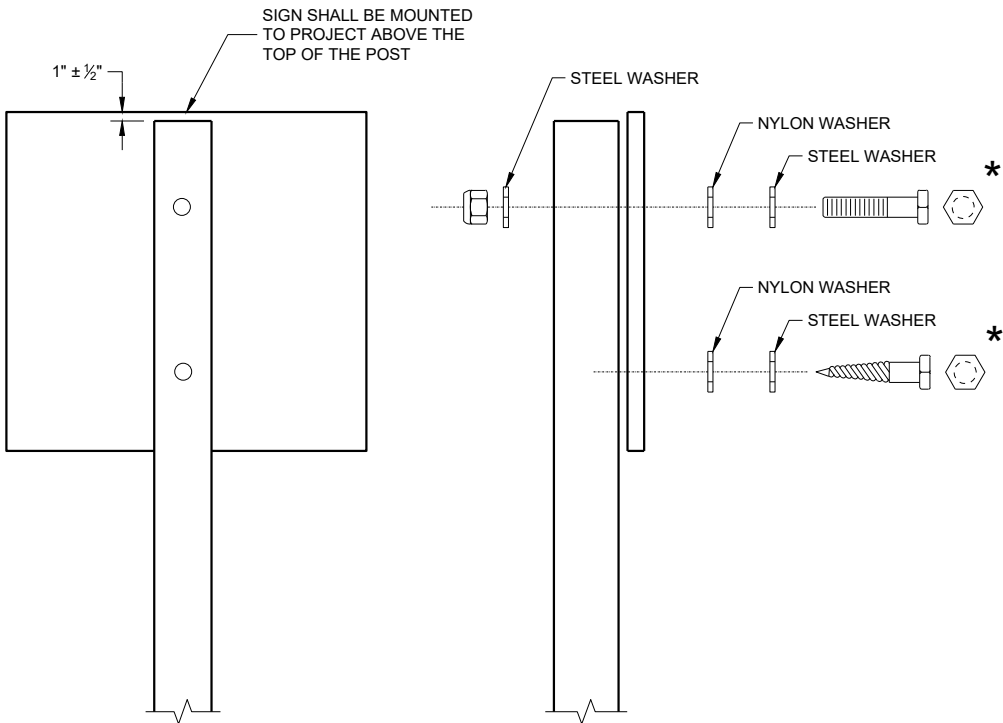
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

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

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

WOOD POST (4" x 6")
LAG SCREWS - ¾" x 3"
MACHINE BOLTS - ⅝" x 6 ½" OR 7" LENGTH W/NUTS

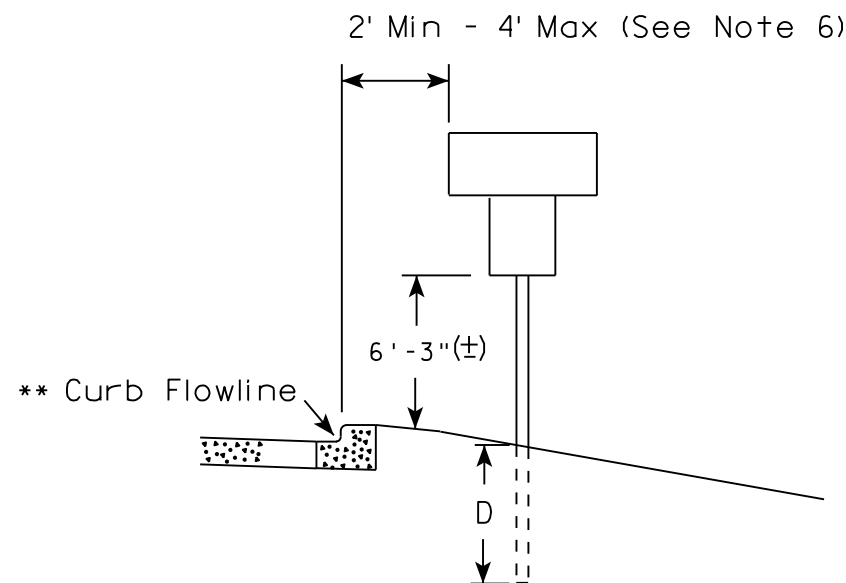
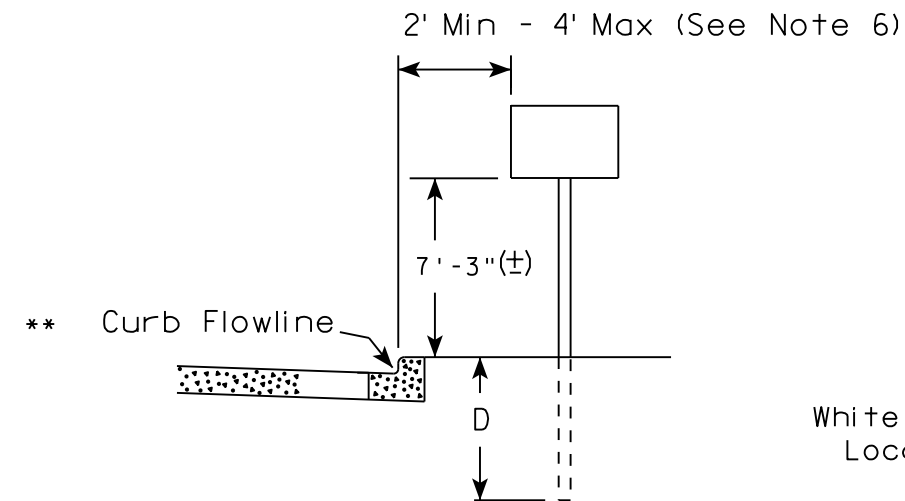
SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ¾" x 3 ¼" LENGTH W/NUTS
RIVETS - ⅝" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x ⅛" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

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

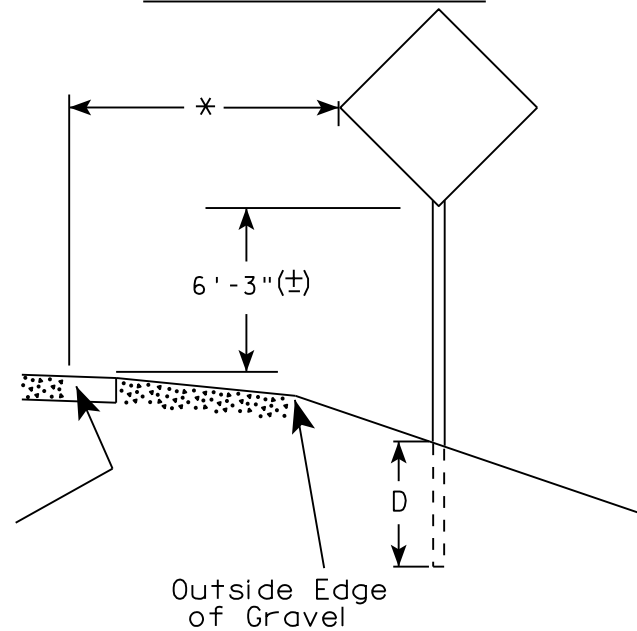
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

URBAN AREA

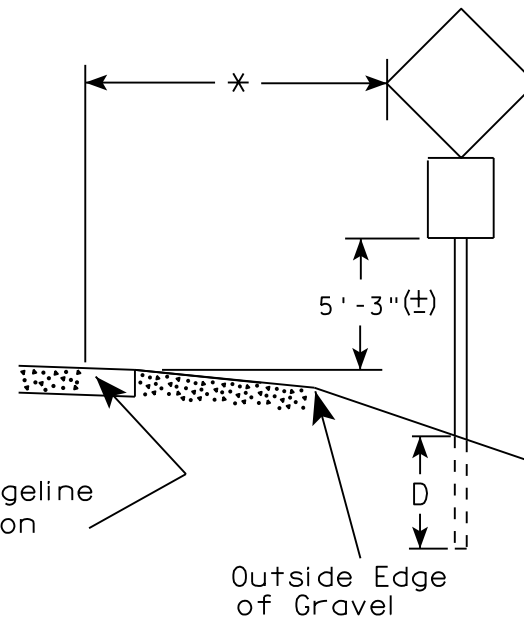


White Edgeline
Location

RURAL AREA (See Note 2)



White Edgeline
Location



Outside Edge
of Gravel

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

✱✱ 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 8/21/17

PLATE NO. A4-3.21

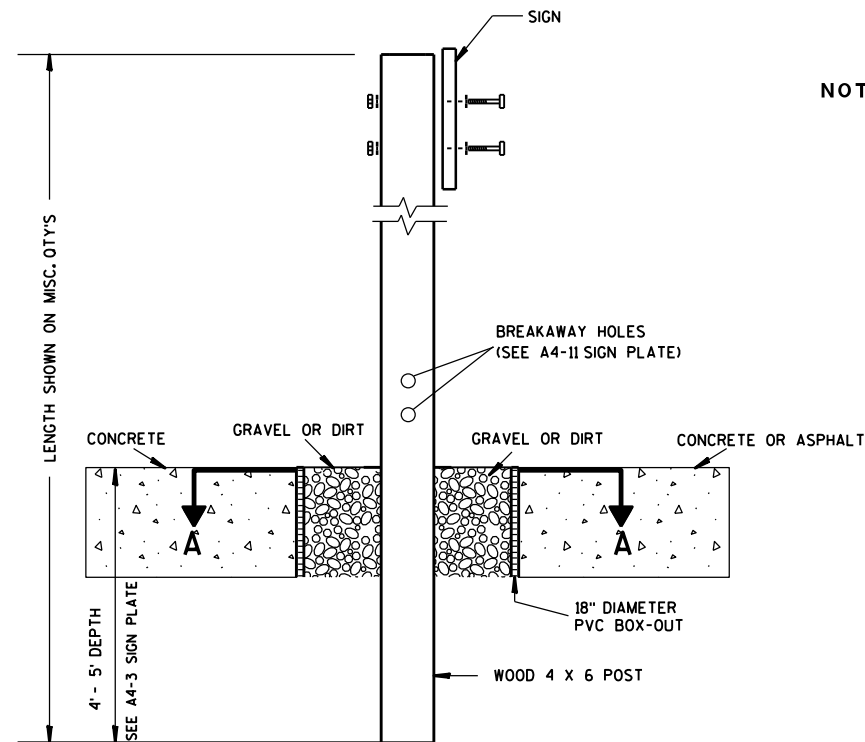
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

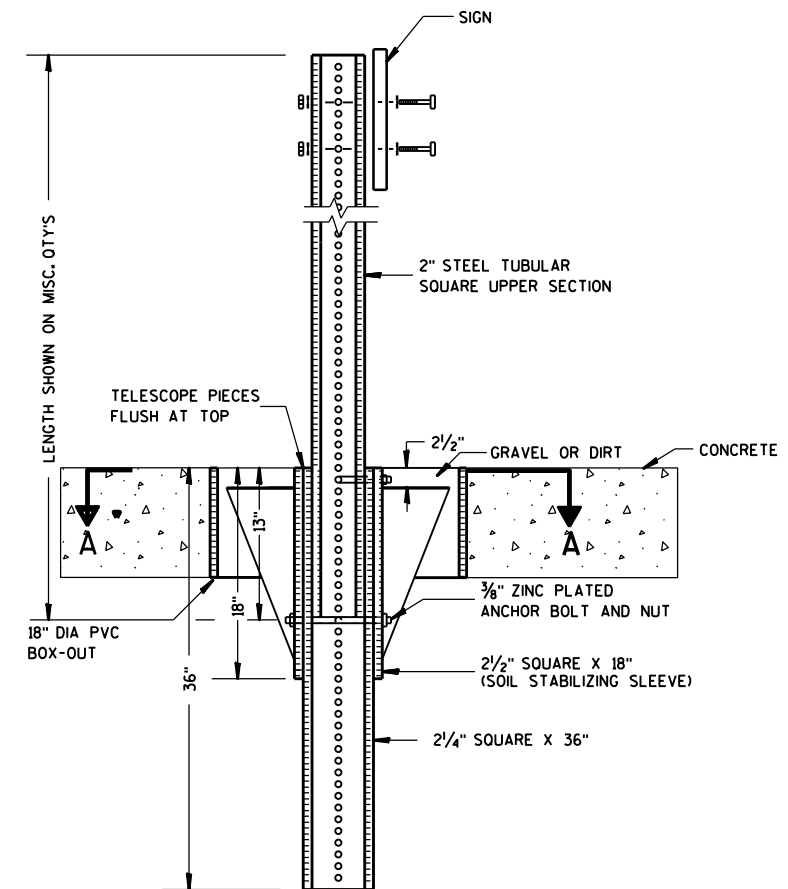
E



ELEVATION VIEW

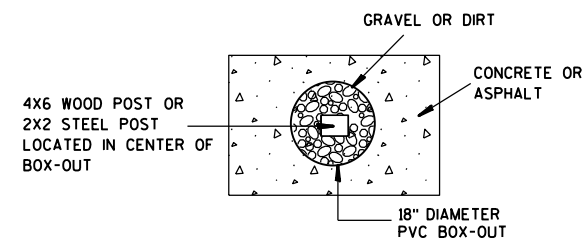
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

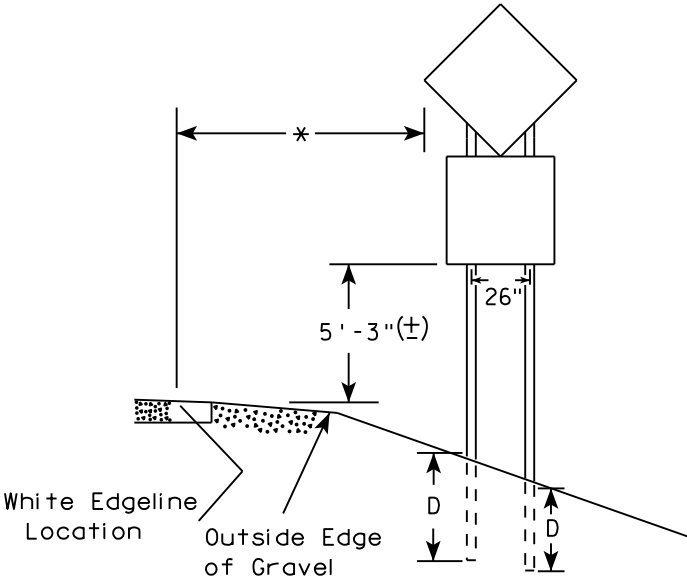
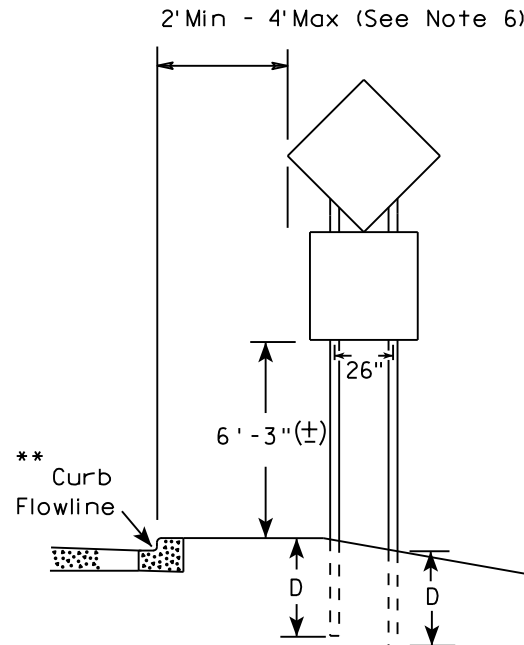
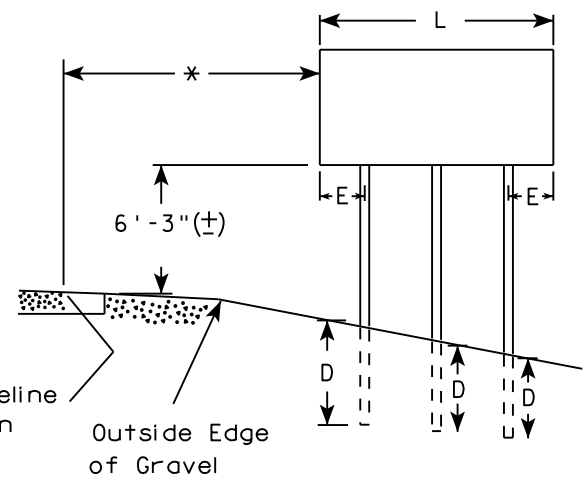
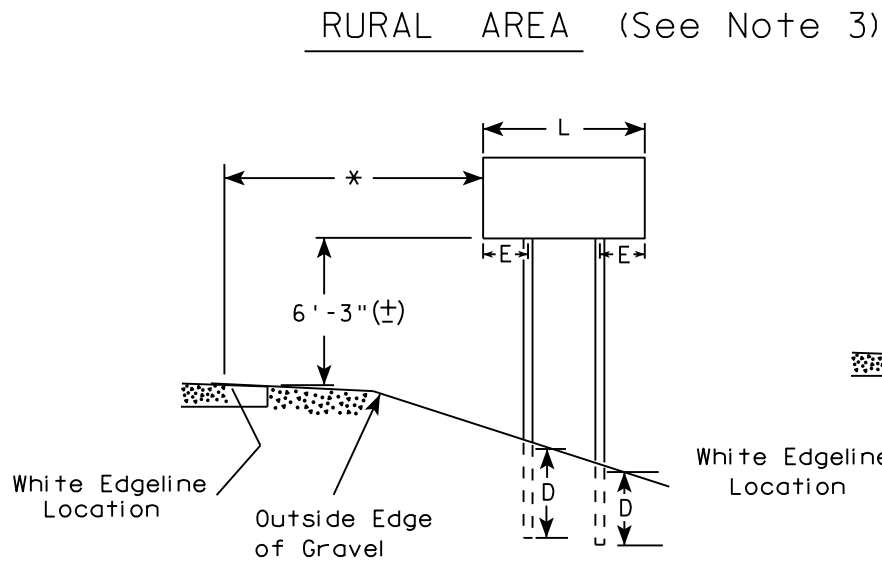
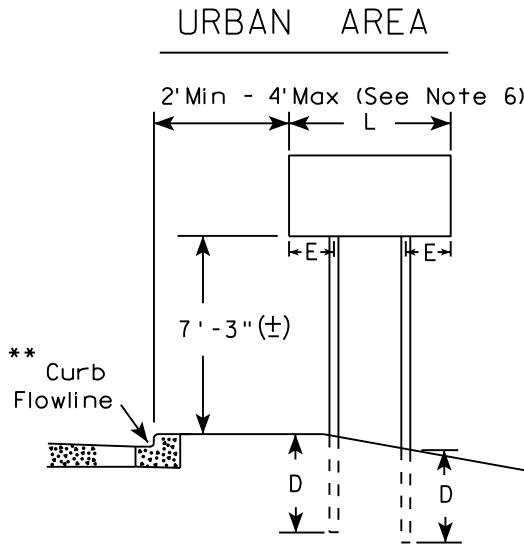
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

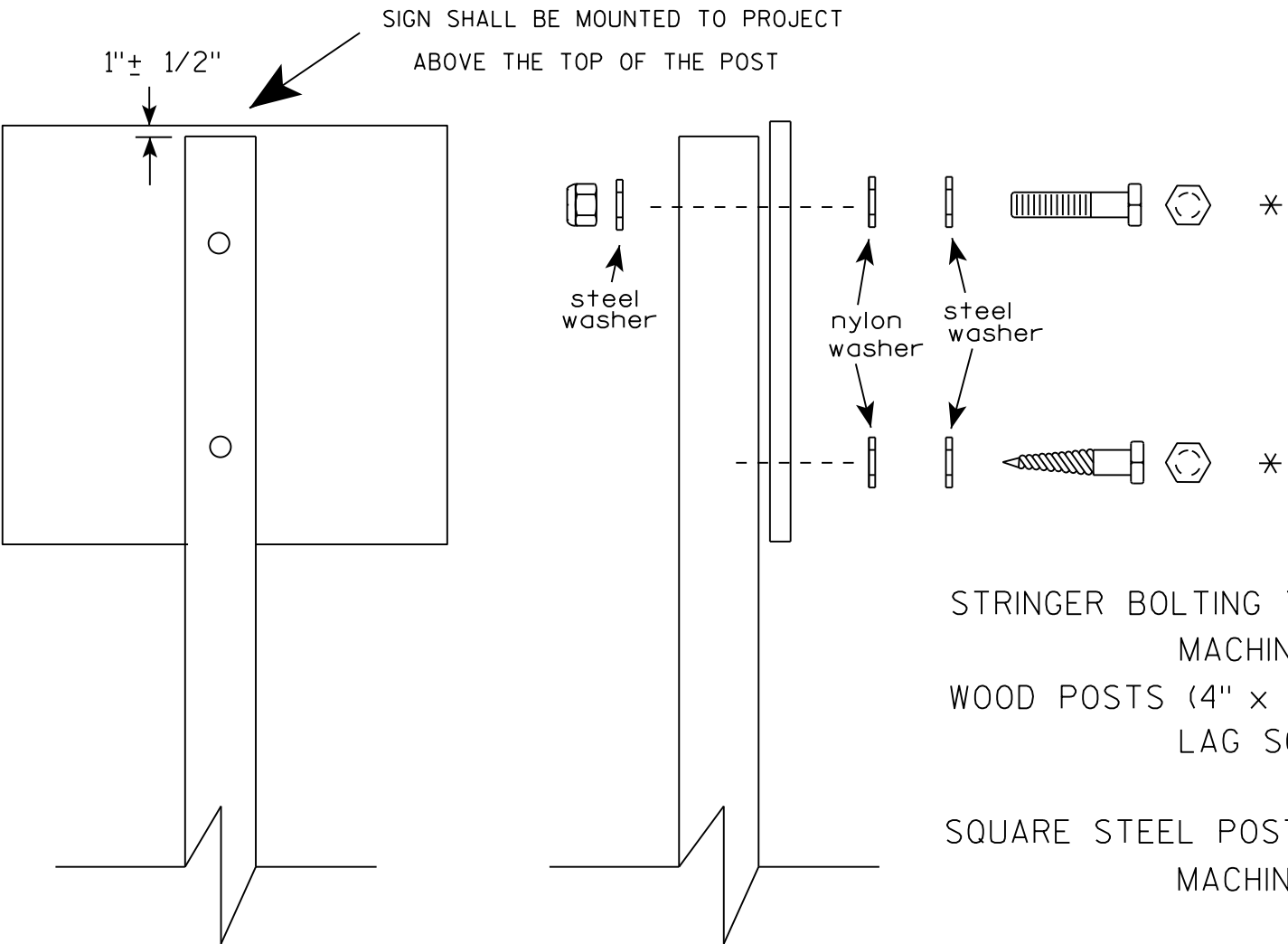
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

- GENERAL NOTES
1. For 3 or 4 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. J-Assemblies are considered to be one sign for mounting height.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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 and less than 20 S.F. in area.



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

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

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

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

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

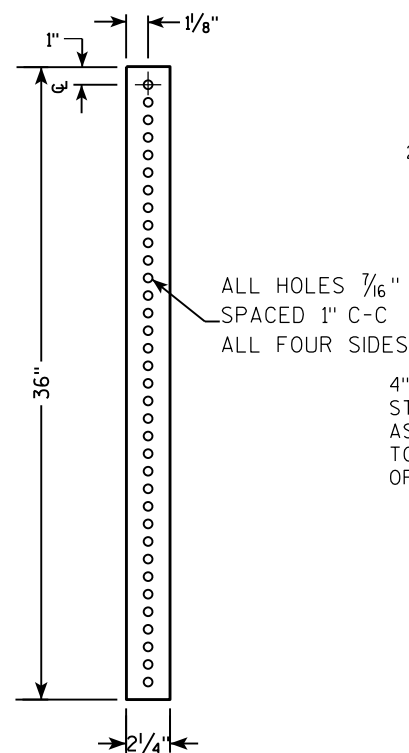
ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

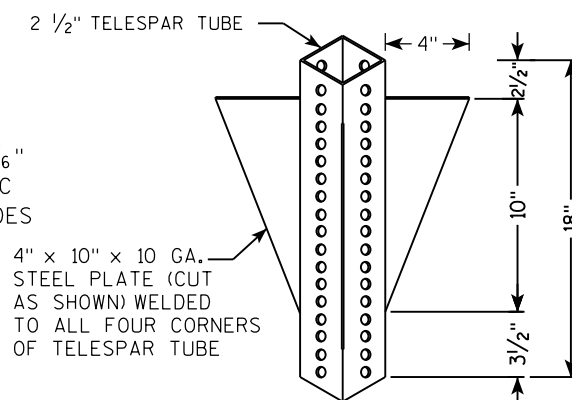
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

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



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



The diagram illustrates the construction of a sign post. The main vertical component is a 2" steel tubular square upper section, which has all holes 7/16" spaced 1' center-to-center on all four sides. At the top, there is a sign plate (A4-8) secured with bolt washers and nuts. Below the upper section, the post transitions into a larger sleeve made of 2 1/2" square x 36" material. This sleeve contains two horizontal sections of 2 1/2" square x 18" soil stabilizing sleeves. These sleeves are filled with gravel or dirt and anchored at both ends with 3/8" zinc plated corner anchor bolts and nuts. A 36" long PVC box-out (18" diameter schedule 40) is positioned around the lower part of the post, with telescope pieces flush at the top. Dimensions include a total height of 36" for the lower section, an 18" length for the soil stabilizing sleeves, and a 13" gap between them.

SIGN

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

2" STEEL TUBULAR
SQUARE UPPER SECTION

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

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

2 1/2" GRAVEL OR DIRT

TELESCOPE PIECES
FLUSH AT TOP

18" DIA SCHEDULE
40 PVC
BOX-OUT

36"

18"

13"

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

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

2 1/4" SQUARE X 36"

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

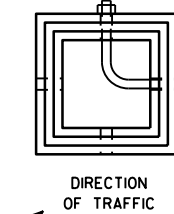
Side View Dimensions:

- Overall height: LENGTH SHOWN ON MISC. Q'TYS
- Section A-A: 36" (Total height of the main post section)
- Section B-B: 18" (Height of the upper section)
- Section C-C: 12" (Height of the lower section)

End View Details:

- Top Section:** 2" STEEL TUBULAR SQUARE UPPER SECTION. ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C. ALL FOUR SIDES.
- Sign Mounting:** SIGN (indicated by arrow). SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL.
- Anchor Bolts:** $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT (indicated by arrow).
- Soil Stabilizing Sleeve:** 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE) (indicated by arrow).
- Post Section:** 2 1/4" SQUARE X 36" (indicated by arrow).
- Telescope Pieces:** TELESCOPE PIECES FLUSH AT TOP (indicated by arrow).

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthaeus R. Rauch

for State Traffic Engineer

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

PROJECT NO:

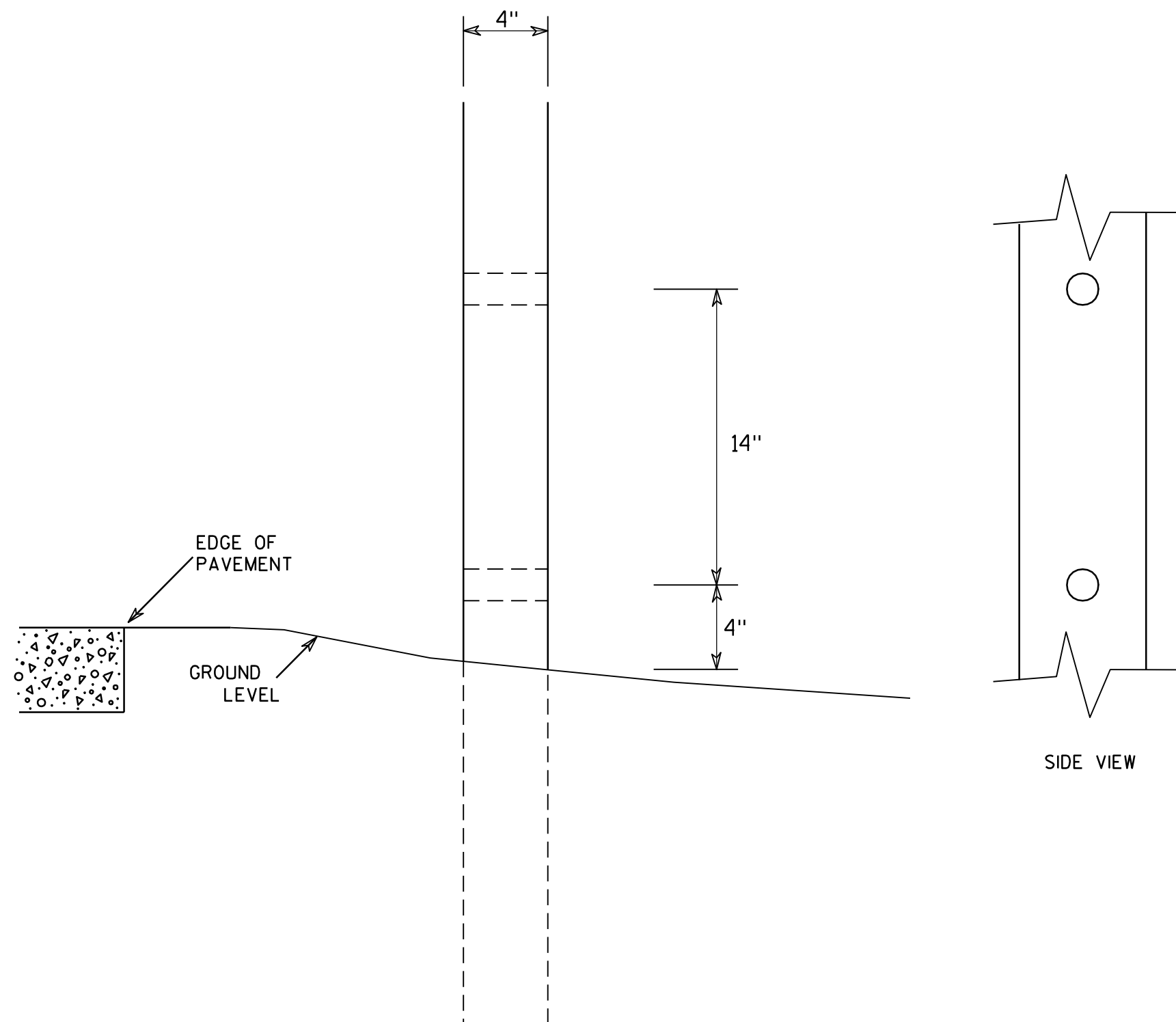
HWY:

COUNTY:

SHEET NO:

E

7



GENERAL NOTES

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

SIDE VIEW

4 X 6 WOOD POST
MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

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

PROJECT NO:

HWY:

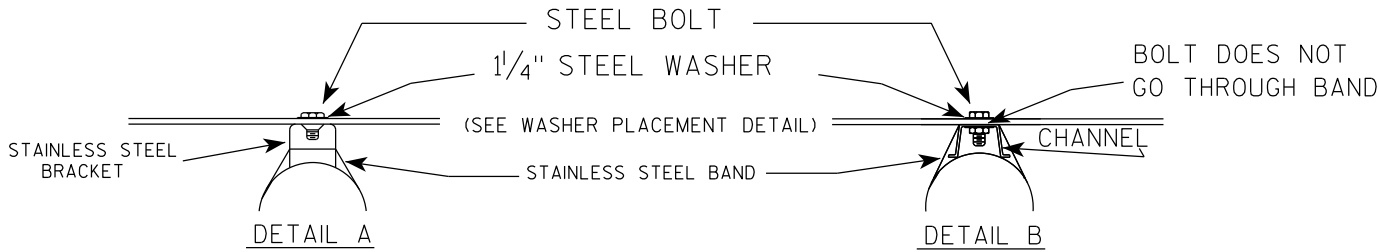
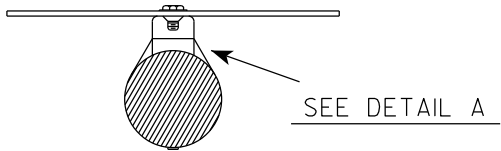
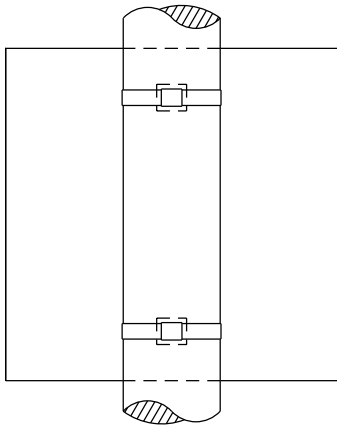
COUNTY:

SHEET NO:

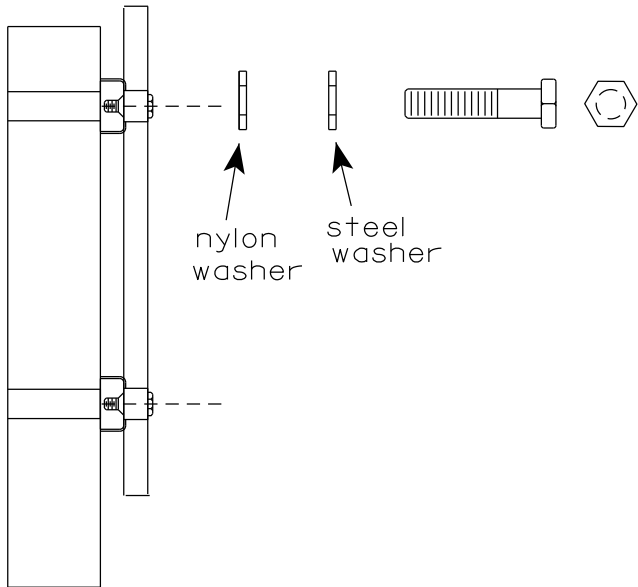
B

BANDING

SINGLE SIGN



WASHER PLACEMENT

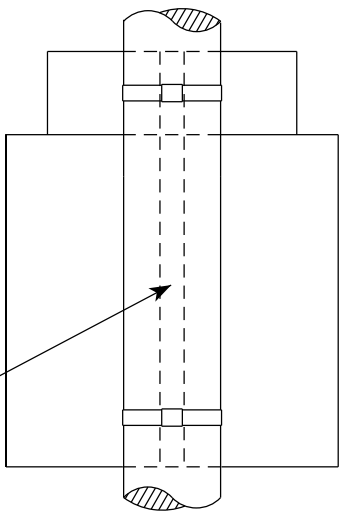


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

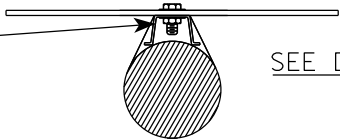
GENERAL NOTES

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

"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

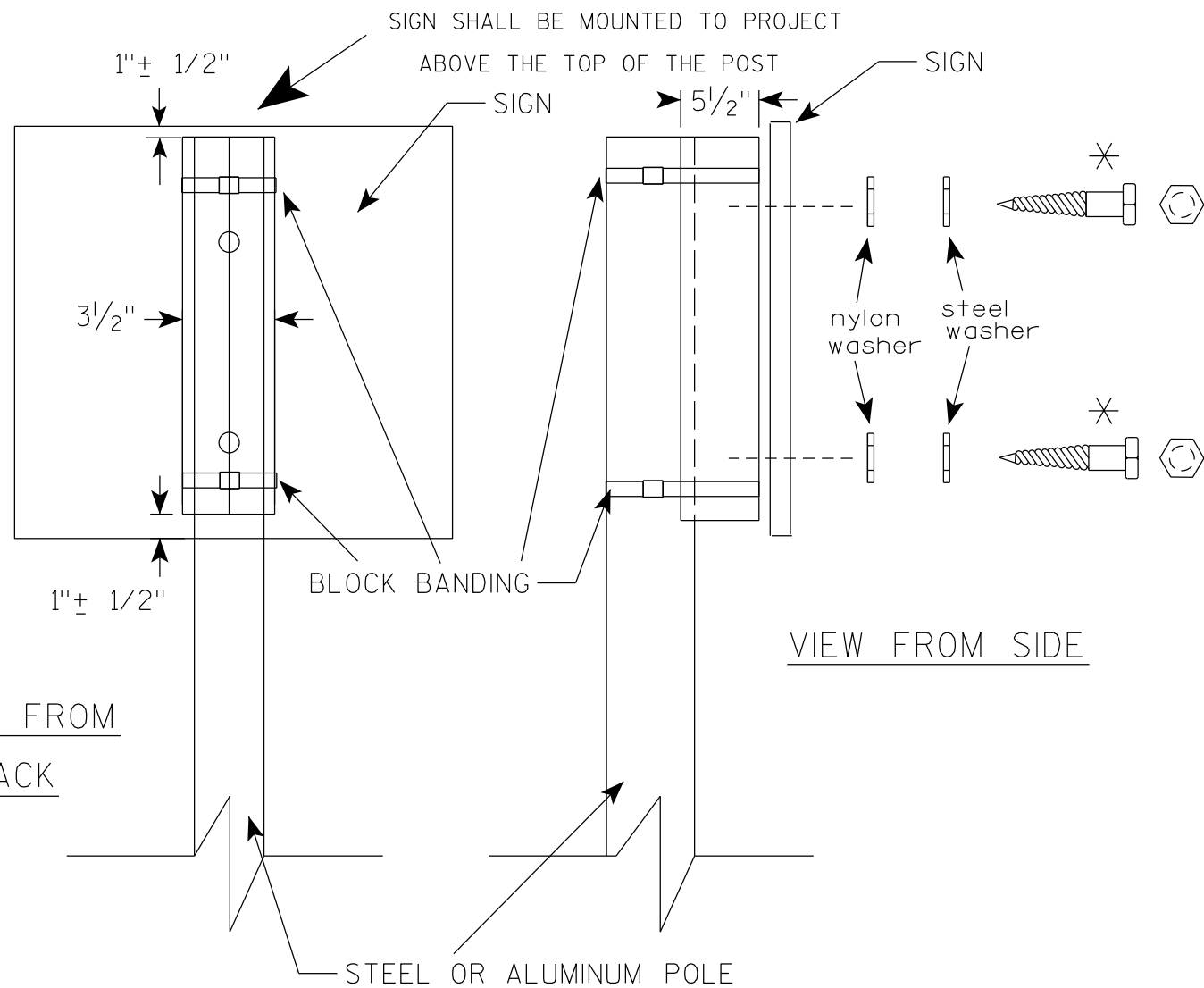


STANDARD SIGN
SIGN BANDING DETAILS

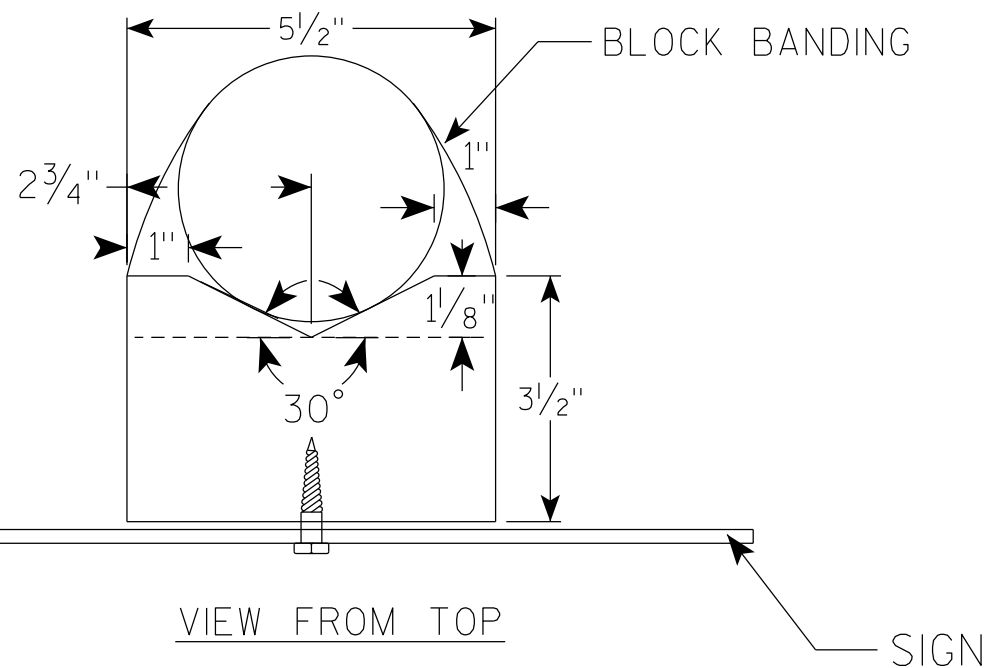
WISCONSIN DEPT OF TRANSPORTATION

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

VIEW FROM
BACK



VIEW FROM SIDE



GENERAL NOTES

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

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

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

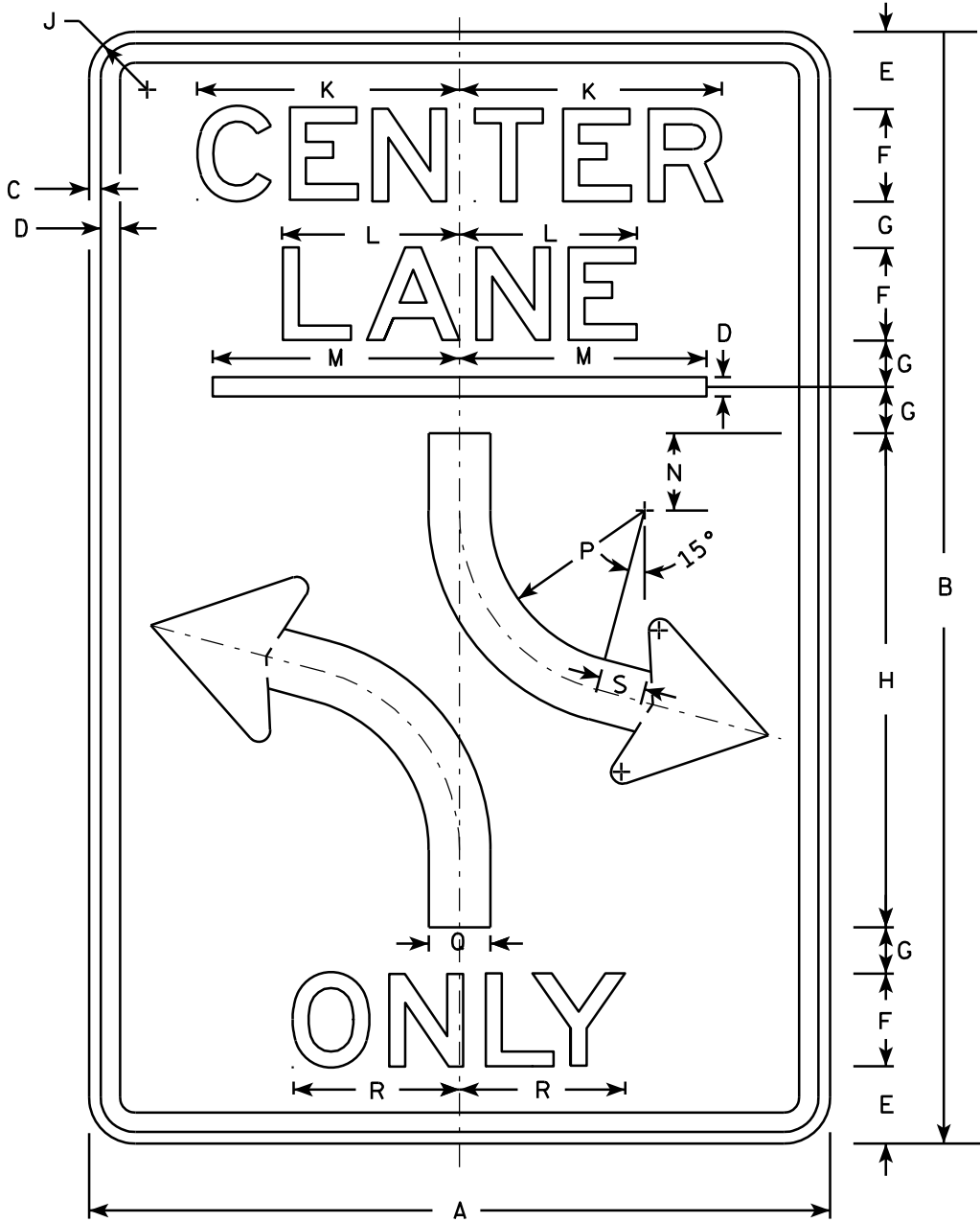
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:

SHEET NO:

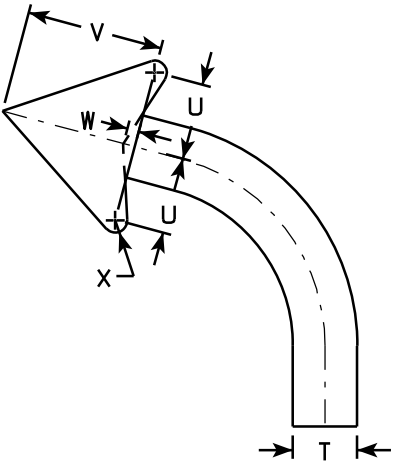
E



R3-9B

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.



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	36	$\frac{3}{8}$	$\frac{1}{2}$	2 $\frac{1}{2}$	3	1 $\frac{1}{2}$	16		1 $\frac{1}{2}$	8 $\frac{1}{2}$	5 $\frac{3}{4}$	8	2 $\frac{1}{2}$		6	2	5 $\frac{1}{8}$	1 $\frac{1}{2}$		2 $\frac{3}{8}$	4 $\frac{3}{8}$	$\frac{3}{8}$				6.0
2M	24	36	$\frac{3}{8}$	$\frac{1}{2}$	2 $\frac{1}{2}$	3	1 $\frac{1}{2}$	16		1 $\frac{1}{2}$	8 $\frac{1}{2}$	5 $\frac{3}{4}$	8	2 $\frac{1}{2}$		6	2	5 $\frac{1}{8}$	1 $\frac{1}{2}$		2 $\frac{3}{8}$	4 $\frac{3}{8}$	$\frac{3}{8}$				6.0
3	36	48	$\frac{5}{8}$	$\frac{7}{8}$	3 $\frac{1}{2}$	5	1 $\frac{1}{2}$	20		2 $\frac{1}{4}$	14 $\frac{1}{8}$	9 $\frac{1}{2}$	12	3		4	3	9 $\frac{7}{8}$	2		3 $\frac{1}{2}$	6 $\frac{1}{8}$	$\frac{1}{2}$				12.0
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN
R3-9B

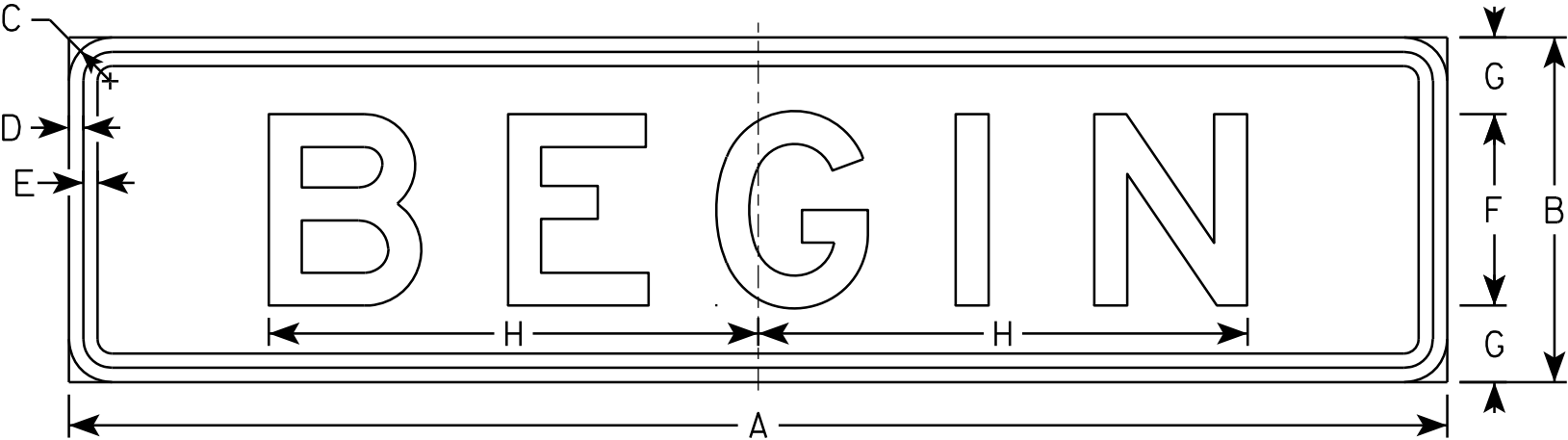
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

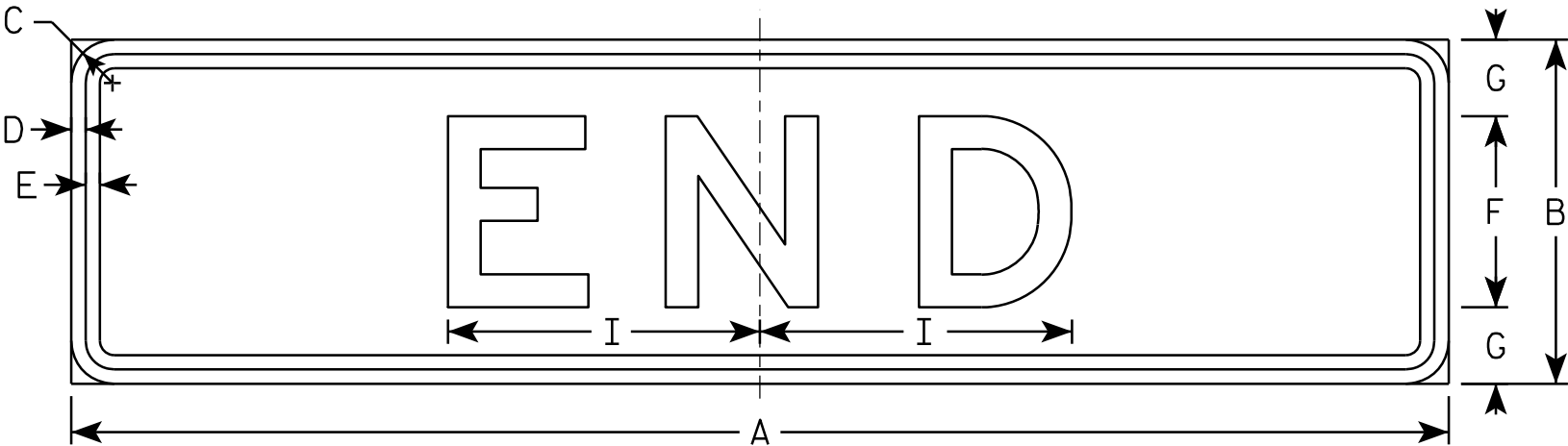
DATE 3/24/2011 PLATE NO. R3-9B.5

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.



R3-9C



R3-9D

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	6	1 1/8	3/8	3/8	3	1 1/2	7 3/4	4 7/8																		1.0
2M	24	6	1 1/8	3/8	3/8	3	1 1/2	7 3/4	4 7/8																		1.0
3	36	9	1 1/8	3/8	3/8	5	2	12 3/4	8 1/8																		1.86
4																											
5																											

STANDARD SIGN
R3-9C & R3-9D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

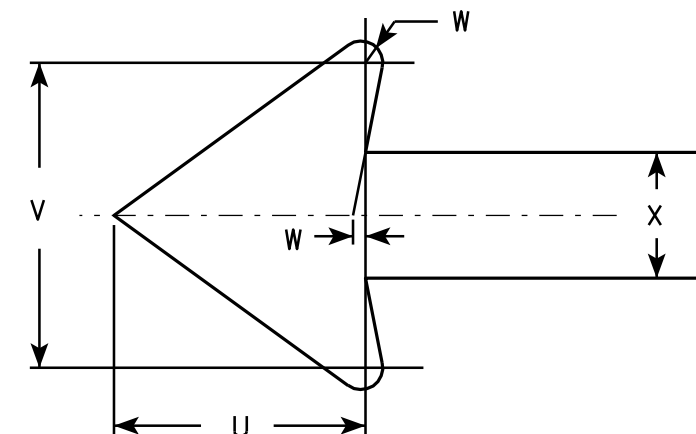
DATE 3/24/2011 PLATE NO. R3-9C.2



R7-1

NOTES

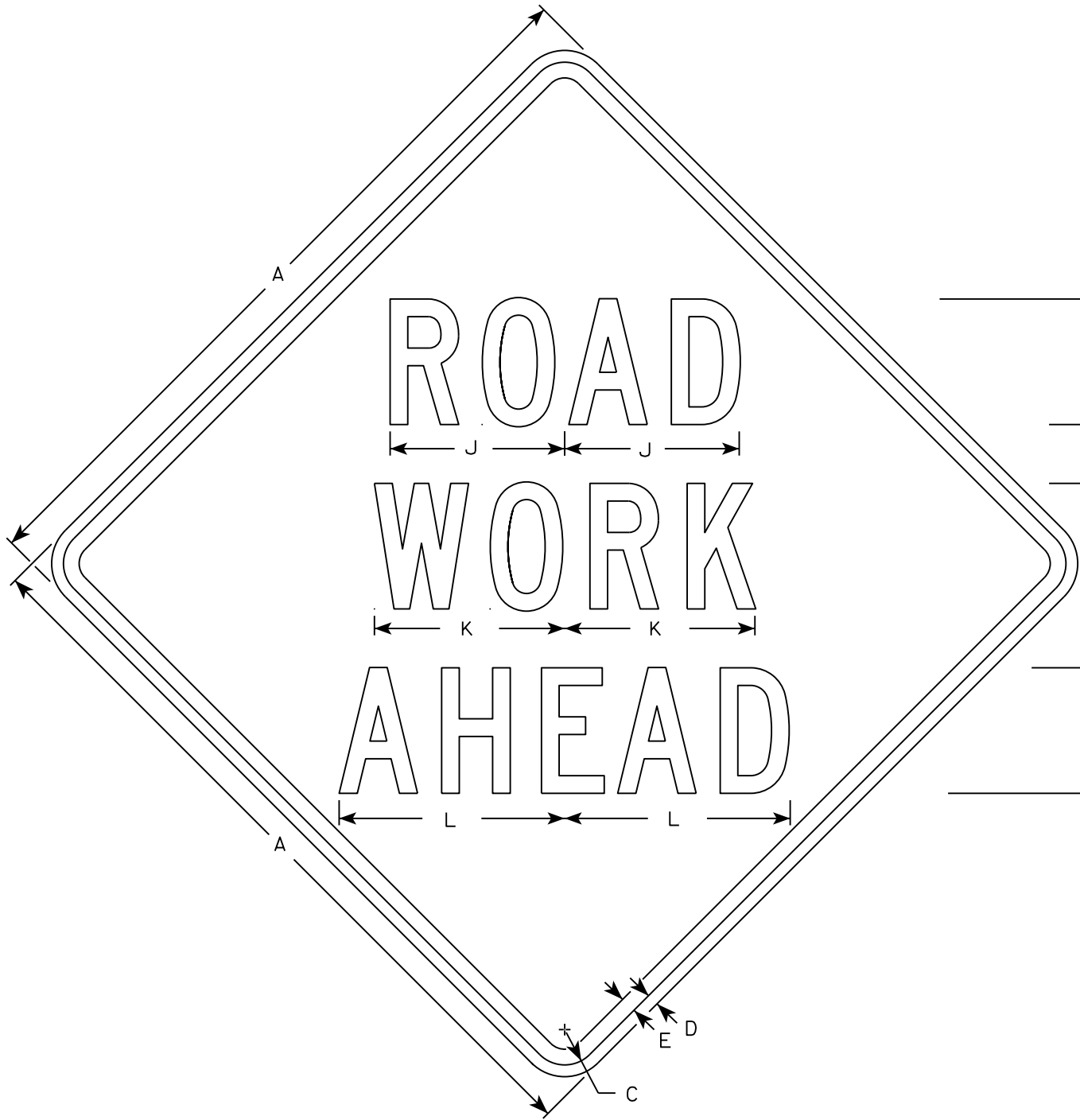
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded 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)



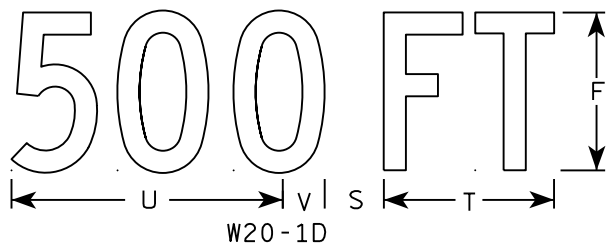
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	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	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/31/2011	PLATE NO. R7-1.9

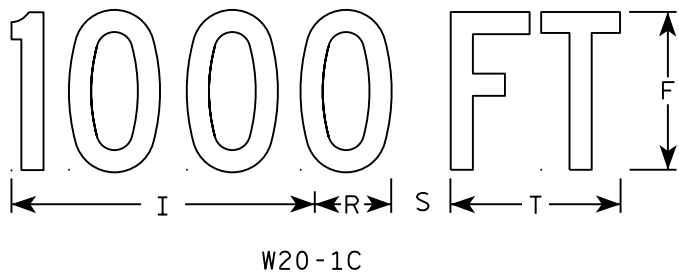
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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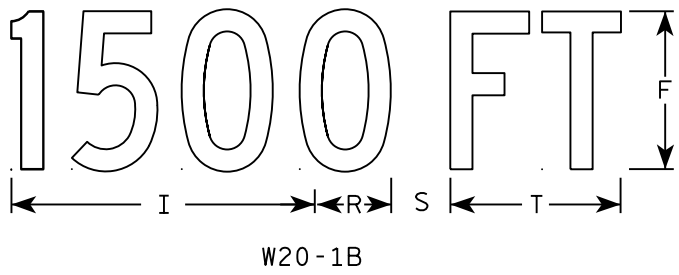
W20-1A



W20-1D



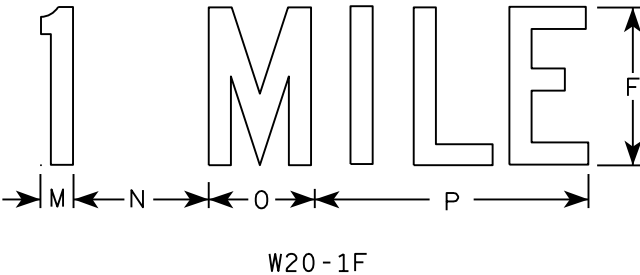
W20-1C



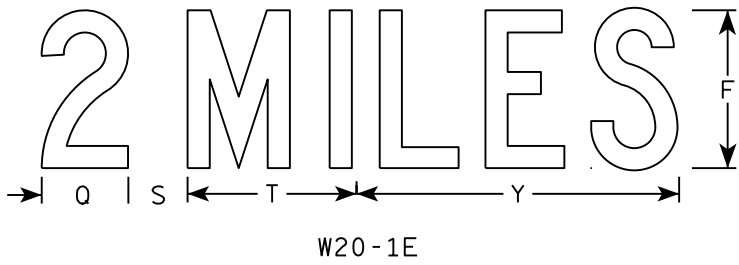
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

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

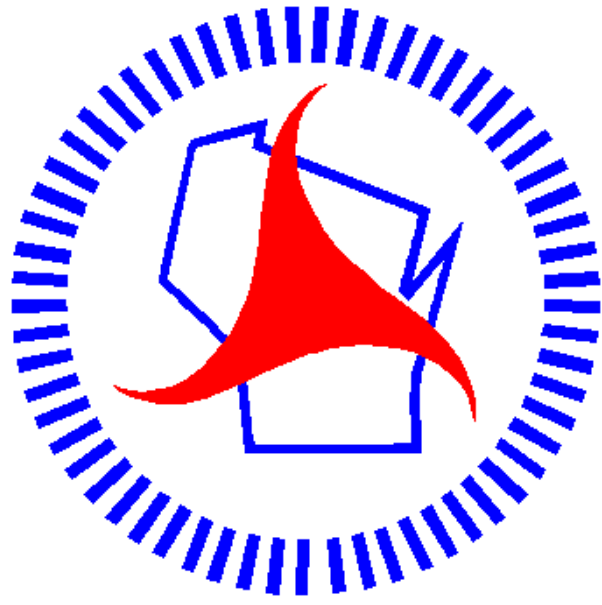
STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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