

NWL MAY 2015

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8997-00-22	WISC 2015305	1

PROJECT ID: 8997-00-22
WITH: N/A

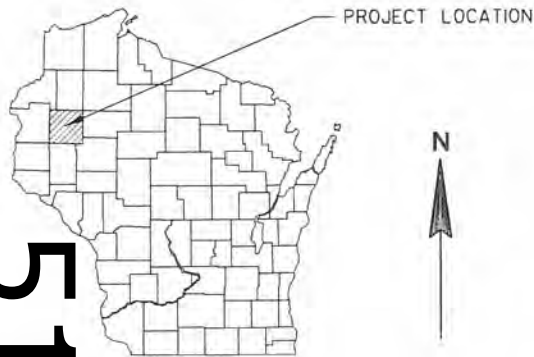
ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 84

C RICE LAKE, WISCONSIN AVENUE
ALLEN STREET INTERSECTION
LOCAL STREET
BARRON COUNTY

STATE PROJECT NUMBER
8997-00-22

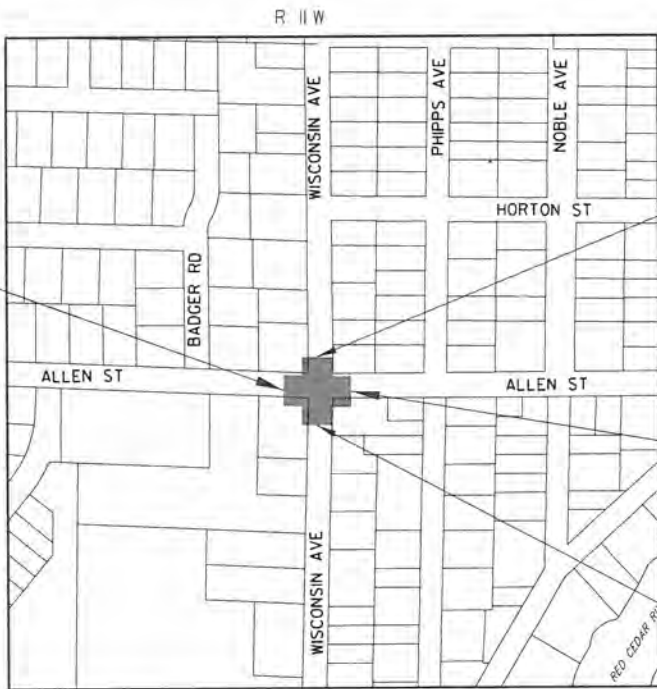


DESIGN DESIGNATION

	ALLEN ST	WISCONSIN AVE
A.A.D.T. 2014	= 7400	3900
A.A.D.T. 2034	= 9200	4900
D.M.V. 2034	= 1,012	539
D.D.	= 59/41	59/41
T. %	= 3.7	4.5
DESIGN SPEED	= 30 MPH	30 MPH
ESALS ASPHALT	= 824,900	547,500
ESALS CONCRETE	= 1,153,400	773,800

CONVENTIONAL SYMBOLS

COUNTY LINE	COMBUSTIBLE FLUIDS	CAUTION
CORPORATE LIMITS	UNDERGROUND UTILITIES	
PROPERTY LINE	GAS	— G —
LOT LINE	ELECTRIC	— E —
LIMITED EASEMENT	TELEPHONE OR TELEGRAPH	— T —
EARTHWORK BALANCE POINT	TV/CABLE	— TV —
EXISTING RIGHT OF WAY	SERVICE PEDESTAL	— SP —
PROPOSED OR NEW R/W LINE	POWER POLE	— PP —
SURVEY LINE	TELEPHONE POLE	— TP —
SLOPE INTERCEPT	RAILROAD	— RR —
ORIGINAL GROUND	SANITARY SEWER	— SAN —
MARSH OR ROCK PROFILE (To be noted as such)	STORM SEWER	— SS —
MARSH AREA	WATER	— W —
WOODED OR SHRUB AREA	EXISTING CULVERT	— EC —
	PROPOSED CULVERT (Box or Pipe)	— PC —
	CULVERT (Profile View)	— CV —



LAYOUT
SCALE 0 250 FT

TOTAL NET LENGTH OF CENTERLINE = 0.067 MI (URBAN)

END CONSTRUCTION
WISCONSIN AVENUE
STA 86+23.20
Y = 131892.301
X = 332438.075

END PROJECT
ALLEN STREET
STA 47+30.00
Y = 131769.348
X = 332667.779

BEGIN CONSTRUCTION
WISCONSIN AVENUE
STA 83+62.18
Y = 131631.286
X = 332437.465

Coordinates on this plan are referenced to the Wisconsin County
Coordinate System (WCCS), Barron County.

ACCEPTED FOR
CITY of RICE LAKE
1-21-15
DATE:

ORIGINAL PLANS PREPARED BY:



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor: SEH
Designer: SEH
Management Consultant: KNIGHT E/A INC.
C.O. Examiner:

APPROVED FOR THE DEPARTMENT
DATE: 1/31/15
Management Consultant Signature: E

GENERAL NOTES

THE LOCATION 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.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD PER THE CONTRACTORS EROSION CONTROL IMPLEMENTATION PLAN AND AS APPROVED BY THE ENGINEER.

ALL CURB AND GUTTER RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT (GUTTER EDGE) UNLESS NOTED OTHERWISE.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

NEW PAVEMENT FOR CURB WIDENING	MILL AND OVERLAY SECTIONS
3-INCH LOWER LAYER, 19.0 mm, PG64-28	2-INCH UPPER LAYER, 12.5 mm, PG64-34
2-INCH UPPER LAYER, 12.5 mm, PG64-34	

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

ONE SURVEY SECTION CORNER WILL BE IMPACTED BY THIS PROJECT. THE ENGINEER WILL COORDINATE THE REPLACEMENT OF THE SECTION CORNER WITH MARK NETTERLUND- BARRON COUNTY SURVEYOR TWO WEEKS PRIOR TO WORK NEAR THE CORNER. 715-537-6824 mark.netterlund@co.barron.wi.us.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY ARE TO BE SOD. FINISHED SOD SURFACE SHALL BE 1-INCH BELOW THE TOP OF ADJACENT CONCRETE.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

EXISTING DRIVEWAYS SHALL BE RESTORED IN-KIND AS DIRECTED BY THE ENGINEER AND AT THE LOCATION DETERMINED BY THE ENGINEER.

SIGNS TO BE MOVED WILL BE STORED AND PROTECTED BY THE CONTRACTOR AT A LOCATION APPROVED BY THE ENGINEER, FREE FROM DAMAGE UNTIL SUCH TIME AS THEY ARE RE-INSTALLED.

CONSTRUCT INSIDE EDGE OF SIDEWALK 1/4 INCH HIGHER THAN THE TOP OF CURB, WHEN THEY ARE ADJACENT TO EACH OTHER.

ALL STORM SEWER INVERTS, ELEVATIONS, PIPE LENGTHS, AND GRADES ARE COMPUTED CENTER-TO-CENTER OF STRUCTURES.

ORDER OF TYPICAL SECTIONS AND DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
INTERSECTION DETAIL
EROSION CONTROL
PERMANENT SIGNING
TRAFFIC SIGNAL PLAN
PAVEMENT MARKING
TRAFFIC CONTROL

UTILITY CONTACTS

CENTURYLINK
20 S WILSON AVENUE
RICE LAKE, WI 54868
TELEPHONE: 715.234.5526
ATTENTION: REED LECHNIR

CITY OF RICE LAKE STREET DEPARTMENT
326 SOUTH MAIN STREET
RICE LAKE, WI 54868
TELEPHONE: 715.234.7402
ATTENTION: JAMES S. ANDERSON

RICE LAKE UTILITIES
320 WEST COLEMAN STREET
RICE LAKE, WI 54868
TELEPHONE: 715.234.7004
ATTENTION: SCOTT REIMER

CHARTER COMMUNICATIONS
2304 SOUTH MAIN STREET
RICE LAKE, WI 54868
TELEPHONE: 715.719.0564
CELL: 715.370.1601
ATTENTION: TOM HAASE

WDNR CONTACT

WIS DNR
810 W MAPLE STREET
SPOONER, WI 54801
TELEPHONE: 715.635.4229
ATTENTION: AMY CRONK
amy.cronk@wisconsin.gov



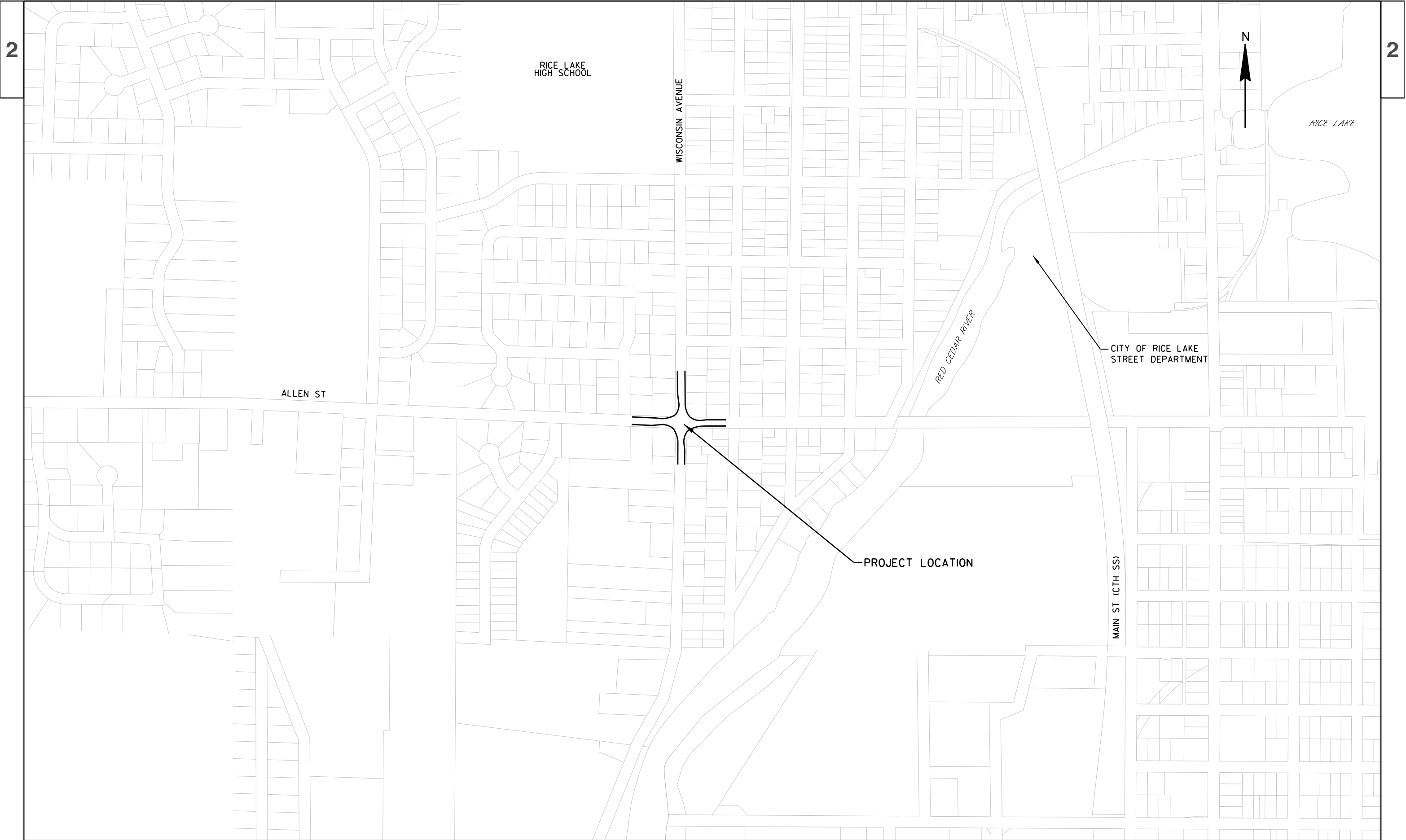
MOSAIC TELECOM
PO BOX 664
CAMERON, WI 54822
TELEPHONE: 715.458.5460
ATTENTION: PAT McMANUS

WE ENERGIES
104 W SOUTH STREET
RICE LAKE, WI 54868
TELEPHONE: 715.234.9609
ATTENTION: DIANE POLZIN

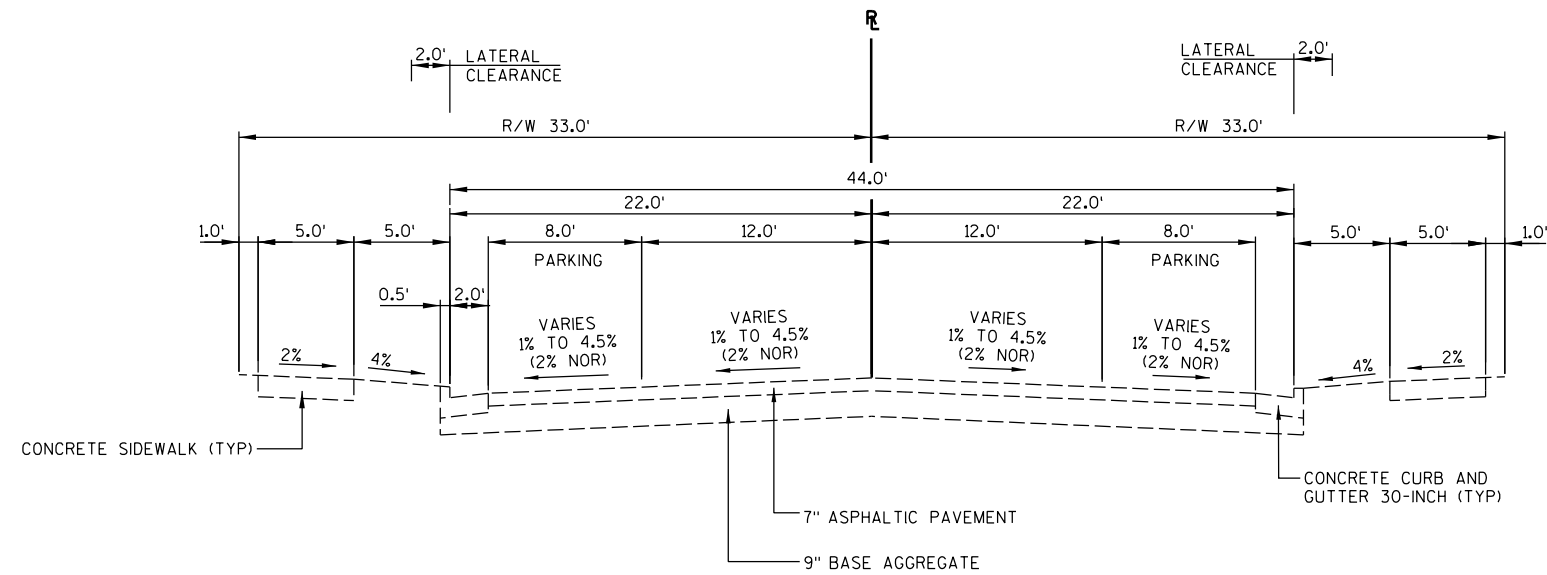
XCEL ENERGY
2911 SOUTH PIONEER AVENUE
RICE LAKE, WI 54868
TELEPHONE: 715.236.5716
ATTENTION: CHADWICK ERICKSON
CHADWICK.P.ERICKSON@XCELENERGY.COM

DESIGN CONTACTS

SEH INC.
1701 WEST KNAPP ST STE B
RICE LAKE, WI 54868
TELEPHONE: 715.861.4926
ATTENTION: DAN PENZKOVER
dpenzkover@sehinc.com

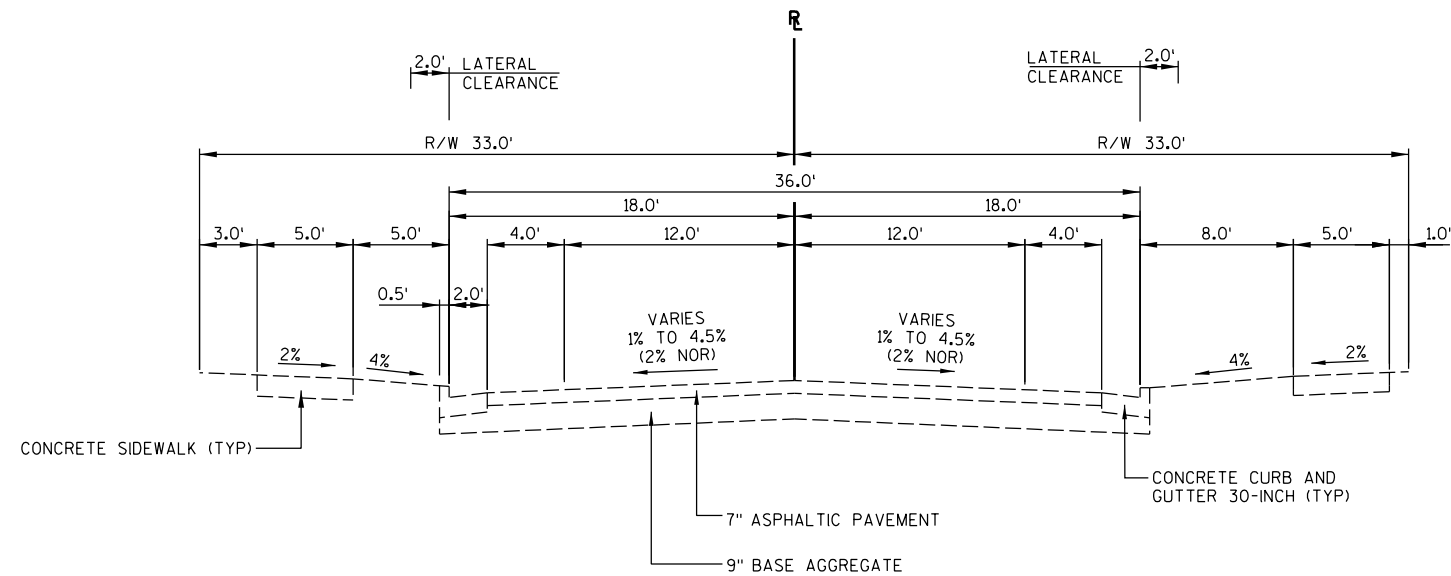


PROJECT NO:8997-00-22	HWY: ALLEN ST INTERSECTION	COUNTY: BARRON	PROJECT OVERVIEW	SHEET	E
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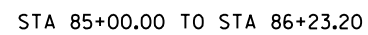
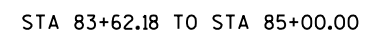
TYPICAL EXISTING SECTION - ALLEN STREET

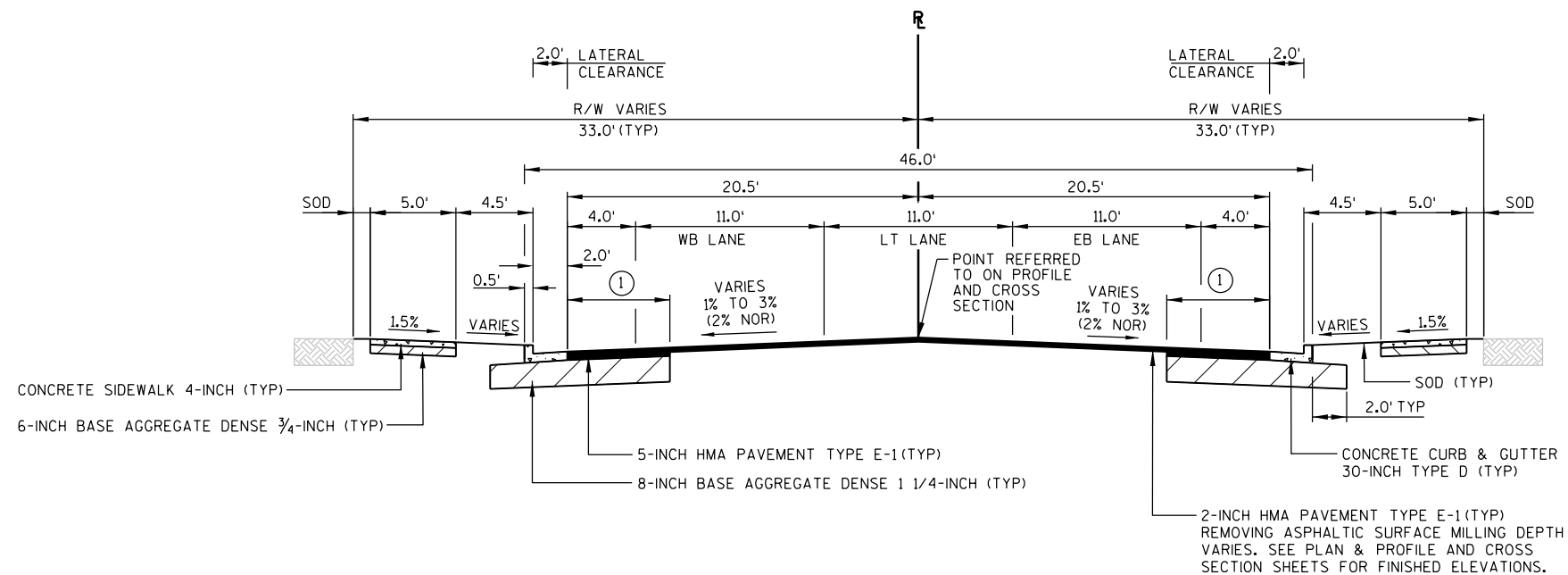
STA 43+74.74 TO STA 45+00.00



TYPICAL EXISTING SECTION - ALLEN STREET

STA 45+00.00 TO STA 47+30.00





TYPICAL FINISHED SECTION - ALLEN STREET/WISCONSIN AVENUE

STA 43+74.74 TO STA 47+30.00
STA 83+62.18 TO STA 86+23.20

NOTES:

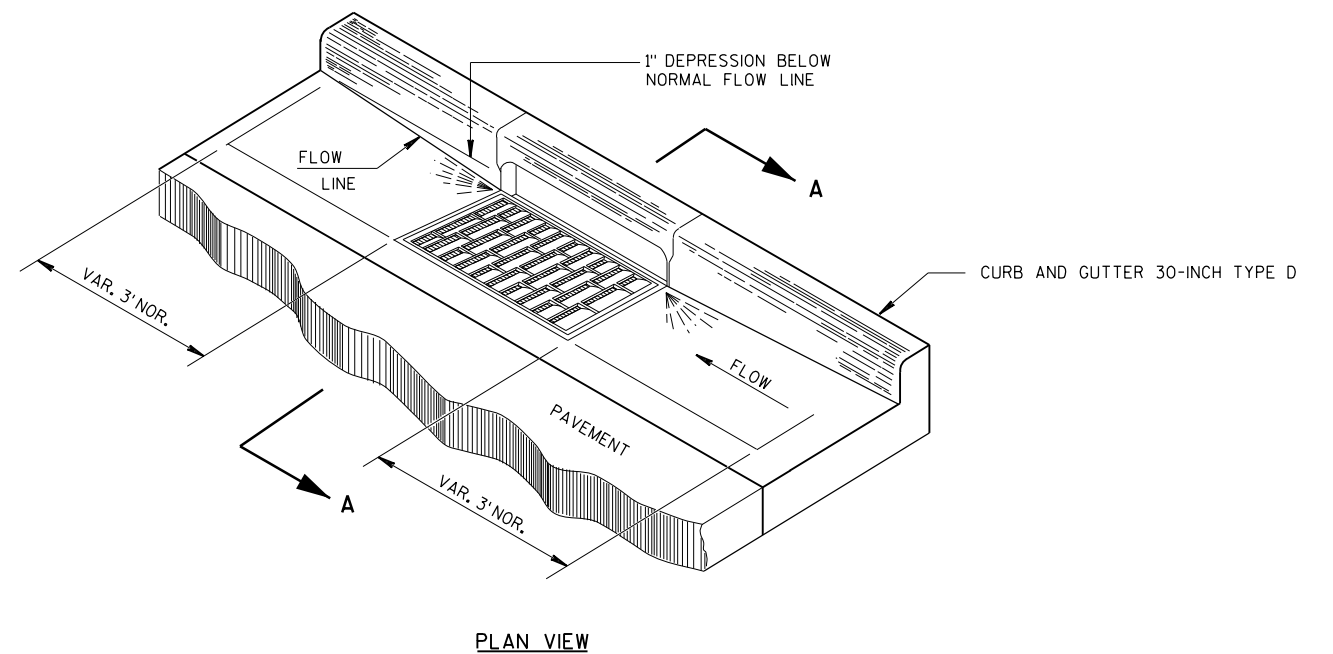
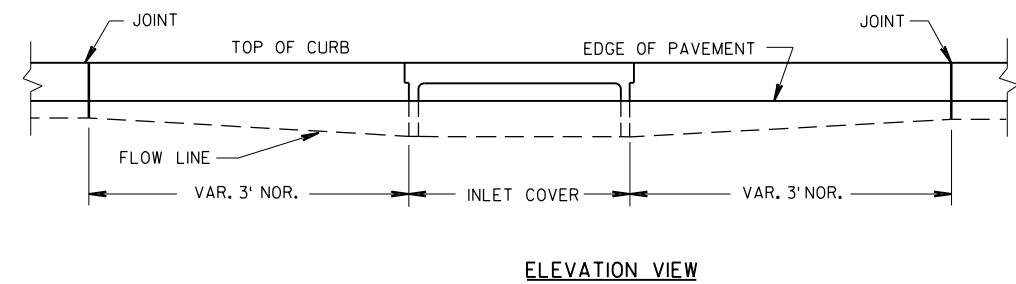
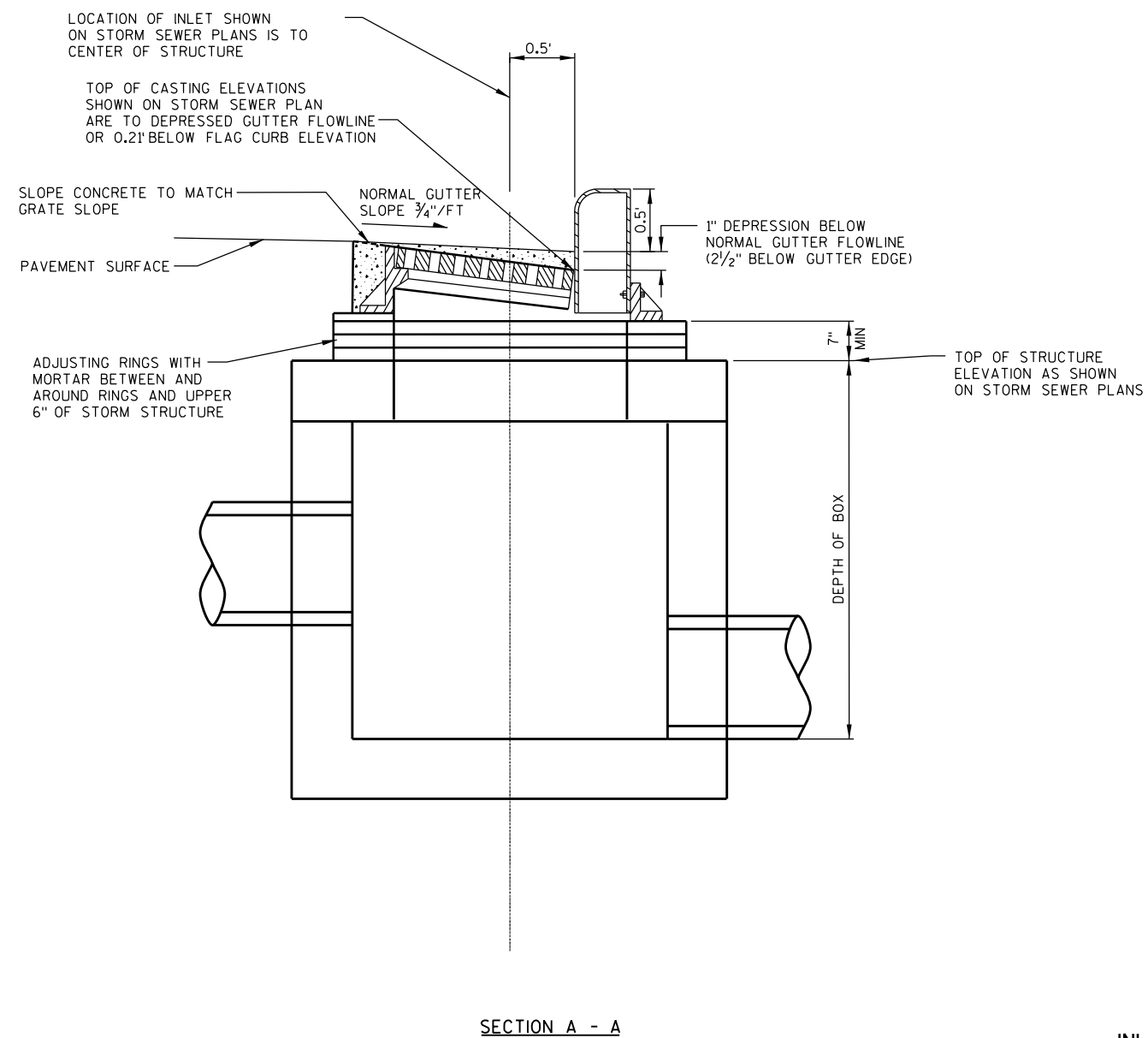
① RECONSTRUCT FOR STREET WIDENING VARIES.
SEE CROSS SECTIONS

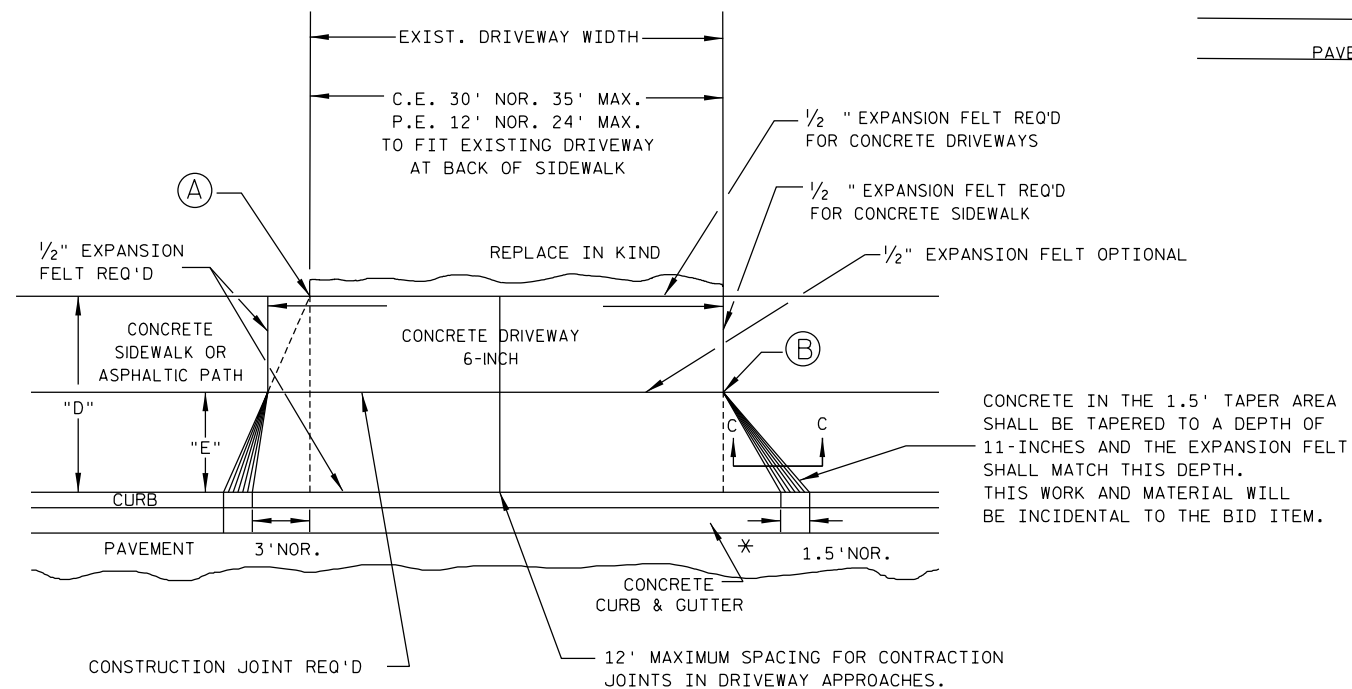
1.5' TO 6.0' IN TRANSITION AREAS

2.0' FROM STA 43+74 TO STA 45+00
STA 85+00 TO STA 86+23

4.0' FROM STA 83+62 TO STA 85+00 RT

6.0' FROM STA 45+00 TO STA 47+09
STA 83+62 TO STA 85+00 LT



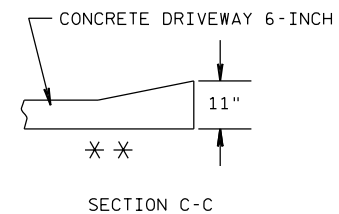


PLAN VIEW

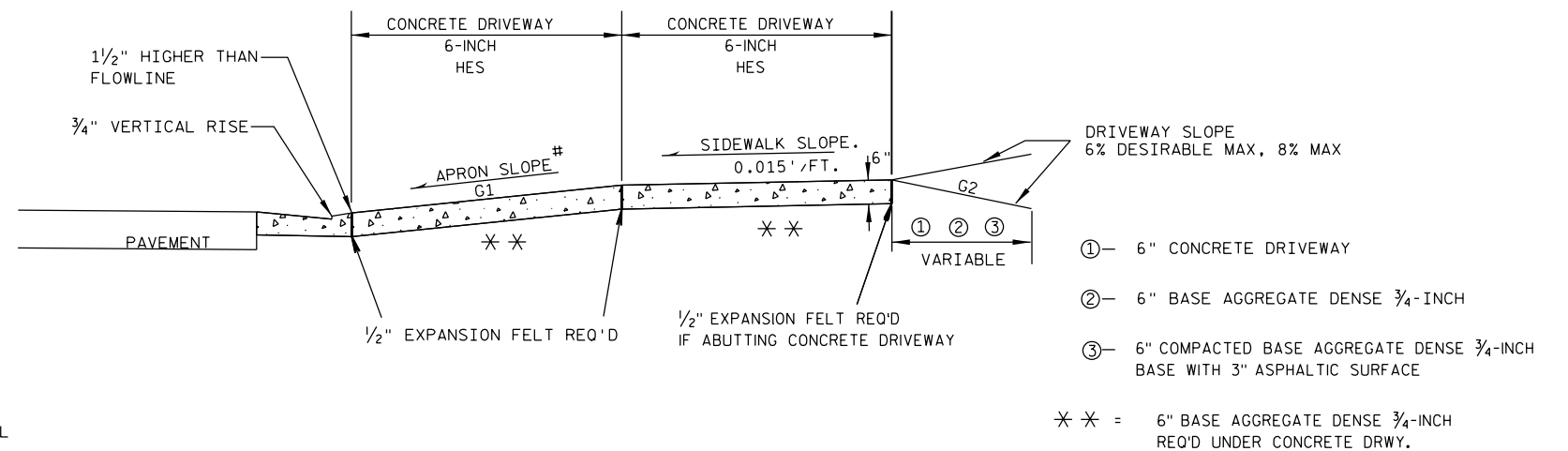
Ⓐ WHEN "D" IS 13' OR LESS, ALIGN TAPER WITH BACK OF SIDEWALK

Ⓑ WHEN "D" IS GREATER THAN 13', ALIGN TAPER WITH FRONT OF SIDEWALK

✱ WHEN "E" = 0
MAKE CURB TAPER 5'



DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER

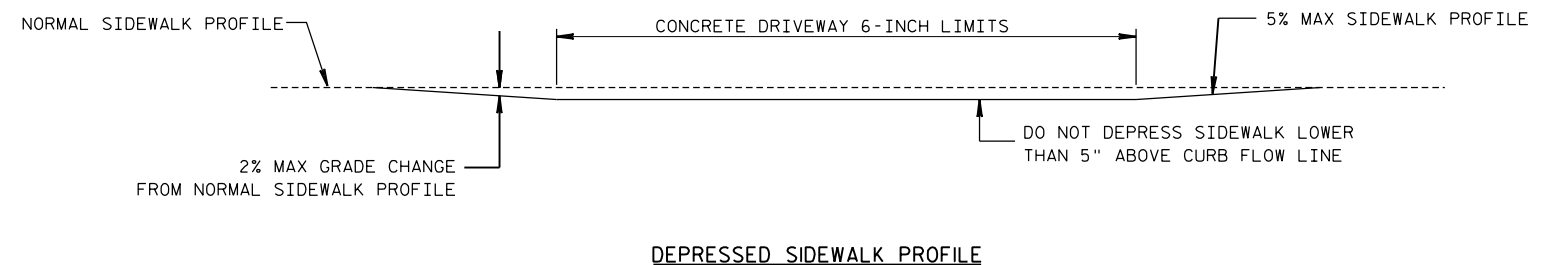


TYPICAL SIDEWALK SECTION

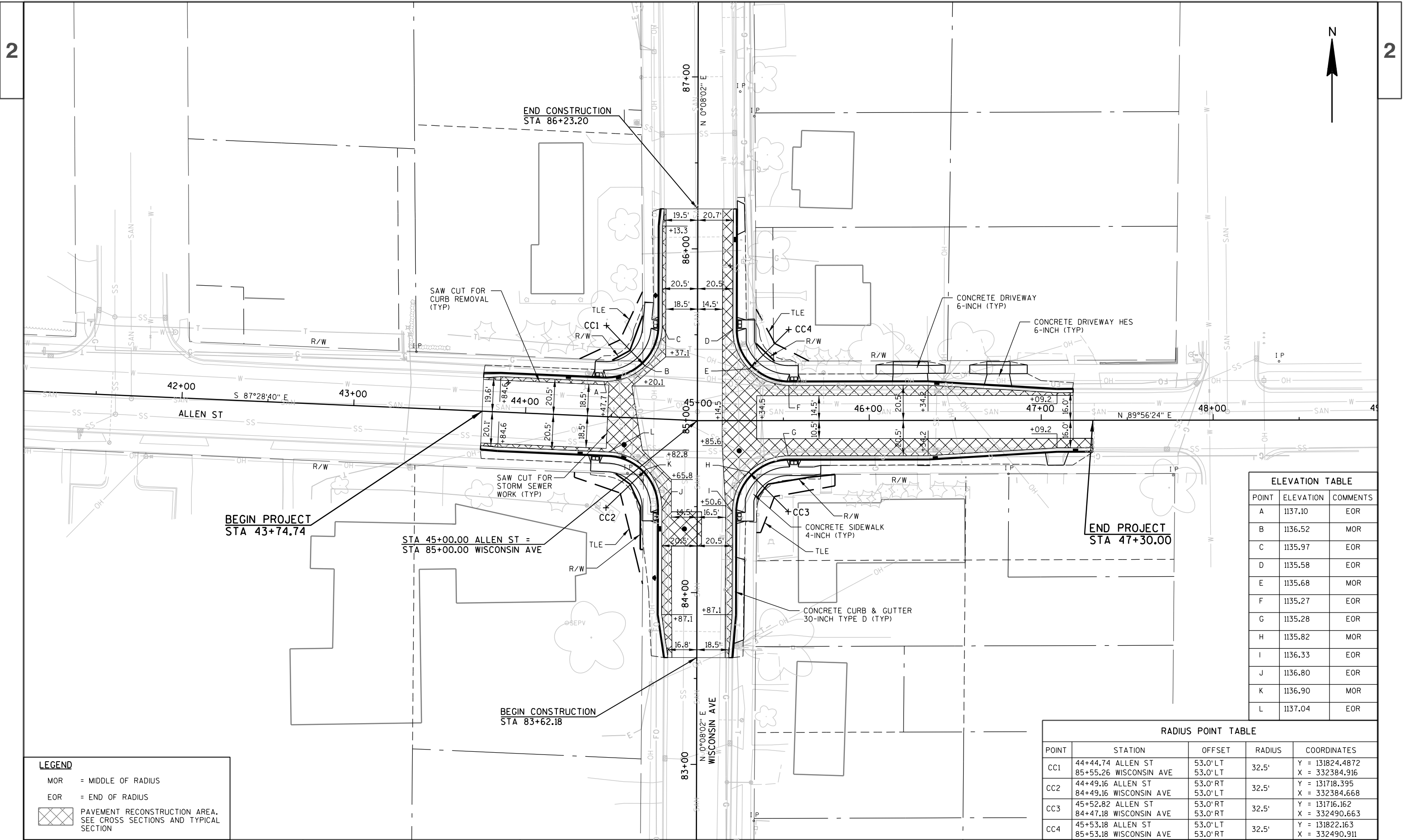
TERRACE WIDTH	APRON SLOPE (G1)		
	MIN %	DESIRABLE %	MAX %
3 FT	5.0	6.0	8.0
4 FT	5.0	6.0	8.0
5 FT	4.0	6.0	8.0
6 FT	4.0	6.0	8.0
7 FT	3.5	6.0	8.0
8 FT	3.0	6.0	8.0

NOTE: ALGEBRAIC DIFFERENCE BETWEEN TANGENT GRADES G1 & G2 TO NOT EXCEED 15%

DEPRESS SIDEWALK PROFILE IF DRIVEWAY APRON EXCEEDS MAX SLOPE




DEPRESSED SIDEWALK PROFILE



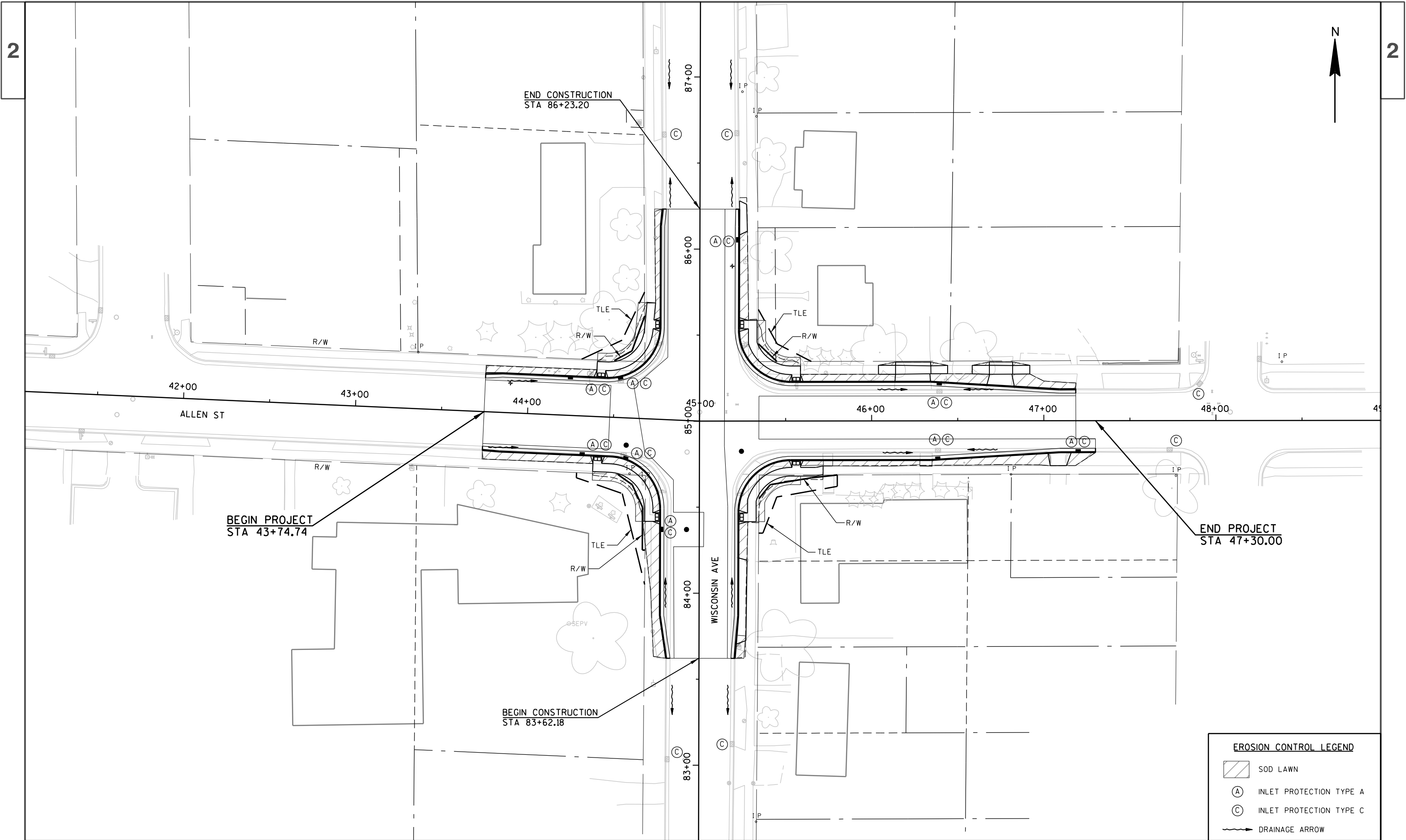
LEGEND

MOR = MIDDLE OF RADIUS
EOR = END OF RADIUS

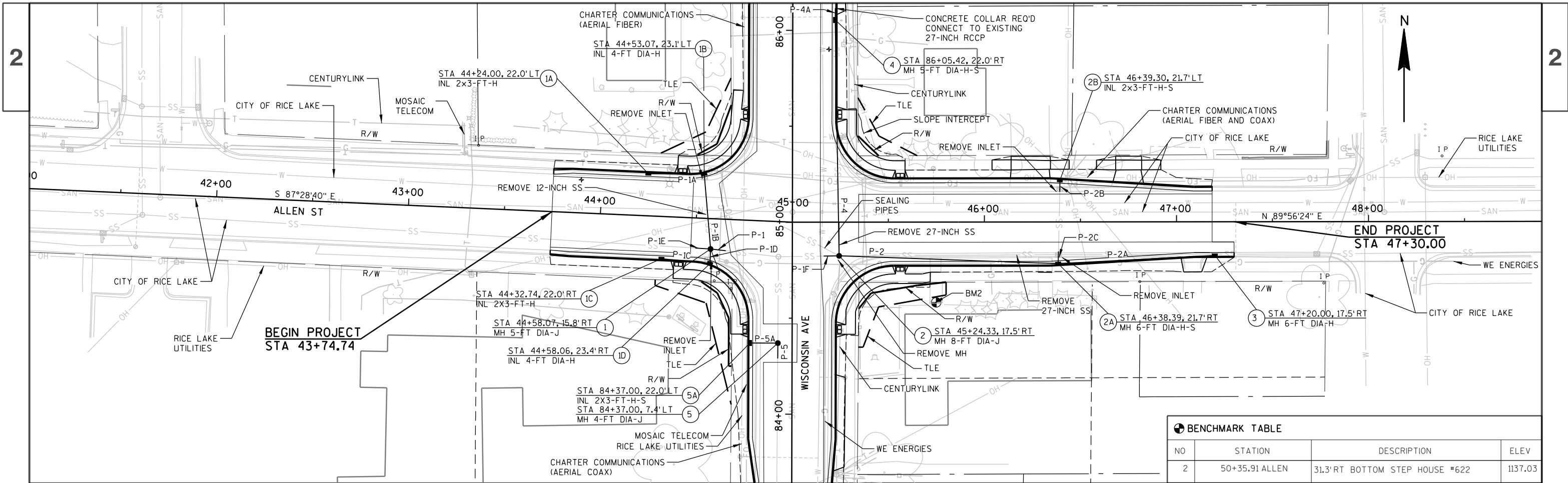
 PAVEMENT RECONSTRUCTION AREA. SEE CROSS SECTIONS AND TYPICAL SECTION

ELEVATION TABLE		
POINT	ELEVATION	COMMENTS
A	1137.10	EOR
B	1136.52	MOR
C	1135.97	EOR
D	1135.58	EOR
E	1135.68	MOR
F	1135.27	EOR
G	1135.28	EOR
H	1135.82	MOR
I	1136.33	EOR
J	1136.80	EOR
K	1136.90	MOR
L	1137.04	EOR

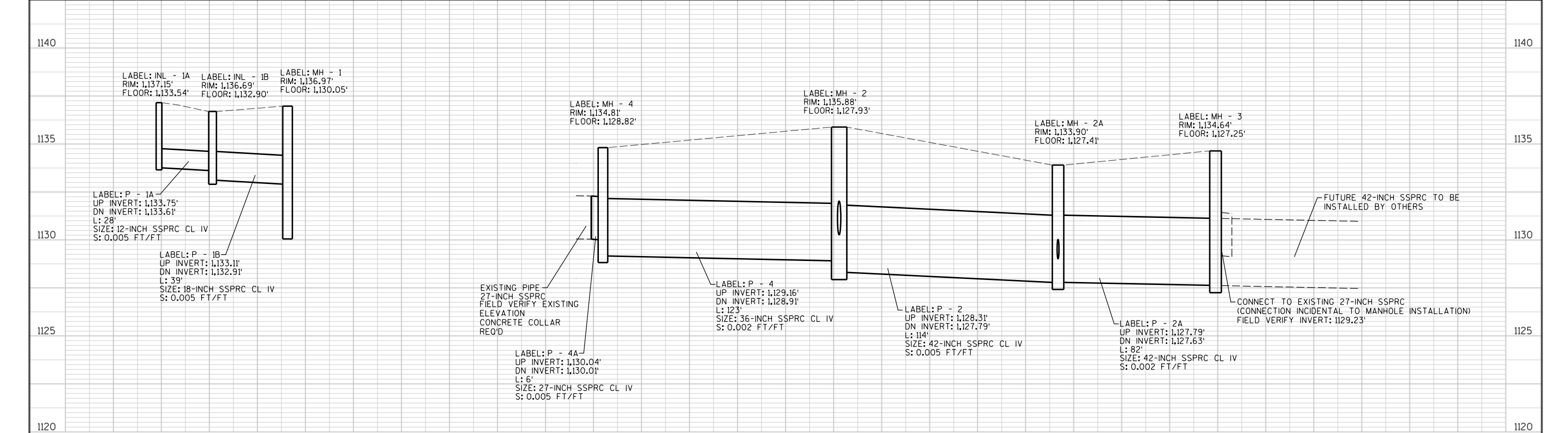
RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	44+44.74 ALLEN ST	53.0' LT	32.5'	Y = 131824.4872
	85+55.26 WISCONSIN AVE	53.0' LT		X = 332384.916
CC2	44+49.16 ALLEN ST	53.0' RT	32.5'	Y = 131718.395
	84+49.16 WISCONSIN AVE	53.0' LT		X = 332384.668
CC3	45+52.82 ALLEN ST	53.0' RT	32.5'	Y = 131716.162
	84+47.18 WISCONSIN AVE	53.0' RT		X = 332490.663
CC4	45+53.18 ALLEN ST	53.0' LT	32.5'	Y = 131822.163
	85+53.18 WISCONSIN AVE	53.0' RT		X = 332490.911

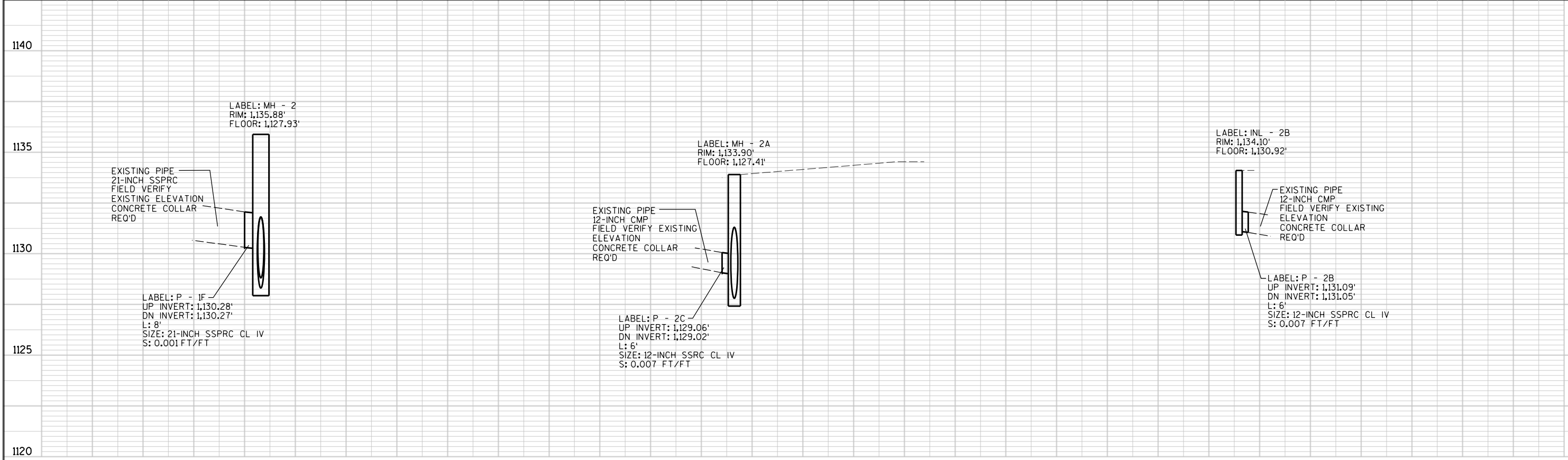
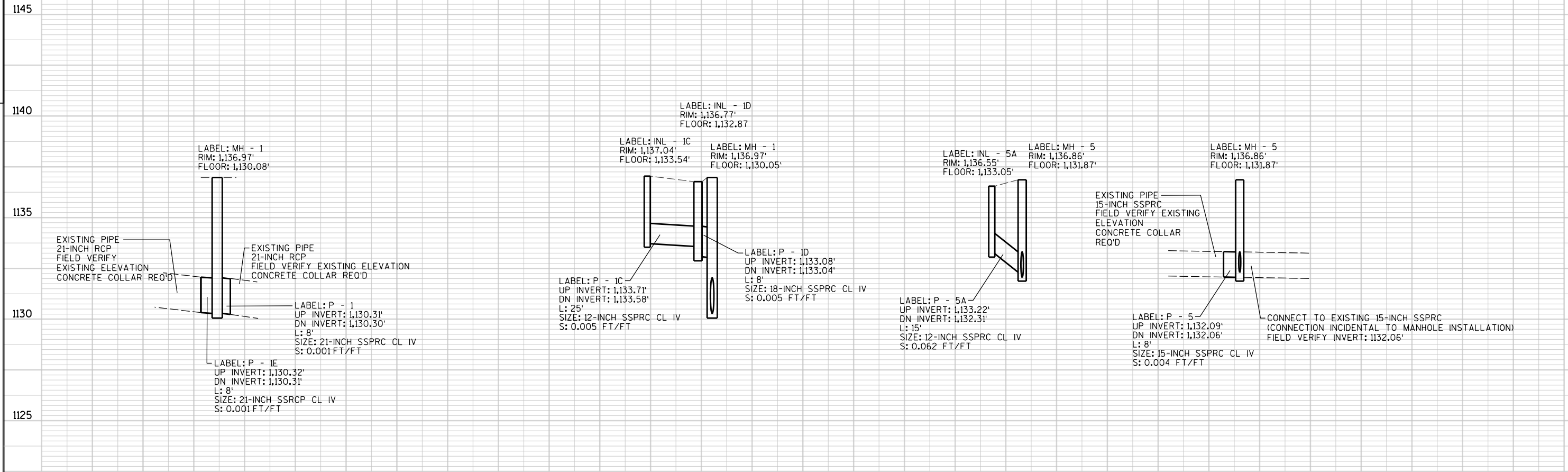


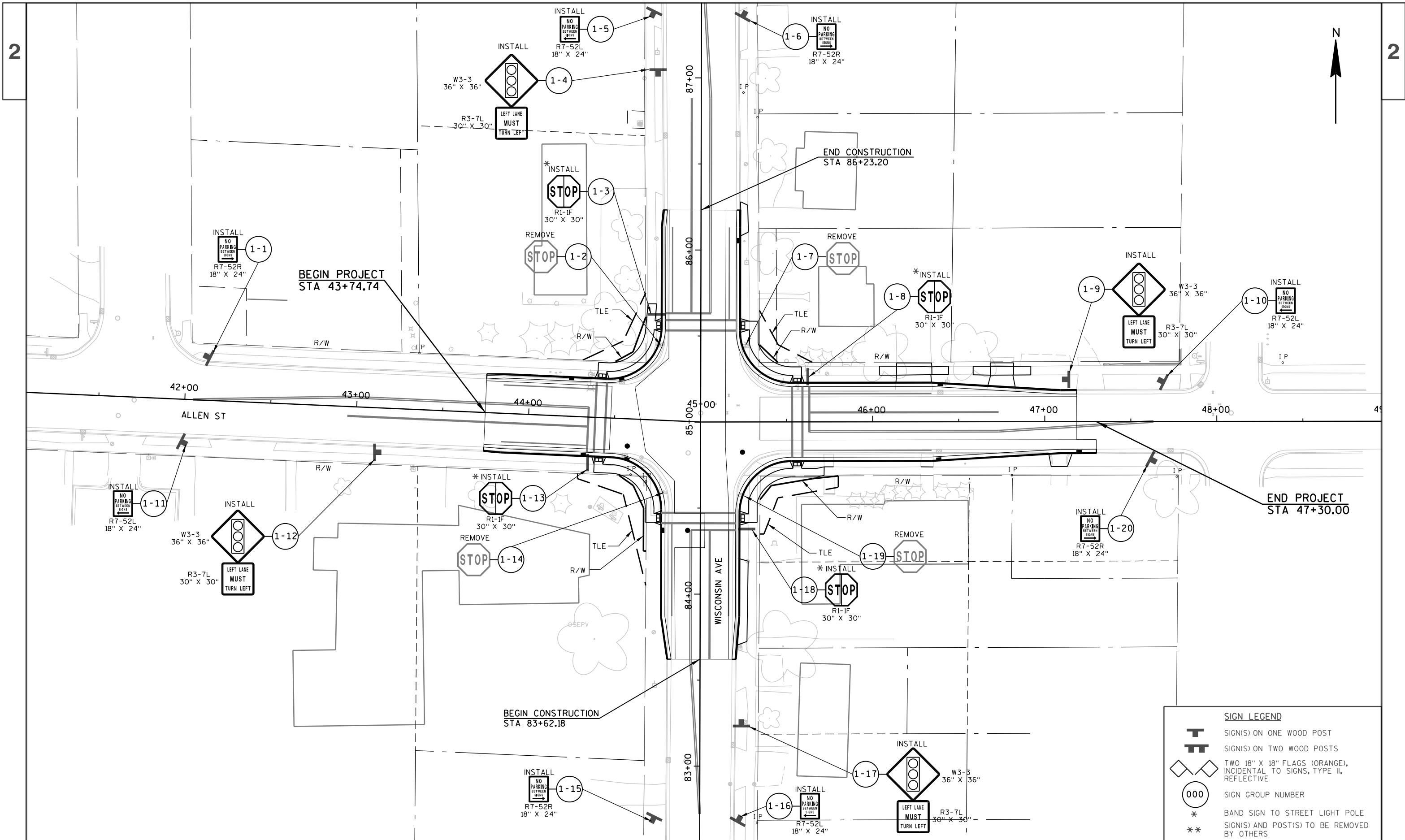
EROSION CONTROL LEGEND	
	SOD LAWN
	INLET PROTECTION TYPE A
	INLET PROTECTION TYPE C
	DRAINAGE ARROW



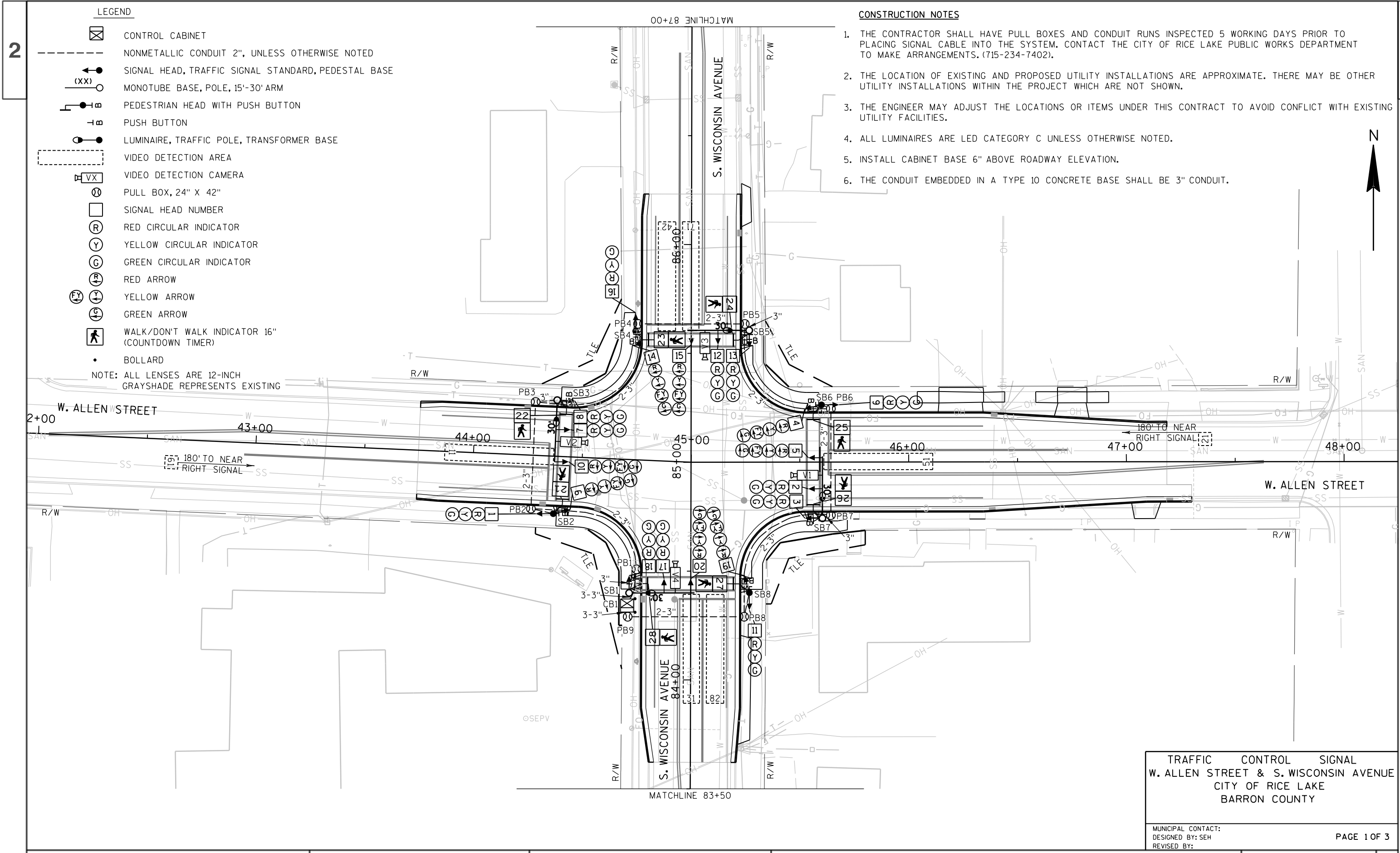
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
2	50+35.91 ALLEN	31.3' RT BOTTOM STEP HOUSE #622	1137.03







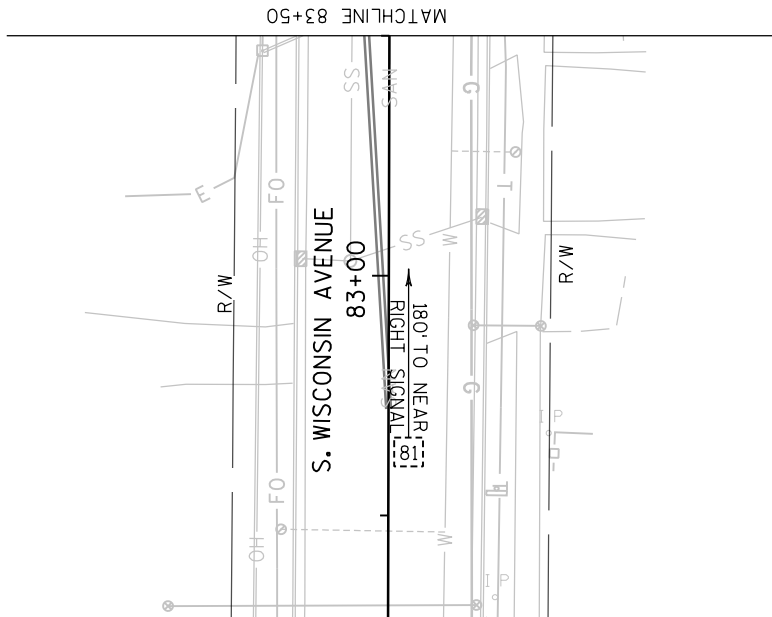
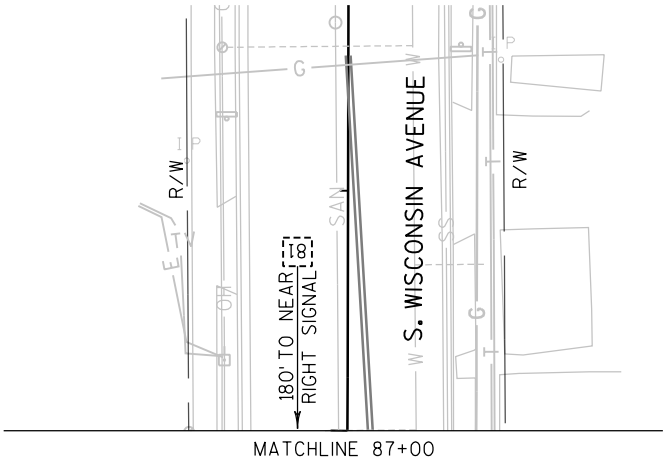
SIGN LEGEND	
	SIGN(S) ON ONE WOOD POST
	SIGN(S) ON TWO WOOD POSTS
	TWO 18" X 18" FLAGS (ORANGE), INCIDENTAL TO SIGNS, TYPE II, REFLECTIVE
	SIGN GROUP NUMBER
*	BAND SIGN TO STREET LIGHT POLE
**	SIGN(S) AND POST(S) TO BE REMOVED BY OTHERS



2

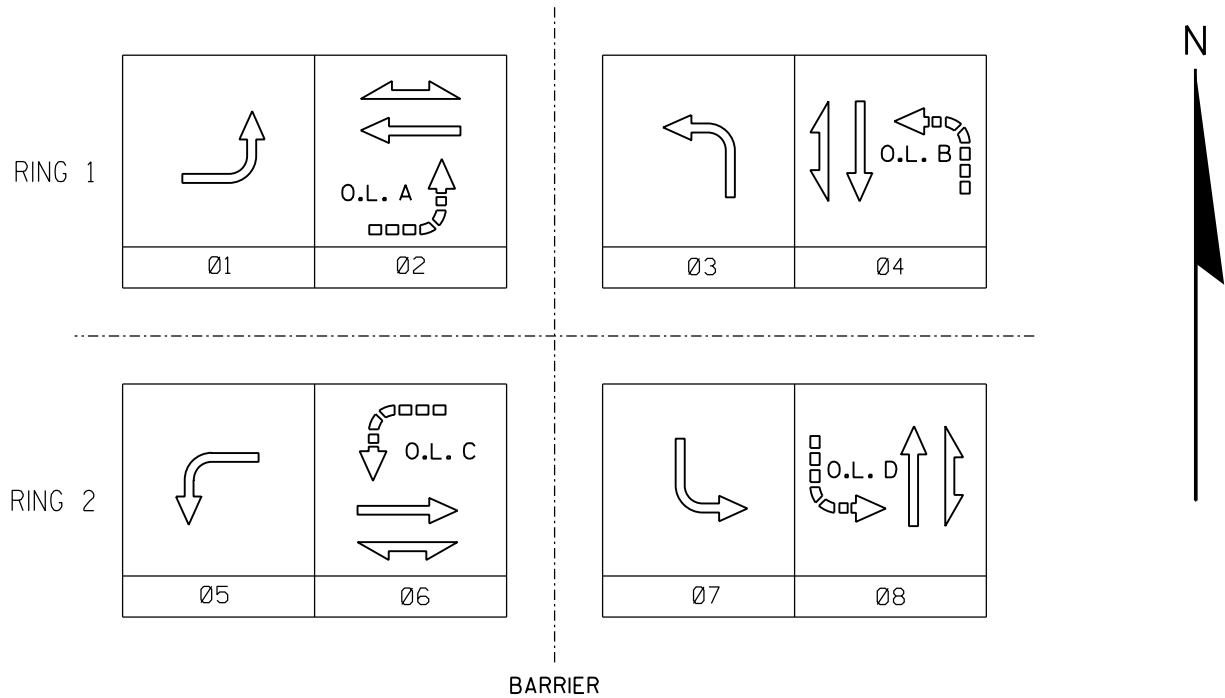
2





TRAFFIC CONTROL SIGNAL W. ALLEN STREET & S. WISCONSIN AVENUE CITY OF RICE LAKE BARRON COUNTY	
MUNICIPAL CONTACT: DESIGNED BY: SEH REVISED BY:	PAGE 2 OF 3

	HEAD NUMBERS	FLASH
Ø1	4,5	-
Ø2	6,7,8	R
Ø3	14,15	-
Ø4	16,17,18	R
Ø5	9,10	-
Ø6	1,2,3	R
Ø7	19,20	-
Ø8	11,12,13	R
Ø2P	23,24	
Ø4P	21,22	
Ø6P	27,28	
Ø8P	25,26	
OLA	4,5	R
OLB	14,15	R
OLC	9,10	R
OLD	19,20	R



CONTROLLER LOGIC

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

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	X
CLOSED LOOP	
TWISTED PAIR*	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	

TYPE OF COORDINATION	
NONE	X
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO: S-	
SIGNAL SYSTEM *: SS- -	

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	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR *(S)	11	31	42	61	81			
ASSIGNED PHASE	1	3	4	6	8			
OPERATION MODE	VEH	VEH	VEH	VEH	VEH			
SWITCH								
EXTEND					X			
DELAY								

DETECTOR INPUT	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR *(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR *(S)	21	41	51	71	82			
ASSIGNED PHASE	2	4	5	7	8			
OPERATION MODE	VEH	VEH	VEH	VEH	VEH			
SWITCH								
EXTEND		X						
DELAY								

DETECTOR INPUT	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR *(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

W. ALLEN STREET & S. WISCONSIN AVENUE CITY OF RICE LAKE BARRON COUNTY	
SIGNAL NO.	CABINET TYPE: TS2
CONTROLLER TYPE:EPAC NTCIP	
DATE 12/14	PAGE NO. 3 OF 3

PROJECT ID:	8997-00-22
INTERSECTION:	W. ALLEN STREET & S. WISCONSIN AVENUE

SIGNAL WIRE COLOR CODING	BLK - BLACK	RED - RED	GRN - GREEN
	WHT - WHITE	BLU - BLUE	ORG - ORANGE

CB_ TO	AWG 14 # OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR								D/WALK	WALK	PED BUTTON
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING> <YELLOW>				
SB1	15	17	RED	ORG	GRN								
		18	RED	ORG	GRN								
		20				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		28								BLK	BLU		
		BUTTON											WHT/BLK
SB2	15	1	RED	ORG	GRN								
		9				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		21								BLK	BLU		
		BUTTON											WHT/BLK
SB3	15	7	RED	ORG	GRN								
		8	RED	ORG	GRN								
		10				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		22								BLK	BLU		
		BUTTON											WHT/BLK
SB4	15	14				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		16	RED	ORG	GRN								
		23								BLK	BLU		
		BUTTON											WHT/BLK
SB5	15	12	RED	ORG	GRN								
		13	RED	ORG	GRN								
		15				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		24								BLK	BLU		
		BUTTON											WHT/BLK
SB6	15	4				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		6	RED	ORG	GRN								
		25								BLK	BLU		
		BUTTON											WHT/BLK
SB7	15	2	RED	ORG	GRN								
		3	RED	ORG	GRN								
		5				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		26								BLK	BLU		
		BUTTON											WHT/BLK
SB8	15	11	RED	ORG	GRN								
		19				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		27								BLK	BLU		
		BUTTON											WHT/BLK

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GREEN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	CB1

PULL BOX BONDING JUMPER 10 AWG GREEN XLP	
FROM	TO
PB1	SB1
PB2	SB2
PB3	SB3
PB4	SB4
PB5	SB5
PB6	SB6
PB7	SB7
PB8	SB8
PB9	CB1

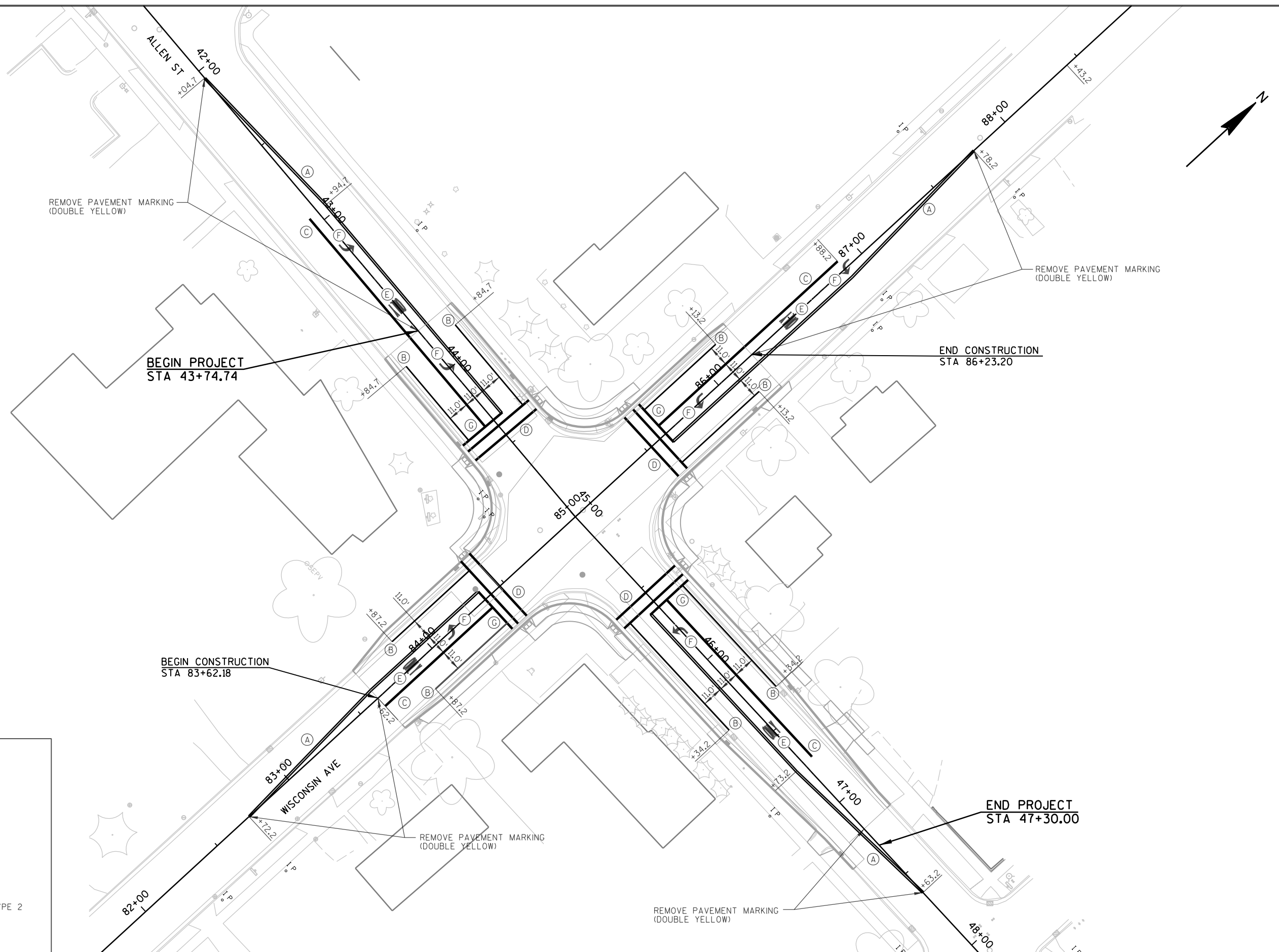
LIGHTING UF 2-10 AWG W/GROUND	
FROM	TO
CB1	SB1
SB1	SB3
CB1	SB7
SB7	SB5

VIDEO DETECTION CABLE	
FROM	TO
CB1	SB7 (V1)
CB1	SB3 (V2)
CB1	SB5 (V3)
CB1	SB1 (V4)

*USE THE WHITE CONDUCTOR IN THE CABLE ASSEMBLY AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS
*ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 12" LONGER THAN THE UNGROUNDED CONDUCTORS.
*AT THE SIGNAL BASES, CONNECT ONE TERMINAL FROM THE PEDESTRAIN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

2

2



PAVEMENT MARKING LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- (B) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (C) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (D) PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)
- (E) PAVEMENT MARKING WORDS EPOXY
- (F) PAVEMENT MARKING ARROWS EPOXY TYPE 2
- (G) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)

PROJECT NO:8997-00-22

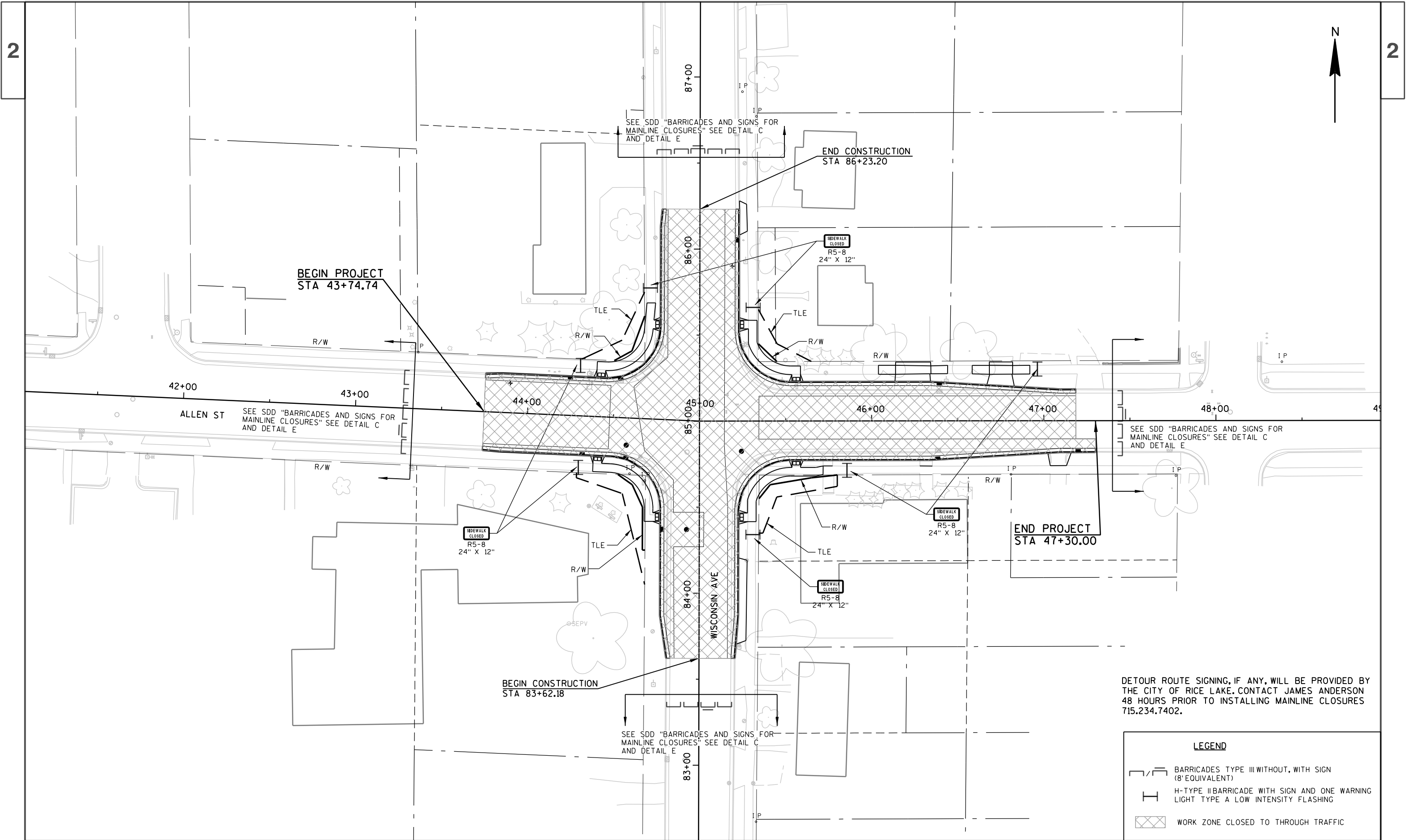
HWY: ALLEN ST INTERSECTION

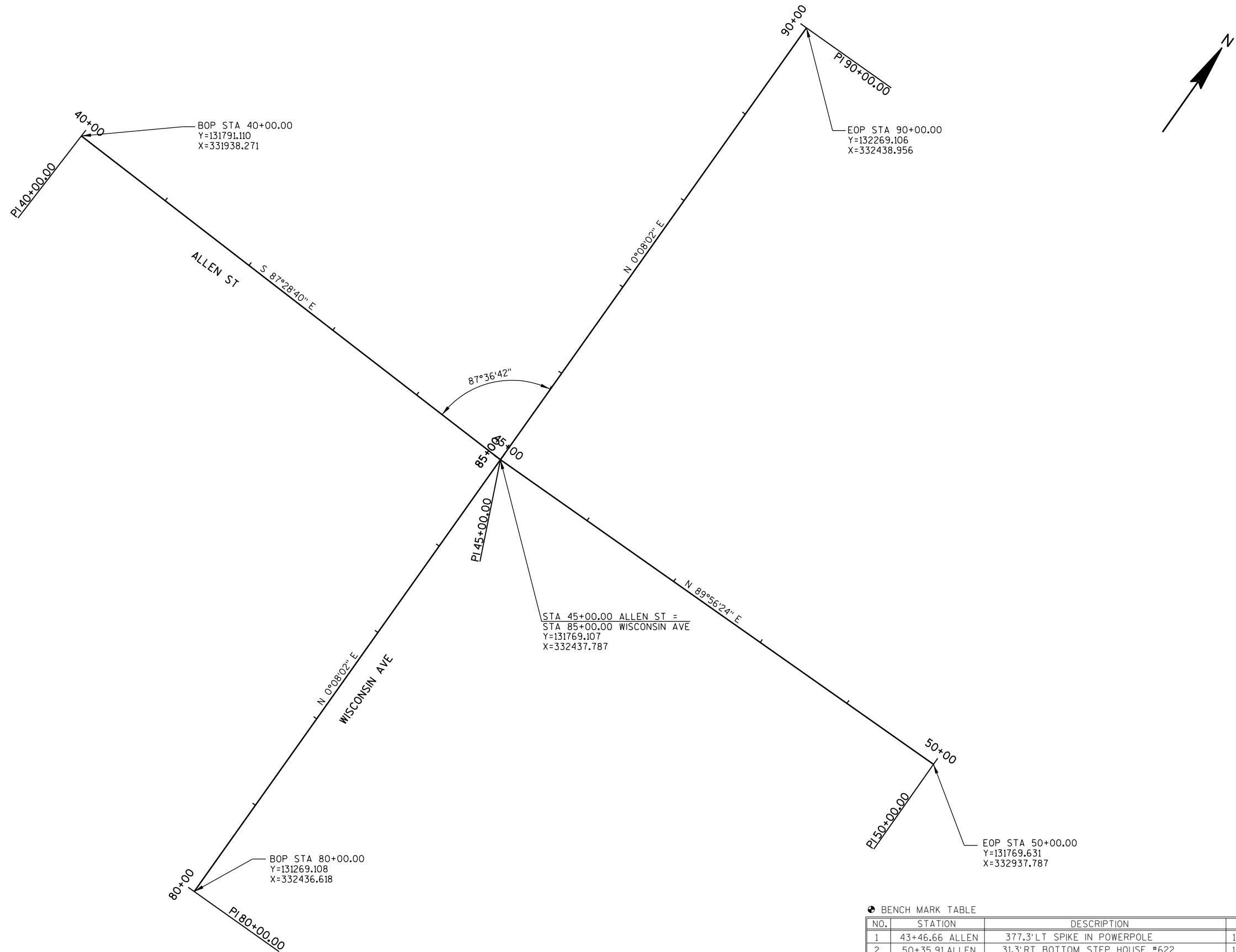
COUNTY: BARRON

PAVEMENT MARKING

SHEET

■





DATE 03MAR15		E S T I M A T E O F Q U A N T I T I E S			
LINE				8997-00-22	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204.0120	Removing Asphaltic Surface Milling	SY	2,360.000	2,360.000
0020	204.0150	Removing Curb & Gutter	LF	1,025.000	1,025.000
0030	204.0155	Removing Concrete Sidewalk	SY	250.000	250.000
0040	204.0210	Removing Manholes	EACH	2.000	2.000
0050	204.0220	Removing Inlets	EACH	4.000	4.000
0060	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	47.000	47.000
0070	204.0245	Removing Storm Sewer (size) 02. 15-Inch	LF	8.000	8.000
0080	204.0245	Removing Storm Sewer (size) 03. 21-Inch	LF	24.000	24.000
0090	204.0245	Removing Storm Sewer (size) 04. 27-Inch	LF	325.000	325.000
0100	204.0280	Sealing Pipes	EACH	1.000	1.000
0110	205.0100	Excavation Common	CY	700.000	700.000
0120	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 8997-00-22	LS	1.000	1.000
0130	213.0100	Finishing Roadway (project) 01. 8997-00-22	EACH	1.000	1.000
0140	305.0110	Base Aggregate Dense 3/4-Inch	TON	90.000	90.000
0150	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	650.000	650.000
0160	416.0260	Concrete Driveway HES 6-Inch	SY	90.000	90.000
0170	455.0120	Asphaltic Material PG64-28	TON	9.600	9.600
0180	455.0122	Asphaltic Material PG64-34	TON	18.000	18.000
0190	455.0605	Tack Coat	GAL	170.000	170.000
0200	460.1101	HMA Pavement Type E-1	TON	460.000	460.000
0210	460.2000	Incentive Density HMA Pavement	DOL	300.000	300.000
0220	520.8000	Concrete Collars for Pipe	EACH	7.000	7.000
0230	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	1,000.000	1,000.000
0240	602.0405	Concrete Sidewalk 4-Inch	SF	1,550.000	1,550.000
0250	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	64.000	64.000
0260	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	80.000	80.000
0270	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	8.000	8.000
0280	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	47.000	47.000
0290	608.0421	Storm Sewer Pipe Reinforced Concrete Class IV 21-Inch	LF	24.000	24.000
0300	608.0427	Storm Sewer Pipe Reinforced Concrete Class IV 27-Inch	LF	6.000	6.000
0310	608.0436	Storm Sewer Pipe Reinforced Concrete Class IV 36-Inch	LF	123.000	123.000
0320	608.0442	Storm Sewer Pipe Reinforced Concrete Class IV 42-Inch	LF	196.000	196.000
0330	611.0530	Manhole Covers Type J	EACH	3.000	3.000
0340	611.0624	Inlet Covers Type H	EACH	5.000	5.000
0350	611.0639	Inlet Covers Type H-S	EACH	4.000	4.000
0360	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0370	611.2005	Manholes 5-FT Diameter	EACH	2.000	2.000
0380	611.2006	Manholes 6-FT Diameter	EACH	2.000	2.000
0390	611.2008	Manholes 8-FT Diameter	EACH	1.000	1.000
0400	611.3004	Inlets 4-FT Diameter	EACH	2.000	2.000
0410	611.3230	Inlets 2x3-FT	EACH	4.000	4.000
0420	611.8110	Adjusting Manhole Covers	EACH	2.000	2.000
0430	619.1000	Mobilization	EACH	1.000	1.000
0440	624.0100	Water	MGAL	5.000	5.000
0450	625.0100	Topsoil	SY	550.000	550.000

DATE 03MAR15		E S T I M A T E O F Q U A N T I T I E S			
LINE				8997-00-22	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0460	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0470	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0480	628.7005	Inlet Protection Type A	EACH	9.000	9.000
0490	628.7015	Inlet Protection Type C	EACH	15.000	15.000
0500	631.0300	Sod Water	MGAL	15.000	15.000
0510	631.1000	Sod Lawn	SY	550.000	550.000
0520	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	8.000	8.000
0530	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	4.000	4.000
0540	637.2210	Signs Type II Reflective H	SF	85.000	85.000
0550	637.2215	Signs Type II Reflective H Folding	SF	20.720	20.720
0560	638.2602	Removing Signs Type II	EACH	4.000	4.000
0570	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0580	642.5001	Field Office Type B	EACH	1.000	1.000
0590	643.0100	Traffic Control (project) 01. 8997-00-22	EACH	1.000	1.000
0600	643.0300	Traffic Control Drums	DAY	1,220.000	1,220.000
0610	643.0420	Traffic Control Barricades Type III	DAY	1,710.000	1,710.000
0620	643.0705	Traffic Control Warning Lights Type A	DAY	2,440.000	2,440.000
0630	643.0900	Traffic Control Signs	DAY	1,960.000	1,960.000
0640	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,100.000	2,100.000
0650	646.0126	Pavement Marking Epoxy 8-Inch	LF	450.000	450.000
0660	646.0600	Removing Pavement Markings	LF	920.000	920.000
0670	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	6.000	6.000
0680	647.0356	Pavement Marking Words Epoxy	EACH	4.000	4.000
0690	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	110.000	110.000
0700	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	330.000	330.000
0710	650.4000	Construction Staking Storm Sewer	EACH	12.000	12.000
0720	650.4500	Construction Staking Subgrade	LF	564.000	564.000
0730	650.5000	Construction Staking Base	LF	564.000	564.000
0740	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,000.000	1,000.000
0750	650.9910	Construction Staking Supplemental Control (project) 01. 8997-00-22	LS	1.000	1.000
0760	650.9920	Construction Staking Slope Stakes	LF	564.000	564.000
0770	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	31.000	31.000
0780	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	652.000	652.000
0790	652.0615	Conduit Special 3-Inch	LF	402.000	402.000
0800	653.0140	Pull Boxes Steel 24x42-Inch	EACH	9.000	9.000
0810	654.0101	Concrete Bases Type 1	EACH	4.000	4.000
0820	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
0830	655.0230	Cable Traffic Signal 5-14 AWG	LF	458.000	458.000
0840	655.0240	Cable Traffic Signal 7-14 AWG	LF	315.000	315.000
0850	655.0270	Cable Traffic Signal 15-14 AWG	LF	1,588.000	1,588.000
0860	655.0320	Cable Type UF 2-10 AWG Grounded	LF	566.000	566.000
0870	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	1,220.000	1,220.000
0880	655.0615	Electrical Wire Lighting 10 AWG	LF	492.000	492.000
0890	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. Allen St & Wisconsin Ave	LS	1.000	1.000
0900	657.0100	Pedestal Bases	EACH	4.000	4.000
0910	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	4.000	4.000
0920	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	12.000	12.000
0930	658.0115	Traffic Signal Face 4-12 Inch Vertical	EACH	8.000	8.000

DATE 03MAR15			E S T I M A T E O F Q U A N T I T I E S			
LINE		8997-00-22				
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	
0940	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	12.000	12.000	
0950	658.0220	Backplates Signal Face 4 Section 12-Inch	EACH	8.000	8.000	
0960	658.0416	Pedestrian Signal Face 16-Inch	EACH	8.000	8.000	
0970	658.0500	Pedestrian Push Buttons	EACH	8.000	8.000	
0980	658.0600	Led Modules 12-Inch Red Ball	EACH	12.000	12.000	
0990	658.0605	Led Modules 12-Inch Yellow Ball	EACH	12.000	12.000	
1000	658.0610	Led Modules 12-Inch Green Ball	EACH	12.000	12.000	
1010	658.0615	Led Modules 12-Inch Red Arrow	EACH	8.000	8.000	
1020	658.0620	Led Modules 12-Inch Yellow Arrow	EACH	16.000	16.000	
1030	658.0625	Led Modules 12-Inch Green Arrow	EACH	8.000	8.000	
1040	658.0635	Led Modules Pedestrian Countdown Timer 16-Inch	EACH	8.000	8.000	
1050	658.5069	Signal Mounting Hardware (Location) 01. Allen St & Wisconsin Ave	LS	1.000	1.000	
1060	659.1125	Luminaires Utility LED C	EACH	4.000	4.000	
1070	690.0150	Sawing Asphalt	LF	1,330.000	1,330.000	
1080	690.0250	Sawing Concrete	LF	165.000	165.000	
1090	SPV.0060	Special 01. Bollards	EACH	2.000	2.000	
1100	SPV.0060	Special 02. Poles Type 10 Special	EACH	4.000	4.000	
1110	SPV.0060	Special 03. Monotube Arms 30-FT Special	EACH	4.000	4.000	
1120	SPV.0060	Special 04. Luminaire Arms Steel 8-FT Special	EACH	4.000	4.000	
1130	SPV.0060	Special 05. Adjusting Water Main Valve Box	EACH	4.000	4.000	
1140	SPV.0060	Special 06. Concrete Bases Type 10 Contractor Supplied Anchor Bolts & Anchor Rod Templ	EACH	4.000	4.000	
1150	SPV.0105	Special 01. Traffic Signal Cabinet And Controller Allen St & Wisconsin Ave	LS	1.000	1.000	
1160	SPV.0105	Special 02. Video Detection System Allen St & Wisconsin Ave	LS	1.000	1.000	

REMOVING ASPHALTIC SURFACE MILLING

STATION	LOCATION	204.0120 SY
ALLEN ST		
43+74.74 - 47+18.59	LT & RT	1656
WISCONSIN AVE		
83+62.18 - 84+53.58	LT & RT	362
85+46.64 - 86+23.20	LT & RT	342
ITEM TOTAL		2360

REMOVING CURB AND GUTTER

STATION	LOCATION	204.0150 LF
ALLEN ST		
43+74.74 - 47+30.00	LT & RT	689
WISCONSIN AVE		
83+62.18 - 84+53.58	LT & RT	183
85+46.64 - 86+23.20	LT & RT	153
ITEM TOTAL		1025

REMOVING CONCRETE SIDEWALK

STATION	LOCATION	204.0155 SY
ALLEN STREET		
44+39.00 - 44+72.00	LT	42
44+39.00 - 44+78.00	RT	33
45+25.00 - 45+59.00	LT	33
45+25.00 - 45+72.00	RT	41
46+04.00 - 46+44.00	LT	48
46+28.00 - 46+35.00	RT	7
46+58.00 - 46+92.00	LT	34
47+04.00 - 47+13.00	RT	12
ITEM TOTAL		250

REMOVING MANHOLES

STATION	LOCATION	204.0210 EACH
ALLEN ST		
44+58.07	15.8' RT	1
45+24.33	17.5' RT	1
ITEM TOTAL		2

REMOVING INLETS

STATION	LOCATION	204.0220 EACH
ALLEN ST		
44+53	21.1' LT	1
44+57	21.4' RT	1
46+38	17.0' LT	1
46+39	17.0' RT	1
ITEM TOTAL		4

REMOVING STORM SEWER

STATION	LOCATION	204.0245.01 12-INCH LF	204.0245.02 15-INCH LF	204.0245.03 21-INCH LF	204.0245.04 27-INCH LF
ALLEN ST					
44+50 - 44+60	16' RT			16	
44+53 - 44+58	LT & RT	37			
44+57 - 44+58	RT	6			
45+16 - 45+24	17.5' RT			8	
45+24 - 47+20	17.5' RT				196
46+38	RT	2			
46+39	LT & RT	2			
WISCONSIN AVE					
84+29 - 84+37	7.4' LT		8		
84+82 - 86+11	22' RT				129
ITEM TOTALS		47	8	24	325

SEALING PIPES

STATION	LOCATION	204.0280 EACH	REMARKS
ALLEN ST			
45+24.33	17.5' RT	1	SEAL 12" SSPRC TO NW
ITEM TOTAL		1	

EXCAVATION COMMON

STATION	LOCATION	205.0100 CY
ALLEN ST & WISCONSIN AVE		
43+74.74 - 47+18.59 & 83+62.18 - 86+23.20	MAINLINE	250
	WALK/ENTRANCES	42
	CURB	242
	TOPSOIL	83
UNDISTRIBUTED	LT & RT	83
ITEM TOTAL		700

BASE AGGREGATE

STATION	LOCATION	305.0110 DENSE 3/4-INCH TON	305.0120 DENSE 1 1/4-INCH TON
ALLEN ST & WISCONSIN AVE			
43+74.74 - 47+18.59 & 83+62.18 - 86+23.20	MAINLINE		650
44+39.00 - 44+75.00	LT	15	
44+39.00 - 44+79.00	RT	14	
45+23.00 - 45+59.00	LT	13	
45+23.00 - 45+72.00	RT	16	
46+04.00 - 46+44.00	LT	14	
46+58.00 - 46+92.00	LT	13	
47+04.00 - 47+13.00	RT	4	
ITEM TOTALS		90	650

CONCRETE DRIVEWAY

STATION	LOCATION	416.0260 HES 6-INCH SY
ALLEN ST		
46+23	LT	26
46+75	LT	19
47+10	RT	10
WISCONSIN AVE		
83+96	RT	26
86+13	RT	10
ITEM TOTAL		90

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR
ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

ASPHALTIC CONCRETE PAVEMENT ITEMS

STATION	LOCATION	455.0120	455.0122	455.0605	460.1101	REMARKS
		ASPHALTIC MATERIAL PG64-28 TON	ASPHALTIC MATERIAL PG64-34 TON	TACK COAT GAL	HMA PAVEMENT TYPE E-1 TON	
ALLEN ST & WISCONSIN AVE						
43+74.74 - 47+18.59 & 83+62.18 - 86+23.20	LT & RT	9.6			160	LOWER LAYER UPPER LAYER ENTRANCE
43+74.74 - 47+18.59 & 83+62.18 - 86+23.20	LT & RT		18.0	170	299	
46+75.00	LT				1	
ITEM TOTALS		9.6	18.0	170	460	

CONCRETE COLLARS FOR PIPE

STATION	LOCATION	520.8000 EACH	REMARKS
ALLEN ST			
44+50.07	15.8' RT	1	P-1E
44+66.07	15.8' RT	1	P-1
45+16.33	17.5' RT	1	P-1F
46+38.39	15.7' RT	1	P-2C
46+39.30	15.7' LT	1	P-2B
WISCONSIN AVE			
84+31.00	7.4' LT	1	P-5
86+11.42	22.0' RT	1	P-4A
ITEM TOTAL		7	

CONCRETE CURB & GUTTER

STATION	LOCATION	601.0411
		30-INCH TYPE D LF
ALLEN ST		
43+74.74 - 44+77.00	LT	122
43+74.74 - 44+82.00	RT	124
45+20.00 - 47+30.00	RT	226
45+21.00 - 47+18.59	LT	217
WISCONSIN AVE		
83+62.18 - 84+47.18	RT	85
83+62.18 - 84+49.16	LT	88
85+53.18 - 86+23.20	RT	70
85+55.26 - 86+23.20	LT	68
ITEM TOTALS		1000

CONCRETE SIDEWALK

STATION	LOCATION	602.0405 4-INCH SF
ALLEN ST		
44+39 - 44+75	LT	340
44+39 - 44+79	RT	325
45+23 - 45+59	LT	305
45+23 - 45+72	RT	370
46+04 - 46+14	LT	55
46+34 - 46+44	LT	50
46+58 - 46+68	LT	55
46+82 - 46+92	LT	50
ITEM TOTALS		1550

CURB RAMP DETECTABLE WARNING
FIELD NATURAL PATINA

STATION	LOCATION	602.0515 SF
ALLEN ST		
44+42	LT & RT	16
45+56	LT & RT	16
WISCONSIN AVE		
84+44	LT & RT	16
85+56	LT & RT	16
ITEM TOTAL		64

STORM SEWER PIPE REINFORCED CONCRETE

STATION	LOCATION	PIPE NAME	608.0412 SSPRC CLASS IV 12-INCH LF	608.0415 SSPRC CLASS IV 15-INCH LF	608.0418 SSPRC CLASS IV 18-INCH LF	608.0421 SSPRC CLASS IV 21-INCH LF	608.0427 SSPRC CLASS IV 27-INCH LF	608.0436 SSPRC CLASS IV 36-INCH LF	608.0442 SSPRC CLASS IV 42-INCH LF	UPSTREAM INVERT ELEVATION	DOWNSTREAM INVERT ELEVATION	FLows TO STRUCTURE	SLOPE	* JOINT TIES EACH
ALLEN ST														
44+32.74 - 44+53.07	LT	P-1A	28							1133.71	1133.61	INL - 1B	0.50%	
44+32.74 - 44+58.06	RT	P-1C	25							1133.71	1133.58	INL - 1D	0.50%	
44+50.07 - 44+58.07	RT	P-1E				8				1130.32	1130.31	MH - 1	0.10%	
44+53.07 - 44+58.07	LT & RT	P-1B			39					1133.11	1132.91	MH - 1	0.50%	
44+58.06 - 44+58.07	RT	P-1D			8					1133.08	1133.04	MH - 1	0.50%	
44+58.07 - 44+66.07	RT	P-1				8				1130.31	1130.30	MH - 2	0.10%	
45+16.33 - 45+24.33	RT	P-1F				8				1130.28	1130.27	MH - 2	0.10%	
45+24.33 - 46+38.39	RT	P-2							114	1128.31	1127.79	MH - 2A	0.50%	
46+38.39	RT	P-2C	6							1129.06	1129.02	MH - 2A	0.70%	
46+39.30	LT	P-2B	6							1131.09	1131.05	MH - 2A	0.70%	
46+38.39 - 47+20.00	RT	P-2A							82	1127.79	1127.63	MH - 3	0.20%	
WISCONSIN AVE														
84+29.00 - 84+37.00	LT	P-5		8						1132.09	1132.06	MH - 5	0.40%	
84+37.00	LT	P-5A	15							1133.22	1132.31	MH - 5	6.20%	
84+82.53 - 86+05.42	RT	P-4						123		1129.16	1128.91	MH - 2	0.20%	
86+05.42 - 86+11.02	RT	P-4A					6			1130.04	1130.01	MH - 4	0.50%	
TOTAL			80	8	47	24	6	123	196					

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR
ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

STORM SEWER STRUCTURE ITEMS

STATION	LOCATION	STRUCTURE NO	611.0530	611.0624	611.0639	611.2004	611.2005	611.2006	611.2008	611.3004	611.3230	RIM ELEVATION	SUMP ELEVATION	STRUCTURE DEPTH VF
			MANHOLE COVERS TYPE J EACH	INLET COVERS TYPE H	INLET COVERS TYPE H-S	MANHOLES 4-FT DIA EACH	MANHOLES 5-FT DIA EACH	MANHOLES 6-FT DIA EACH	MANHOLES 8-FT DIA EACH	INLETS 4-FT DIA EACH	INLETS 2x3-FT EACH			
ALLEN ST														
44+32.74	22.0' LT	1A		1							1	1137.04	1133.54	2.59
44+32.74	22.0' RT	1C		1							1	1137.04	1133.54	2.59
44+53.07	23.1' LT	1B		1						1		1136.69	1132.90	2.88
44+58.06	23.4' RT	1D		1						1		1136.77	1132.87	2.99
44+58.07	15.8' RT	1	1				1					1136.97	1130.05	5.59
45+24.33	17.5' RT	2	1						1			1135.88	1127.93	6.62
46+38.39	21.7' RT	2A			1			1				1133.90	1127.41	5.16
46+39.30	21.7' LT	2B			1						1	1134.10	1130.92	2.27
47+20.00	17.5' RT	3		1				1				1134.64	1127.25	6.48
WISCONSIN AVE														
84+37.00	7.4' LT	5	1			1						1136.86	1131.87	3.66
84+37.00	22.0' LT	5A			1						1	1136.55	1133.05	2.59
86+05.42	22.0' RT	4			1		1					1134.81	1128.82	5.08
ITEM TOTAL			3	5	4	1	2	2	1	2	4			

ADJUSTING MANHOLE COVERS

STATION	LOCATION	CAT 010 611.8110 EACH	CAT 020 611.8110 EACH	
ALLEN ST				
44+93.60	18.3' RT	1		STORM SEWER MH
45+00.00	5.3' LT		1	SANITARY MH
ITEM TOTAL		1	1	

WATER

STATION	LOCATION	624.0100 MGAL
ALLEN ST		
43+74.74 - 47+18.59	LT & RT	5
ITEM TOTAL		5

ADJUSTING WATER MAIN VALVE BOX

STATION	LOCATION	CAT 020 SPV.0060.05 EACH
ALLEN ST		
45+08	LT	1
45+15	LT	1
45+16	LT	1
45+21	LT	1
ITEM TOTAL		4

TOPSOIL

STATION	LOCATION	625.0100 SY
ALLEN ST		
43+74.74 - 44+77.00	LT	77
43+74.74 - 44+82.00	RT	80
45+20.00 - 47+30.00	RT	109
45+21.00 - 47+18.59	LT	114
WISCONSIN AVE		
83+62.18 - 84+47.18	RT	20
83+62.18 - 84+49.16	LT	57
85+53.18 - 86+23.20	RT	30
85+55.26 - 86+23.20	LT	22
UNDISTRIBUTED	LT & RT	41
ITEM TOTAL		550

EROSION CONTROL ITEMS

STATION	LOCATION	628.1905	628.1910
		MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
ALLEN ST			
43+74.74 - 47+18.59	LT & RT	1	1
WISCONSIN AVE			
83+62.18 - 86+23.20	LT & RT	1	1
ITEM TOTAL		2	2

INLET PROTECTION

STATION	LOCATION	628.7005 TYPE A EACH	628.7015 TYPE C EACH
ALLEN ST			
44+32.74	22.0' LT	1	1
44+32.74	22.0' RT	1	1
44+53.07	23.1' LT	1	1
44+58.06	23.4' RT	1	1
46+38.39	21.7' RT	1	1
46+39.30	21.7' LT	1	1
47+20.00	17.5' RT	1	1
47+73.00	17.5' RT		1
47+90.00	20.5' LT		1
WISCONSIN AVE			
83+00.00	17.5' LT		1
83+12.00	17.5' RT		1
86+65.00	17.5' LT		1
86+65.00	22.0' RT		1
84+37.00	22.0' LT	1	1
86+05.42	22.0' RT	1	1
ITEM TOTALS		9	15

SOD

STATION	LOCATION	631.0300 WATER MGAL	631.1000 LAWN SY
ALLEN ST			
43+74.74 - 44+77.00	LT	2	77
43+74.74 - 44+82.00	RT	2	80
45+20.00 - 47+30.00	RT	3	109
45+21.00 - 47+18.59	LT	3	114
WISCONSIN AVE			
83+62.18 - 84+47.18	RT	1	20
83+62.18 - 84+49.16	LT	2	57
85+53.18 - 86+23.20	RT	1	30
85+55.26 - 86+23.20	LT	1	22
UNDISTRIBUTED	LT & RT	1	41
ITEM TOTALS		15	550

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR
ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

SIGNING ITEMS									
SIGN GROUP NUMBER	SIGN CODE	SIGN MESSAGE	SIGN SIZE W X H (INCHES)	634.0614	634.0618	637.2210	637.2215	638.2602	638.3000
				POST WOOD 4X6-INCH X 14-FT EACH	POST WOOD 4X6-INCH X 18-FT EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE FOLDING SF	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH
1-1	R7-52R	NO PARKING BETWEEN SIGNS	18 X 24	1		3.00			
1-2		STOP						1	1
1-3	R1-1F	STOP	30 X 30				5.18		
1-4	W3-3	TRAFFIC SIGNAL AHEAD	36 X 36		1	9.00			
	R3-7L	LEFT LANE MUST TURN LEFT	30 X 30			6.25			
1-5	R7-52L	NO PARKING BETWEEN SIGNS	18 X 24	1		3.00			
1-6	R7-52R	NO PARKING BETWEEN SIGNS	18 X 24	1		3.00			
1-7		STOP						1	1
1-8	R1-1F	STOP	30 X 30				5.18		
1-9	W3-3	TRAFFIC SIGNAL AHEAD	36 X 36		1	9.00			
	R3-7L	LEFT LANE MUST TURN LEFT	30 X 30			6.25			
1-10	R7-52L	NO PARKING BETWEEN SIGNS	18 X 24	1		3.00			
1-11	R7-52L	NO PARKING BETWEEN SIGNS	18 X 24	1		3.00			
1-12	W3-3	TRAFFIC SIGNAL AHEAD	36 X 36		1	9.00			
	R3-7L	LEFT LANE MUST TURN LEFT	30 X 30			6.25			
1-13	R1-1F	STOP	30 X 30				5.18		
1-14		STOP						1	1
1-15	R7-52R	NO PARKING BETWEEN SIGNS	18 X 24	1		3.00			
1-16	R7-52L	NO PARKING BETWEEN SIGNS	18 X 24	1		3.00			
1-17	W3-3	TRAFFIC SIGNAL AHEAD	36 X 36		1	9.00			
	R3-7L	LEFT LANE MUST TURN LEFT	30 X 30			6.25			
1-18	R1-1F	STOP	30 X 30				5.18		
1-19		STOP						1	1
1-20	R7-52R	NO PARKING BETWEEN SIGNS	18 X 24	1		3.00			
ITEM TOTALS				8	4	85.00	20.72	4	4

TRAFFIC CONTROL				
LOCATION	643.0300	643.0420	643.0705	643.0900
	DRUMS DAYS	BARRICADES TYPE III DAYS	WARNING LIGHTS TYPE A DAYS	SIGNS DAYS
C RICE LAKE, WISCONSIN AVE	1220	1710	2440	1960
ITEM TOTALS	1220	1710	2440	1960

PAVEMENT MARKING							
STATION	LOCATION	646.0106	646.0126	646.0600	647.0166	647.0356	647.0766
		EPOXY 4-INCH LF	EPOXY 8-INCH LF	REMOVING PAVEMENT MARKINGS LF	ARROWS EPOXY TYPE 2 EACH	WORDS EPOXY EACH	STOP LINE EPOXY 18-INCH LF
ALLEN ST							
42+04.70 - 44+44.74	LT & RT	570	140	340	2	1	28
45+53.18 - 47+63.20	LT & RT	550	110	90	1	1	27
WISCONSIN AVE							
82+72.20 - 84+47.18	LT & RT	440	75	180	1	1	28
85+53.18 - 87+78.20	LT & RT	540	125	310	2	1	27
ITEM TOTALS		2100	450	920	6	4	110

CONSTRUCTION STAKING STORM SEWER SYSTEM		
STATION	LOCATION	650.4000 EACH
ALLEN ST		
44+32.74	22.0' LT	1
44+32.74	22.0' RT	1
44+53.07	23.1' LT	1
44+58.06	23.4' RT	1
44+58.07	15.8' RT	1
45+24.33	17.5' RT	1
46+38.39	21.7' RT	1
46+39.30	21.7' LT	1
47+20.00	17.5' RT	1
WISCONSIN AVE		
84+37.00	7.4' LT	1
84+37.00	22.0' LT	1
86+05.42	22.0' RT	1
ITEM TOTALS		12

CONSTRUCTION STAKING					
STATION	LOCATION	650.4500	650.5000	650.5500	650.9920
		SUBGRADE LF	BASE LF	CURB GUTTER AND SLOPE STAKES LF	SLOPE STAKES LF
ALLEN ST					
43+74.74 - 47+18.59	LT & RT	344	344	689	344
WISCONSIN AVE					
83+62.18 - 84+80.66	LT & RT	119	119	173	119
85+21.72 - 86+23.20	LT & RT	101	101	138	101
ITEM TOTALS		564	564	1000	564

SAWING			
STATION	LOCATION	690.0150	690.0250
		ASPHALT LF	CONCRETE LF
ALLEN ST			
43+74.74	LT & RT	40	5
43+74.74 - 44+47.70	LT & RT	183	10
44+65.00		39	
45+35.00	LT & RT	25	
45+35.00 - 47+30.00	LT & RT	428	57
WISCONSIN AVENUE			
83+62.18	LT & RT	37	5
83+62.18 - 84+83.00	LT & RT	283	58
84+83.00 - 85+20.00	RT	38	
85+20.00 - 86+23.20	LT & RT	215	25
86+23.20	LT & RT	42	5
ITEM TOTALS		1330	165

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

CONDUIT

FROM	TO	652.0225	652.0235	652.0615
		CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	CONDUIT SPECIAL 3-INCH LF
CB1	PB1	--	51	--
PB1	PB2	--	128	--
PB2	PB3	--	--	98
PB3	PB4	--	146	--
PB4	PB5	--	--	98
PB5	PB6	--	132	--
PB6	PB7	--	--	98
PB7	PB8	--	148	--
PB8	PB9	--	--	108
PB9	CB1	--	18	--
PB1	SB1	--	11	--
PB2	SB2	11	--	--
PB3	SB3	--	10	--
PB4	SB4	4	--	--
PB5	SB5	--	4	--
PB6	SB6	5	--	--
PB7	SB7	--	4	--
PB8	SB8	11	--	--
TOTAL		31	652	402

PULL BOXES STEEL

PULL BOX NUMBER	STATION	LOCATION	653.0140
			PULL BOXES STEEL 24 X 42 - INCH EACH
PB1	84+50.8	24.9' LT	1
PB2	44+27.5	24.5' RT	1
PB3	44+27.5	24.5' LT	1
PB4	85+63.5	24.5' LT	1
PB5	85+63.6	24.6' RT	1
PB6	45+64.3	24.5' LT	1
PB7	45+64.2	24.4' RT	1
PB8	84+29.1	24.5' RT	1
PB9	84+29.0	28.9' LT	1
TOTAL			9

CONCRETE BASES

BASE NUMBER	STATION	LOCATION	654.0101	654.0217	SPV.0060.06
			CONCRETE BASES TYPE 1 EACH	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH	CONCRETE BASES TYPE 10 CONTRACTOR SUPPLIED ANCHOR BOLTS & ANCHOR ROD TEMPLATE EACH
SB1	84+39.9	28.3' LT	--	--	1
SB2	44+37.8	26.4' RT	1	--	--
SB3	44+37.4	25.8' LT	--	--	1
SB4	85+60.2	25.5' LT	1	--	--
SB5	85+60.6	26.6' RT	--	--	1
SB6	45+60.0	26.3' LT	1	--	--
SB7	45+60.4	25.8' RT	--	--	1
SB8	84+40.2	27.0' RT	1	--	--
CB1	84+35.1	29.3' LT	--	1	--
TOTAL			4	1	4

TRAFFIC SIGNAL CABLE NO. 14 (ABOVE GROUND)

FROM	TO	655.0230	655.0240
		CABLE TRAFFIC SIGNAL 5 - 14 AWG LF	CABLE TRAFFIC SIGNAL 7 - 14 AWG LF
SB1	HEAD 17	44	--
SB1	HEAD 18	21	--
SB1	HEAD 20	--	57
SB1	HEAD 28	15	--
SB2	HEAD 1	21	--
SB2	HEAD 9	--	22
SB2	HEAD 21	15	--
SB3	HEAD 7	42	--
SB3	HEAD 8	21	--
SB3	HEAD 10	--	57
SB3	HEAD 22	15	--
SB4	HEAD 14	--	22
SB4	HEAD 16	21	--
SB4	HEAD 23	15	--
SB5	HEAD 12	42	--
SB5	HEAD 13	21	--
SB5	HEAD 15	--	56
SB5	HEAD 24	15	--
SB6	HEAD 4	--	22
SB6	HEAD 6	21	--
SB6	HEAD 25	15	--
SB7	HEAD 2	42	--
SB7	HEAD 3	21	--
SB7	HEAD 5	--	57
SB7	HEAD 26	15	--
SB8	HEAD 11	21	--
SB8	HEAD 19	--	22
SB8	HEAD 27	15	--
TOTAL		458	315

ELECTRICAL WIRE

FROM	TO	TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	55
SB1	SB2	126
SB2	SB3	110
SB3	SB4	127
SB4	SB5	97
SB5	SB6	115
SB6	SB7	98
SB7	SB8	129
SB8	CB1	114
PB1	SB1	31
PB2	SB2	31
PB3	SB3	30
PB4	SB4	24
PB5	SB5	24
PB6	SB6	25
PB7	SB7	24
PB8	SB8	31
PB9	CB1	29
TOTAL		1220

TRAFFIC SIGNAL CABLE NO. 14 (BELOW GROUND)

FROM	TO	655.0270
		CABLE TRAFFIC SIGNAL 15 - 14 AWG LF
CB1	SB1	55
CB1	SB2	135
CB1	SB3	199
CB1	SB4	281
CB1	SB5	344
CB1	SB6	263
CB1	SB7	197
CB1	SB8	114
TOTAL		1588

LIGHTING WIRE

FROM	TO	655.0320	655.0615
		CABLE TYPE UF 2 - 10 AWG GROUNDED LF	ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB1	55	--
SB1	LUMIN	--	123
SB1	SB3	190	--
SB3	LUMIN	--	123
CB1	SB7	197	--
SB7	LUMIN	--	123
SB7	SB5	179	--
SB5	LUMIN	--	123
TOTAL		566	492

ELECTRICAL SERVICE METER BREAKER PEDESTAL
ALLEN STREET & WISCONSIN AVENUE

	656.0200
	ELECTRICAL SERVICE
	METER BREAKER PEDESTAL
BASE	LS
NUMBER	
CB1	1
TOTAL	1

CAST BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NUMBER	657.0100	657.0425	SPV.0060.02	SPV.0060.03	SPV.0060.04	658.0500	659.1125
	PEDESTAL BASES EACH	TRAFFIC SIGNAL STANDARDS ALUMINUM 15 - FT EACH	POLES TYPE 10 SPECIAL EACH	MONOTUBE ARMS 30-FT SPECIAL EACH	LUMINAIRE ARMS STEEL 8-FOOT SPECIAL EACH	PEDESTRIAN PUSH BUTTONS EACH	LUMINAIRES UTILITY LED C EACH
SB1	--	--	1	1	1	1	1
SB2	1	1	--	--	--	1	--
SB3	--	--	1	1	1	1	1
SB4	1	1	--	--	--	1	--
SB5	--	--	1	1	1	1	1
SB6	1	1	--	--	--	1	--
SB7	--	--	1	1	1	1	1
SB8	1	1	--	--	--	1	--
TOTAL		4	4	4	4	8	4

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES													
SIGNAL HEAD NUMBER	SIGNAL BASE NUMBER	658.0110	658.0115	658.0215	658.0220	658.0416	658.0600	658.0605	658.0610	658.0615	658.0620	658.0625	658.0635
		TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	PEDESTRIAN SIGNAL FACE 16-INCH EACH	LED MODULES 12-INCH RED BALL EACH	LED MODULES 12-INCH YELLOW BALL EACH	LED MODULES 12-INCH GREEN BALL EACH	LED MODULES 12-INCH RED ARROW EACH	LED MODULES 12-INCH YELLOW ARROW EACH	LED MODULES 12-INCH GREEN ARROW EACH	LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB2	1	--	1	--	--	1	1	1	--	--	--	--
2	SB7	1	--	1	--	--	1	1	1	--	--	--	--
3	SB7	1	--	1	--	--	1	1	1	--	--	--	--
4	SB6	--	1	--	1	--	--	--	--	1	2	1	--
5	SB7	--	1	--	1	--	--	--	--	1	2	1	--
6	SB6	1	--	1	--	--	1	1	1	--	--	--	--
7	SB3	1	--	1	--	--	1	1	1	--	--	--	--
8	SB3	1	--	1	--	--	1	1	1	--	--	--	--
9	SB2	--	1	--	1	--	--	--	--	1	2	1	--
10	SB3	--	1	--	1	--	--	--	--	1	2	1	--
11	SB8	1	--	1	--	--	1	1	1	--	--	--	--
12	SB5	1	--	1	--	--	1	1	1	--	--	--	--
13	SB5	1	--	1	--	--	1	1	1	--	--	--	--
14	SB4	--	1	--	1	--	--	--	--	1	2	1	--
15	SB5	--	1	--	1	--	--	--	--	1	2	1	--
16	SB4	1	--	1	--	--	1	1	1	--	--	--	--
17	SB1	1	--	1	--	--	1	1	1	--	--	--	--
18	SB1	1	--	1	--	--	1	1	1	--	--	--	--
19	SB8	--	1	--	1	--	--	--	--	1	2	1	--
20	SB1	--	1	--	1	--	--	--	--	1	2	1	--
21	SB2	--	--	--	--	1	--	--	--	--	--	--	1
22	SB3	--	--	--	--	1	--	--	--	--	--	--	1
23	SB4	--	--	--	--	1	--	--	--	--	--	--	1
24	SB5	--	--	--	--	1	--	--	--	--	--	--	1
25	SB6	--	--	--	--	1	--	--	--	--	--	--	1
26	SB7	--	--	--	--	1	--	--	--	--	--	--	1
27	SB8	--	--	--	--	1	--	--	--	--	--	--	1
28	SB1	--	--	--	--	1	--	--	--	--	--	--	1
TOTAL		12	8	12	8	8	12	12	12	8	16	8	8

SIGNAL MOUNTING HARDWARE
ALLEN STREET & WISCONSIN AVENUE

LOCATION		658.5069.01 SIGNAL MOUNTING HARDWARE LS
ALLEN STREET & WISCONSIN AVENUE		1
TOTAL		1

BOLLARDS

STATION LOCATION		SPV.0060.01 BOLLARDS EACH
84+37.3	25.6' LT	1
84+31.0	25.6' LT	1
TOTAL		2

TRAFFIC SIGNAL CABINET AND CONTROLLER
ALLEN STREET & WISCONSIN AVENUE

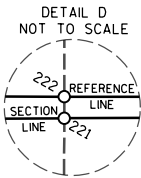
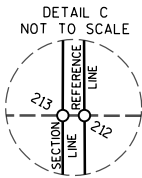
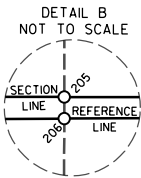
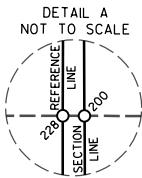
		SPV.0105.01 TRAFFIC SIGNAL CABINET AND CONTROLLER LS
ALLEN STREET & WISCONSIN AVENUE		1
TOTAL		1

VIDEO DETECTION SYSTEM
ALLEN STREET & WISCONSIN AVENUE

		SPV.0105.02 VIDEO DETECTION SYSTEM LS
ALLEN STREET & WISCONSIN AVENUE		1
TOTAL		1

BASIS OF EXISTING RW		
ALLEN STREET & WISCONSIN AVENUE	OAK PARK ADDITION	
	BANISTER PLAT (OUTLOTS)	
	2ND ADDITION TO VAN BERGERN & NOBLE RIVERSIDE RICE LAKE	

GN



FEE COURSE TABLE

FROM	TO	BEARING	DISTANCE
910	200	S00°21'49"E	2566.82'
200	201	S89°51'58"E	33.09'
201	202	S00°20'02"E	30.00'
202	203	S46°00'08"E	14.85'
203	204	N89°49'16"E	35.00'
204	205	S00°03'36"E	34.61'
205	206	S00°03'36"E	0.02'
206	207	S00°03'58"E	31.37'
207	208	S83°43'59"W	15.09'
208	209	S80°28'39"W	24.33'
209	210	S38°33'27"W	10.39'
210	211	S00°28'33"W	50.00'
211	212	N89°52'08"W	34.37'
212	213	N89°52'08"W	0.72'
213	214	N89°52'08"W	30.91'
214	215	N00°28'33"E	20.00'
215	216	N89°50'34"W	1.49'
216	217	N00°08'02"E	25.00'
217	218	N24°38'28"W	14.32'
218	219	N54°31'50"W	10.22'
219	220	N87°28'32"W	24.00'
220	221	N02°31'20"E	32.99'
221	222	N02°31'20"E	0.05'
222	223	N02°31'20"E	32.97'
223	224	S87°28'32"E	19.00'
224	225	N61°24'40"E	11.68'
225	226	N20°06'05"E	21.62'
226	227	N00°20'02"W	14.00'
227	228	S89°51'58"E	32.07'
228	200	S89°51'58"E	0.84'

FEE STATION OUT TABLE

POINT	STATION	OFFSET
200	85+75.00	0.84'RT
201	85+75.00	33.93'RT
202	85+45.00	34.18'RT
203	45+45.00	34.56'LT
204	45+80.00	34.63'LT
205	45+80.00	0.02'LT
206	45+80.00	0.00'RT
207	45+80.00	31.37'RT
208	45+65.00	33.00'RT
209	45+41.00	37.00'RT
210	84+55.00	34.67'RT
211	84+05.00	34.37'RT
212	84+05.00	0.00'RT
213	84+05.00	0.72'LT
214	84+05.00	31.63'LT
215	84+25.00	31.51'LT
216	84+25.00	33.00'LT
217	84+50.00	33.00'LT
218	84+63.00	39.00'LT
219	44+54.00	33.04'RT
220	44+30.00	33.03'RT
221	44+30.00	0.05'RT
222	44+30.00	0.00'RT
223	44+30.00	32.97'LT
224	44+49.00	32.96'LT
225	44+59.00	39.00'LT
226	85+61.00	31.96'LT
227	85+75.00	32.07'LT
228	85+75.00	0.00'RT

TLE STATION OUT TABLE

POINT	STATION	OFFSET
240	85+65.00	34.01'RT
241	85+45.00	45.00'RT
242	45+65.00	34.60'LT
243	45+80.00	38.00'RT
244	84+56.00	45.00'RT
245	84+35.00	37.00'RT
246	84+35.00	34.55'RT
247	44+57.00	44.00'RT
248	44+30.00	36.00'RT
249	44+53.00	45.00'LT

SCHEDULE OF LANDS & INTERESTS REQUIRED

AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	TOTAL S.F.	R&W SQUARE FEET REQUIRED			TOTAL S.F. REM.	TLE S.F.
				NEW	EXISTING	TOTAL		
1	KELLY BAUMGARTNER AND A LIFE ESTATE TO JANICE K. BAUMGARTNER	FEE/TLE	17,424	155	---	155	17,269	337
2	MACIOSEK & SLIND RENTALS	FEE/TLE	8,624	55	---	55	8,569	267
3	TRINITY EVANGELICAL LUTHERAN CHURCH	FEE/TLE	43,560	165	---	165	43,395	521
4	TERRY L. & MARGARET A. O'BRIEN	FEE/TLE	18,731	159	---	159	18,572	445
20	CENTURYLINK	RELEASE OF RIGHTS						
30	MOSAIC TELECOM INC.	RELEASE OF RIGHTS						

REVISION DATE

DATE

SCALE, FEET

GRID FACTOR NA

0 15' 30'

HWY: WISCONSIN AVENUE

STATE R/W PROJECT NUMBER 8997-00-20

PLAT SHEET NO: 4.02

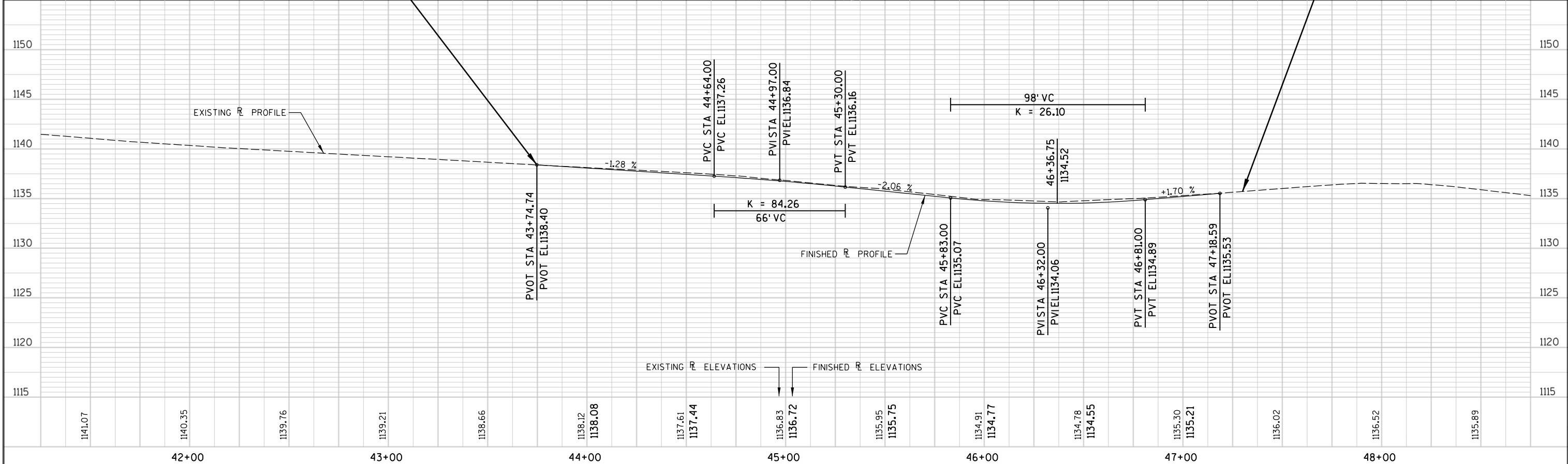
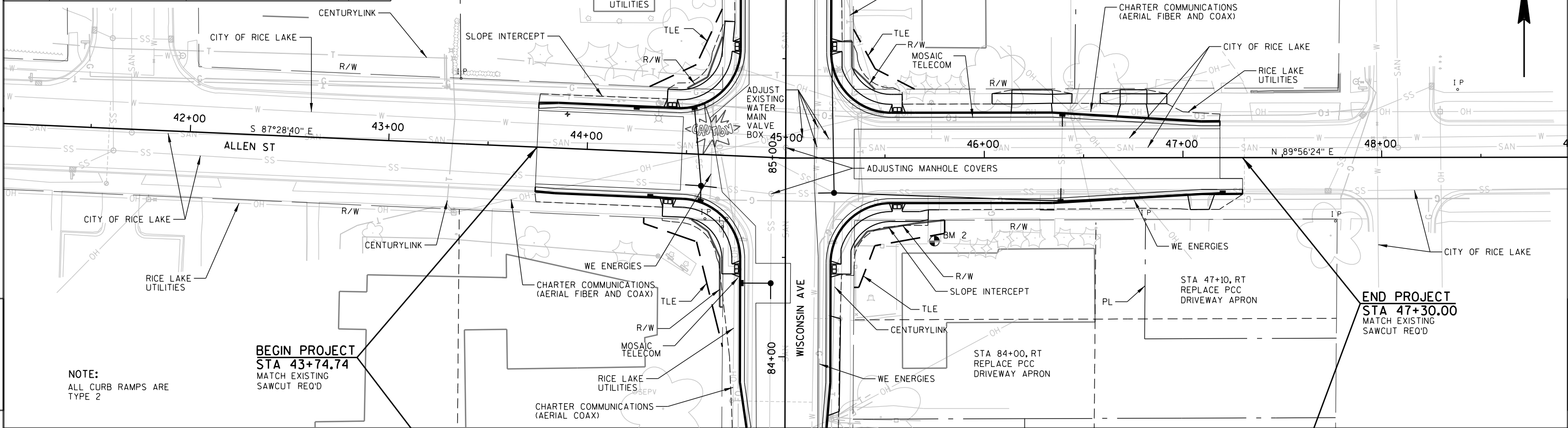
COUNTY: BARRON

CONSTRUCTION PROJECT NUMBER 8997-00-22

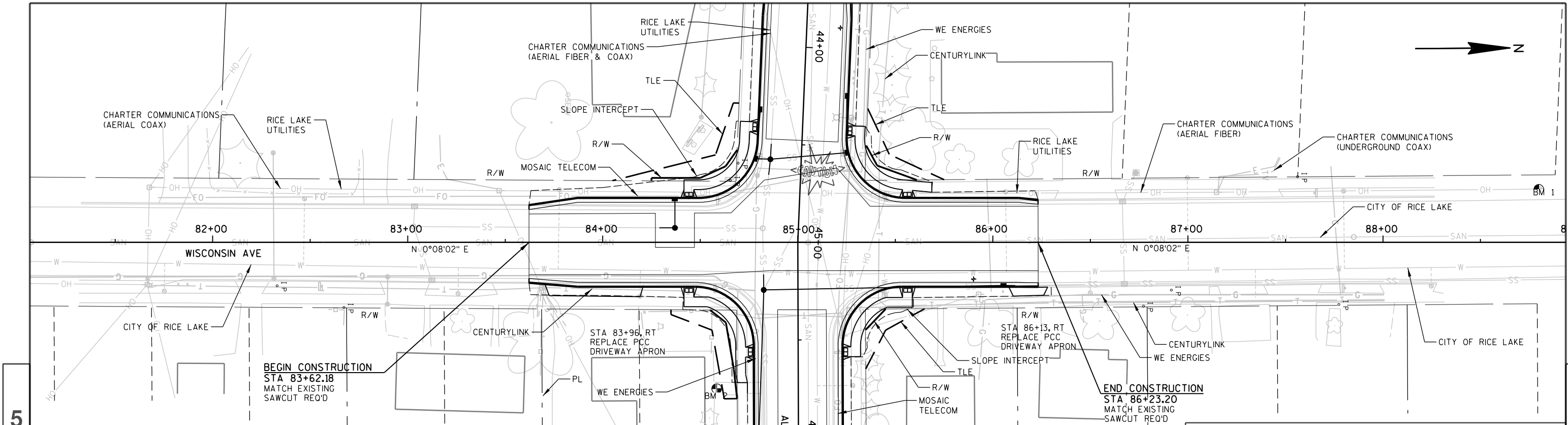
PS&E SHEET

E

BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
2	45+76.64, 41.8' RT ALLEN ST	BOTTOM STEP HOUSE #622	1137.03

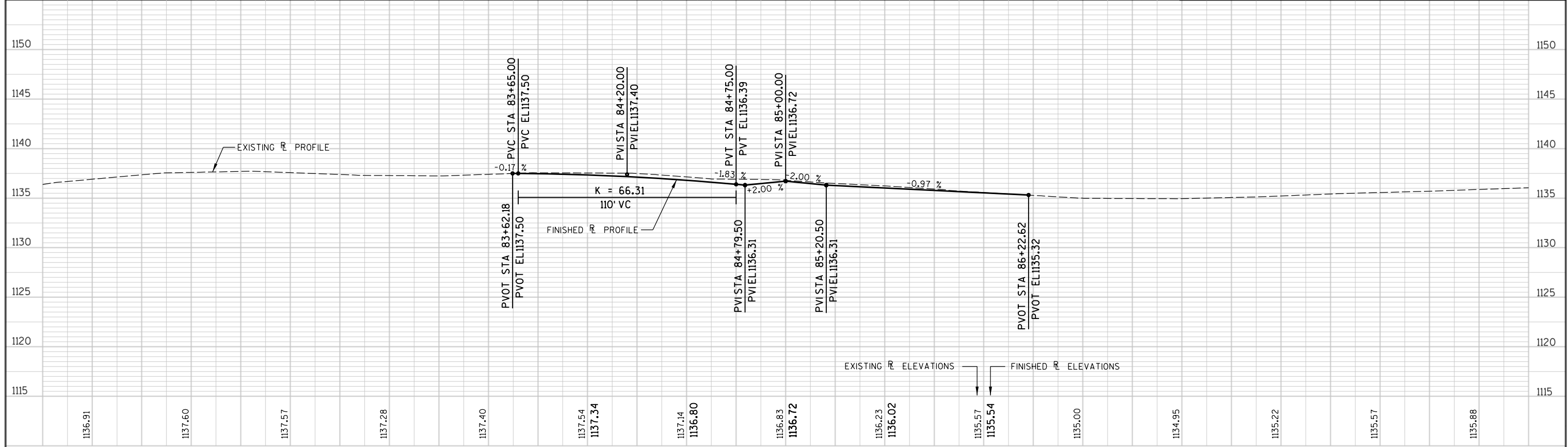


PROJECT NO: 8997-00-22	HWY: ALLEN ST INTERSECTION	COUNTY: BARRON	PLAN & PROFILE	SHEET	E
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NOTE:
ALL CURB RAMPS ARE
TYPE 2

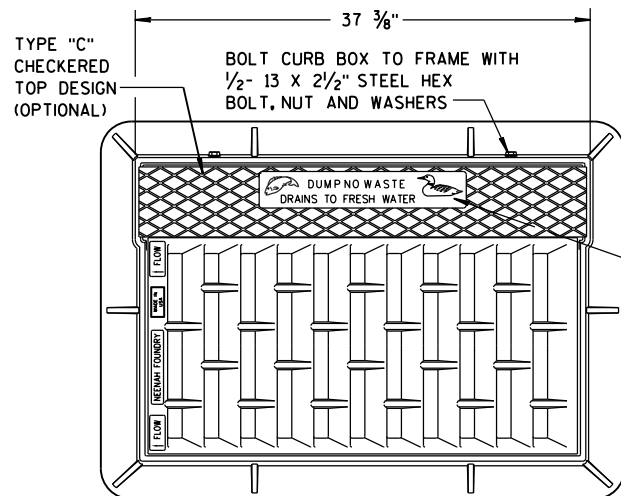
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
1	88+79.88, 27.1' LT WISCONSIN AVE	SPIKE IN POWERPOLE	1137.33
2	45+76.64, 41.8' RT ALLEN ST	BOTTOM STEP HOUSE #622	1137.03



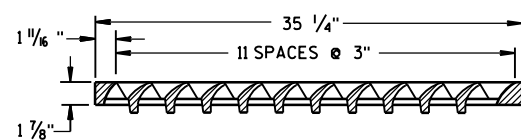
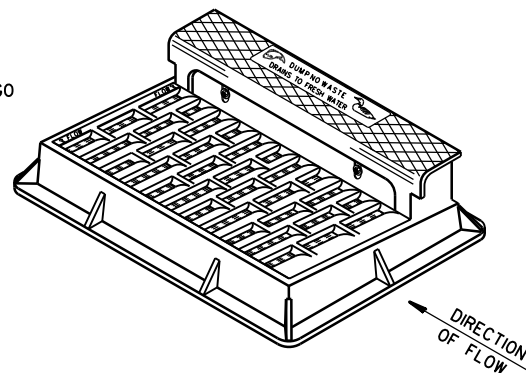
82+00		83+00		84+00		85+00		86+00		87+00		88+00	
PROJECT NO:8997-00-22		HWY:ALLEN ST INTERSECTION		COUNTY:BARRON		PLAN & PROFILE WISCONSIN AVENUE				SHEET		E	

Standard Detail Drawing List

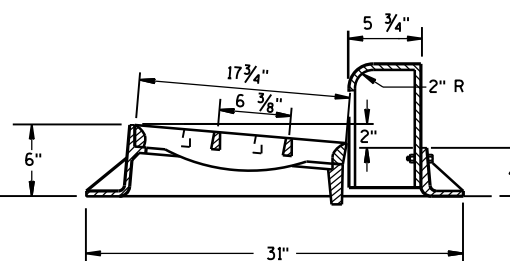
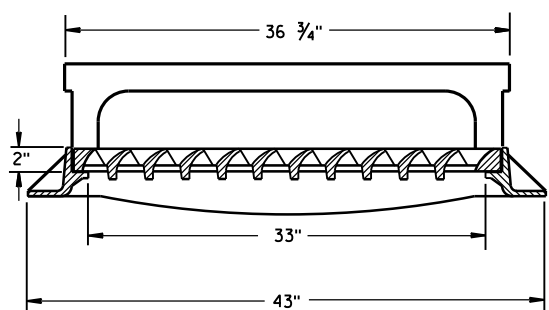
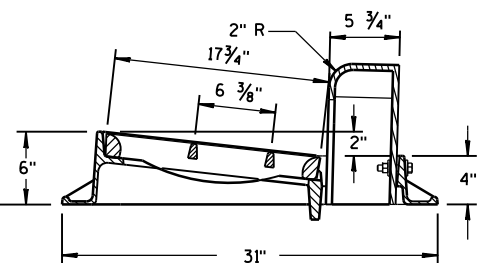
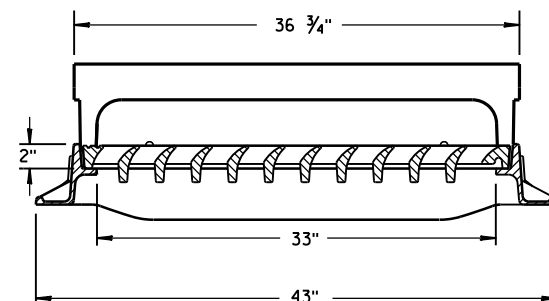
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE 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
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
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
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-06B	TYPE 10 POLE 15' -30' MONOTUBE ARM
09E08-06E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



NOTE:
GRATE IS REVERSIBLE.

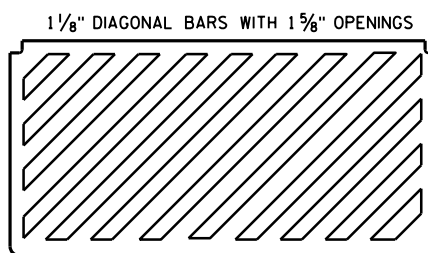


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



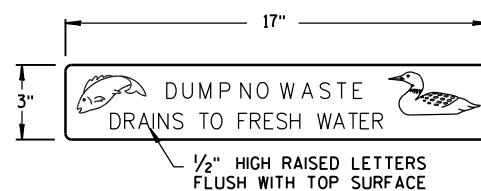
TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

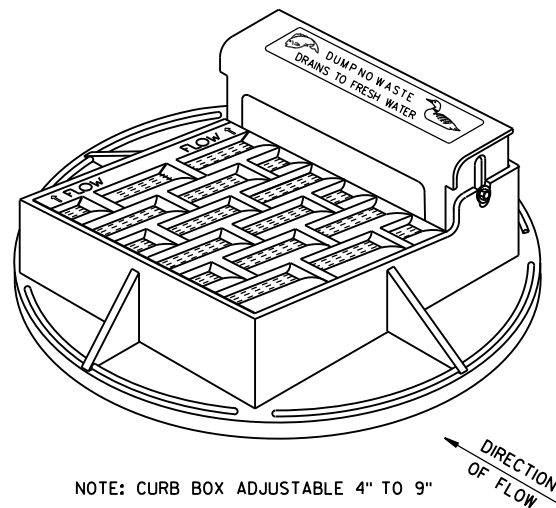


SPECIAL GRATE FOR
TYPE "H" COVER

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

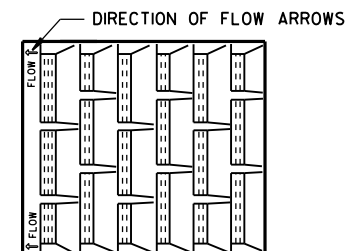


LOGO DETAIL

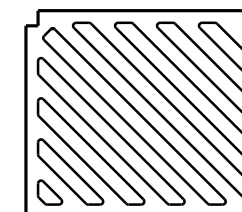


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.

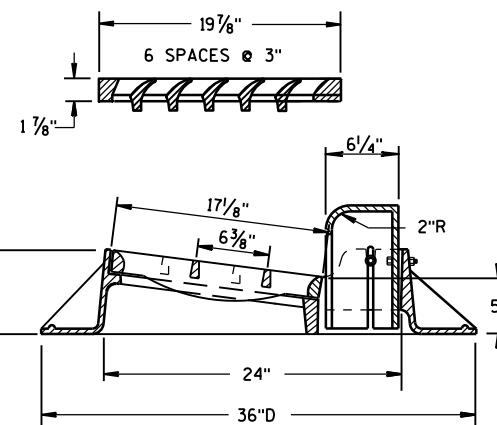
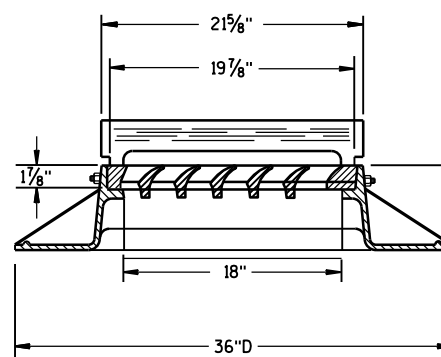


1" DIAGONAL BARS
WITH 1 1/2" OPENINGS

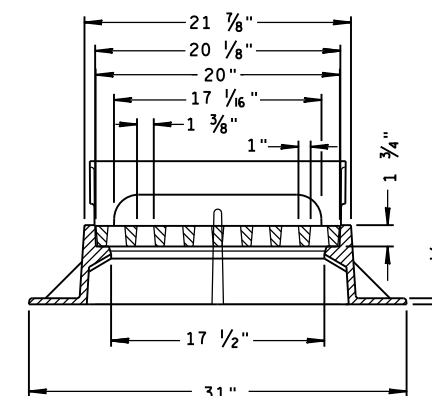
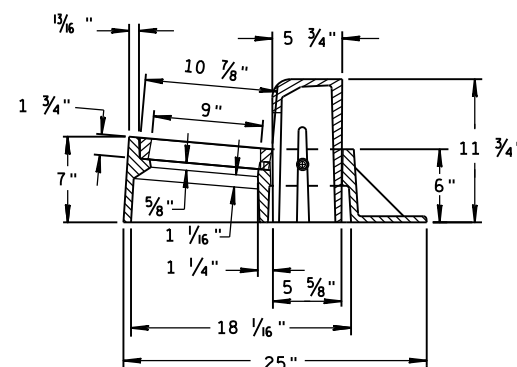


SPECIAL GRATE FOR
TYPE "A" COVER

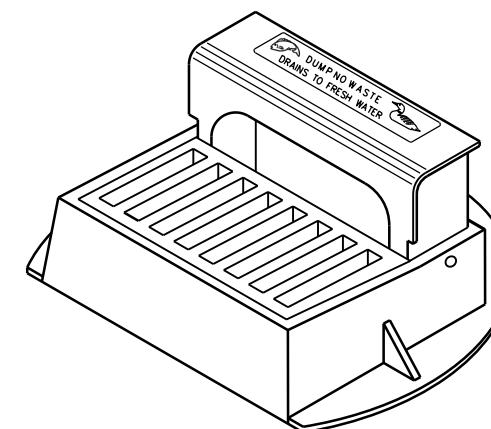
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



TYPE "Z"

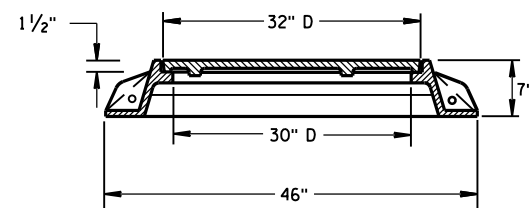
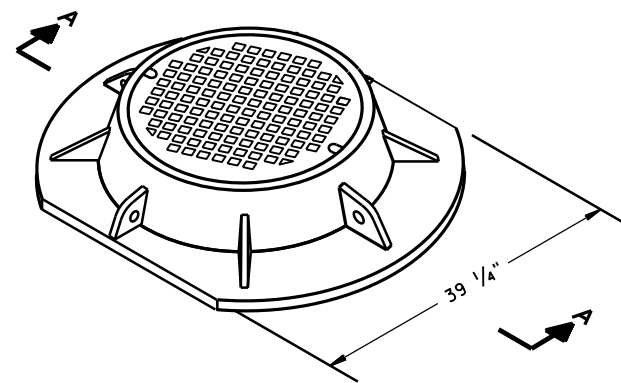


INLET COVERS
TYPE A, H, A-S, H-S & Z

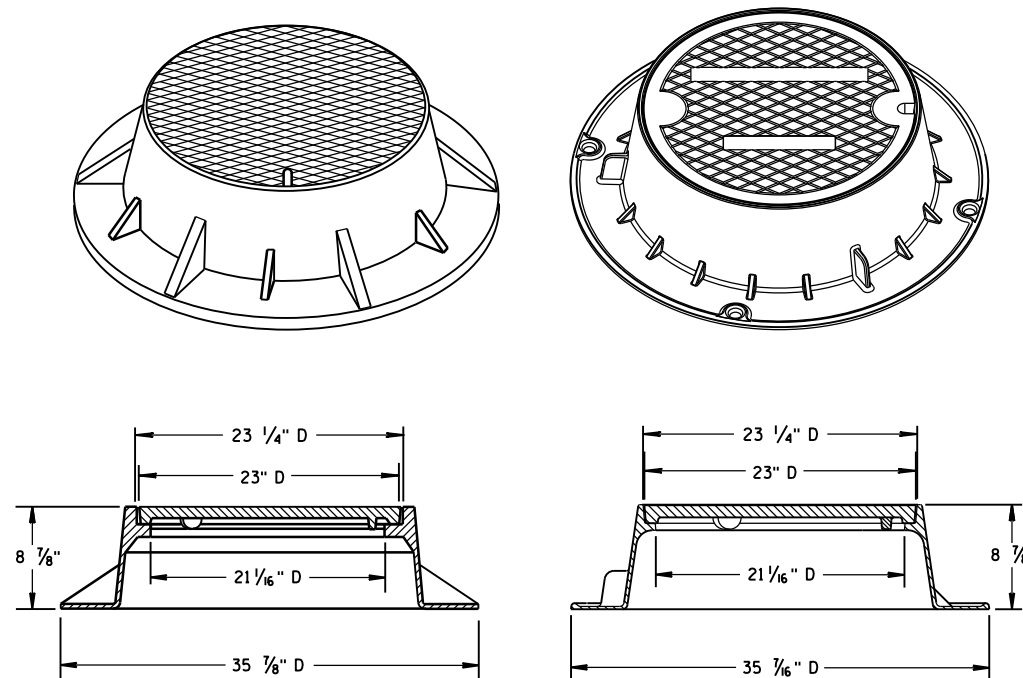
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
II-27-13
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

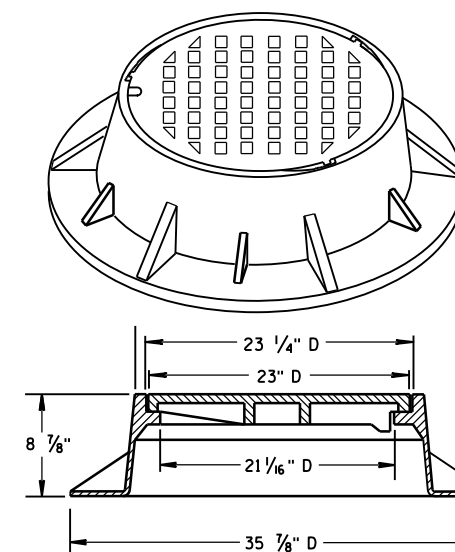
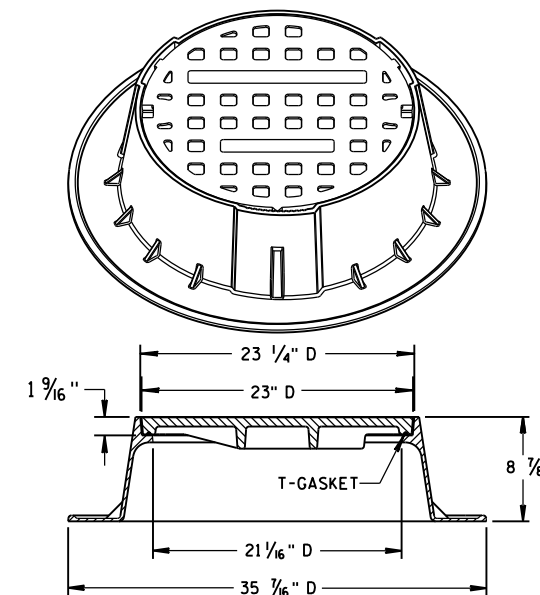


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

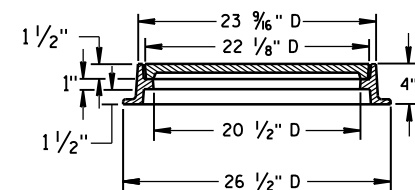
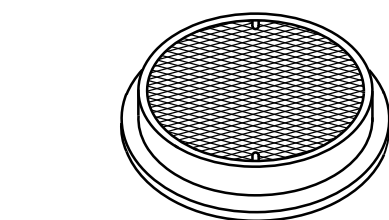


TYPE "J" SPECIAL

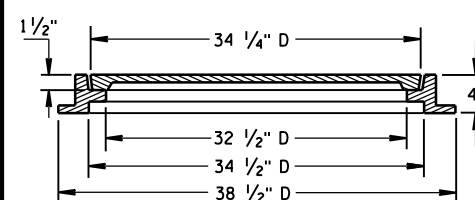
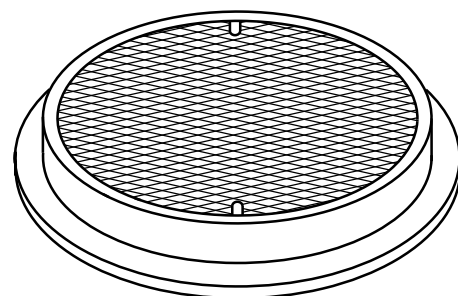
TYPE "B" NON-ROCKING SELF-SEAL LID

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

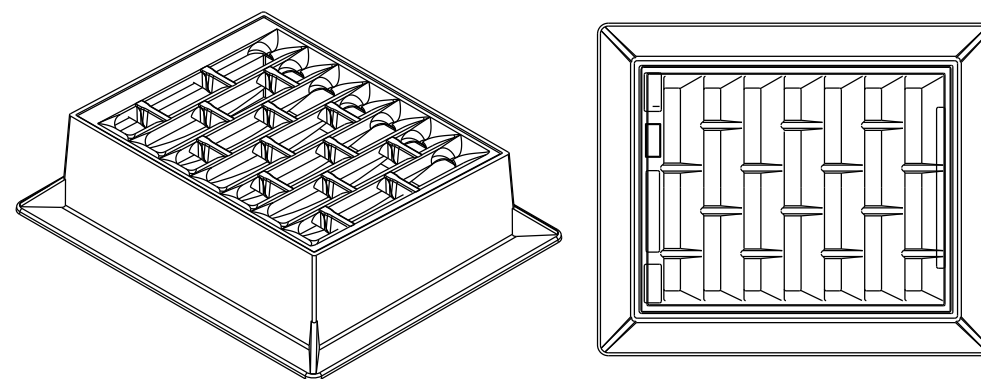
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

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.

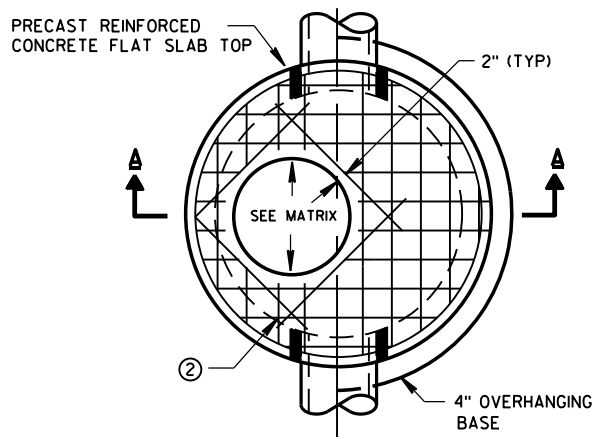
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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

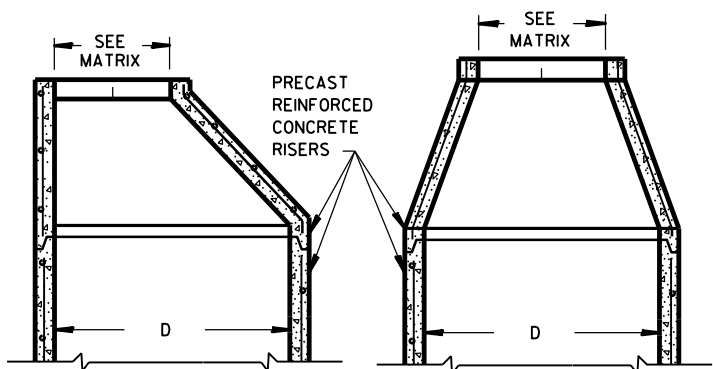
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

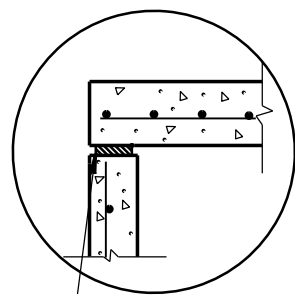


PLAN VIEW CIRCULAR OPENING

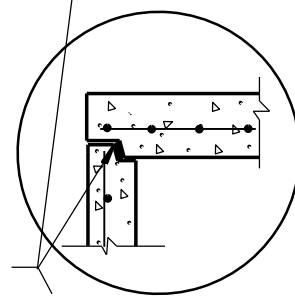


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

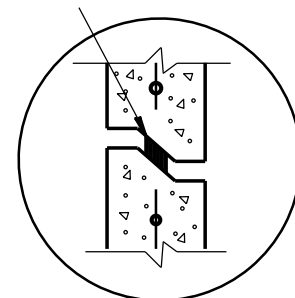
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



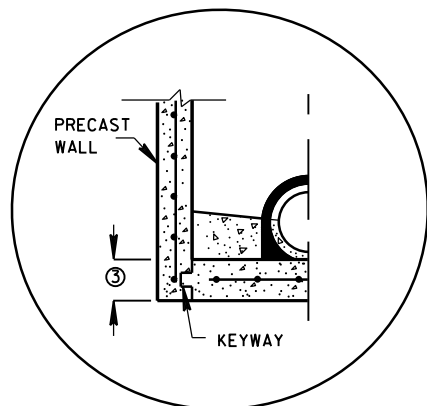
TOP WITH TONGUE AND GROOVE JOINT



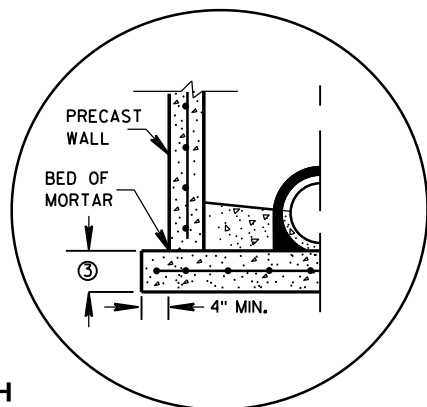
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

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

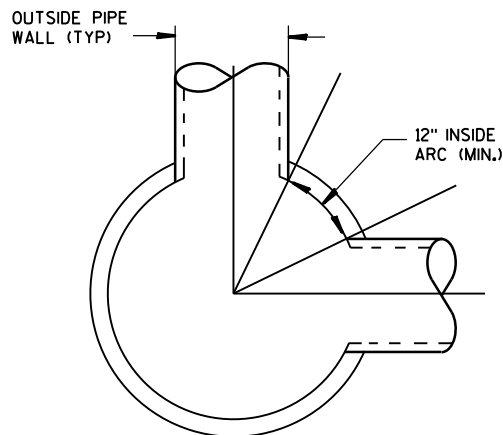


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

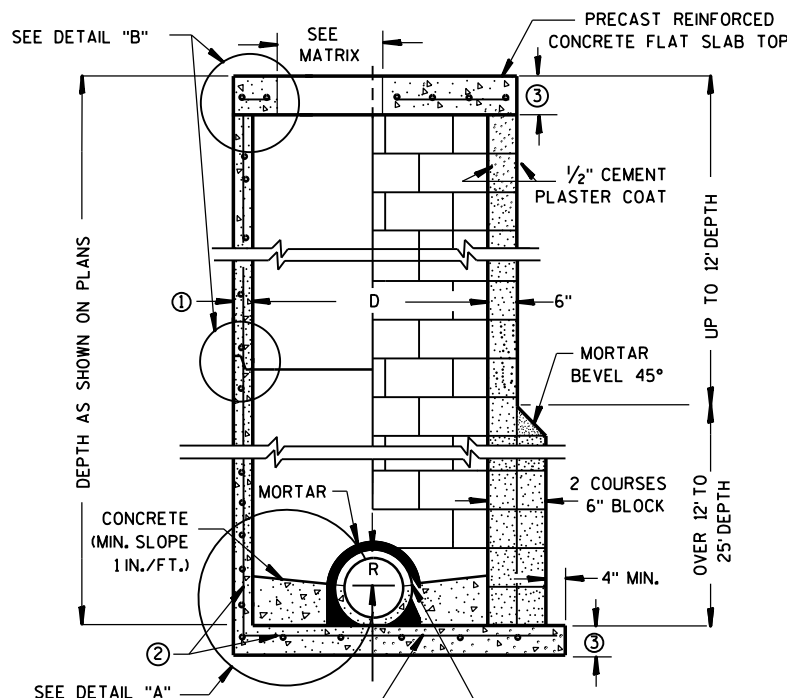


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



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

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

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

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 1/2" 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 PERMITTED 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

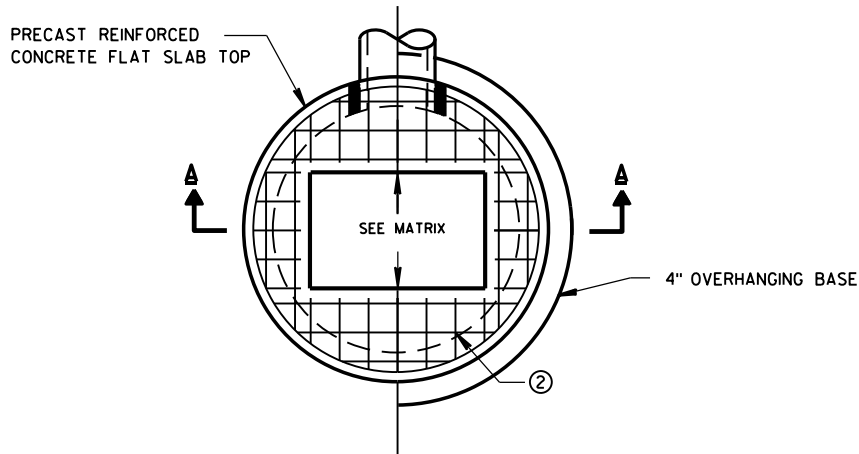
PIPE MATRIX

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

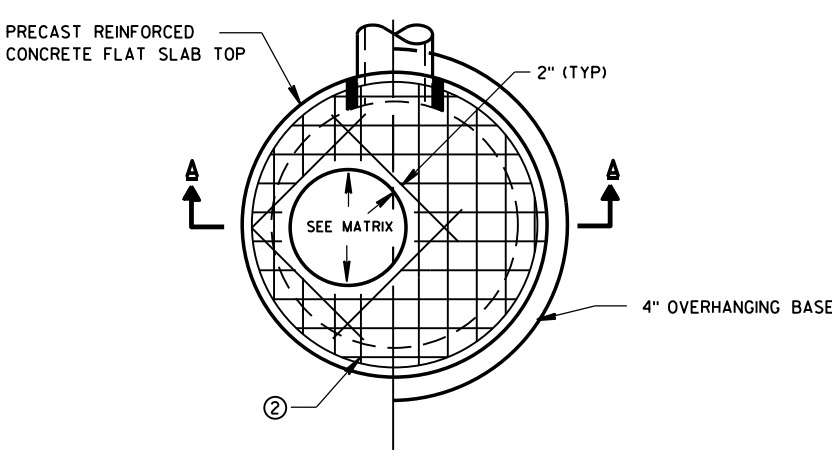
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

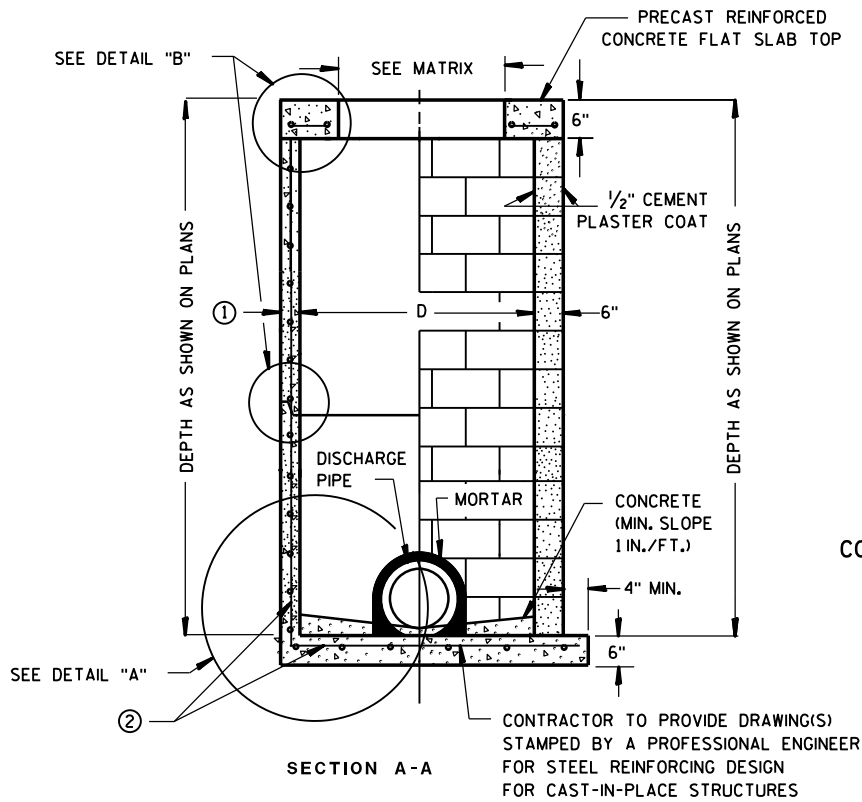


PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

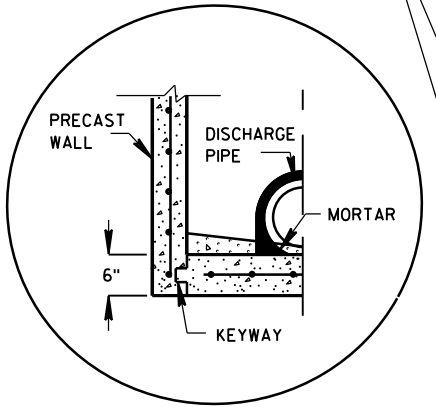
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)



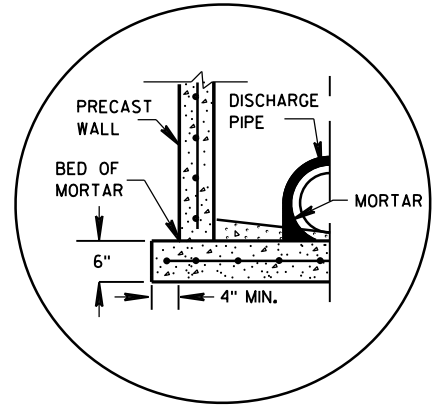
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

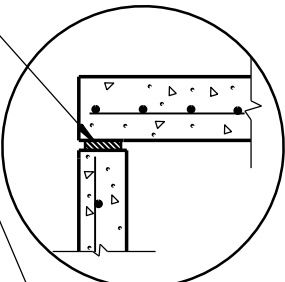


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

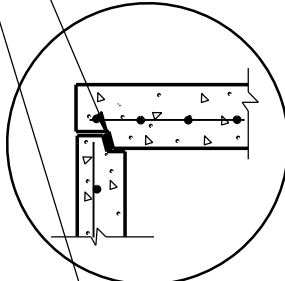


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

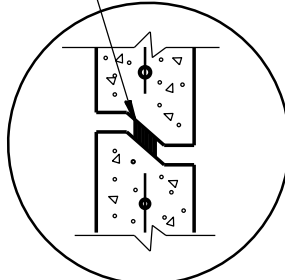
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

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 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.

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

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

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

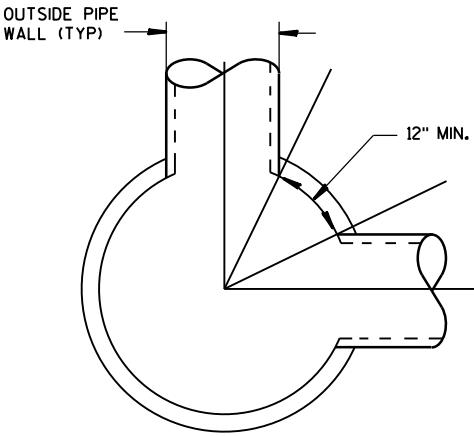
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

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



DETAIL "C"

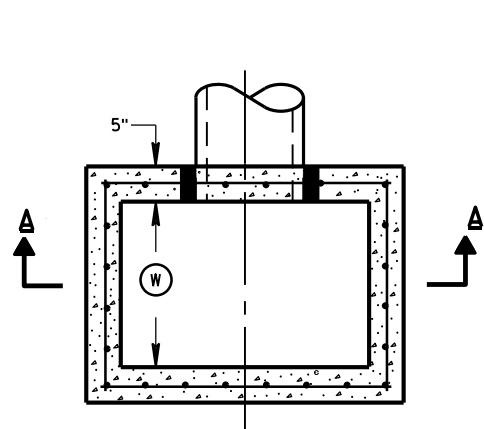
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

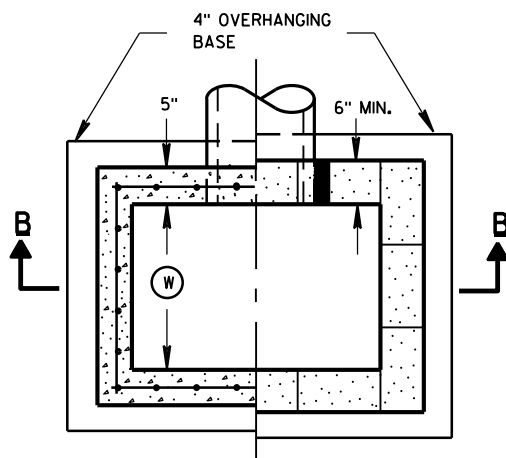
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

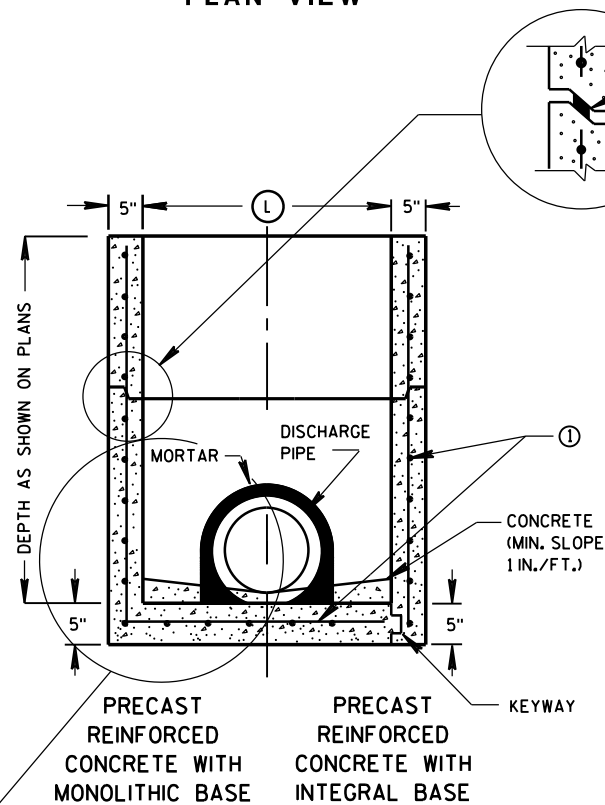


PLAN VIEW

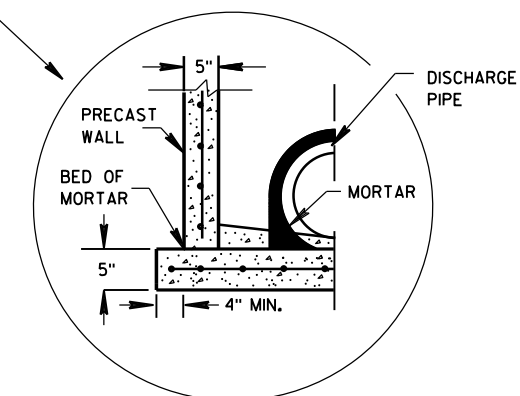


PLAN VIEW

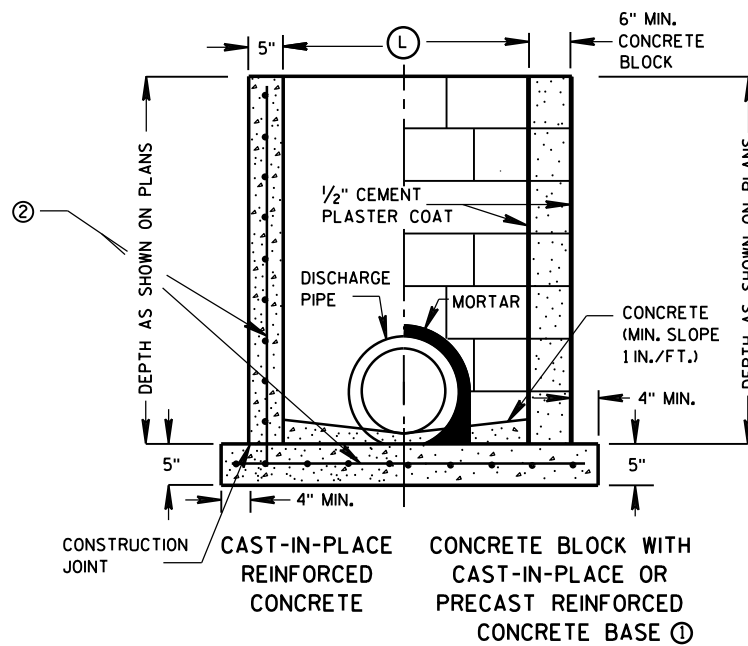
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

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

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.

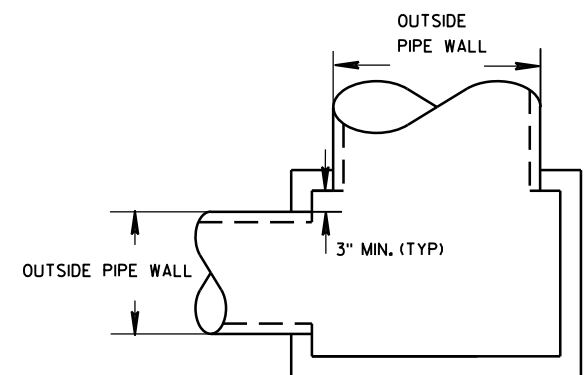
- FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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

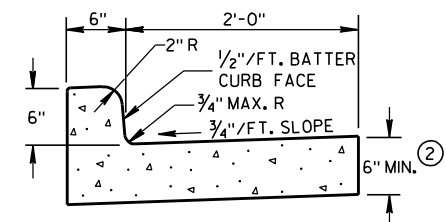


DETAIL "A"

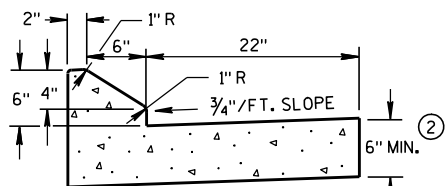
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

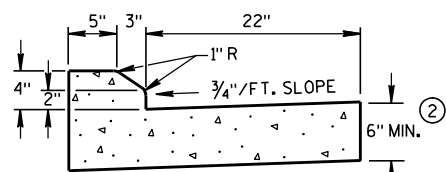
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA ENGINEER



TYPES A & D ①



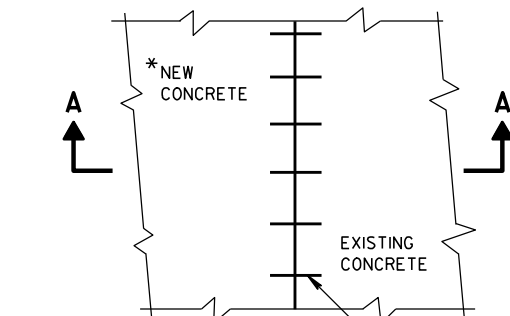
6" SLOPED CURB TYPES G & J ①



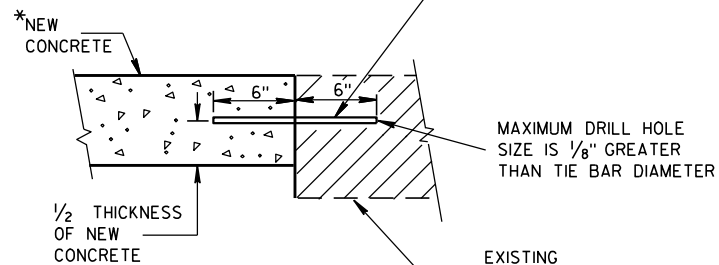
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

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



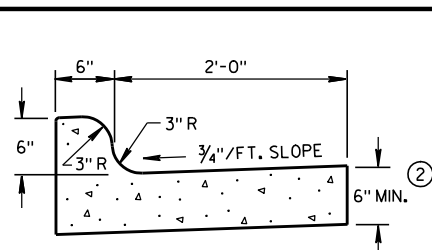
PLAN VIEW

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

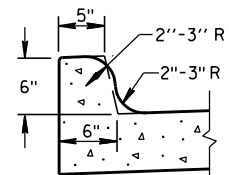
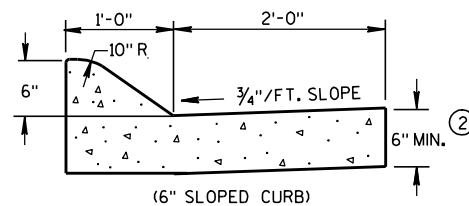
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

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

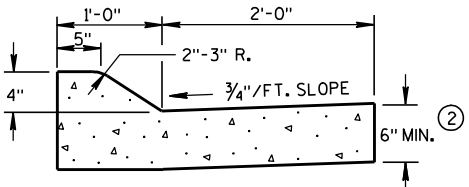
EXISTING
CONCRETE



TYPES K & L ①

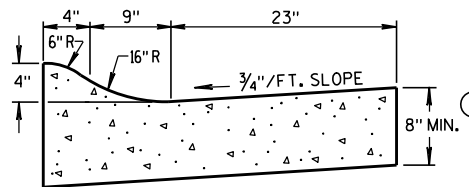
OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)

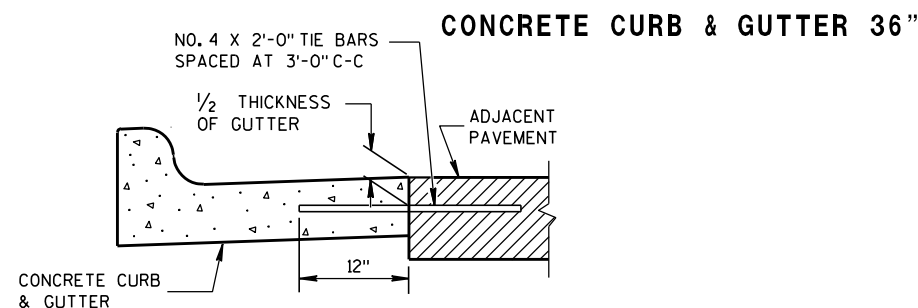


(4" SLOPED CURB)

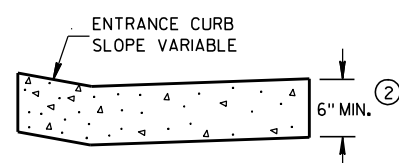
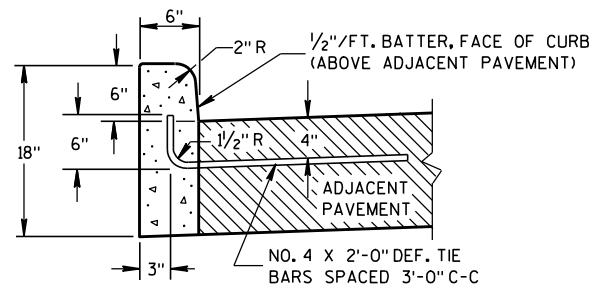
TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

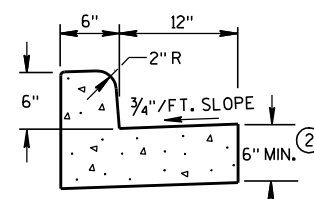
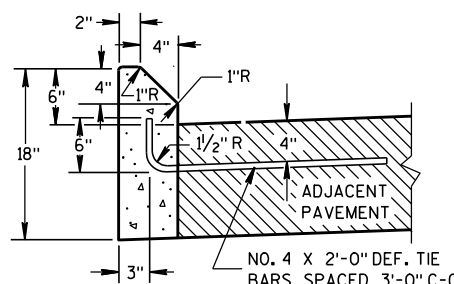


TYPICAL TIE BAR LOCATION ①

DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

TYPES A & D ①

CONCRETE CURB

TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①

GENERAL NOTES

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

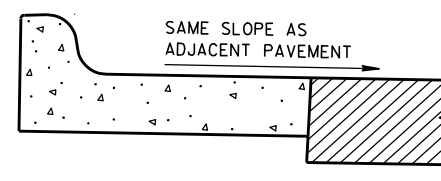
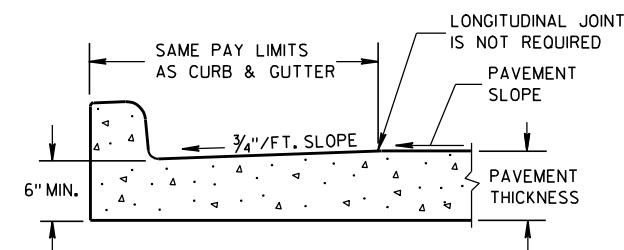
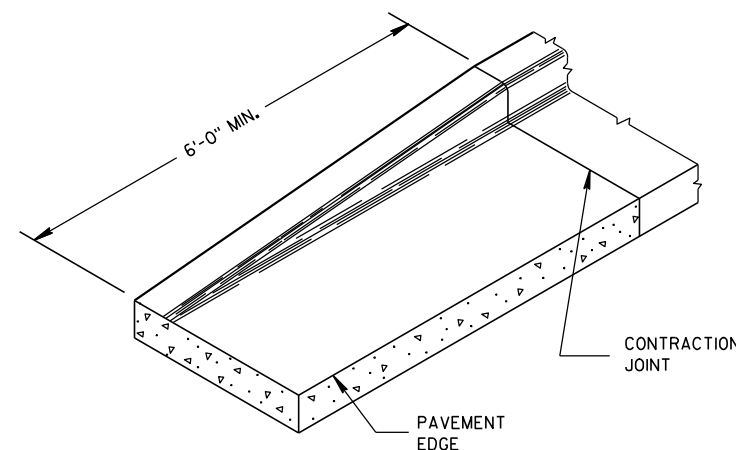
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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.

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

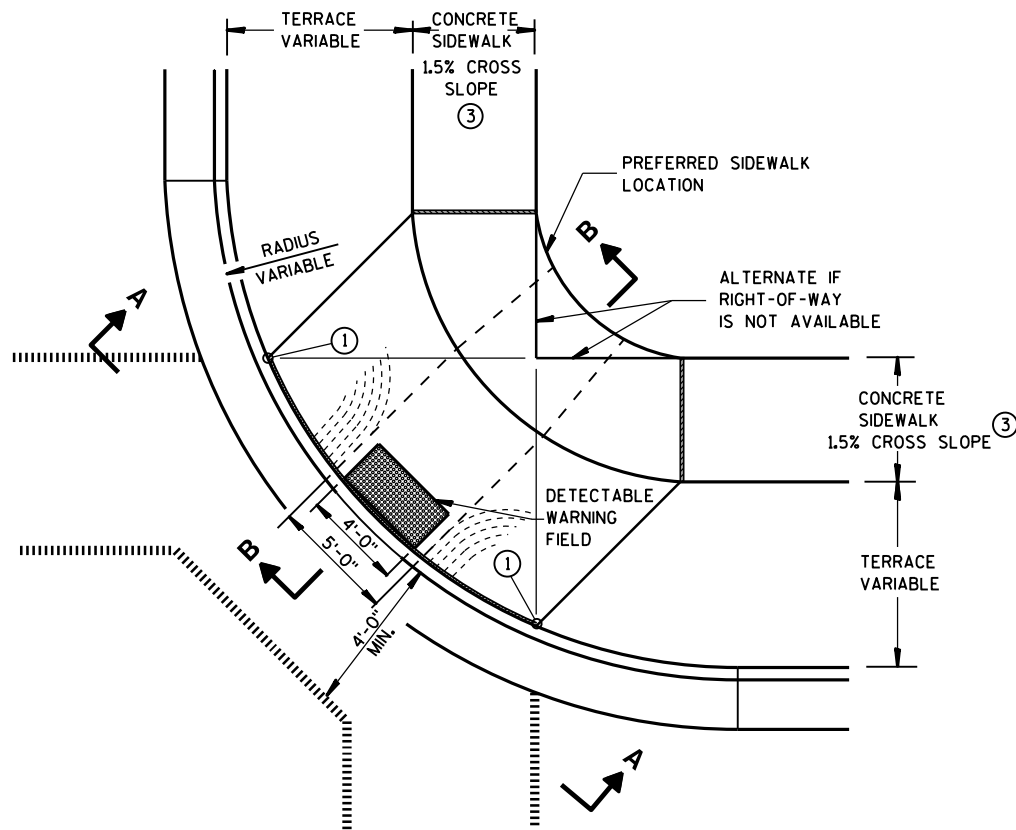
APPROVED

9/4/08

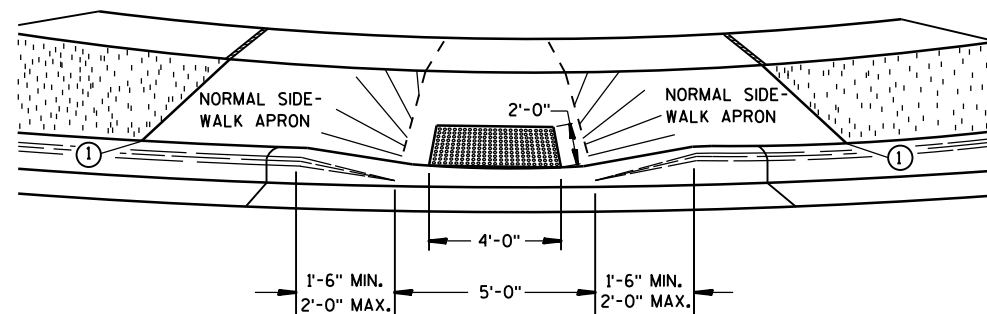
DATE

FHWA

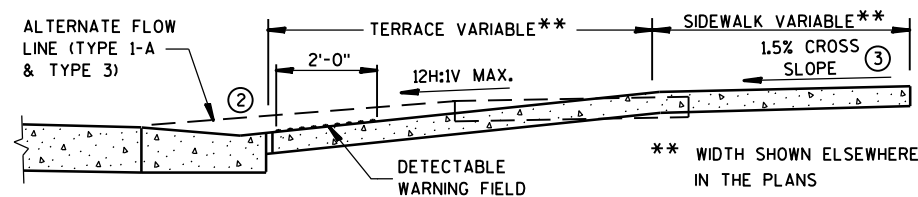
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



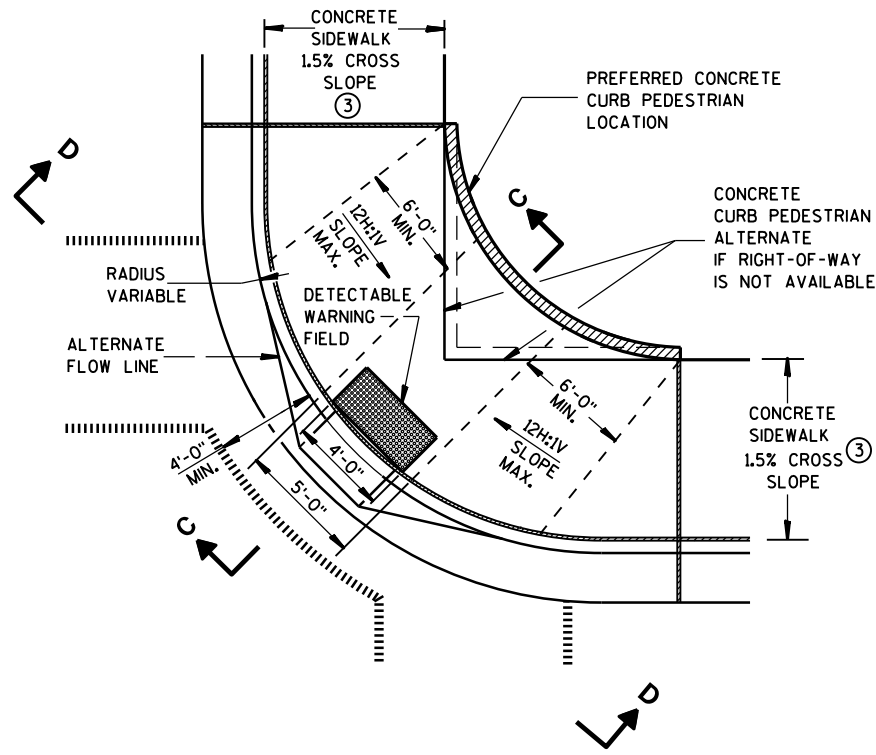
**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)



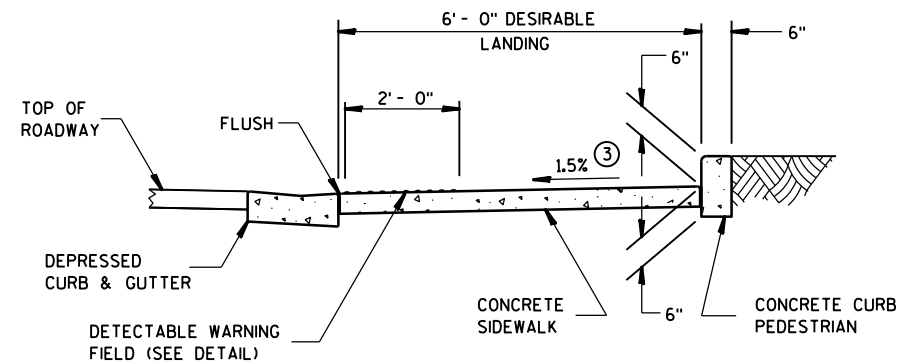
VIEW A-A



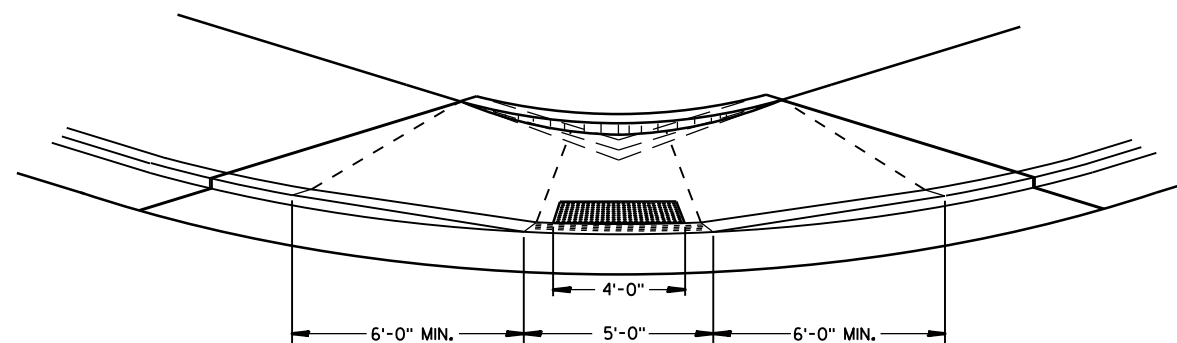
SECTION B-B



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



SECTION C-C



VIEW D-D

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.

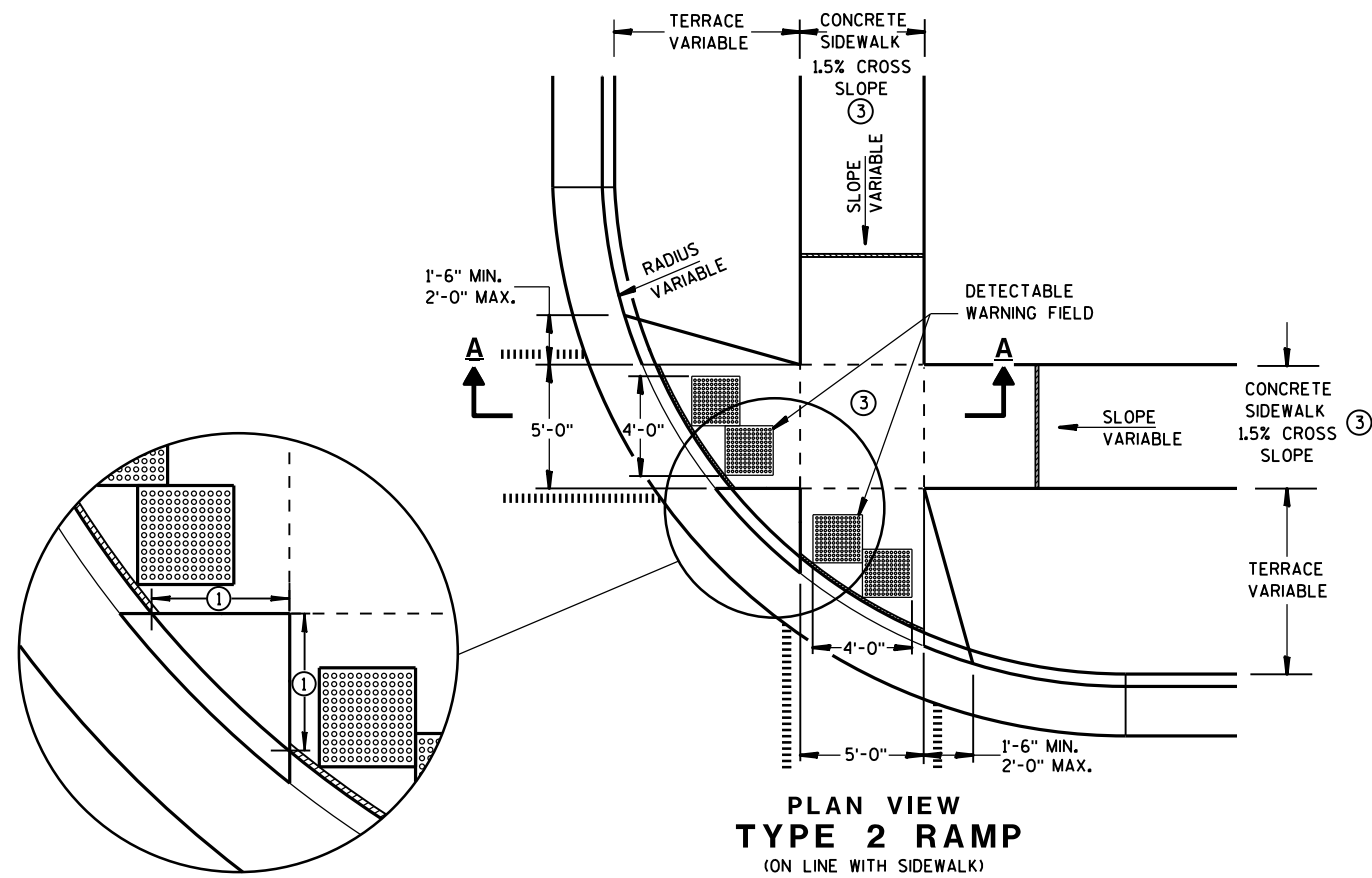
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

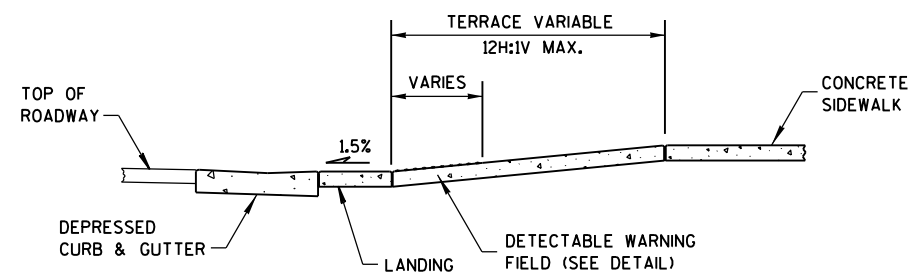
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

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

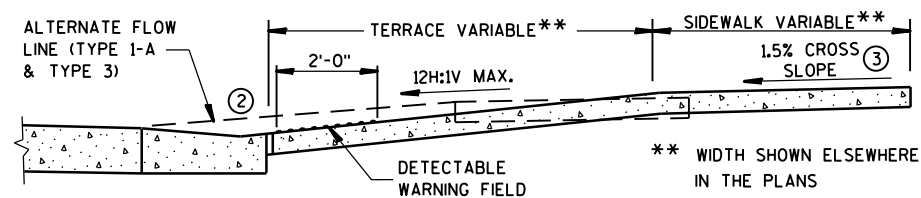
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



SECTION A-A



SECTION B-B

GENERAL NOTES

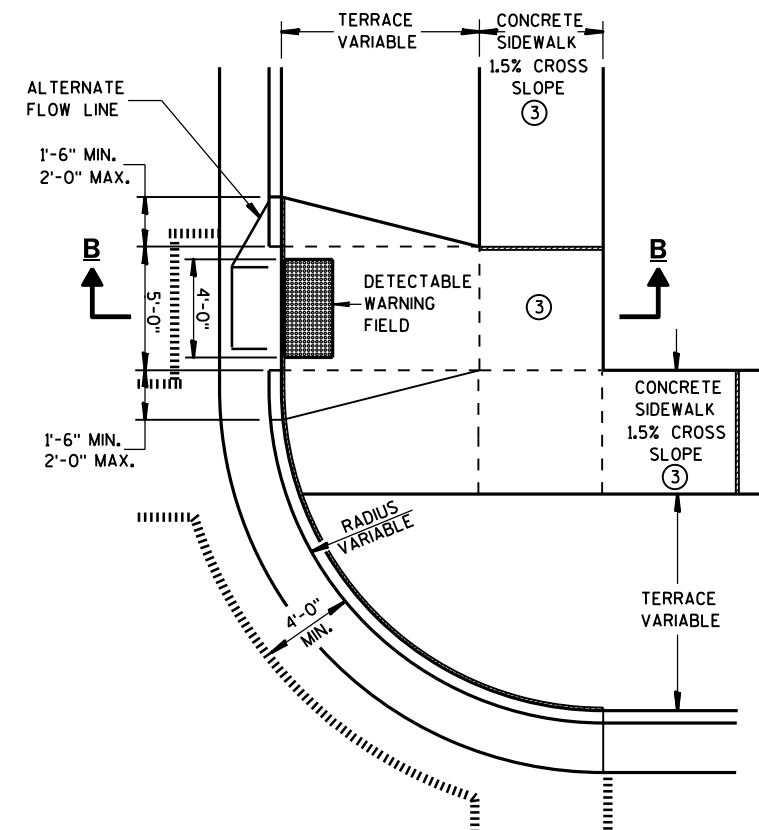
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

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 $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

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



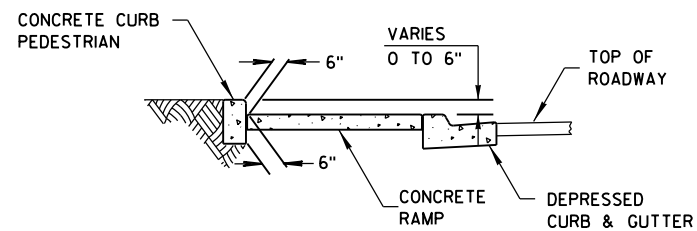
**PLAN VIEW
TYPE 3 RAMP**
(OUTSIDE OF CROSSWALK AREA)

**CURB RAMPS
TYPES 2 AND 3**

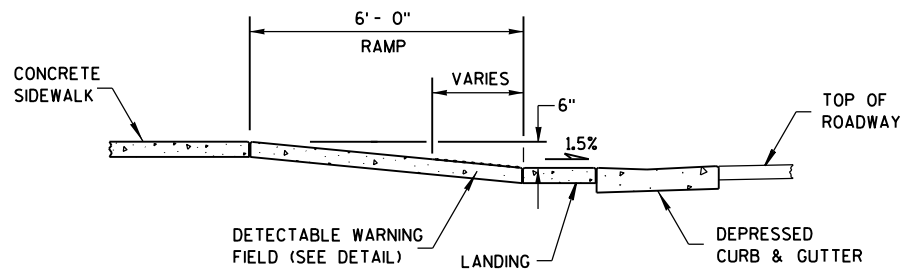
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 4A
PLAN VIEW



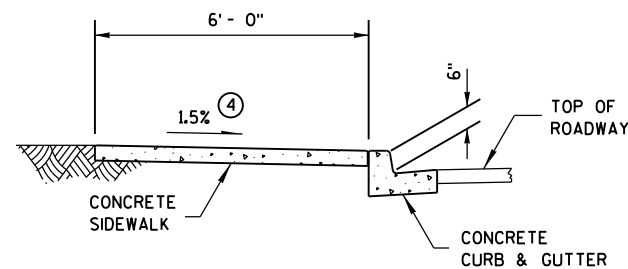
SECTION C-C FOR TYPE 4A



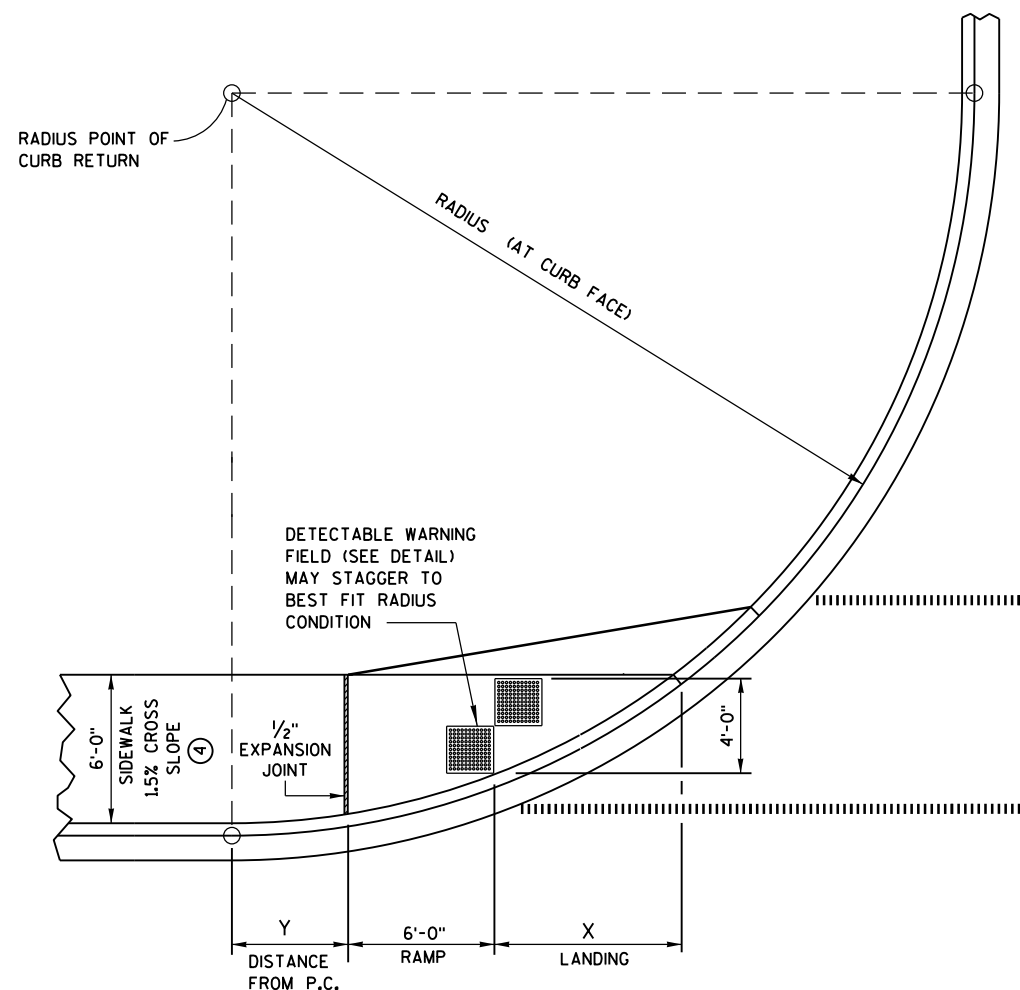
SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1 $\frac{3}{4}$ "	2'-7 $\frac{1}{4}$ "
30 FEET	7'-11 $\frac{3}{4}$ "	4'-8 $\frac{1}{4}$ "
40 FEET	9'-5 $\frac{1}{4}$ "	6'-5"
50 FEET	10'-8 $\frac{3}{4}$ "	7'-11 $\frac{1}{4}$ "
60 FEET	11'-10 $\frac{1}{4}$ "	9'-3 $\frac{1}{2}$ "

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW

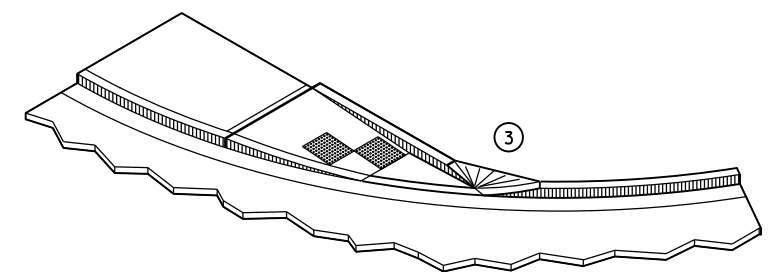
GENERAL NOTES

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

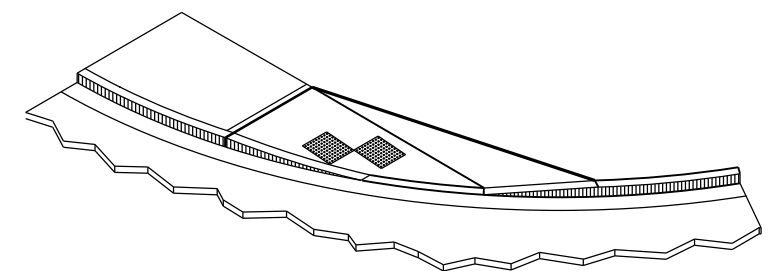
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

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 $\pm 0.5\%$ 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



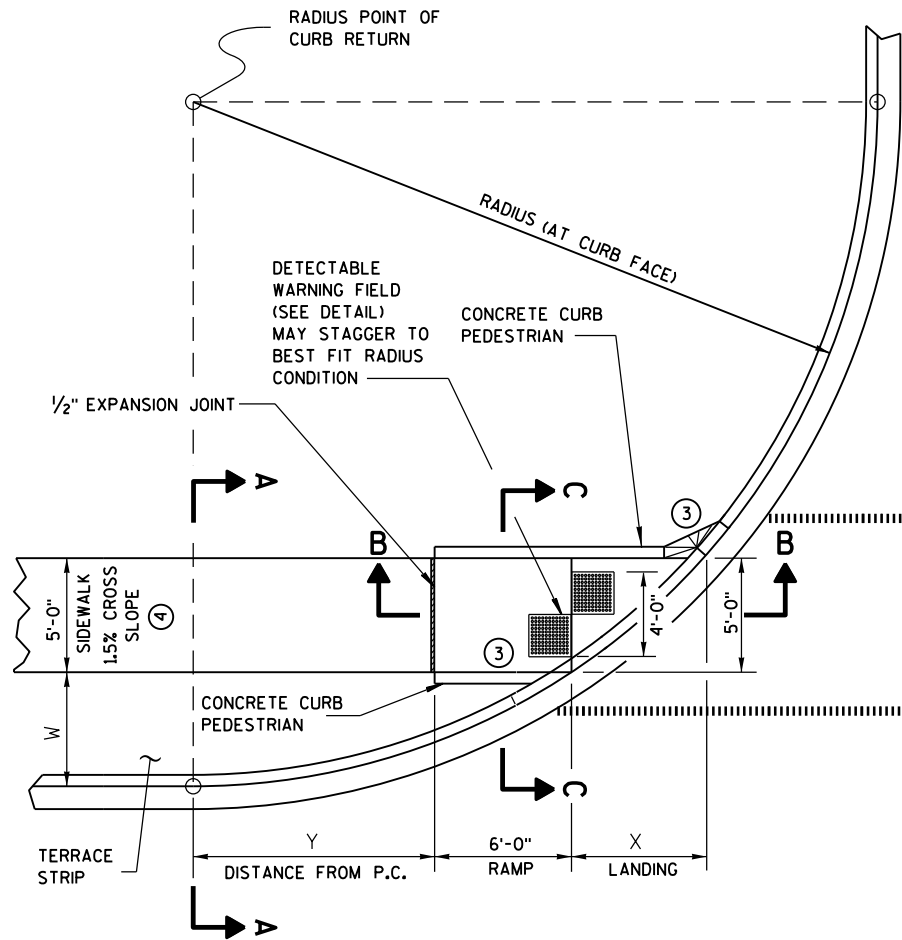
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

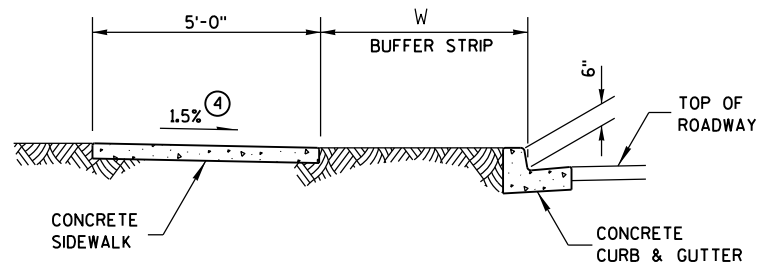
- 1/2" EXPANSION JOINT-SIDEWALK
 CONTRACTION JOINT FIELD LOCATED
 PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

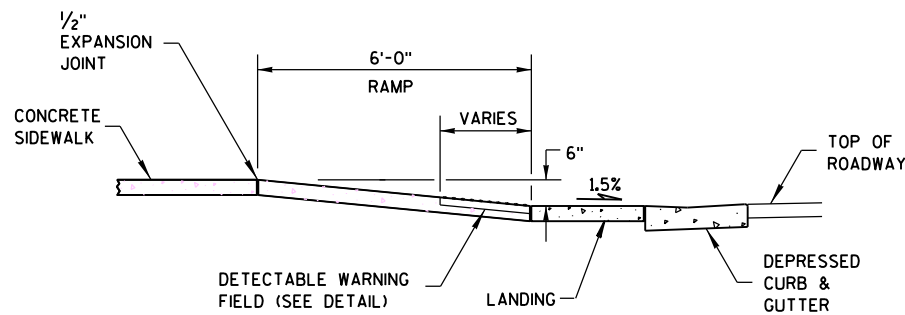
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B

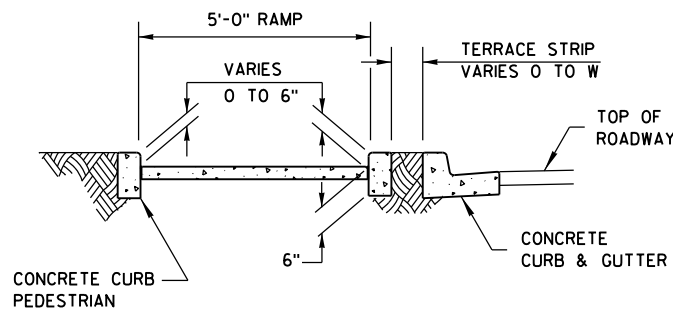


SECTION B-B FOR TYPE 4B

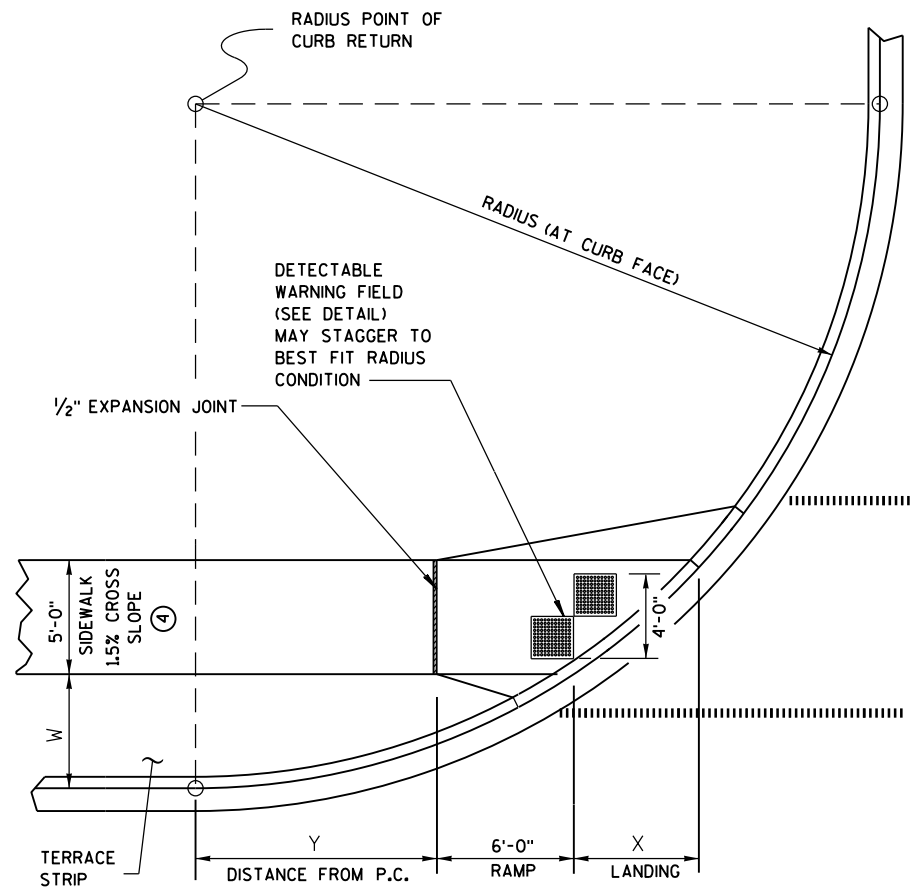
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - CONTRACTION JOINT FIELD LOCATED
 - PAVEMENT MARKING CROSSWALK (WHITE)

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'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3/4"	11'-3/4"	9'-1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B



CURB RAMP TYPE 4B1
PLAN VIEW

GENERAL NOTES

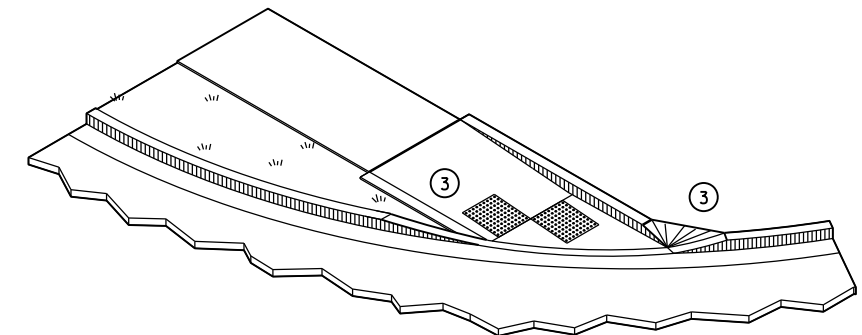
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

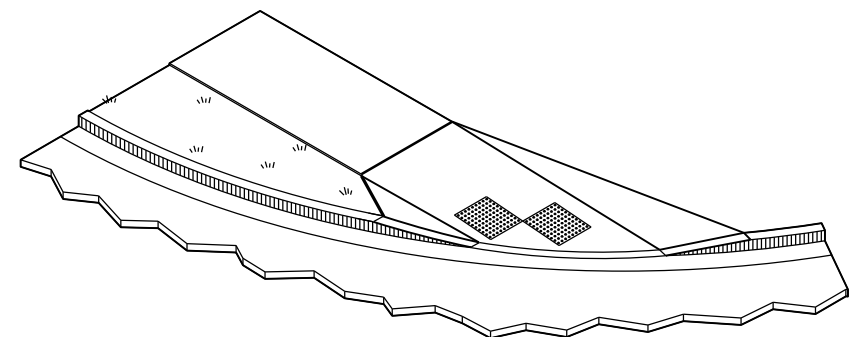
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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.



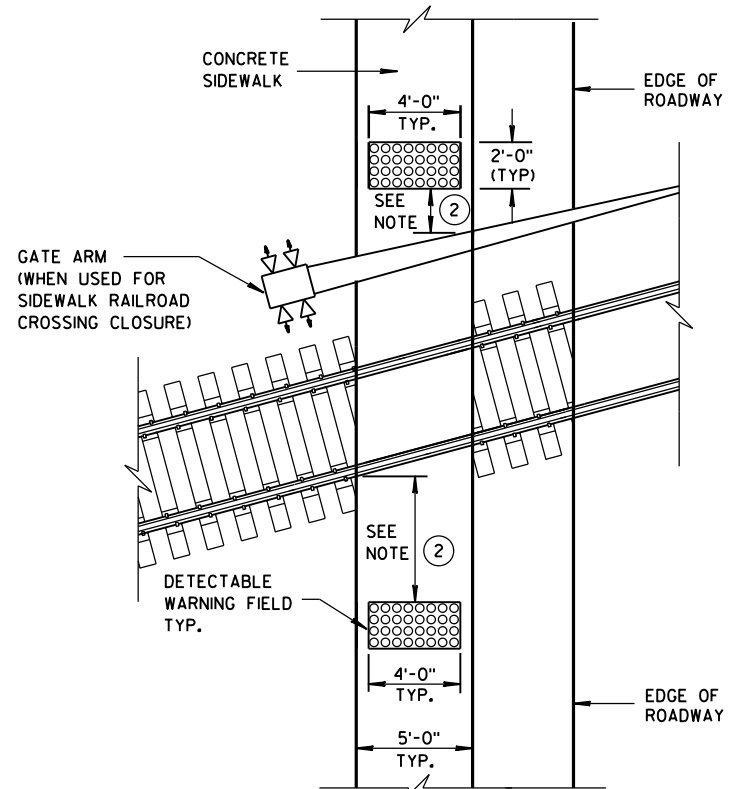
ISOMETRIC VIEW FOR TYPE 4B



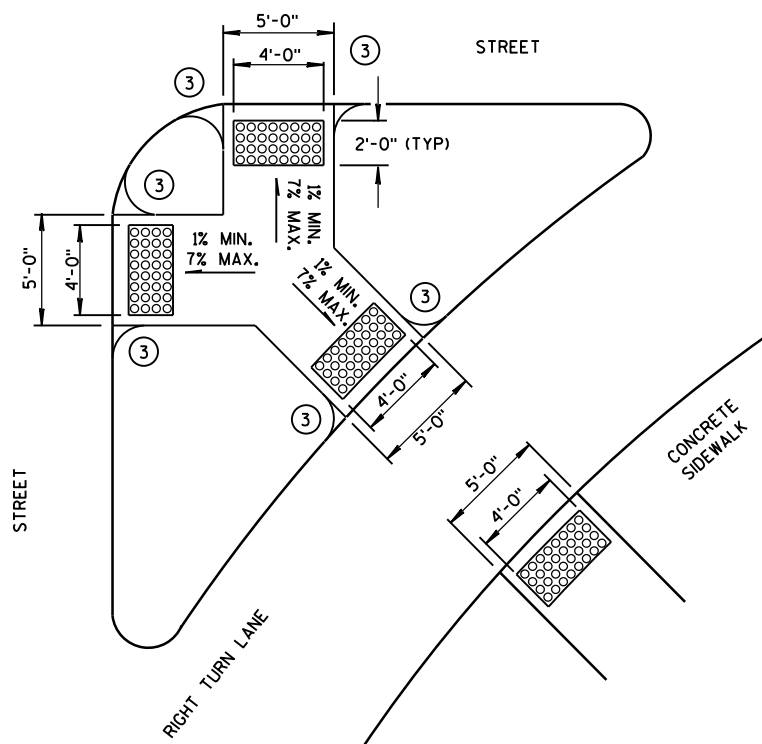
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

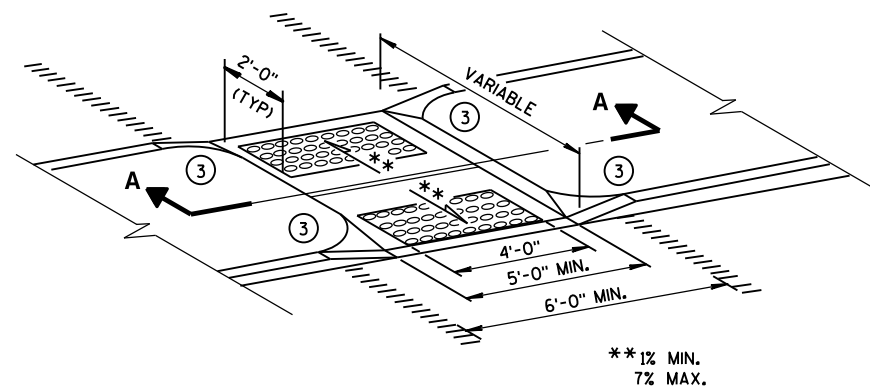
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



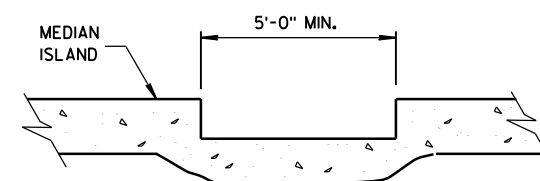
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



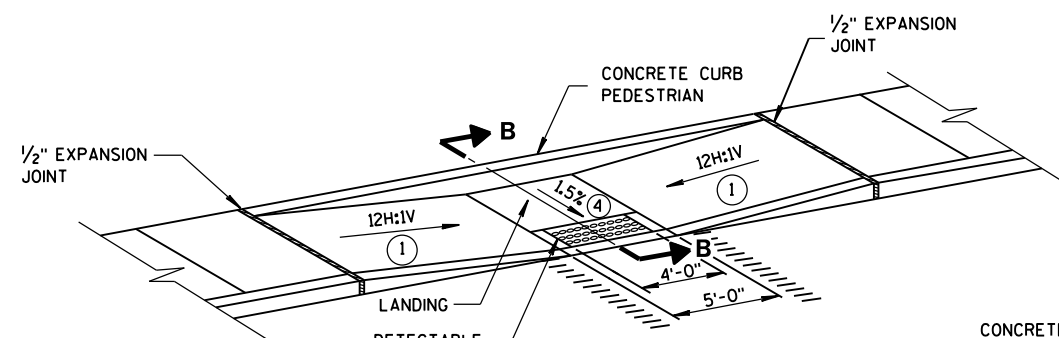
TYPE 6
DETECTABLE WARNING AT ISLANDS



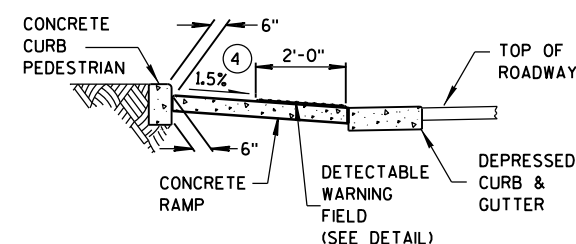
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



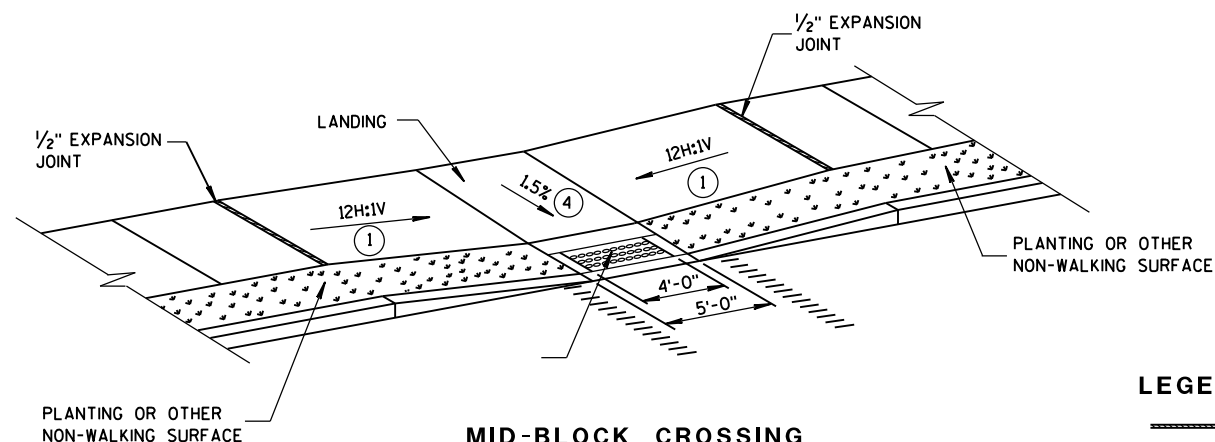
SECTION A-A



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

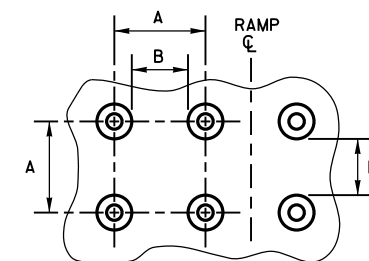
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

GENERAL NOTES

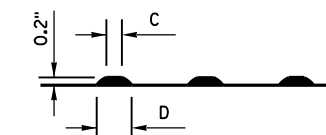
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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



PLAN VIEW



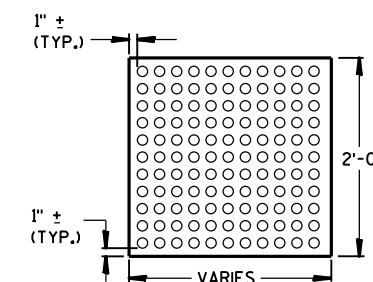
ELEVATION VIEW

	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.

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL



PLAN VIEW
DETECTABLE WARNING
FIELD (TYPICAL)

LEGEND

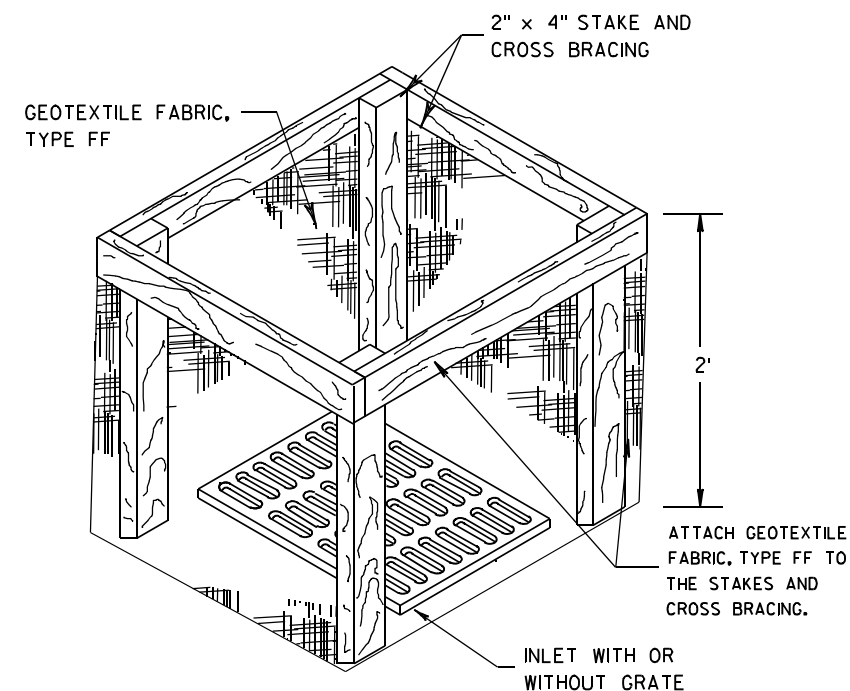
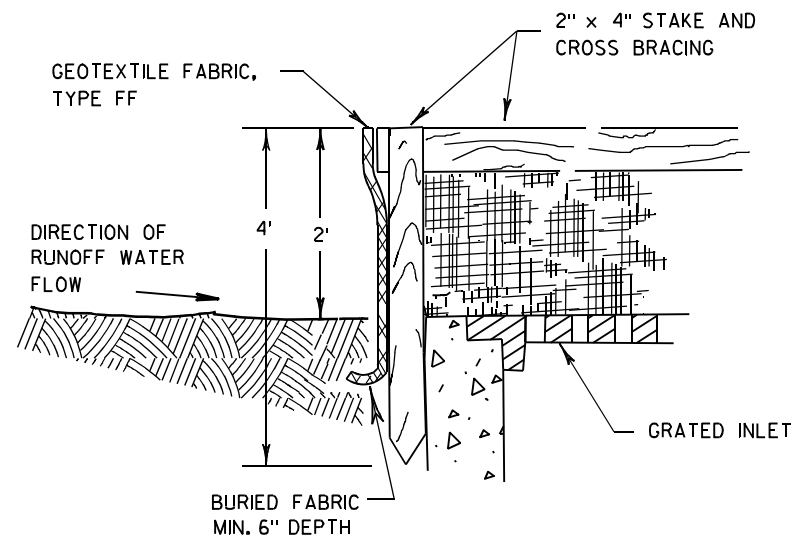
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



INLET PROTECTION, TYPE A

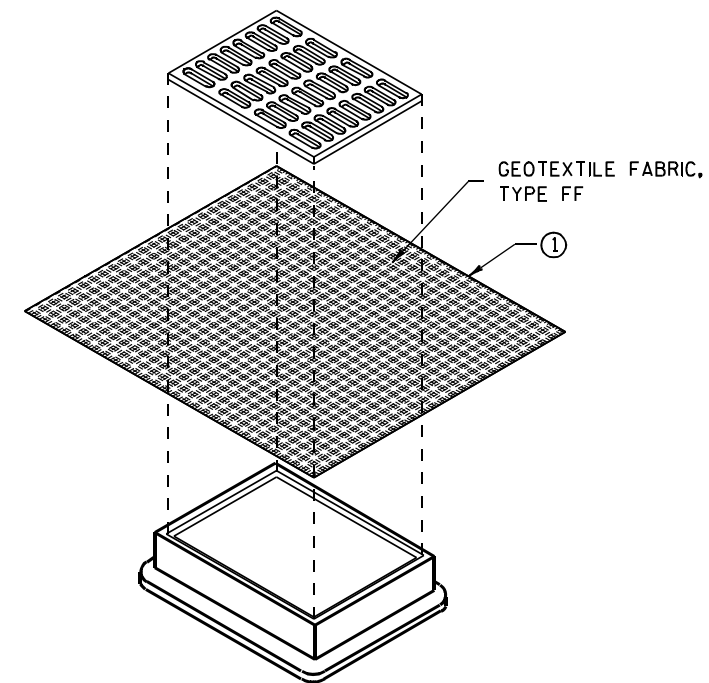
GENERAL NOTES

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

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

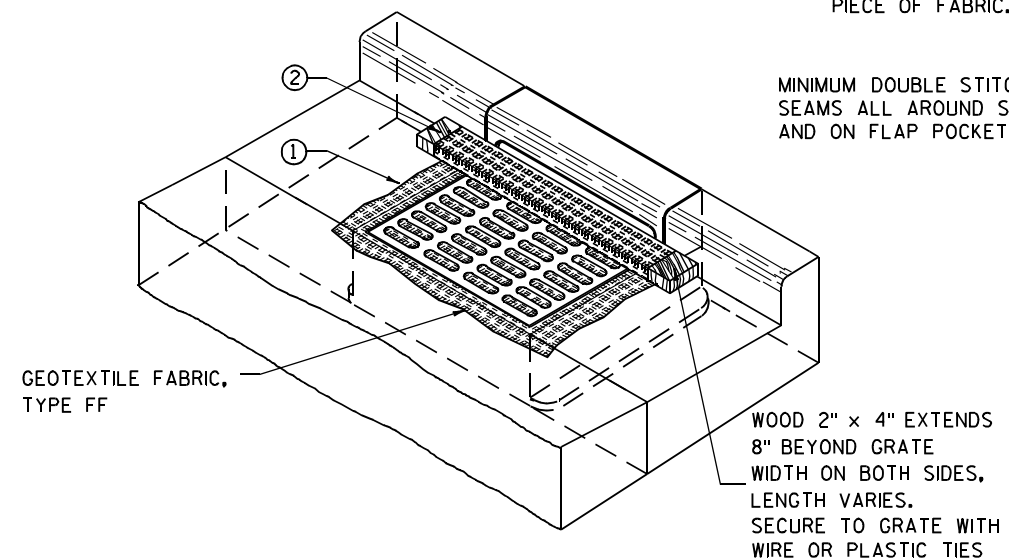
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

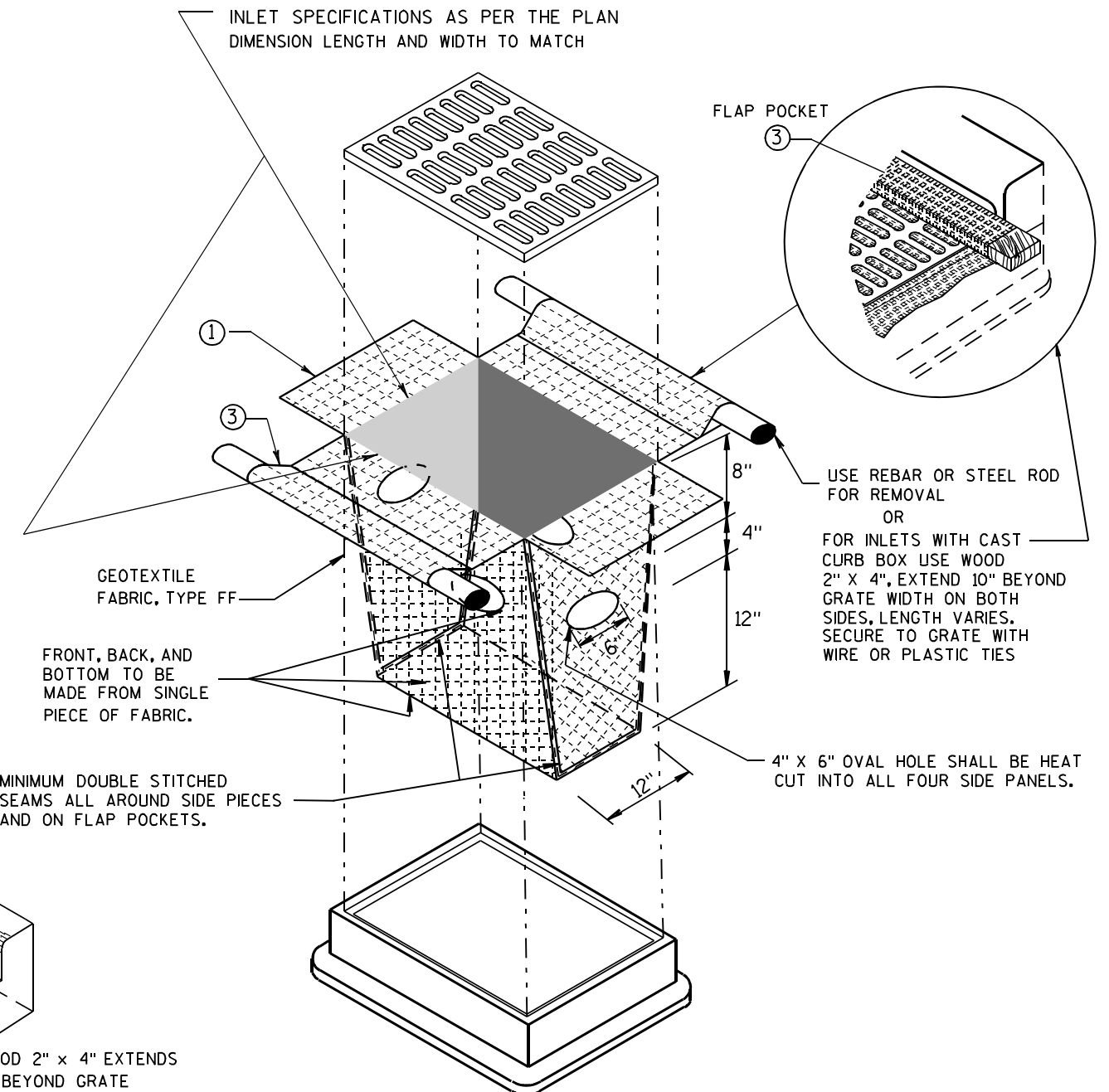
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

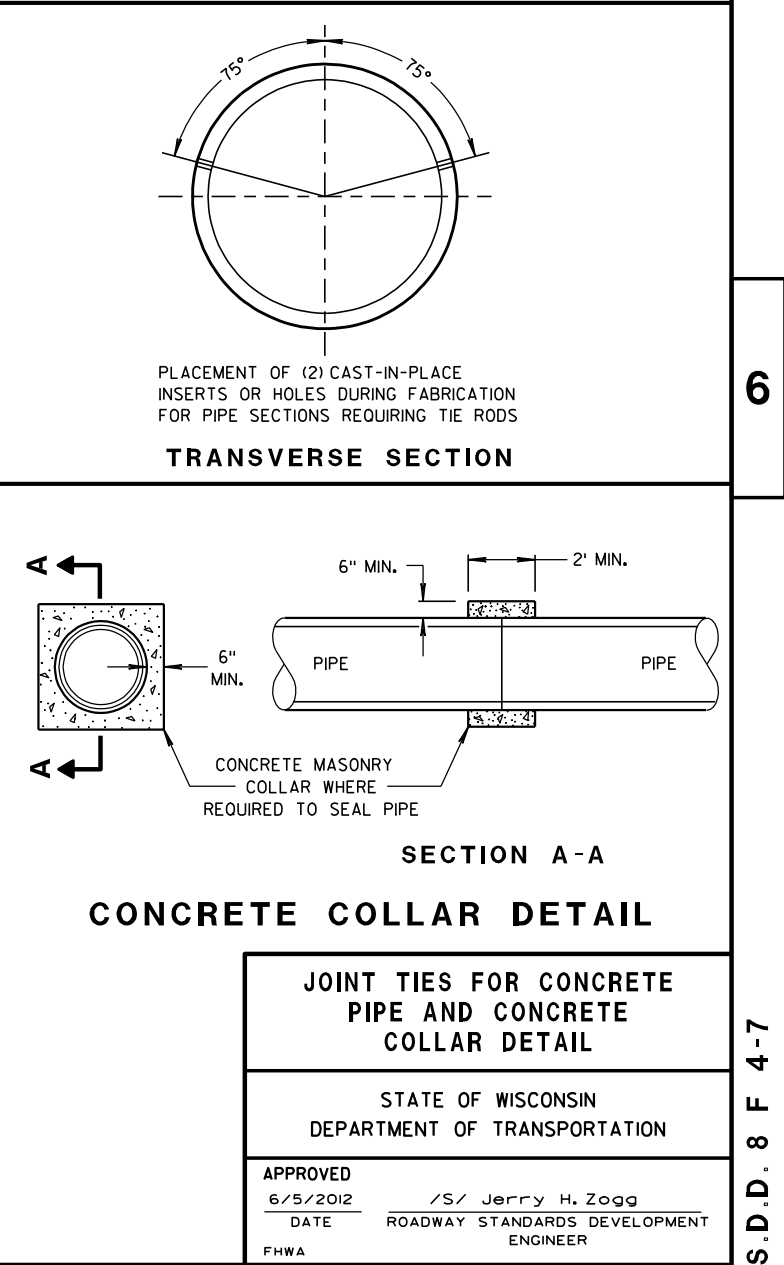
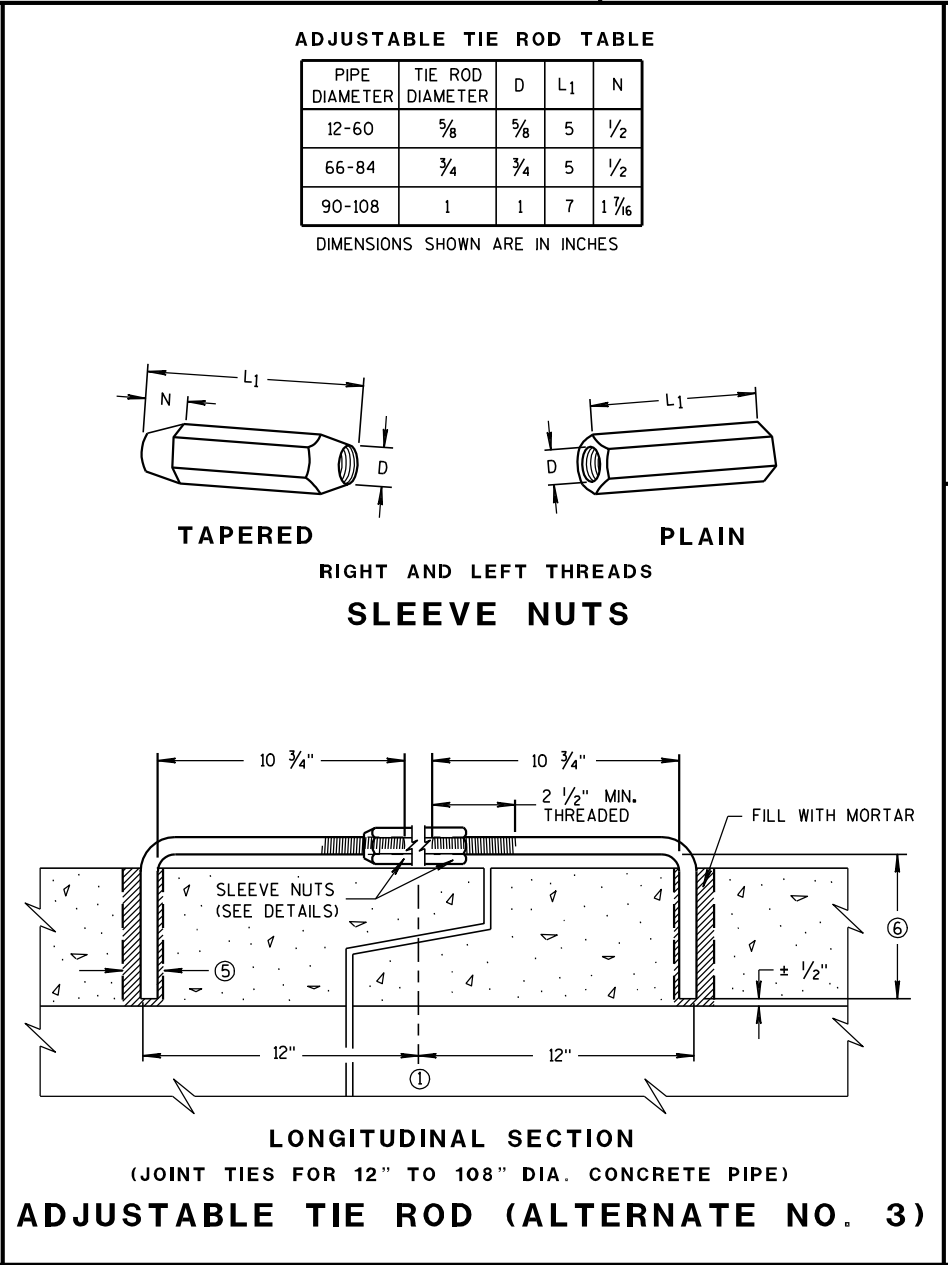
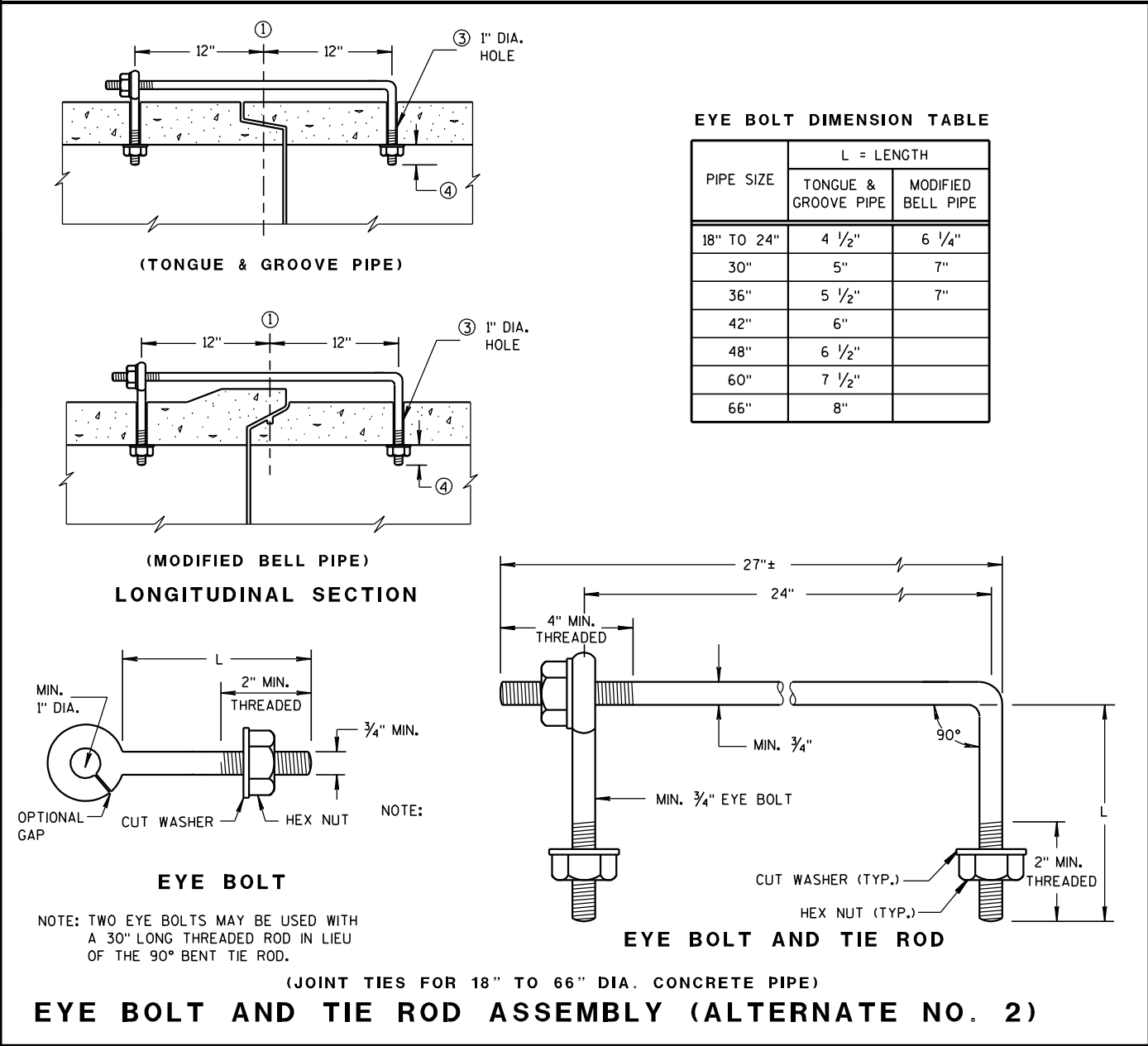
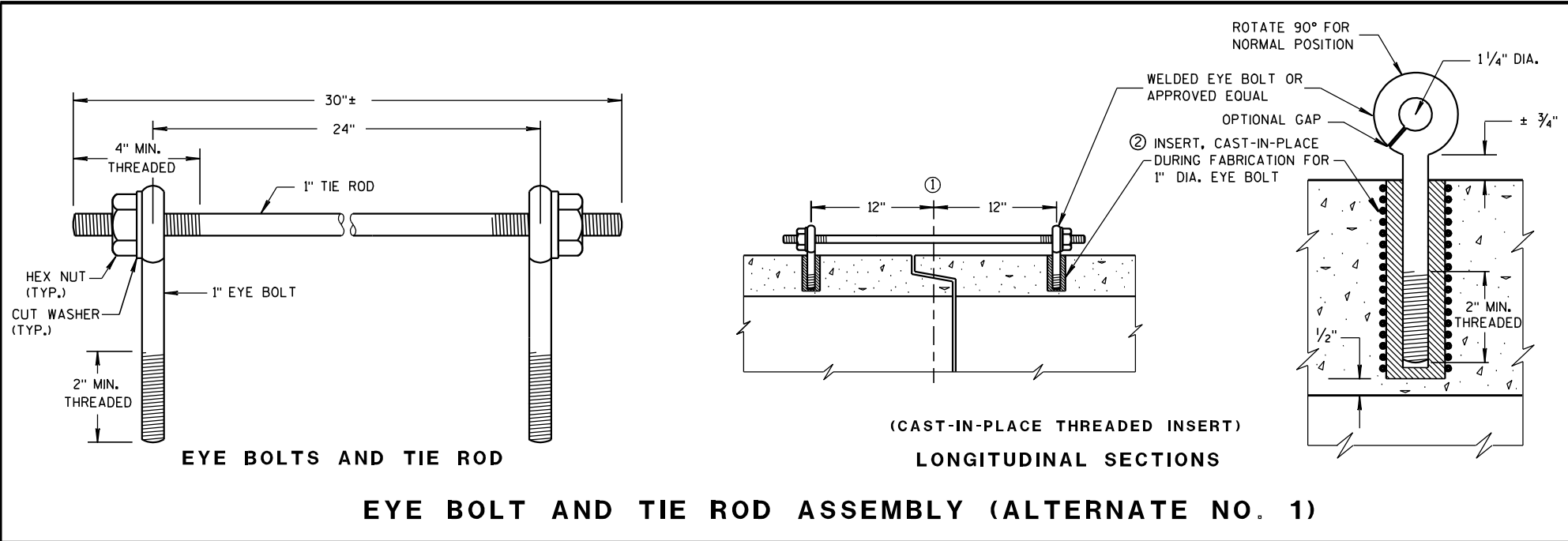
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

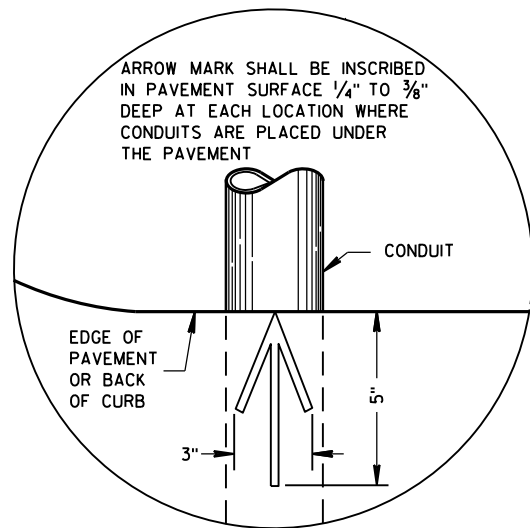


INLET PROTECTION, TYPE D

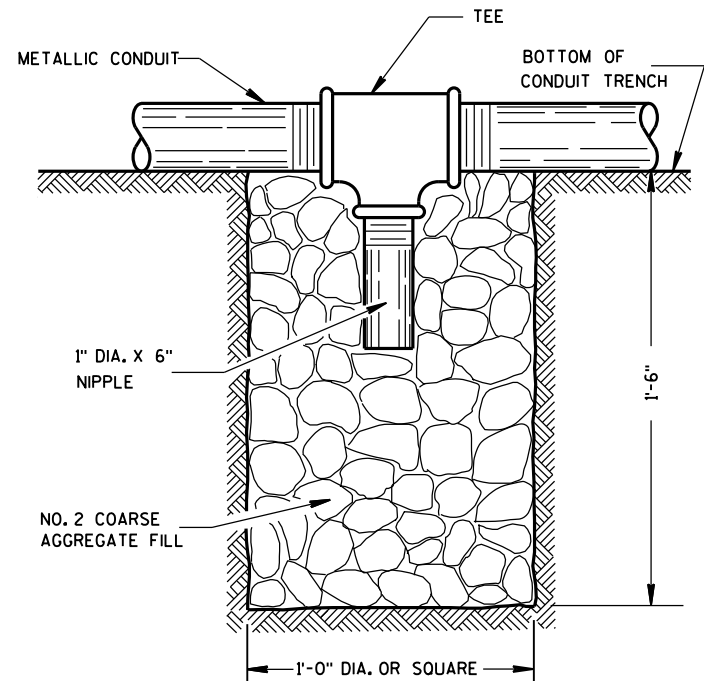
(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE (2))

<p>INLET PROTECTION TYPE A, B, C, AND D</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED 10/16/02 DATE</p>	<p><u> /S/ Beth Connestra </u> CHIEF ROADWAY DEVELOPMENT ENGINEER</p>



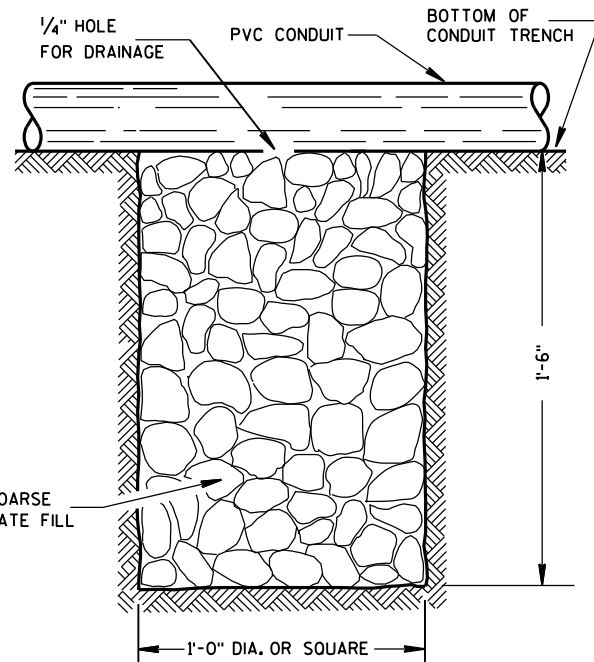


PLAN VIEW
ARROW MARK



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.

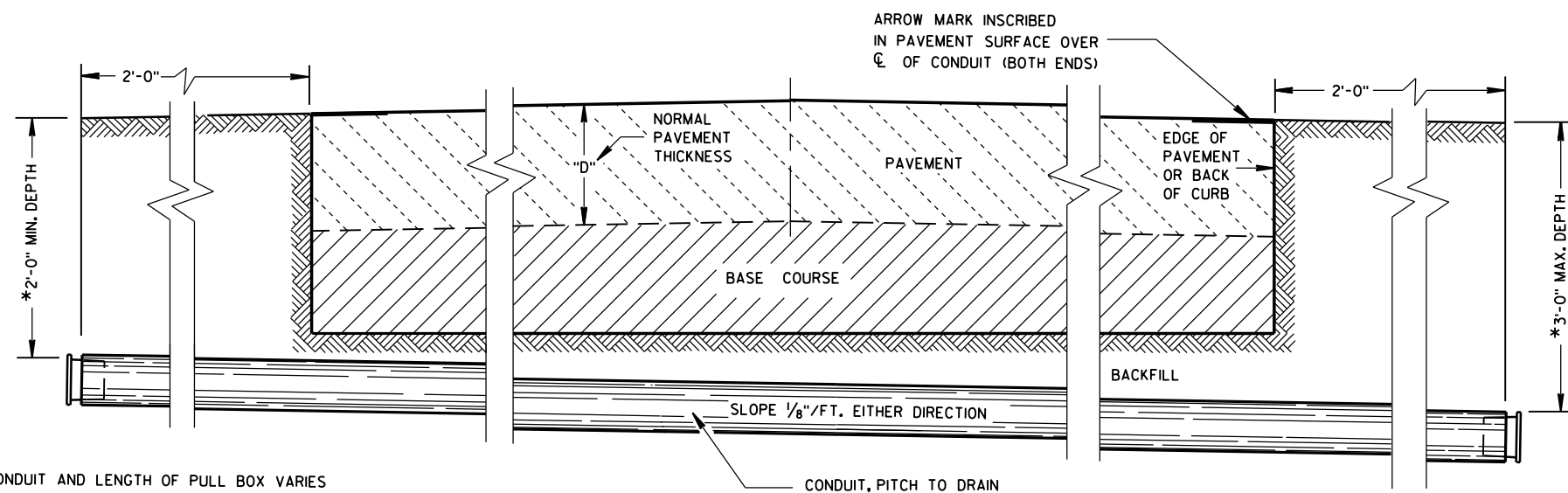
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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 ENGINEER

FHWA

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.

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.

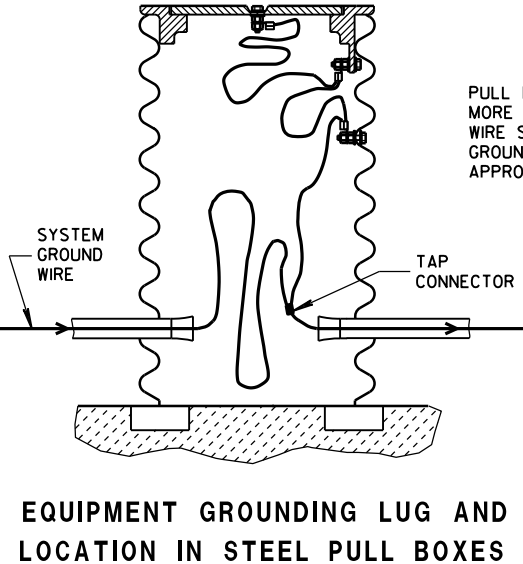
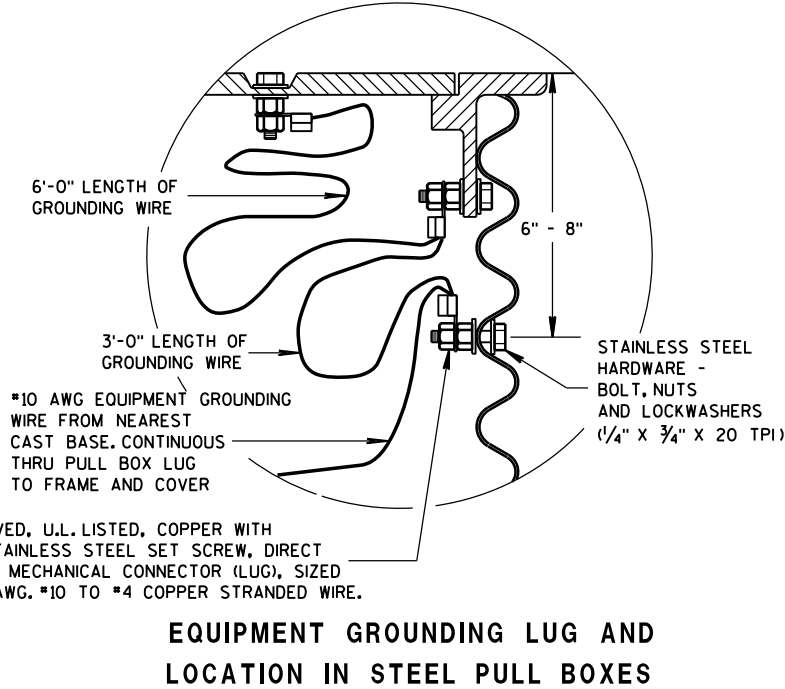
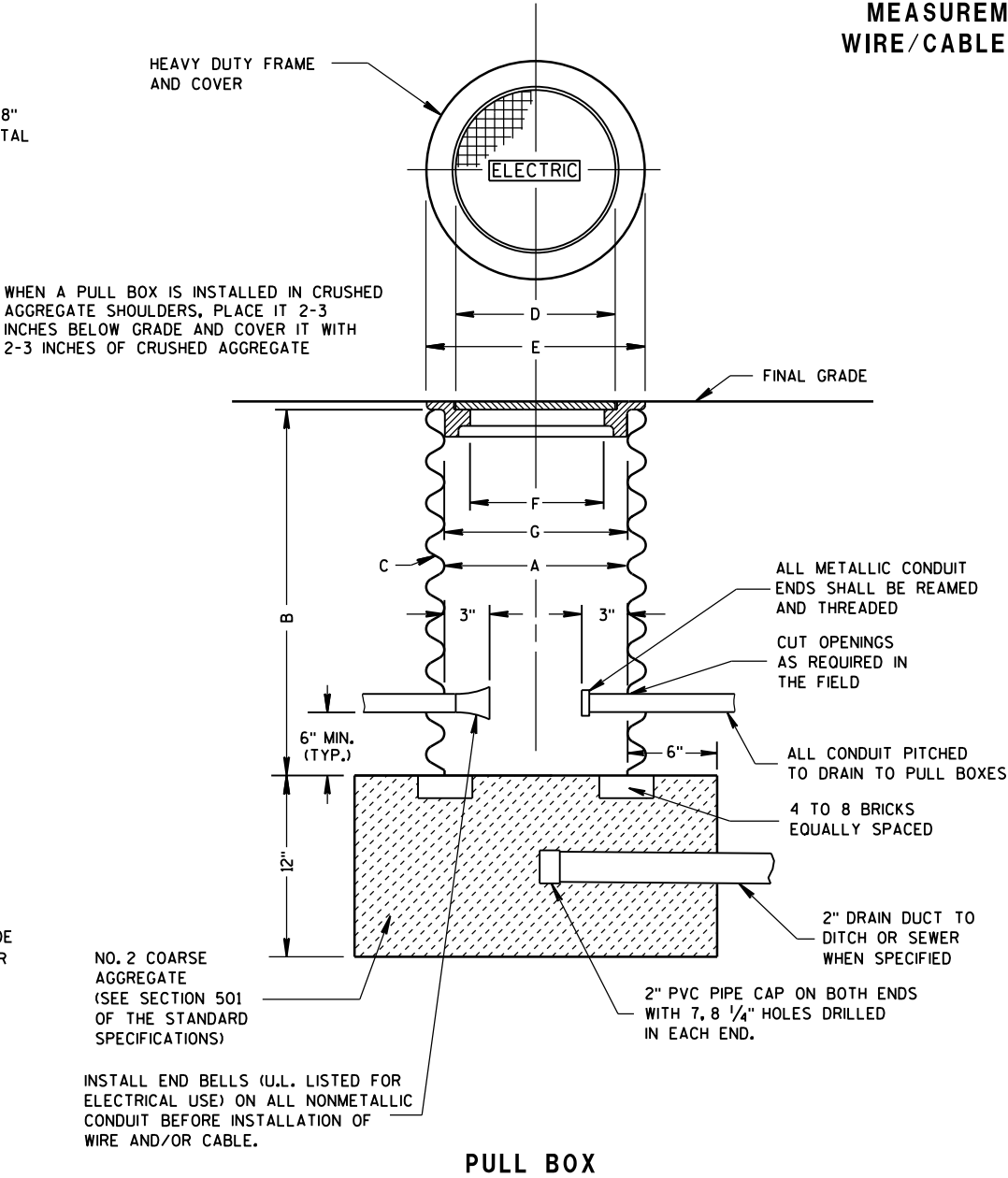
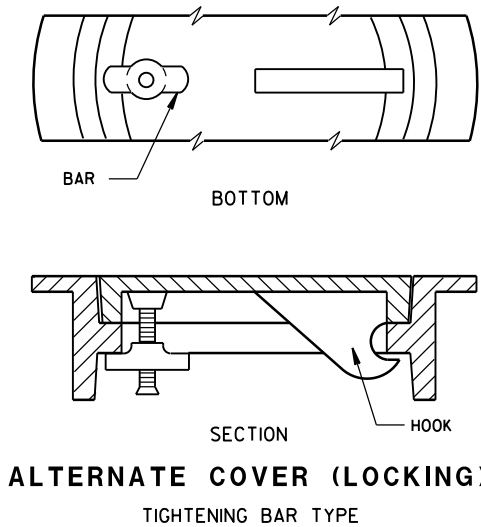
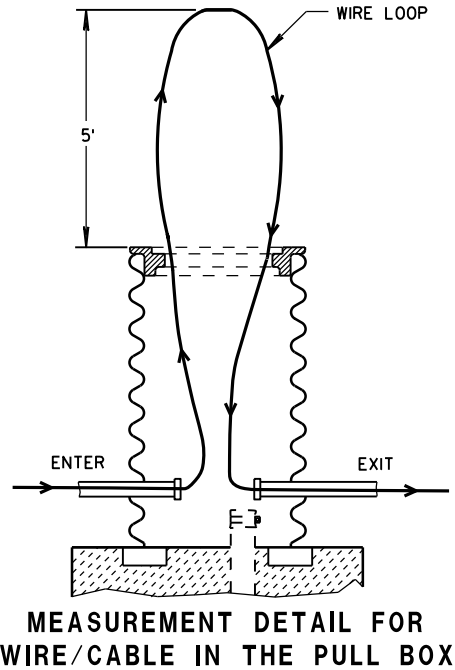
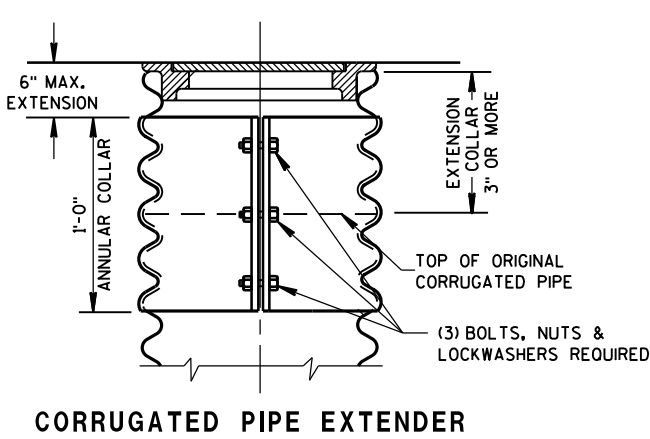
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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.

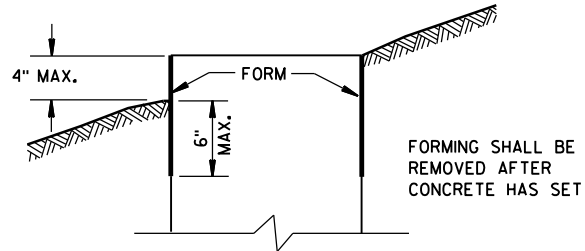
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

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	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirelek STATE ELECTRICAL ENGINEER
FHWA	

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



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.

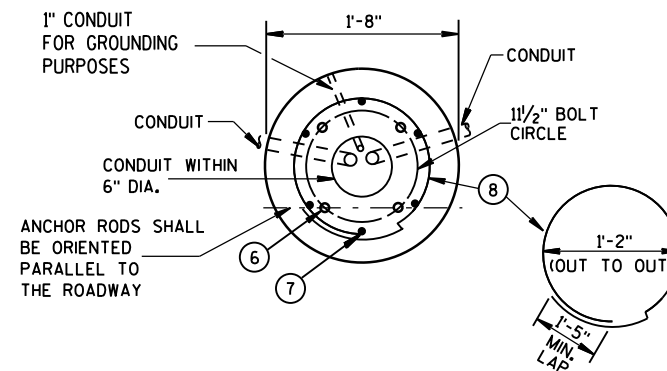
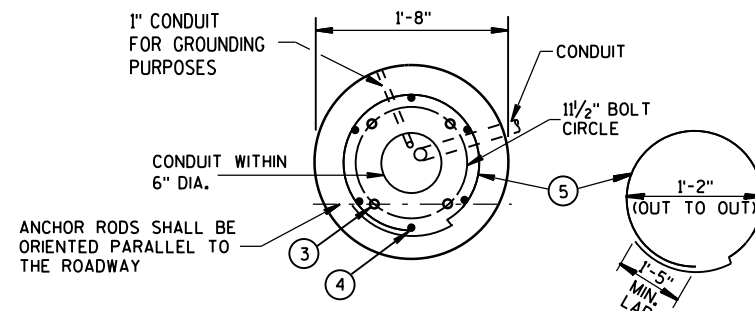
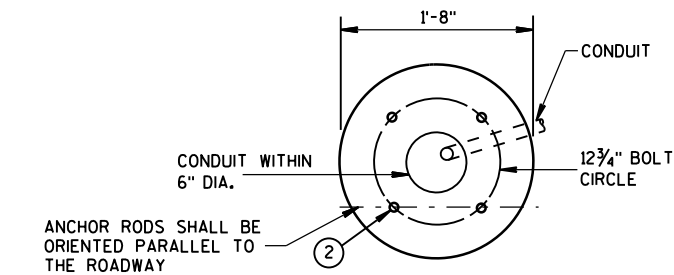
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

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

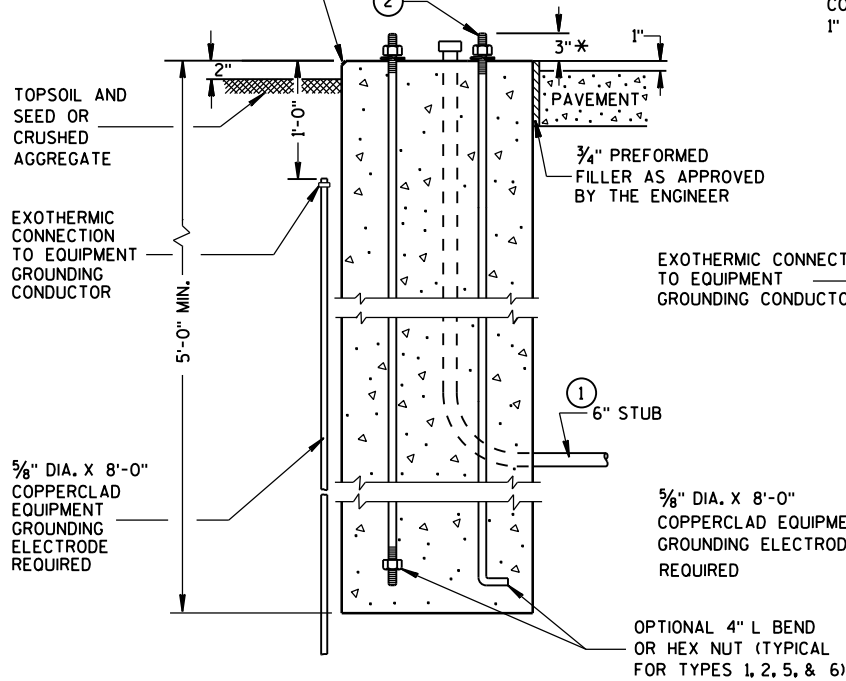
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

- 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.

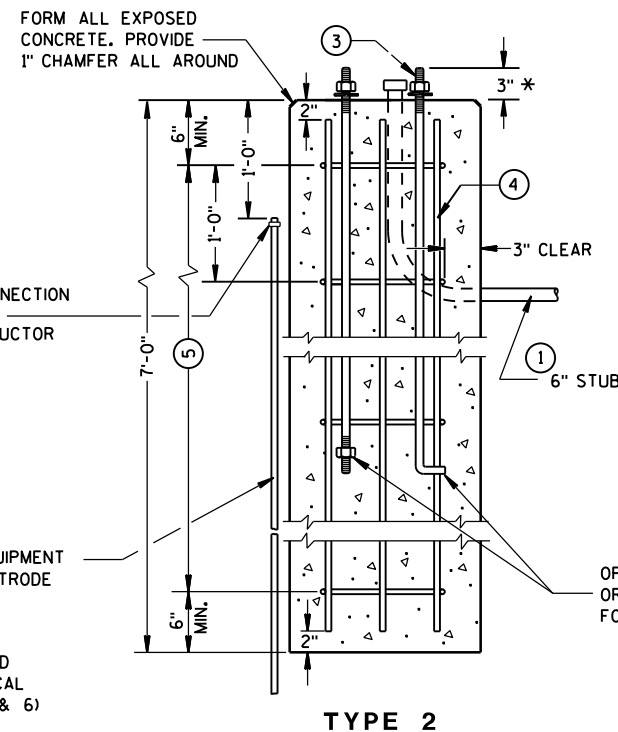
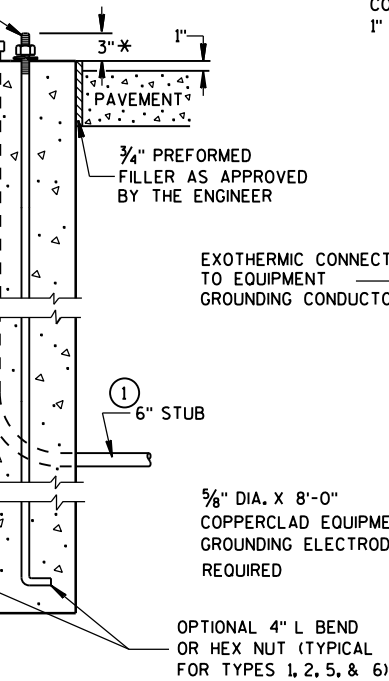
- 2 (4) 1" DIA. X 3'-6" ANCHOR RODS.
3 (4) 1" DIA. X 5'-0" ANCHOR RODS.
4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
6 (4) 1" DIA. X 3'-6" ANCHOR RODS.
7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



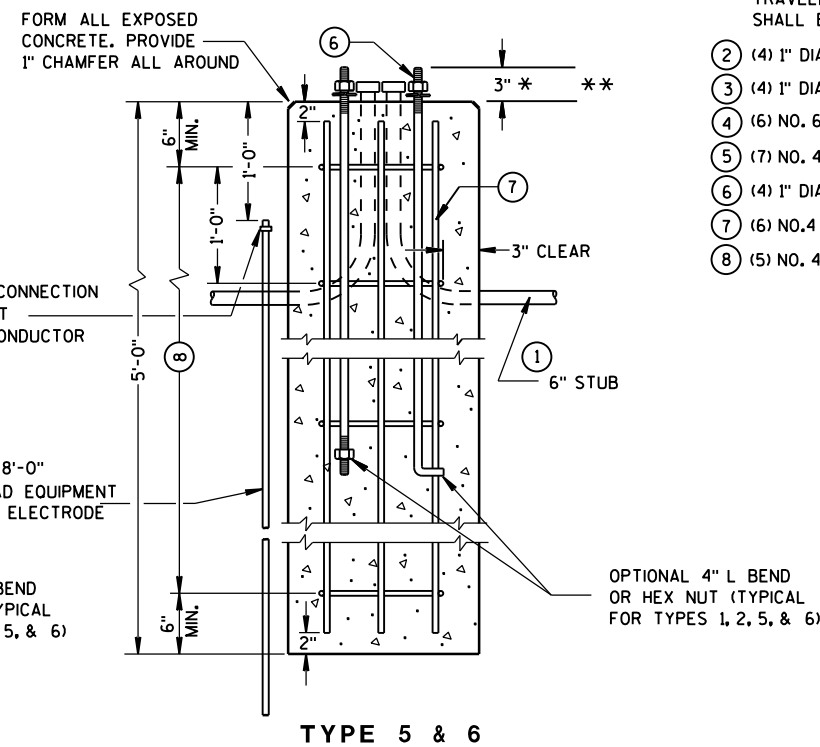
HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2, 5, & 6)



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



TYPE 2 CONCRETE BASES



TYPE 5 & 6

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 3/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± 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 ENGINEER

FHWA

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.

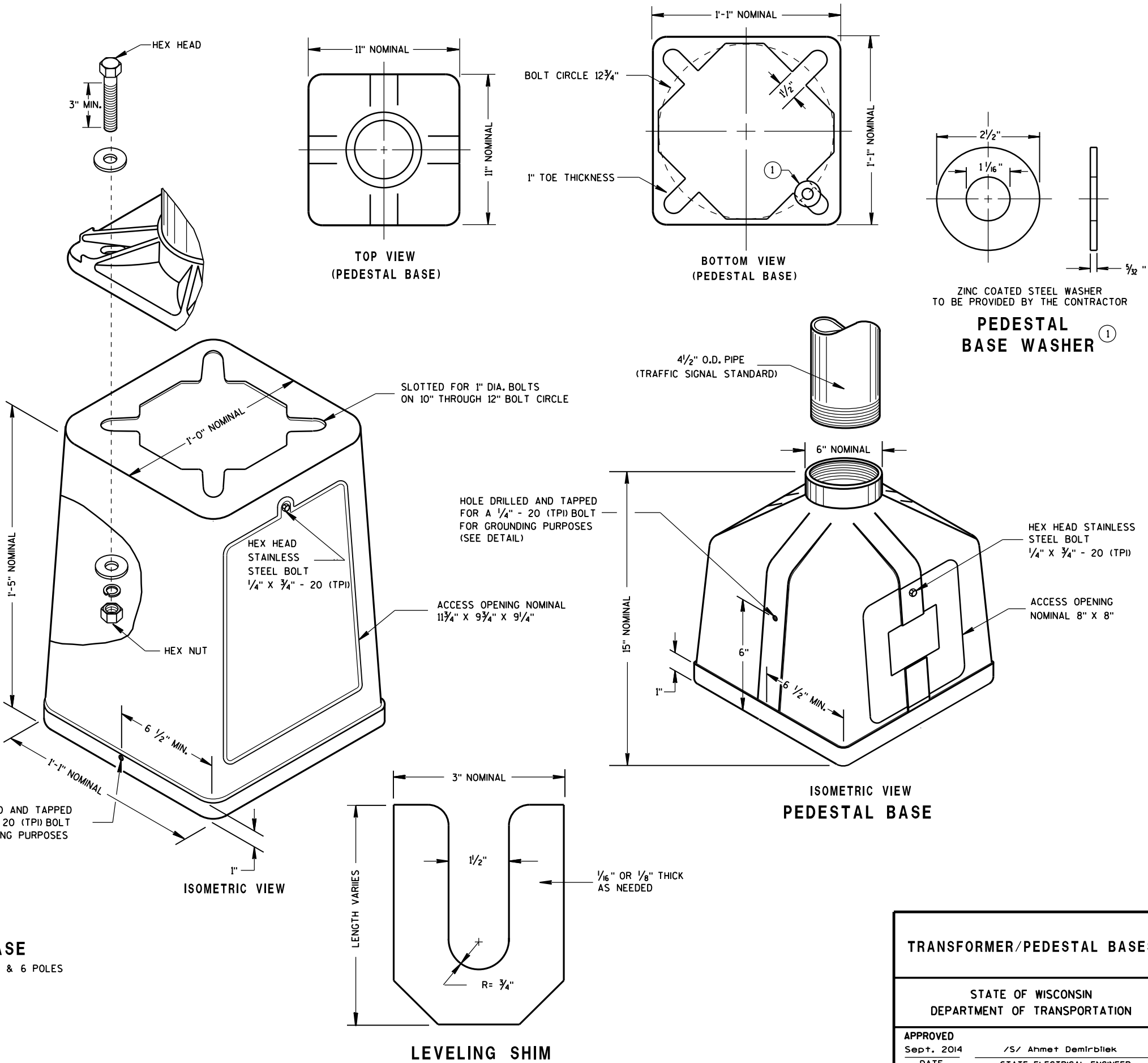
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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



TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

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

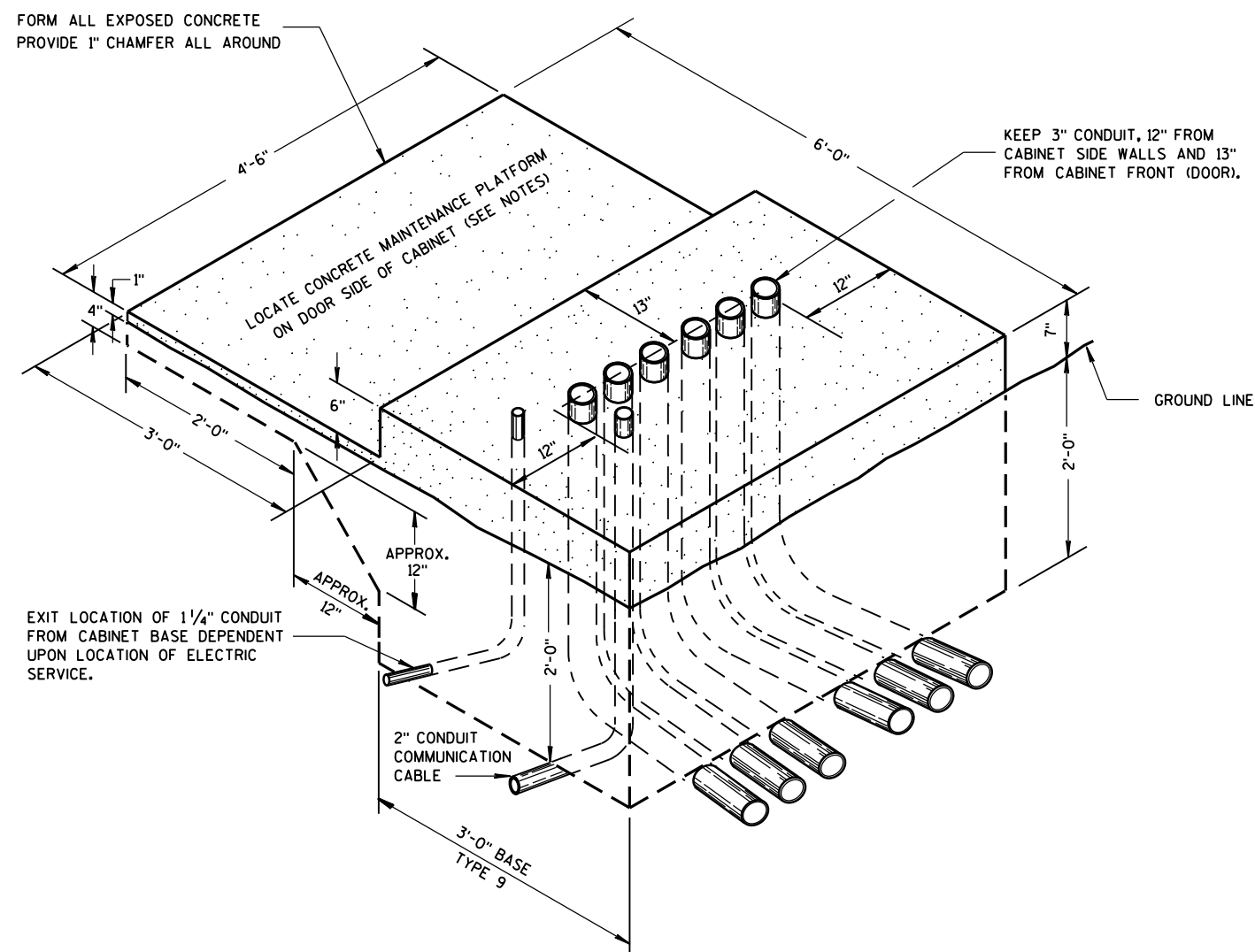
ISOMETRIC VIEW
PEDESTAL BASE

LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

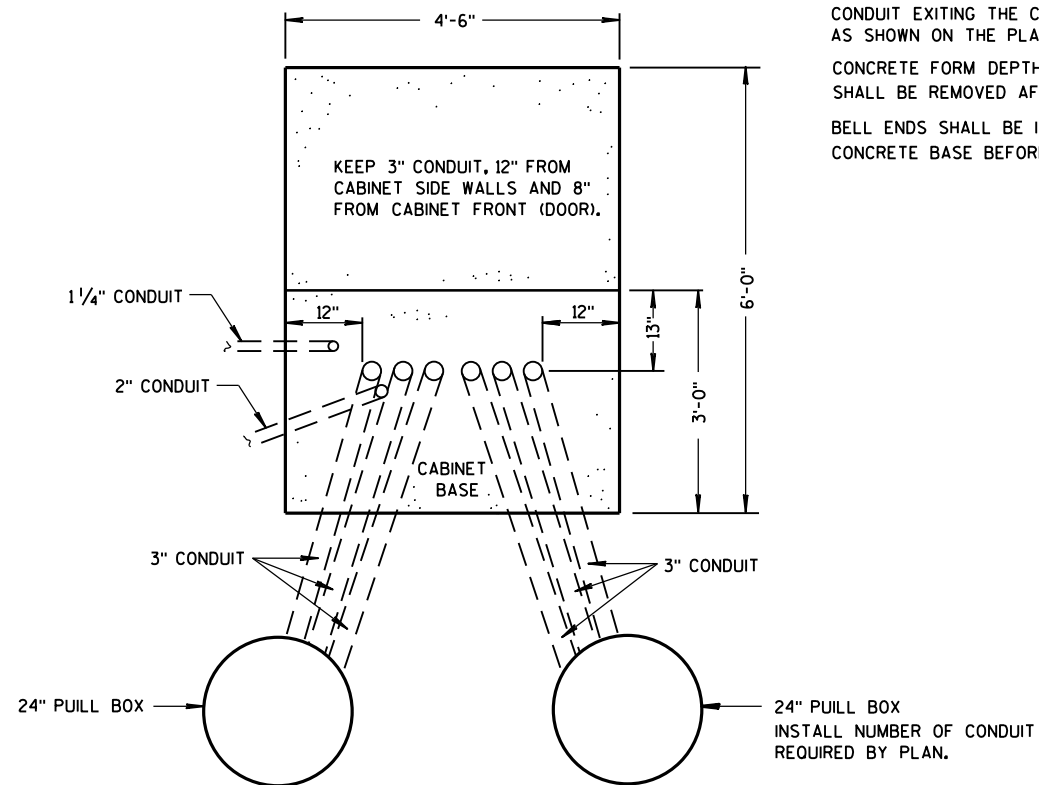
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



**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 1/2 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 ENGINEER

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).

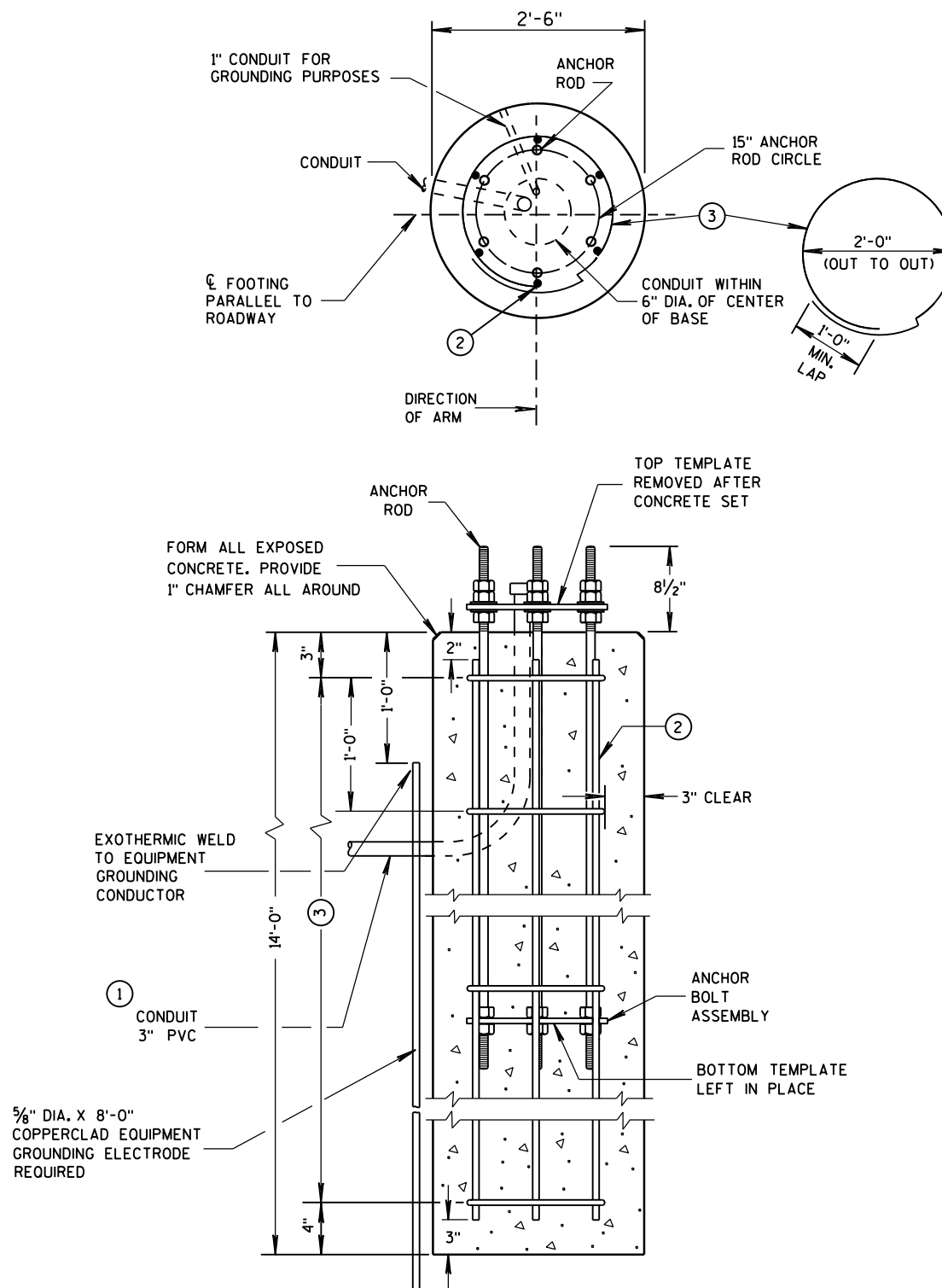
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

- 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.

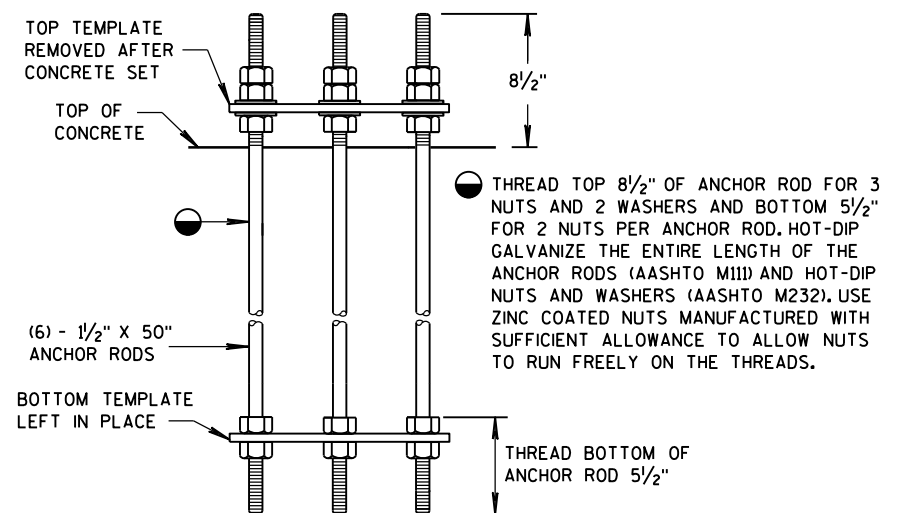
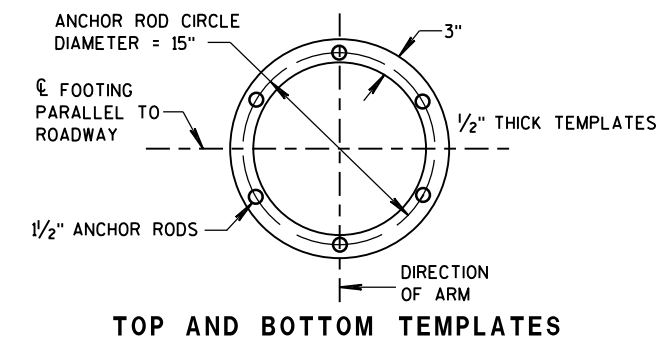
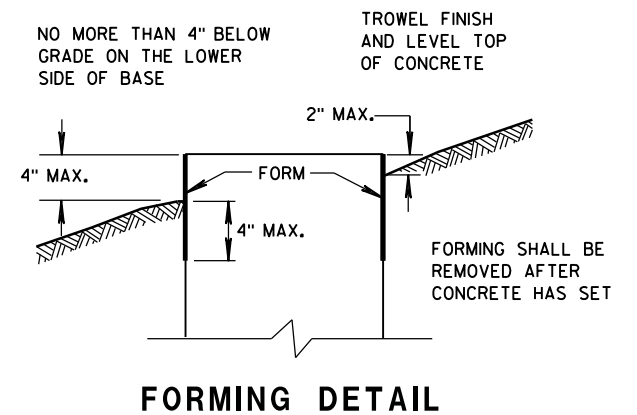
- ③ (15) NO. 4 X 7'-4" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

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



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

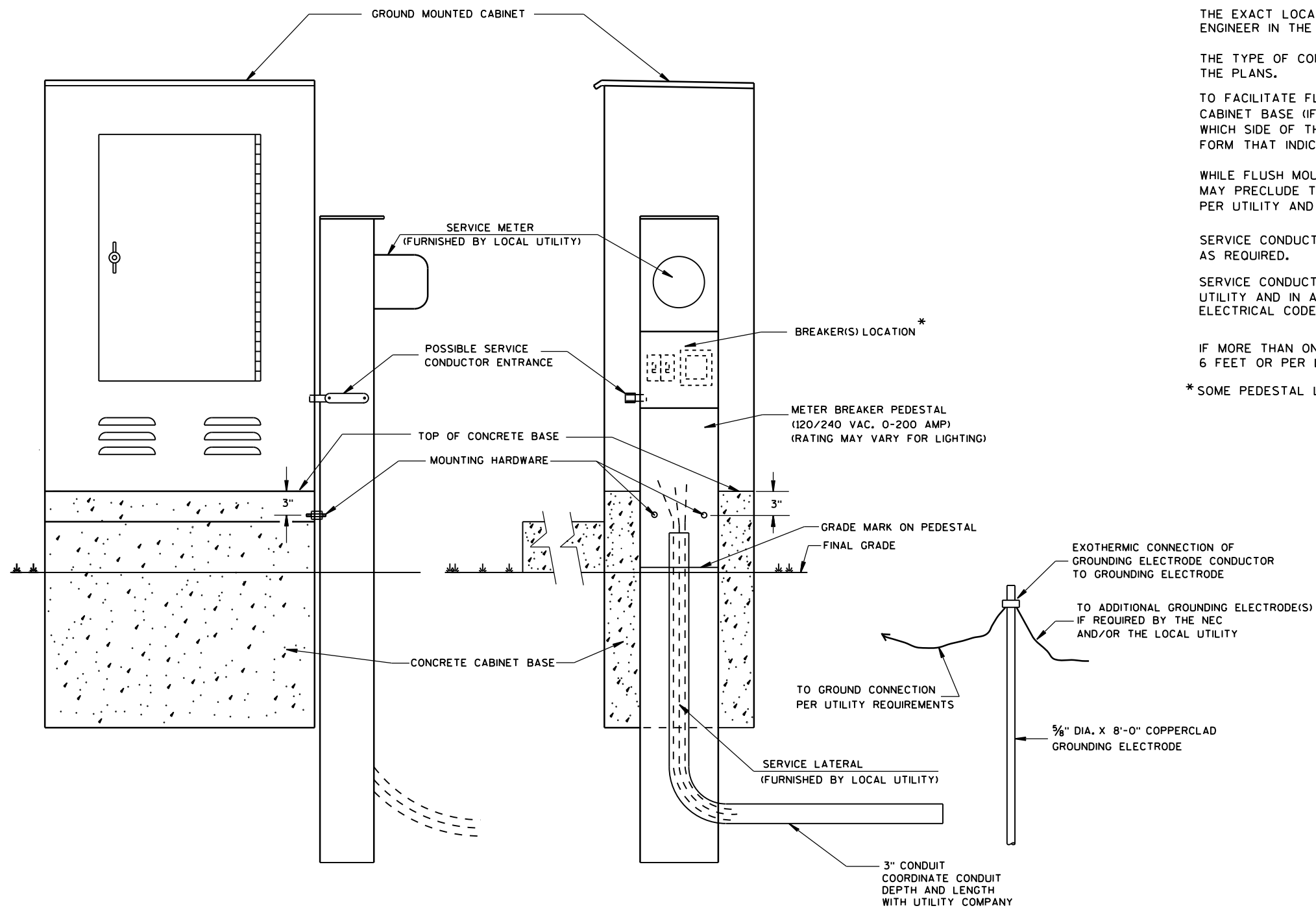
APPROVED

Sept. 2014

DATE

FHWA

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE, CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH, THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

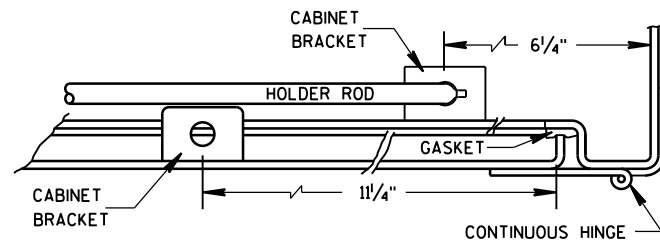
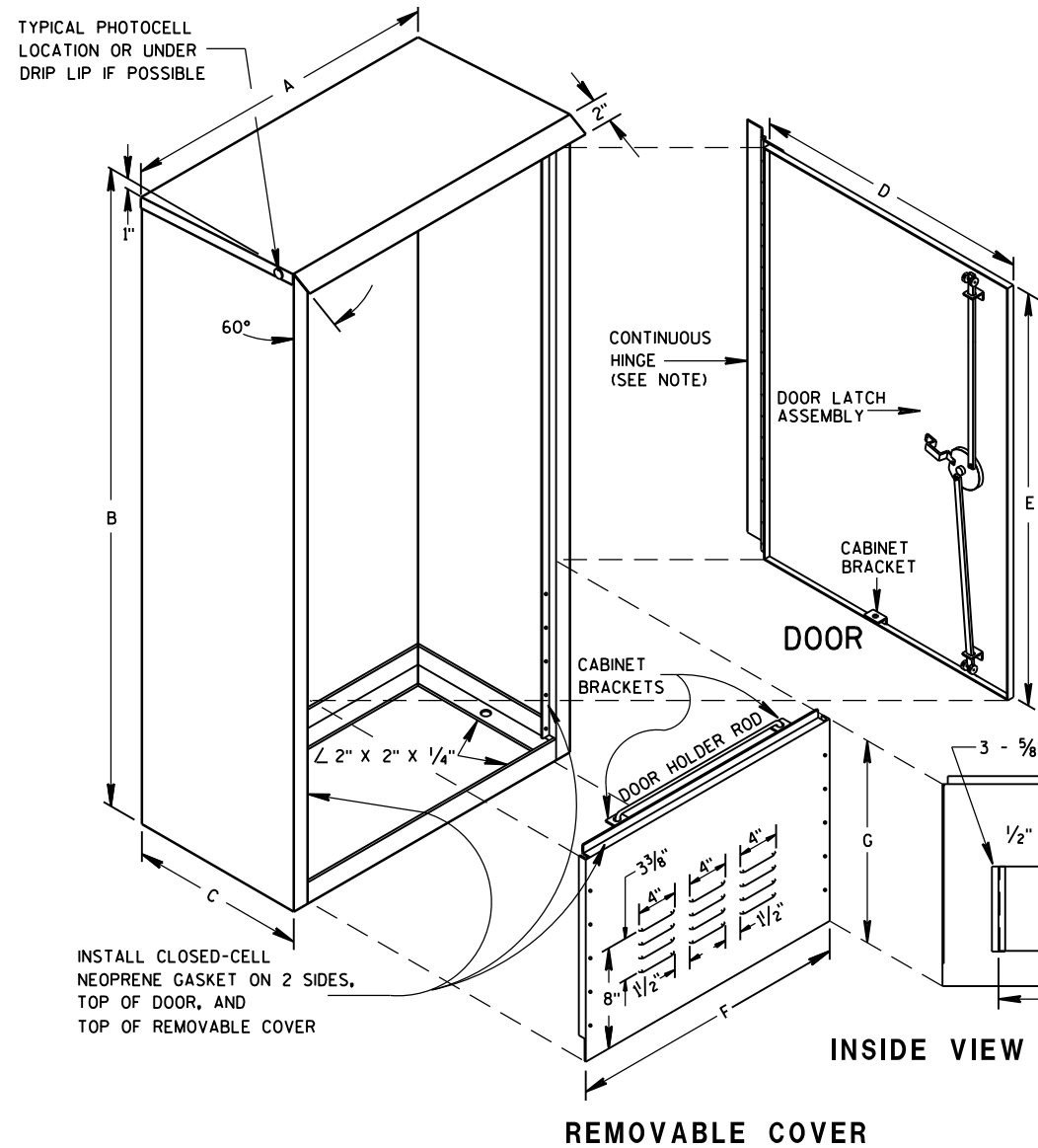
CABINET SERVICE INSTALLATION
(METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

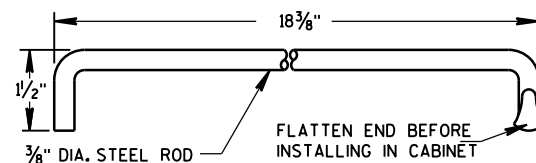
APPROVED
Sept. 2014
DATE

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STATE ELECTRICAL ENGINEER

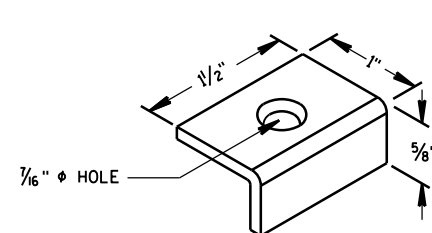
FHWA



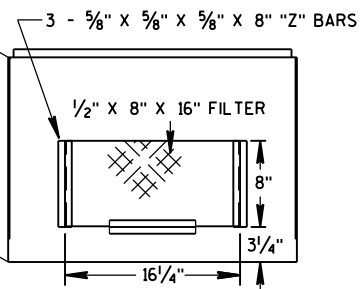
HINGE & DOOR HOLDER



HOLDER ROD



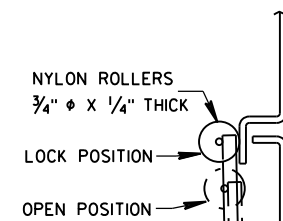
CABINET BRACKET



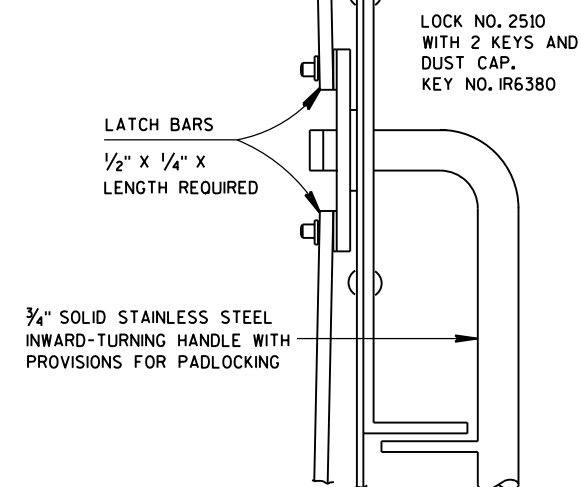
INSIDE VIEW SHOWING FILTER

TABLE OF DIMENSIONS (INCHES)

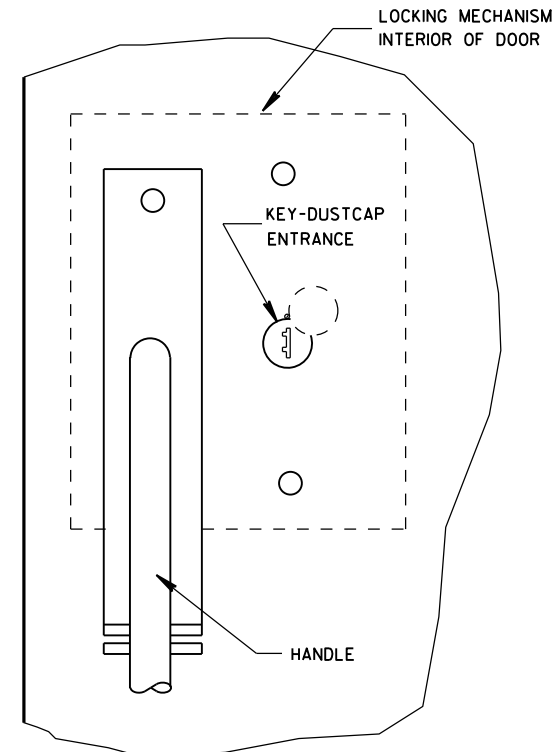
MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2



LATCH BAR GUIDE

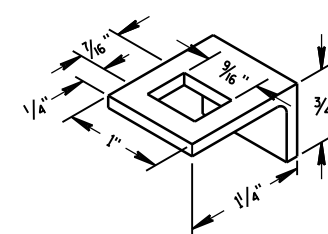


SIDE VIEW



FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

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.

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

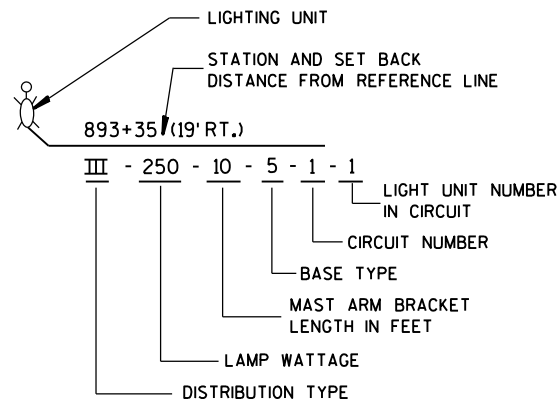
ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

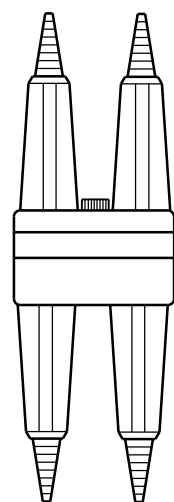
A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

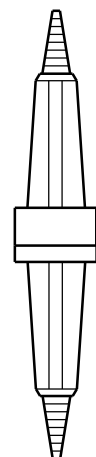
SIGNAL CONTROL CABINET	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	



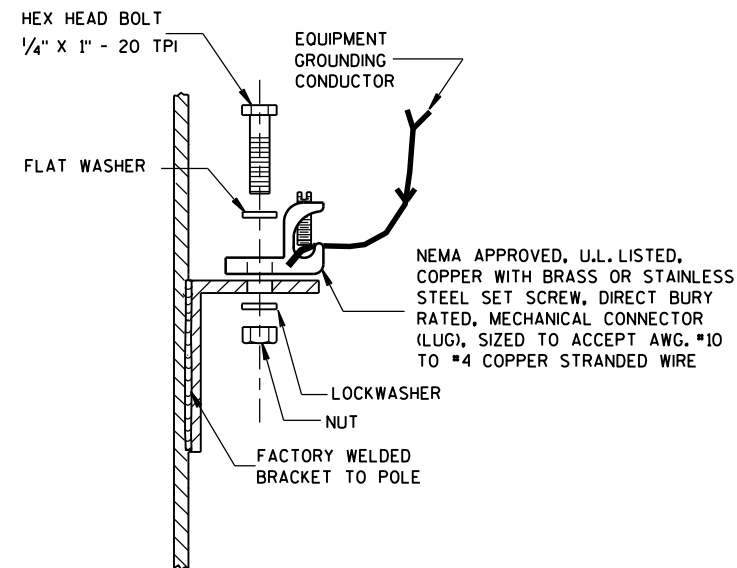
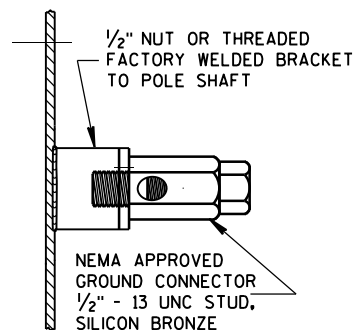
**LIGHTING UNIT CODE
(TYPICAL)**



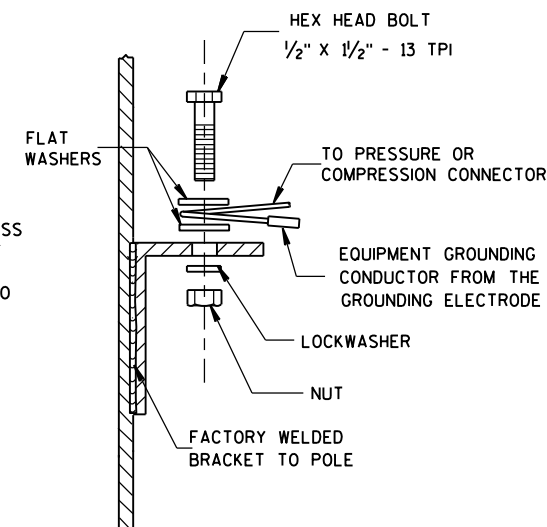
**DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT**



**DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT**



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

ADDITIONAL CONDUCTORS
AND FUSE FOR TWIN
LIGHTING UNITS

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPICE CONNECTOR.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

CONDUCTORS TO
LUMINAIRES SHALL BE #12 AWG,
COPPER STRANDED, U.S.E. RATED,
XLP INSULATED. SINGLE
LIGHTING UNIT SHOWN

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE SINGLE POLE FUSE ASSEMBLY.
600 VAC, WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "B")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTOR AND FUSEHOLDER

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDED
CIRCUIT CONDUCTOR PASSING
THROUGH THIS POLE

TWIN LIGHTING UNITS REQUIRE
INDIVIDUAL SETS OF UNGROUNDED
CONDUCTORS AND FUSE ASSEMBLY.

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPICE CONNECTOR.

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE FUSE ASSEMBLY
TWO POLE, 600 VAC,
WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "A")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTORS AND FUSEHOLDERS

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

**3 WIRE - 120, 240 OR 480 VAC (UNGROUND CONDUCTOR)
WITH GROUNDED CONDUCTOR AND
WITH EQUIPMENT GROUNDING CONDUCTOR**

**2 WIRE - 240 OR 480 VAC (UNGROUND CONDUCTORS)
WITH EQUIPMENT GROUNDING CONDUCTOR**

**NON-FREEWAY LIGHTING UNIT
POLE WIRING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

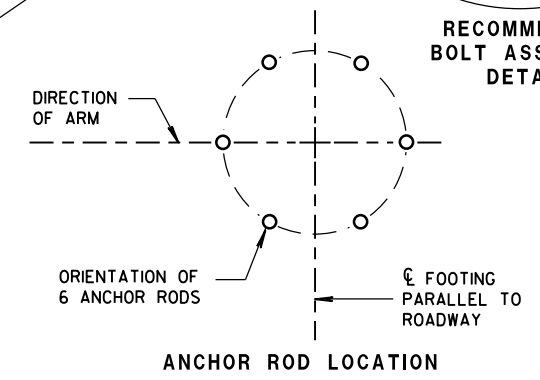
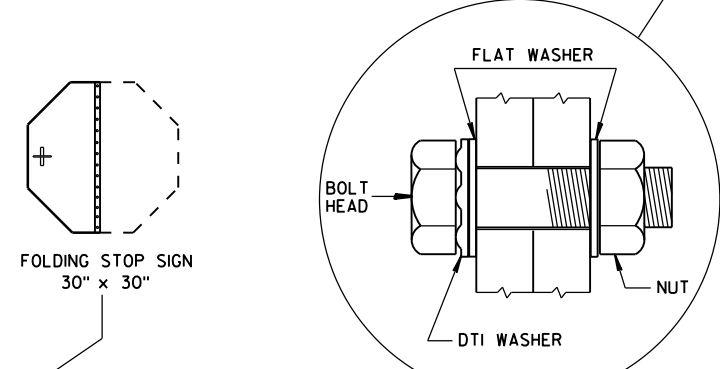
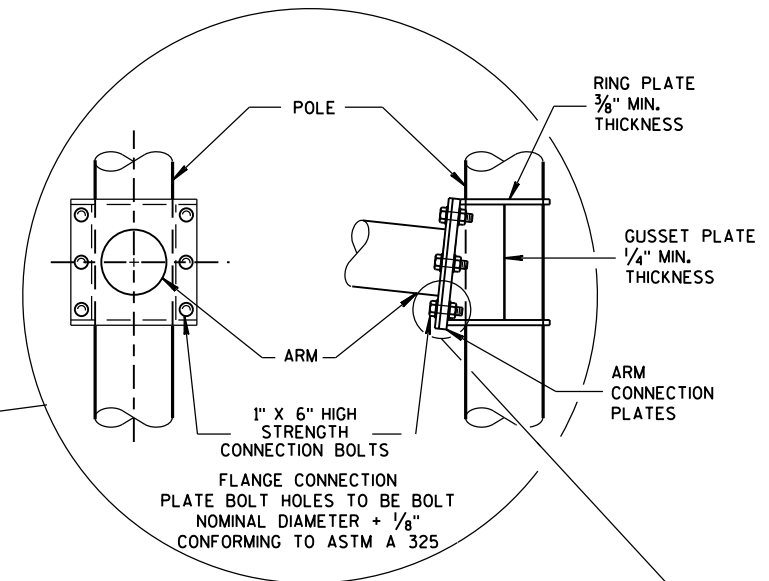
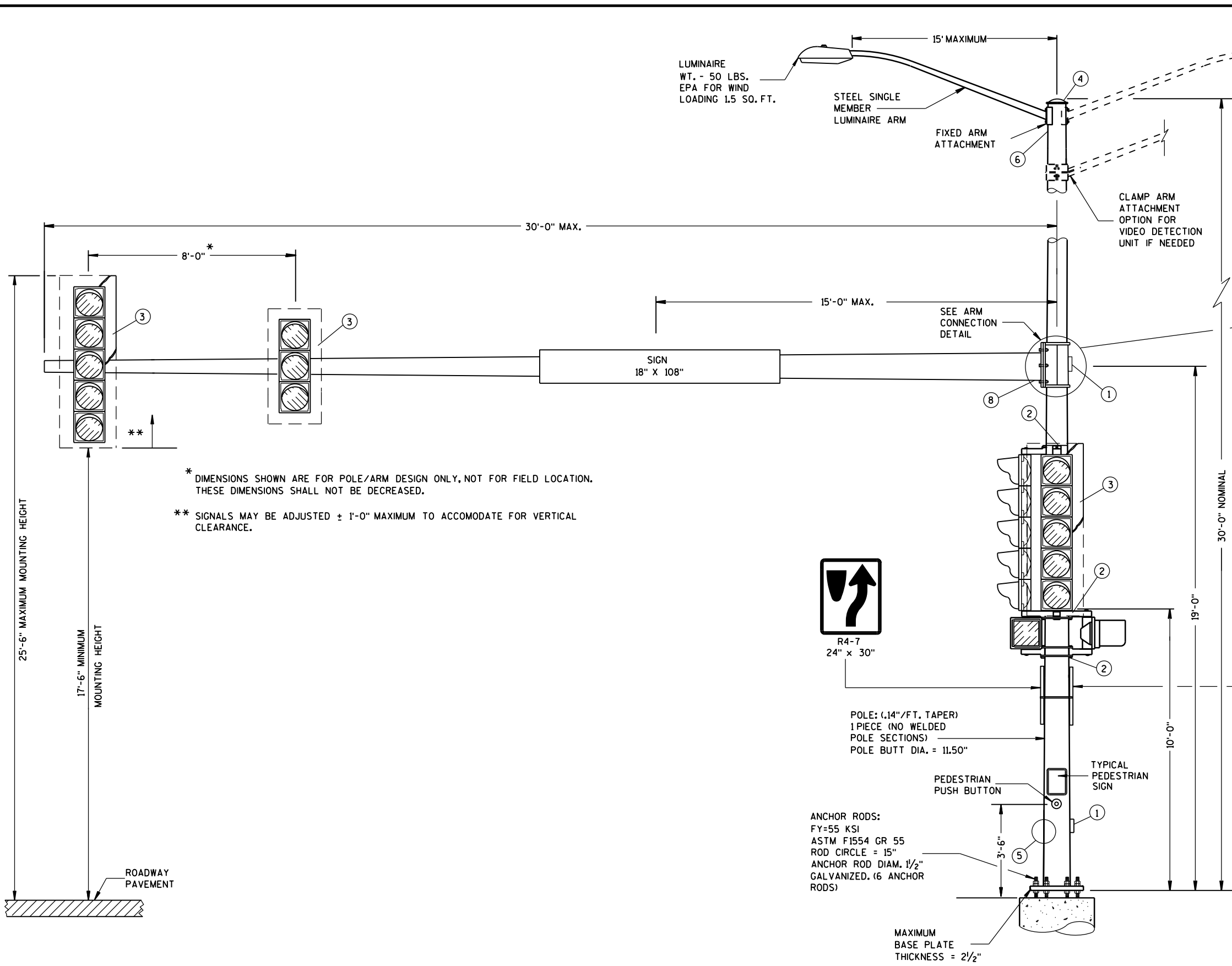
APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS.
FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER



(MAXIMUM LOAD)
**TYPE 10 POLE
15'- 30' MONOTUBE ARM**

TYPE 10 POLE 15' - 30' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

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 ¼ ± 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:

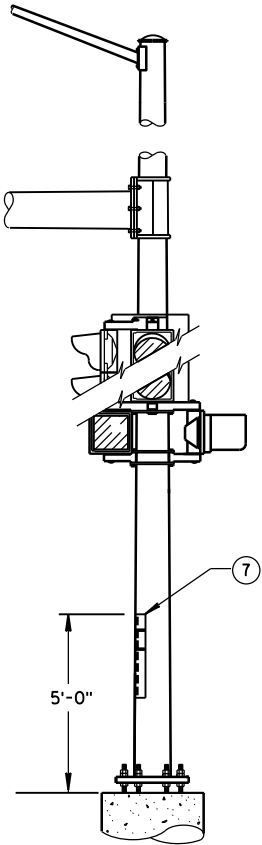
- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 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.

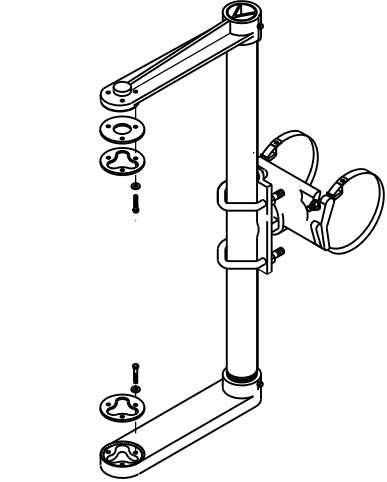
INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

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.

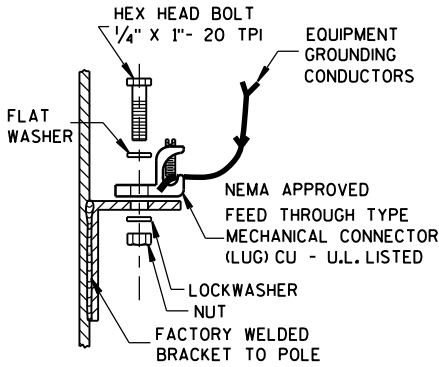


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



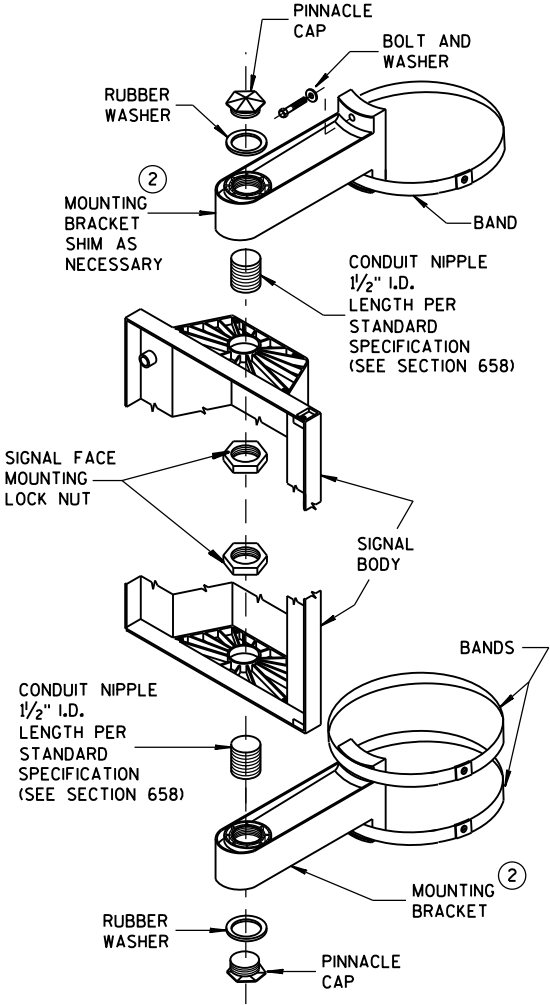
SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

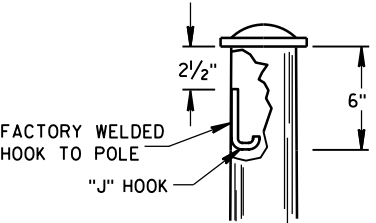


TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



SIGNAL FACE
VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT

- DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" x ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).
- SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- 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.
- 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.
- FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- 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.

- FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

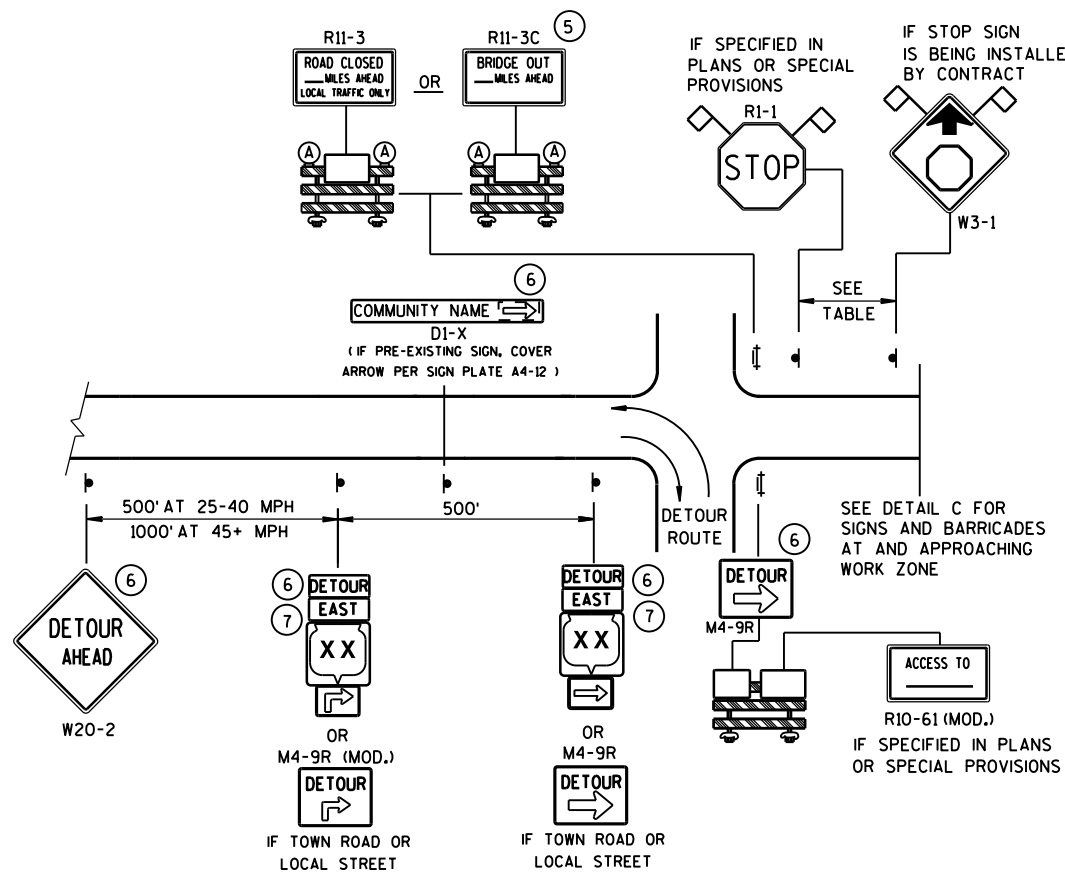
APPROVED

Sept. 2014

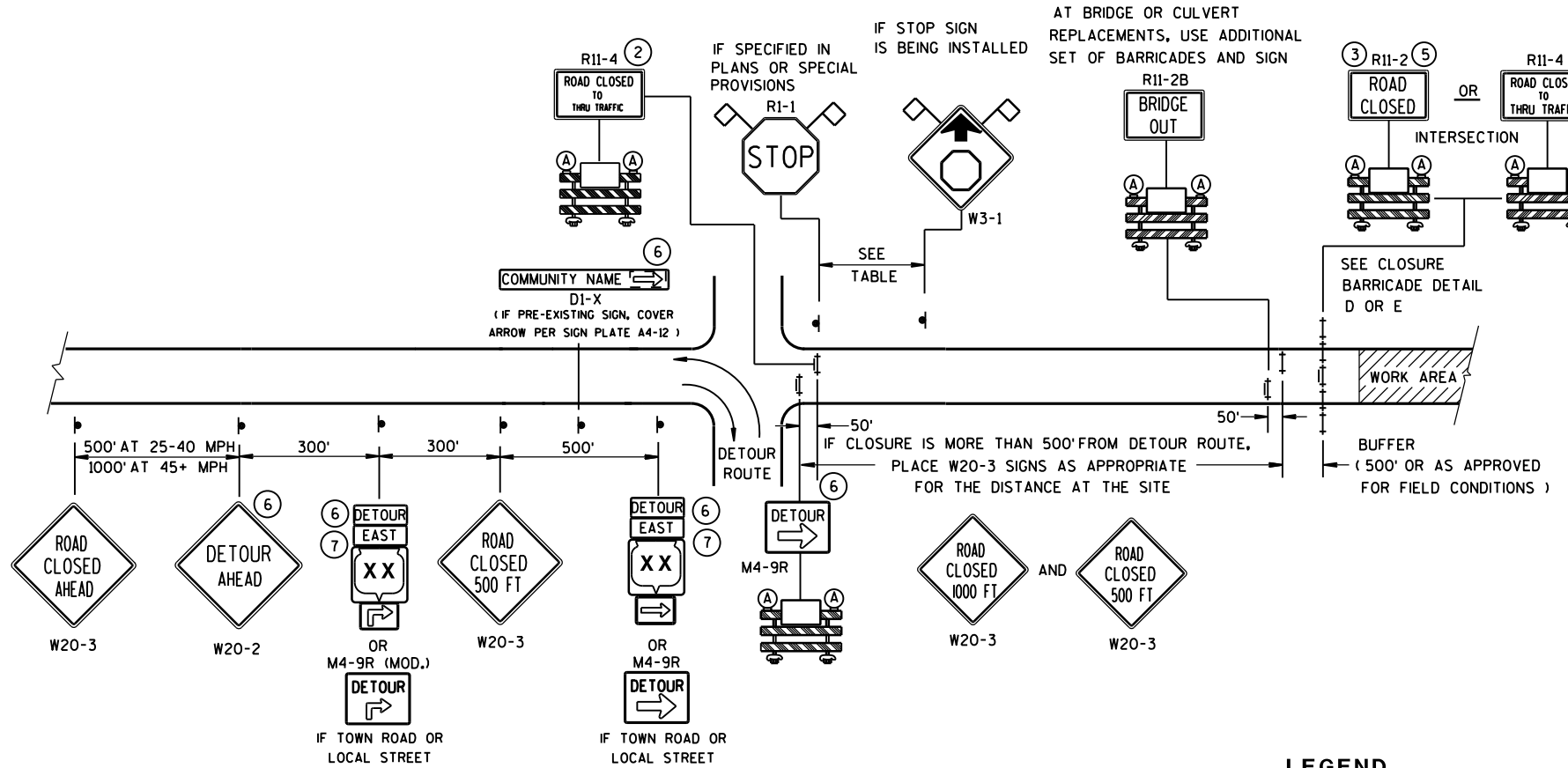
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FHWA

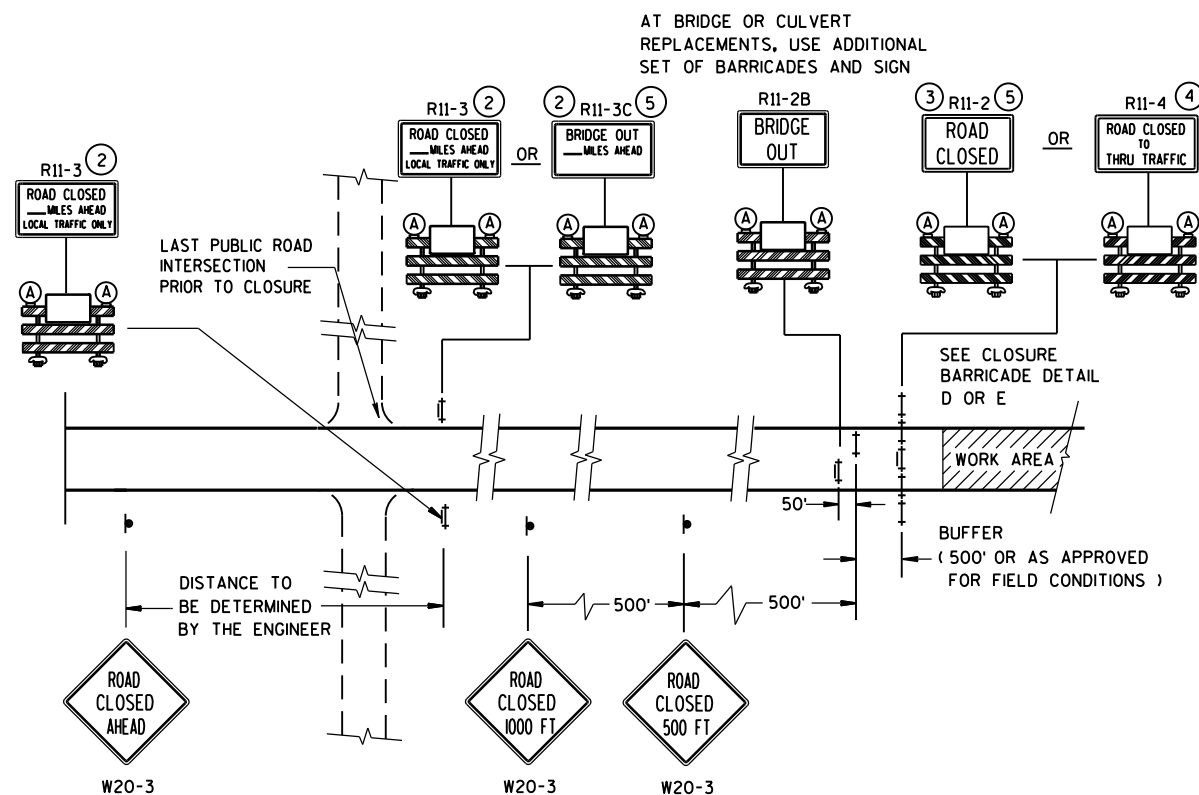
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

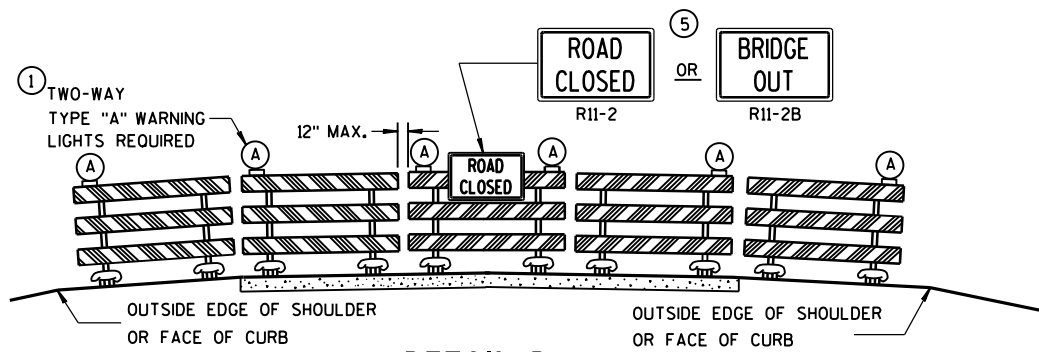


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

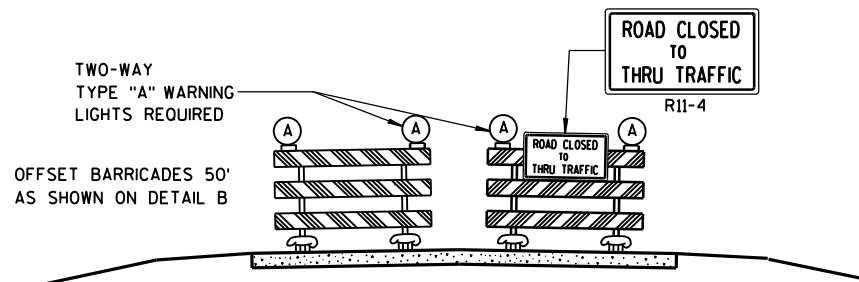
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

**BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES**

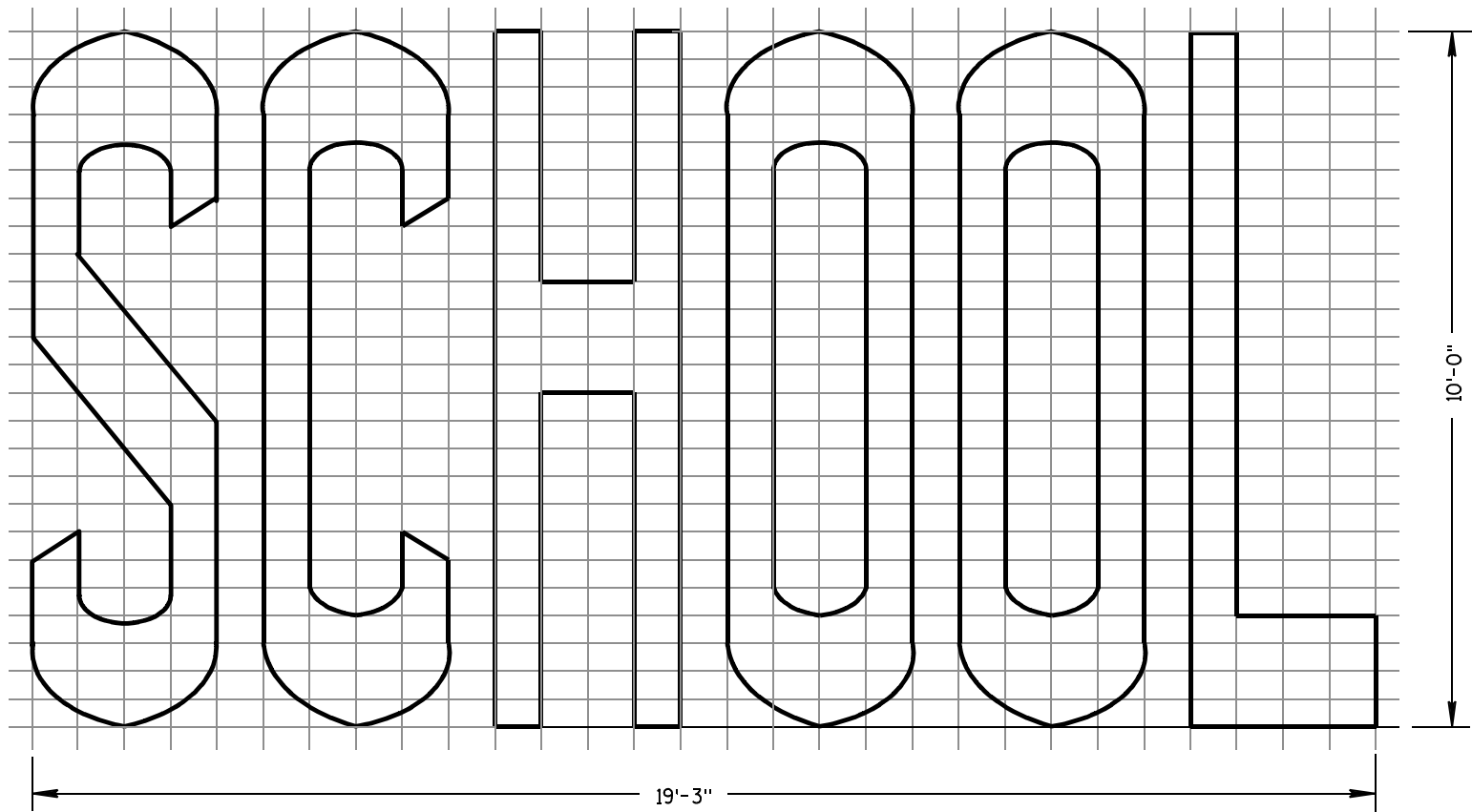
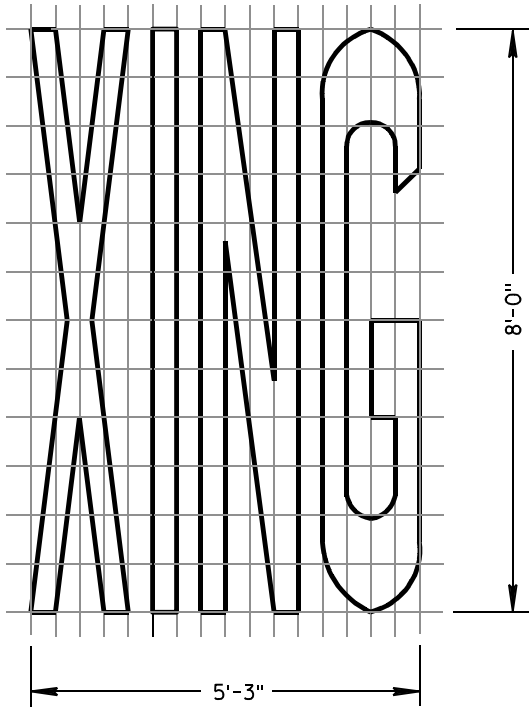
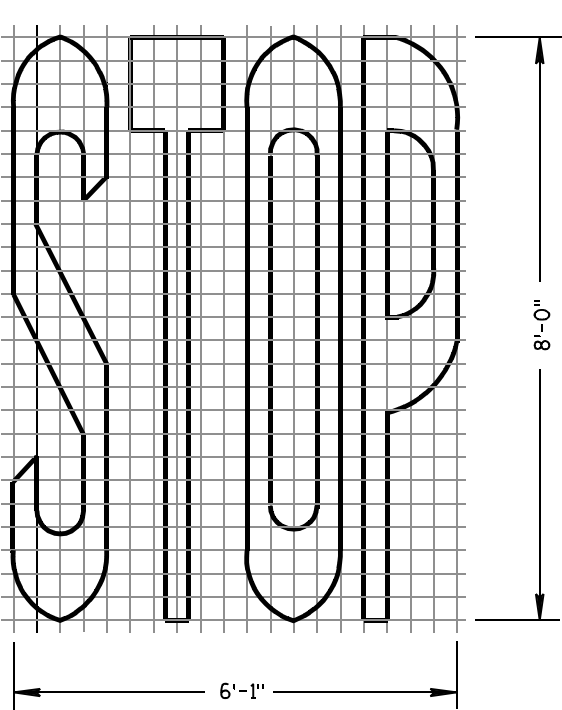
**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

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

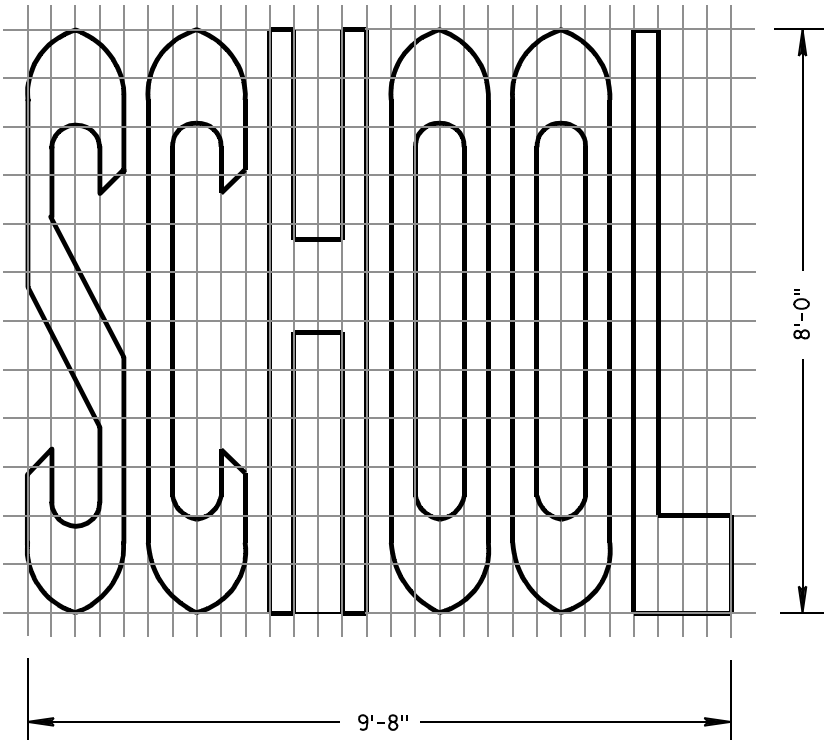
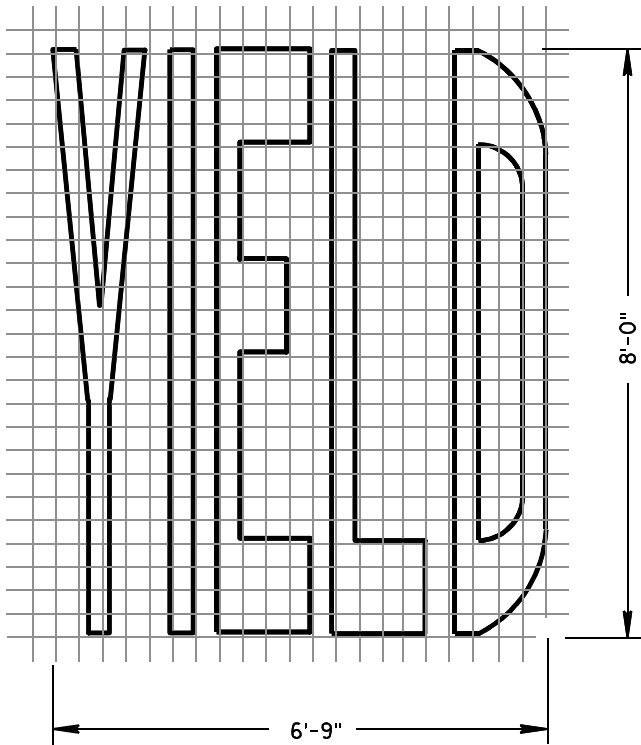
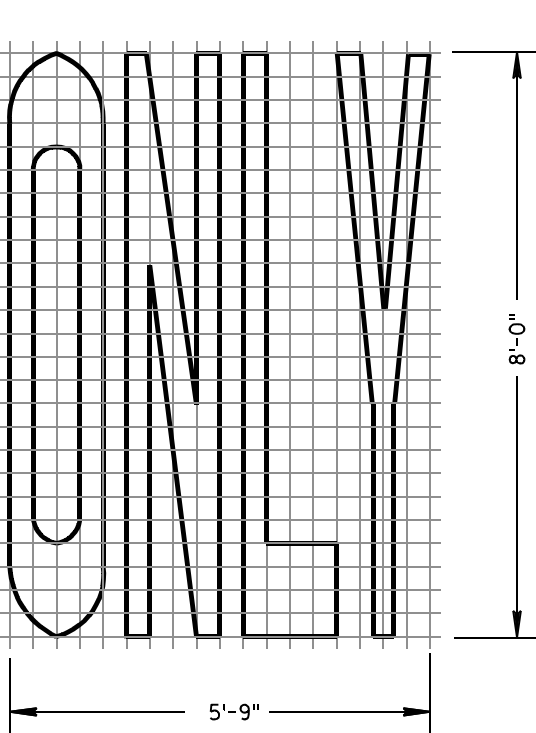
GENERAL NOTES

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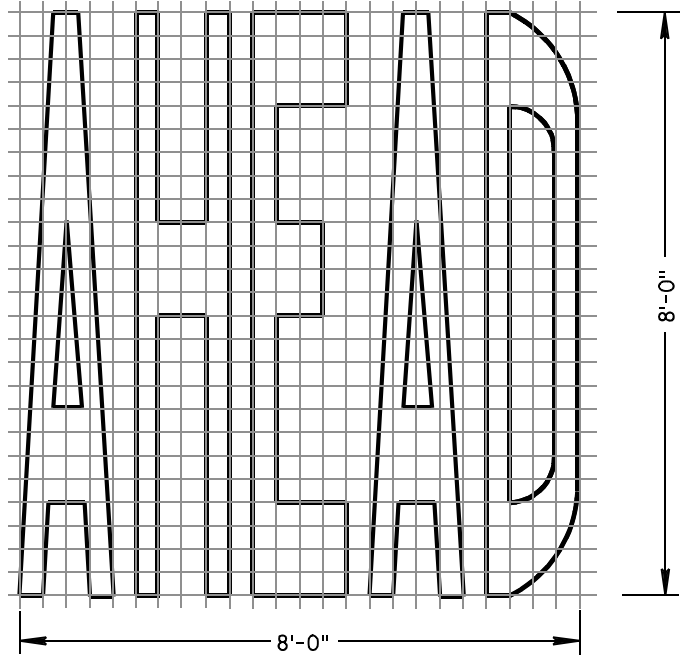
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

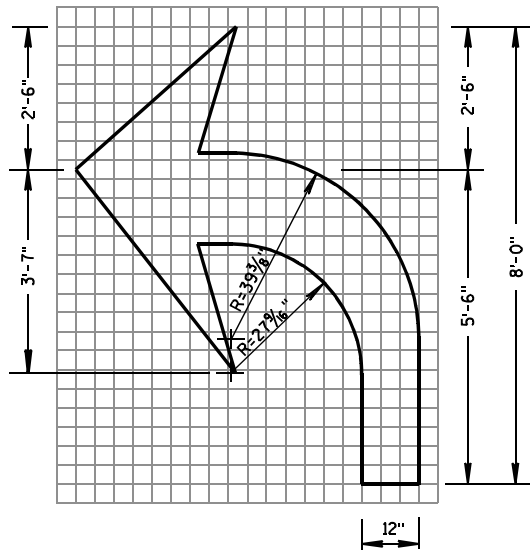
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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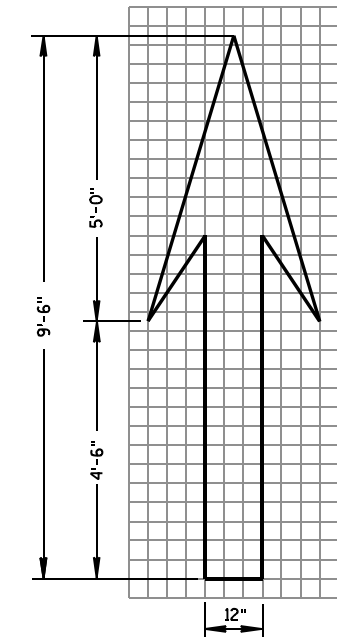
7-1-11
DATE

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

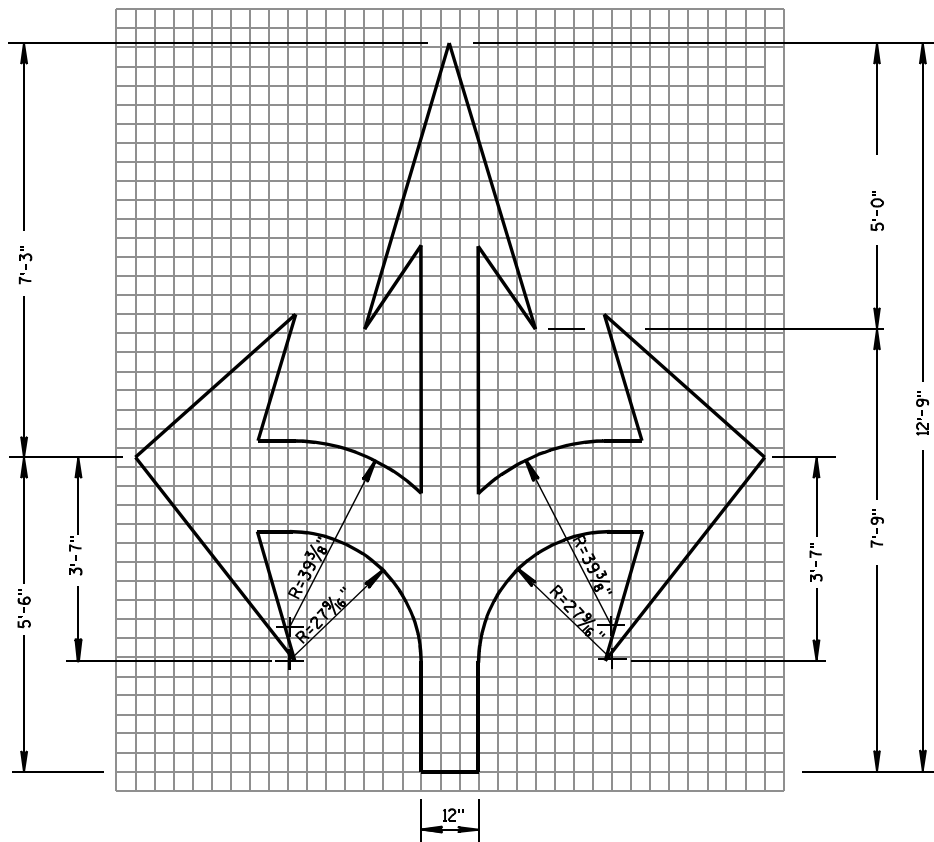
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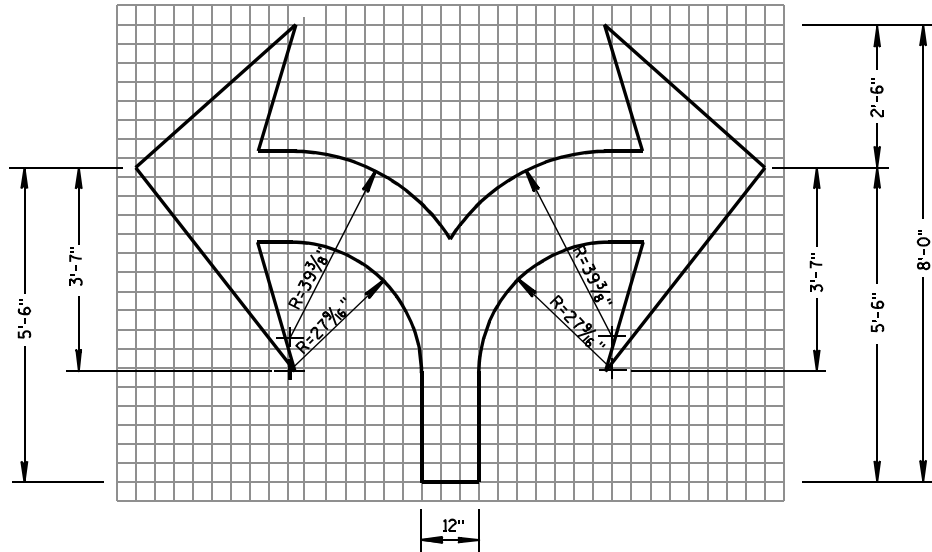
TYPE 2



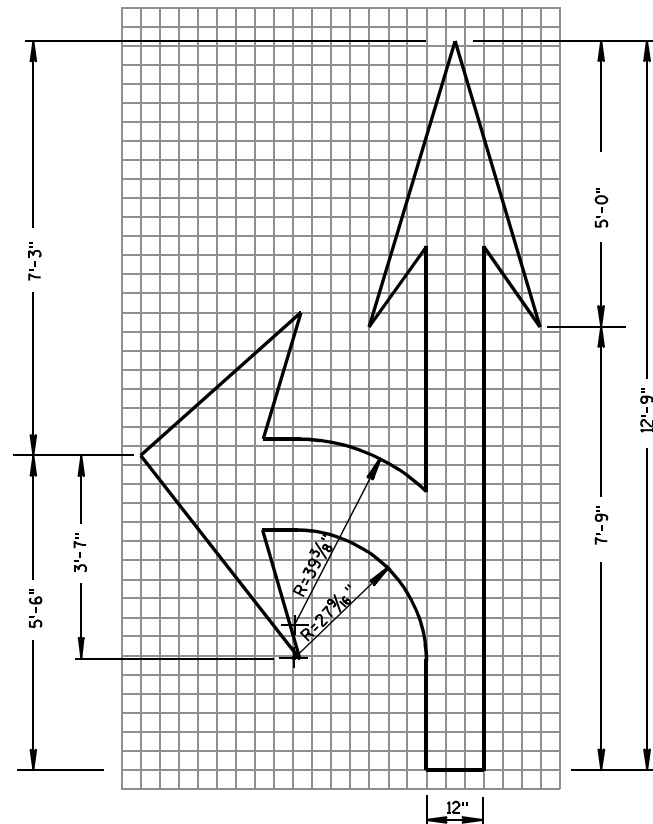
TYPE 1



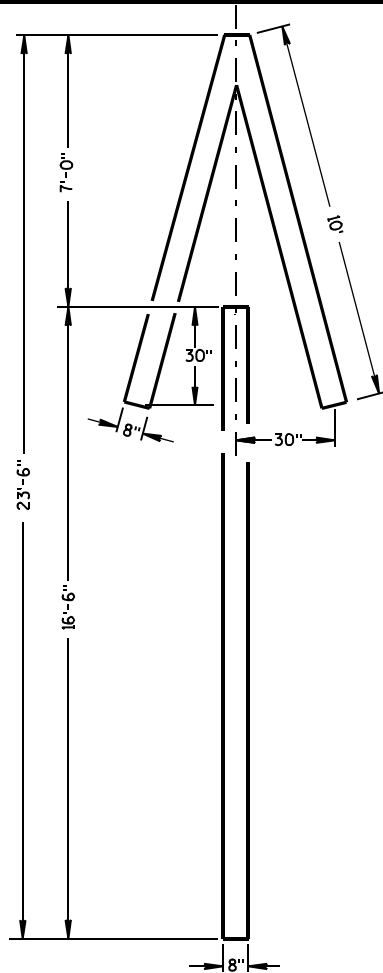
TYPE 6



TYPE 7



TYPE 3

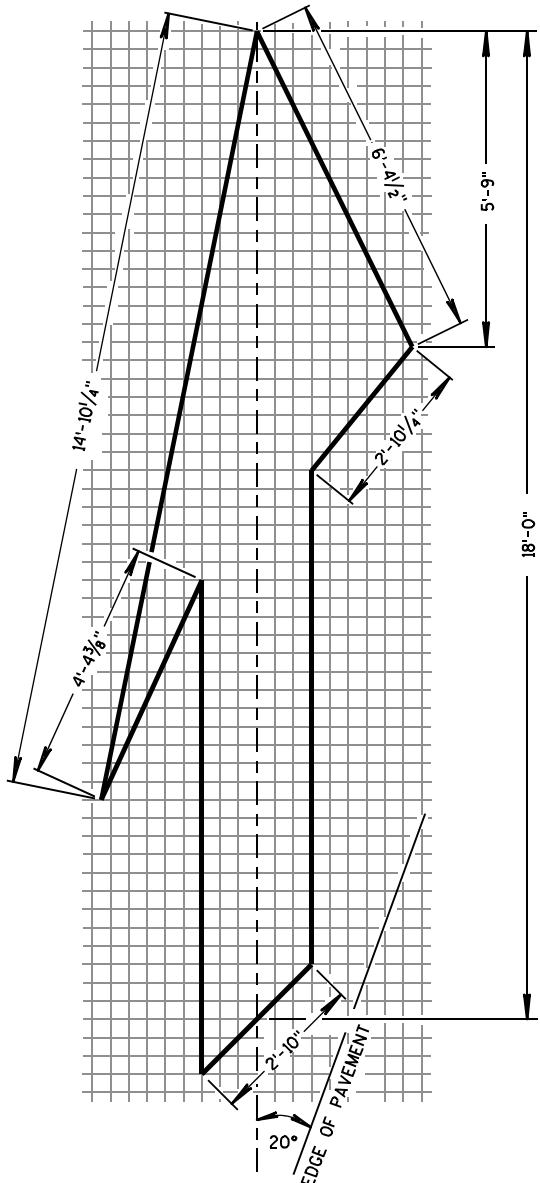


TYPE 4

GENERAL NOTES

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TYPE 5 LANE DROP ARROW

PAVEMENT MARKING ARROWS

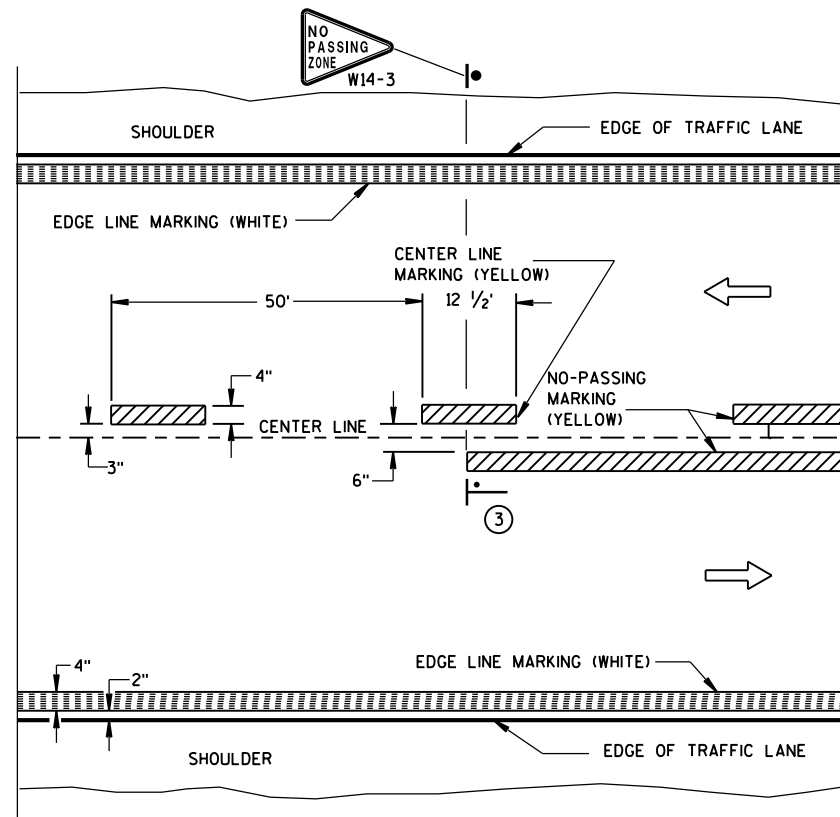
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

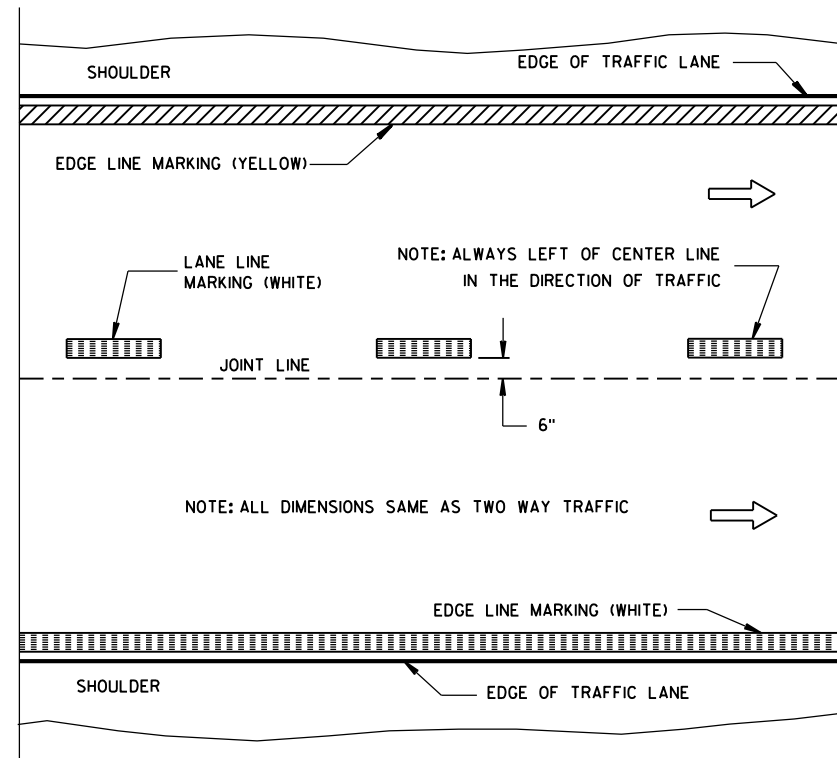
7/1/11
DATE

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

FHWA

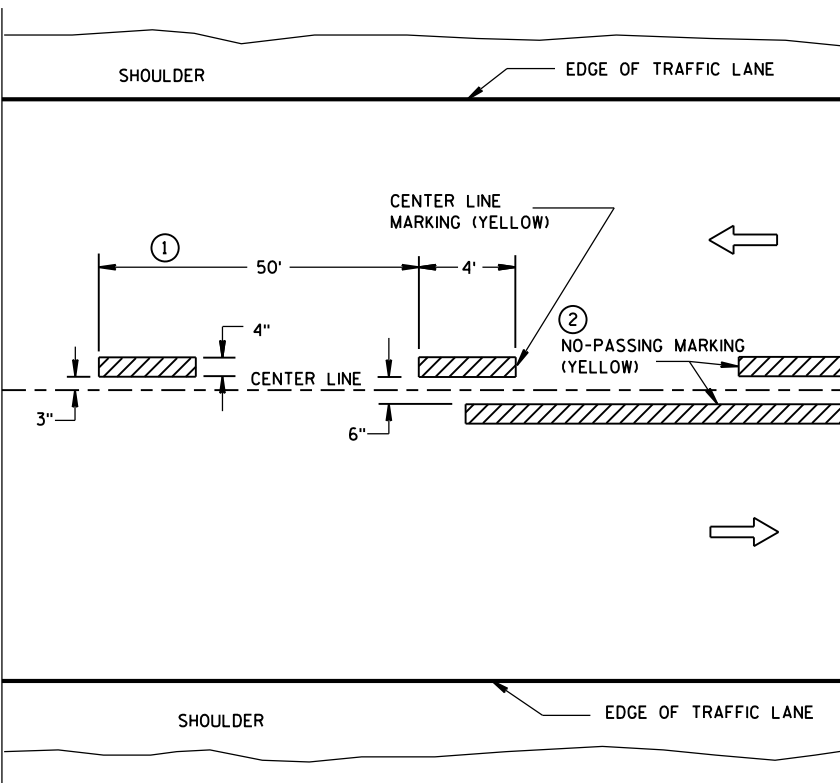


TWO WAY TRAFFIC

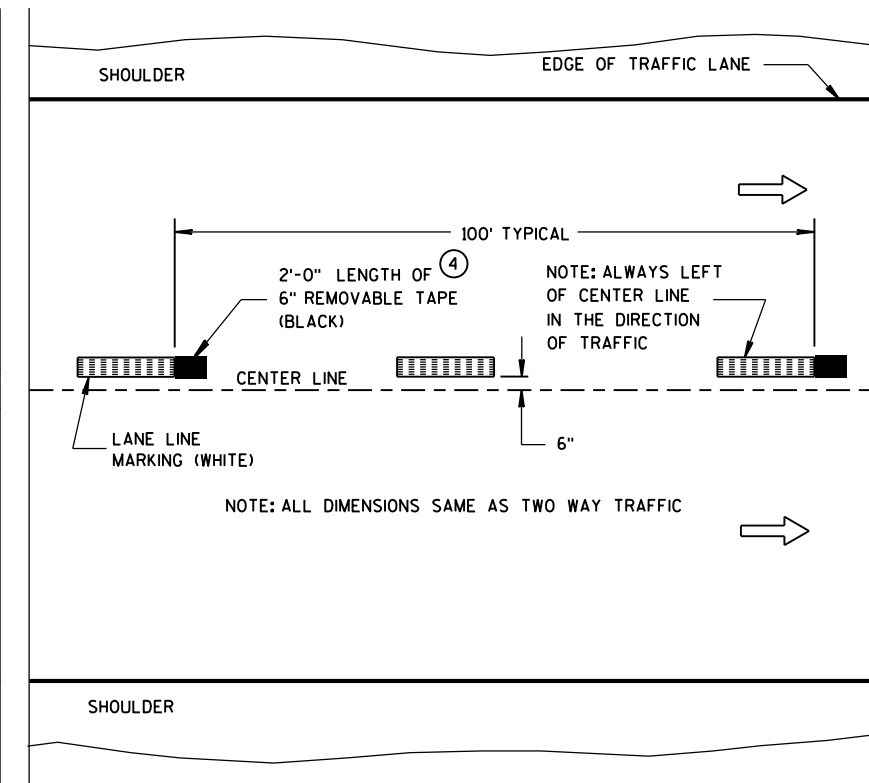


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

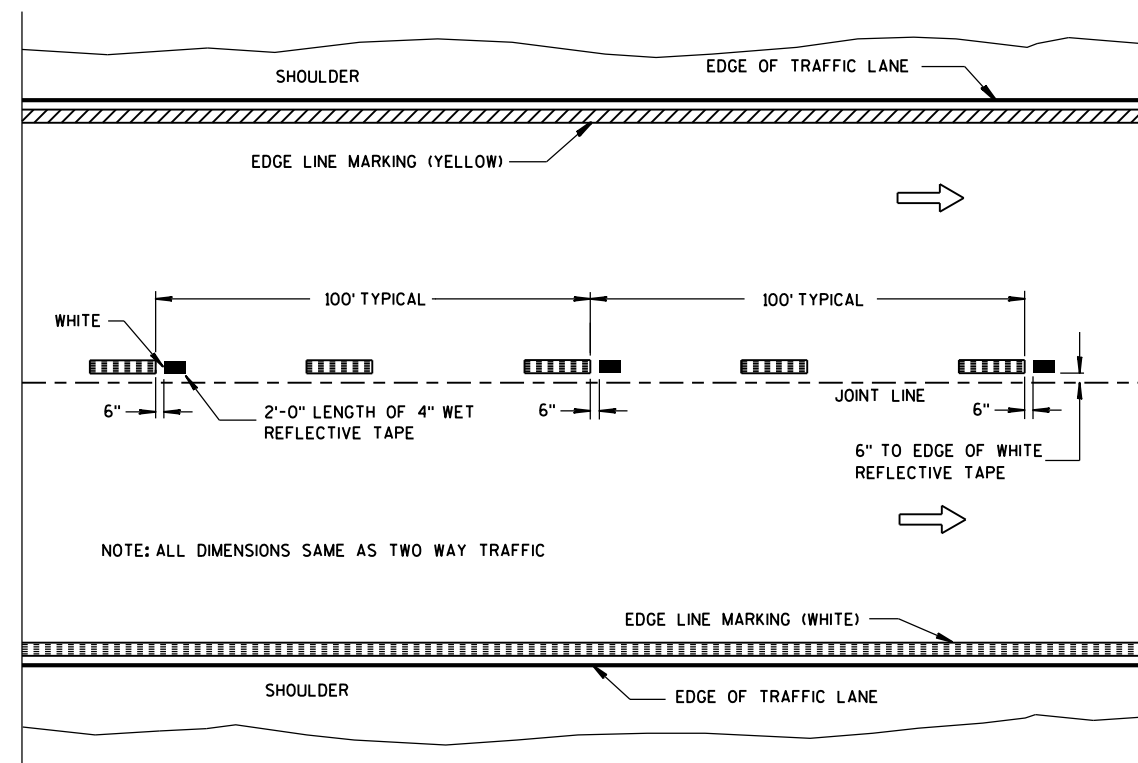
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

LEGEND

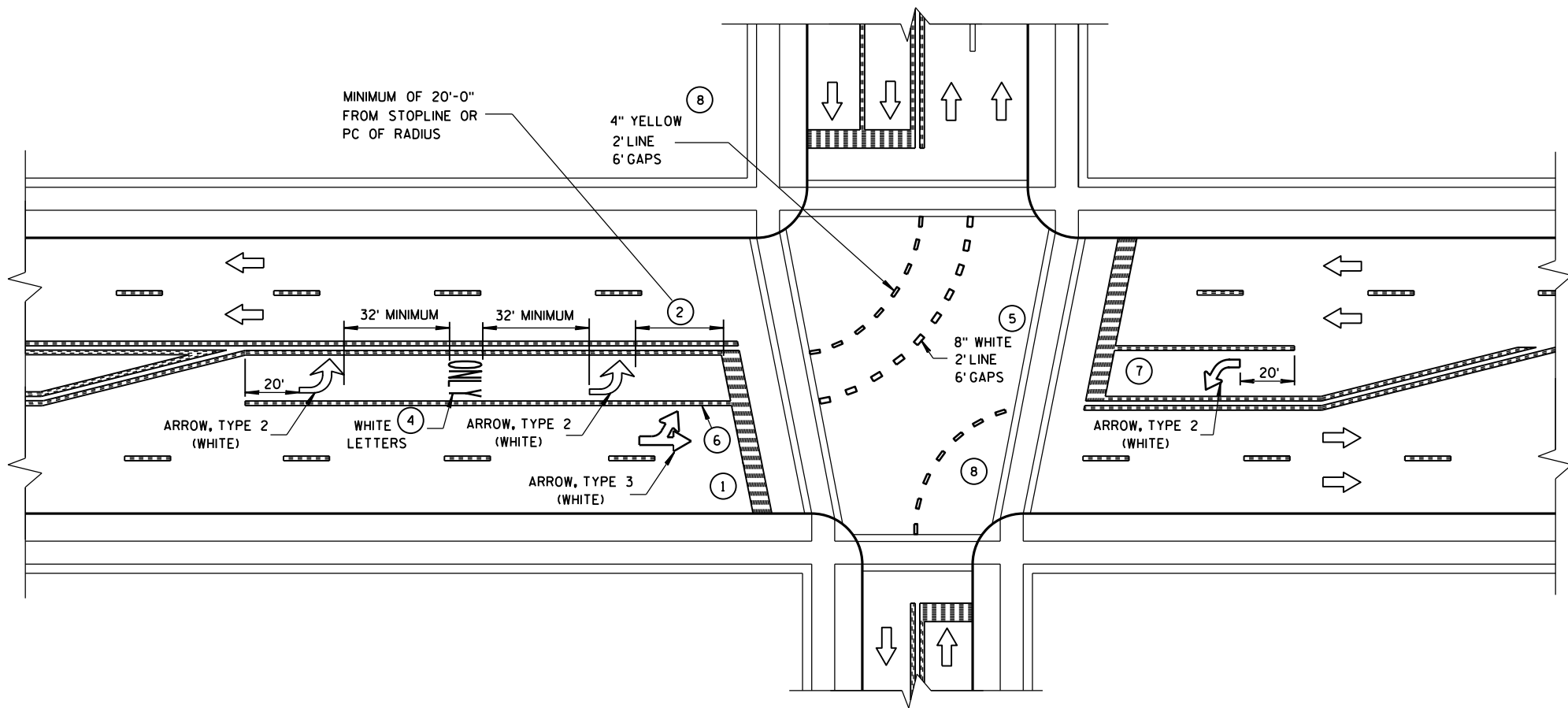
- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013
DATE
FHWA

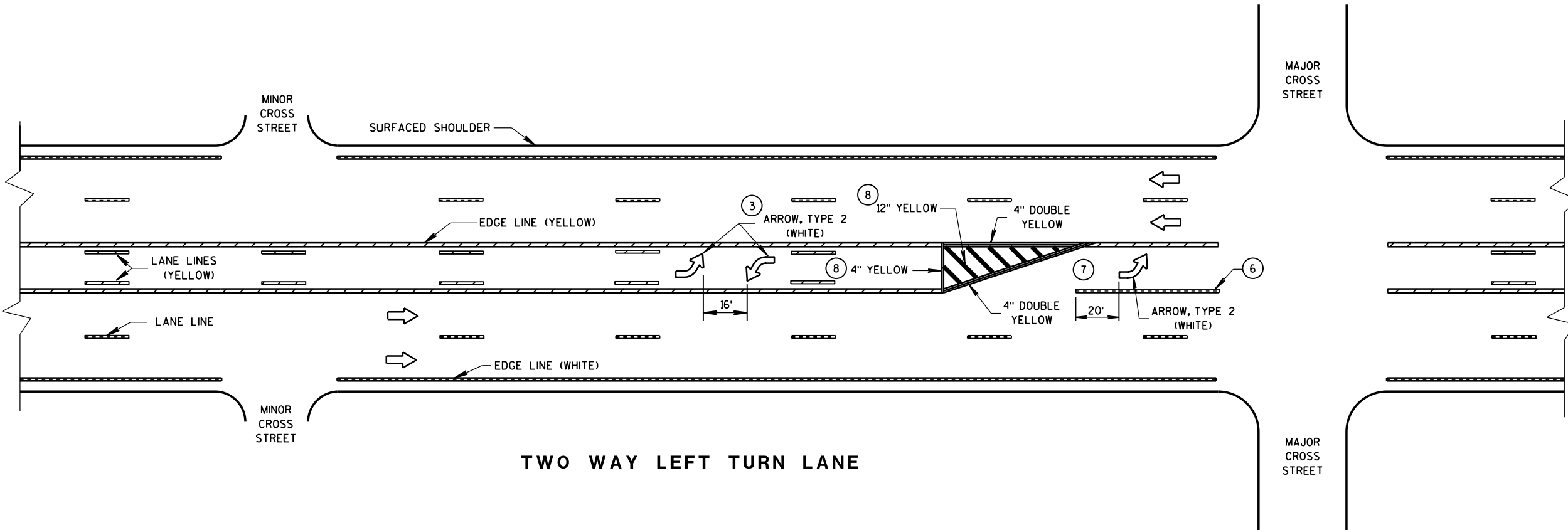
/S/ Travis Feltes
STATE TRAFFIC ENGINEER



GENERAL NOTES

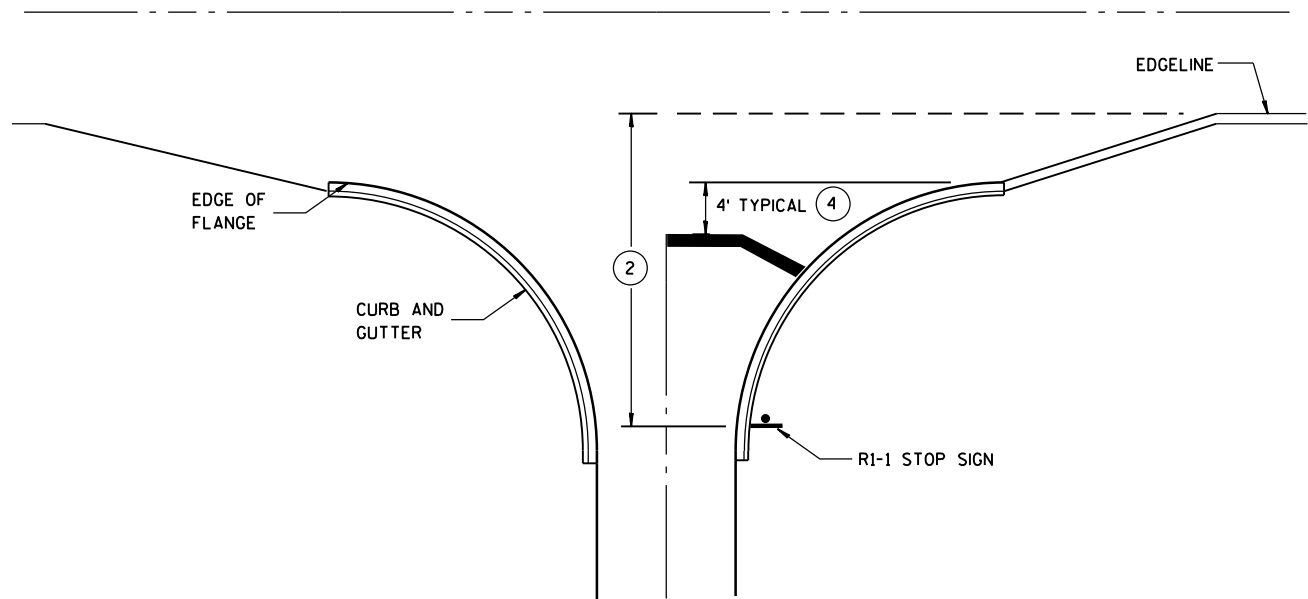
- 1 STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- 2 DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
- 3 A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- 4 ADD EXTRA SETS OF ONE ARROW AND ONE 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

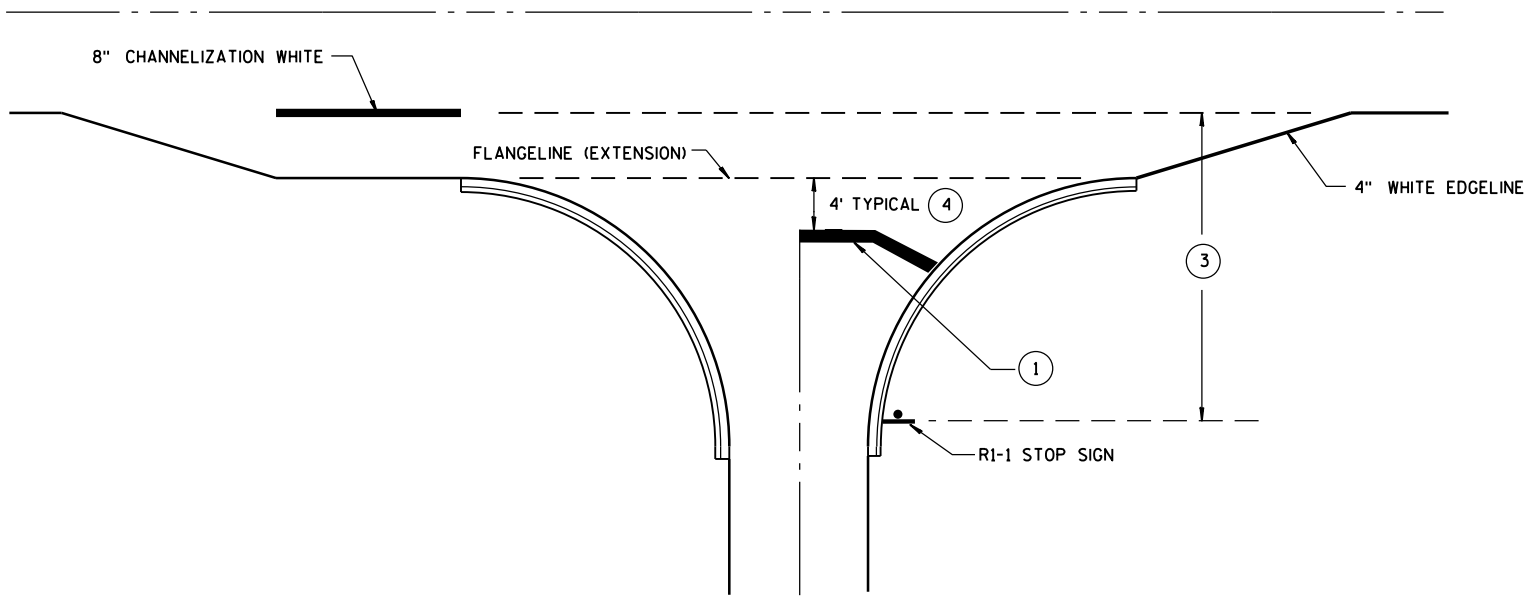


PAVEMENT MARKING
(LEFT TURN LANE)

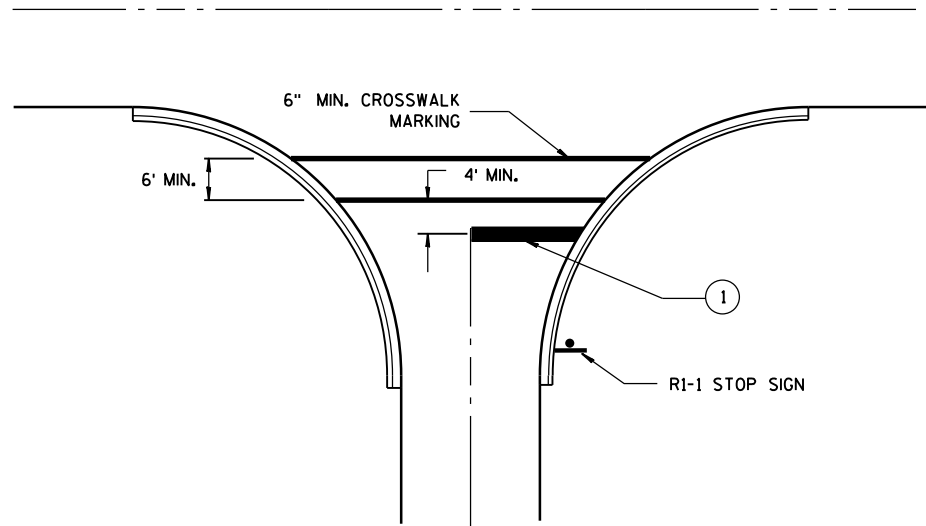
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



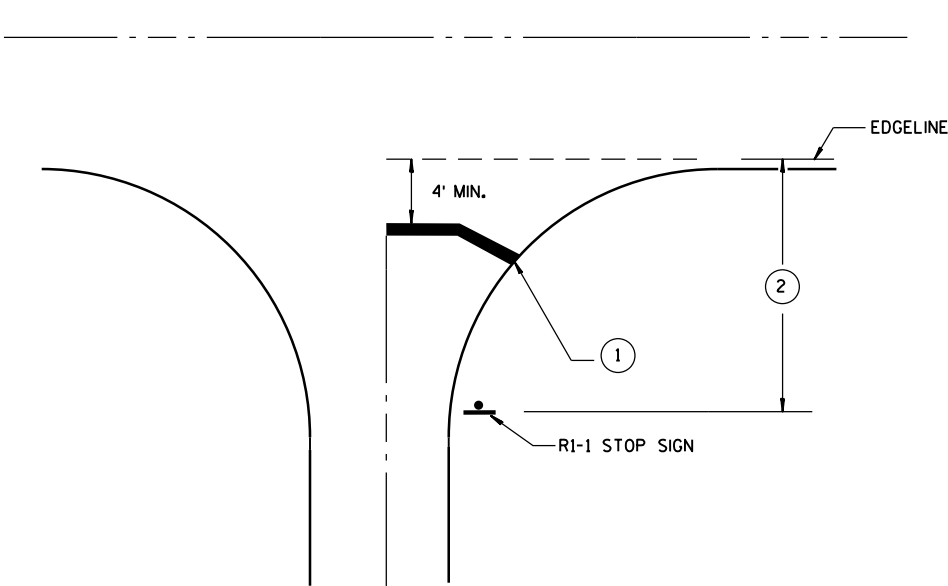
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



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

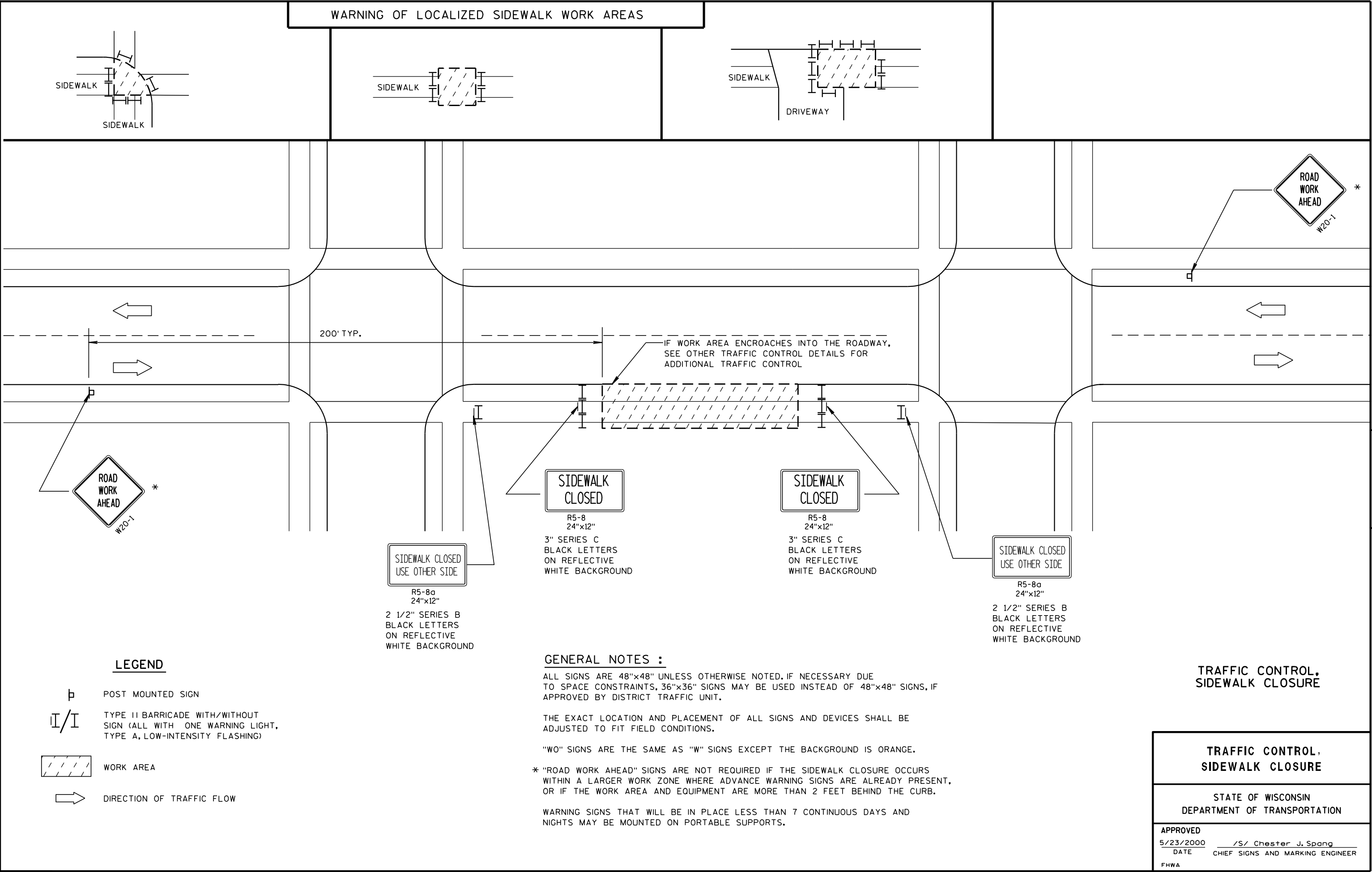
GENERAL NOTES

- 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 EDGE LINE 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.

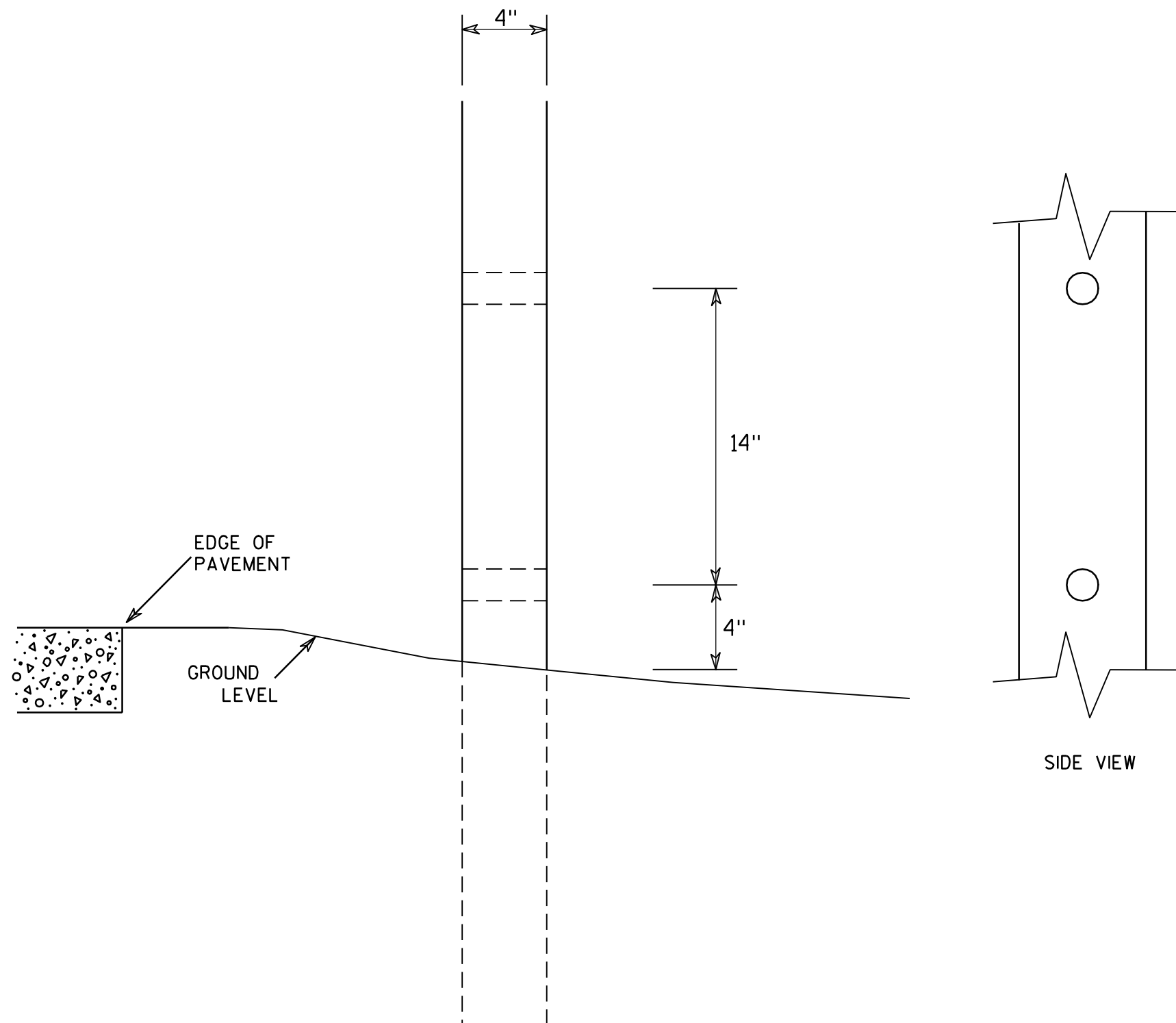
STOP LINE AND CROSSWALK
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 DATE /S/ Travis Feltz
STATE TRAFFIC ENGINEER
FHWA



7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

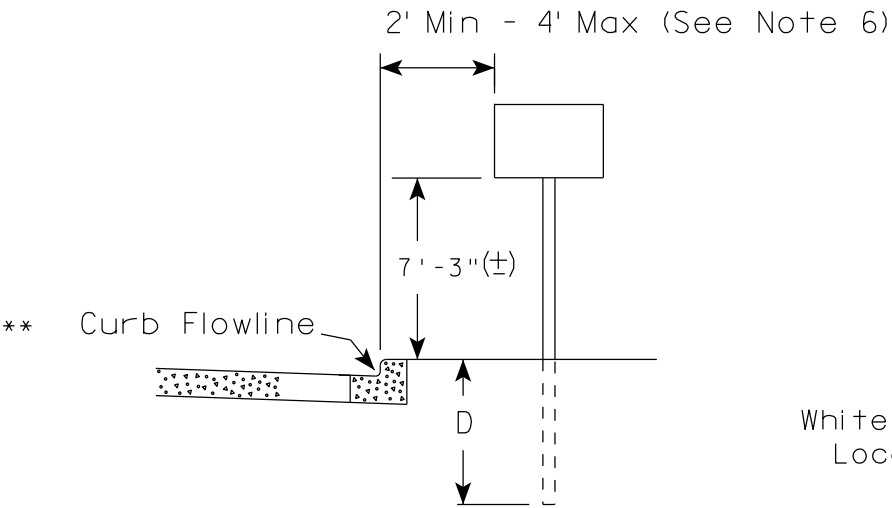
HWY:

COUNTY:

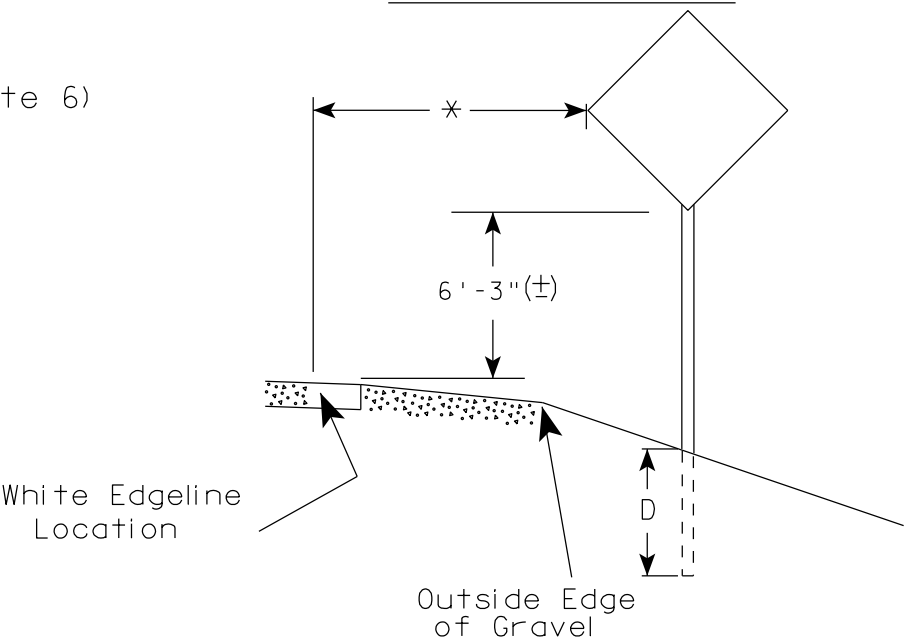
SHEET NO:

E

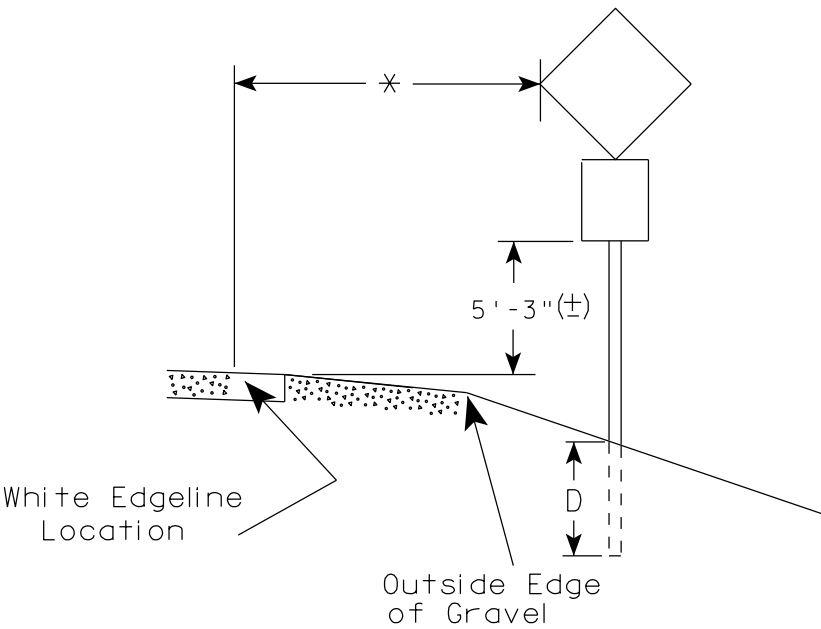
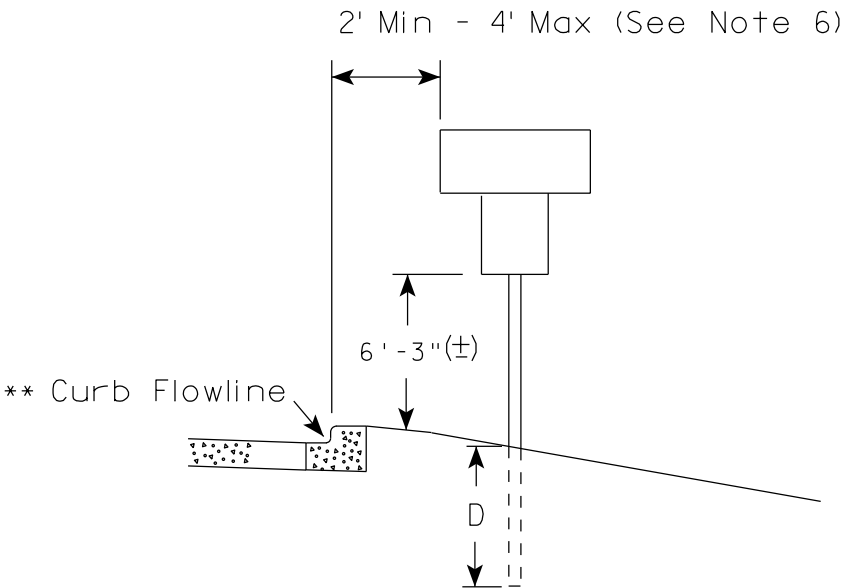
URBAN AREA



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 directed by the Engineer.
 9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).



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.

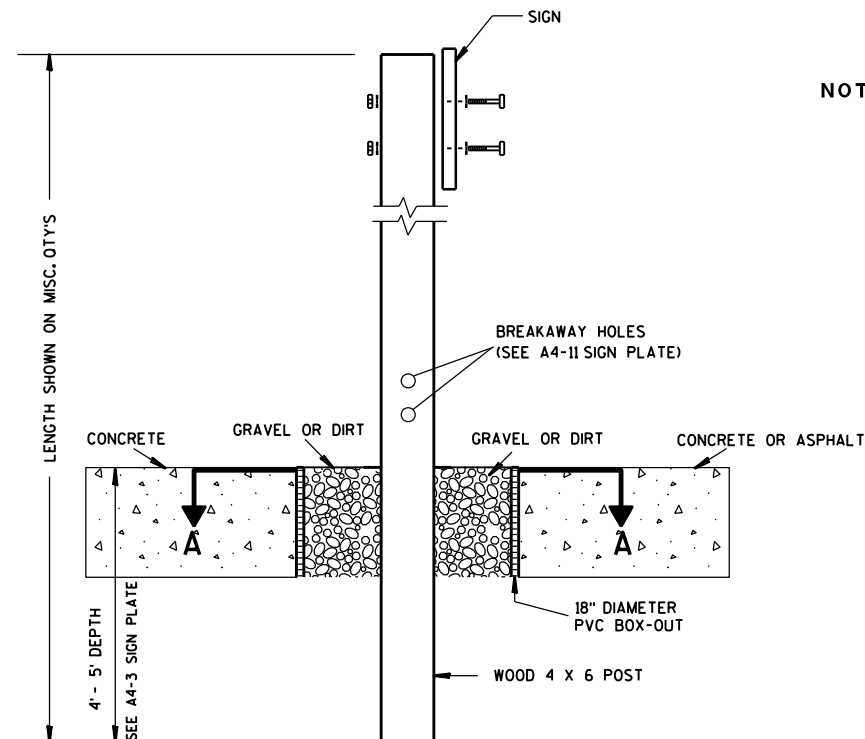
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

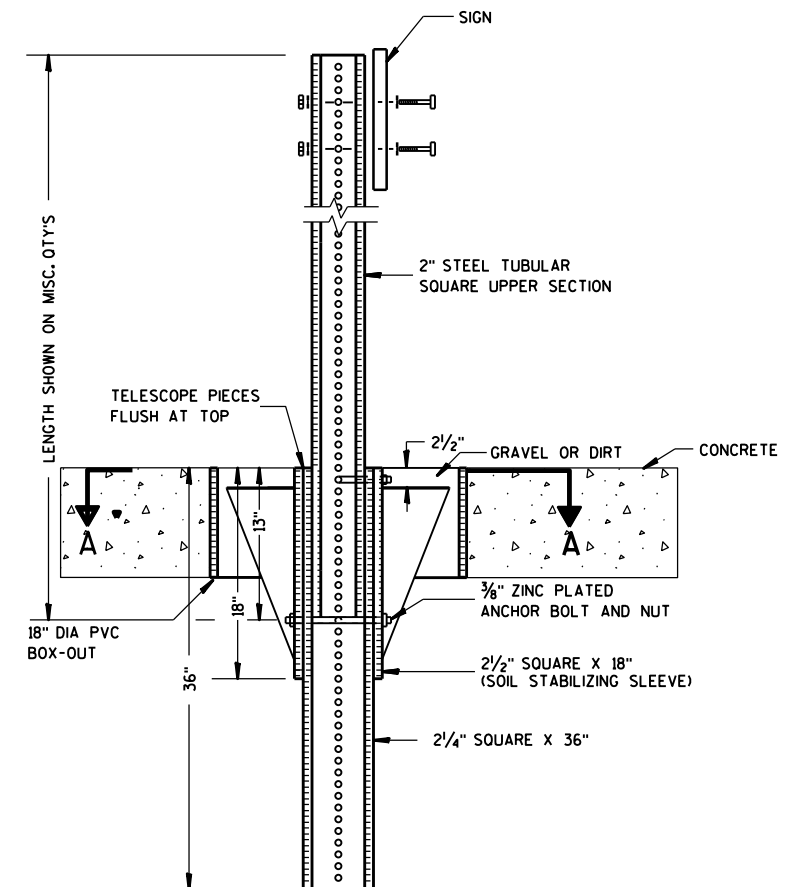
DATE 11/12/14 PLATE NO. A4-3.19



ELEVATION VIEW

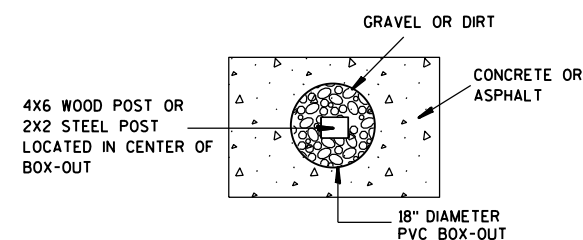
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

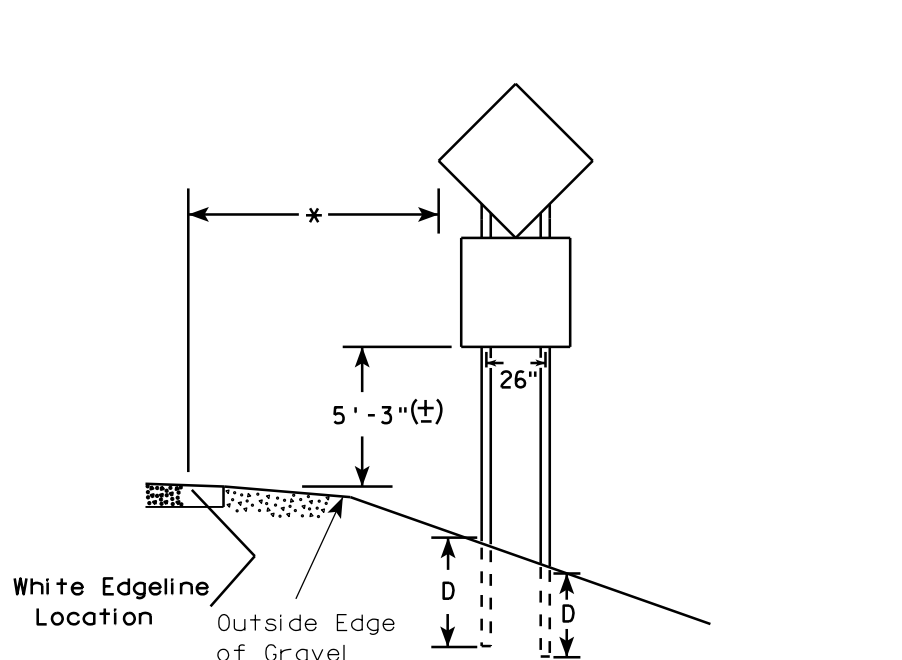
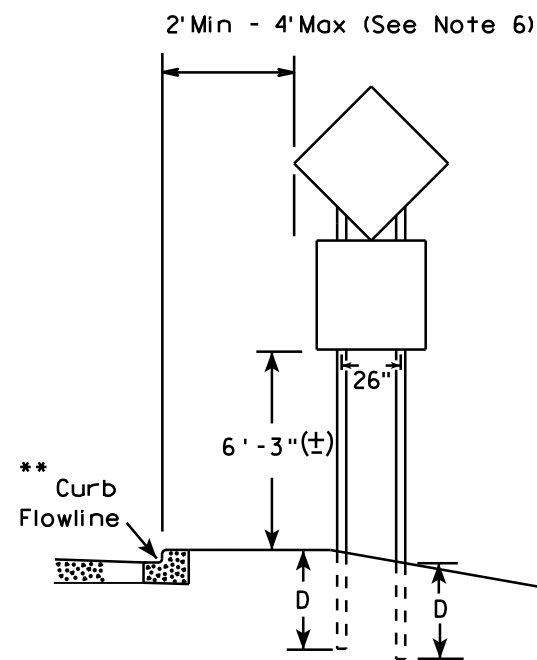
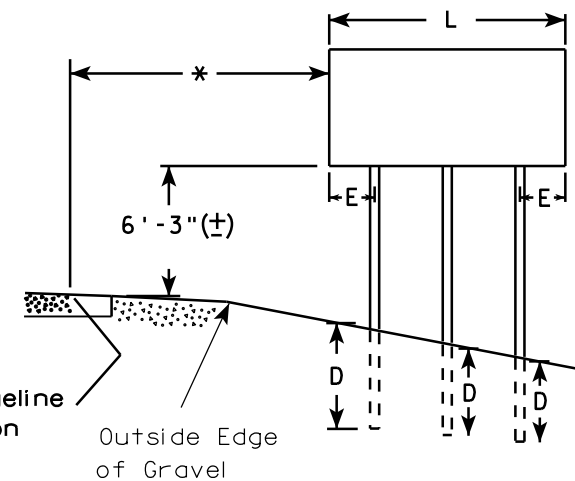
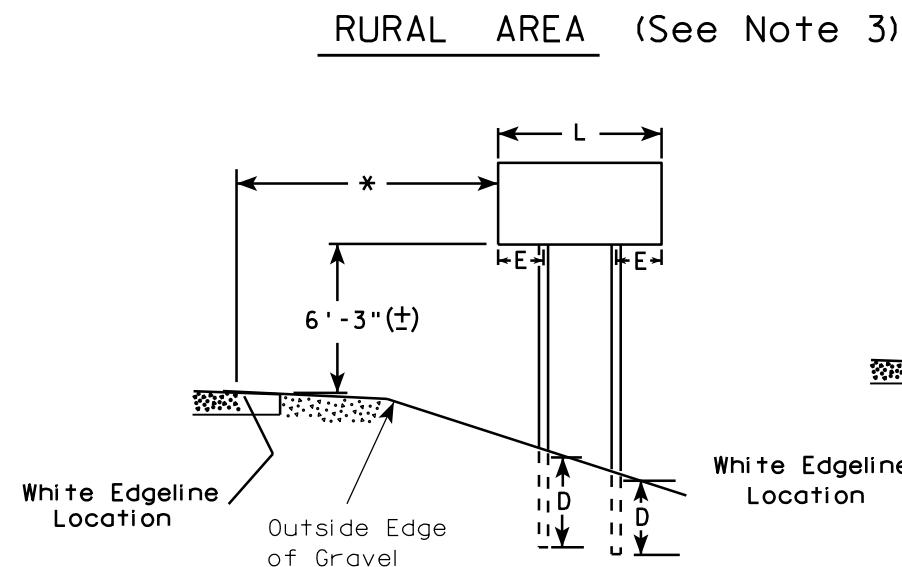
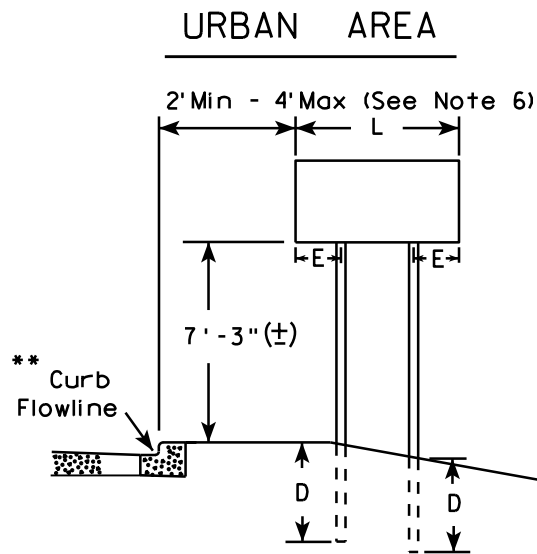
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

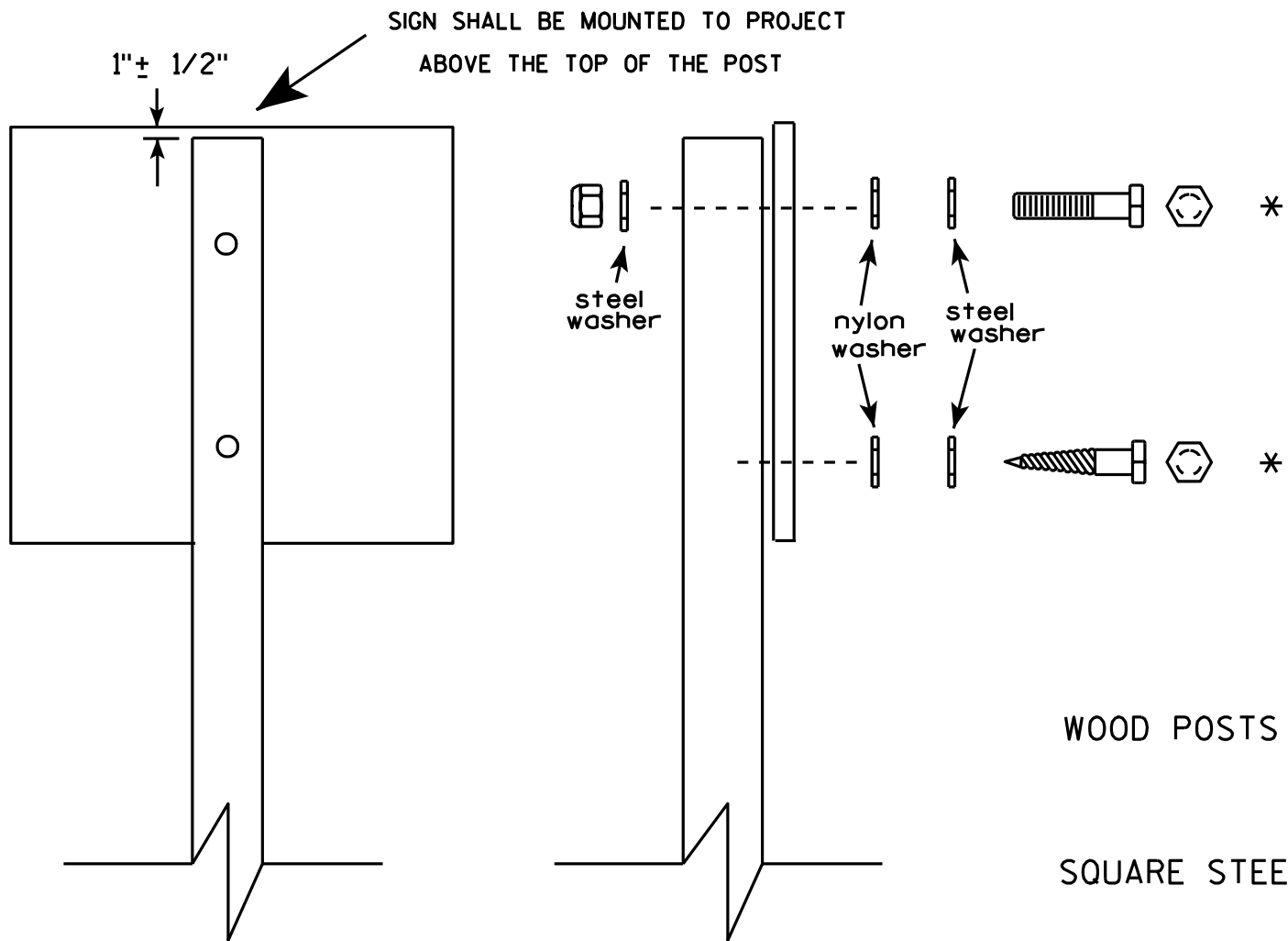
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

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

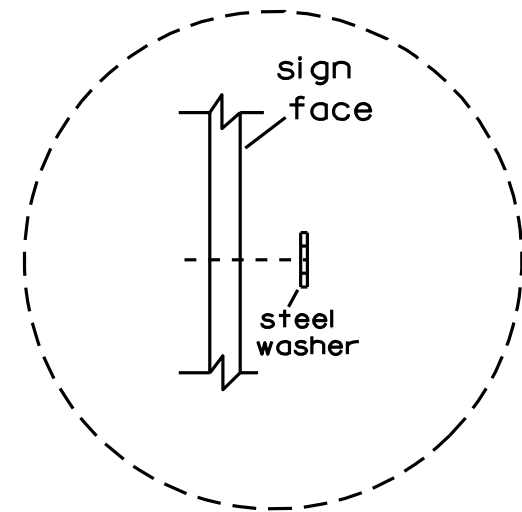


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

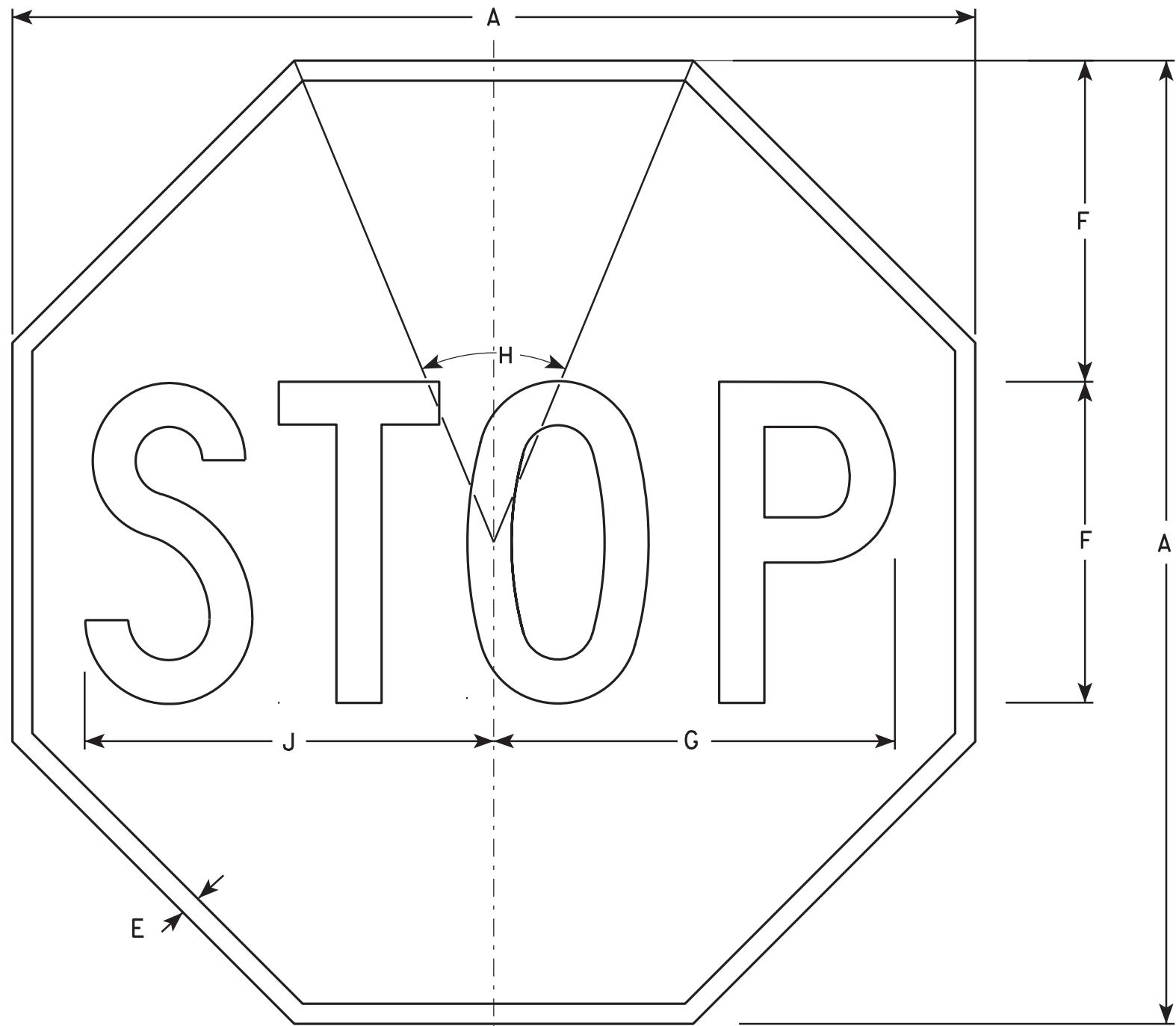
- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375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



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

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

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



NOTES

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

R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

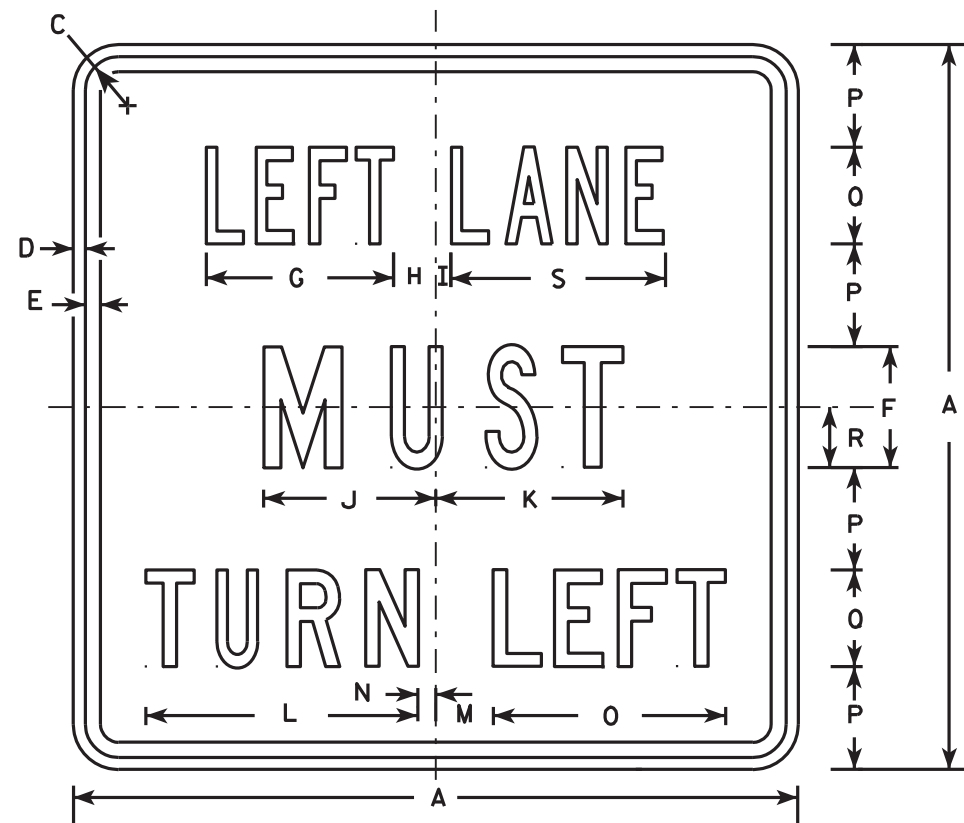
PROJECT NO:

HWY:

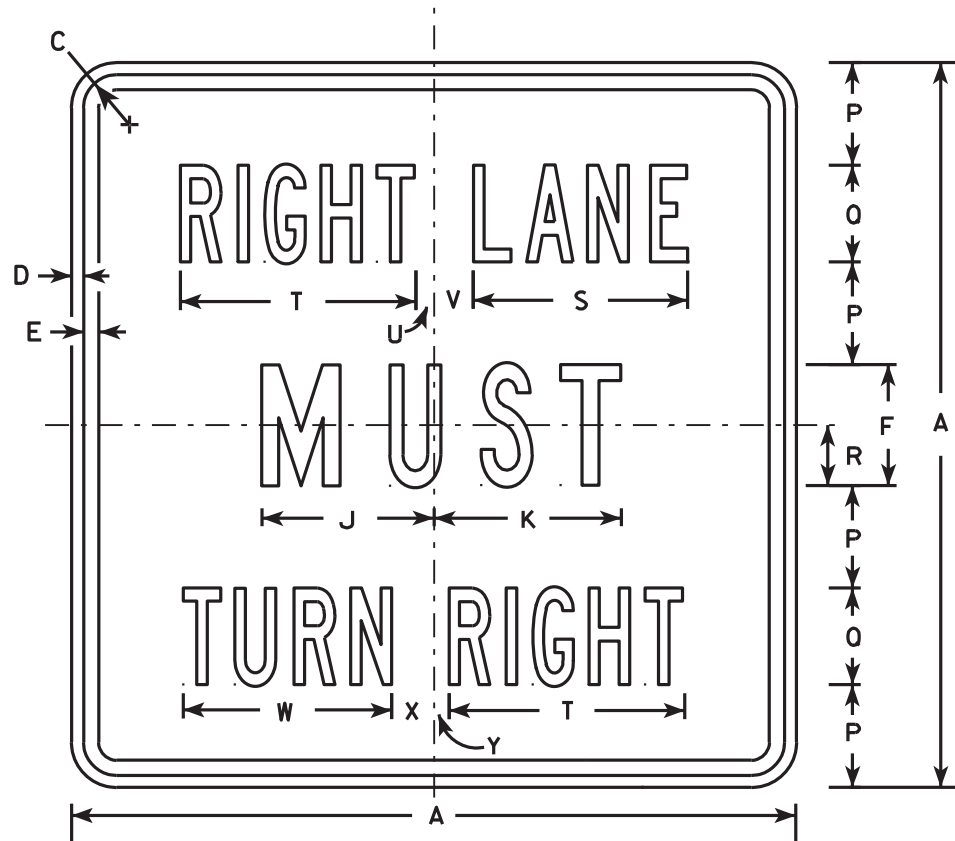
COUNTY:

SHEET NO:

E



R3-7L



R3-7R

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 - Line 1 is Series B.
Line 2 is Series C.
Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
- 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	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

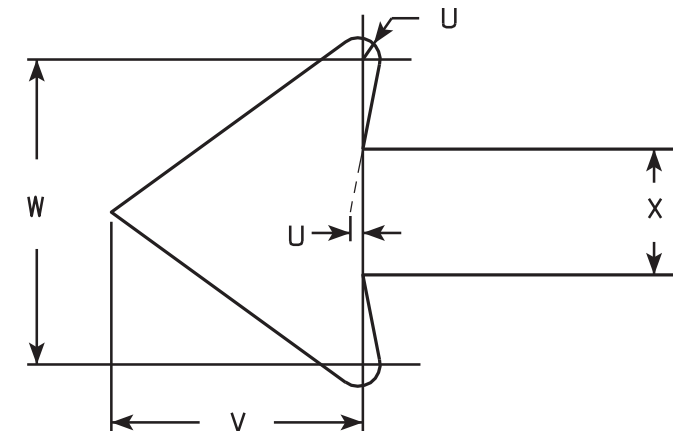
DATE 3/18/2011 PLATE NO. R3-7.3



R7-52

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-52D (double arrow)
R7-52L (left arrow)
R7-52R (right arrow)



ARROW DETAIL

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

STANDARD SIGN R7-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-52.6

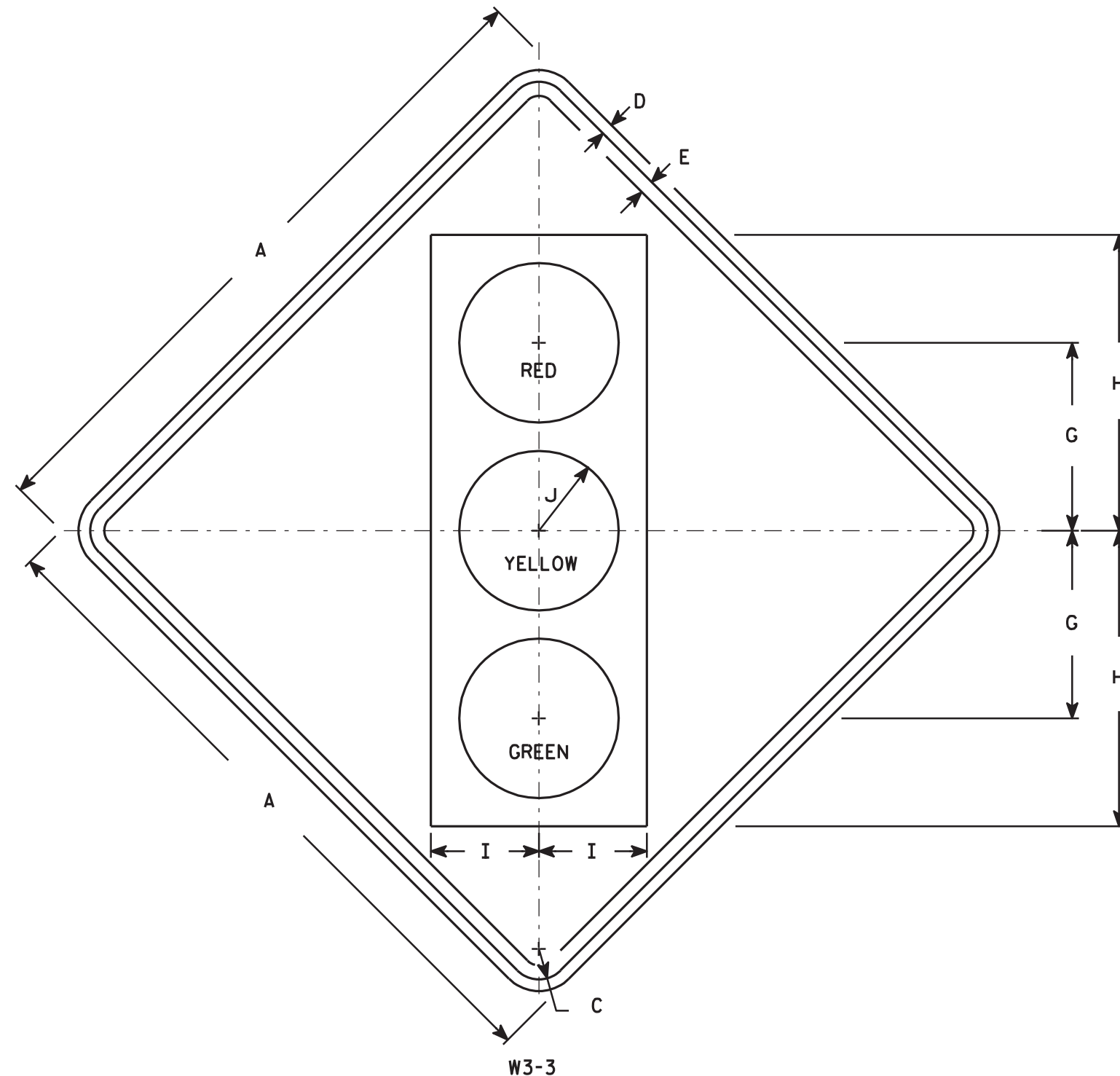
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Yellow
Message - See Note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Symbol and border are non-reflective black.
Top circle - Type H Reflectorized Red
Center circle - Same as background
Bottom circle - Type H Reflectorized Green

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

STANDARD SIGN W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 6/7/10

PLATE NO. W3-3.11

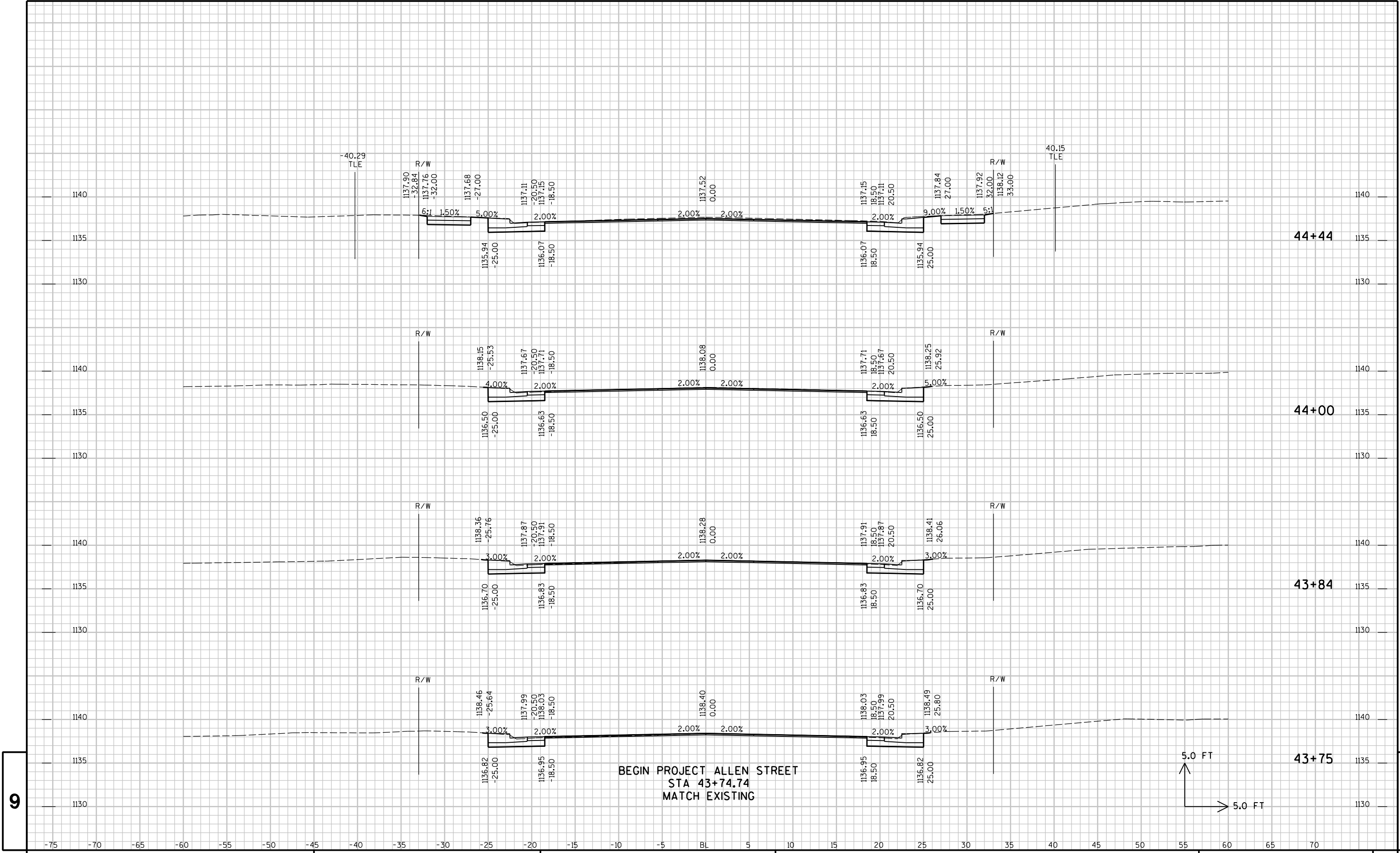
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HWY:

COUNTY:

SHEET NO:

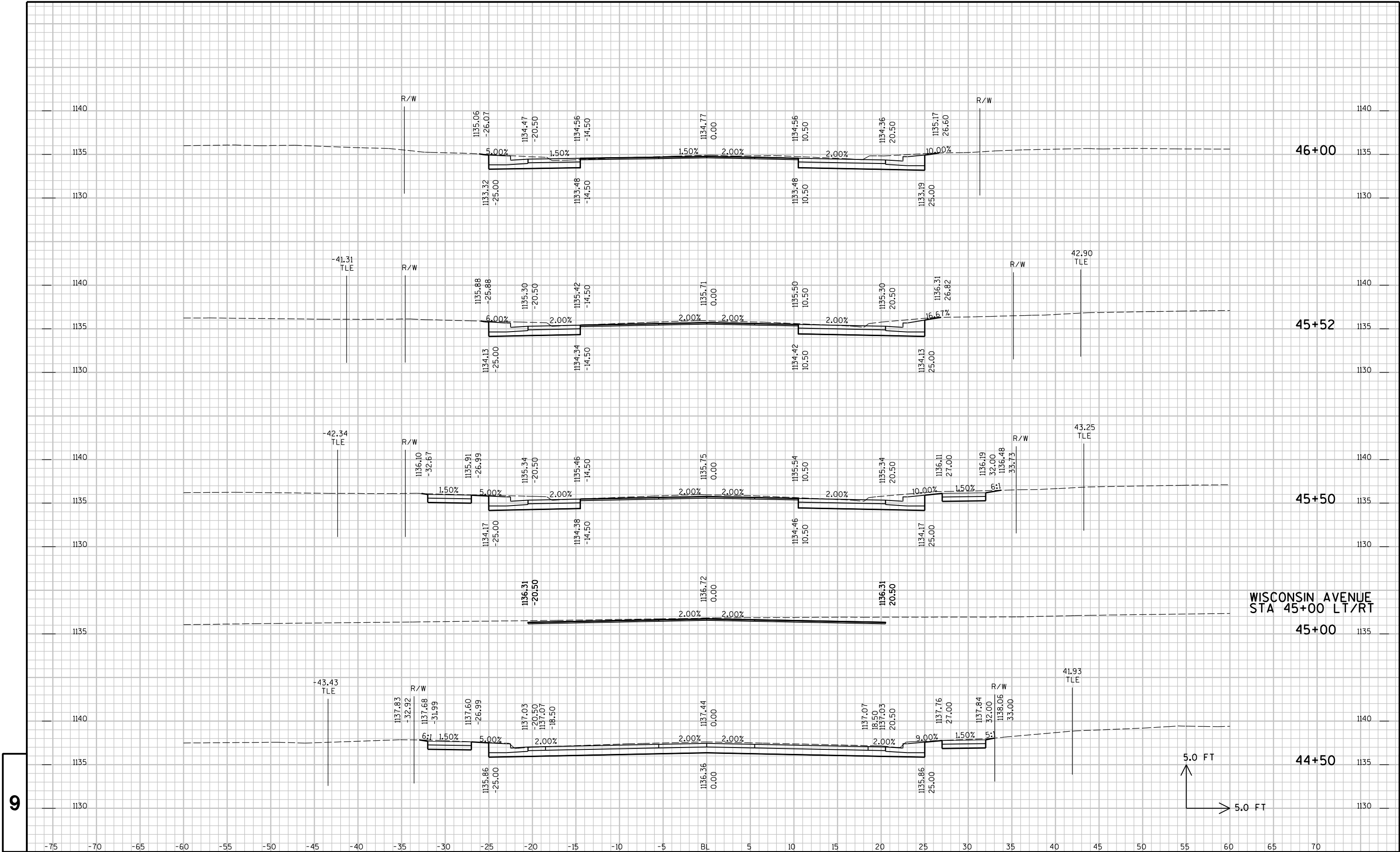
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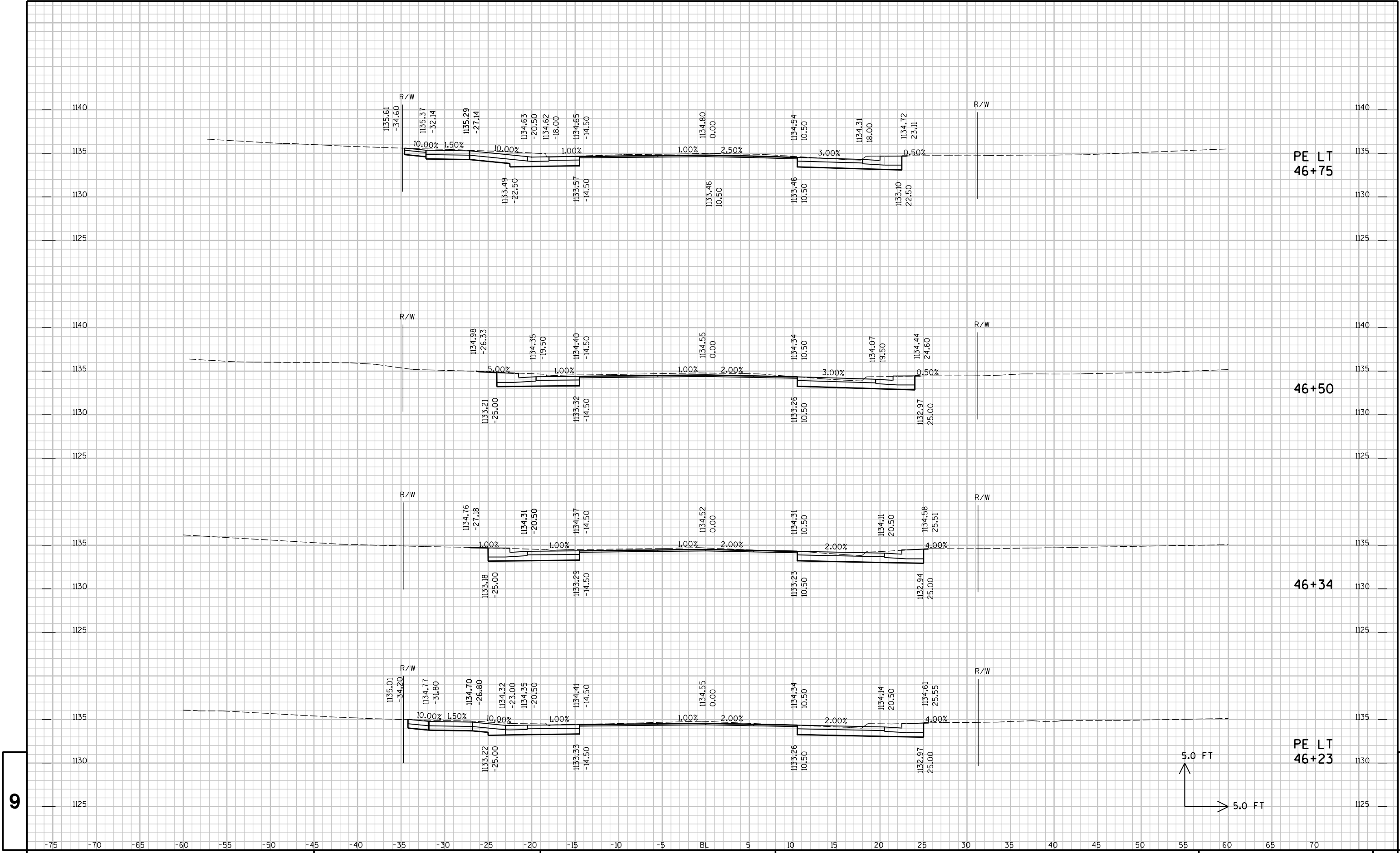
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PROJECT NO : 8997-00-22	HWY : ALLEN ST INTERSECTION	COUNTY: BARRON	CROSS SECTIONS - ALLEN ST	SHEET NO:	E
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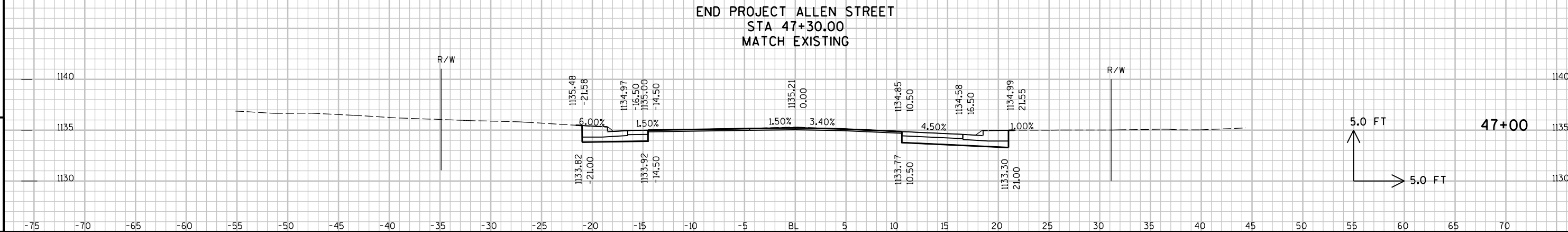
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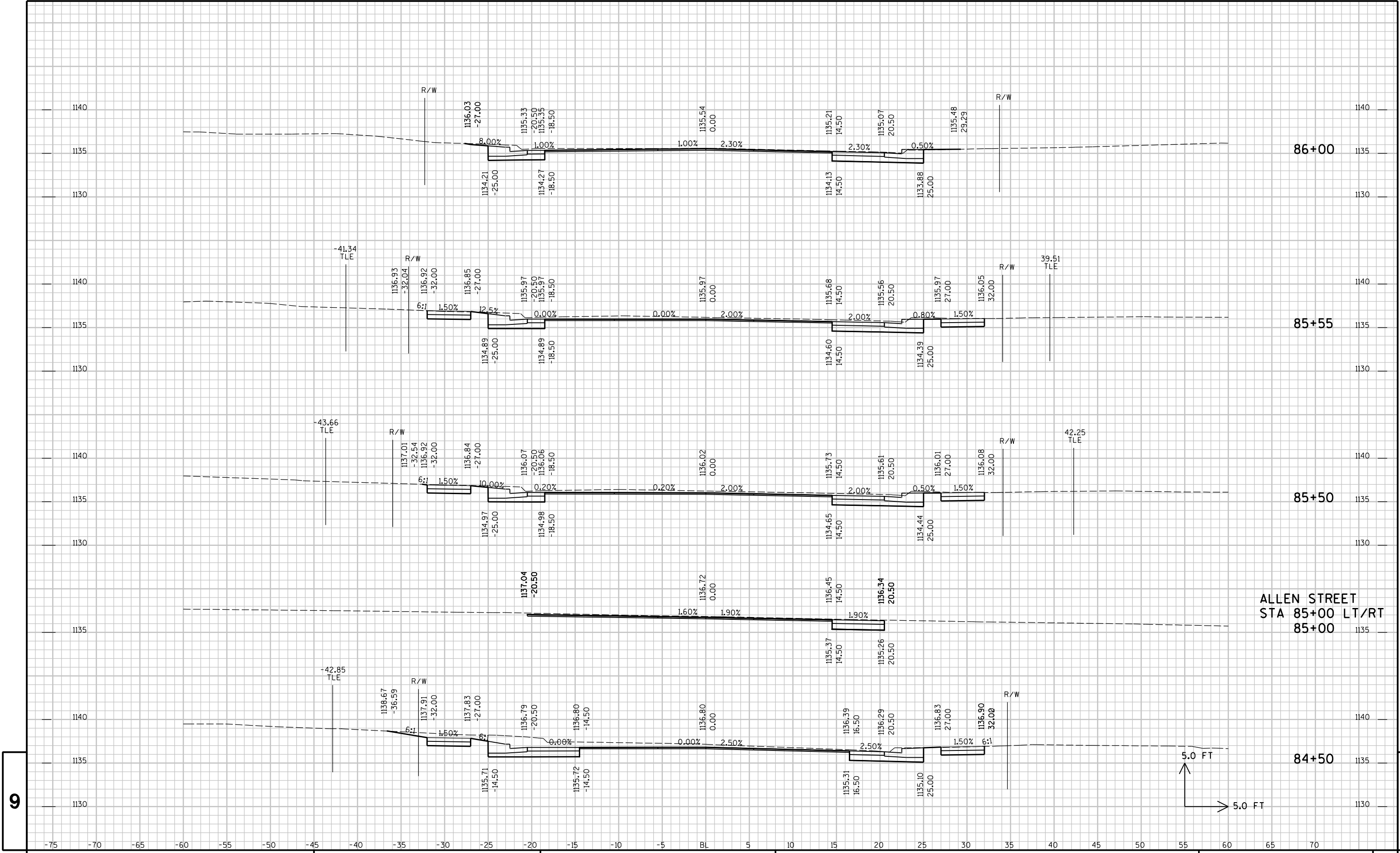
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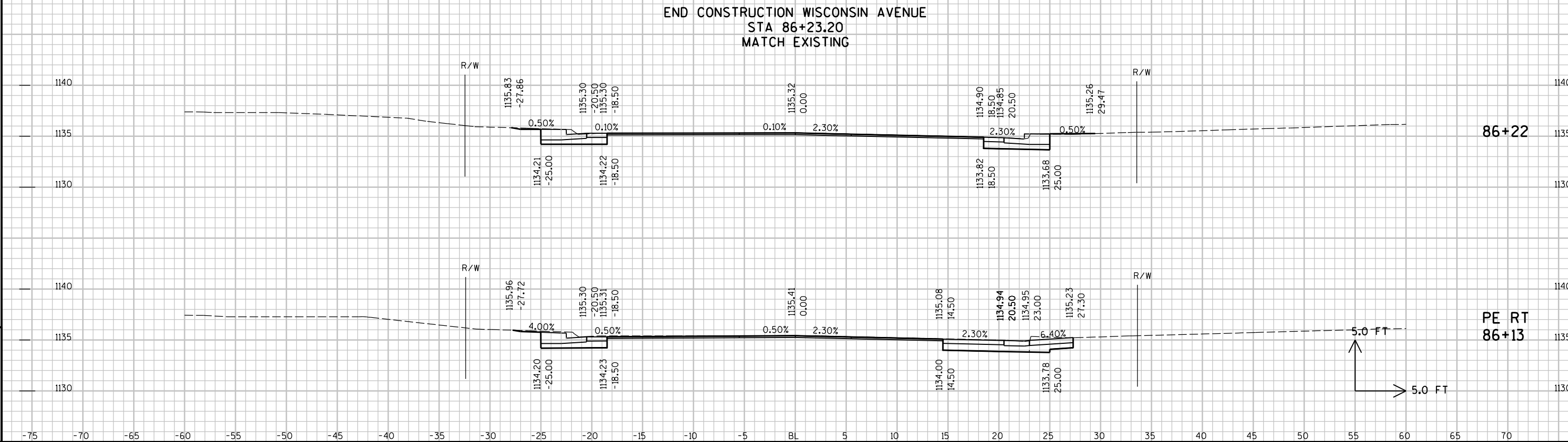


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PROJECT NO : 8997-00-22	HWY : ALLEN ST INTERSECTION	COUNTY: BARRON	CROSS SECTIONS--WISCONSIN AVE	SHEET NO:	E
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FILE NAME : P:\PT\RV\Rice1\121750\CADD\xbwis25.dgn PLOT TIME : 11:47:41 AM PLOT DATE : 1/20/2015 PLOT BY : SEH PLOT NAME : PLOT SCALE : N/A



Notes



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