MAD APRIL 2015

PROJECT ID: 5301-04-74

COUNTY: DANE COUNTY

ORDER OF SHEETS

TOTAL SHEETS = 180

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

SAUK CITY - MADISON

(CTH K INTERSECTION)

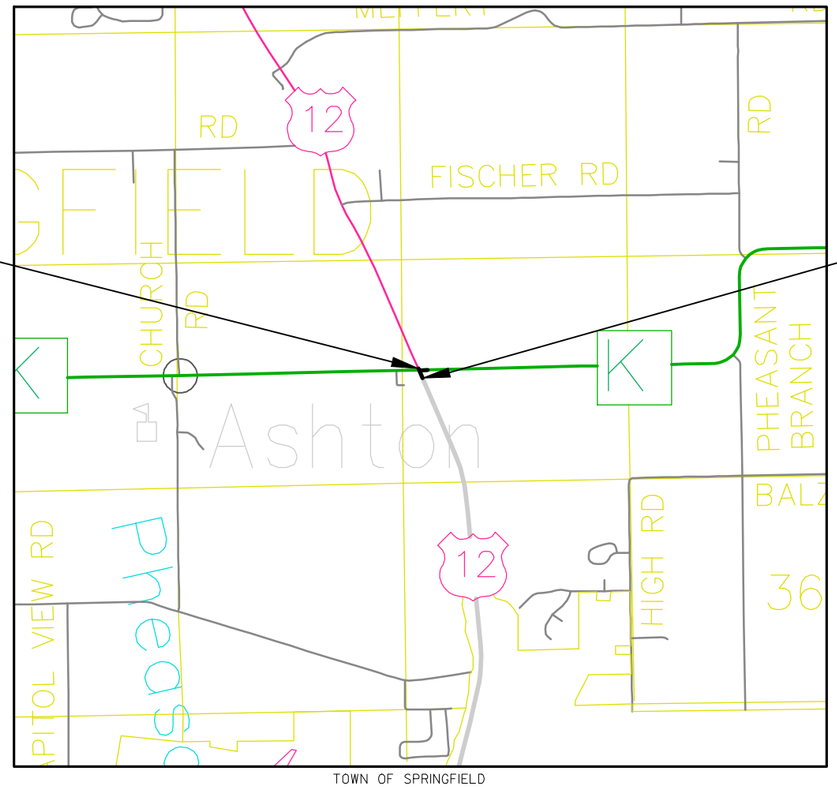
USH 12

DANE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5301-04-74	WISC 2015177	1

STATE PROJECT NUMBER
5301-04-74

R-7-E



T-8-N

TOWN OF SPRINGFIELD

BEGIN PROJECT
STA. 1770+15
X=784,880.68
Y=506,806.11

END PROJECT
STA. 1771+55

DESIGN DESIGNATION

A.A.D.T.	2015	=	30,200
A.A.D.T.	2025	=	34,100
D.H.V.		=	3649
D.D.		=	60/40
T.		=	7%
DESIGN SPEED		=	60 MPH
ESALS		=	9,400,000

CONVENTIONAL SYMBOLS

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

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

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 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.027 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN AARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM, NAVD 88 (2007).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JOHN MORAN
Designer	VALERIE GUIDER
Project Manager	AMY COUGHLIN
Regional Examiner	
Regional Supervisor	BRENDA SCHOENFELD

APPROVED FOR THE DEPARTMENT

DATE: 10/30/14 Brenda Schoenfeld (Signature)

E

2

GENERAL NOTES

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 lb/sy/in.

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

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

ALL COORDINATES SHOWN ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM - DANE COUNTY.

SECTIONS AS SHOWN ON THE CROSS-SECTIONS INCLUDE THE THICKNESS OF TOPSOIL. TOPSOIL SHALL BE AT A 4-INCH MINIMUM DEPTH.

DISTURBED AREAS WITHIN THE RIGHT OF WAY AND/OR TEMPORARY INTEREST ARE TO BE FERTILIZED, SEEDED AND MULCHED/EROSION MATTED AS DIRECTED BY THE ENGINEER.

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

ESTIMATE QUANTITIES OF SALVAGED TOPSOIL, SEEDING, MULCHING AND FERTILIZER HAVE BEEN COMPUTED BY A DIRECT MEASUREMENT ON THE CROSS-SECTION PLUS FIVE (5) FEET BEYOND THE TOE OF SLOPE.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS, ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY, THE PRIME CONTRACTOR IS RESPONSIBLE FOR REMOVING THESE ITEMS WHEN NO LONGER NECESSARY.

NUMBER, LOCATION, AND SPACING OF SIGNS AND DEVICES, AS SHOWN IN THE PLANS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

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

STORM SEWER PIPE ELEVATION, LENGTHS AND LOCATIONS, AS SHOWN ON THE PLANS, MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

INLET PROTECTION IS REQUIRED AT ALL INLETS AS PER DETAIL OR AS DIRECTED BY THE ENGINEER.

ALL CONCRETE PIPE SHALL HAVE THE APRON ENDWALL AND THE FIRST TWO PIPE JOINTS TIED AT THE JOINTS (3 JOINTS TOTAL). JOINT TIES SHALL BE INCIDENTAL TO THE ITEM OF CPRC.

PLACE THE 6" ASPHALTIC SURFACE PAVEMENT IN THREE LAYERS.

LOCATIONS SHOWN ON THE STORM SEWER SHEET FOR INLETS AND MANHOLES ARE BY STATION AND OFFSET TO THE CENTER OF THE STRUCTURE (SEE DETAILS).

ALL CURB AND GUTTER RADII ARE MEASURED TO FLAG OF CURB UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL EXERCISE EXTREME CARE SO AS NOT TO DAMAGE PAVEMENT STRUCTURE WHEN REMOVING EXISTING LANES OR SHOULDER MATERIAL. IF DAMAGE OCCURS DURING REMOVAL OF THE LANE OR SHOULDER MATERIAL, ALL REPAIRS WILL BE DONE AT THE CONTRACTOR'S EXPENSE.

SOIL BORING SUMMARY TABLE					
STA 99+08 X	STA 100+08 X	STA 100+87 X	STA 101+47 X	STA 101+87 X	STA 103+08 X
59' LT	107' RT	92' LT	73' RT	67' RT	4' LT
1' TOPSOIL	1' GRAVEL	0.5' GRAVEL	2' TOPSOIL	5' TOPSOIL	0.5' ASPHALT
1' CLAY	4' SAND	14.5' CLAY	1' GRAVEL	2' CLAY	0.75' BASE COURSE
3' SILTY SAND	6' SILTY SAND		10' CLAY		3.75' GRAVEL
8' CLAY	4' SAND		2' BROWN SILT		
2' SAND					

NOTES: BORINGS TAKEN MARCH 10, 2014
ALL DEPTHS ARE IN FEET

UTILITY CONTACTS

CAROL ANASON
AT&T WISCONSIN - COMMUNICATION LINE
316 W WASHINGTON AVE
MADISON, WI 53701
(608) 252-2385 OFFICE
(920) 475-2799 MOBILE
CA2624@ATT.COM

STEVE BEVERSDORF
MADISON GAS AND ELECTRIC COMPANY - GAS/PETROLEUM
133 S. BLAIR ST.
MADISON, WI 53788
(608) 252-1552 OFFICE
(608) 444-9620 MOBILE
SBEVERSDORF@MGE.COM

JERRY MYERS
TDS TELECOM - COMMUNICATION LINE
525 JUNCTION RD
MADISON, WI 53717
(608) 664-4404 OFFICE
(608) 279-7104 MOBILE
JERRY.MYERS@TDSTELECOM.COM

RICH PARKER
MADISON GAS AND ELECTRIC COMPANY - ELECTRICITY
133 S. BLAIR ST.
MADISON, WI 53788
(608) 252-7379 OFFICE
(608) 444-9619 MOBILE
RPARKER@MGE.COM

JEFF MADSON
WISCONSIN DEPARTMENT OF TRANSPORTATION - COMMUNICATION LINE
STE. 300
433 W. ST. PAUL AVE.
MILWAUKEE, WI 53203-3007
(414) 225-3723
JEFFREY.MADSON@DOT.WI.GOV

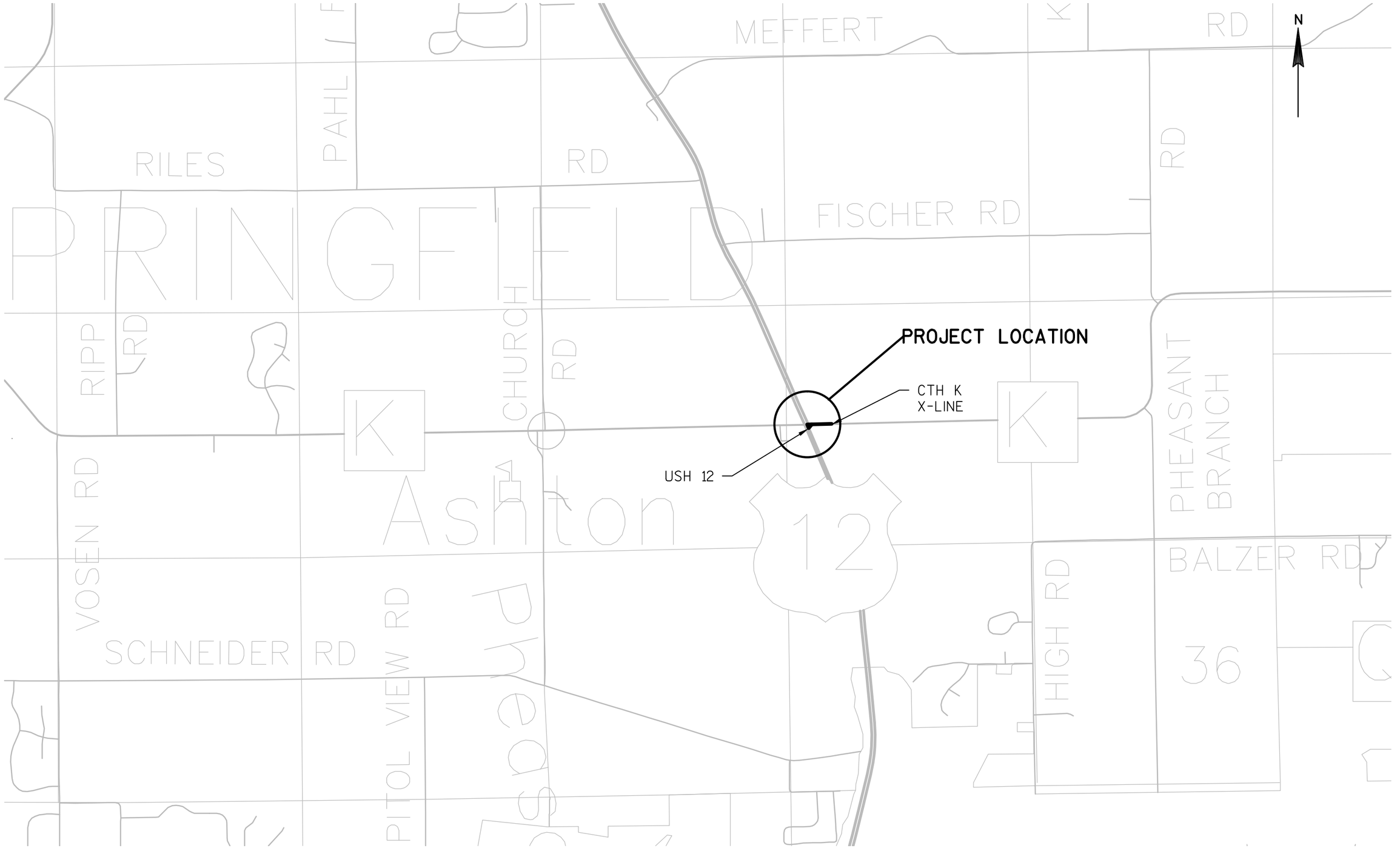
WI DEPARTMENT OF NATURAL RECOURCES LIASON

ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711-5397
(608) 275-3301
ERIC.HEGGELUND@WISCONSIN.GOV

DESIGN CONTACTS

PROJECT LEADER
VALERIE GUIDER
DEPT. OF TRANSPORTATION
2101 WRIGHT ST.
MADISON, WI. 53704
(608) 246-3254

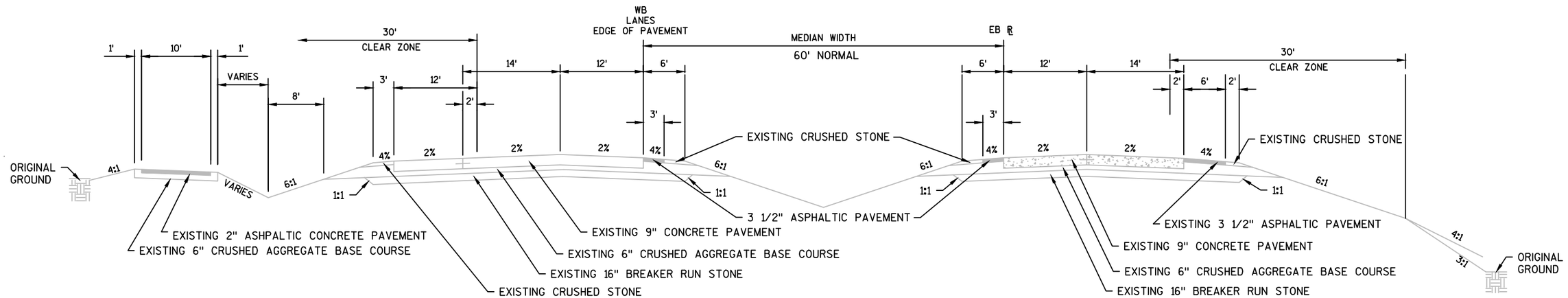
PROJECT MANAGER
AMY COUGHLIN
DEPT. OF TRANSPORTATION
2101 WRIGHT ST.
MADISON, WI. 53704
(608) 245-5358



PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	PROJECT OVERVIEW	SHEET 3	E

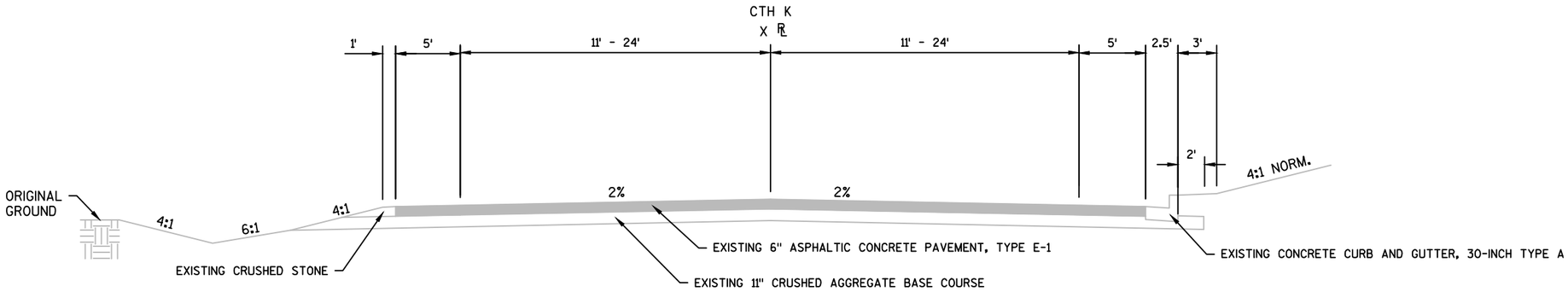
FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\020201_PO.DWG PLOT DATE : 10/8/2014 4:32 PM PLOT BY : BREGAUDIT, CHARLENE PLOT NAME : PLOT SCALE : 1 IN:2000 FT

WISDOT/CADDS SHEET 42



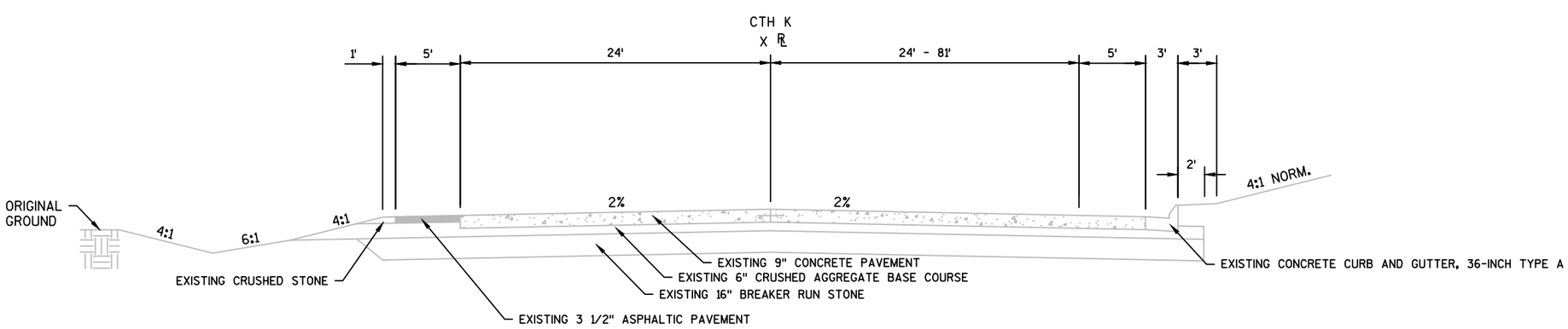
EXISTING TYPICAL SECTION
USH 12

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS	SHEET 4	E



EXISTING TYPICAL SECTION

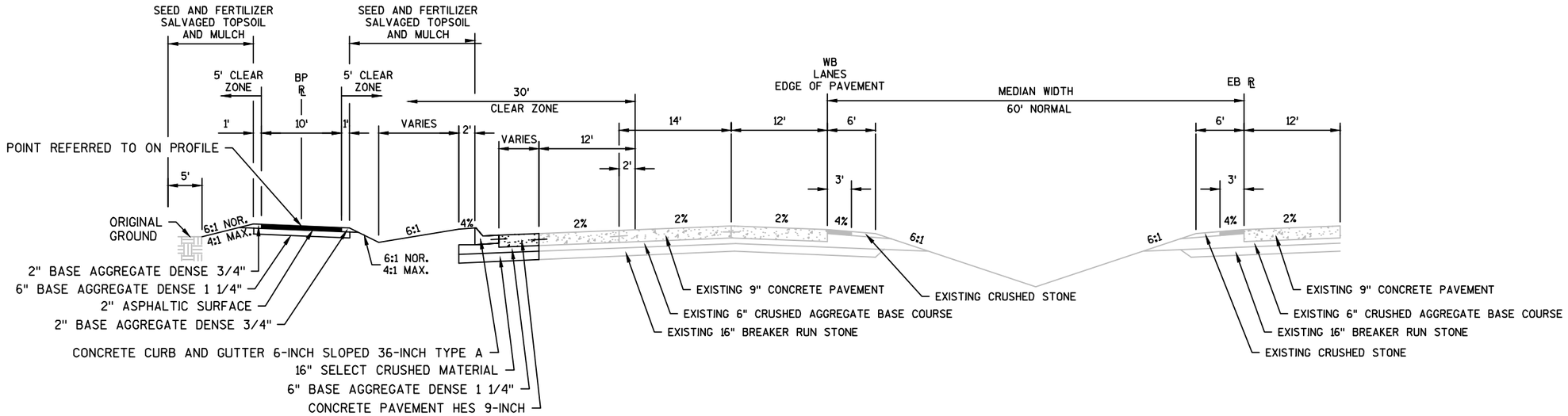
CTH K
STA. 101+75.59 X TO STA. 105+50 X



EXISTING TYPICAL SECTION

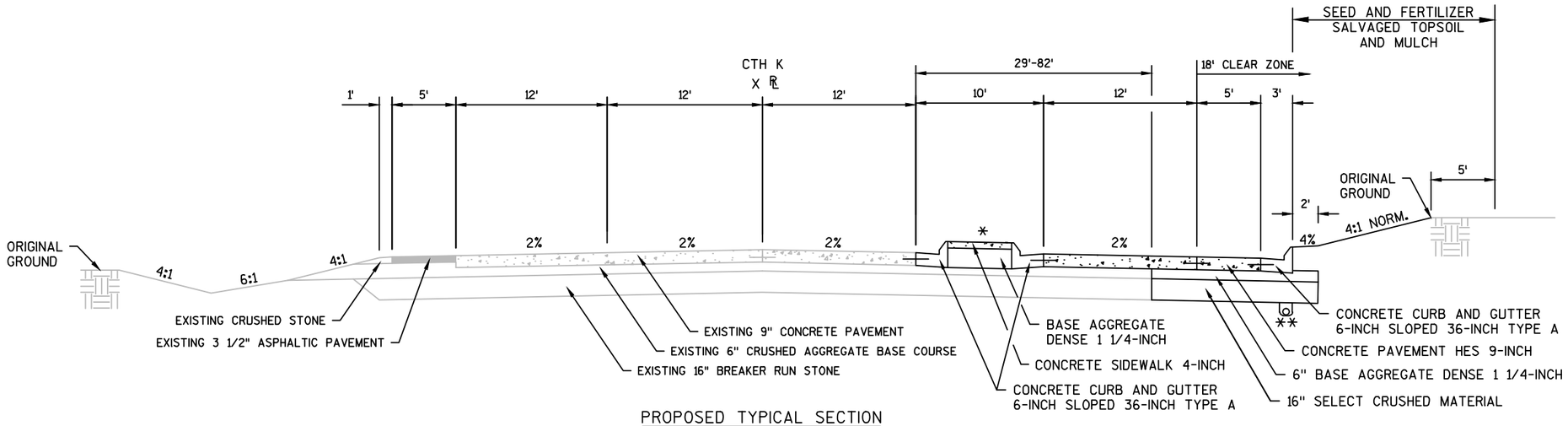
CTH K
STA. 101+10 X TO STA. 101+75.59 X

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	PLAN: TYPICAL SECTIONS	SHEET 5	E



PROPOSED TYPICAL SECTION
USH 12

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS	SHEET 6	E

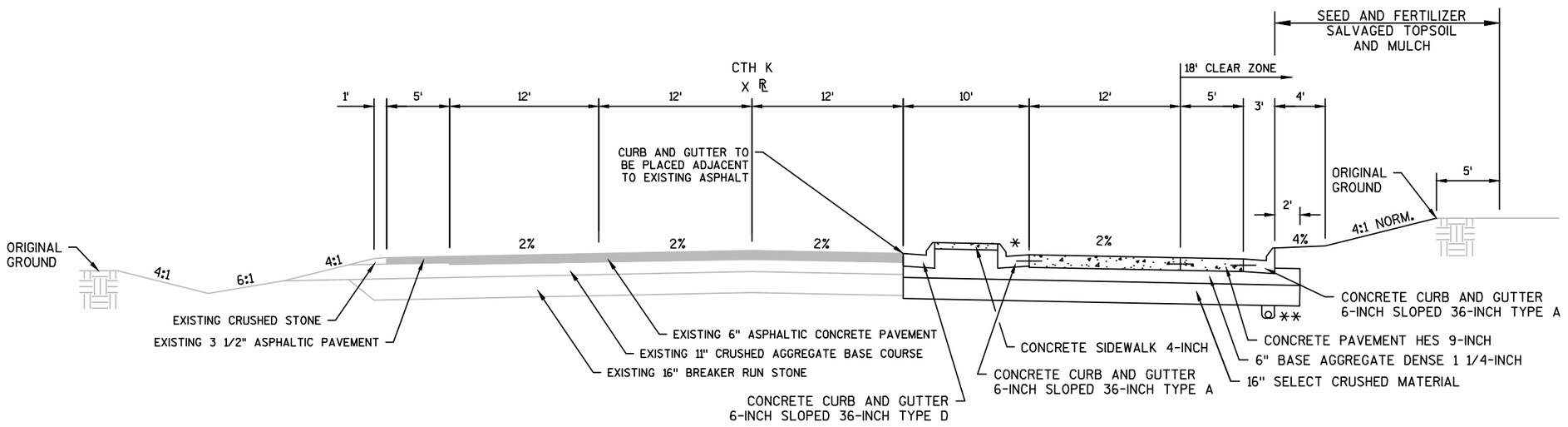


PROPOSED TYPICAL SECTION

CTH K
STA. 101+10 X TO STA. 101+75.59 X

* NO MEDIAN STA. 101+10 X-STA. 101+33.29 X

**SEE UNDERDRAIN DETAIL



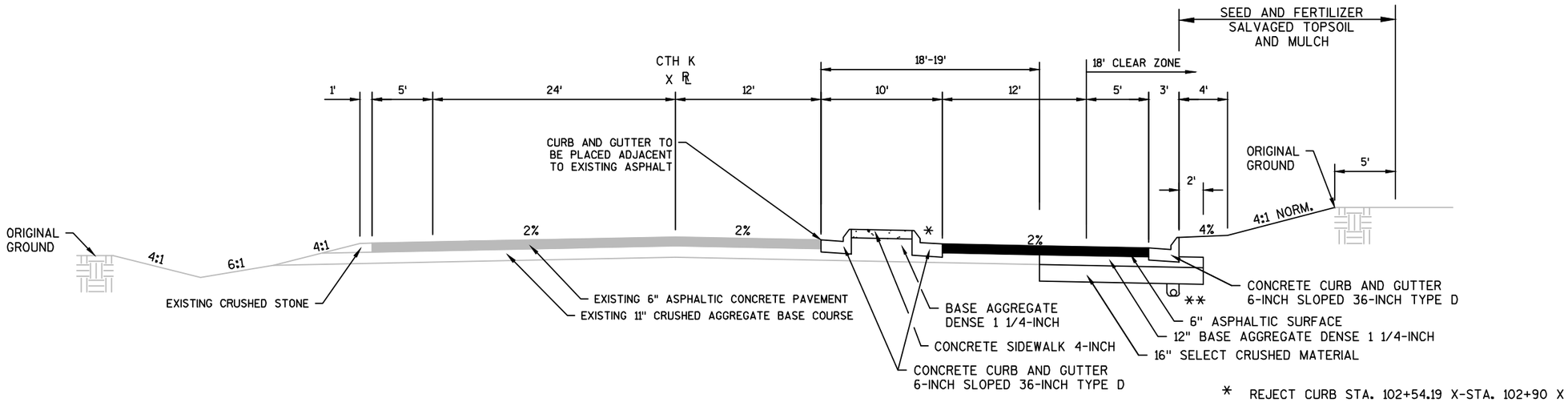
PROPOSED TYPICAL SECTION

CTH K
STA. 101+75.59 X TO STA. 102+54.19 X

* REJECT CURB STA. 102+00 X-STA. 102+54.19 X

**SEE UNDERDRAIN DETAIL

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS	SHEET 7	E

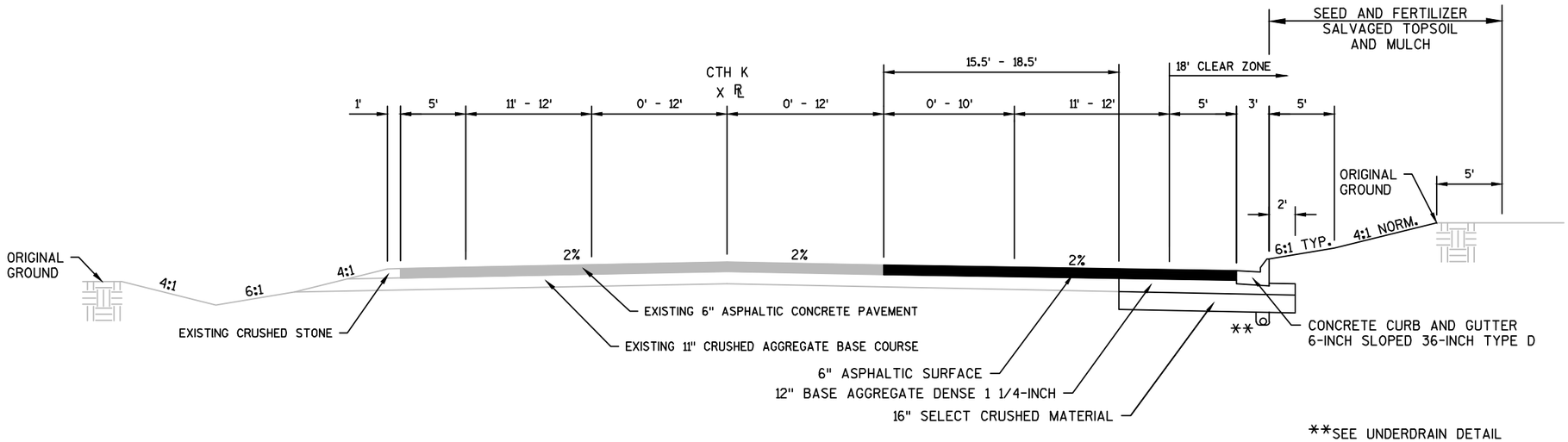


* REJECT CURB STA. 102+54.19 X-STA. 102+90 X

**SEE UNDERDRAIN DETAIL

PROPOSED TYPICAL SECTION

CTH K
STA. 102+54.19 X TO STA. 102+95.5 X

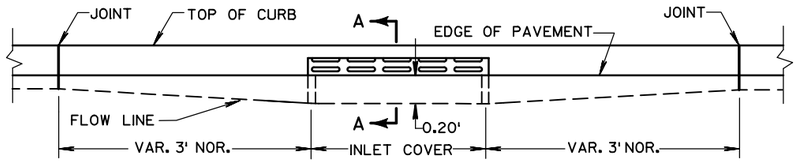


**SEE UNDERDRAIN DETAIL

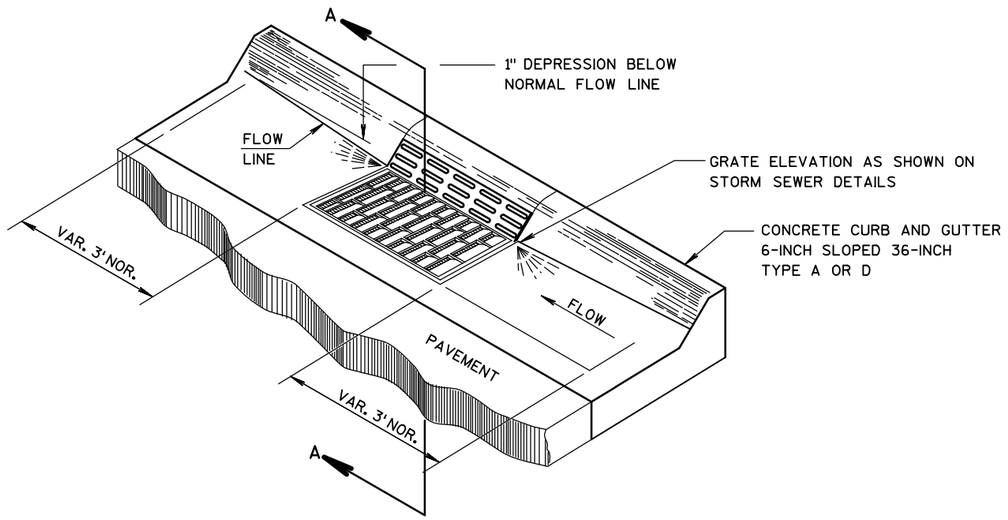
PROPOSED TYPICAL SECTION

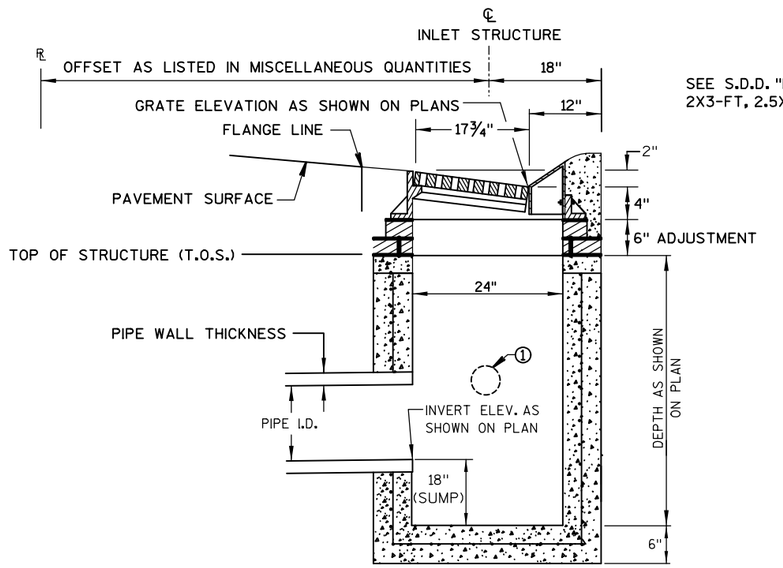
CTH K
STA. 102+95.5 X TO STA. 105+50 X

PROJECT NO:5301-04-74	HWY:USH 12	COUNTY:DANE	TYPICAL SECTIONS	SHEET 8	E



ELEVATION





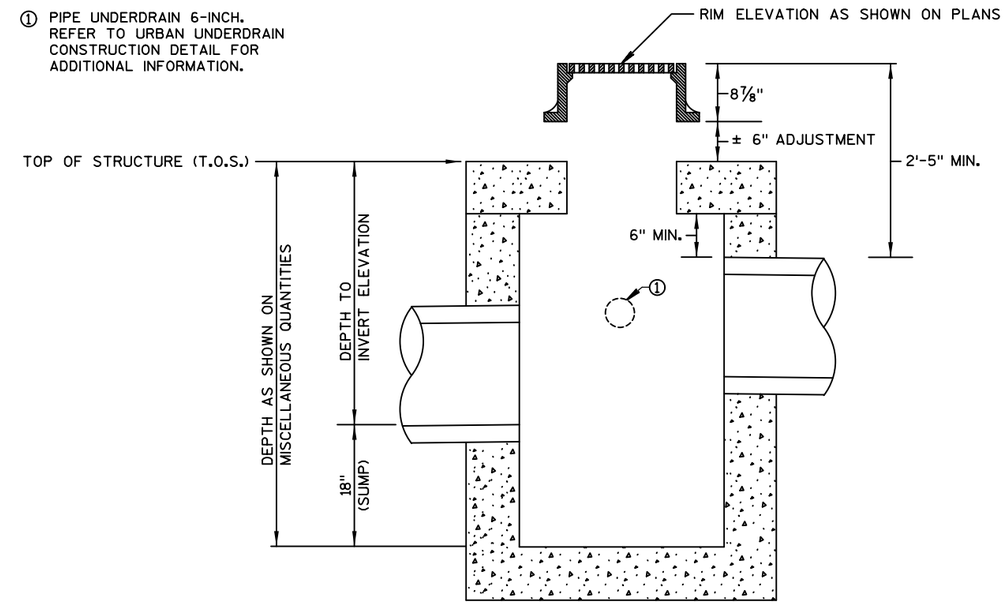
SEE S.D.D. "INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT" FOR ADDITIONAL INFORMATION.

① PIPE UNDERDRAIN 6-INCH. REFER TO URBAN UNDERDRAIN CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

SECTION A-A
(INLETS 2X3-FT - HM SHOWN)

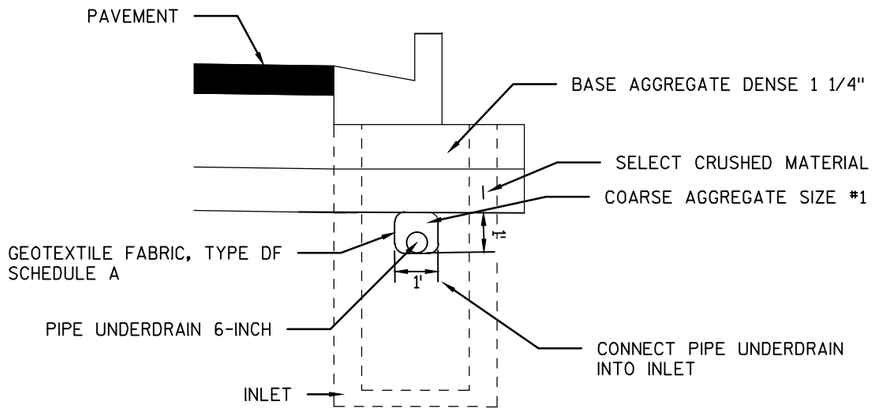
CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A OR D AT INLETS

① PIPE UNDERDRAIN 6-INCH. REFER TO URBAN UNDERDRAIN CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

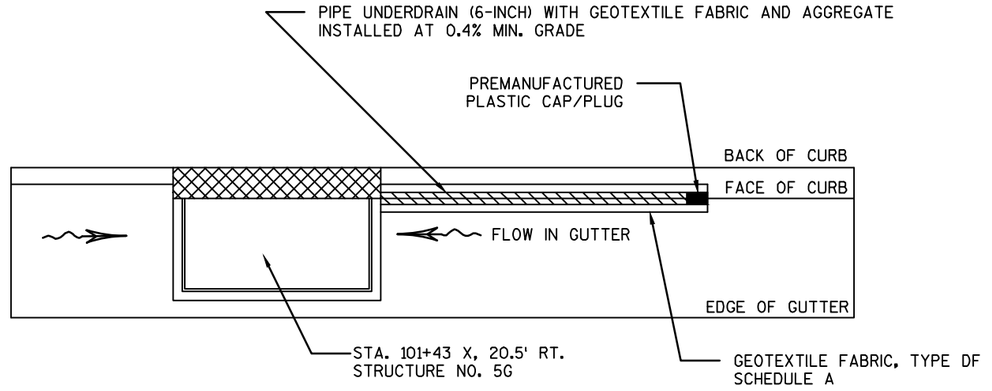


(MANHOLES 5-FT DIAMETER SHOWN)

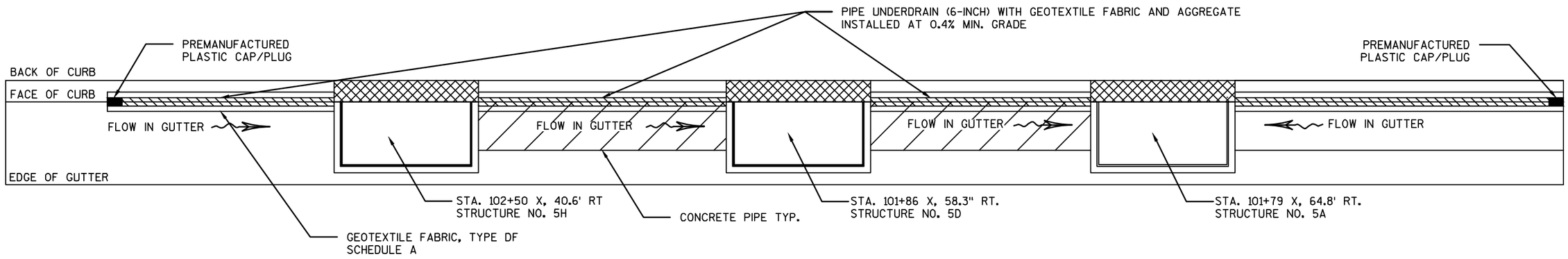
DETAIL FOR COMPUTING MANHOLE ELEVATIONS



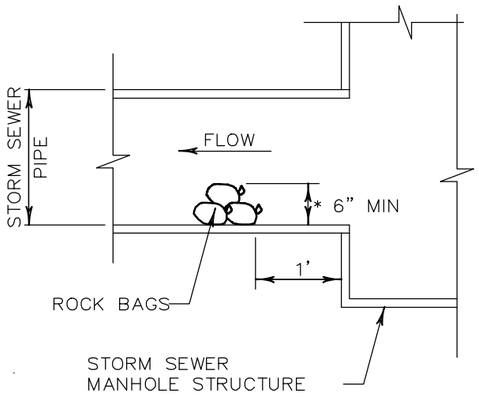
NOTE: PAYMENT FOR UNDERDRAIN CORE HOLES IS INCLUDED IN THE RESPECTIVE INLET BID ITEM.



URBAN UNDERDRAIN CONSTRUCTION DETAIL
STA. 101+43 X TO 101+60 X RT



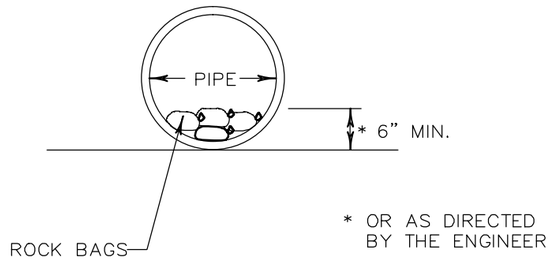
URBAN UNDERDRAIN CONSTRUCTION DETAIL
STA. 101+55 X TO 103+00 X RT



SIDE VIEW

INSTALL ON INLET END

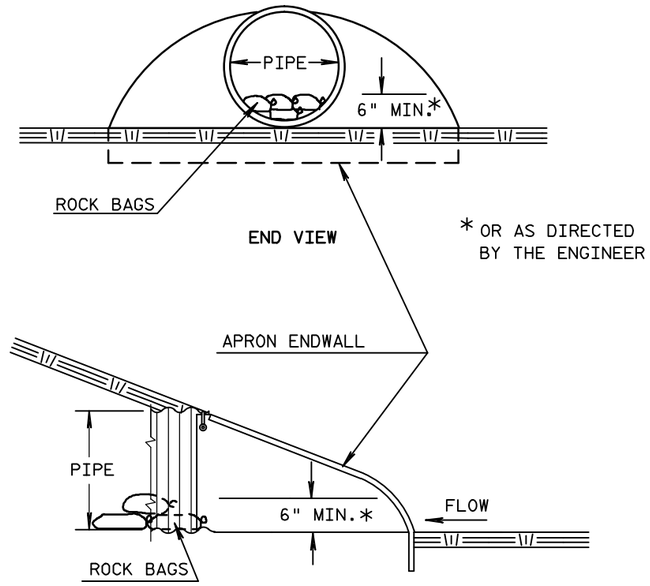
ESTIMATED BAG SIZE = 18" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
18"	2
24"	3
30"	5
36"	9
54"	10
60"	13
72"	16



END VIEW

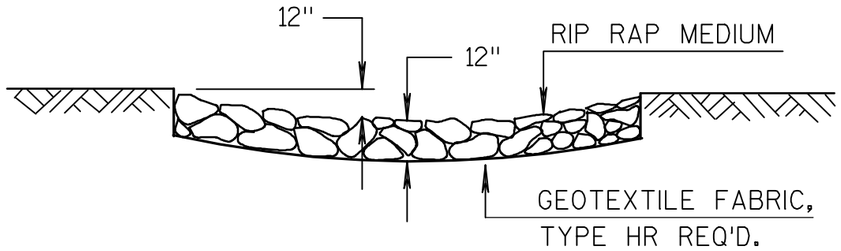
ROCK BAGS DETAIL AT STORM SEWER PIPE LOCATIONS

STA. 101+25 X, 46.9' RT

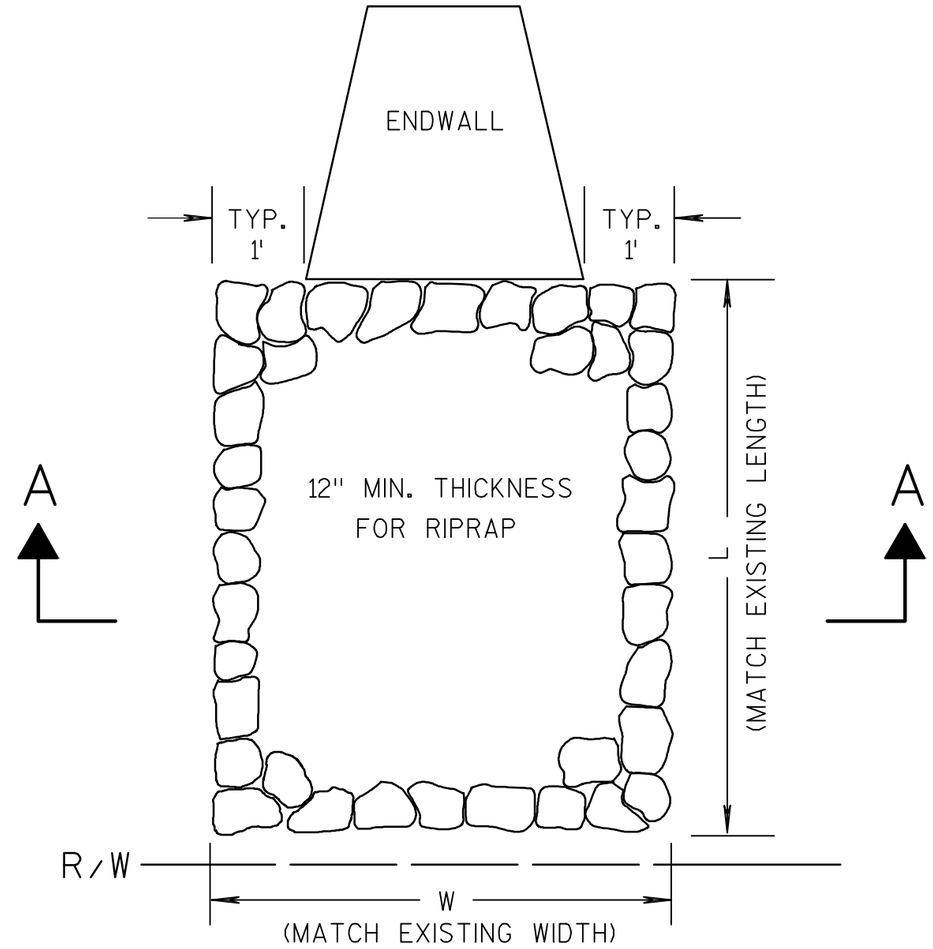


SIDE VIEW

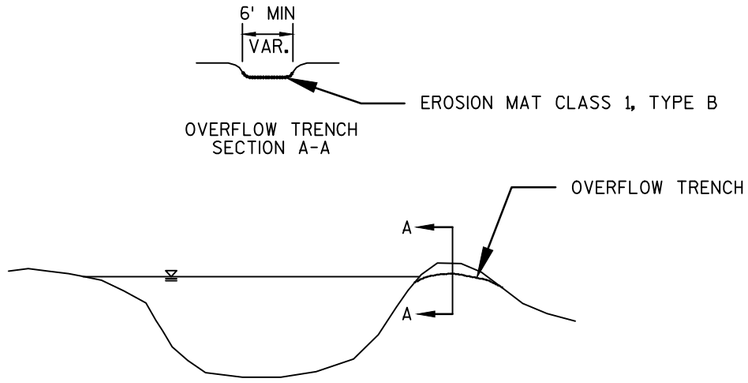
CULVERT PIPE CHECK



SECTION A-A

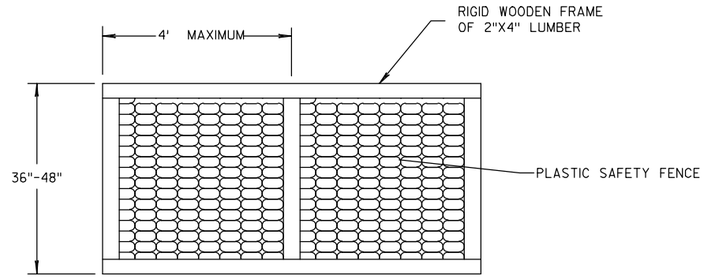


RIPRAP REPLACEMENT AT CULVERT END

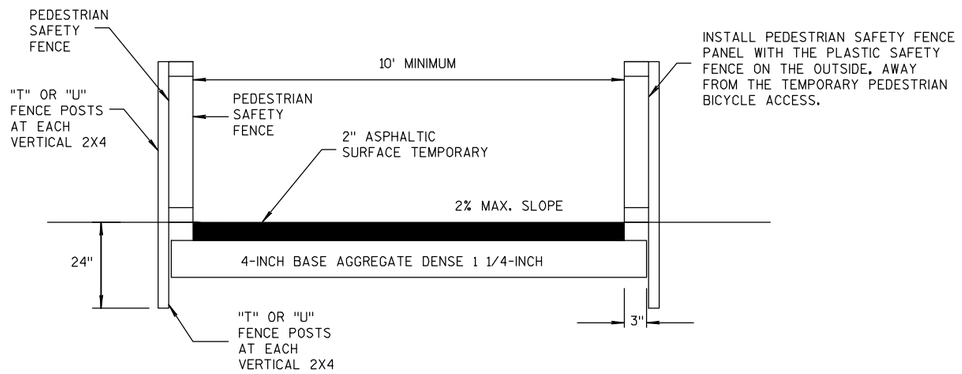


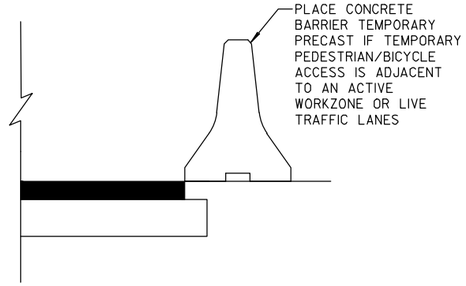
SEDIMENT BASIN

LOCATION TO BE DETERMINED BY THE CONTRACTOR
AND APPROVED BY THE ENGINEER

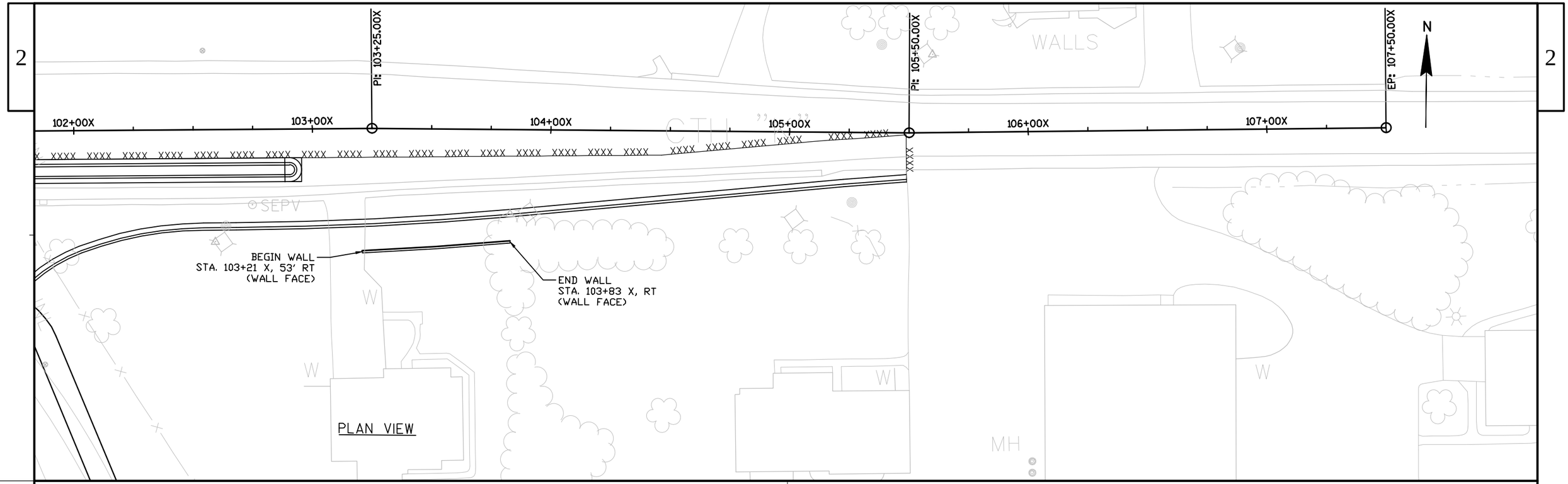


EXAMPLE OF TEMPORARY
PEDESTRIAN SAFETY FENCE



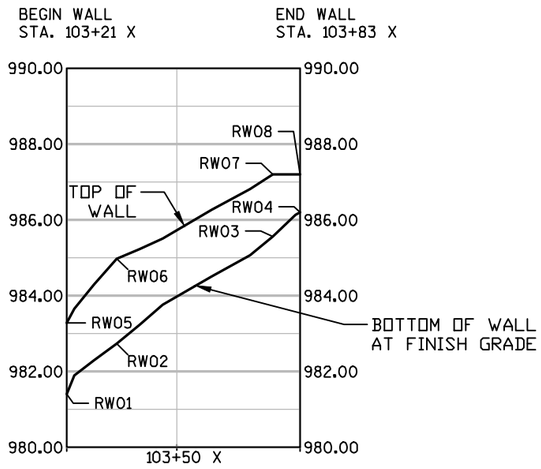


TEMPORARY PEDESTRIAN/BICYCLE ACCESS

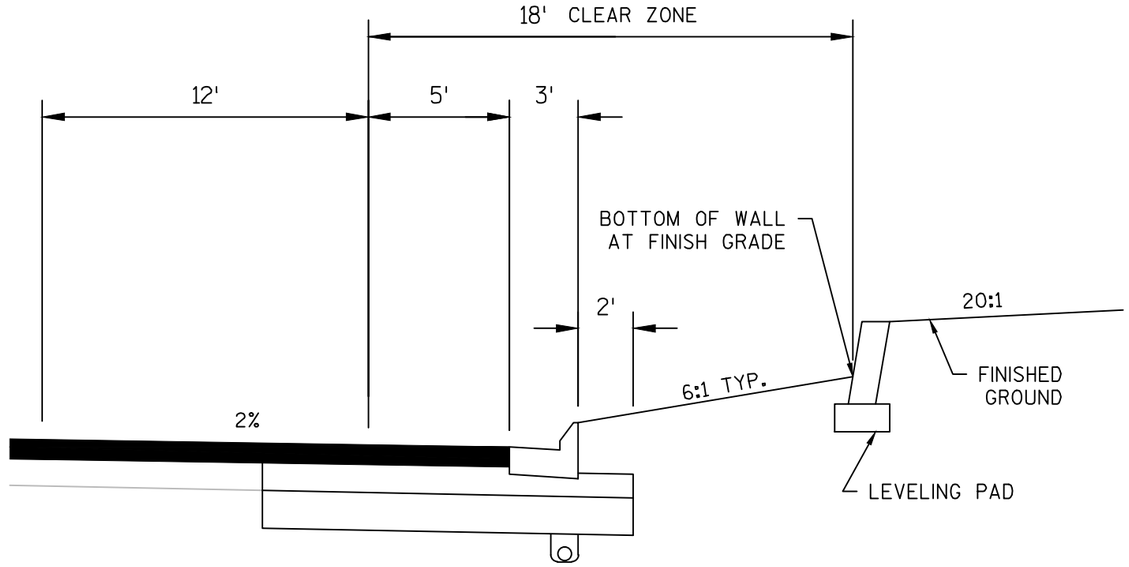


WALL MODULAR BLOCK GRAVITY

POINT	STATION	ELEVATION
RW01	103+21.02 X	981.40
RW02	103+35.00 X	982.73
RW03	103+76.00 X	985.56
RW04	103+83.16 X	986.20
RW05	103+21.02 X	983.29
RW06	103+35.00 X	984.98
RW07	103+76.00 X	987.20
RW08	103+83.16 X	987.20

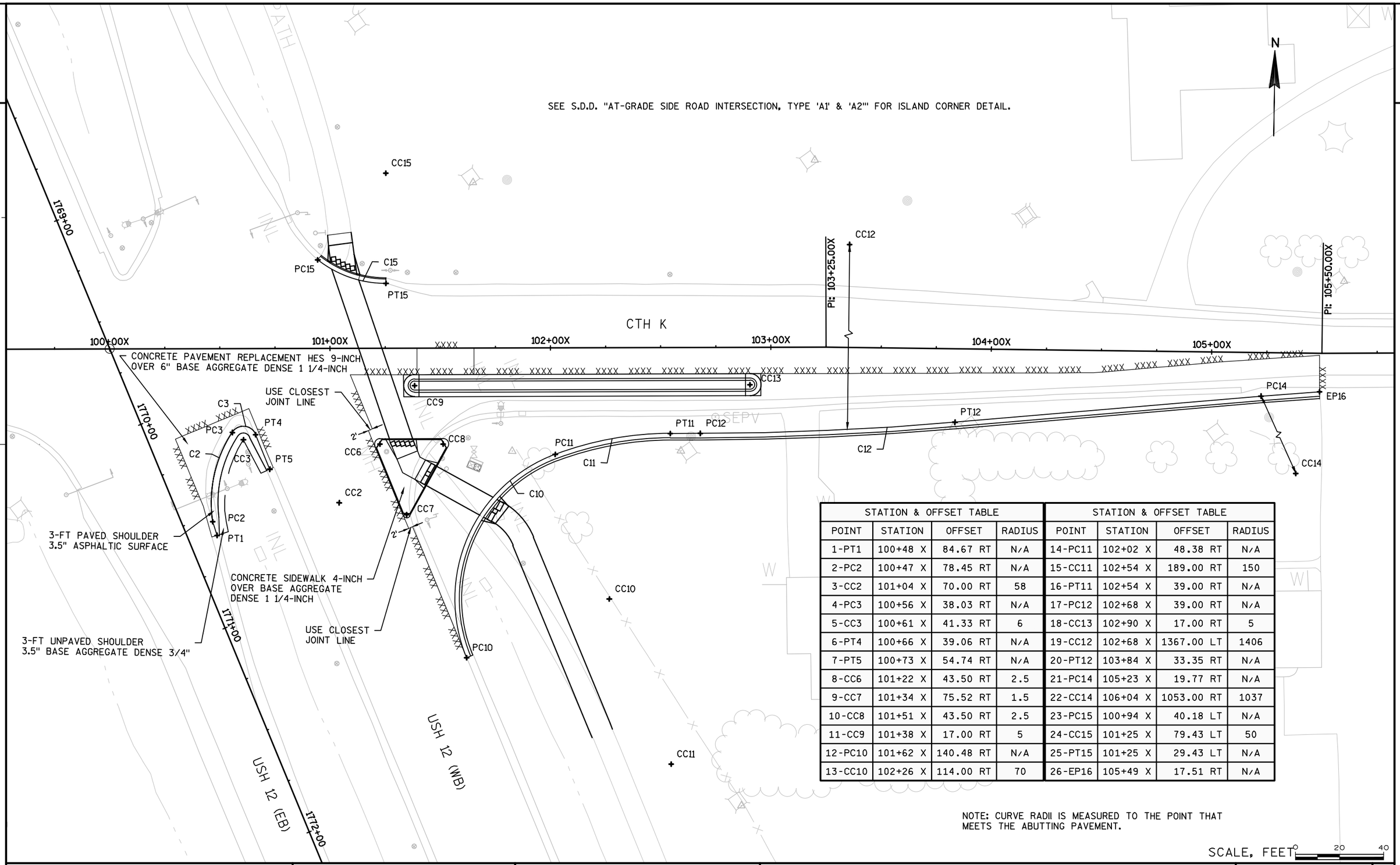


PROFILE VIEW



PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CONSTRUCTION DETAILS: RETAINING WALL DETAIL	SHEET 14	E

SEE S.D.D. "AT-GRADE SIDE ROAD INTERSECTION, TYPE 'A1' & 'A2'" FOR ISLAND CORNER DETAIL.



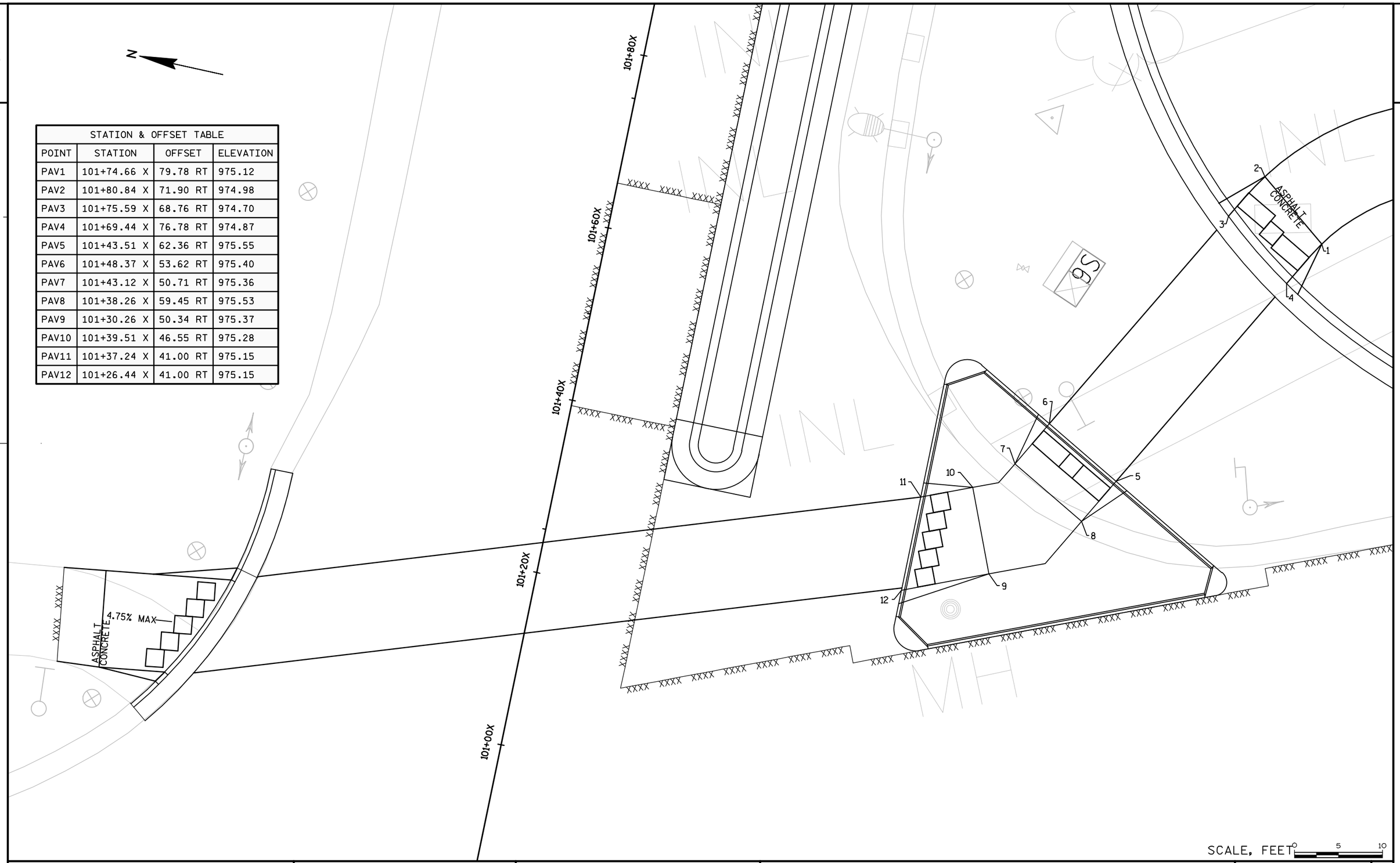
STATION & OFFSET TABLE				STATION & OFFSET TABLE			
POINT	STATION	OFFSET	RADIUS	POINT	STATION	OFFSET	RADIUS
1-PT1	100+48 X	84.67 RT	N/A	14-PC11	102+02 X	48.38 RT	N/A
2-PC2	100+47 X	78.45 RT	N/A	15-CC11	102+54 X	189.00 RT	150
3-CC2	101+04 X	70.00 RT	58	16-PT11	102+54 X	39.00 RT	N/A
4-PC3	100+56 X	38.03 RT	N/A	17-PC12	102+68 X	39.00 RT	N/A
5-CC3	100+61 X	41.33 RT	6	18-CC13	102+90 X	17.00 RT	5
6-PT4	100+66 X	39.06 RT	N/A	19-CC12	102+68 X	1367.00 LT	1406
7-PT5	100+73 X	54.74 RT	N/A	20-PT12	103+84 X	33.35 RT	N/A
8-CC6	101+22 X	43.50 RT	2.5	21-PC14	105+23 X	19.77 RT	N/A
9-CC7	101+34 X	75.52 RT	1.5	22-CC14	106+04 X	1053.00 RT	1037
10-CC8	101+51 X	43.50 RT	2.5	23-PC15	100+94 X	40.18 LT	N/A
11-CC9	101+38 X	17.00 RT	5	24-CC15	101+25 X	79.43 LT	50
12-PC10	101+62 X	140.48 RT	N/A	25-PT15	101+25 X	29.43 LT	N/A
13-CC10	102+26 X	114.00 RT	70	26-EP16	105+49 X	17.51 RT	N/A

NOTE: CURVE RADII IS MEASURED TO THE POINT THAT MEETS THE ABUTTING PAVEMENT.

SCALE, FEET 0 20 40

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	INTERSECTION DETAILS	SHEET 15	E

STATION & OFFSET TABLE			
POINT	STATION	OFFSET	ELEVATION
PAV1	101+74.66 X	79.78 RT	975.12
PAV2	101+80.84 X	71.90 RT	974.98
PAV3	101+75.59 X	68.76 RT	974.70
PAV4	101+69.44 X	76.78 RT	974.87
PAV5	101+43.51 X	62.36 RT	975.55
PAV6	101+48.37 X	53.62 RT	975.40
PAV7	101+43.12 X	50.71 RT	975.36
PAV8	101+38.26 X	59.45 RT	975.53
PAV9	101+30.26 X	50.34 RT	975.37
PAV10	101+39.51 X	46.55 RT	975.28
PAV11	101+37.24 X	41.00 RT	975.15
PAV12	101+26.44 X	41.00 RT	975.15



PROJECT NO:5301-04-74	HWY:USH 12	COUNTY:DANE	INTERSECTION DETAILS - CURB RAMPS	SHEET 16	E

2

BIKE PATH

N

1769+00

1770+00

1771+00

100+00X

101+00X

102+00X

103+00X

104+00X

105+00X

CTH K

Pi: 103+25.00X

Pi: 105+50.00X

USH 12 (EB)

USH 12 (WB)

PC2

PT1

PT2

PC3

P1

P2

CONCRETE

ASPHALT

974.98 975.00 974.75 975.09 974.77 975.14 974.95 975.27 975.04 975.59 975.43 975.88 975.77 976.19 976.13 976.54 976.50 976.96 976.98 977.35 977.41 977.59 977.93 978.40 979.05 979.46

975.10 975.10 975.15 975.20 975.32 975.60 975.86 976.14 976.47 976.87 977.25 978.24 979.53 980.87 982.30 983.68 984.92 986.01 987.03 987.95 988.65 989.39

STATION & OFFSET TABLE			
POINT	STATION	OFFSET	ELEVATION
PT1	101+22.47 X	41.00 RT	975.15
PC3	101+35.79 X	76.25 RT	976.03
PT2	101+53.32 X	44.71 RT	975.25
P1	101+61.56 X	140.48 RT	N/A
P2	102+02.00 X	48.38 RT	975.50

WALLS

SCALE, FEET 0 20 40

PROJECT NO:5301-04-74	HWY: USH 12	COUNTY: DANE	PAVING DETAIL	SHEET 17	E

2

LEGEND

- INLET PROTECTION
- EROSION MAT CLASS I TYPE B
- MULCH
- RIPRAP MEDIUM
- SILT FENCE

RIPRAP MEDIUM, TYP.

BIKE PATH

INL

1768+00

1769+00

1770+00

1771+00

1772+00

99+00X

100+00X

101+00X

102+00X

103+00X

104+00X

105+00X

106+00X

CTH K

INLET PROTECTION, TYPE D

ROCK BAGS REQUIRED AT INLET OF 36" STORM SEWER PIPE (SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION)

INLET PROTECTION, TYPE D

R/W

TLE

INLET PROTECTION, TYPE C

SLOPE INTERCEPT

N

WM

WALLS

WALLS

SIGN

MH

RIPRAP

CANOPY

USH 12 (EB)

USH 12 (WB)

MH

MH

W

WALLS

SCALE, FEET 0 25 50

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	EROSION CONTROL	SHEET 18	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\022001_EC.DWG PLOT DATE : 1/27/2015 4:43 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42

2

N

CTH K

X +50 X 101+00 X +50 X 102+00 X +50 X 103+00 X +50 X 104+00 X +50 X 105+00 X +50 X 106+00 X

1770+00

+50

1771+00

+50

1772+00

+50

USH 12 (EB)

USH 12 (WB)

+50 K

1+00 K

0+00 BP

+50 BP

1+00 BP

+50 BP

SEPV

WALLS

WALLS

MH

MH

W

W

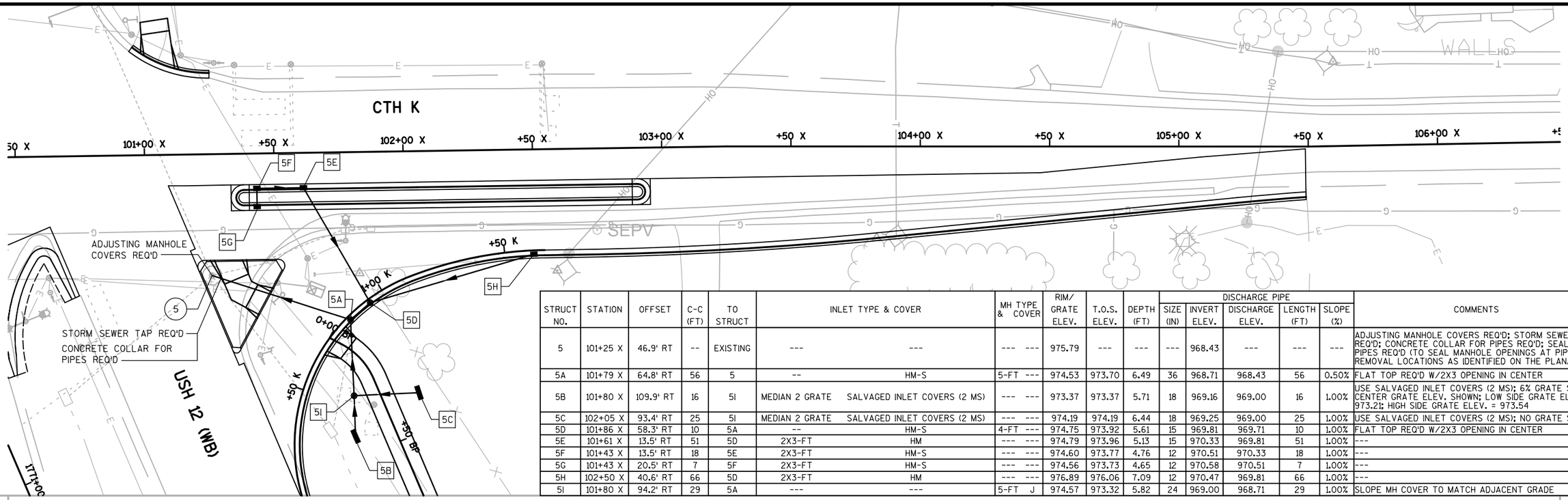
W

STORM SEWER REMOVAL LEGEND

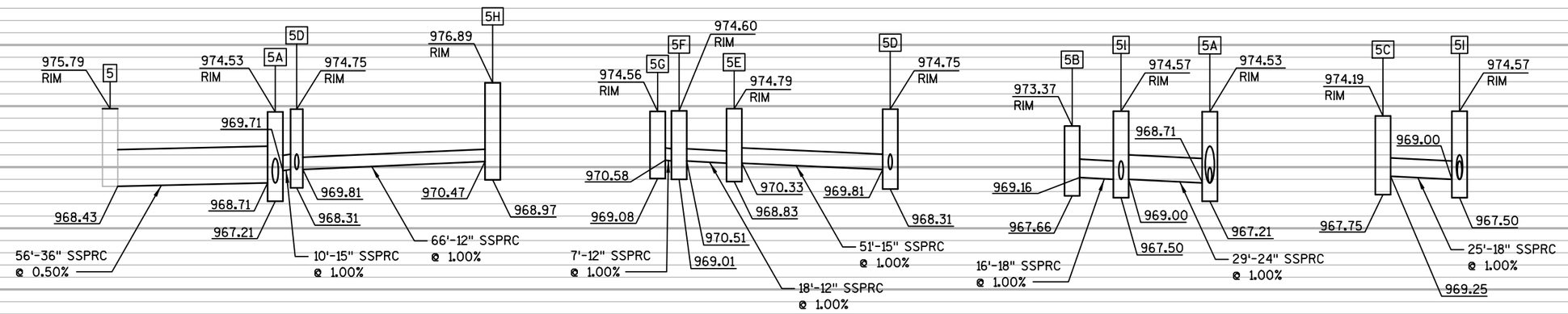
- (A) SALVAGED INLET COVERS
- (B) REMOVING INLETS
- (C) REMOVING STORM SEWER 12-INCH TO 24-INCH
- (D) SEALING PIPES

PROJECT NO:5301-04-74	HWY: USH 12	COUNTY: DANE	STORM SEWER REMOVALS	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\379\Micros\PLAN\022501_ss_SAI.dgn PLOT DATE : 10/16/2014 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

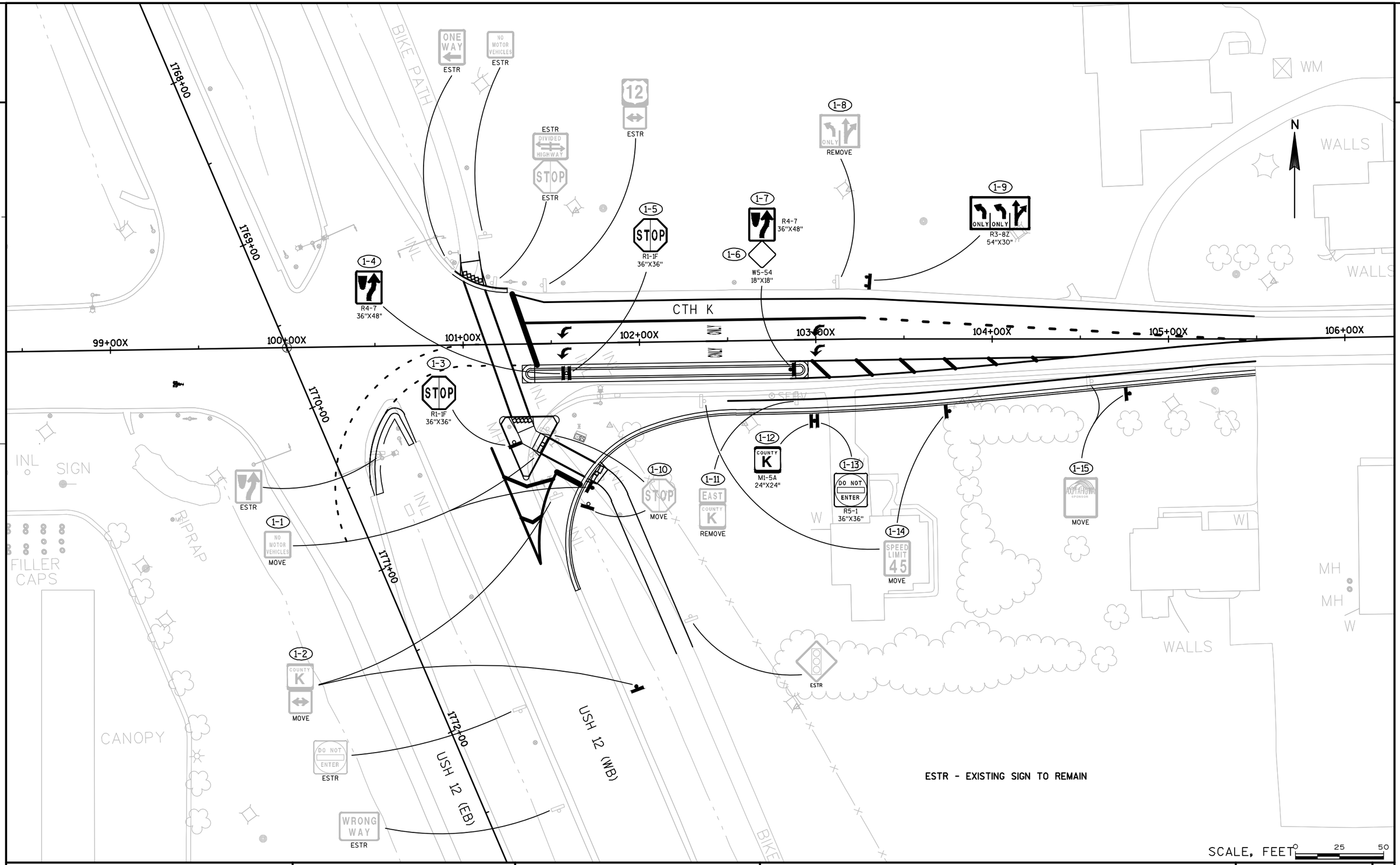


STRUCT NO.	STATION	OFFSET	C-C (FT)	TO STRUCT	INLET TYPE & COVER		MH TYPE & COVER	RIM/ GRATE ELEV.	T.O.S. ELEV.	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	DISCHARGE PIPE INVERT ELEV.	DISCHARGE PIPE DISCHARGE ELEV.	DISCHARGE PIPE LENGTH (FT)	DISCHARGE PIPE SLOPE (%)	COMMENTS
5	101+25 X	46.9' RT	--	EXISTING	---	---	--- ---	975.79	---	---	---	968.43	---	---	---	ADJUSTING MANHOLE COVERS REQ'D; STORM SEWER TAP REQ'D; CONCRETE COLLAR FOR PIPES REQ'D; SEALING PIPES REQ'D (TO SEAL MANHOLE OPENINGS AT PIPE REMOVAL LOCATIONS AS IDENTIFIED ON THE PLAN.)
5A	101+79 X	64.8' RT	56	5	--	HM-S	5-FT ---	974.53	973.70	6.49	36	968.71	968.43	56	0.50%	FLAT TOP REQ'D W/2X3 OPENING IN CENTER
5B	101+80 X	109.9' RT	16	5I	MEDIAN 2 GRATE	SALVAGED INLET COVERS (2 MS)	--- ---	973.37	973.37	5.71	18	969.16	969.00	16	1.00%	USE SALVAGED INLET COVERS (2 MS); 6% GRATE SLOPE; CENTER GRATE ELEV. SHOWN; LOW SIDE GRATE ELEV. = 973.21; HIGH SIDE GRATE ELEV. = 973.54
5C	102+05 X	93.4' RT	25	5I	MEDIAN 2 GRATE	SALVAGED INLET COVERS (2 MS)	--- ---	974.19	974.19	6.44	18	969.25	969.00	25	1.00%	USE SALVAGED INLET COVERS (2 MS); NO GRATE SLOPE
5D	101+86 X	58.3' RT	10	5A	--	HM-S	4-FT ---	974.75	973.92	5.61	15	969.81	969.71	10	1.00%	FLAT TOP REQ'D W/2X3 OPENING IN CENTER
5E	101+61 X	13.5' RT	51	5D	2X3-FT	HM	--- ---	974.79	973.96	5.13	15	970.33	969.81	51	1.00%	---
5F	101+43 X	13.5' RT	18	5E	2X3-FT	HM-S	--- ---	974.60	973.77	4.76	12	970.51	970.33	18	1.00%	---
5G	101+43 X	20.5' RT	7	5F	2X3-FT	HM-S	--- ---	974.56	973.73	4.65	12	970.58	970.51	7	1.00%	---
5H	102+50 X	40.6' RT	66	5D	2X3-FT	HM	--- ---	976.89	976.06	7.09	12	970.47	969.81	66	1.00%	---
5I	101+80 X	94.2' RT	29	5A	---	---	5-FT J	974.57	973.32	5.82	24	969.00	968.71	29	1.00%	SLOPE MH COVER TO MATCH ADJACENT GRADE



PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	STORM SEWER PLAN & PROFILE	SHEET 20 E

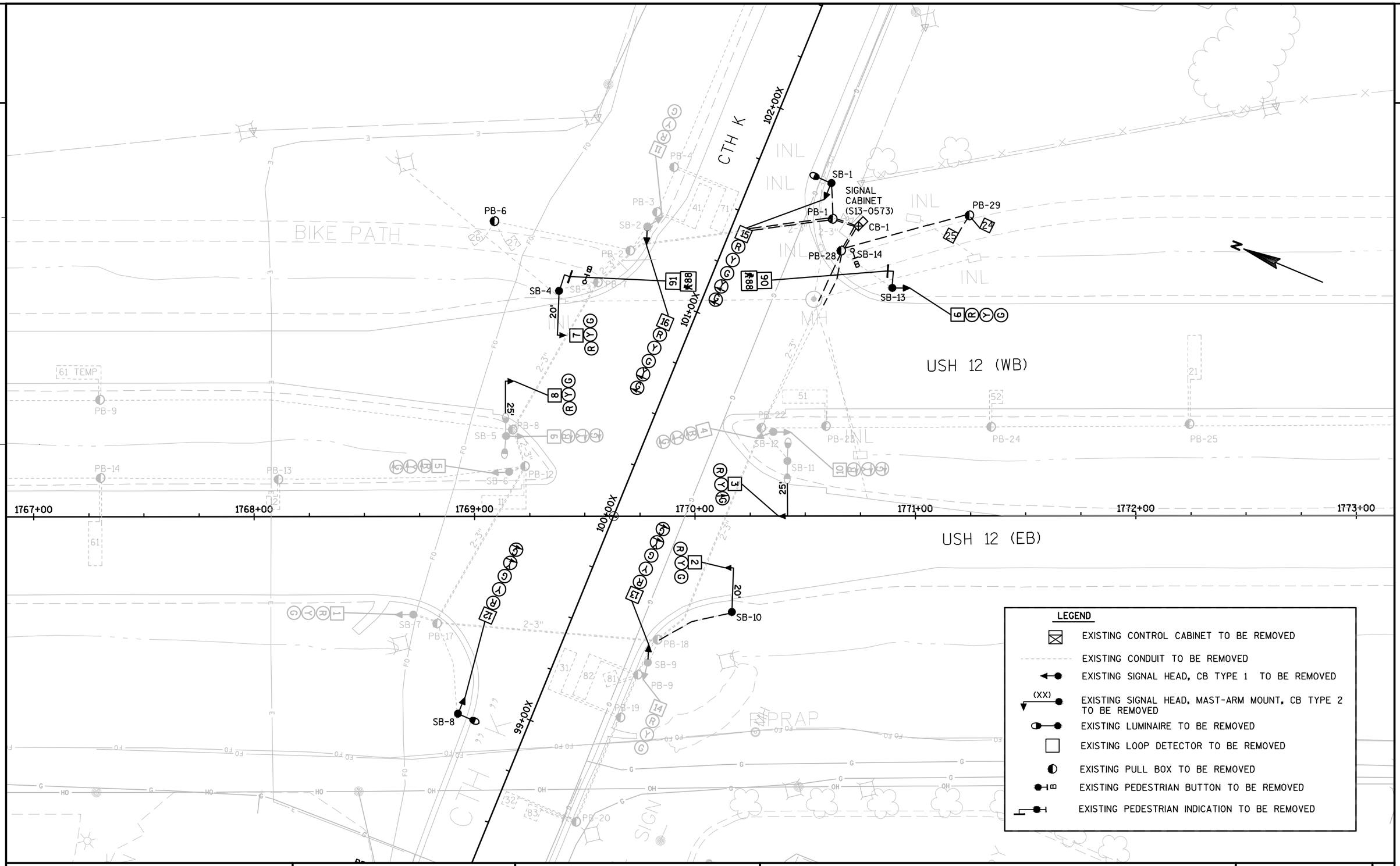
2



ESTR - EXISTING SIGN TO REMAIN

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	PERMANENT SIGNING	SHEET 21	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\023201_PS.DWG PLOT DATE : 10/27/2014 4:15 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:50_XREF

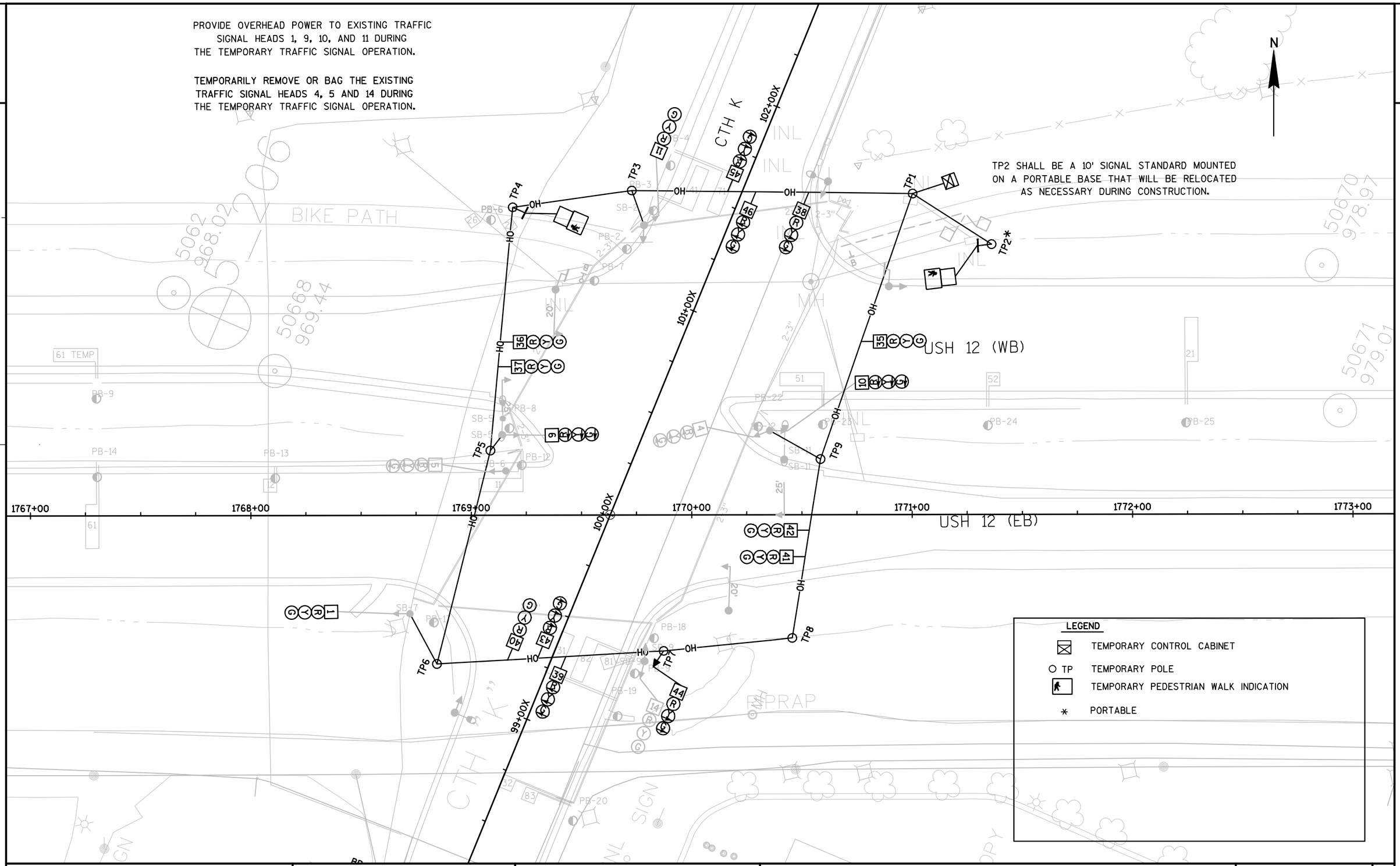


PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 22	E

PROVIDE OVERHEAD POWER TO EXISTING TRAFFIC SIGNAL HEADS 1, 9, 10, AND 11 DURING THE TEMPORARY TRAFFIC SIGNAL OPERATION.

TEMPORARILY REMOVE OR BAG THE EXISTING TRAFFIC SIGNAL HEADS 4, 5 AND 14 DURING THE TEMPORARY TRAFFIC SIGNAL OPERATION.

TP2 SHALL BE A 10' SIGNAL STANDARD MOUNTED ON A PORTABLE BASE THAT WILL BE RELOCATED AS NECESSARY DURING CONSTRUCTION.



PROJECT NO: 5301-04-74	HWY: USH	COUNTY: DANE	TRAFFIC SIGNAL TEMPORARY	SHEET	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\024101_ST.DWG PLOT DATE : 1/14/2015 1:48 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

N

BIKE PATH

USH 12 (WB)

63 TEMP

PB-11

62 TEMP

PB-10

PB-16

PB-15

1762+99

1763+00

1764+00

1765+00

1766+00

1767+00

63

62

USH 12 (EB)

LEGEND

- CONTROL CABINET
- PROPOSED NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, CB TYPE 1
- (XX) SIGNAL HEAD, MAST-ARM MOUNT, CB TYPE 2
- LUMINAIRE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- PROPOSED LOOP DETECTOR IN 1" NON-METALLIC CONDUIT WITH SIDE PULL BOX
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- PULL BOX, 12" X 24"
- EMERGENCY VEHICLE DETECTOR

SIGN

TRAFFIC CONTROL SIGNALS

USH 12 & CTH K

TOWN OF SPRINGFIELD — DANE COUNTY

INSTALLATION NO. S13-0573 — SCALE 0 5' 10' 20'

DIST. CONTACT: — PAGE OF

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC SIGNAL PLAN	SHEET 24	E

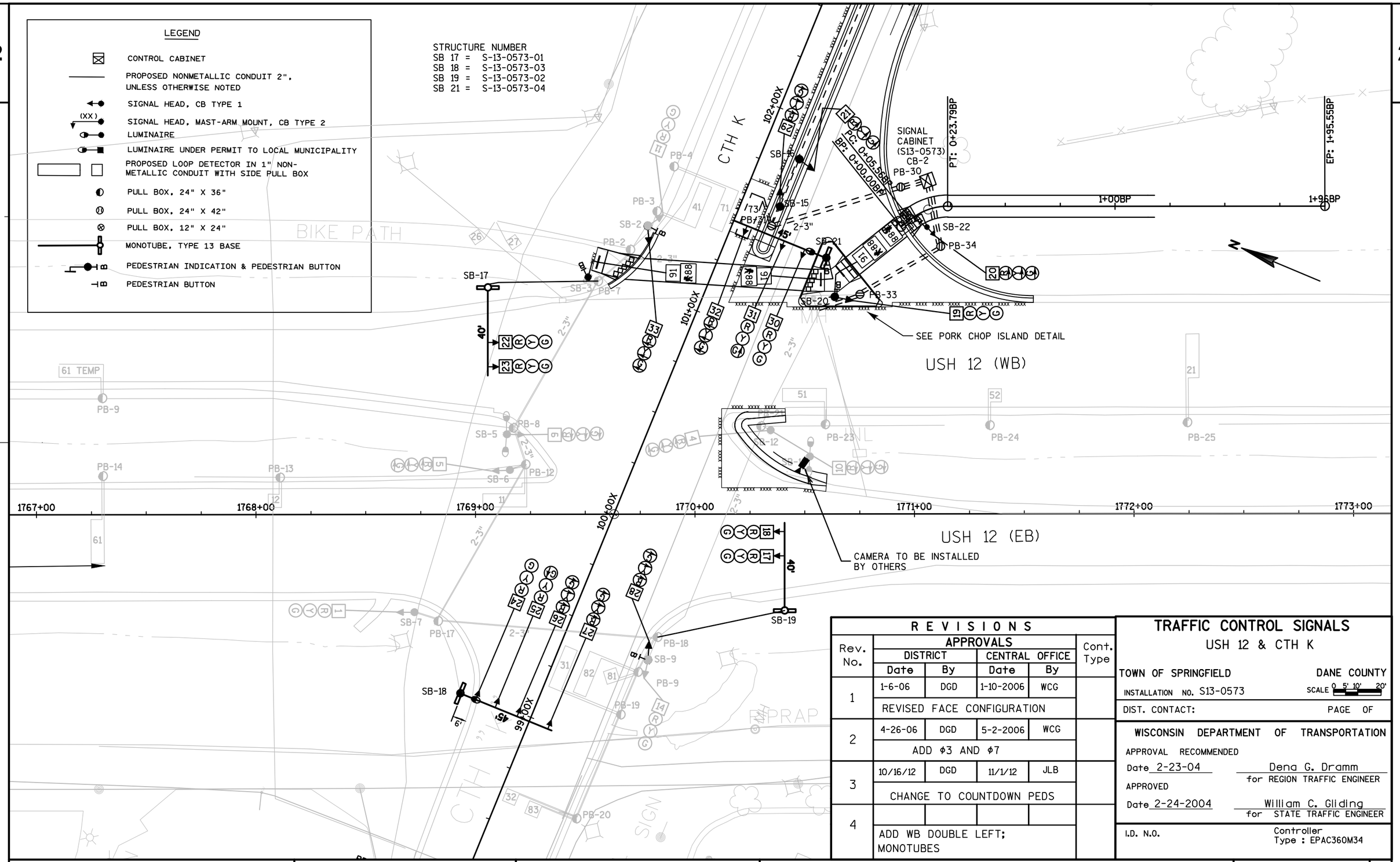
2

2

LEGEND

- CONTROL CABINET
- PROPOSED NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, CB TYPE 1
- (XX) SIGNAL HEAD, MAST-ARM MOUNT, CB TYPE 2
- LUMINAIRE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- PROPOSED LOOP DETECTOR IN 1" NON-METALLIC CONDUIT WITH SIDE PULL BOX
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- PULL BOX, 12" X 24"
- MONOTUBE, TYPE 13 BASE
- PEDESTRIAN INDICATION & PEDESTRIAN BUTTON
- PEDESTRIAN BUTTON

STRUCTURE NUMBER
SB 17 = S-13-0573-01
SB 18 = S-13-0573-03
SB 19 = S-13-0573-02
SB 21 = S-13-0573-04



REVISIONS					
Rev. No.	APPROVALS DISTRICT Date	By	CENTRAL OFFICE Date	By	Cont. Type
1	1-6-06	DGD	1-10-2006	WCG	
	REVISED FACE CONFIGURATION				
2	4-26-06	DGD	5-2-2006	WCG	
	ADD ϕ3 AND ϕ7				
3	10/16/12	DGD	11/1/12	JLB	
	CHANGE TO COUNTDOWN PEDS				
4					
	ADD WB DOUBLE LEFT; MONOTUBES				

TRAFFIC CONTROL SIGNALS

USH 12 & CTH K

TOWN OF SPRINGFIELD — DANE COUNTY

INSTALLATION NO. S13-0573 — SCALE 0 5' 10' 20'

DIST. CONTACT: — PAGE OF

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED

Date 2-23-04 — Dena G. Dramm, for REGION TRAFFIC ENGINEER

APPROVED

Date 2-24-2004 — William C. Gliding, for STATE TRAFFIC ENGINEER

I.D. N.O. — Controller Type : EPAC360M34

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC SIGNAL PLAN	SHEET 25	E

2

2

BIKE PATH

22

23

PB-26

PB-27

USH 12 (WB)

1773+00

1774+00

1775+00

1775+63

USH 12 (EB)

SIGN

SIGN

LEGEND

- CONTROL CABINET
- PROPOSED NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, CB TYPE 1
- (XX) SIGNAL HEAD, MAST-ARM MOUNT, CB TYPE 2
- LUMINAIRE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- PROPOSED LOOP DETECTOR IN 1" NON-METALLIC CONDUIT WITH SIDE PULL BOX
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- PULL BOX, 12" X 24"
- EMERGENCY VEHICLE DETECTOR

TRAFFIC CONTROL SIGNALS

USH 12 & CTH K

TOWN OF SPRINGFIELD — DANE COUNTY

INSTALLATION NO. S13-0573 — SCALE 0 5' 10' 20'

DIST. CONTACT: — PAGE OF

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC SIGNAL PLAN	SHEET 26	E

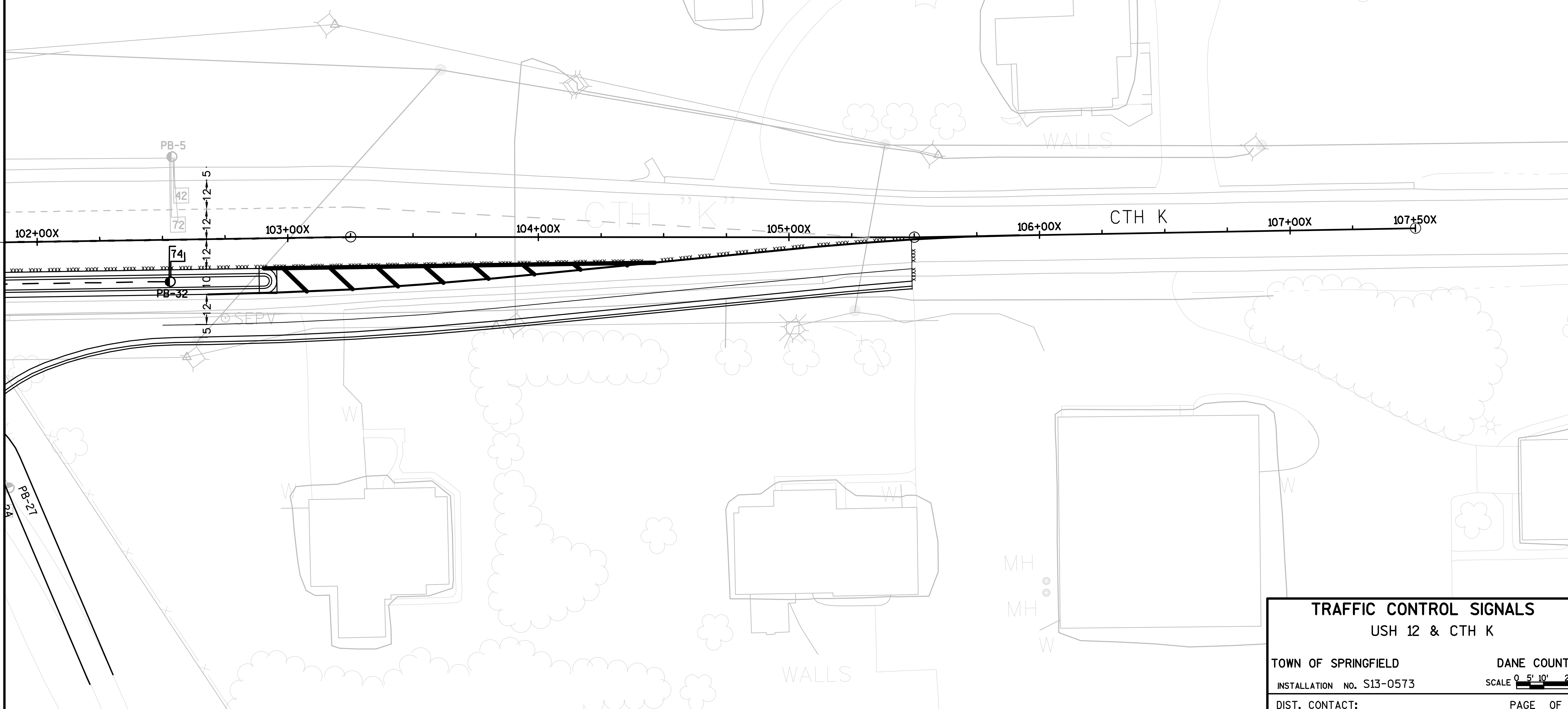
FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\024002_SP.DWG PLOT DATE : 10/24/2014 5:28 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

LEGEND

Symbol	Description
	CONTROL CABINET
	PROPOSED NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
	SIGNAL HEAD, CB TYPE 1
(XX)	SIGNAL HEAD, MAST-ARM MOUNT, CB TYPE 2
	LUMINAIRE
	LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
	PROPOSED LOOP DETECTOR IN 1" NON-METALLIC CONDUIT WITH SIDE PULL BOX
	PULL BOX, 24" X 36"
	PULL BOX, 24" X 42"
	PULL BOX, 12" X 24"
	EMERGENCY VEHICLE DETECTOR



2

TRAFFIC CONTROL SIGNALS

USH 12 & CTH K

TOWN OF SPRINGFIELD DANE COUNTY

INSTALLATION NO. S13-0573 SCALE 0 5' 10' 20'

DIST. CONTACT: PAGE OF

PROJECT NO:5301-04-74	HWY:USH 12	COUNTY:DANE	TRAFFIC SIGNAL PLAN	SHEET 27	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\024002_SP.DWG PLOT DATE : 10/27/2014 3:31 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:40_XREF

2

CONNECT CONDUIT TO PB-32

CTH K

102+00X

SIGNAL CABINET (S13-0573)

CB-2

PB-30

PC: 0+05.56BP

BP: 0+00.00BP

PT: 0+23.79BP

SB-16

SB-15

SB-21

SB-22

SB-20

PB-4

PB-3

PB-31

PB-34

PB-33

SB-2

LOCATE AND CUT EXISTING CONDUIT.
CONNECT NEW PULL BOX TO THE EXISTING CONDUIT.

LOCATE AND CUT EXISTING CONDUIT.
CONNECT NEW CONDUIT TO THE EXISTING CONDUIT.

2-3"

45'

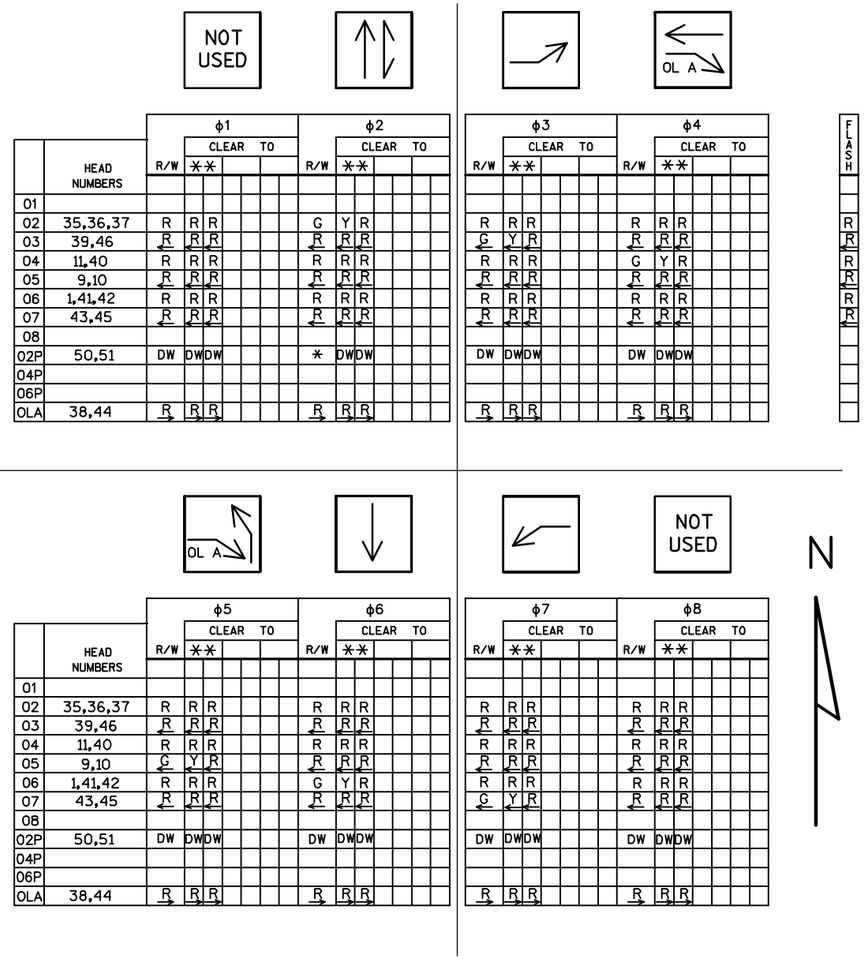
101+00X

USH 12 (WB)

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC SIGNAL PLAN - PORK CHOP ISLAND DETAIL	SHEET 28	E

2

SEQUENCE OF OPERATION



** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1 BELOW)

* WHEN CALLED, TIMED STEADY WALK,THEN FLASHING DON'T WALK, THEN GOES TO STEADY DON'T WALK.

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
02	5, 6	1, 3, 4, 7, 8
03	7, 8	1, 2, 4, 5, 6
04	7, 8	1, 2, 3, 5, 6
05	1, 2	3, 4, 6, 7, 8
06	1, 2	3, 4, 5, 7, 8
07	3, 4	1, 2, 5, 6, 8

EXISTING DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
11	1	X			1	1				6'X20'	3
12	2	X			1	1			1.5	6'X6'	4
21	3	X			2	2				6'X20'	3
22	4	X			2	2			4	6'X20'	4
23	5	X			2	2				6'X20'	4
31	6	X			3	3				6'X20'	3
32	6	X			3	3				6'X6'	4
41	7	X			4	4		10		6'X20'	3
42	7	X			4	4		10		6'X6'	3
51	8	X			5	5				6'X20'	3
52	9	X			5	5				6'X6'	4
61	10	X			6	6				6'X20'	4
62	11	X			6	6			2	6'X20'	4
63	12	X			6	6				6'X20'	5
71	13	X			7	7		1		6'X20'	3
72	13	X			7	7		1		6'X6'	3
81	14	X			8	8		25		6'X6'	4
82	15	X			8	8				6'X20'	3
83	15	X			8	8				6'X6'	4

N

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL
1			
2	X	6	MIN
3			
4	X		
5			
6	X	2	MIN
7			
8			

OVERLAPS

O.L. "A" =	φ4 & φ5
O.L. "B" =	
O.L. "C" =	
O.L. "D" =	

TYPE OF INTERCONNECT	
NONE	X
TBC	
CLOSED LOOP	
HARDWIRE	
TONE (FREQ)	

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	

TYPE OF LIGHTING	
NONE	
IN TRAFFIC CONTROL CABINET	X
IN SEPARATE CONTROL CABINET	

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1 AT LEFT.)
3. PHASES 1 AND 8 WILL NOT BE ACTIVE DURING CONSTRUCTION. LOOP DETECTORS FOR PHASES 1 AND 8 WILL NOT BE ACTIVE DURING CONSTRUCTION.

SEQUENCE OF OPERATION
USH 12 & CTH K

TOWN OF SPRINGFIELD DANE COUNTY

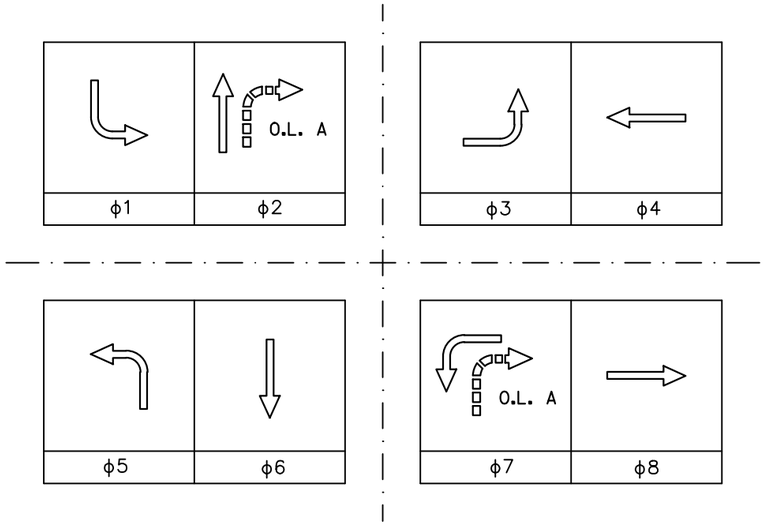
SIGNAL NO. S0573

CONTROLLER TYPE: EPAC3608M34

DATE SHEET NO. OF

PROJECT NO: 5301-04-74 | HWY: USH 12 | COUNTY: DANE | TRAFFIC SIGNAL TEMPORARY SEQUENCE OF OPERATIONS | SHEET 29

	HEAD NUMBERS	FLASH
?1	4,5	R
?2	19,22,23	R
?3	32,33	R
?4	11,24,25	R
?5	9,10	R
?6	1,17,18	R
?7	26,27,28,	R
	29	
?8	14,30,31	R
?2 PED	94,95	
ϕ4 PED	92,93	
ϕ6 PED		
ϕ8 PED		
OLA	20,21	
OLB		
OLC		
OLD		



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				YES
2	X	X	MIN	YES
3				YES
4		X		YES
5				YES
6	X	X	MIN	YES
7				YES
8		X		YES

TYPE OF INTERCONNECT	
NONE	X
TBC	
CLOSED LOOP TWISTED PAIR	
CLOSED LOOP FIBER OPTIC	
RADIO	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

TYPE OF REMOTE COMMUNICATION	
NONE	X
FIBER	
CELL MODEM	
PHONE	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
DETECTOR *(S)	12	23	21	32	42	52	63	61
PHASE CALLED	1	2	2	3	4	5	6	6
PHASE EXTENDED	1	2	2	3	4	5	6	6
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH	X	X	X	X	X	X	X	X
LOOP FUNCTION								

DETECTOR INPUT	19	17	23	21	27	25	31	29
DETECTOR *(S)	74	72	83	81				
PHASE CALLED	7	7	8	8				
PHASE EXTENDED	7	7	8	8				
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH	X	X	X	X				
LOOP FUNCTION								

DETECTOR INPUT	4	2	8	6	12	10	16	14
DETECTOR *(S)	11	22		31	41	51	62	
PHASE CALLED	1	2		3	4	5	6	
PHASE EXTENDED	1	2		3	4	5	6	
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH								
LOOP FUNCTION								

DETECTOR INPUT	20	18	24	22	28	26	32	30
DETECTOR *(S)	73	71	82					
PHASE CALLED	7	7	8					
PHASE EXTENDED	7	7	8					
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH								
LOOP FUNCTION								

TRAFFIC CONTROL SIGNAL
USH 12 & CTH K
TOWN OF SPRINGFIELD DANE COUNTY

SIGNAL NO. S13-0573

REGION CONTACT:
DESIGNED BY:
REVISED BY:

PAGE OF

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC SIGNAL SEQUENCE OF OPERATIONS	SHEET 30 E

2

TEMPORARY SIGNALS											
CABLE	CABLE RUN	HEAD NO.	MOVEMENT	LENS	CONDUCTOR COLOR	CABLE	CABLE RUN	HEAD NO.	MOVEMENT	LENS	CONDUCTOR COLOR
CABINET	21C	38	EB RT	R	W/R	CABINET	9C	35	NB	R	R/BLK
TO				YA	O/R	TO				Y	O/BLK
TP1				GA	BLU/R	TP1				G	G/BLK
		45	WB LT	RA	BLK/R	TP1	5C	50	ϕ8 PED	W/BLK	G
				YA	BLU/W	TO				DW	R
				GA	G/W	TP2					
		46	EB LT	RA	R/W	CABINET	21C	10	NB LT	RA	W/R
				YA	BLU/BLK	TO				YA	O/R
				GA	BLK/W	TP9				GA	B/R
TP1	12C	11	WB	R	R/BLK			41	SB	R	BLK/R
TO				Y	O/BLK					Y	BLU/W
TP3				G	G/BLK					G	G/W
TP3	9C	36	NB	R	R			42	SB	R	BLK/R
TO				Y	O					Y	BLU/W
TP4				G	G					G	G/W
		37	NB	R	R	TP9	15C	39	EB LT	RA	R/W
				Y	O	TO				YA	BLU/BLK
				G	G	TP7				GA	BLK/W
		51	ϕ8 PED	W	BLK			40	WB	R	R/BLK
				DW	BLU					Y	O/BLK
CABINET	9C	9	NB LT	RA	BLK					G	G/BLK
TO				YA	BLU			43	WB LT	RA	BLK
TP5				GA	W/BLK					YA	BLU
TP5	5C	1	SB	R	R					GA	W/BLK
TO				Y	O			44	EB RT	R	R
TP6				G	G					YA	O
										GA	G

STATE PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CABLE ROUTING CHART TEMPORARY	SHEET NO:	E

FILE NAME : PLOT DATE: 1/14/2015 1:53:10 PM PLOT BY : PLOT NAME : ORG DATE : ORIGINATOR : PLOT SCALE : N/A

CABLE RUN	CABLE	HEAD NO.	MOVEMENT	LENS	CONDUCTOR COLOR
CABINET TO SB2	12C	11	WB	R	R
				Y	O
				G	G
		33	EB LT	RA	R/BLK
				YA	O/BLK
				GA	G/BLK
			Ø4 PED	PB	W/BLK
CABINET TO SB3	9C	95	Ø2 PED	W	BLK
				DW	BLU
			Ø2 PED	PB	W/BLK
CABINET TO SB5	5C	9	NB LT	RA	R
				YA	O
				GA	G
CABINET TO SB6	5C	5	SB LT	RA	R
				YA	O
				GA	G
CABINET TO SB7	5C	1	SB	R	R
				Y	O
				G	G
CABINET TO SB9	12C	14	EB	R	R
				Y	O
				G	G
		28	WB LT	RA	R/BLK
				YA	O/BLK
				GA	G/BLK
			Ø8 PED	PB	W/BLK
CABINET TO SB12	12C	4	SB LT	RA	R
				YA	O
				GA	G
		10	NB LT	RA	R/BLK
				YA	O/BLK
				GA	G/BLK
CABINET TO SB15	5C	29	WB LT	RA	R
				YA	O
				GA	G
CABINET TO SB16	5C	21	NB RT	RA	R
				YA	O
				GA	G
CABINET TO SB17	5C	22	NB	R	R
				Y	O
				G	G
		23	NB	R	R
				Y	O
				G	G

CABLE RUN	CABLE	HEAD NO.	MOVEMENT	LENS	CONDUCTOR COLOR
CABINET TO SB-18	12C	24	WB	R	R
				Y	O
				G	G
		25	WB	R	R
				Y	O
				GA	G
		26	WB LT	RA	R/BLK
				YA	O/BLK
				GA	G/BLK
		27	WB LT	RA	R/BLK
				YA	O/BLK
				GA	G/BLK
CABINET TO SB-19	5C	17	SB	R	R
				Y	O
				G	G
		18	SB	R	R
				Y	O
				G	G
CABINET TO SB-20	9C	19	NB	R	R
				Y	O
				G	G
		93	Ø4 PED	W	BLK
				DW	BLU
			Ø4 PED	PB	W/BLK
CABINET TO SB-21	12C	30	EB	R	R
				Y	O
				G	G
		31	EB	R	R
				Y	O
				GA	G
		32	EB LT	RA	R/BLK
				YA	O/BLK
				GA	G/BLK
		94	Ø2 PED	W	BLK
				DW	BLU
			Ø2 PED	PB	W /BLK
CABINET TO SB-22	9C	20	NB RT	R	R
				Y	O
				G	G
		92	Ø4 PED	W	BLK
				DW	BLU
			Ø4 PED	PB	W/BLK

2

2

REMOVE CROSSWALK LINES

REMOVE STOP LINE

REMOVE

REMOVE DOUBLE YELLOW

REMOVE

XXXXXXX

REMOVE STOP LINE

99+00X

100+00X

101+00X

102+00X

103+00X

104+00X

105+00X

106+00X

1768+00

1769+00

1770+00

1771+00

1772+00

BIKE PATH

SIGN

RIPRAP

CANOPY

USH 12

INL

MH

W

WM

WALLS

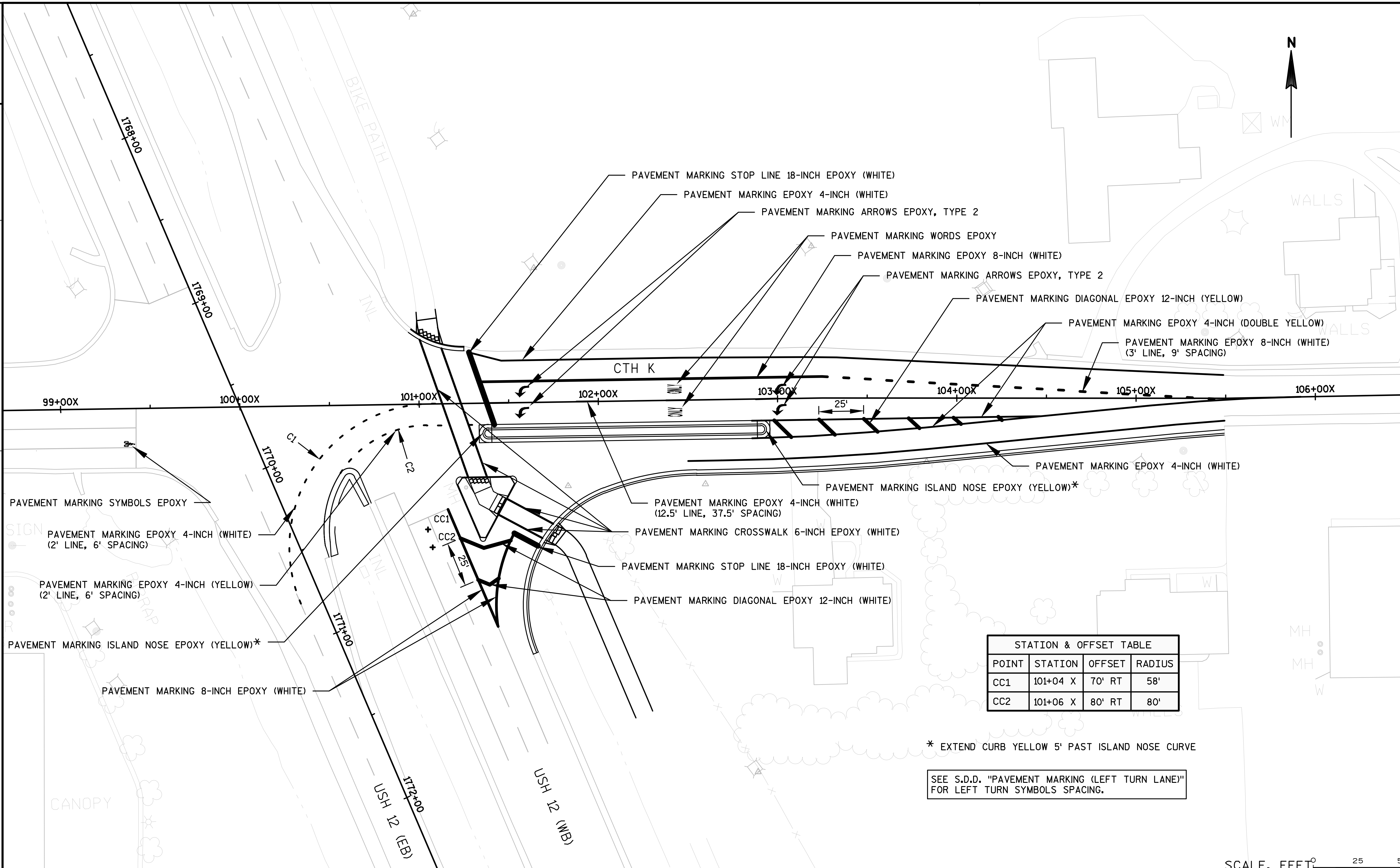
N

SCALE, FEET 0 25 50

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKING REMOVALS	SHEET 33	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\024500_PM.DWG PLOT DATE : 1/15/2015 5:32 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42



PAVEMENT MARKING STOP LINE 18-INCH EPOXY (WHITE)
PAVEMENT MARKING EPOXY 4-INCH (WHITE)
PAVEMENT MARKING ARROWS EPOXY, TYPE 2
PAVEMENT MARKING WORDS EPOXY
PAVEMENT MARKING EPOXY 8-INCH (WHITE)
PAVEMENT MARKING ARROWS EPOXY, TYPE 2
PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
PAVEMENT MARKING EPOXY 8-INCH (WHITE) (3' LINE, 9' SPACING)
CTH K
99+00X
100+00X
101+00X
102+00X
103+00X
104+00X
105+00X
106+00X
25'
PAVEMENT MARKING EPOXY 4-INCH (WHITE)
PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)*
PAVEMENT MARKING EPOXY 4-INCH (WHITE) (12.5' LINE, 37.5' SPACING)
PAVEMENT MARKING CROSSWALK 6-INCH EPOXY (WHITE)
PAVEMENT MARKING STOP LINE 18-INCH EPOXY (WHITE)
PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
PAVEMENT MARKING SYMBOLS EPOXY
PAVEMENT MARKING EPOXY 4-INCH (WHITE) (2' LINE, 6' SPACING)
PAVEMENT MARKING EPOXY 4-INCH (YELLOW) (2' LINE, 6' SPACING)
PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)*
PAVEMENT MARKING 8-INCH EPOXY (WHITE)
C1
C2
CC1
CC2
25'
1768+00
1769+00
1770+00
1771+00
1772+00
USH 12 (EB)
USH 12 (WB)
BIKE PATH
INL
WALLS
SIGN
CANOPY
MH
N
SCALE, FEET
0
25
50

STATION & OFFSET TABLE			
POINT	STATION	OFFSET	RADIUS
CC1	101+04 X	70' RT	58'
CC2	101+06 X	80' RT	80'

* EXTEND CURB YELLOW 5' PAST ISLAND NOSE CURVE

SEE S.D.D. "PAVEMENT MARKING (LEFT TURN LANE)" FOR LEFT TURN SYMBOLS SPACING.

PROJECT NO:5301-04-74	HWY:USH 12	COUNTY:DANE	PAVEMENT MARKING	SHEET 34	E

2

LEGEND

	WORK ZONE
	TRAFFIC DRUM
	SIGN
	BARRICADE W/WO SIGN
	TYPE II BARRICADE W/WO SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
	MOVABLE SIGN

SEE S.D.D. "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH."

END ROAD WORK
G20-2A
48"X24"

BIKE PATH WORK AHEAD
W20-8
30"X30"
(USE TYPE II BARRICADE)

SHOULDER WORK
W21-5

ROAD WORK AHEAD
W20-1

R4-7
36"X48"

CONSTRUCT TEMPORARY PATH AT END OF STAGE 1 OR BEGINNING OF STAGE 2

USH 12 MEDIAN WORK TO BE COMPLETED USING USH 12 LANE CLOSURES THAT FOLLOW THE LANE CLOSURE RESTRICTIONS AS DESCRIBED IN THE TRAFFIC ARTICLE IN THE SPECIAL PROVISIONS.

LANE CLOSED
R11-2-L
48"X30"

1768+00 1769+00 1770+00 1771+00 1772+00

99+00X 100+00X 101+00X 102+00X 103+00X 104+00X 105+00X 106+00X

CTH K

500' 1500' 25' 50' 100' TAPER

USH 12 (EB) USH 12 (WB) USH 12

N WM WALLS SEPV MH FILLER CAPS CANOPY INL SIGN

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1	SHEET 35	E

2

N

BIKE PATH WORK AHEAD
W20-8
30"X30"

BEGIN LEFT TURN LANE
R3-20L
24"X36"

ROAD WORK AHEAD
W20-1

BIKE PATH

SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION"

100' TAPER

USH 12 (WB)

100'

660'

500'

50'

EP: 1775+62.91

1773+00 1774+00 1775+00 1775+63

USH 12 (EB)

END ROAD WORK
G20-2A
48"X24"

LANE CLOSED
R11-2-L
48"X30"

SIGN

SIGN

LEGEND

	WORK ZONE
	TRAFFIC DRUM W/WO LIGHT
	SIGN
	TYPE III BARRICADE W/WO SIGN
	TYPE II BARRICADE W/WO SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
	FLASHING ARROW BOARD
	MOVABLE SIGN

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1	SHEET 36	E

SEE S.D.D. "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC"
SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY"
SEE "DETOUR" DETAIL

LEGEND

	WORK ZONE
	TRAFFIC DRUM W/WO LIGHT
	SIGN
	TYPE III BARRICADE W/WO SIGN
	TYPE II BARRICADE W/WO SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
	FLASHING ARROW BOARD
	MOVABLE SIGN

END ROAD WORK
G20-2A
48"X24"

ROAD WORK AHEAD
W20-1

ATTACH TO DRUM
W012-1D
30"X30"

98+08X

99+

CTH K

COVER SIGN

WALLS
SIGN
A/C
SEPTIC
RIPRAP
INL
MH
FILLER CAPS
BRABEC

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2, 3 & 4	SHEET	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\026201_S2.DWG PLOT DATE : 10/27/2014 3:05 PM PLOT BY : BREGAUDIT, CHARLENE PLOT NAME : PLOT SCALE : 1:50_XREF
WISDOT/CADDS SHEET 42

SEE S.D.D. "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" FOR EB USH 12 AND WB USH 12.
SEE S.D.D. "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC"
SEE "DETOUR" DETAIL

LANE CLOSED
R11-2(MOD)
48" X 30"

END ROAD WORK
G20-2A
48" X 24"

R3-2
36"X36"

BIKE PATH WORK AHEAD
W20-8
30"X30"
(USE TYPE II BARRICADE)

WEST
COUNTY K
M3-4
36"X18"
M6-1
30"X30"
ATTACH TO EXISTING SIGN

TEMPORARY PEDESTRIAN SAFETY FENCE

TEMPORARY DETECTABLE WARNING FIELD

TEMPORARY PAVEMENT MARKING
STOP LINE REMOVABLE TAPE
12-INCH WHITE

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH WHITE
(CROSSWALK)

ONE WAY
R6-2-L
24"X30"

SHOULDER WORK
W21-5

ROAD WORK AHEAD
W20-1

500'

1500'

100+00X

101+00X

102+00X

103+00X

104+00X

105+00X

106+00X

1768+00

1769+00

1770+00

1771+00

1772+00

CTH K

TEMPORARY DETECTABLE WARNING FIELD

TEMPORARY PEDESTRIAN SAFETY FENCE

ONE WAY
R6-2-R
24"X30"

500'

END ROAD WORK
G20-2A
48" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"

TEMPORARY BARRIER WALL OR
TEMPORARY PEDESTRIAN
SAFETY FENCE

25'

R3-1
36"X36"

15'

USH 12 (EB)

USH 12 (WB)

TEMPORARY
BIKE PATH
10'

WORK ZONE

TEMPORARY BARRIER WALL
OR
TEMPORARY PEDESTRIAN
SAFETY FENCE

TEMPORARY PEDESTRIAN
SAFETY FENCE

PROJECT NO:5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 38	E

2

SEE S.D.D. "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH."

SEE "DETOUR" DETAIL

BIKE PATH WORK AHEAD
W20-8
30"X30"
(USE TYPE II BARRICADE)

ROAD WORK AHEAD
W20-1

LANE CLOSED
R11-2(MOD)
48" X 30"

15'

BIKE PATH

USH 12

USH 12 (WB)

EP: 1775+62.91

1773+00 1774+00 1775+00 1775+63

USH 12

USH 12 (EB)

SIGN

SIGN

END ROAD WORK
G20-2A
48" X 24"

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2 & 4	SHEET 39	E

SEE S.D.D. "TRAFFIC CONTROL, ADVANCE WARNING SIGNS, 45 MPH OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC"

SEE "DETOUR" DETAIL

SEE S.D.D. "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH."

LEGEND

- WORK ZONE
- TRAFFIC DRUM W/WO LIGHT
- SIGN
- TYPE III BARRICADE W/WO SIGN
- TYPE II BARRICADE W/WO SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- FLASHING ARROW BOARD
- MOVABLE SIGN

LANE CLOSED R11-2(MOD) 48"X30"

BIKE PATH WORK AHEAD W20-8 30"X30" (USE TYPE II BARRICADE)

R3-2 36"X36"

WEST M3-4 36"X18"

COUNTY K

M6-1 30"X30"

ATTACH TO EXISTING SIGN

SAWCUT REQUIRED FOR TEMPORARY BIKE PATH REMOVAL

ONE WAY R6-2L 24"X30"

SHOULDER WORK W21-5

ROAD WORK AHEAD W20-1

500'

1500'

25'

100' MAX.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH WHITE (CROSSWALK)

18'

99+00X 100+00X 101+00X 102+00X 103+00X 104+00X 105+00X 106+00X

CTH K

1768+00 1769+00 1770+00 1771+00 1772+00

BIKE PATH

USH 12 (EB)

USH 12 (WB)

RIPRAP

CANOPY

TEMPORARY DETECTABLE WARNING FIELD

TEMPORARY BARRIER WALL

TEMPORARY BARRIER WALL OR TEMPORARY PEDESTRIAN SAFETY FENCE

STA. 1771+80

8:1 TAPER RATE

W5-52R 18"X54"

R3-1 36"X36"

BIKE PATH CLOSED R5-8 24"X12"

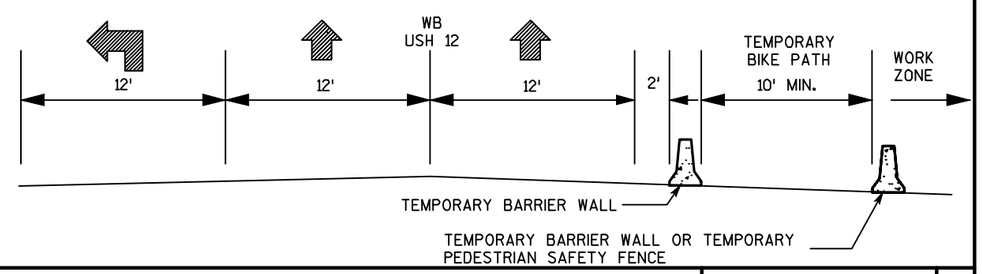
BIKE DETOUR M4-9L 30"X24" (BLACK ON ORANGE)

ONE WAY R6-2R 24"X30"

LANE CLOSED R11-2(MOD) 48"X30"

LANE CLOSED R11-2(MOD) 48"X30"

STAGE 3 TYPICAL



PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET 40	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\026301_S3.DWG PLOT DATE : 1/15/2015 6:02 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42

2

SEE S.D.D. "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH."

N

BIKE PATH WORK AHEAD
W20-3-B
30"X30"

(USE TYPE II BARRICADE)

LANE CLOSED
R11-2(MOD)
48"X30"

BIKE PATH

TEMPORARY BARRIER WALL

STA. 1773+25

20' MIN. TO EDGE OF THROUGH LANE

USH 12 (WB)

ROAD WORK AHEAD
W20-1

1773+00 1774+00 1775+00 1775+63

USH 12 (EB)

END ROAD WORK
G20-2A
48"X24"

SIGN

SIGN

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\026301_S3.DWG PLOT DATE : 10/27/2014 4:25 PM PLOT BY : BREGAUDIT, CHARLENE PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42

2

LANE CLOSED
R11-2-L
48"X30"

BIKE PATH WORK AHEAD
W20-8
30"X30"
(USE TYPE II BARRICADE)

R3-2
36"X36"

WEST M3-4 36"X18"
COUNTY K
ATTACH TO EXISTING SIGN
M6-1
30"X30"

LEGEND

- WORK ZONE
- TRAFFIC DRUM W/WO LIGHT
- SIGN
- BARRICADE W/WO SIGN
- TYPE II BARRICADE W/WO SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- FLASHING ARROW BOARD
- x x x REMOVE PAVEMENT MARKING
- MOVABLE SIGN

SEE S.D.D. "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH."

SEE "DETOUR" DETAIL

N

ROAD WORK AHEAD
W20-1

1500'

ONE WAY
R6-2-L
24"X30"

TEMPORARY DETECTABLE WARNING FIELDS

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH WHITE (CROSSWALK)

SEE STAGE 2 TRAFFIC CONTROL

99+00X 100+00X 101+00X 102+00X 103+00X 104+00X 105+00X 106+00X

CTH K

1767+00 1768+00 1769+00 1770+00 1771+00 1772+00

TEMPORARY PEDESTRIAN SAFETY FENCE

500'

ONE WAY
R6-2-R
24"X30"

END ROAD WORK
G20-2A
48"X24"

LANE CLOSED
R11-2-L
48"X30"

25'

15'

SAWCUT REQUIRED FOR TEMPORARY BIKE PATH REMOVAL

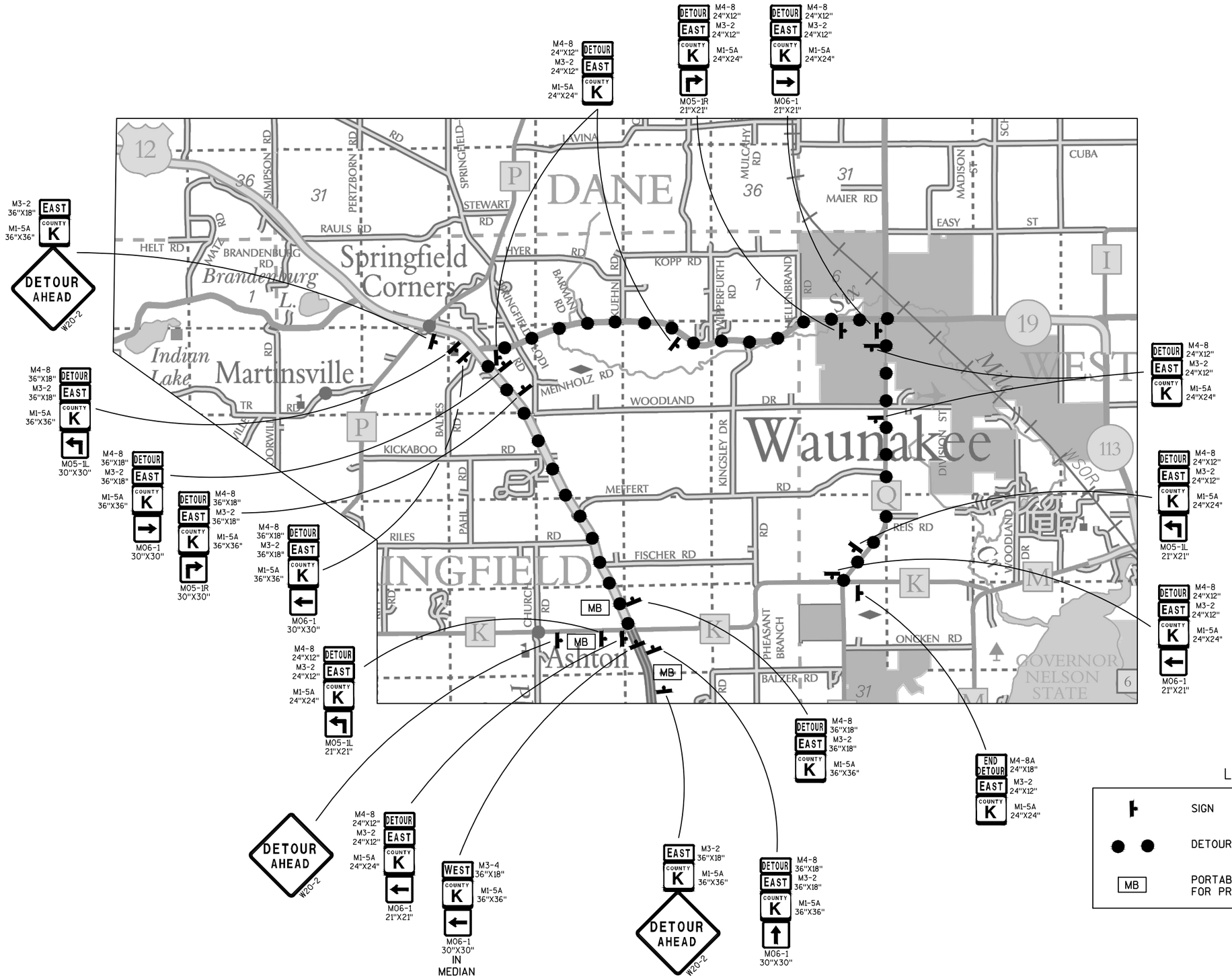
R3-1
36"X36"

SAWCUT REQUIRED FOR TEMPORARY BIKE PATH REMOVAL

SEE STAGE 2 TRAFFIC CONTROL

BIKE PATH
USH 12 (EB)
USH 12 (WB)
RIPRAP
CANOPY
WALLS
MH
SEPV

PROJECT NO:5301-04-74	HWY:USH 12	COUNTY:DANE	TRAFFIC CONTROL - STAGE 4	SHEET 42	E

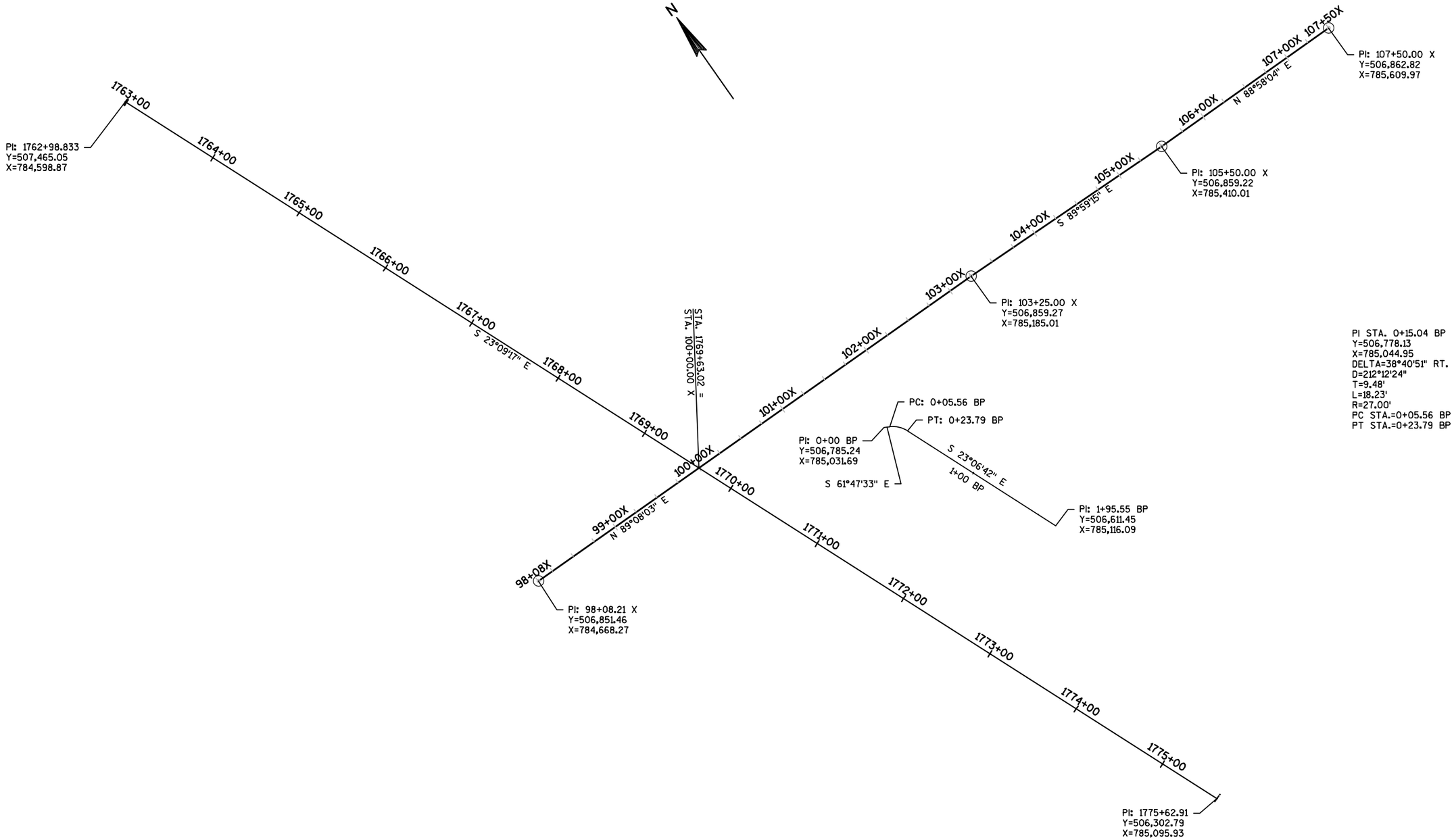


PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	DETOUR	SHEET 43	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\027001_DT.DWG PLOT DATE : 10/24/2014 5:59 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 0.877266

WISDOT/CADDS SHEET 42

2



PROJECT NO:5301-04-74	HWY: USH 12	COUNTY: DANE	ALIGNMENT DETAIL	SHEET 44	E

DATE 16FEB15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5301-04-74 QUANTITY
0010	201.0105	Clearing	STA	3.000	3.000
0020	201.0205	Grubbing	STA	3.000	3.000
0030	204.0100	Removing Pavement	SY	242.000	242.000
0040	204.0110	Removing Asphaltic Surface	SY	370.000	370.000
0050	204.0150	Removing Curb & Gutter	LF	338.000	338.000
0060	204.0170	Removing Fence	LF	70.000	70.000
0070	204.0185	Removing Masonry	CY	1.000	1.000
0080	204.0195	Removing Concrete Bases	EACH	6.000	6.000
0090	204.0220	Removing Inlets	EACH	5.000	5.000
0100	204.0245	Removing Storm Sewer (size) 01. 12-Inch To 24-Inch	LF	175.000	175.000
0110	204.0280	Sealing Pipes	EACH	2.000	2.000
0120	204.9060.S	Removing (item description) 01. Cabinet Bases	EACH	1.000	1.000
0130	205.0100	Excavation Common	CY	1,632.000	1,632.000
0140	213.0100	Finishing Roadway (project) 01. 5301-04-74	EACH	1.000	1.000
0150	305.0110	Base Aggregate Dense 3/4-Inch	TON	11.000	11.000
0160	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	841.000	841.000
0170	312.0110	Select Crushed Material	TON	863.000	863.000
0180	415.1090	Concrete Pavement HES 9-Inch	SY	556.000	556.000
0190	416.0610	Drilled Tie Bars	EACH	125.000	125.000
0200	416.0620	Drilled Dowel Bars	EACH	54.000	54.000
0210	416.1720	Concrete Pavement Replacement	SY	106.000	106.000
0220	465.0105	Asphaltic Surface	TON	282.000	282.000
0230	465.0125	Asphaltic Surface Temporary	TON	59.000	59.000
0240	520.4018	Culvert Pipe Temporary 18-Inch	LF	72.000	72.000
0250	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0260	532.0200.S	Wall Modular Block Gravity	SF	221.000	221.000
0270	601.0115	Concrete Curb Type G	LF	112.000	112.000
0280	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	348.000	348.000
0290	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	442.000	442.000
0300	602.0405	Concrete Sidewalk 4-Inch	SF	1,402.000	1,402.000
0310	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	80.000	80.000
0320	603.8000	Concrete Barrier Temporary Precast Delivered	LF	415.000	415.000
0330	603.8125	Concrete Barrier Temporary Precast Installed	LF	540.000	540.000
0340	606.0200	Riprap Medium	CY	12.000	12.000
0350	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	91.000	91.000
0360	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	61.000	61.000
0370	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	41.000	41.000
0380	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	29.000	29.000
0390	608.0336	Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	LF	56.000	56.000
0400	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0410	611.0627	Inlet Covers Type HM	EACH	2.000	2.000
0420	611.0636	Inlet Covers Type HM-S	EACH	4.000	4.000
0430	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000

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DATE 16FEB15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5301-04-74 QUANTITY
0440	611.2005	Manholes 5-FT Diameter	EACH	2.000	2.000
0450	611.3230	Inlets 2x3-FT	EACH	4.000	4.000
0460	611.3902	Inlets Median 2 Grate	EACH	2.000	2.000
0470	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
0480	611.9710	Salvaged Inlet Covers	EACH	4.000	4.000
0490	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5301-04-74	EACH	1.000	1.000
0500	619.1000	Mobilization	EACH	1.000	1.000
0510	620.0300	Concrete Median Sloped Nose	SF	140.000	140.000
0520	624.0100	Water	MGAL	13.000	13.000
0530	625.0500	Salvaged Topsoil	SY	2,517.000	2,517.000
0540	627.0200	Mulching	SY	2,436.000	2,436.000
0550	628.1504	Silt Fence	LF	100.000	100.000
0560	628.1520	Silt Fence Maintenance	LF	100.000	100.000
0570	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0580	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0590	628.2004	Erosion Mat Class I Type B	SY	197.000	197.000
0600	628.2006	Erosion Mat Urban Class I Type A	SY	50.000	50.000
0610	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0620	628.7020	Inlet Protection Type D	EACH	6.000	6.000
0630	628.7504	Temporary Ditch Checks	LF	48.000	48.000
0640	628.7555	Culvert Pipe Checks	EACH	2.000	2.000
0650	628.7570	Rock Bags	EACH	9.000	9.000
0660	629.0210	Fertilizer Type B	CWT	1.680	1.680
0670	630.0130	Seeding Mixture No. 30	LB	14.000	14.000
0680	630.0140	Seeding Mixture No. 40	LB	30.000	30.000
0690	630.0200	Seeding Temporary	LB	65.000	65.000
0700	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	3.000	3.000
0710	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	2.000	2.000
0720	637.2210	Signs Type II Reflective H	SF	48.250	48.250
0730	637.2215	Signs Type II Reflective H Folding	SF	14.920	14.920
0740	637.2230	Signs Type II Reflective F	SF	2.250	2.250
0750	638.2102	Moving Signs Type II	EACH	5.000	5.000
0760	638.2602	Removing Signs Type II	EACH	2.000	2.000
0770	638.3000	Removing Small Sign Supports	EACH	2.000	2.000
0780	638.4000	Moving Small Sign Supports	EACH	4.000	4.000
0790	642.5401	Field Office Type D	EACH	1.000	1.000
0800	643.0100	Traffic Control (project) 01. 5301-04-74	EACH	1.000	1.000
0810	643.0300	Traffic Control Drums	DAY	4,370.000	4,370.000
0820	643.0410	Traffic Control Barricades Type II	DAY	132.000	132.000
0830	643.0420	Traffic Control Barricades Type III	DAY	90.000	90.000
0840	643.0705	Traffic Control Warning Lights Type A	DAY	312.000	312.000
0850	643.0715	Traffic Control Warning Lights Type C	DAY	96.000	96.000
0860	643.0800	Traffic Control Arrow Boards	DAY	8.000	8.000
0870	643.0900	Traffic Control Signs	DAY	1,154.000	1,154.000
0880	643.0920	Traffic Control Covering Signs Type II	EACH	1.000	1.000
0890	643.1050	Traffic Control Signs PCMS	DAY	21.000	21.000
0900	643.2000	Traffic Control Detour (project) 01. 5301-04-74	EACH	1.000	1.000
0910	643.3000	Traffic Control Detour Signs	DAY	2,706.000	2,706.000
0920	645.0120	Geotextile Fabric Type HR	SY	31.000	31.000
0930	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,535.000	1,535.000
0940	646.0126	Pavement Marking Epoxy 8-Inch	LF	372.000	372.000
0950	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	4.000	4.000

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DATE 16FEB15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5301-04-74 QUANTITY
0960	647.0316	Pavement Marking Symbols Bike Detector Epoxy	EACH	1.000	1.000
0970	647.0356	Pavement Marking Words Epoxy	EACH	2.000	2.000
0980	647.0456	Pavement Marking Curb Epoxy	LF	20.000	20.000
0990	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	58.000	58.000
1000	647.0606	Pavement Marking Island Nose Epoxy	EACH	2.000	2.000
1010	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	96.000	96.000
1020	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	214.000	214.000
1030	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	255.000	255.000
1040	649.1000	Temporary Pavement Marking Stop Line Removable Tape 12-Inch	LF	26.000	26.000
1050	650.4000	Construction Staking Storm Sewer	EACH	9.000	9.000
1060	650.4500	Construction Staking Subgrade	LF	533.000	533.000
1070	650.5000	Construction Staking Base	LF	558.000	558.000
1080	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	446.000	446.000
1090	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
1100	650.6500	Construction Staking Structure Layout (structure) 01. Wall Modular Block Gravity	LS	1.000	1.000
1110	650.7000	Construction Staking Concrete Pavement	LF	145.000	145.000
1120	650.8500	Construction Staking Electrical Installations (project) 01. 5301-04-74	LS	1.000	1.000
1130	650.9910	Construction Staking Supplemental Control (project) 01. 5301-04-74	LS	1.000	1.000
1140	650.9920	Construction Staking Slope Stakes	LF	518.000	518.000
1150	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	310.000	310.000
1160	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	375.000	375.000
1170	652.0800	Conduit Loop Detector	LF	124.000	124.000
1180	653.0140	Pull Boxes Steel 24x42-Inch	EACH	5.000	5.000
1190	653.0905	Removing Pull Boxes	EACH	4.000	4.000
1200	654.0101	Concrete Bases Type 1	EACH	4.000	4.000
1210	654.0113	Concrete Bases Type 13	EACH	4.000	4.000
1220	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
1230	655.0230	Cable Traffic Signal 5-14 AWG	LF	2,470.000	2,470.000
1240	655.0250	Cable Traffic Signal 9-14 AWG	LF	300.000	300.000
1250	655.0260	Cable Traffic Signal 12-14 AWG	LF	1,235.000	1,235.000
1260	655.0305	Cable Type UF 2-12 AWG Grounded	LF	596.000	596.000
1270	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	2,816.000	2,816.000
1280	655.0700	Loop Detector Lead In Cable	LF	256.000	256.000
1290	655.0800	Loop Detector Wire	LF	300.000	300.000
1300	657.0100	Pedestal Bases	EACH	5.000	5.000
1310	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	3.000	3.000
1320	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	1.000	1.000
1330	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	1.000	1.000
1340	657.1355	Install Poles Type 12	EACH	2.000	2.000
1350	657.1360	Install Poles Type 13	EACH	2.000	2.000
1360	657.1540	Install Monotube Arms 40-FT	EACH	2.000	2.000
1370	657.1545	Install Monotube Arms 45-FT	EACH	2.000	2.000
1380	657.1808	Install Luminaire Arms Steel 8-FT	EACH	1.000	1.000
1390	657.1810	Install Luminaire Arms Steel 10-FT	EACH	1.000	1.000

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DATE 16FEB15 E S T I M A T E O F Q U A N T I T I E S

LINE 5301-04-74

NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1400	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	17.000	17.000
1410	658.0416	Pedestrian Signal Face 16-Inch	EACH	4.000	4.000
1420	658.0500	Pedestrian Push Buttons	EACH	6.000	6.000
1430	658.5069	Signal Mounting Hardware (location) 01. USH 12 & CTH K	LS	1.000	1.000
1440	661.0200	Temporary Traffic Signals for Intersections (location) 01. USH 12 & CTH K	LS	1.000	1.000
1450	690.0150	Sawing Asphalt	LF	490.000	490.000
1460	690.0250	Sawing Concrete	LF	388.000	388.000
1470	SPV.0060	Special 01. Temporary Detectable Warning Field	EACH	8.000	8.000
1480	SPV.0060	Special 02. Sediment Basin	EACH	1.000	1.000
1490	SPV.0060	Special 03. Storm Sewer Tap	EACH	1.000	1.000
1500	SPV.0060	Special 04. Removing Pavement Marking Arrows Water Blasting	EACH	2.000	2.000
1510	SPV.0060	Special 05. Removing Pavement Marking Words Water Blasting	EACH	2.000	2.000
1520	SPV.0090	Special 01. Pipe Underdrain (6-Inch) With Geotextile Fabric And Aggregate	LF	187.000	187.000
1530	SPV.0090	Special 02. Temporary Pedestrian Safety Fence	LF	405.000	405.000
1540	SPV.0090	Special 03. Removing Pavement Markings Water Blasting	LF	1,439.000	1,439.000
1550	SPV.0090	Special 04. Outdoor Ethernet Cable **P**	LF	250.000	250.000
1560	SPV.0105	Special 01. Concrete Pavement Joint Layout	LS	1.000	1.000
1570	SPV.0105	Special 02. Remove Traffic Signal Equipment	LS	1.000	1.000

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CLEARING AND GRUBBING

STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
102+00 X	RT	1	1
104+00 X	RT	1	1
105+00 X	RT	1	1
	TOTAL	3	3

REMOVALS

STATION	TO	STATION	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0150 REMOVING CURB & GUTTER LF	204.0170 REMOVING FENCE LF	204.0185 REMOVING MASONRY CY
101+09 X	-	101+75 X	RT	242	-	-	-	-
101+75 X	-	105+13 X	RT	-	-	338	70	-
101+75 X	-	105+49 X	RT	-	370	-	-	-
103+21 X			RT	-	-	-	-	1
			TOTAL	242	370	338	70	1

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REMOVING INLETS

STATION	OFFSET	204.0220 EACH
101+48 X	41.1' RT	1
101+77 X	30.1' RT	1
101+87 X	29.7' RT	1
0+35 BP	13.6' RT	1
0+74 BP	6.8' RT	1
	TOTAL	5

REMOVING STORM SEWER (01. 12-INCH TO 24-INCH)

STATION	TO	STATION	LOCATION	204.0245.01 LF
101+77 X	-	101+87 X	LT/RT	75
101+48 X	-	101+77 X	RT	35
101+25 X	-	101+48 X	RT	25
0+35 BP	-	0+68 BP	RT	30
0+35 BP	-	0+74 BP	RT	10
			TOTAL	175

SEALING PIPES

STATION	LOCATION	204.0280 EACH
101+28 X	49.8' RT	1
101+29 X	46.0' RT	1
	TOTAL	2

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EARTHWORK

STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CUT CY	(1) UNUSABLE MATERIAL CY	(2) UNUSABLE ASPHALT MATERIAL CY	(3) AVAILABLE MATERIAL CY	UNEXPANDED FILL CY	(4) EXPANDED FILL FACTOR = 1.25 CY	(5) MASS ORDINATE BALANCE CY	REMARKS
100+00 X	-	101+50 X	LT & RT	54	0	7	47	27	34	13	INSTALL/REMOVE BIKE PATH CONNECTIONS
101+10 X	-	102+50 X	CTH K	430	430	0	0	430	538	-538	3.5' OF TOPSOIL REMOVAL
101+10 X	-	105+50 X	CTH K	950	0	28	922	28	35	887	-
101+20 X			NE QUADRANT	15	0	0	15	0	0	15	RIPRAP REMOVAL
0+08 BP	-	1+18 BP	BIKE PATH	85	0	9	76	32	40	36	-
10+38 T	-	10+99 T	TEMPORARY BIKE PATH	0	0	0	0	49	61	-61	TEMPORARY PATH CONSTRUCTION
10+38 T	-	10+99 T	TEMPORARY BIKE PATH	64	0	4	60	0	0	60	TEMPORARY PATH REMOVAL
1770+13	-	1770+60	LT	34	0	3	31	0	0	31	USH 12 MEDIAN WORK
			TOTAL	1632	430	51	1151	566	708	444	

(1) EXCESS TOPSOIL EXCAVATION
(2) UNUSABLE ASPHALT MATERIAL INCLUDED IN COMMON EXCAVATION
(3) AVAILABLE MATERIAL = COMMON EXCAVATION - UNUSABLE MATERIAL - UNUSABLE ASPHALT MATERIAL
(4) EXPANDED FILL = UNEXPANDED FILL X 1.25
(5) MASS ORDINATE = AVAILABLE MATERIAL - EXPANDED FILL. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL

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BASE AGGREGATE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	REMARKS
0+03 BP	-	1+18 BP	LT & RT	4	51	-	BIKE PATH
100+30 X	-	100+74 X	RT	4	39		USH 12 MEDIAN
101+03 X	-	101+87 X	LT & RT	1	36	-	TEMPORARY BIKE PATH S1
101+09 X	-	101+75 X	RT	-	181	-	PORKCHOP, CTH K MEDIAN, EX CONCRETE, WIDENING
101+35 X	-	102+54 X	RT	-	-	506	PORKCHOP, CTH K MEDIAN, NEW CONCRETE WIDENING
101+72 X	-	102+35 X	RT	2	28	-	TEMPORARY BIKE PATH S2
101+75 X	-	102+54 X	RT	-	145	-	CTH K MEDIAN, NEW CONCRETE WIDENING
102+54 X	-	105+50 X	RT	-	351	357	CTH K MEDIAN, EX ASPHALT, WIDENING
103+07 X	-	103+22 X	RT	-	10	-	DRIVEWAY
			TOTAL	11	841	863	

CONCRETE

STATION	TO	STATION	LOCATION	415.1090 CONCRETE PAVEMENT HES 9-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	SPV.0105.01 CONCRETE PAVEMENT JOINT LAYOUT LS	REMARKS
100+30 X	-	100+74 X	RT	-	31	15	72	-	USH 12 MEDIAN
101+09 X	-	101+76 X	RT	-	83	-	-	-	ABUTTING EX CONCRETE
101+09 X	-	102+54 X	RT	556	-	-	-	-	USH 12 / CTH K NEW CONCRETE
101+39 X	-	101+65 X	RT	-	11	39	34	-	NORTH OF CTH K MEDIAN
			PROJECT	-	-	-	-	1	-
			TOTAL	556	125	54	106	1	

ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	465.0105 ASPHALTIC SURFACE TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	REMARKS
0+08 BP	-	1+18 BP	LT & RT	43	-	BIKE PATH
100+46 X	-	100+73 X	RT	8	-	USH 12 MEDIAN
100+99 X	-	101+10 X	LT	2	-	NORTH CURB RAMP
102+54 X	-	105+50 X	RT	220	-	EB CTH K
103+06 X	-	103+22 X	RT	9	-	DRIVEWAY
101+03 X	-	101+87 X	LT & RT	-	36	S1 TEMPORARY BIKE PATH
101+73 X	-	102+33 X	RT	-	23	S2 TEMPORARY BIKE PATH
			TOTAL	282	59	

TEMPORARY CULVERT PIPE

STATION	LOCATION	520.4018 CULVERT PIPE TEMPORARY 18-INCH LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	REMARKS
10+71 T	LT & RT	72	1	TEMPORARY BIKE PATH
	TOTAL	72	1	

WALL MODULAR BLOCK GRAVITY

STATION	TO	STATION	LOCATION	532.0200.S SF
103+21 X	-	103+84 X	RT	221
			TOTAL	221

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ANCILLARY CONCRETE ITEMS

STATION	TO	STATION	LOCATION	601.0115 CONCRETE CURB TYPE G LF	601.0555 CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A LF	601.0557 CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	602.0405 CONCRETE SIDEWALK 4-INCH SF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	REMARKS
100+99 X	-	101+14 X	LT	-	33	-	134	-	NORTH CURB RAMP
101+20 X	-	101+54 X	RT	112	-	-	617	-	PORKCHOP ISLAND
101+33 X	-	102+95 X	RT	-	-	-	592	140	CTH K MEDIAN
101+40 X	-	102+54 X	RT	-	149	-	-	-	CTH K MEDIAN
101+57 X		102+54 X	RT	-	166	-	-	-	SOUTH RADIUS
101+70 X	-	101+81 X	RT	-	-	-	59	-	SOUTH CURB RAMP
101+76 X	-	102+88 X	RT	-	-	147	-	-	CTH K MEDIAN
102+54 X	-	105+50 X	RT	-	-	295	-	-	-
			TOTAL	112	348	442	1402	140	

CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA

STATION	LOCATION	602.0515 SF
101+05 X	NORTH BIKE PATH CURB RAMP	20
101+34 X	PORKCHOP NORTH CURB RAMP	20
101+45 X	PORKCHOP SOUTH CURB RAMP	20
101+76 X	SOUTH BIKE PATH CURB RAMP	20
	TOTAL	80

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TEMORARY BARRIER WALL

STATION	TO	STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
1770+19	-	1771+96	LT	415	540
			TOTAL	415	540

STORM SEWER PIPE SUMMARY

FROM STRUCTURE	TO STRUCTURE	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0315 15-INCH LF	608.0318 18-INCH LF	608.0324 24-INCH LF	608.0336 36-INCH LF
5A	5	-	-	-	-	56
5B	5I	-	-	16	-	-
5C	5I	-	-	25	-	-
5D	5A	-	10	-	-	-
5E	5D	-	51	-	-	-
5F	5E	18	-	-	-	-
5G	5F	7	-	-	-	-
5H	5D	66	-	-	-	-
5I	5A	-	-	-	29	-
	TOTAL	91	61	41	29	56

MANHOLE AND INLET STRUCTURE SUMMARY

STRUCT. NO.	STATION	OFFSET	520.8000 CONCRETE COLLARS FOR PIPE EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0627 INLET COVERS TYPE HM EACH	611.0636 INLET COVERS TYPE HM-S EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.2005 MANHOLES 5-FT DIAMETER EACH	611.3230 INLETS 2X3-FT EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	611.8110 ADJUSTING MANHOLE COVERS EACH	611.9710 SALVAGED INLET COVERS EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	SPV.0060.03 STORM SEWER TAP EACH	REMARKS
5	101+25 X	46.9' RT	1	-	-	-	-	-	-	-	1	-	-	1	-
5A	101+79 X	64.8' RT	-	-	-	1	-	1	-	-	-	-	1	-	-
5B	101+81 X	109.9' RT	-	-	-	-	-	-	-	1	-	-	1	-	USE SALVAGED INLET COVERS (2 MS)
5C	102+05 X	93.4' RT	-	-	-	-	-	-	-	1	-	-	1	-	USE SALVAGED INLET COVERS (2 MS)
5D	101+86 X	58.3' RT	-	-	-	1	1	-	-	-	-	-	1	-	-
5E	101+61 X	13.5' RT	-	-	1	-	-	-	1	-	-	-	1	-	-
5F	101+43 X	13.5' RT	-	-	-	1	-	-	1	-	-	-	1	-	-
5G	101+43 X	20.5' RT	-	-	-	1	-	-	1	-	-	-	1	-	-
5H	102+50 X	40.6' RT	-	-	1	-	-	-	1	-	-	-	1	-	-
5I	101+80 X	94.2' RT	-	1	-	-	-	1	-	-	-	-	1	-	SLOPE MH COVER TO MATCH ADJACENT GRADE
-	0+35 BP	13.7' RT	-	-	-	-	-	-	-	-	-	2	-	-	-
-	0+74 BP	6.5' RT	-	-	-	-	-	-	-	-	-	2	-	-	-
		TOTAL	1	1	2	4	1	2	4	2	1	4	9	1	

3

WATER

LOCATION	624.0100 MGAL
PROJECT	13
TOTAL	13

LANDSCAPING

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB
100+88 X	-	101+32 X	LT	77	-	0.05	-	-	-
101+76 X	-	103+07 X	RT	714	714	0.45	-	13	19
103+22 X	-	105+50 X	RT	631	631	0.40	-	11	17
1770+24	-	1770+68	LT	97	-	0.06	-	-	-
1771+02	-	1172+84	LT	670	604	0.38	11	-	16
UNDISTRIBUTED			PROJECT	328	487	0.34	3	6	13
			TOTAL	2517	2436	1.68	14	30	65

GEOTEXTILE FABRIC TYPE HR

STATION	TO	STATION	LOCATION	645.0120 SY
101+20 X			LT	31
			TOTAL	31

3

EROSION CONTROL

STATION	TO	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2004 EROSION MAT CLASS I TYPE B SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH	SPV.0060.02 SEDIMENT BASIN EACH	REMARKS
100+89 X	-	100+99 X	LT	-	-	-	-	-	5	-	-	-	-	-	-	-	-
101+08 X	-	101+34 X	LT	-	70	70	-	-	64	-	-	-	-	-	-	-	-
101+20 X			LT	12	-	-	-	-	-	-	-	-	-	-	-	-	-
101+25 X			46' RT	-	-	-	-	-	-	-	-	-	-	-	9	-	FOR 36" PIPE
101+41 X	-	102+53 X	RT	-	-	-	-	-	-	-	-	6	-	-	-	-	-
1770+24	-	1770+69	LT	-	-	-	-	-	103	-	-	-	-	-	-	-	-
1771+09	-	1771+33	LT	-	-	-	-	-	-	-	2	-	-	-	-	-	-
1+48 BP			RT	-	-	-	-	-	-	-	-	-	-	2	-	-	-
UNDISTRIBUTED			PROJECT	-	30	30	4	2	25	50	-	-	48	-	-	1	-
			TOTAL	12	100	100	4	2	197	50	2	6	48	2	9	1	

SIGNS TYPE II

SIGN NO.	STATION	LOCATION	SIGN CODE	SIZE WIDTH	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	634.0618 POSTS WOOD 4X6-INCH X 18-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
1-1	101+72 X	RT	-	-	-	-	-	-	-	1	-	-	1	-
1-2	1771+18	LT	-	-	-	-	-	-	-	1	-	-	1	-
1-3	101+28 X	RT	R1-1F	36" X 36"	-	-	-	7.46	-	-	-	-	-	PLACE ON LIGHT POLE
1-4	101+58 X	RT	R4-7	36" X 48"	-	1	12.00	-	-	-	-	-	-	-
1-5	101+58 X	RT	R1-1F	36" X 36"	-	-	-	7.46	-	-	-	-	-	SAME POST AS SIGN 1-4
1-6	102+85 X	RT	W5-54	18" X 18"	-	1	-	-	2.25	-	-	-	-	-
1-7	102+85 X	RT	R4-7	36" X 48"	-	-	12.00	-	-	-	-	-	-	-
1-8	103+11 X	LT	-	-	-	-	-	-	-	-	1	1	-	-
1-9	103+30 X	LT	R3-8Z	54" X 30"	2	-	11.25	-	-	-	-	-	-	-
1-10	101+70 X	RT	-	-	-	-	-	-	-	1	-	-	-	MOVE TO LIGHT POLE
1-11	102+90 X	RT	-	-	-	-	-	-	-	-	1	1	-	-
1-12	102+98 X	RT	M1-5A	24" X 24"	1	-	4.00	-	-	-	-	-	-	-
1-13	102+98 X	RT	R5-1	36" X 36"	-	-	9.00	-	-	-	-	-	-	-
1-14	103+76 X	RT	-	-	-	-	-	-	-	1	-	-	1	-
1-15	104+78 X	RT	-	-	-	-	-	-	-	1	-	-	1	-
				TOTAL	3	2	48.25	14.92	2.25	5	2	2	4	

3

SPECIAL (01. TEMPORARY DETECTABLE WARNING FIELD)

STAGE	LOCATION	SPV.0060.01 EACH
STAGE 2, STAGE 3, STAGE 4	TEMPORARY BIKE PATH	8
	TOTAL	8

SPECIAL (02. TEMPORARY PEDESTRIAN SAFETY FENCE)

STATION	TO	STATION	LOCATION	SPV.0090.02 LF
1770+19	-	1772+51	LT	405
			TOTAL	405

REMOVING PAVEMENT MARKINGS WATER BLASTING

STATION	TO	STATION	LOCATION	SPV.0060.04 REMOVING PAVEMENT MARKING ARROWS WATER BLASTING EACH	SPV.0060.05 REMOVING PAVEMENT MARKING WORDS WATER BLASTING EACH	SPV.0090.03 REMOVING PAVEMENT MARKINGS WATER BLASTING LF	REMARKS
100+96 X	-	101+28 X	LT & RT	-	-	211	CROSSWALK
101+15 X	-	101+37 X	RT	-	-	107	STOP LINE
101+18 X	-	103+31 X	RT	-	-	63	SKIPS
101+28 X	-	101+42 X	LT	-	-	157	STOP LINE
101+41 X		105+92 X	CL	-	-	901	CENTERLINE
		101+58 X	LT	1	-	-	ARROW
		102+23 X	LT	-	1	-	"ONLY"
		102+52 X	LT	1	-	-	ARROW
		103+25 X	LT	-	1	-	"ONLY"
			TOTAL	2	2	1439	

TRAFFIC CONTROL

STAGE	DURATION DAYS	643.0300 DRUMS EACH	643.0300 DRUMS DAY	643.0410 BARRICADES TYPE II EACH	643.0410 BARRICADES TYPE II DAY	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C EACH	643.0715 WARNING LIGHTS TYPE C DAY	643.0800 ARROW BOARDS EACH	643.0800 ARROW BOARDS DAY	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.0920 COVERING SIGNS TYPE II EACH	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAY	643.3000 DETOUR SIGNS EACH	643.3000 DETOUR SIGNS DAY
STAGE 1	4	71	284	2	8	2	8	6	24	24	96	2	8	19	76	-	-	-	-	-
STAGE 2	10	116	1160	2	20	2	20	6	60	-	-	-	-	25	250	1	-	-	66	660
STAGE 3	21	96	2016	4	84	2	42	8	168	-	-	-	-	28	588	-	-	-	66	1386
STAGE 4	10	91	910	2	20	2	20	6	60	-	-	-	-	24	240	-	-	-	66	660
PROJECT	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	21	-	-
	TOTAL		4370		132		90		312		96		8		1154	1		21		2706

TEMPORARY PAVEMENT MARKING

	STATION	LOCATION	649.0400 REMOVABLE TAPE 4-INCH LF	649.1000 STOP LINE REMOVABLE TAPE 12-INCH LF	REMARKS
STAGE 2	101+30 X	LT	75	-	TEMPORARY CROSSWALK
	101+45 X	LT	-	26	STOP LINE
STAGE 3	101+13 X	LT	90	-	TEMPORARY CROSSWALK
STAGE 4	101+18 X	LT	90	-	TEMPORARY CROSSWALK
		TOTAL	255	26	

PAVEMENT MARKING

STATION	TO	STATION	LOCATION	646.0106 EPOXY 4-INCH (WHITE) LF	646.0106 EPOXY 4-INCH (YELLOW) LF	646.0126 EPOXY 8-INCH LF	647.0166 ARROWS EPOXY TYPE2 EACH	647.0316 SYMBOLS BIKE DETECTOR EPOXY EACH	647.0356 WORDS EPOXY EACH	647.0456 CURB EPOXY (YELLOW) LF	647.0566 STOP LINE EPOXY 18-INCH LF	647.0606 ISLAND NOSE EPOXY (YELLOW) EACH	647.0726 DIAGONAL EPOXY 12-INCH (WHITE) LF	647.0726 DIAGONAL EPOXY 12-INCH (YELLOW)	647.0766 CROSSWALK EPOXY 6-INCH LF	REMARKS
99+38 X			RT	-	-	-	-	1	-	-	-	-	-	-	-	BIKE SYMBOL
100+26 X	-	101+13 X	RT	42	-	-	-	-	-	-	-	-	-	-	-	LEFT TURN LANE
101+55 X	-	101+30 X	RT	-	20	-	-	-	-	-	-	-	-	-	-	LEFT TURN LANE
101+01 X	-	101+37 X	LT & RT	-	-	-	-	-	-	-	-	-	-	-	157	CROSSWALK
101+44 X	-	101+74 X	RT	-	-	-	-	-	-	-	-	-	-	-	57	CROSSWALK
101+15 X	-	101+52 X	RT	-	-	124	-	-	-	-	-	-	43	-	-	GORE
101+28 X	-	101+42 X	LT	-	-	-	-	-	-	-	43	-	-	-	-	STOP LINE
101+28 X	-	105+49 X	LT	421	-	-	-	-	-	-	-	-	-	-	-	RIGHT EDGELINE
101+34 X	-	103+25 X	LT	-	-	191	-	-	-	-	-	-	-	-	-	LEFT TURN
101+38 X	-	103+00 X	CL	50	-	-	-	-	-	-	-	-	-	-	-	SKIPS - 12.5' LINE, 37.5' SPACING
101+40 X			RT	-	-	-	-	-	-	10	-	1	-	-	-	CTH K MEDIAN NOSE
101+42 X	-	101+65 X	RT	-	-	-	-	-	-	-	15	-	-	-	-	STOP LINE
101+58 X			LT & RT	-	-	-	2	-	-	-	-	-	-	-	-	LEFT TURN ARROWS
102+43 X			LT & RT	-	-	-	-	-	2	-	-	-	-	-	-	LEFT TURN LANES "ONLY"
102+49 X	-	105+49 X	RT	300	-	-	-	-	-	-	-	-	-	-	-	RIGHT EDGELINE
102+85 X		105+92 X	RT	-	702	-	-	-	-	-	-	-	-	-	-	CENTERLINE
102+88 X			RT	-	-	-	-	-	-	10	-	1	-	-	-	CTH K MEDIAN NOSE
102+98 X		104+25 X	RT	-	-	-	-	-	-	-	-	-	-	53	-	
103+01 X			LT & RT	-	-	-	2	-	-	-	-	-	-	-	-	LEFT TURN ARROWS
103+25 X	-	105+43 X	LT	-	-	57	-	-	-	-	-	-	-	-	-	SKIPS - 3' LINE, 9' SPACING
			SUB-TOTAL	813	722								43	53		
			TOTAL	1535		372	4	1	2	20	58	2	96		214	

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CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB GUTTER AND CURB & GUTTER LF	650.6500 STRUCTURE LAYOUT (01. WALL MODULAR BLOCK GRAVITY) LS	650.7000 CONCRETE PAVEMENT LF	650.8500 ELECTRICAL INSTALLATIONS (5301-04-74) LS	650.9910 SUPPLEMENTAL CONTROL (5301-04-74) LS	650.9920 SLOPE STAKES LF	REMARKS
0+00 BP	-	1+18 BP	LT & RT	118	118	-	-	-	-	-	118	-
101+10 X	-	102+55 X	RT	-	-	-	-	145	-	-	-	-
101+10 X	-	105+50 X	RT	-	440	-	-	-	-	-	-	-
101+35 X	-	105+50 X	RT	415	-	-	-	-	-	-	-	-
101+50 X	-	105+50 X	RT	-	-	-	-	-	-	-	400	-
101+76 X	-	102+90 X	RT	-	-	114	-	-	-	-	-	CTH K MEDIAN
102+54 X	-	102+90 X	RT	-	-	36	-	-	-	-	-	CTH K MEDIAN
102+54 X	-	105+50 X	RT	-	-	296	-	-	-	-	-	-
103+21 X	-	103+84 X	RT	-	-	-	1	-	-	-	-	-
			PROJECT	-	-	-	-	-	1	1	-	-
			TOTAL	533	558	446	1	145	1	1	518	

TRAFFIC SIGNAL CONDUIT

FROM STRUCTURE NUMBER		TO STRUCTURE NUMBER	652.0225 CONDUIT RIGID NONMETALLIC 2-INCH LF	652.0235 CONDUIT RIGID SCHEDULE 40 3-INCH LF
CB-2	-	PB-30	-	3 - 12
CB-2	-	PB-34	-	3 - 31
PB-7	-	SB-17	53	-
PB-18	-	SB-19	59	-
PB-22	-	PB-33		2 - 18
PB-30	-	PB-31		2 - 61
PB-31	-	PB-32	110	-
PB-31	-	SB-15	10	-
PB-31	-	SB-16	33	-
PB-33	-	PB-34		2 - 44
PB-33	-	SB-20	11	-
PB-33	-	SB-21	22	-
PB-34	-	SB-22	12	-
		TOTAL	310	375

TRAFFIC SIGNAL REMOVALS

SIGNAL BASE NUMBER	STATION	OFFSET	204.0195 REMOVING CONCRETE BASES EACH	204.9060.S REMOVING (CABINET BASES) EACH	653.0905 REMOVING PULL BOXES EACH
CB-1	101+66 X	53.9' RT	-	1	-
SB-1	101+77 X	35.0' RT	1	-	-
SB-4	100+86 X	61.7' LT	1	-	-
SB-8	98+98 X	33.9' LT	1	-	-
SB-10	99+79 X	66.6' RT	1	-	-
SB-13	101+44 X	77.1' RT	1	-	-
SB-14	101+54 X	55.7' RT	1	-	-
PB-1	101+62 X	40.9' RT	-	-	1
PB-6	101+05 X	99.2' LT	-	-	1
PB-28	101+52 X	51.2' RT	-	-	1
PB-29	101+87 X	97.8' RT	-	-	1
		TOTAL	6	1	4

PULL BOXES STEEL 24X42-INCH

NUMBER	STATION	OFFSET	653.0140 EACH
PB-30	101+87.31	64.59' RT	1
PB-31	101+48.67	16.80' RT	1
PB-32	102+58.24	17.00' RT	1
PB-33	101+35.59	64.99' RT	1
PB-34	101+68.98	92.95' RT	1
		TOTAL	5

TRAFFIC SIGNAL LOOP DETECTOR

LOOP NUMBER	HOME RUN PULL BOX	STATION CENTER FRONT OF LOOP	OFFSET	SIZE LF X LF	NO. OF TURNS	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE LF
73	PB-31	101+43	6.0' RT	6 X 20	3	84	73	188
74	PB-32	102+58	6.0' RT	6 X 6	4	40	183	112
					TOTAL	124	256	300

*INSTALL USING SDD: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

CONCRETE BASES

NUMBER	STATION	OFFSET	654.0101 CONCRETE BASES TYPE 1 EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH	CONCRETE BASES SHAFT LENGTH
CB-2	101+95 X	76' RT	-	-	1	-
SB-15	101+58 X	17' RT	1	-	-	-
SB-16	101+82 X	17' RT	1	-	-	-
SB-17	100+74 X	92' LT	-	1	-	16'-0"
SB-18	98+97 X	34' LT	-	1	-	15'-0"
SB-19	99+89 X	89' RT	-	1	-	16'-0"
SB-20	101+30 X	56' RT	1	-	-	-
SB-21	101+45 X	45' RT	-	1	-	14'-6"
SB-22	101+72 X	81' RT	1	-	-	-
		TOTAL	4	4	1	

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TRAFFIC SIGNAL CABLE

		655.0230	655.0250	655.0260
		CABLE TRAFFIC SIGNAL		
		5-14 AWG	9-14 AWG	12-14 AWG
FROM	TO	LF	LF	LF
CABINET	SB-2	-	-	155
SB-2	HEAD 11	15	-	-
SB-2	HEAD 33	15	-	-
CABINET	SB-3	-	165	-
SB-3	HEAD 95	10	-	-
CABINET	SB-5	245	-	-
SB-5	HEAD 9	15	-	-
CABINET	SB-6	265	-	-
SB-6	HEAD 5	15	-	-
CABINET	SB-7	350	-	-
SB-7	HEAD 1	15	-	-
CABINET	SB-9	-	-	275
SB-9	HEAD 14	15	-	-
SB-9	HEAD 28	15	-	-
CABINET	SB-12	-	-	330
SB-12	HEAD 4	15	-	-
SB-12	HEAD 10	15	-	-
CABINET	SB-15	85	-	-
SB-15	HEAD 29	15	-	-
CABINET	SB-16	110	-	-
SB-16	HEAD 21	15	-	-
CABINET	SB-17	210	-	-
SB-17	HEAD 22	60	-	-
SB-17	HEAD 23	60	-	-
CABINET	SB-18	-	-	375
SB-18	HEAD 24	65	-	-
SB-18	HEAD 25	65	-	-
SB-18	HEAD 26	65	-	-
SB-18	HEAD 27	65	-	-
CABINET	SB-19	275	-	-
SB-19	HEAD 17	60	-	-
SB-19	HEAD 18	60	-	-
CABINET	SB-20	-	90	-
SB-20	HEAD 19	15	-	-
SB-20	HEAD 93	10	-	-
CABINET	SB-21	-	-	100
SB-21	HEAD 30	65	-	-
SB-21	HEAD 31	65	-	-
SB-21	HEAD 32	65	-	-
SB-21	HEAD 94	10	-	-
CABINET	SB-22	-	45	-
SB-22	HEAD 20	15	-	-
SB-22	HEAD 92	10	-	-
	TOTAL	2470	300	1235

CABLE TYPE UF 2-12 AWG GROUNDED

		655.0305
FROM	TO	LF
CB-2	SB-5	241
SB-5	SB-18	130
CB-2	SB-21	97
SB-21	SB-11	128
	TOTAL	596

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

		655.0515	
		EQUIPMENT GROUNDING CONDUCTOR (GREEN)	GROUNDED CONDUCTOR (WHITE)
FROM	TO	LF	LF
CABINET	SB-15	83	83
SB-15	SB-16	43	43
SB-16	SB-2	113	113
SB-2	SB-3	40	40
SB-3	SB-17	56	56
SB-17	SB-5	131	131
SB-5	SB-6	30	30
SB-6	SB-7	101	101
SB-7	SB-18	45	45
SB-18	SB-9	120	120
SB-9	SB-19	70	70
SB-19	SB-12	175	175
SB-12	SB-20	100	100
SB-20	SB-21	33	33
SB-21	SB-22	78	78
SB-22	CABINET	43	43
PB-31	SB-15	10	-
PB-31	SB-16	33	-
PB-2	SB-2	14	-
PB-7	SB-3	6	-
PB-7	SB-17	50	-
PB-8	SB-5	4	-
PB-12	SB-6	8	-
PB-17	SB-7	11	-
PB-17	SB-18	34	-
PB-18	SB-9	11	-
PB-18	SB-19	59	-
PB-22	SB-12	9	-
PB-33	SB-20	11	-
PB-33	SB-21	22	-
PB-34	SB-22	12	-
	SUB-TOTAL	1555	1261
	TOTAL	2816	

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TRAFFIC SIGNALS I

UNIT NUMBER	657.0100 PEDESTAL BASES EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	657.1355 INSTALL POLES TYPE 12 EACH	657.1360 INSTALL POLES TYPE 13 EACH	657.1540 INSTALL MONOTUBE ARMS 40-FT EACH	657.1545 INSTALL MONOTUBE ARMS 45-FT EACH
SB-3	1	-	-	1	-	-	-	-
SB-15	1	-	1	-	-	-	-	-
SB-16	1	1	-	-	-	-	-	-
SB-17	-	-	-	-	1	-	1	-
SB-18	-	-	-	-	-	1	-	1
SB-19	-	-	-	-	1	-	1	-
SB-20	1	1	-	-	-	-	-	-
SB-21	-	-	-	-	-	1	-	1
SB-22	1	1	-	-	-	-	-	-
TOTAL	5	3	1	1	2	2	2	2

658-TRAFFIC SIGNALS II

NUMBER	SIGNAL HEAD NUMBER	657.1808 INSTALL LUMINARE ARMS STEEL 8-FT EACH	657.1810 INSTALL LUMINARE ARMS STEEL 10-FT EACH	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH
SB-2	33	-	-	1	-	1
SB-3	95	-	-	-	1	1
SB-9	28	-	-	1	-	1
SB-15	29	-	-	1	-	-
SB-16	21	-	-	1	-	-
SB-17	22	-	-	1	-	-
	23	-	-	1	-	-
SB-18	24	-	1	1	-	-
	25	-	-	1	-	-
	26	-	-	1	-	-
	27	-	-	1	-	-
SB-19	17	-	-	1	-	-
	18	-	-	1	-	-
SB-20	19	-	-	1	-	-
	93	-	-	-	1	1
SB-21	30	1	-	1	-	-
	31	-	-	1	-	-
	32	-	-	1	-	-
	94	-	-	-	1	1
SB-22	20	-	-	1	-	-
	92	-	-	-	1	1
	TOTAL	1	1	17	4	6

SIGNAL MOUNTING HARDWARE (USH 12 & CTH K)

LOCATION	658.5069 LS
USH 12 & CTH K	1
TOTAL	1

3

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (USH 12 & CTH K)

LOCATION	661.0200 LS
USH 12 & CTH K	1
TOTAL	1

TEMPORARY TRAFFIC SIGNAL - FOR INFORMATION ONLY

		CABLE TRAFFIC SIGNAL					SIGNAL POLE LOCATIONS		
		5-14 AWG	9-14 AWG	12-14 AWG	15-14 AWG	21-14 AWG			
FROM	TO	LF	LF	LF	LF	LF	NUMBER	STA	OFFSET
CABINET	TP1					17	TP1	101+87	71.97' R
TP1	HEAD 38	48					TP2*	101+79	113.79' R
TP1	HEAD 45	84					TP3	101+40	46.51' L
TP1	HEAD 46	72					TP4	101+12	93.68' L
TP1	TP3			128			TP5	100+07	61.31' L
TP3	HEAD 11	17					TP6	99+08	47.22' L
TP3	TP4		55				TP7	99+52	45.78' R
TP4	HEAD 36	62					TP8	99+80	97.55' R
TP4	HEAD 37	73					TP9	100+60	78.73' R
TP4	HEAD51	5					CABINET	101+97.75	84.85' R
CABINET	TP5		310						
TP5	HEAD 9	10							
TP5	TP6	100							
TP6	HEAD 1	26							
CABINET	TP1		17						
TP1	HEAD 35	72							
TP1	TP2*	43							
TP2*	HEAD 50	5							
CABINET	TP9					245			
TP9	HEAD 10	23							
TP9	HEAD 41	45							
TP9	HEAD 42	33							
TP9	TP7				141				
TP7	HEAD 39	45							
TP7	HEAD 40	71							
TP7	HEAD 43	58							
TP7	HEAD 44	5							
	TOTAL	897	382	128	141	262			

*TP2 = PORTABLE POLE

SPECIAL (02. REMOVE TRAFFIC SIGNAL EQUIPMENT)

LOCATION	SPV.0105.02 LS
USH 12 & CTH K	1
TOTAL	1

TRAFFIC SIGNAL REMOVALS - FOR INFORMATION ONLY

SIGNAL BASE NUMBER	STATION	OFFSET	PEDESTAL BASES EACH	TRANSORMER BASES EACH	TYPE 2 POLE EACH	TYPE 4 POLE EACH	10' STANDARD EACH	13' STANDARD EACH	20' MASTARM EACH	25' MASTARM EACH
SB-1	101+76.7 X	35.0' R	-	1	-	1	-	-	-	-
SB-3	100+94.4 X	52.4' L	1	-	-	-	1	-	-	-
SB-4	100+86.0 X	61.7' L	-	1	1	-	-	-	1	-
SB-5	100+15.2 X	58.9' L	-	-	-	-	-	-	-	1
SB-8	98+98.0 X	33.9' L	-	1	-	1	-	-	-	-
SB-10	99+79.4 X	66.6' R	-	1	1	-	-	-	1	-
SB-11	100+58.2 X	74.5' R	-	-	-	-	-	-	-	1
SB-13	101+43.5 X	77.6' R	1	-	-	-	-	1	-	-
SB-14	101+54.4 X	55.7' R	1	-	-	-	1	-	-	-
		TOTAL	3	4	2	2	2	1	2	2

FROM STRUCTURE NUMBER	TO STRUCTURE NUMBER	2" CONDUIT LF	3" CONDUIT LF
CB-1	PB-1	-	2-12.3
PB-1	SB-1	15.3	-
PB-1	PB-31	-	2-27.8
PB-18	SB-10	36.7	-
PB-22	PB-28	-	2-27.1
PB-28	PB-29	60.5	-
PB-28	CB-1	-	2-14.1
	TOTAL	112.5	162.6

LOOP DETECTOR NUMBER	6'X6' LOOP DETECTOR
24	1
25	1
TOTAL	2

SIGNAL BASE NUMBER	SIGNAL HEAD NUMBER	TRAFFIC SIGNAL FACE-3	TRAFFIC SIGNAL FACE-5	PEDESTRIAN INDICATION	PEDESTRIAN BUTTON	LUMINARE	CONTROLLER CABINET
CB-1	-	-	-	-	-	-	1
SB-1	15	-	1	-	-	1	-
SB-2	16	-	1	-	-	-	-
SB-3	-	-	-	-	1	-	-
SB-4	7	1	-	-	-	-	-
SB-4	91	-	-	1	-	-	-
SB-5	8	1	-	-	-	-	-
SB-8	12	-	1	-	-	1	-
SB-9	13	-	1	-	-	-	-
SB-10	2	1	-	-	-	-	-
SB-11	3	1	-	-	-	-	-
SB-13	6	1	-	-	-	-	-
SB-13	90	-	-	1	-	-	-
SB-14	-	-	-	-	1	-	-
	TOTAL	5	4	2	2	2	1

3

3

SAWCUTS

STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	REMARKS
100+96 X	-	101+14 X	LT	21	5	NORTH PATH
100+30 X	-	100+74 X	RT	-	120	USH 12 MEDIAN
101+07 X			LT	30	-	TEMPORARY BIKE PATH REMOVAL
101+09 X	-	101+76 X	RT	-	213	EB CTH K
101+39 X	-	101+65 X	RT	-	50	PAPVEMENT REPAIR
101+75 X	-	105+49 X	RT	389	-	EB CTH K
101+76 X			RT	23	-	TEMPORARY BIKE PATH REMOVAL
102+30 X			RT	27	-	TEMPORARY BIKE PATH REMOVAL
			TOTAL	490	388	

SPECIAL(01. PIPE UNDERDRAIN (6-INCH) WITH GEOTEXTILE FABRIC AND AGGREGATE)

STATION	TO	STATION	LOCATION	SPV.0090.01 LF
101+43	-	102+00	CTH K MEDIAN	57
101+58	-	102+48	RIGHT TURN NB TO EB	130
			TOTAL	187

SPECIAL (04. OUTDOOR ETHERNET CABLE)

FROM	TO		SPV.0090.04 LF	REMARKS
SIGNAL CABINET	-	SB 11	250	INSTALL ONLY
		TOTAL	250	

TRANSPORTATION PROJECT PLAT NO: 5301-04-24 - 4.01

THAT PART OF LOT 1, C.S.M. 7952, V. 42, P. 135-136, DOC. 3468897 & THE NW¼ OF THE SW¼ OF SECTION 26, TOWN OF SPRINGFIELD, T 8 N, R 8 E, DANE COUNTY, WISCONSIN

RELOCATION ORDER USH 12 SAUK CITY - MADISON (CTH K INTERSECTION)

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 5301-04-24 - 4.01
AMENDMENT NO:

SCHEDULE OF LANDS & INTERESTS REQUIRED

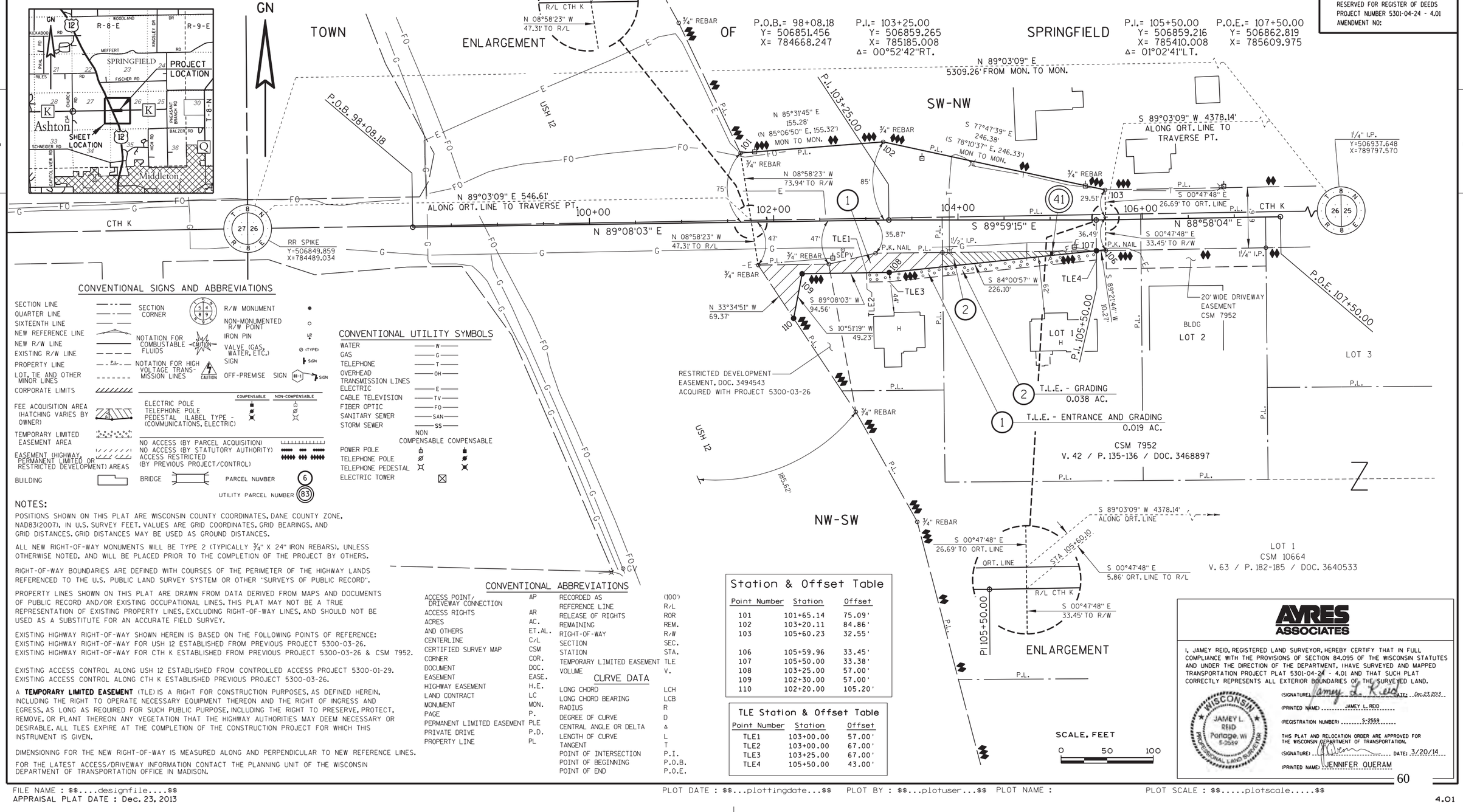
OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND AND INTERESTS TO THE DEPARTMENT.

ALL AREAS SHOWN IN ACRES UNLESS OTHERWISE NOTED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES NEW	R/W ACRES EXISTING	R/W ACRES TOTAL	T.L.E. ACRES
1	BETTY R. BROWN	FEE & TLE	0.090	---	0.090	0.019
2	DONNA M. QUARTANA F/K/A/ DONNA J. MEINHOLZ & MARK S. QUARTANA	FEE & TLE	0.030	0.158	0.188	0.038

UTILITY SCHEDULE & INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
41	MADISON GAS & ELECTRIC	RELEASE OF RIGHTS



CONVENTIONAL SIGNS AND ABBREVIATIONS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W LINE
PROPERTY LINE
LOT, TIE AND OTHER MINOR LINES
CORPORATE LIMITS
FEE ACQUISITION AREA (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT (HIGHWAY, PERMANENT LIMITED OR RESTRICTED DEVELOPMENT) AREAS
BUILDING

SECTION CORNER
NOTATION FOR COMBUSTABLE FLUIDS
NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES
BRIDGE
PARCEL NUMBER
UTILITY PARCEL NUMBER

R/W MONUMENT
NON-MONUMENTED R/W POINT
IRON PIN
VALVE (GAS, WATER, ETC.)
SIGN
OFF-PREMISE SIGN

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE		
TELEPHONE POLE		
PEDESTAL (LABEL TYPE - (COMMUNICATIONS, ELECTRIC)		

NO ACCESS (BY PARCEL ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	W	
GAS	G	
TELEPHONE	T	
OVERHEAD TRANSMISSION LINES ELECTRIC	OH	
CABLE TELEVISION	TV	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY ZONE, NAD83(2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY OTHERS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR USH 12 ESTABLISHED FROM PREVIOUS PROJECT 5300-03-26.
EXISTING HIGHWAY RIGHT-OF-WAY FOR CTH K ESTABLISHED FROM PREVIOUS PROJECT 5300-03-26 & CSM 7952.

EXISTING ACCESS CONTROL ALONG USH 12 ESTABLISHED FROM CONTROLLED ACCESS PROJECT 5300-01-29.
EXISTING ACCESS CONTROL ALONG CTH K ESTABLISHED PREVIOUS PROJECT 5300-03-26.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RECORDED AS	(100')
ACCESS RIGHTS	AR	REFERENCE LINE	R/L
ACRES	AC.	RELEASE OF RIGHTS	ROR
AND OTHERS	ET.AL.	REMAINING	REM.
CENTERLINE	C/L	RIGHT-OF-WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC.
CORNER	COR.	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	V.
HIGHWAY EASEMENT	H.E.	**CURVE DATA**	
LAND CONTRACT	LC	LONG CHORD	LCH
MONUMENT	MON.	LONG CHORD BEARING	LCB
PAGE	P.	RADIUS	R
PERMANENT LIMITED EASEMENT	PLE	DEGREE OF CURVE	D
PRIVATE DRIVE	P.D.	CENTRAL ANGLE OR DELTA	Δ
PROPERTY LINE	PL	LENGTH OF CURVE	L
		TANGENT	T
		POINT OF INTERSECTION	P.I.
		POINT OF BEGINNING	P.O.B.
		POINT OF END	P.O.E.

Station & Offset Table

Point Number	Station	Offset
101	101+65.14	75.09'
102	103+20.11	84.86'
103	105+60.23	32.55'
106	105+59.96	33.45'
107	105+50.00	33.38'
108	103+25.00	57.00'
109	102+30.00	57.00'
110	102+20.00	105.20'

TLE Station & Offset Table

Point Number	Station	Offset
TLE1	103+00.00	57.00'
TLE2	103+00.00	67.00'
TLE3	103+25.00	67.00'
TLE4	105+50.00	43.00'

AYRES ASSOCIATES

I, JAMEY REID, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 5301-04-24 - 4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

(SIGNATURE) Jamey L Reid DATE: Dec 23 2013
(PRINTED NAME) JAMEY L. REID
(REGISTRATION NUMBER) S-2559

WISCONSIN JAMEY L. REID Portage, WI S-2559 PROFESSIONAL LAND SURVEYOR

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

(SIGNATURE) DATE: 3/20/14
(PRINTED NAME) JENNIFER QUERAM

FILE NAME : $$....designfile....$$
APPRAISAL PLAT DATE : Dec. 23, 2013
PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : $$.....plotscale.....$$

4.01

DATE: December 23, 2013

REVISION DATE

TRANSPORTATION PROJECT PLAT NO: 5301-04-24 - 4.02

RELOCATION ORDER USH 12 SAUK CITY - MADISON (CTH K INTERSECTION)

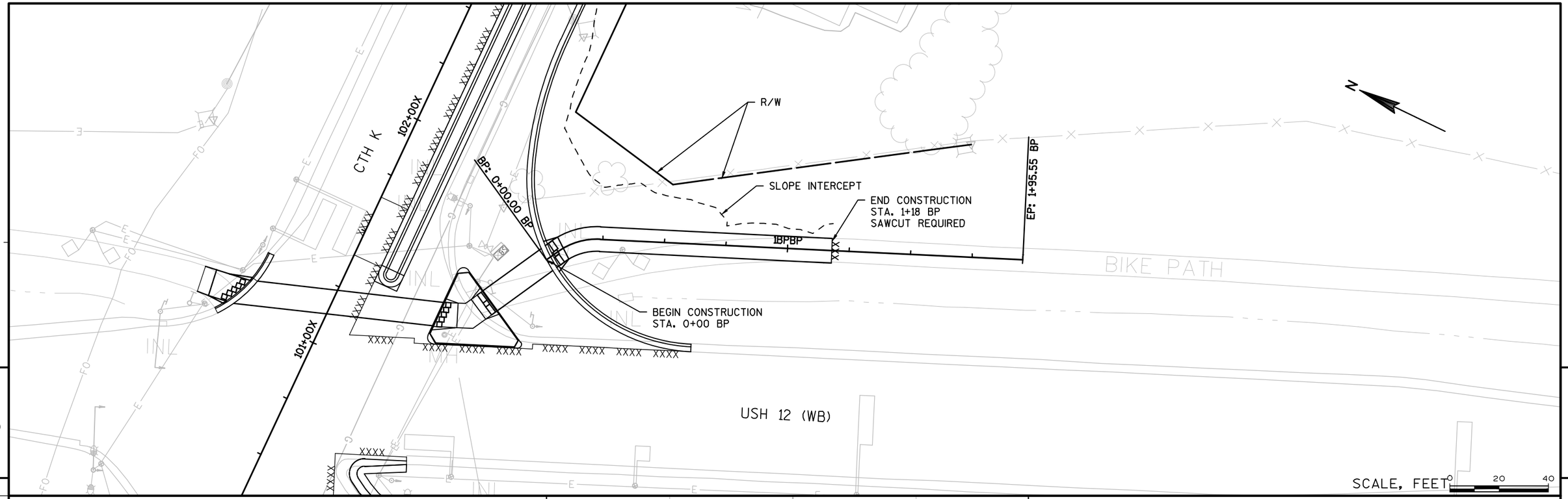
R/W MONUMENT POINT NUMBER AND COORDINATE TABLE

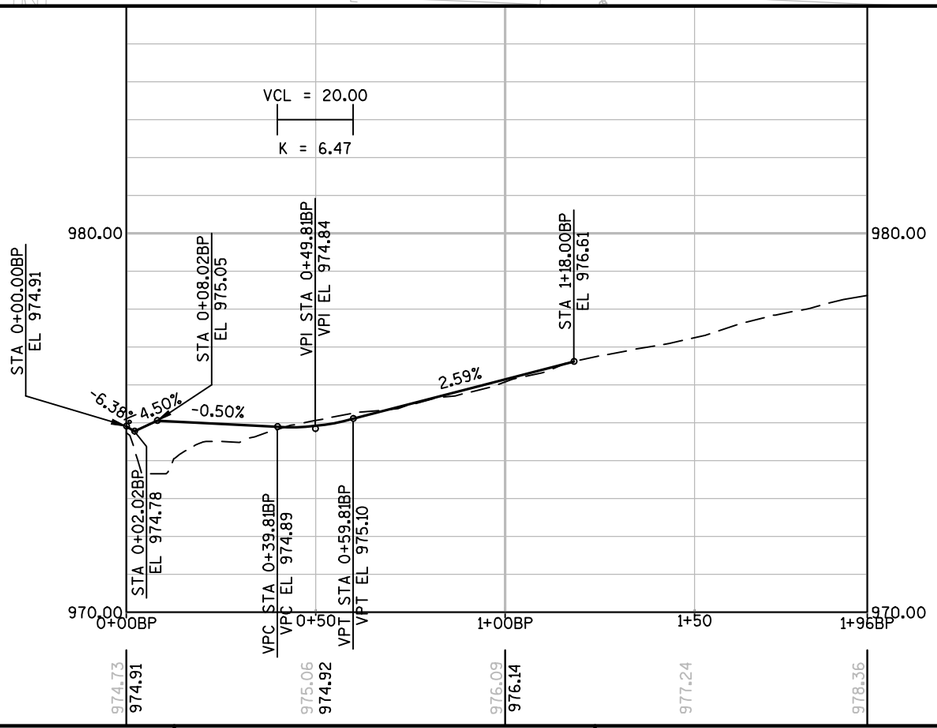
R/W MONUMENT POINT NUMBER AND COORDINATE TABLE		
POINT	Y	X
101	506931.933	785024.033
102	506944.037	785178.839
103	506891.946	785419.653
106	506825.951	785420.571
107	506825.837	785410.305
108	506802.265	785185.433
109	506800.836	785090.880
110	506752.491	785081.610

FILE NAME : N:\410656-57\DGN\410657-CTH K\5301-04-24_040102.dgn
APPRAISAL PLAT DATE : Dec. 23, 2013

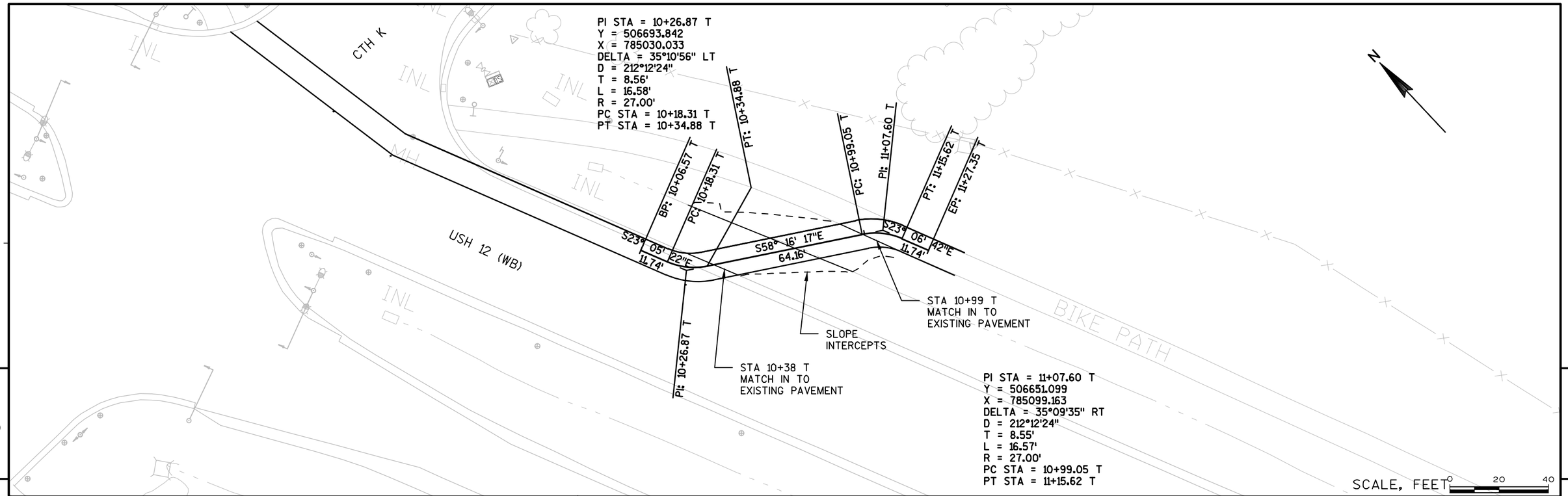
PLOT DATE : 12/23/2013 PLOT BY : kk226 PLOT NAME : PLOT SCALE : 1:400

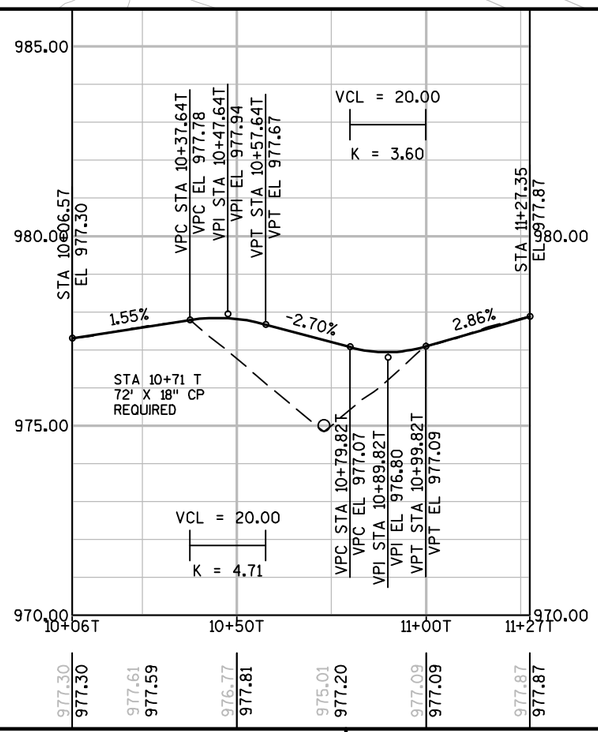
4. 02

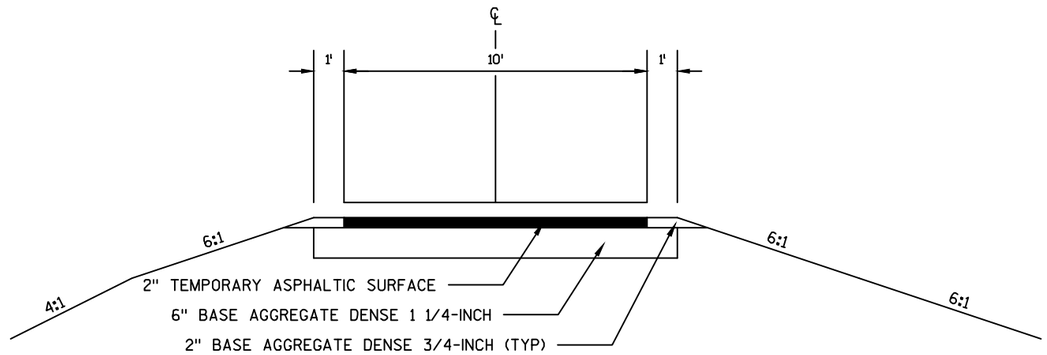




PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	PLAN AND PROFILE: BIKE PATH (BP-LINE)	SHEET 62	E



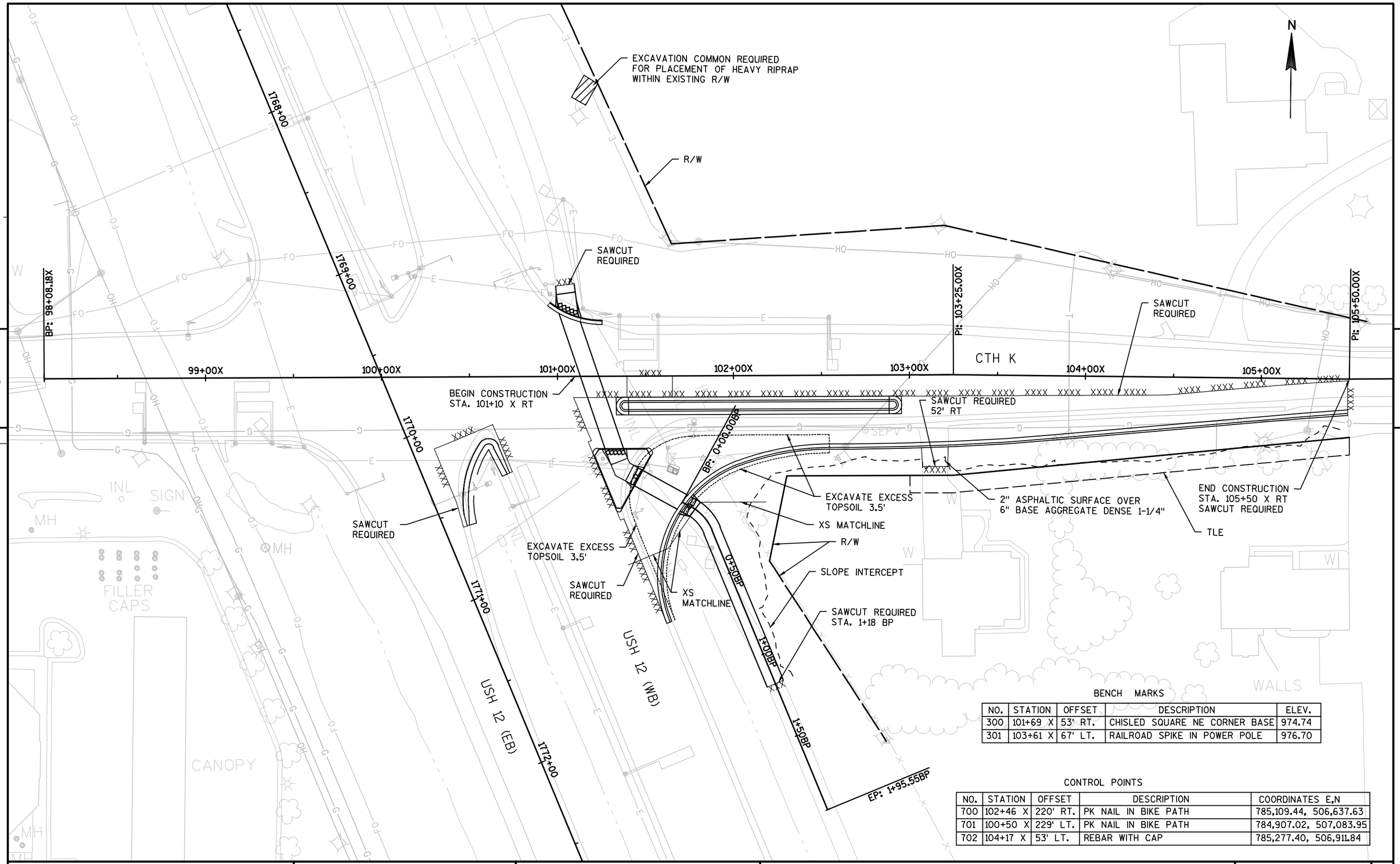




TEMPORARY BIKE PATH

STA 10+38 T - STA 10+99 T

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	PLAN AND PROFILE: TEMPORARY BIKE PATH (T-LINE)	SHEET 63	E



BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
300	101+69 X	53' RT.	CHISLED SQUARE NE CORNER BASE	974.74
301	103+61 X	67' LT.	RAILROAD SPIKE IN POWER POLE	976.70

CONTROL POINTS

NO.	STATION	OFFSET	DESCRIPTION	COORDINATES E,N
700	102+46 X	220' RT.	PK NAIL IN BIKE PATH	785,109.44, 506,637.63
701	100+50 X	229' LT.	PK NAIL IN BIKE PATH	784,907.02, 507,083.95
702	104+17 X	53' LT.	REBAR WITH CAP	785,277.40, 506,911.84

PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	PLAN: CTH K (X-LINE)	SHEET 64	E

Standard Detail Drawing List

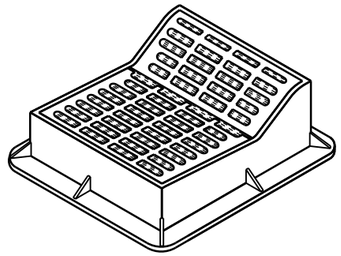
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-05	CONCRETE BASE TYPE 10
09C12-05A	CONCRETE BASE TYPE 13
09C12-05B	CONCRETE BASE TYPE 13
09C13-02	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-06C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-06D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-06E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09G01-03C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
11B02-02	CONCRETE MEDIAN NOSE
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-11A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C18-03	MEDIAN ISLAND MARKING
15C29-03E	PAVEMENT MARKING FOR BIKE LANES
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-04	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

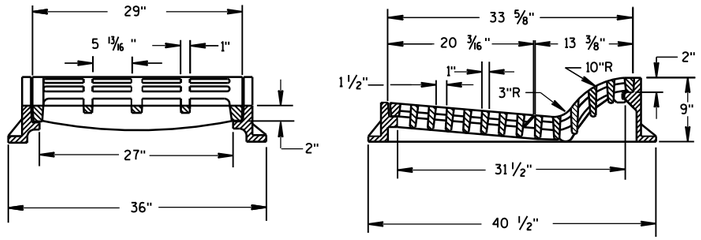
6

Standard Detail Drawing List

15D28-02 TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

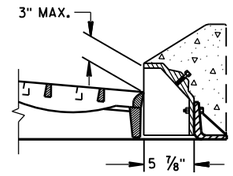
6





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

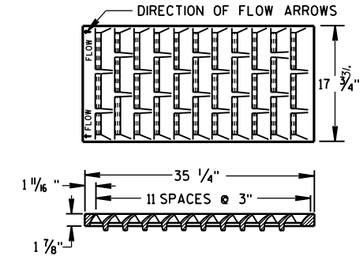
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

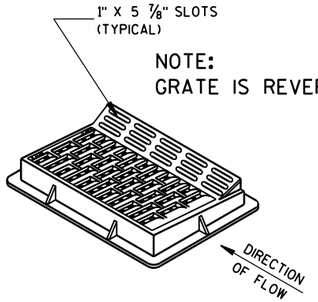
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

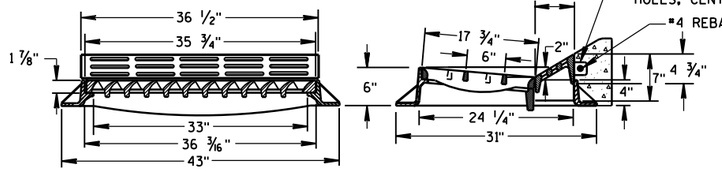
GENERAL NOTES

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.



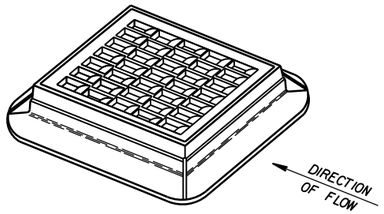


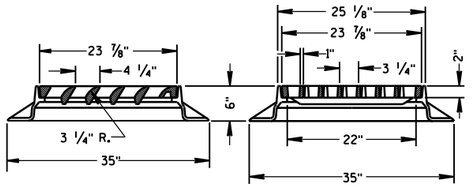


TYPE "HM"

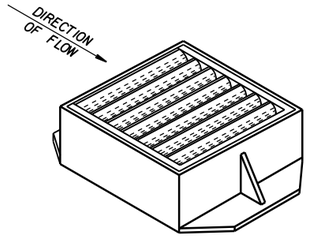
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

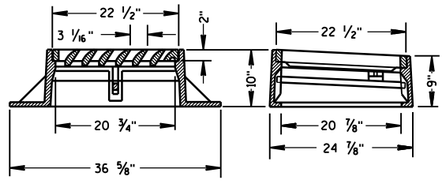
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



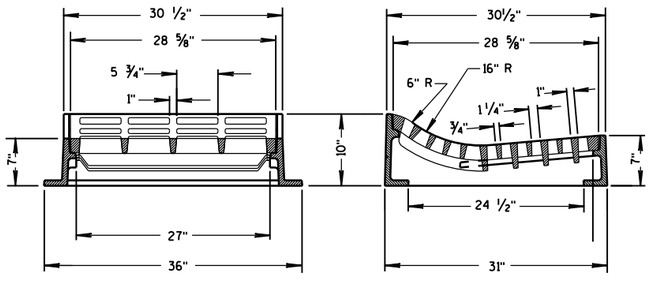


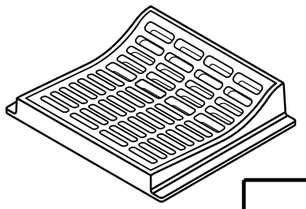
TYPE "S"





TYPE "V"





TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

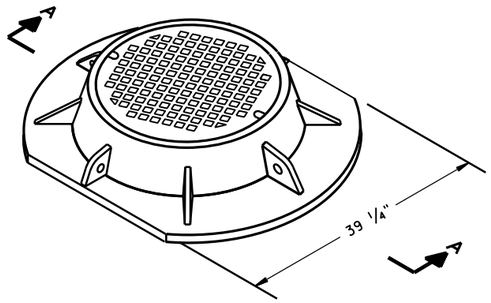
APPROVED
11/27/2013
DATE

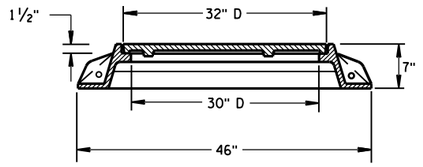
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

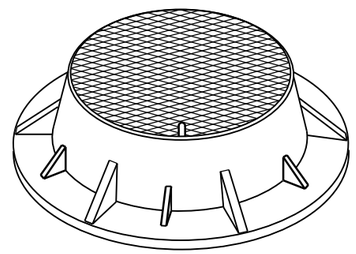
6

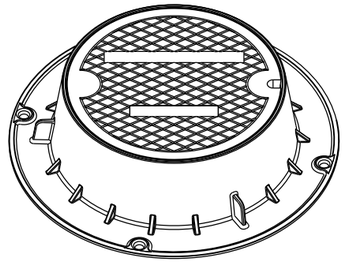
S.D.D. 8 A 5-19c

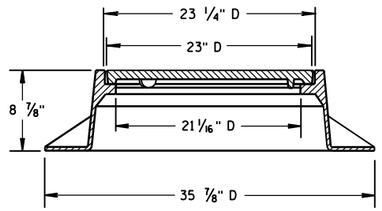


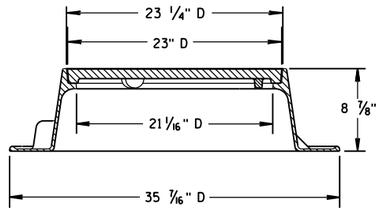


SECTION A-A
TYPE "K"









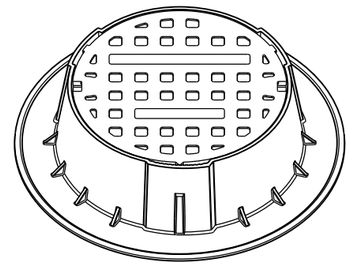
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

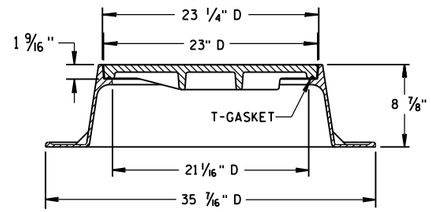
GENERAL NOTES

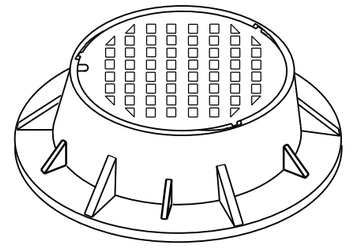
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

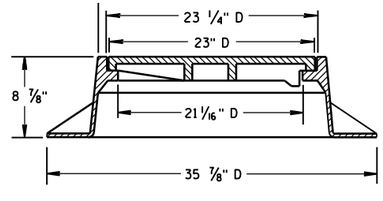
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

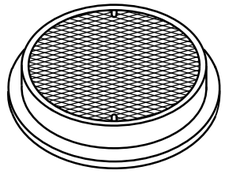


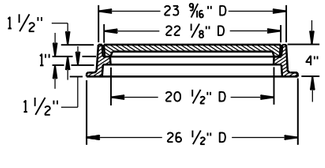




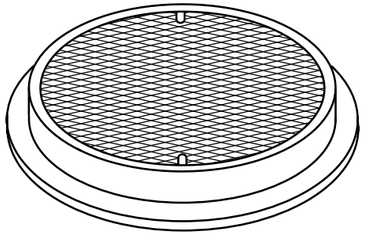


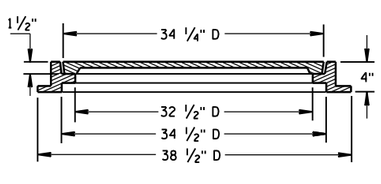
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



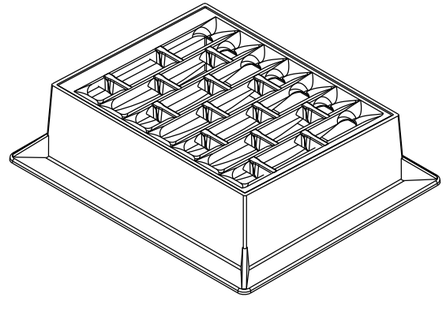


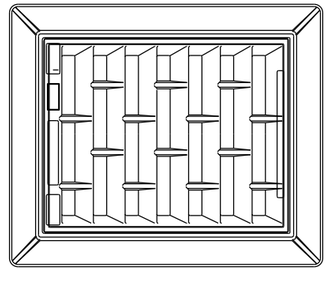
TYPE "L"

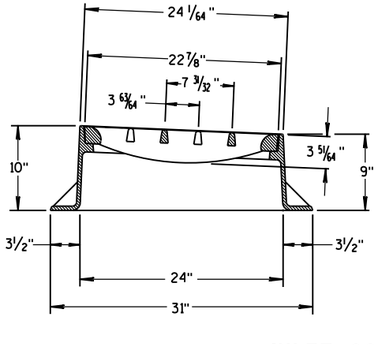


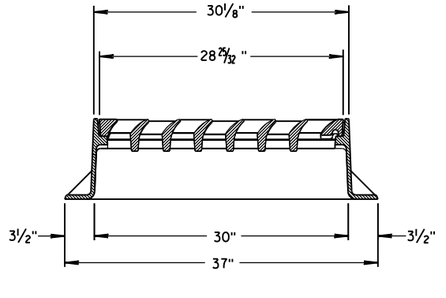


TYPE "M"









INLET COVER TYPE "BW"

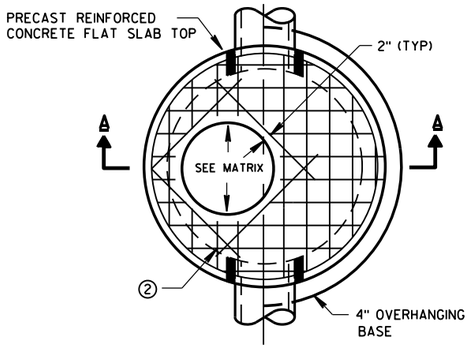
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

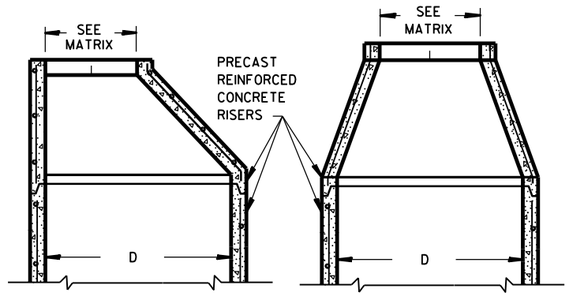
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 A 5-19d

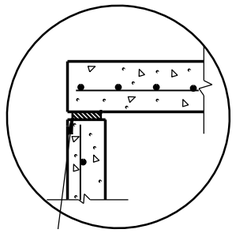


PLAN VIEW CIRCULAR OPENING

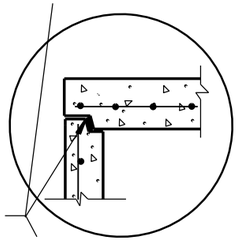


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

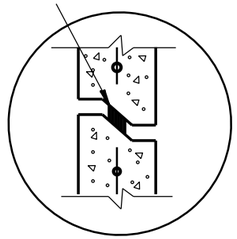


TOP WITH PLAIN END JOINT



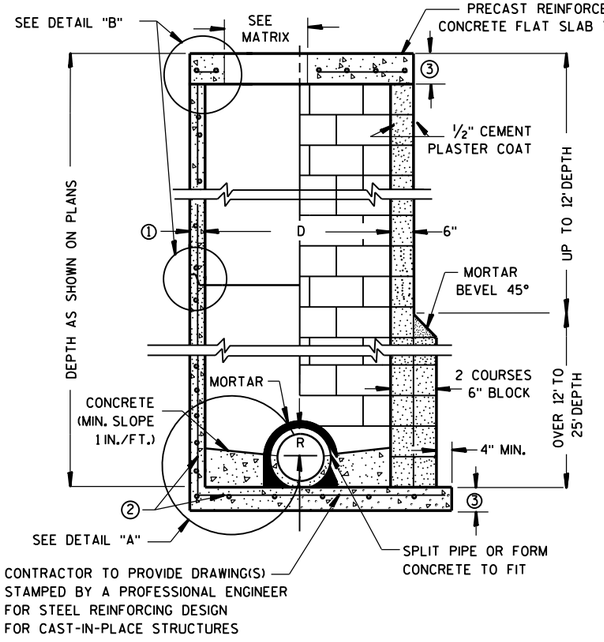
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



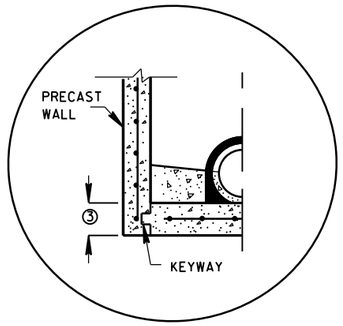
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

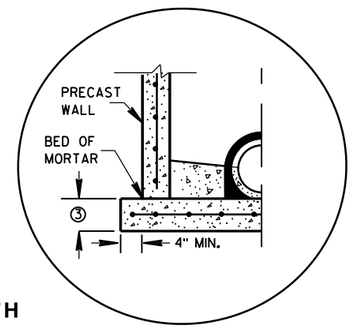


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

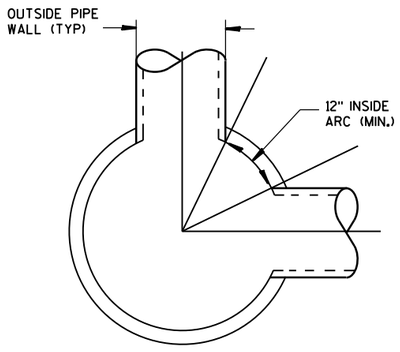


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



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 MANHOLE 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 GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED 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 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 ½" 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.

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

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ 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".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

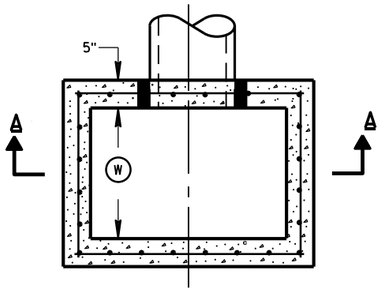
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

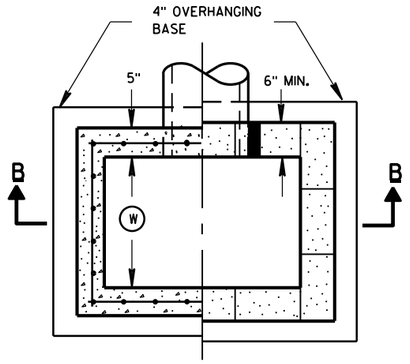
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

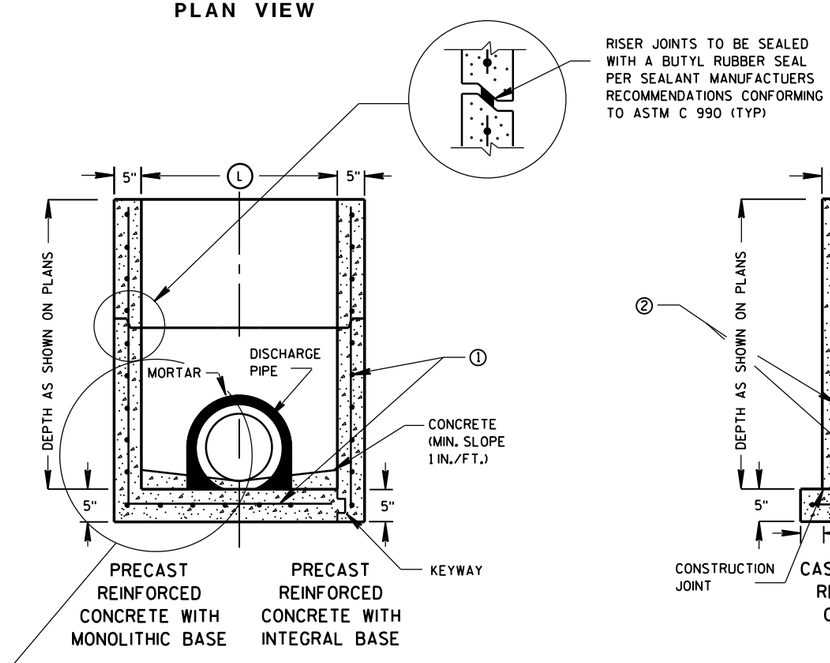
6
S.D.D. 8 B 9-1



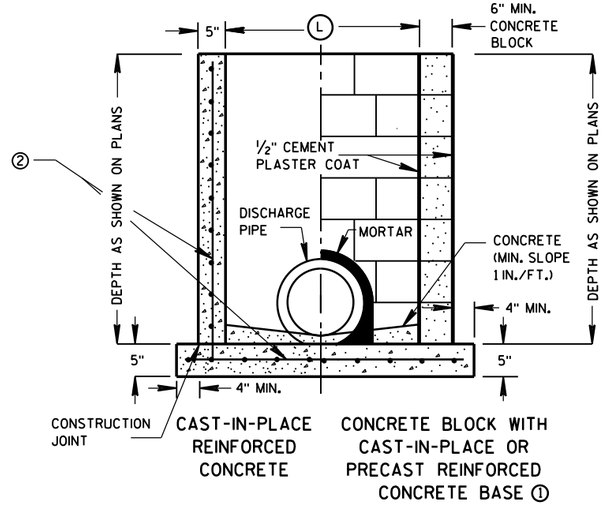
PLAN VIEW



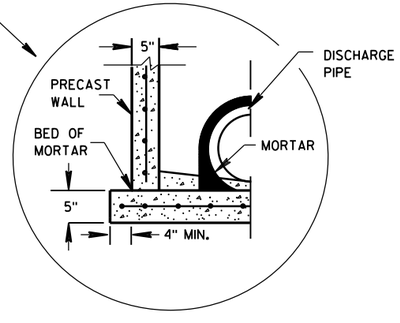
PLAN VIEW



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 GRANULAR 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.

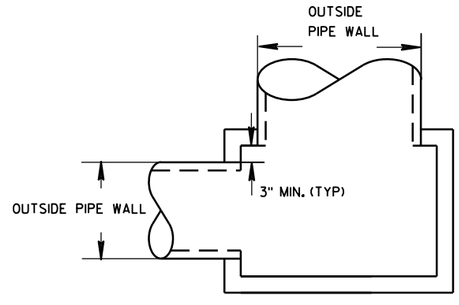
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

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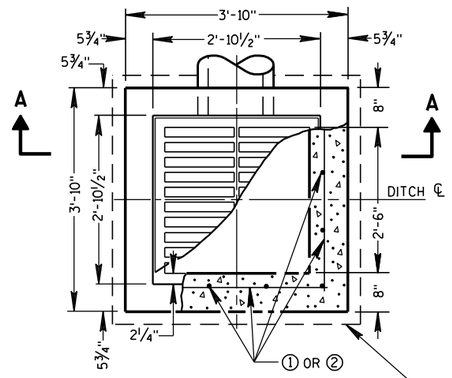
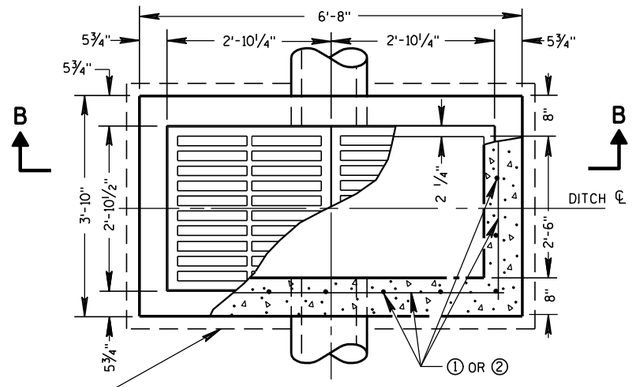
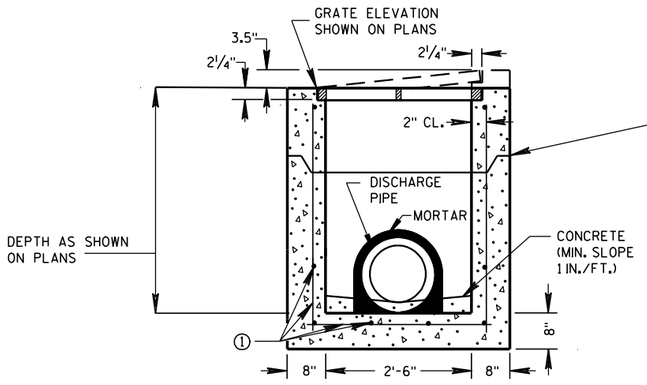


PLAN VIEW

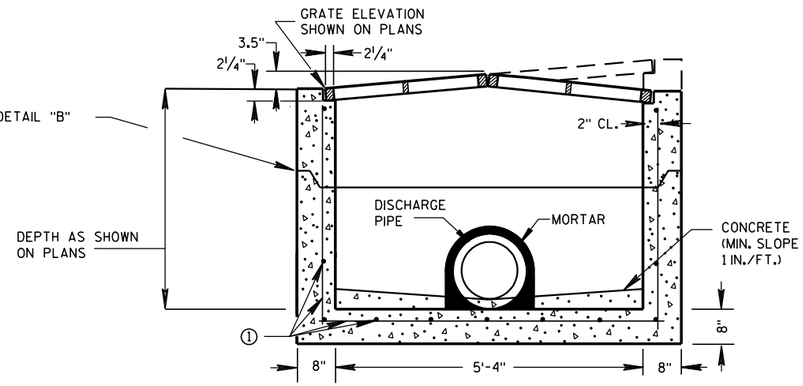


PLAN VIEW

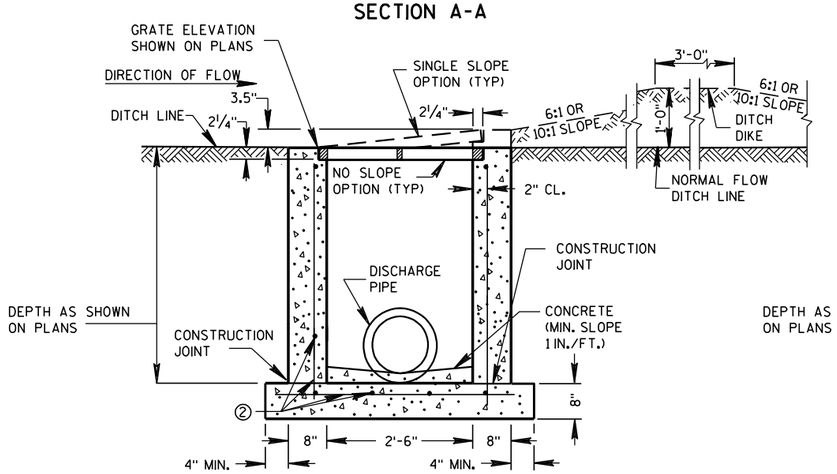
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



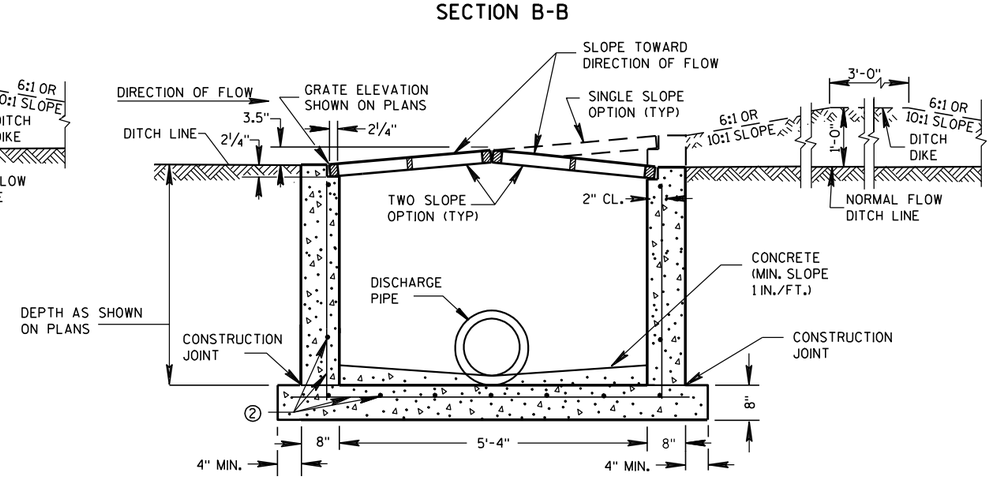
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

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 INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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.

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

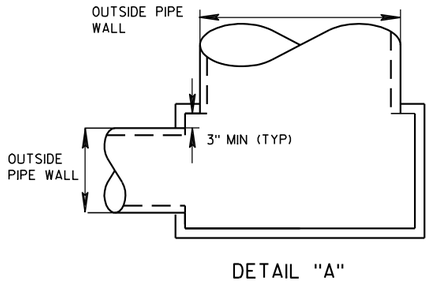
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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.

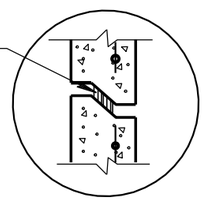
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

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



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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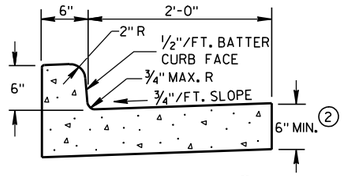
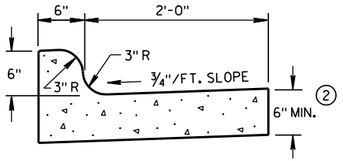
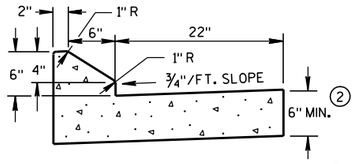


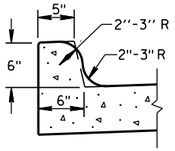
TYPES A & D (1)



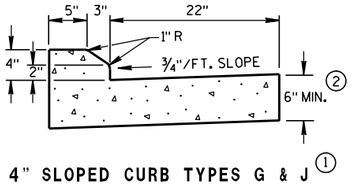
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

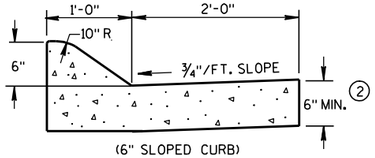


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

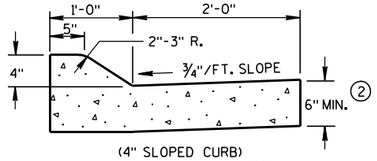


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

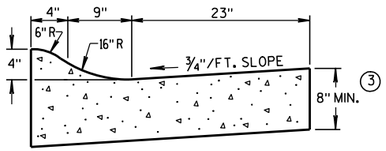


(6" SLOPED CURB)



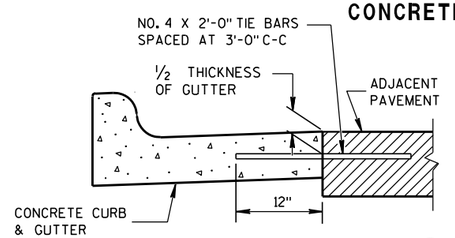
(4" SLOPED CURB)

TYPES A & D (1)

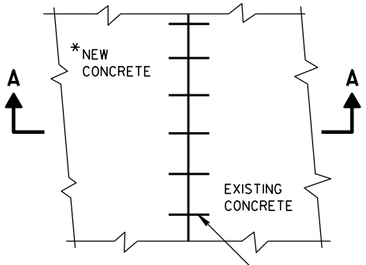


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

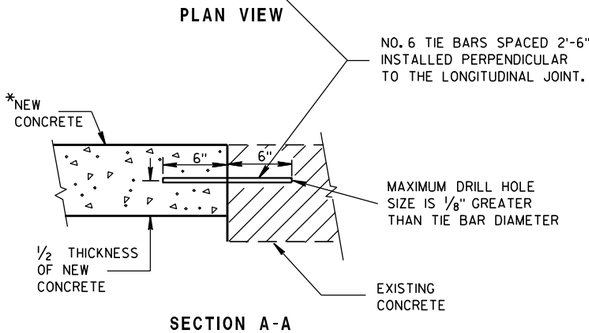


TYPICAL TIE BAR LOCATION (1)



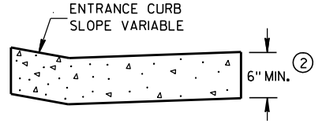
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW

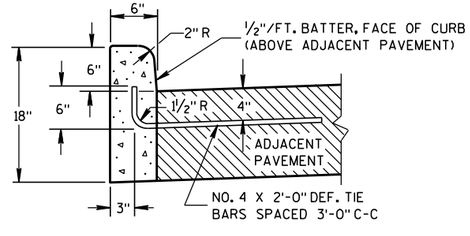


SECTION A-A

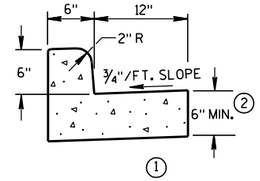
TIE BARS DRILLED INTO EXISTING PAVEMENT



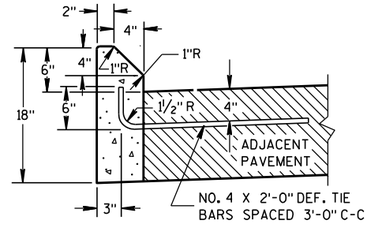
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



(1)
TYPES A & D

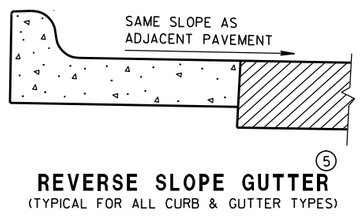


(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES G & J

CONCRETE CURB



REVERSE SLOPE GUTTER (5)
(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. 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.

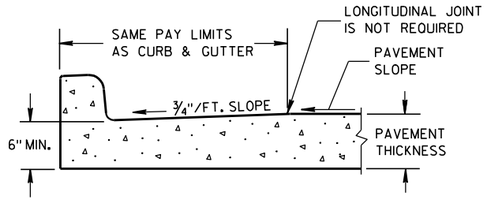
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(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.

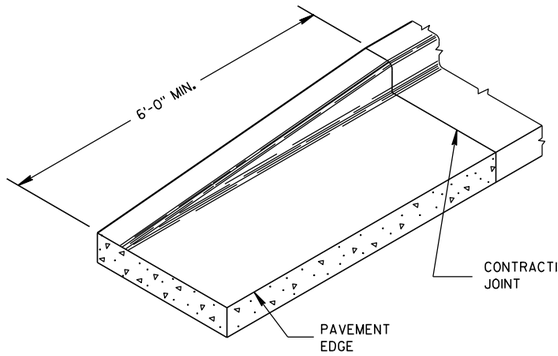
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(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.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

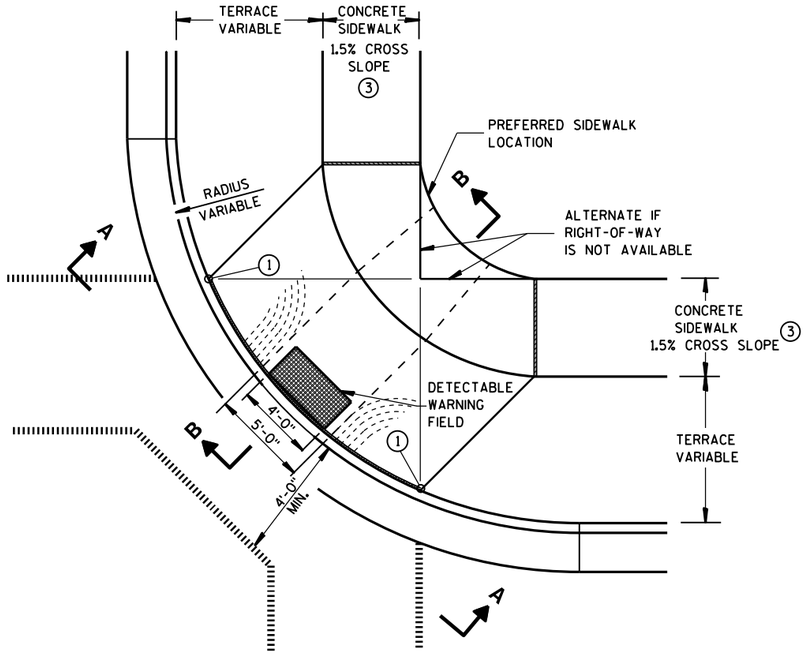
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

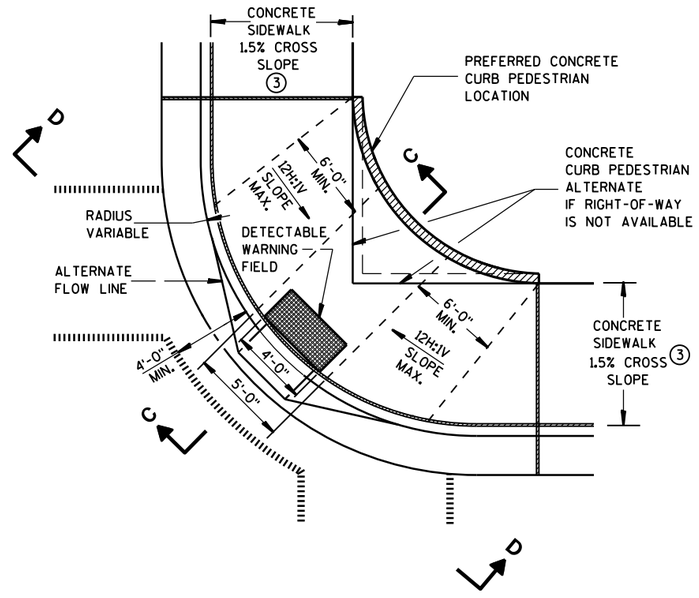
S.D.D. 8 D 1-17



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".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

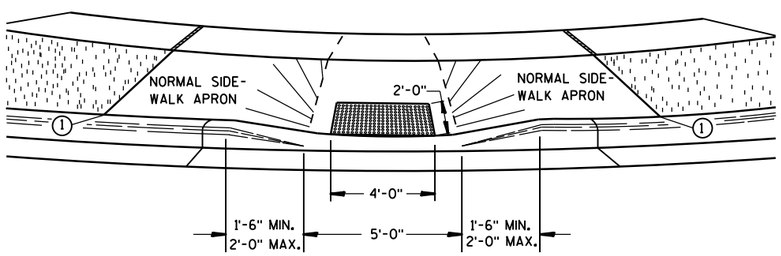
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

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.

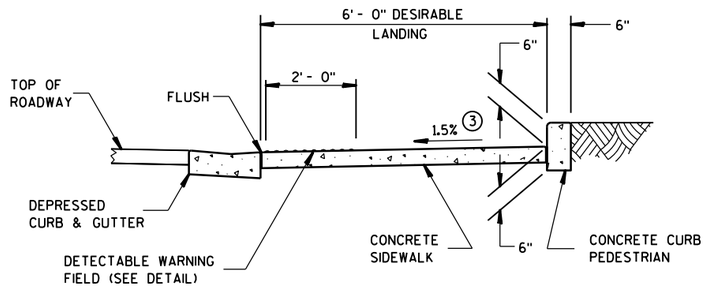
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

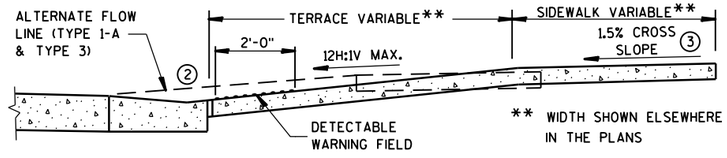
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



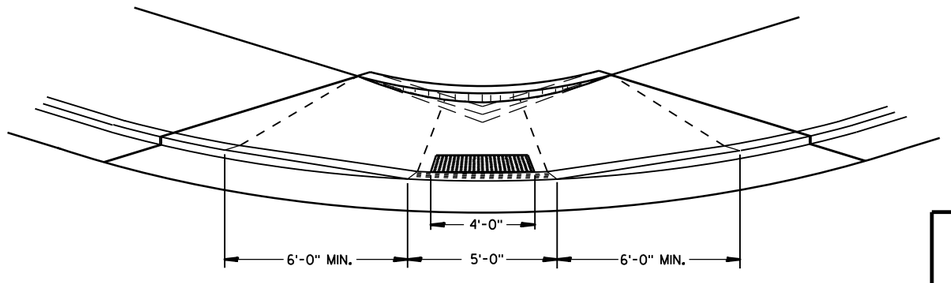
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

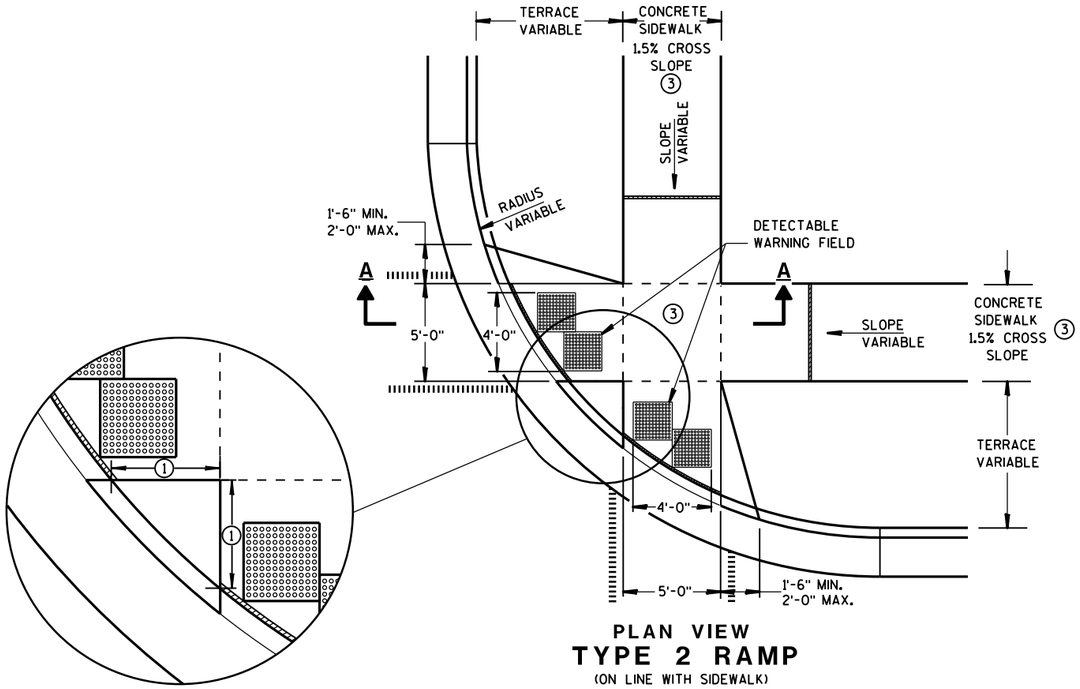
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15a

6

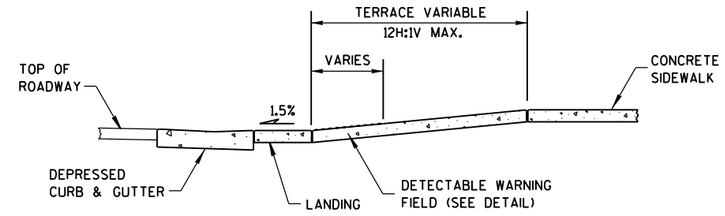
S.D.D. 8 D 5-15a



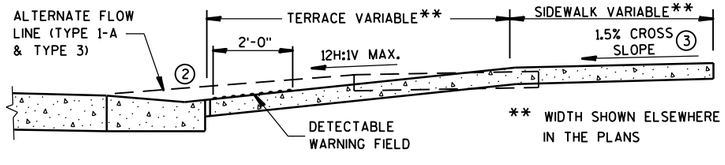
PLAN VIEW

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

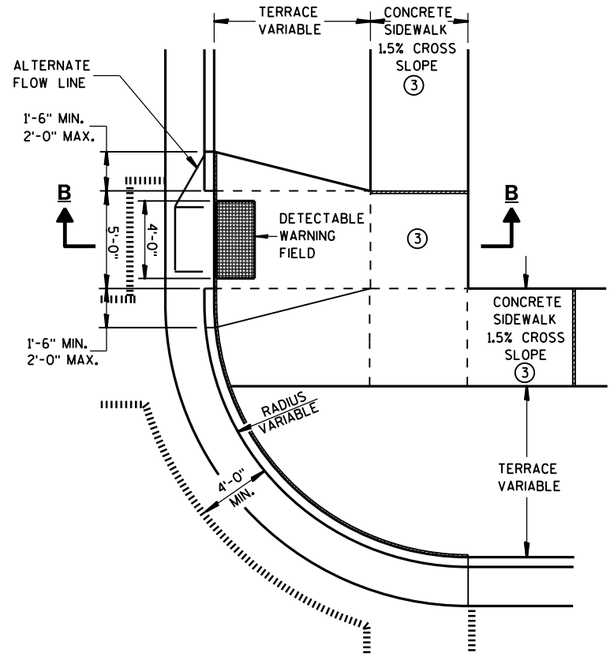
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

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

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

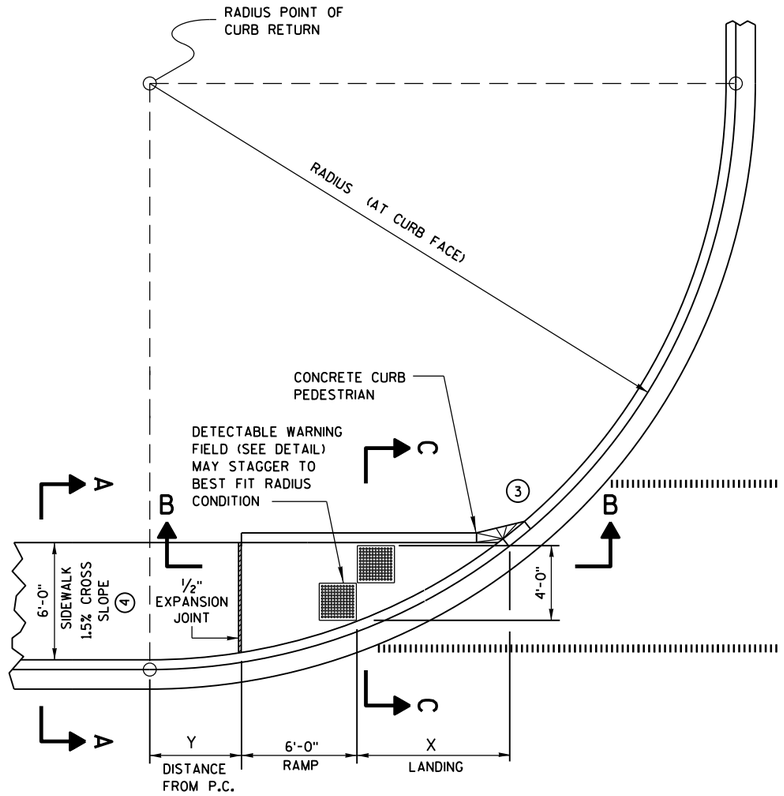
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

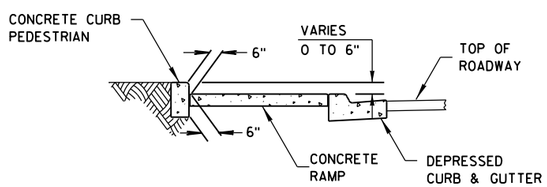
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

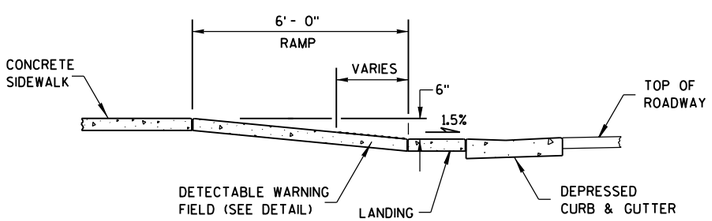
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



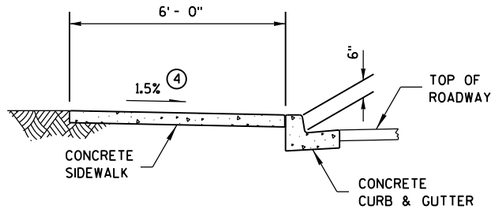
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

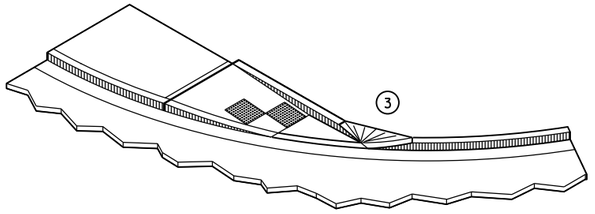
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

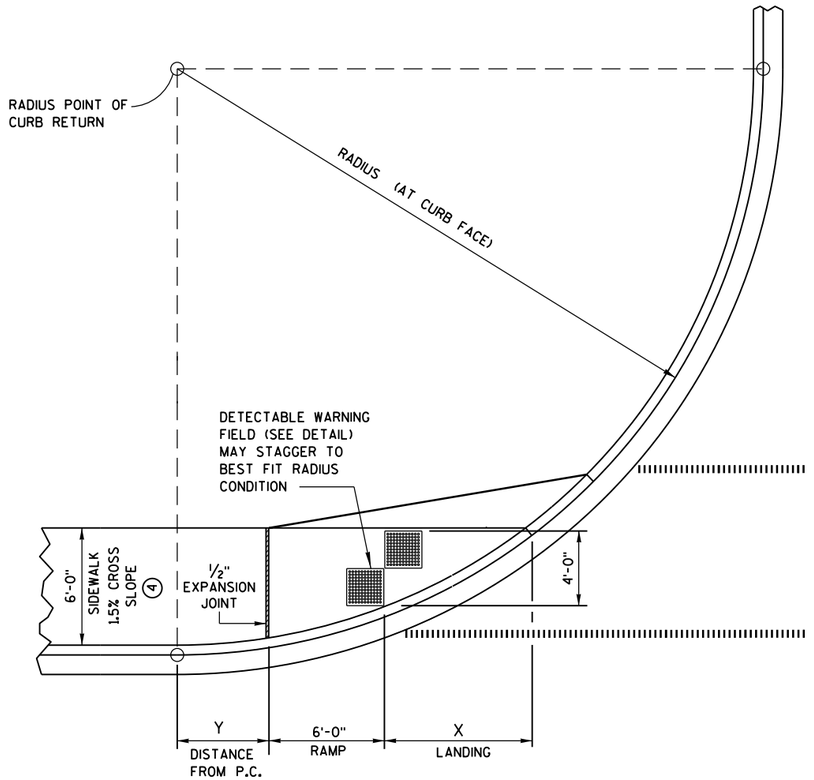
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

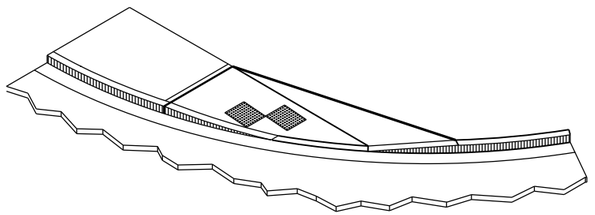
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

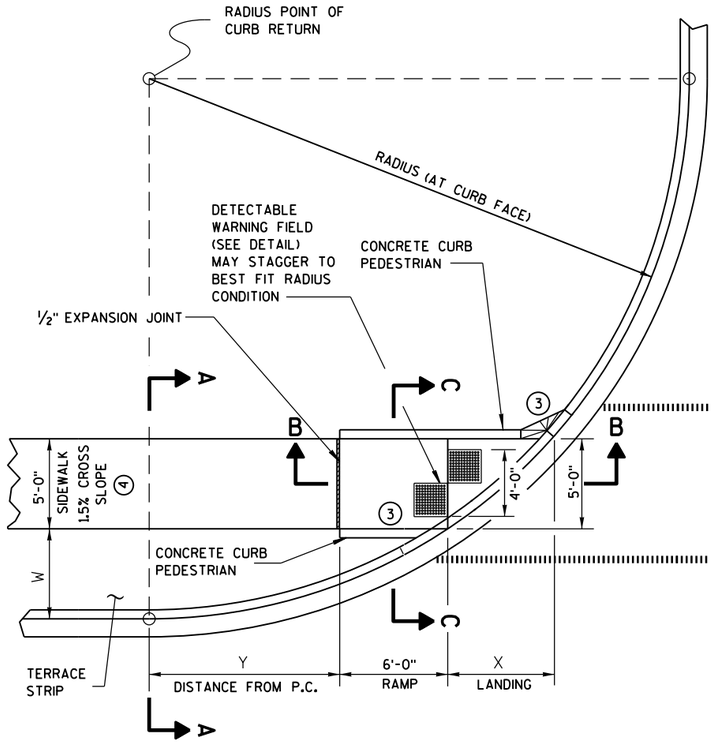
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

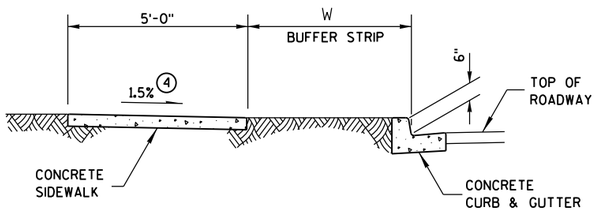
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

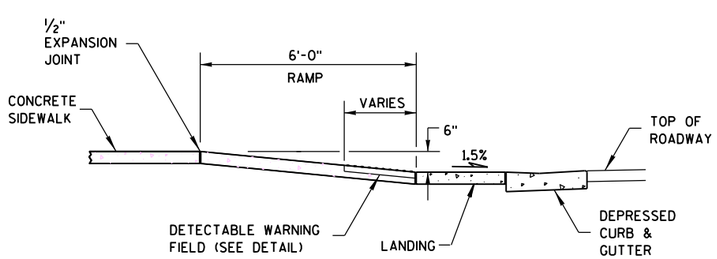
S.D.D. 8 D 5-15c



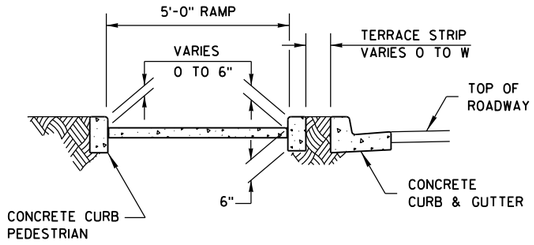
CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B



SECTION C-C FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

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'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

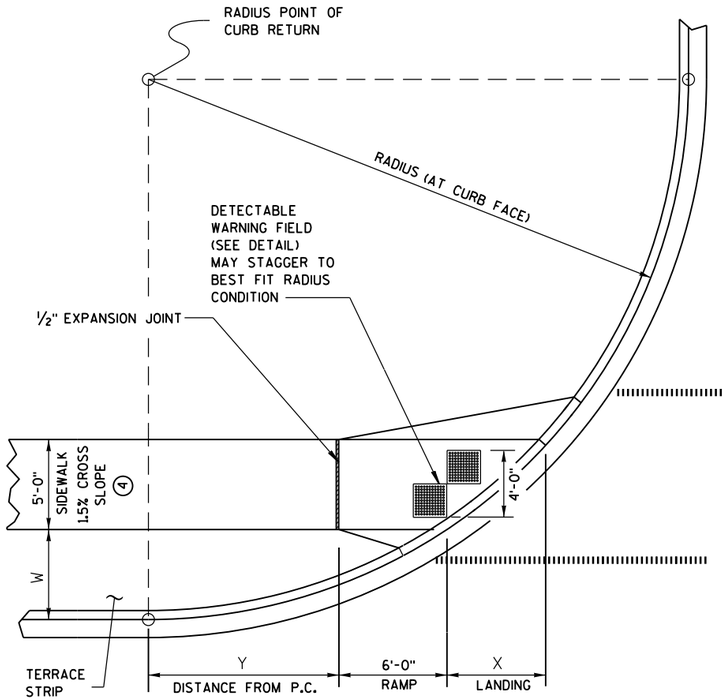
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

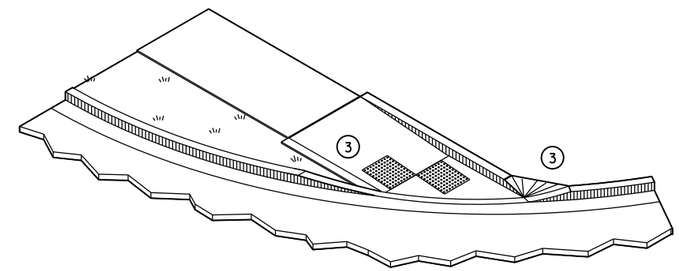
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

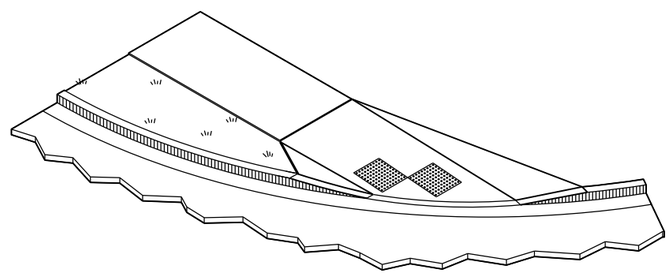
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



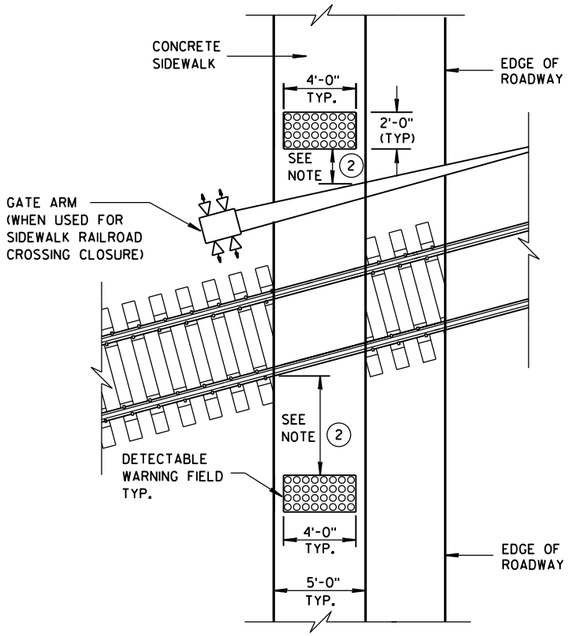
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

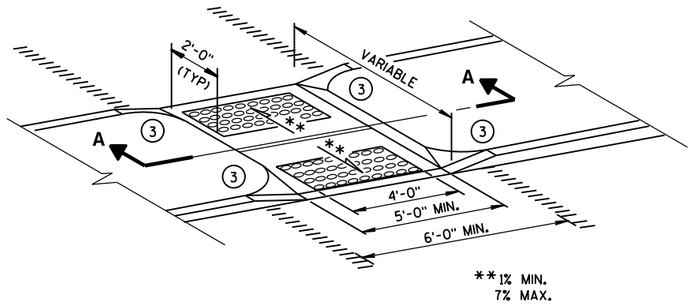
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

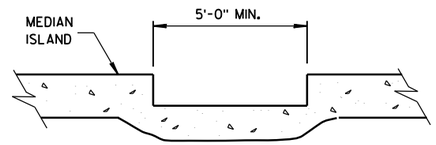
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

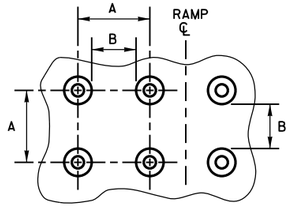
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

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

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



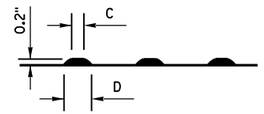
SECTION A-A



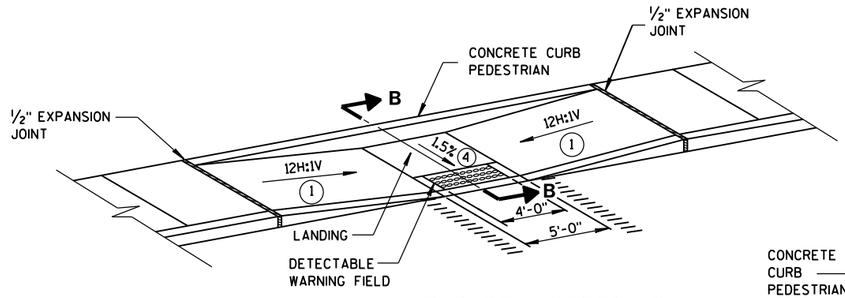
PLAN VIEW

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

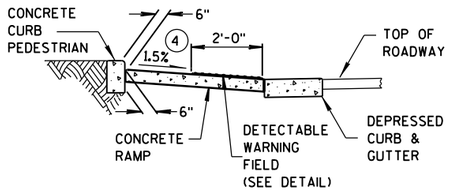
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

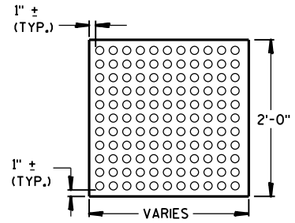


MID-BLOCK CROSSING
TYPE 7A



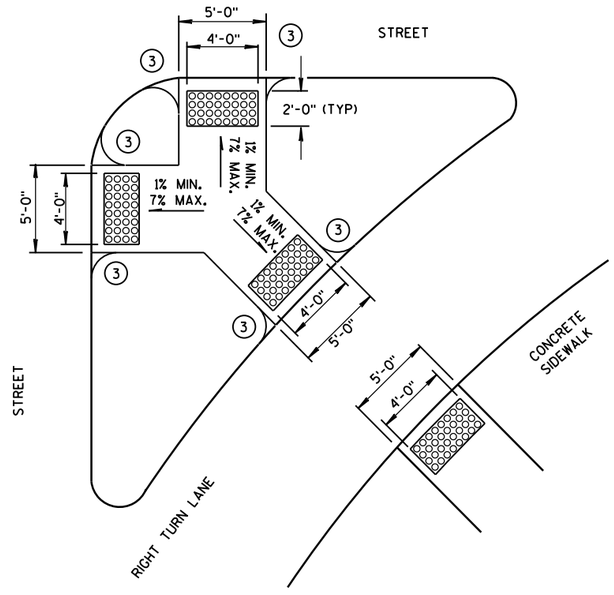
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

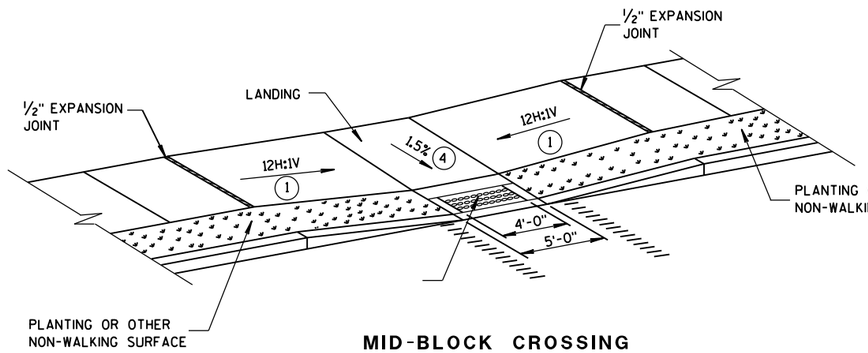


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

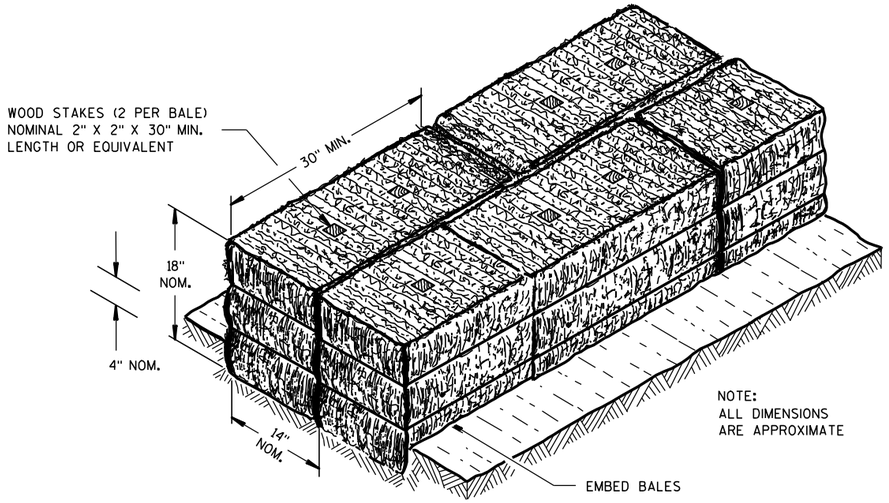
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

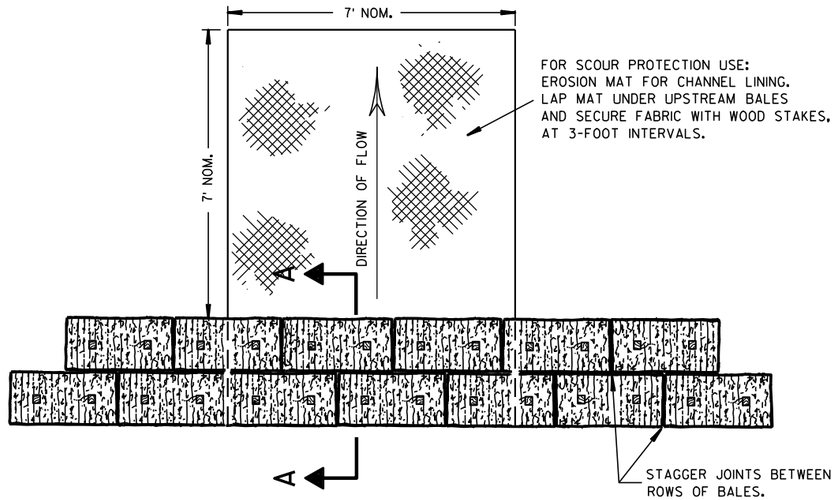
APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

6

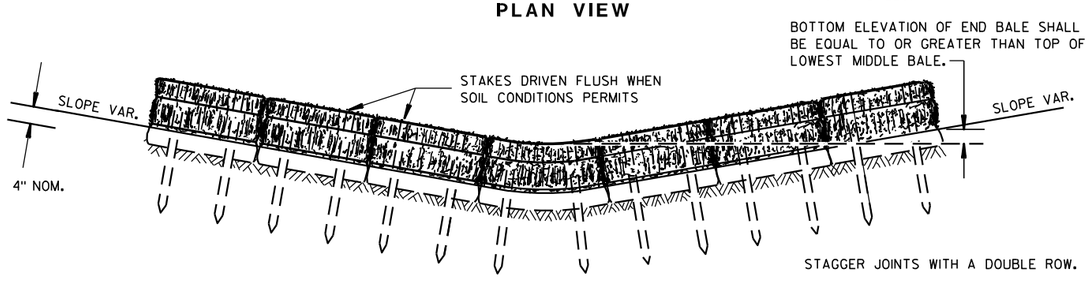
S.D.D. 8 D 5-15e



SECTION A-A



PLAN VIEW



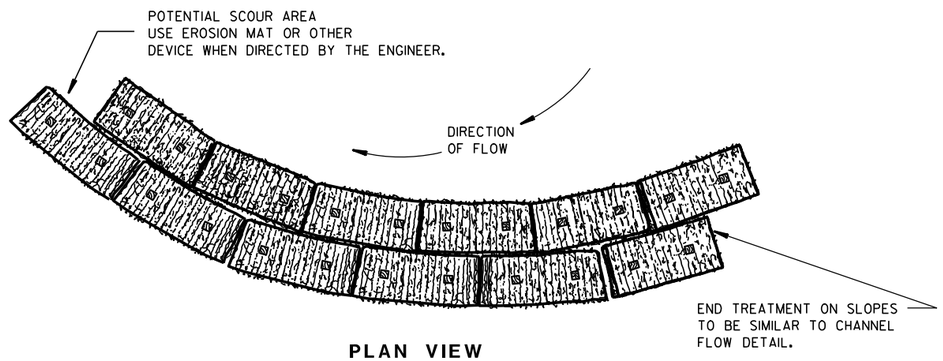
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

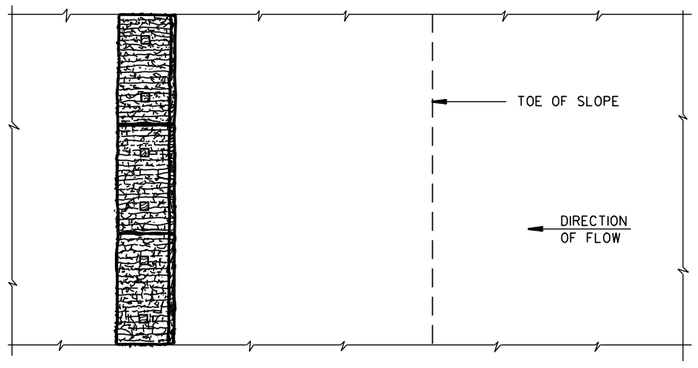
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

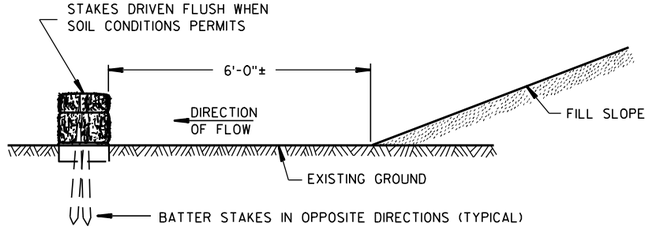


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

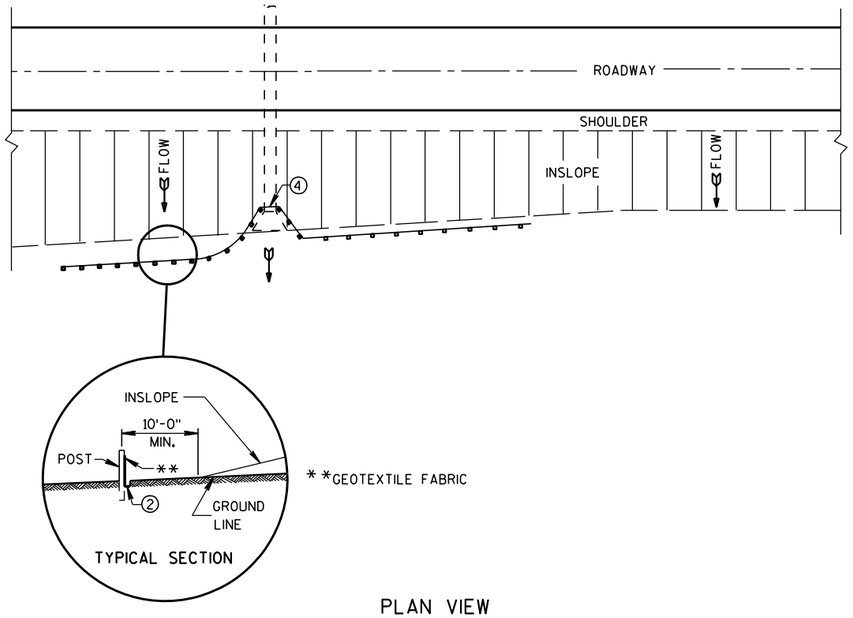
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

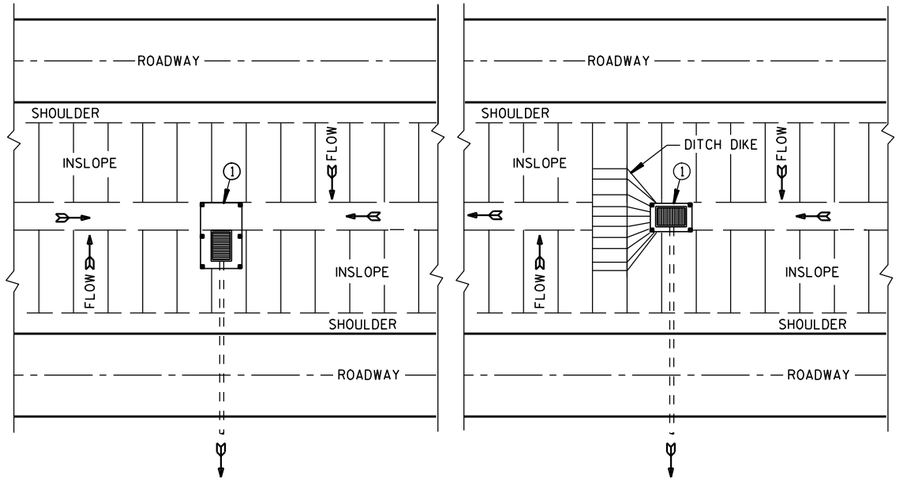
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

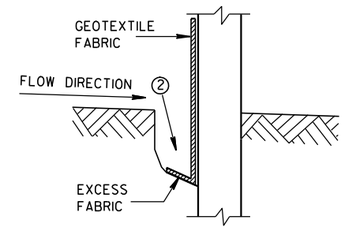
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

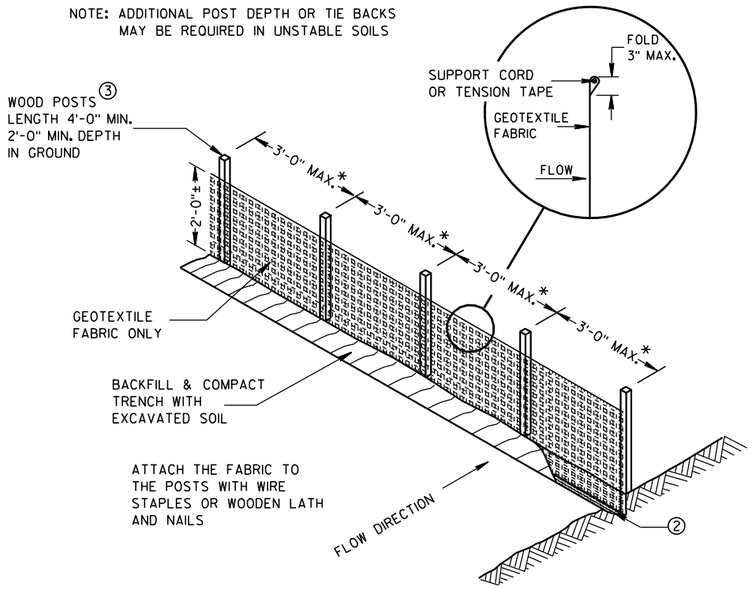
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

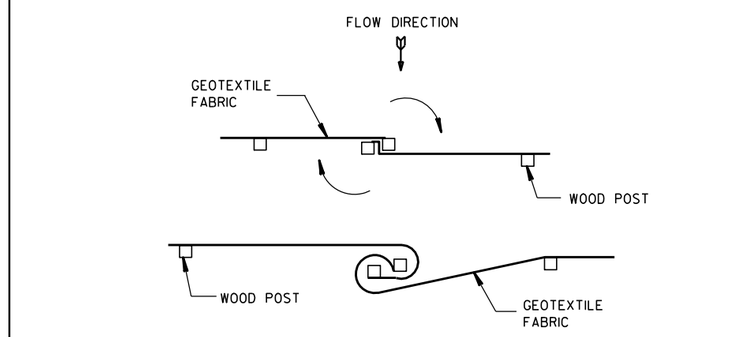


TRENCH DETAIL

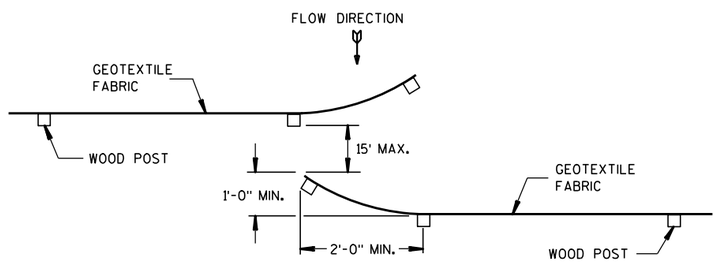


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

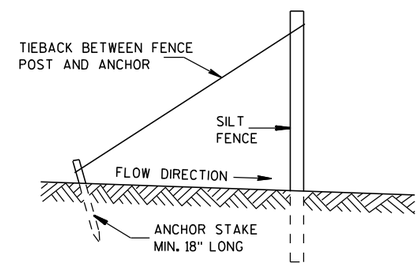


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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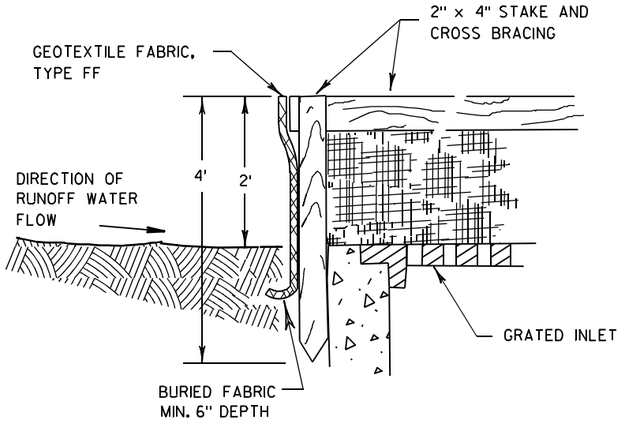
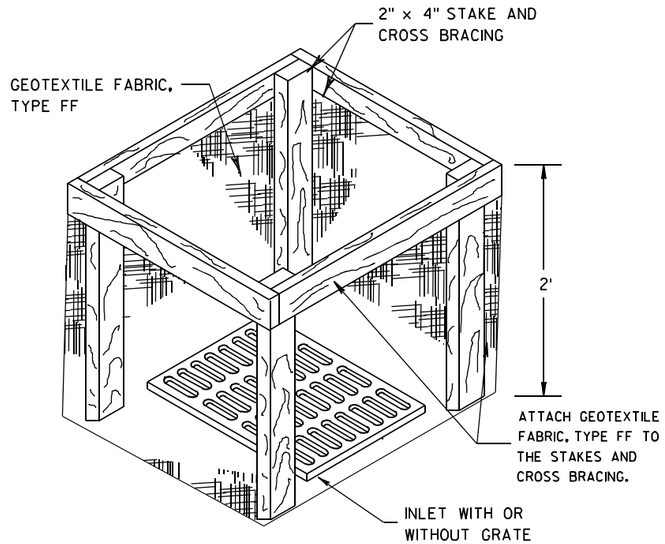
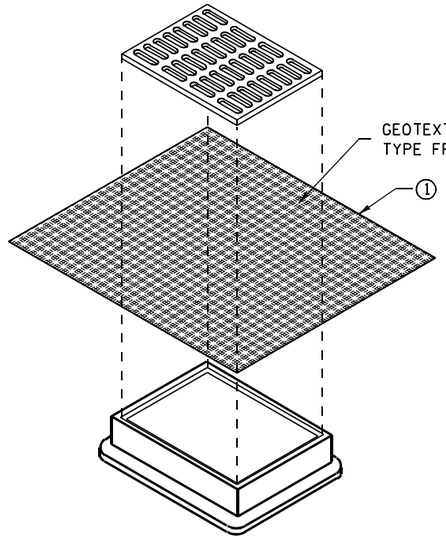
S.D.D. 8 E 9-6



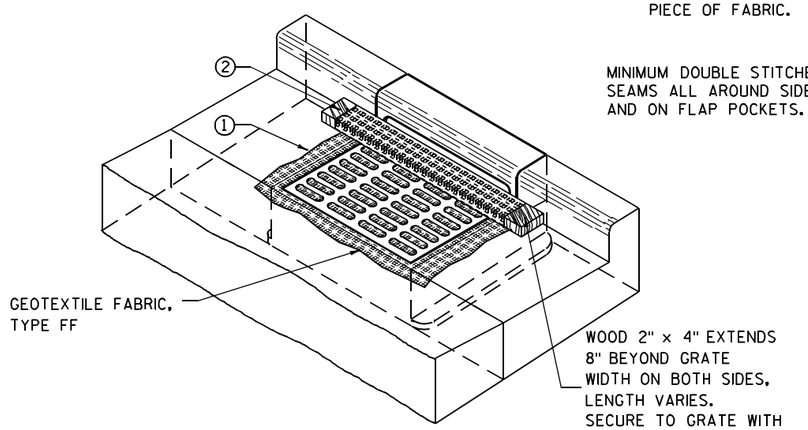


INLET PROTECTION, TYPE A

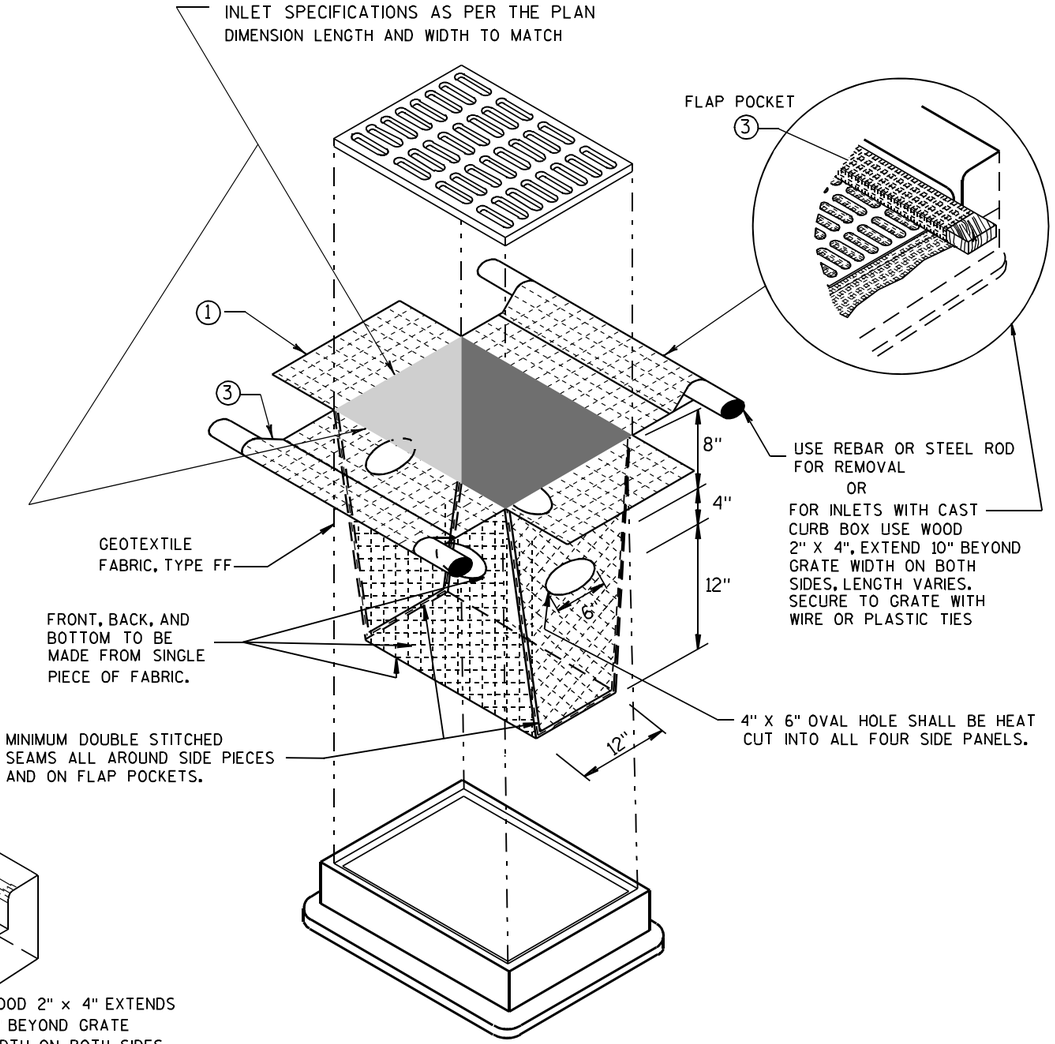


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

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.

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 A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

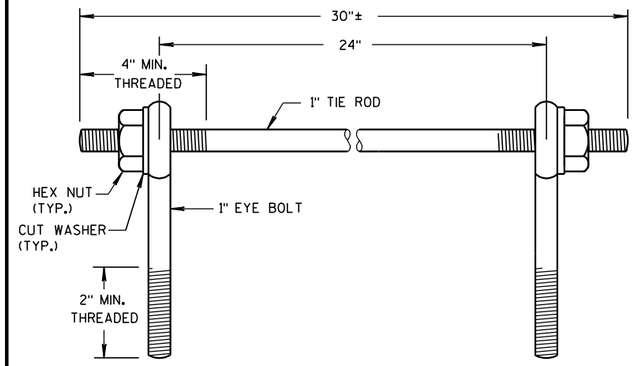
APPROVED

10/16/02
DATE

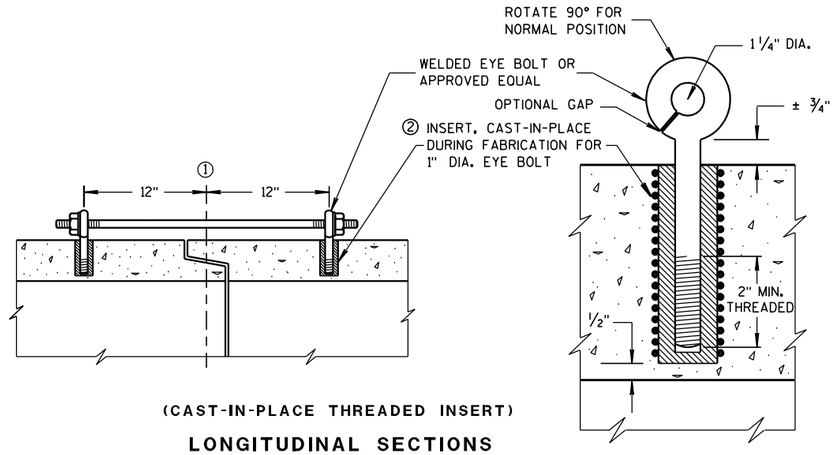
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
S.D.D. 8 E 10-2



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 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 APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

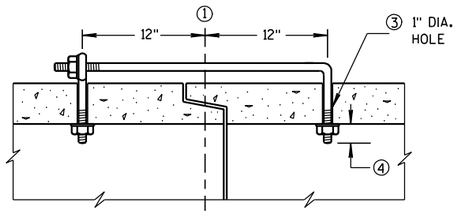
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

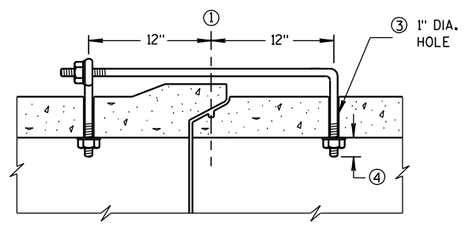
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

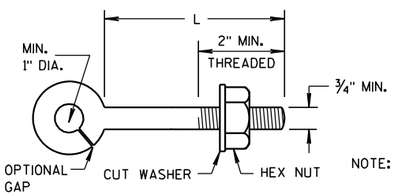


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

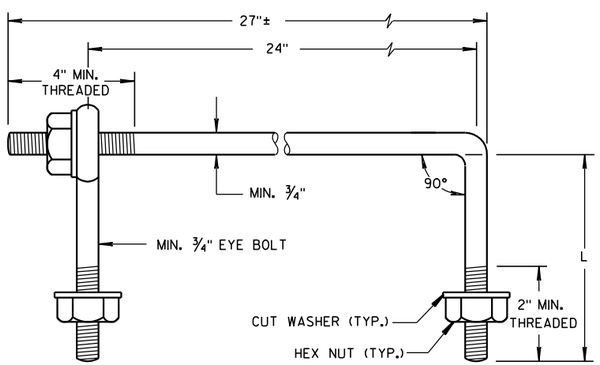
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

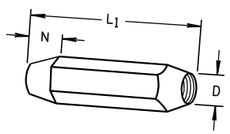
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



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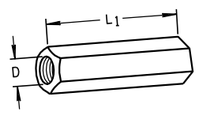
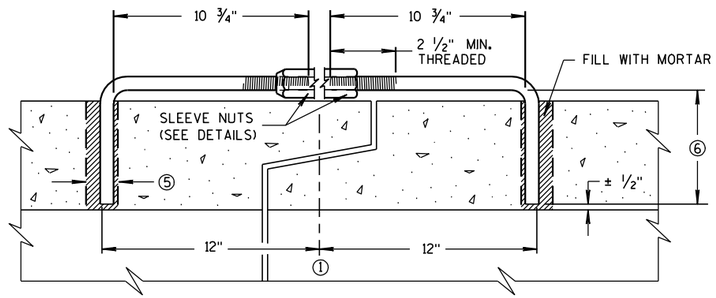


PLAIN

RIGHT AND LEFT THREADS

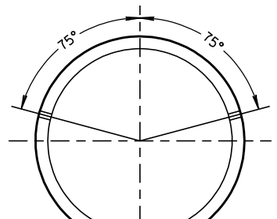
SLEEVE NUTS



LONGITUDINAL SECTION

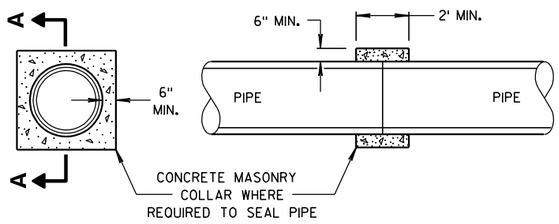
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 8 F 4-7

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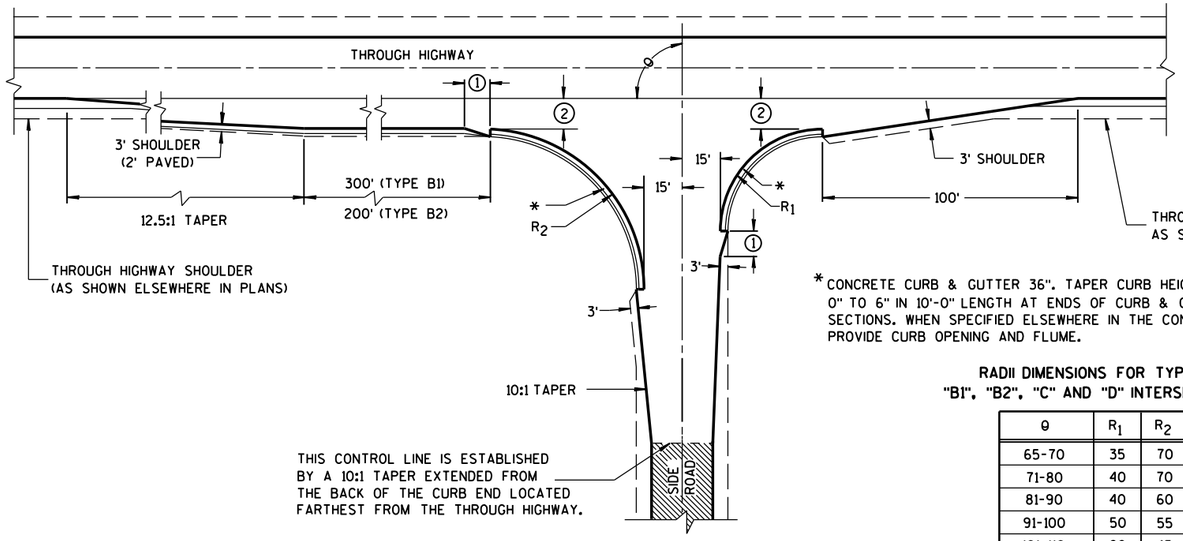
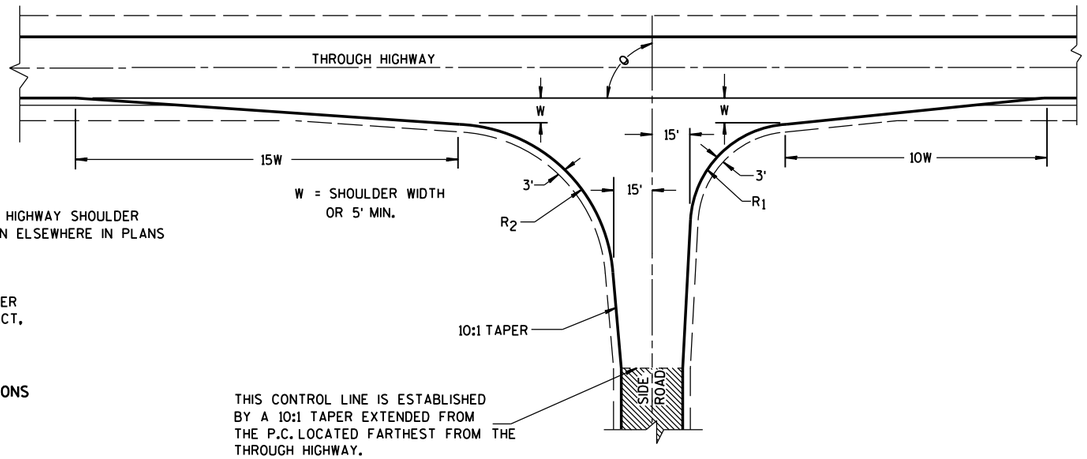


TYPE "B1" AND "B2"

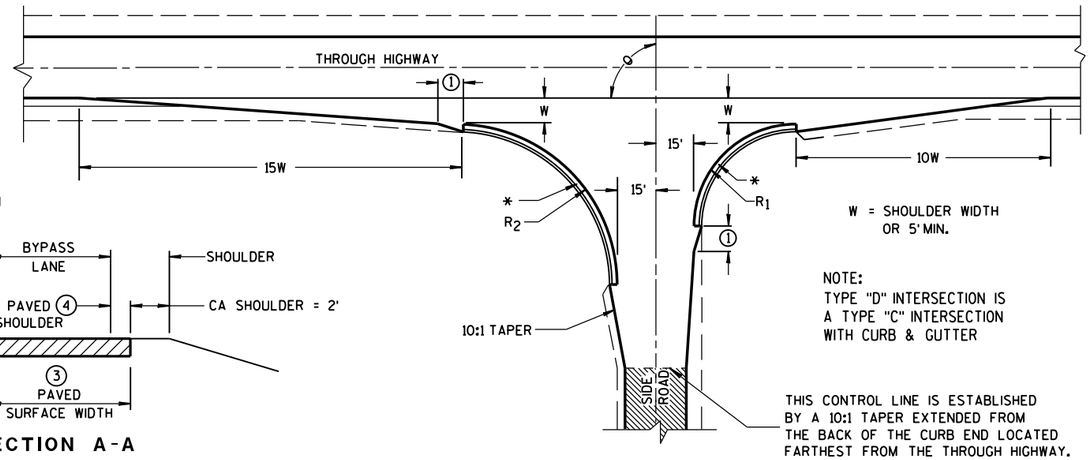
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

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

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

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

SIDE ROAD SURFACING NOTE

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

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

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

EXISTING PAVED SURFACE

BYPASS LANE

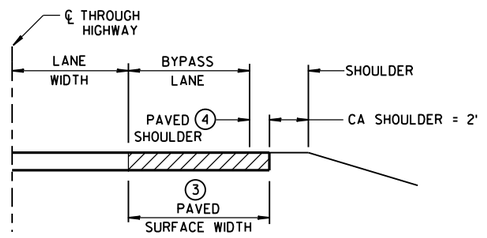
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

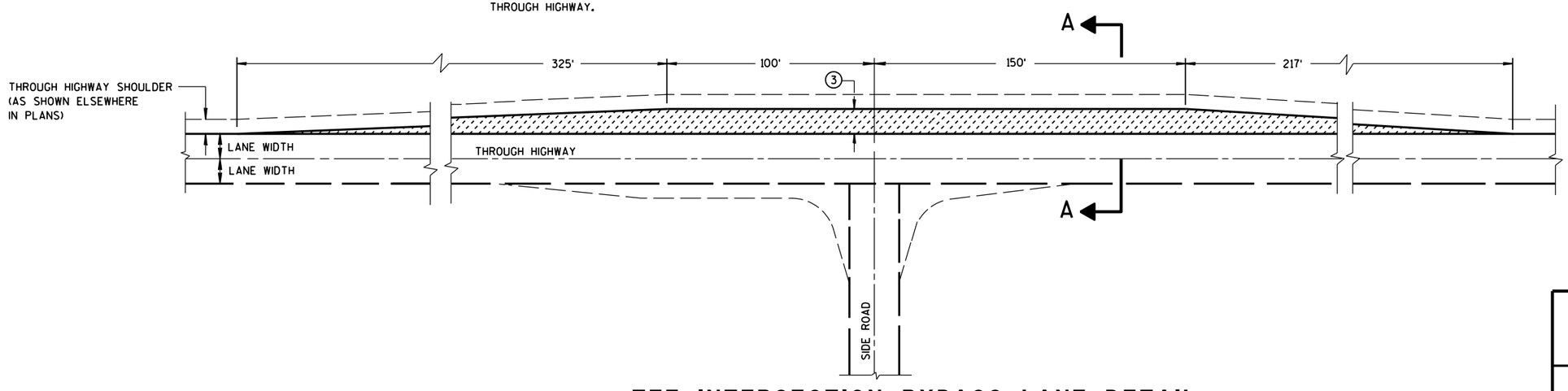
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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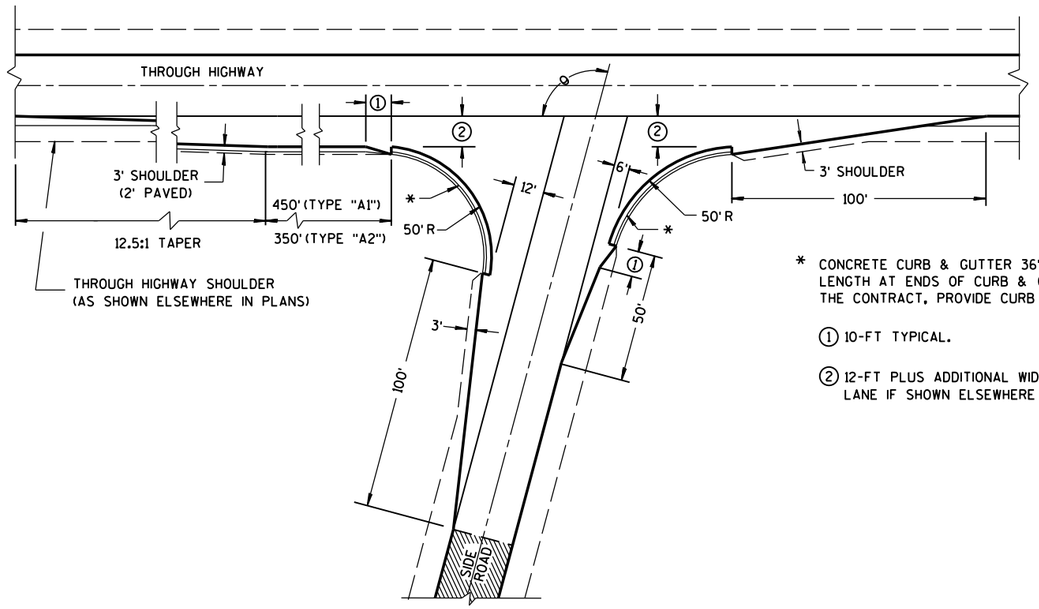
S.D.D. 9 A 1-13a



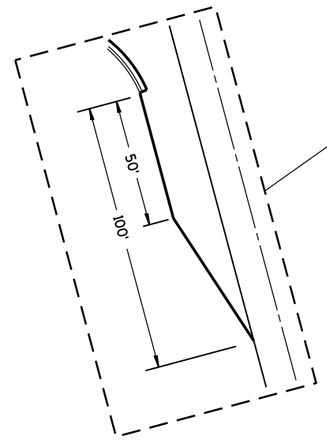
θ = MORE THAN 80°

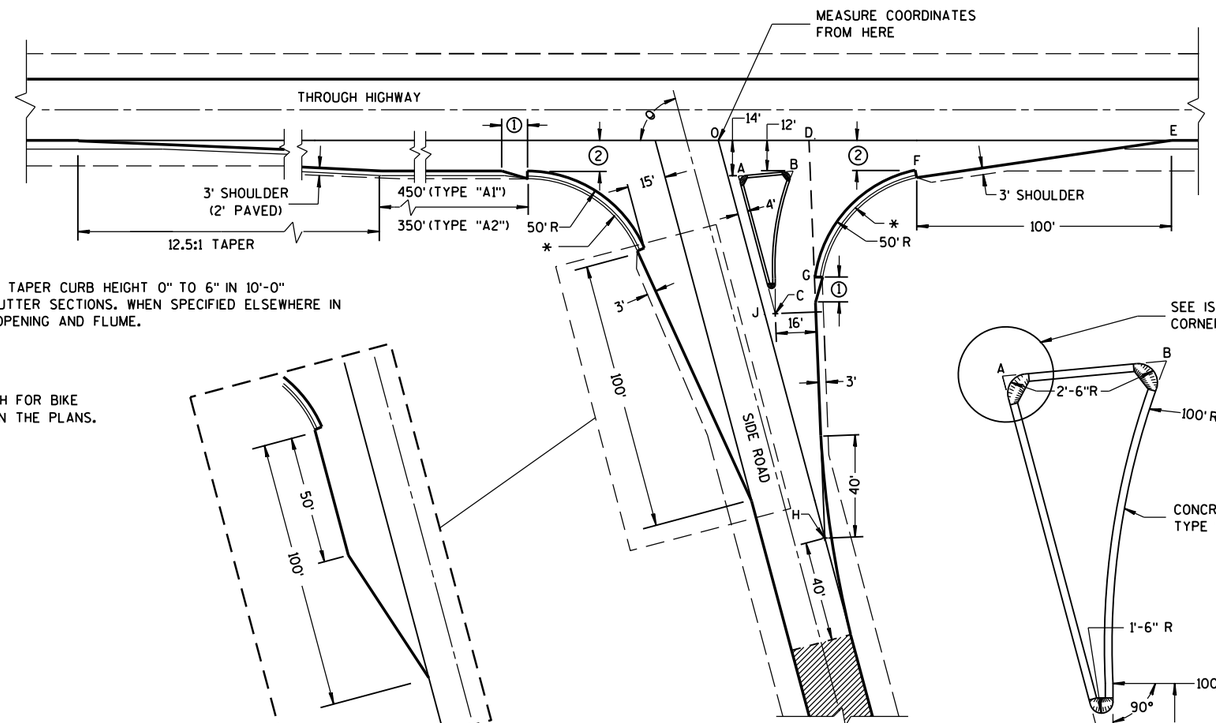
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10-FT TYPICAL.

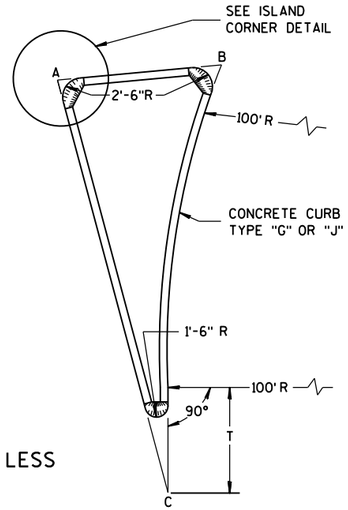
② 12-FT PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLANS.

EXISTING PAVED SURFACE

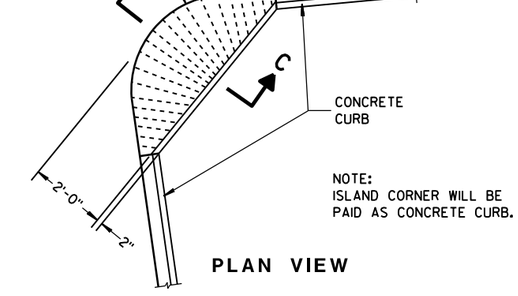




θ = ACUTE ANGLES 80° OR LESS

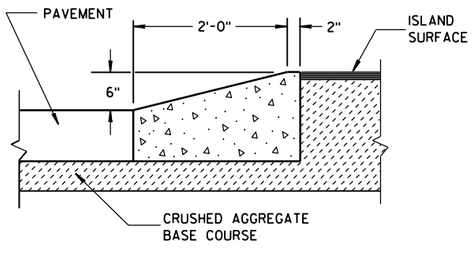


SIDE ROAD WIDENING AND TAPER REQUIRED WHERE
THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS



NOTE:
ISLAND CORNER WILL BE
PAID AS CONCRETE CURB.

PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR
VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O") X / Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4 / 0.0	196.1 / 0.0	95.7 / -12.0	54.1 / -71.5	70.5 / -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 / -14.0	33.9 / -12.0	29.8 / -70.1	37.4 / 0.0	188.3 / 0.0	87.8 / -12.0	45.6 / -67.5	56.1 / -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 / -14.0	29.3 / -12.0	22.3 / -67.9	35.7 / 0.0	181.2 / 0.0	80.7 / -12.0	38.2 / -63.4	41.8 / -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 / -14.0	25.4 / -12.0	15.6 / -65.2	34.4 / 0.0	174.8 / 0.0	74.4 / -12.0	31.8 / -59.3	27.6 / -156.5	18.9	52.0	15.6	66.9	158.9

TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

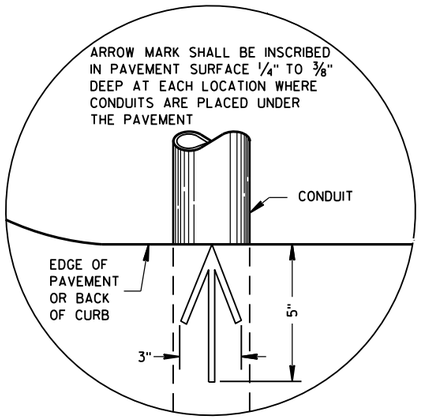
AT-GRADE SIDE ROAD
INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/12 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DESIGN ENGINEER
FHWA

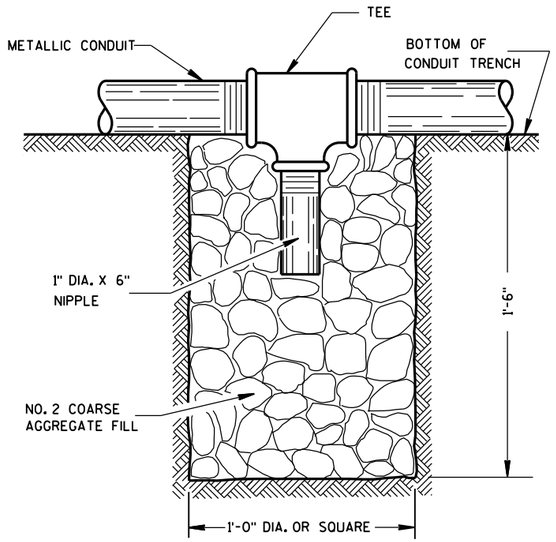
6

S.D.D. 9 A 1-13b



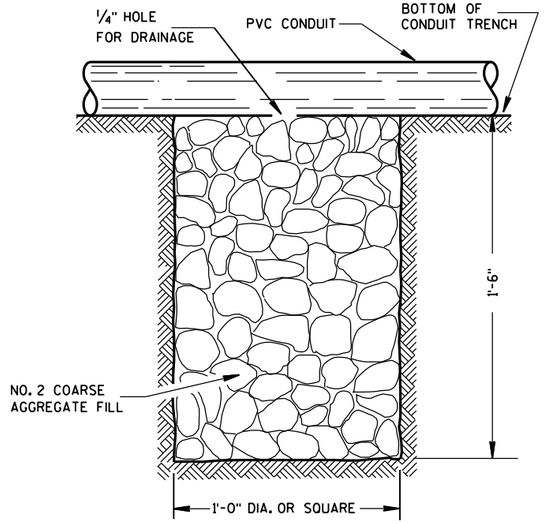
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

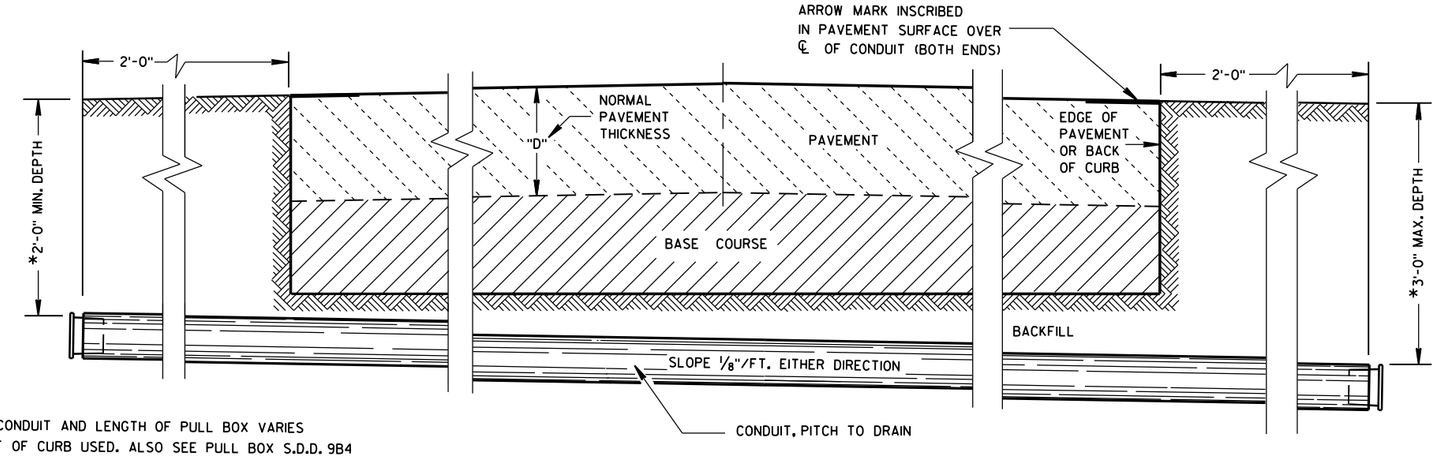
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT UNDER PAVED HIGHWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

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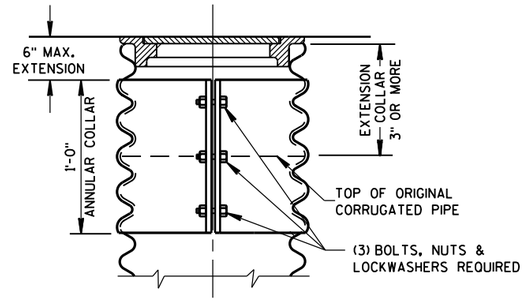
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

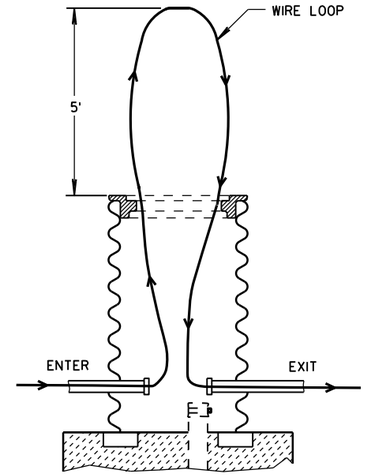
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

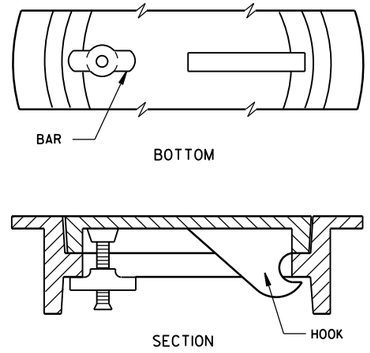
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

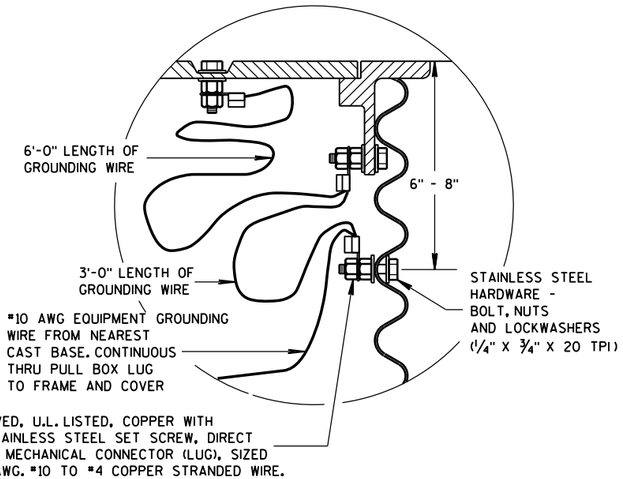


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

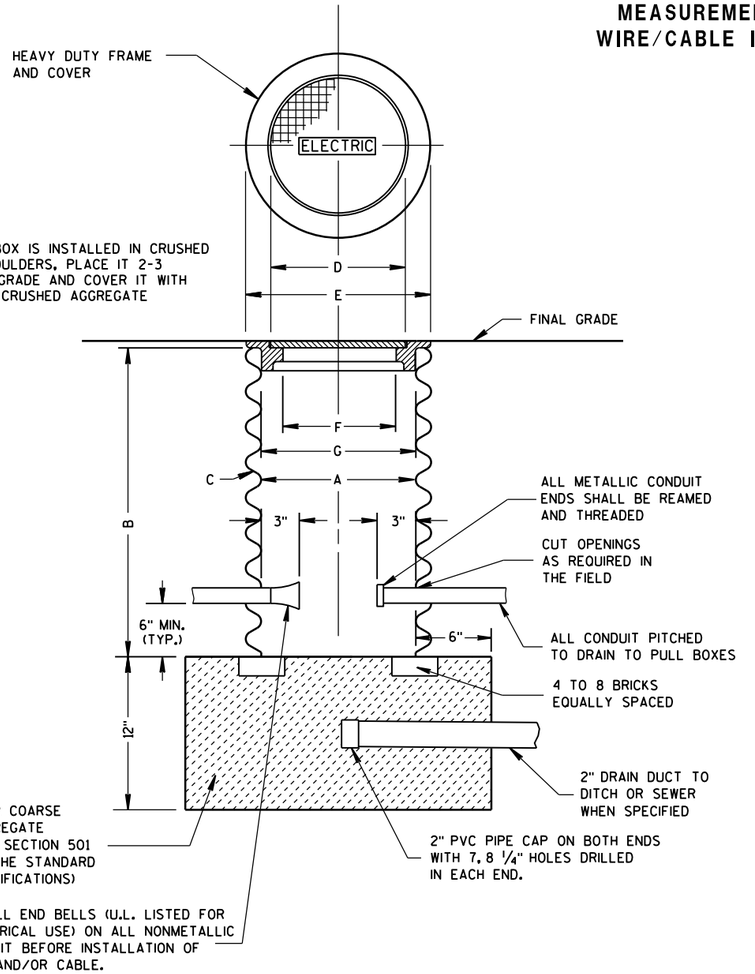


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

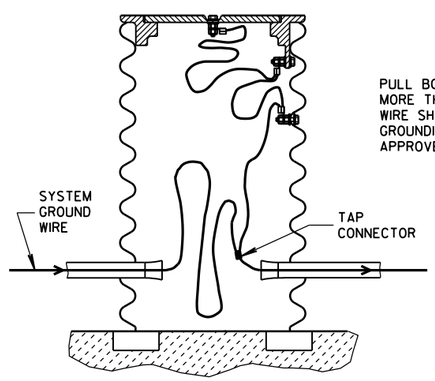
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
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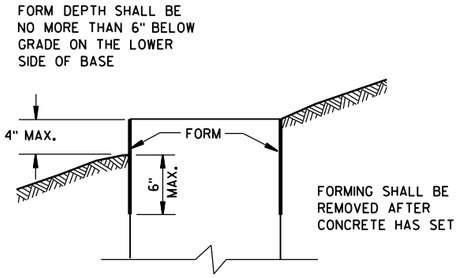


FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

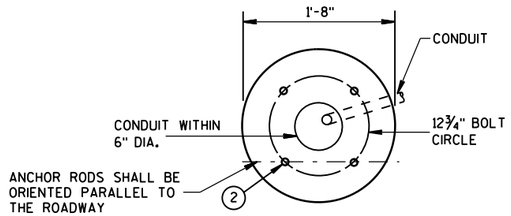
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

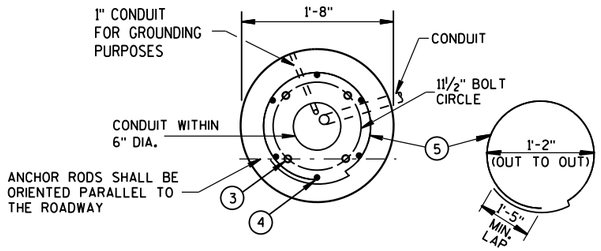
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

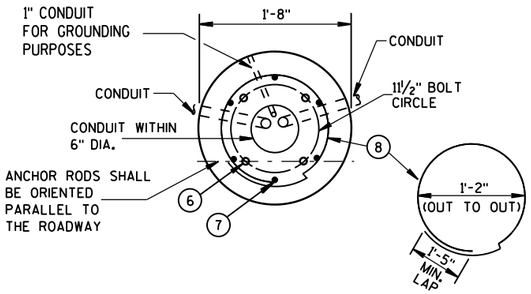
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

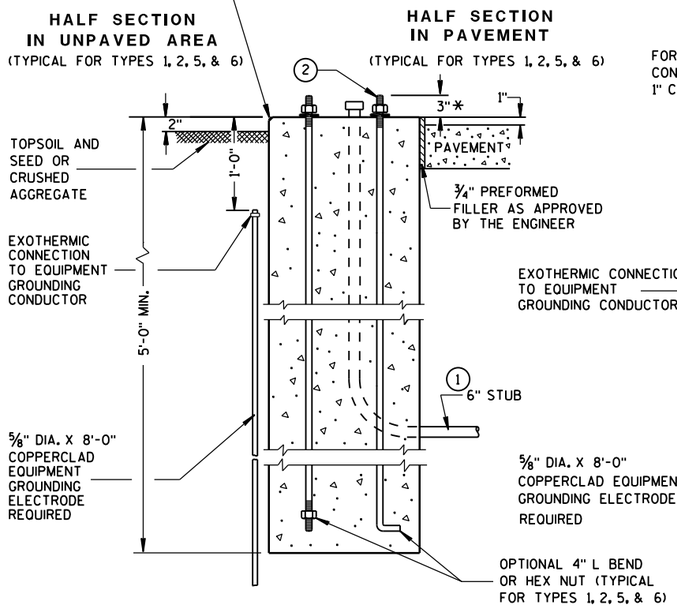


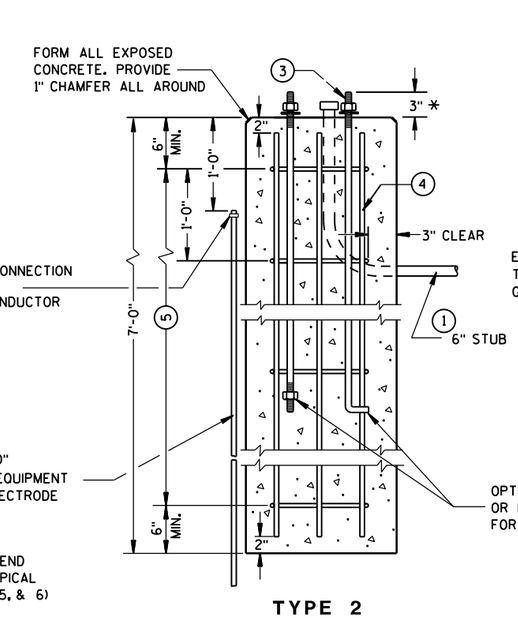




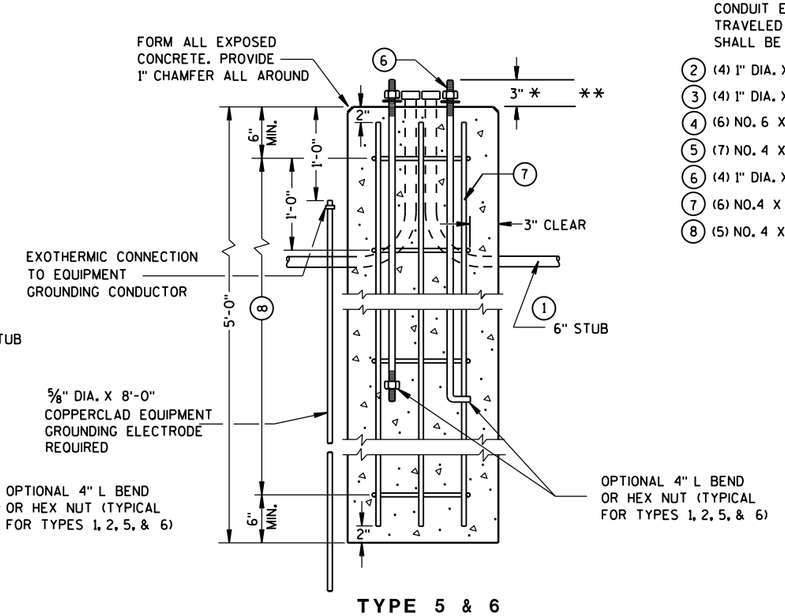
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)

HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)





TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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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.

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, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

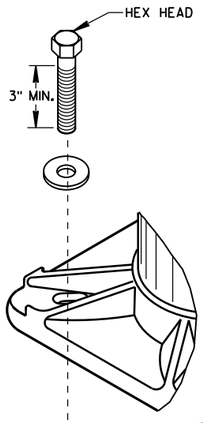
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

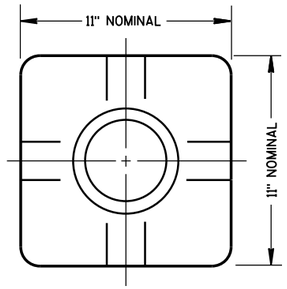
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

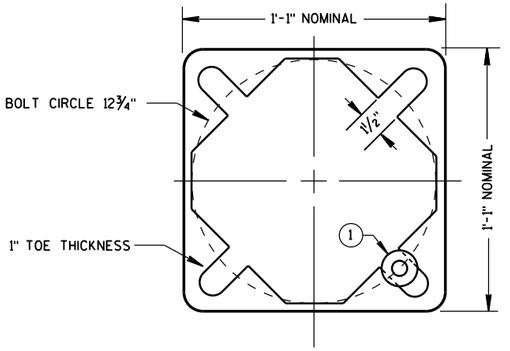
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

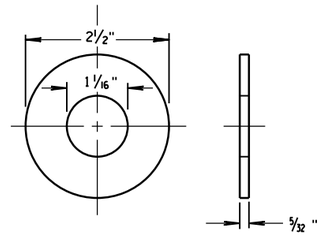




TOP VIEW
(PEDESTAL BASE)

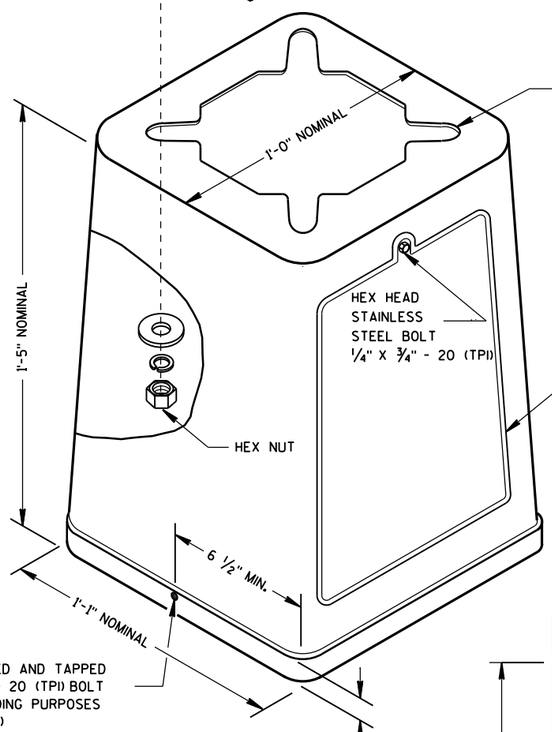


BOTTOM VIEW
(PEDESTAL BASE)

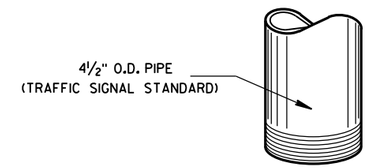


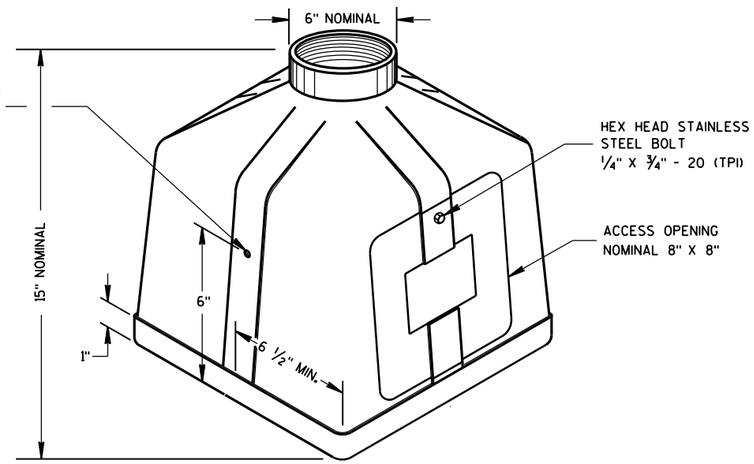
ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)



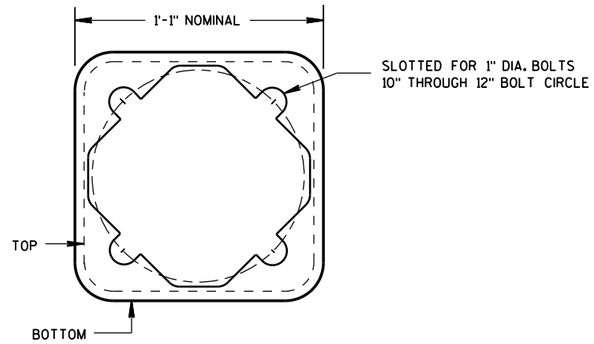
ISOMETRIC VIEW



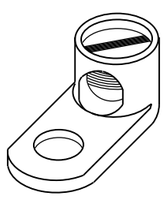


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

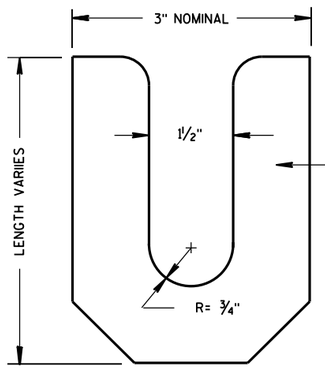


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

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



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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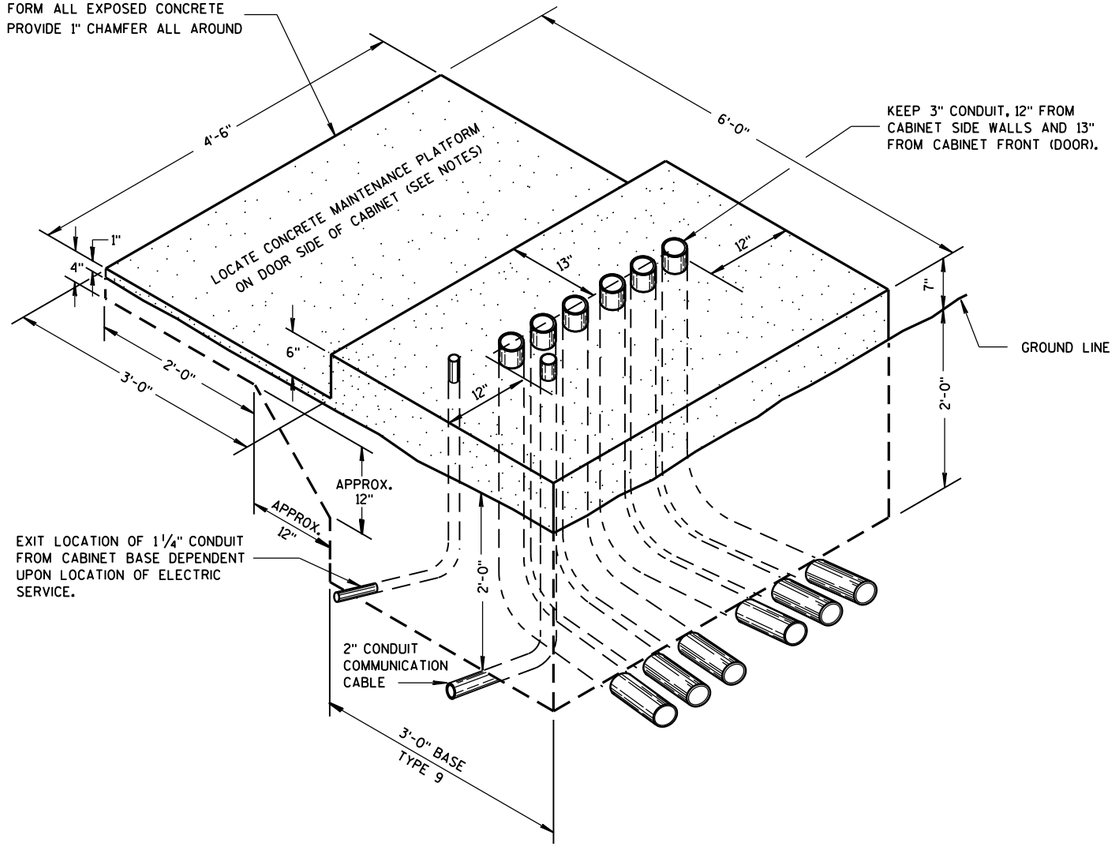
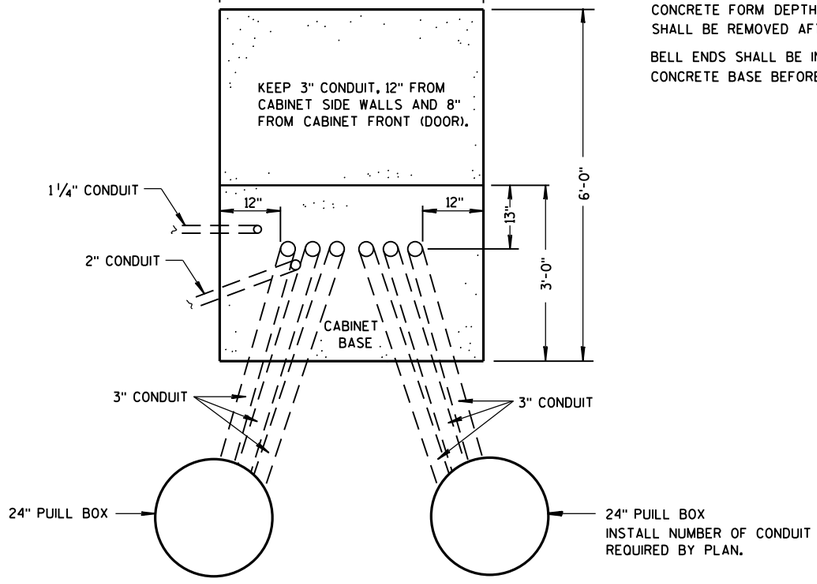
6
S.D.D. 9 C 3-4



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUIT IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

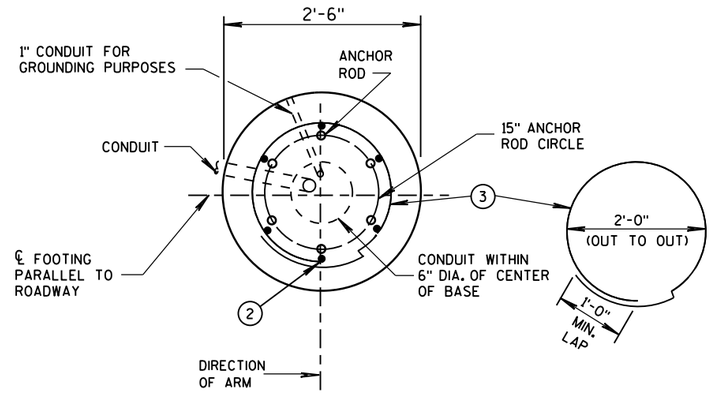
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

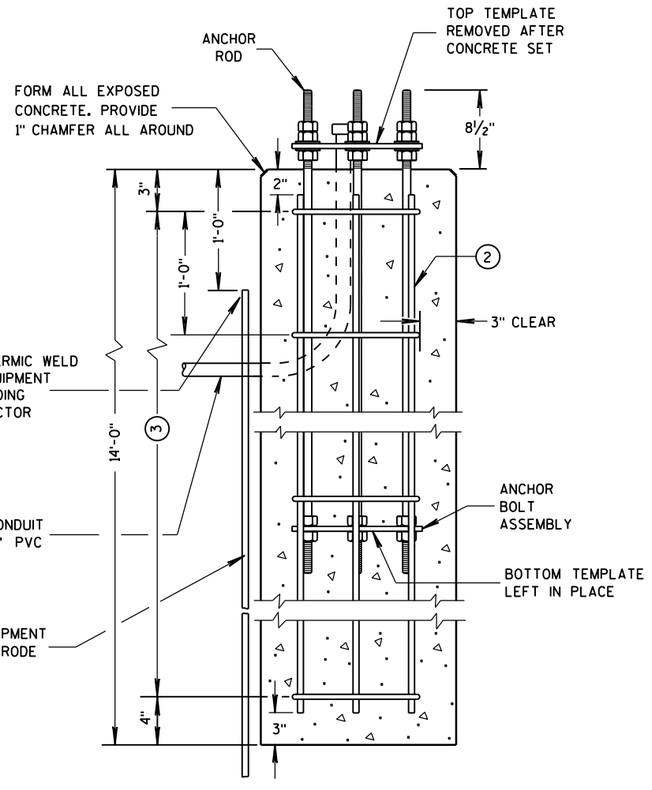
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (6) NO. 6 X 13'-7" BAR STEEL REINFORCEMENT.

(3) (15) NO. 4 X 7'-4" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

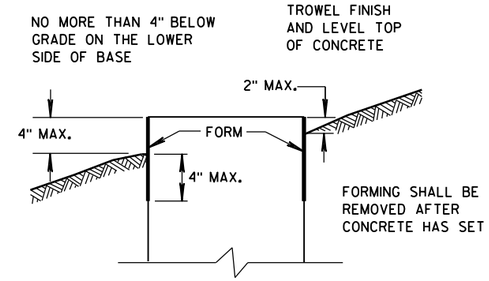
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



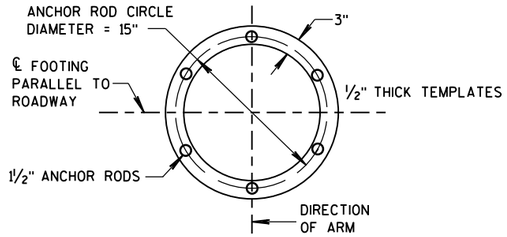


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

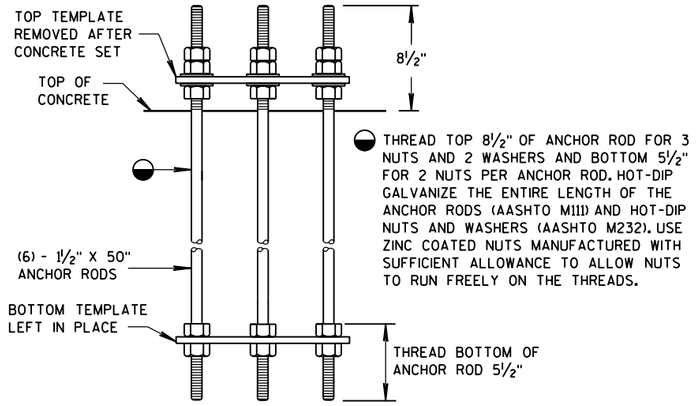
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10 ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	69
LBS. OF VERTICAL BAR STEEL	122

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

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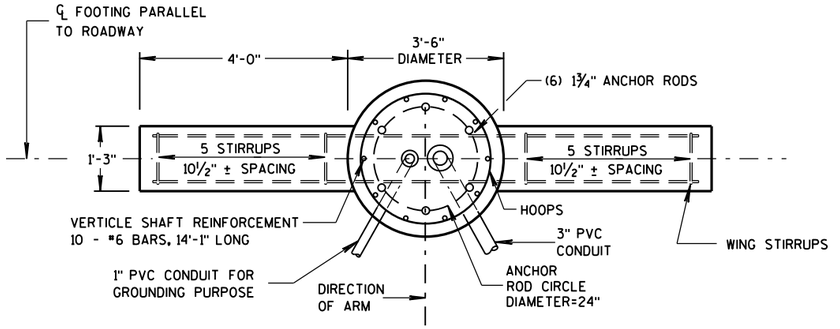
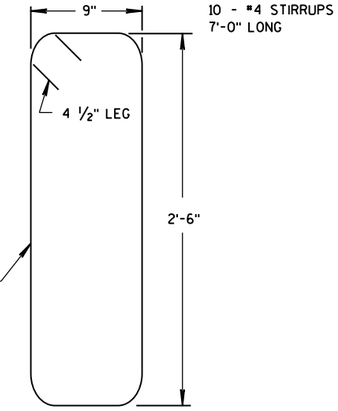
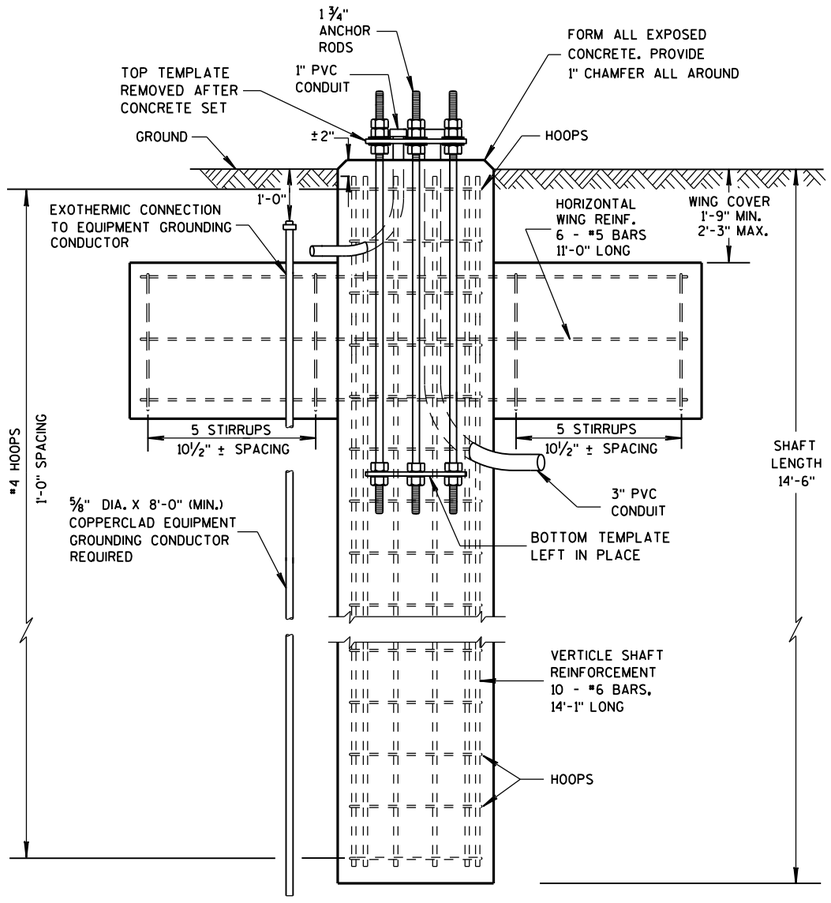
S.D.D. 9 C 11-5



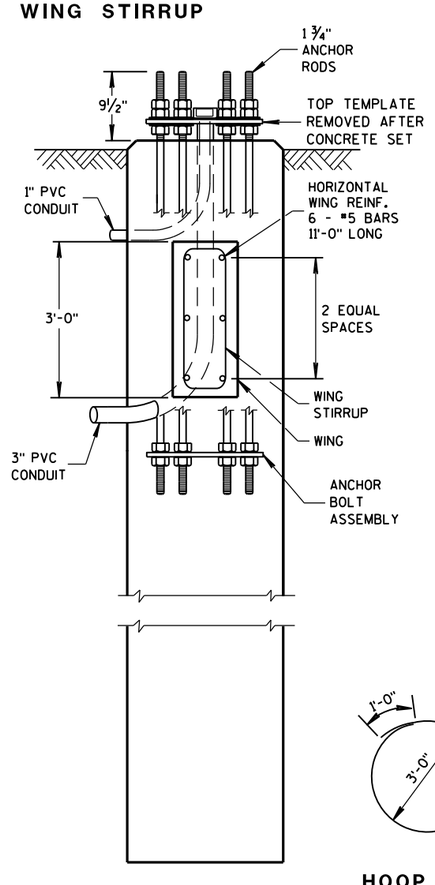
PLAN VIEW



WING STIRRUP

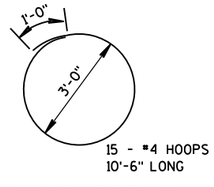


ELEVATION VIEW



SIDE VIEW

DOES NOT SHOW HOOPS OR VERTICAL SHAFT REINFORCEMENT



HOOP DETAIL

GENERAL NOTES

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

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUNG THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF THE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1-INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4-FOOT COIL OF WIRE ABOVE THE CONCRETE BASE, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.

THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

(FOR TYPE 12 & 13 POLES)

CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 433 LBS.

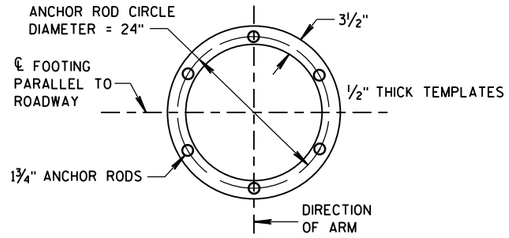
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 13

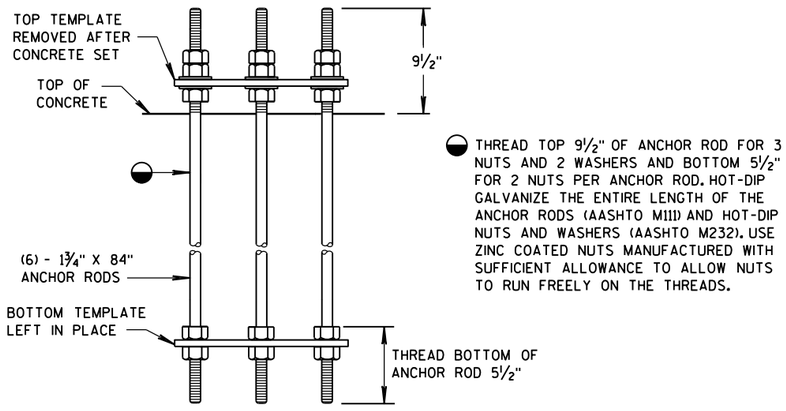
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 9 C 12-5a

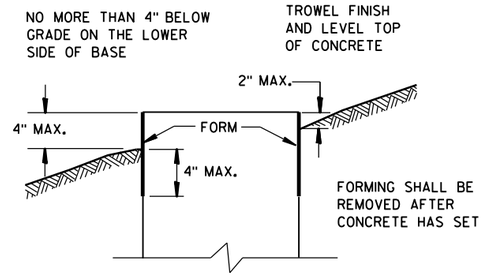


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

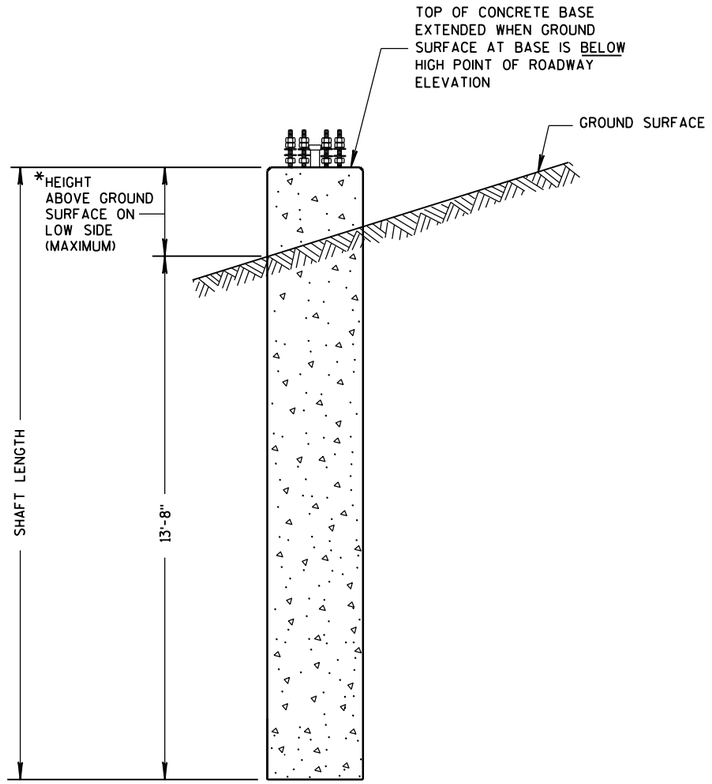
CONCRETE BASE TYPE 13	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL

6

S.D.D. 9 C 12-5b

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

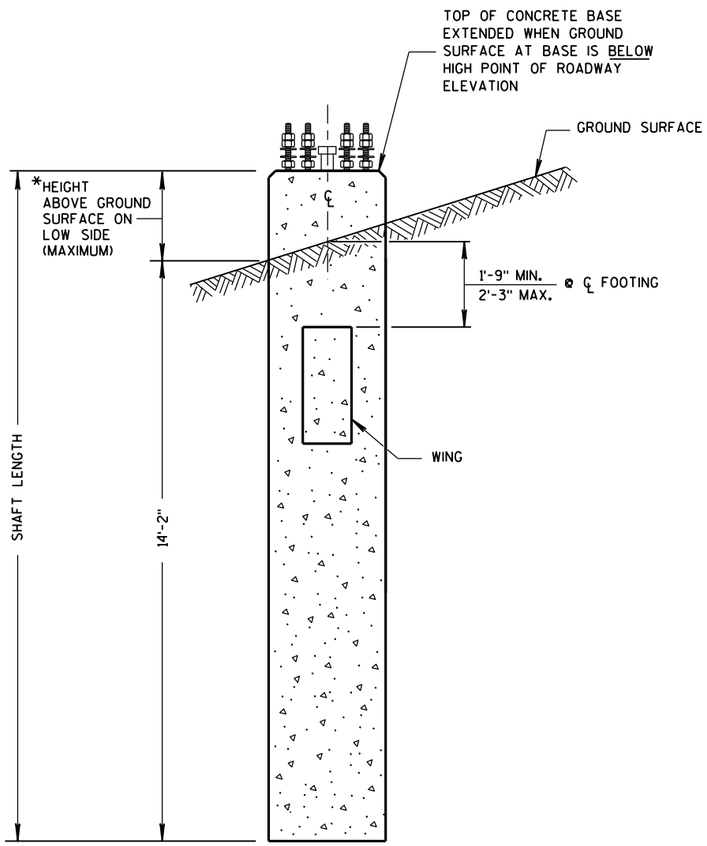
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141



CONCRETE BASE TYPE 10 (EXTENDED)

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476



CONCRETE BASE TYPE 13 (EXTENDED)

CONCRETE BASE
TYPE 10 & TYPE 13 EXTENSION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

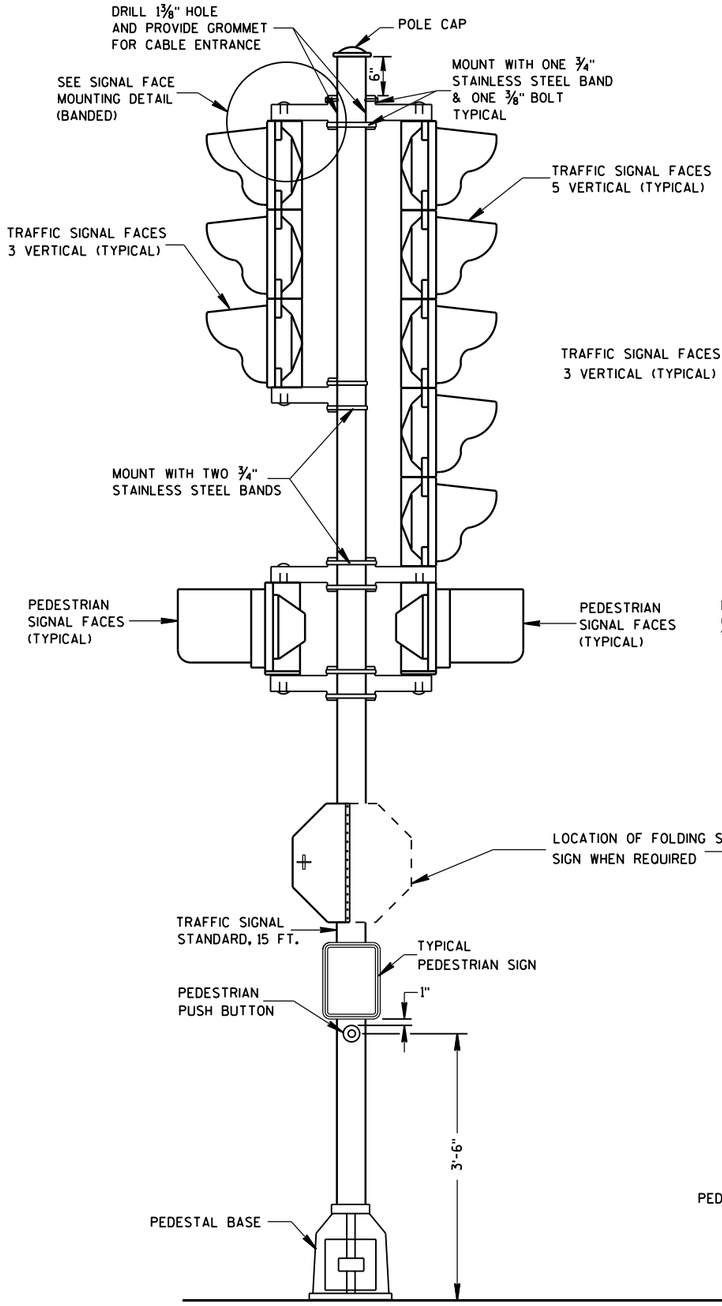
APPROVED
11-26-2013 DATE
/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA

6

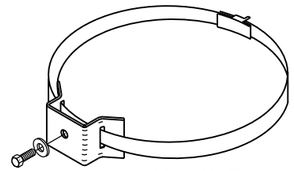
S.D.D. 9 C 13-2

6

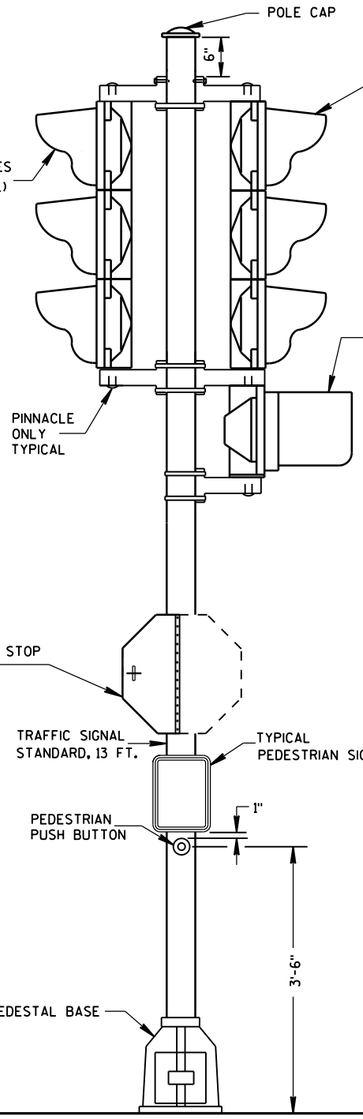
S.D.D. 9 C 13-2



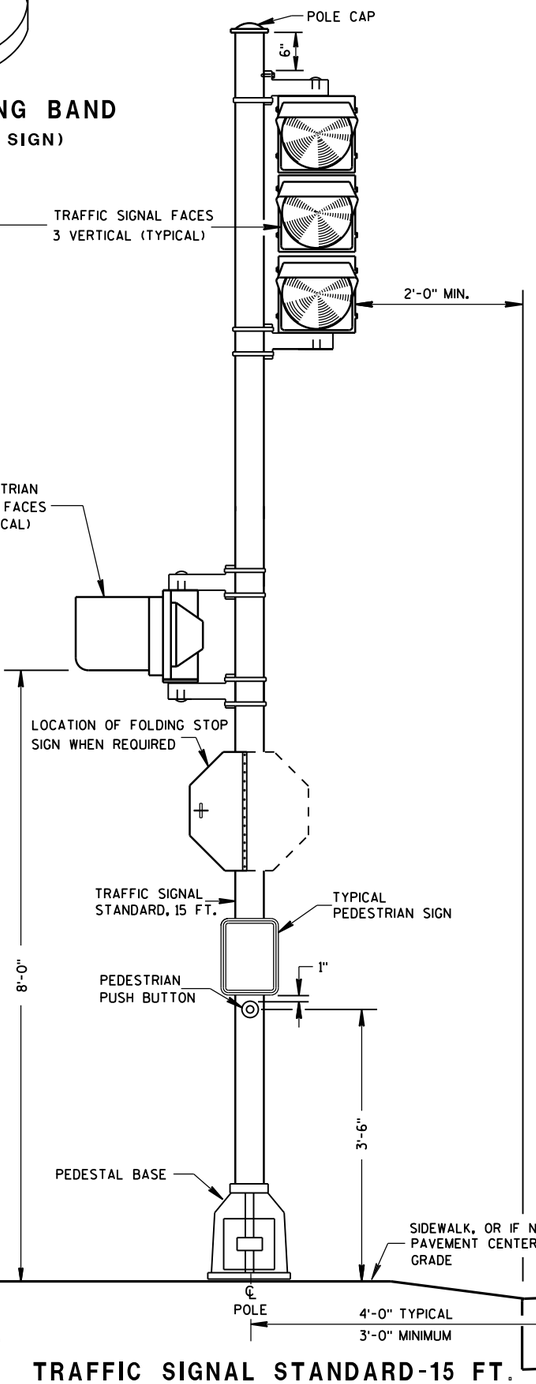
TRAFFIC SIGNAL STANDARD-15 FT.



TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-13 FT.



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

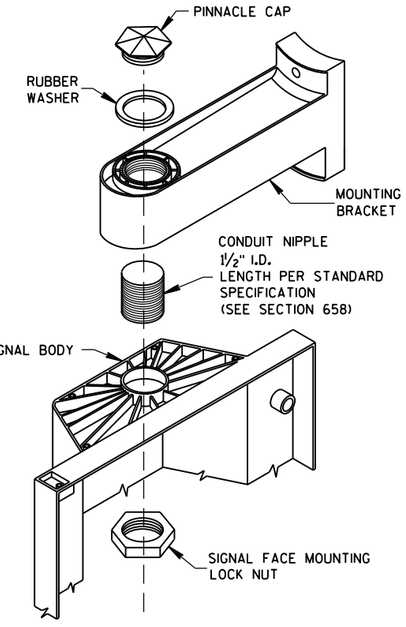
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



SIGNAL FACE MOUNTING DETAIL
(BANDED)

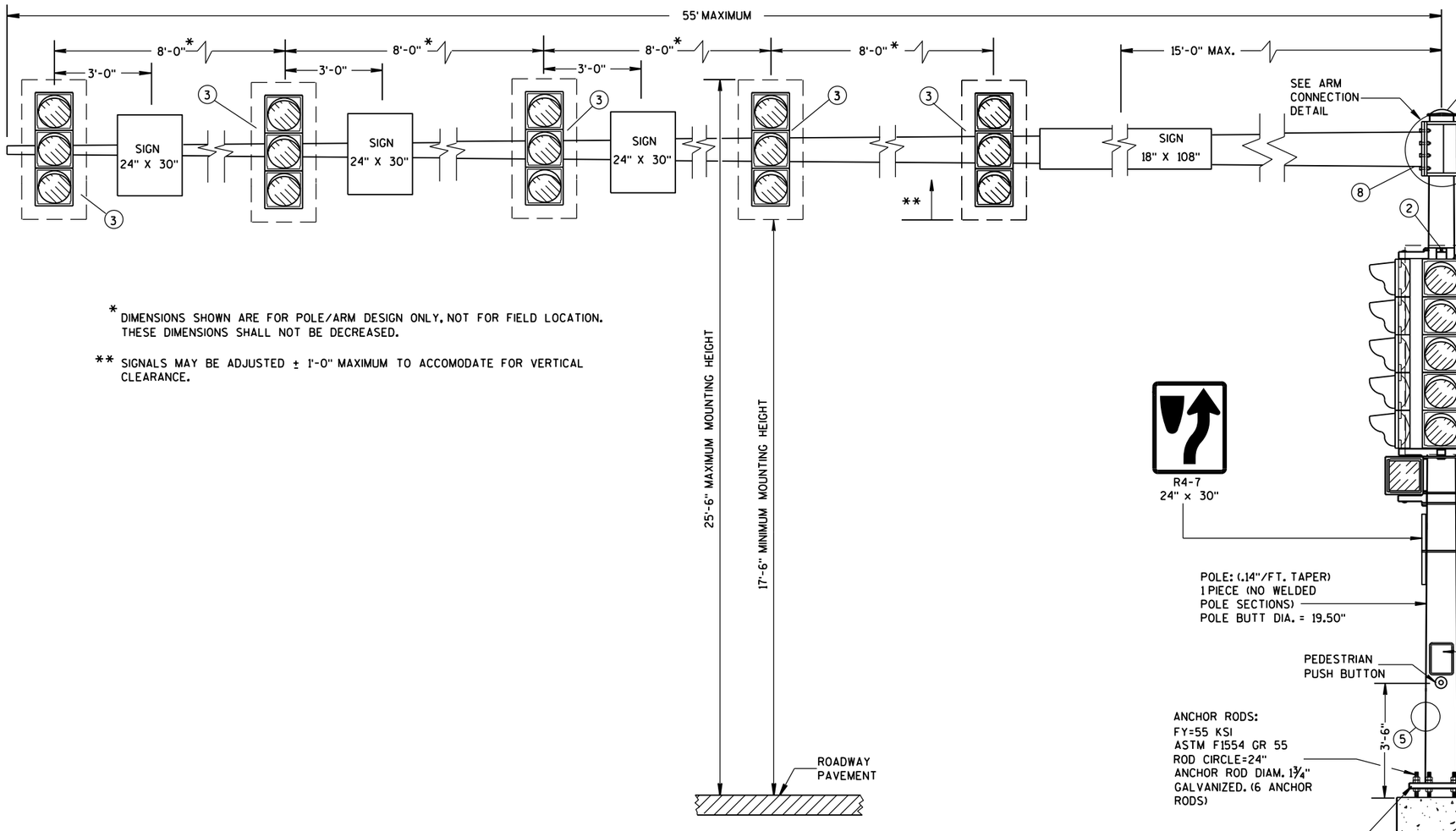
TRAFFIC SIGNAL STANDARD
POLY BRACKET MOUNTINGS
(TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

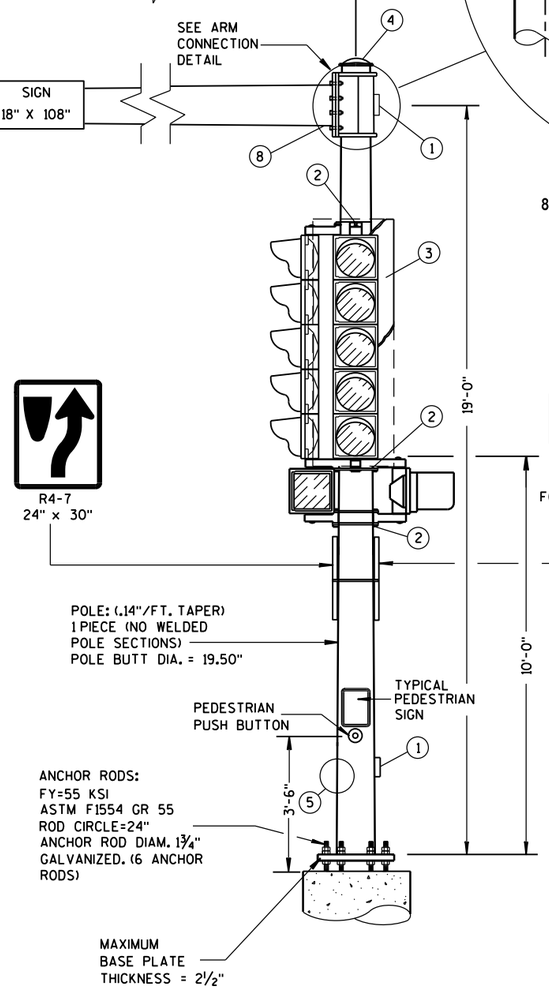
6

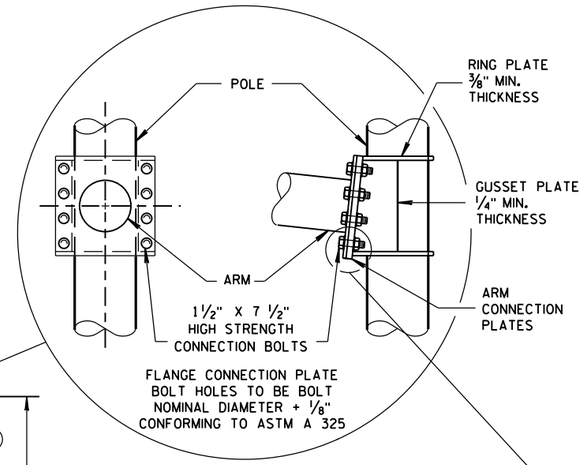
S.D.D. 9 E 6-5



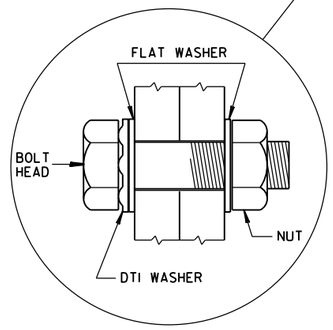
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

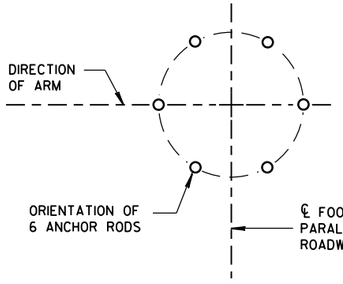




8 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
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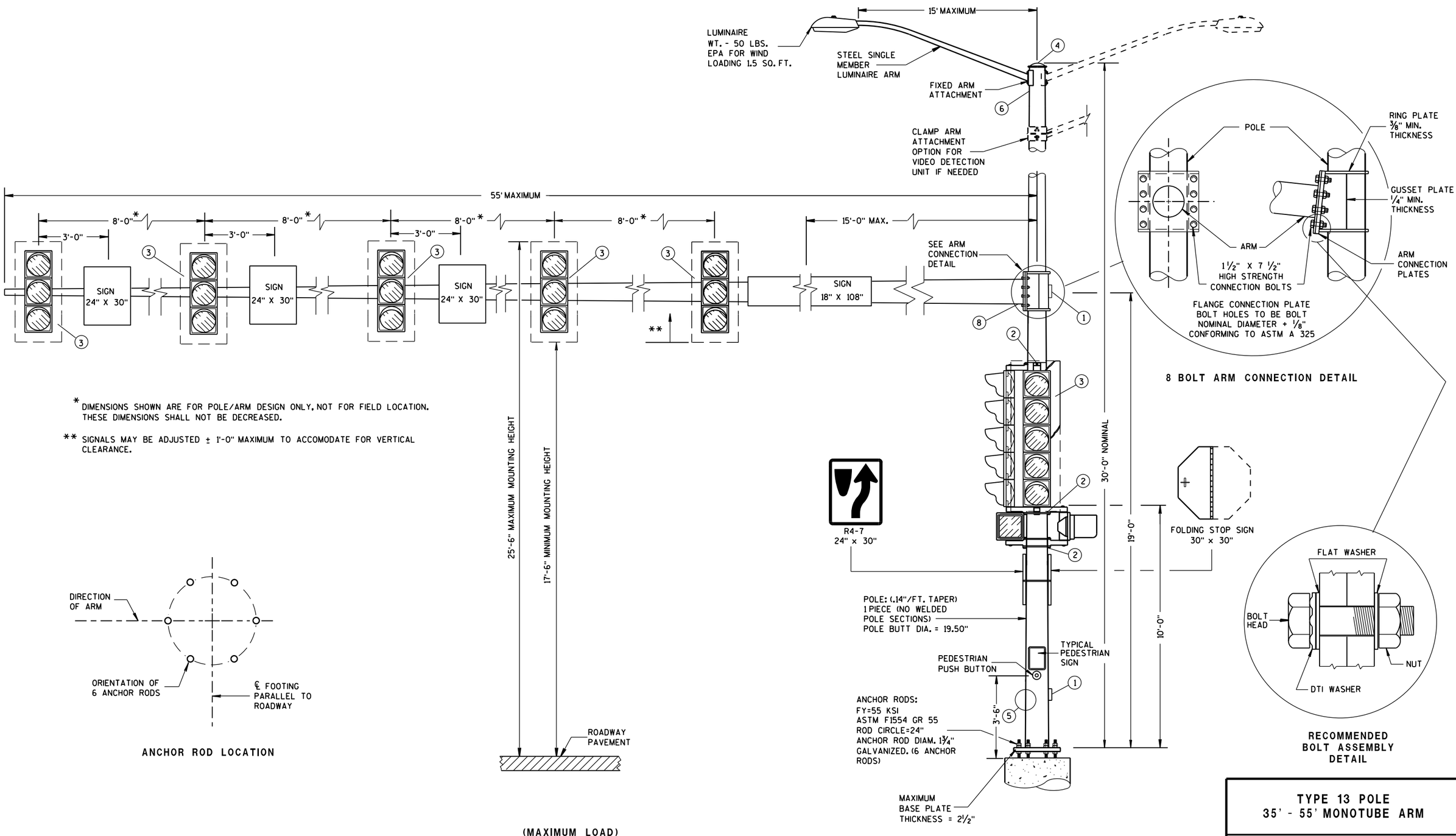

8 BOLT ARM CONNECTION DETAIL

RECOMMENDED
BOLT ASSEMBLY
DETAIL

* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 13 POLE 35'- 55' MONOTUBE ARM

TYPE 13 POLE 35' - 55' MONOTUBE ARM
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
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GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO 2013 6TH EDITION AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

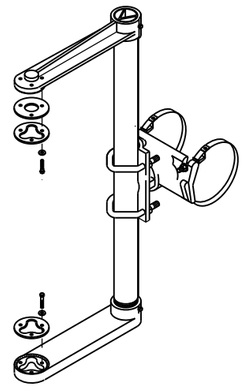
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

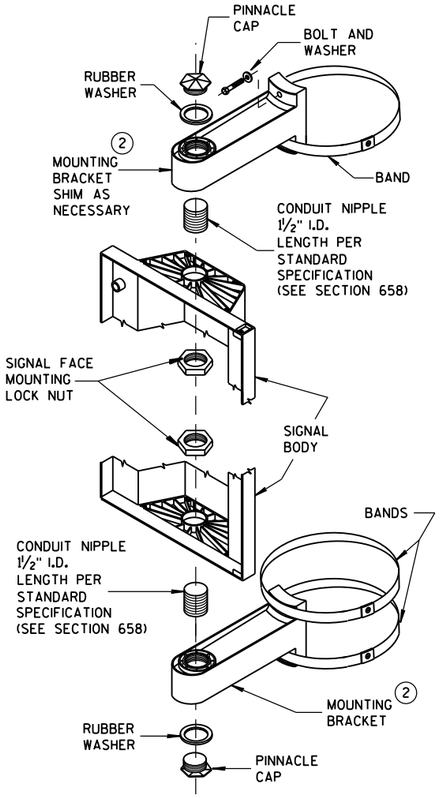
MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

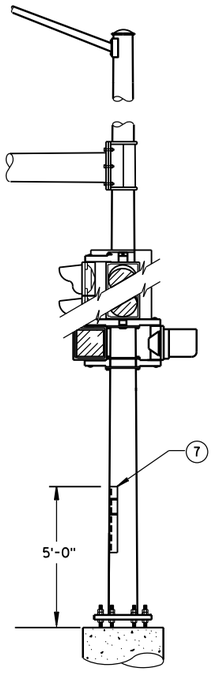


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

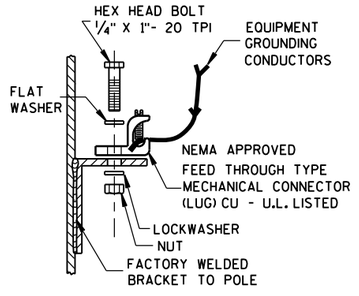
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE VERTICAL MOUNTING DETAIL

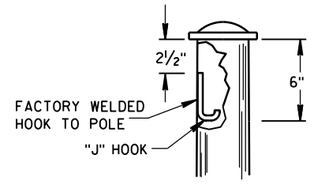


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

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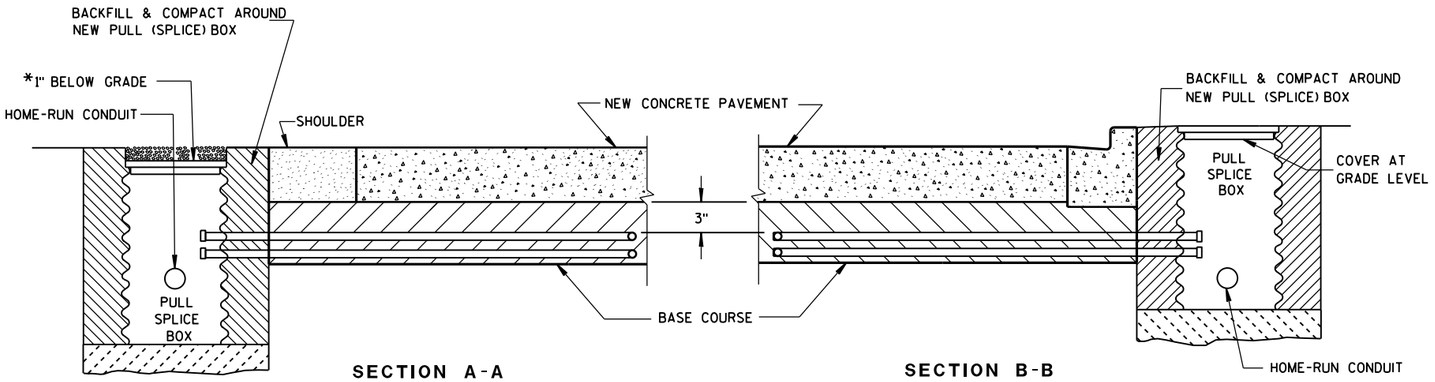


SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

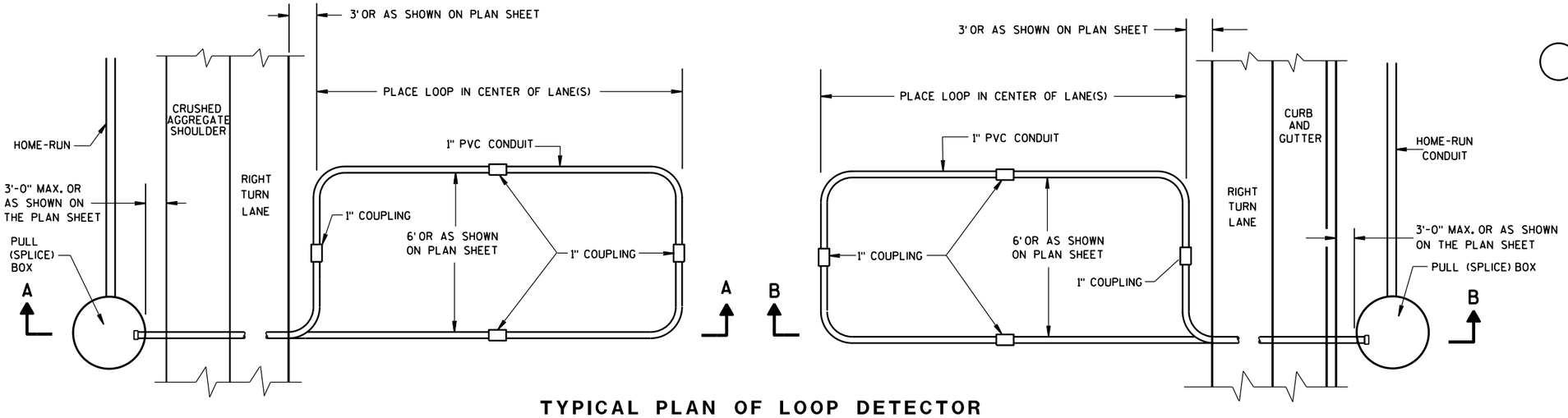
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

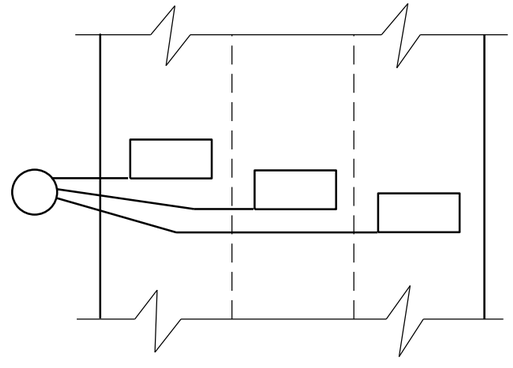
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

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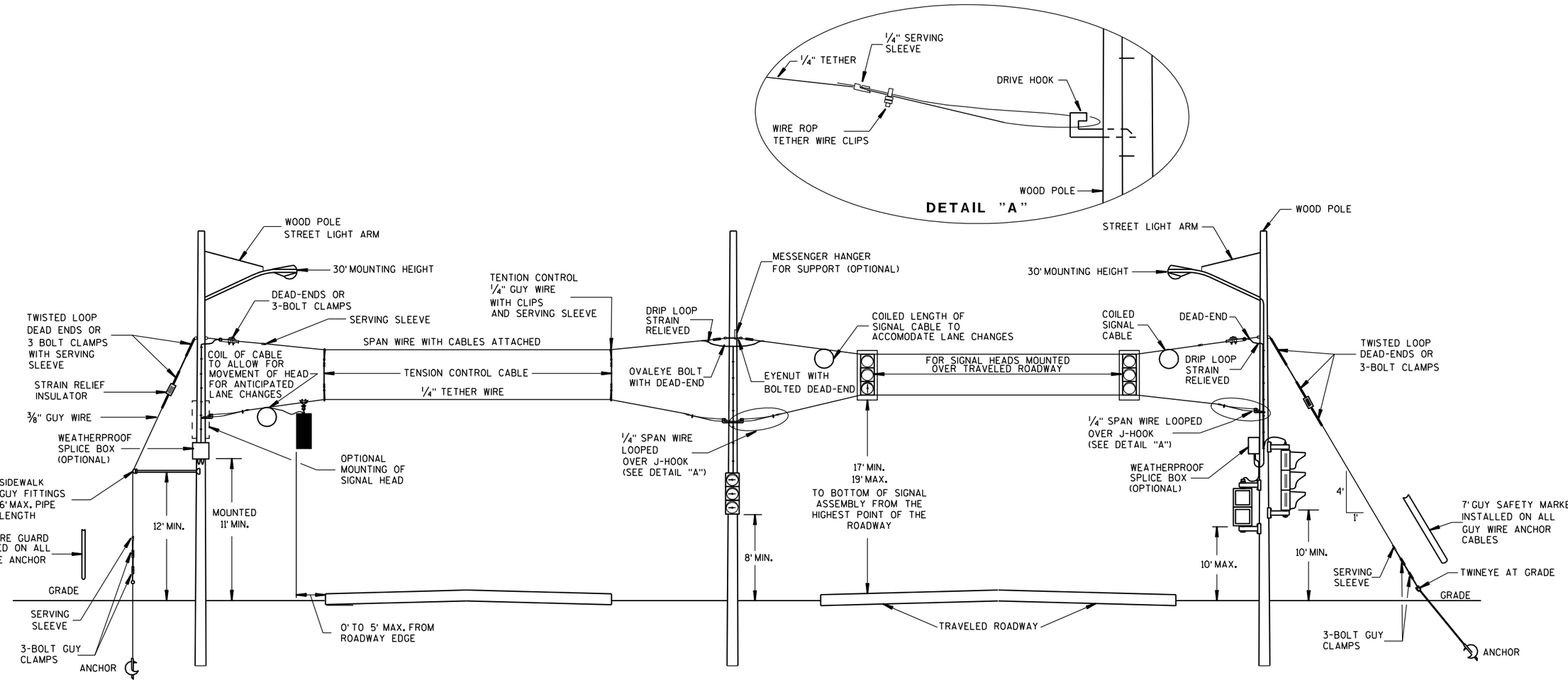

SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

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

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
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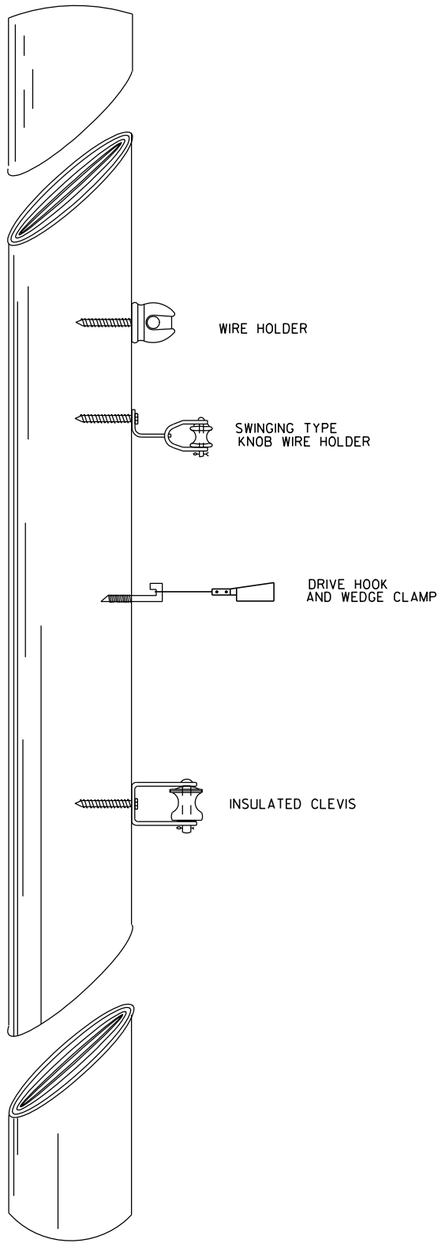
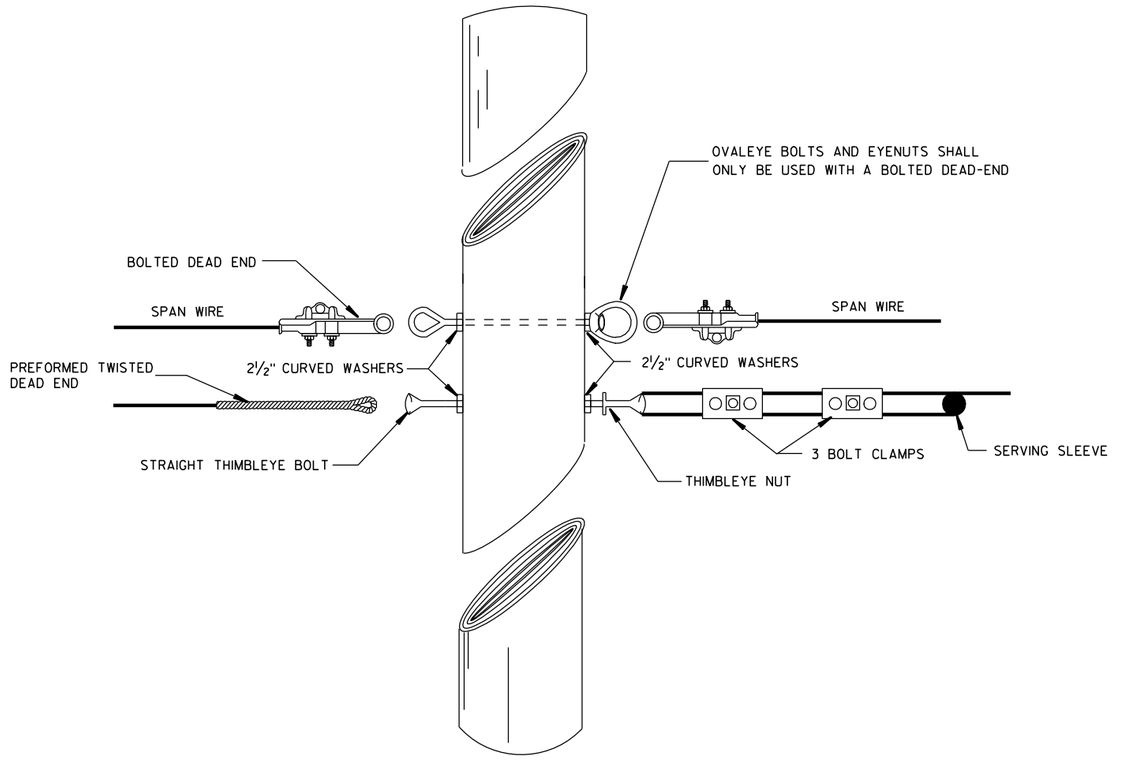


TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

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SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

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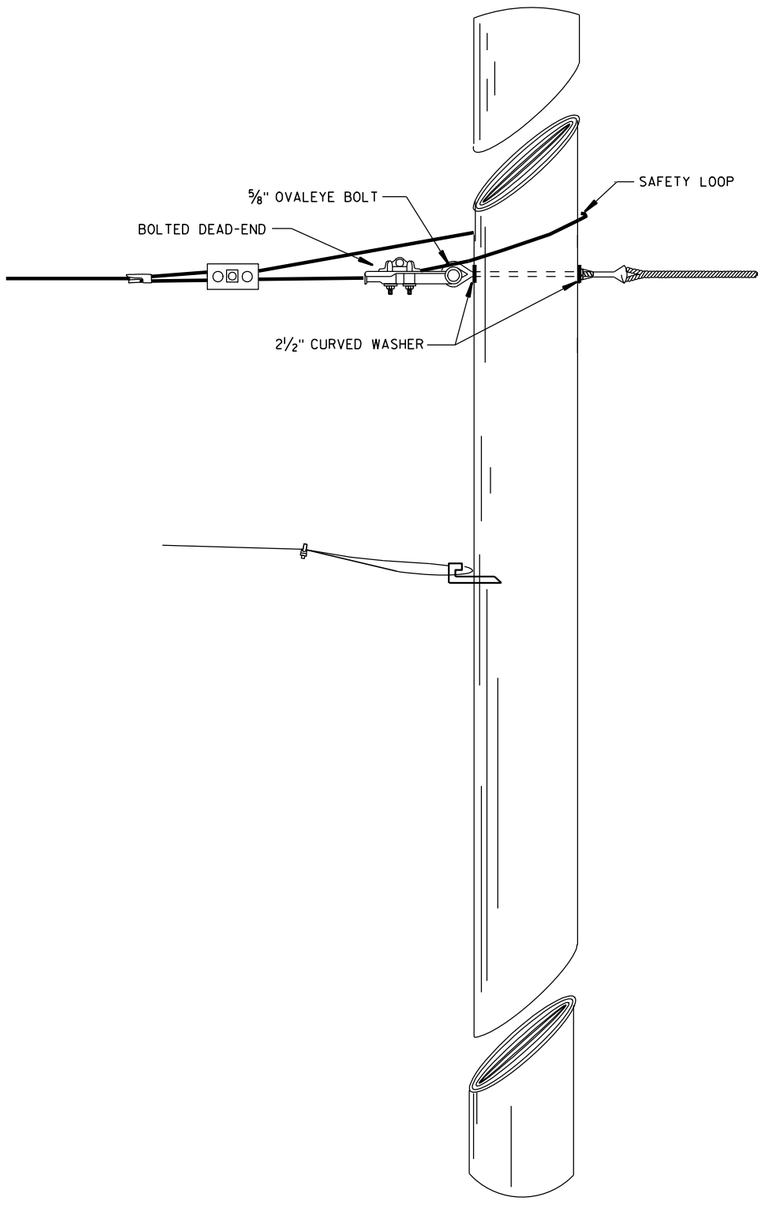
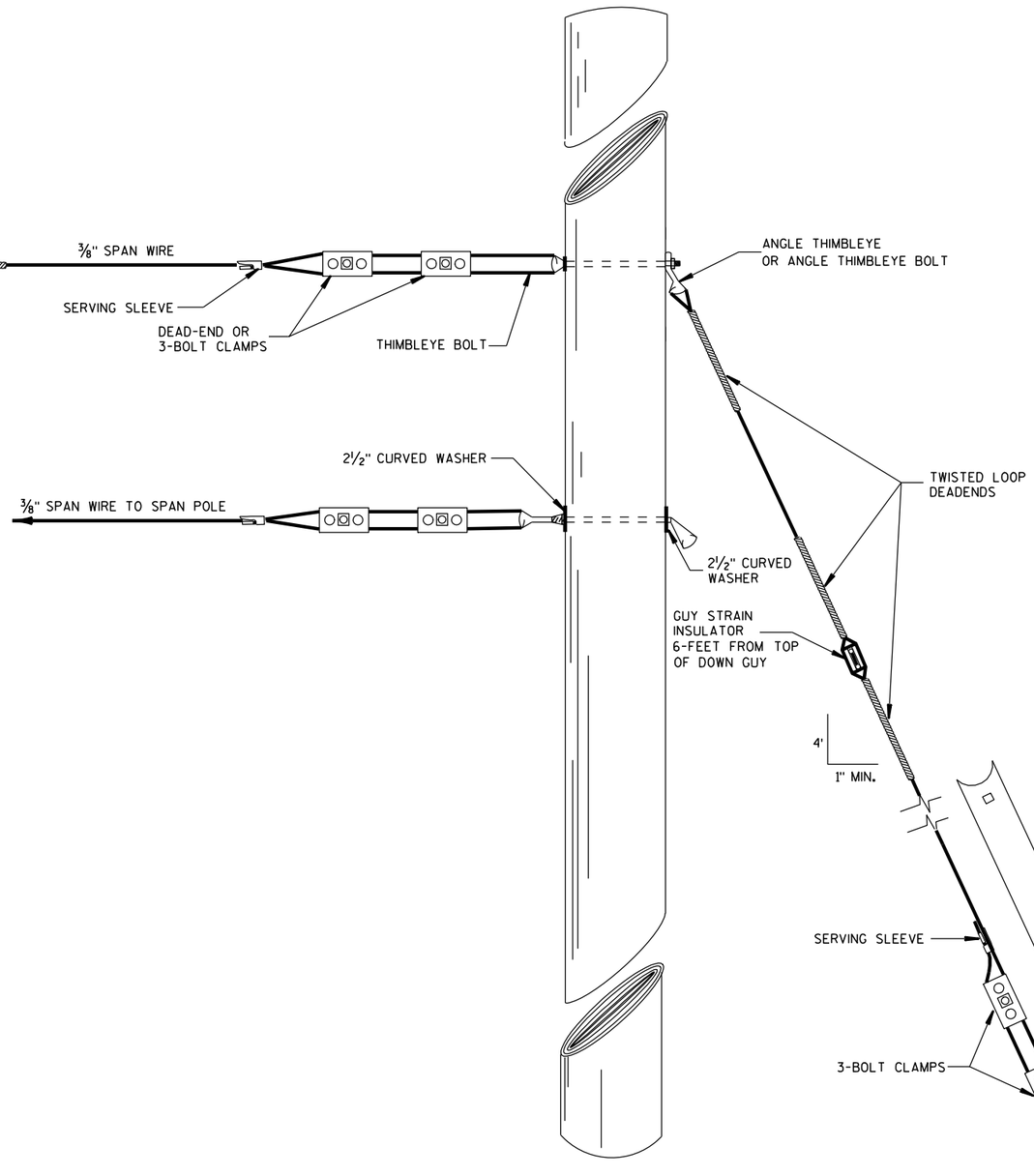
GENERAL NOTES

1. USE ¾" DRILL IN WOOD POLE TO PROVIDE HOLE FOR ⅝" BOLTS.
2. SAFTY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE



GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
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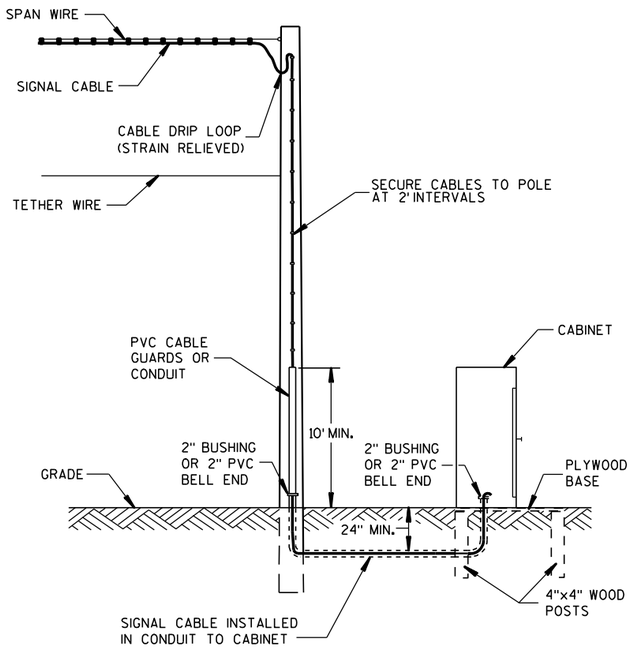
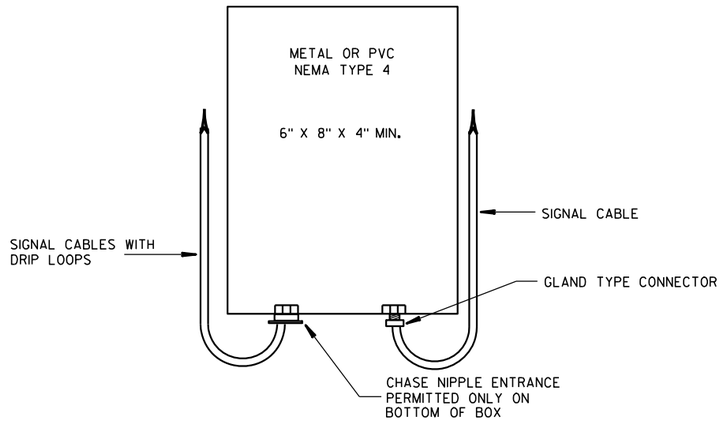
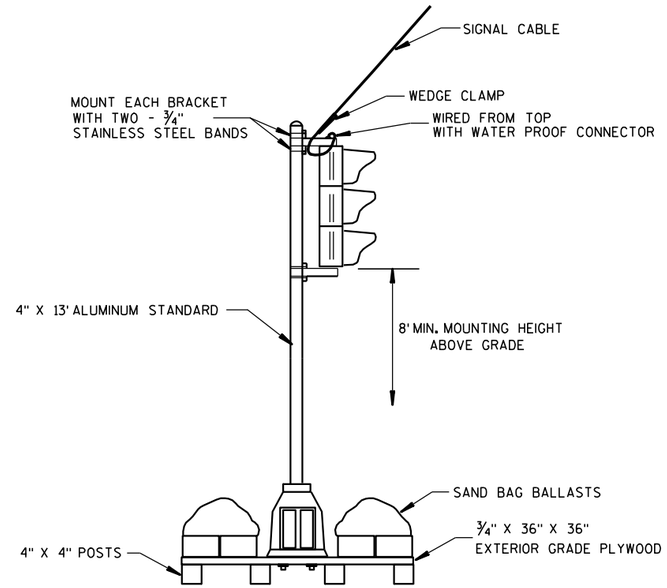
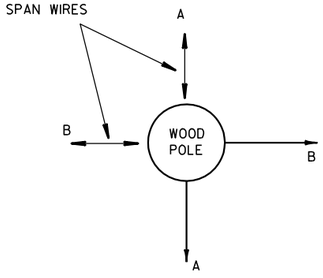




SPLICE BOX

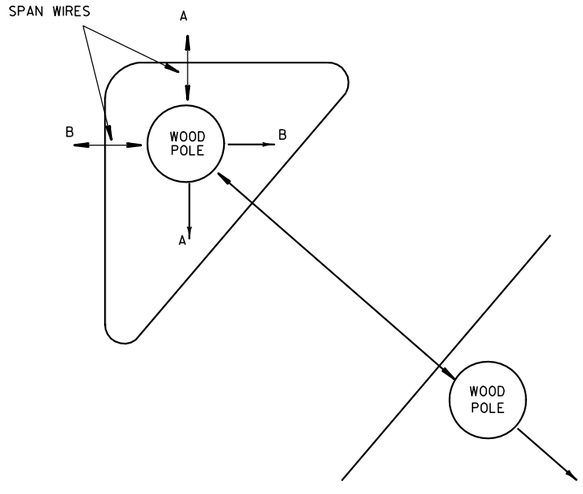


TYPICAL SKID TYPE TEMPORARY

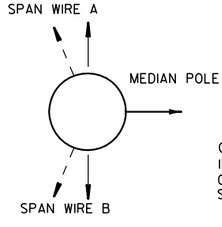


ALL DOWN OR SIDEWALK GUYS SHALL BE INSTALLED IN THE OPPOSITE DIRECTION OF THE STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



GUY AWAY FROM INTERSECTION OR IN OPPOSITE DIRECTION OF THE SPAN LOADING

MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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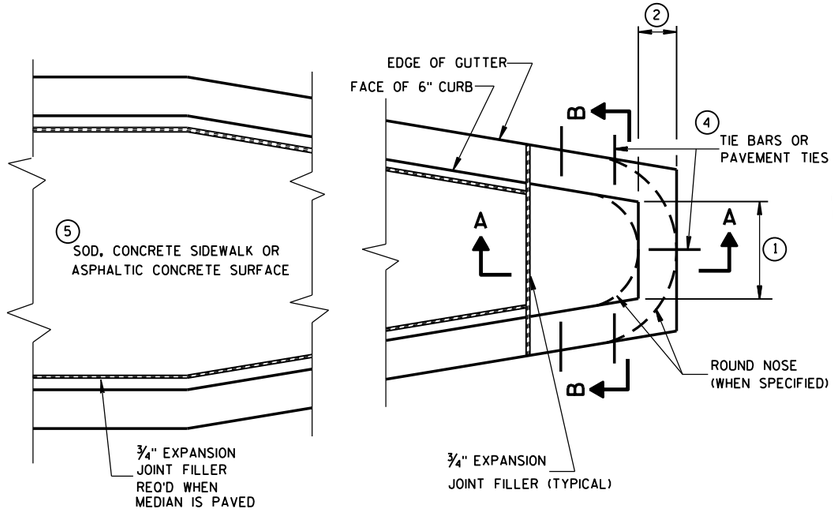
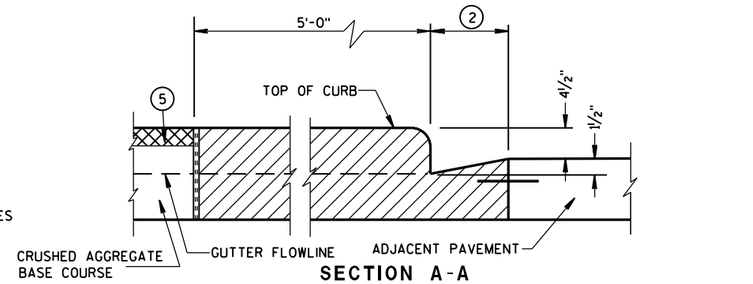
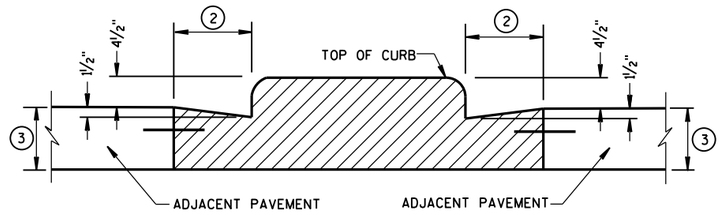




SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

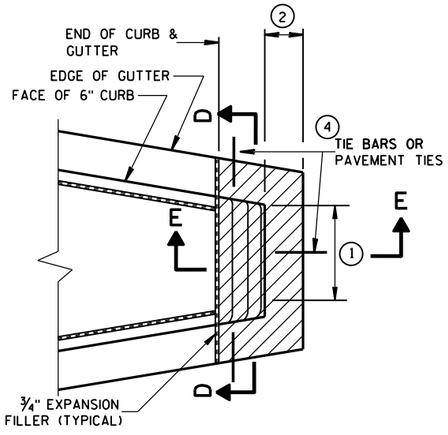
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

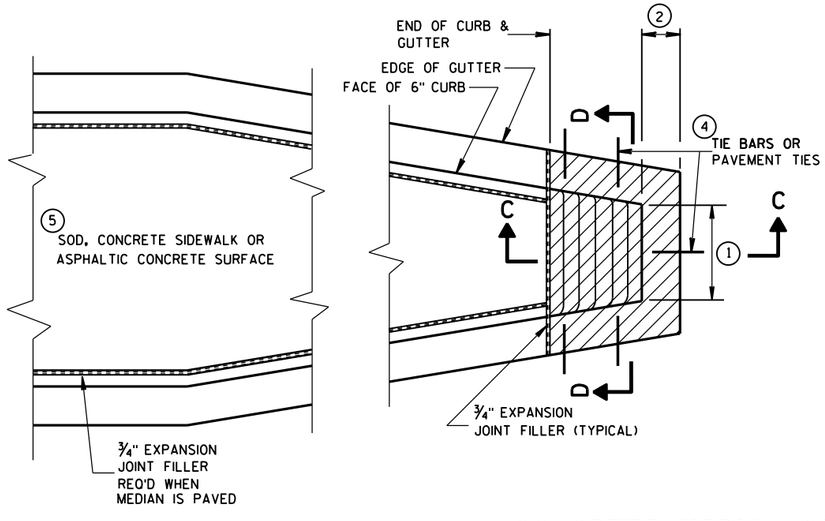
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

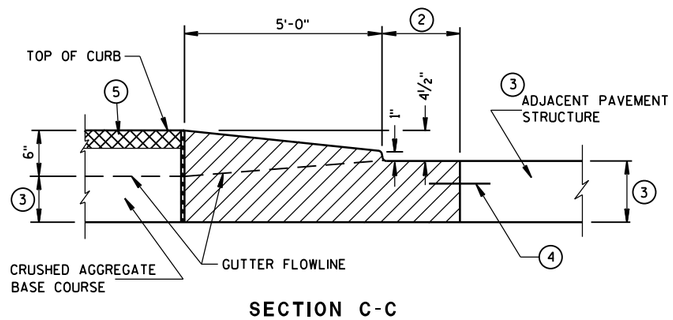
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

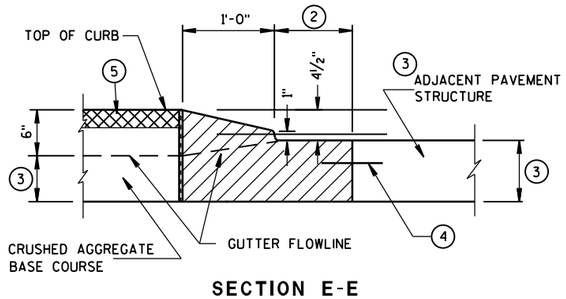




CONCRETE MEDIAN SLOPED NOSE TYPE 1

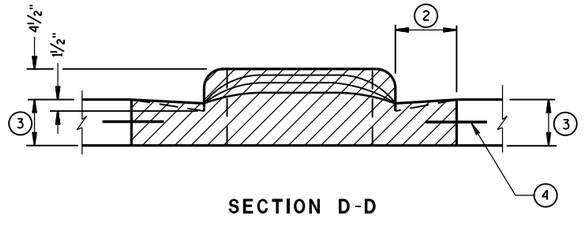


SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS D ENGINEER
FHWA

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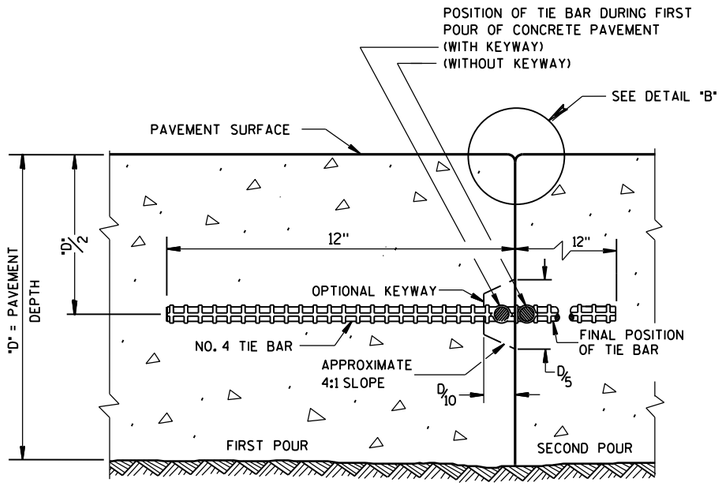
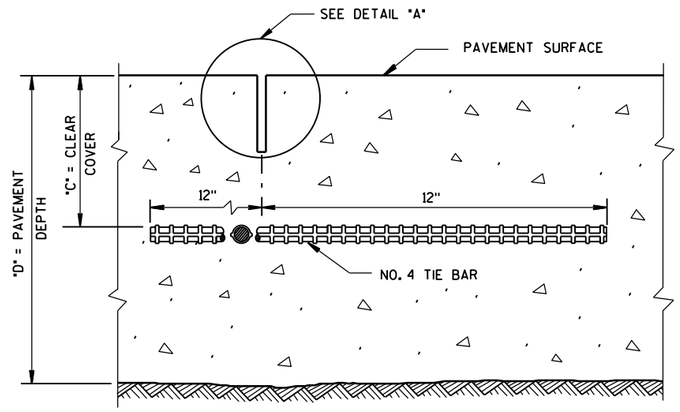


CONSTRUCTION JOINT



SAWED JOINT

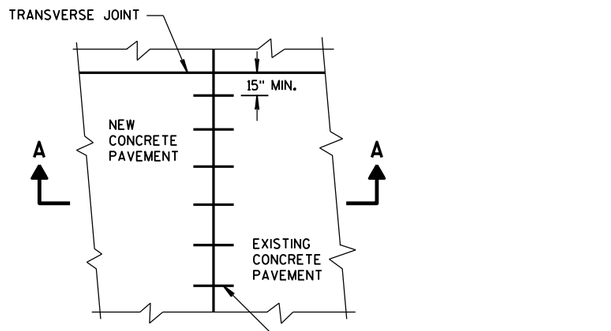
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

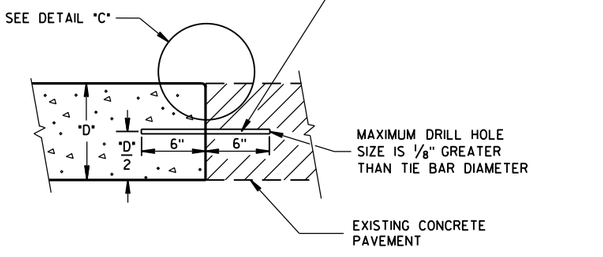
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

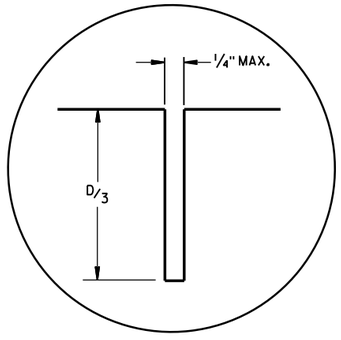


PLAN VIEW

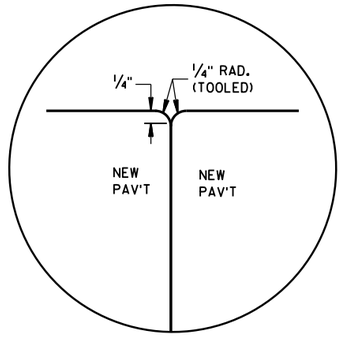


SECTION A-A

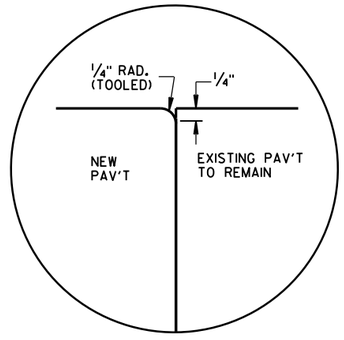
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



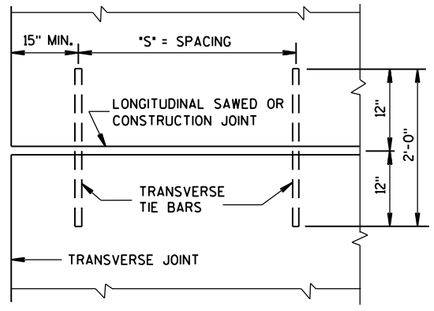
DETAIL "B"



DETAIL "C"

TIE BAR TABLE

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

9/2014 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ...VEER

FHWA

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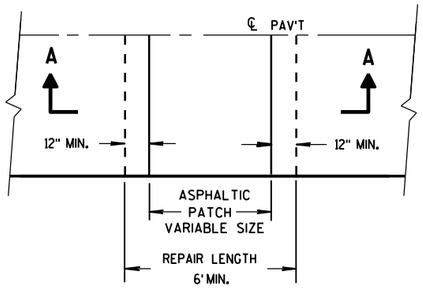
GENERAL NOTES

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.

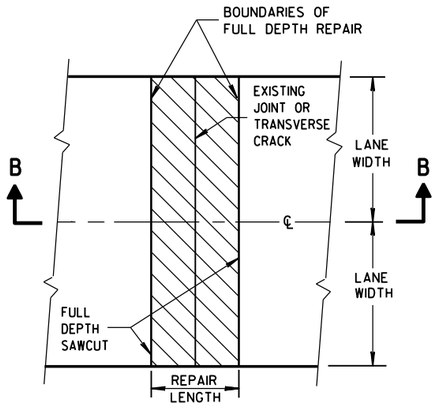
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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.

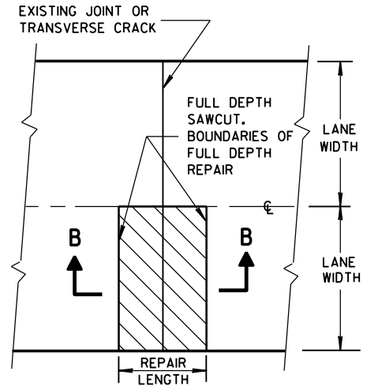
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



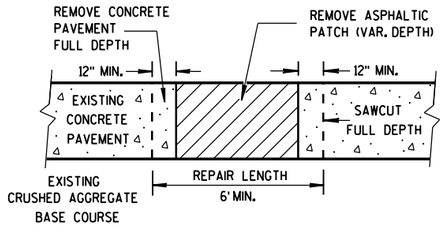
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

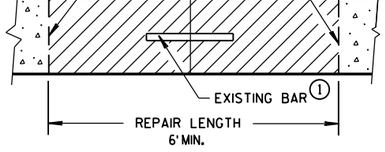
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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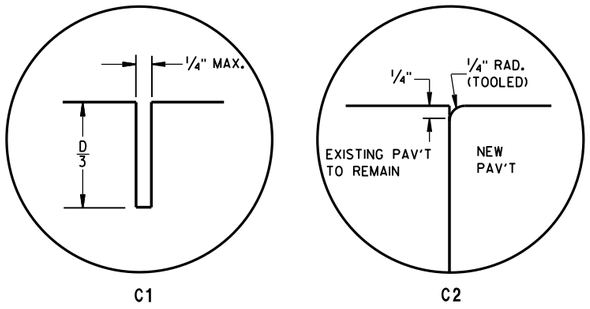
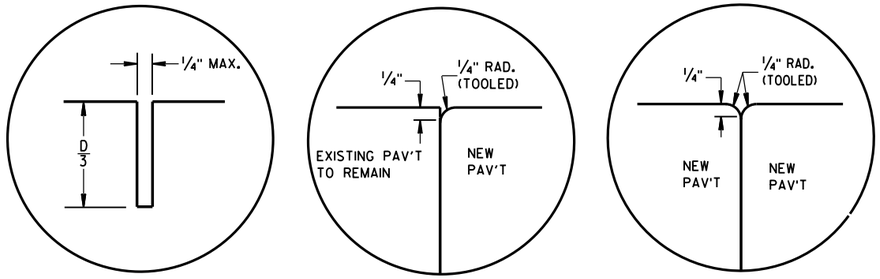


C1 C2

TRANSVERSE JOINTS

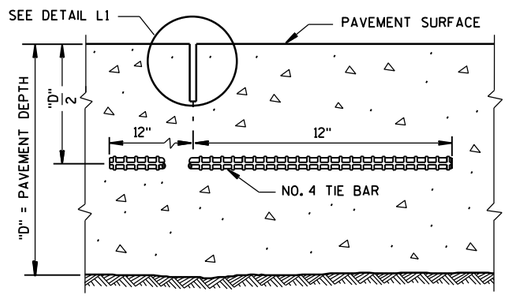
TIE BAR TABLE

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"



L1 L2 L3

LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

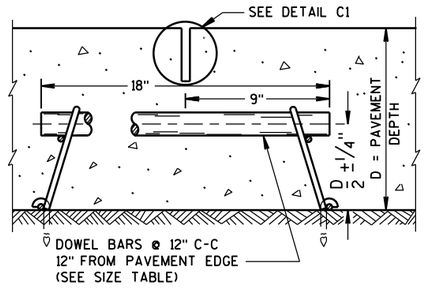
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

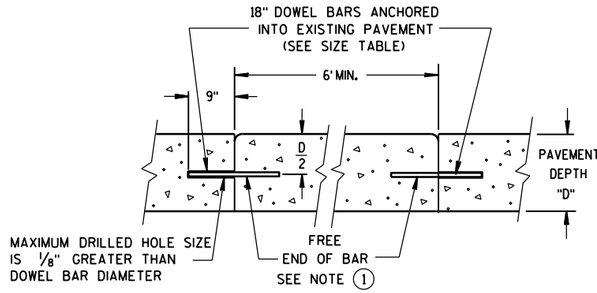
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

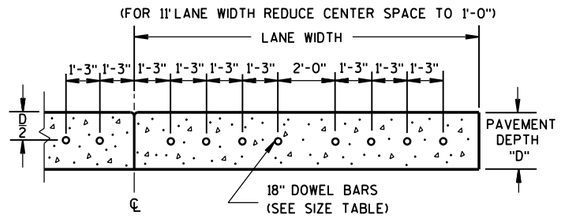


SECTION F-F

CONTRACTION JOINT



SECTION D-D

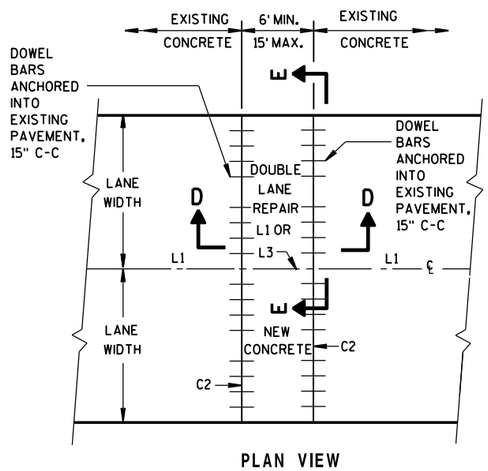


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

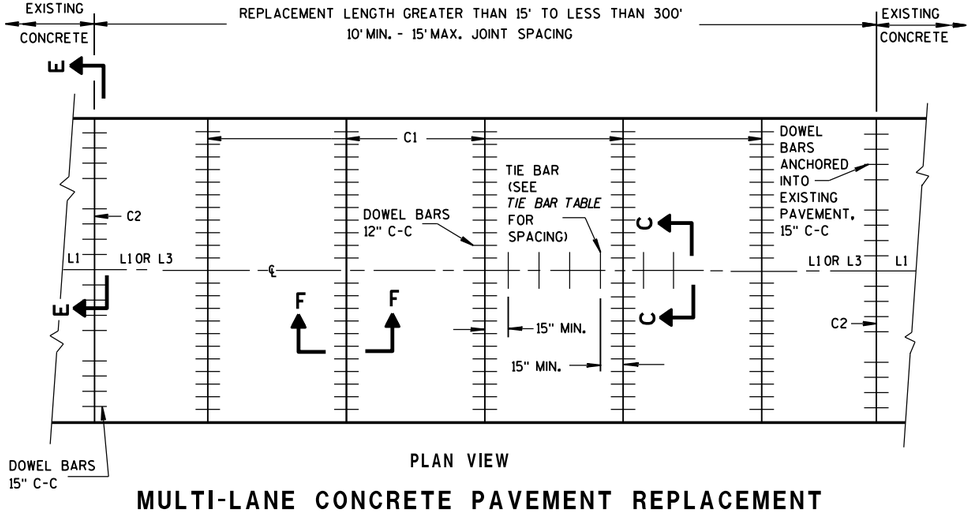
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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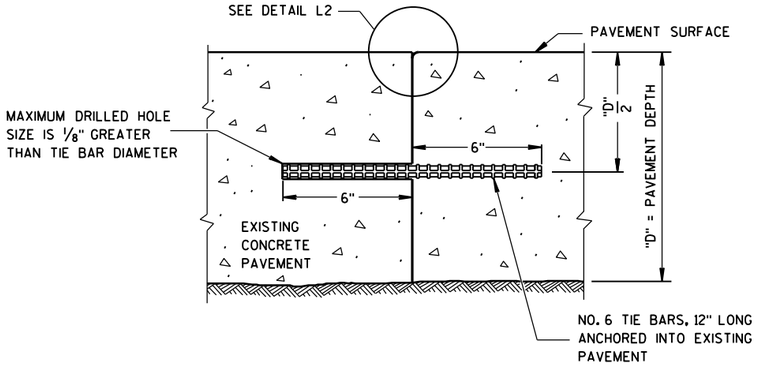
S.D.D. 13 C 9-11b



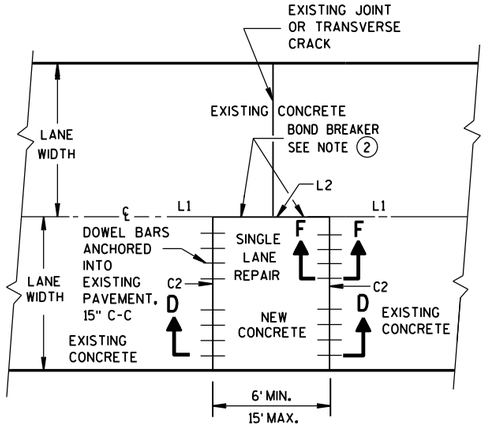
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

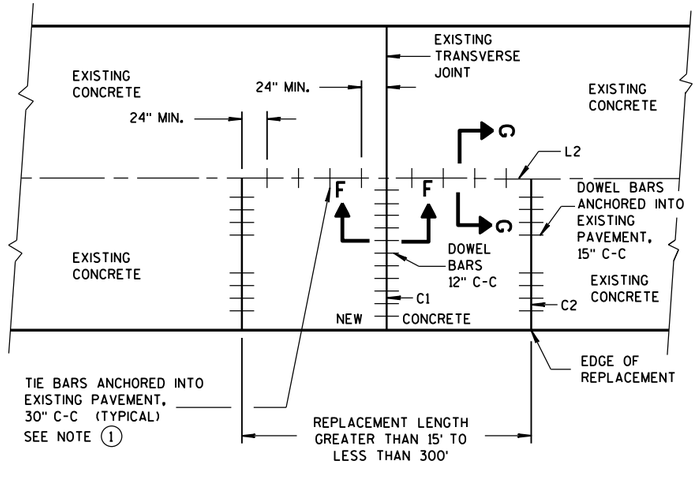
(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS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

(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE

IEER

FHWA

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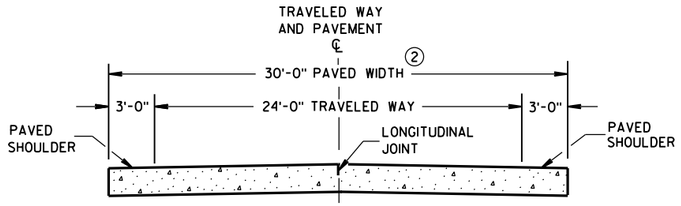
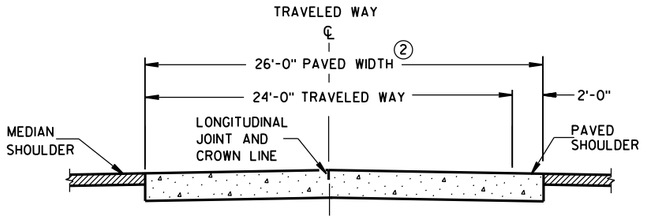
S.D.D. 13 C 9-11c

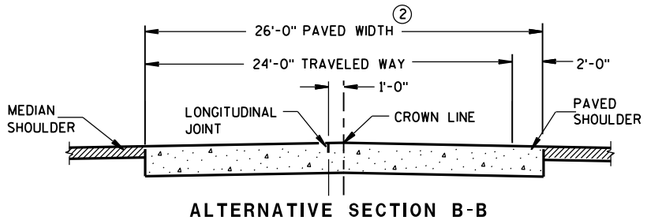


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE 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, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

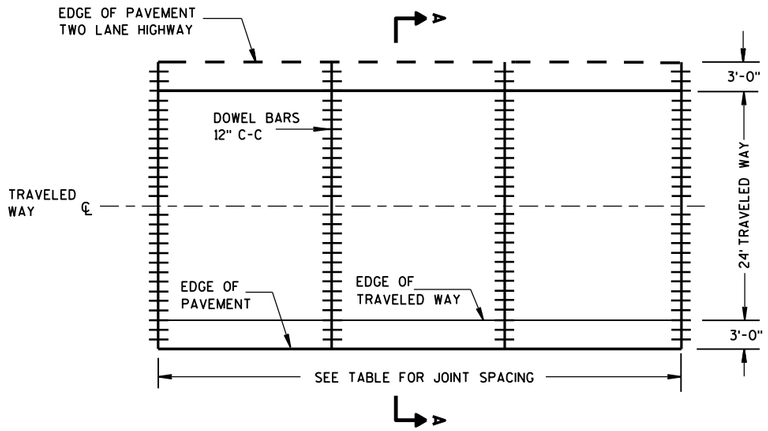
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

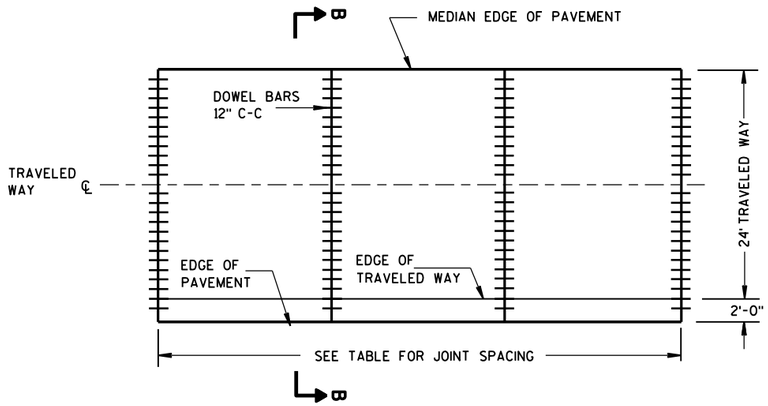
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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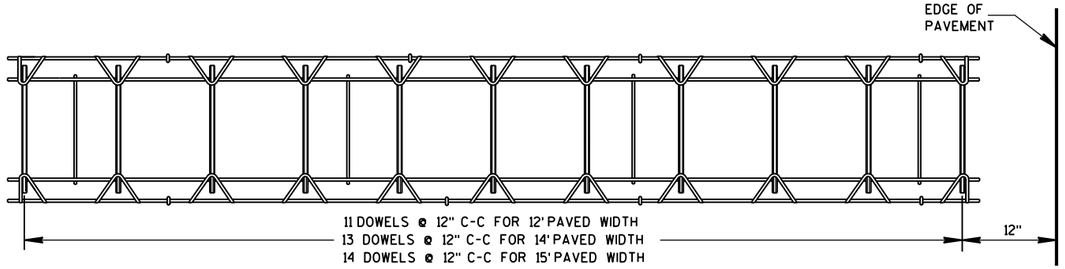
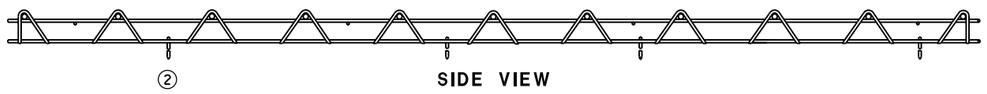


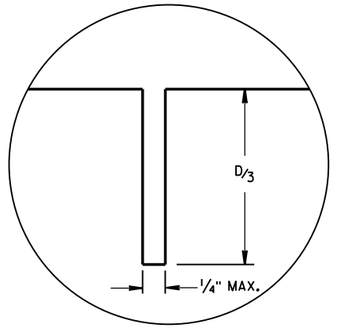
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② 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.

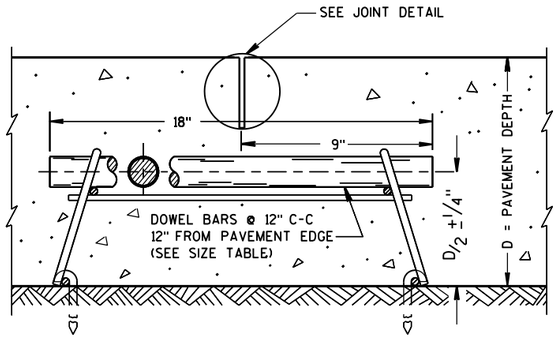
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

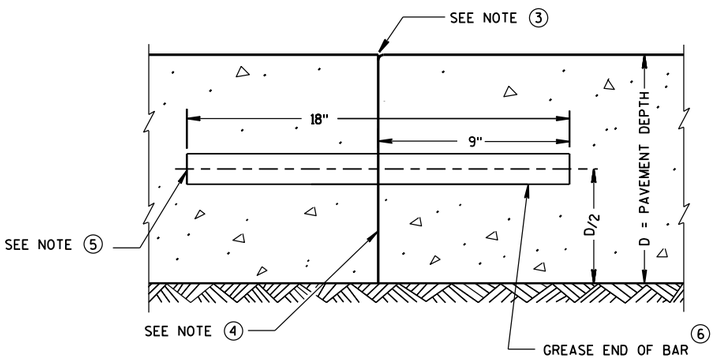
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

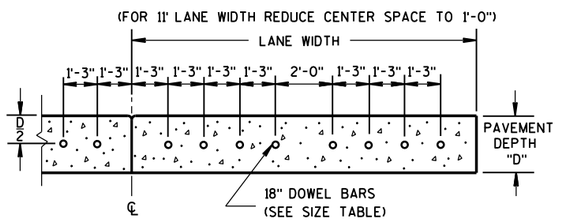
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE ENGINEER
FHWA

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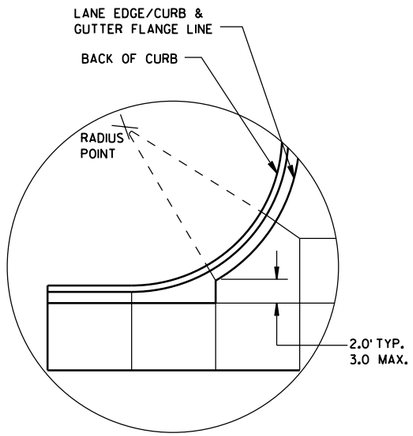
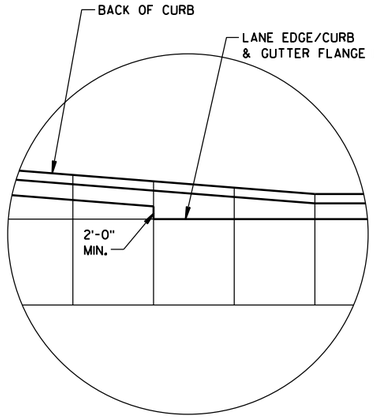
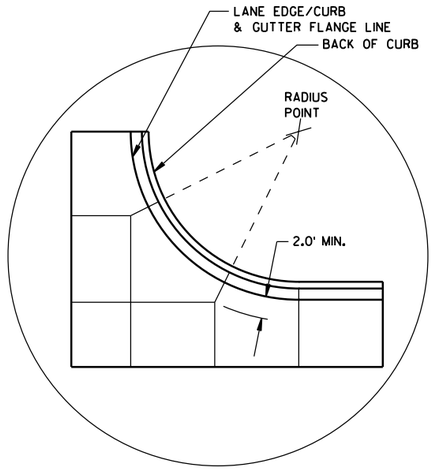
S.D.D. 13 C 11-11b



DETAIL "A"



DETAIL "B"



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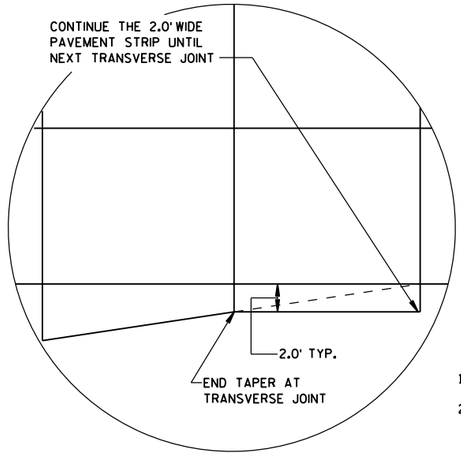


DETAIL "D"

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.

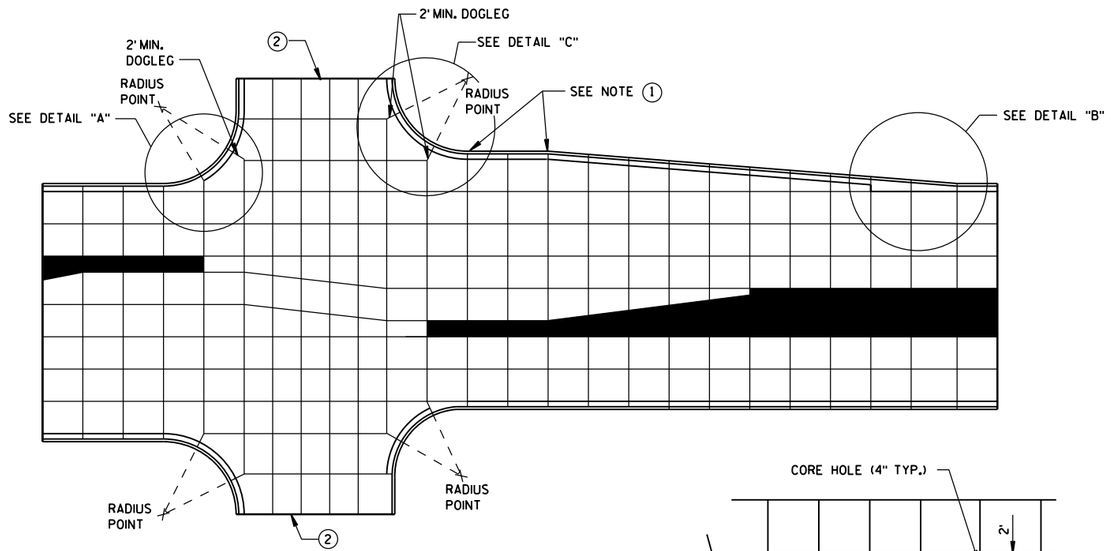
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

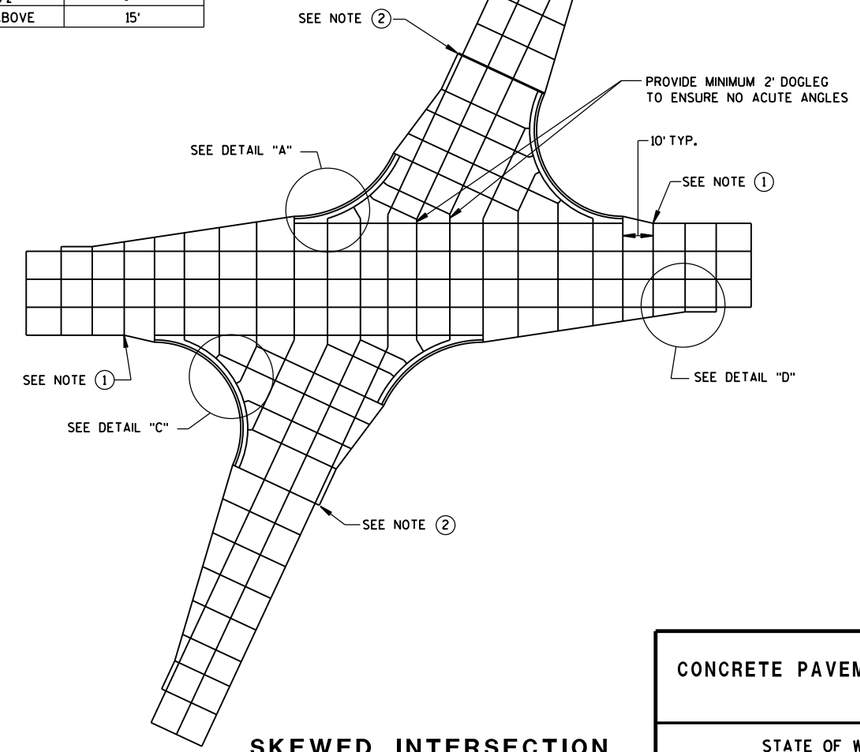
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



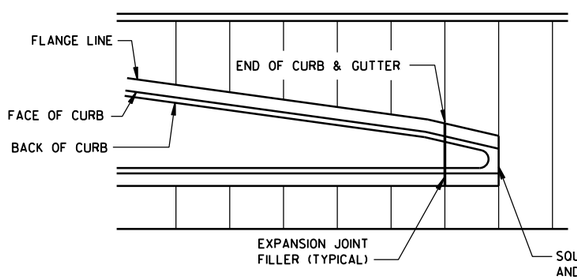
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

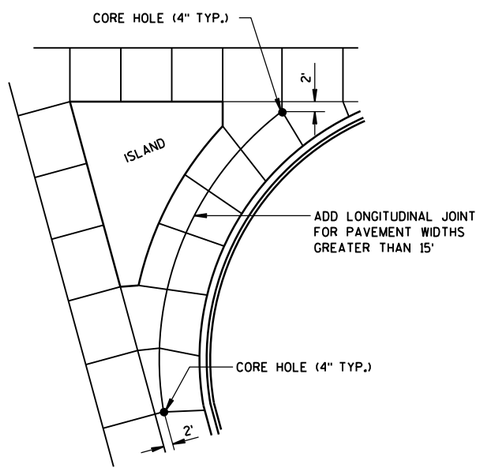
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN

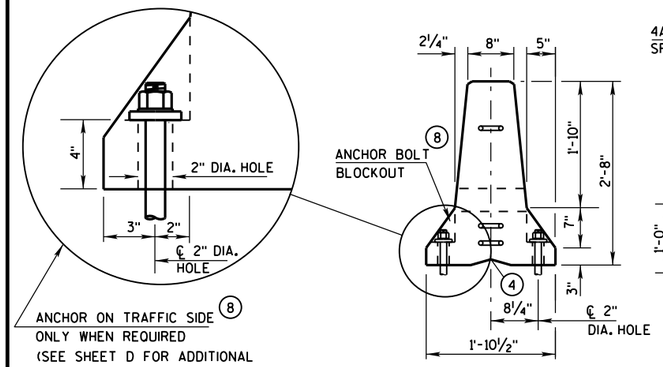


LARGE RIGHT TURN

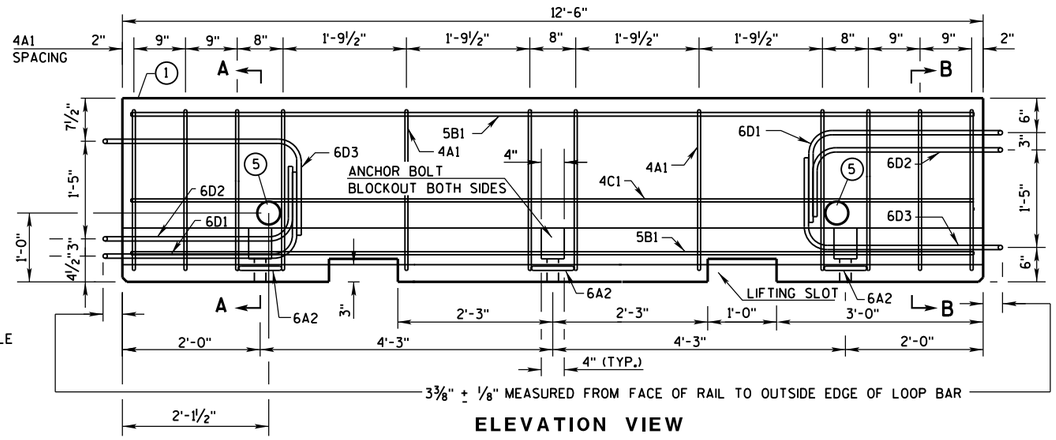
CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

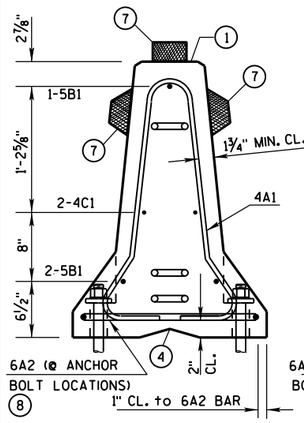
6
S.D.D. 13 C 18-2a



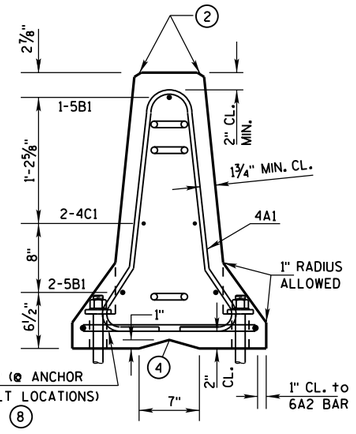
END VIEW



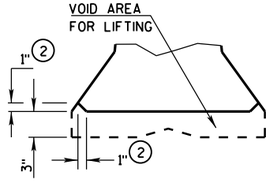
ELEVATION VIEW



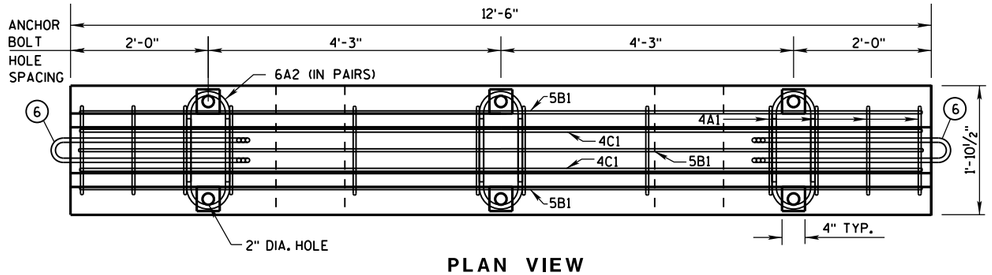
SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)

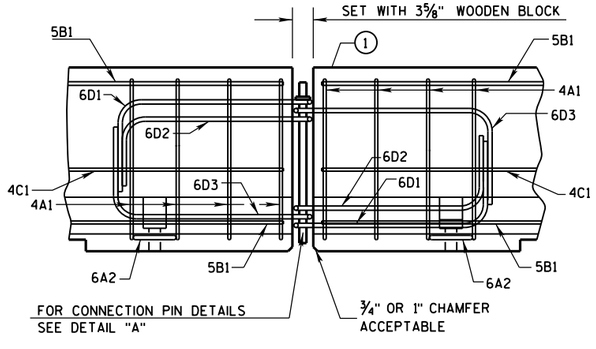


DETAIL "B"
LIFTING SLOT DETAIL

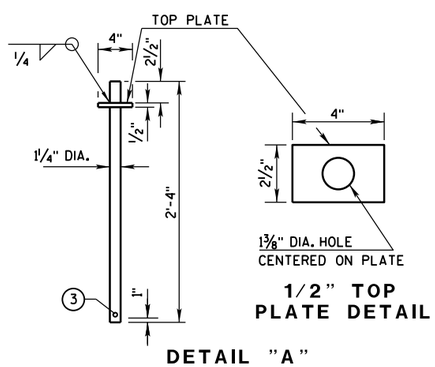


PLAN VIEW

DETAILS OF BARRIER SECTION

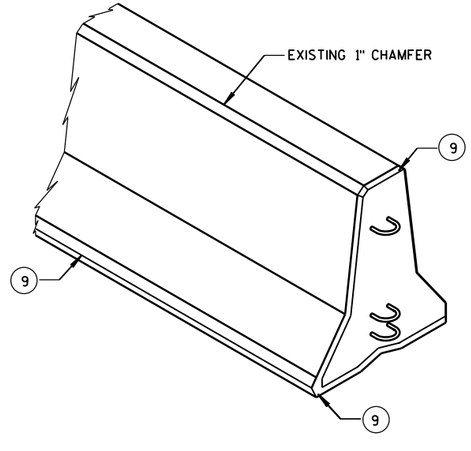


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

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

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

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

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

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

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

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

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

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

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

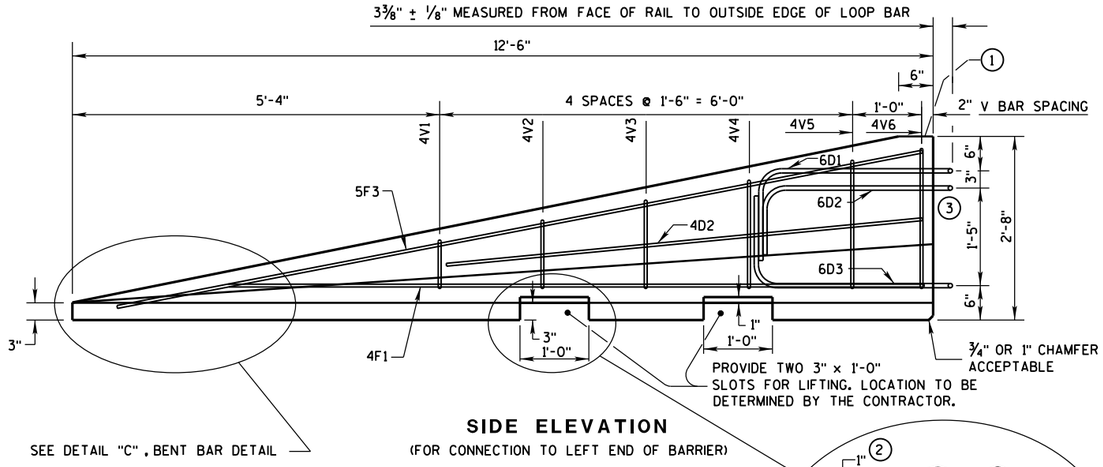
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

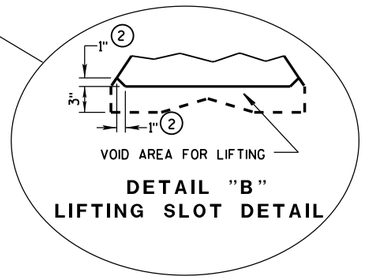
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

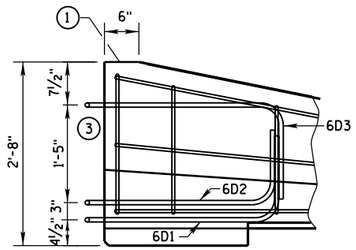
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



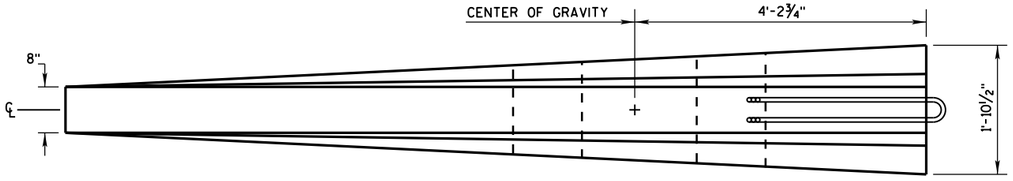
DETAIL "B"
LIFTING SLOT DETAIL



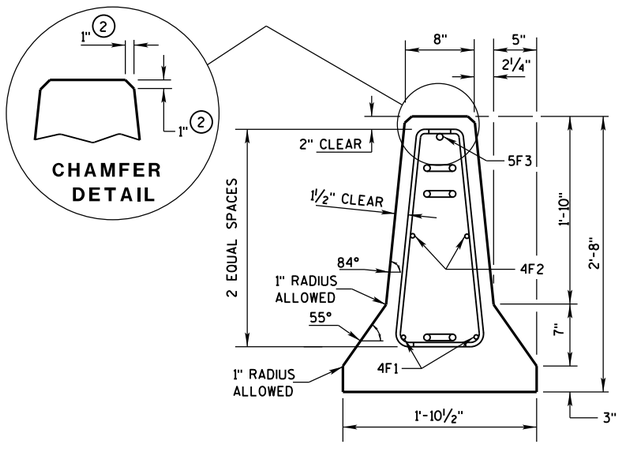
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

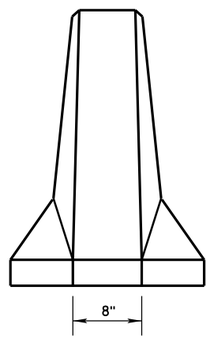
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



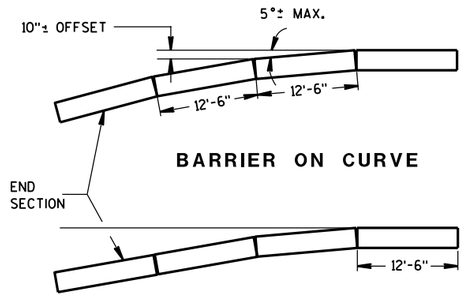
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

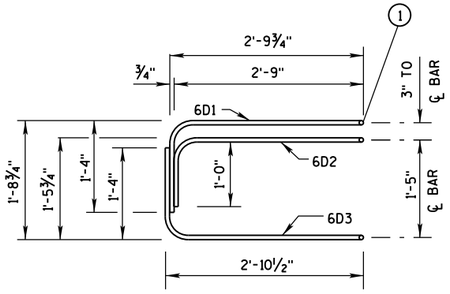
6

S.D.D. 14 B 7-14b

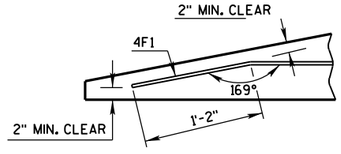
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

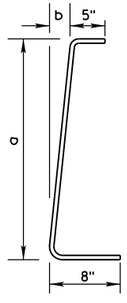
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

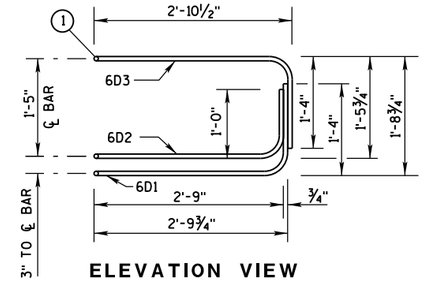
GENERAL NOTES

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

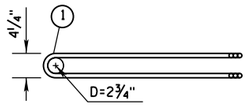
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

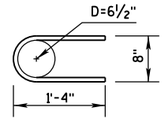
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



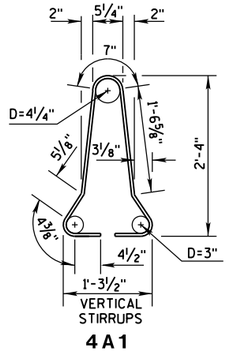
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



4A1

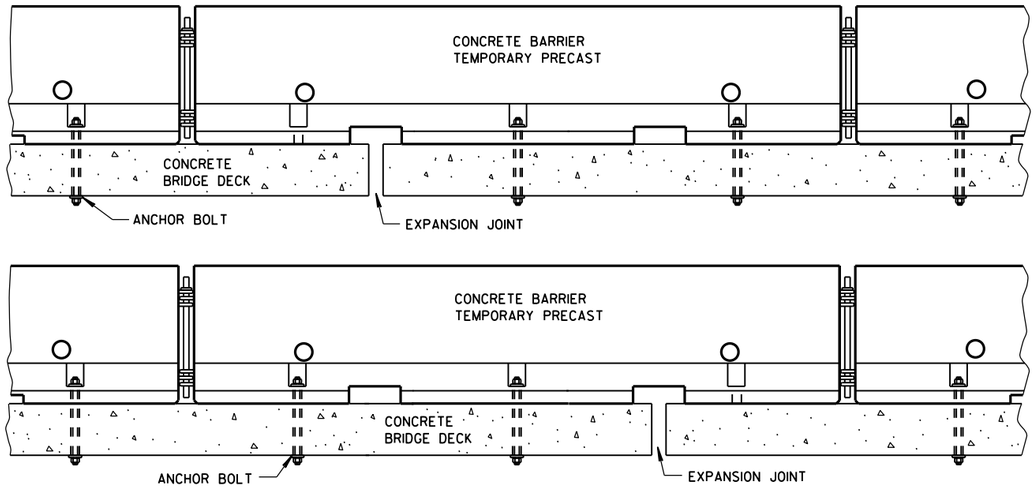
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

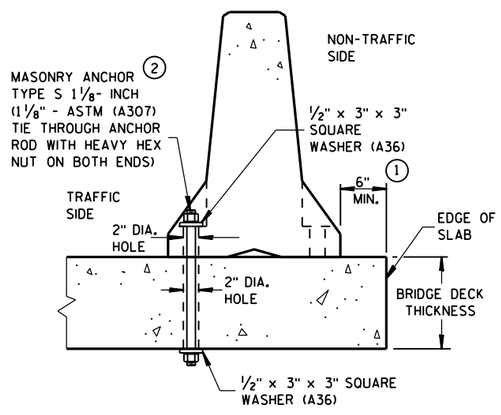
6

S.D.D. 14 B 7-14c



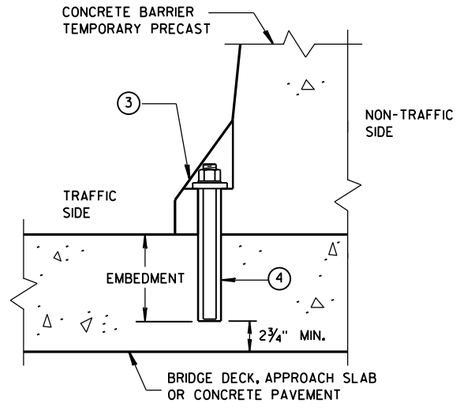
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

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

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

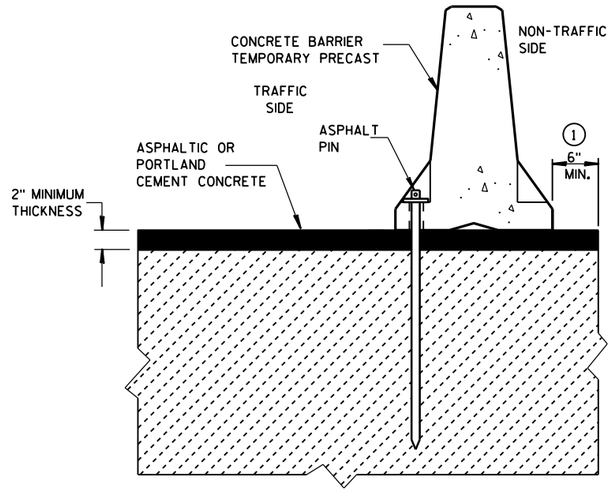
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

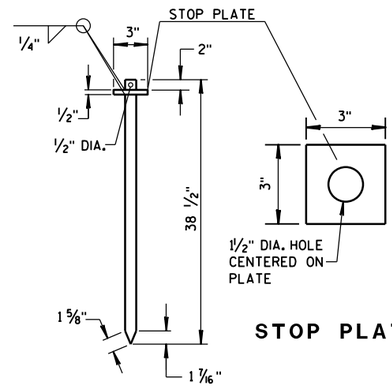
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

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

③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



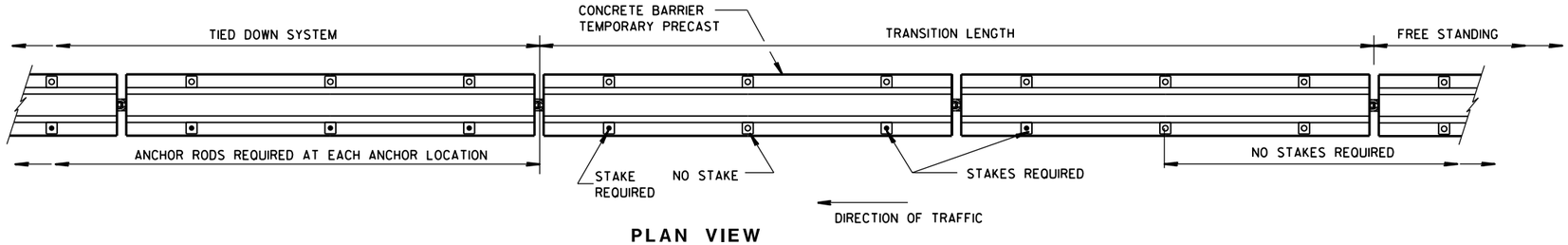


STOP PLATE

ASPHALT PIN
(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

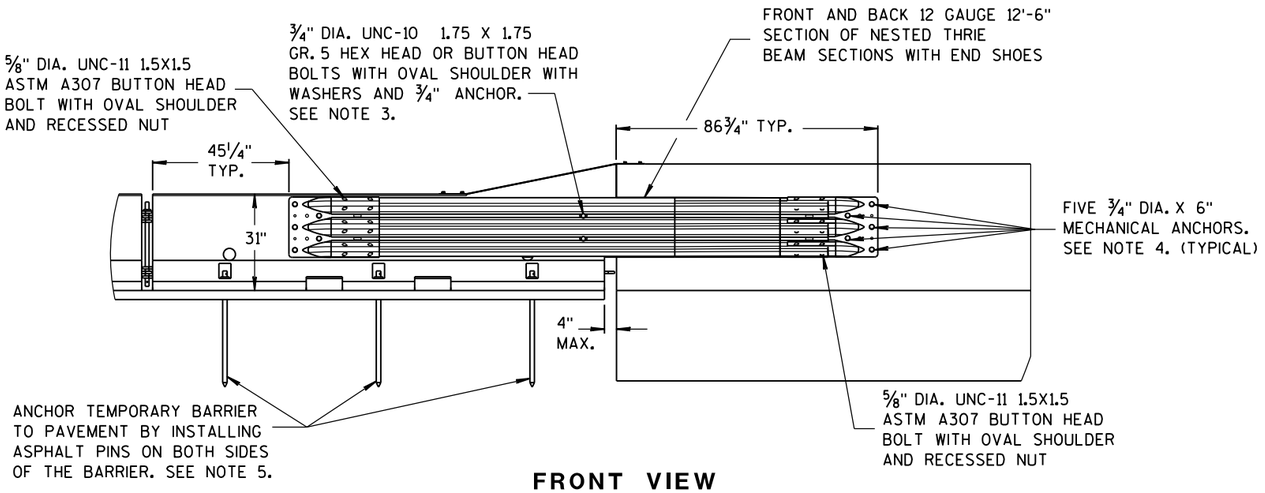
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

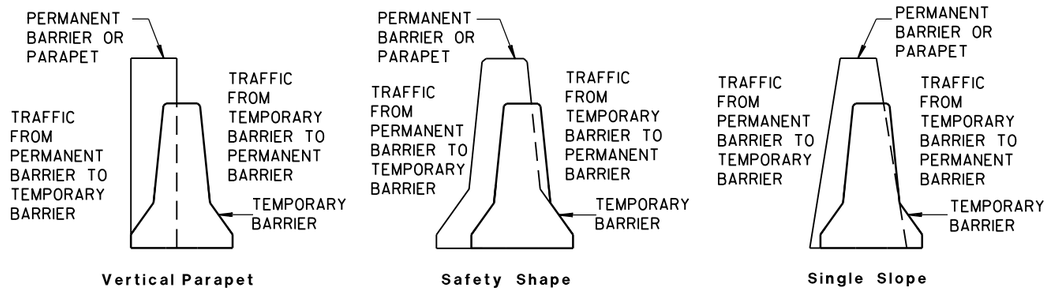
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14d



FRONT VIEW



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

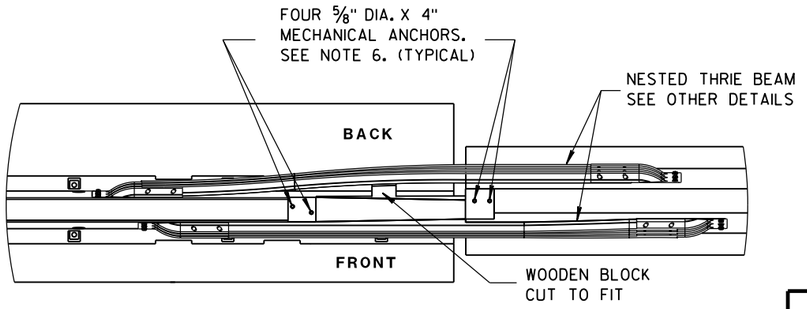
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

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

BACK VIEW

FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 14 B 7-14e

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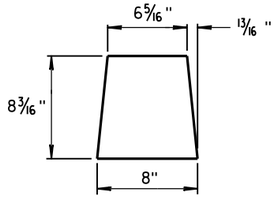
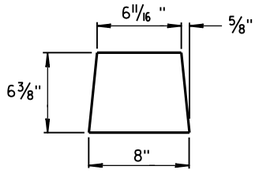
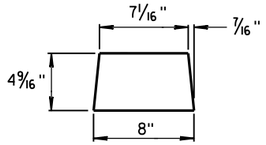
S.D.D. 14 B 7-14e



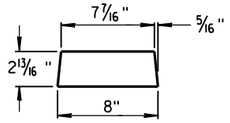
GUSSET 1



GUSSET 2

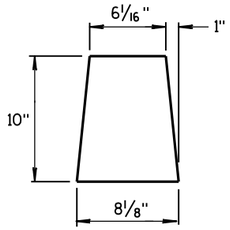


GUSSET 3

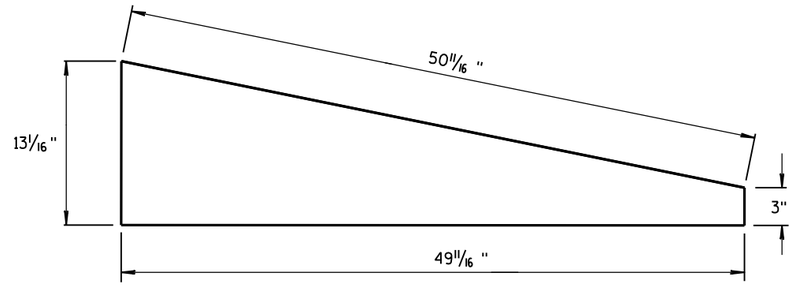


GUSSET 4

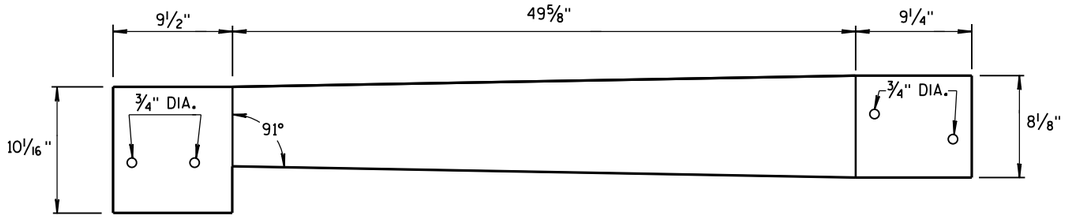
GUSSETS

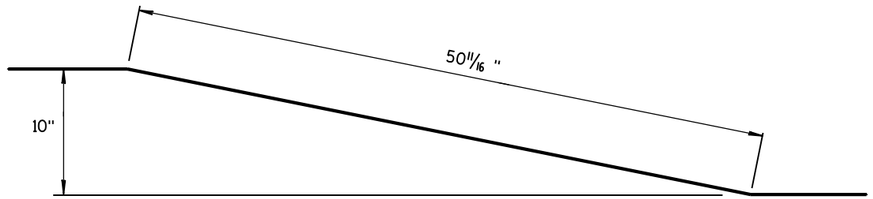


END PLATE



SIDE PLATE

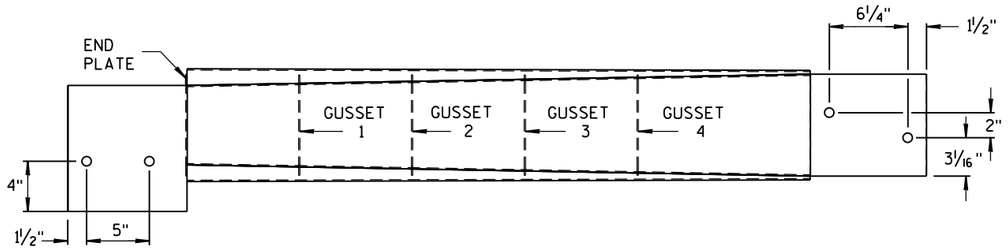


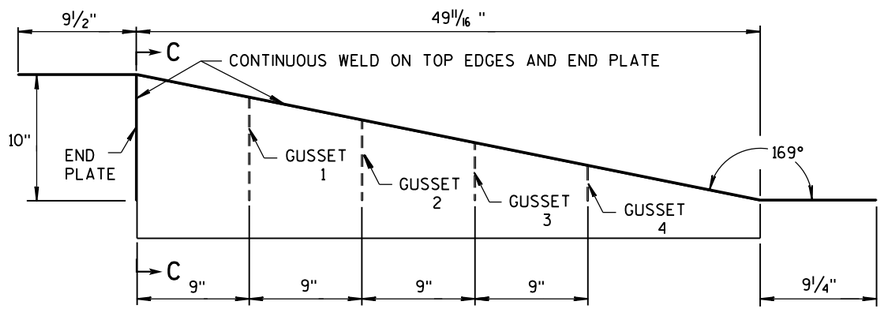


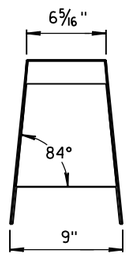
TOP PLATE

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

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







SECTION C-C

NOTES

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

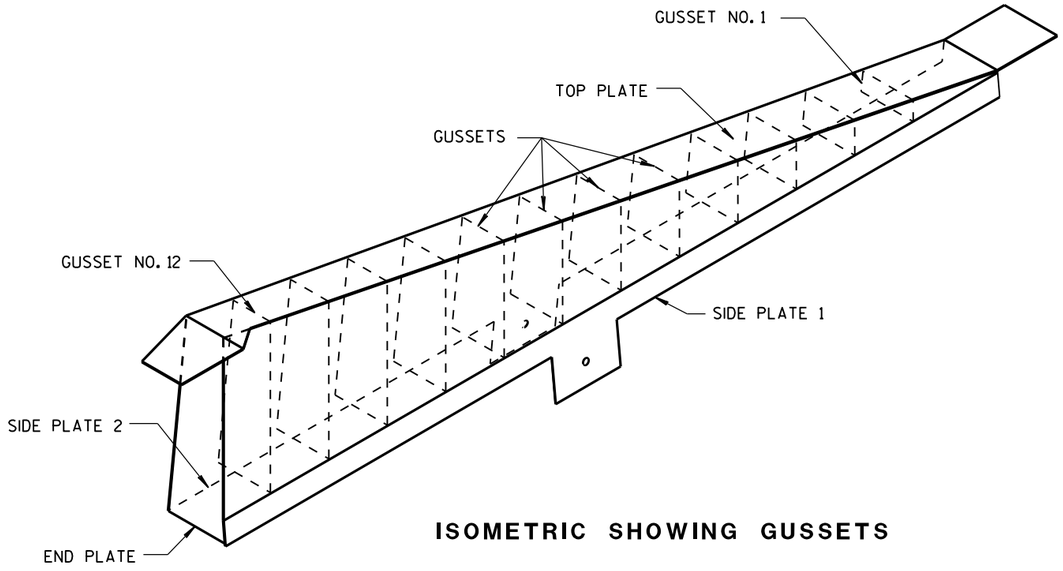
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

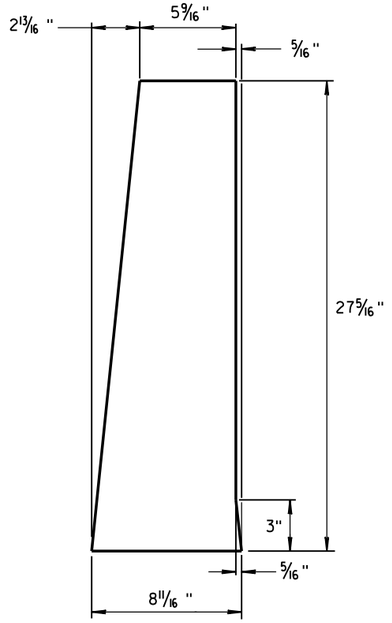
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14f

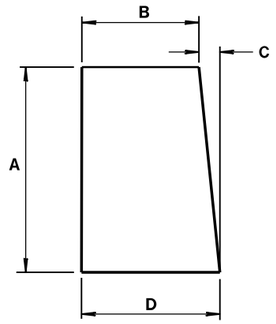


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



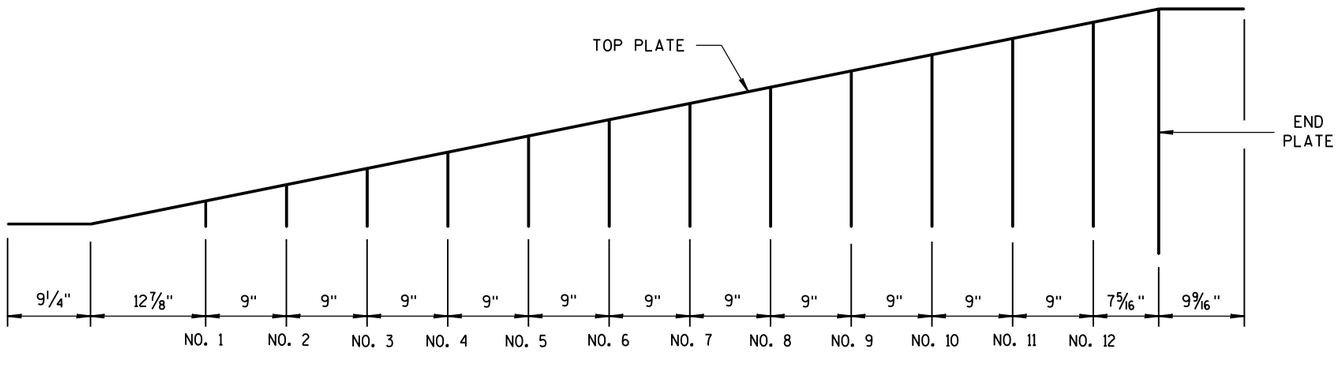
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

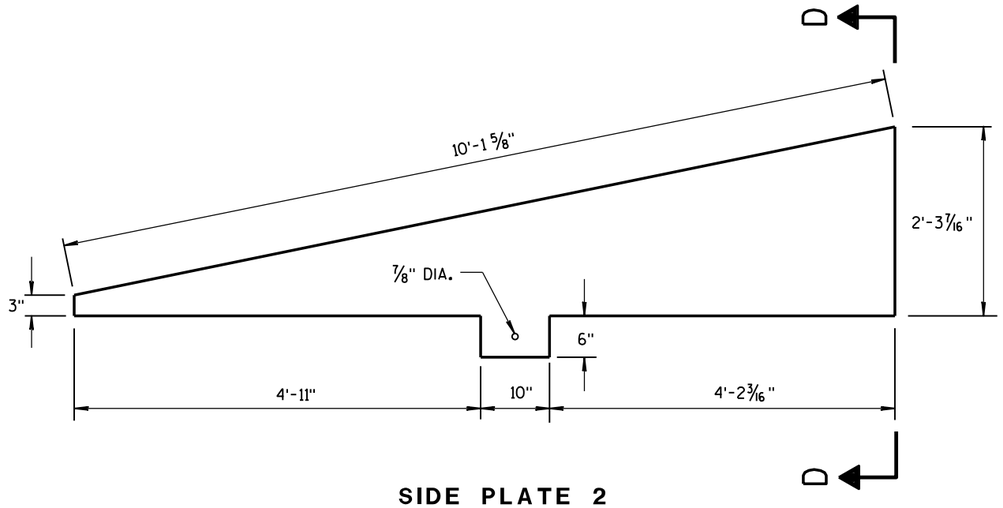
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

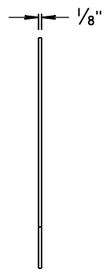
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

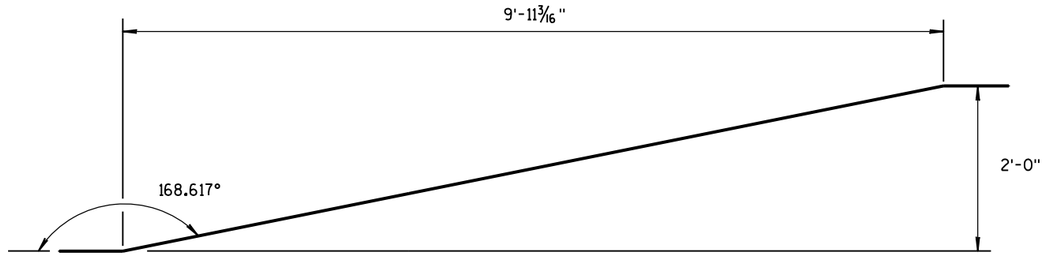
S.D.D. 14 B 7-14g



SIDE PLATE 2

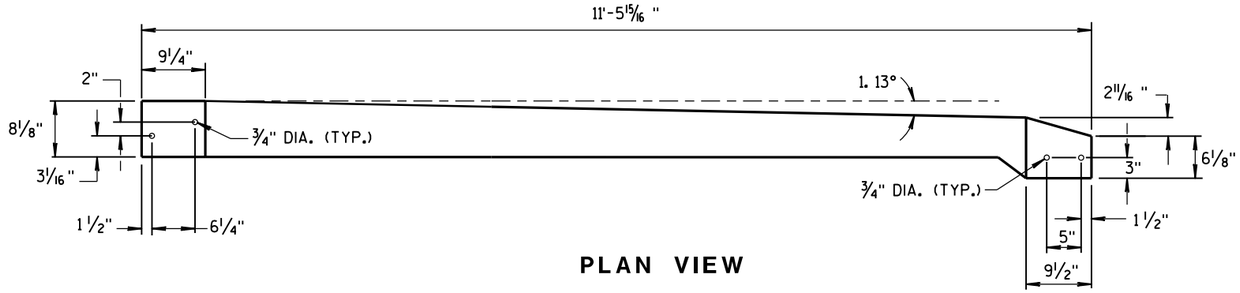


END VIEW



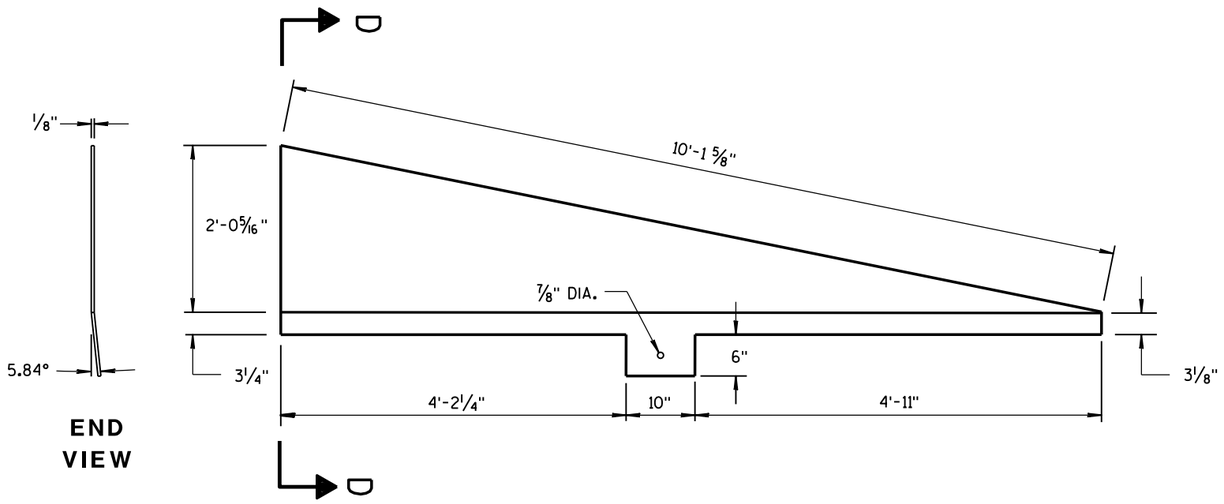
SIDE VIEW

TOP PLATE



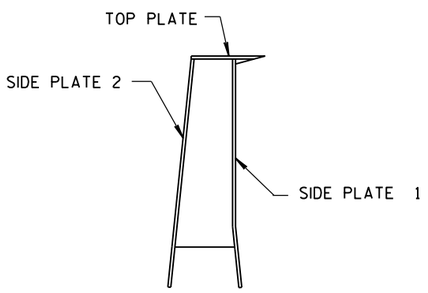
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

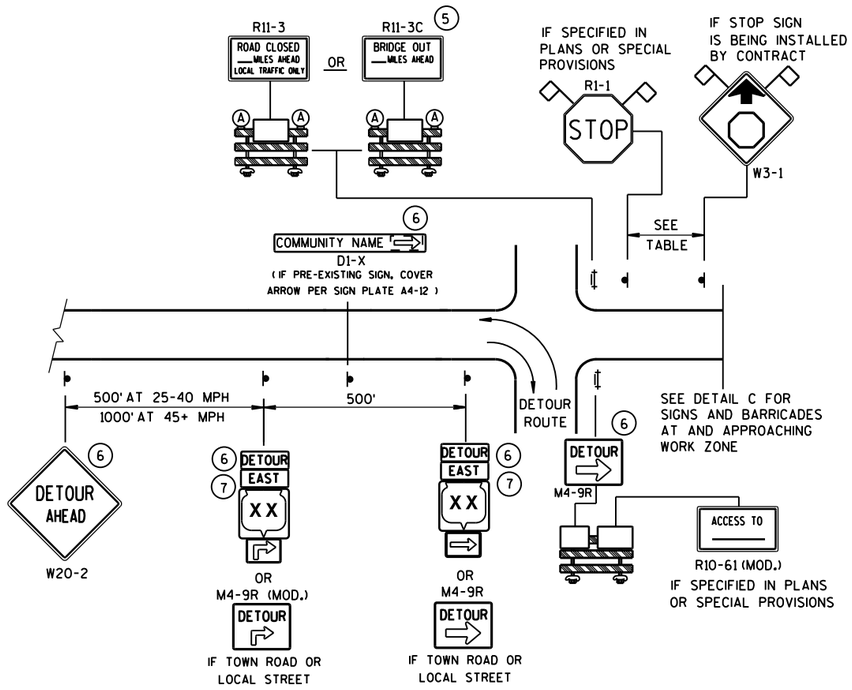
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoaq — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 7-14h

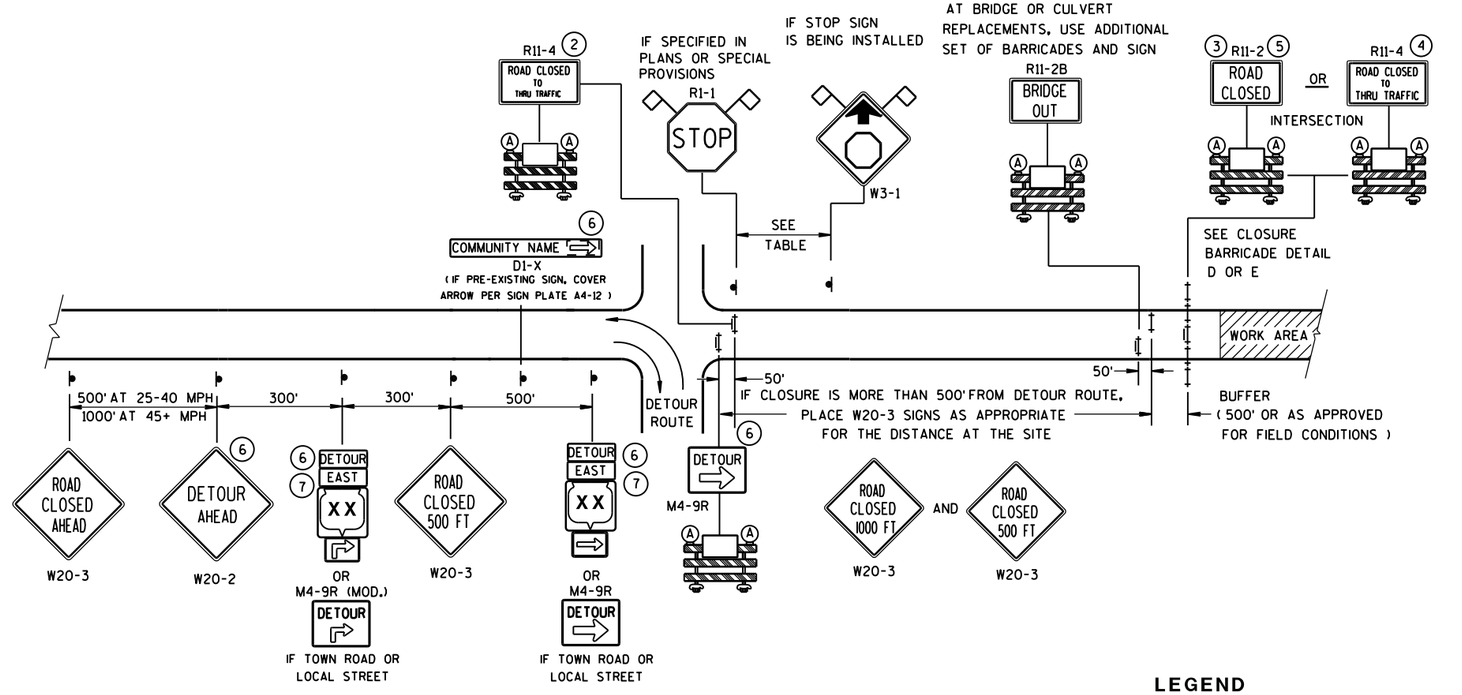
6

S.D.D. 14 B 7-14h



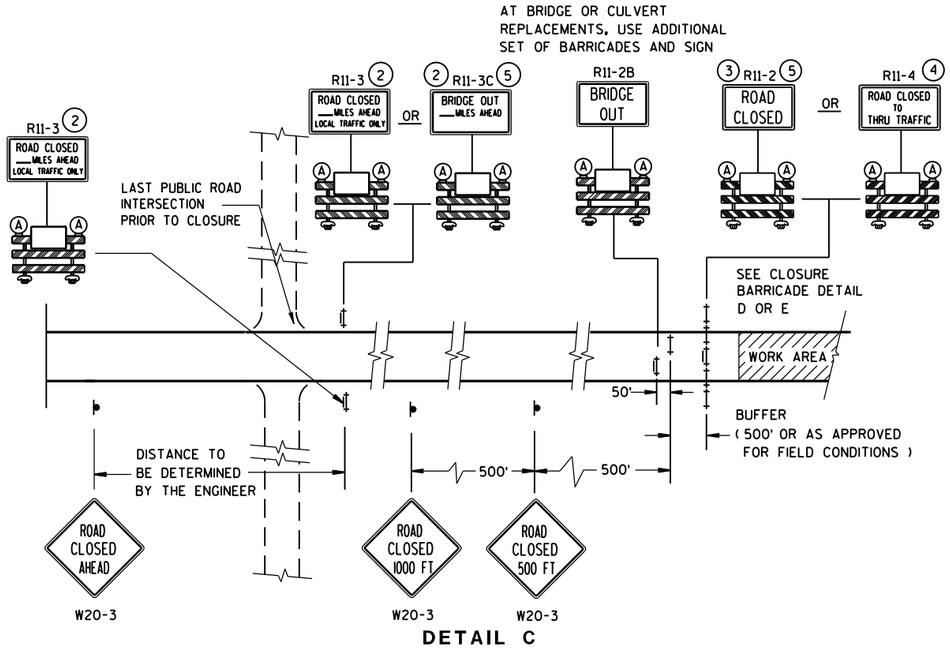
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

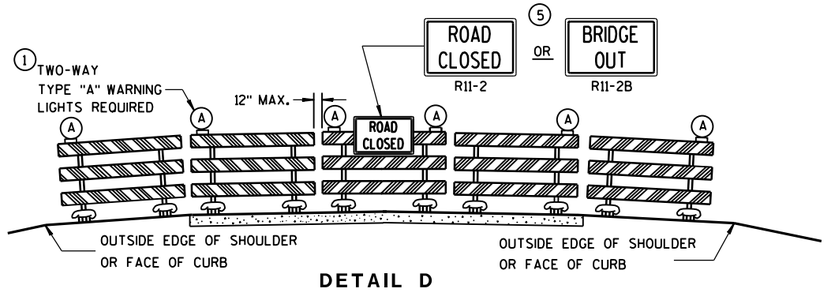
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — DESIGN

FHWA

6

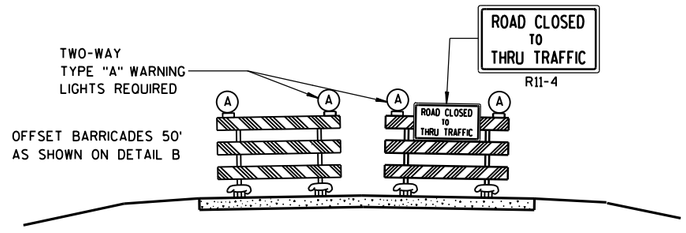
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
FHWA

6

S.D.D. 15 C 2-5b

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

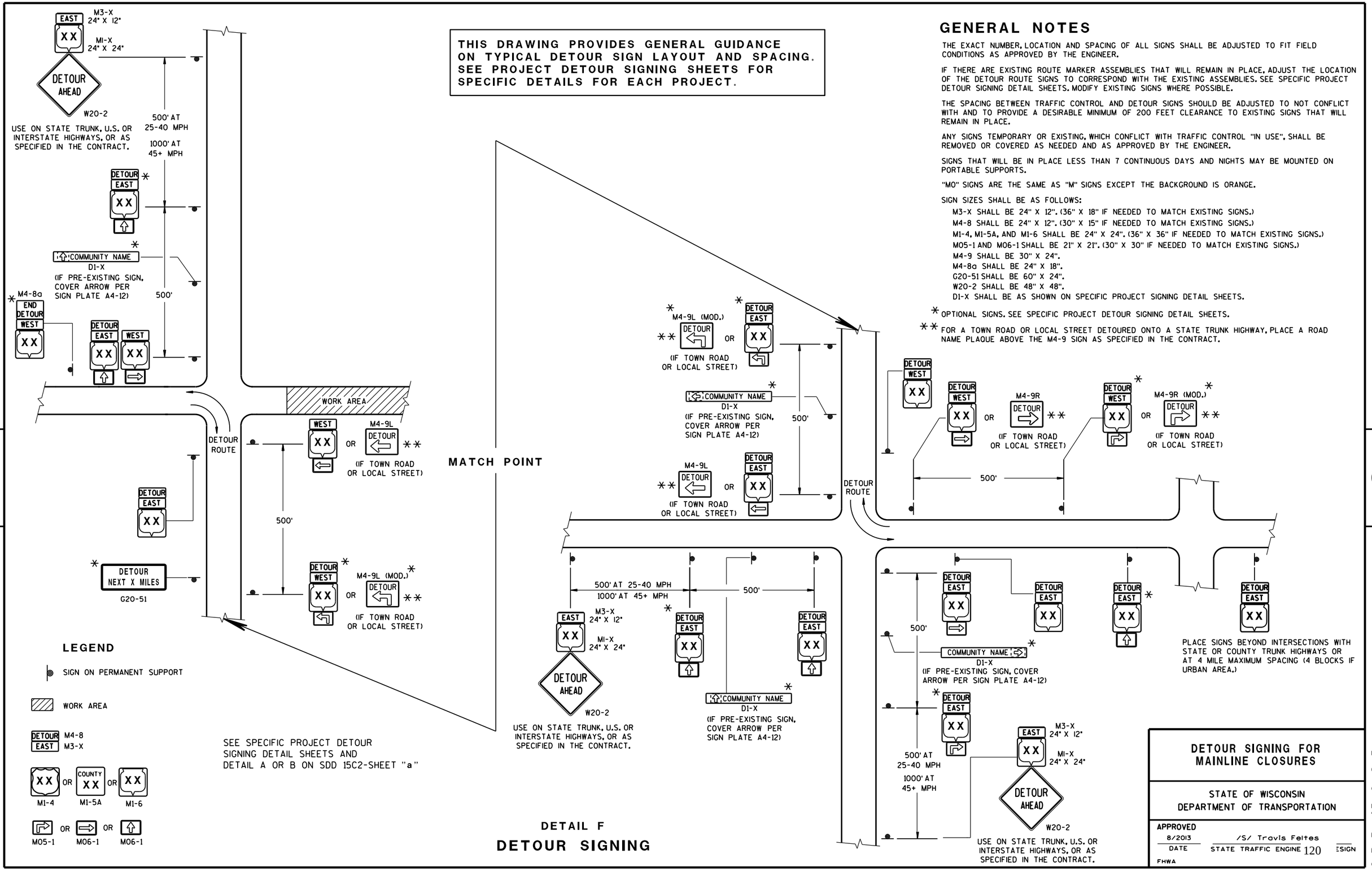
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST — M4-8, M3-X
- XX OR COUNTY XX OR XX — M1-4, M1-5A, M1-6
- MO5-1 OR MO6-1 OR MO6-1

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

DETAIL F

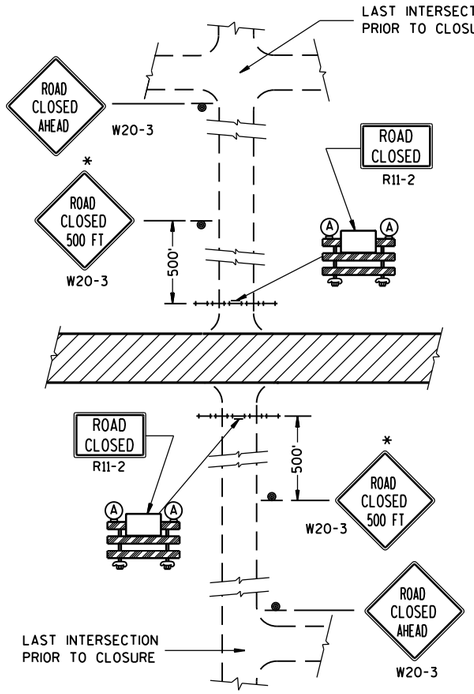
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

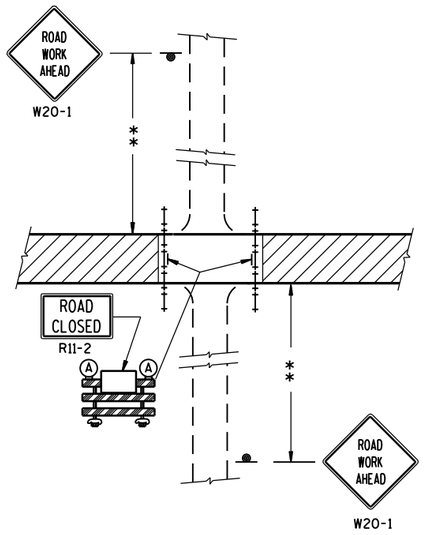
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

S.D.D. 15 C 2-5c



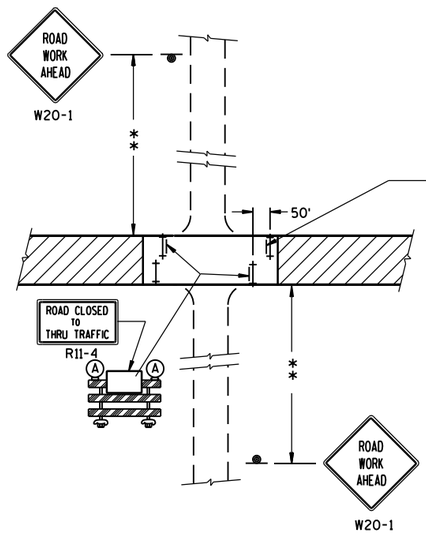
DETAIL 1

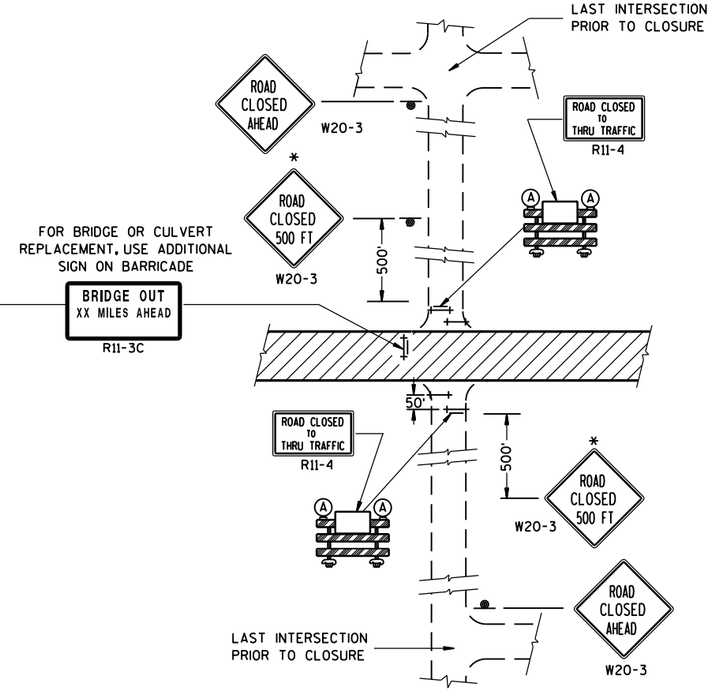
(NO ACCESS TO PROJECT)



DETAIL 2

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





DETAIL 3

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

DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

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

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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
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6

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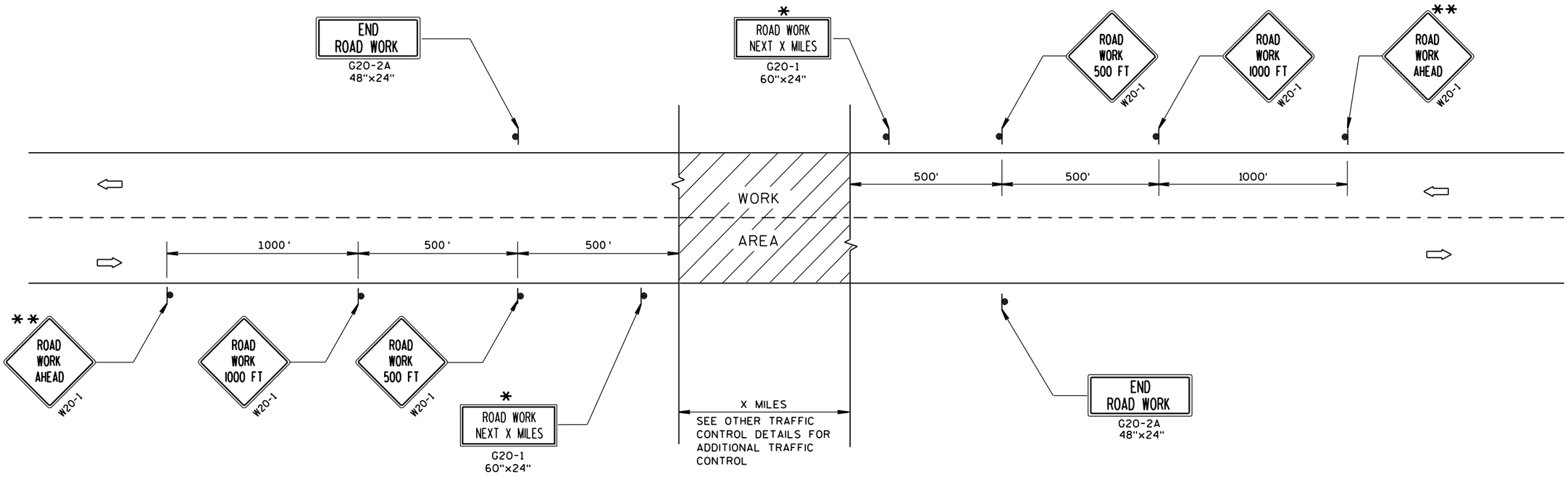
S.D.D. 15 C 3-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

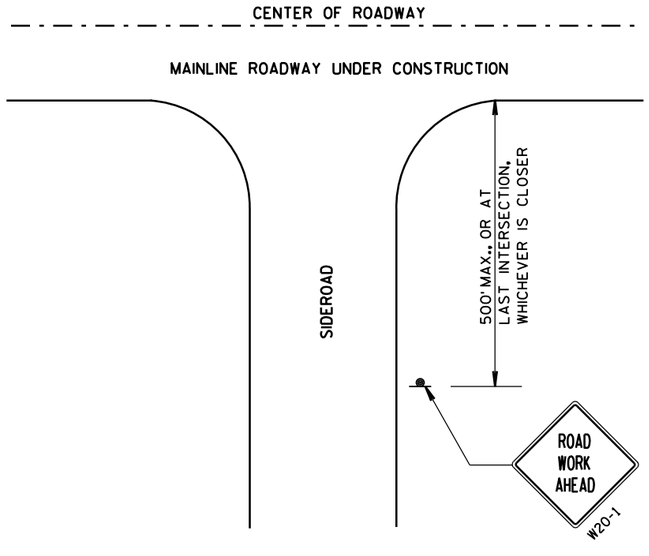
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

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SIGN

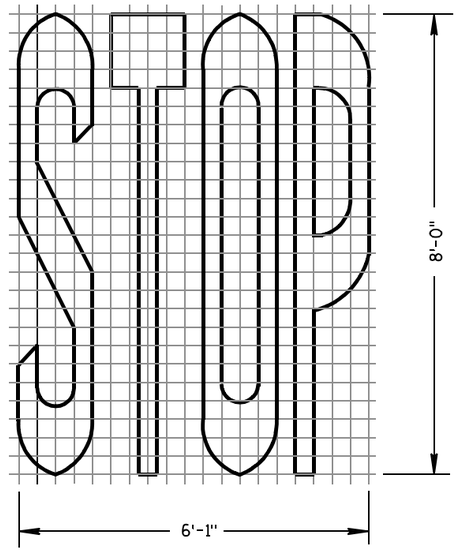
6

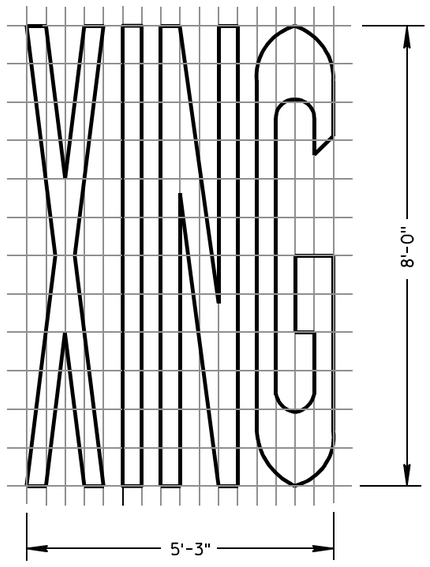
S.D.D. 15 C 4-2

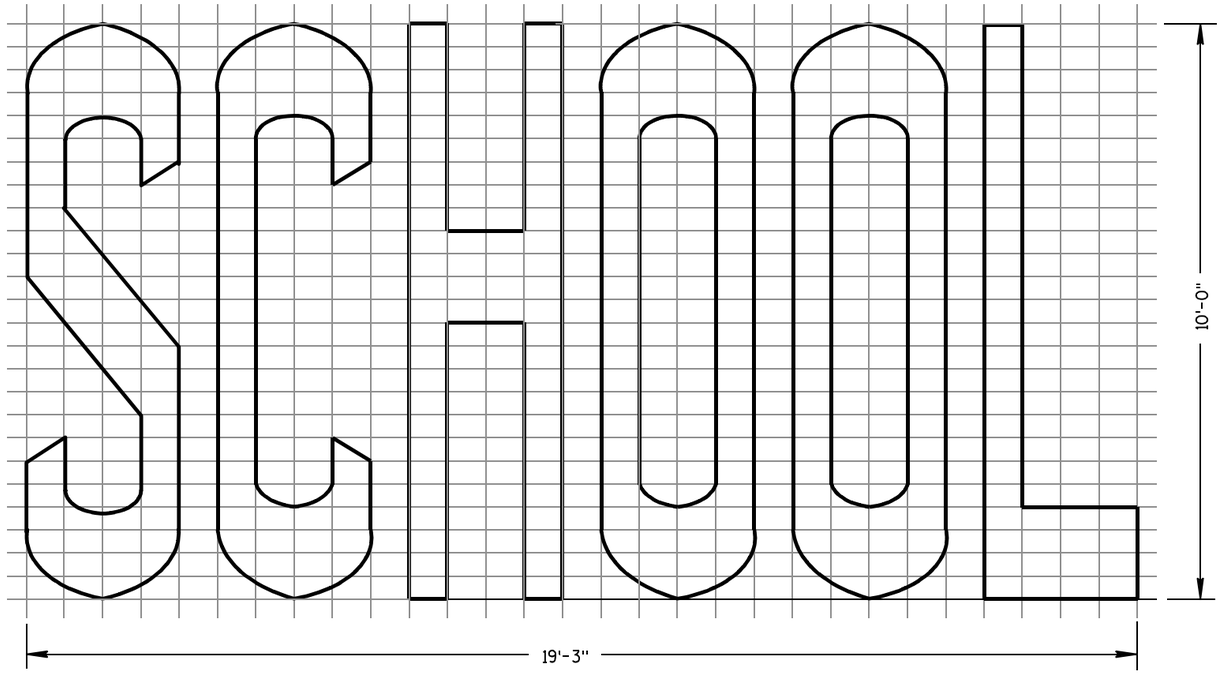
GENERAL NOTES

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.

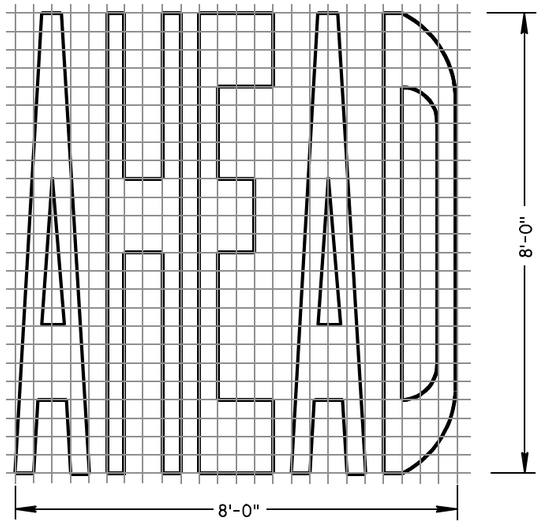
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

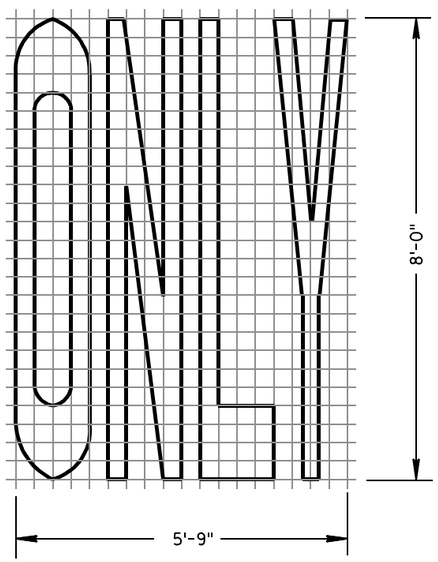


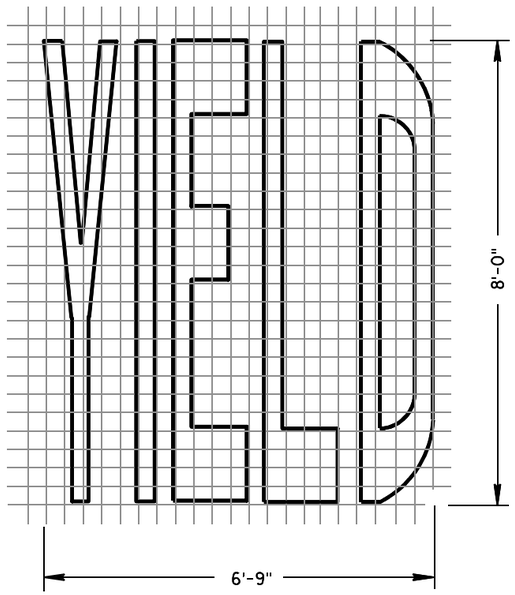


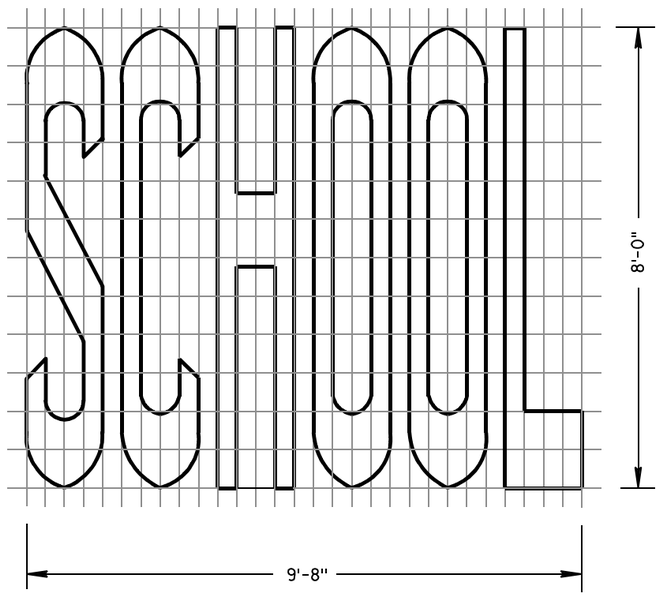


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 — DATE

/S/ Thomas N. Nothohm — STATE TRAFFIC ENGINEER

FHWA

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S.D.D. 15 C 7-12b

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.

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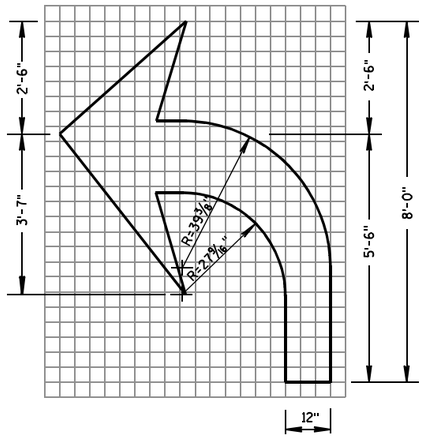

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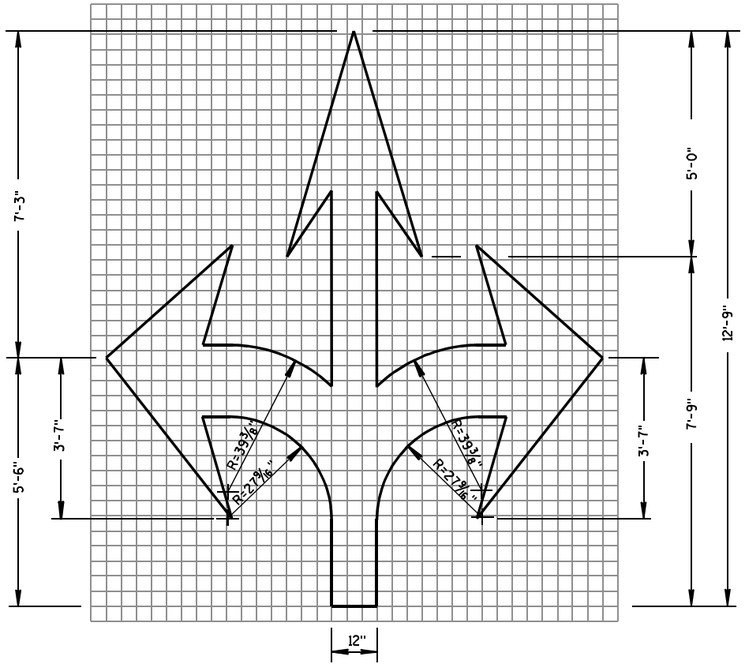
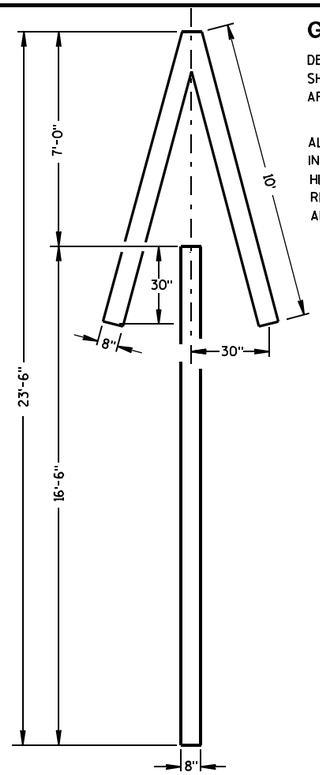


TYPE 6



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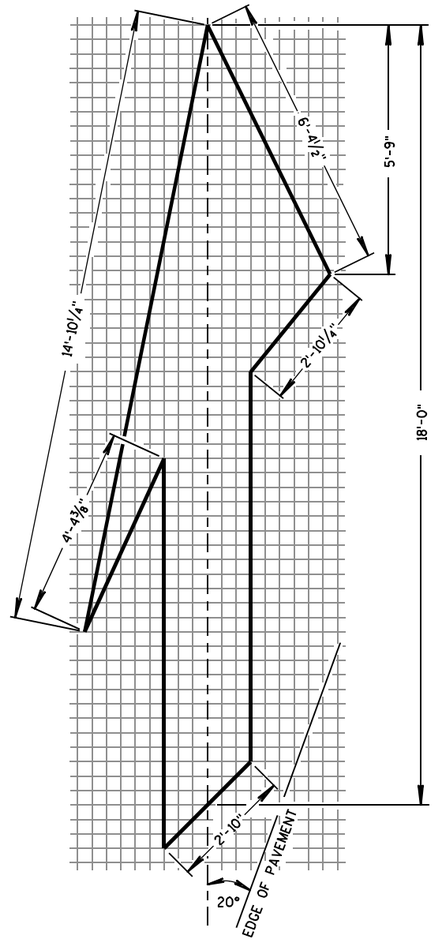
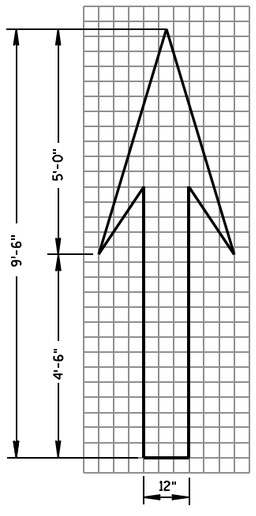
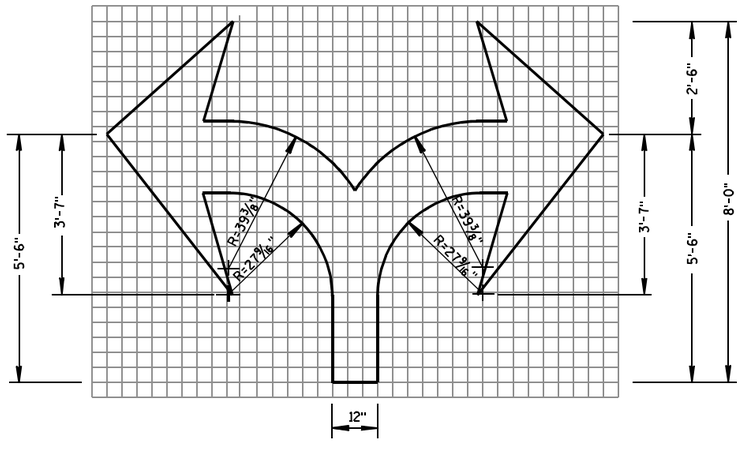


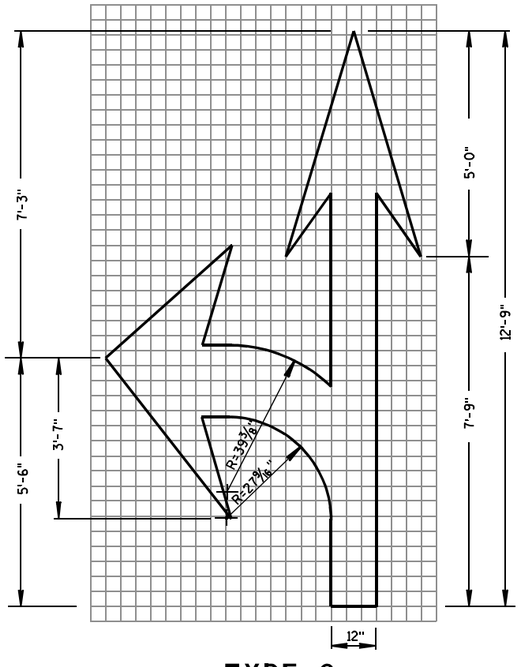
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

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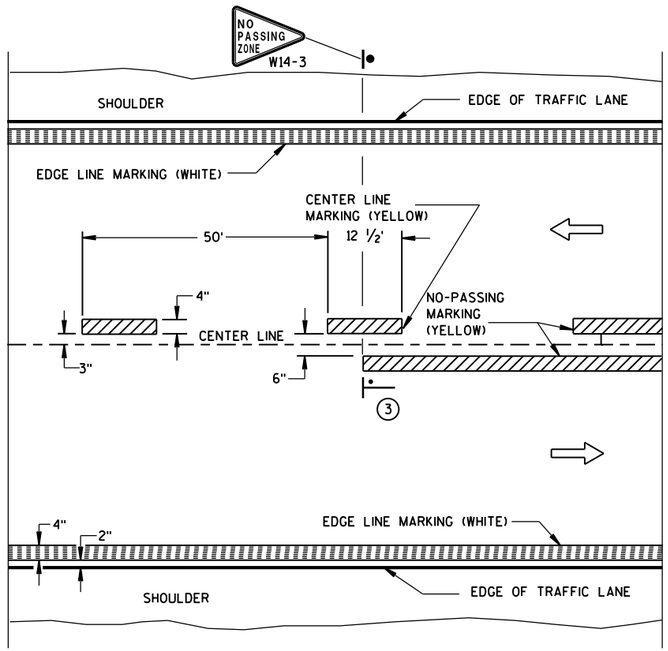
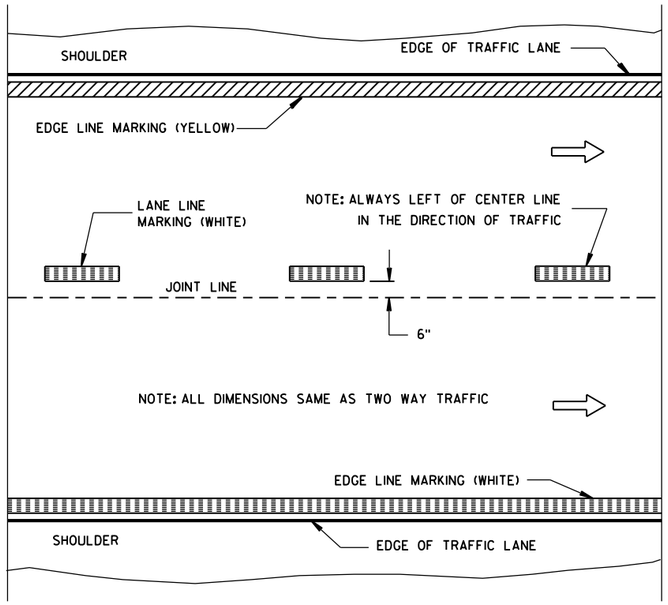
S.D.D. 15 C 7-12c

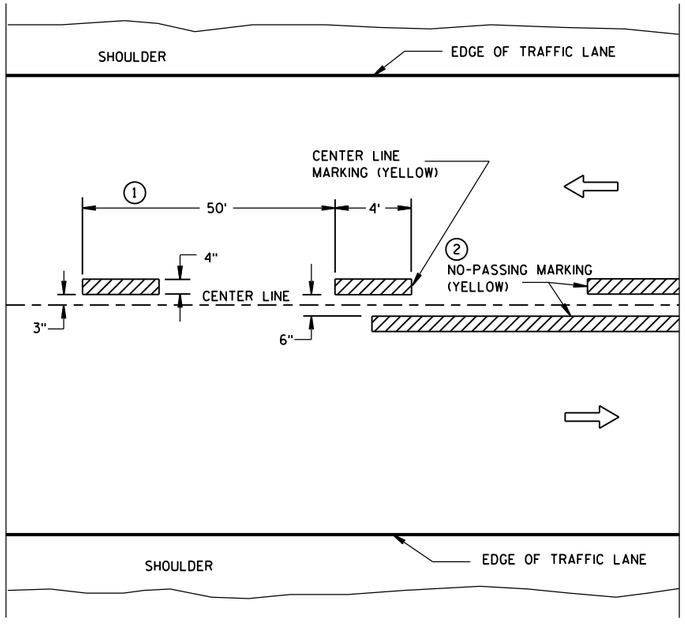


TWO WAY TRAFFIC

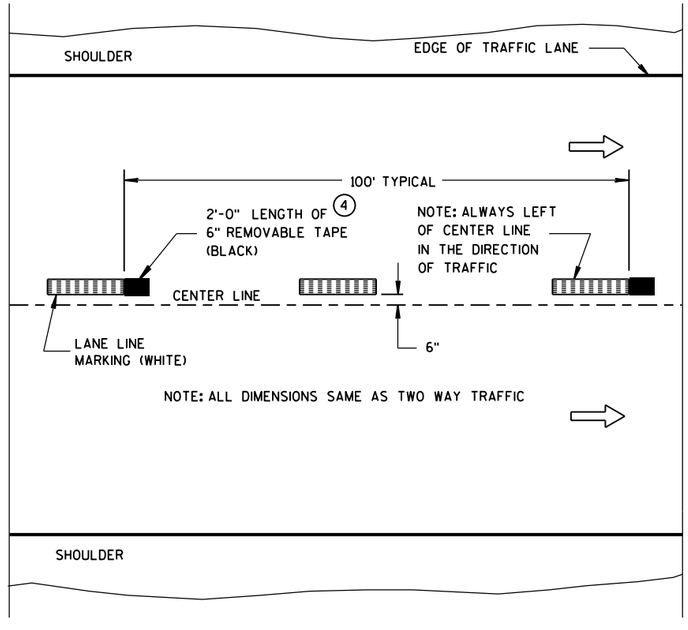


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

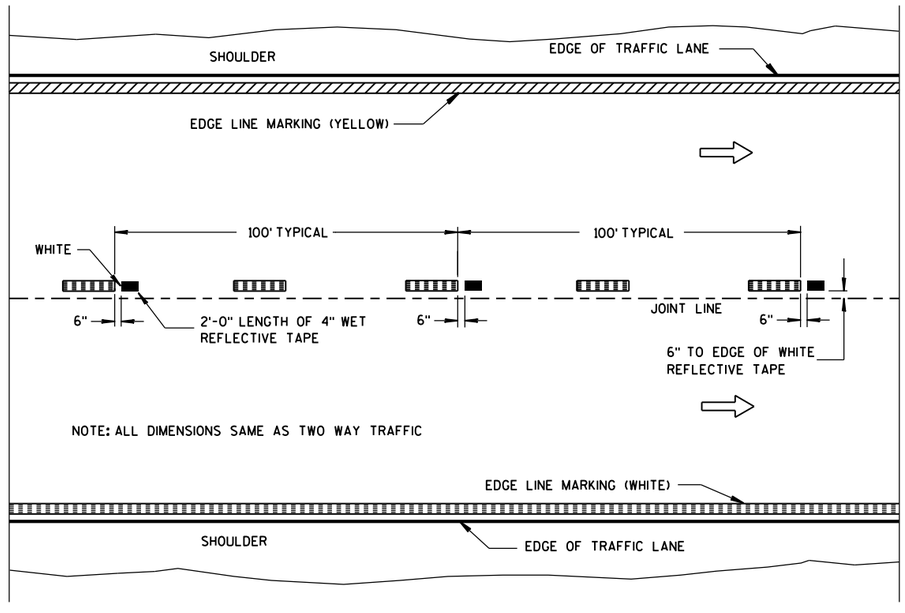
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC E

FHWA

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S.D.D. 15 C 8-16a

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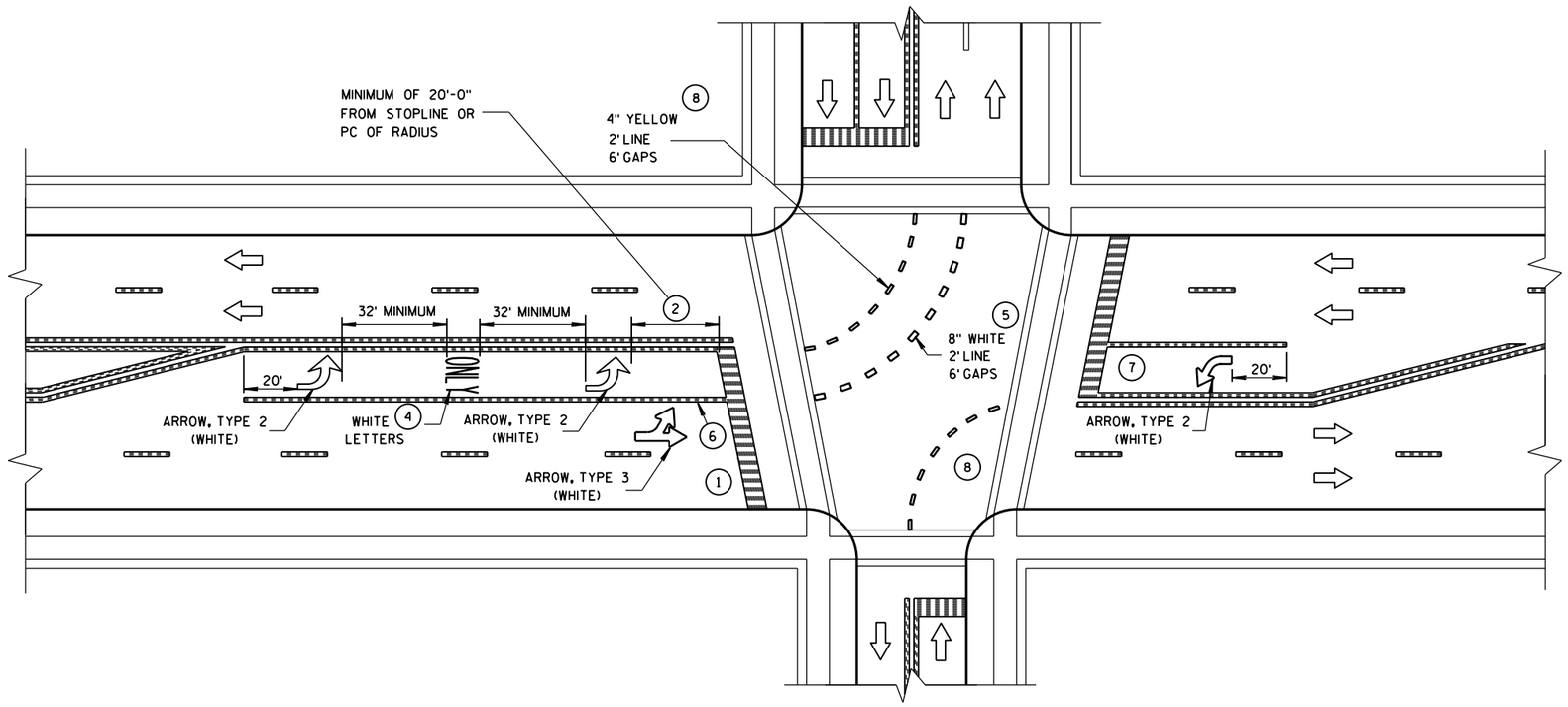
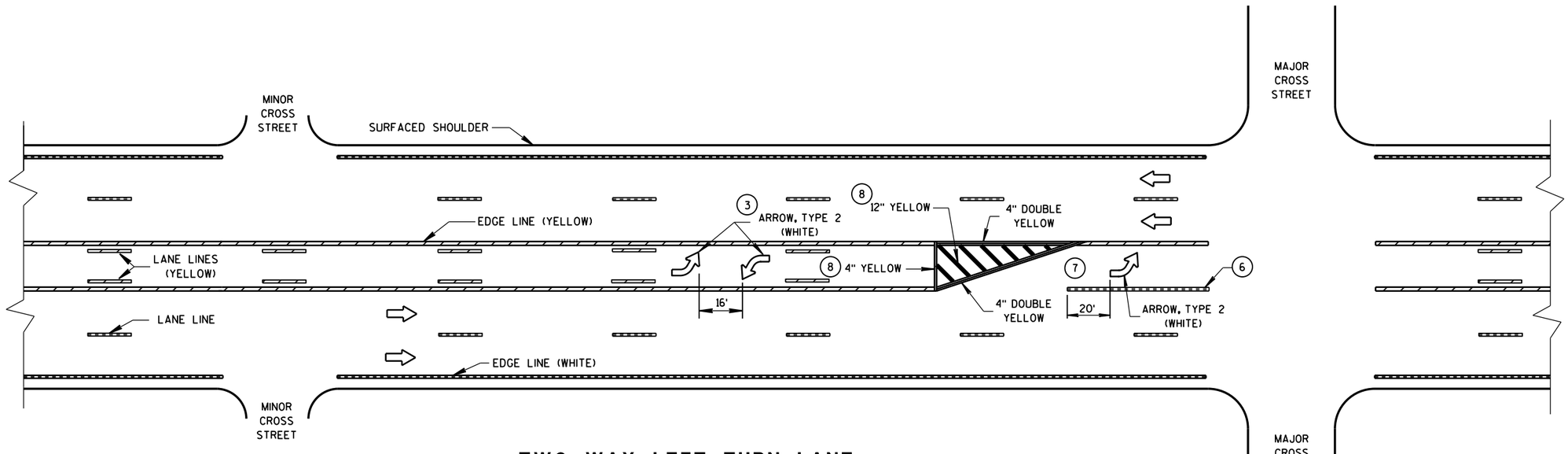
S.D.D. 15 C 8-16a



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET 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 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 15 C 8-16e

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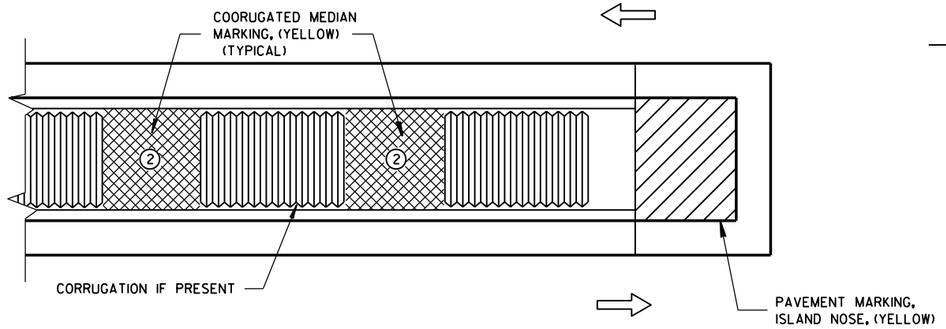
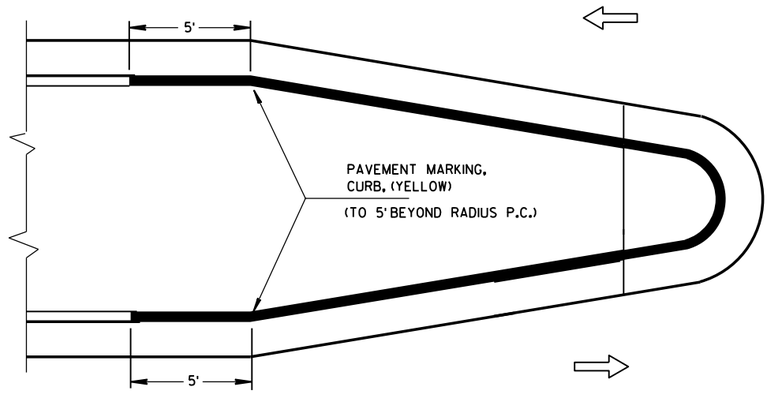
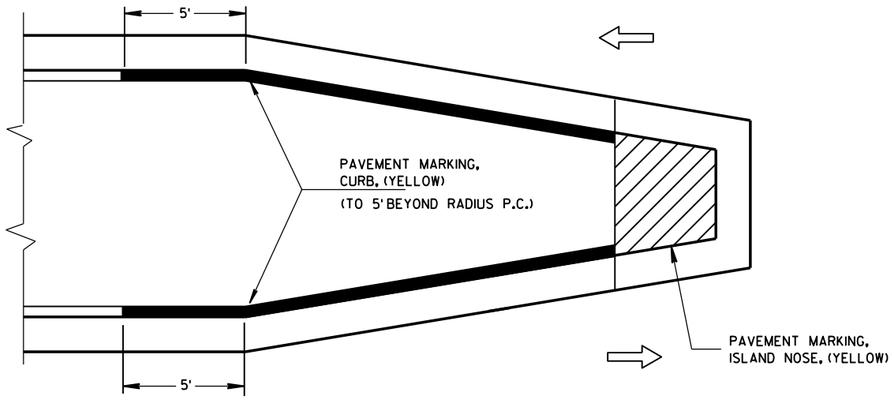
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

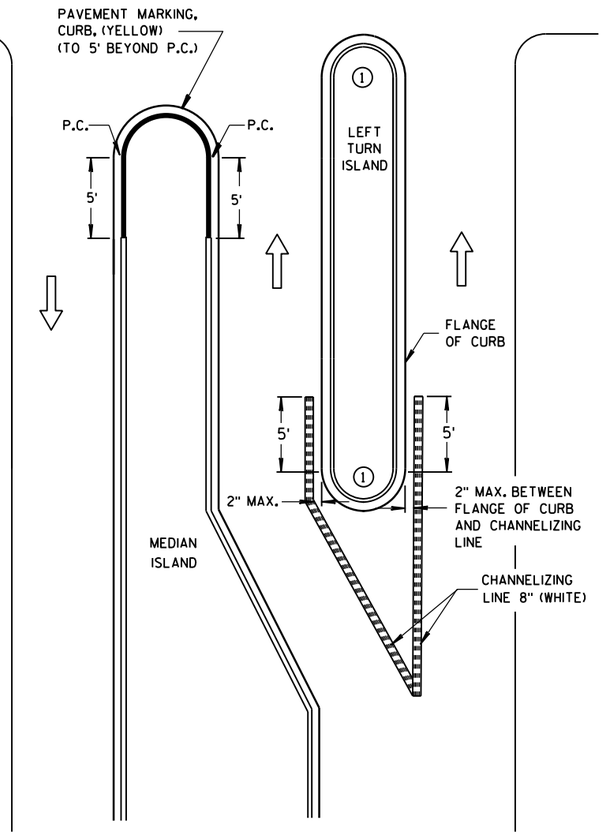


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

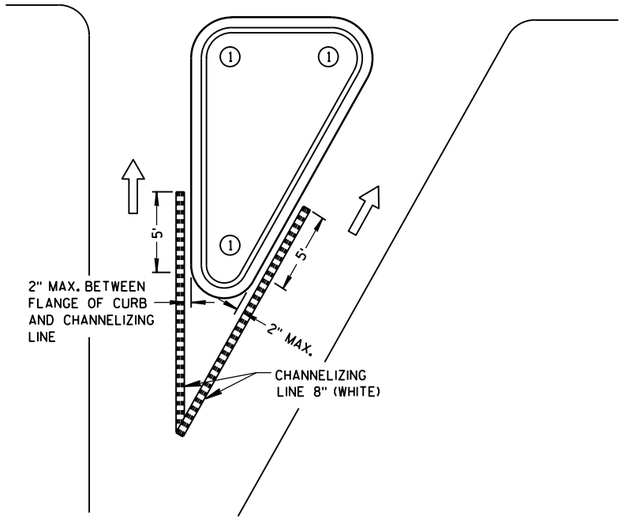


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. 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 AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 C 8-16f

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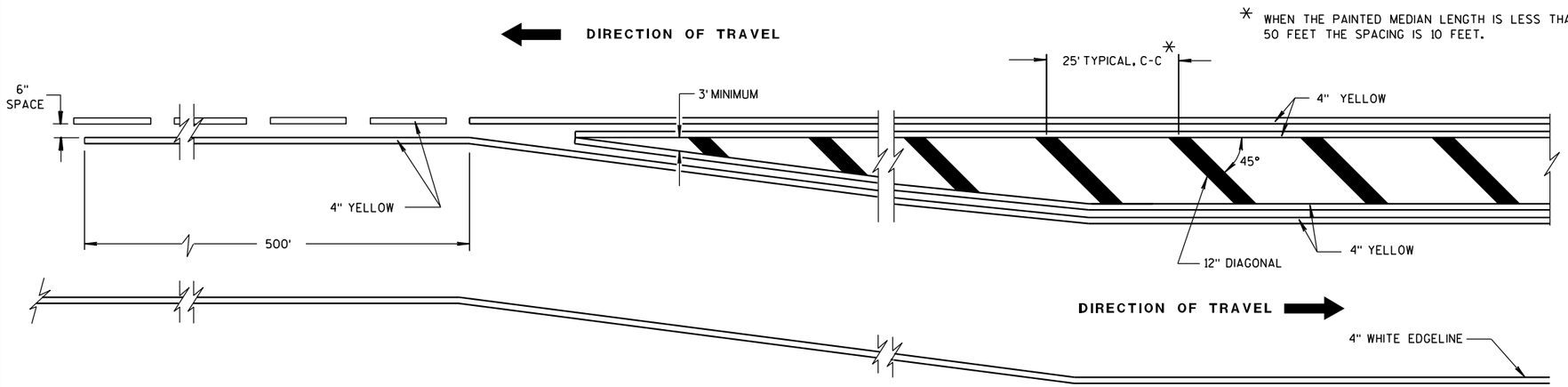
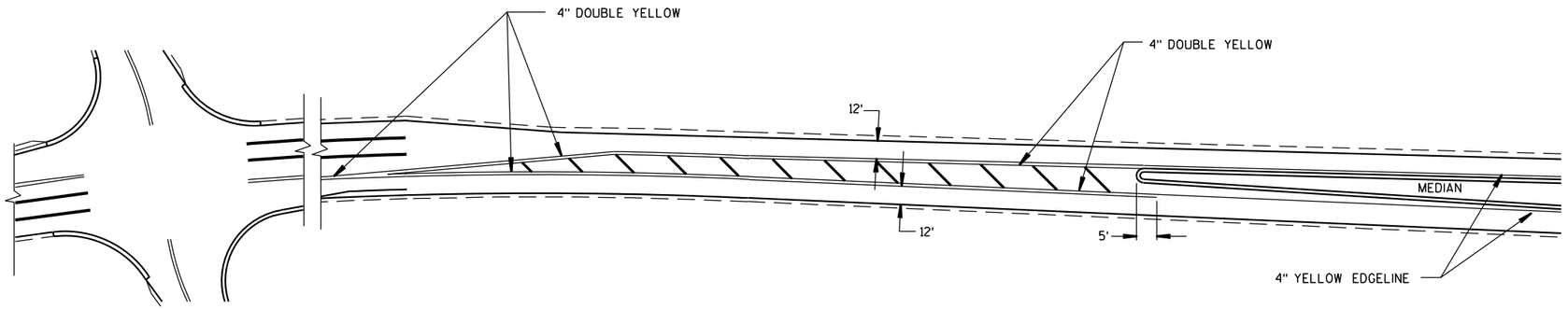
S.D.D. 15 C 8-16f



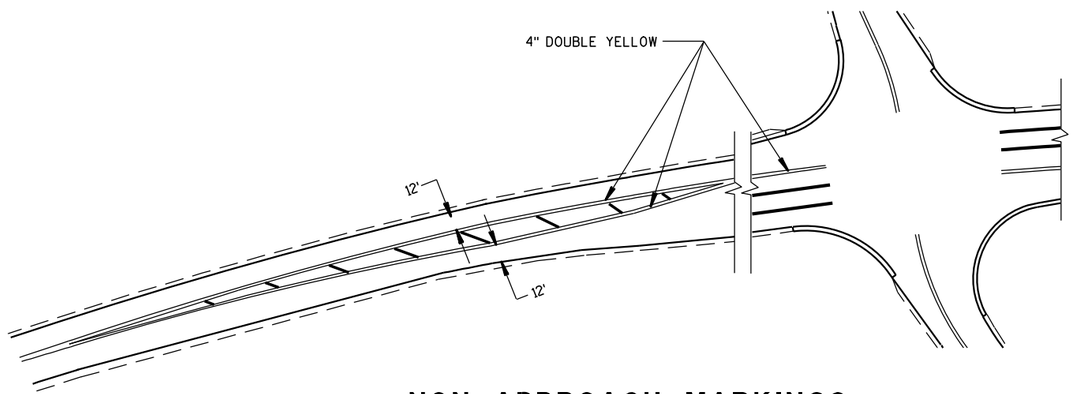
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER
FHWA	

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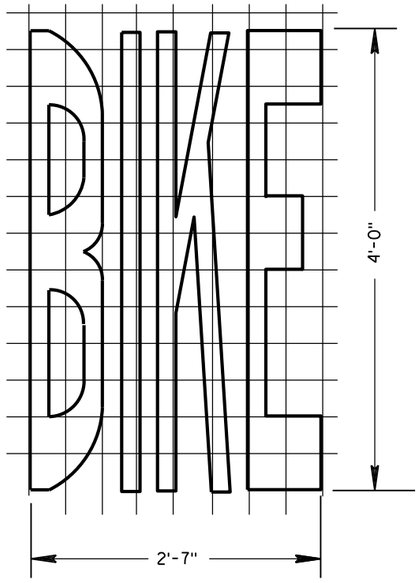
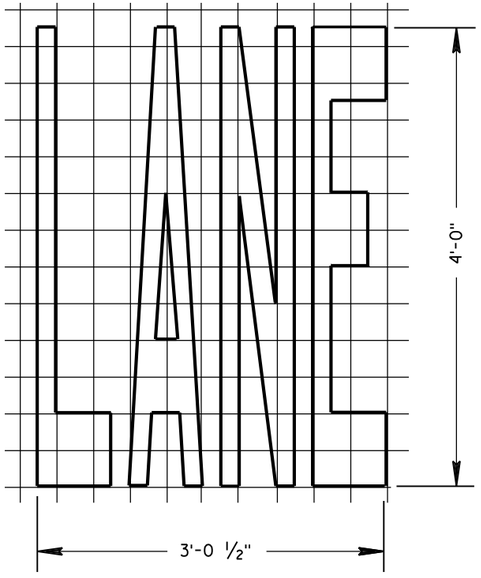
S.D.D. 15 C 18-3

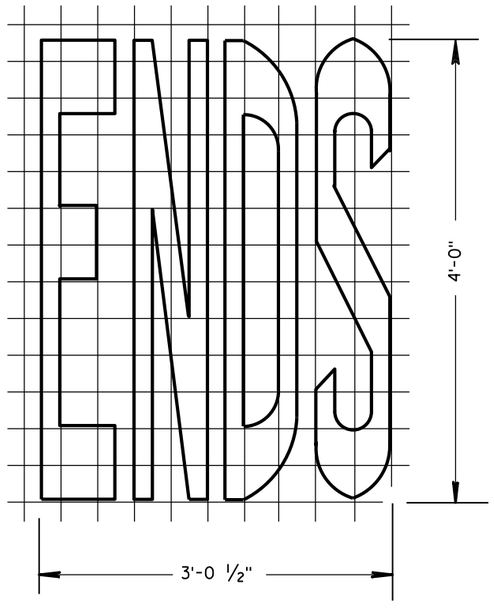
GENERAL NOTES

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.

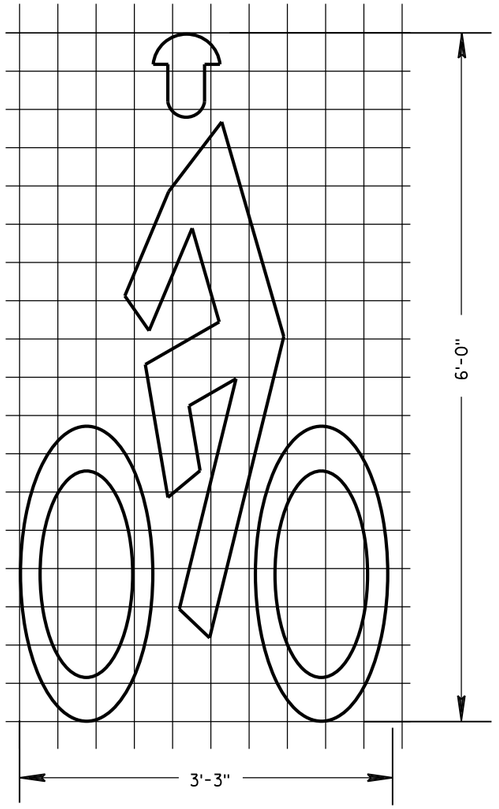
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



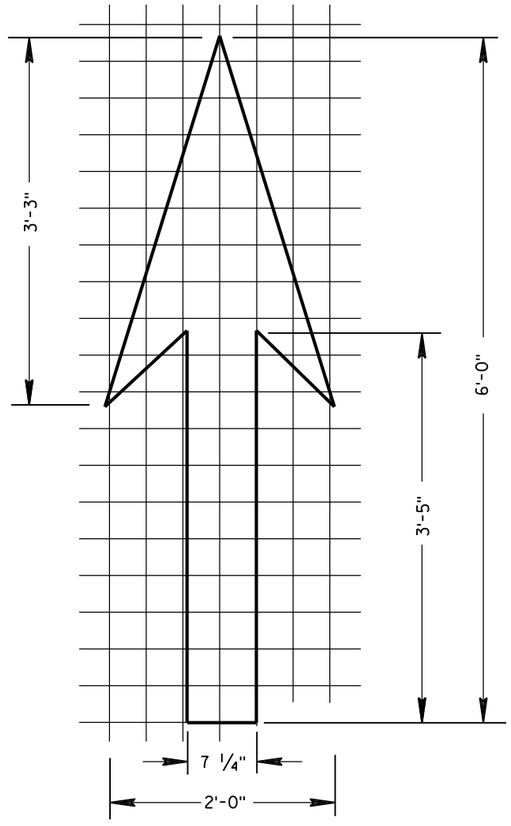




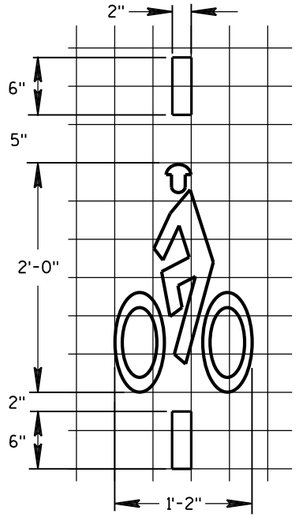
BIKE LANE WORDS



BIKE LANE SYMBOL



BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
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4-30-2013
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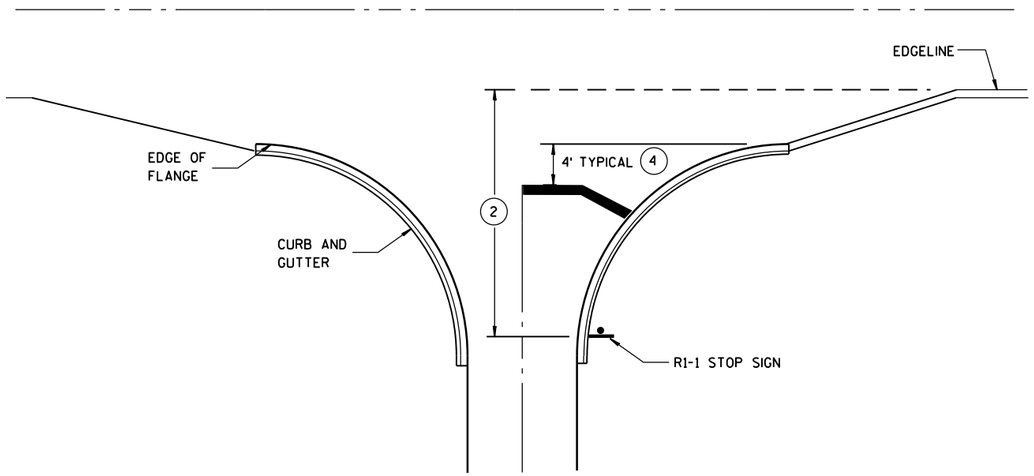
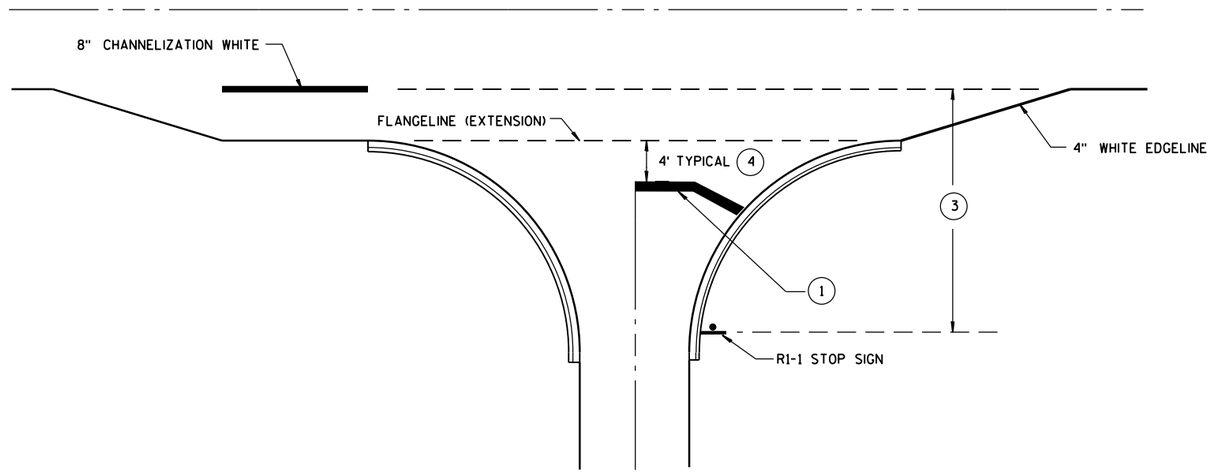
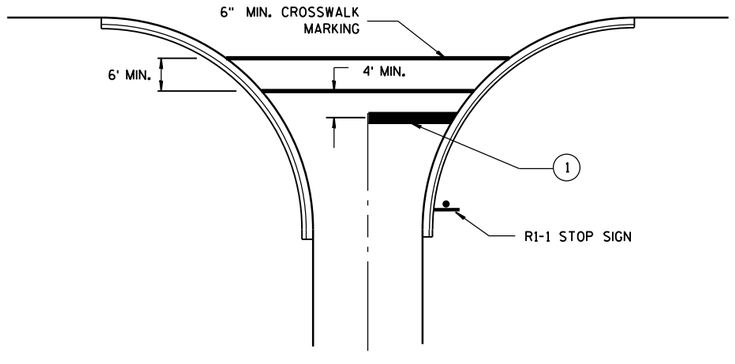


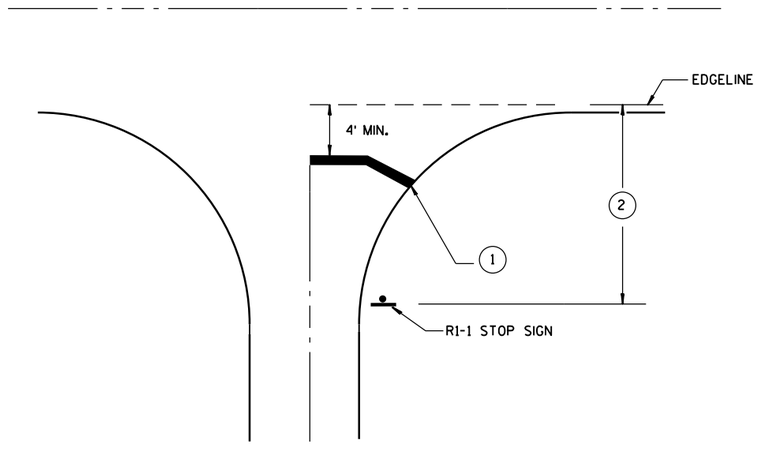
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
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LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

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"×48" 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.

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.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

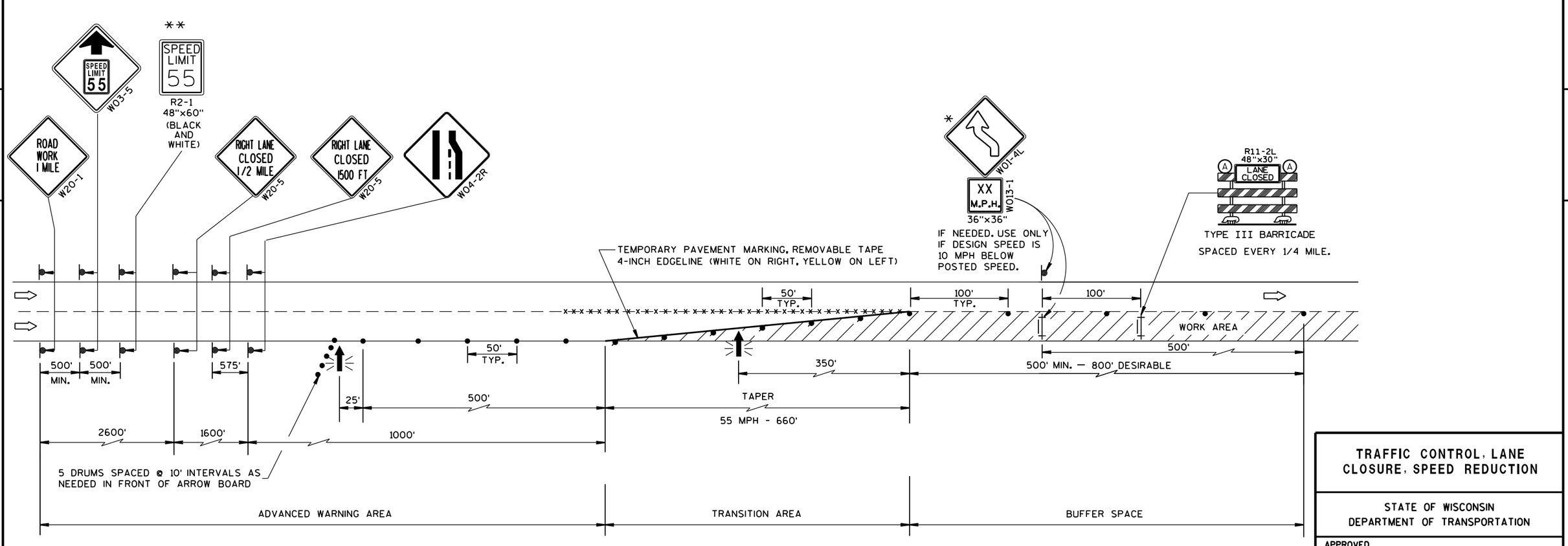
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST 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.

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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3-2014 — DATE
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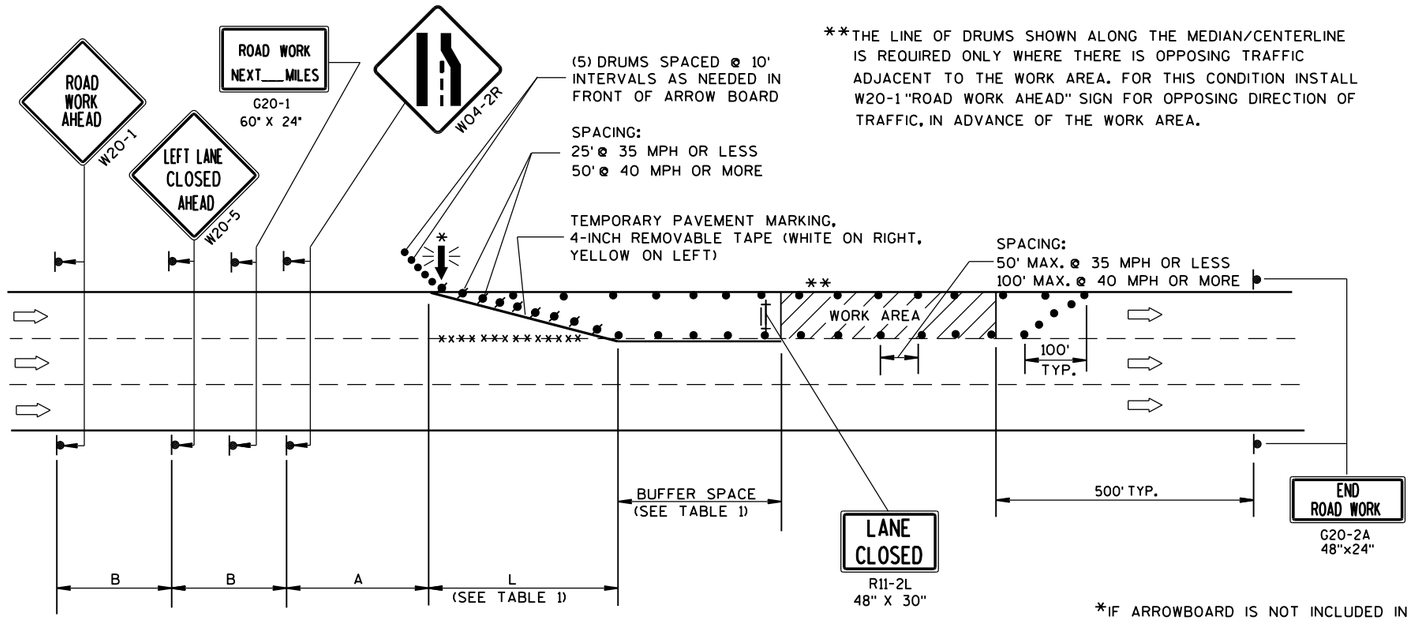

**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

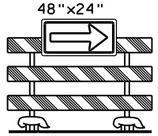

TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

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

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 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 IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, 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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
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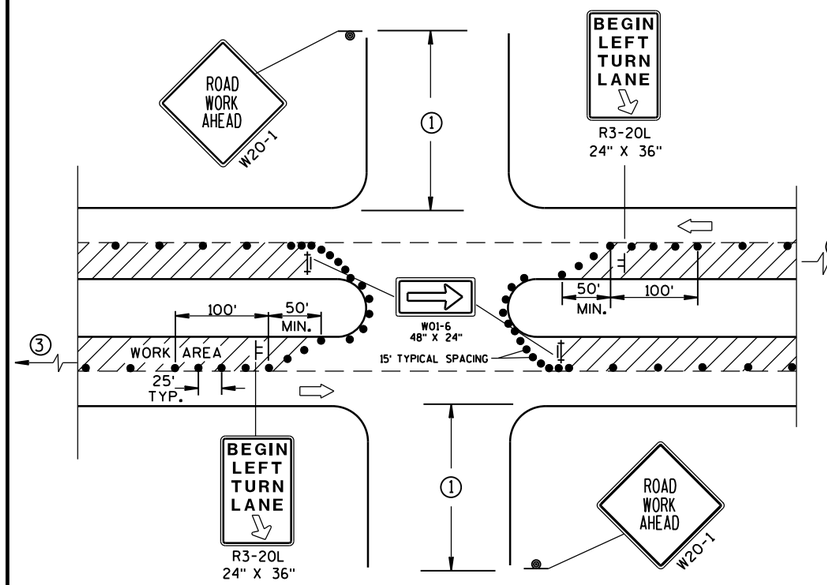
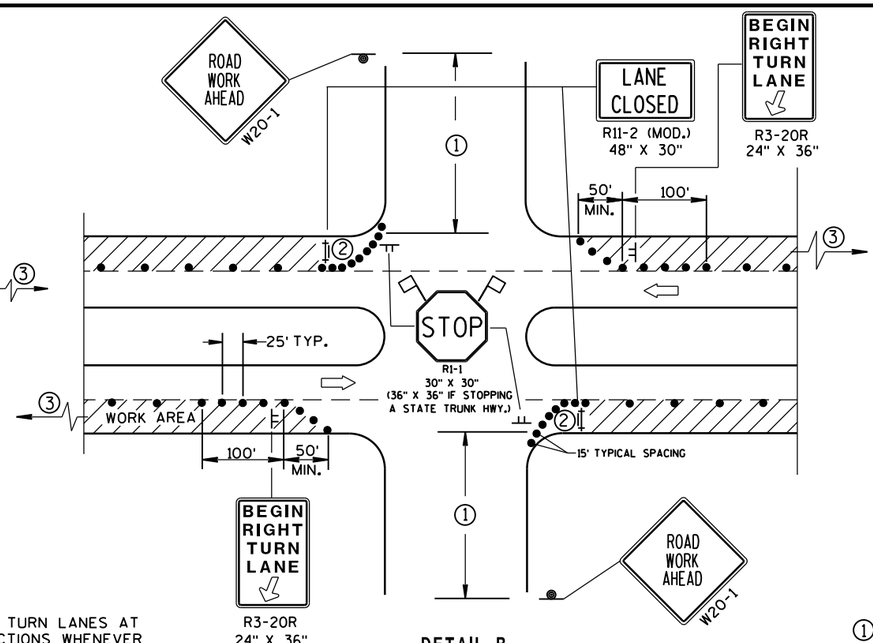


DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

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 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 IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, 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.

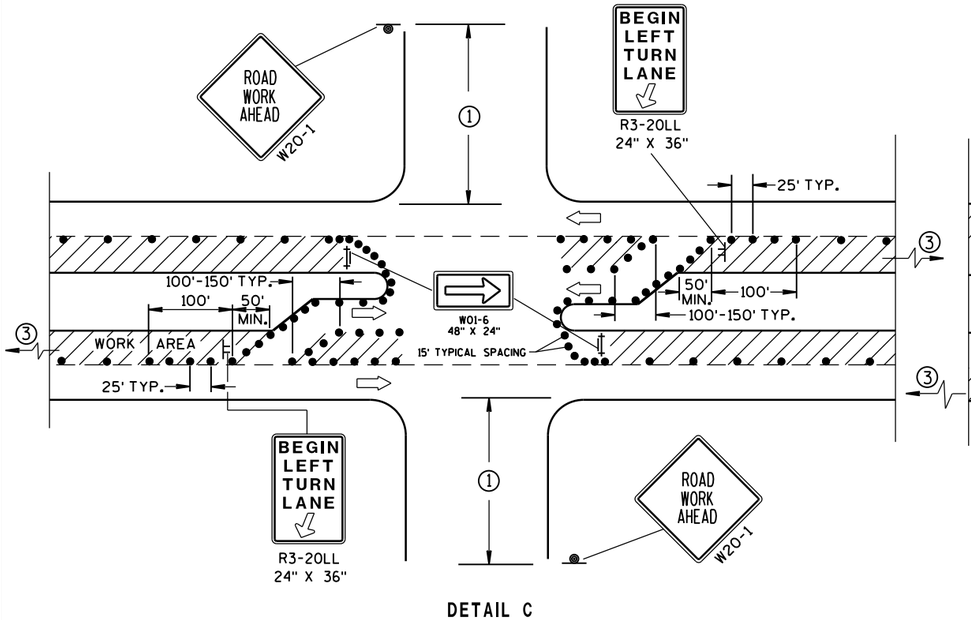
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

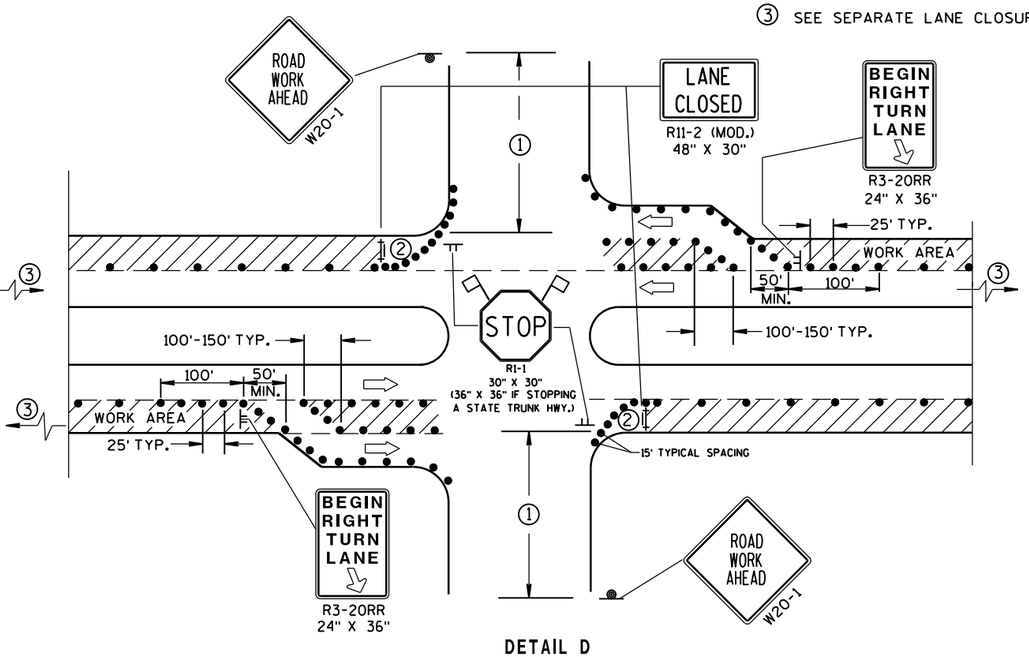
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
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8/2013 — DATE

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LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

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

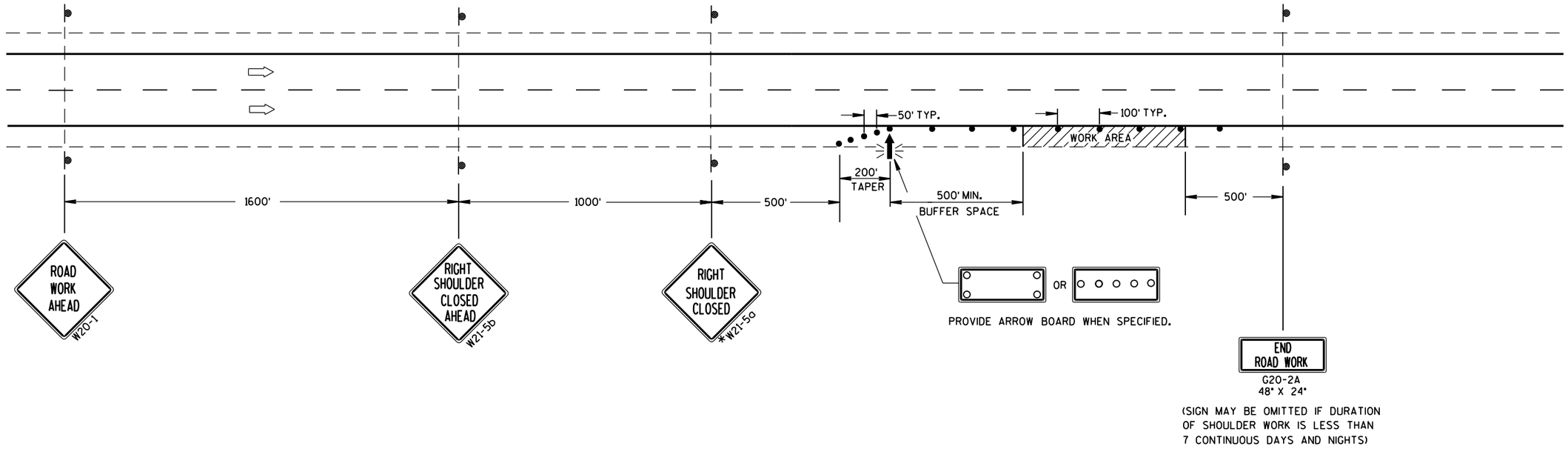
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

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

WHEN A 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.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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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.

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

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

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.

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

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

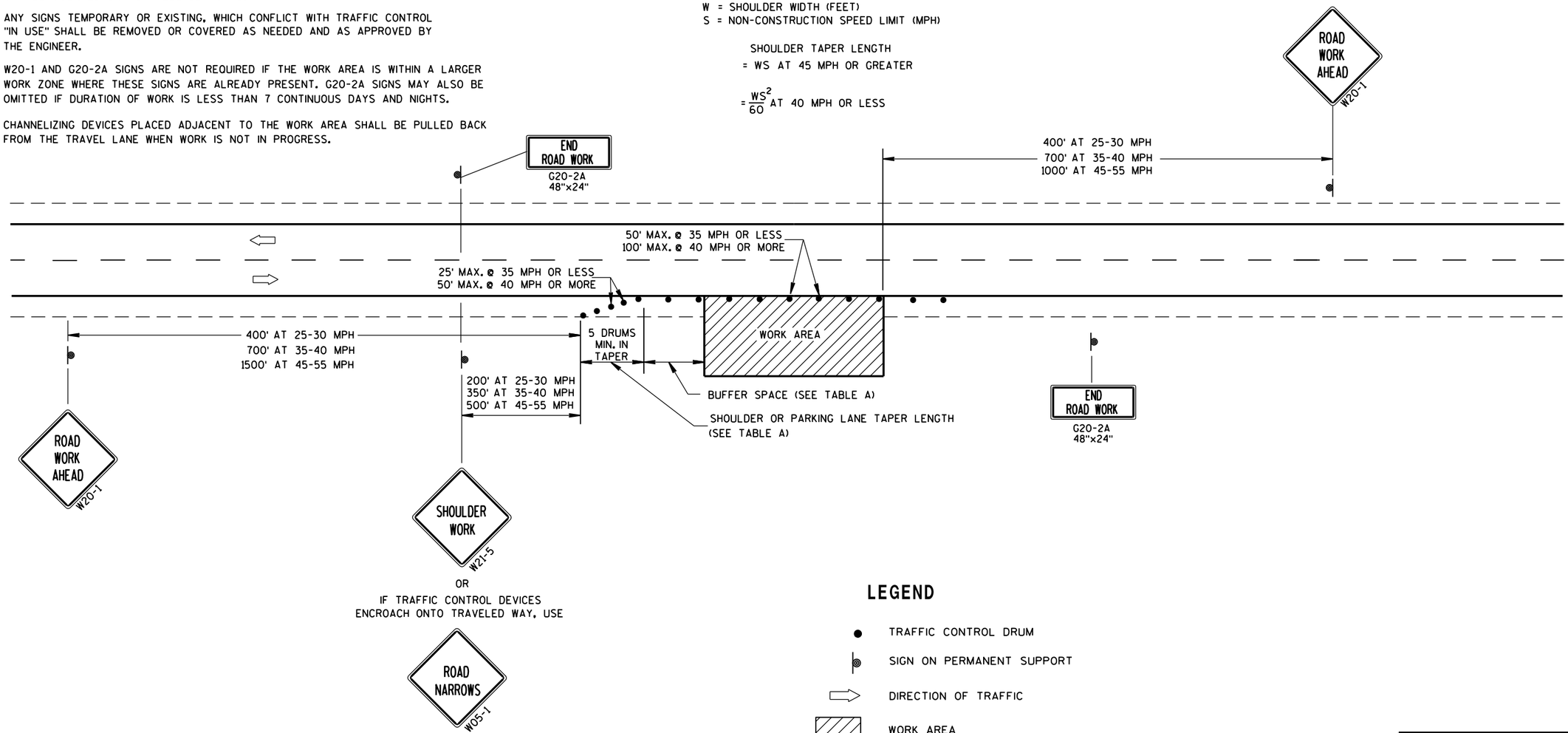
TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

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

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

$= \frac{WS^2}{60}$ AT 40 MPH OR LESS



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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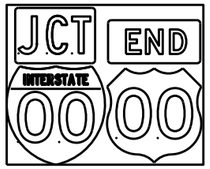
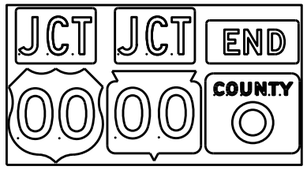
TYPICAL ASSEMBLIES

J1-1

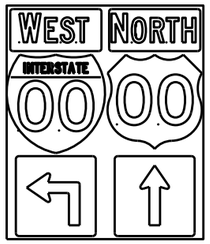


J1-2

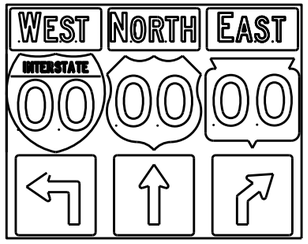


J1-3

J2-1



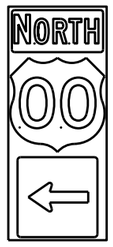
J2-2



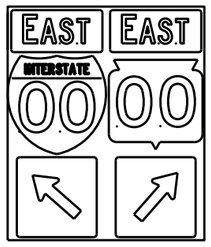
J2-3

JV

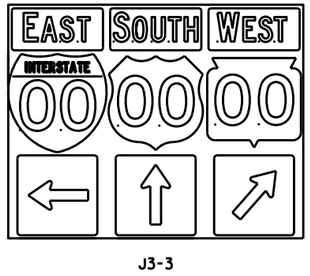
(Typical Vertical J-Assembly
See Note 10 and 11)



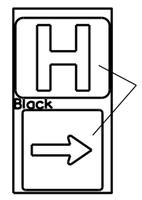
J3-1



J3-2

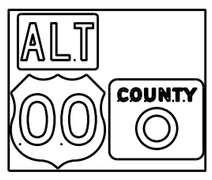


J3-3

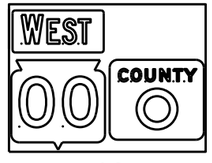


JH-1

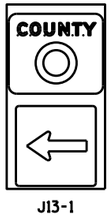
J4-1



J4-2



J4-2



J13-1

J12-1

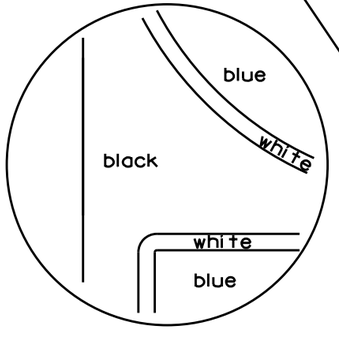
J32-1

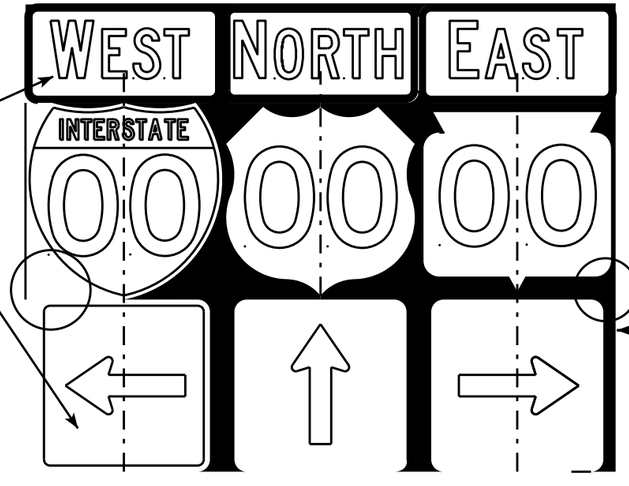
J33-1

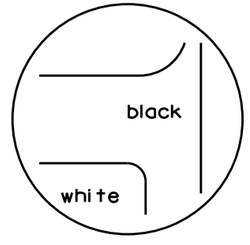
J23-1

J22-1

[blue background with interstate]







[black background]

NOTES

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

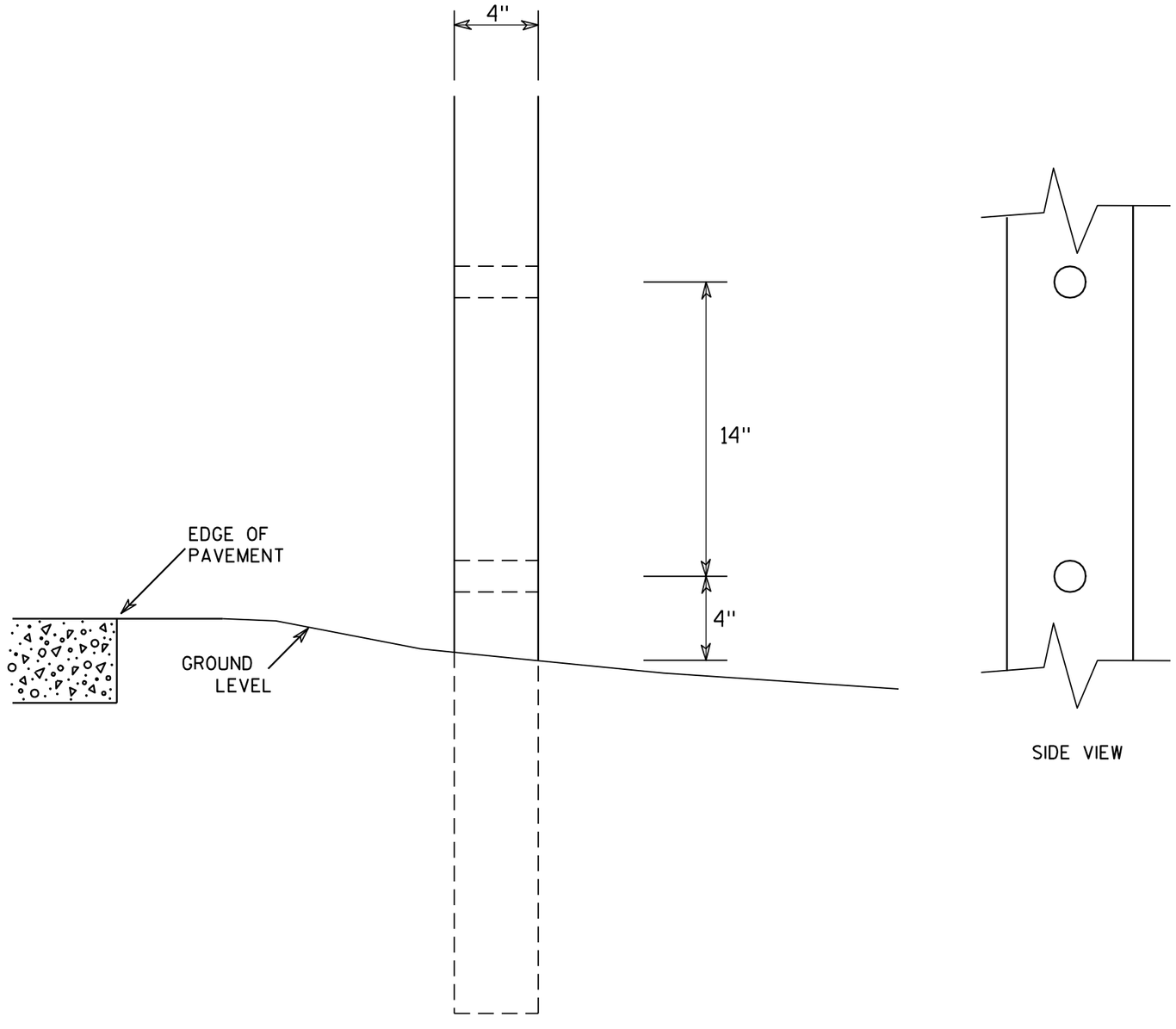
ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E



SIDE VIEW

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

4 X 6 WOOD POST MODIFICATIONS

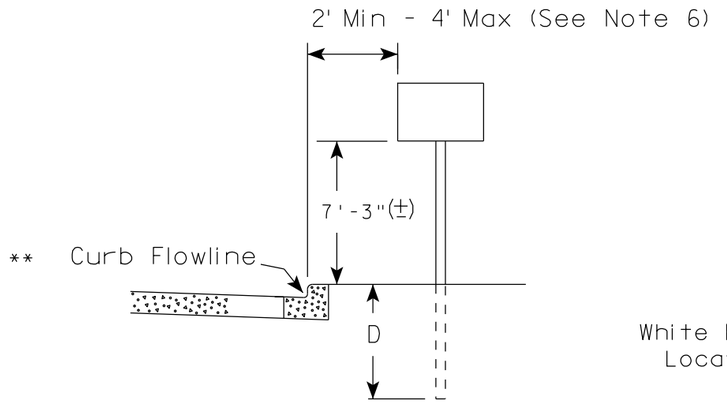
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

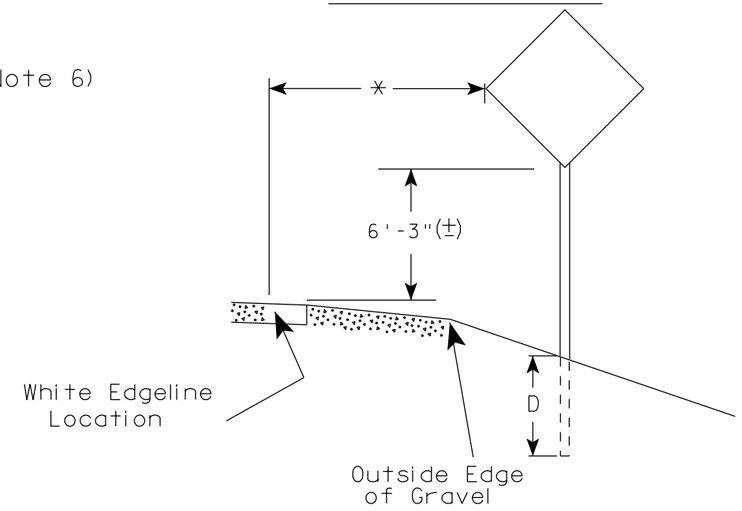
DATE 3/27/97 PLATE NO. A4-11.2

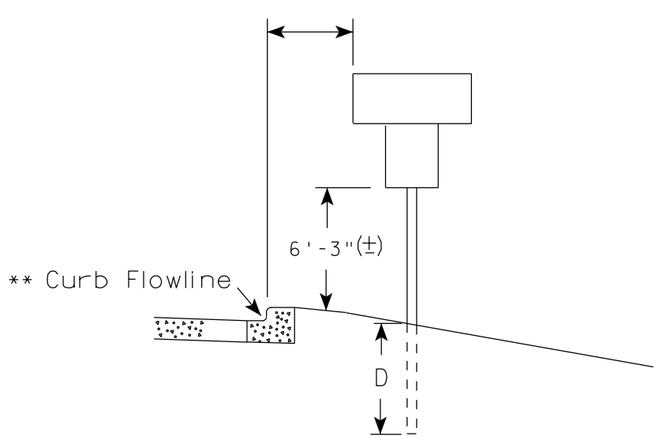
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 137	E

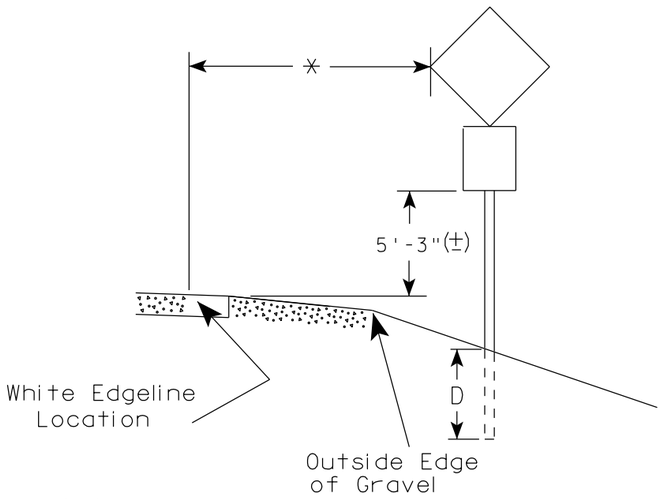
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet, 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. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd 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" (±).

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.

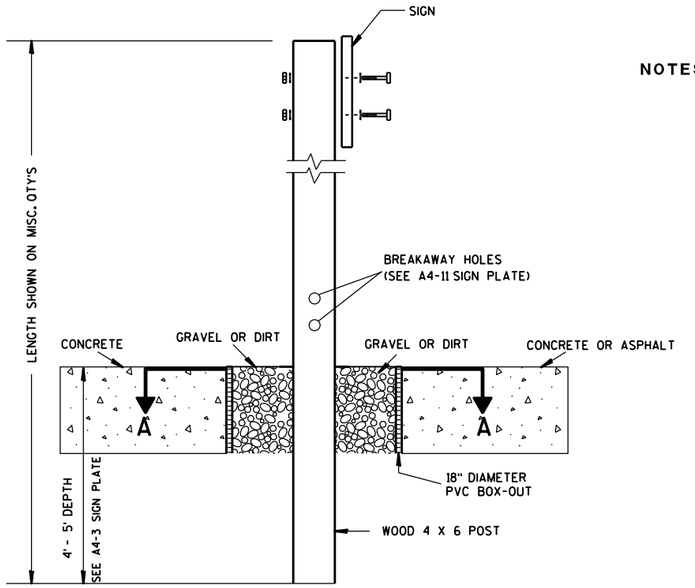
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

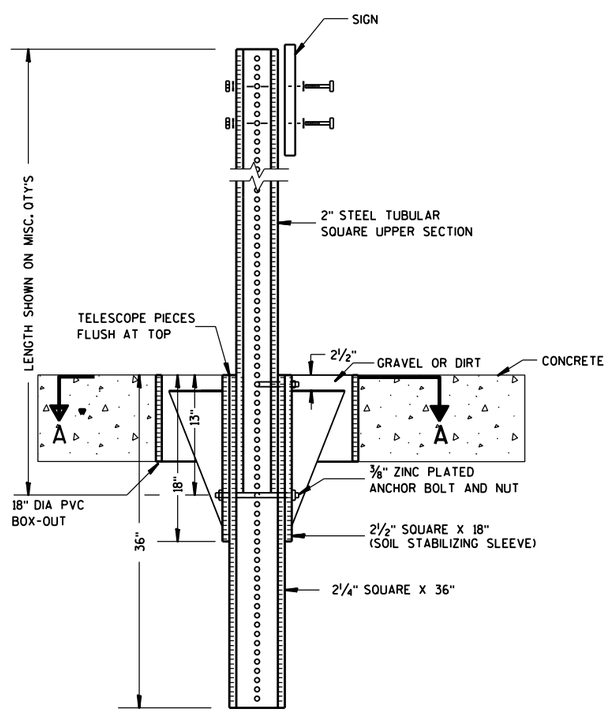
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

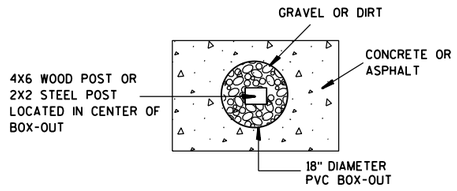
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

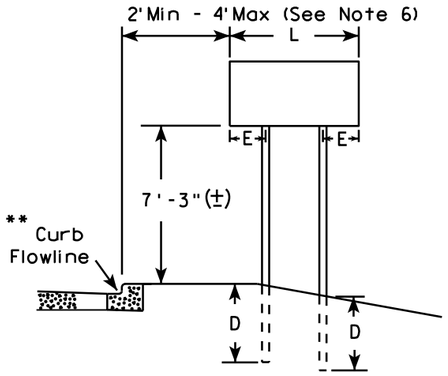
APPROVED Matthew R Rauch
for State Traffic Engineer

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

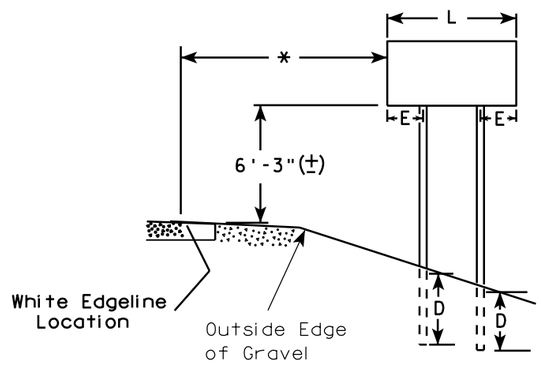
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

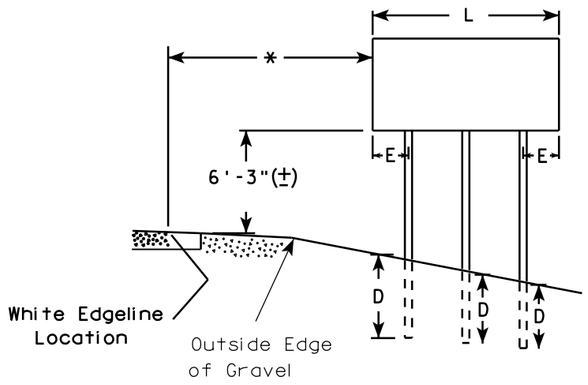
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

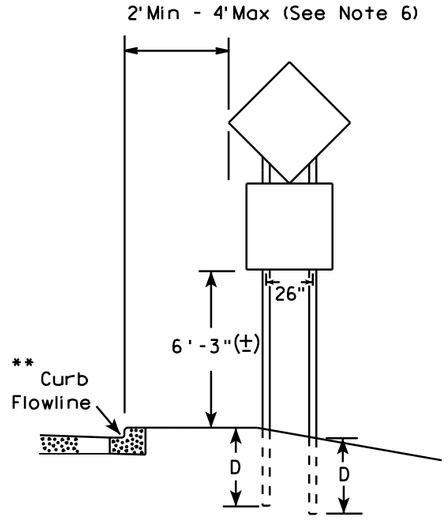
URBAN AREA



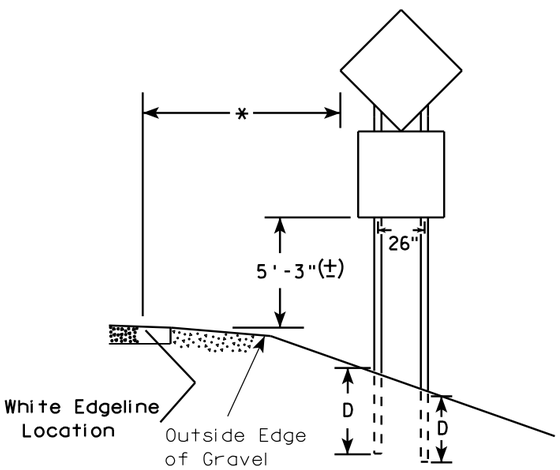
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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. Minimum mounting height for J assemblies (A2-1S) 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 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 or less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

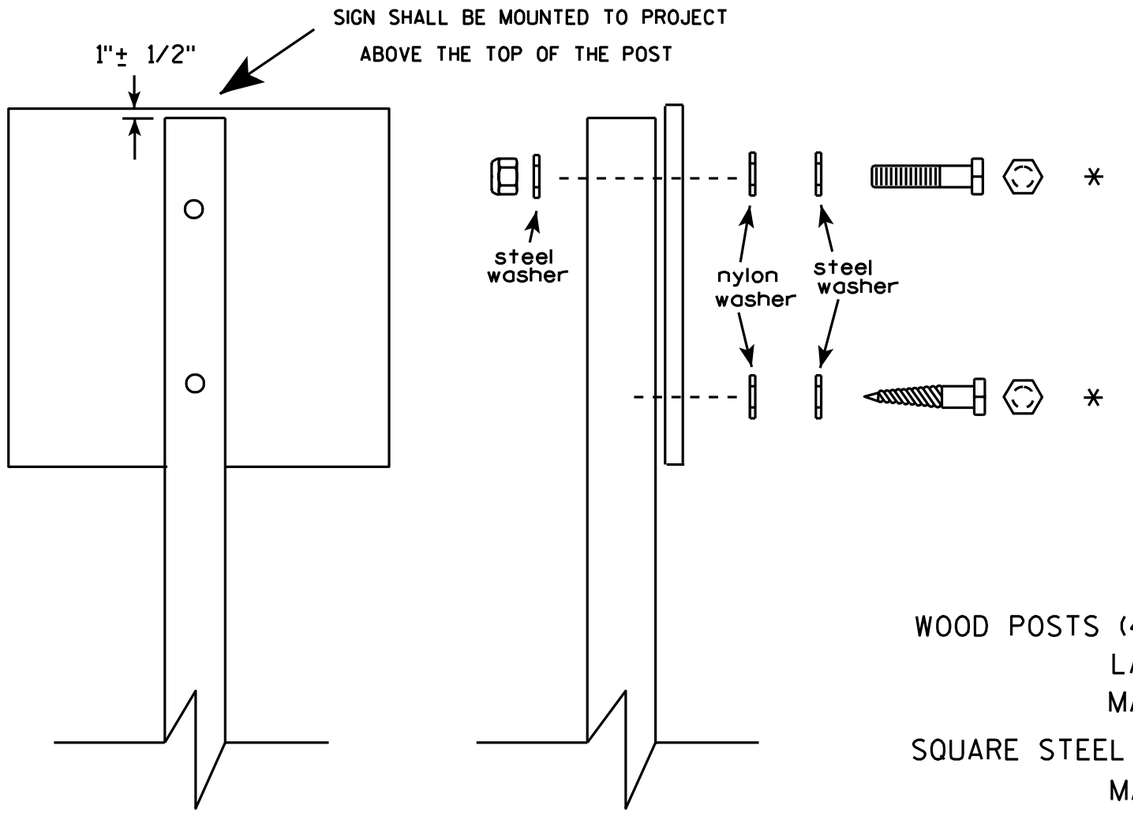
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4 13
140

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 12-NOV-2014 14:01 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42



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

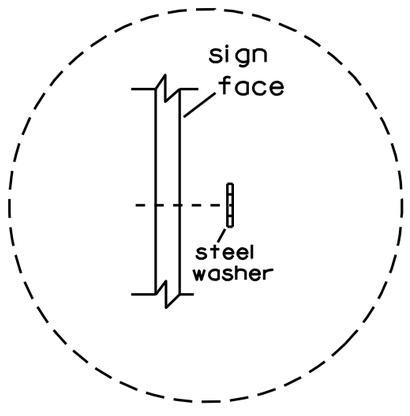
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

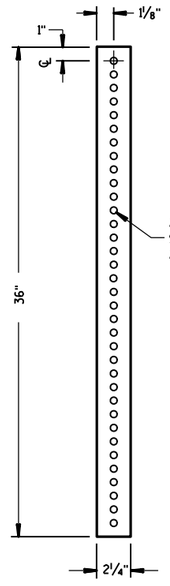
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

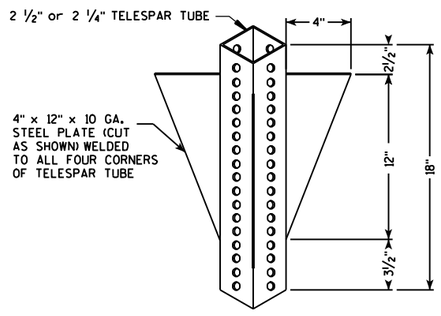
DATE 3/23/10 PLATE NO. A4-8.7

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

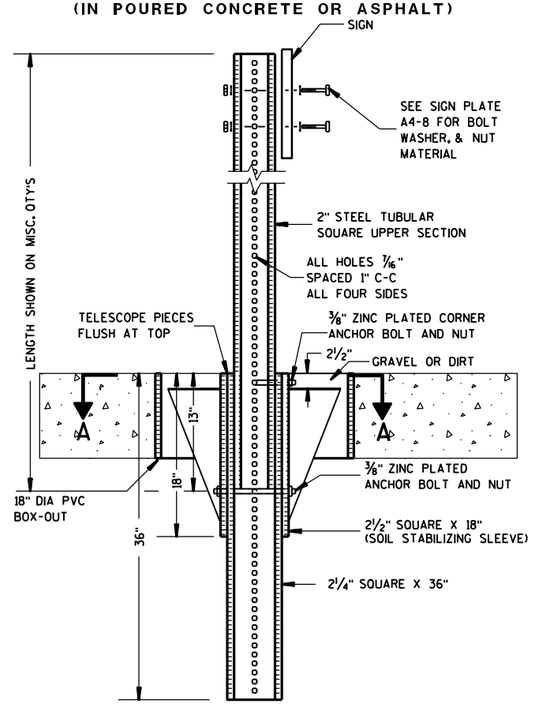
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



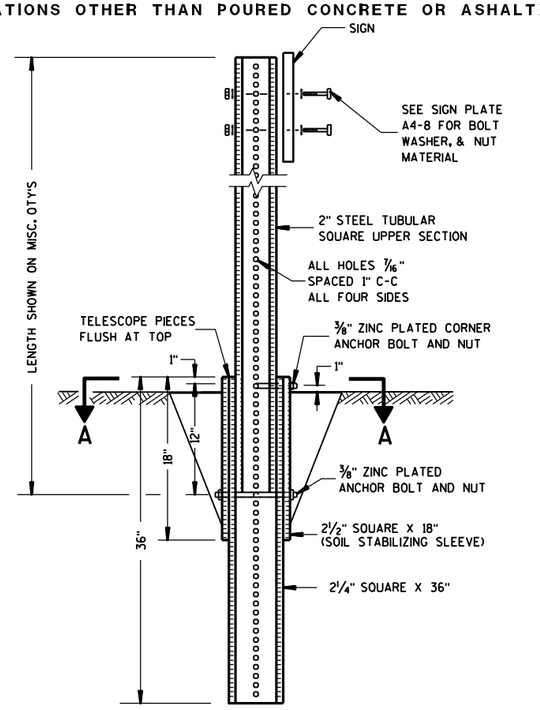
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

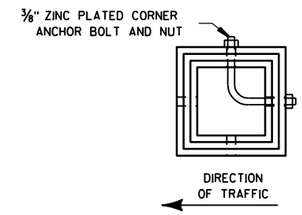


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

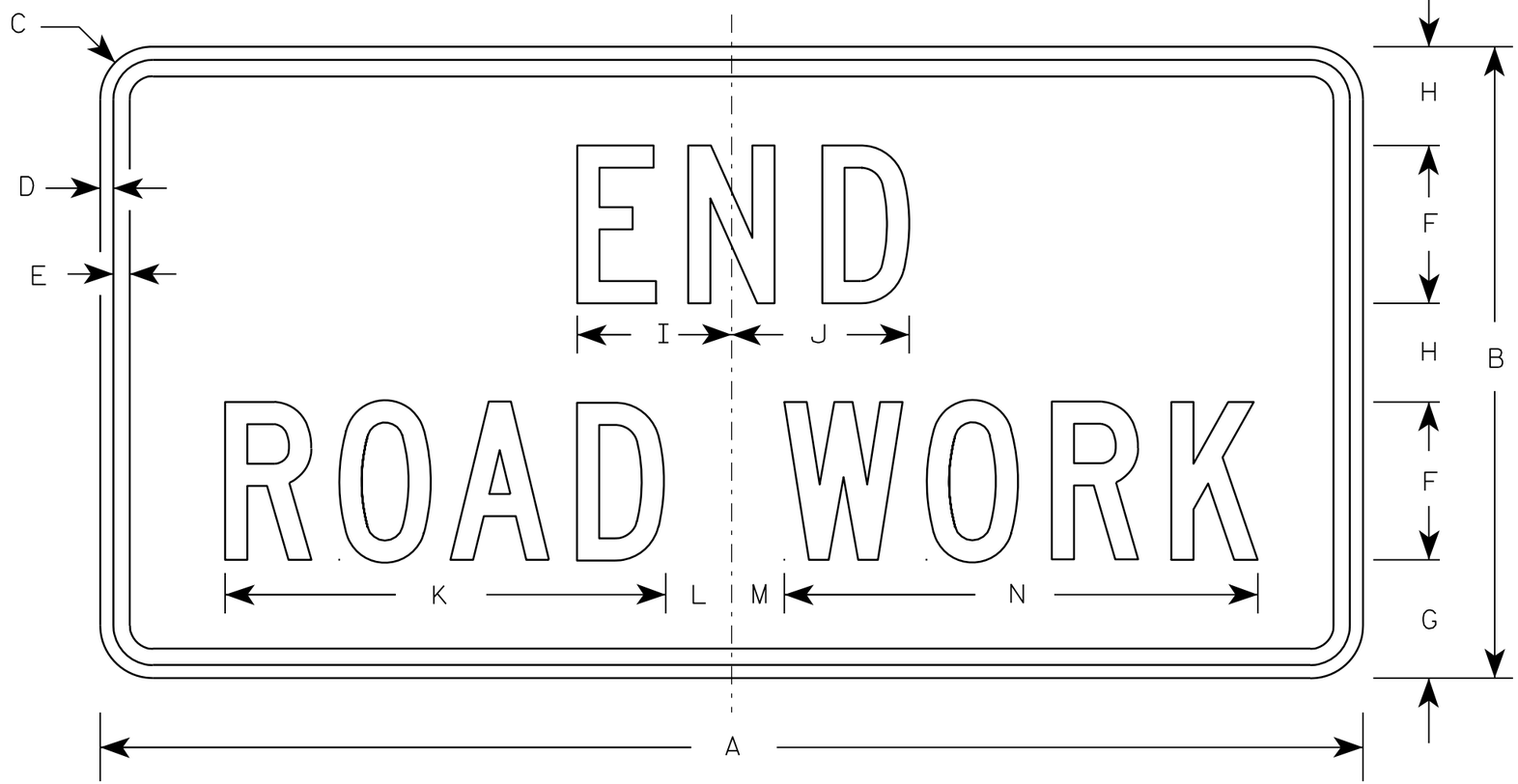
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 142	E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

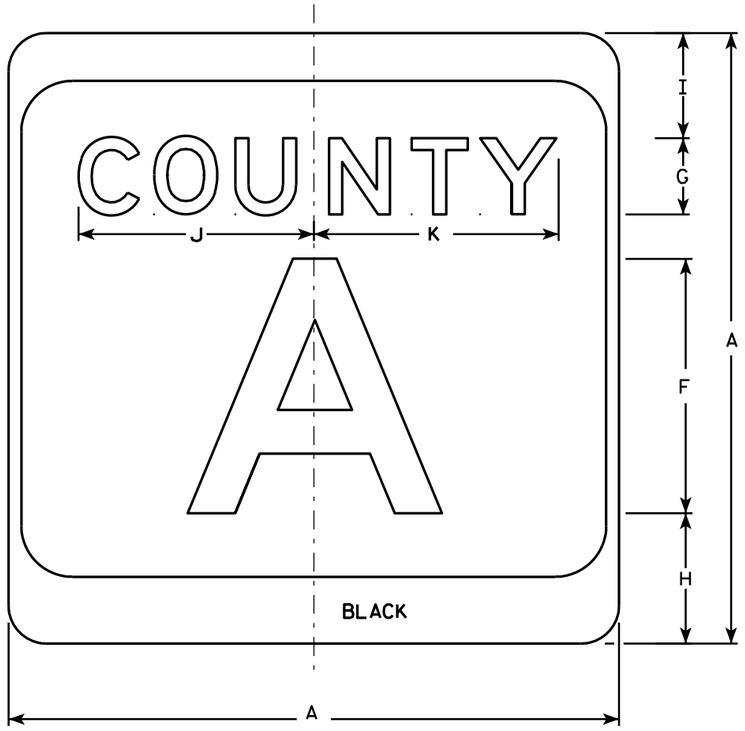
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 143	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\G202A.DGN PLOT DATE : 30-SEP-2009 09:31 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 5.561773:1.000000

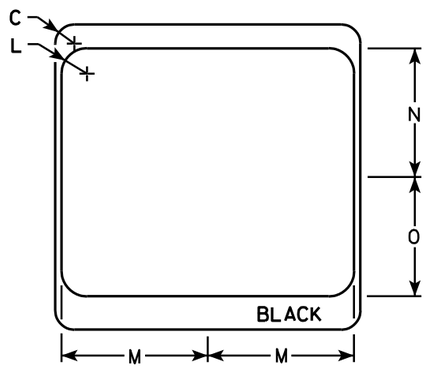
WISDOT/CADDS SHEET 42

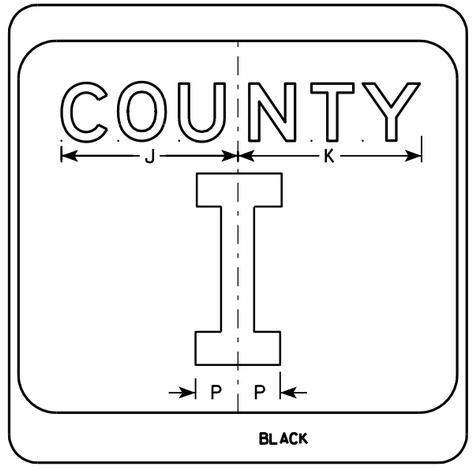
7

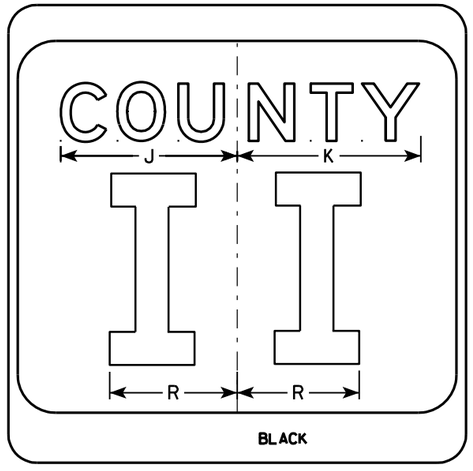
7



M1-5A







NOTES

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

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

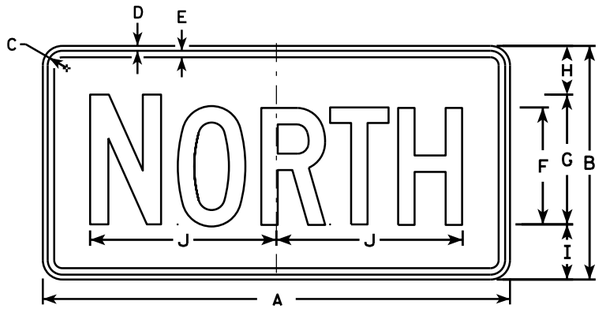
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

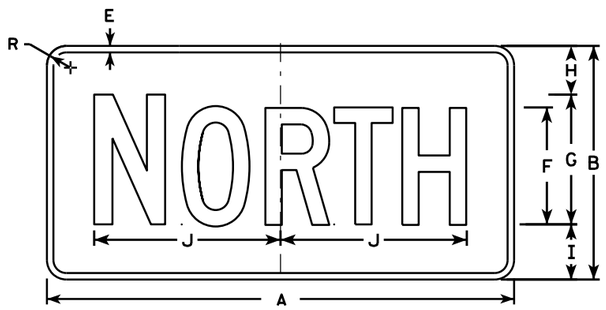
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 144 | E



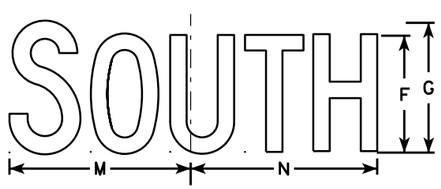
M3-1
MK3-1
MM3-1
MN3-1



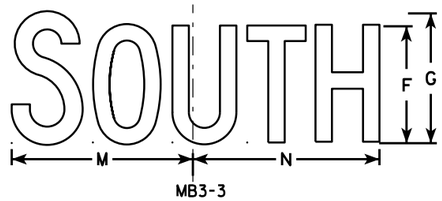
MB3-1

M3-2
MK3-2
MM3-2
MN3-2

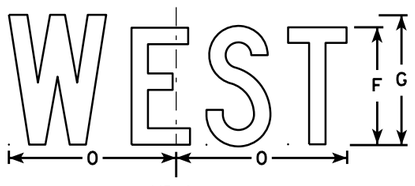
MB3-2



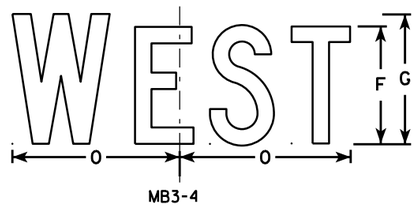
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

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

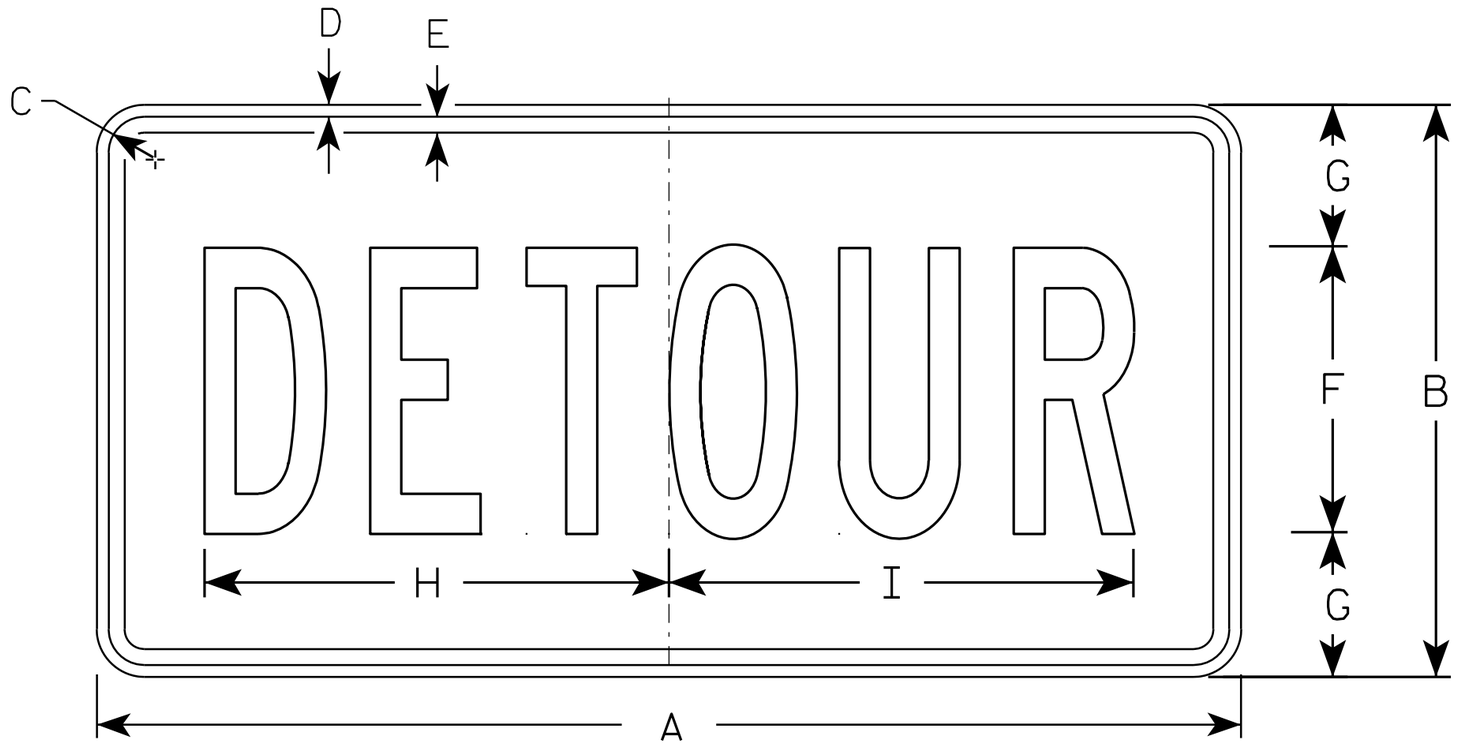
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO M3-1.13

PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E



M4-8

NOTES

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

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	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

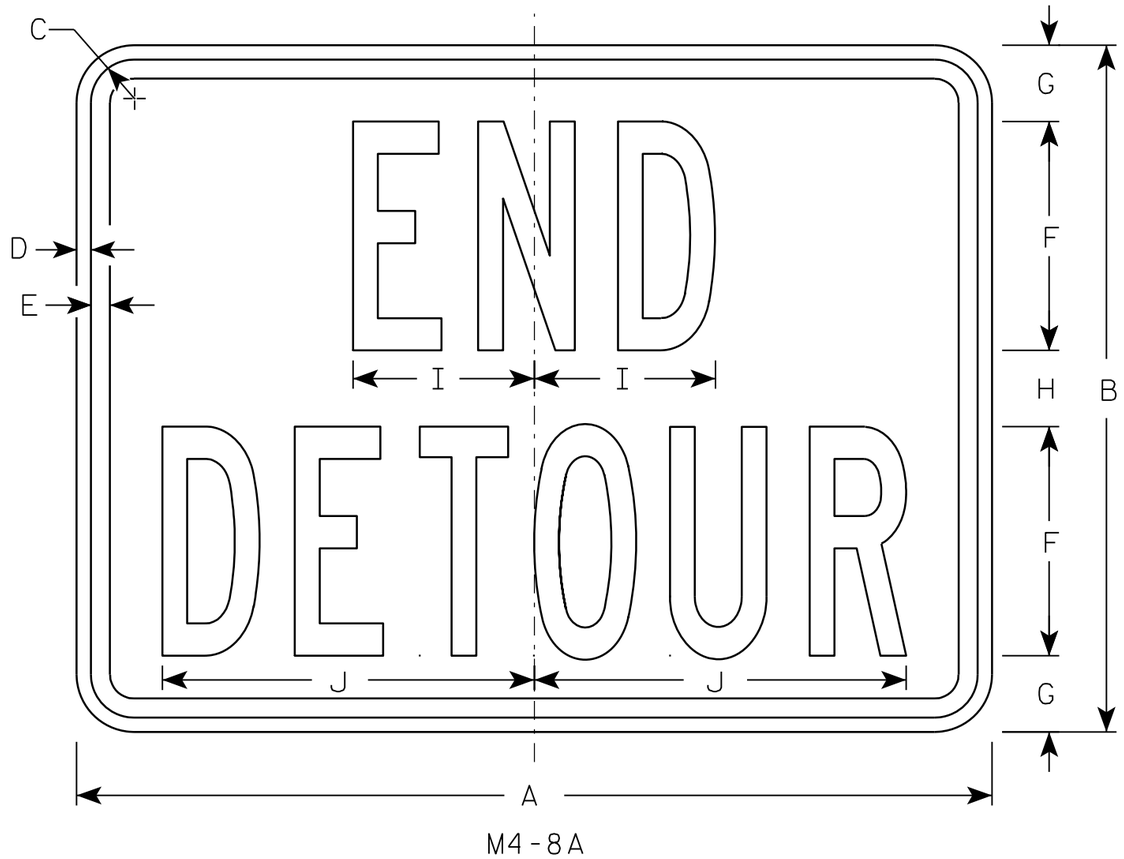
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 146	E



M4-8A

NOTES

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

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	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

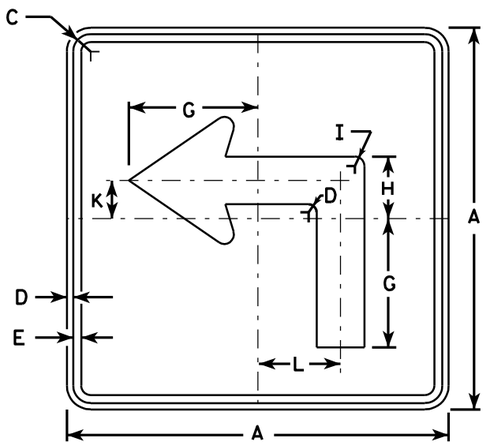
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

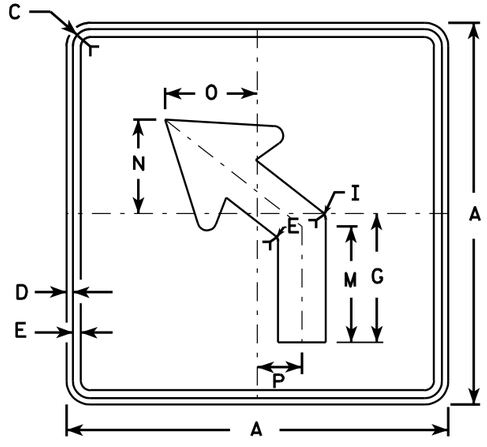
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

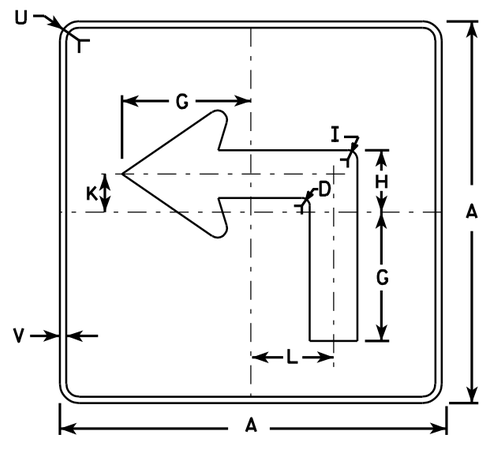
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 147	E



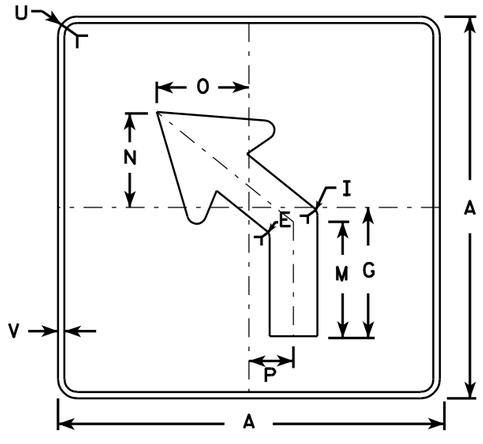
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



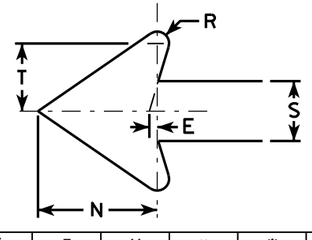
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



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



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



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H 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 - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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	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
3	30		1 3/8	1/2	5/8		10 1/8	4 1/8	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
4	30		1 3/8	1/2	5/8		10 1/8	4 1/8	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
5	30		1 3/8	1/2	5/8		10 1/8	4 1/8	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

STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

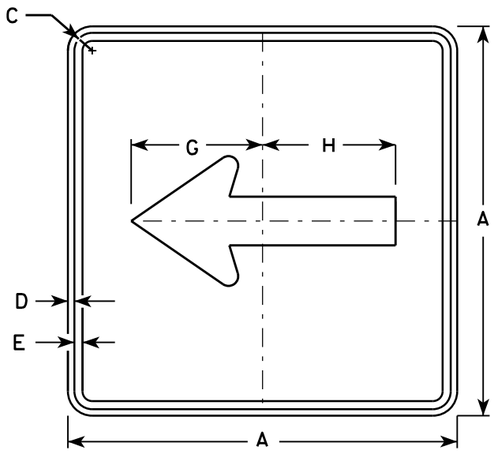
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

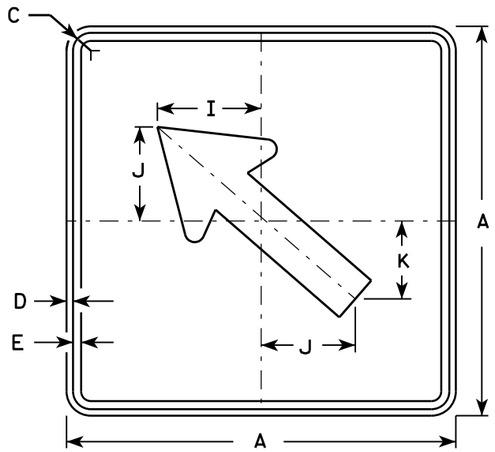
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 148 | E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 29-JUL-2013 13:34 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.908552:1.000000
WISDOT/CADDS SHEET 42



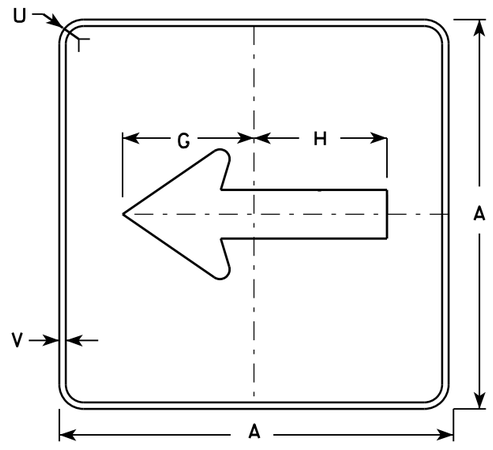
M6-1
MK6-1
MM6-1
MN6-1
MO6-1
MP6-1
MR6-1



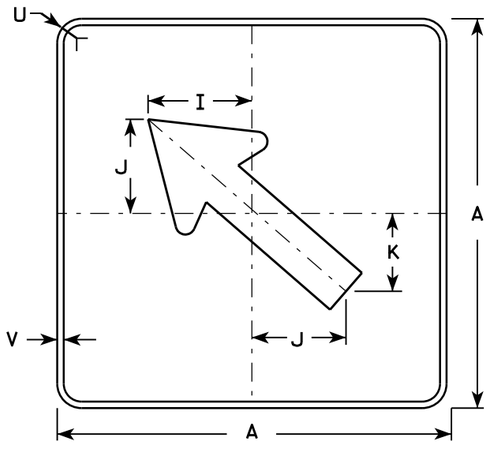
M6-2
MK6-2
MM6-2
MN6-2
MO6-2
MP6-2
MR6-2

NOTES

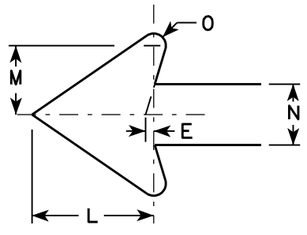
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MG6-1 and MG6-2 Background - Green
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1



MB6-2



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																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

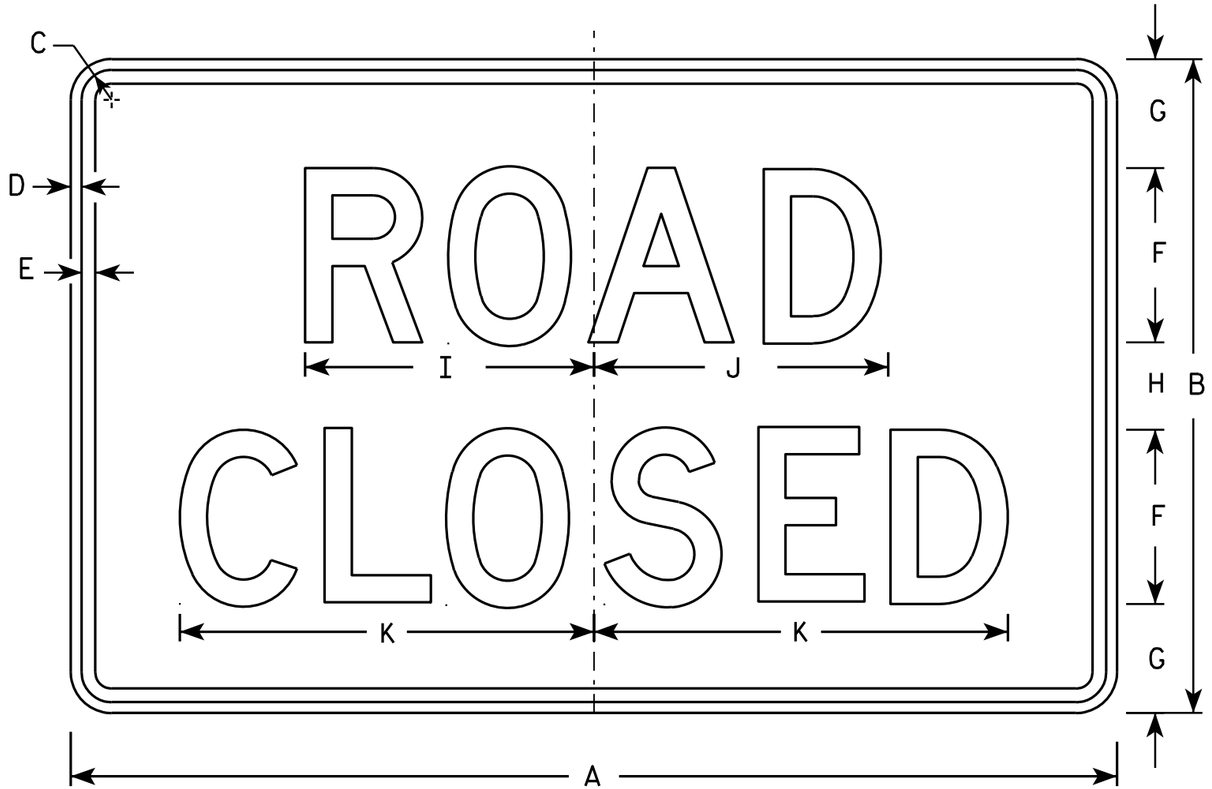
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/03/14 PLATE M6-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

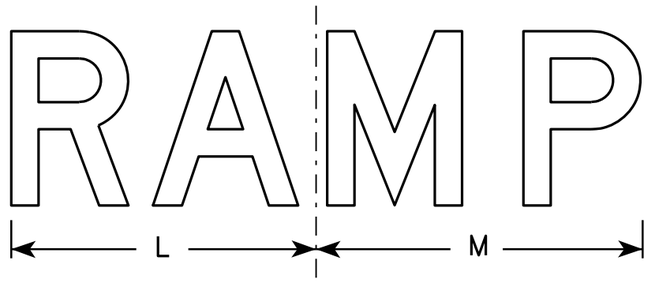
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 03-JUL-2014 14:28 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000
WISDOT/CADDS SHEET 42



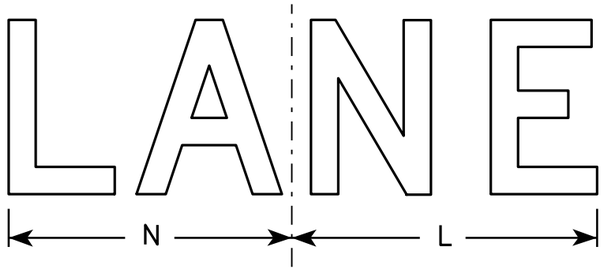
R11-2

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.
5. Modify the message as required.



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

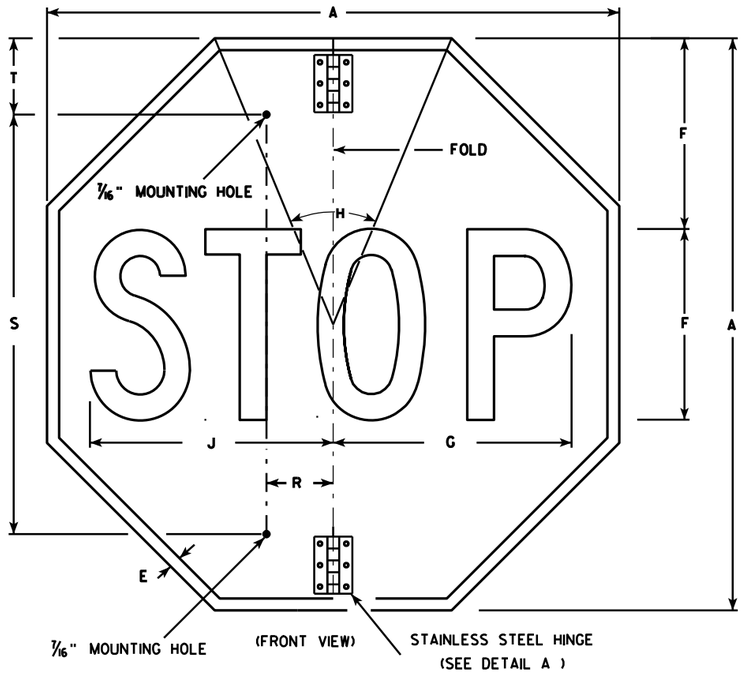
STANDARD SIGN
R11-2

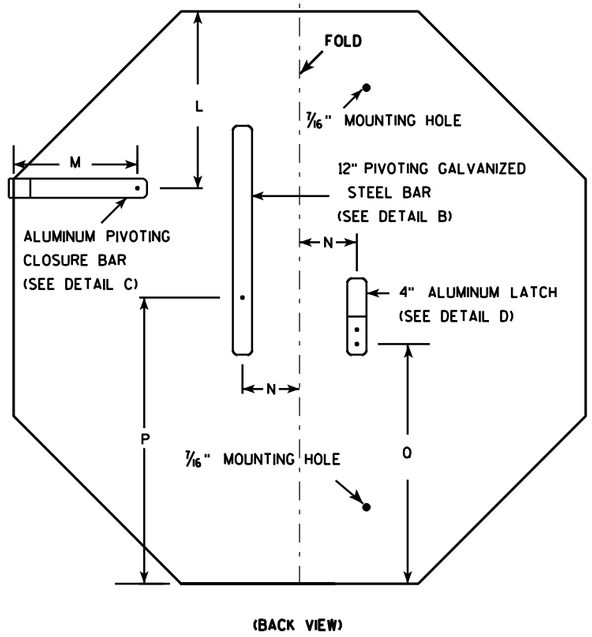
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

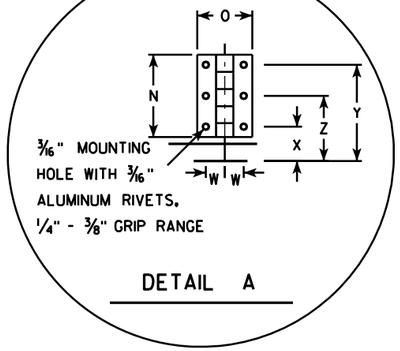
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 150	E



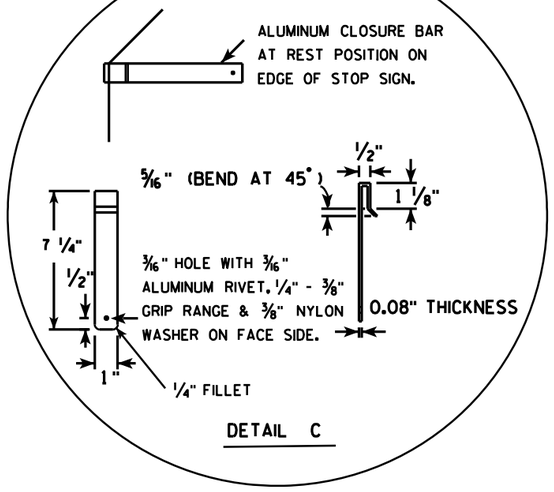


NOTES

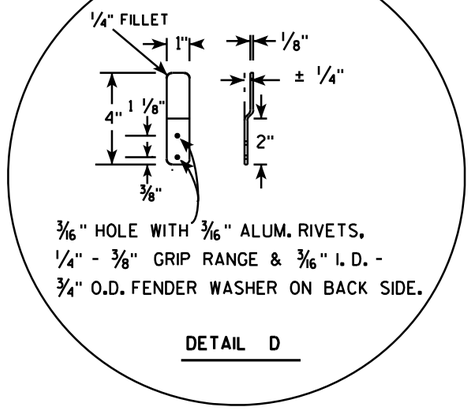
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



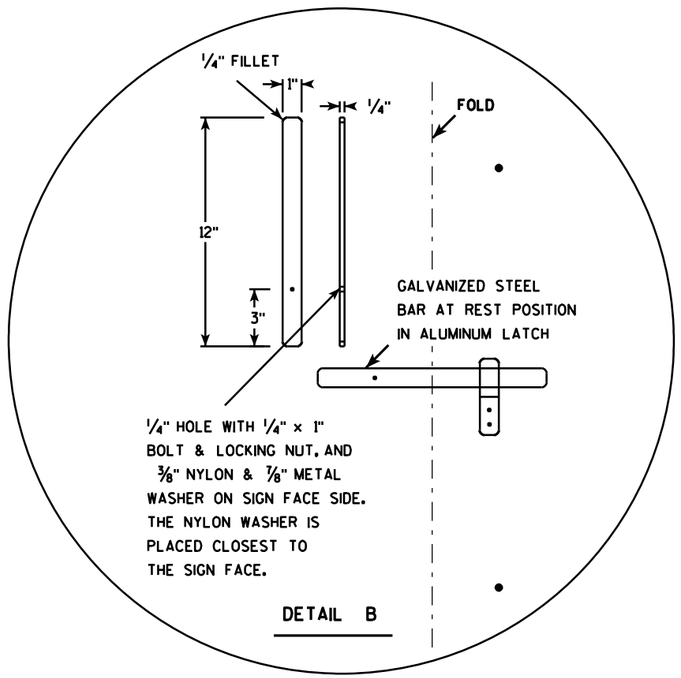
DETAIL A



DETAIL C



DETAIL D



DETAIL B

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				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

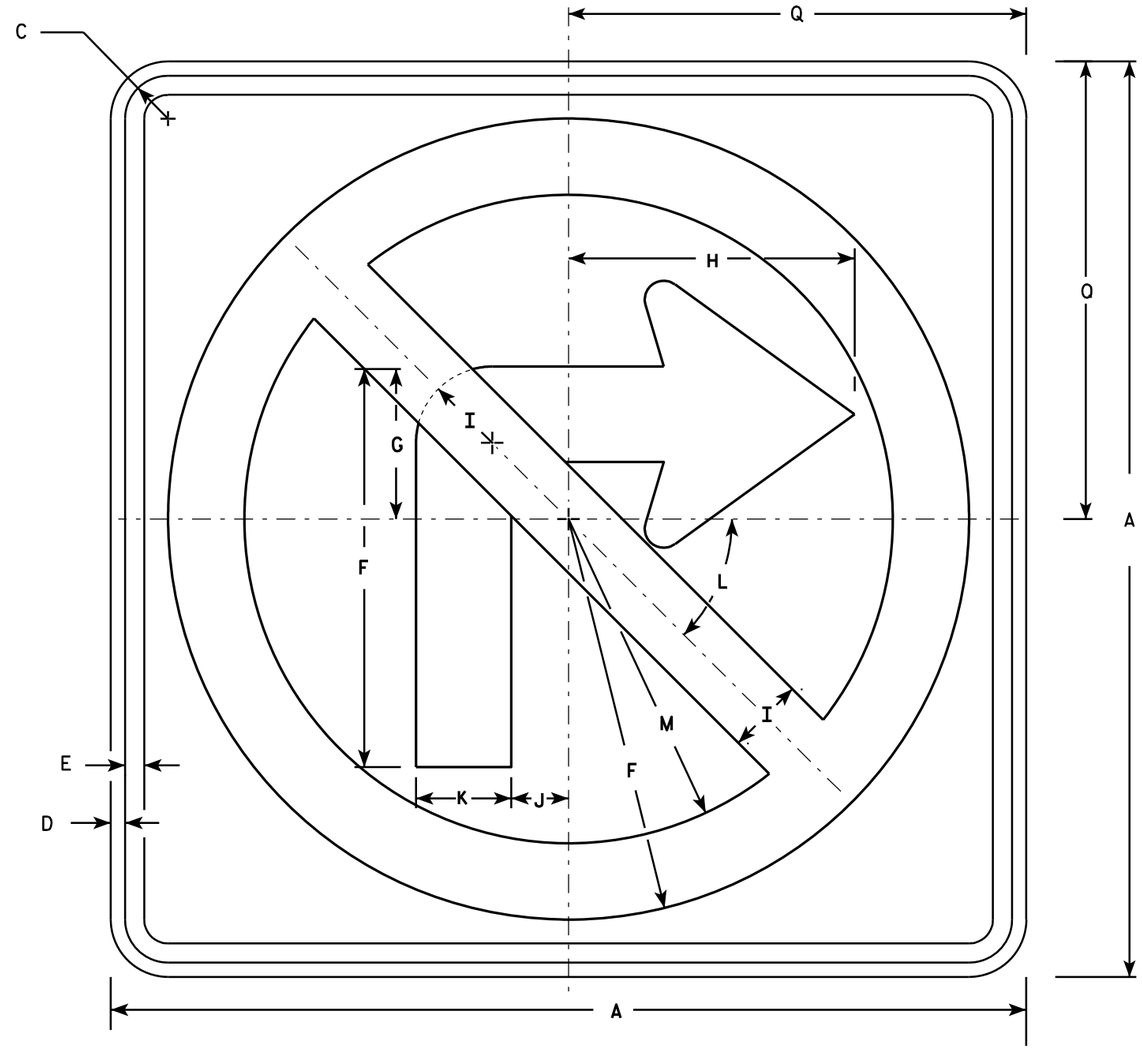
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

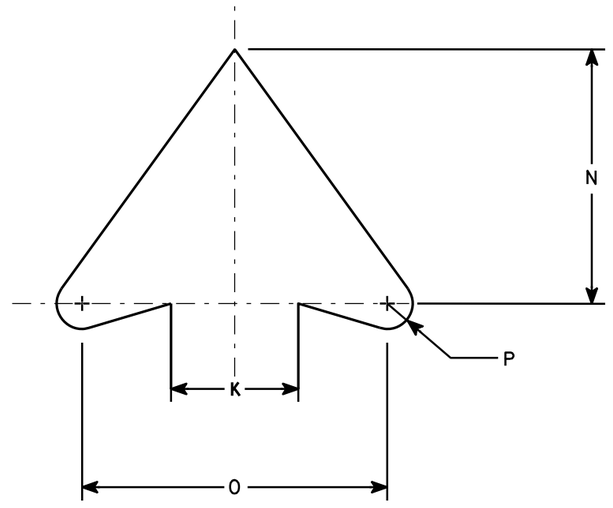
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 151	E



R3-1

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 - 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

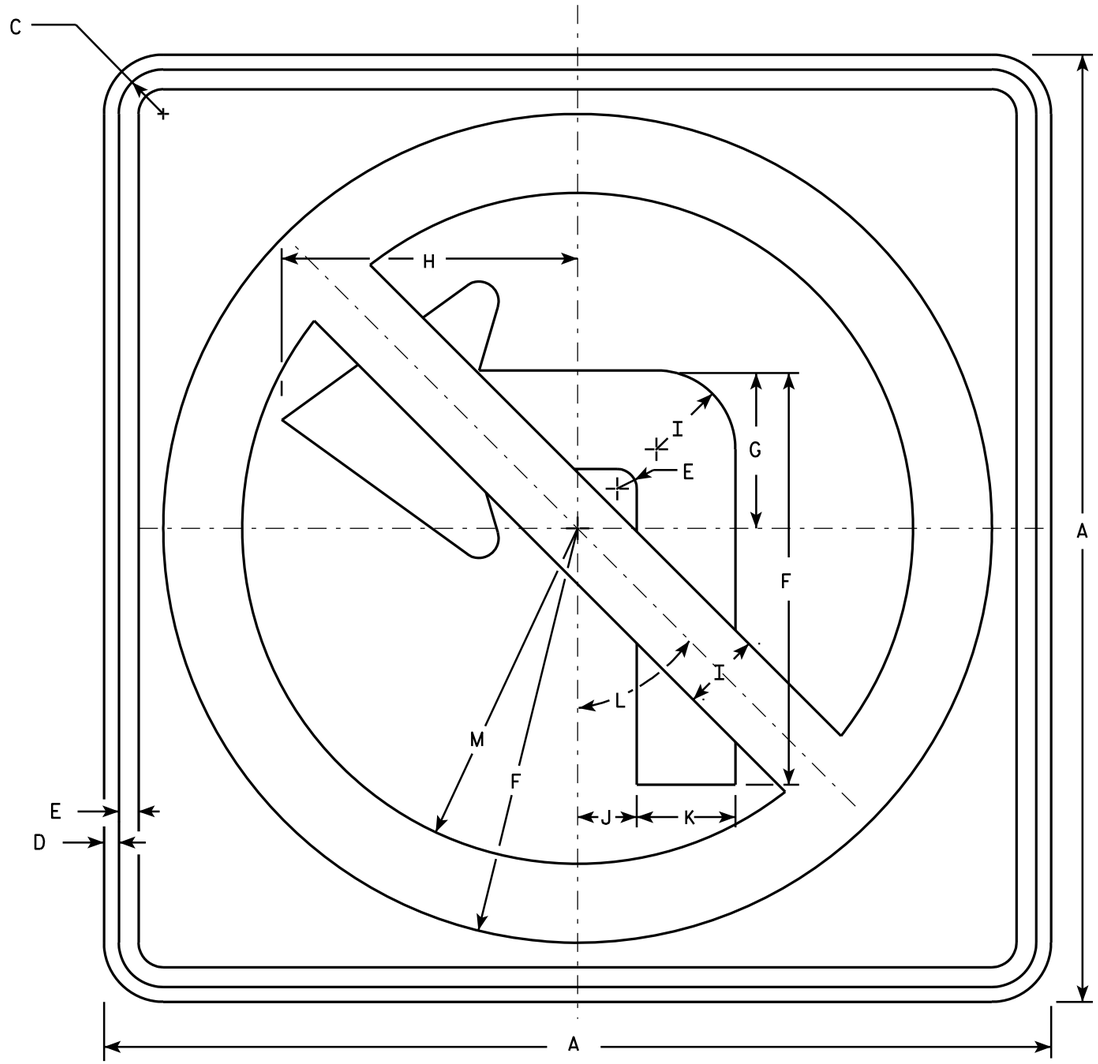
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

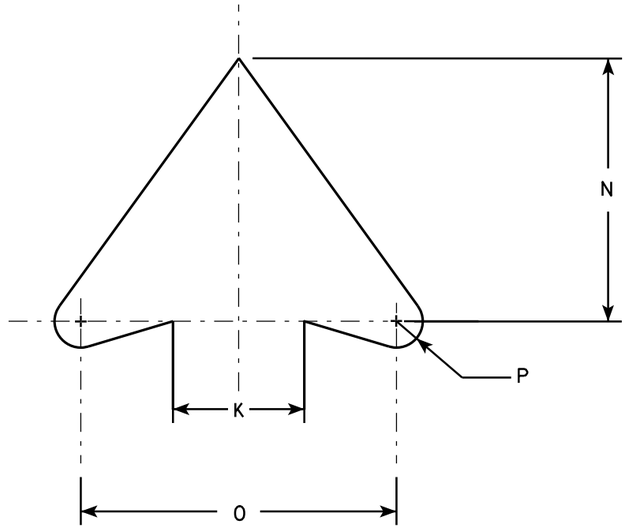
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 152	E



R3-2

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 - 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											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											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											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											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											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

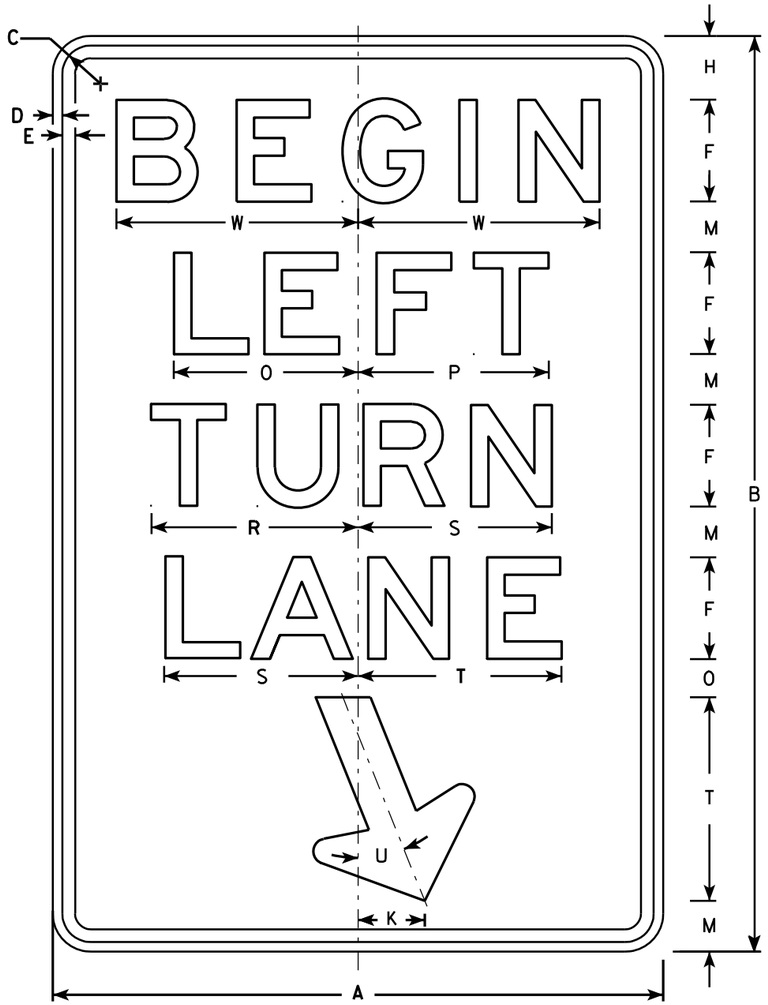
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

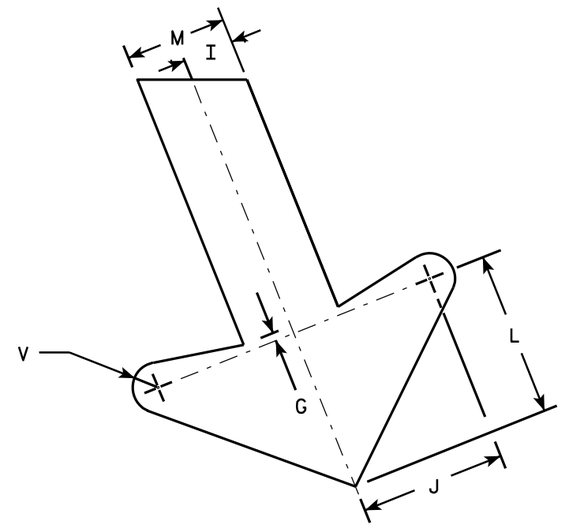
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 153 | E



R3-20L

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	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																											

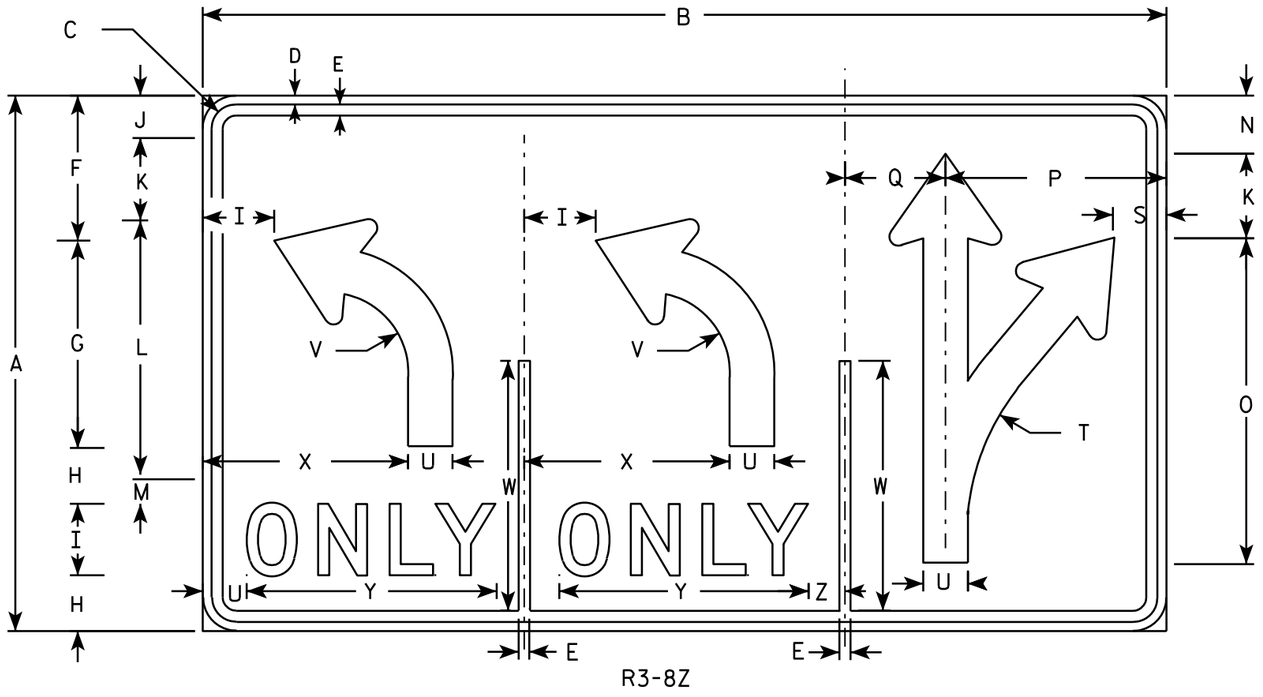
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

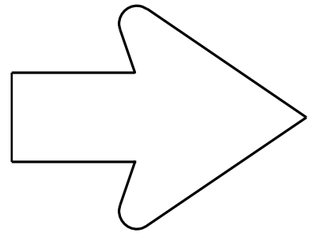
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 154 | E



R3-8Z

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.



SEE R3-8 FOR 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	30	54	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	3 1/4	18 1/4	12 3/8	5 5/8		3	13 1/4	2 1/2	4 1/2	14	11 1/2	14	2	11.25
2M	30	54	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	3 1/4	18 1/4	12 3/8	5 5/8		3	13 1/4	2 1/2	4 1/2	14	11 1/2	14	2	11.25
3																											
4	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7	29 1/8	2 7/8	5 1/4	29 1/8	18 5/8	8 3/4		4 3/8	21 7/8	3 3/4	7 1/4	22 3/8	17 1/4	20 5/8	3 1/4	28.0
5	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7	29 1/8	2 7/8	5 1/4	29 1/8	18 5/8	8 3/4		4 3/8	21 7/8	3 3/4	7 1/4	22 3/8	17 1/4	20 5/8	3 1/4	28.0

STANDARD SIGN
R3-8Z

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8Z.2

PROJECT NO:

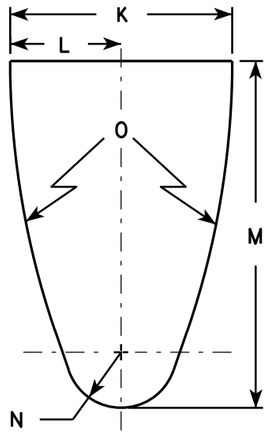
SHEET NO: 155 E

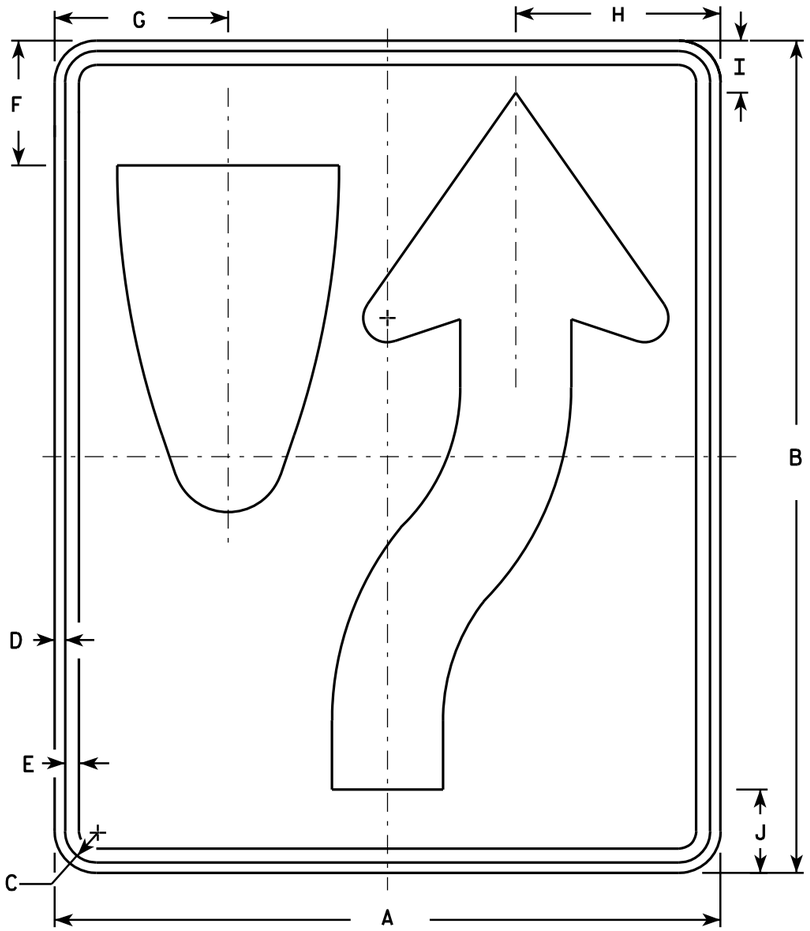
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R38Z.DGN PLOT DATE : 24-MAR-2011 10:48 PLOT BY : mscsja PLOT NAME :

WISDOT/CADDS SHEET 42

7

7

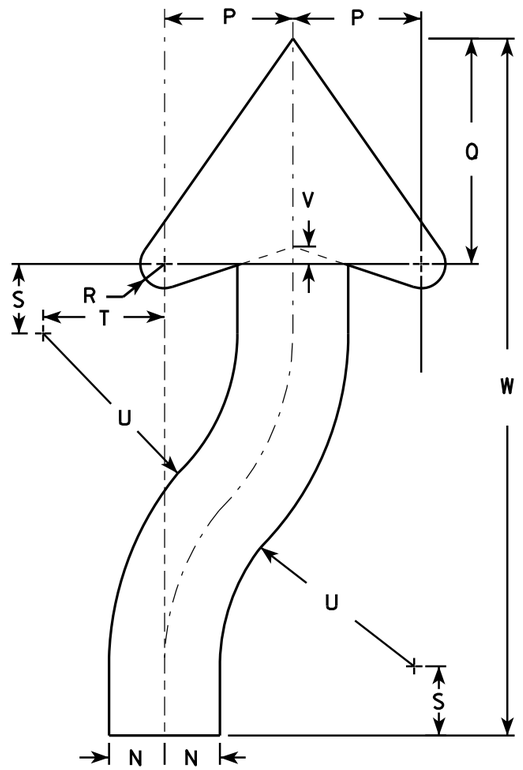




R4-7

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.



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

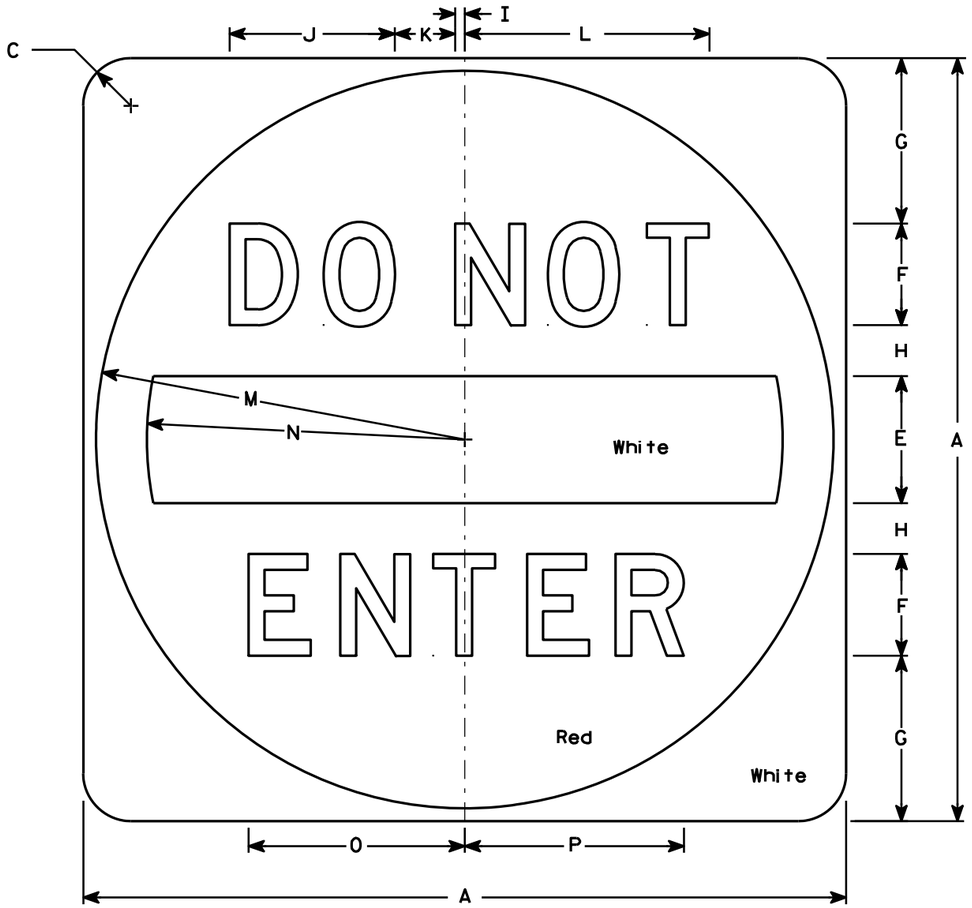
STANDARD SIGN
R4-7 & R4-8

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: 156	E



R5-1

NOTES

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

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

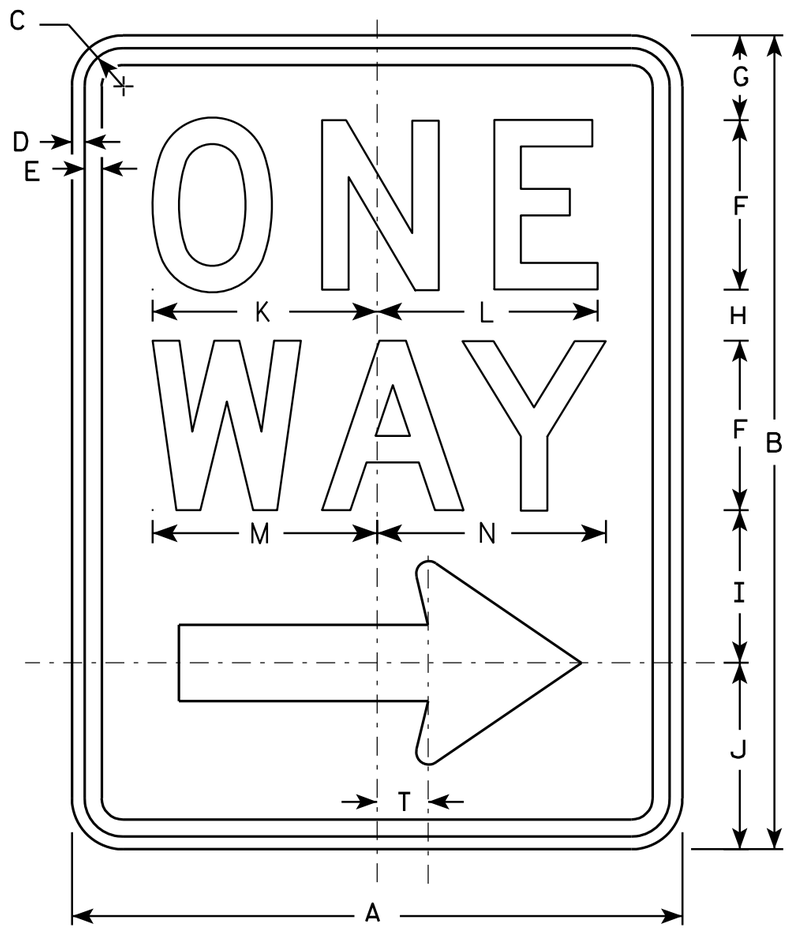
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

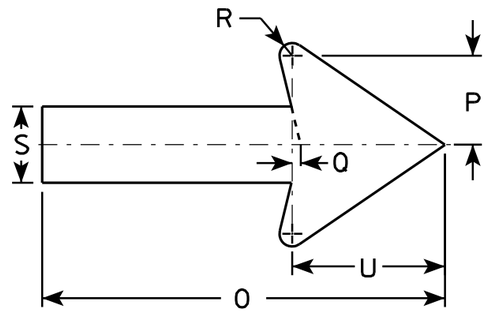
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 157 | E



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.



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																										

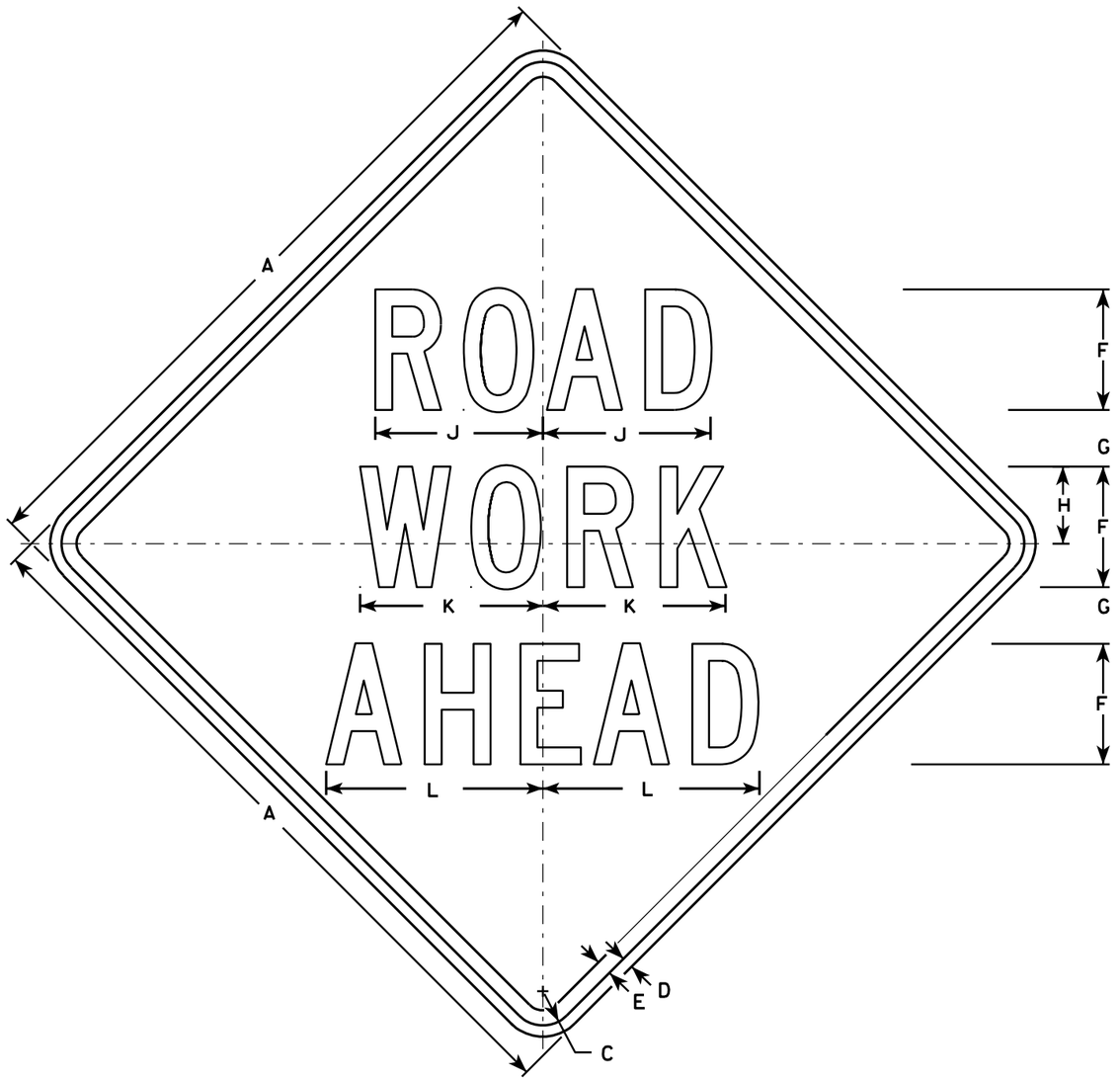
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

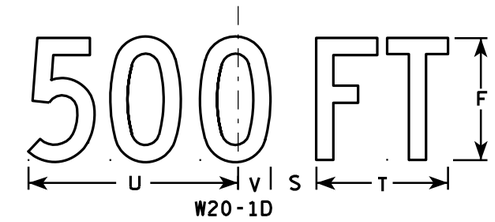
APPROVED Matthew R Rauch
for State Traffic Engineer

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

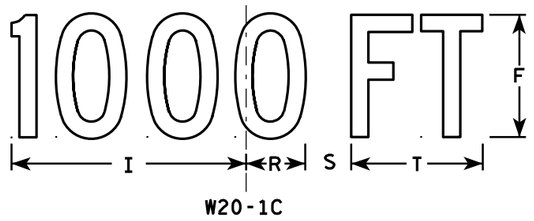
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 158	E



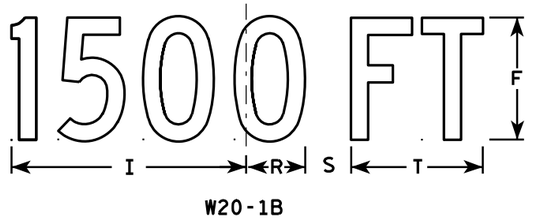
W20-1A



W20-1D

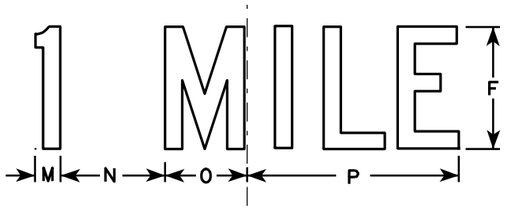


W20-1C



W20-1B

W20-1G



W20-1F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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	1 7/8	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		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		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		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		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		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 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

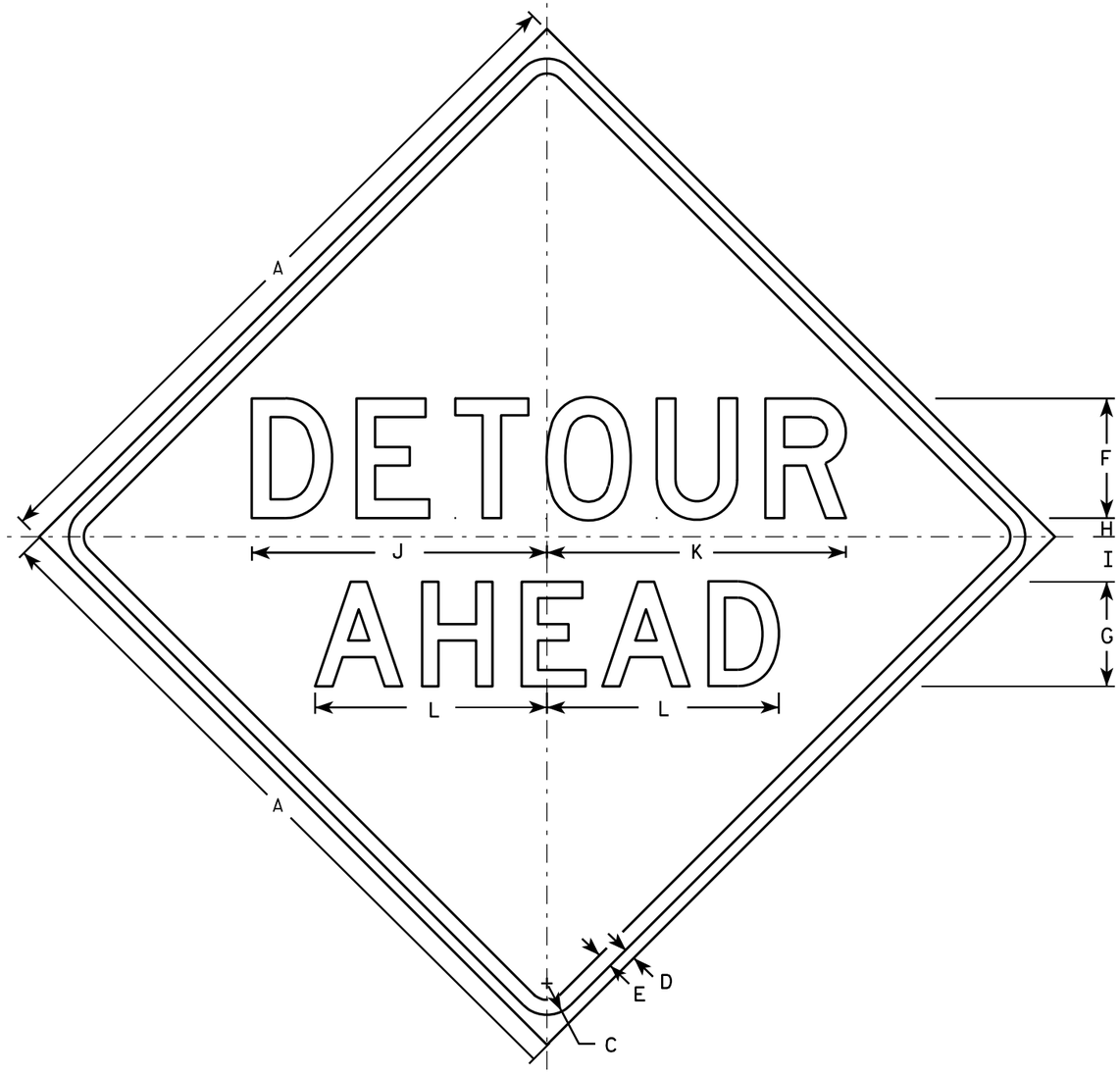
SHEET NO: 159 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

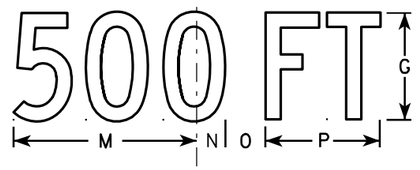
WISDOT/CADDS SHEET 42

7

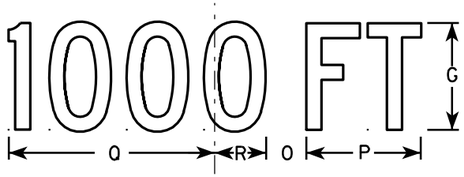
7



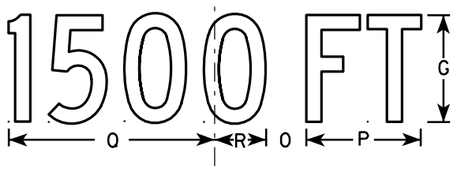
W20-2A



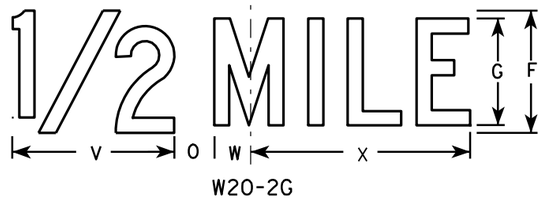
W20-2D



W20-2C



W20-2B



W20-2G

W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

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	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

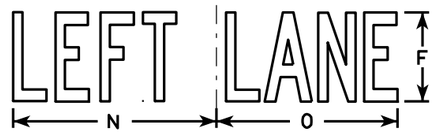
DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 160 | E

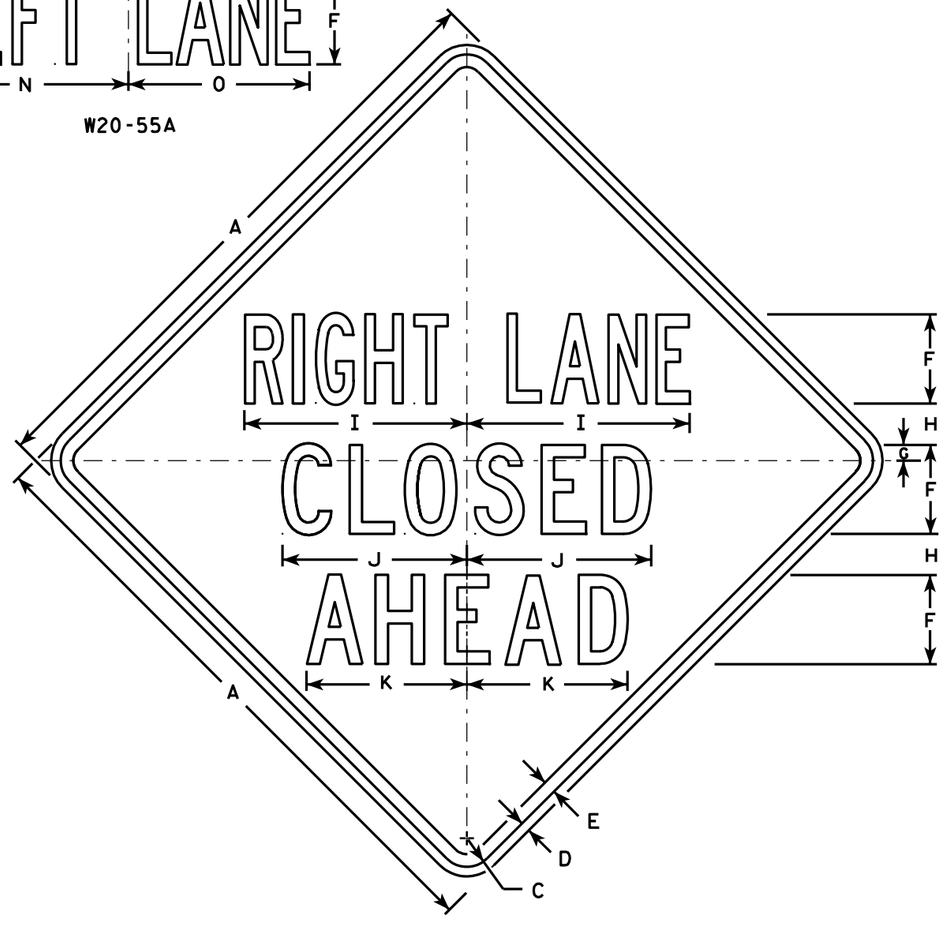
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

WISDOT/CADDS SHEET 42

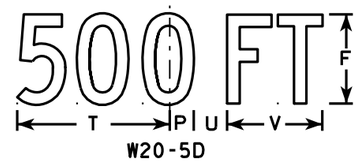
W20-56A



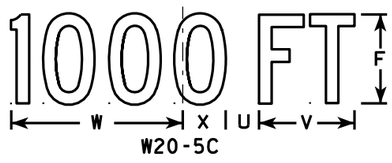
W20-55A



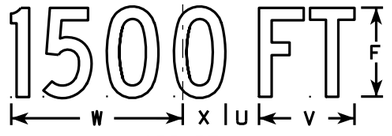
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   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. " _____ LANE" is Series B.
   All other copy is Series C.

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	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

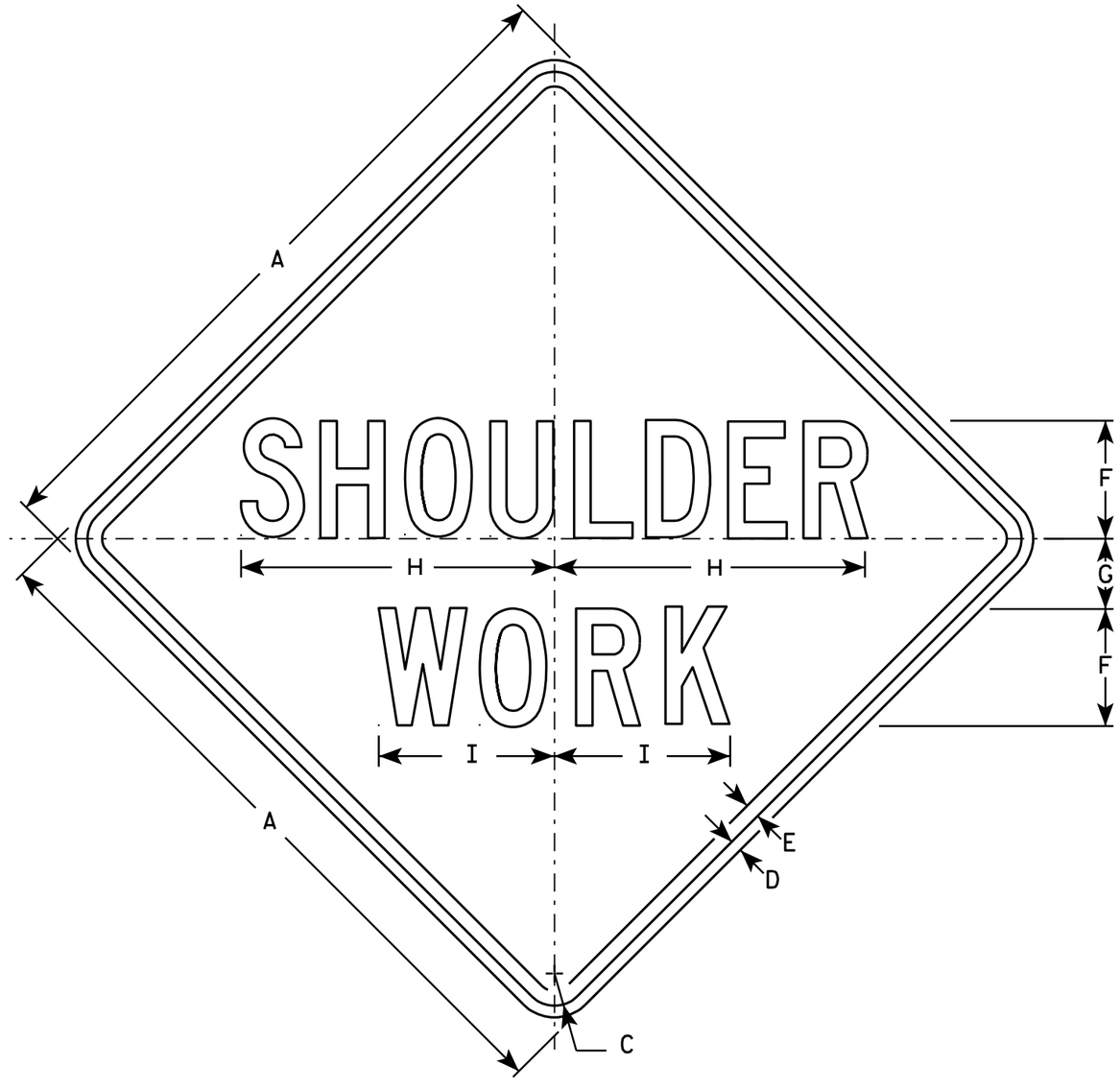
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 161 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W21-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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	24		1 1/8	3/8	1/2	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN
W21-5

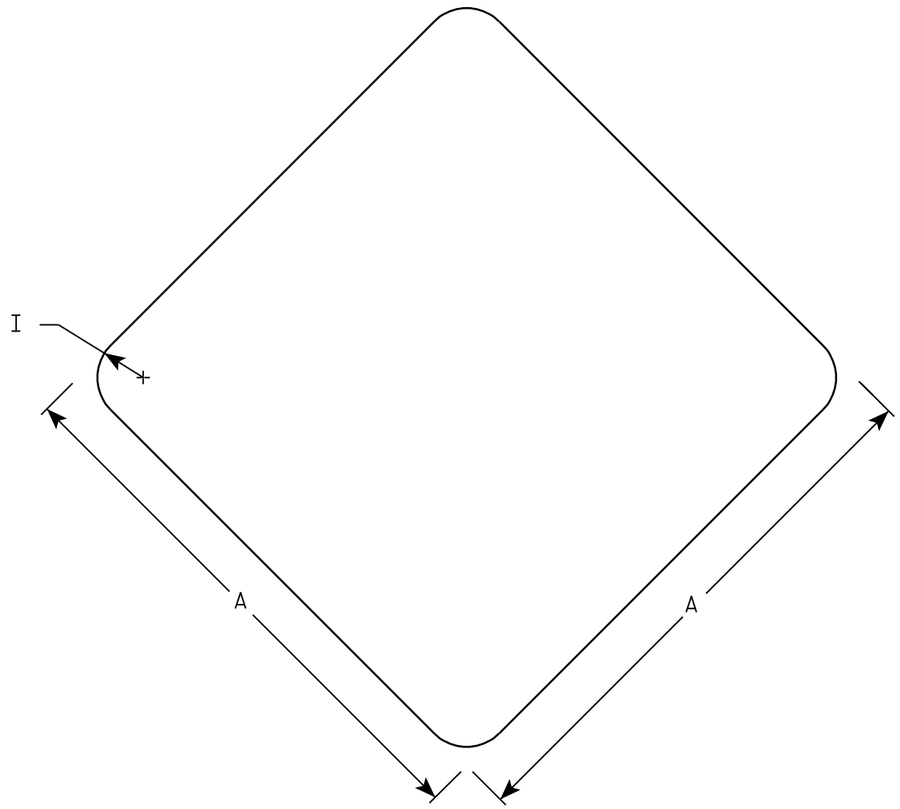
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 162 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W215.DGN PLOT DATE : 21-MAR-2011 08:01 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.207338:1.000000
WISDOT/CADDS SHEET 42



W5-54

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
3. Corners may be square or rounded when base material is plywood. When base material is metal the corners 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	12								1																		1.0
2S	18								1 ½																		2.25
2M	18								1 ½																		2.25
3																											
4																											
5																											

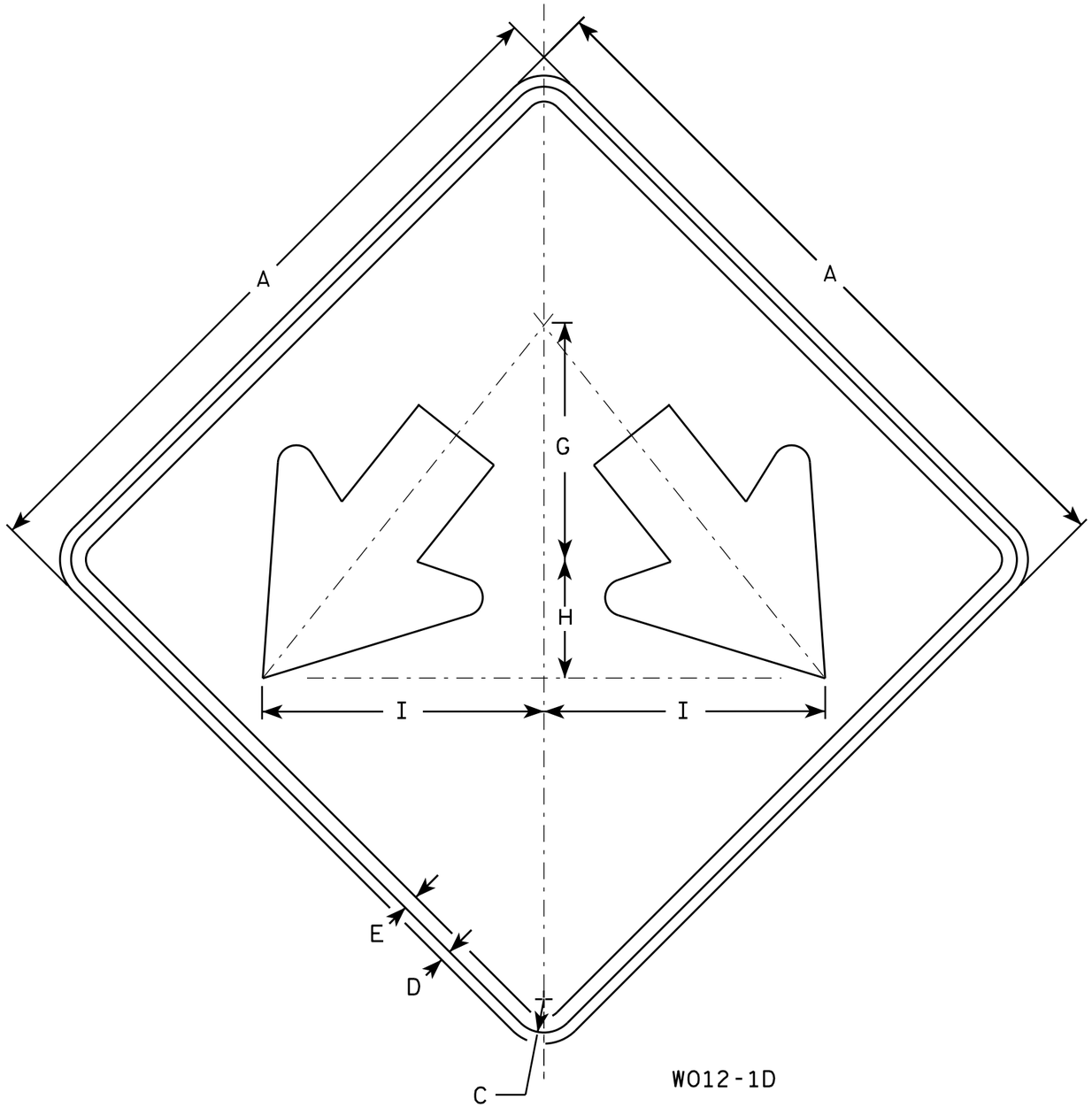
STANDARD SIGN
W5-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/3/10 PLATE NO. W5-54.8

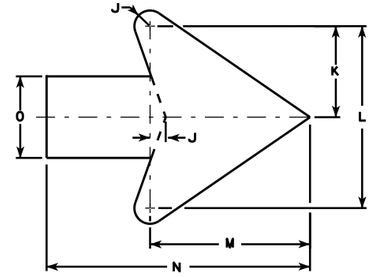
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 163 | E



W012-1D

NOTES

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



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	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
2S	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
2M	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
3	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
4	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
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

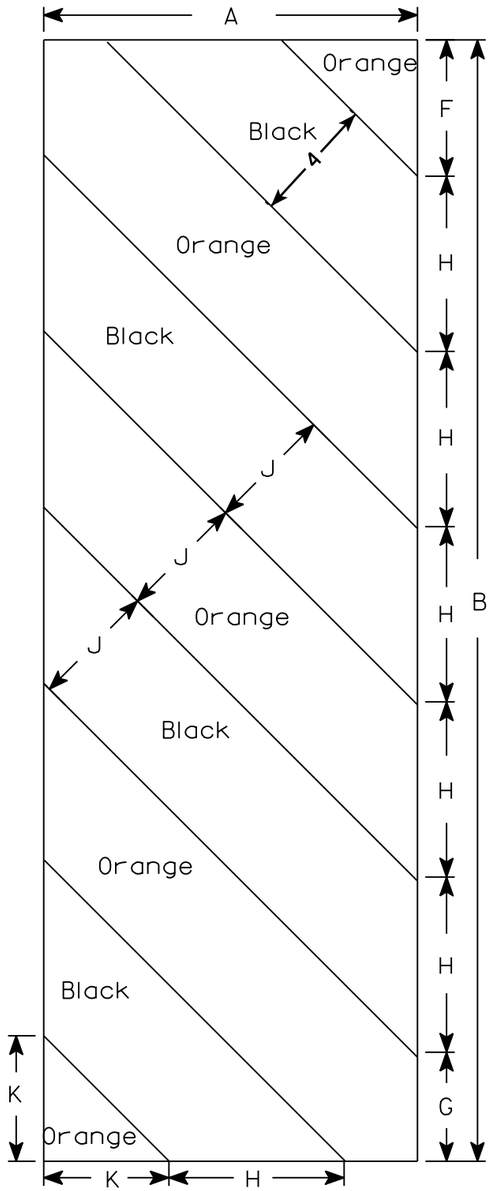
STANDARD SIGN
W012-1D

WISCONSIN DEPT OF TRANSPORTATION

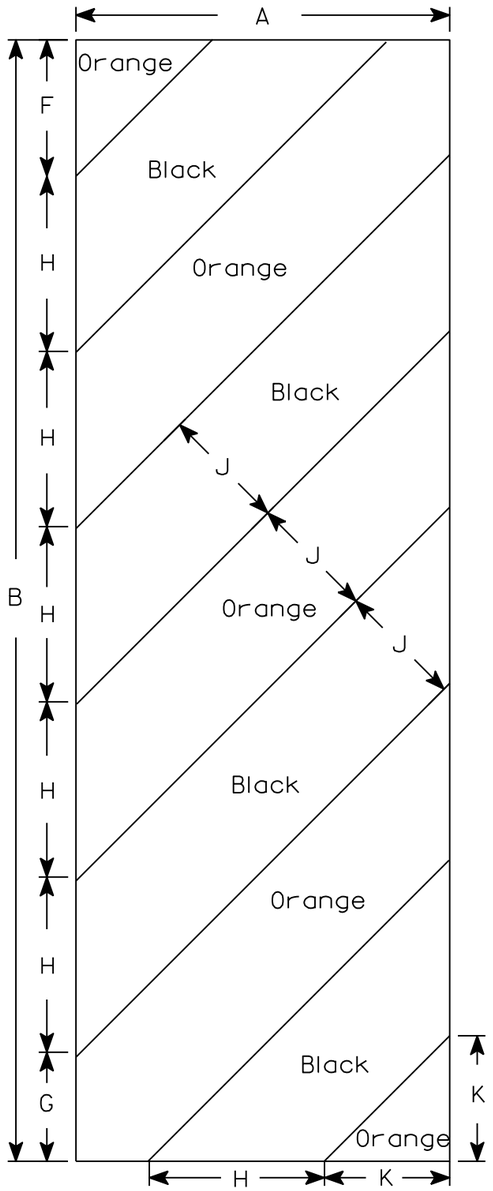
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 164 W012-1D.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W05-52L



W05-52R

NOTES

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

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

STANDARD SIGN

W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W0552.DGN PLOT DATE : 28-FEB-2014 11:39 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.864607:1.000000 WISDOT/CADDS SHEET 42

X-LINE EARTHWORK

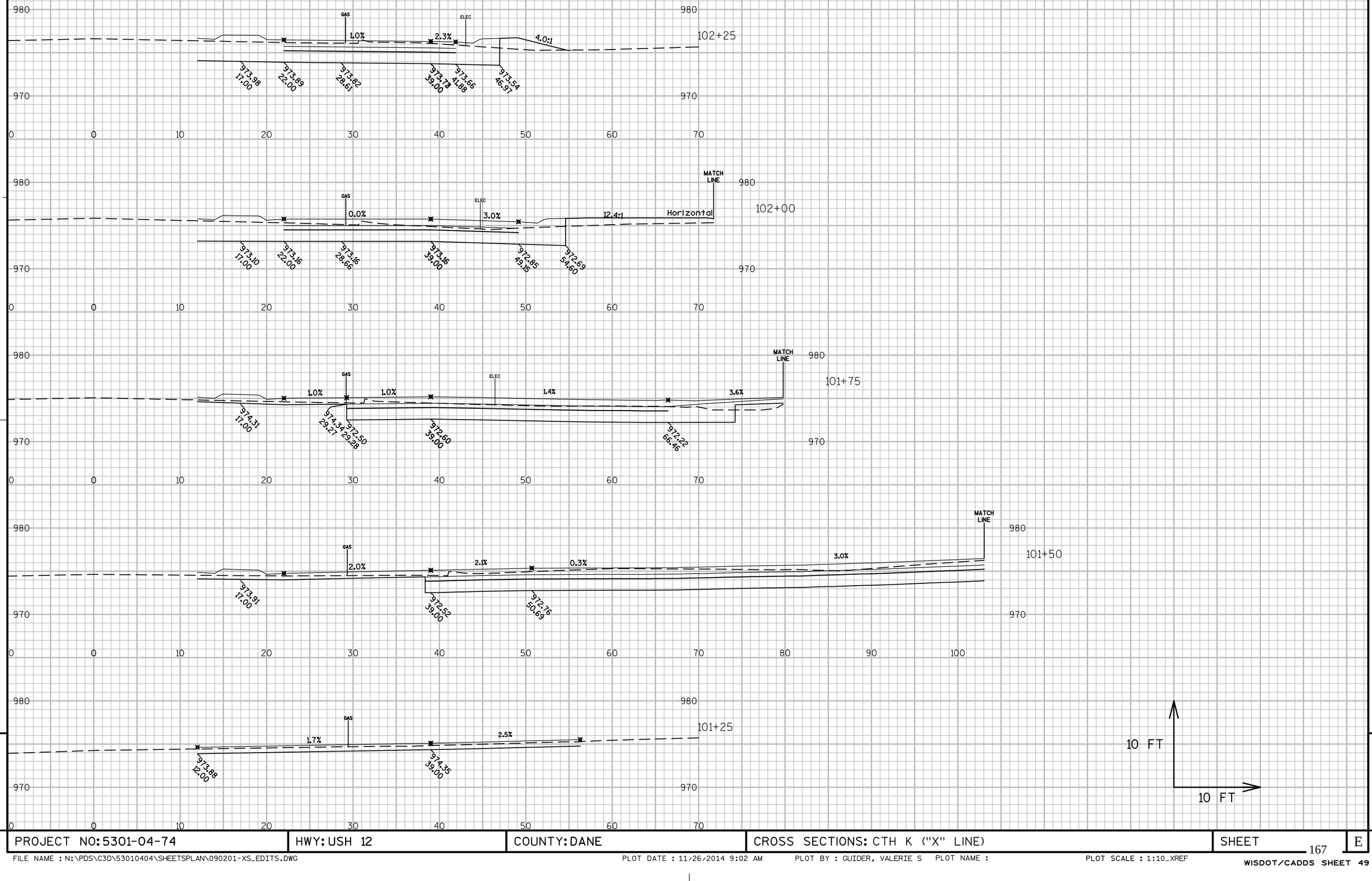
Station CTH K (X-Line)	Cut Area (SF)	Fill Area (SF)	Incremental Cut Volume (CY)	Incremental Fill Volume (CY)	Cumulative Cut Volume (CY)	Cumulative Fill Volume (CY)	Mass Ordinate (CY)
101+25	0	0	0	0	0	0	0
101+50	139	0	64	0	64	0	64
101+75	82	3	102	2	167	2	165
102+00	63	12	67	7	234	9	225
102+25	58	7	56	9	290	18	272
102+50	55	5	52	5	342	23	319
102+75	51	1	49	3	391	26	365
103+00	53	0	48	0	439	26	413
103+25	68	1	56	0	495	26	469
103+50	69	1	63	1	559	27	532
103+75	67	1	63	1	622	28	594
104+00	64	0	61	0	682	28	654
104+25	64	0	59	0	742	28	713
104+50	60	0	57	0	799	28	771
104+75	53	0	52	0	851	28	823
105+00	46	0	46	0	897	28	869
105+25	35	0	38	0	935	28	906
105+49	0	0	16	0	950	28	922

Earthwork Values in table have not been expanded.
Fill Expansion Factor for Common Excavation = 1.25

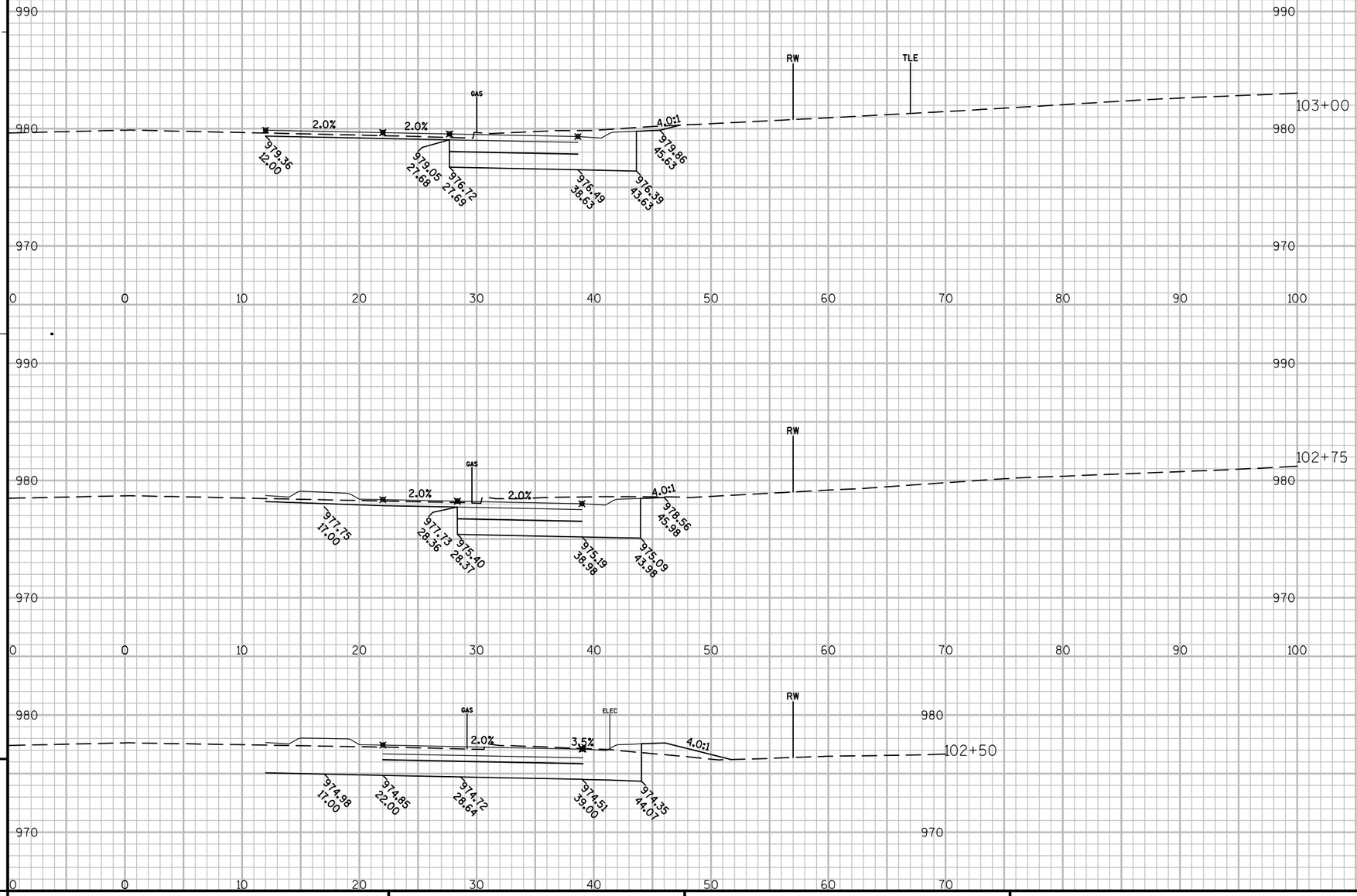
BP-LINE EARTHWORK

STATION Bike Path (BP-Line)	Cut Area (SF)	Fill Area (SF)	Incremental Cut Volume (CY)	Incremental Fill Volume (CY)	Cumulative Cut Volume (CY)	Cumulative Fill Volume (CY)	Mass Ordinate (CY)
00+08	2	18	0	0	0	0	0
00+15	3	17	1	4	1	4	-4
00+20	10	13	1	3	2	7	-5
00+25	45	11	5	2	7	9	-2
00+50	42	18	40	14	47	23	24
00+63	30	11	17	7	64	30	34
00+75	9	0	9	2	73	32	41
01+00	7	0	8	0	80	32	48
01+10	7	0	3	0	83	32	51
01+18	8	0	2	0	85	32	53

Earthwork Values in table have not been expanded.
Fill Expansion Factor for Common Excavation = 1.25

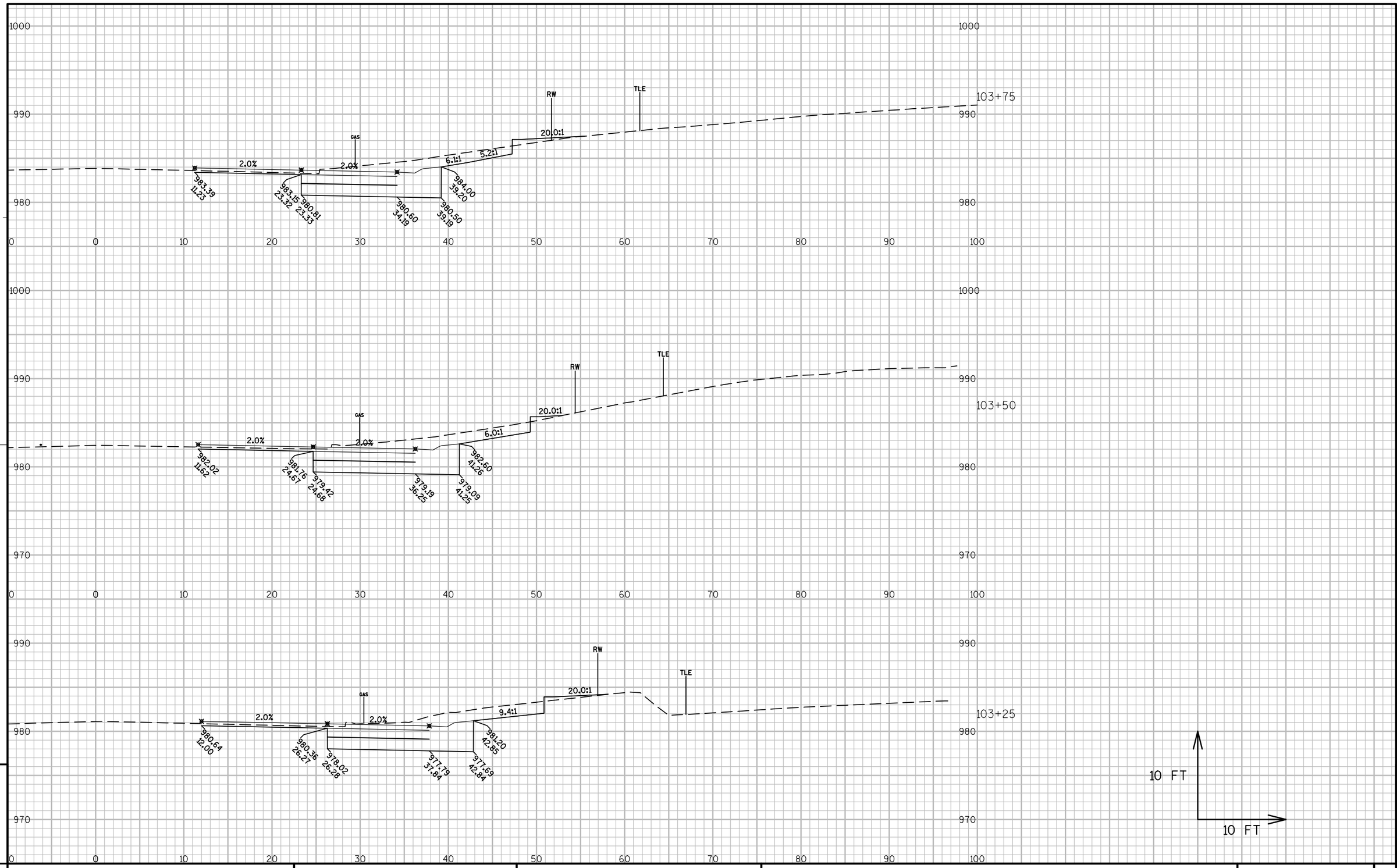


PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: CTH K ("X" LINE)	SHEET	E



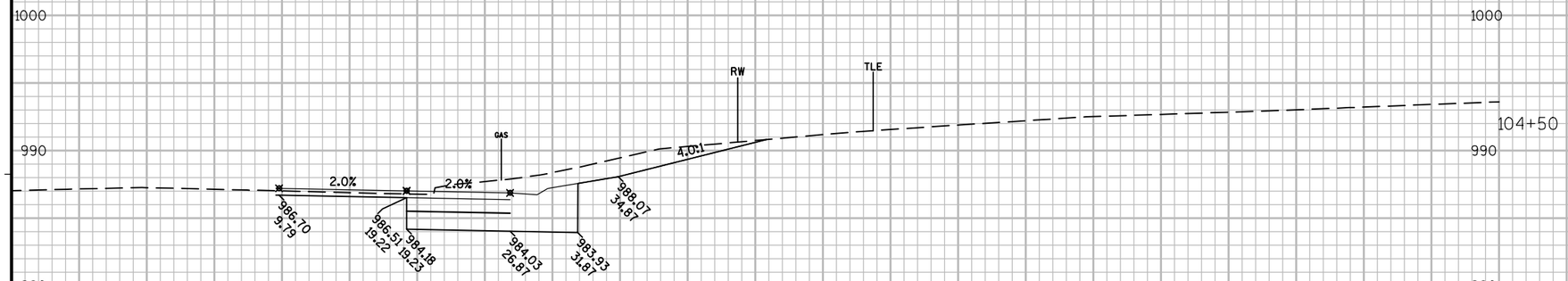
PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: CTH K ("X" LINE)	SHEET	E

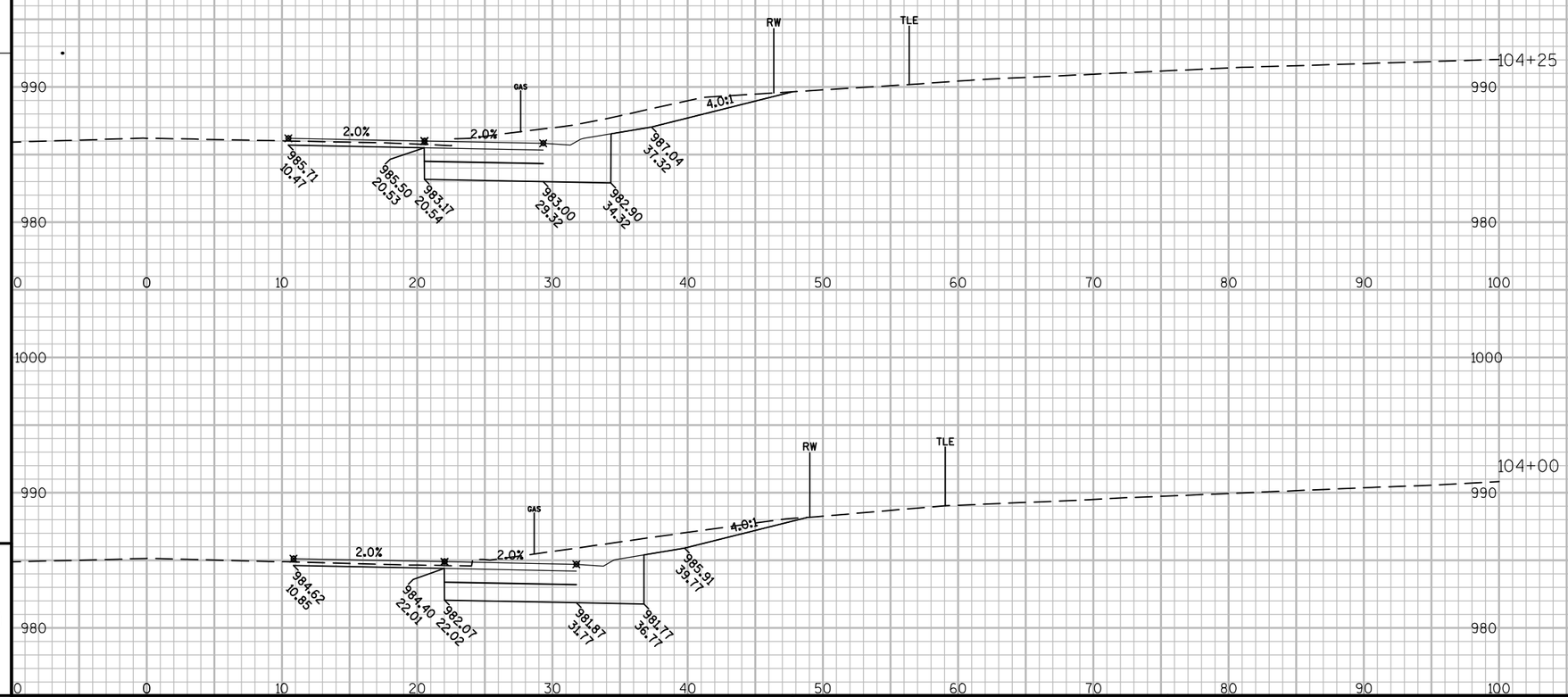
FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\090201-XS_EDITS.DWG PLOT DATE : 11/26/2014 9:02 AM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:10_XREF
WISDOT/CADDS SHEET 49

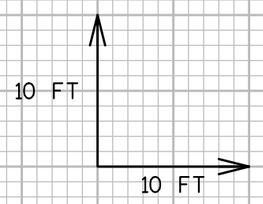


PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: CTH K ("X" LINE)	SHEET	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\090201-XS_EDITS.DWG PLOT DATE : 11/26/2014 9:02 AM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:10_XREF
WISDOT/CADDS SHEET 49







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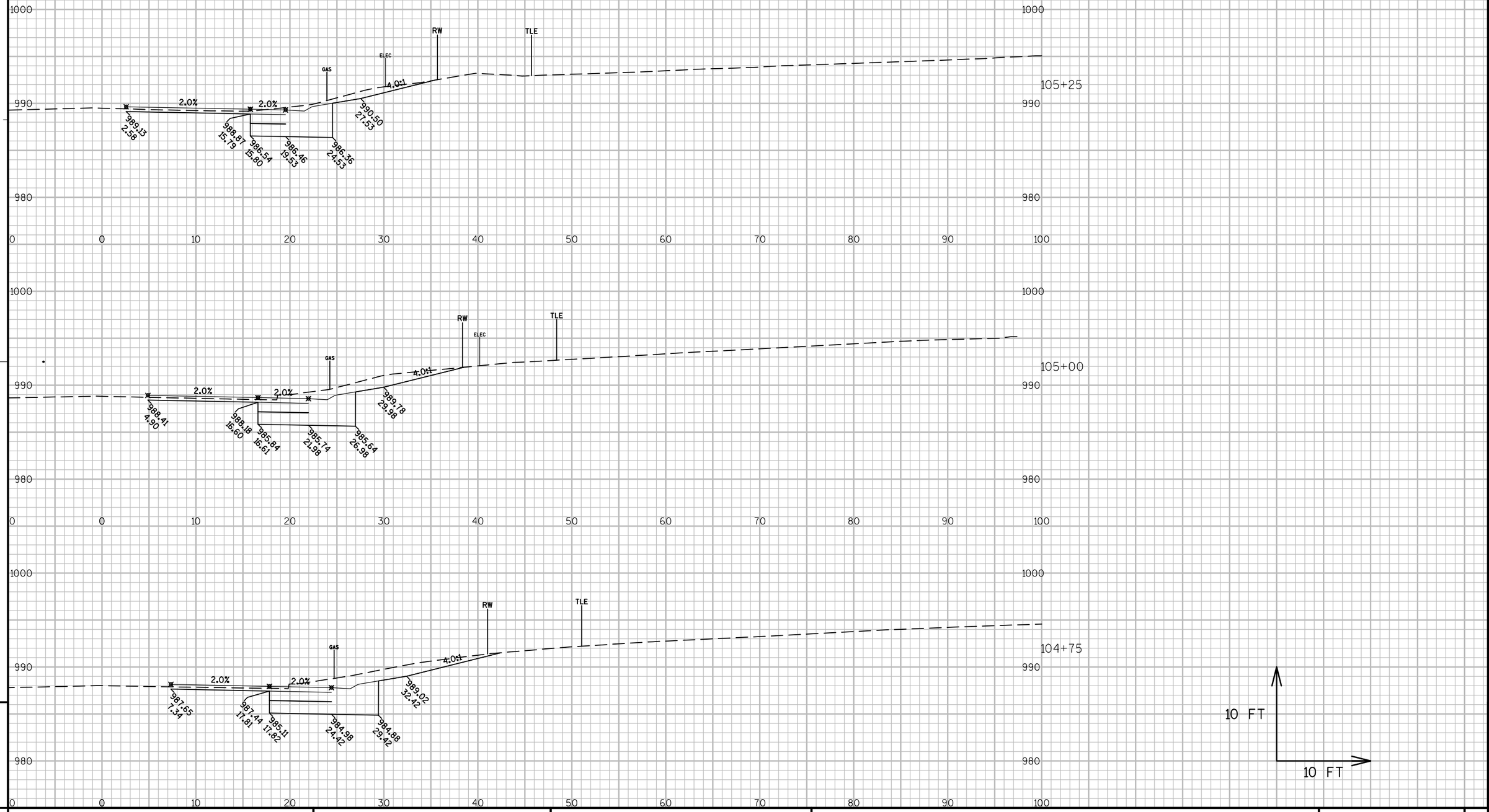
PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: CTH K ("X" LINE)	SHEET 170	E



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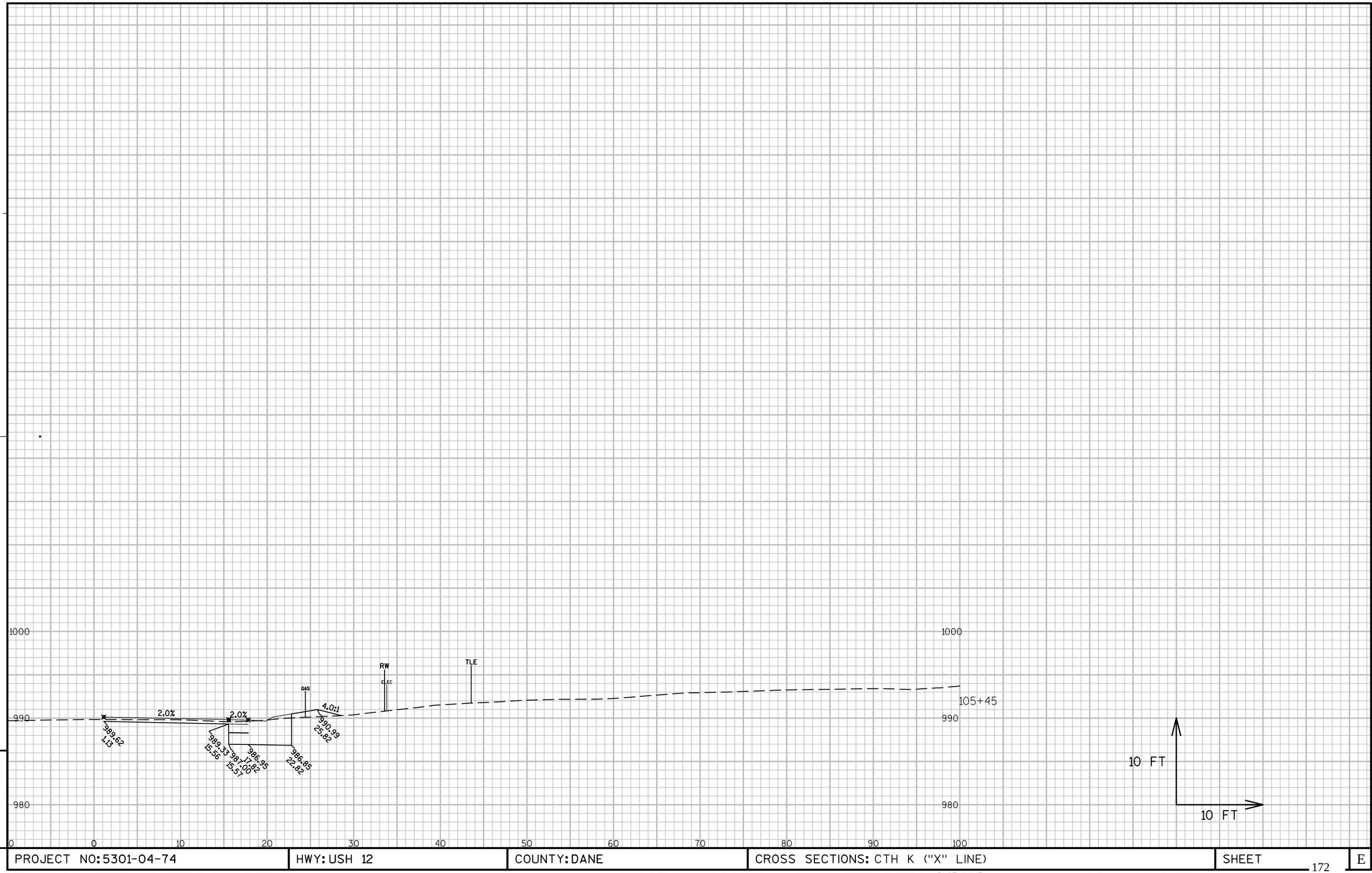
PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: CTH K ("X" LINE)	SHEET	E

9

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\090201-XS_EDITS.DWG PLOT DATE : 11/26/2014 9:03 AM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:10_XREF
WISDOT/CADDS SHEET 49



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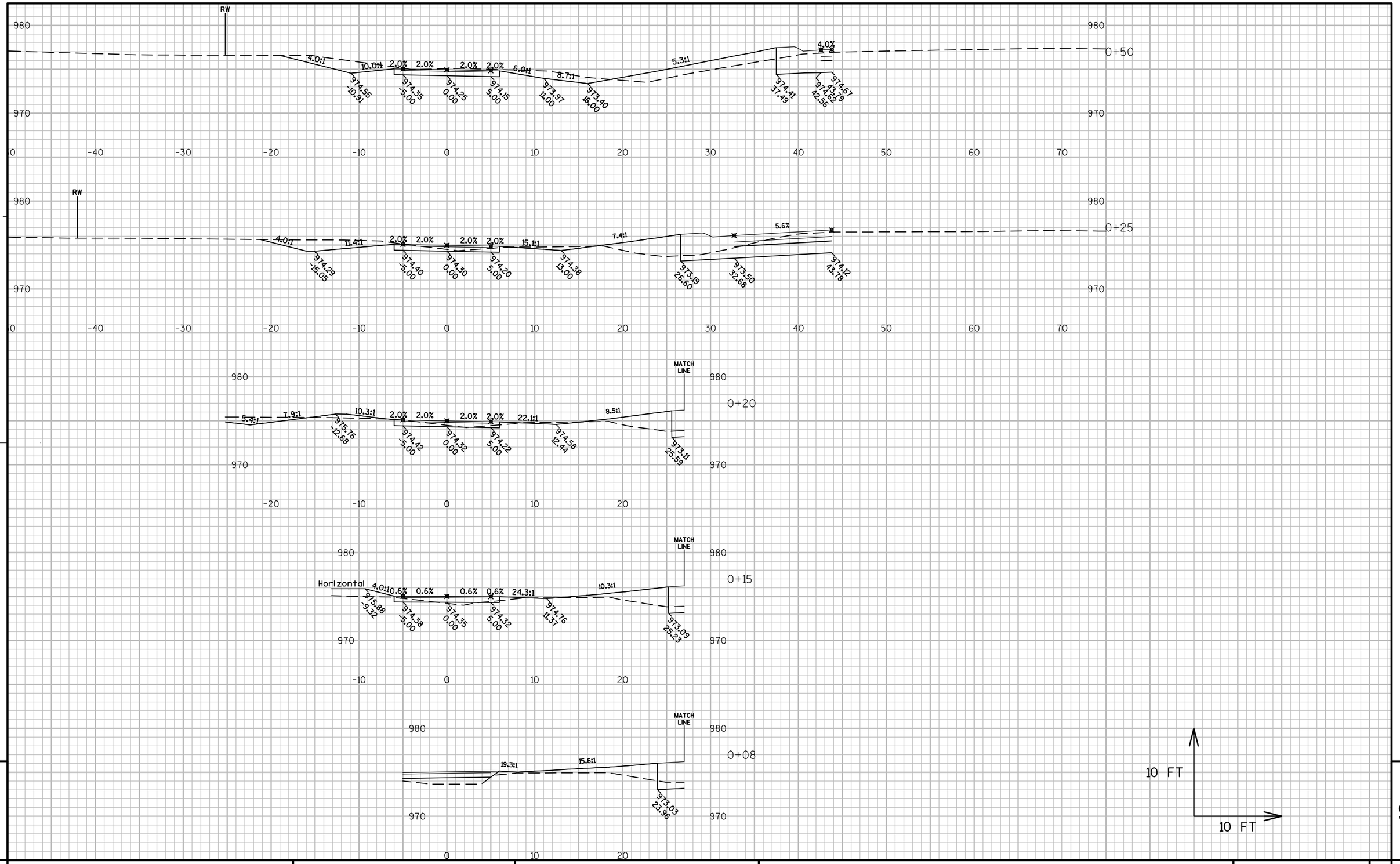
PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: CTH K ("X" LINE)	SHEET	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\090201-XS_EDITS.DWG PLOT DATE : 11/26/2014 9:03 AM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



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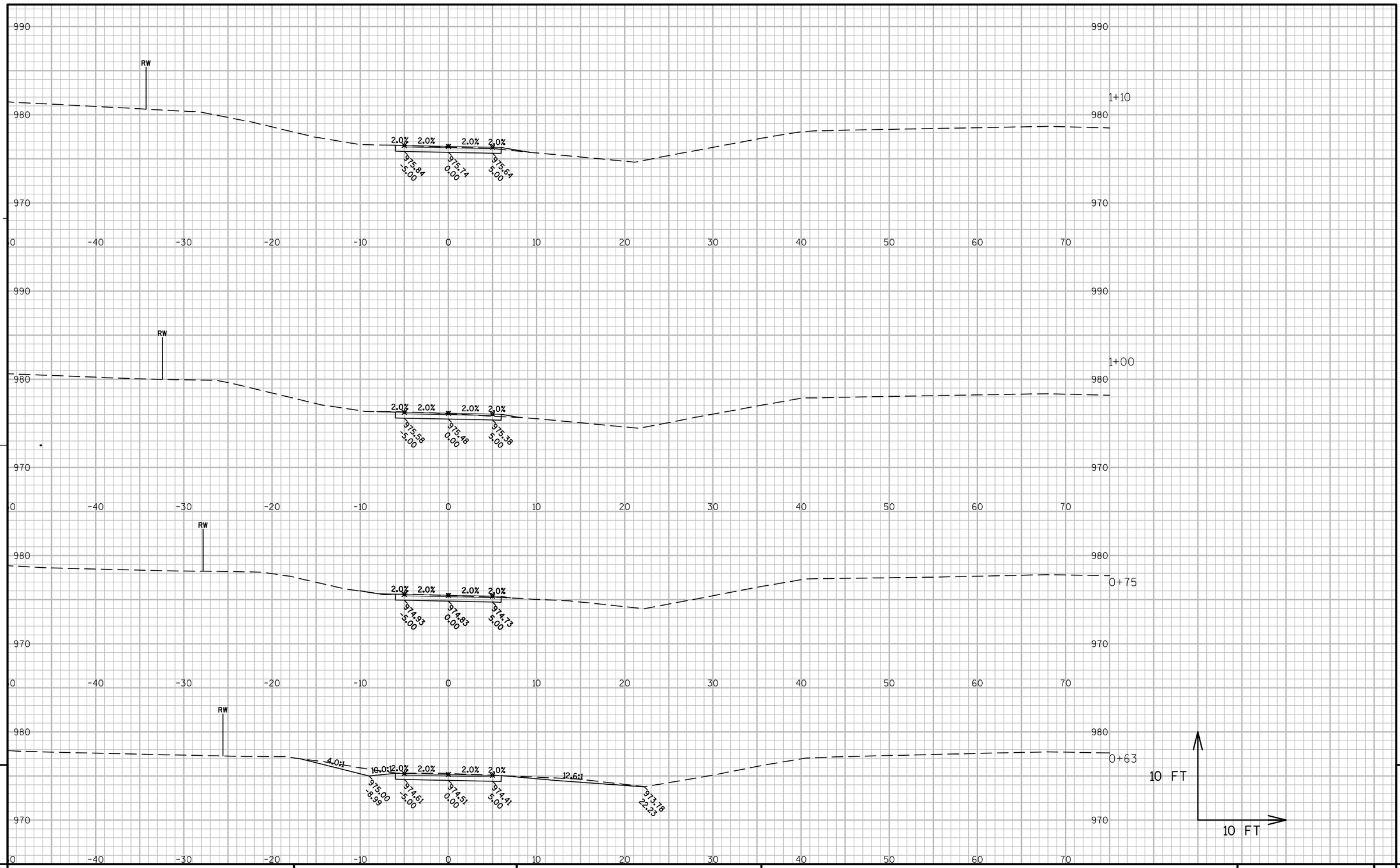
PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: BIKE PATH ("BP" LINE)	SHEET	E

9

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\090201-XS_EDITS.DWG PLOT DATE : 11/26/2014 8:30 AM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:10_XREF
WISDOT/CADDS SHEET 49



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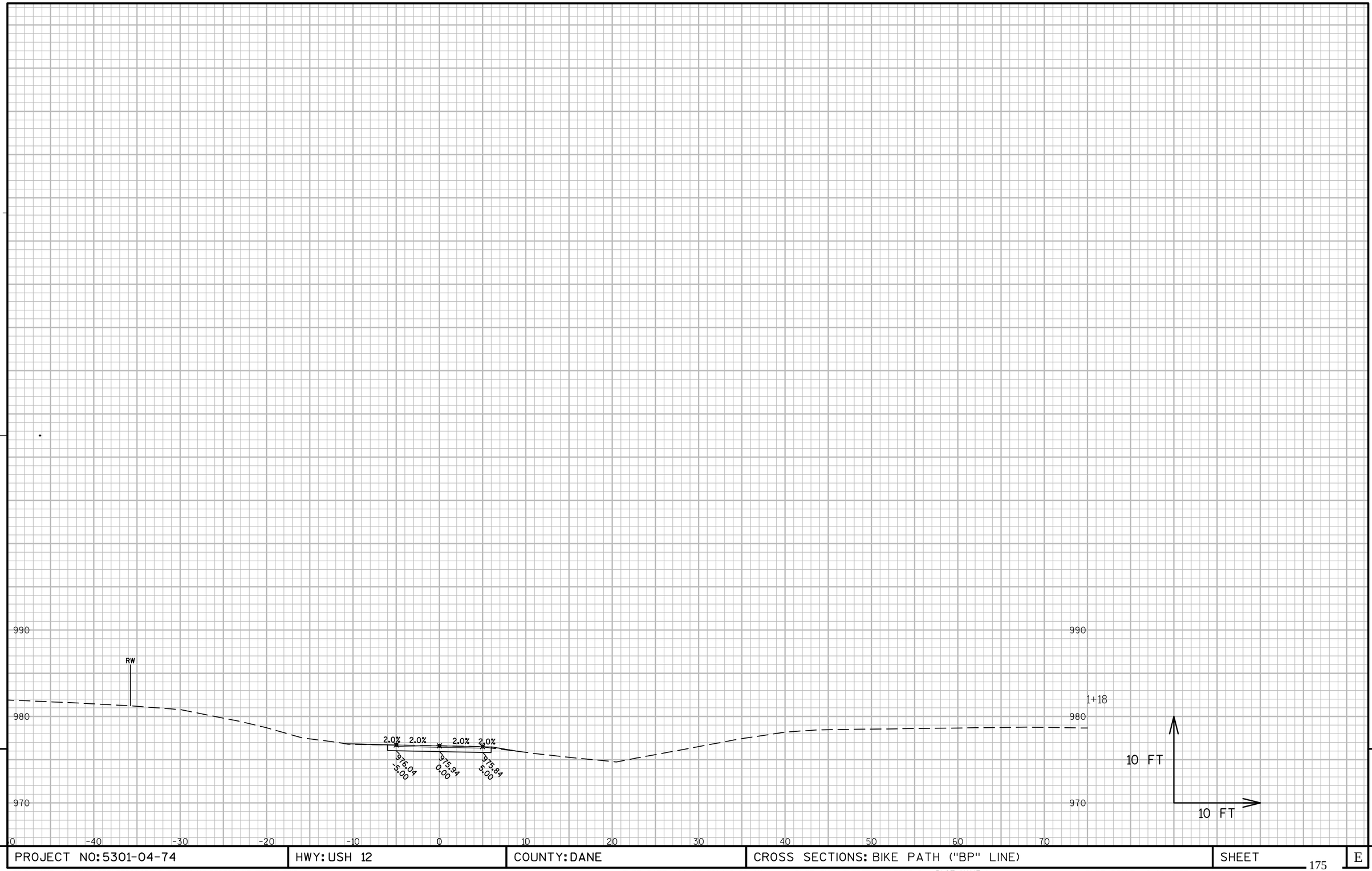
PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: BIKE PATH ("BP" LINE)	SHEET 174	E



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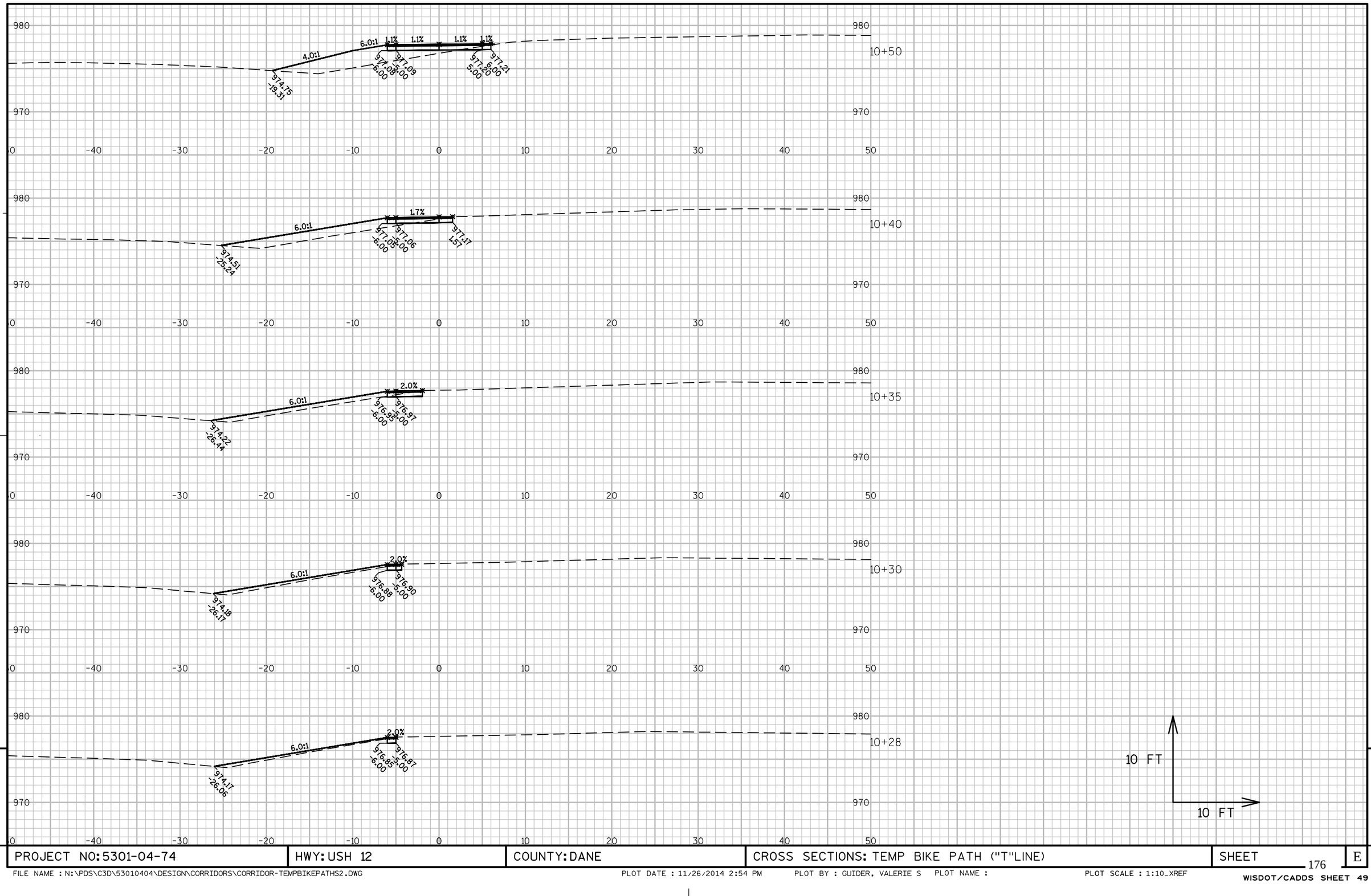
PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: BIKE PATH ("BP" LINE)	SHEET	E

FILE NAME : N:\PDS\C3D\53010404\SHEETSPLAN\090201-XS_EDITS.DWG PLOT DATE : 11/26/2014 8:30 AM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:10_XREF

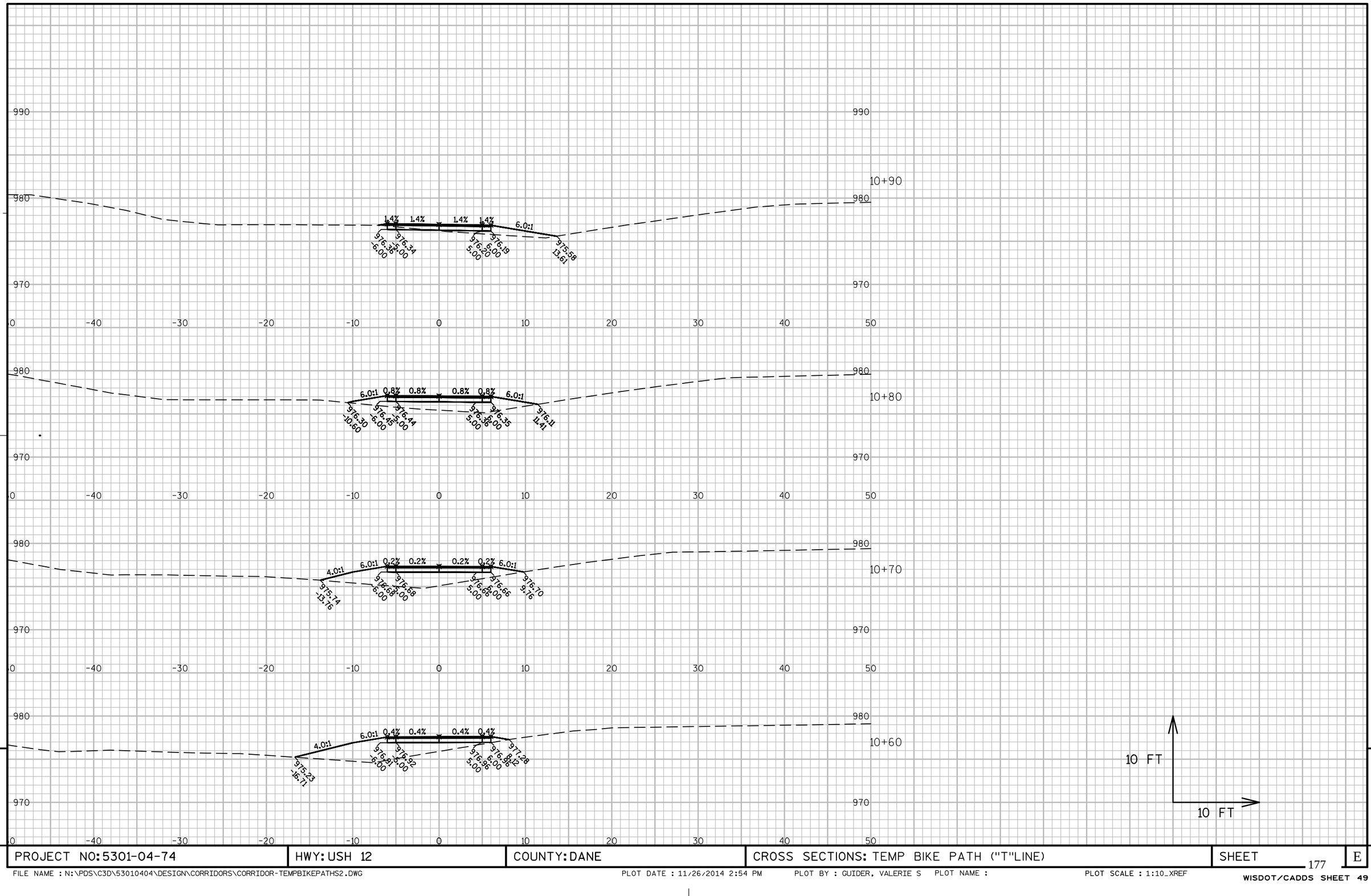
WISDOT/CADDS SHEET 49



PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: TEMP BIKE PATH ("T"LINE)	SHEET	E

FILE NAME : N:\PDS\C3D\53010404\DESIGN\CORRIDORS\CORRIDOR-TEMPBIKEPATHS2.DWG PLOT DATE : 11/26/2014 2:54 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: TEMP BIKE PATH ("T"LINE)	SHEET	E

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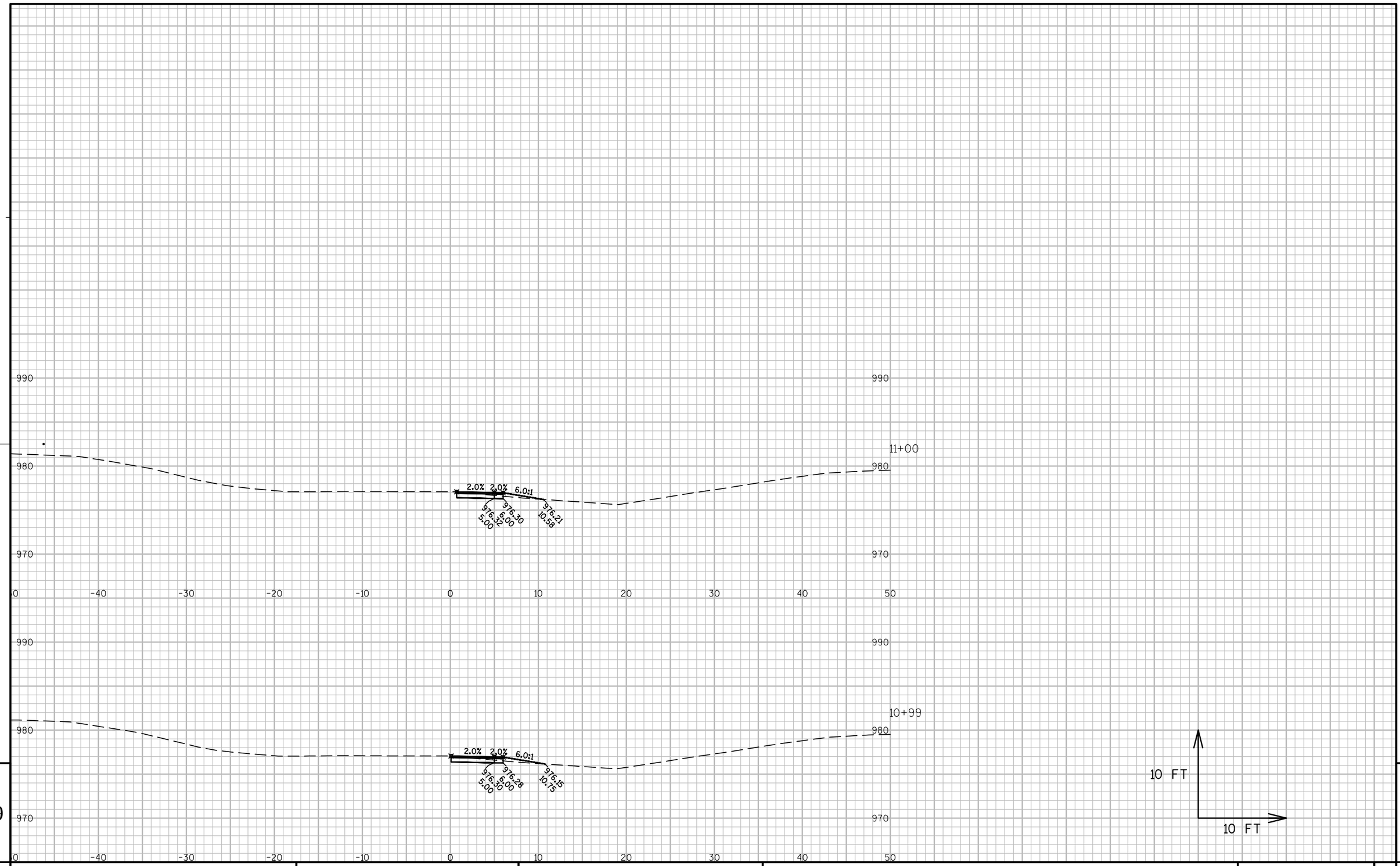
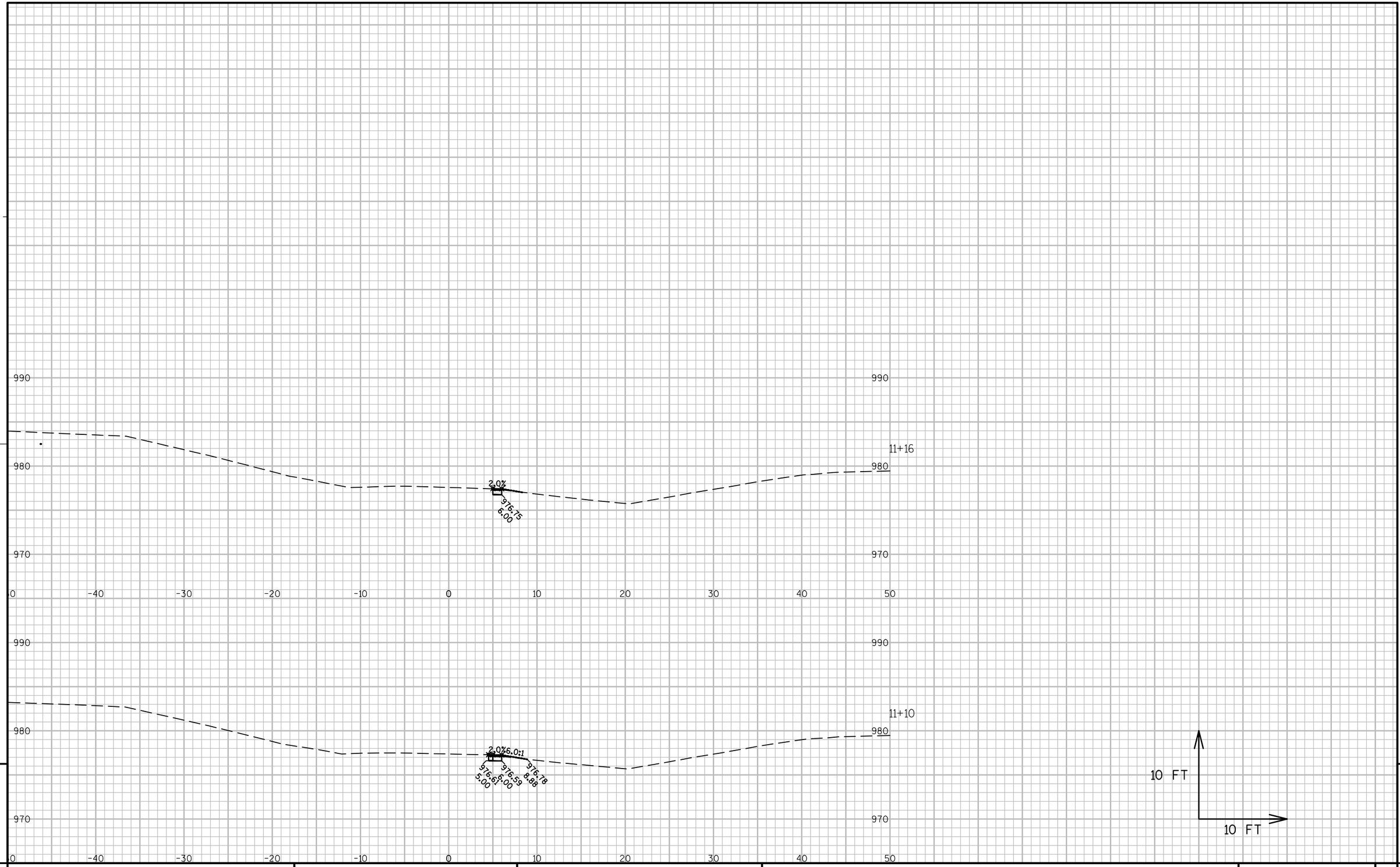


PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: TEMP BIKE PATH ("T"LINE)	SHEET	E

FILE NAME : N:\PDS\C3D\53010404\DESIGN\CORRIDORS\CORRIDOR-TEMPBIKEPATHS2.DWG PLOT DATE : 11/26/2014 2:54 PM PLOT BY : GUIDER, VALERIE S PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 5301-04-74	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: TEMP BIKE PATH ("T"LINE)	SHEET	E

Wisconsin Department of Transportation

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