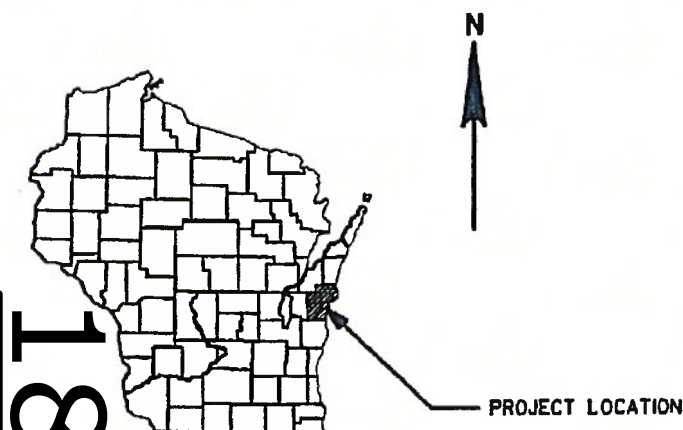


ORDER OF SHEETS

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 = 172



DESIGN DESIGNATION	14th ST.	HAWTHORNE AVE.
A.A.D.T. 2014	= 4,360	3,980
A.A.D.T. 2034	= 5,615	5,580
D.H.V. 2034	= 663	658
D.D.	= 62/38	62/38
T.	= 9.3%	9.3%
DESIGN SPEED	= 30 MPH	40/30 MPH
ESALS	= 1,284,800	861,990

CONVENTIONAL SYMBOLS

PLAN
CORPORATE LIMITS
PROPERTY LINE
LOT LINE
LIMITED HIGHWAY EASEMENT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE

SLOPE INTERCEPT

REFERENCE LINE

EXISTING CULVERT

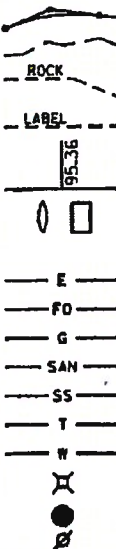
PROPOSED CULVERT
(Box or Pipe)

COMBUSTIBLE FLUIDS

MARSH AREA

WOODED OR SHRUB AREA

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



LAYOUT
SCALE 0 1 MI.

PROJECT 4337-11-71/73
NET LENGTH OF CENTERLINE (URBAN) = 0.232 MI.
PROJECT 4337-11-72
NET LENGTH OF CENTERLINE = 0.700 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.932 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY
COORDINATES SYSTEM (WCCS), MANITOWOC COUNTY

ELEVATIONS ON THIS PLAN ARE BASED ON USGS DATUM (1991 ADJUSTMENT).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

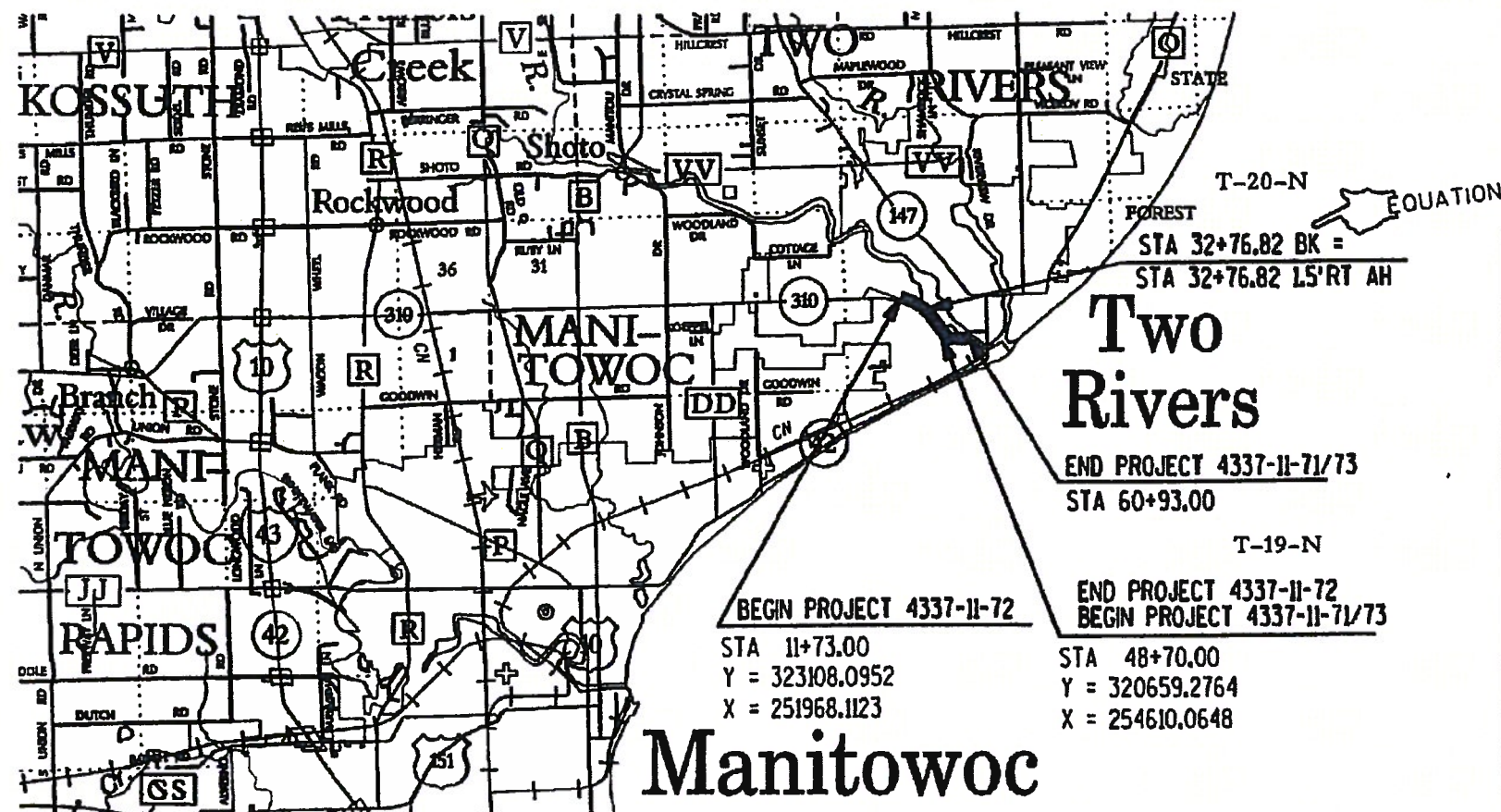
PLAN OF PROPOSED IMPROVEMENT

14th STREET, CITY
OF TWO RIVERS

HAWTHORNE AVE. - MADISON ST.

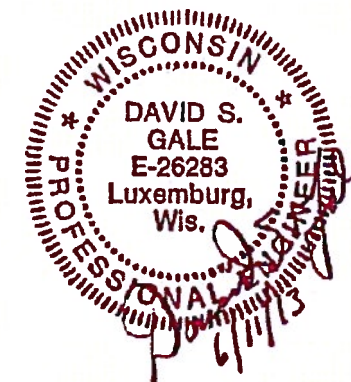
STH 310
MANITOWOC COUNTYSTATE PROJECT NUMBER
4337-11-71/73HAWTHORNE AVENUE,
CITY OF TWO RIVERS

COLUMBUS ST. - 14th ST.

STH 310
MANITOWOC COUNTYSTATE PROJECT NUMBER
4337-11-72ACCEPTED FOR
CITY OF TWO RIVERS

6/14/13
(Date) *[Signature]*
(Signature)

TITLE OF OFFICIAL

ORIGINAL PLANS PREPARED BY
OMNI
ASSOCIATESSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	OMNI ASSOCIATES
Designer	OMNI ASSOCIATES
Project Manager	MATTHEW HAEFS
Regional Examiner	
Regional Supervisor	REBECCA ROOYANKERS

APPROVED FOR THE DEPARTMENT

DATE: 6/14/13 *[Signature]* PE
(Signature)

E

GENERAL NOTES

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

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

FILL AS SHOWN ON THE PLANS PERTAINS TO EMBANKMENTS CONSTRUCTED
FROM COMMON EXCAVATION .

IF EXCAVATION BELOW SUBGRADE (EBS) IS REQUIRED, IT WILL BE MEASURED AND PAID FOR AS COMMON EXCAVATION. THE LIMITS OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL DISTURBED AREAS NOT OTHERWISE SURFACED, ARE TO BE TOPSOILED, FERTILIZED AND SODDED, EXCEPT WHERE NOTED.

ALL MANHOLE AND INLET OFFSETS ARE GIVEN TO THE CENTER OF THE STRUCTURE.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ARE APPROXIMATE AND SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

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

THE COST OF CONNECTING NEW STORM SEWERS OR DRAINAGE STRUCTURES TO THE EXISTING STORM SEWER SHALL BE INCIDENTAL TO THE COST OF THE STORM SEWER.

IMMEDIATELY AFTER CONSTRUCTION OF ANY INLET, CONTRACTOR SHALL CONSTRUCT THE EROSION CONTROL PROTECTION IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS TO MINIMIZE SEDIMENTATION IN THE INLET AND STORM SEWER.

THE EXACT LOCATIONS OF ALL EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

CURB AND GUTTER RADII AND ELEVATIONS ARE SHOWN TO THE FLANGELINE.

LIMITED OFFSETS FROM BACK OF CURB TO UTILITY OBSTRUCTIONS EXIST. SEE THE FINISHED TYPICAL SECTION SHEET FOR FURTHER INFORMATION.

CURB RAMP OPENINGS AS SHOWN ON THE PLANS ARE APPROXIMATE. ALL RAMP OPENINGS ARE INCIDENTAL TO THE ITEM OF CURB AND GUTTER AND SHALL BE 6" DEPTH.

REMOVING CONCRETE DRIVEWAYS WILL BE PAID FOR UNDER THE ITEM REMOVING CONCRETE
SIDEWALK.

BEYOND THE BACK OF SIDEWALK, DRIVEWAYS SHALL BE REPLACED IN KIND . BASE AGGREGATE DENSE 1 1/4-INCH WILL BE USED UNDER ALL ASPHALTIC AND CONCRETE DRIVEWAYS AND SIDEWALKS. BASE AGGREGATE DENSE 3/4-INCH WILL BE USED FOR ALL AGGREGATE DRIVEWAYS.

ALL 6-INCH CONCRETE SIDEWALK LOCATED IN THE RESIDENTIAL DRIVEWAYS SHALL BE PAID FOR AS 6-INCH CONCRETE DRIVEWAY.

BOXOUTS SHALL BE PROVIDED IN CONCRETE BY THE CONTRACTOR FOR SIGN PLACEMENT. THE COST FOR BOXOUTS WILL BE INCIDENTAL TO ASSOCIATED CONCRETE ITEM. LOCATIONS SHALL BE DETERMINED BY THE ENGINEER.

ADDITIONAL DOWEL BARS AND CONTRACTION JOINT DOWEL ASSEMBLIES REQUIRED TO MATCH MANHOLES, INLETS AND SIDE ROAD INTERSECTIONS SHALL BE INCIDENTAL TO THE CONCRETE PAVEMENT BID ITEM.

ALL TRANSVERSE CONTRACTION JOINTS, LONGITUDINAL JOINTS AND CONSTRUCTION JOINTS FOR CONCRETE PAVEMENT AND CONCRETE CURB AND GUTTER SHALL BE SAWED AND SEALED AS SHOWN IN CONSTRUCTION AND PAVING DETAILS.

WHERE SLOPE INTERCEPT LINES FALL OUTSIDE OF THE EXISTING RIGHT-OF-WAY, TEMPORARY INTERESTS TO ACCOMPLISH CONSTRUCTION WORK WITHIN THE SLOPE INTERCEPTS HAVE BEEN OBTAINED. THESE RIGHTS ARE EXTENDED TO THE CONTRACTOR.

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.
BEARINGS SHOWN ON THIS PLAN ARE GRID BEARINGS.

SANITARY SEWER AND WATER PLANS CONSTRUCTED UNDER PROJECT ID 4337-11-73
WERE PREPARED BY THE CITY OF TWO RIVERS.

ORDER OF "SECTION 2" SHEETS

SHEET TITLE

GENERAL NOTES
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PAVING DETAILS
EROSION CONTROL PLAN
STORM SEWER PLAN
SANITARY SEWER AND WATERMAIN PLAN
DETOUR AND TRAFFIC CONTROL PLANS
STREETSCAPE PLAN
SIGNING AND PAVEMENT MARKING

EROSION CONTROL NOTES

RUNOFF COEFFICIENT FOR THIS PROJECT:
EXISTING PAVEMENT 0.95, EXISTING SLOPES
0.30, NEW PAVEMENT 0.95, NEW SLOPES 0.30.

TOTAL PROJECT AREA = 11.31 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY
CONSTRUCTION ACTIVITIES = 7.57 ACRES

2

UTILITIES

CABLE TV

CHARTER COMMUNICATIONS
NICK FRASE
3315 LINCOLN AVENUE
TWO RIVERS WI 54241
920-793-2216 EXT 30; CELL 920-263-0100

SANITARY SEWER/WATER

CITY OF TWO RIVERS, DEPT. OF PUBLIC WORKS
JIM MC DONALD
1717 EAST PARK STREET
PO BOX 87
TWO RIVERS WI 54241-0087
920-793-5539

ELECTRIC/STREET LIGHT

TWO RIVERS WATER AND LIGHT
TOM BUSHMAN
1415 LAKE STREET
PO BOX 87
TWO RIVERS WI 54241-0087
920-793-5550: CELL 920-901-4778

TELEPHONE

FRONTIER COMMUNICATIONS
RYAN OSNESS OR RUSS RYAN
118 DIVISION STREET
PLYMOUTH WI 53073
920-893-7455

LAKEFIELD COMMUNICATIONS
DOUG STAHL
7520 ENGLISH LAKE ROAD
MANITOWOC, WI 54220
920-323-4200 CELL
920-758-3603

GAS

WISCONSIN PUBLIC SERVICE
LORI BUTRY
700 NORTH ADAMS STREET
PO BOX 19001
GREEN BAY WI 54307-9001
920-433-1703

WISCONSIN PUBLIC SERVICE
JERRY PEOT
P.O. BOX 236
TWO RIVERS, WI 54241
920-794-3215

OTHER CONTACTS

DNR LIAISON

WI DEPARTMENT OF NATURAL RESOURCES
MATT SCHAEVE
2984 SHAWANO AVE
GREEN BAY, WI 54313
920-662-5472

DIGGERS HOTLINE

CABLE LOCATE
TELEPHONE: (800) 242-8511 (TOLL FREE)

DIGGERSHOTLINE

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

EXISTING BORING LOGS

BORING NUMBER	APPROXIMATE STATION(+/-10')	ASPHALT DEPTH (IN.)	NOTES (SOILS DIRECTLY BELOW ASPHALT)
B1	14+40	4	NO AGGREGATE BASE - SILTY SAND
B2	22+20	3¾	AGGREGATE BASE COURSE OVER NATURAL SOILS
B3	30+10	4½	SAND FILL BELOW BASE COURSE TO DEPTH OF BORING
B4	37+30	5	2 FEET OF SAND FILL BELOW BASE COURSE
B5	46+20	5½	2 FEET OF SAND FILL BELOW BASE COURSE
B6	50+40	5½	2 FEET OF SAND FILL BELOW BASE COURSE
B7	52+00	6¼	SAND FILL BELOW BASE COURSE TO DEPTH OF BORING
B8	53+70	6¼	SAND FILL BELOW BASE COURSE TO DEPTH OF BORING
B9	55+70	5¾	SAND FILL BELOW BASE COURSE TO DEPTH OF BORING
B10	56+70	6	SAND/CLAY FILL BELOW BASE COURSE DEPTH OF BORING
B11	58+70	6	SAND FILL BELOW BASE COURSE TO DEPTH OF BORING
B12	59+90	6¼	SAND FILL BELOW BASE COURSE TO DEPTH OF BORING
B13	61+70	8	9 FEET OF SILTY SAND FILL BELOW BASE COURSE

PROJECT NO: 4337 – 11 – 71 / 72

HWY: STH 310

COUNTY: MANITOWOC

GENERAL NOTES

SHEET: 3

E 2.2

FILE NAME: F:\TR\JOBS\E1817A07\SHEETS\GEN_NOTES\GEN_NOTES2.PPT

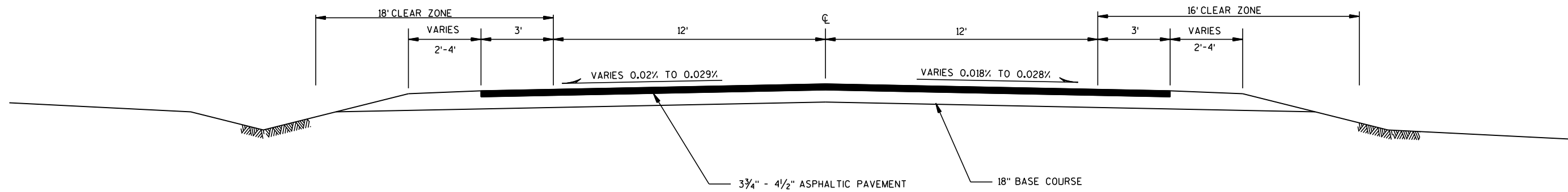
ORIGINATOR: OMNNI ASSOCIATES

ORIG. DATE JANUARY, 28, 2009

REV. DATE:

PRINT DATE: July 19, 2013

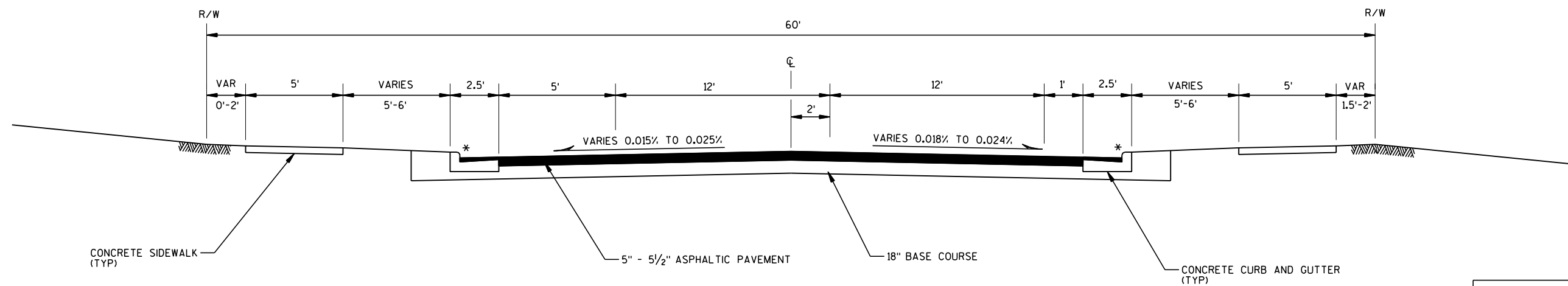
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2

EXISTING TYPICAL SECTION FOR STH 310 (HAWTHORNE AVENUE)

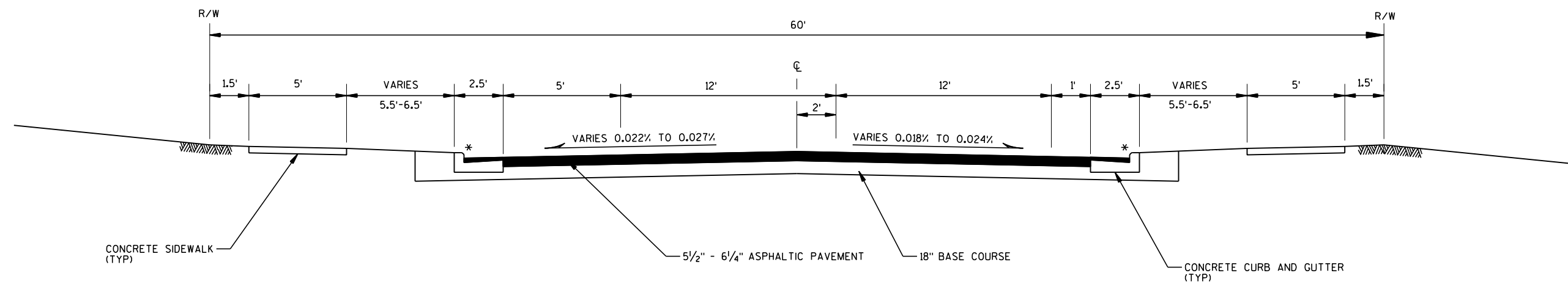
STA 11+73 TO STA 32+77



EXISTING TYPICAL SECTION FOR STH 310 (HAWTHORNE AVENUE)

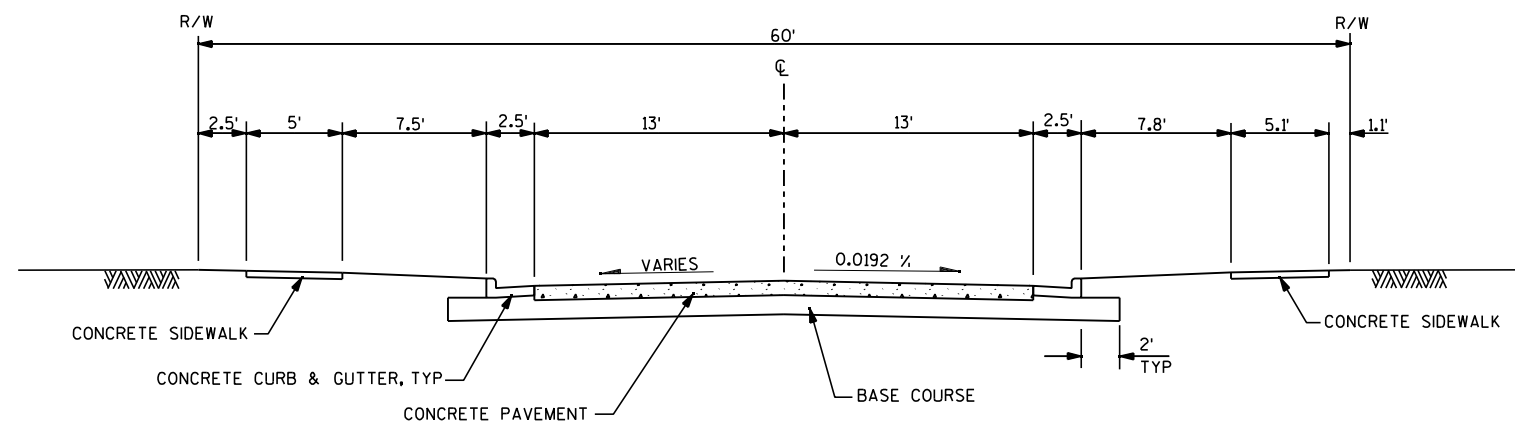
STA 32+77 TO STA 48+70

* AVERAGE CURRENT CURB REVEAL = 3"



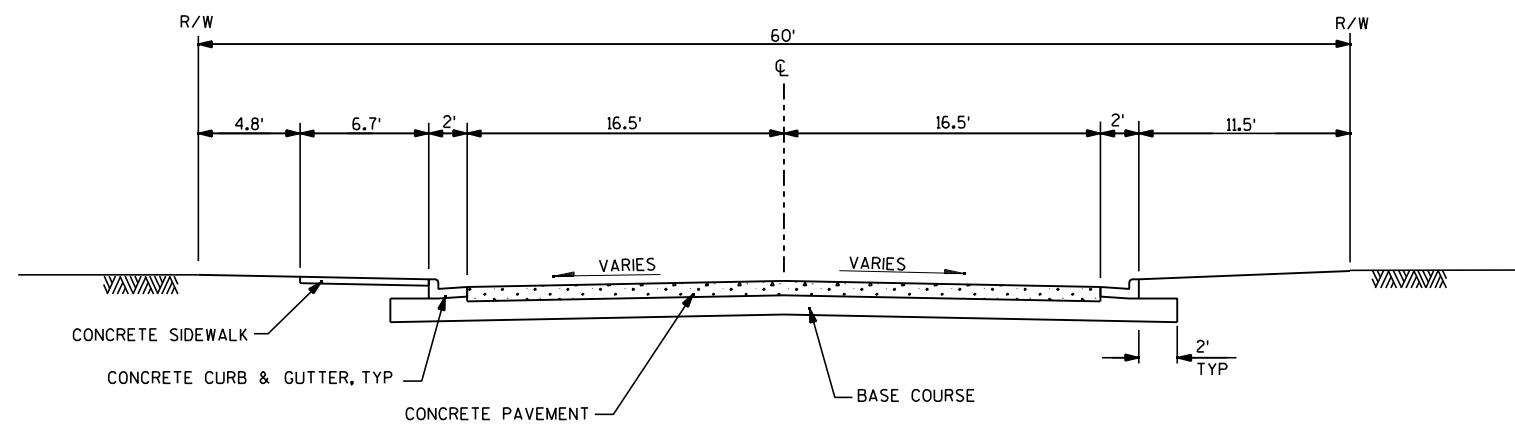
EXISTING TYPICAL SECTION FOR STH 310 (14th STREET)

STA 48+70 TO STA 60+93



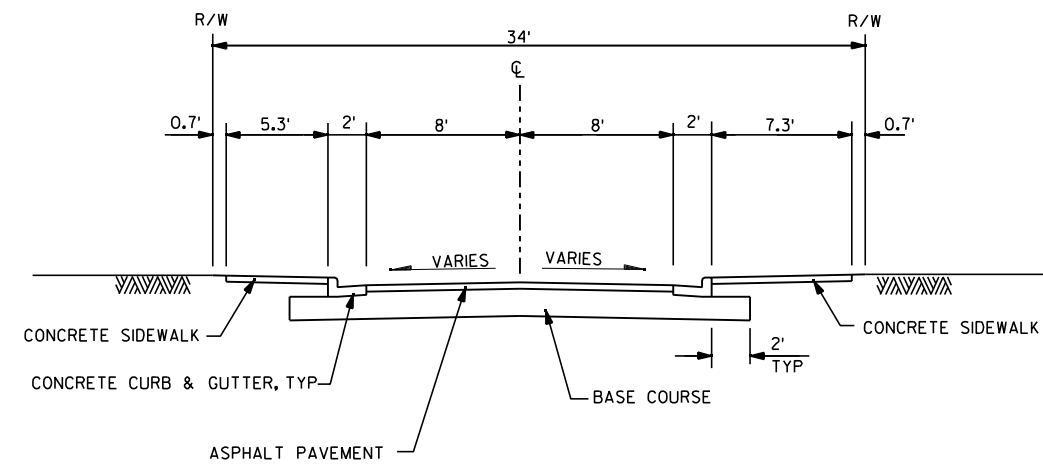
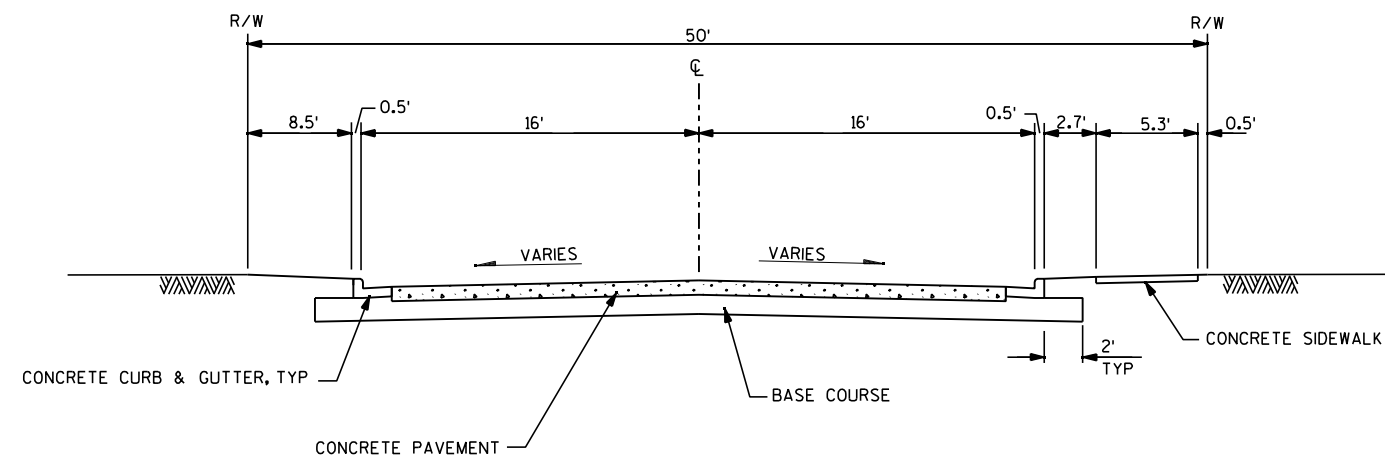
EXISTING TYPICAL SECTION FOR WENTKER CT

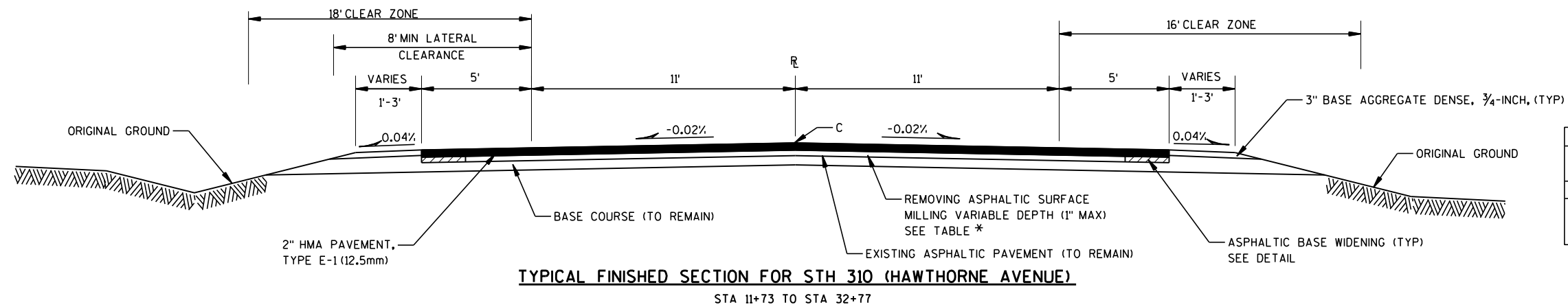
STA 300+18.75 TO STA 300+43



EXISTING TYPICAL SECTION FOR RIVER PLACE

STA 400+18.75 TO STA 400+60

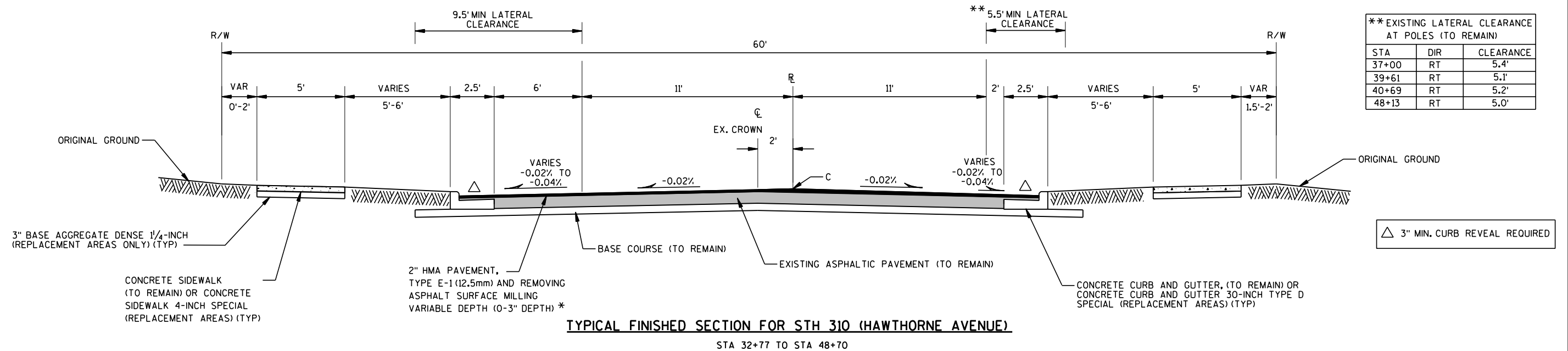




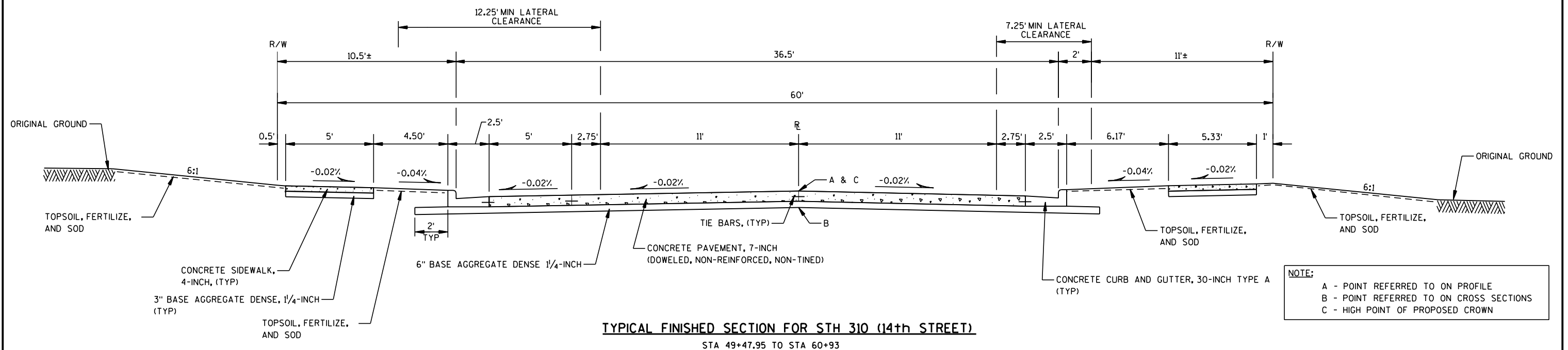
MILLING DEPTH RANGE			
AT CL		AT EXISTING EDGE OF PAVEMENT	
MIN	MAX	MIN	MAX
1/2"	1"	0"	1"

* MILL AT FINISHED SURFACE CROSS SLOPE TO PROVIDE A UNIFORM OVERLAY THICKNESS.

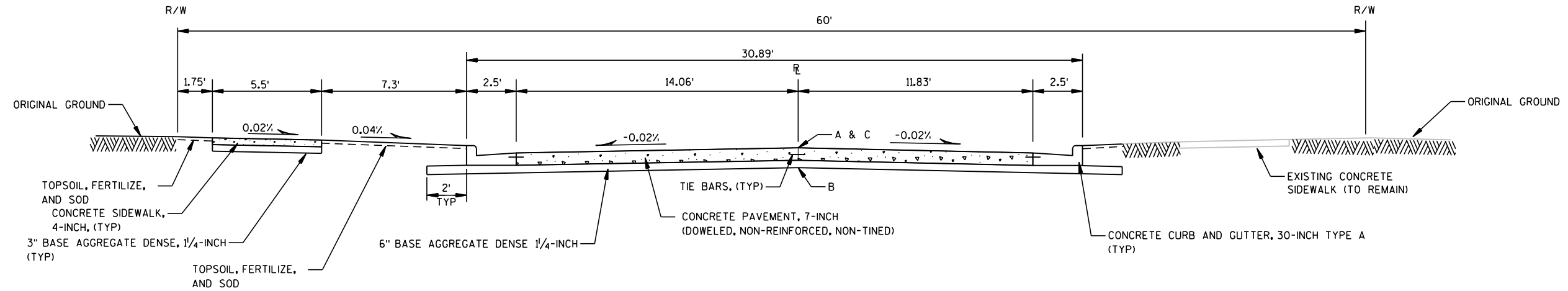
** EXISTING LATERAL CLEARANCE AT POLES (TO REMAIN)		
STA	DIR	CLEARANCE
37+00	RT	5.4'
39+61	RT	5.1'
40+69	RT	5.2'
48+13	RT	5.0'



△ 3" MIN. CURB REVEAL REQUIRED

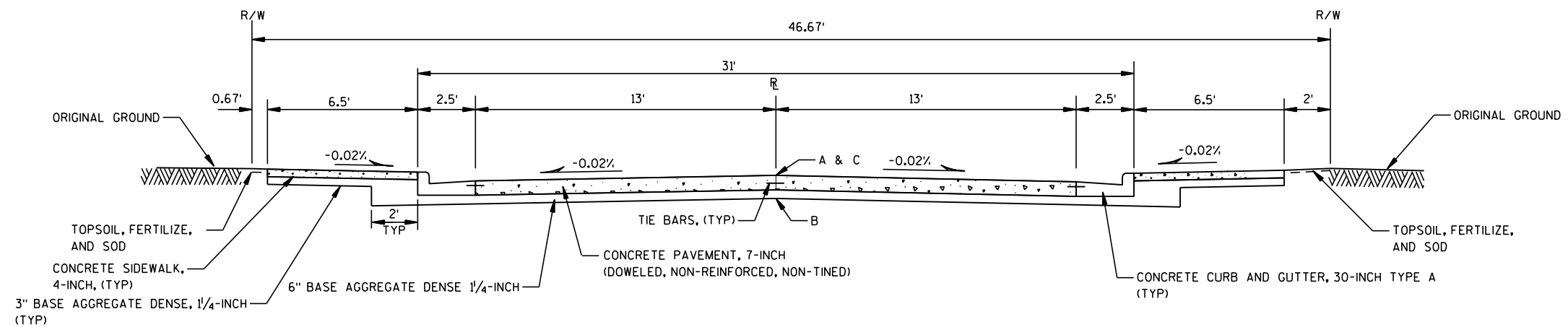


NOTE:
A - POINT REFERRED TO ON PROFILE
B - POINT REFERRED TO ON CROSS SECTIONS
C - HIGH POINT OF PROPOSED CROWN



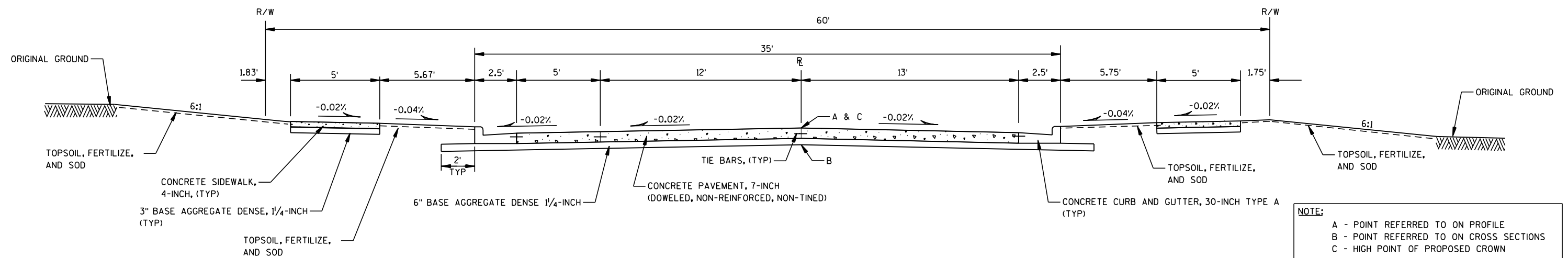
TYPICAL FINISHED SECTION 14th STREET

STA 100+70 TO STA 101+00



TYPICAL FINISHED SECTION FOR HAWTHORNE AVENUE

STA 201+50 TO STA 202+35

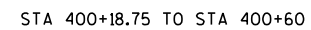
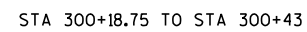


TYPICAL FINISHED SECTION FOR STH 310 (HAWTHORNE AVENUE)

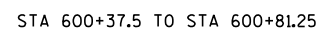
STA 48+70 TO STA 49+47.95

NOTE:

- A - POINT REFERRED TO ON PROFILE
- B - POINT REFERRED TO ON CROSS SECTIONS
- C - HIGH POINT OF PROPOSED CROWN

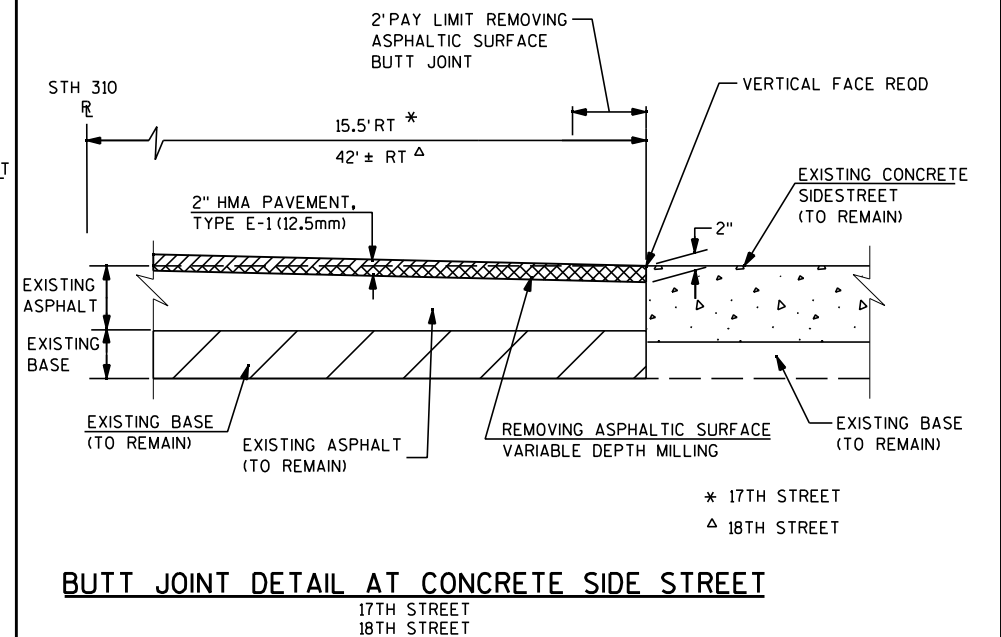
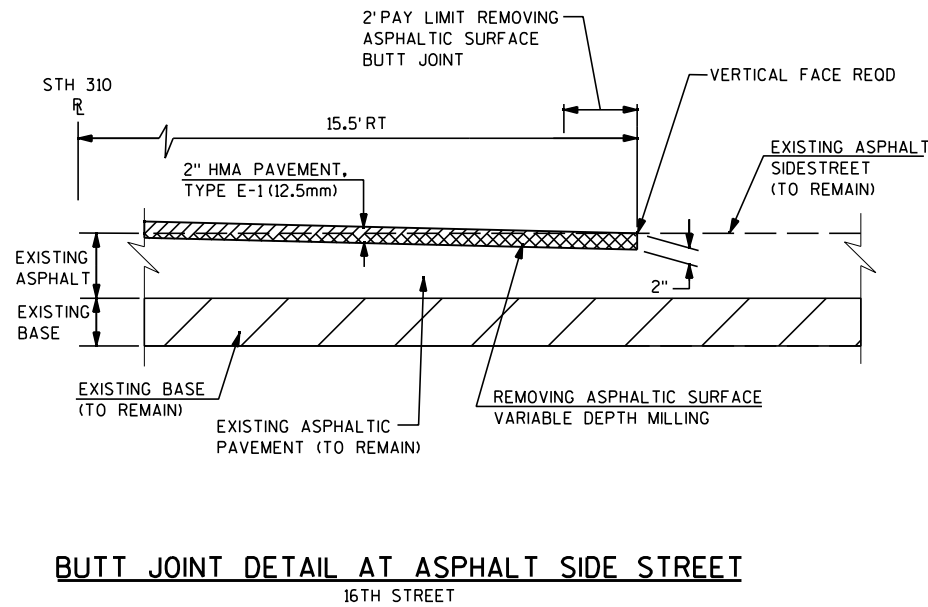
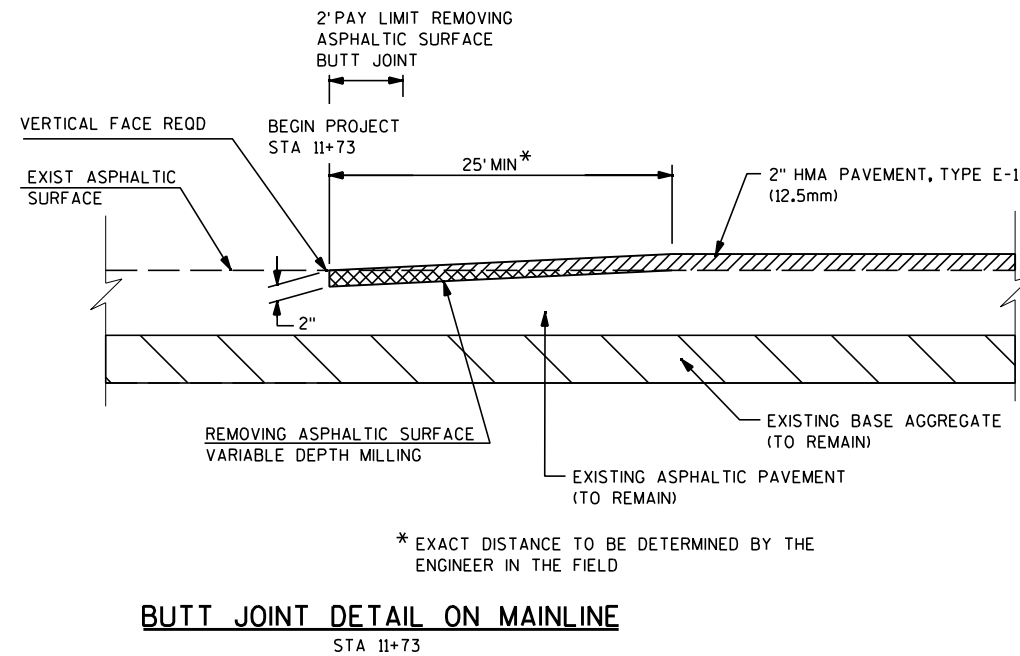


A - POINT REFERRED TO ON PROFILE
B - POINT REFERRED TO ON CROSS SECTIONS
C - HIGH POINT OF PROPOSED CROWN

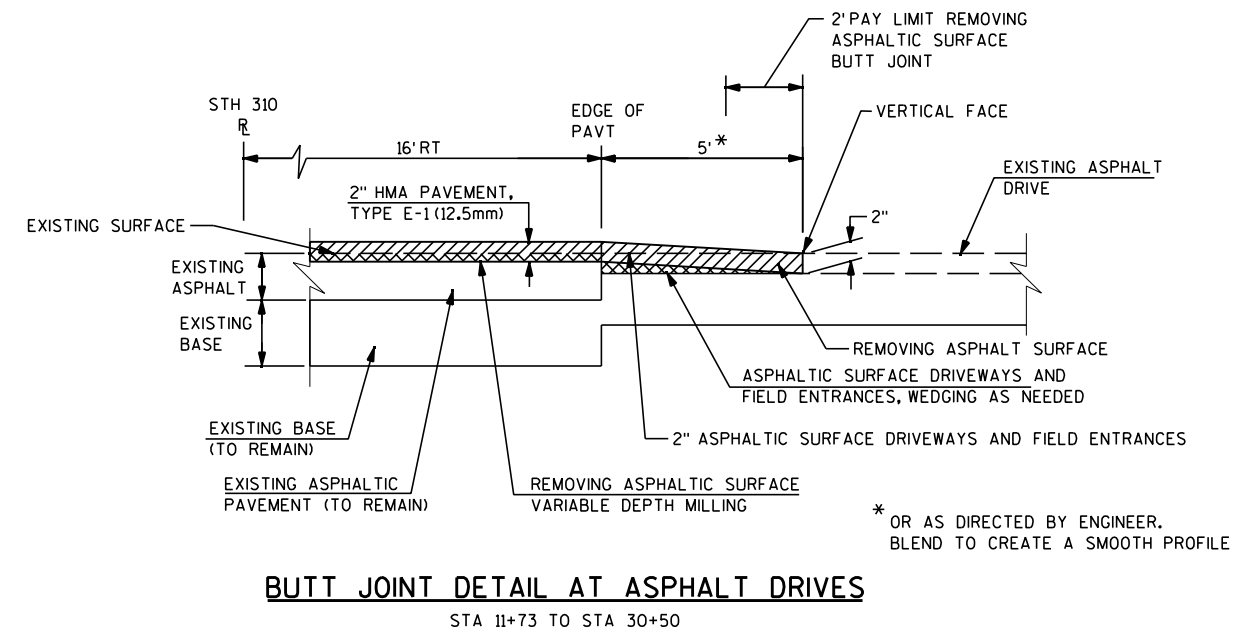
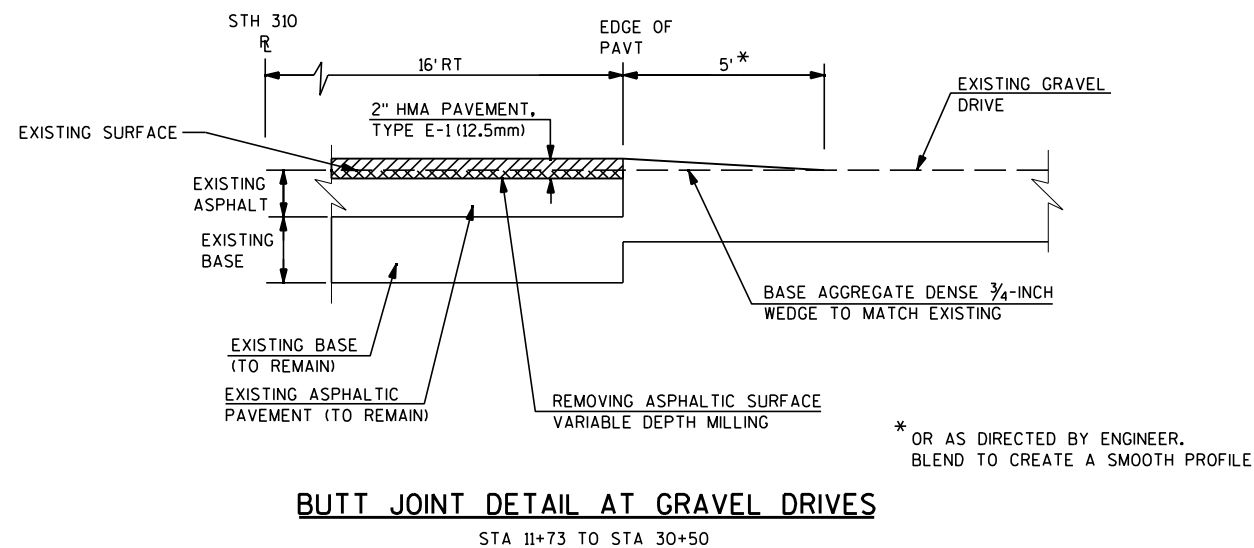


A - POINT REFERRED TO ON PROFILE
B - POINT REFERRED TO ON CROSS SECTIONS
C - HIGH POINT OF PROPOSED CROWN

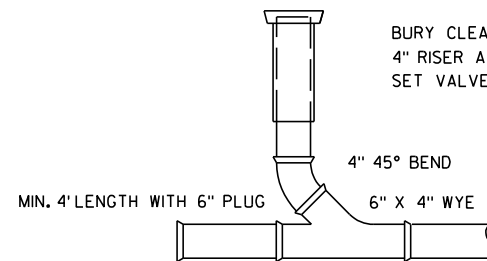
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2

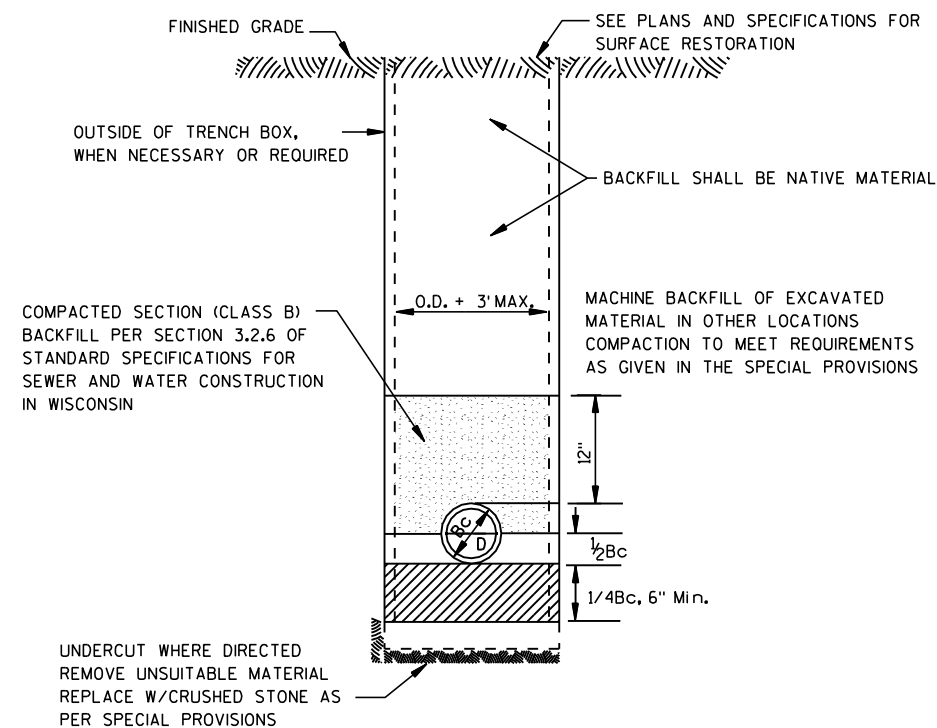


USE VALVE BOX TOP SECTION WITH COVER MARKED "SEWER"

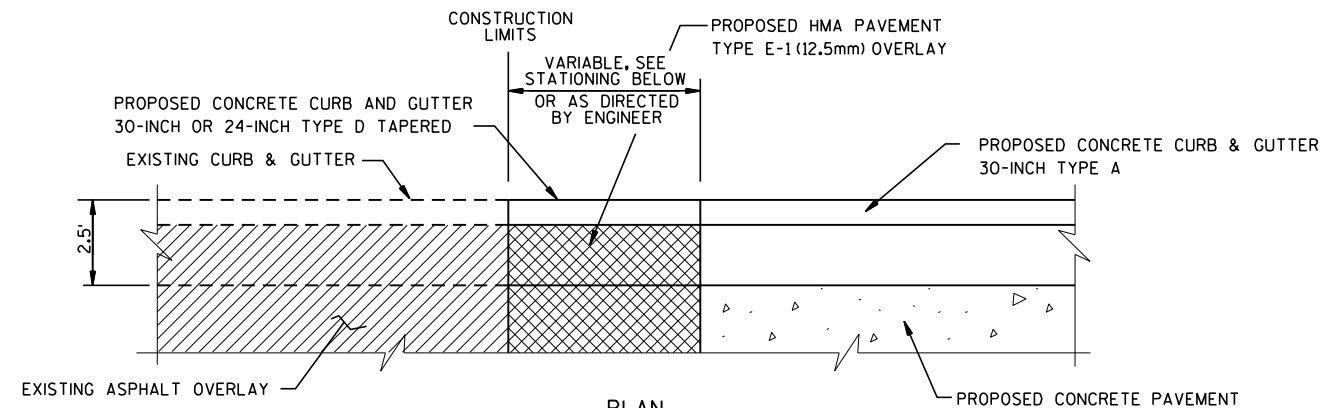


TYPICAL MINISTORM SEWER CLEANOUT

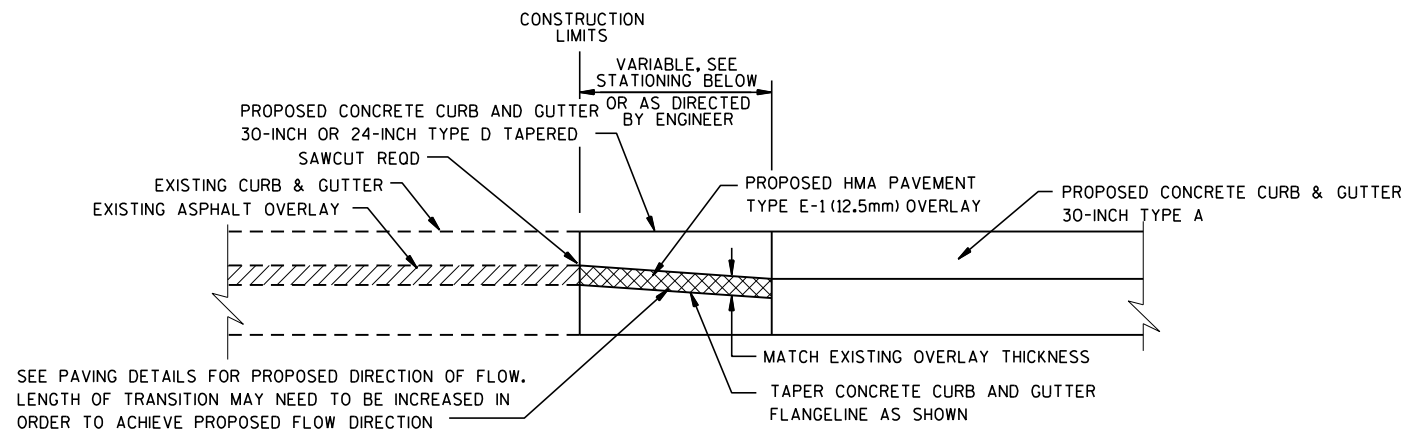
(MAX.) TRENCH WIDTH: - 9" + O.D. + 9", WHEN TRENCH IS LESS THAN 5' DEEP
- 18" + O.D. + 18", WHEN TRENCH IS GREATER THAN 5'



**TYPICAL MINISTORM SEWER AND MINI
STORM SEWER LATERAL TRENCH AND BEDDING DETAIL**



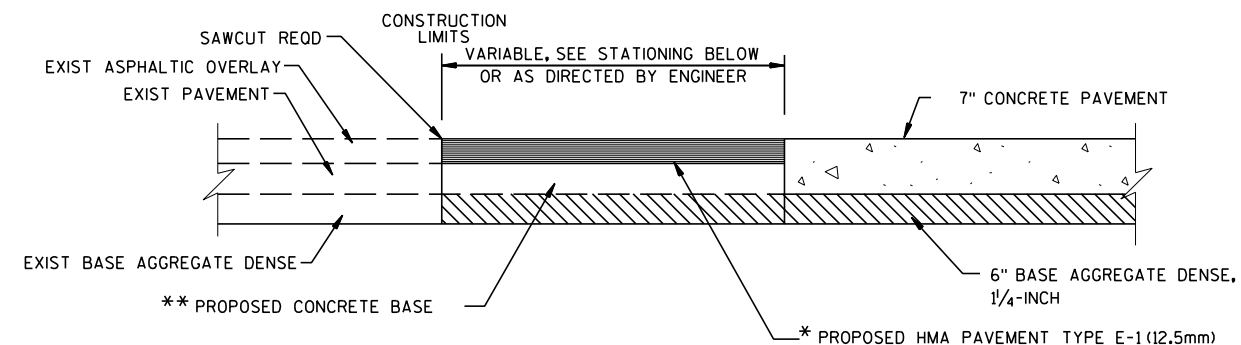
PLAN



ELEVATION

CURB TRANSITION AT EXISTING ASPHALTIC OVERLAY MATCH POINTS

STA 48+70 TO STA 48+85 (HAWTHORNE AVE)
STA 100+70 TO STA 100+80 (14TH ST)
STA 202+20 TO STA 202+35 (HAWTHORNE AVE)
STA 600+37 TO STA 600+55 (SCHOOL ST SOUTH)

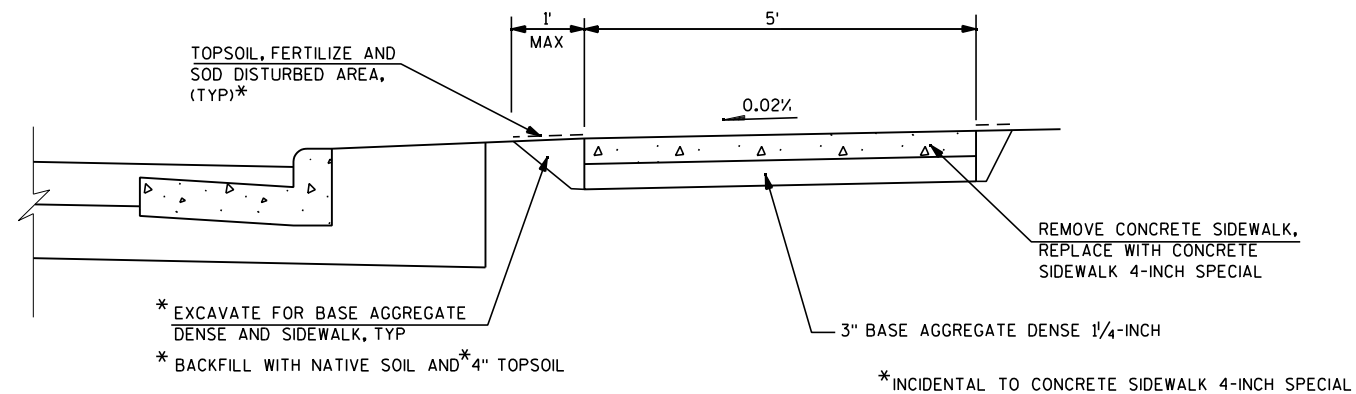


* ASPHALTIC OVERLAY SHALL MATCH THICKNESS OF EXISTING ASPHALT OVERLAY
** CONCRETE BASE SHALL MATCH THICKNESS OF EXISTING PAVEMENT

PAVEMENT TRANSITION AT EXISTING ASPHALT OVERLAY MATCH POINTS

STA 48+70 TO STA 48+85 (HAWTHORNE AVE)
STA 100+70 TO STA 100+80 (14TH ST)
STA 202+20 TO STA 202+35 (HAWTHORNE AVE)
STA 600+37 TO STA 600+55 (SCHOOL ST SOUTH)

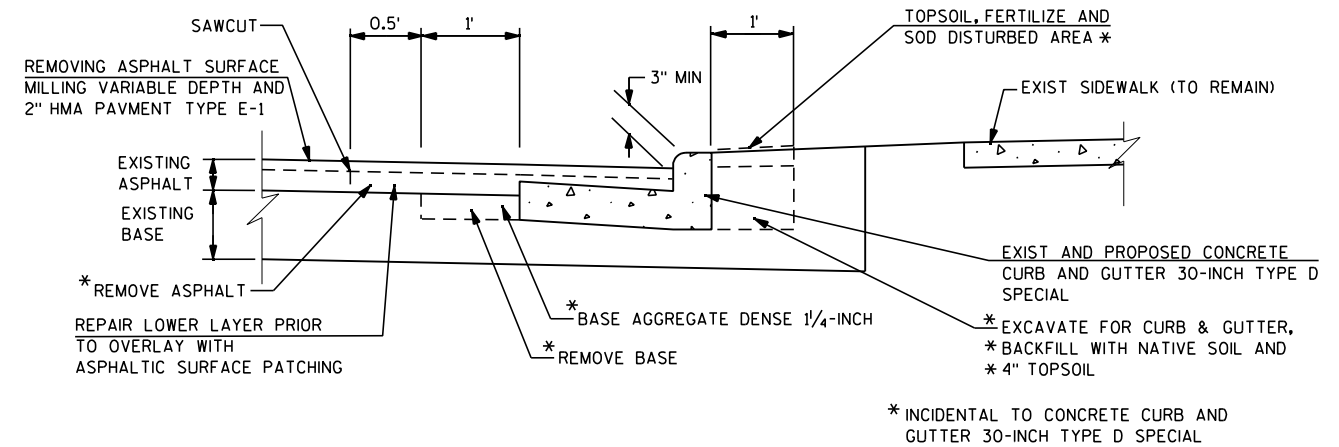
2



SIDEWALK REPLACEMENT DETAIL

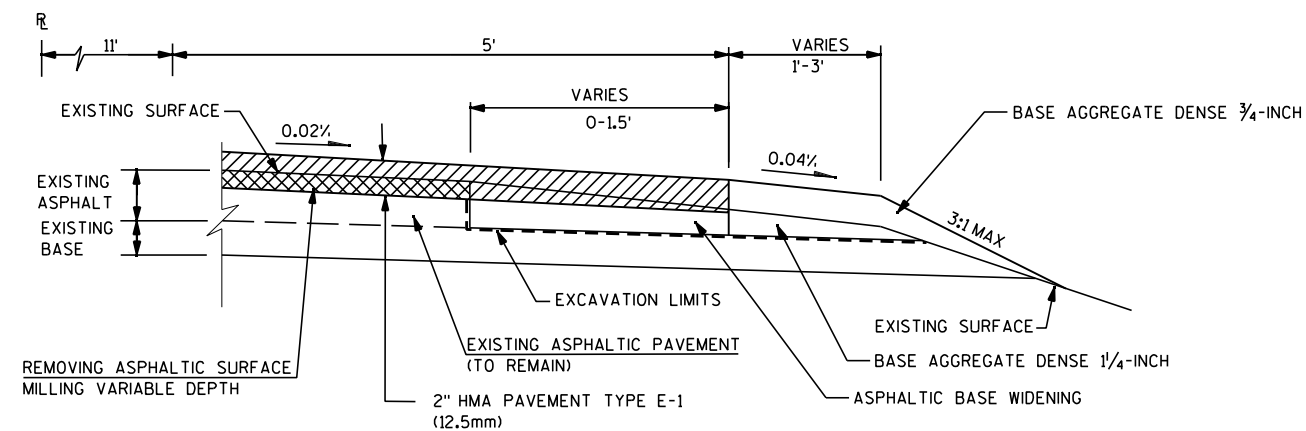
STA 30+87 TO STA 48+70

2



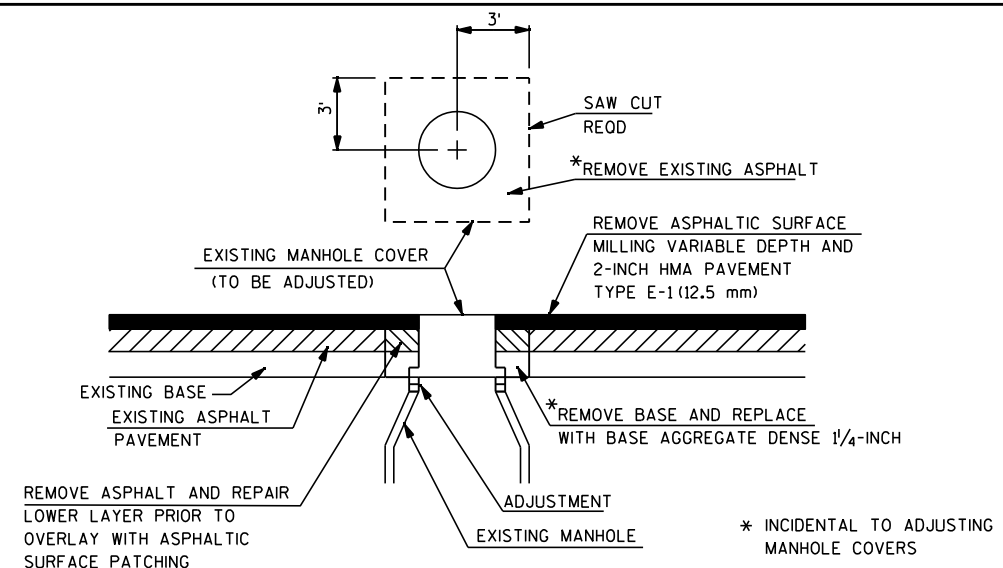
CURB AND GUTTER SPOT REPLACEMENT AREAS

STA 32+20 TO STA 48+70

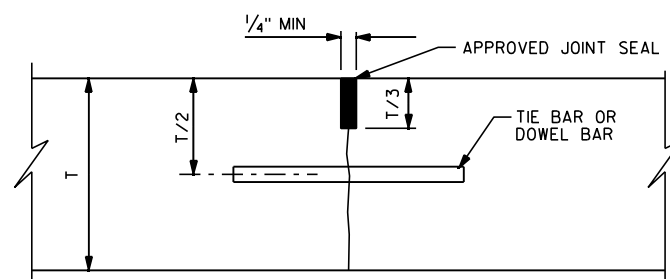


WIDENING DETAIL

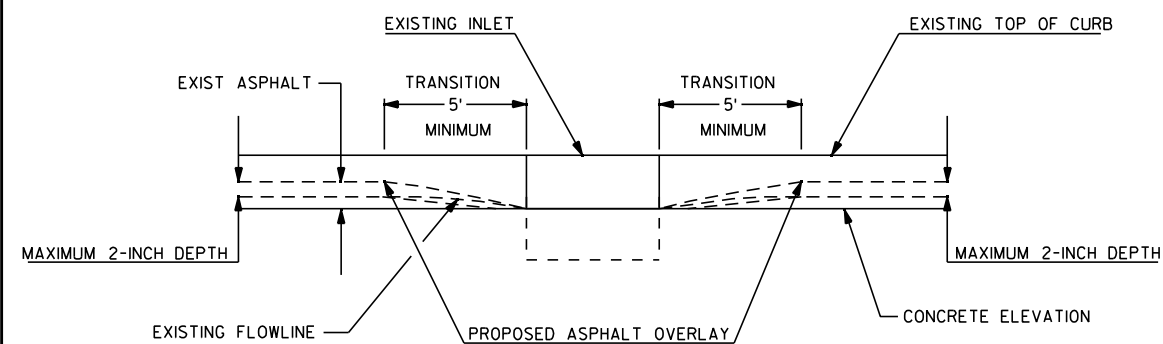
STA 11+73 TO STA 32+76 LT & RT



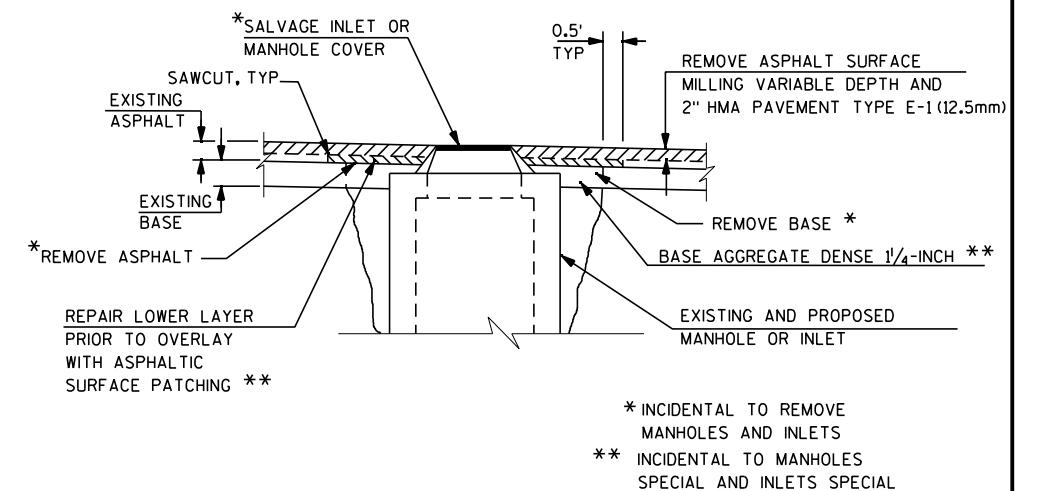
ADJUSTING MANHOLE COVERS



CONCRETE JOINT SEALING



ASPHALT OVERLAY AT INLETS



REMOVE AND REPLACE MANHOLES AND INLETS DETAIL

STA 32+77 TO STA 48+70

PROJECT NO: 4337-11-71/72

HWY: STH 310

COUNTY: MANITOWOC

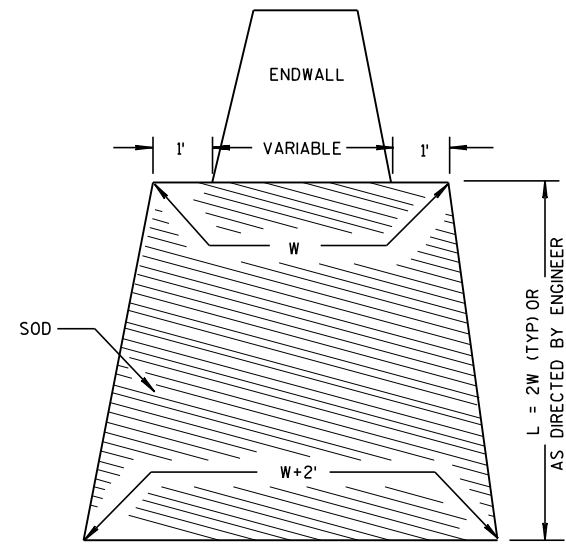
CONSTRUCTION DETAILS

SHEET

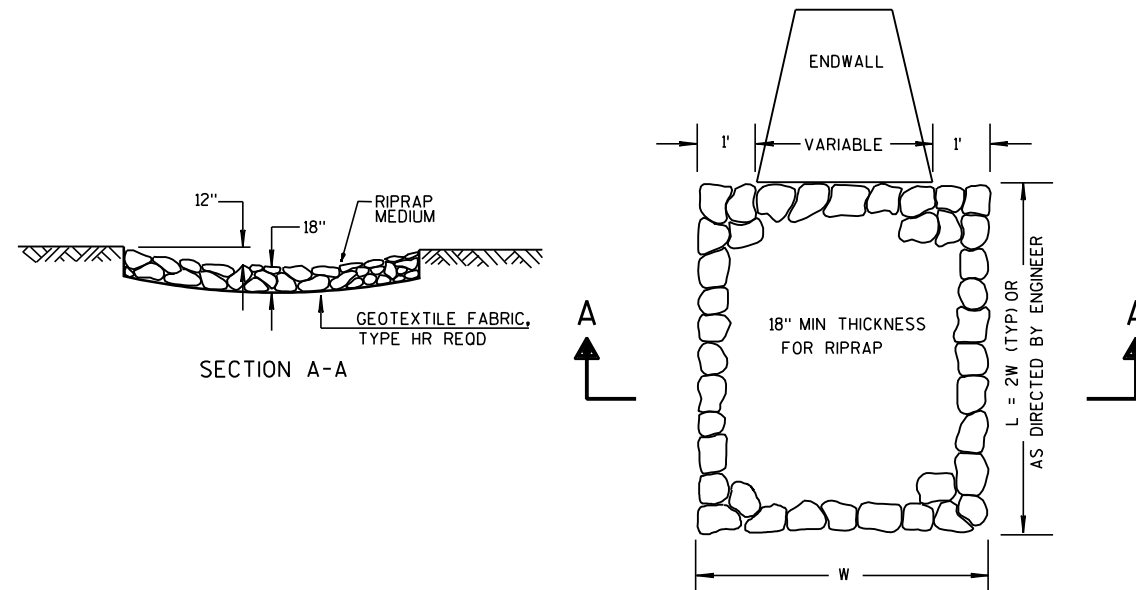
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E

2

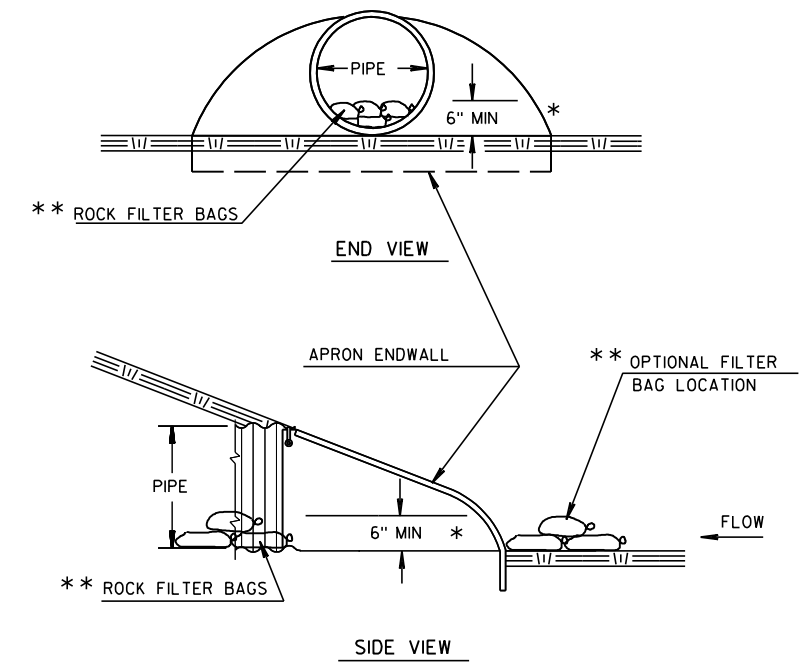


SOD TREATMENT AT CULVERT INLETS



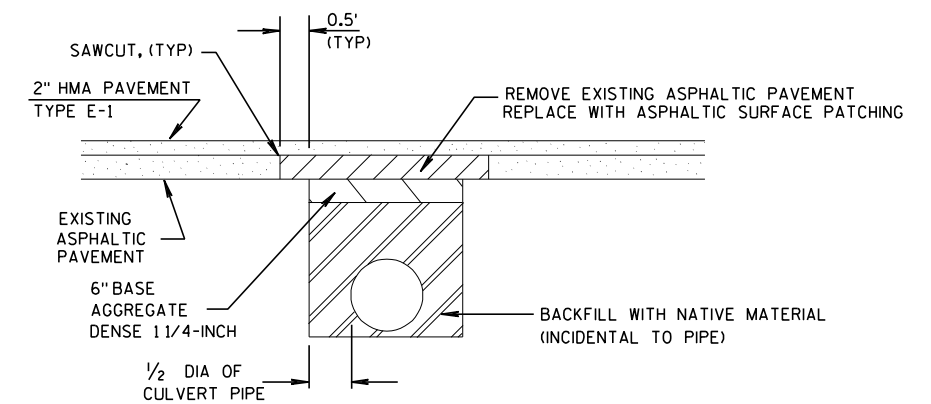
RIPRAP MEDIUM TREATMENT AT CULVERT OUTLETS

2



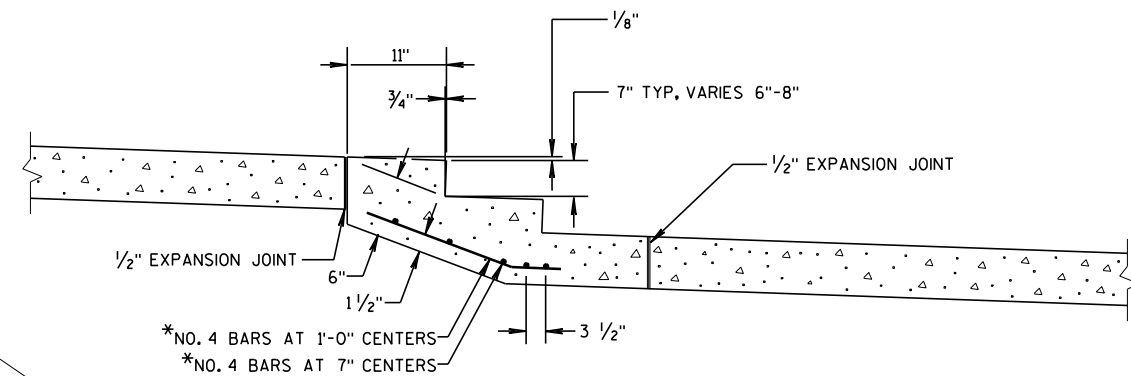
- * OR AS DIRECTED BY THE ENGINEER.
 ** THESE ROCK FILTER BAGS ARE PART OF THE CULVERT PIPE CHECK ITEM.

CULVERT PIPE CHECK
 (INSTALL ON INLET END ONLY)



STORM SEWER PIPE REPLACEMENT AND CULVERT PIPE INSTALLATION DETAIL

STA 12+78
 STA 17+85
 STA 32+77 TO STA 48+70 (STORM SEWER PIPE REPLACEMENT AREAS ONLY)

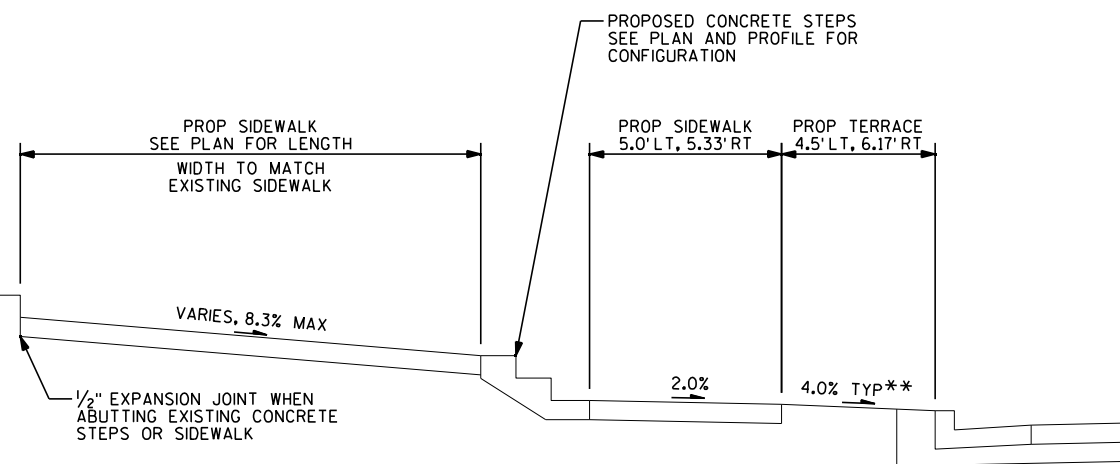


*BAR STEEL REINFORCEMENT SHALL
BE EMBEDDED 1 1/2" CLEAR

CONCRETE STEPS

EXIST
BLDG

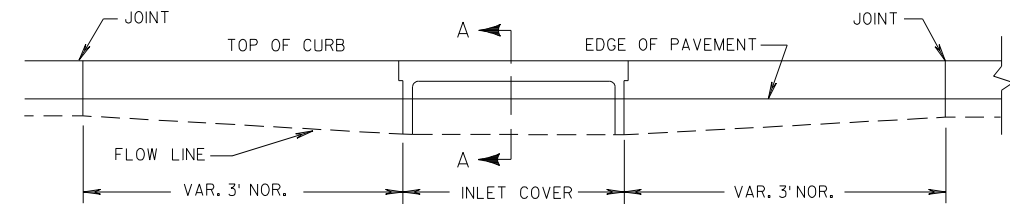
EXIST
STAIRS



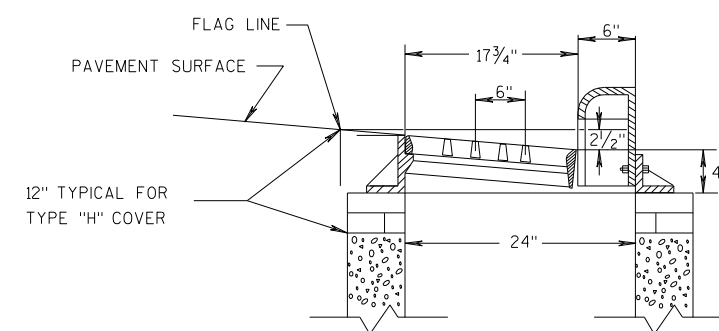
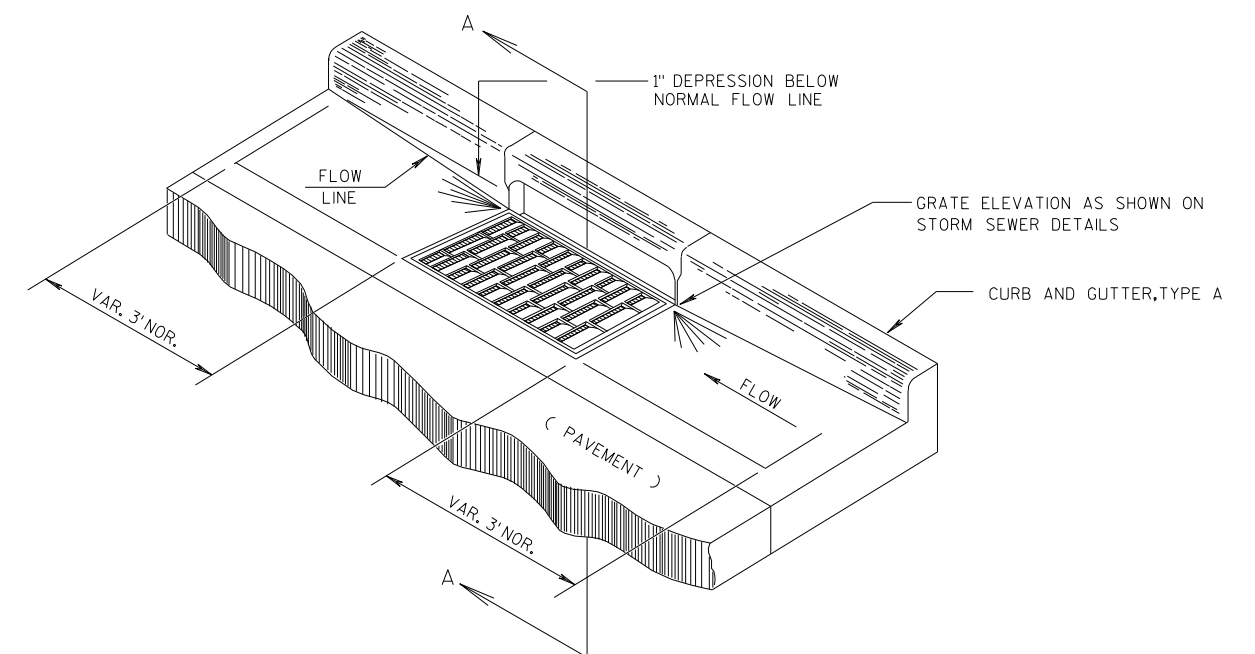
SIDEWALK TO ADJOINING PROPERTIES

STA 52+48 LT	STA 54+30 RT
STA 52+75 RT	STA 58+75 RT
STA 52+82 RT	STA 58+86 RT
STA 53+40 RT	STA 59+19 RT
STA 53+74 RT	STA 59+26 RT

**SEE MISC QTY SHEETS FOR
VARIABLE TERRACE SLOPE
LOCATIONS



ELEVATION

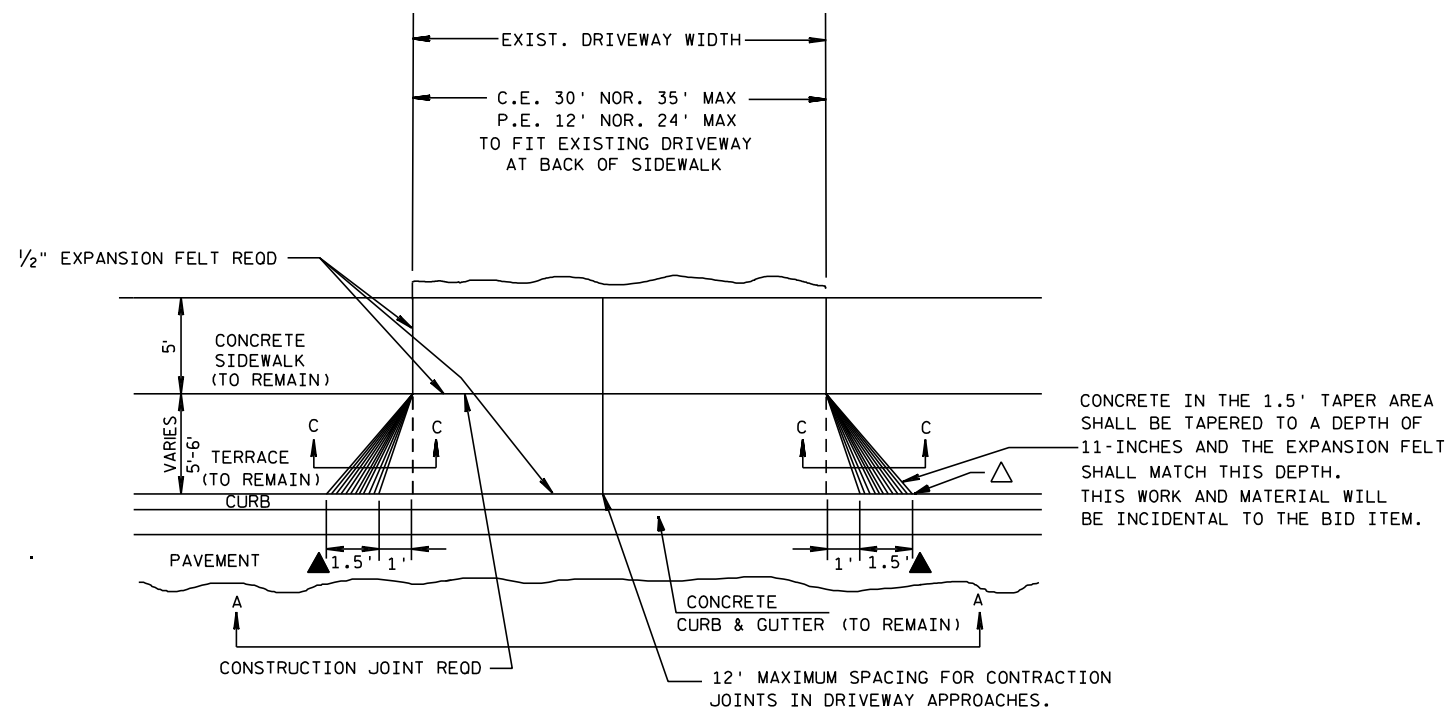


SECTION A-A

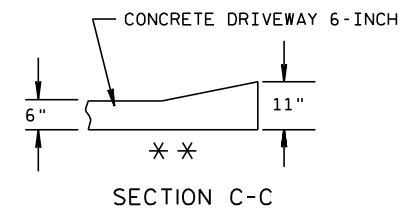
DETAIL OF CURB AND GUTTER AT INLETS

(TYPE 3-H INLET SHOWN)

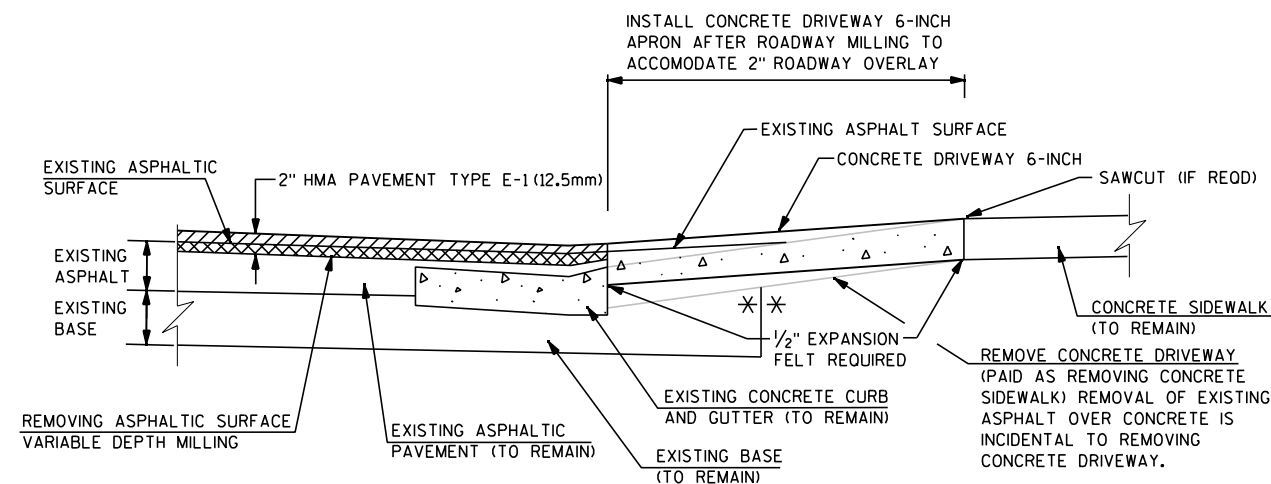
STA 48+70 TO STA 60+93



PLAN VIEW

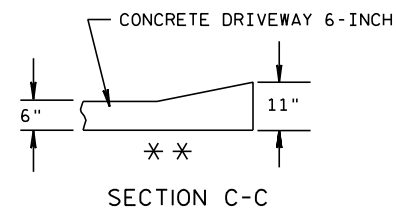
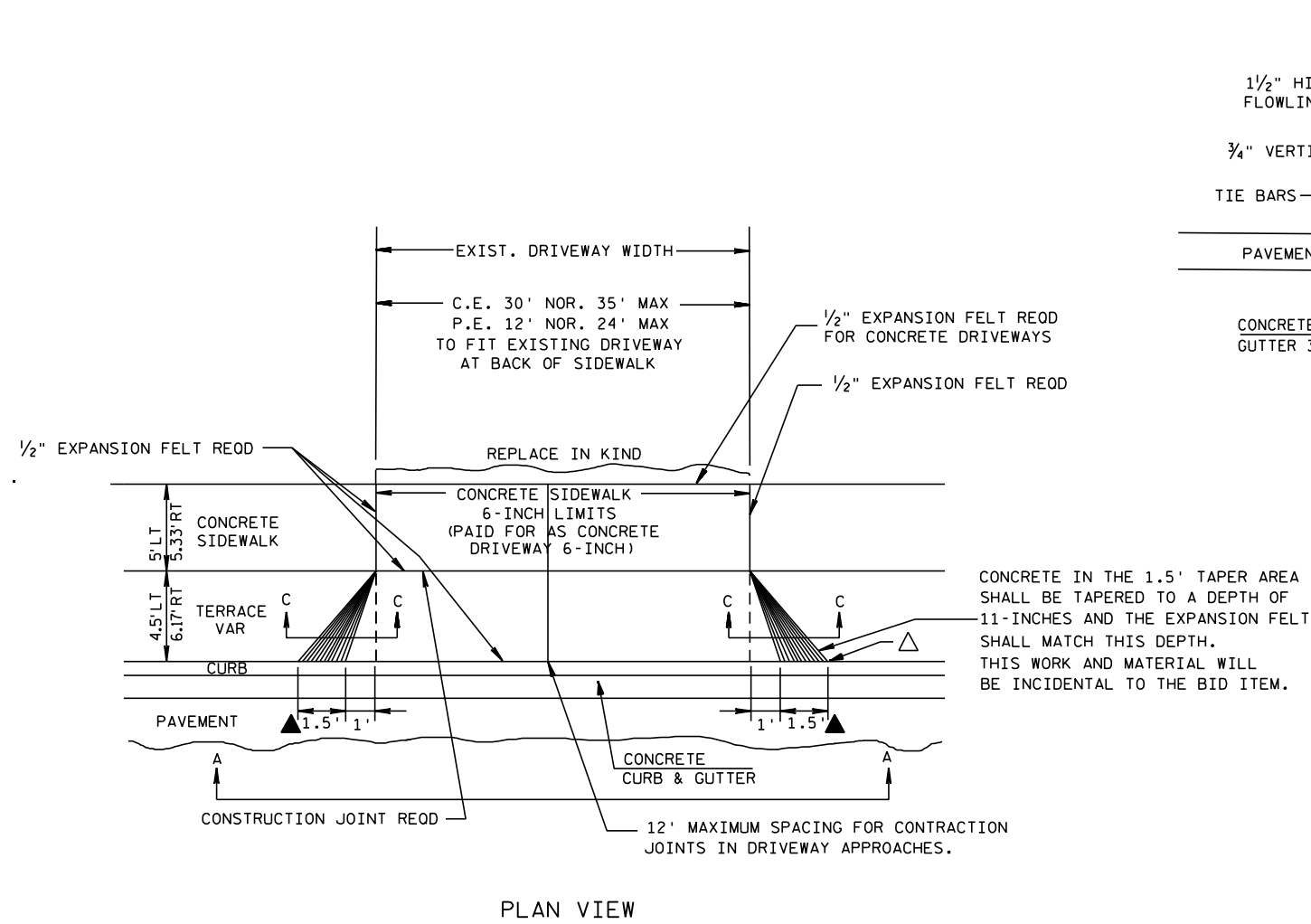


- * * = 6" BASE AGG. DENSE 1 1/4-INCH
REOD UNDER CONCRETE DRWY
- △ FULL HEIGHT CURB TO THIS POINT
- ▲ TAPER CURB HEIGHT 1 1/2" TO 6"

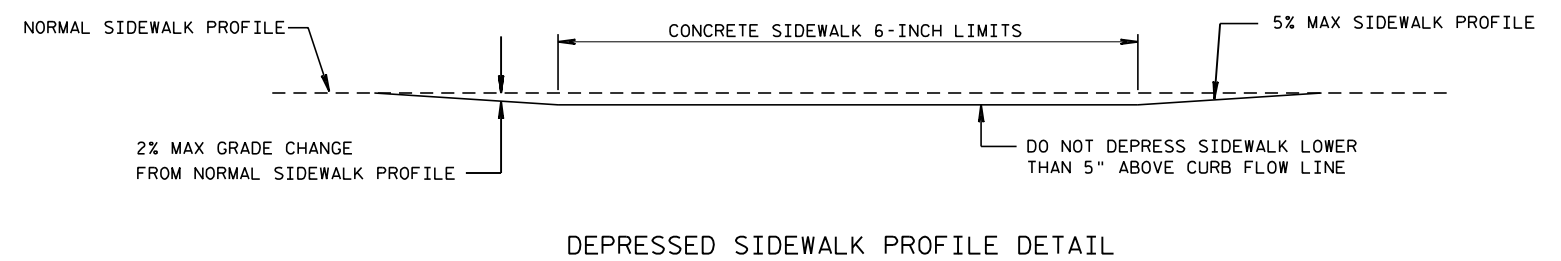
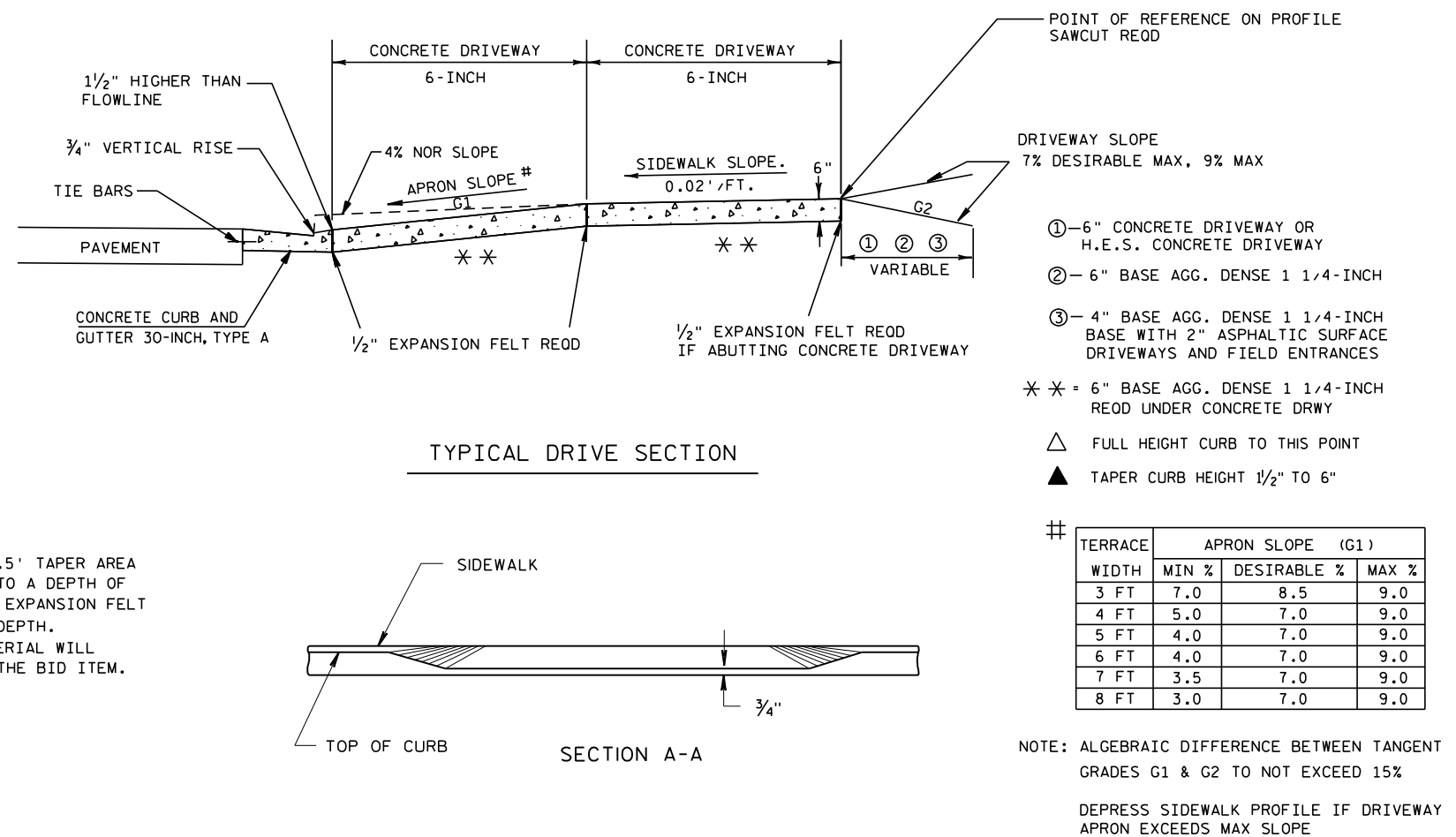


DRIVE APRON REPLACEMENT DETAIL

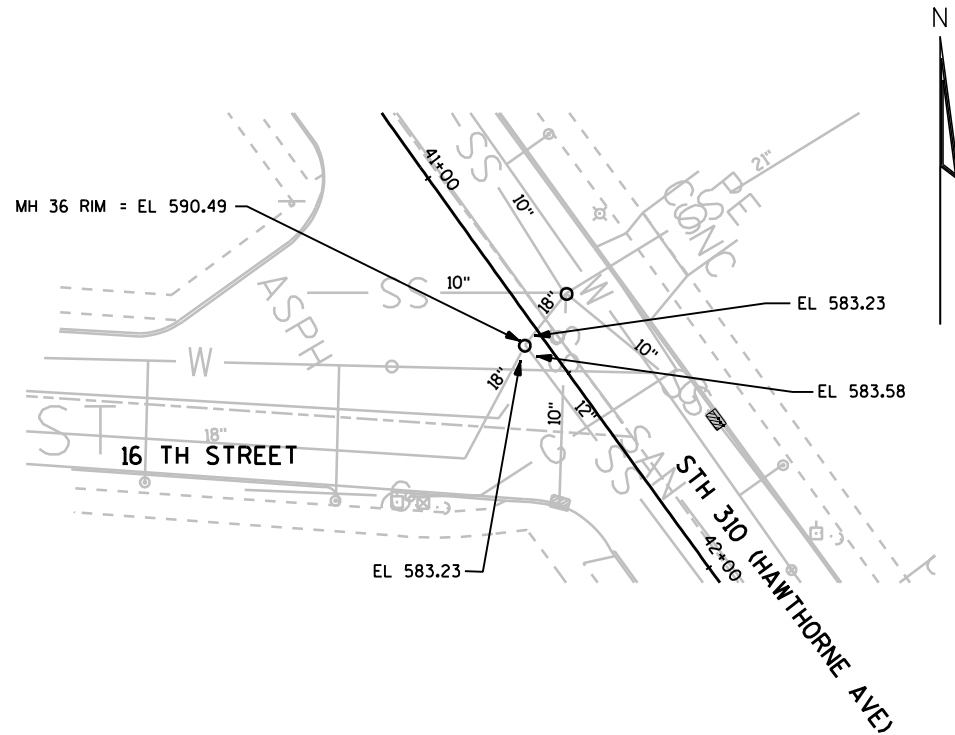
STA 30+50 TO STA 48+70



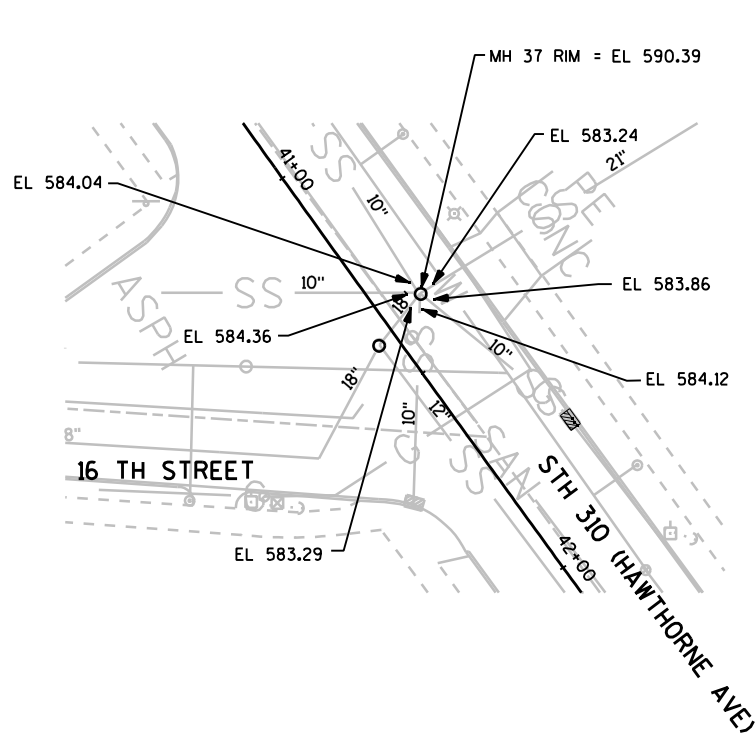
DRIVEWAY ENTRANCE DETAIL
STA 48+70 TO STA 60+93



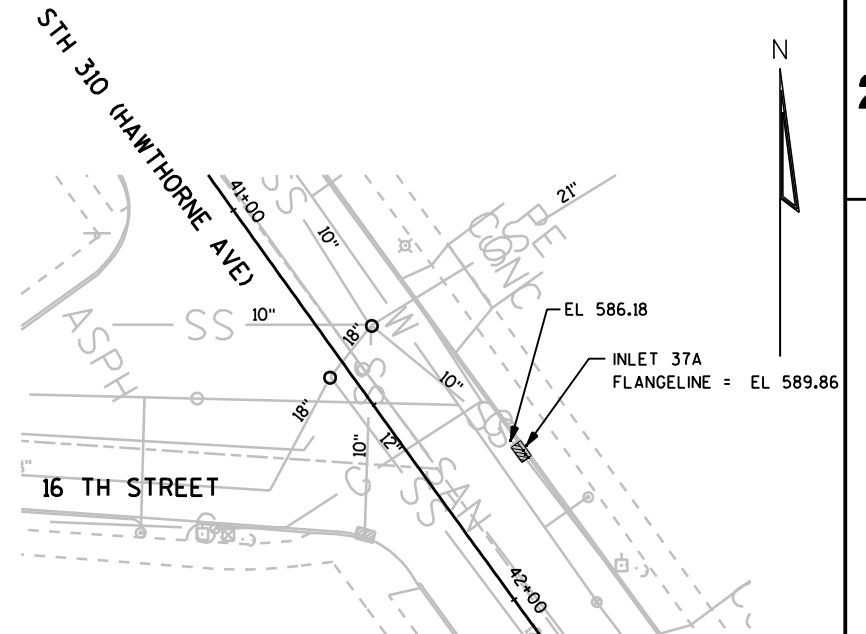
2



MANHOLE 36 DETAIL



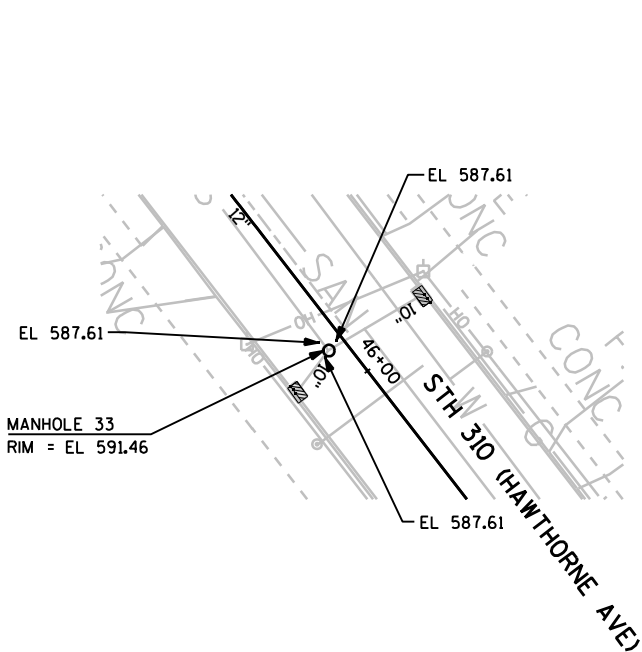
MANHOLE 37 DETAIL



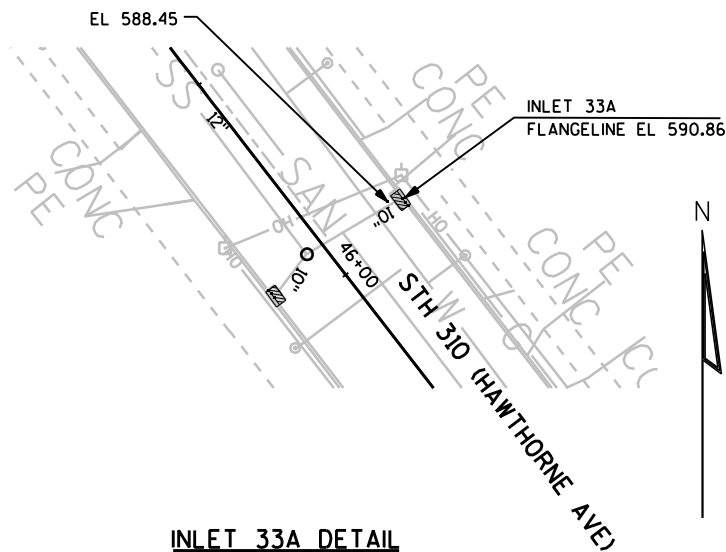
INLET 37A DETAIL

NOTES:

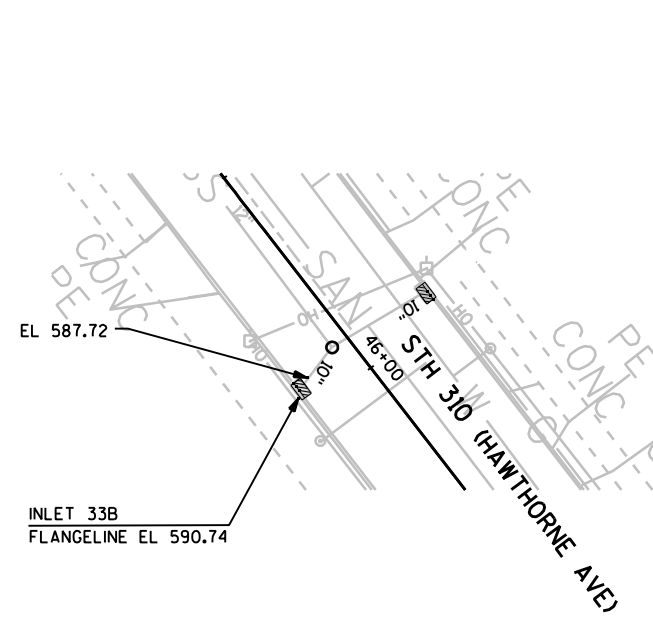
1. FIELD VERIFY PIPE ALIGNMENTS AND SIZES.
2. EXCEPT AS NOTED, ELEVATIONS SHOWN ARE PIPE INVERT ELEVATIONS.
3. ALL EXISTING PIPES ARE SSPRC UNLESS OTHERWISE NOTED.



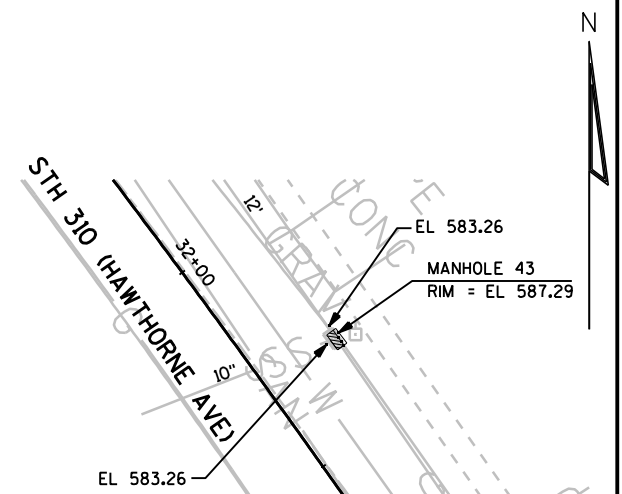
MANHOLE 33 DETAIL



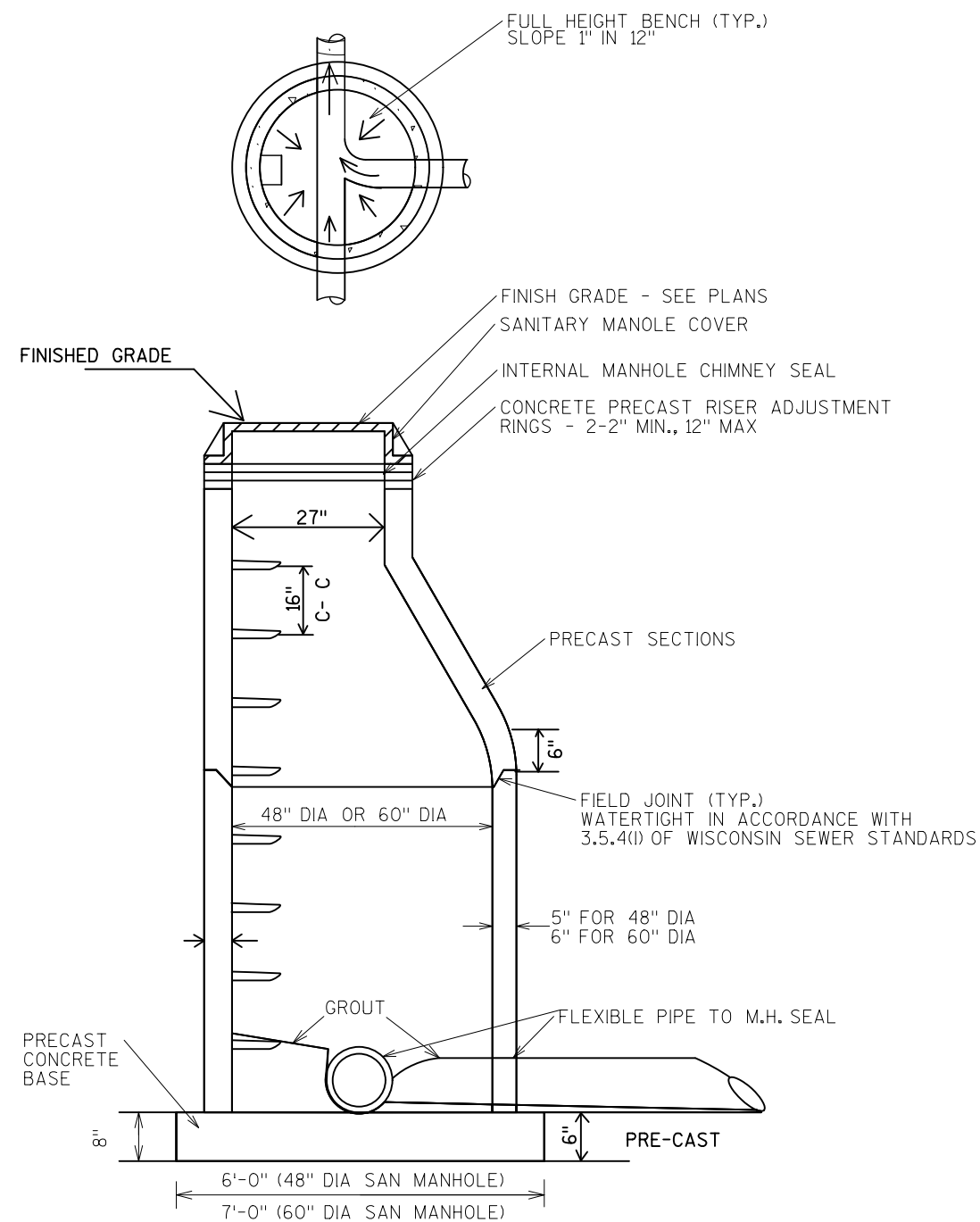
INLET 33A DETAIL



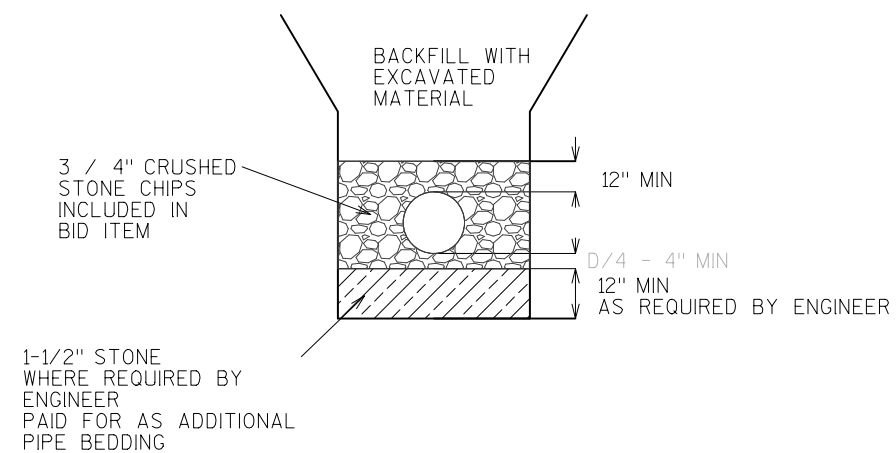
INLET 33B DETAIL



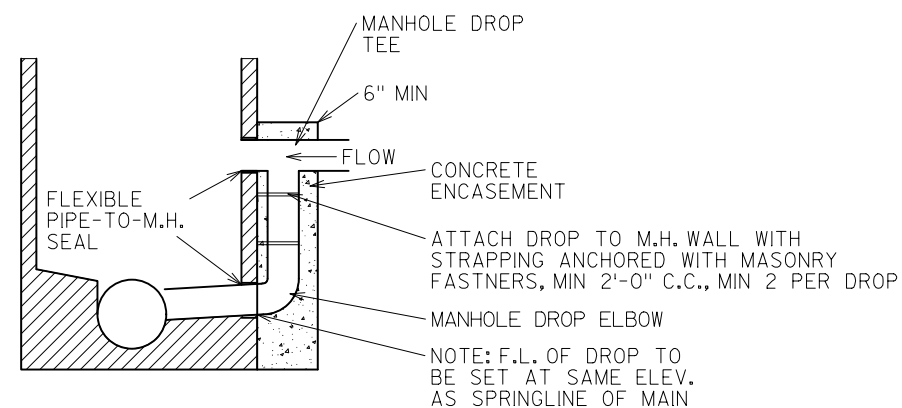
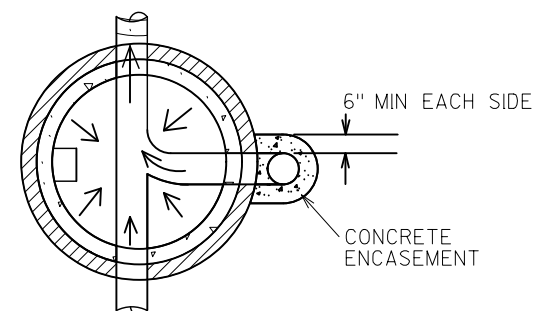
MANHOLE 43 DETAIL



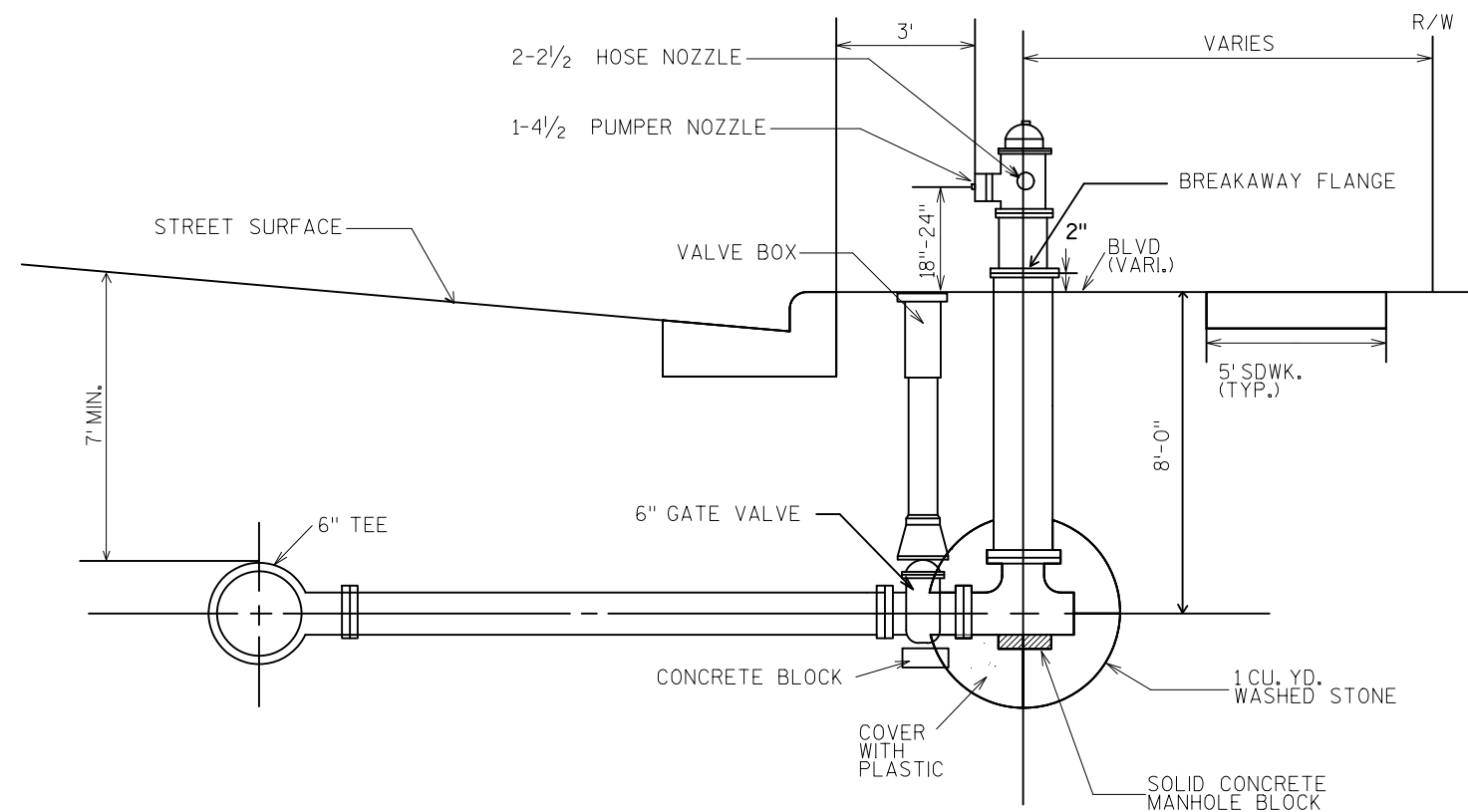
STANDARD SANITARY MANHOLE



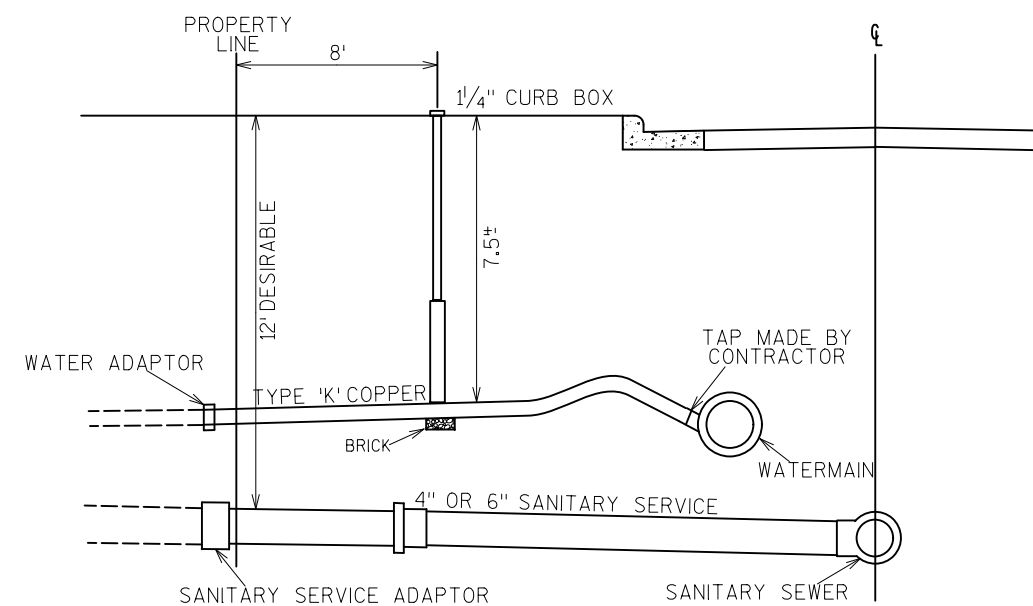
SANITARY AND WATER PIPE BEDDING DETAIL



OUTSIDE DROP PRECAST MANHOLE DETAIL

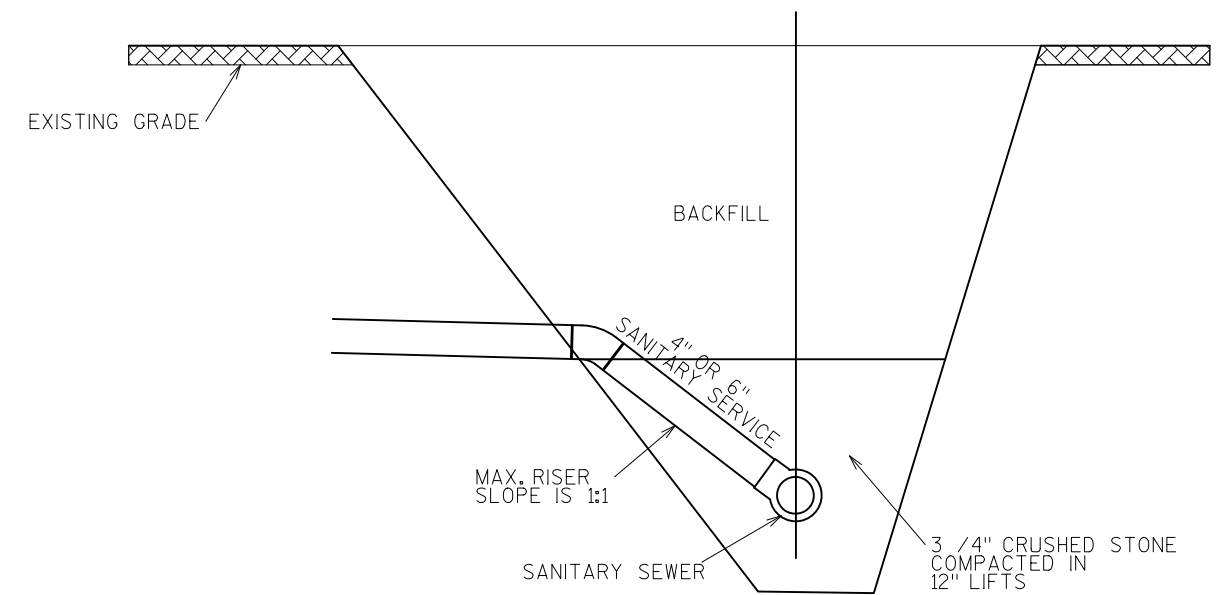


STANDARD HYDRANT INSTALLATION

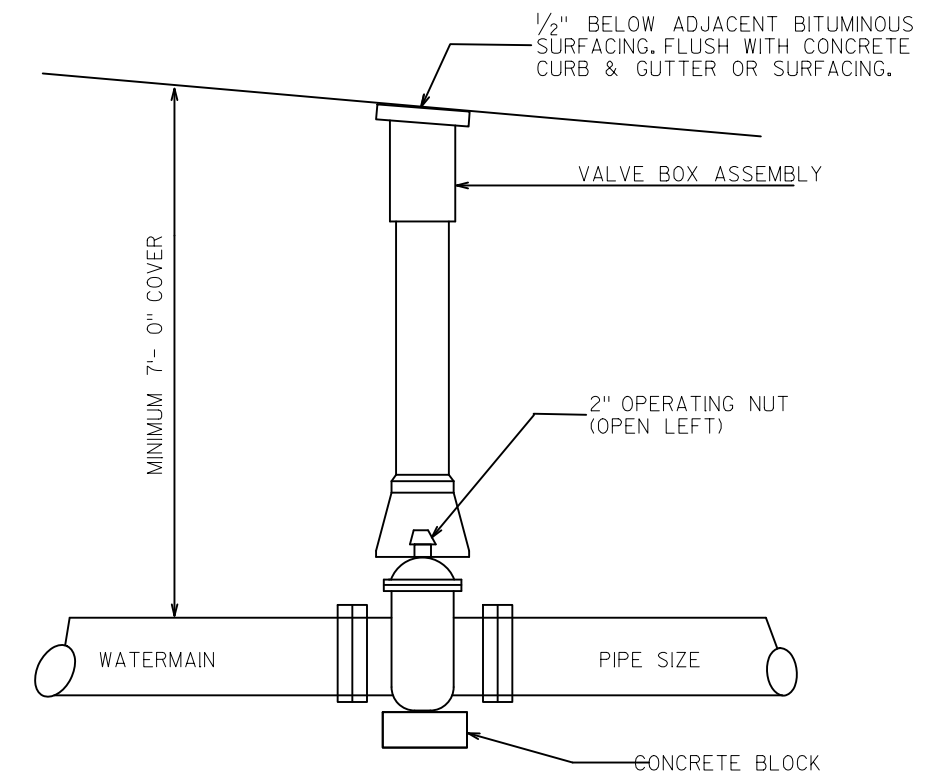


NOTE: TAP WATERMAIN ON 45° WITH PIPE.
SANITARY SERVICE TO BE INSTALLED AT A MINIMUM
GRADE OF 1/4" PER FOOT UNLESS OTHERWISE
DIRECTED BY THE ENGINEER.
MINIMUM SEPARATION BETWEEN SERVICES SHALL BE
12" VERTICAL AND 18" HORIZONTAL.

EXISTING SERVICE INSTALLATION

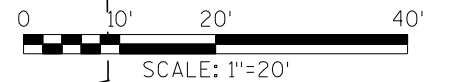


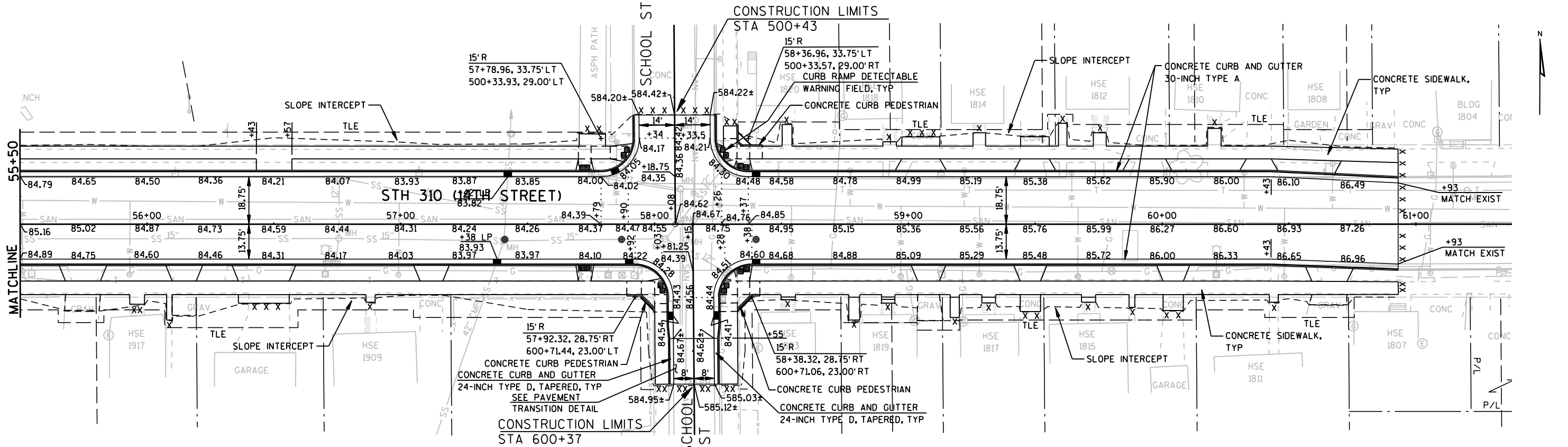
RISER DETAIL

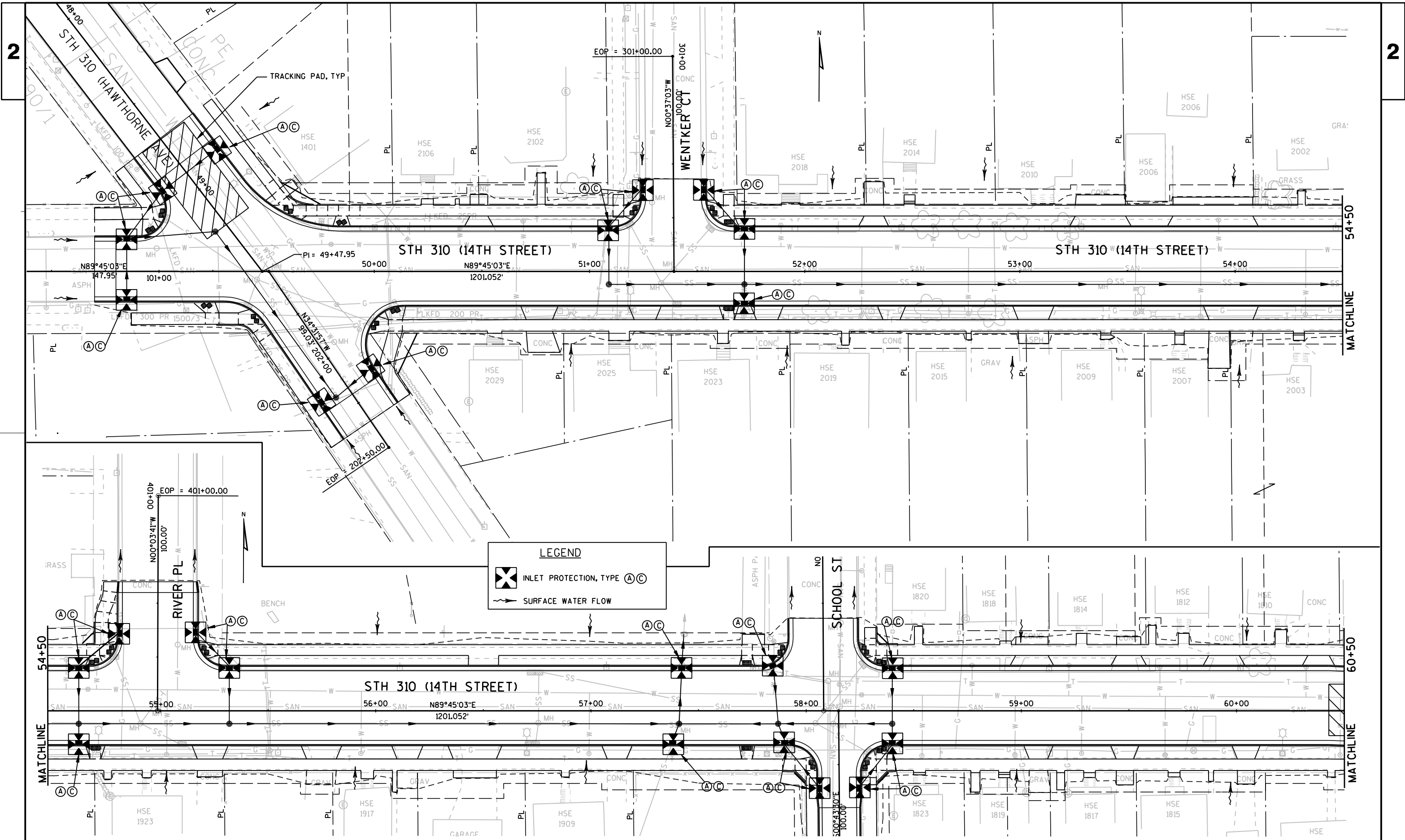


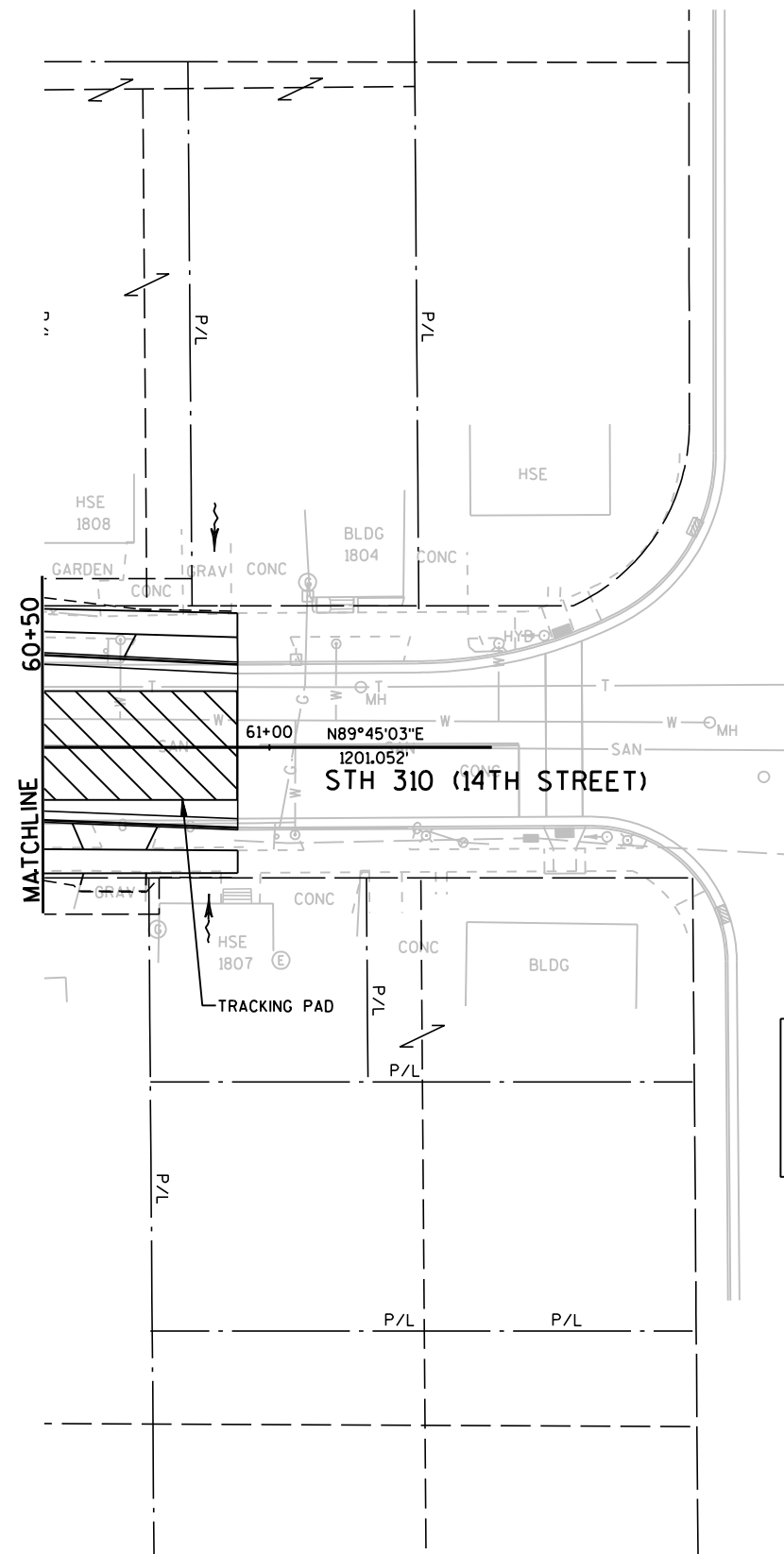
TYPICAL GATE VALVE & BOX INSTALLATION

2 |







**LEGEND**

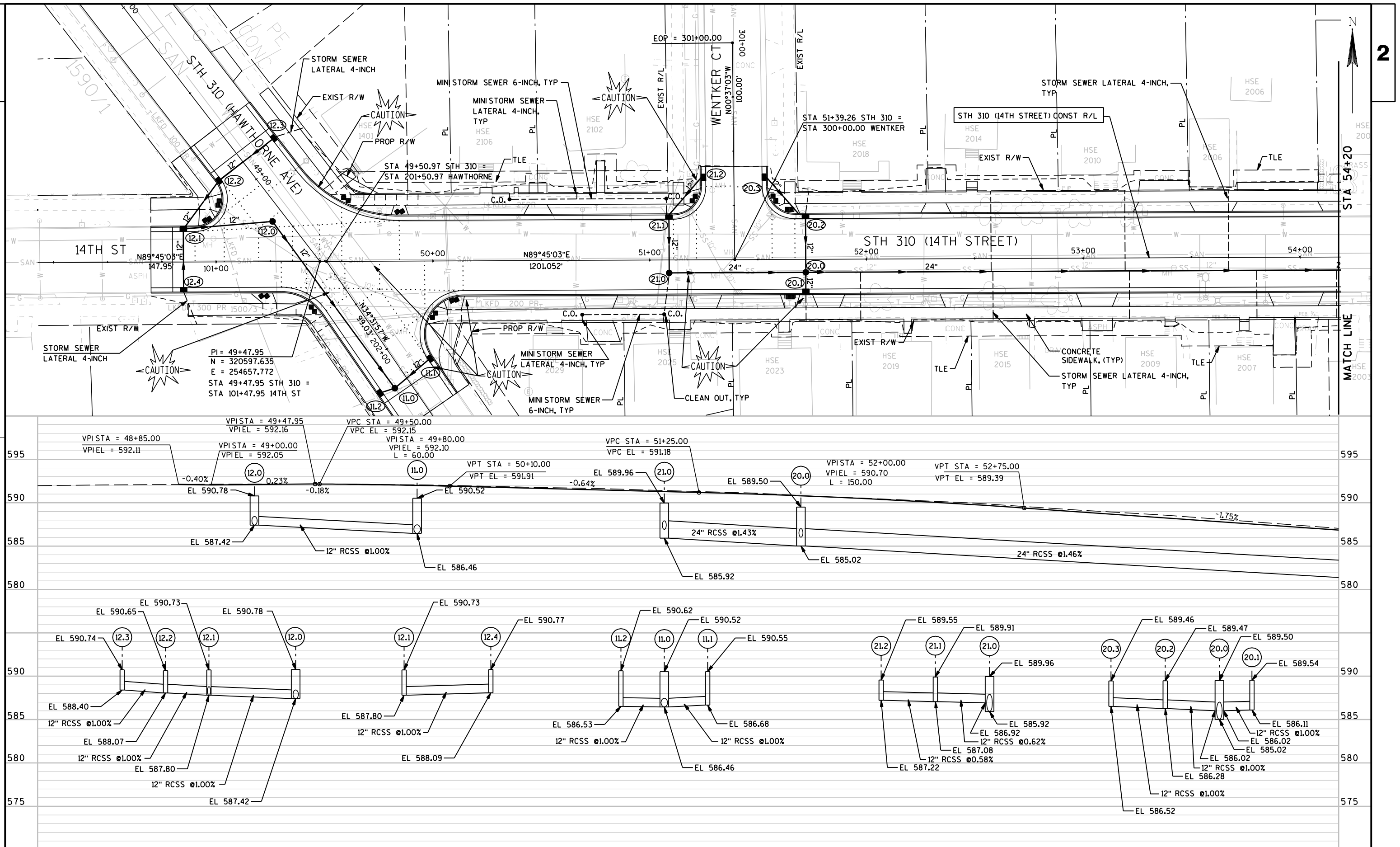
INLET PROTECTION, TYPE (A) (C)



SURFACE WATER FLOW

2

2



PROJECT NO: 4337-11-71

HWY: STH 310

COUNTY: MANITOWOC

STORM SEWER AND LATERALS

SHEET

25

E

FILE NAME : F:\TR\JOBS\1817A07\Sheets\Plan\1817SS01.dgn

PLOT DATE : 7/19/2013 8:54:29 AM

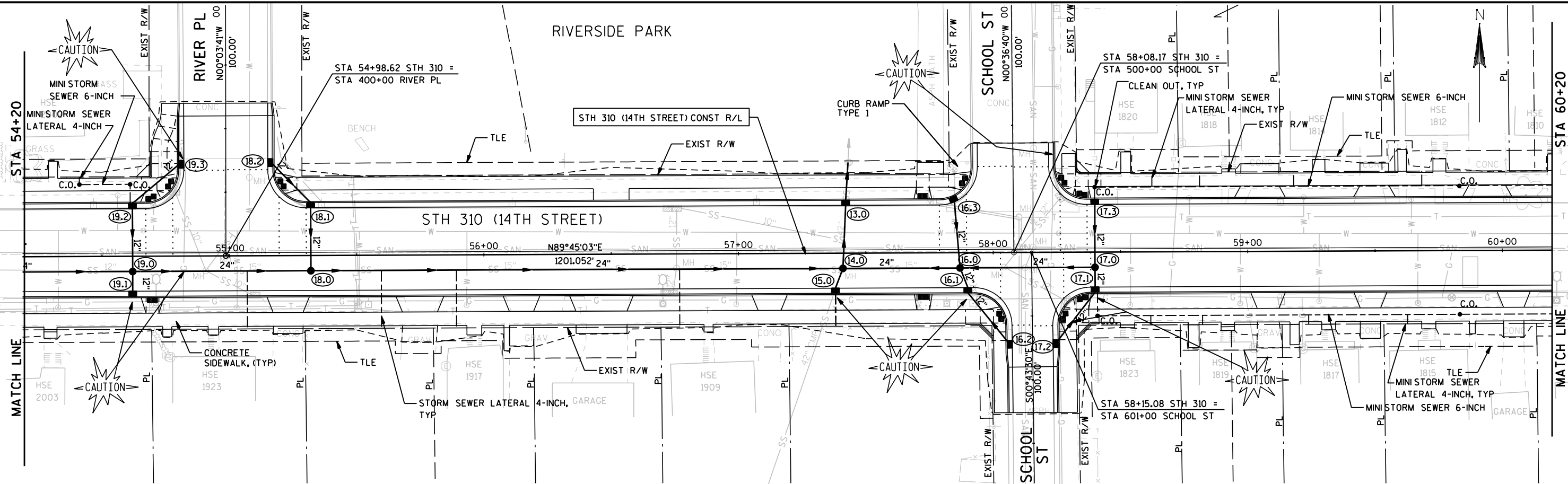
PLOT BY : OMNI - perryd

PLOT NAME :

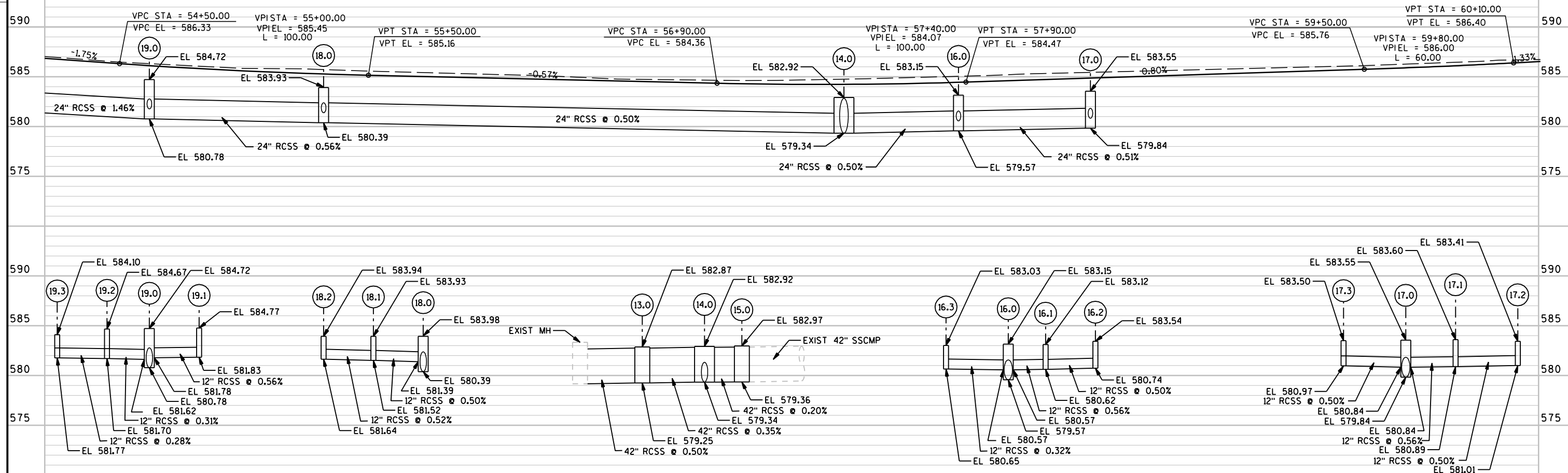
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WISDOT/CADDs SHEET 41

2



2



PROJECT NO: 4337-11-71

HWY: STH 310

COUNTY: MANITOWOC

STORM SEWER AND LATERALS

SHEET

26

E

FILE NAME : F:\TR\JOBS\E1817A07\Sheets\Plan\E1817SS02.dgn

PLOT DATE : 7/24/2013 10:22:43 AM

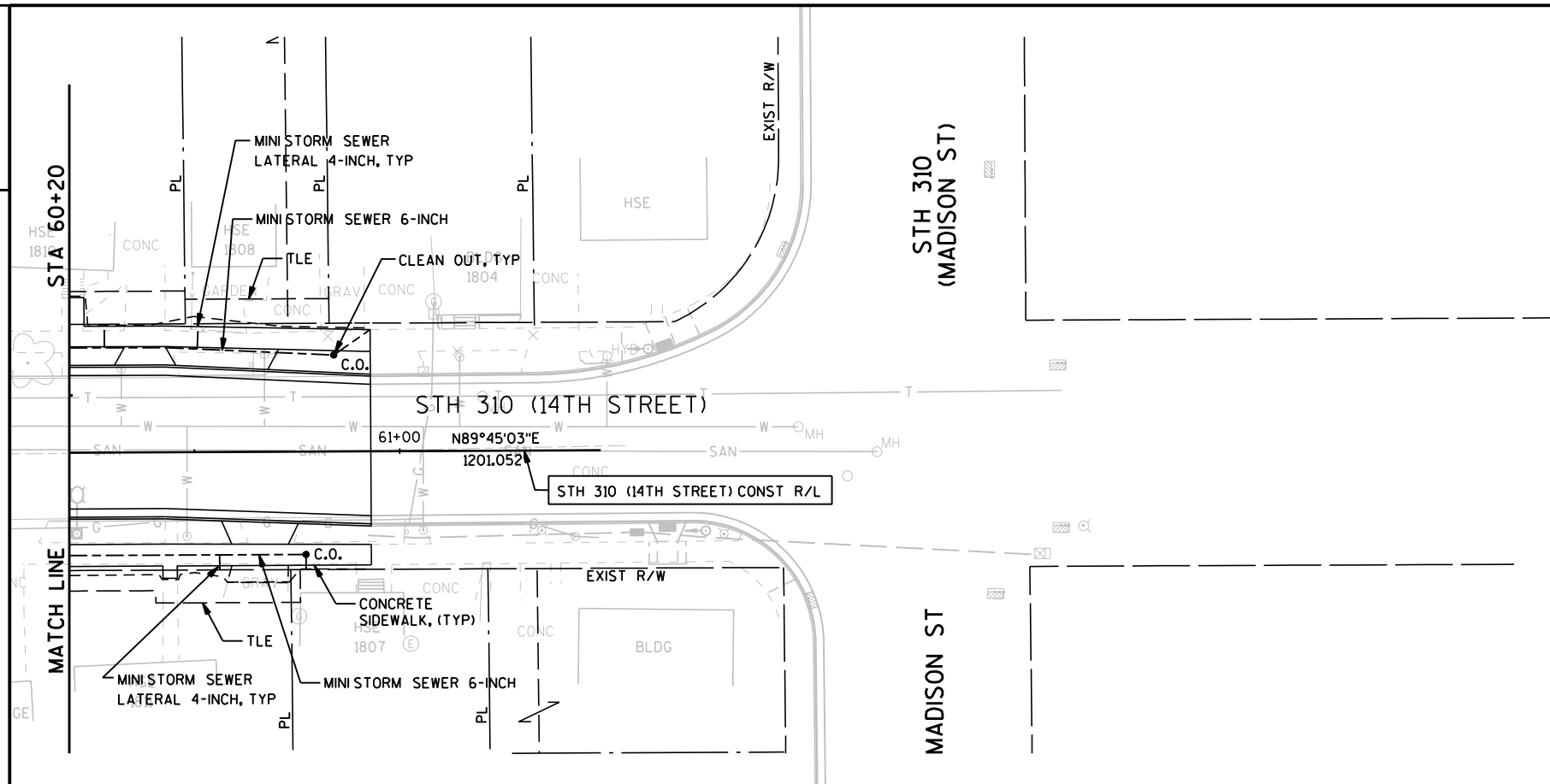
PLOT BY : OMNII - perryd

PLOT NAME :

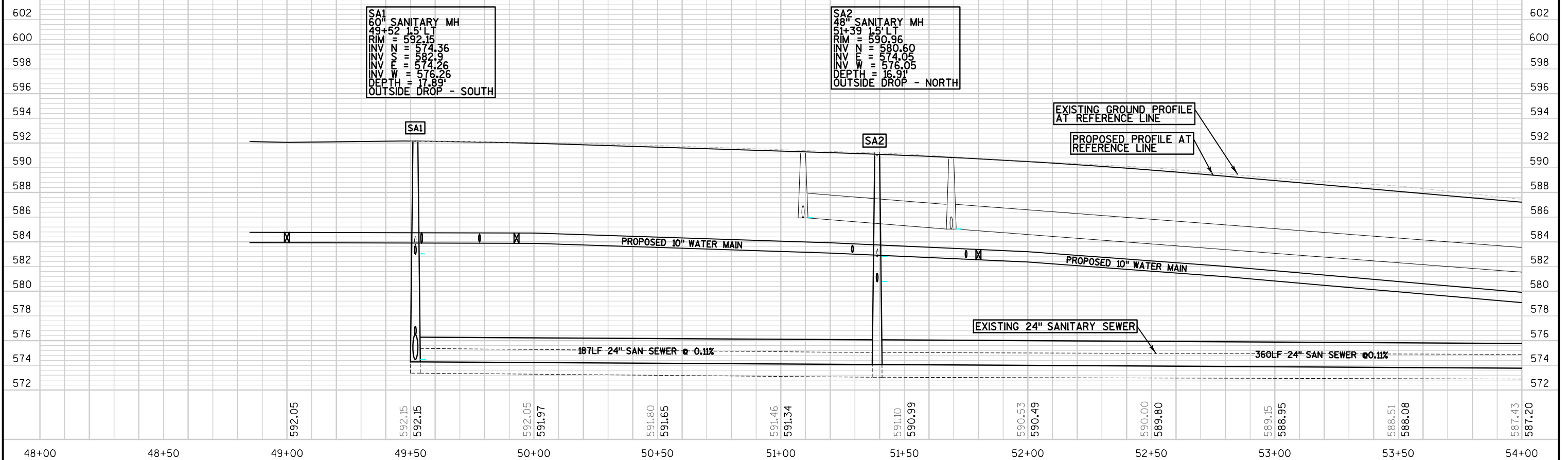
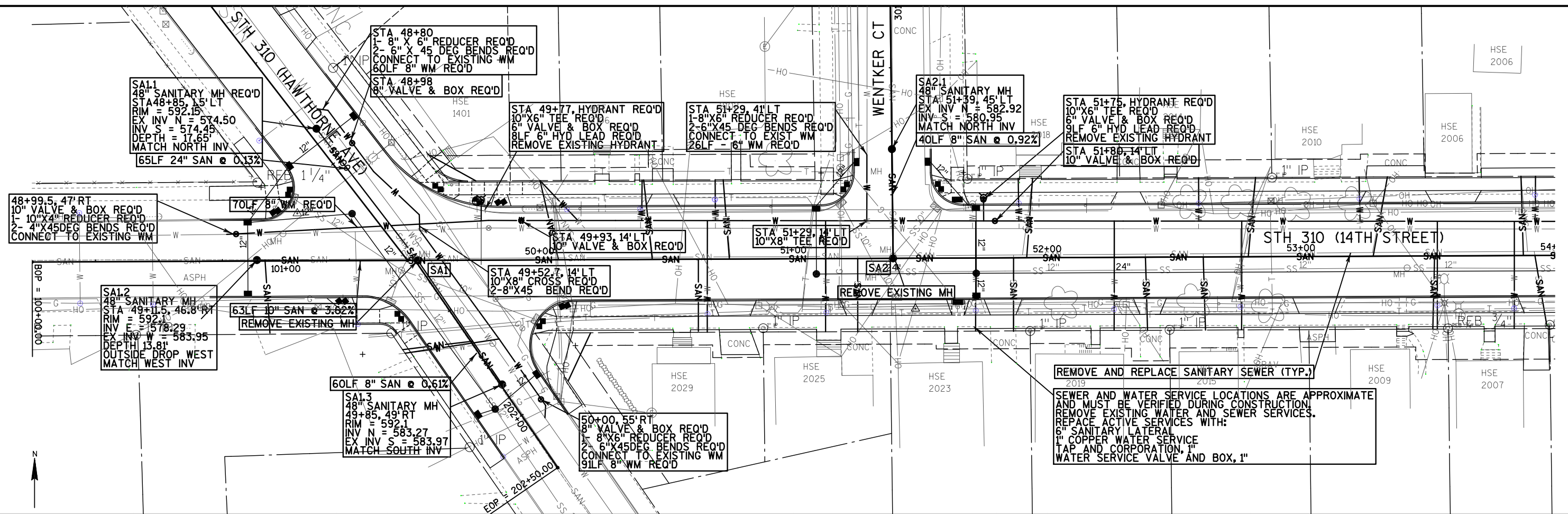
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WISDOT/CADDs SHEET 41

2



2 |



PROJECT NO: 4337-11-73

HWY: STH 310

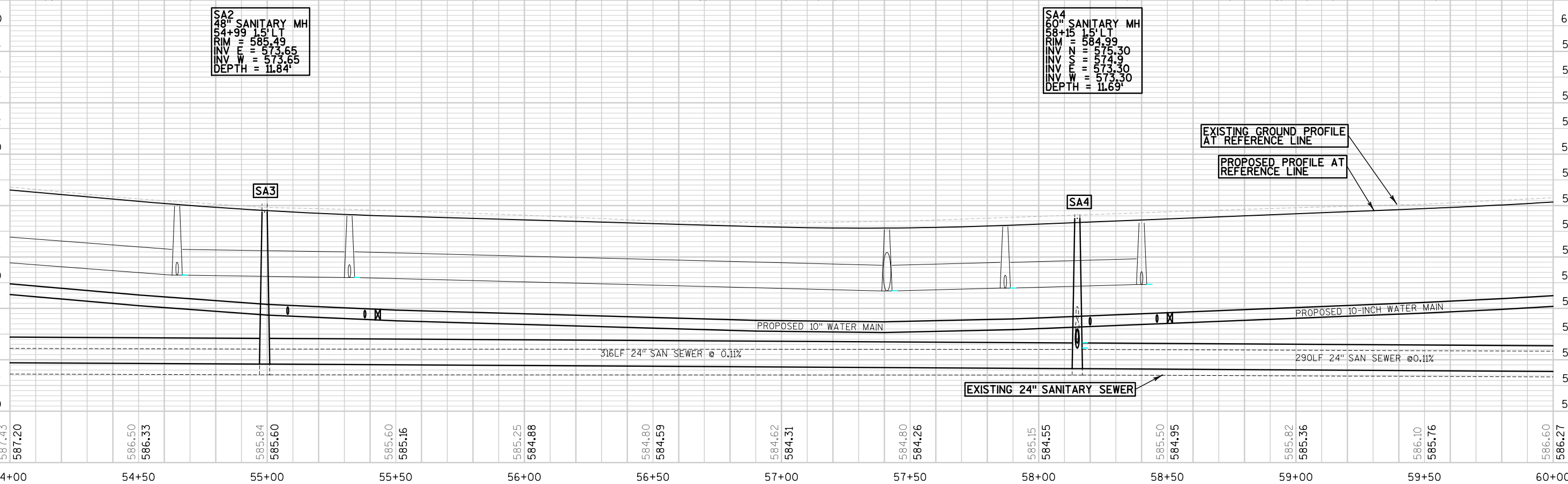
COUNTY: MANITOWOC

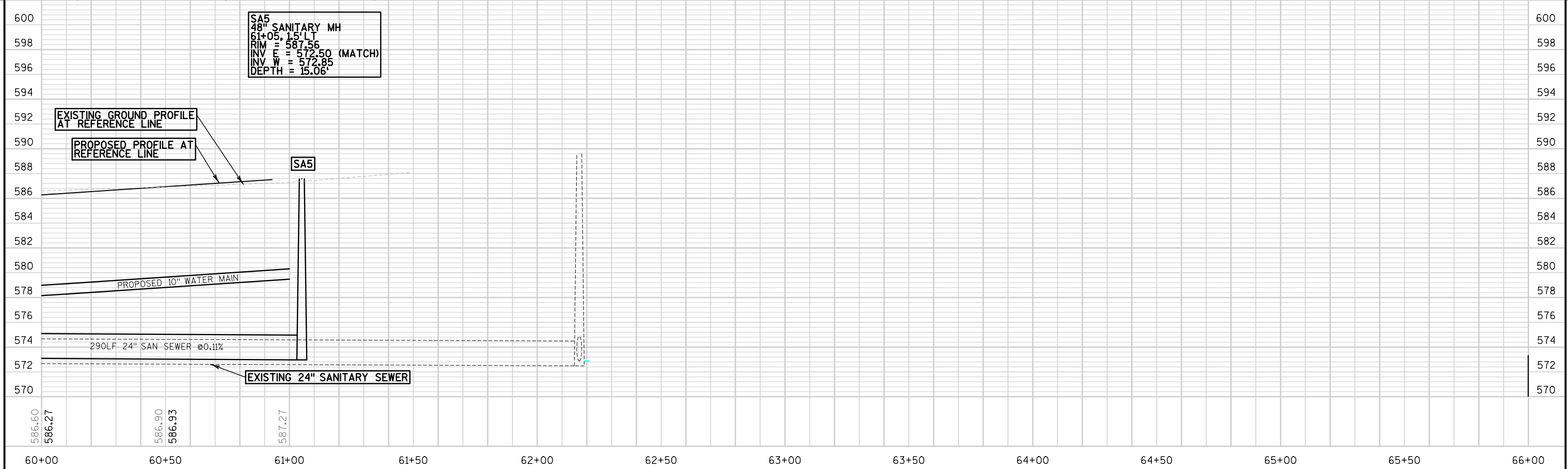
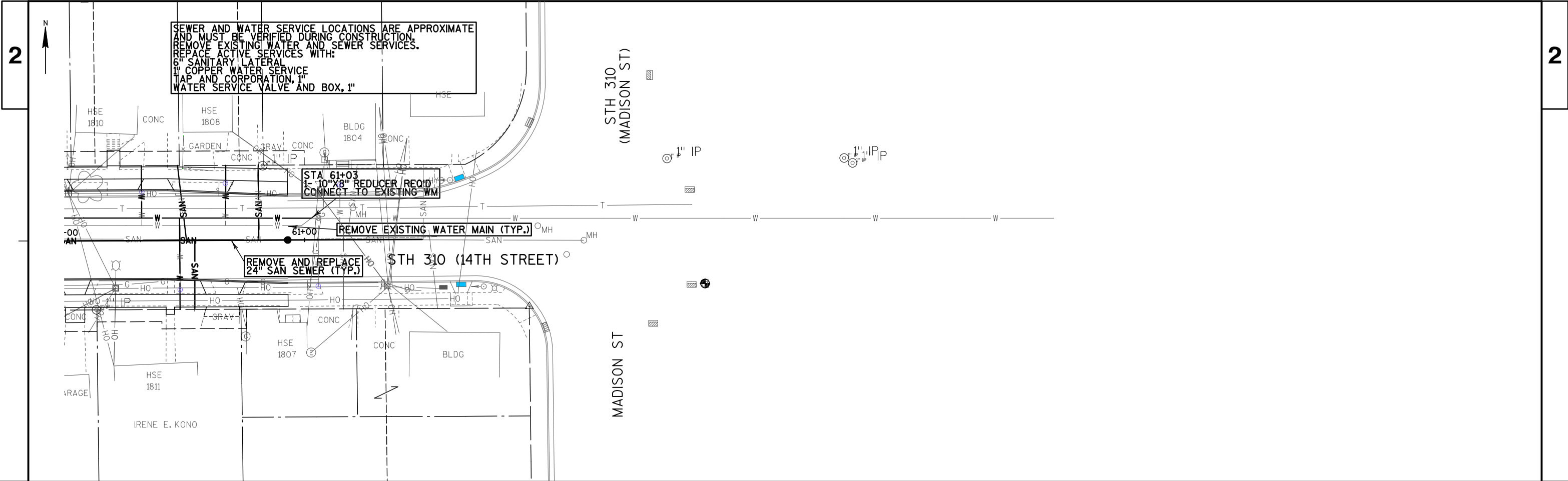
SANITARY SEWER AND WATER MAIN: 14TH STREET

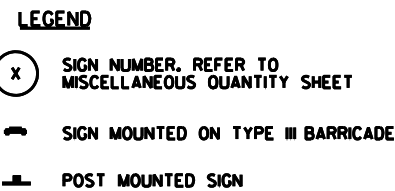
SHEET

28

E



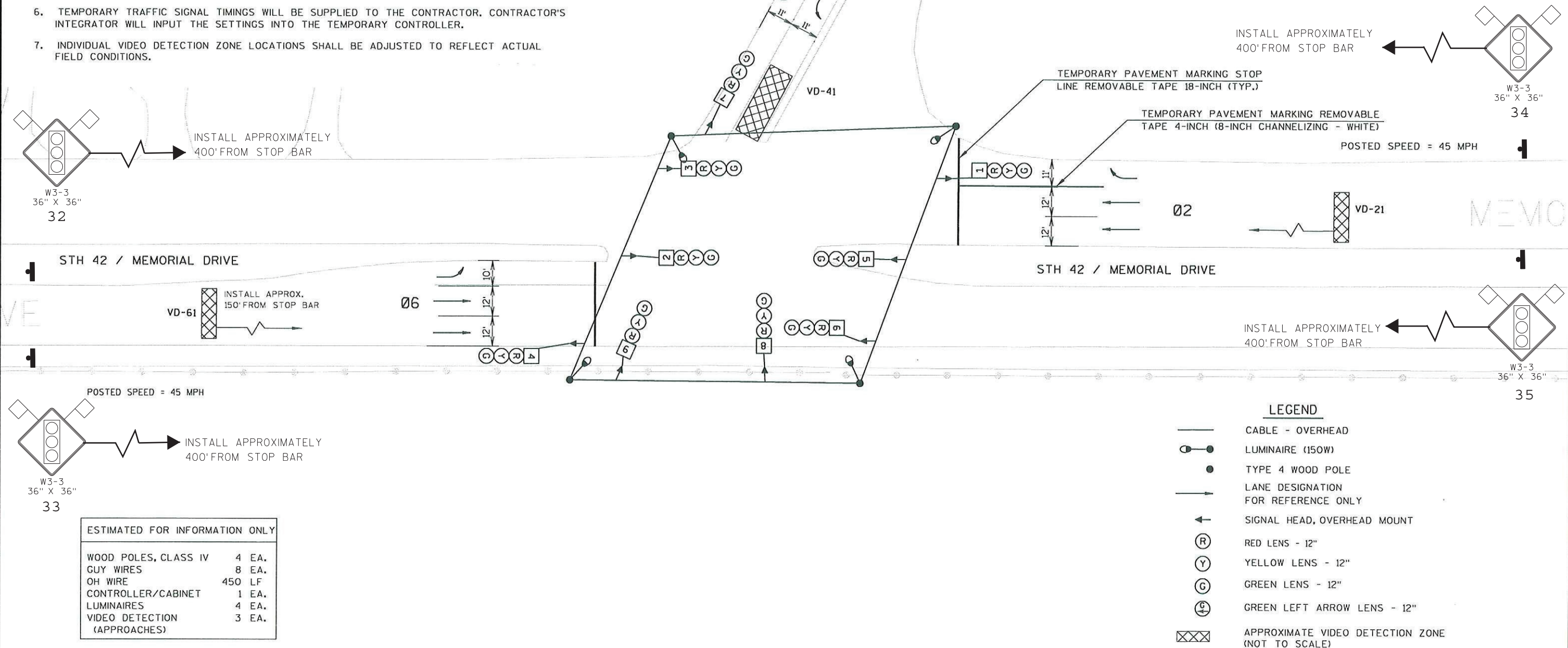




PLAN SHEET PRODUCED
BY WISDOT-NE REGION

GENERAL NOTES

1. FINAL LOCATION OF SIGNAL POLES, SPAN WIRE CONTROLLER, AND HEADS SHALL BE AS APPROVED BY THE ENGINEER.
2. GUYING OF POLES SHALL BE AS APPROVED BY THE ENGINEER.
3. CONTRACTOR TO PROVIDE TEMPORARY VIDEO VEHICLE DETECTION SYSTEM WHICH SHALL DETECT TRAFFIC AT THE TEMPORARY STOP BAR AND OTHER LOCATIONS AS INDICATED ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THE VIDEO DETECTION SYSTEM SHALL BE MOUNTED NO LESS THAN 30 FEET HIGH ON A POLE. CONTRACTOR TO PROVIDE ADDITIONAL POLES IF NEEDED TO ENSURE PROPER LOCATION OF VIDEO DETECTION.
4. CONTRACTOR SHALL BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES SHOWN WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED AS SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES. SOME TRAFFIC SIGNAL EQUIPMENT MAY HAVE TO BE MOVED SLIGHTLY TO AVOID UTILITY CONFLICTS.
5. ALL TEMPORARY TRAFFIC SIGNAL LAYOUTS AND MATERIALS SHALL BE IN ACCORDANCE WITH STANDARD DESIGN DETAILS PER "SPAN WIRE TEMPORARY TRAFFIC SIGNAL" - DETAIL SHEETS 9G1-1A TO 9G1-1g.
6. TEMPORARY TRAFFIC SIGNAL TIMINGS WILL BE SUPPLIED TO THE CONTRACTOR. CONTRACTOR'S INTEGRATOR WILL INPUT THE SETTINGS INTO THE TEMPORARY CONTROLLER.
7. INDIVIDUAL VIDEO DETECTION ZONE LOCATIONS SHALL BE ADJUSTED TO REFLECT ACTUAL FIELD CONDITIONS.

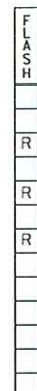


ESTIMATED FOR INFORMATION ONLY

WOOD POLES, CLASS IV	4 EA.
GUY WIRES	8 EA.
OH WIRE	450 LF
CONTROLLER/CABINET	1 EA.
LUMINAIRES	4 EA.
VIDEO DETECTION (APPROACHES)	3 EA.

SHEET 1 OF 2

VIDEO DETECTOR LOGIC

RING 1RING 2

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

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

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
Ø1		
Ø2	6	4
Ø3		
Ø4	NONE	2, 6
Ø5		
Ø6	2	4
Ø7		
Ø8		

[illegible]

CONTROLLER LOGIC

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

OVERLAPS

O.L. "A" =	
O.L. "B" =	NONE
O.L. "C" =	
O.L. "D" =	



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

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	

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

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL.
(SEE CHART 1AT LEFT.)

TEMPORARY TRAFFIC SIGNAL
STH 42 AND COLUMBUS STREET
CITY OF TWO RIVERS
MANITOWOC COUNTY

SIGNAL	NO.	LOCAL
--------	-----	-------

DATE 12/12/06

SHEET NO. 2 OF 2

PROJECT NO: 4337 - 11 - 71

HWY: STH 310

COUNTY: MANITOWOC

SEQUENCE OF OPERATIONS

SHEET

33

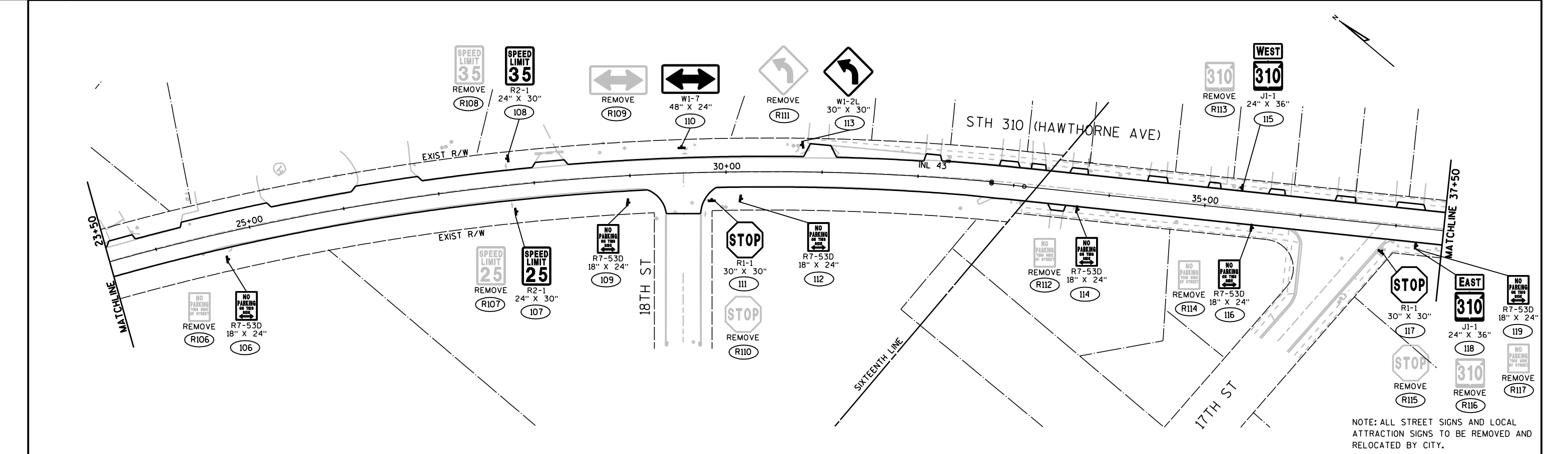
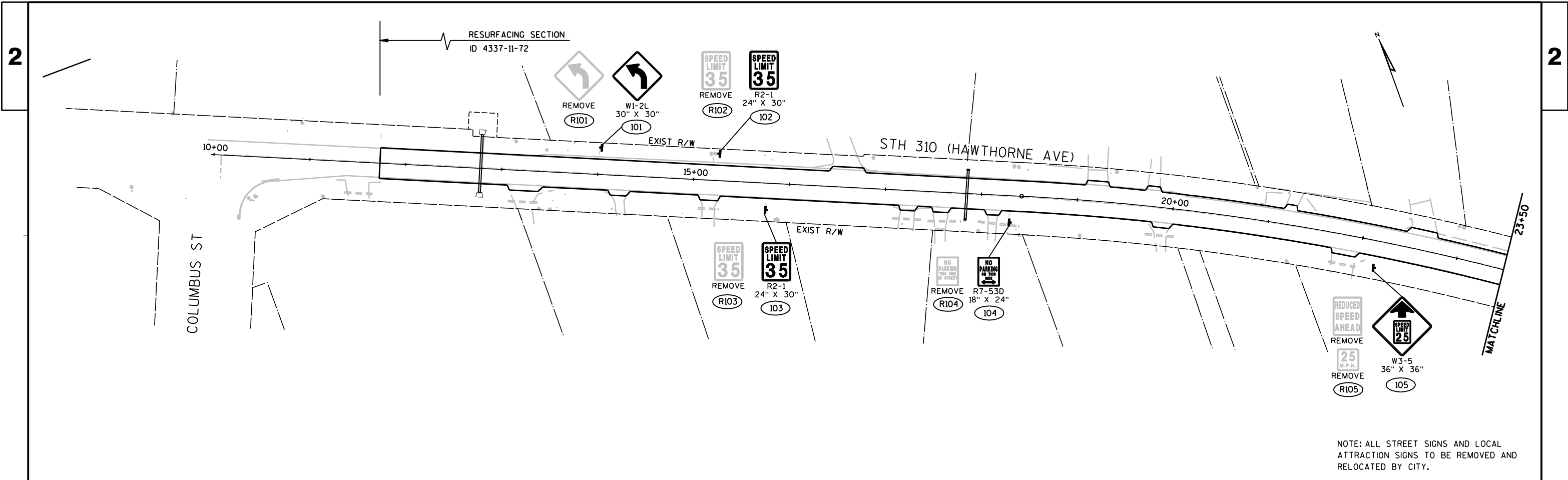
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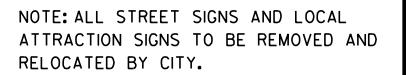
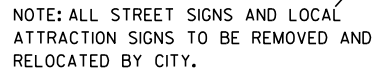
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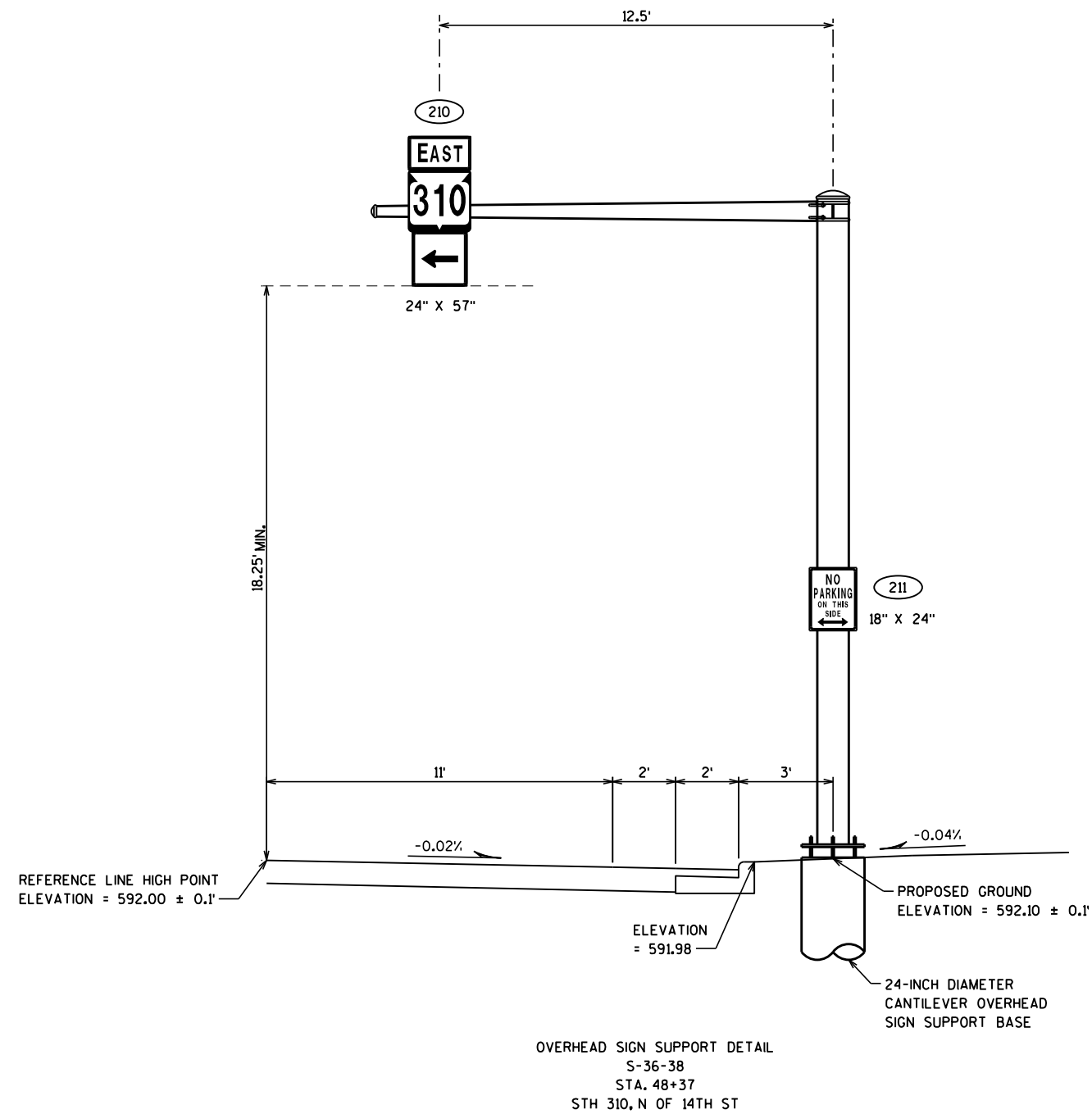
PLOT DATE : 2/1/2007

PLOT BY : ss...plotuser...ss PLOT NAME :

PLOT SCALE : \$\$.....plot*scale.....\$\$ WISDOT/CADDs SHEET 42





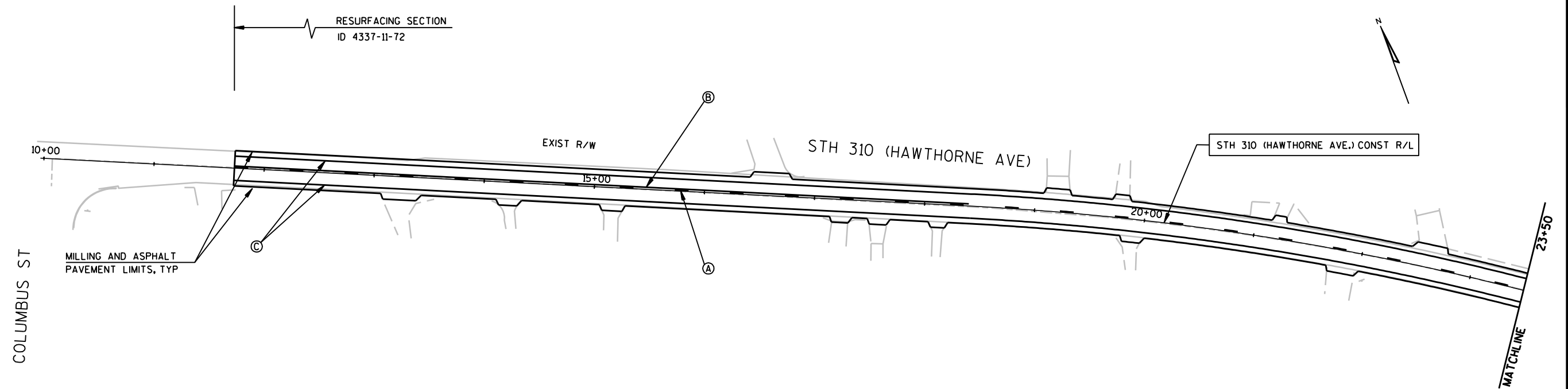


GENERAL NOTES

- 1) DRAWINGS NOT TO SCALE
- 2) DESIGN NEW OVERHEAD SIGN SUPPORTS AND ANCHOR BOLT ASSEMBLY FOR OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF, AND SUPPLEMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION."
- 3) PROVIDE AN IDENTIFICATION PLAQUE FOR ALL OVERHEAD SIGN SUPPORTS. TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT".
- 4) SIZE THE ANCHOR BOLT/TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE PIER SIGN SUPPORT SHOWN IN THE STRUCTURE PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION.
- 5) PROVIDE DESIGN CALCULATIONS.
- 6) SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS.

2

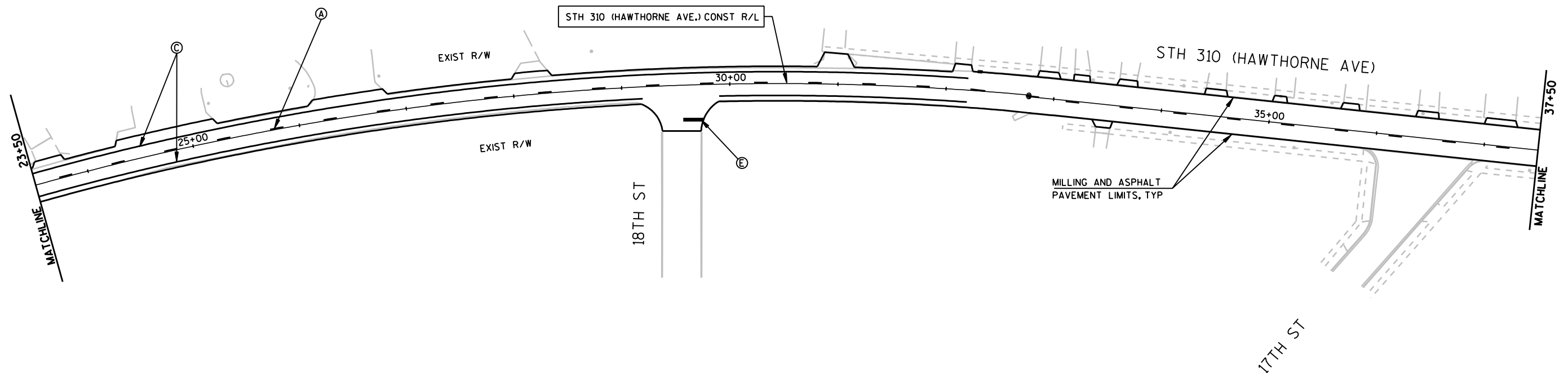
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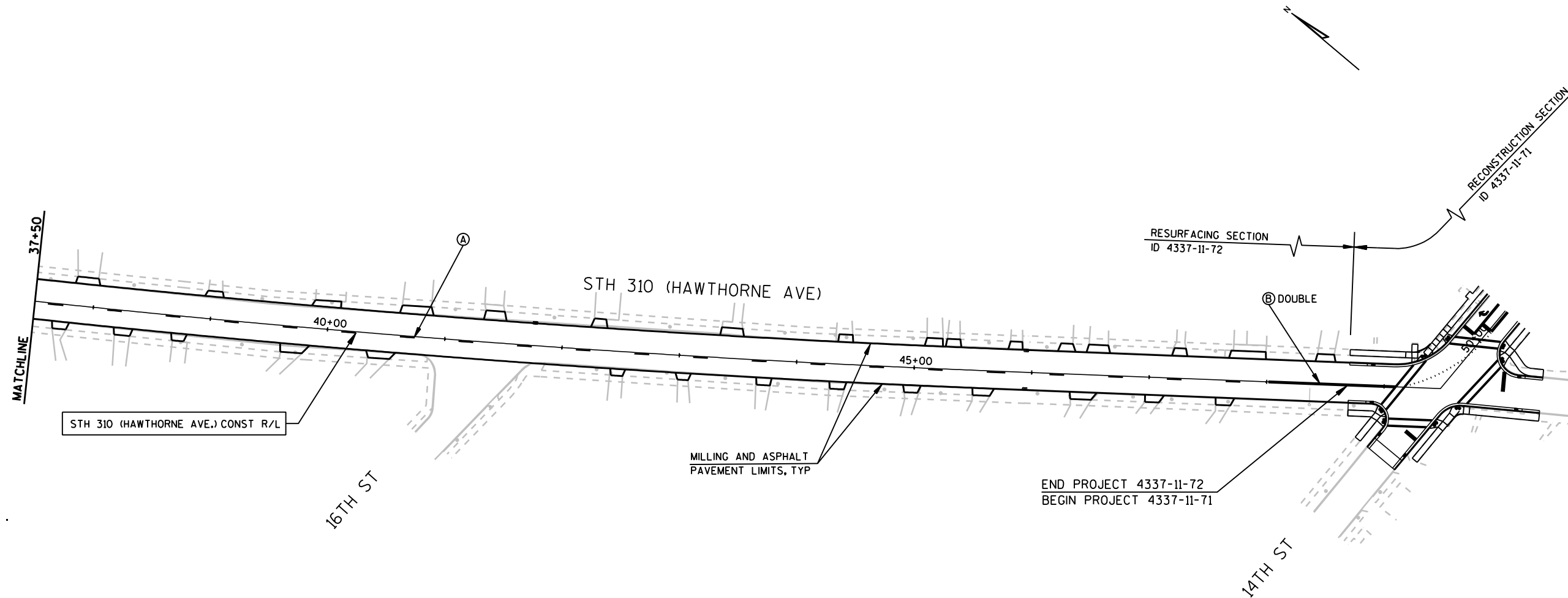


LEGEND

PAVEMENT MARKING EPOXY

- (A) CENTERLINE 4-INCH (DASHED YELLOW)
- (B) CENTERLINE 4-INCH (SOLID YELLOW)
- (C) EDGELINE 4-INCH (WHITE)
- (D) CHANNELIZING 8-INCH (WHITE)
- (E) STOP LINE 18-INCH (WHITE)
- (F) CROSSWALK 6-INCH (WHITE)
- (H) ARROWS TYPE 2 (WHITE)
- (I) WORDS "ONLY" (WHITE)

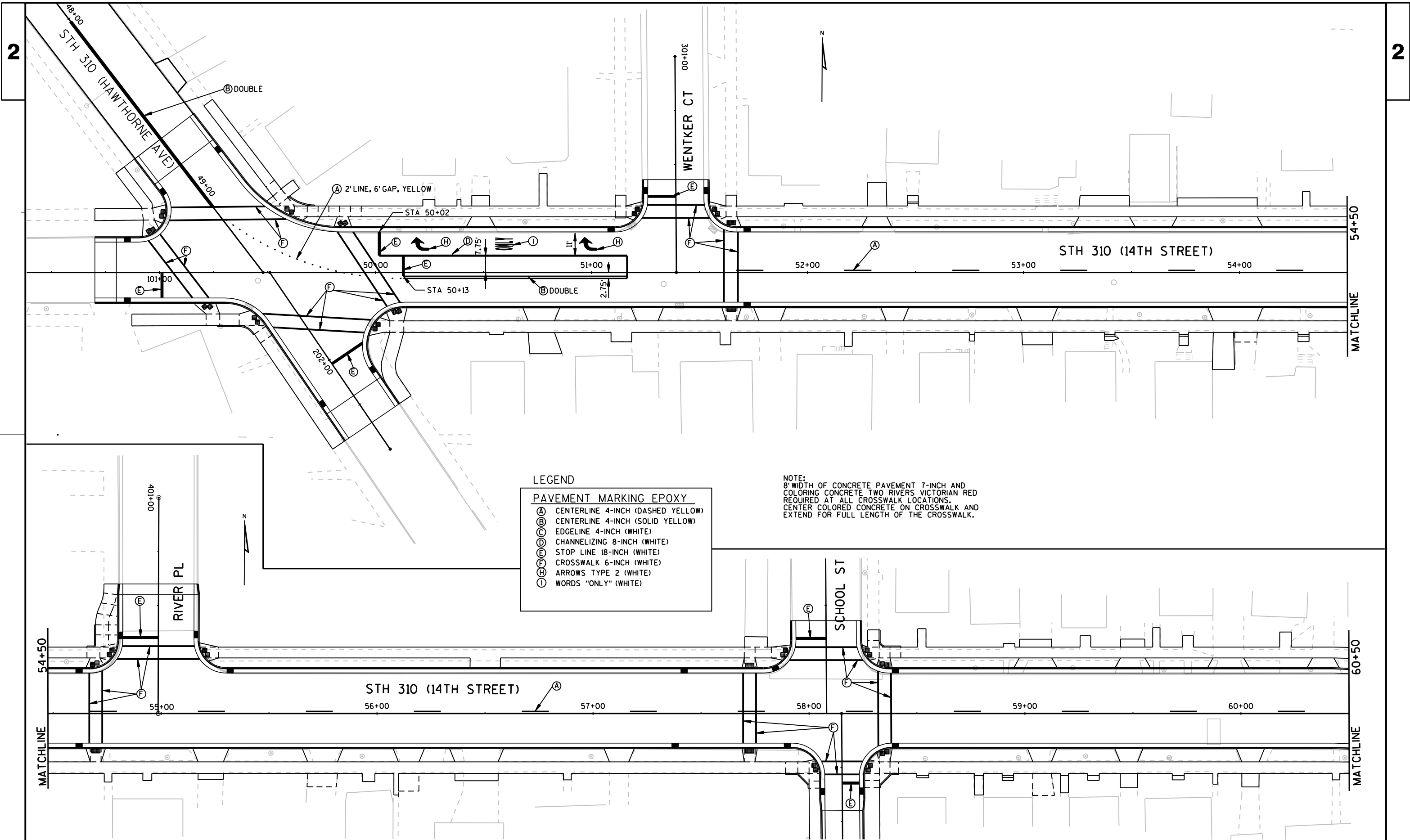


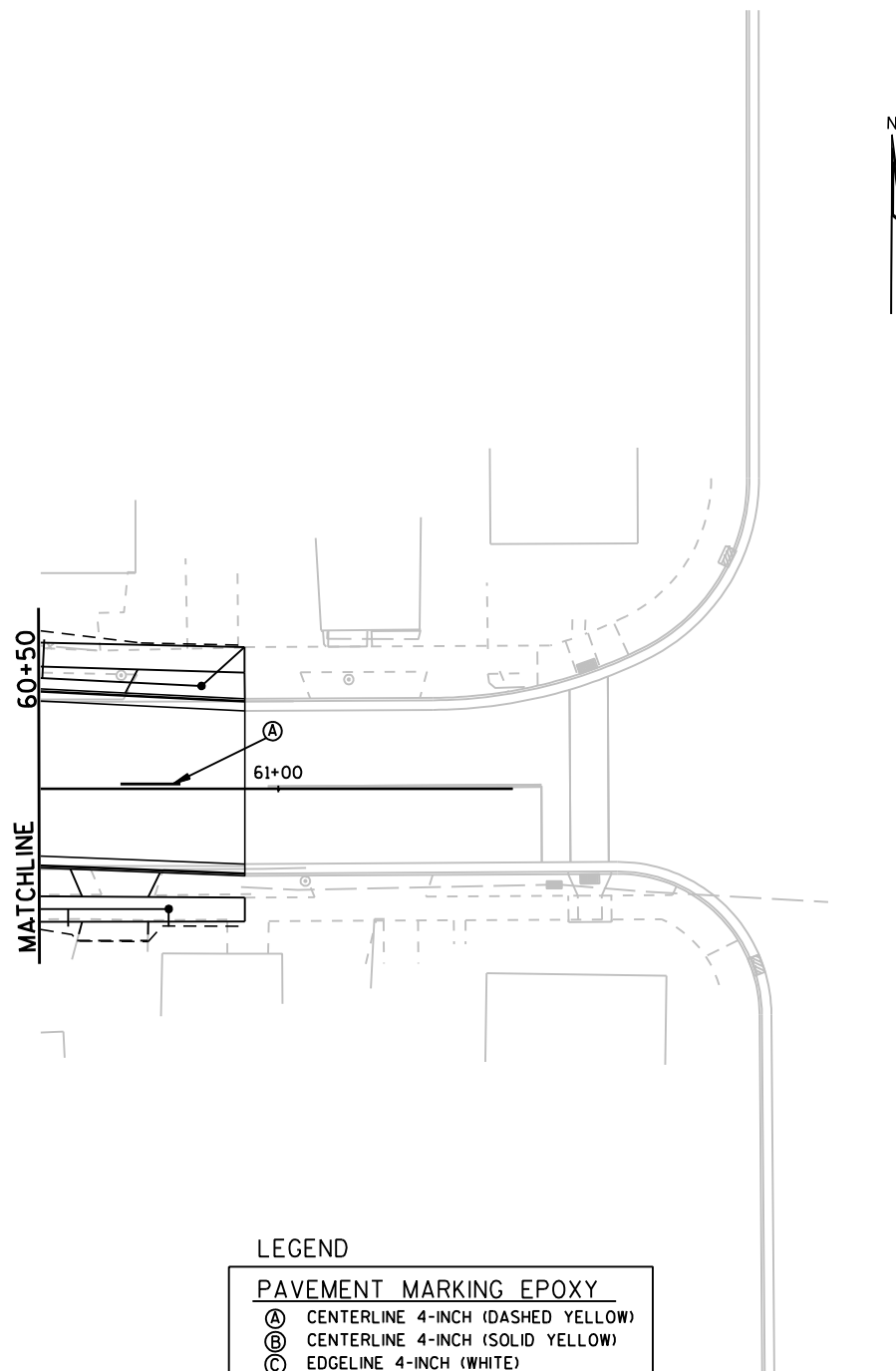


LEGEND

PAVEMENT MARKING EPOXY

- (A) CENTERLINE 4-INCH (DASHED YELLOW)
- (B) CENTERLINE 4-INCH (SOLID YELLOW)
- (C) EDGELINE 4-INCH (WHITE)
- (D) CHANNELIZING 8-INCH (WHITE)
- (E) STOP LINE 18-INCH (WHITE)
- (F) CROSSWALK 6-INCH (WHITE)
- (H) ARROWS TYPE 2 (WHITE)
- (I) WORDS "ONLY" (WHITE)





LEGEND

PAVEMENT MARKING EPOXY

- (A) CENTERLINE 4-INCH (DASHED YELLOW)
- (B) CENTERLINE 4-INCH (SOLID YELLOW)
- (C) EDGELINE 4-INCH (WHITE)
- (D) CHANNELIZING 8-INCH (WHITE)
- (E) STOP LINE 18-INCH (WHITE)
- (F) CROSSWALK 6-INCH (WHITE)
- (H) ARROWS TYPE 2 (WHITE)
- (I) WORDS "ONLY" (WHITE)

3

DATE 16OCT13		E S T I M A T E O F Q U A N T I T I E S							
LINE	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4337-11-71 QUANTITY	4337-11-72 QUANTITY	4337-11-73 QUANTITY		
0010	201.0105	CLEARING	STA	4.000	4.000				
0020	201.0205	GRUBBING	STA	4.000	4.000				
0030	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	2.000		2.000			
0040	204.0110	REMOVING ASPHALTIC SURFACE	SY	260.000		260.000			
0050	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	145.000		145.000			
0060	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	13,800.000		13,800.000			
0070	204.0150	REMOVING CURB & GUTTER	LF	2,620.000	2,570.000	50.000			
0080	204.0155	REMOVING CONCRETE SIDEWALK	SY	2,610.000	1,990.000	620.000			
0090	204.0170	REMOVING FENCE	LF	50.000	50.000				
0100	204.0210	REMOVING MANHOLES	EACH	9.000	6.000	3.000			
0110	204.0220	REMOVING INLETS	EACH	18.000	14.000	4.000			
0120	204.0245	REMOVING STORM SEWER (SIZE) 01. 10-INCH	LF	339.000	285.000	54.000			
0130	204.0245	REMOVING STORM SEWER (SIZE) 02. 12-INCH	LF	607.000	595.000	12.000			
0140	204.0245	REMOVING STORM SEWER (SIZE) 03. 15-INCH	LF	320.000	320.000				
0150	204.0245	REMOVING STORM SEWER (SIZE) 04. 18-INCH	LF	18.000		18.000			
0160	204.0245	REMOVING STORM SEWER (SIZE) 05. 21-INCH	LF	6.000		6.000			
0170	204.0245	REMOVING STORM SEWER (SIZE) 06. 36-INCH	LF	45.000	45.000				
0180	204.9060.S	REMOVING (ITEM DESCRIPTION) 01. REMOVING PULL BOX	EACH	1.000	1.000				
0190	205.0100	EXCAVATION COMMON	CY	3,440.000	3,440.000				
0200	211.0100	PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 01. 4337-11-72	LS	1.000		1.000			
0210	213.0100	FINISHING ROADWAY (PROJECT) 01. 4337-11-71	EACH	1.000	1.000				
0220	213.0100	FINISHING ROADWAY (PROJECT) 02. 4337-11-72	EACH	1.000		1.000			
0230	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	350.000		350.000			
0240	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	3,400.000	3,030.000	370.000			
0250	311.0110	BREAKER RUN	TON	700.000	700.000				
0260	315.0200	ASPHALTIC BASE WIDENING	TON	60.000		60.000			
0270	320.0125	CONCRETE BASE 6-INCH	SY	160.000	160.000				
0280	405.0100	COLORING CONCRETE RED 01. TWO RIVERS VICTORIAN	CY	72.000	72.000				
0290	415.0070	CONCRETE PAVEMENT 7-INCH	SY	5,025.000	5,025.000				
0300	415.0210	CONCRETE PAVEMENT GAPS	EACH	5.000	5.000				
0310	416.0160	CONCRETE DRIVEWAY 6-INCH	SY	880.000	465.000	415.000			
0320	416.0260	CONCRETE DRIVEWAY HES 6-INCH	SY	80.000	80.000				
0330	416.0620	DRILLED DOWEL BARS	EACH	110.000	110.000				
0340	440.4410.S	INCENTIVE IRI RIDE	DOL	3,750.000	950.000	2,800.000			
0350	455.0105	ASPHALTIC MATERIAL PG58-28	TON	104.000	4.000	100.000			
0360	455.0605	TACK COAT	GAL	390.000	20.000	370.000			
0370	460.1101	HMA PAVEMENT TYPE E-1	TON	1,830.000	45.000	1,785.000			
0380	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	2,300.000	1,170.000	1,130.000			
0390	460.4110.S	REHEATING HMA PAVEMENT LONGITUDINAL JOINTS	LF	3,697.000		3,697.000			
0400	465.0110	ASPHALTIC SURFACE PATCHING	TON	10.000		10.000			
0410	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	37.000	2.000	35.000			
0420	520.8000	CONCRETE COLLARS FOR PIPE	EACH	14.000		14.000			
0430	522.0118	CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	52.000		52.000			
0440	522.0124	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	60.000		60.000			
0450	522.1018	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	EACH	2.000		2.000			

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DATE 16OCT13		E S T I M A T E O F Q U A N T I T I E S					
LINE					4337-11-71	4337-11-72	4337-11-73
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY	QUANTITY
0460	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	2.000		2.000	
0470	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	2,450.000	2,450.000		
0480	601.0600	CONCRETE CURB PEDESTRIAN	LF	95.000	95.000		
0490	602.0405	CONCRETE SIDEWALK 4-INCH	SF	11,910.000	11,910.000		
0500	602.0415	CONCRETE SIDEWALK 6-INCH	SF	1,050.000	1,050.000		
0510	602.0515	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	SF	192.000	192.000		
0520	602.1500	CONCRETE STEPS	SF	106.000	106.000		
0530	606.0200	RIPRAP MEDIUM	CY	7.000		7.000	
0540	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	673.000	595.000	78.000	
0550	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	18.000		18.000	
0560	608.0321	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 21-INCH	LF	6.000		6.000	
0570	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	731.000	731.000		
0580	608.0442	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 42-INCH	LF	52.000	52.000		
0590	611.0530	MANHOLE COVERS TYPE J	EACH	9.000	9.000		
0600	611.0639	INLET COVERS TYPE H-S	EACH	24.000	24.000		
0610	611.2003	MANHOLES 3-FT DIAMETER	EACH	3.000	3.000		
0620	611.2005	MANHOLES 5-FT DIAMETER	EACH	5.000	5.000		
0630	611.2006	MANHOLES 6-FT DIAMETER	EACH	2.000	2.000		
0640	611.2008	MANHOLES 8-FT DIAMETER	EACH	1.000	1.000		
0650	611.3230	INLETS 2X3-FT	EACH	22.000	22.000		
0660	611.8115	ADJUSTING INLET COVERS	EACH	6.000		6.000	
0670	619.1000	MOBILIZATION	EACH	1.000	0.600	0.200	0.200
0680	625.0100	TOPSOIL	SY	2,100.000	1,900.000	200.000	
0690	627.0200	MULCHING	SY	200.000		200.000	
0700	628.1504	SILT FENCE	LF	300.000	100.000	200.000	
0710	628.1520	SILT FENCE MAINTENANCE	LF	300.000	100.000	200.000	
0720	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	8.000	4.000	4.000	
0730	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	8.000	4.000	4.000	
0740	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	100.000	50.000	50.000	
0750	628.7005	INLET PROTECTION TYPE A	EACH	37.000	37.000		
0760	628.7015	INLET PROTECTION TYPE C	EACH	44.000	37.000	7.000	
0770	628.7555	CULVERT PIPE CHECKS	EACH	10.000		10.000	
0780	628.7560	TRACKING PADS	EACH	2.000	2.000		
0790	629.0210	FERTILIZER TYPE B	CWT	1.500	1.000	0.500	
0800	630.0140	SEEDING MIXTURE NO. 40	LB	20.000		20.000	
0810	631.0300	SOD WATER	MGAL	12.000	12.000		
0820	631.1000	SOD LAWN	SY	1,900.000	1,900.000		
0830	633.5200	MARKERS CULVERT END	EACH	4.000		4.000	
0840	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	12.000	7.000	5.000	
0850	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	35.000	14.000	21.000	
0860	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	3.000	2.000	1.000	
0870	637.2210	SIGNS TYPE II REFLECTIVE H	SF	229.980	107.320	122.660	
0880	637.2230	SIGNS TYPE II REFLECTIVE F	SF	66.750	37.250	29.500	
0890	638.2102	MOVING SIGNS TYPE II	EACH	2.000	2.000		
0900	638.2602	REMOVING SIGNS TYPE II	EACH	61.000	29.000	32.000	
0910	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	45.000	20.000	25.000	
0920	638.4000	MOVING SMALL SIGN SUPPORTS	EACH	1.000	1.000		

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DATE 16OCT13		E S T I M A T E O F Q U A N T I T I E S					
LINE					4337-11-71	4337-11-72	4337-11-73
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY	QUANTITY
0930	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 01. S-36-38	LS	1.000	1.000		
0940	642.5201	FIELD OFFICE TYPE C	EACH	1.000	0.600	0.200	0.200
0950	643.0100	TRAFFIC CONTROL (PROJECT) 01. 4337-11-71	EACH	1.000	1.000		
0960	643.0100	TRAFFIC CONTROL (PROJECT) 01. 4337-11-72	EACH	1.000		1.000	
0970	643.0300	TRAFFIC CONTROL DRUMS	DAY	8,500.000	4,250.000	4,250.000	
0980	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	12,580.000	6,800.000	5,780.000	
0990	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	16,150.000	8,840.000	7,310.000	
1000	643.0900	TRAFFIC CONTROL SIGNS	DAY	12,070.000	7,310.000	4,760.000	
1010	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	1.000	1.000		
1020	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	14.000	7.000	7.000	
1030	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 4337-11-71	EACH	1.000	1.000		
1040	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 02. 4337-11-72	EACH	1.000		1.000	
1050	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	15,300.000	10,540.000	4,760.000	
1060	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	20.000		20.000	
1070	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	7,105.000	585.000	6,520.000	
1080	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	115.000	115.000		
1090	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	2.000	2.000		
1100	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	1.000	1.000		
1110	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	125.000	105.000	20.000	
1120	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	835.000	835.000		
1130	648.0100	LOCATING NO-PASSING ZONES	MI	0.700		0.700	
1140	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	60.000	60.000		
1150	649.1200	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	LF	80.000	80.000		
1160	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	46.000	38.000	8.000	
1170	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	1,594.000	1,594.000		
1180	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	1,594.000	1,594.000		
1190	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	3,697.000		3,697.000	
1200	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 4337-11-71	LS	1.000	1.000		
1210	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 02. 4337-11-72	LS	1.000		1.000	
1220	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	1,594.000	1,594.000		
1230	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	98.000	98.000		
1240	652.0800	CONDUIT LOOP DETECTOR	LF	46.000	46.000		
1250	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	283.000	283.000		
1260	655.0800	LOOP DETECTOR WIRE	LF	184.000	184.000		
1270	661.0200	TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 01. MEMORIAL DR/COLUMBUS ST INTERSECTION	LS	1.000	1.000		
1280	690.0150	SAWING ASPHALT	LF	1,240.000	160.000	1,080.000	
1290	690.0250	SAWING CONCRETE	LF	1,750.000	740.000	1,010.000	
1300	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	1,585.000	1,585.000		
1310	999.1500.S	CRACK AND DAMAGE SURVEY	LS	1.000	1.000		
1320	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	1,200.000	1,200.000		
1330	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	600.000	600.000		
1340	SPV.0060	SPECIAL 01. INLETS SPECIAL 2 X 3-FT DIAMETER	EACH	4.000		4.000	

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DATE 16OCT13		E S T I M A T E O F Q U A N T I T I E S					
LINE	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4337-11-71	4337-11-72	4337-11-73
NUMBER					QUANTITY	QUANTITY	QUANTITY
1350	SPV.0060	SPECIAL 02. MANHOLES SPECIAL 3-FT DIAMETER	EACH	2.000		2.000	
1360	SPV.0060	SPECIAL 03. MANHOLES SPECIAL 6-FT DIAMETER	EACH	1.000		1.000	
1370	SPV.0060	SPECIAL 04. ADJUSTING MANHOLE COVERS SPECIAL	EACH	9.000		9.000	
1380	SPV.0060	SPECIAL 05. REMOVING VALVE AND PIT	EACH	4.000			4.000
1390	SPV.0060	SPECIAL 06. REMOVING SANITARY SEWER MANHOLES	EACH	6.000			6.000
1400	SPV.0060	SPECIAL 07. REMOVING HYDRANT	EACH	4.000			4.000
1410	SPV.0060	SPECIAL 08. VALVE AND BOX 6-INCH	EACH	4.000			4.000
1420	SPV.0060	SPECIAL 09. VALVE AND BOX 8-INCH	EACH	3.000			3.000
1430	SPV.0060	SPECIAL 10. VALVE AND BOX 10-INCH	EACH	5.000			5.000
1440	SPV.0060	SPECIAL 11. WATER SERVICES 1-INCH TAP AND CORPORATION	EACH	31.000			31.000
1450	SPV.0060	SPECIAL 12. WATER SERVICES 1-INCH VALVE AND BOX	EACH	31.000			31.000
1460	SPV.0060	SPECIAL 13. SANITARY SEWER MANHOLE CASTINGS	EACH	11.000			11.000
1470	SPV.0060	SPECIAL 14. HYDRANTS	EACH	4.000			4.000
1480	SPV.0060	SPECIAL 15. CONSTRUCTION STAKING SANITARY SEWER	EACH	11.000			11.000
1490	SPV.0060	SPECIAL 16. EXISTING STORM SEWER LOCATE	EACH	2.000		2.000	
1500	SPV.0060	SPECIAL 17. PEDESTRIAN CROSSING (W11-2) SOLAR FLASHING LED	EACH	1.000	1.000		
1510	SPV.0060	SPECIAL 18. PULL BOX POLYMER CONCRETE TRAFFIC SIGNAL 11X18-INCH	EACH	1.000	1.000		
1520	SPV.0060	SPECIAL 19. MINI STORM SEWER CLEANOUTS	EACH	12.000	12.000		
1530	SPV.0075	SPECIAL 01. STREET SWEEPING	HRS	30.000	30.000		
1540	SPV.0085	SPECIAL 01. WATERMAIN FITTINGS	LB	1,678.000			1,678.000
1550	SPV.0090	SPECIAL 01. CONCRETE CURB AND GUTTER 24-INCH TYPE D TAPERED	LF	36.000	36.000		
1560	SPV.0090	SPECIAL 02. CONCRETE CURB AND GUTTER 30-INCH TYPE D SPECIAL	LF	80.000		80.000	
1570	SPV.0090	SPECIAL 03. CONCRETE CURB AND GUTTER 30-INCH TYPE D TAPERED	LF	80.000	80.000		
1580	SPV.0090	SPECIAL 04. REMOVING EXISTING WATER MAIN	LF	1,509.000			1,509.000
1590	SPV.0090	SPECIAL 05. HYDRANT LEAD 6-INCH	LF	32.000			32.000
1600	SPV.0090	SPECIAL 06. WATERMAIN 4-INCH	LF	28.000			28.000
1610	SPV.0090	SPECIAL 07. WATERMAIN 6-INCH	LF	14.000			14.000
1620	SPV.0090	SPECIAL 08. WATERMAIN 8-INCH	LF	256.000			256.000
1630	SPV.0090	SPECIAL 09. WATERMAIN 10-INCH	LF	1,193.000			1,193.000
1640	SPV.0090	SPECIAL 10. WATER SERVICES 1-INCH COPPER	LF	1,010.000			1,010.000
1650	SPV.0090	SPECIAL 11. SANITARY LATERAL, 6-INCH	LF	960.000			960.000
1660	SPV.0090	SPECIAL 12. SANITARY SEWER 8-INCH	LF	100.000			100.000
1670	SPV.0090	SPECIAL 13. SANITARY SEWER 10-INCH	LF	63.000			63.000
1680	SPV.0090	SPECIAL 14. SANITARY SEWER 12-INCH	LF	40.000			40.000
1690	SPV.0090	SPECIAL 15. SANITARY SEWER 18-INCH	LF	63.000			63.000
1700	SPV.0090	SPECIAL 16. SANITARY SEWER 24-INCH	LF	1,218.000			1,218.000
1710	SPV.0090	SPECIAL 17. CONCRETE CURB AND GUTTER 30-INCH HES TYPE A	LF	90.000	90.000		
1720	SPV.0090	SPECIAL 18. MINI STORM SEWER 6-INCH	LF	660.000	660.000		
1730	SPV.0090	SPECIAL 19. MINI STORM SEWER LATERAL 4-INCH	LF	106.000	106.000		
1740	SPV.0090	SPECIAL 20. STORM SEWER LATERAL 4-INCH	LF	395.000	395.000		

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DATE 16OCT13		E S T I M A T E O F Q U A N T I T I E S					
LINE					4337-11-71	4337-11-72	4337-11-73
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY	QUANTITY
1750	SPV.0105	SPECIAL 01. CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000	1.000		
1760	SPV.0105	SPECIAL 02. CONSTRUCTION STAKING WATER MAIN	LS	1.000			1.000
1770	SPV.0105	SPECIAL 03. SEISOMOGRAPH URBAN	LS	1.000	1.000		
1780	SPV.0120	SPECIAL 01. WATER FOR SEEDED AREAS	MGAL	5.000		5.000	
1790	SPV.0165	SPECIAL 01. CONCRETE SIDEWALK 4-INCH	SF	1,350.000		1,350.000	
1800	SPV.0165	SPECIAL 02. INSULATION 2-INCH	SF	352.000			352.000
1810	SPV.0180	SPECIAL 01. CONCRETE JOINT SEALING	SY	5,120.000	5,120.000		
1820	SPV.0180	SPECIAL 02. CONCRETE PAVEMENT HES 7-INCH	SY	90.000	90.000		
1830	SPV.0200	SPECIAL 01. SANITARY MANHOLE 48-INCH	VF	111.380			111.380
1840	SPV.0200	SPECIAL 02. SANITARY MANHOLE 60-INCH	VF	29.580			29.580

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CLEARING AND GRUBBING

STATION TO STATION		DIR	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
PROJECT 4337-11-71 CATEGORY 0010					
52+00	- 55+00	LT & RT	STH 310	3	3
60+00	- 60+93	LT	STH 310	1	1
PROJECT TOTAL				4	4

REMOVING SMALL PIPE CULVERTS

STATION		LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
PROJECT 4337-11-72 CATEGORY 0010				
12+78		STH 310	1	24-INCH CMP
17+85		STH 310	1	18-INCH CMP
PROJECT TOTAL			2	

REMOVING ASPHALTIC SURFACE

STATION	LOCATION	204.0110 SY	REMARKS
PROJECT 4337-11-72 CATEGORY 0010			
14+20	STH 310, RT	20	DRIVEWAY
15+15	STH 310, RT	10	DRIVEWAY
16+60	STH 310, LT	40	DRIVEWAY
19+10	STH 310, RT	10	DRIVEWAY
24+80	STH 310, LT	80	DRIVEWAY
26+45	STH 310, LT	65	DRIVEWAY
28+15	STH 310, LT	25	DRIVEWAY
47+80	STH 310, LT	10	DRIVEWAY
PROJECT TOTAL		260	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

STATION TO STATION		LOCATION	204.0115 SY
PROJECT 4337-11-72 CATEGORY 0010			
11+73	- 29+50	STH 310	75
29+50	- 36+50	STH 310	35
36+50	- 41+50	STH 310	25
41+50	- 48+70	STH 310	10
PROJECT TOTAL			145

REMOVING ASPHALTIC SURFACE MILLING

STATION TO STATION		LOCATION	204.0120 SY
PROJECT 4337-11-72 CATEGORY 0010			
11+73	- 29+50	STH 310	6,400
29+50	- 36+50	STH 310	2,600
36+50	- 41+50	STH 310	2,000
41+50	- 48+70	STH 310	2,800
PROJECT TOTAL			13,800

REMOVING PULL BOX

NUMBER		ALIGNMENT	STATION	OFFSET	SPV.204.9060.S.01 REMOVING PULL BOX EACH
PROJECT 4337-11-71 CATEGORY 0010					
EXISTING		STH 310	59+80	18.9' RT	1

REMOVING CONCRETE SIDEWALK

STATION TO STATION		DIR	LOCATION	204.0155 REMOVING CONCRETE SIDEWALK SY	REMARKS
PROJECT 4337-11-72 CATEGORY 0010					
29+50	- 36+50	LT	STH 310	75	DRIVEWAY APRONS
36+50	- 41+50	LT	STH 310	85	DRIVEWAY APRONS
41+50	- 48+85	LT	STH 310	110	DRIVEWAY APRONS
29+50	- 36+50	RT	STH 310	10	DRIVEWAY APRONS
36+50	- 41+50	RT	STH 310	50	DRIVEWAY APRONS
41+50	- 48+85	RT	STH 310	85	DRIVEWAY APRONS
29+50	- 36+50	LT	STH 310	35	SIDEWALK SPOT REPLACEMENT
36+50	- 41+50	LT	STH 310	10	SIDEWALK SPOT REPLACEMENT
41+50	- 48+85	LT	STH 310	25	SIDEWALK SPOT REPLACEMENT
29+50	- 36+50	RT	STH 310	30	SIDEWALK SPOT REPLACEMENT
36+50	- 41+50	RT	STH 310	20	SIDEWALK SPOT REPLACEMENT
41+50	- 48+70	RT	STH 310	30	SIDEWALK SPOT REPLACEMENT
UNDISTRIBUTED				55	
PROJECT TOTAL				620	
PROJECT 4337-11-71 CATEGORY 0010					
48+70	- 51+40	LT	STH 310	170	
51+40	- 55+00	LT	STH 310	385	
55+00	- 58+00	LT	STH 310	150	
58+00	- 60+93	LT	STH 310	260	
48+70	- 51+40	RT	STH 310	215	
51+40	- 55+00	RT	STH 310	300	
55+00	- 58+00	RT	STH 310	270	
58+00	- 60+93	RT	STH 310	240	
PROJECT TOTAL				1,990	
GRAND TOTAL				2,610	

REMOVING CURB AND GUTTER

STATION TO STATION		DIR	LOCATION	204.0150 REMOVING CURB AND GUTTER LF
PROJECT 4337-11-72 CATEGORY 0010				
32+25	- 32+29	LT	STH 310	4
32+55	- 32+59	LT	STH 310	4
36+94	- 37+02	RT	STH 310	8
39+40	- 39+44	LT	STH 310	4
45+71	- 45+75	LT	STH 310	4
45+96	- 46+00	RT	STH 310	4
46+70	- 46+74	LT	STH 310	4
			UNDISTRIBUTED	18
PROJECT TOTAL				50
PROJECT 4337-11-71 CATEGORY 0010				
48+70	- 51+40	LT	STH 310	235
51+40	- 55+00	LT	STH 310	350
55+00	- 58+00	LT	STH 310	330
58+00	- 60+93	LT	STH 310	290
48+70	- 51+40	RT	STH 310	345
51+40	- 55+00	RT	STH 310	360
55+00	- 58+00	RT	STH 310	350
58+00	- 60+93	RT	STH 310	310
PROJECT TOTAL				2,570
GRAND TOTAL				2,620

REMOVING INLETS

STATION	DIR	LOCATION	204.0220 REMOVING INLETS EACH
PROJECT 4337-11-72 CATEGORY 0010			
32+26	LT	STH 310	1
41+76	LT	STH 310	1
45+98	RT	STH 310	1
45+98	LT	STH 310	1
PROJECT TOTAL			4
PROJECT 4337-11-71 CATEGORY 0010			
49+03	RT	STH 310	1
49+48	RT	STH 310	1
49+98	RT	STH 310	1
51+20	LT	STH 310	1
51+40	RT	STH 310	1
51+55	LT	STH 310	1
54+80	LT	STH 310	1
55+10	RT	STH 310	1
56+71	LT	STH 310	1
56+71	RT	STH 310	1
56+75	LT	STH 310	1
56+75	RT	STH 310	1
58+25	LT	STH 310	1
58+28	RT	STH 310	1

PROJECT TOTAL 14
GRAND TOTAL 18

BASE COURSE

				305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	311.0110 BREAKER RUN TON
STATION TO STATION LOCATION						
PROJECT 4337-11-72 CATEGORY 0010						
11+73	-	29+50	STH 310	250	100	---
29+50	-	36+50	STH 310	50	60	---
---	-	---	DRIVEWAYS	20	150	---
---	-	---	SIDEWALKS	---	30	---
---	-	---	UNDISTRIBUTED	30	30	---
PROJECT TOTALS				350	370	0
PROJECT 4337-11-71 CATEGORY 0010						
48+85	-	51+40	STH 310	---	610	---
51+40	-	55+00	STH 310	---	670	---
55+00	-	58+00	STH 310	---	500	---
58+00	-	60+93	STH 310	---	530	---
---	-	---	DRIVEWAYS	---	200	---
---	-	---	SIDEWALKS	---	250	---
---	-	---	UNDISTIBUTED	---	270	700

PROJECT TOTALS 0 3,030 700
GRAND TOTALS 350 3,400 700

REMOVING MANHOLES

STATION	DIR	LOCATION	204.0210 REMOVING MANHOLES EACH
PROJECT 4337-11-72 CATEGORY 0010			
41+38	LT	STH 310	1
41+40	RT	STH 310	1
45+91	RT	STH 310	1
PROJECT TOTAL			3
PROJECT 4337-11-71 CATEGORY 0010			
49+50	RT	STH 310	1
51+35	RT	STH 310	1
53+40	RT	STH 310	1
54+90	RT	STH 310	1
56+90	RT	STH 310	1
58+05	RT	STH 310	1

PROJECT TOTAL 6
GRAND TOTAL 9

REMOVING FENCE

					204.0170	
STATION TO STATION			DIR	LOCATION	LF	REMARKS
PROJECT 4337-11-71 CATEGORY 0010						
58+40	-	58+70	LT	STH 310	50	WOOD FENCE

PROJECT TOTAL 50

PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT 4337-11-72)

LOCATION	211.0100 LS	REMARKS
PROJECT 4337-11-72 CATEGORY 0010		
PROJECT	1	STA 11+73 - 48+70

PROJECT TOTAL 1

REMOVING STORM SEWER

STATION TO STATION	LOCATION	204.0245.01 10-INCH LF	204.0245.02 12-INCH LF	204.0245.03 15-INCH LF	204.0245.04 18-INCH LF	204.0245.05 21-INCH LF	204.0245.06 36-INCH LF
PROJECT 4337-11-72 CATEGORY 0010							
29+50 - 36+50	STH 310	6	---	---	---	---	---
36+50 - 41+50	STH 310	24	6	---	18	6	---
41+50 - 48+70	STH 310	24	6	---	---	---	---
PROJECT TOTALS		54	12	0	18	6	0
PROJECT 4337-11-71 CATEGORY 0010							
48+70 - 51+40	STH 310	120	125	---	---	---	---
51+40 - 55+00	STH 310	100	360	---	---	---	---
55+00 - 58+00	STH 310	65	45	320	---	---	45
58+00 - 60+93	STH 310	---	65	---	---	---	---

PROJECT TOTALS 285 595 320 0 0 45
GRAND TOTALS 339 607 320 18 6 45

EARTHWORK SUMMARY

LOCATION	STATION TO STATION	205.0100 COMMON EXCAVATION CY	UNUSABLE MATERIAL CY	AVAILABLE MATERIAL CY	FILL CY	FILL FACTOR 1.25	MASS ORDINATE CY	WASTE CY
PROJECT 4337-11-71 CATEGORY 0010								
14TH AND HAWTHORNE INT	---	465	153	312	0	0	312	312
STH 310	50+00 TO 60+93	2,975	822	2,153	32	40	2,113	2,113

PROJECT TOTALS 3,440 975 2,465 32 40 2,425 2,425

ASPHALTIC BASE WIDENING

STATION TO STATION	DIR	LOCATION	315.0200 ASPHALTIC BASE WIDENING TON
PROJECT 4337-11-72 CATEGORY 0010			
11+73 - 13+30	LT	STH 310	3
20+10 - 24+30	LT	STH 310	8
28+00 - 31+50	LT	STH 310	7
11+73 - 17+00	RT	STH 310	10
18+50 - 23+50	RT	STH 310	10
23+50 - 29+30	RT	STH 310	22

PROJECT TOTAL 60

CONCRETE DRIVEWAYS

STATION TO STATION	DIR	LOCATION	416.0160 6-INCH SY	416.0260 HES 6-INCH SY
PROJECT 4337-11-72 CATEGORY 0010				
29+50 - 36+50	LT	STH 310	77	---
29+50 - 36+50	RT	STH 310	10	---
36+50 - 41+50	LT	STH 310	88	---
36+50 - 41+50	RT	STH 310	52	---
41+50 - 48+85	LT	STH 310	110	---
41+50 - 48+85	RT	STH 310	78	---
PROJECT TOTALS			415	0
PROJECT 4337-11-71 CATEGORY 0010				
48+85 - 51+40	LT	STH 310	17	---
48+70 - 51+40	RT	STH 310	45	---
51+40 - 55+00	LT	STH 310	63	60
51+40 - 55+00	RT	STH 310	87	---
55+00 - 58+00	LT	STH 310	---	---
55+00 - 58+00	RT	STH 310	83	20
58+00 - 60+93	LT	STH 310	104	---
58+00 - 60+93	RT	STH 310	66	---

PROJECT TOTALS 465 80

GRAND TOTALS 880 80

CONCRETE BASE 6-INCH

STATION TO STATION	LOCATION	320.0125 SY
PROJECT 4337-11-71 CATEGORY 0010		
100+70 - 100+80	14TH STREET	30
48+70 - 40+85	STH 310	55
202+20 - 202+35	HAWTHORNE AVE	45
600+37 - 600+55	S. SCHOOL STREET	30

PROJECT TOTAL 160

DRILLED DOWEL BARS

STATION	LOCATION	416.0620 EACH
PROJECT 4337-11-71 CATEGORY 0010		
300+43	WENTKER COURT	24
400+60	RIVER PLACE	31
500+43	N. SCHOOL STREET	25
60+93	STH 310	30

PROJECT TOTAL 110

CONCRETE PAVEMENT ITEMS

STATION TO STATION	LOCATION	415.0070 CONCRETE PAVEMENT 7-INCH SY	405.0100 COLORING CONCRETE TWO RIVERS VICTORIAN RED CY	SPV.00180.02 CONCRETE PAVEMENT HES 7-INCH SY	415.0210 CONCRETE PAVEMENT GAPS EACH
PROJECT 4337-11-71 CATEGORY 0010					
48+85 - 51+40	STH 310	1320	---	---	2
51+40 - 55+00	STH 310	1325	---	90	1
55+00 - 58+08	STH 310	1250	---	---	1
58+08 - 60+93	STH 310	1130	---	---	1
PROJECT TOTALS		5,025	0	90	5
PROJECT 4337-11-71 CATEGORY 0020					
48+85 - 51+40	STH 310	---	32	---	---
51+40 - 55+00	STH 310	---	17	---	---
55+00 - 58+08	STH 310	---	13	---	---
58+08 - 60+93	STH 310	---	10	---	---

PROJECT TOTALS --- 72 --- ---

GRAND TOTALS 5,025 72 90 5

ASPHALTIC ITEMS

STATION TO STATION	LOCATION	455.0105 ASPHALTIC MATERIAL PG 58-28 TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON	460.4110.S REHEATING HMA PAVT. LOGITUDINAL JOINTS LF	465.0110 ASPHALTIC SURFACE PATCHING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
PROJECT 4337-11-72 CATEGORY 0010							
11+73 - 29+50	STH 310	51	180	925	1,777	---	30
29+50 - 36+50	STH 310	19	70	320	700	2	5
36+50 - 41+50	STH 310	13	50	220	500	4	---
41+50 - 48+70	STH 310	18	70	320	720	4	---
PROJECT TOTALS		100	370	1,785	3,697	10	35
PROJECT 4337-11-71 CATEGORY 0010							
100+70 - 100+80	14th ST	1	5	10	---	---	---
48+70 - 48+85	STH 310	1	5	15	---	---	---
202+20 - 202+35	HAWTHORNE ST	1	5	10	---	---	---
600+37 - 600+60	S. SCHOOL ST	1	5	10	---	---	---
52+98 - 53+12	STH 310, RT	---	---	---	---	---	2

PROJECT TOTALS 4 20 45 0 0 2

GRAND TOTALS 104 390 1,830 3,697 10 37

CONCRETE CULVERT PIPES AND ENDWALLS

STATION	LOCATION	522.0118 CPRC CLASS III 18-INCH LF	522.0124 CPRC CLASS III 24-INCH LF	522.1018 APRON ENDWALLS CPRC 18-INCH EACH	522.1024 APRON ENDWALLS CPRC 24-INCH EACH	633.5200 MARKERS CULVERT END EACH	INLET ELEVATION	OUTLET ELEVATION	REMARKS
PROJECT 4337-11-72 CATEGORY 0010									
12+78	STH 310	---	60	---	2	2	584.90	583.60	6 JOINT TIES
17+85	STH 310	52	---	2	---	2	585.30	584.60	6 JOINT TIES

PROJECT TOTAL 52 60 2 2 4

CONCRETE SIDEWALK

STATION TO STATION	DIR	LOCATION	602.0405 4-INCH SF	602.0415 6-INCH SF	SPV.0165.01 4-INCH SPECIAL SF
PROJECT 4337-11-72	CATEGORY 0010				
30+90 - 30+95	LT	STH 310	---	---	25
31+05 - 31+10	LT	STH 310	---	---	25
31+26 - 31+31	LT	STH 310	---	---	25
31+52 - 31+57	LT	STH 310	---	---	25
31+78 - 31+88	LT	STH 310	---	---	50
32+23 - 32+32	LT	STH 310	---	---	50
33+48 - 33+53	LT	STH 310	---	---	30
33+59 - 33+73	RT	STH 310	---	---	75
34+09 - 34+12	RT	STH 310	---	---	15
34+16 - 34+21	LT	STH 310	---	---	25
34+35 - 34+40	LT	STH 310	---	---	25
35+07 - 35+12	LT	STH 310	---	---	25
35+15 - 35+35	RT	STH 310	---	---	110
35+45 - 35+50	RT	STH 310	---	---	30
35+52 - 35+57	LT	STH 310	---	---	25
37+76 - 37+85	RT	STH 310	---	---	45
37+28 - 37+33	RT	STH 310	---	---	25
39+02 - 39+09	RT	STH 310	---	---	35
39+37 - 39+42	RT	STH 310	---	---	30
40+22 - 40+27	RT	STH 310	---	---	30
40+73 - 40+78	LT	STH 310	---	---	25
40+79 - 40+84	RT	STH 310	---	---	25
41+00 - 41+05	LT	STH 310	---	---	25
41+66 - 41+71	LT	STH 310	---	---	25
41+87 - 41+92	LT	STH 310	---	---	25
42+55 - 42+76	LT	STH 310	---	---	110
42+65 - 42+76	RT	STH 310	---	---	60
42+93 - 43+01	RT	STH 310	---	---	40
42+09 - 43+19	LT	STH 310	---	---	50
44+54 - 44+58	RT	STH 310	---	---	20
47+58 - 47+63	LT	STH 310	---	---	25
48+25 - 48+39	RT	STH 310	---	---	60
48+53 - 48+58	RT	STH 310	---	---	20
UNDISTRIBUTED			---		115
PROJECT TOTALS			0	0	1,350
PROJECT 4337-11-71	CATEGORY 0010				
48+70 - 51+40	LT	STH 310	1,100	160	---
48+70 - 51+40	RT	STH 310	1,650	320	---
51+40 - 55+00	LT	STH 310	1,500	170	---
51+40 - 55+00	RT	STH 310	2,030	---	---
55+00 - 58+00	LT	STH 310	1,420	100	---
55+00 - 58+00	RT	STH 310	1,390	90	---
58+00 - 60+93	LT	STH 310	1,120	90	---
58+00 - 60+93	RT	STH 310	1,700	120	---

PROJECT TOTALS 11,910 1,050 0
GRAND TOTALS 11,910 1,050 1,350

CONCRETE STEPS

STATION	DIR	LOCATION	602.1500 SF
PROJECT 4337-11-71 CATEGORY 0010			
52+48	LT	STH 310	15
52+75	RT	STH 310	7
52+82	RT	STH 310	7
53+40	RT	STH 310	14
53+74	RT	STH 310	14
54+30	RT	STH 310	14
58+75	RT	STH 310	7
58+86	RT	STH 310	14
59+19	RT	STH 310	7
59+26	RT	STH 310	7

PROJECT TOTAL 106

CURB RAMP DETECTABLE WARNING FIELD
NATURAL PATINA

STATION	LOCATION	DIR	602.0515 SF
PROJECT 4337-11-71 CATEGORY 0010			
49+00	STH 310	RT	8
49+35	STH 310	LT	8
49+85	STH 310	LT	8
50+10	STH 310	RT	8
51+21	STH 310	LT	8
51+58	STH 310	LT	8
51+66	STH 310	LT & RT	16
54+70	STH 310	LT & RT	16
54+78	STH 310	LT	8
55+23	STH 310	LT	8
57+75	STH 310	LT & RT	16
57+90	STH 310	LT	8
58+26	STH 310	LT	8
58+35	STH 310	LT & RT	16
100+95	14TH STREET	LT	8
101+20	14TH STREET	RT	8
201+70	HAWTHORNE AVE	RT	8
202+00	HAWTHORNE AVE	LT	8
600+75	SCHOOL ST	LT & RT	16

PROJECT TOTALS 192

CONCRETE CURB AND GUTTER

STATION TO STATION	DIR	LOCATION	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	SPV.0090.01 CONCRETE CURB & GUTTER 24-INCH TYPE D TAPERED LF	SPV.0090.02 CONCRETE CURB & GUTTER 30-INCH TYPE D SPECIAL LF	SPV.0090.03 CONCRETE CURB & GUTTER 30-INCH TYPE D TAPERED LF	SPV.0090.17 CONCRETE CURB & GUTTER 30-INCH HES TYPE A LF	601.0600 PEDESTRIAN CURB LF
PROJECT 4337-11-72	CATEGORY 0010							
32+25 - 32+29	LT	STH 310	---	---	4	---	---	---
32+55 - 32+59	LT	STH 310	---	---	4	---	---	---
36+94 - 37+02	RT	STH 310	---	---	8	---	---	---
39+40 - 39+44	LT	STH 310	---	---	4	---	---	---
41+74 - 41+78	LT	STH 310	---	---	4	---	---	---
45+71 - 45+75	LT & RT	STH 310	---	---	8	---	---	---
45+96 - 46+00	RT	STH 310	---	---	4	---	---	---
46+70 - 46+74	LT	STH 310	---	---	4	---	---	---
		UNDISTRIBUTED	---	---	40	---	---	---
PROJECT TOTALS			0	0	80	0	0	0
PROJECT 4337-11-71	CATEGORY 0010							
48+70 - 51+40	LT	STH 310	235	---	---	15	---	15
48+70 - 51+40	RT	STH 310	340	---	---	65	---	20
51+40 - 55+00	LT	STH 310	315	---	---	---	60	15
51+40 - 55+00	RT	STH 310	360	---	---	---	---	---
55+00 - 58+15	LT	STH 310	325	---	---	---	---	---
55+00 - 58+15	RT	STH 310	300	18	---	---	30	15
58+15 - 60+93	LT	STH 310	285	---	---	---	---	15
58+15 - 60+93	RT	STH 310	290	18	---	---	---	15

PROJECT TOTALS 2,450 36 0 80 90 95
GRAND TOTALS 2,450 36 80 80 90 95

3

3

STORM SEWER PIPE											
STRUCTURE		520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0312 REIN. CONC. CLASS III 12-INCH LF	608.0318 REIN. CONC. CLASS III 18-INCH LF	608.0321 REIN. CONC. CLASS III 21-INCH LF	608.0324 REIN. CONC. CLASS III 24-INCH LF	608.0442 REIN. CONC. CLASS IV 42-INCH LF	INVERT ELEV	DISCHARGE ELEV	SLOPE %	REMARKS
FROM	TO										
PROJECT 4337-11-72 CATEGORY 0010											
MH 33	EXIST SS	3	18	---	---	---	---				IF NEEDED TO TIE INTO EXIST. SS
INL 33A	EXIST SS	1	6	---	---	---	---				IF NEEDED TO TIE INTO EXIST. SS
INL 33B	EXIST SS	1	6	---	---	---	---				IF NEEDED TO TIE INTO EXIST. SS
MH 36	EXIST SS	3	6	12	---	---	---				IF NEEDED TO TIE INTO EXIST. SS
MH 37	EXIST SS	3	24	6	6	---	---				IF NEEDED TO TIE INTO EXIST. SS
INL 37A	EXIST SS	2	6	---	---	---	---				IF NEEDED TO TIE INTO EXIST. SS
INL 43	EXIST SS	1	12	---	---	---	---				IF NEEDED TO TIE INTO EXIST. SS
PROJECT TOTALS		14	78	18	6	0	0				
PROJECT 4337-11-71 CATEGORY 0010											
INL 11.1	MH 11.0	---	22	---	---	---	---	586.68	586.46	1.00	
INL 11.2	MH 11.0	---	7	---	---	---	---	586.53	586.46	1.00	
MH 12.0	MH 11.0	---	96	---	---	---	---	587.42	586.46	1.00	
INL 12.3	INL 12.2	---	33	---	---	---	---	588.40	588.07	1.00	
INL 12.2	INL 12.1	---	27	---	---	---	---	588.07	587.80	1.00	
INL 12.1	MH 12.0	---	41	---	---	---	---	587.80	587.42	0.93	
INL 12.4	INL 12.1	---	29	---	---	---	---	588.09	587.80	1.00	
MH 13.0	EXIST MH	---	---	---	---	---	16	579.25	579.17	0.50	
MH 14.0	MH 13.0	---	---	---	---	---	26	579.34	579.25	0.35	
MH 15.0	MH 14.0	---	---	---	---	---	10	579.36	579.34	0.20	
MH 16.0	MH 14.0	---	---	---	---	46	---	579.57	579.34	0.50	
INL 16.1	MH 16.0	---	9	---	---	---	---	580.62	580.57	0.56	
INL 16.2	INL 16.1	---	26	---	---	---	---	580.74	580.62	0.46	
INL 16.3	MH 16.0	---	26	---	---	---	---	580.65	580.57	0.31	
MH 17.0	MH 16.0	---	---	---	---	53	---	579.84	579.57	0.51	
INL 17.1	MH 17.0	---	9	---	---	---	---	580.89	580.84	0.56	
INL 17.2	INL 17.1	---	26	---	---	---	---	581.01	580.89	0.46	
INL 17.3	MH 17.0	---	26	---	---	---	---	580.97	580.84	0.50	
MH 18.0	MH 14.0	---	---	---	---	209	---	580.39	579.34	0.50	
INL 18.1	MH 18.0	---	26	---	---	---	---	581.52	581.39	0.50	
INL 18.2	INL 18.1	---	23	---	---	---	---	581.64	581.52	0.52	
MH 19.0	MH 18.0	---	---	---	---	70	---	580.78	580.39	0.56	
INL 19.1	MH 19.0	---	9	---	---	---	---	581.83	581.78	0.56	
INL 19.2	MH 19.0	---	26	---	---	---	---	581.70	581.62	0.31	
INL 19.3	INL 19.2	---	25	---	---	---	---	581.77	581.70	0.28	
MH 20.0	MH 19.0	---	---	---	---	290	---	585.02	580.78	1.46	
INL 20.1	MH 20.0	---	9	---	---	---	---	586.11	586.02	1.00	
INL 20.2	MH 20.0	---	26	---	---	---	---	586.28	586.02	1.00	
INL 20.3	INL 20.2	---	24	---	---	---	---	586.52	586.28	1.00	
MH 21.0	MH 20.0	---	---	---	---	63	---	585.92	585.02	1.43	
INL 21.1	MH 21.0	---	26	---	---	---	---	587.08	586.92	0.62	
INL 21.2	INL 21.1	---	24	---	---	---	---	587.22	587.08	0.58	
PROJECT TOTALS		0	595	0	0	731	52				
GRAND TOTALS		14	673	18	6	731	52				

STORM SEWER STRUCTURES (PROJECT 4337-11-72)

STRUCT NUM					611.0639	611.3230	611.2003	611.2005	611.2006	611.2008	611.0530	SPV.0060.01	SPV.0060.02	SPV.0060.03					
	STA	RL	DIST.	DIR	INLET COVERS TYPE H-S EACH	INLETS 2 X 3-FT EACH	MANHOLES 3-FT DIA EACH	MANHOLES 5-FT DIA EACH	MANHOLES 6-FT DIA EACH	MANHOLES 8-FT DIA EACH	MANHOLE COVERS TYPE J EACH	INLETS SPECIAL 2 X 3-FT EACH	MANHOLES SPECIAL 3-FT DIA EACH	MANHOLES SPECIAL 6-FT DIA EACH	TOP OF COVER/ FLANGE ELEVATION	TOP OF STRUCT ELEV	INV ELEV	STRUCT DEPTH FT	REMARKS
PROJECT 4337-11-72 CATEGORY 0010																			
INL 33A	45+98.	STH 310		LT	---	---	---	---	---	---	---	1	---	---	590.86	589.86	588.45	1.41	SEE DETAIL
INL 33B	45+98	STH310		RT	---	---	---	---	---	---	---	1	---	---	590.74	589.74	587.72	2.02	SEE DETAIL
MH 33	45+91	STH 310		RT	---	---	---	---	---	---	---	---	1	---	591.46	590.26	587.61	2.65	SEE DETAIL
MH 36	41+40	STH 310		RT	---	---	---	---	---	---	---	---	1	---	590.49	589.29	583.23	6.06	SEE DETAIL
MH 37	41+38	STH 310		LT	---	---	---	---	---	---	---	---	---	1	590.39	589.19	583.24	5.95	SEE DETAIL
INL 37A	41+76	STH 310		LT	---	---	---	---	---	---	---	1	---	---	589.86	588.86	586.18	2.68	SEE DETAIL
INL 43	32+26	STH 310		LT	---	---	---	---	---	---	---	1	---	---	587.29	586.29	583.26	3.03	SEE DETAIL
PROJECT TOTALS					0	0	0	0	0	0	0	4	2	1					

GENERAL NOTES: LOCATION REFERS TO THE CENTER OF STRUCTURE
ELEVATIONS REFER TO THE CENTER OF STRUCTURE FOR MANHOLES AND FLANGELINE FOR INLETS
ALLOWANCES FOR ADJUSTMENT RINGS AND FRAMES ARE AS FOLLOWS: MANHOLES = 1.2'
INLETS AND MANHOLES WITH INLET TOPS = 1.0'
STRUCTURE DEPTH EQUALS TOP OF STRUCTURE ELEVATION MINUS THE INVERT ELEVATION MINUS THE ALLOWANCE FOR ADJUSTMENT RINGS AND FRAME
INVERTS OF EXISTING PIPE AND STRUCTURES SHOULD BE VERIFIED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ORDERING STRUCTURE
SPECIAL NOTES: 1. FLAT TOP REQUIRED ON MANHOLE STRUCTURE

NOTE: STORM SEWER STRUCTURES QUANTITIES FOR
PROJECT 4337-11-72 ON PREVIOUS SHEET

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STORM SEWER STRUCTURES (PROJECT 4337-11-71)

STRUCT NUM					611.0639	611.3230	611.2003	611.2005	611.2006	611.2008	611.0530	SPV.0060.01	SPV.0060.02	SPV.0060.03					
	STA	RL	DIST.	DIR	INLET COVERS TYPE H-S EACH	INLETS 2 X 3-FT EACH	MANHOLES 3-FT DIA EACH	MANHOLES 5-FT DIA EACH	MANHOLES 6-FT DIA EACH	MANHOLES 8-FT DIA EACH	MANHOLE COVERS TYPE J EACH	INLETS SPECIAL 2 X 3-FT EACH	MANHOLES SPECIAL 3-FT DIA EACH	MANHOLES SPECIAL 6-FT DIA EACH	TOP OF COVER/ FLANGE ELEVATION	TOP OF STRUCT ELEV	INV ELEV	STRUCT DEPTH FT	REMARKS
PROJECT 4337-11-71 CATEGORY 0010																			
11.0	202+17.	HAWTHORNE AVE	7.2	RT	---	---	1	---	---	---	1	---	---	---	591.72	590.52	586.46	4.06	
11.1	202+15	HAWTHORNE AVE	14.5	LT	1	1	---	---	---	---	---	---	---	---	591.55	590.55	586.68	3.87	
11.2	202+15	HAWTHORNE AVE	14.5	RT	1	1	---	---	---	---	---	---	---	---	591.62	590.62	586.53	4.09	
12.0	49+20	STH 310	6.0	RT	---	---	1	---	---	---	1	---	---	---	591.98	590.78	587.42	3.36	
12.1	100+85	14TH ST	15.7	LT	1	1	---	---	---	---	---	---	---	---	591.73	590.73	587.80	2.93	
12.2	48+90	STH 310	14.5	RT	1	1	---	---	---	---	---	---	---	---	591.65	590.65	588.07	2.58	
12.3	48+90	STH 310	18.5	LT	1	1	---	---	---	---	---	---	---	---	591.74	590.74	588.40	2.34	
12.4	100+85	14TH ST	13.3	RT	1	1	---	---	---	---	---	---	---	---	591.77	590.77	588.09	2.68	
13.0	57+42.	STH 310	20.3	LT	1	---	---	---	1	---	---	---	---	---	583.87	582.87	579.25	3.62	NOTE 1
14.0	57+41	STH 310	6.0	RT	---	---	---	---	---	1	1	---	---	---	584.12	582.92	579.34	3.58	
15.0	57+38	STH 310	15.3	RT	1	---	---	---	1	---	---	---	---	---	583.97	582.97	579.36	3.61	NOTE 1
16.0	57+87	STH 310	6.0	RT	---	---	---	1	---	---	1	---	---	---	584.35	583.15	579.57	3.58	
16.1	57+90	STH 310	15.3	RT	1	1	---	---	---	---	---	---	---	---	584.12	583.12	580.62	2.50	
16.2	600+64	SCHOOL ST S	9.5	LT	1	1	---	---	---	---	---	---	---	---	584.54	583.54	580.74	2.80	
16.3	57+85	STH 310	21.6	LT	1	1	---	---	---	---	---	---	---	---	584.03	583.03	580.65	2.38	
17.0	58+40	STH 310	6.0	RT	---	---	---	1	---	---	1	---	---	---	584.75	583.55	579.84	3.71	
17.1	58+40	STH 310	15.3	RT	1	1	---	---	---	---	---	---	---	---	584.60	583.60	580.89	2.71	
17.2	600+64	SCHOOL ST S	9.5	RT	1	1	---	---	---	---	---	---	---	---	584.41	583.41	581.01	2.40	
17.3	58+40	STH 310	20.3	LT	1	1	---	---	---	---	---	---	---	---	584.50	583.50	580.97	2.53	
18.0	55+32	STH 310	6.0	RT	---	---	---	1	---	---	1	---	---	---	585.18	583.98	580.39	3.59	
18.1	55+32	STH 310	20.3	LT	1	1	---	---	---	---	---	---	---	---	584.93	583.93	581.52	2.41	
18.2	400+36	RIVER PL	18.0	RT	1	1	---	---	---	---	---	---	---	---	584.94	583.94	581.64	2.30	
19.0	54+62	STH 310	6.0	RT	---	---	---	1	---	---	1	---	---	---	585.92	584.72	580.78	3.94	
19.1	54+62	STH 310	15.3	RT	1	1	---	---	---	---	---	---	---	---	585.77	584.77	581.83	2.94	
19.2	54+62	STH 310	20.3	LT	1	1	---	---	---	---	---	---	---	---	585.67	584.67	581.70	2.97	
19.3	400+36	RIVER PL	18.0	LT	1	1	---	---	---	---	---	---	---	---	585.10	584.10	581.77	2.33	
20.0	51+72	STH 310	6.0	RT	---	---	---	1	---	---	1	---	---	---	590.70	589.50	585.02	4.48	
20.1	51+72	STH 310	15.3	RT	1	1	---	---	---	---	---	---	---	---	590.54	589.54	586.11	3.43	
20.2	51+72	STH 310	20.3	LT	1	1	---	---	---	---	---	---	---	---	590.47	589.47	586.28	3.19	
20.3	300+38	WENTKER CT	14.5	RT	1	1	---	---	---	---	---	---	---	---	590.46	589.46	586.52	2.94	
21.0	51+09	STH 310	6.0	RT	---	---	1	---	---	---	1	---	---	---	591.16	589.96	585.92	4.04	
21.1	51+09	STH 310	20.3	LT	1	1	---	---	---	---	---	---	---	---	590.91	589.91	587.08	2.83	
21.2	300+38	WENTKER CT	14.5	LT	1	1	---	---	---	---	---	---	---		590.55	589.55	587.22	2.33	

PROJECT TOTALS	24	22	3	5	2	1	9	0	0	0
GRAND TOTALS	24	22	3	5	2	1	9	4	2	1

GENERAL NOTES: LOCATION REFERS TO THE CENTER OF STRUCTURE
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INVERTS OF EXISTING PIPE AND STRUCTURES SHOULD BE VERIFIED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ORDERING STRUCTURE
SPECIAL NOTES: 1. FLAT TOP REQUIRED ON MANHOLE STRUCTURE

NOTE: STORM SEWER STRUCTURES QUANTITIES FOR
PROJECT 4337-11-72 ON PREVIOUS SHEET

ADJUSTING COVERS

	611.8115
	ADJUSTING INLET COVERS
LOCATION	EA
PROJECT 4337-11-72	CATEGORY 0010
UNDISTRIBUTED	6

PROJECT TOTAL 6

EROSION CONTROL ITEMS

			606.0200	628.1504	628.1520	628.1905	628.1910	628.2008	628.7005	628.7015	628.7555	628.7560	645.0120
			RIPRAP MEDIUM CY	SILT FENCE LF	SILT FENCE MAINT LF	MOB. EROSION CONTROL EA	MOB. EROSION CONTROL EMERGENCY EA	EROSION MAT URBAN CLASS I TYPE B SY	INLET PROTECTION TYPE A EACH	INLET PROTECTION TYPE C EACH	CULVERT PIPE DITCH CHECKS EACH	TRACKING PAD EACH	GEOTEXTILE FABRIC TYPE HR EACH
STATION TO STATION	DIR	LOCATION											
PROJECT 4337-11-72		CATEGORY 0010											
11+73 - 29+50	LT & RT	STH 310	7	---	---	---	---	---	---	1	10	---	20
29+50 - 36+50	LT & RT	STH 310	---	---	---	---	---	---	---	1	---	---	---
36+50 - 41+50	LT & RT	STH 310	---	---	---	---	---	---	---	---	---	--	--
41+50 - 48+70	LT & RT	STH 310	---	---	---	---	---	---	---	4	---	---	---
UNDISTRIBUTED			---	200	200	4	4	50	---	1	---	---	---
PROJECT TOTALS			7	200	200	4	4	50	0	7	10	0	20
PROJECT 4337-11-71		CATEGORY 0010											
48+70 - 51+40	LT & RT	STH 310	---	---	---	---	---	---	14	14	---	1	---
51+40 - 55+00	LT & RT	STH 310	---	---	---	---	---	---	7	7	---	---	---
55+00 - 58+00	LT & RT	STH 310	---	---	---	---	---	---	8	8	---	---	---
58+00 - 60+93	LT & RT	STH 310	---	---	---	---	---	---	4	4	---	1	---
UNDISTRIBUTED			---	100	100	4	4	50	4	4	---	---	---
PROJECT TOTALS			0	100	100	4	4	50	37	37	0	2	0
GRAND TOTALS			7	300	300	8	8	100	37	44	10	2	20

LANDSCAPING ITEMS

			625.0100	627.0200	629.0210	630.0140	SPV.0120	631.0300	631.1000
			TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 40 LB	WATER FOR SEEDED AREA'S MGAL	SOD WATER MGAL	SOD LAWN SY
STATION TO STATION	DIR	LOCATION							
PROJECT 4337-11-72		CATEGORY 0010							
11+73 - 29+50	LT & RT	STH 310	50	50	0.1	5	1	---	---
29+50 - 36+50	LT & RT	STH 310	25	25	0.1	3	1	---	---
36+50 - 41+50	LT & RT	STH 310	35	35	0.1	3	1	---	---
41+50 - 48+70	LT & RT	STH 310	60	60	0.1	5	1	---	---
UNDISTRIBUTED			30	30	0.1	4	1	---	---
PROJECT TOTALS			200	200	0.50	20	5	0	0
PROJECT 4337-11-71		CATEGORY 0010							
48+70 - 51+40	LT & RT	STH 310	290	---	0.2	---	---	1.8	290
51+40 - 55+00	LT & RT	STH 310	510	---	0.3	---	---	3.1	510
55+00 - 58+00	LT & RT	STH 310	320	---	0.2	---	---	2.5	320
58+00 - 60+93	LT & RT	STH 310	350	---	0.2	---	---	2.2	350
UNDISTRIBUTED			430	---	0.1	---	---	0.8	430
PROJECT TOTALS			1,900	0	1.0	0	0	12.0	1,900
GRAND TOTALS			2,100	200	1.5	20	5	12.0	1,900

ADJUSTING MANHOLE COVERS

			SPV.0060.04
			ADJUSTING MANHOLE COVERS SPECIAL
STATION	DIR	LOCATION	EACH
PROJECT 4337-11-72		CATEGORY 0010	
		UNDISTRIBUTED	4
PROJECT 4337-11-72		CATEGORY 0020	
		UNDISTRIBUTED	5
PROJECT TOTAL			9

OVERHEAD SIGN SUPPORT

			641.8100
			L.S.
STATION	DIR	LOCATION	
PROJECT 4337-11-71		CATEGORY 0010	
48+37	RT	18'	1
PROJECT TOTAL			1

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PERMANENT SIGNS TYPE II AND SIGN SUPPORTS (PROJECT 4337-11-72)

634.0614 634.0616 634.0618															637.2210	637.2230	SPV.0060.17	
SIGN DIMENSIONS															SIGNS	SIGNS	PED CROSSING	
ASSEMBLY															TYPE II	TYPE II	(W11-2) SOLAR	
SIGN NO.	STATION	SIGN CODE	DESCRIPTION	W X H IN X IN	NO.	WIDTH IN	HEIGHT IN	14 FT EACH	16 FT EACH	18 FT EACH	REFLECTIVE H SF	REFLECTIVE F SF	FLASHING LED EACH	REMARKS				
PROJECT 4337-11-72 CATEGORY 0010																		
101	14+01 , LT	W1-2L	LEFT CURVE	30 X 30					1			6.25						
102	15+24 , LT	R2-1	SPEED LIMIT XX MPH	24 X 30					1		5.00			35 MPH				
103	15+78 , RT	R2-1	SPEED LIMIT XX MPH	24 X 30					1		5.00			35 MPH				
104	18+32 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24					1		3.00							
105	22+18 , RT	W3-5	SPEED REDUCTION AHEAD XX MPH	36 X 36					1			9.00		25 MPH				
106	24+71 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24					1		3.00							
107	27+78 , RT	R2-1	SPEED LIMIT XX MPH	24 X 30					1		5.00			25 MPH				
108	27+75 , LT	R2-1	SPEED LIMIT XX MPH	24 X 30					1		5.00			35 MPH				
109	28+96 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24					1		3.00							
110	29+55 , LT	W1-7	DOUBLE NIGHT ARROW	48 X 24					1			8.00						
111	29+84 , RT	R1-1	STOP	30 X 30					1		5.18			18TH ST				
112	30+16 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24					1		3.00							
113	30+79 , LT	W1-2L	LEFT CURVE	30 X 30					1			6.25						
114	33+70 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00							
115	35+35 , LT	M3-4	WEST	24 X 12	J1-1	24.00	36.00		1		2.00							
		M1-6	STATE ROUTE MARKER	24 X 24							4.00			STH 310				
116	35+52 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00							
117	36+89 , RT	R1-1	STOP	30 X 30					1		5.18			17TH ST				
118	37+24 , RT	M3-2	EAST	24 X 12	J1-1	24.00	36.00		1		2.00							
		M1-6	STATE ROUTE MARKER	24 X 24							4.00			STH 310				
119	37+24 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24							3.00			INSTALL BELOW SIGN 118				
201	37+53 , LT	R2-1	SPEED LIMIT XX MPH	24 X 30					1		5.00			25 MPH				
202	38+59 , RT	R2-1	SPEED LIMIT XX MPH	24 X 30					1		5.00			25 MPH				
203	40+66 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00							
204	41+61 , RT	R1-1	STOP	30 X 30					1		5.18			16TH ST				
205	42+03 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00							
206	44+14 , RT	M3-2	EAST	24 X 12	J2-1	24.00	57.00			1	2.00							
		M1-6	STATE ROUTE MARKER	24 X 24							4.00			STH 310				
		M5-1L	ADVANCE ARROW LT TURN	21 X 21							3.06							
207	44+14 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24							3.00			INSTALL BELOW SIGN 206				
208	46+63 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00							
209	47+00 , LT	M3-4	WEST	24 X 12	J1-1	24.00	36.00		1		2.00							
		M1-6	STATE ROUTE MARKER	24 X 24							4.00			STH 310				
210	48+37 , RT	M3-2	EAST	24 X 12	J2-1	24.00	57.00				2.00							
		M1-6	STATE ROUTE MARKER	24 X 24							4.00			STH 310				
		M6-1	ARROW RT OR LT	21 X 21							3.06			LT ARROW				
211	48+37 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24							3.00			INSTALL ON OVERHEAD SIGN SUPPORT FOR SIGN 210				
212	48+11 , LT	R2-1	SPEED LIMIT XX MPH	24 X 30					1		5.00			25 MPH				
PROJECT TOTALS								5	21	1	122.66	29.50	0					

NOTE: PERMANENT SIGNS QUANTITIES FOR PROJECT 4337-11-71 CAN BE FOUND ON THE NEXT SHEET

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PERMANENT SIGNS TYPE II AND SIGN SUPPORTS (PROJECT 4337-11-71)

634.0614 634.0616 634.0618													637.2210	637.2230	SPV.0060.17	REMARKS
SIGN NO.	STATION	SIGN CODE	DESCRIPTION	SIGN W X H IN X IN	ASSEMBLY			POSTS WOOD 4 X 6-INCH			SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	PED CROSSING (W11-2) SOLAR FLASHING LED EACH			
					NO.	WIDTH IN	HEIGHT IN	14 FT EACH	16 FT EACH	18 FT EACH						
PROJECT 4337-11-71 CATEGORY 0010																
213	48+88 , RT	W11-2	PEDESTRIAN CROSSING	30 X 30									1	SOLAR FLASHING LED		
214	48+88 , RT	W16-7	DOWNWARD DIAGONAL ARROW	24 X 12								2.00		INSTALL BELOW SIGN 213		
215	48+95 , RT	M3-4	WEST	24 X 12	J3-2	48.00	57.00			1	2.00					
		M1-6	STATE ROUTE MARKER	24 X 24							4.00			STH 310		
		M6-1	ARROW RT OR LT	21 X 21							3.06			RT ARROW		
		M4-5	TO	24 X 12							2.00					
		M1-1	INTERSTATE ROUTE MARKER 2D	24 X 24							3.13			I-43		
		M6-1	ARROW RT OR LT	21 X 21							3.06			RT ARROW		
216	49+34 , RT	R1-1	STOP	30 X 30					1		5.18			14th ST		
217	49+34 , RT	W4-4AL	TRAFFIC FROM LEFT DOES NOT STOP	30 X 12								2.50		INSTALL BELOW SIGN 216		
218	49+98 , RT	R1-1	STOP	30 X 30					1		5.18					
219	49+98 , RT	W4-4B	ONCOMING TRAFFIC DOES NOT STOP	30 X 12								2.50		INSTALL BELOW SIGN 218		
220	50+05 , LT	R1-1	STOP	30 X 30					1		5.18					
221	50+05 , LT	W4-4AR	TRAFFIC FROM RIGHT DOES NOT STOP	30 X 12								2.50		INSTALL BELOW SIGN 220		
222	50+22 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00					
223	50+62 , LT	R3-8	LT/THRU, RT TURN ONLY	36 X 30					1		7.50					
224	50+93 , LT	R7-53L	NO PARKING ON THIS SIDE	18 X 24				1			3.00					
225	51+21 , LT	R1-1	STOP	30 X 30					1		5.18			WENTKER CT		
226	51+37 , RT	M3-2	EAST	24 X 12	J1-1	24.00	36.00		1		2.00					
		M1-6	STATE ROUTE MARKER	24 X 24							4.00			STH 310		
227	51+13 , LT	R9-3A	NO PEDESTRIAN CROSSING	18 X 18				1			2.25					
228	51+13 , LT	R9-3BL	USE CROSSWALK	18 X 12							1.50			INSTALL BELOW SIGN 228		
229	52+14 , RT	M3-4	WEST	24 X 12	J1-1	24.00	36.00		1		2.00					
		M1-6	STATE ROUTE MARKER	24 X 24							4.00			STH 310		
230	52+14 , LT	M4-22R	SECOND RIGHT	24 X 21							3.50			INSTALL BELOW SIGN 230		
231	52+70 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00					
232	54+61 , RT	W11-55	PLAYGROUND	30 X 30					1			6.25				
233	54+72 , LT	R1-1	STOP	30 X 30					1		5.18			RIVER PL		
234	55+20 , LT	W14-1	DEAD END	30 X 30					1			6.25		RIVER PL		
235	55+48 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00					
236	57+70 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00					
237	57+89 , LT	R1-1	STOP	30 X 30					1		5.18			SCHOOL ST		
238	58+27 , RT	R1-1	STOP	30 X 30					1		5.18			SCHOOL ST		
239	58+48 , LT	W11-55	PLAYGROUND	30 X 30					1			6.25				
240	58+57 , RT	R7-53D	NO PARKING ON THIS SIDE	18 X 24				1			3.00					
241	59+19 , RT	W3-3	SIGNAL AHEAD	36 X 36					1			9.00				
242	59+57 , RT	M3-2	EAST	24 X 12	J2-1	24.00	57.00			1	2.00			STH 310		
		M1-6	STATE ROUTE MARKER	24 X 24							4.00			STH 310		
		M5-1L	ADVANCE ARROW LT TURN	21 X 21							3.06					
PROJECT TOTALS								7	14	2	107.32	37.25	1			
GRAND TOTALS								12	35	3	229.98	66.75	1			

REMOVING SIGNS TYPE II AND REM. SMALL SIGN SUPPORTS (PROJECT 4337-11-72)					
SIGN NO	STATION	DESCRIPTION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
PROJECT 4337-11-72 CATEGORY 0010					
R101	14+01 LT	CURVE AHEAD	1	1	
R102	15+20 LT	SPEED LIMIT 35 MPH	1	1	
R103	15+76 RT	SPEED LIMIT 35 MPH	1	1	
R104	18+32 RT	NO PARKING THIS SIDE OF STREET	1	1	
R105	22+06 RT	REDUCED SPEED AHEAD	1	1	
		25 MPH	1	---	
R106	24+71 RT	NO PARKING THIS SIDE OF STREET	1	1	
R107	27+73 RT	SPEED LIMIT 25 MPH	1	1	
R108	27+73 LT	SPEED LIMIT 35 MPH	1	1	
R109	29+58 LT	DOUBLE ARROW	1	2	
R110	29+80 RT	STOP	1	1	
R111	30+75 LT	CURVE AHEAD	1	1	
R112	33+70 RT	NO PARKING THIS SIDE OF STREET	1	1	
R113	35+34 LT	STH 310	1	1	
R114	35+52 RT	NO PARKING THIS SIDE OF STREET	1	1	
R115	36+87 RT	STOP	1	1	
R116	37+22 RT	STH 310	1	1	
R117	37+24 RT	NO PARKING THIS SIDE OF STREET	1	1	
R201	37+75 LT	SPEED LIMIT 25 MPH	1	---	ON POWER POLE
R202	38+62 RT	SPEED LIMIT 25 MPH	1	---	ON POWER POLE
R203	40+66 RT	NO PARKING THIS SIDE OF STREET	1	1	
R204	41+60 RT	STOP	1	1	
R205	42+03 RT	NO PARKING THIS SIDE OF STREET	1	1	
R206	44+15 RT	STH 310	1	1	
		TURN AHEAD	1	---	
		NO PARKING THIS SIDE OF STREET	1	---	
R207	46+63 RT	NO PARKING THIS SIDE OF STREET	1	1	
R208	47+01 LT	STH 310	1	1	
R209	48+08 RT	STH 310	1	1	
		TURN	1	---	
		NO PARKING THIS SIDE OF STREET	1	---	
R210	48+10 LT	SPEED LIMIT 25 MPH	1	---	ON POWER POLE
PROJECT TOTALS			32	25	

REMOVING SIGNS TYPE II AND REMOVING SMALL SIGN SUPPORTS (PROJECT 4331-11-71)					
IGN NO	STATION	DESCRIPTION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
PROJECT 4337-11-71 CATEGORY 0010					
R211	49+00 RT	WEST	1	1	
		STH 310	1	---	
		ARROW	1	---	
		TO	1	---	
		I-43	1	---	
		ARROW	1	---	
R212	49+46 RT	STOP	1	1	
R213	50+00 RT	STOP	1	1	
		ONCOMING TRAFFIC DOES NOT STOP	1	---	
R214	49+78 LT	STOP	1	1	
		RIGHT TURN NO STOP	1	---	
R215	50+13 LT	NO PARKING THIS SIDE OF STREET	1	1	
R216	50+22 RT	NO PARKING THIS SIDE OF STREET	1	1	
R217	50+93 LT	NO PARKING THIS SIDE OF STREET	1	1	
R218	51+22 LT	STOP	1	1	
R219	51+39 RT	STH 310	1	1	
R220	52+15 LT	STH 310	1	1	
		SECOND RIGHT	1	---	
R221	52+70 RT	NO PARKING THIS SIDE OF STREET	1	1	
R222	54+69 RT	PLAYGROUND	1	1	
R223	54+80 LT	STOP	1	1	
R224	55+20 LT	DEAD END	1	1	
R225	55+48 RT	NO PARKING THIS SIDE OF STREET	1	1	
R226	57+70 RT	NO PARKING THIS SIDE OF STREET	1	1	
R227	57+90 LT	STOP	1	1	
R228	58+26 RT	STOP	1	1	
R229	58+49 LT	PLAYGROUND	1	1	
R230	58+57 RT	NO PARKING THIS SIDE OF STREET	1	1	
R231	59+13 RT	SIGNAL AHEAD	1	---	ON POWER POLE
PROJECT TOTALS			29	20	
GRAND TOTALS			61	45	

3

3

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS										
SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 170 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 **BARICADES TYPE III DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
PROJECT 4337-11-72 CATEGORY 0010										
1	TO BE DETERMINED IN THE FIELD	PCMS		1	7	---	---	7	---	
2	150' E OF R2-5B (SPEED LIMIT 35)	W20-2-A	48"x48"	1	170	170	---	---	---	
3	LT OF D9-2 (HOSPITAL SIGN)	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 5-1-R	21"x21"	1	170	170	---	---	---	
4	SW QUAD OF STH 310 & COLUMBUS ST INTERSECTION	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 6-1	21"x21"	1	170	170	---	---	---	RIGHT ARROW
5	200' S OF STH 310 INTERSECTION ON COLUMBUS ST	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
6	RT OF STOP SIGN 10 & COLUMBUS ST INTERSECTION	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 6-1	21"x21"	1	170	170	---	---	---	LEFT ARROW
6A	NE QUAD OF STH 310 & COLUMBUS ST INTERSECTION	R11-2	48"x30"	1	170	170	170	---	---	
7	500' S OF STH 310 INTERSECTION ON COLUMBUS ST	M 4-8-A	24"x18"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
8	100' N OF 10TH ST INTERSECTION ON COLUMBUS ST	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
9	100' S OF 10TH ST INTERSECTION ON COLUMBUS ST	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
10	500' N OF STH 42 INTERSECTION ON COLUMBUS ST	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 5-1-L	21"x21"	1	170	170	---	---	---	
PROJECT TOTALS				29		4,760	170	7	0	
PROJECT 4337-11-71 CATEGORY 0010										
11	RT OF STOP SIGN @ STH 42 & COLUMBUS ST INTERSECTION	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 6-1	21"x21"	1	170	170	---	---	---	LEFT ARROW
12	LT OF ONE WAY (LEFT) SIGN	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 6-1	21"x21"	1	170	170	---	---	---	LEFT ARROW
13	200' E OF COLUMBUS ST INTERSECTION ON STH 42	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
14	100' N OF STH 42 INTERSECTION ON COLUMBUS ST	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310

**QUANTITIES SHOWN ELSEWHERE

CONTINUED ON NEXT PAGE

3

3

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 170 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 **BARICADES TYPE III DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
15	ON BACK OF R5-1 (DO NOT ENTER) SIGN	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 6-1	21"x21"	1	170	170	---	---	---	RIGHT ARROW
16	500' E OF COLUMBUS ST INTERSECTION ON STH 42	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 5-1-R	21"x21"	1	170	170	---	---	---	
17	ACROSS FROM SIGN # 16 (MEDIAN SIDE)	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 5-1-R	21"x21"	1	170	170	---	---	---	
18	100' SW OF SCHOOL INTERSECTION ON STH 42	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
19	ACROSS FROM SIGN # 18 (MEDIAN SIDE)	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
20	100' NE OF SCHOOL INTERSECTION ON STH 42	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
21	ACROSS FROM # 20 (MEDIAN SIDE)	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-2	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
22	MODIFY J1-1 (JCT 310)	M 4-8-A	24"x18"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
23	100' S OF STH 310 INTERSECTION ON STH 42	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
24	J13-1 (310-RT ARROW)			---	---	---	---	---	1	310-RT
25	NW QUAD OF STH 310 & STH 42 INTERSECTION	R11-3	60"x30"	1	170	170	170	---	---	1/2 MILE
26	100' N OF STH 310 INTERSECTION ON STH 42	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 6-1	21"x21"	1	170	170	---	---	---	AHEAD ARROW
27	MODIFY J22-1 (TO-43-AH RT)	MB 4-5	EXISTING	---	---	---	---	---	---	
	"	M 1-1	EXISTING	---	---	---	---	---	---	
	"	MB6-1	21"x21"	1	170	170	---	---	---	AHEAD ARROW
28	ABOVE SIGN # 27	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	MO 6-1	21"x21"	1	170	170	---	---	---	ARROW AHEAD

CONTINUED ON NEXT PAGE

**QUANTITIES SHOWN ELSEWHERE

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 170 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 **BARRICADES TYPE III DAYS	643.1050 SIGN PORTABLE CHANGEABLE MESSAGE DAYS	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
29	MODIFY J1-1 (JCT 310)	MO 4-8	24"x12"	1	170	170	---	---	---	
	"	M 3-4	24"x12"	1	170	170	---	---	---	
	"	M 1-6	EXISTING	---		---	---	---	---	310
	"	MO 6-1	21"x21"	1	170	170	---	---	---	ARROW AHEAD
30	200' N OF SIGN # 29	M 1-6	24"x24"	1	170	170	---	---	---	310
	"	W20-2-A	48"x48"	1	170	170	---	---	---	
31	TO BE DETERMINED IN THE FIELD	PCMS		1	7	---	---	7	---	
32	400' W OF COLUMBUS ST INTERSECTION ON STH 42	W3-3	36"x36"	1	170	170	---	---	---	
33	400' W OF COLUMBUS ST INTERSECTION ON STH 42	W3-3	36"x36"	1	170	170	---	---	---	
34	400' E OF COLUMBUS ST INTERSECTION ON STH 42	W3-3	36"x36"	1	170	170	---	---	---	
35	400' E OF COLUMBUS ST INTERSECTION ON STH 42	W3-3	36"x36"	1	170	170	---	---	---	

**QUANTITIES SHOWN ELSEWHERE

PROJECT TOTALS	63	10,540	170	7	1
GRAND TOTALS	92	15,300	340	14	1

MOVING SIGNS TYPE II AND MOVING SMALL SIGN SUPPORTS

SIGN NO.	STATION	LOCATION	DESCRIPTION	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
PROJECT 4337-11-71 CATEGORY 0010						
M201	58+48 LT	STH 310	2HR PARKING 7AM - 8PM EXCEPT SUNDAYS & HOLIDAYS	1		INSTALL UNDER SIGN 239
M202	60+63 LT	STH 310	2HR PARKING 7AM - 8PM EXCEPT SUNDAYS & HOLIDAYS	1	1	

PROJECT TOTALS	2	1
----------------	---	---

TRAFFIC CONTROL

LOCATION	EST. SERVICE PERIOD DAYS	643.0300 DRUMS NO DAYS	643.0420 **BARRICADES TYPE III NO DAYS	643.0705 WARNING LIGHTS TYPE A NO DAYS	643.0900 SIGNS NO DAYS	REMARKS
PROJECT 4337-11-72 CATEGORY 0010						
STH 310	170	---	7 1,190	9 1,530	6 1,020	S.D.D. 15C 2-4A
COLUMBUS ST	170	---	---	---	2 340	S.D.D. 15C 3-1
18TH ST	170	---	5 850	6 1,020	5 850	S.D.D. 15C 3-1
17TH ST	170	---	8 1,360	9 1,530	5 850	S.D.D. 15C 3-1
16TH ST	170	---	8 1,360	9 1,530	5 850	S.D.D. 15C 3-1
UNDISTRIBUTED	170	25 4,250	5 850	10 1,700	5 850	
PROJECT TOTALS		4,250	5,610	7,310	4,760	
PROJECT 4337-11-71 CATEGORY 0010						
14TH ST	170	---	7 1,190	9 1,530	8 1,360	S.D.D. 15C 2-4A
WENTKER CT	170	---	5 850	6 1,020	5 850	S.D.D. 15C 3-1
RIVER PL	170	---	5 850	6 1,020	5 850	S.D.D. 15C 3-1
N. SCHOOL ST	170	---	5 850	6 1,020	5 850	S.D.D. 15C 3-1
S. SCHOOL ST	170	---	5 850	6 1,020	5 850	S.D.D. 15C 3-1
STH 310	170	---	7 1,190	9 1,530	10 1,700	S.D.D. 15C 2-4A
UNDITRIBUTED	170	25 4,250	5 850	10 1,700	5 850	
PROJECT TOTALS		4,250	6,630	8,840	7,310	
GRAND TOTALS		8,500	12,240	16,150	12,070	

**QUANTITIES SHOWN ELSEWHERE

PAVEMENT MARKING

STATION - STATION			LOCATION	646.0106 EPOXY 4-INCH (WHITE) LF	EPOXY 4-INCH (YELLOW) LF	646.0126 EPOXY 8-INCH (WHITE) LF	647.0166 ARROWS EPOXY TYPE 2 (WHITE) EACH	647.0356 WORDS EPOXY (WHITE) EACH	647.0566 STOPLINE EPOXY 18-INCH (WHITE) LF	647.0766 CROSSWALK EPOXY 6-INCH (WHITE) LF
PROJECT 4337-11-72 CATEGORY 0010										
11+73	-	29+50	STH 310	3,600	1,790	---	---	---	---	---
29+50	-	36+50	STH 310	500	175	---	---	---	20	---
36+50	-	41+50	STH 310	---	125	---	---	---	---	---
41+50	-	48+70	STH 310	---	330	---	---	---	---	---
PROJECT TOTALS				6,520	0	0	0	0	20	0
PROJECT 4337-11-71 CATEGORY 0010										
48+70	-	51+40	STH 310	---	345	115	2	1	65	370
51+40	-	55+00	STH 310	---	90	---	---	---	15	195
55+00	-	58+00	STH 310	---	75	---	---	---	15	150
58+00	-	60+93	STH 310	---	75	---	---	---	10	120

PROJECT TOTALS	585	115	2	1	105	835
GRAND TOTALS	7,105	115	2	1	125	835

PROJECT NO: 4337-11-71/72

HWY: STH 310

COUNTY: MANITOWOC

MISCELLANEOUS QUANTITIES

SHEET

3

LOCATING NO PASSING ZONES

LOCATION	648.0100 LOCATING NO PASSING ZONES MI
	PROJECT 4337-11-72 CATEGORY 0010
	PROJECT 0.70
PROJECT TOTAL 0.70	

TEMPORARY TRAFFIC SIGNALS

LOCATION	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS
	PROJECT 4337-11-71 CATEGORY 0010
	MEMORIAL DR/COLUMBUS ST INTERSECTION 1
PROJECT TOTAL 1	

CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH
		PROJECT 4337-11-71 CATEGORY 0010
		STH 310 (14TH STREET) AND MADISON STREET
PB1	EXISTING	98
PROJECT TOTAL		98

TEMPORARY PAVEMENT MARKING

LOCATION	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	649.1200 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 18-INCH
	LF	LF
	PROJECT 4337-11-71 CATEGORY 0010	
MEMORIAL DR/COLUMBUS ST INTERSECTION	60	80
PROJECT TOTAL		60 80

PULL BOXES

NUMBER	ALIGNMENT	STATION	OFFSET	SPV.0060.18 PULL BOX POLYMER CONCRETE TRAFFIC SIGNAL 11x18 INCH
				EACH
				PROJECT 4337-11-71 CATEGORY 0010
PB1	STH 310	59+95	19.3' RT	1

PROJECT TOTALS 1

CRACK & DAMAGE SURVEY

LOCATION	999.1500.S CRACK & DAMAGE SURVEY LS
	PROJECT 4337-11-71 CAT 0010
	PARCEL 36 1
PROJECT TOTAL 1	

EXISTING STORM SEWER LOCATE

LOCATION	SPV.0060.16 EXISTING STORM SEWER LOCATE EACH
	PROJECT 4337-11-72 CATEGORY 0010
	MANHOLE 43 1
UNDISTRIBUTED	1
PROJECT TOTAL 2	

MINI STORM SEWER

STATION TO STATION	DIR	LOCATION	SPV.0090.18 MINI STORM LATERAL 6-INCH	SPV.0090.19 MINI STORM SEWER LATERAL 4-INCH	SPV.0090.20 STORM SEWER LATERAL 4-INCH	SPV.0060.19 MINI STORM SEWER CLEAN OUT
			LF	LF	LF	EA
			PROJECT 4337-11-71 CATEGORY 0030			
48+70 - 51+40	LT	STH 310	81	8	15	2
48+70 - 51+40	RT	STH 310	58	8	18	2
51+40 - 55+00	LT	STH 310	27	5	120	2
51+40 - 55+00	RT	STH 310	---	---	132	---
55+00 - 58+15	LT	STH 310	---	---	---	---
55+00 - 58+15	RT	STH 310	---	---	110	---
58+15 - 60+93	LT	STH 310	248	60	---	3
58+15 - 60+93	RT	STH 310	246	25	---	3
PROJECT TOTAL			660	106	395	12
GRAND TOTAL			660	106	395	12

LOOP DETECTOR

LOOP NO	STATION	LOCATION	SIZE FT X FT	NO OF TURNS	652.0080 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE LF
					LF	LF	LF
					PROJECT 4337-11-71 CATEGORY 0010		
41	59+95	7.0' RT	6 X 8	4	46	283	184
PROJECT TOTAL					46	283	184

CONCRETE JOINT SEALING

STATION TO STATION	LOCATION	SPV.0180.01 CONCRETE JOINT SEALING SY
		PROJECT 4337-11-71 CATEGORY 0030
		48+85 - 51+40 STH 310 1335
51+40 - 55+00	STH 310	1415
55+00 - 58+00	STH 310	1200
58+00 - 60+93	STH 310	1170
PROJECT TOTALS		5,120

3

SAWING

STATION TO STATION	DIR	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
PROJECT 4337-11-72 CATEGORY 0010				
11+73 - 30+00	LT	STH 310	390	---
11+73 - +30	RT	STH 310	100	20
30+00 - 37+00	LT	STH 310	20	230
30+00 - 37+00	RT	STH 310	105	60
37+00 - 42+00	LT	STH 310	60	160
37+00 - 42+00	RT	STH 310	90	130
42+00 - 48+70	LT	STH 310	40	170
42+00 - 48+70	RT	STH 310	70	145
UNDISTRIBUTED	---	---	205	95
PROJECT TOTALS			1,080	1,010
PROJECT 4337-11-71 CATEGORY 0010				
48+85 - 51+40	LT	STH 310	---	55
48+85 - 51+40	RT	STH 310	60	80
51+40 - 55+00	LT	STH 310	---	145
51+40 - 55+00	RT	STH 310	15	65
55+00 - 58+00	LT	STH 310	10	35
55+00 - 58+00	RT	STH 310	10	60
58+00 - 60+93	LT	STH 310	20	140
58+00 - 60+93	RT	STH 310	10	90
UNDISTRIBUTED	---	---	35	70
PROJECT TOTAL			160	740
GRAND TOTALS			1,240	1,750

CONSTRUCTION STAKING

STATION TO STATION	LOCATION	650.4000 STORM SEWER EACH	650.4500 SUBGRADE LF	650.7000 CONCRETE PAVEMENT LF	650.8000 CONST STAKING RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF
PROJECT 4337-11-72 CATEGORY 0010							
11+73 - 48+70	STH 310	8	---	---	3697	1	---
PROJECT TOTALS		8	0	0	3697	1	0
PROJECT 4337-11-71 CATEGORY 0010							
48+70 - 60+93	STH 310	38	1223	1223	---	1.0	1223
100+70 - 101+48	14th STREET	---	78	78	---	---	78
201+51 - 202+35	HAWTHORNE	---	84	84	---	---	84
300+00 - 300+43	WENTKER CT	---	43	43	---	---	43
400+00 - 400+60	RIVER PL	---	60	60	---	---	60
500+00 - 500+43	SCHOOL ST (NORTH)	---	43	43	---	---	43
600+37 - 601+00	SCHOOL ST (SOUTH)	---	63	63	---	---	63
PROJECT TOTAL		38	1,594	1,594	0	1	1,594
GRAND TOTALS		46	1,594	1,594	3,697	2	1,594

REMOVING VALVE AND PIT (SPV.0060.05)

PROJECT 4337-11-73 CATEGORY 0010			
STATION	LOCATION	EACH	REMARKS
49+10	31' RT	1	14TH ST.
49+80	32' RT	1	HAWTHORNE ST.
51+30	32' RT	1	WENTKER CT.
55+08	32' LT	1	SCHOOL ST.
TOTAL		4	

REMOVING SANITARY SEWER MANHOLES (SPV.0060.06)

PROJECT 4337-11-73 CATEGORY 0010			
STATION	LOCATION	EACH	REMARKS
49+52	1.5' LT	1	HAWTHORNE AVE.
51+39	1.5' LT	1	WENTKER CT.
54+99	1.5' LT	1	RIVER PL.
58+15	1.5' LT	1	SCHOOL ST.
58+15	40' LT	1	SCHOOL ST.
58+15	3' RT	1	SCHOOL ST.
TOTAL		6	

REMOVING HYDRANT (SPV.0060.07)

PROJECT 4337-11-73 CATEGORY 0010			
STATION	LOCATION	EACH	REMARKS
49+75	23' LT	1	HAWTHORNE AVE.
51+70	23' LT	1	WENTKER CT.
54+70	23' LT	1	RIVER PL.
57+85	34' LT	1	SCHOOL ST.
TOTAL		4	

REMOVING EXISTING WATER MAIN (SPV.0090.04)

PROJECT 4337-11-73 CATEGORY 0010			
STATION TO STATION	LOCATION	L.F.	REMARKS
48+80 TO 49+52	LT	60	HAWTHORNE AVE.
49+52 TO 51+29	LT	177	14TH ST.
51+29 TO 55+08	LT	379	14TH ST.
55+08 TO 58+46	LT	308	14TH ST.
58+46 TO 61+05	LT	259	14TH ST.
49+52 TO 48+99	10' LT TO 47' RT	70	14TH ST.
49+52 TO 50+00	10' LT TO 55' RT	91	HAWTHORNE ST
51+29	10' LT TO 41' LT	26	WENTKER CT
55+08	10' LT TO 35' LT	23	RIVER PL.
58+46	48' LT TO 68' RT	116	SCHOOL ST.
TOTAL		1509	

VALVE AND BOX

PROJECT 4337-11-73 CATEGORY 0010					
STATION	LOCATION	SPV.0060.08	SPV.0060.09	SPV.0060.10	REMARKS
		6 - INCH EACH	8 - INCH EACH	10 - INCH EACH	
49+77	24' LT	1			HYDRANT - HAWTHORNE AVE.
51+75	24' LT	1			HYDRANT - WENTKER CT.
55+39	24' LT	1			HYDRANT - RIVER PL.
58+46	24' LT	1			HYDRANT - SCHOOL ST.
48+98	14' LT		1		HAWTHORNE AVE.
48+99.5	47' RT			1	14TH ST.
49+93	14' LT			1	14TH ST.
50+00	55' RT		1		HAWTHORNE AVE.
51+80	14' LT			1	14TH ST.
55+45	14' LT			1	14TH ST.
58+51	14' LT			1	14TH ST.
58+20	68' RT		1		SCHOOL STREET
TOTAL		4	3	5	

HYDRANT AND HYDRANT LEAD

PROJECT 4337-11-73 CATEGORY 0010				
STATION	LOCATION	SPV.0060.14	SPV.0090.05	REMARKS
		HYDRANT EACH	HYDRANT LEAD, 6-INCH L.F.	
49+77	24' LT	1	8	HAWTHORNE AVE.
51+75	24' LT	1	8	WENTKER CT.
55+39	24' LT	1	8	RIVER PL.
58+46	24' LT	1	8	SCHOOL ST.
TOTAL		4	32	

WATER MAIN

PROJECT 4337-11-73 CATEGORY 0010						
STATION TO STATION	LOCATION	SPV.0090.06	SPV.0090.07	SPV.0090.08	SPV.0090.09	REMARKS
		4 - INCH L.F.	6 - INCH L.F.	8 - INCH L.F.	10 - INCH L.F.	
48+80 TO 49+52	LT				60	HAWTHORNE AVE.
49+52 TO 51+29	LT				177	14TH ST.
51+29 TO 55+08	LT				379	14TH ST.
55+08 TO 58+46	LT				308	14TH ST.
58+46 TO 61+05	LT				259	14TH ST.
49+52 TO 48+99	14' LT TO 47' RT	7			70	14TH ST.
49+52 TO 50+00	14' LT TO 55' RT	7		91		HAWTHORNE ST
51+29	14' LT TO 41' LT		7	26		WENTKER CT
55+08	14' LT TO 35' LT		7	23		RIVER PL.
58+46	48' LT TO 68' RT	14		116		SCHOOL ST.
TOTAL		28	14	256	1193	

3

WATER SERVICES

PROJECT 4337-11-73
CATEGORY 0010

STATION	LOCATION	SPV.0060.11	SPV.0060.12	SPV.0090.10	COMMENT
		1 - INCH	1 - INCH	1 - INCH	
		TAP & CORPORATION	VALVE & BOX	COPPER	
		EACH	EACH	L.F.	
49+80	33' RT	1	1	35	1318 HAWTHORNE AVE
50+15	LT	1	1	15	1401 HAWTHORNE
50+40	LT	1	1	15	2106 14TH ST
50+64	RT	1	1	45	2029 14TH ST
50+68	LT	1	1	15	2102 14TH ST
51+14	RT	1	1	45	2025 14TH ST
51+71	RT	1	1	45	2023 14TH ST
51+90	LT	1	1	15	2018 14TH ST
52+25	RT	1	1	45	2019 14TH ST
52+60	LT	1	1	15	2014 14TH ST
52+75	RT	1	1	45	2015 14TH ST
53+22	LT	1	1	15	2010 14TH ST
53+52	RT	1	1	45	2009 14TH ST
53+82	RT	1	1	45	2007 14TH ST
53+92	LT	1	1	15	2006 14TH ST
54+32	RT	1	1	45	2003 14TH ST
54+55	LT	1	1	15	2002 14TH ST
55+03	RT	1	1	45	1923 14TH ST
55+50	RT	1	1	45	1917 14TH ST
55+92	RT	1	1	45	1917 14TH ST
56+99	RT	1	1	45	1909 14TH ST
58+55	RT	1	1	45	1823 14TH ST
58+77	RT	1	1	15	1818 14TH ST
58+95	LT	1	1	45	1819 14TH ST
59+20	LT	1	1	15	1814 14TH ST
59+26	RT	1	1	45	1817 14TH ST
59+62	LT	1	1	15	1812 14TH ST
59+65	RT	1	1	45	1815 14TH ST
60+31	LT	1	1	15	1810 14TH ST
60+48	RT	1	1	45	1811 14TH ST
60+66	LT	1	1	30	1808 14TH ST

TOTAL 31 31 1010

WATER MAIN FITTINGS (SPV.0085.01)

PROJECT 4337-11-73
CATEGORY 0010

STATION	LOCATION	EACH WT	LB	REMARKS	
48+80	14' LT	39	39	8"X6" REDUCER	HAWTHORNE AVE
48+80	12' LT	39	78	6"X45 DEG BEND (2)	HAWTHORNE AVE
48+99	47' RT	53	53	10"X4" REDUCER	14TH STREET
48+99	47' RT	20	40	4"X45 DEG BEND (2)	14TH STREET
49+52.7	14' LT	135	135	10"X8" CROSS	HAWTHORNE AVE AND 14TH STREET
49+52.7	14' LT	56	112	8"X45 DEG BEND (2)	HAWTHORNE AVE AND 14TH STREET
49+77	14' LT	99	99	10"X6" TEE	HYDRANT AT HAWTHORNE AVE
50+00	55' RT	39	39	8"X6" REDUCER	HAWTHORNE AVE
50+00	55' RT	39	78	6"X45 DEG BEND (2)	HAWTHORNE AVE
51+29	14' LT	116	116	10"X8" TEE	WENTKER CT
51+29	41' LT	39	39	8"X6" REDUCER	WENTKER CT
51+29	41' LT	39	78	6"X45 DEG BEND (2)	WENTKER CT
51+75	14' LT	99	0	10"X6" TEE	HYDRANT AT WENTKER CT
55+08	14' LT	116	116	10"X8" TEE	RIVER PLACE
55+08	35' LT	39	39	8"X6" REDUCER	RIVER PLACE
55+08	35' LT	39	78	6"X45 DEG BEND (2)	RIVER PLACE
55+39	14' LT	99	99	10"X6" TEE	HYDRANT AT RIVER PLACE
58+20	14' LT	135	135	10"X8" CROSS	SCHOOL STREET
58+20	48' LT	36	36	8"X4" REDUCER	SCHOOL STREET
58+20	48' LT	20	40	4"X45 DEG BEND (2)	SCHOOL STREET
58+20	68' RT	36	36	8"X4" REDUCER	SCHOOL STREET
58+20	68' RT	20	40	4"X45 DEG BEND (2)	SCHOOL STREET
58+46	14' LT	99	99	10"X6" TEE	HYDRANT AT SCHOOL STREET
61+03	14' LT	54	54	10"X8" REDUCER	WEST OF MADISON STREET

TOTAL 1678

INSULATION, 2 - INCH (SPV.0165.02)

PROJECT 4337-11-73
CATEGORY 0010

STATION	LOCATION	S.F.	REMARKS
51+14	RT	32	2025 14TH ST
51+71	RT	32	2023 14TH ST
52+25	RT	32	2019 14TH ST
52+75	RT	32	2015 14TH ST
53+52	RT	32	2009 14TH ST
53+82	RT	32	2007 14TH ST
54+32	RT	32	2003 14TH ST
55+03	RT	32	1923 14TH ST
55+50	RT	32	1917 14TH ST
55+92	RT	32	1917 14TH ST
56+99	RT	32	1909 14TH ST

TOTAL 352

3

3

SANITARY LATERAL, 6 - INCH (SPV.0090.11)

PROJECT 4337-11-73 CATEGORY 0010			
STATION	LOCATION	L.F.	REMARKS
49+16	45' RT	30	HSE 1318/1316 HAWTHORNE; 10:X6" WYE REQ'D
50+07	LT	30	1401 HAWTHORNE
50+45	LT	30	2106 14TH ST
50+66	RT	30	2029 14TH ST
50+76	KT	30	2102 14TH ST
51+26	RT	30	2025 14TH ST
51+87	RT	30	2023 14TH ST
51+92	LT	30	2018 14TH ST
52+40	RT	30	2019 14TH ST
52+63	RT	30	2015 14TH ST
52+80	LT	30	2014 14TH ST
53+30	LT	30	2010 14TH ST
53+52	RT	30	2009 14TH ST
53+87	LT	30	2006 14TH ST
53+92	RT	30	2007 14TH ST
54+55	RT	30	2003 14TH ST
54+63	LT	30	2002 14TH ST
55+00	RT	30	1923 14TH ST
55+77	RT	30	1917 14TH ST
56+05	RT	30	1917 14TH ST
56+68	RT	30	1909 14TH ST
57+09	RT	30	1909 14TH ST
58+58	RT	30	1823 14TH ST
58+92	RT	30	1819 14TH ST
58+92	LT	30	1818 14TH ST
59+30	LT	30	1814 14TH ST
59+32	RT	30	1817 14TH ST
59+66	LT	30	1812 14TH ST
59+70	RT	30	1815 14TH ST
60+50	LT	30	1810 14TH ST
60+54	RT	30	1811 14TH ST
60+80	LT	30	1808 14TH ST
TOTAL		960	

SANITARY SEWER

PROJECT 4337-11-73 CATEGORY 0010		SPV.0090.12	SPV.0090.13	SPV.0090.14	SPV.0090.15	SPV.0090.16
STATION TO STATION	LOCATION	8 -INCH L.F.	10 - INCH L.F.	12 - INCH L.F.	18 - INCH L.F.	24 - INCH L.F.
49+52 TO 51+39	1.5'LT					187
51+39 TO 54+99	1.5'LT					360
54+99 TO 58+15	1.5'LT					316
58+15 TO 61+05	1.5'LT					290
48+85 TO 49+52	1.5'LT					65
49+11 TO 49+52	46.8' RT TO 1.5' LT		63			
49+85 TO 49+52	49'RT TO 1.5'LT	60				
51+39	40' LT TO 1.5' LT	40				
58+15	40' LT TO 1.5' LT			40		
58+12.3	62' RT TO 1.5' LT				63	
TOTAL		100	63	40	63	1218

SANITARY MANHOLE, SANITARY SEWER MANHOLE CASTINGS, AND CONSTRUCTION STAKING SANITARY SEWER

PROJECT 4337-11-73 CATEGORY 0010		SPV.0200.01	SPV.0200.02	SPV.0060.13	SPV.0060.15	
STATION	LOCATION	48 INCH DIA MANHOLE V.F.	60 INCH DIA MANHOLE V.F.	CASTINGS EACH	STAKING EACH	REMARKS
49+52	1.5' LT		17.89	1	1	SA1
51+39	1.5' LT	16.91		1	1	SA2
54+99	1.5' LT	11.84		1	1	SA3
58+15	1.5' LT		11.69	1	1	SA4
61+05	1.5' LT	14.58		1	1	SA5
48+85	1.5' LT	17.65		1	1	SA1.1
49+11.5	46.8' RT	13.81		1	1	SA1.2
49+85	49' RT	8.86		1	1	SA1.3
51+39	45' LT	9.78		1	1	SA2.1
58+15	40' LT	8.1		1	1	SA4.1
58+12.3	62' RT	9.85		1	1	SA4.2
TOTAL		111.38	29.58	11	11	

3

Conventional Signs and Abbreviations

SECTION LINE	AC	ACRES	R	RADIUS
QUARTER LINE	Δ	CENTRAL ANGLE	R.	RANGE
TOWNSHIP AND RANGE LINE	C/L	CENTERLINE	R/L	REFERENCE LINE
PROPOSED OR NEW CENTERLINE	COR.	CORNER	R/W	RIGHT OF WAY
PROPOSED OR NEW R/W LINE	CTH	COUNTY TRUNK HIGHWAY	1/4 LINE	QUARTER LINE
EXISTING R/W LINE	D	DEGREE OF CURVE	1/16 LINE	SIXTEENTH LINE
LOT LINE	E.	EAST	S.	SOUTH
PROPERTY LINE	L	LENGTH OF CURVE	SEC	SECTION
COUNTY LINE LIMITS	LC	LONG CHORD	SEC LINE	SECTION LINE
SLOPE INTERCEPTS	LCB	LONG CHORD BEARING	STH	STATE TRUNK HIGHWAY
EXISTING MONUMENTATION	MI	MILE	SF	SQUARE FEET
FENCE	N.	NORTH	STA	STATION
SECTION OR QUARTER CORNER	PC	POINT OF CURVATURE	T.	TOWN
POWER POLE	PI	POINT OF INTERSECTION	T	TANGENT LENGTH OF CURVE
TELEPHONE PEDESTAL	PT	POINT OF TANGENCY	TI	TEMPORARY INTEREST
MONITORING WELL	PLE	PERMANENT LIMITED EASEMENT	USH	UNITED STATES HIGHWAY
UNDERGROUND TELEPHONE CABLE	P/L	PROPERTY LINE	W.	WEST
NO ACCESS (BY ACQUISITION)		POWER POLE		
NO ACCESS (BY STATUTORY AUTHORITY)		TELEPHONE POLE		
NO ACCESS (BY PREVIOUS PROJECT)		TELEPHONE PEDESTAL		
TEMPORARY LIMITED EASEMENT		ELECTRIC TOWER		
PERMANENT LIMITED EASEMENT		EXISTING BUILDING		
HIGHWAY EASEMENT		EXISTING BUILDING TO BE RAZED		
RIGHT-OF-WAY TYPE 2 MONUMENTS SET AT NEWLY ACQUIRED R/W ANGLE POINTS (3/4" REBAR)				
SIGN NUMBER (OFF PREMISE)				

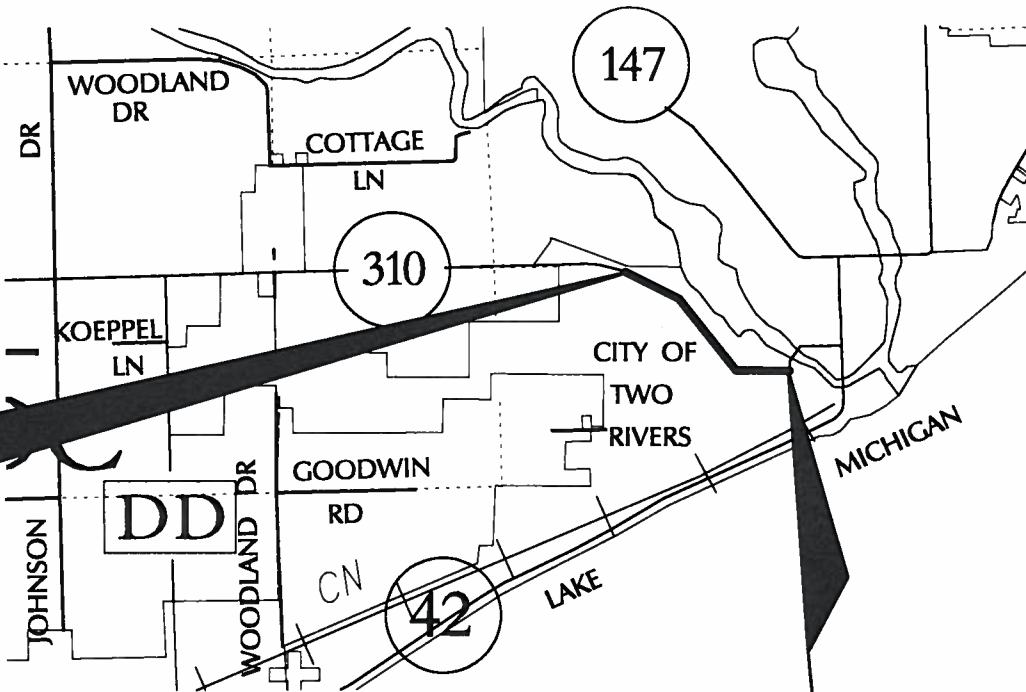
R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
4337-11-22	4.1	7
FEDERAL PROJECT NUMBER		
PLAT OF RIGHT-OF-WAY REQUIRED FOR HAWTHORNE AVENUE, CITY OF TWO RIVERS COLUMBUS ST - 14TH ST 14TH STREET, CITY OF TWO RIVERS HAWTHORNE AVE - MADISON ST		
STH 310	MANITOWOC COUNTY	
CONSTRUCTION PROJECT NUMBER	4337-11-71/72	

N

BEGIN RELOCATION ORDER

STATION 9+96.82

134.46 FEET SOUTH OF AND 286.79 FEET
EAST OF THE N¹/₄ CORNER, SECTION 2
T19N, R24E, CITY OF TWO RIVERS,
MANITOWOC COUNTY, WISCONSIN
Y: 323176.801
X: 251805.881



T-20-N

T-19-N

R-24-E

END RELOCATION ORDER

STATION 61+49.00

8.09 FEET NORTH OF AND 1680.59 FEET
EAST OF THE W¹/₄ CORNER, SECTION 1,
T19N, R24E, CITY OF TWO RIVERS,
MANITOWOC COUNTY, WISCONSIN
Y: 320602.856
X: 255858.813

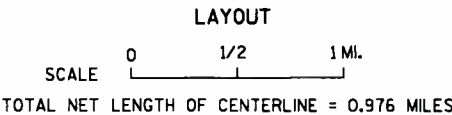
Notes

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, (MANITOWOC COUNTY ZONE, NAD 83 (1991) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION REGION OFFICE IN GREEN BAY.



ACCEPTED FOR
CITY OF TWO RIVERS

(5/9/12)

(Date)

(Signature & Title of Official)

ORIGINAL PLANS PREPARED BY

OMNI
ASSOCIATES
APPLETON, WISCONSIN



4-30-12

(Date)

(Signature)

REV 6-1-12

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY
AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND
INTEREST TO THE CITY OF TWO RIVERS.

PARCEL NUMBER	PLAT SHEET NUMBER	OWNER	INT. REQD.	AREA ACRES REQUIRED			TLE AREA	PLE AREA
				NEW	EXISTING	TOTAL		
1	4.4 4.6 4.7	CITY OF TWO RIVERS	TLE PLE	----	----	----	1259 SQ FT	715 SQ FT
2	4.5	TARA L. STEWART	FEE TLE	56 SQ FT	----	56 SQ FT	521 SQ FT	----
3	4.5	ROBERT P. POTOSNYAK	TLE	----	----	----	222 SQ FT	----
4	4.5	JOSE A. FUENTES & GAY L. FUENTES	FEE TLE	208 SQ FT	----	208 SQ FT	446 SQ FT	----
6	4.5	ANNETTE M. TONINI A.K.A. ANNETTE M. ENGLAND	TLE	----	----	----	250 SQ FT	----
7	4.5	JOHN P. ROBERT	TLE	----	----	----	577 SQ FT	----
8	4.5	LINDA L. HANSEN F.K.A. LINDA L. HENRICKSON	TLE	----	----	----	368 SQ FT	----
9	4.5	ALFRED H. HELLER & CAROL J. HELLER	TLE	----	----	----	341 SQ FT	----
11	4.5	BONNIE SHIMULUNAS	TLE	----	----	----	336 SQ FT	----
12	4.5	RUSSELL J. SOUKUP	TLE	----	----	----	485 SQ FT	----
13	4.5	MICHAEL D. RATHSACK VENDOR, LAND CONTRACT AARON M. RATHSACK VENDEE	TLE	----	----	----	384 SQ FT	----
14	4.5 4.6	DAVID H. LANE & PAMELA R. LANE	TLE	----	----	----	470 SQ FT	----
16	4.5 4.6	PAUL J. RESCH	TLE	----	----	----	448 SQ FT	----
17	4.6	MELVIN C. WILLIAMS III & KATHRYN J. WILLIAMS	TLE	----	----	----	586 SQ FT	----
18	4.6	DIANE MARIE PROPERTIES LLC	TLE	----	----	----	384 SQ FT	----
19	4.6	ROGER K. MUSKETT & DEBORAH P. MUSKETT	FEE TLE	13 SQ FT	----	13 SQ FT	408 SQ FT	----
21	4.6	STEVEN J. GORDAN	TLE	----	----	----	477 SQ FT	----
22	4.6	MICHAEL J. STAUDT & LINDA STAUDT, MARION I. STAUDT LIFE ESTATE	TLE	----	----	----	302 SQ FT	----
23	4.6	JOHN FEUERSTEIN	TLE	----	----	----	625 SQ FT	----
24	4.6	GARY K. STONE & SHARON M. STONE	TLE	----	----	----	826 SQ FT	----
26	4.6 4.7	BARBARA S. SAPA	FEE TLE	13 SQ FT	----	13 SQ FT	767 SQ FT	----
27	4.7	DOUGLAS A. URBAN & KINGA E. URBAN	FEE TLE	13 SQ FT	----	13 SQ FT	344 SQ FT	----
28	4.7	LAVONNE N. KUNESH	FEE TLE	13 SQ FT	----	13 SQ FT	348 SQ FT	----
29	4.7	NORMAN A. MEYERS JR	TLE	----	----	----	240 SQ FT	----
31	4.7	JIM V. SMITH & SHAWN SMITH	TLE	----	----	----	431 SQ FT	----
32	4.7	JOSEPH J. WISNICKY	TLE	----	----	----	387 SQ FT	----
33	4.7	WAYNE J. BLAHA & KATHRYN J. BLAHA	TLE	----	----	----	288 SQ FT	----
34	4.7	JEROME C. SCHBRING	TLE	----	----	----	388 SQ FT	----
36	4.7	ADELINE TOLKSDORF	TLE	----	----	----	540 SQ FT	----
37	4.7	IRENE E. KONO	TLE	----	----	----	399 SQ FT	----
38	4.7	TRAVIS DUCKETT & CHRISTINA VELA	TLE	----	----	----	360 SQ FT	----
39	4.7	KARIN HEILI	TLE	----	----	----	210 SQ FT	----
41	4.7	CHARLES A. RADEY & KATHRYN A. RADEY	TLE	----	----	----	18 SQ FT	----
90	4.5	FRONTIER COMMUNICATIONS	RELEASE OF RIGHTS	----	----	----	----	----
91	4.6	CITY OF TWO RIVERS	RELEASE OF RIGHTS	----	----	----	----	----

REVISION DATE: 6-1-12

DATE: 4-30-12

SCALE, FEET



HWY: STH 310

COUNTY: MANITOWOC

STATE R/W PROJECT NUMBER: 4337-11-22

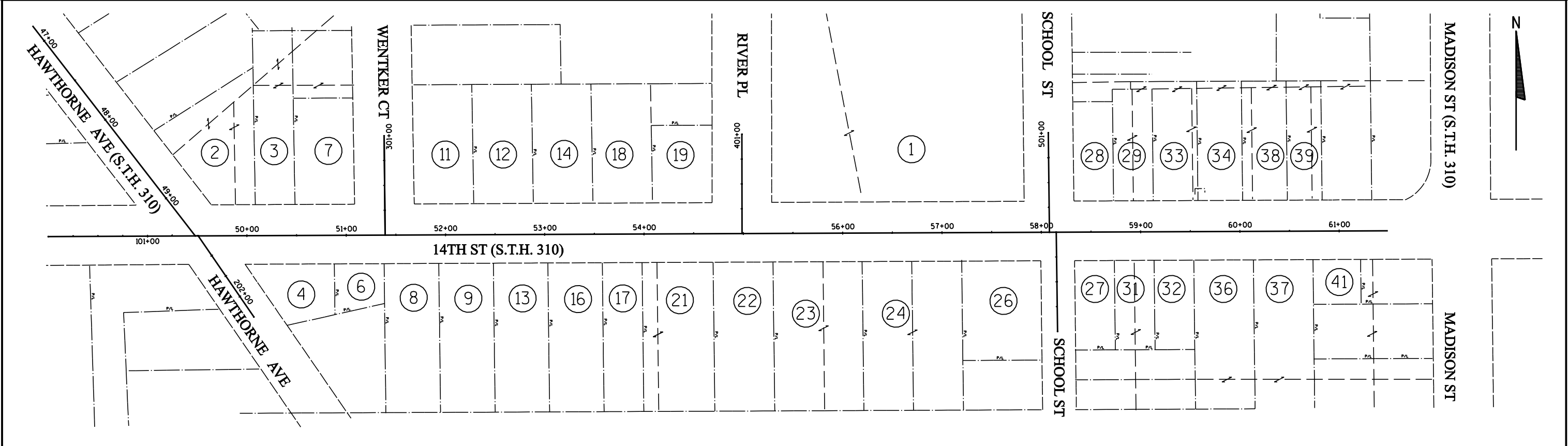
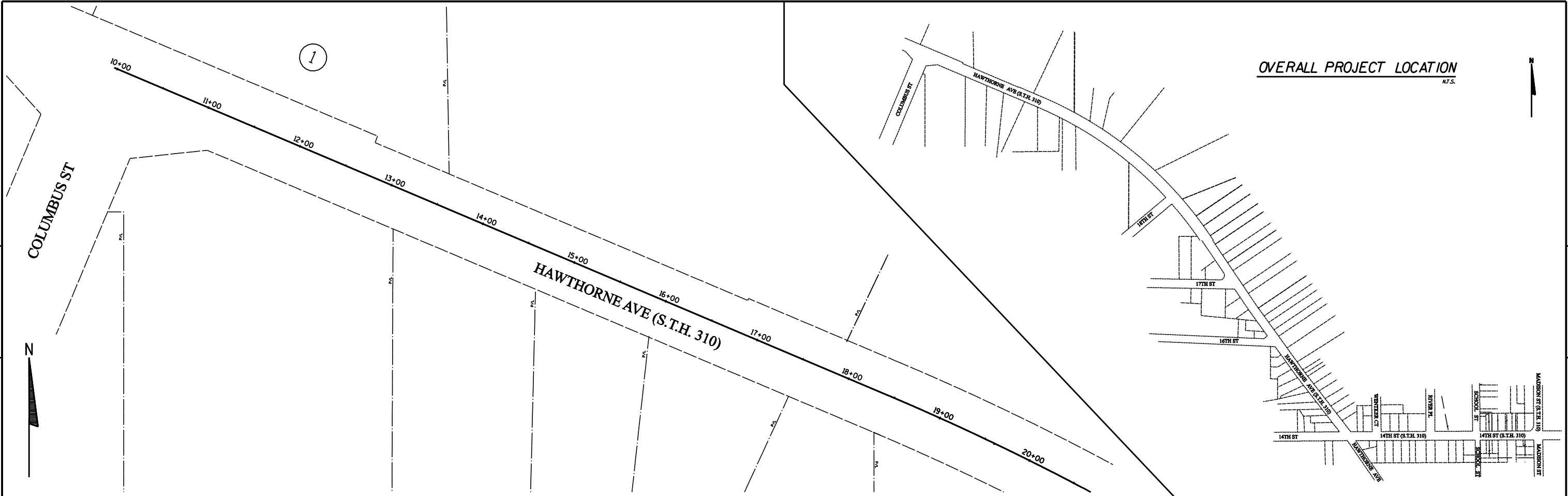
CONSTRUCTION PROJECT NUMBER: 4337-11-71/72

PLAT SHEET NO: 4.2

PS&E SHEET NO: 66

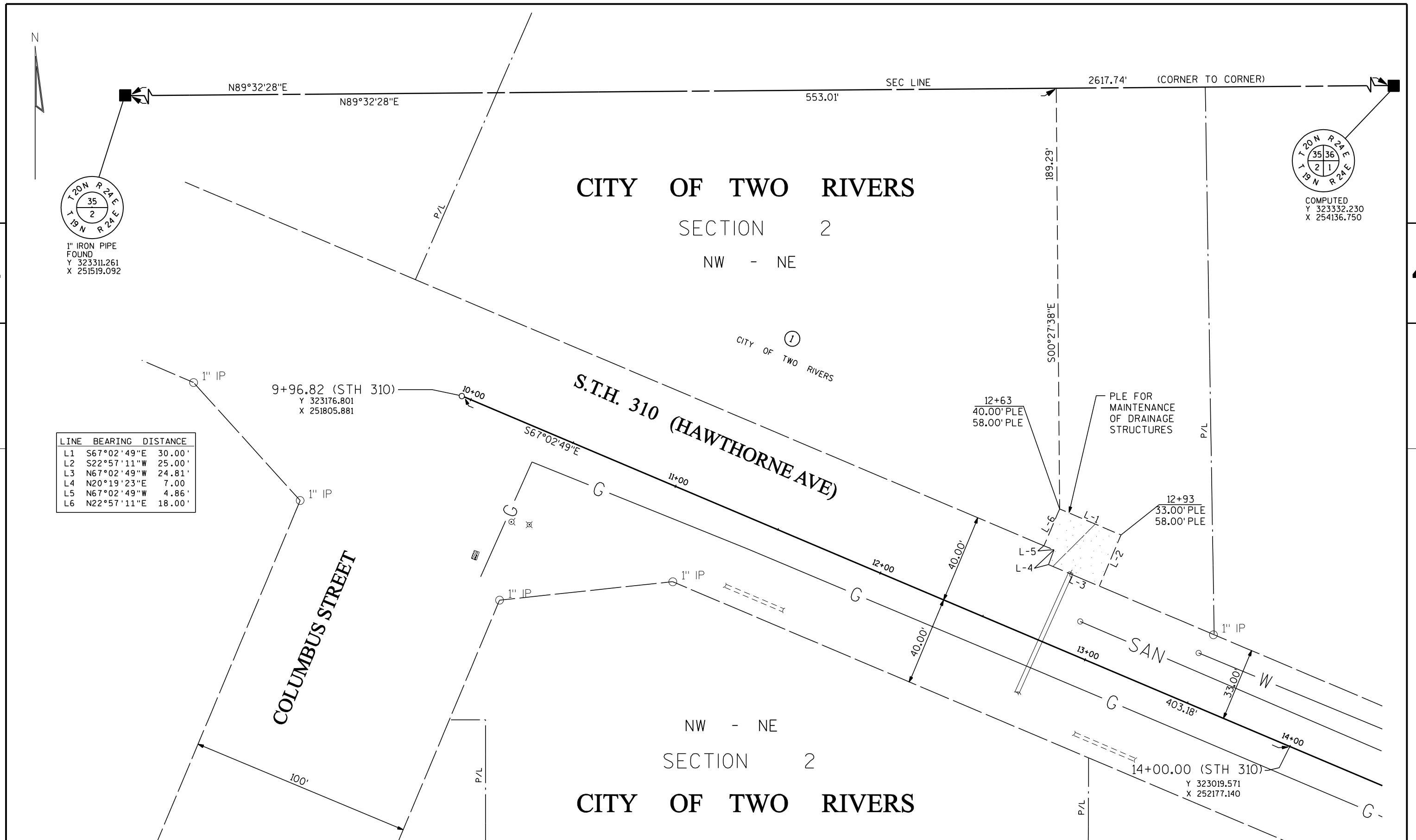
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LEVELS ON - 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

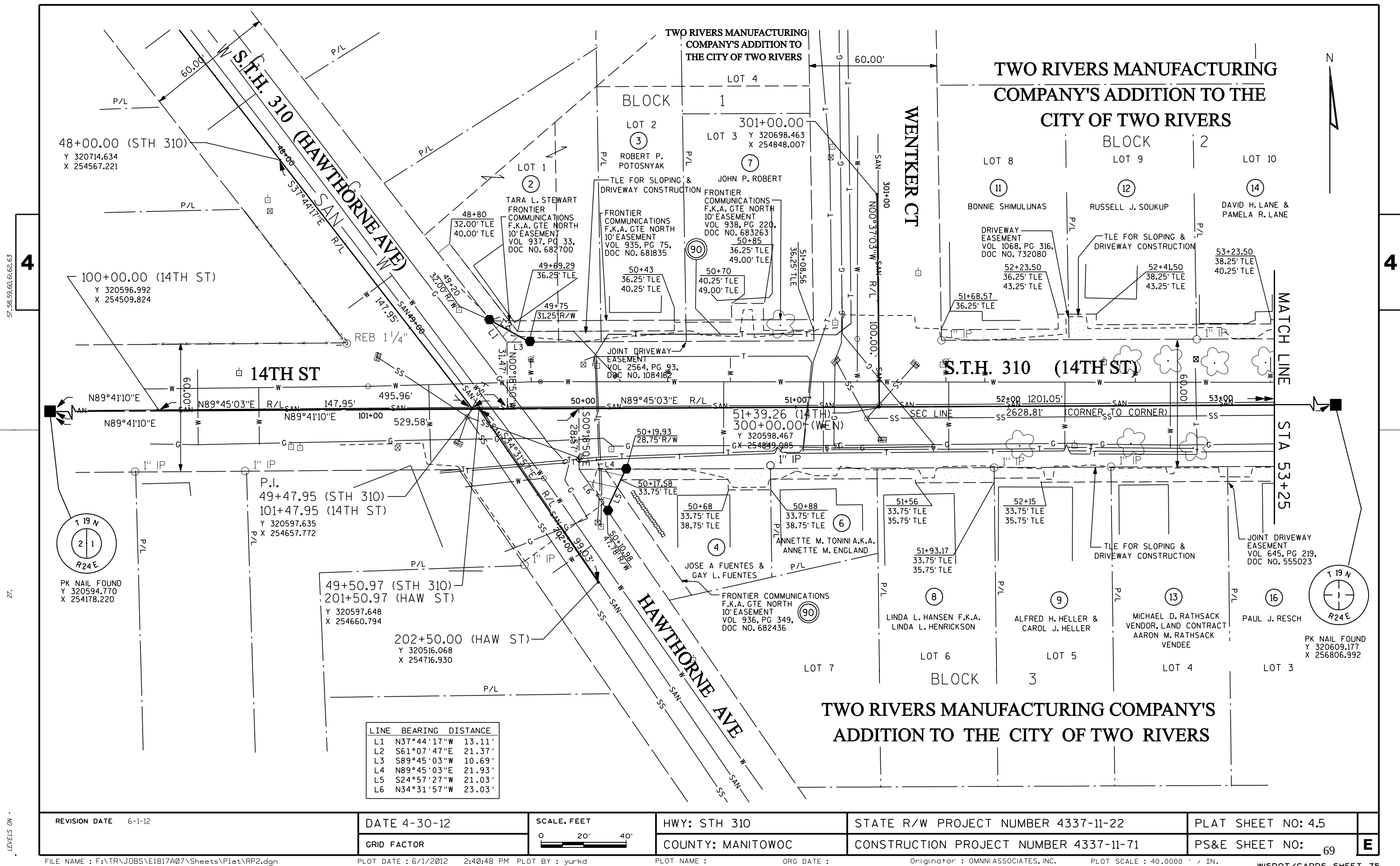


REVISION DATE 6-1-12	DATE 4-30-12		HWY: STH 310	STATE R/W PROJECT NUMBER 4337-11-22	PLAT SHEET NO: 4.3	E
			COUNTY: MANITOWOC	CONSTRUCTION PROJECT NUMBER 4337-11-71/72	PS&E SHEET NO: 67	

4



REVISION DATE 6-1-12	DATE 4-30-12	SCALE, FEET 	HWY: STH 310	STATE R/W PROJECT NUMBER 4337-11-22	PLAT SHEET NO: 4.4	E
	GRID FACTOR		COUNTY: MANITOWOC	CONSTRUCTION PROJECT NUMBER 4337-11-72	PS&E SHEET NO: 68	



57.58.59.

27.

LEVELS ON -

4

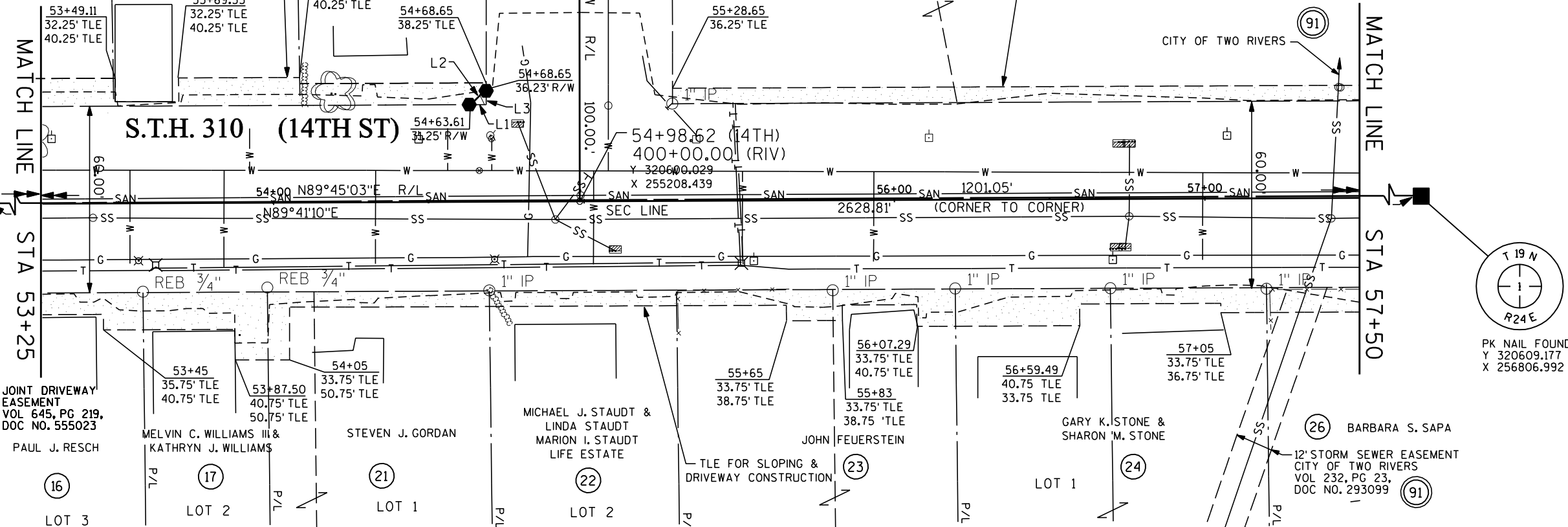
4

**TWO RIVERS MANUFACTURING
COMPANY'S ADDITION TO THE
CITY OF TWO RIVERS**

BLOCK 2
LOT 10
LOT 11
LOT 12
DIANE MARIE PROPERTIES, LLC
TLE FOR SLOPING & DRIVEWAY CONSTRUCTION
ROGER K. MUSKETT & DEBORAH P. MUSKETT

RIVER PLACE

ASSESSMENT PLAT NUMBER 6



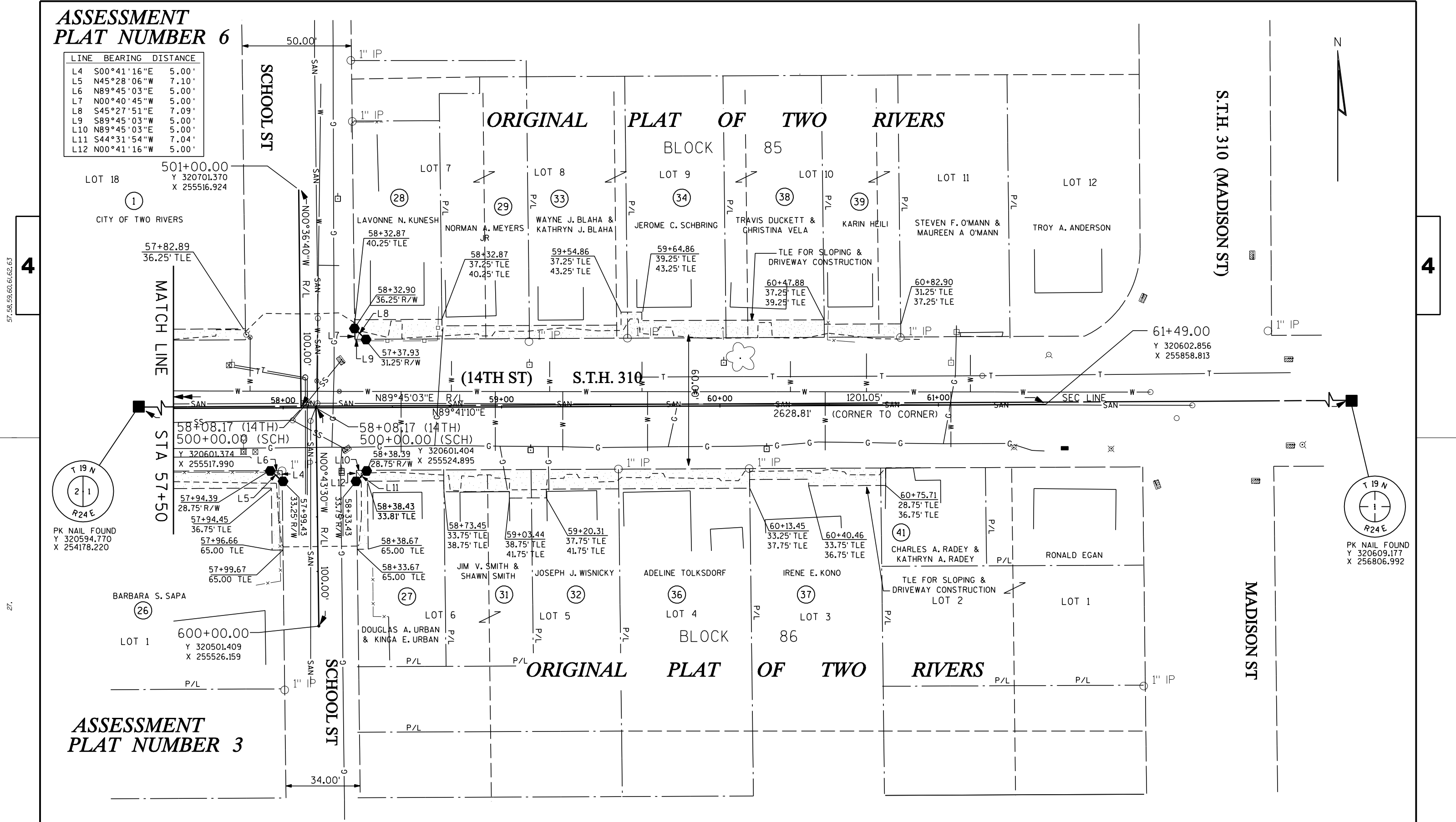
**TWO RIVERS MANUFACTURING
COMPANY'S ADDITION TO THE
CITY OF TWO RIVERS**

ASSESSMENT PLAT NUMBER 3

REVISION DATE 6-1-12	DATE 4-30-12	SCALE, FEET 0 20' 40'	HWY: STH 310	STATE R/W PROJECT NUMBER 4337-11-22	PLAT SHEET NO: 4.6
GRID FACTOR			COUNTY: MANITOWOC	CONSTRUCTION PROJECT NUMBER 4337-11-71	PS&E SHEET NO: 70

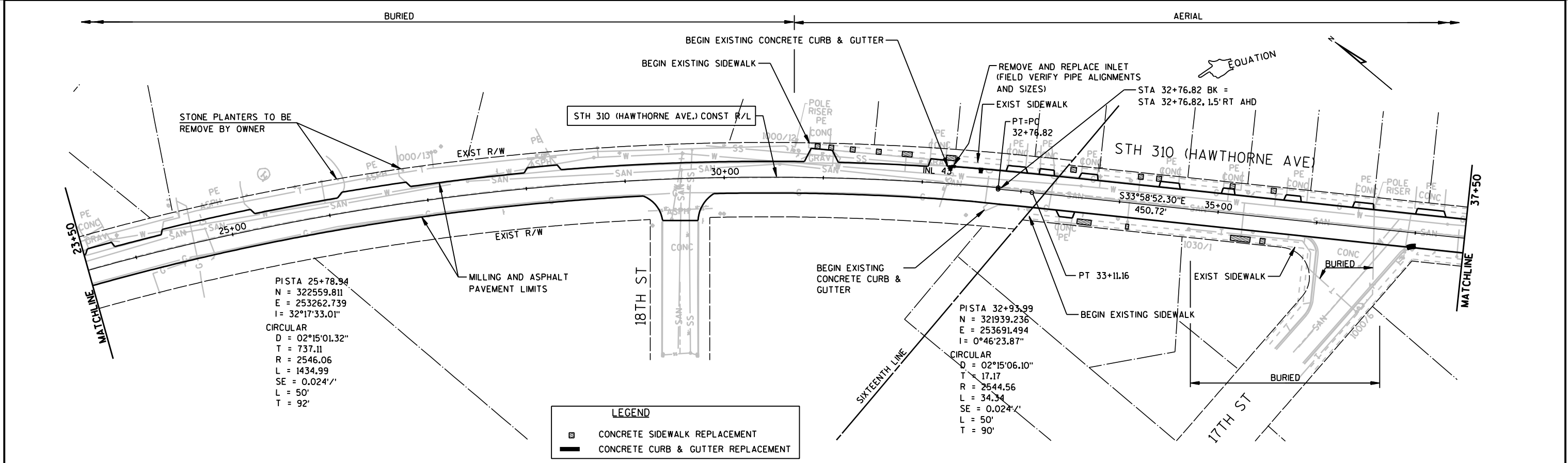
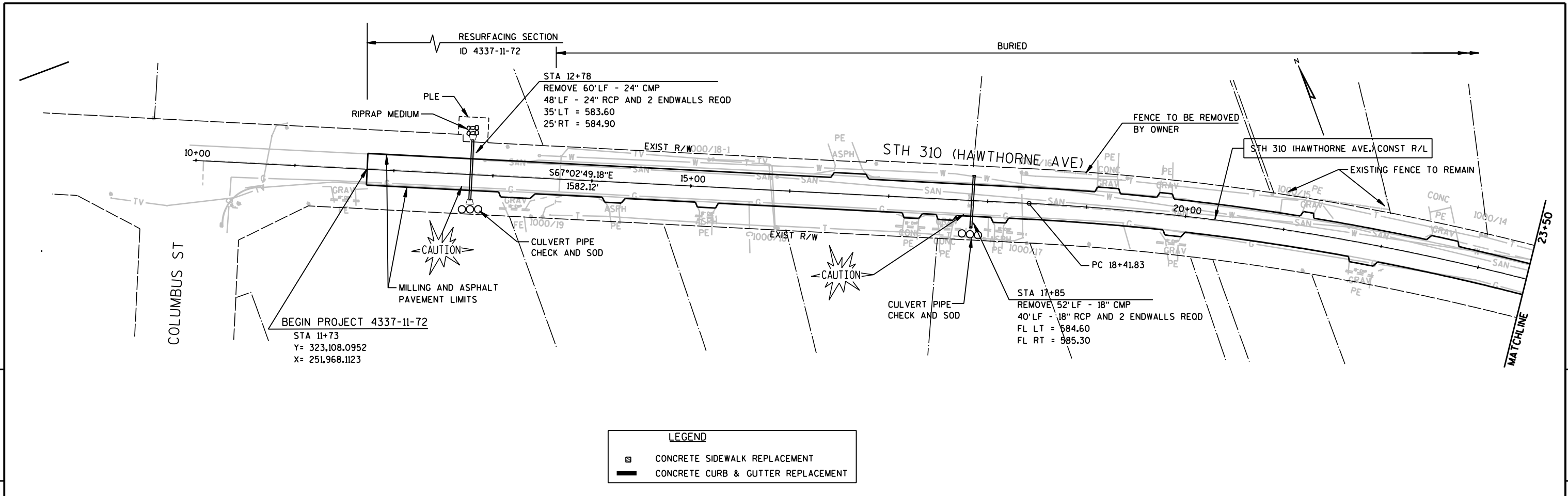
ASSESSMENT
PLAT NUMBER 6

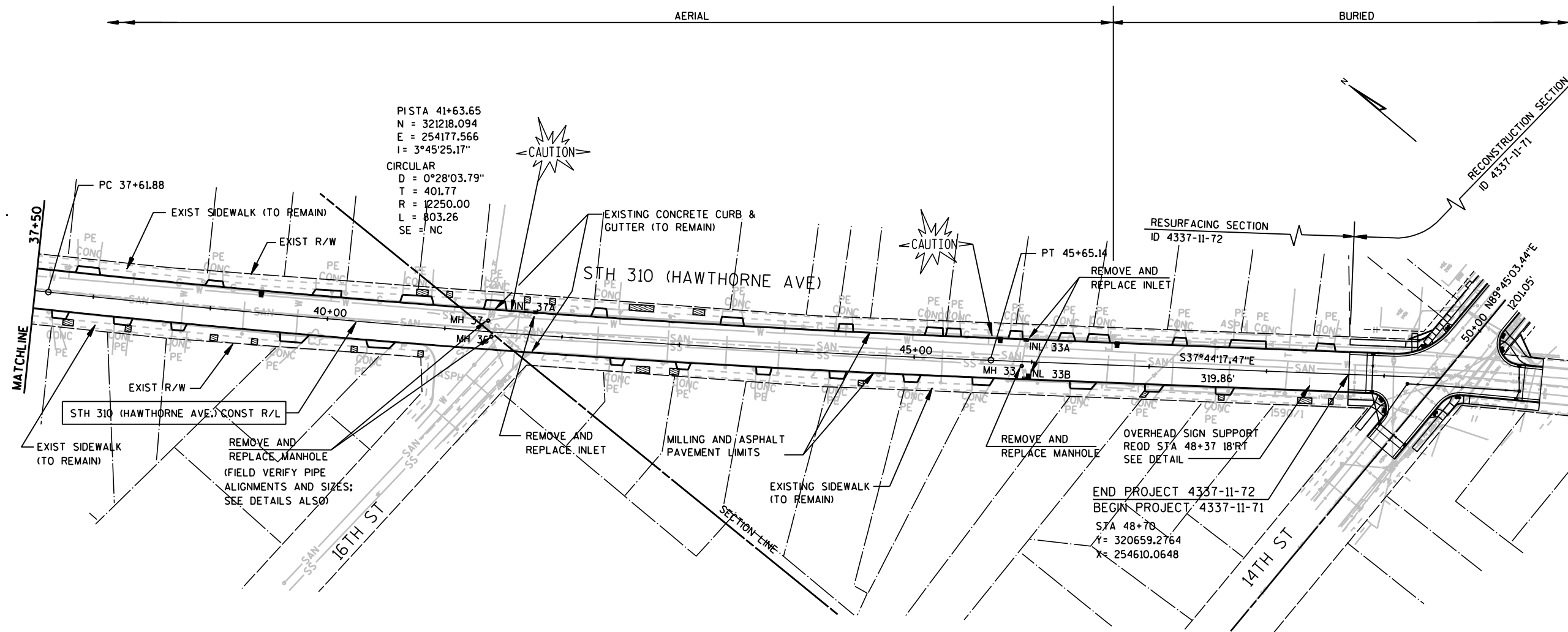
LINE	BEARING	DISTANCE
L4	S00°41'16"E	5.00'
L5	N45°28'06"W	7.10'
L6	N89°45'03"E	5.00'
L7	N00°40'45"W	5.00'
L8	S45°27'51"E	7.09'
L9	S89°45'03"W	5.00'
L10	N89°45'03"E	5.00'
L11	S44°31'54"W	7.04'
L12	N00°41'16"W	5.00'



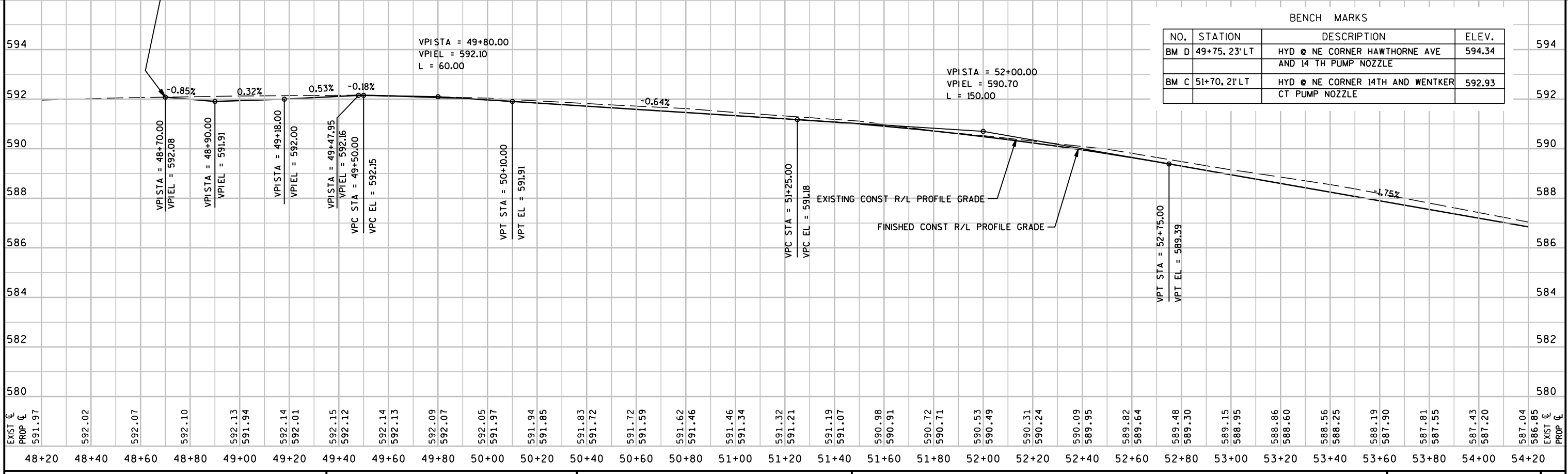
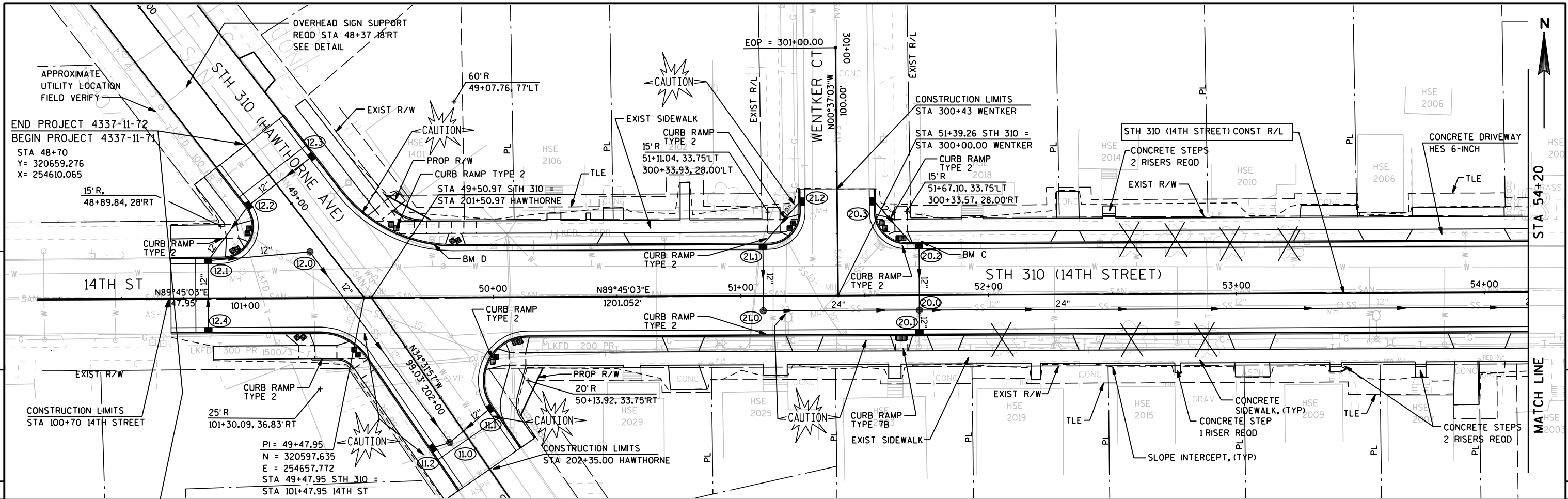
ASSESSMENT
PLAT NUMBER 3

REVISION DATE 6-1-12	DATE 4-30-12	SCALE, FEET 0 20' 40'	HWY: STH 310	STATE R/W PROJECT NUMBER 4337-11-22	PLAT SHEET NO: 4.7
GRID FACTOR			COUNTY: MANITOWOC	CONSTRUCTION PROJECT NUMBER 4337-11-71	PS&E SHEET NO: 71



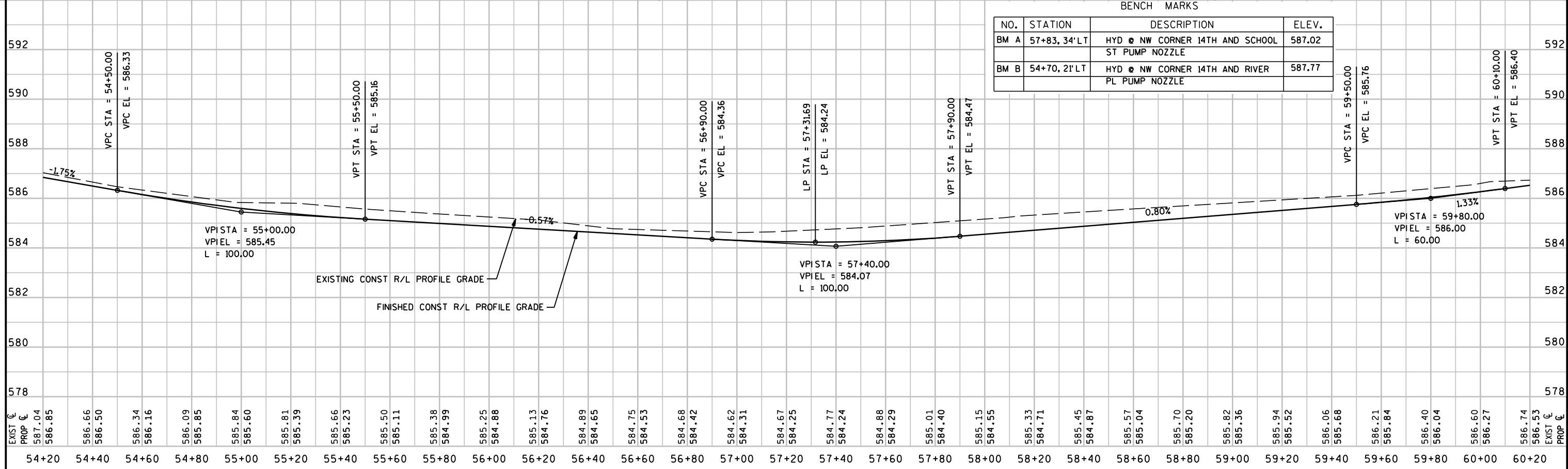
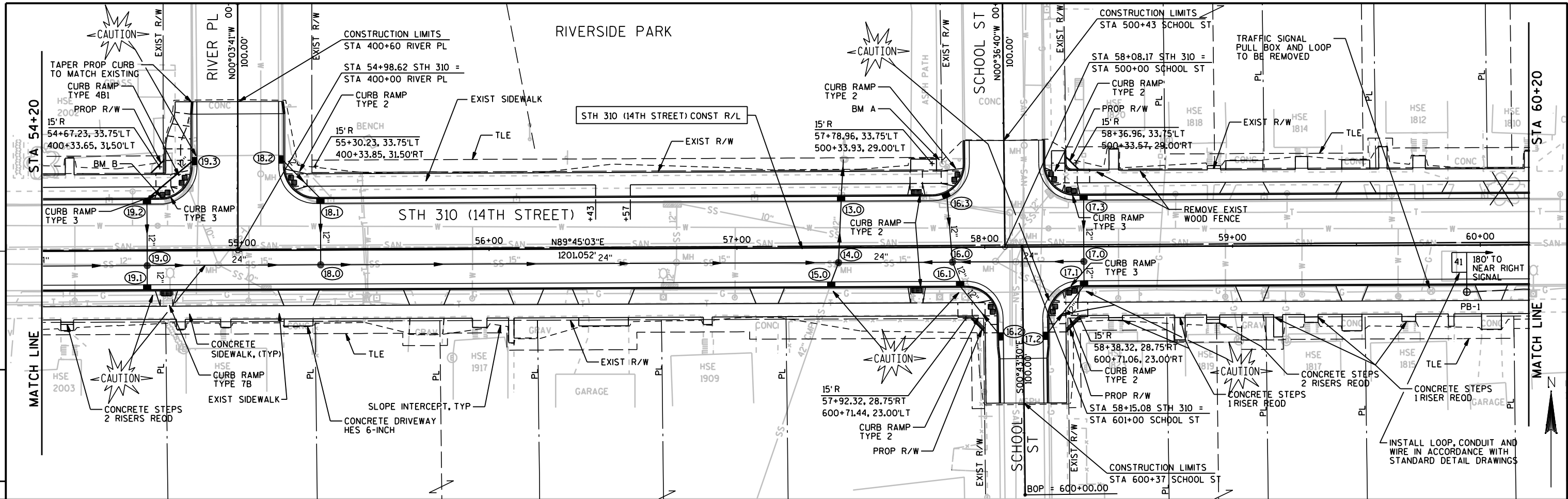


LEVELS ON = 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM D	49+75, 23' LT	HYD @ NE CORNER HAWTHORNE AVE AND 14 TH PUMP NOZZLE	594.34
BM C	51+70, 21' LT	HYD @ NE CORNER 14TH AND WENTKER CT PUMP NOZZLE	592.93

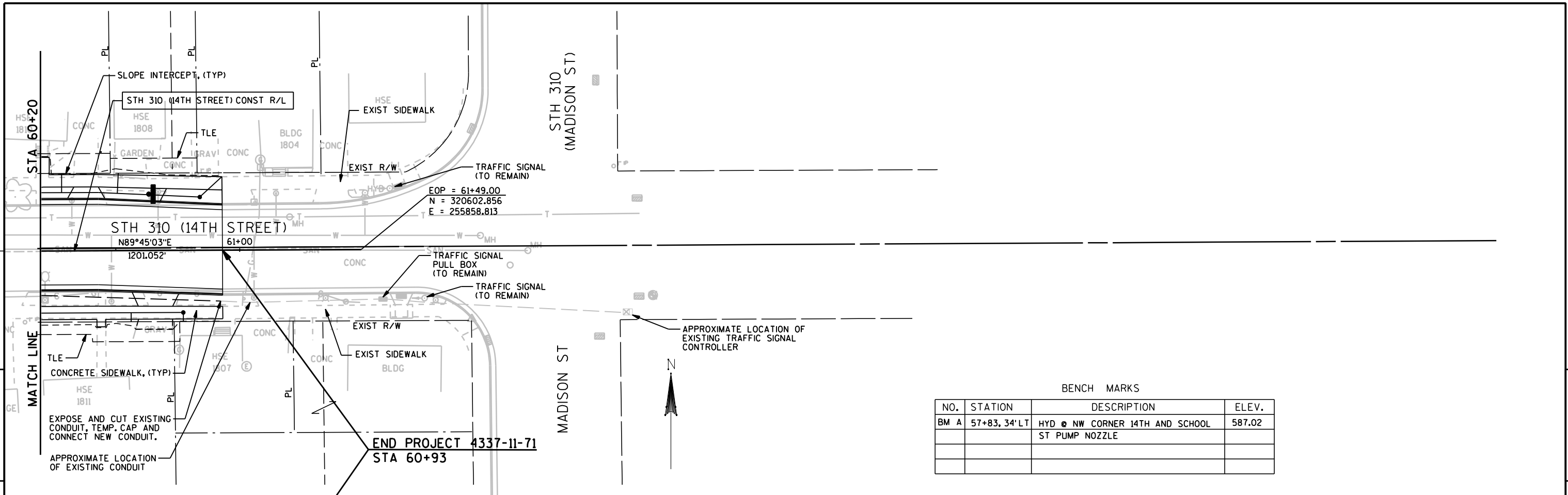
LEVELS ON = 1,2,3,4,5,6,7,8, 10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54, 57,58,59,60, 62,63



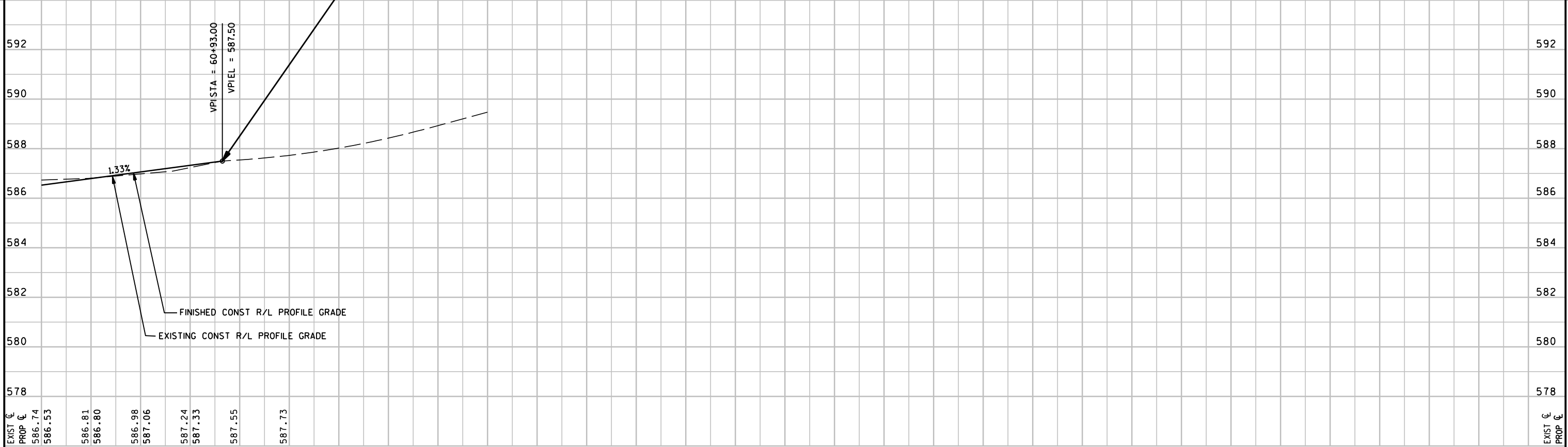
NO.	STATION	DESCRIPTION	ELEV.
BM A	57+83.34' LT	HYD @ NW CORNER 14TH AND SCHOOL ST PUMP NOZZLE	587.02
BM B	54+70.21' LT	HYD @ NW CORNER 14TH AND RIVER PL PUMP NOZZLE	587.77

LEVELS ON = 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62.

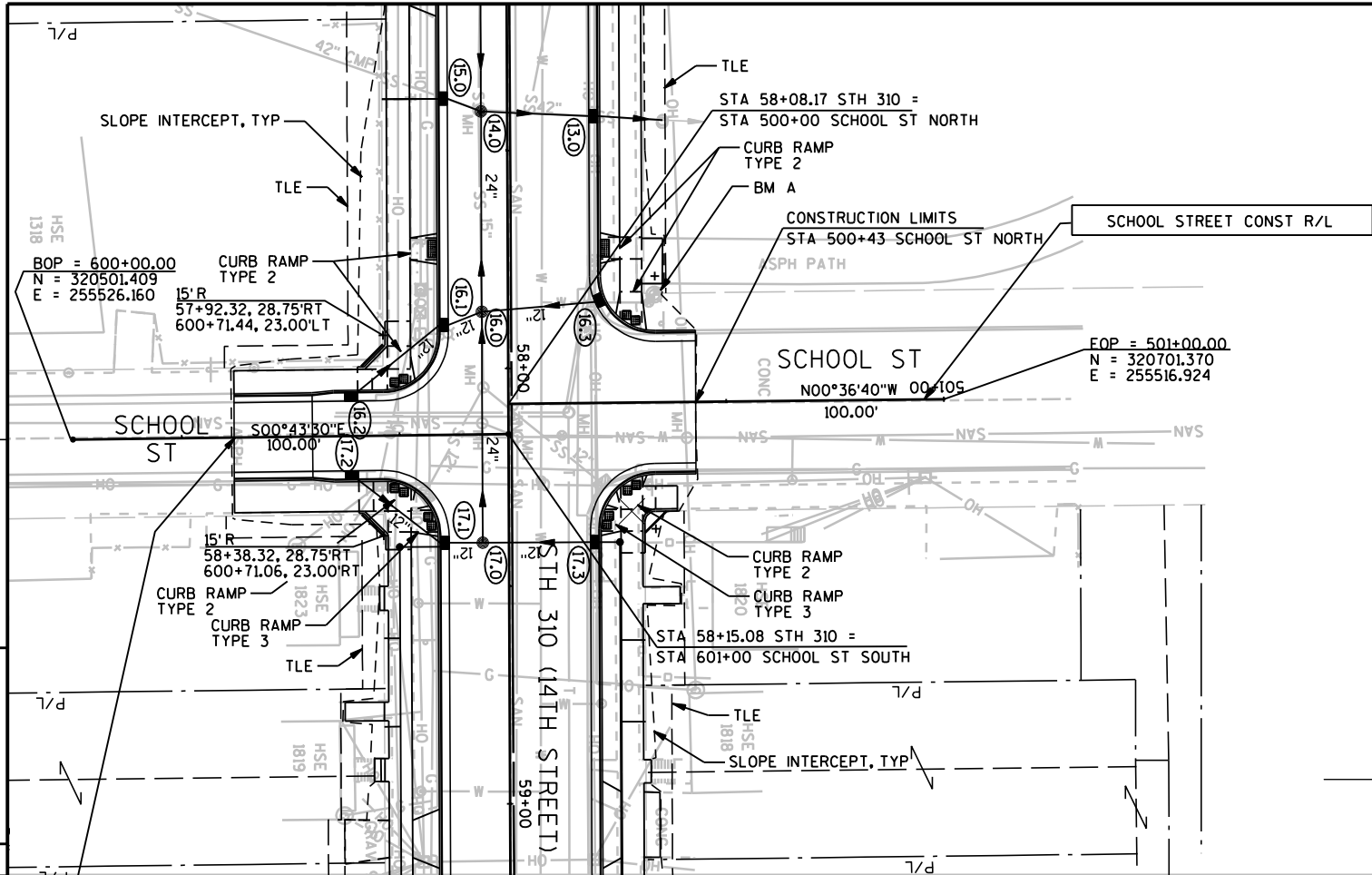
5



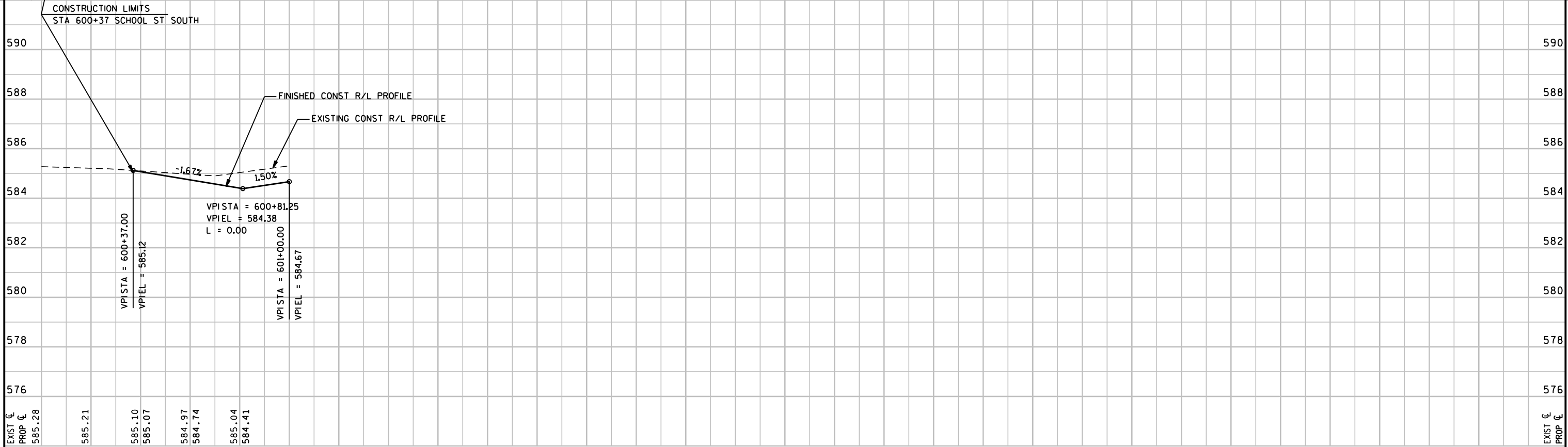
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LEVELS ON = 1,2,3,4,5,6,7,8, 10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54, 57,58,59,60, 62,63



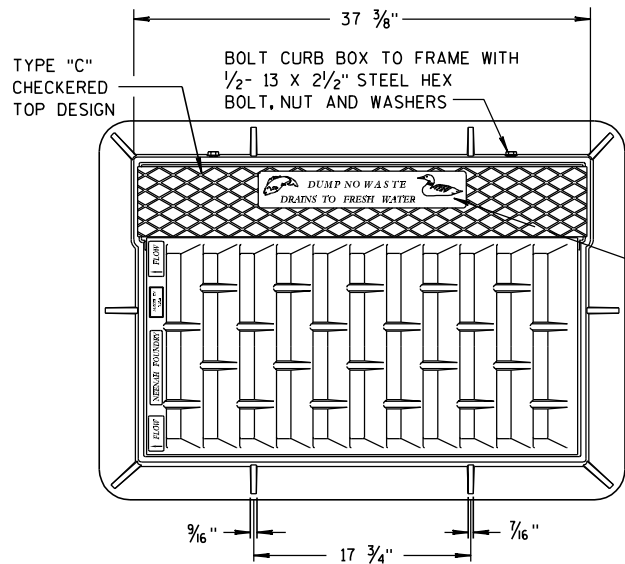
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM A	57+83, 34' LT	HYD @ NW CORNER 14TH AND SCHOOL ST PUMP NOZZEL	587.02



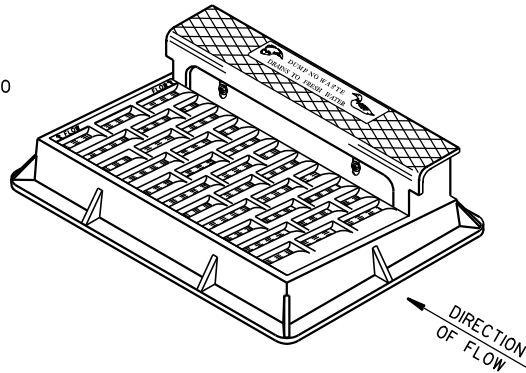
600+00	600+20	600+40	600+60	600+80	601+00
EXIST	585.28	585.21	585.10	585.07	584.97
PROP	585.28	585.21	585.10	585.07	584.97
EXIST	585.28	585.21	585.10	585.07	584.97
PROP	585.28	585.21	585.10	585.07	584.97

Standard Detail Drawing ListStandard Detail Drawing List

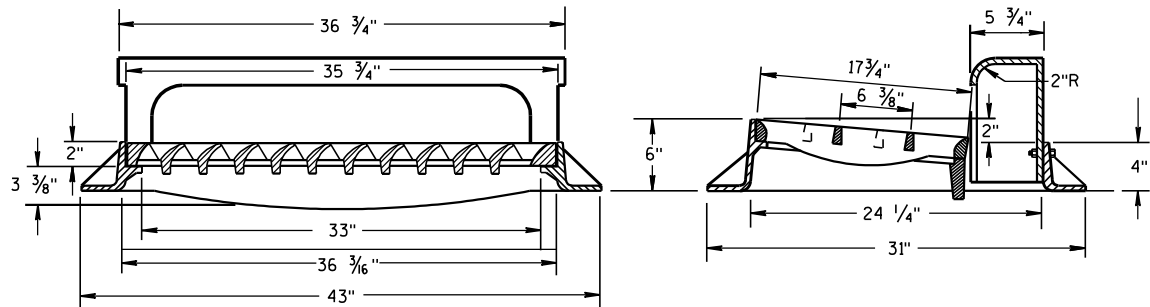
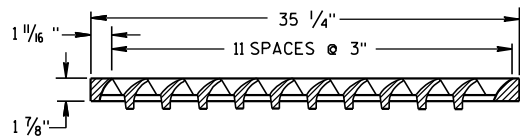
08A05-18A	INLET COVERS TYPE A, H, A-S, & H-S
08A05-18D	INLET COVER, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	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
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09B04-10	PULL BOX
09F15-03A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09G01-03A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C15-05A	CONCRETE BASE
13C15-05B	CONCRETE BASE
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C22-02	24" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



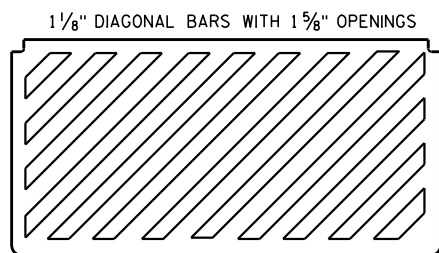
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

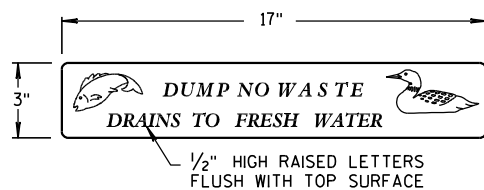


TYPE "H"
(APPROXIMATE WEIGHT 441 LBS.)
FRAME..... 181 LBS.
GRATE..... 146 LBS.
CURB BOX..... 114 LBS.

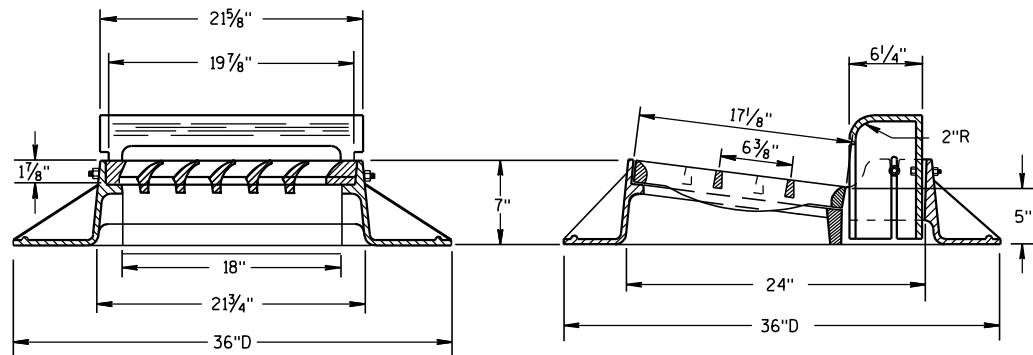
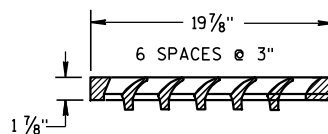
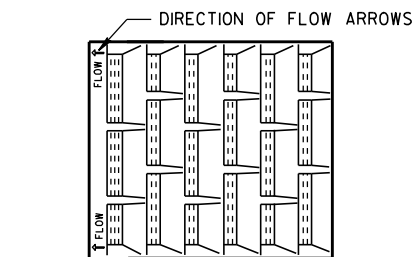


SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")
(APPROXIMATE WEIGHT 159 LBS.)
GRATE..... 159 LBS.
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



TYPE "A"

(APPROXIMATE WEIGHT 340 LBS.)
FRAME..... 185 LBS.
GRATE..... 71 LBS.
CURB BOX..... 84 LBS.

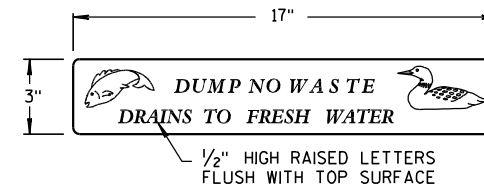
GENERAL NOTES

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

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

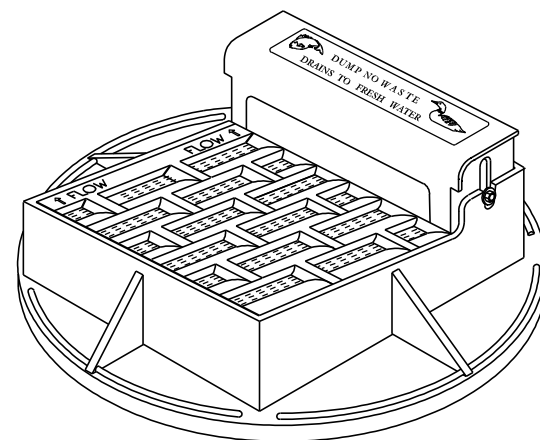
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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



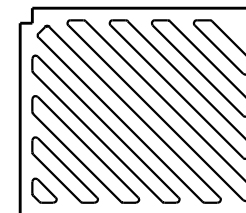
LOGO DETAIL

NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

1" DIAGONAL BARS WITH 1 1/2" OPENINGS



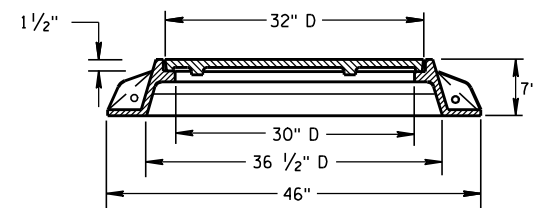
SPECIAL GRATE FOR TYPE "A" COVER

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

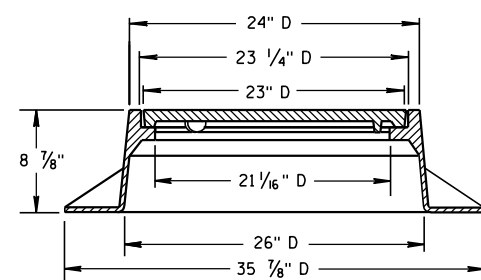
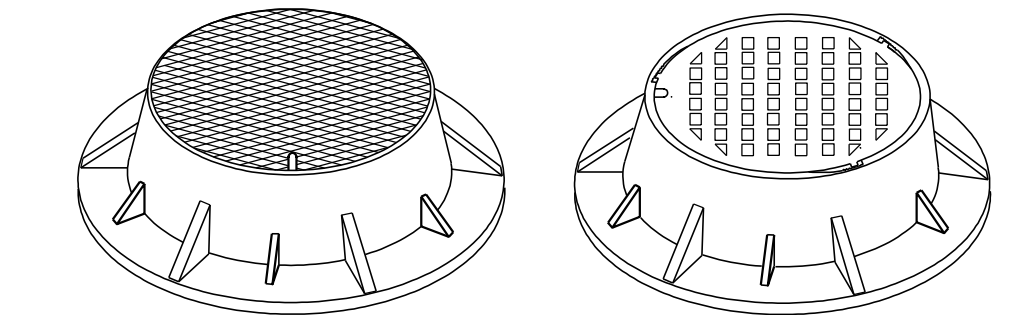
**INLET COVERS
TYPE A, H, A-S, & H-S**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE /S/ Jerry H. Z...
ROADWAY STANDARDS 79
FHWA ENGINEER



6



Technical drawing of a tapered roller bearing assembly. The drawing shows a cross-section of the bearing with the following dimensions:

- Outer ring outer diameter: 24" D
- Outer ring inner diameter: 23 1/4" D
- Outer ring width: 23" D
- Inner ring inner diameter: 21 1/16" D
- Inner ring width: 26" D
- Housing bore diameter: 35 7/8" D
- Inner ring height: 8 7/8"

GENERAL NOTES

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

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

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

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

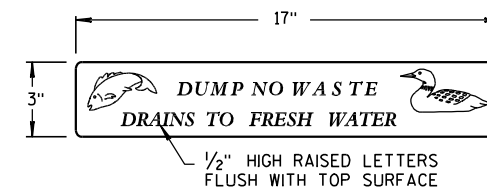
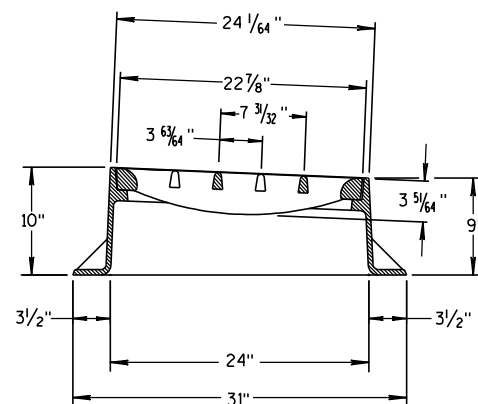
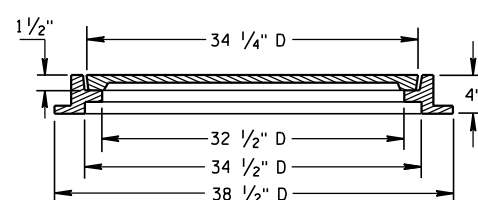
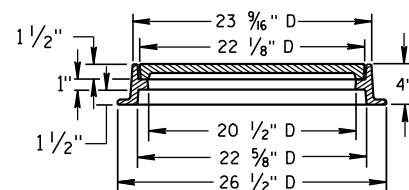
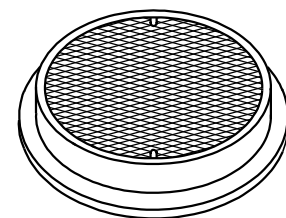
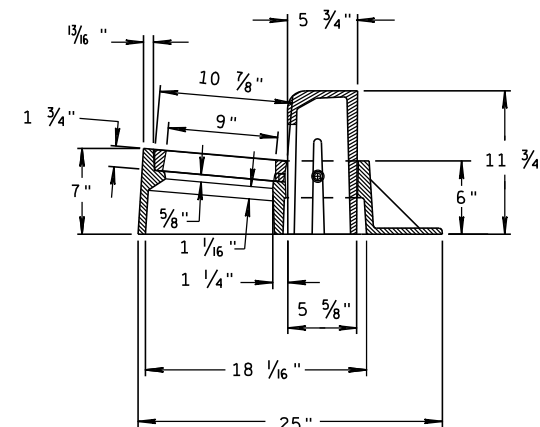
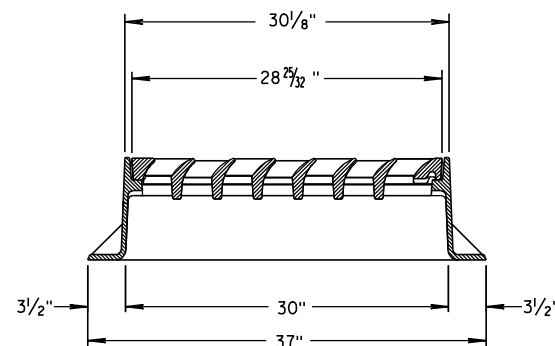


Diagram illustrating the waste disposal unit. The top cover features a warning label that reads: "DUMP NO WASTE DREAMS TO DREAM WATER". The main body of the unit has a slatted grate for waste disposal.



A line drawing of a rectangular display cabinet. The cabinet has a thick frame and a glass front. Inside, there is a grid of vertical dividers and horizontal shelves. The shelves are arranged in four rows, and the dividers are arranged in five columns, creating a total of 20 compartments. The cabinet is shown from a slightly elevated perspective.

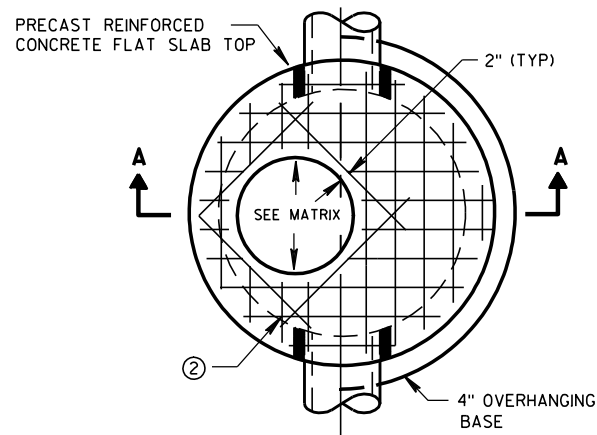


Technical drawing of a mechanical assembly, likely a pump or motor component, showing dimensions in inches. The drawing includes a top view and a side view. Key dimensions are:

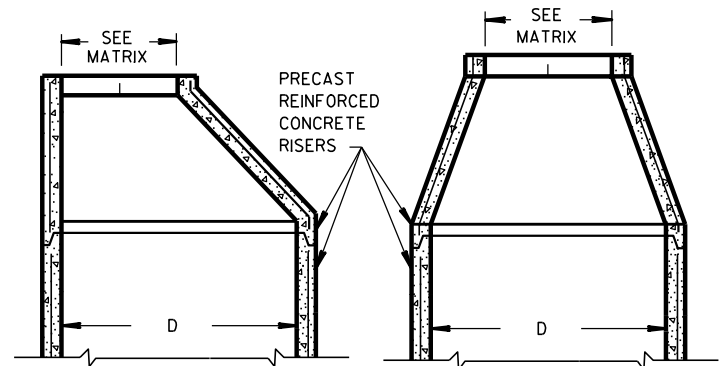
- Top View:
 - Overall width: 21 $\frac{7}{8}$ "
 - Inner width: 20 $\frac{1}{8}$ "
 - Inner width: 20"
 - Inner width: 17 $\frac{1}{16}$ "
 - Inner width: 1 $\frac{3}{8}$ "
 - Inner width: 1"
- Side View:
 - Overall height: 1 $\frac{3}{4}$ "
 - Inner height: 1 $\frac{1}{2}$ "
 - Inner height: 1 $\frac{1}{2}$ "
 - Overall width: 31"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Zaccaro
DATE ROADWAY STANDARDS ENGINEER 80 .NT

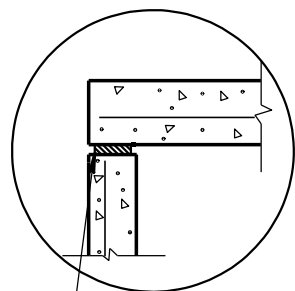


PLAN VIEW CIRCULAR OPENING

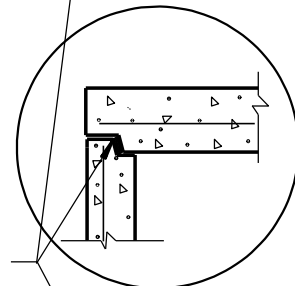


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

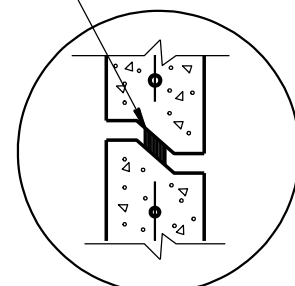
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



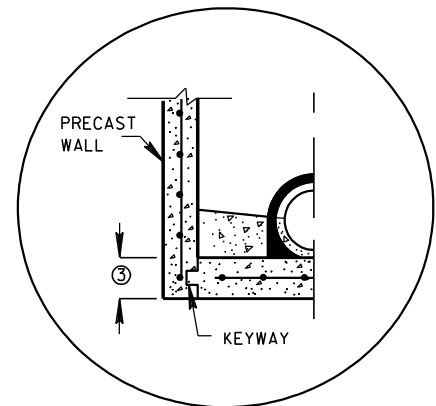
TOP WITH TONGUE AND GROOVE JOINT



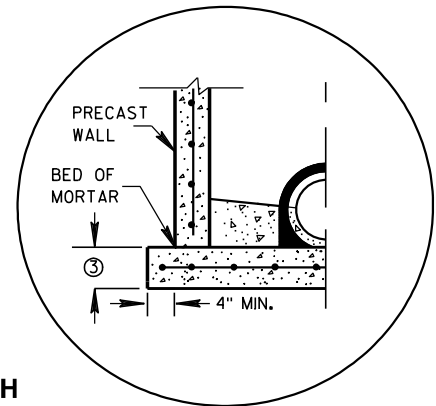
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

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

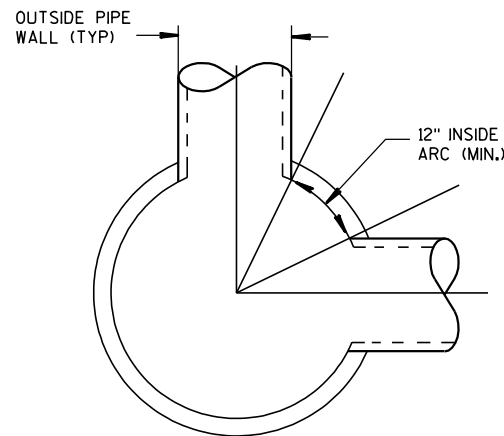


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

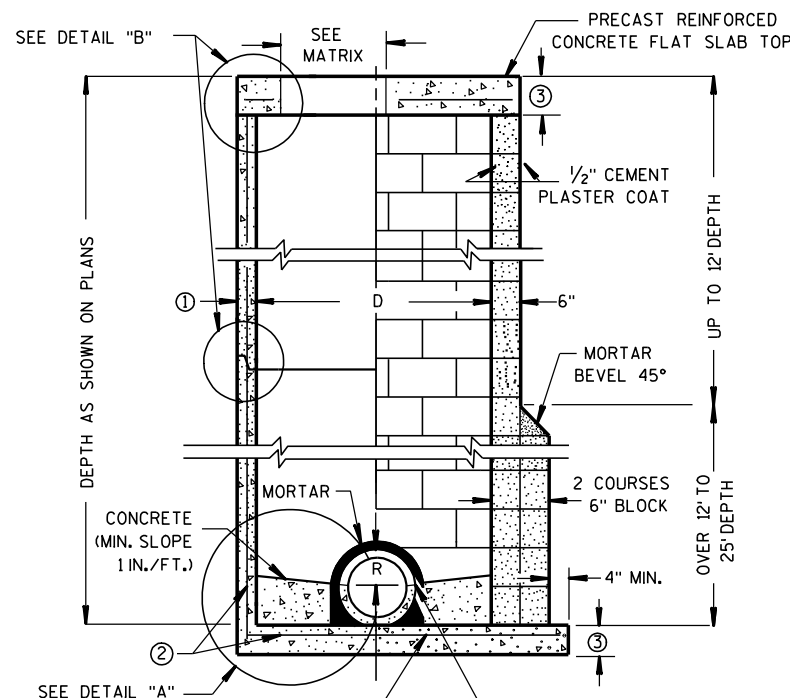


SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

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 SEPERATE 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
ENGINEER 81
FHWA



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

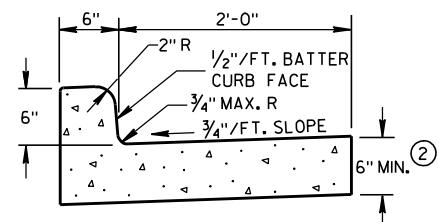


INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

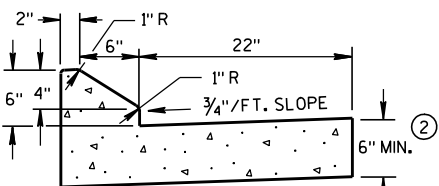
INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



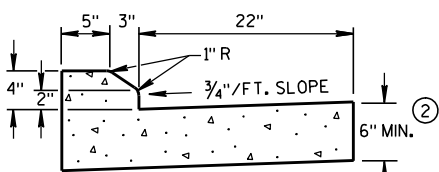
ENGINEER



TYPES A & D ①

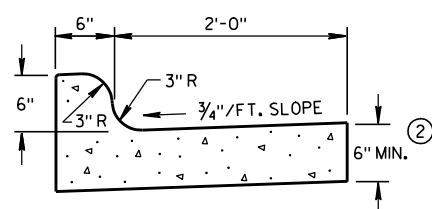


6" SLOPED CURB TYPES G & J ①

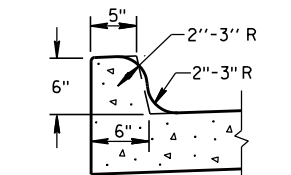
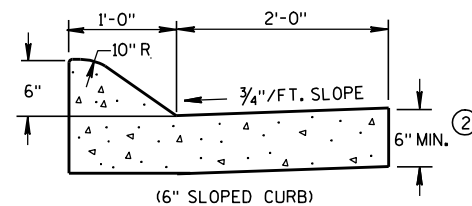


4" SLOPED CURB TYPES G & J ①

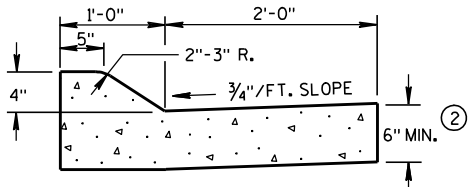
CONCRETE CURB & GUTTER 30"



TYPES K & L ①

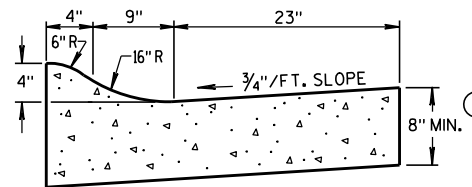
OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)

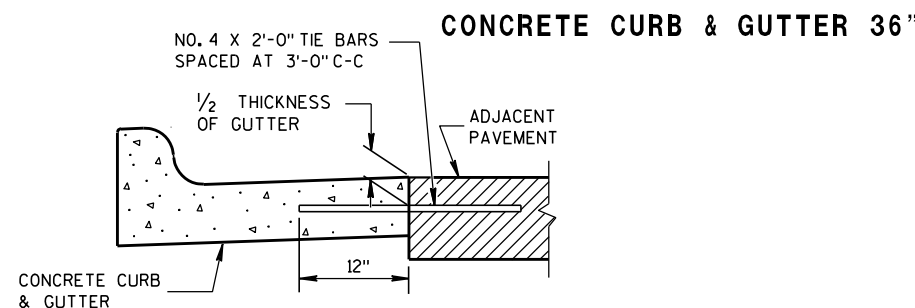


(4" SLOPED CURB)

TYPES A & D ①

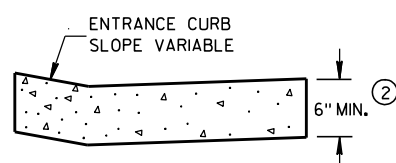


4" SLOPED CURB TYPES R & T ① ④



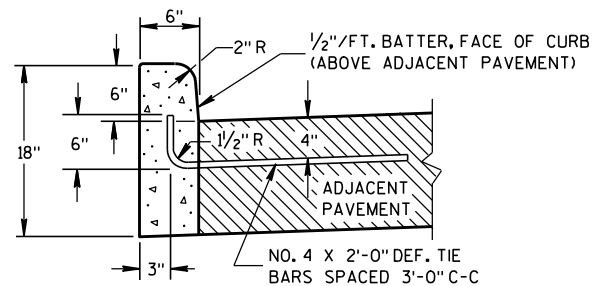
CONCRETE CURB & GUTTER 36"

TYPICAL TIE BAR LOCATION ①



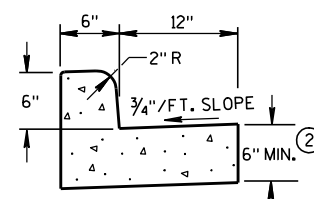
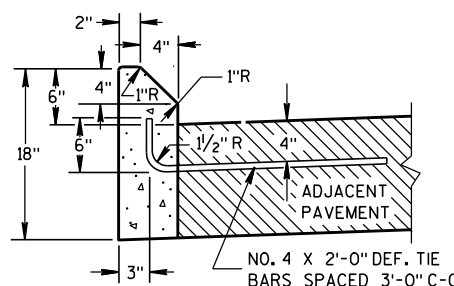
DRIVEWAY ENTRANCE CURB

(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.

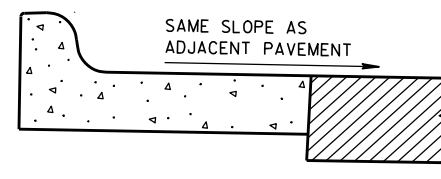
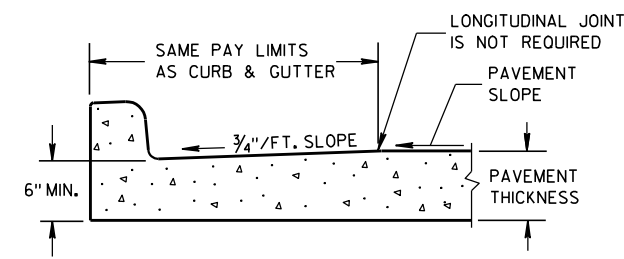
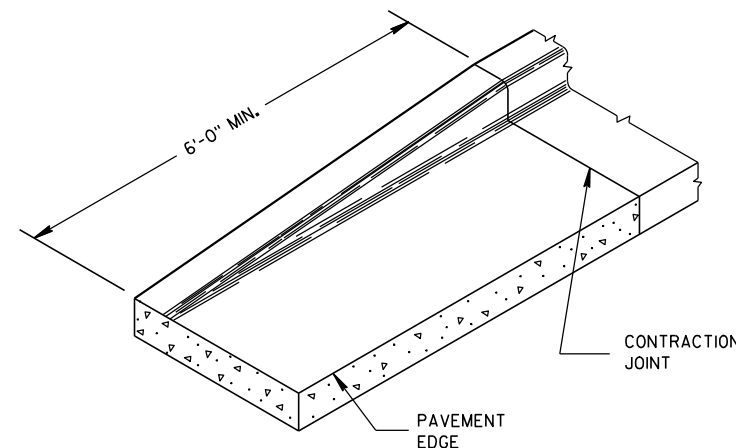
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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.

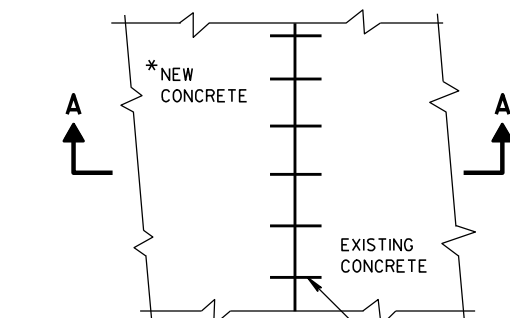
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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.

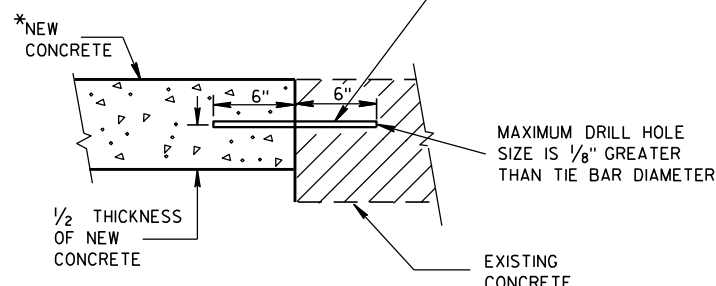
REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

END SECTION CURB & GUTTER



PLAN VIEW

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

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

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

DATE

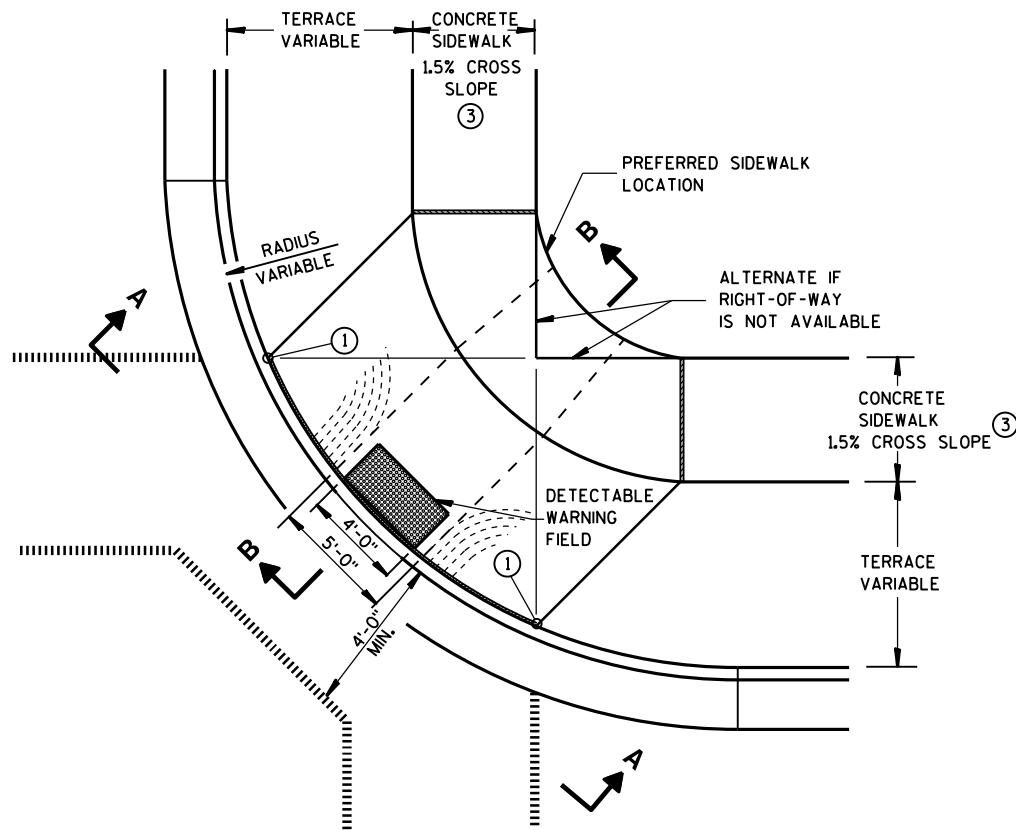
FHWA

/S/ Jerry H. 7

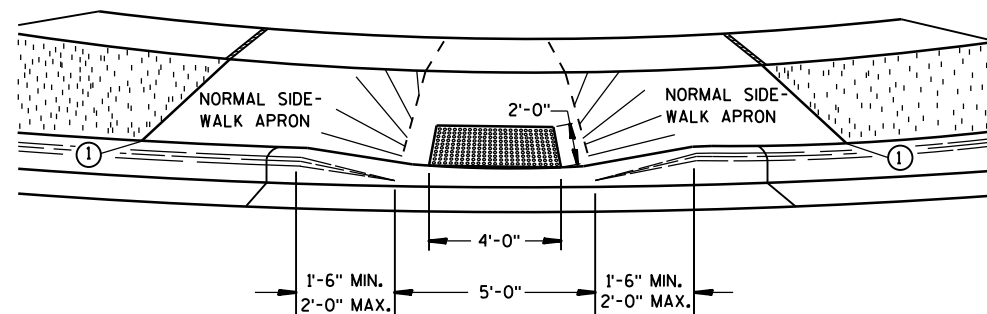
ROADWAY STANDARDS 83

ENGINEER

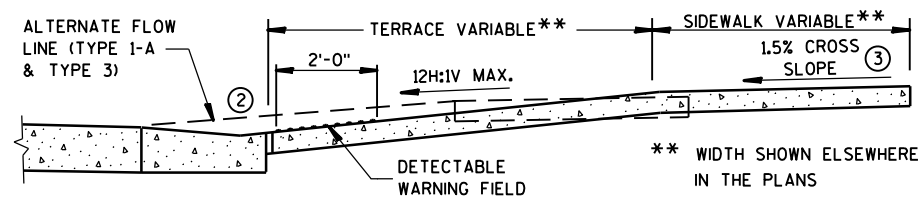
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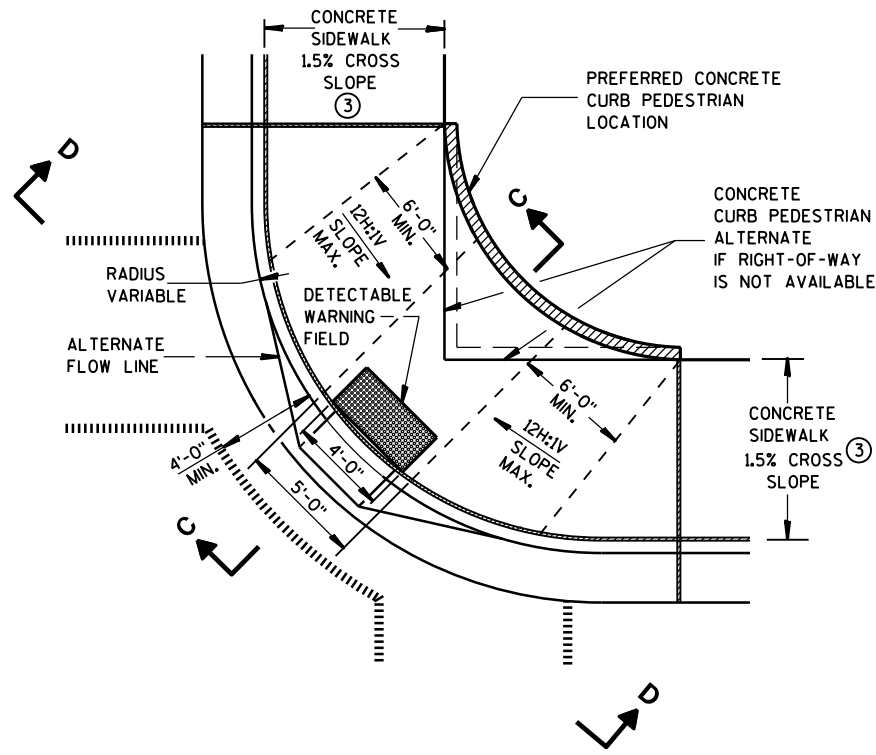
**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)



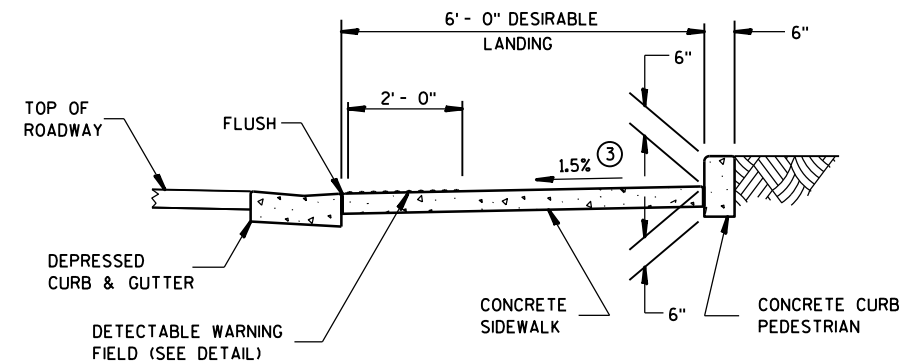
VIEW A-A



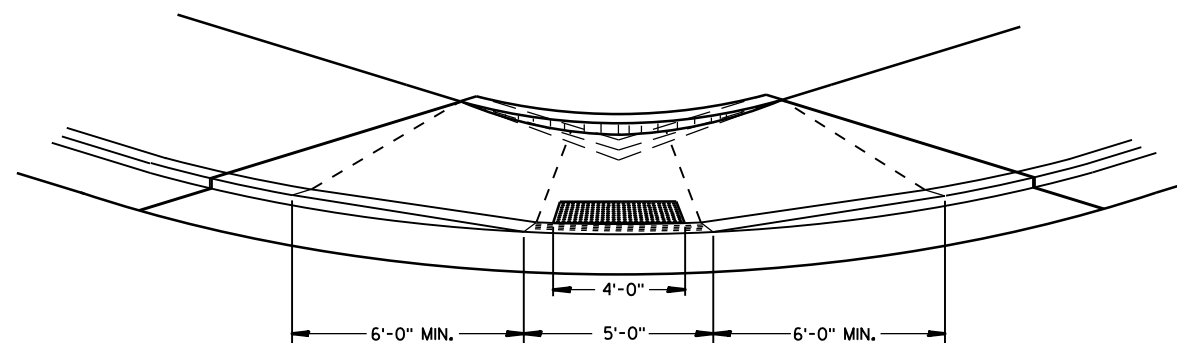
SECTION B-B



**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.

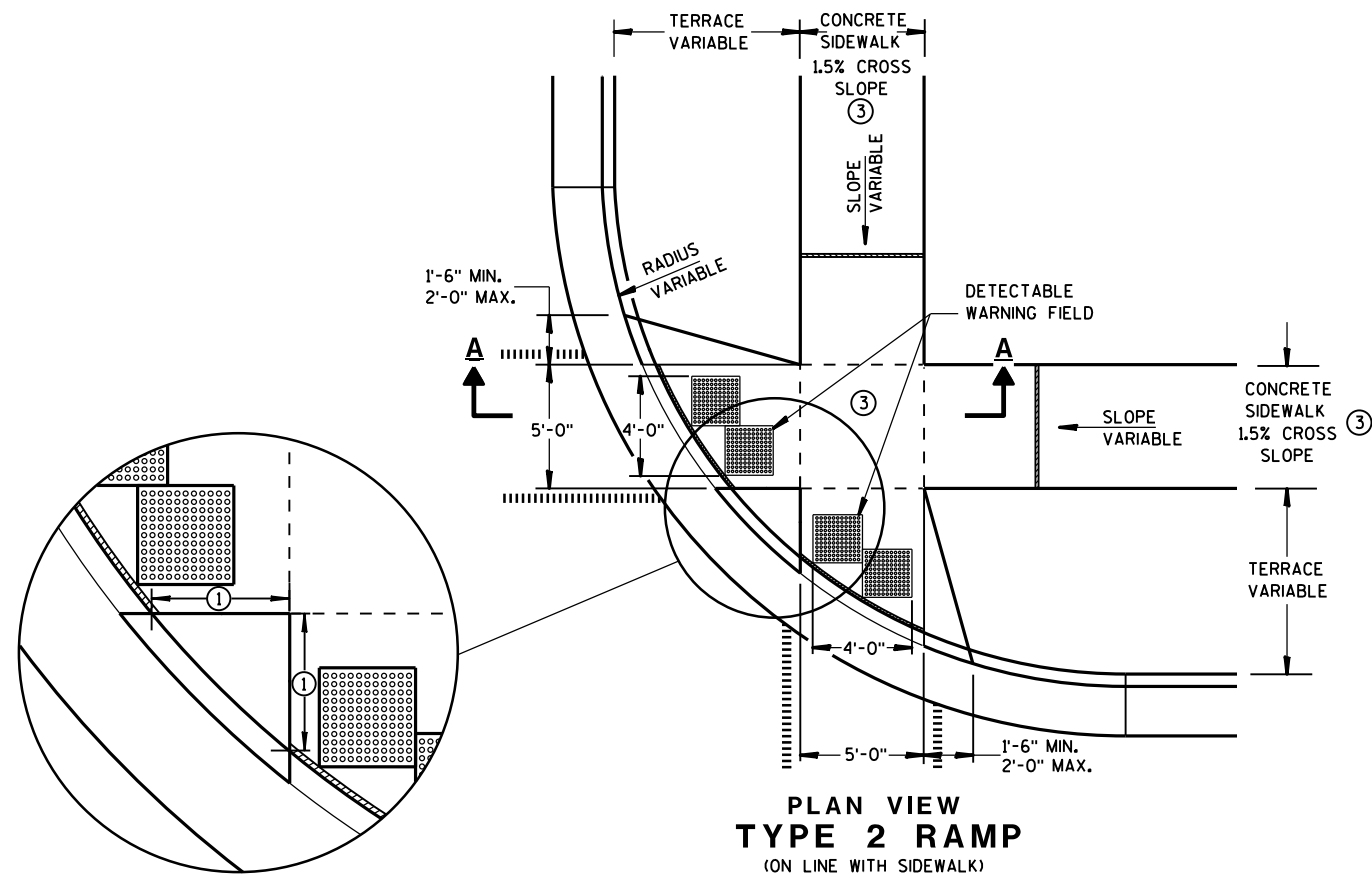
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE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

LEGEND

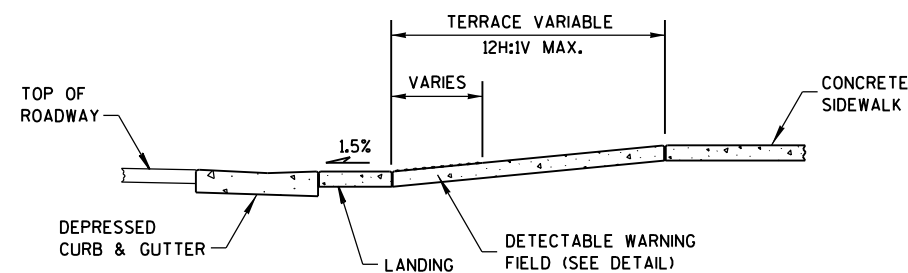
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

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

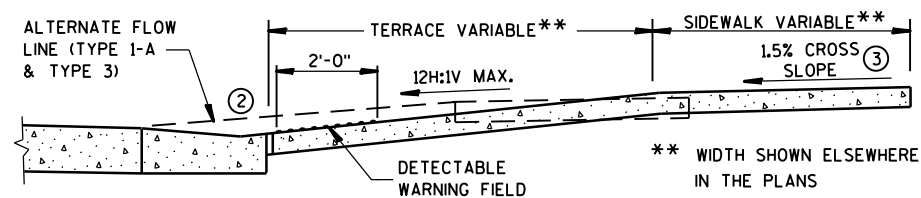
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



SECTION A-A



SECTION B-B

GENERAL NOTES

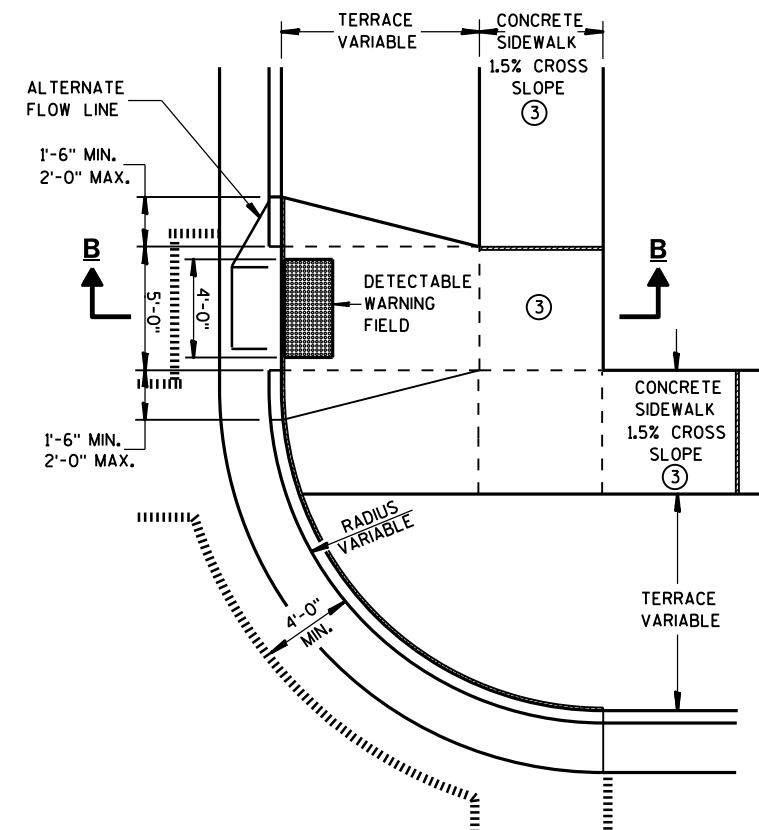
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

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



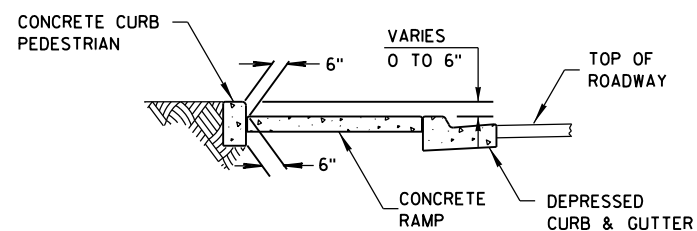
**PLAN VIEW
TYPE 3 RAMP**
(OUTSIDE OF CROSSWALK AREA)

**CURB RAMPS
TYPES 2 AND 3**

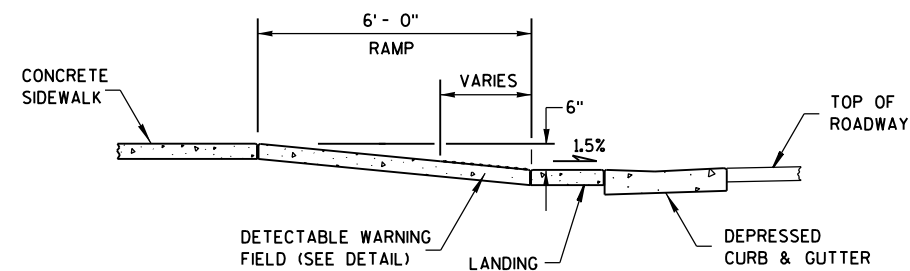
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 4A
PLAN VIEW



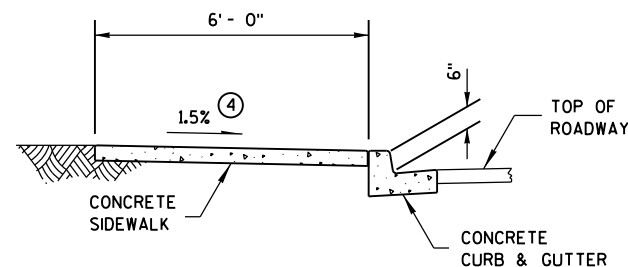
SECTION C-C FOR TYPE 4A



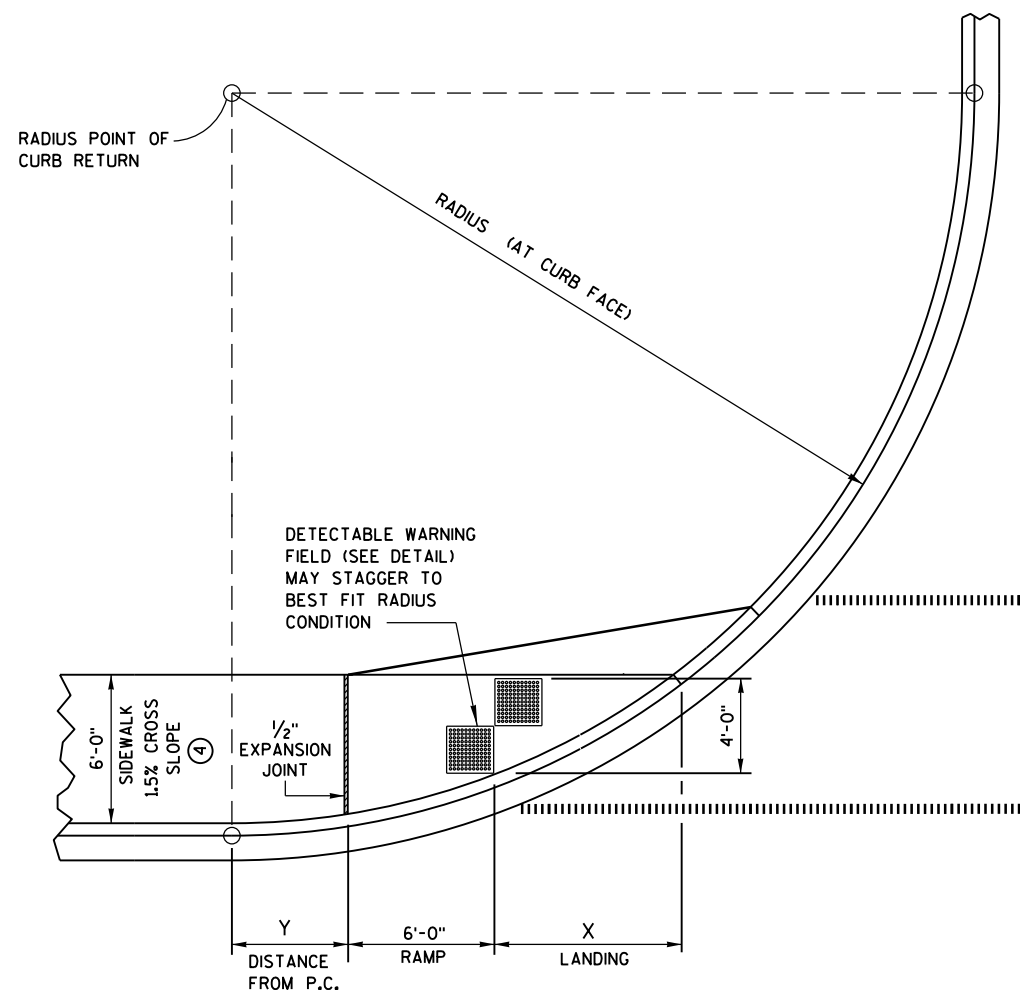
SECTION B-B FOR TYPE 4A

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

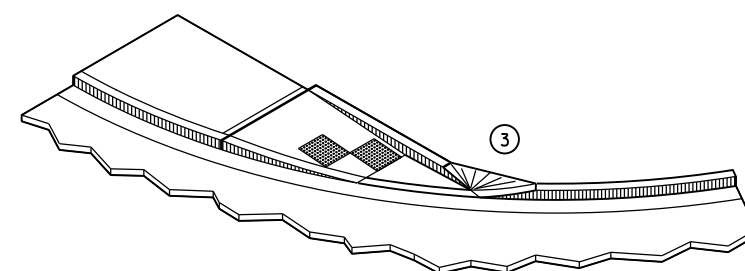
GENERAL NOTES

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

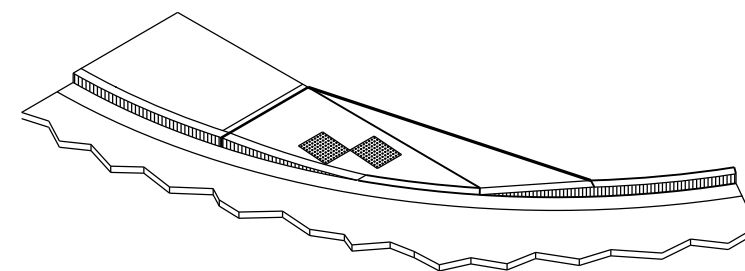
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

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



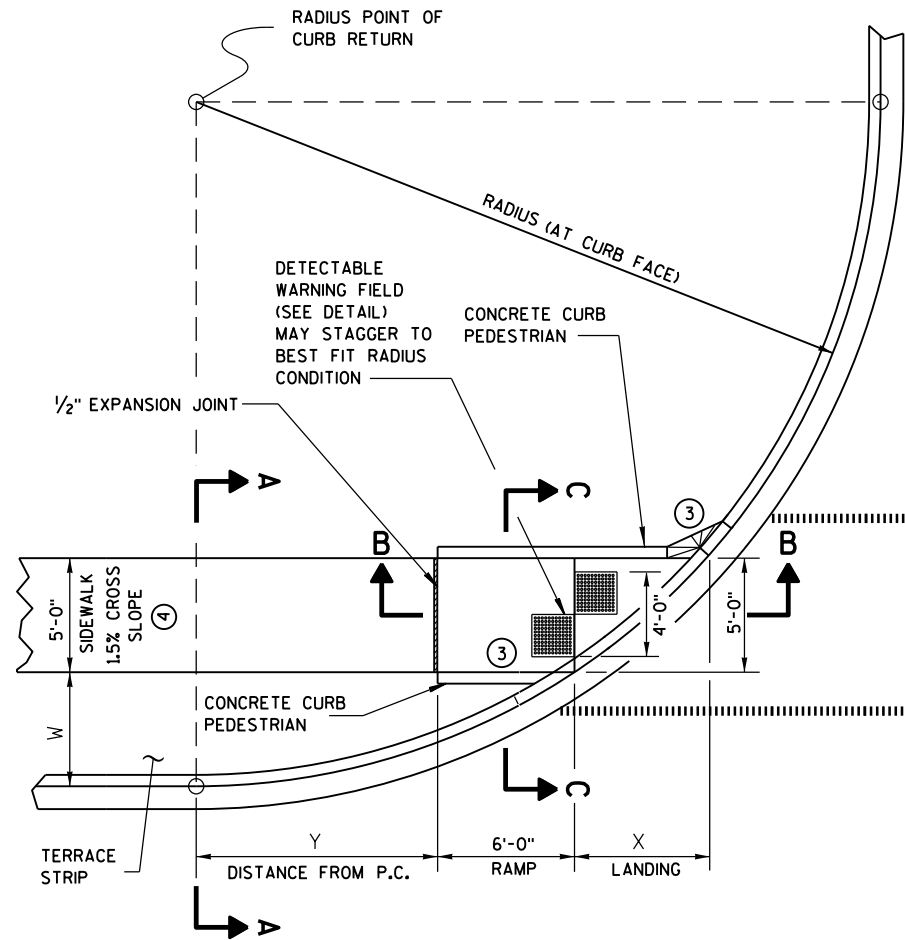
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

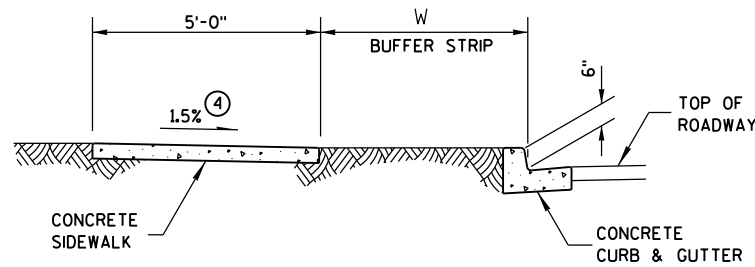
- | | |
|---|------------------------------------|
| | 1/2" EXPANSION JOINT-SIDEWALK |
|  | CONTRACTION JOINT FIELD LOCATED |
|  | PAVEMENT MARKING CROSSWALK (WHITE) |

CURB RAMPS TYPES 4A AND 4A1

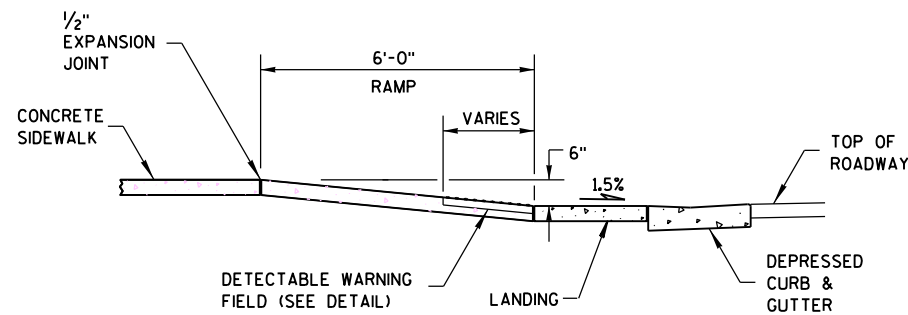
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁸⁶



**CURB RAMP TYPE 4B
PLAN VIEW**



SECTION A-A FOR TYPE 4B

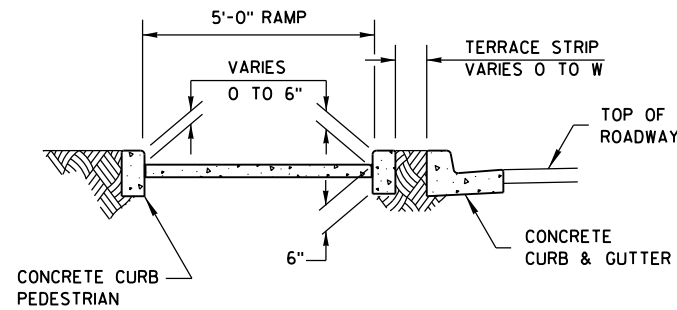


SECTION B-B FOR TYPE 4B

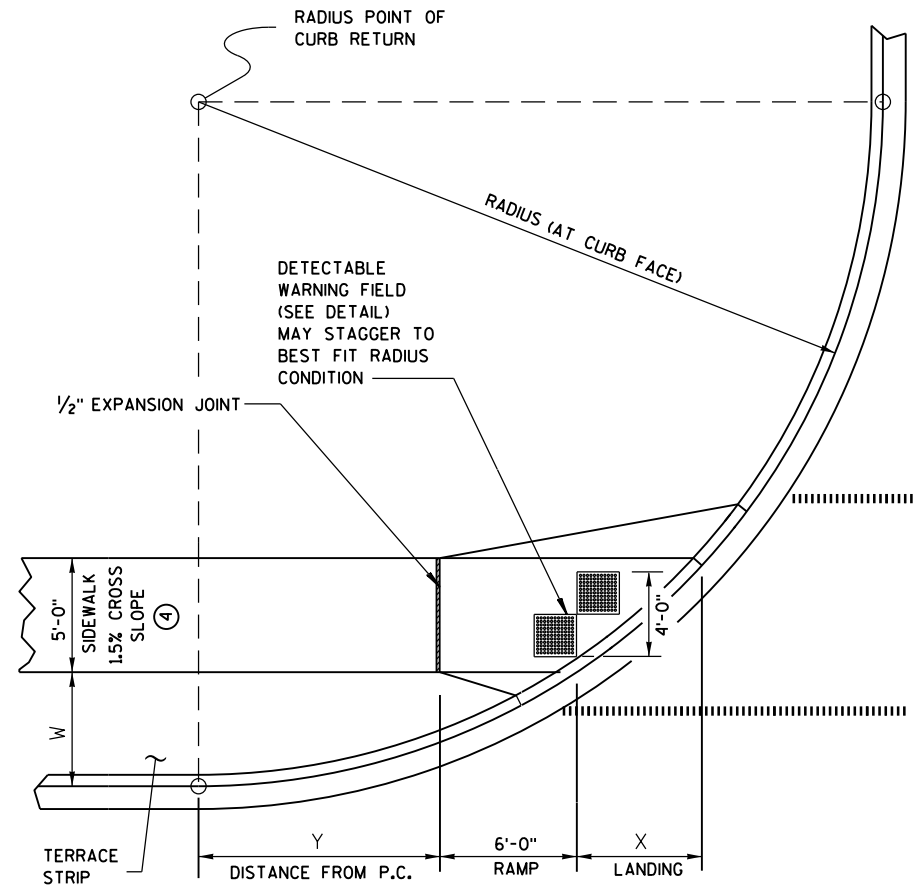
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - CONTRACTION JOINT FIELD LOCATED
 - PAVEMENT MARKING CROSSWALK (WHITE)

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

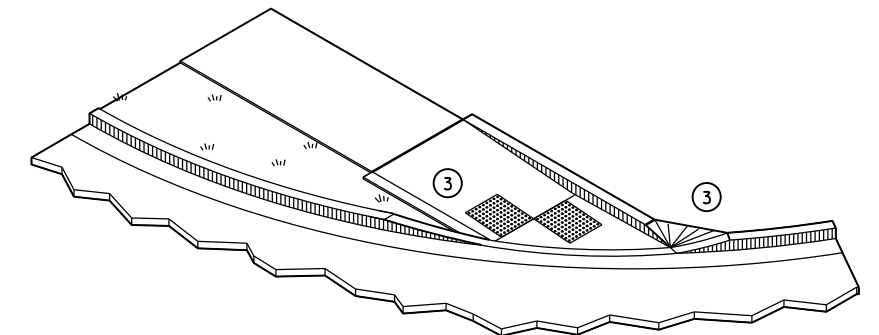
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

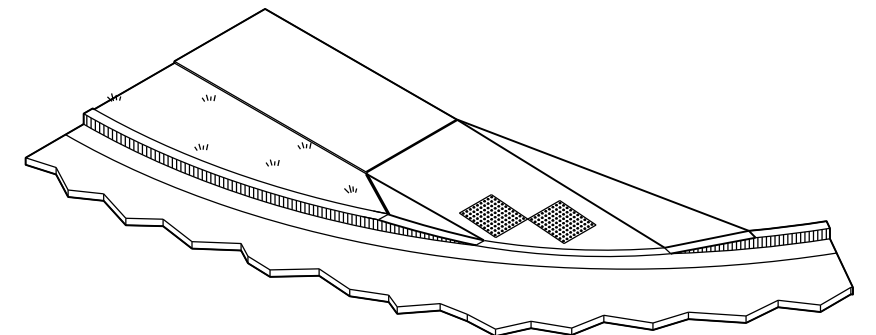
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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.



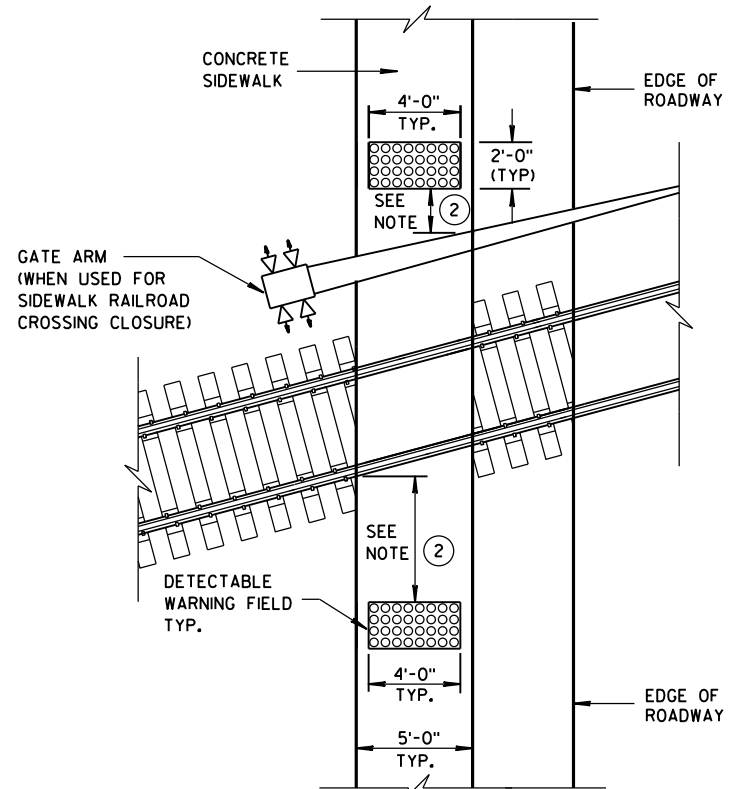
ISOMETRIC VIEW FOR TYPE 4B



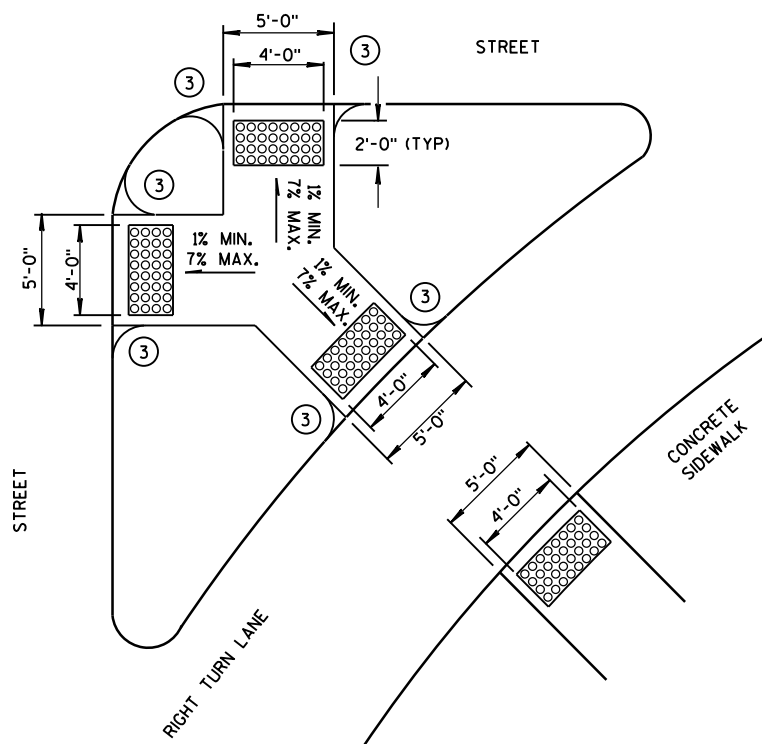
ISOMETRIC VIEW FOR TYPE 4B1

**CURB RAMPS
TYPE 4B AND 4B1**

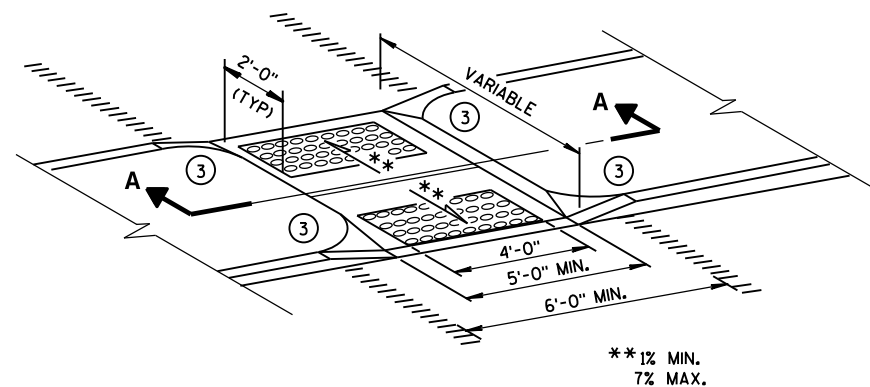
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁸⁷



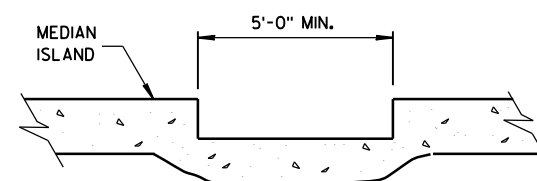
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



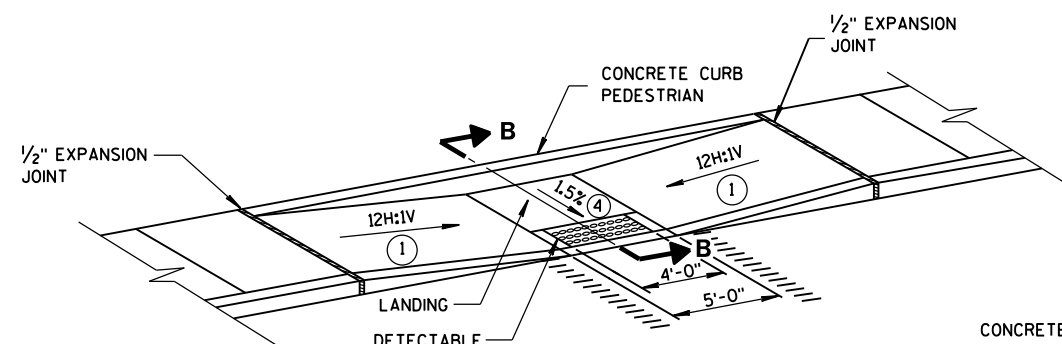
TYPE 6
DETECTABLE WARNING AT ISLANDS



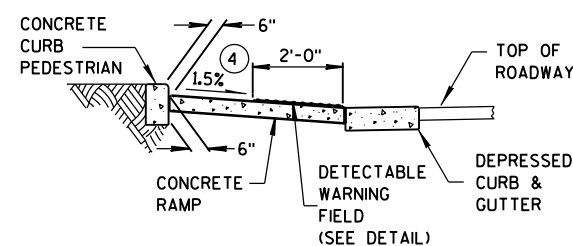
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



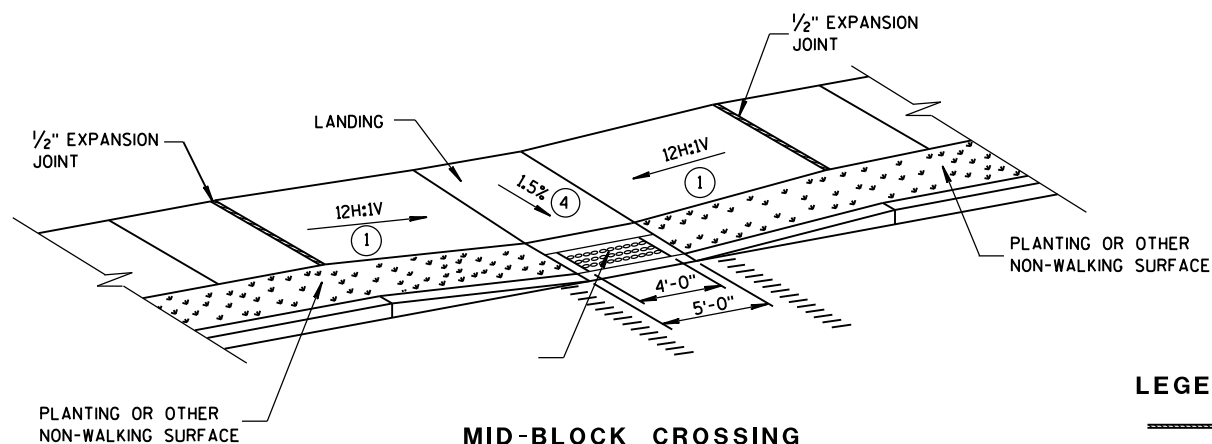
SECTION A-A



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

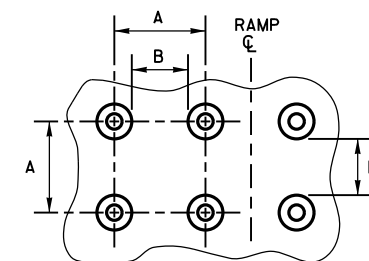
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

GENERAL NOTES

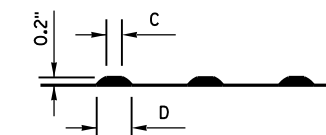
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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



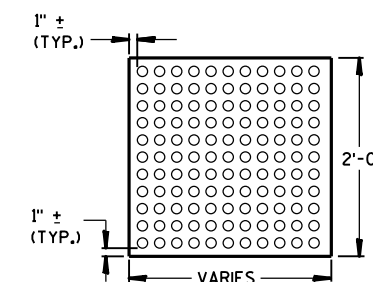
ELEVATION VIEW

	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

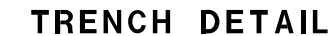
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

88 INT



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

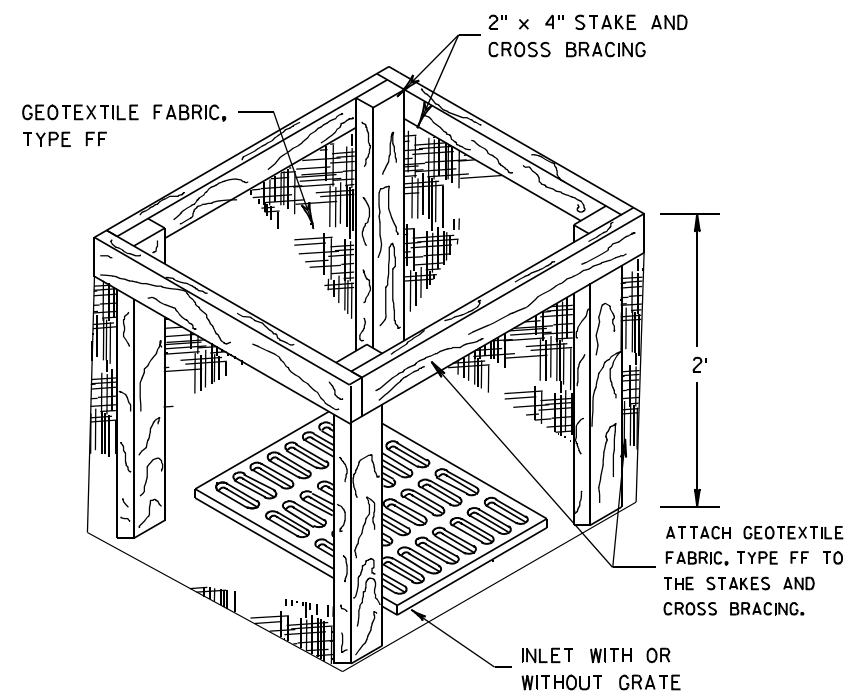
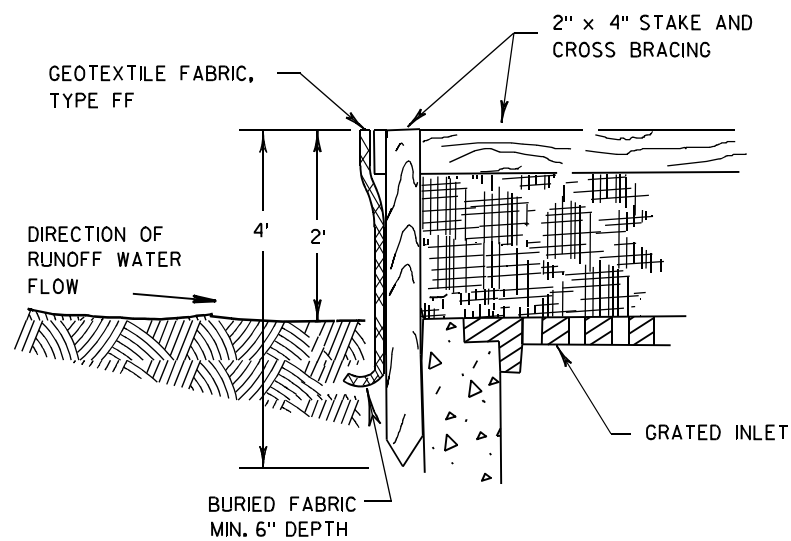


SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



INLET PROTECTION, TYPE A

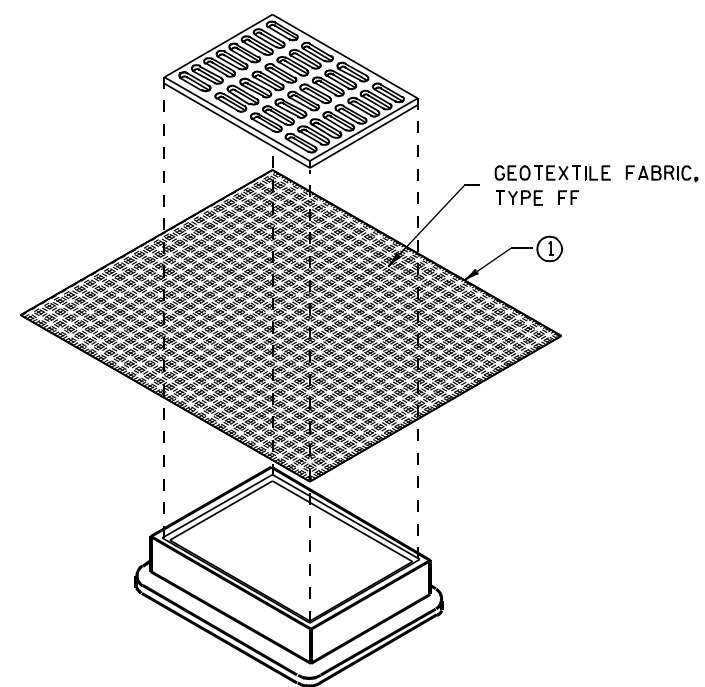
GENERAL NOTES

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

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

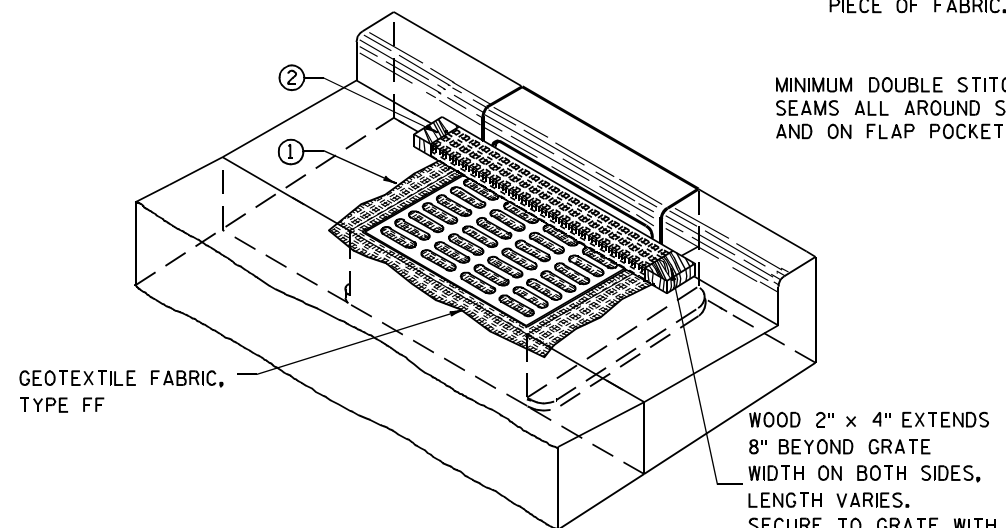
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

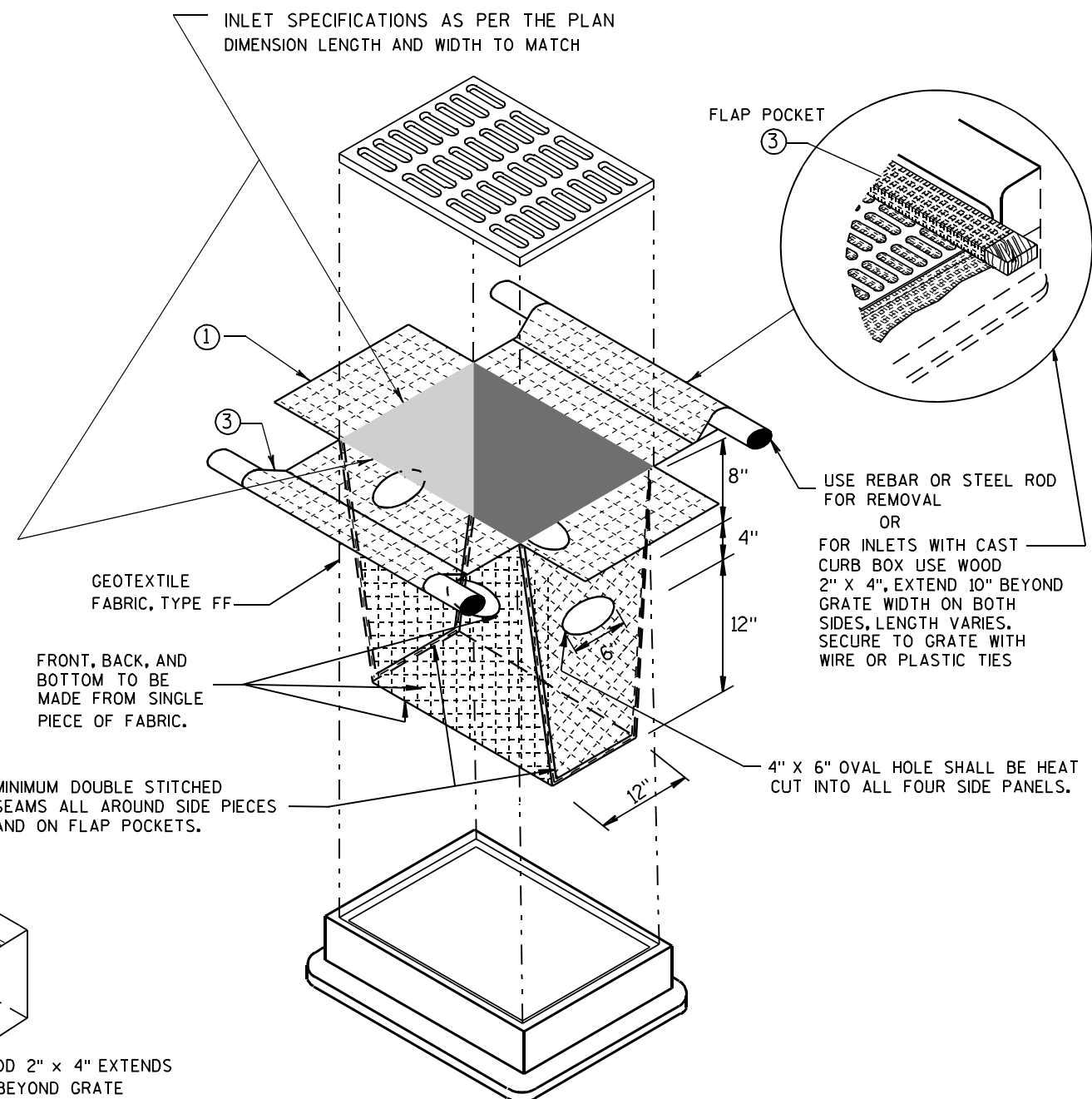
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

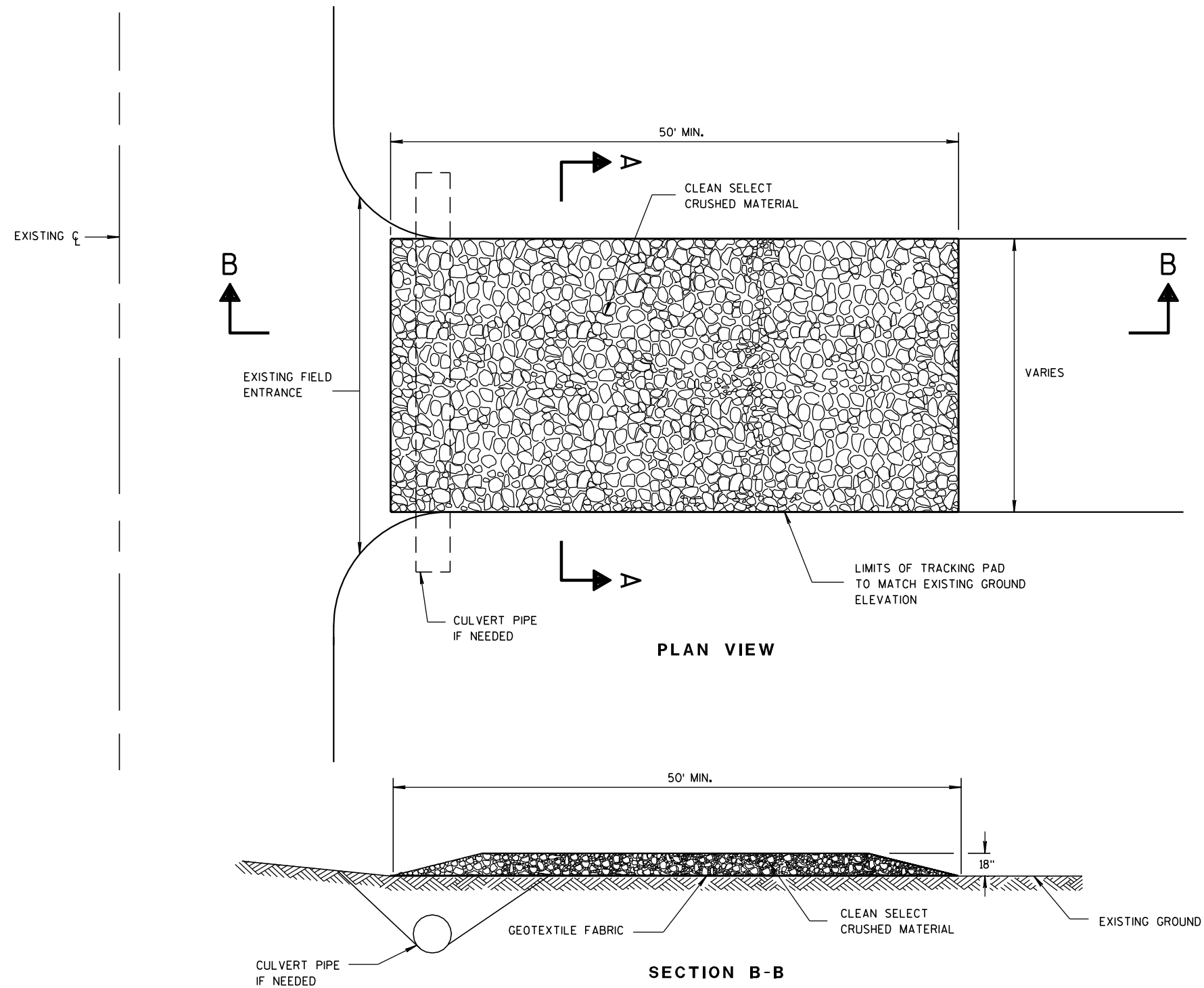
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



INLET PROTECTION, TYPE D

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

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/S/ Beth Connolly 90 CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

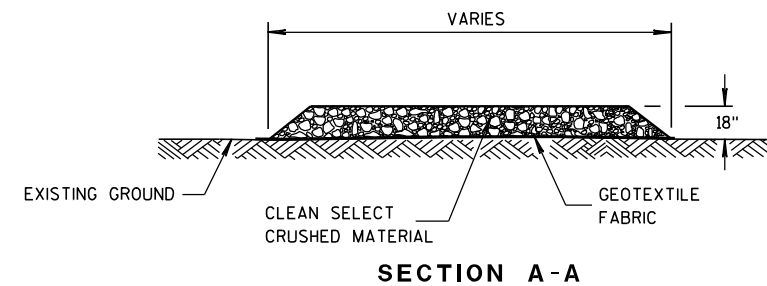
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011

DATE

FHWA

/S/ Jerry H. Zogg

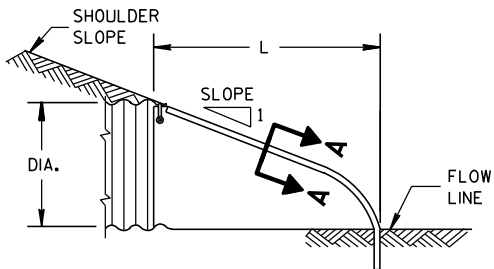
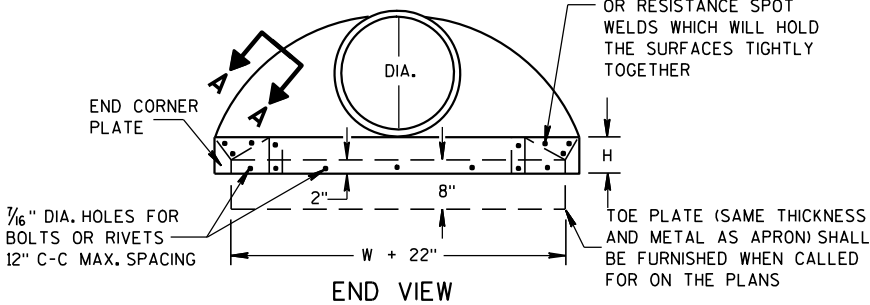
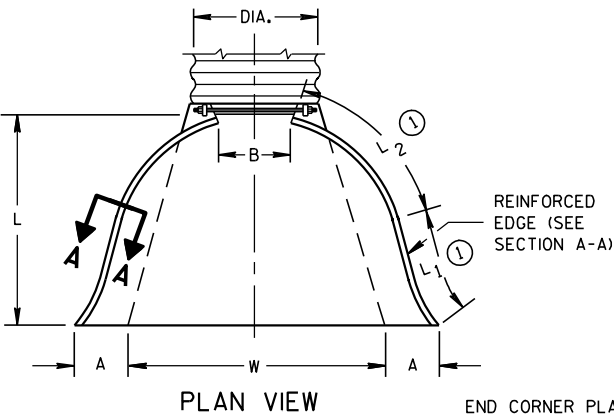
ROADWAY STANDARDS 91

ENGINEER

ENT

METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3	3 Pc.

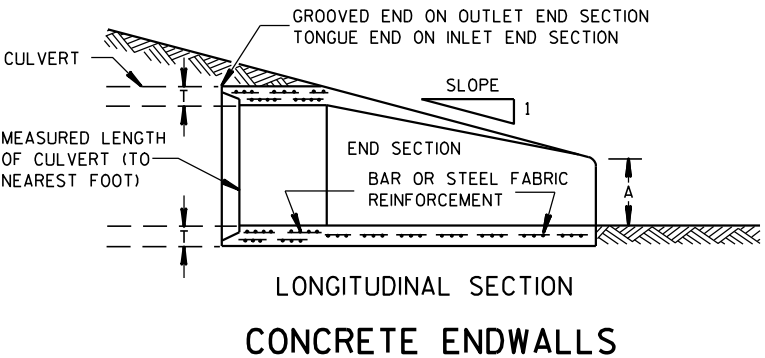
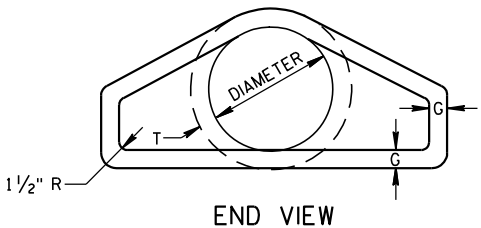
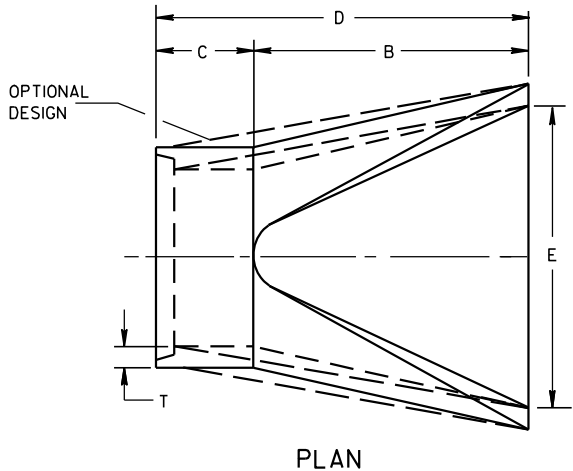
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

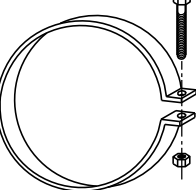
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1	1	1	1	1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1	1	1	1	1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1	1	1	1	1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1	1	1	1	1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1	1	1	1	1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1	1	1	1	1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1	1	1	1	1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1	1	1	1	1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1	1	1	1	1
48	5	24	72	26	98	84	5	3 to 1	1	1	1	1
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 2/5 to 1	1	1	1	1
60	6	30-35	60	39	99	96	5	2 to 1	1	1	1	1
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1	1	1	1	1
72	7	24-36	78	21	99	108	6	2 to 1	1	1	1	1
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1	1	1	1	1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1	1	1	1	1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1	1	1	1	1

* MINIMUM
** MAXIMUM

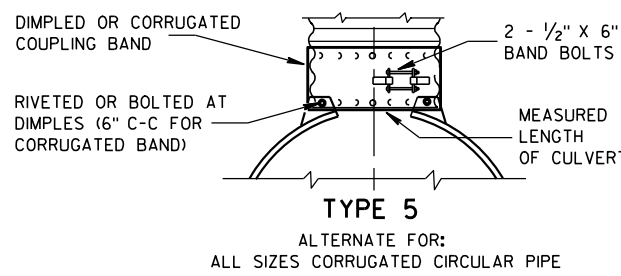
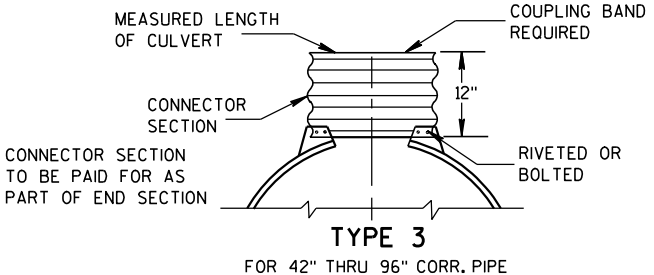
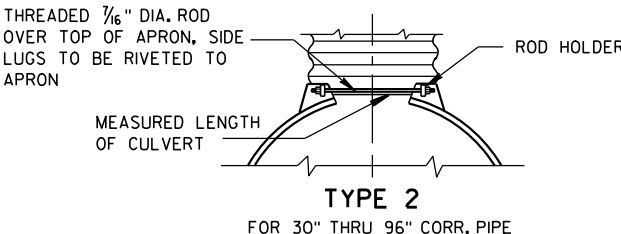
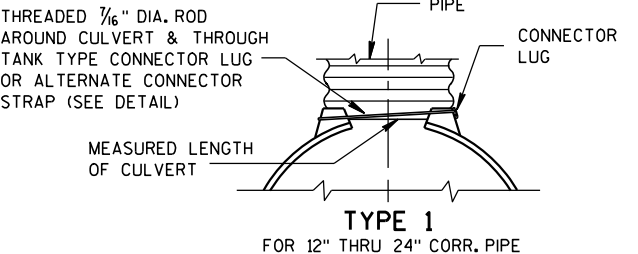


LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



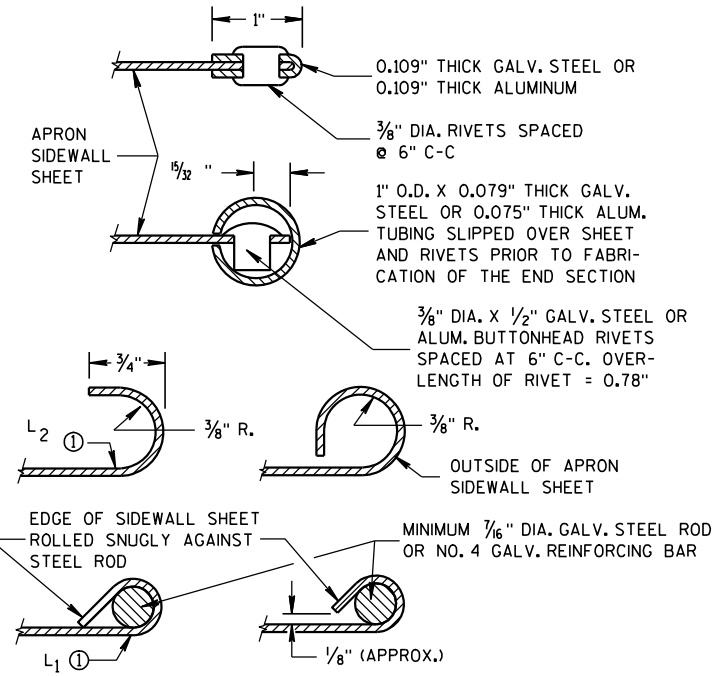
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

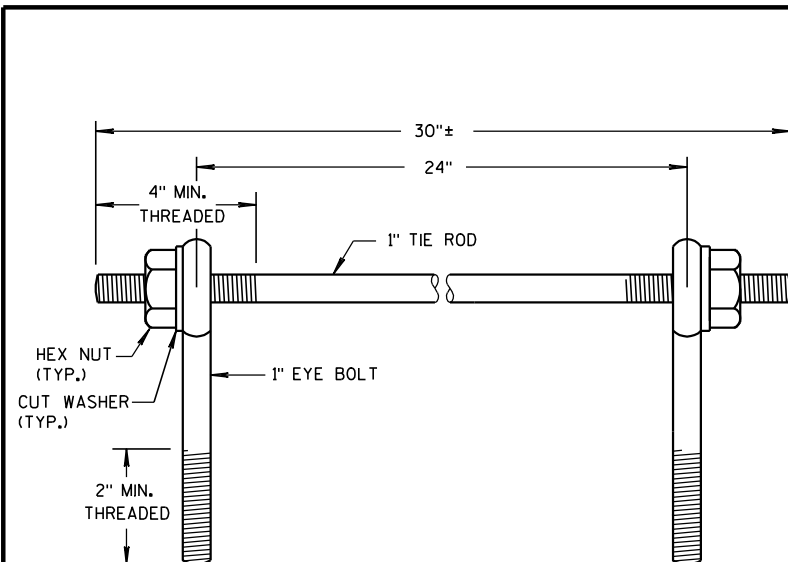
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

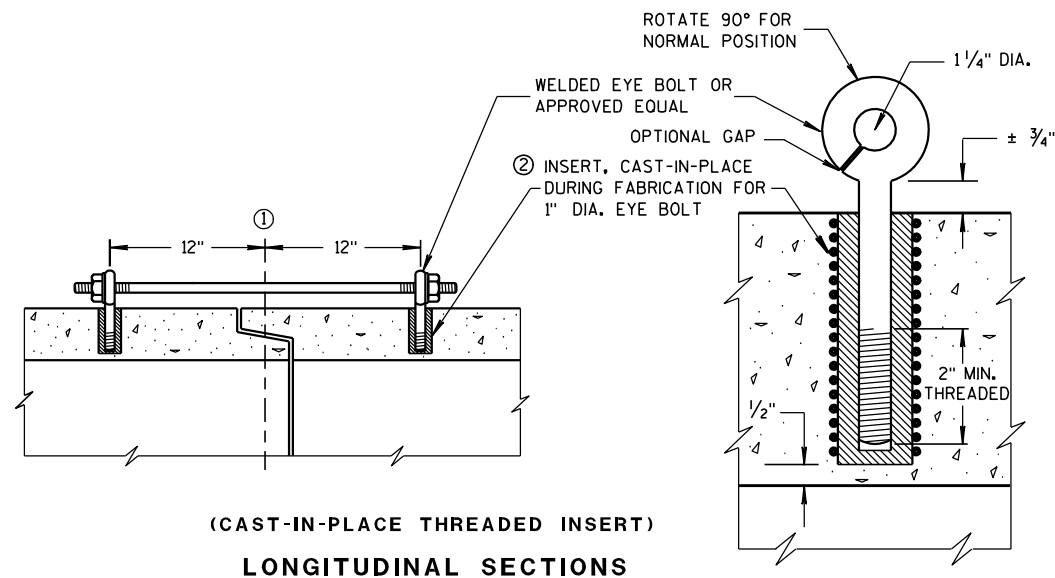
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP 92 NEER
FHWA	



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

(CAST-IN-PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

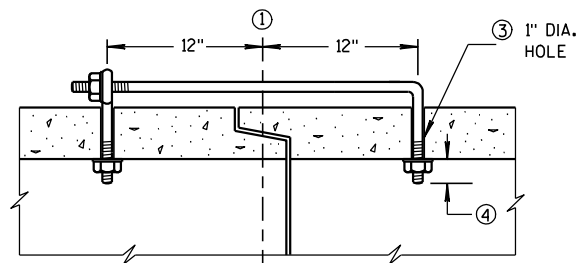
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

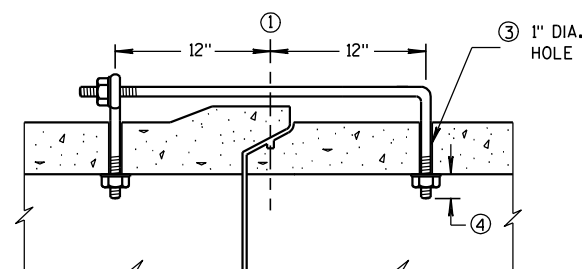
DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

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

- ① ϕ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ϕ OF TONGUE AND GROOVE.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN $\frac{1}{2}$ INCH OF THE INNER SURFACE OF THE PIPE.

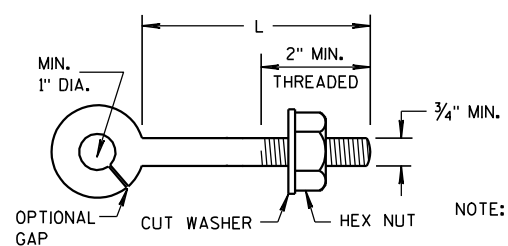


(TONGUE & GROOVE PIPE)

(MODIFIED BELL PIPE)
LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

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

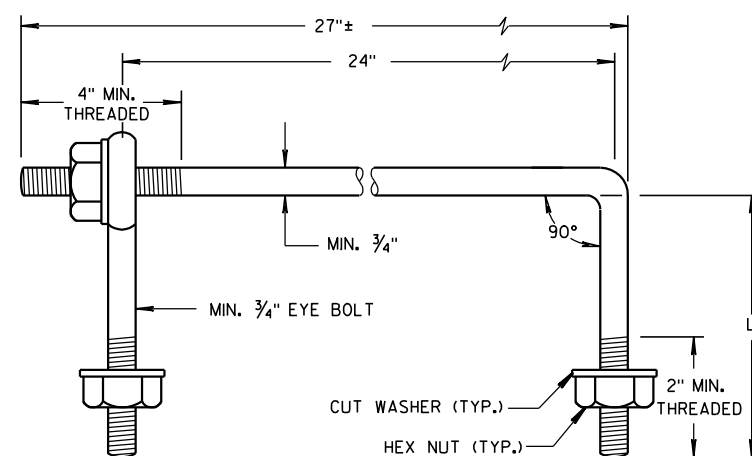


EYE BOLT

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

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

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

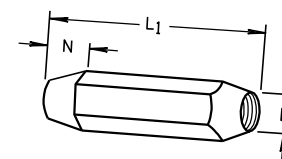


EYE BOLT AND TIE ROD

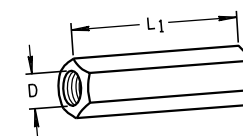
ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



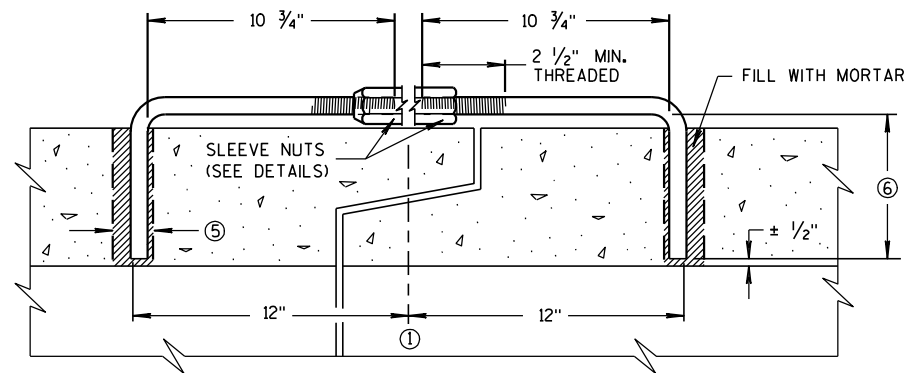
TAPERED



PLAIN

RIGHT AND LEFT THREADS

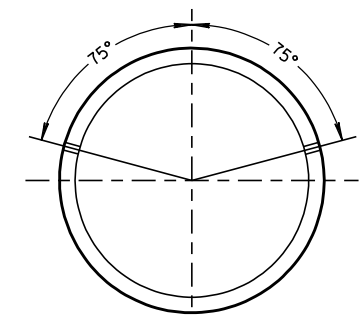
SLEEVE NUTS



LONGITUDINAL SECTION

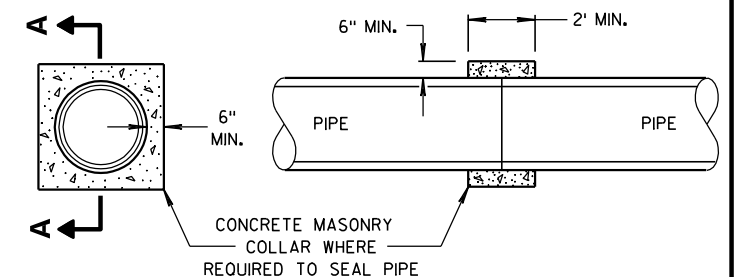
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



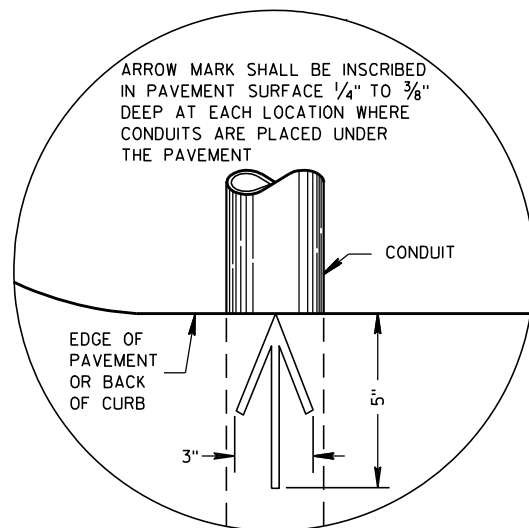
SECTION A-A

CONCRETE COLLAR DETAIL

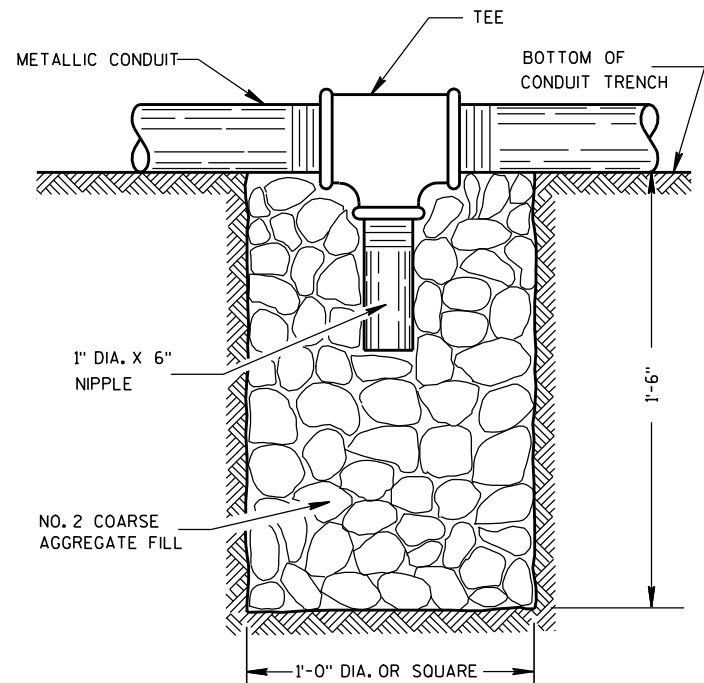
JOINT TIES FOR CONCRETE
PIPE AND CONCRETE
COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 93 'MENT
FHWA ENGINEER

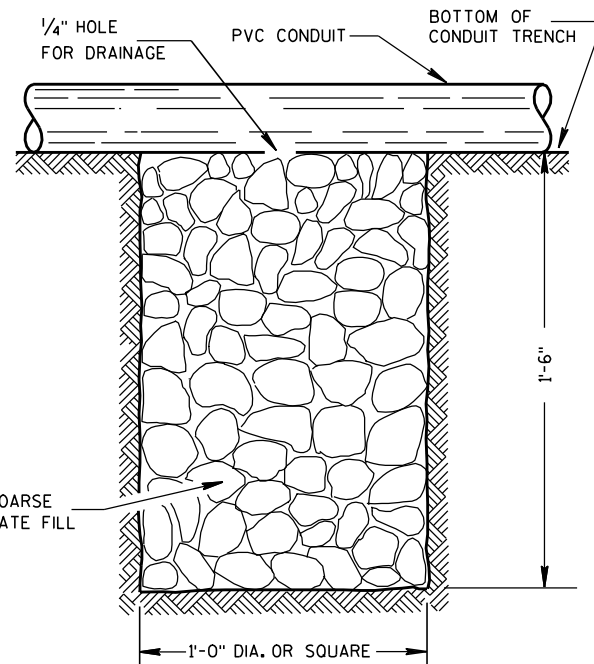


**PLAN VIEW
ARROW MARK**



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 EMERSON 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.

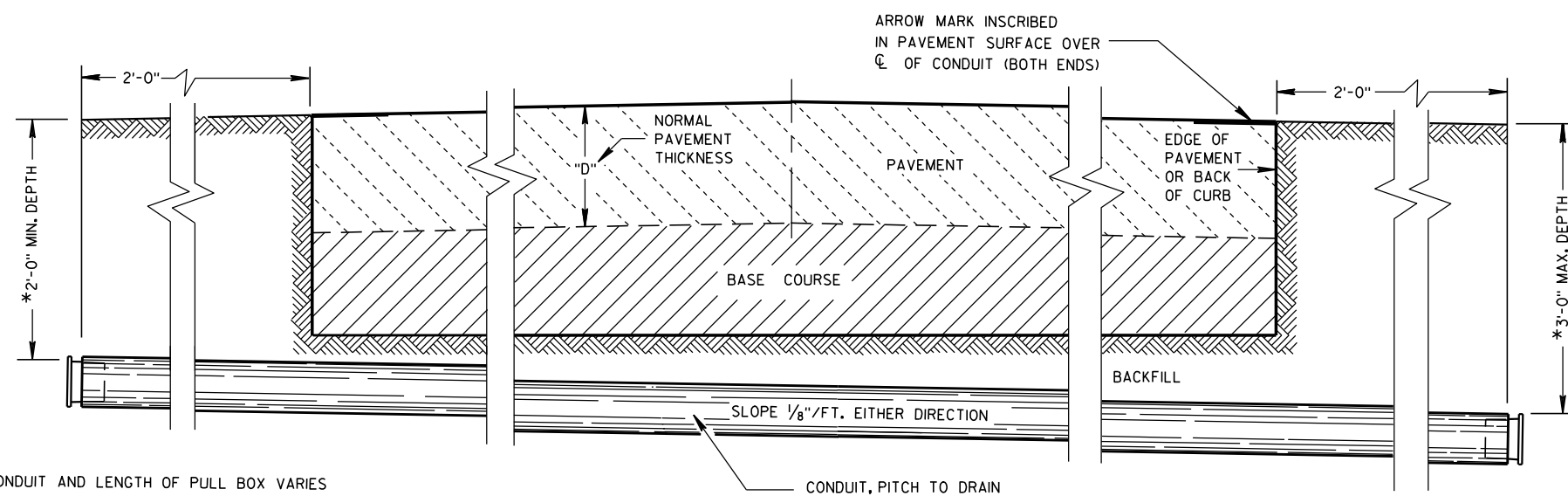
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03

DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGINEER

HWYS

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.

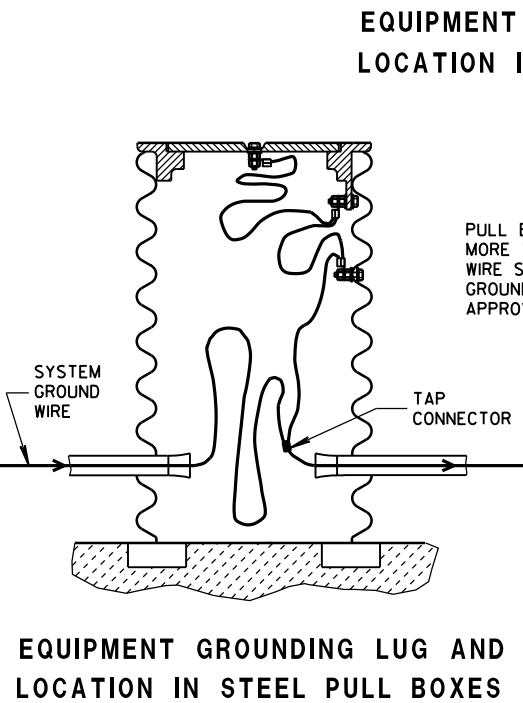
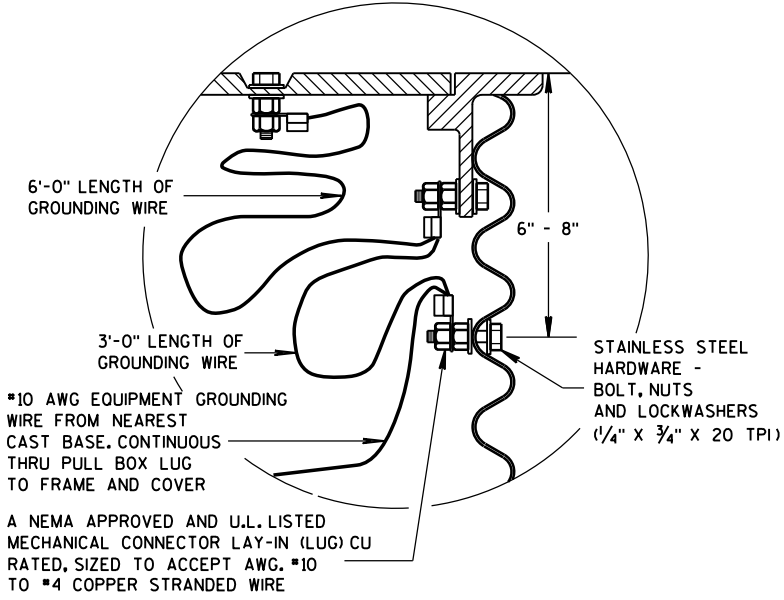
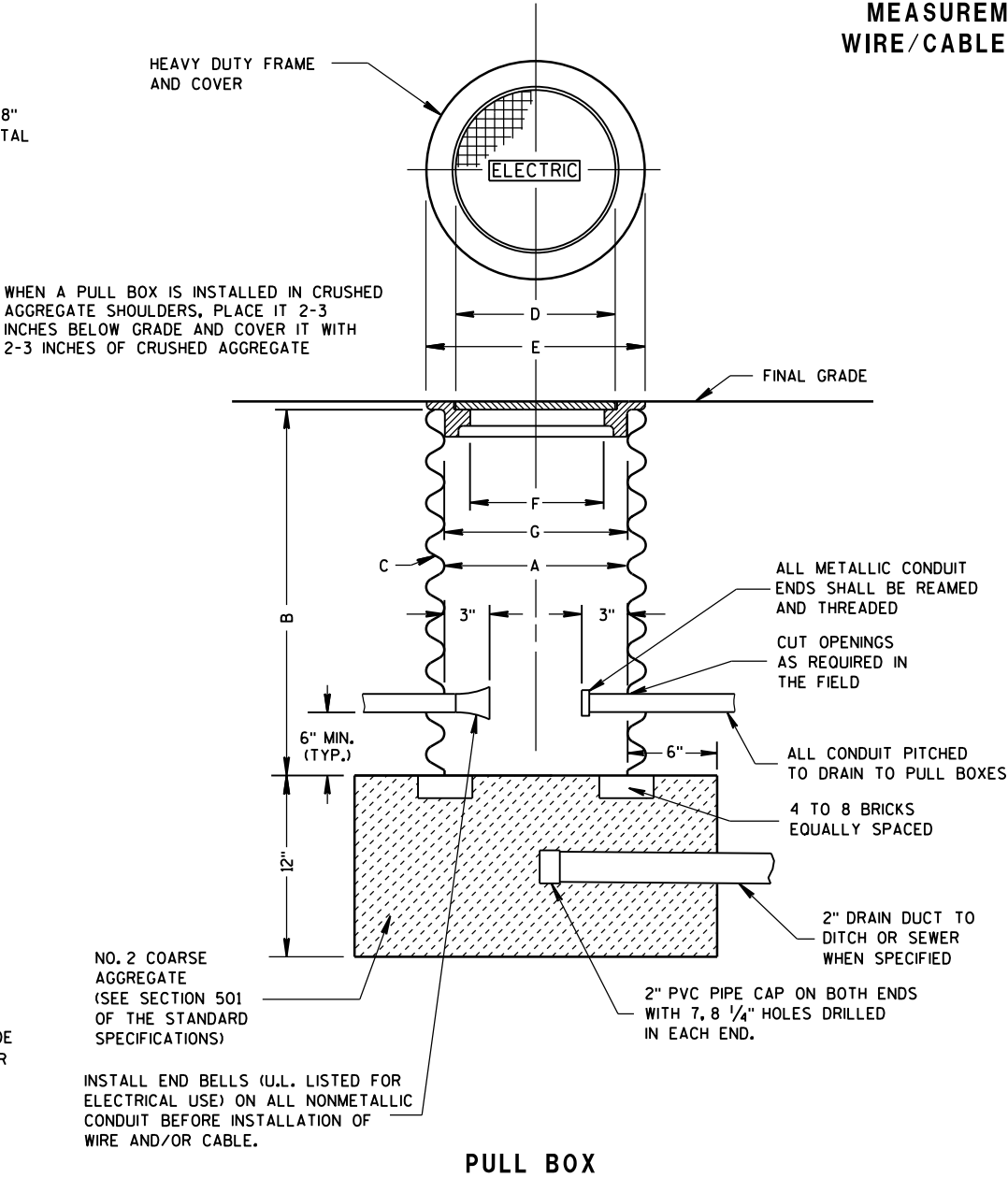
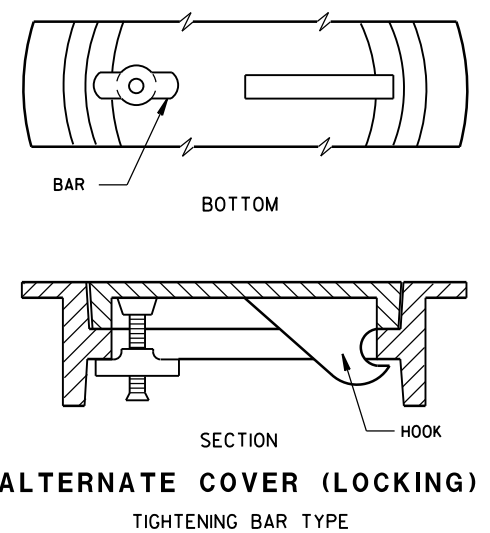
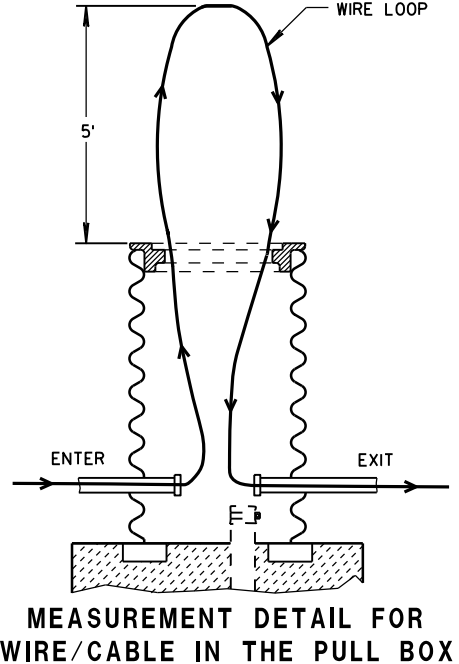
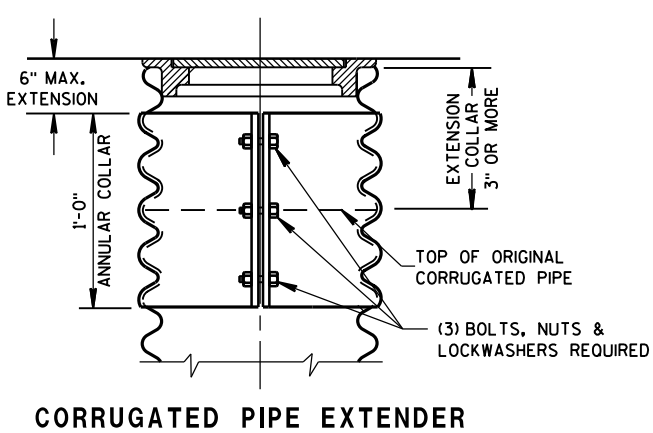
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

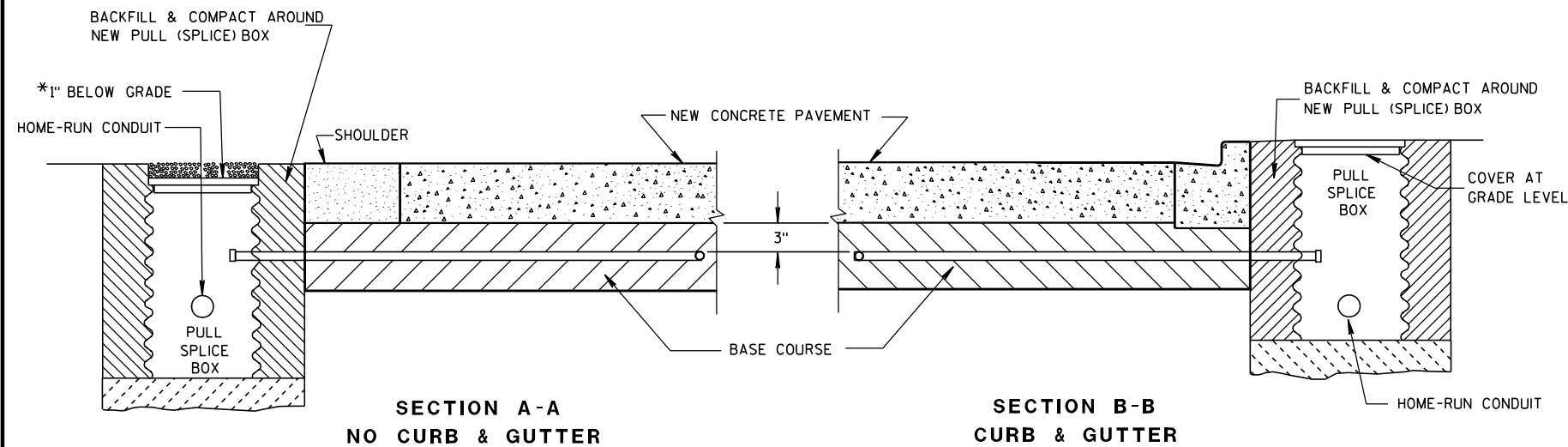
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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 2-7-2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL 95
FHWA	



*RECESS PULL (SPlice) BOX SO THAT THE COVER IS 3\"

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

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

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

SPICES SHALL BE INSTALLED BY USING CAST IN PLACE SPlice KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPlice KIT.

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

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

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

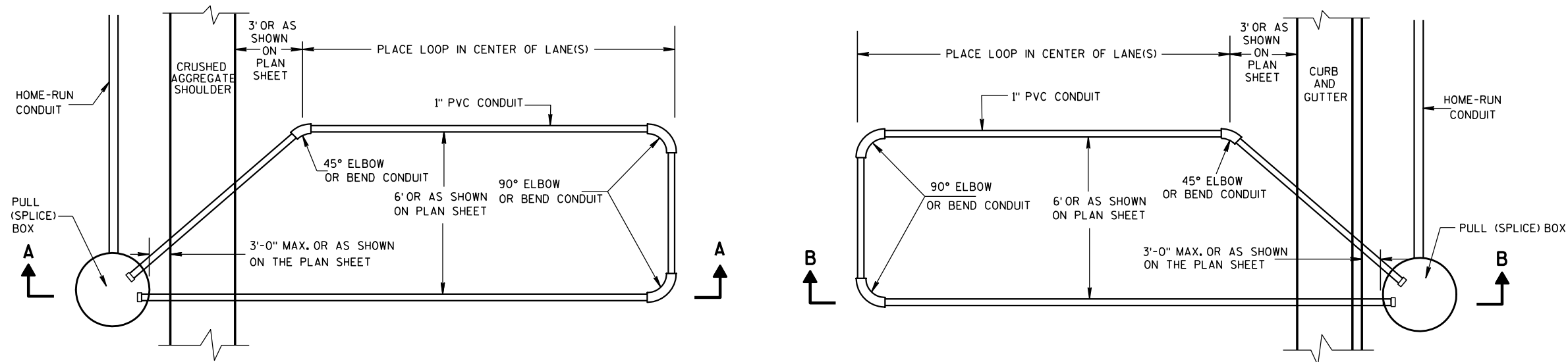
THE #12 AWG. LOOP WIRE IN THE PULL (SPlice) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPliced TO THE LOOP LEAD-IN CABLE.

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

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

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

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



TYPICAL PLAN OF LOOP DETECTOR
WITH 18\"

LOOP DETECTOR INSTALLED IN
BASE COURSE WITH PULL (SPlice)
BOX OFF ROADWAY
(OPTION 1)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/7/06

DATE

/S/ Balu Ananthanarayanan

STATE ELECTRICAL ENGI 96

HWYS

FHWA

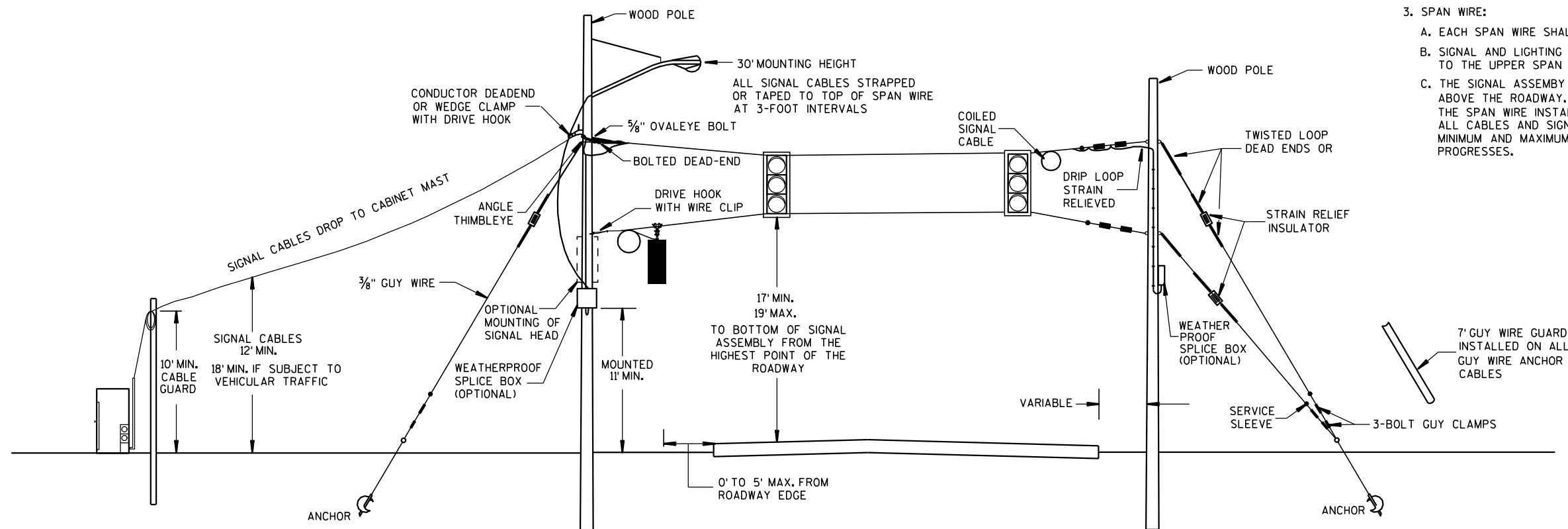
GENERAL NOTES

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

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

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

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



SPAN WIRE TEMPORARY SIGNALS

MINIMUM POLE LENGTHS	POLE BURIEL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

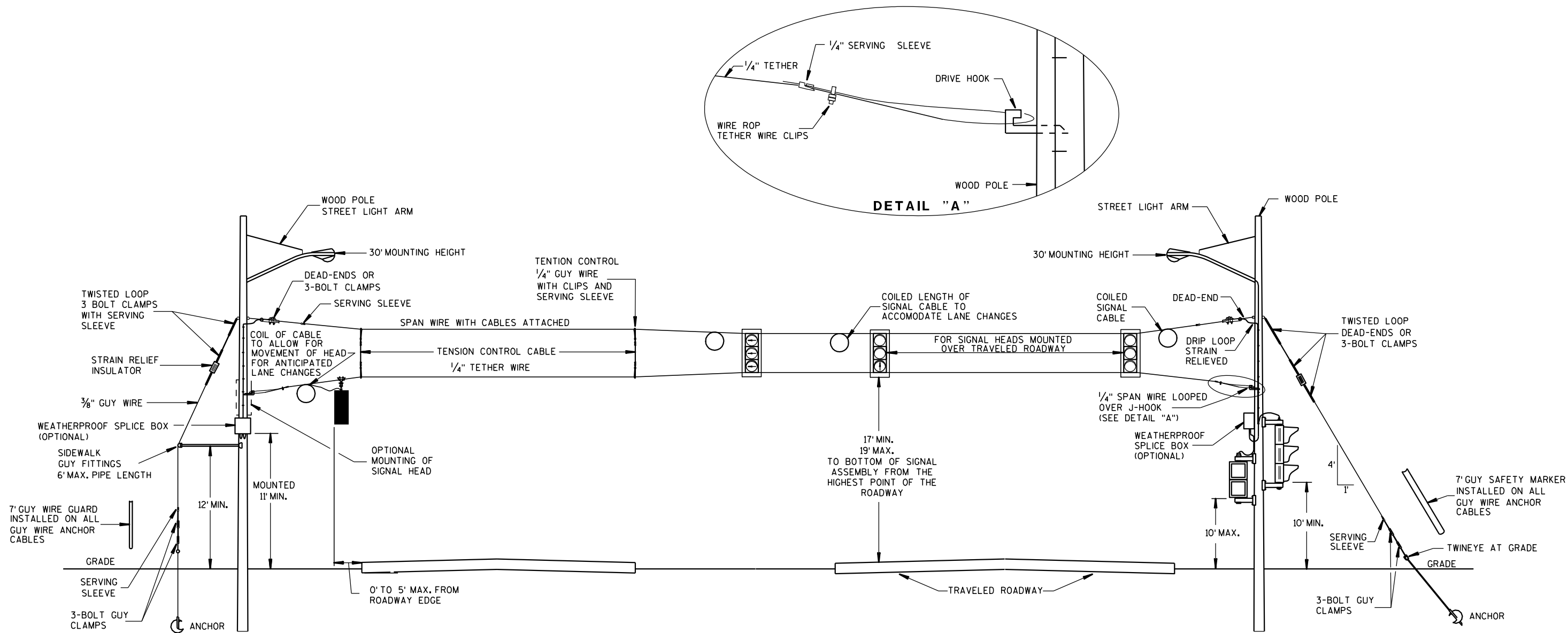
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

/S/ Balu Anantharaman
STATE ELECTRICAL ENGINEER HWYS

FHWA



GENERAL NOTES

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

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2. SIGNAL FACES:

A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.

B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.

C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.

D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.

E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

3. SPAN WIRE:

A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.

B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.

C. THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

SPAN WIRE TEMPORARY SIGNALS 4 LANE ROADWAYS

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

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

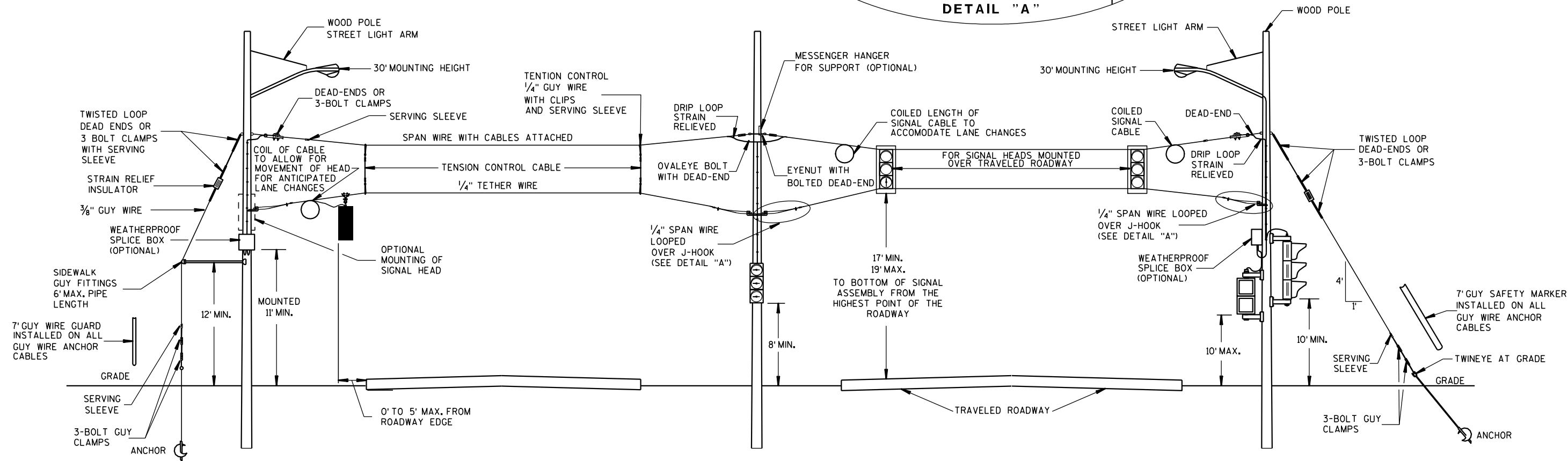
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGINEER HWYS



**SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS**

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
2. SIGNAL FACES:
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 - B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
 - C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
 - D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
 - E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

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 - A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
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 - C. THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

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

**SPAN WIRE
TEMPORARY TRAFFIC SIGNAL**

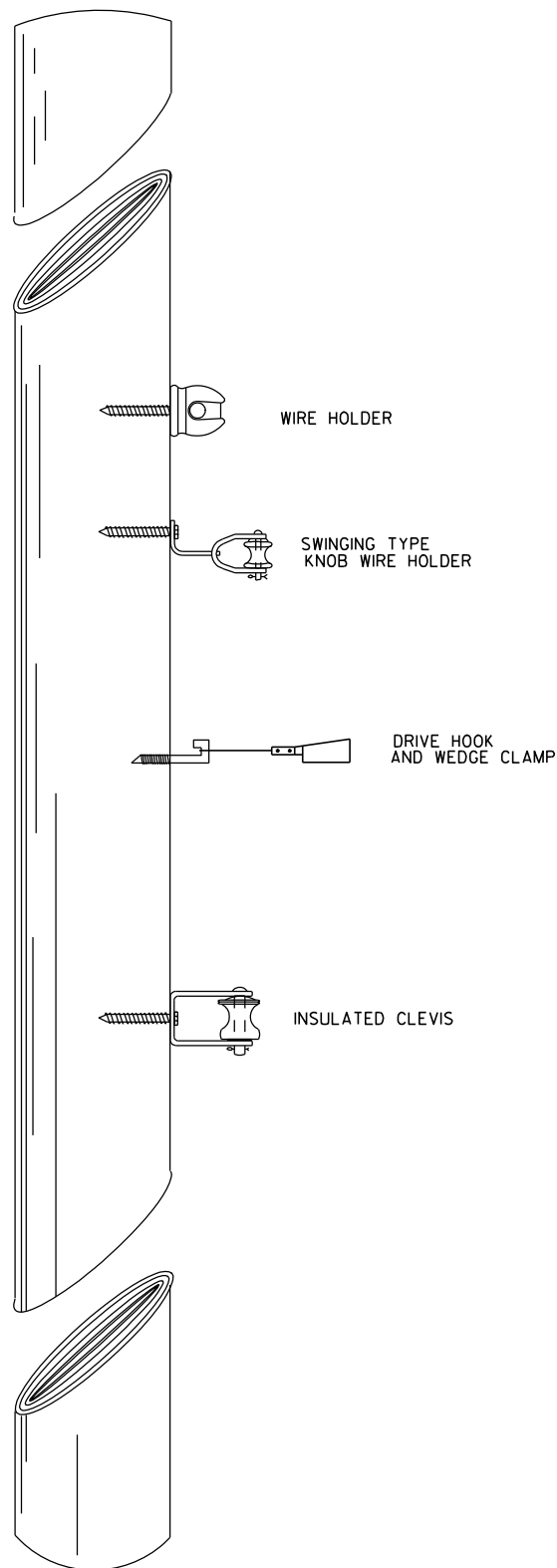
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

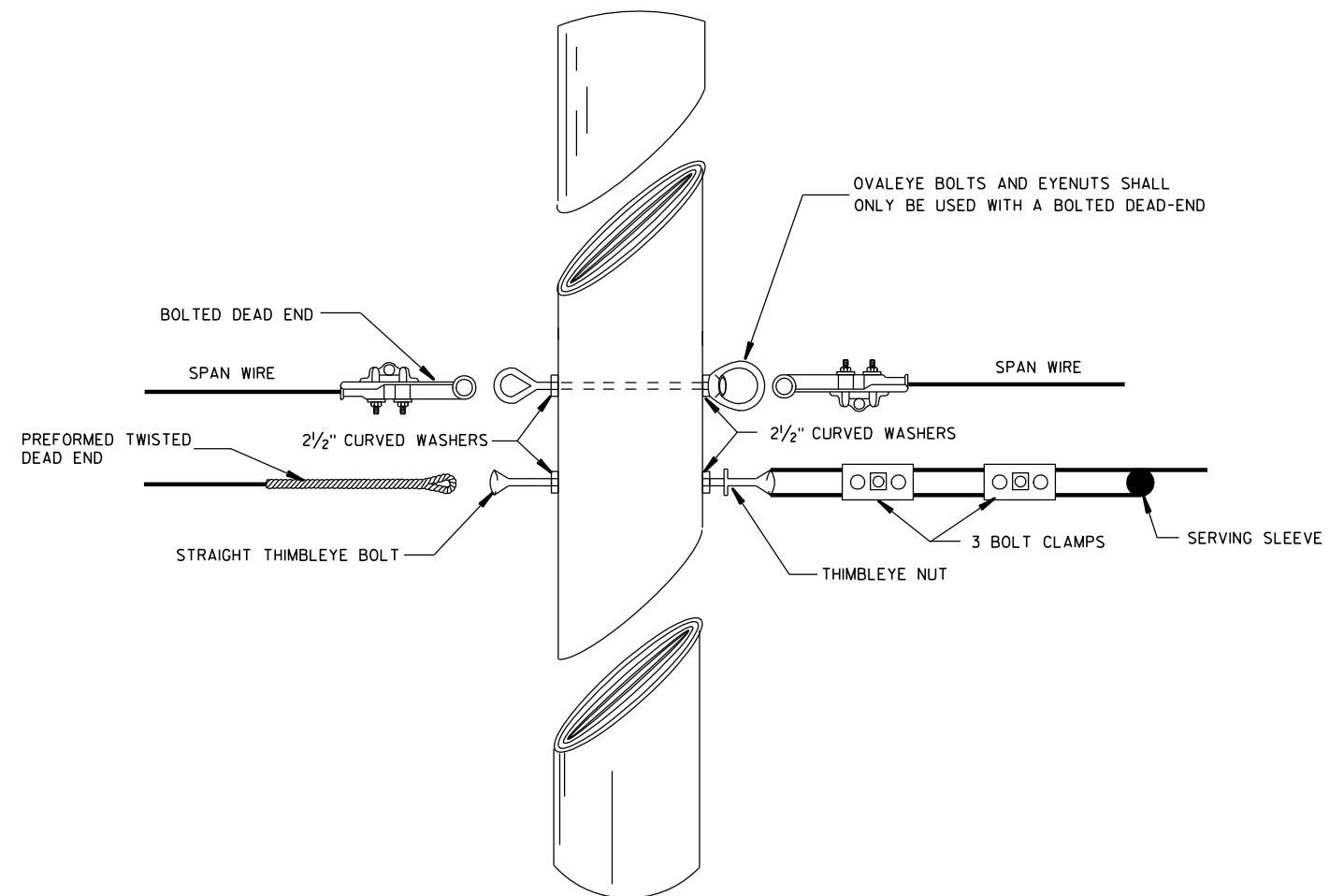
7-14-08
DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGR 99 HWYS



TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08

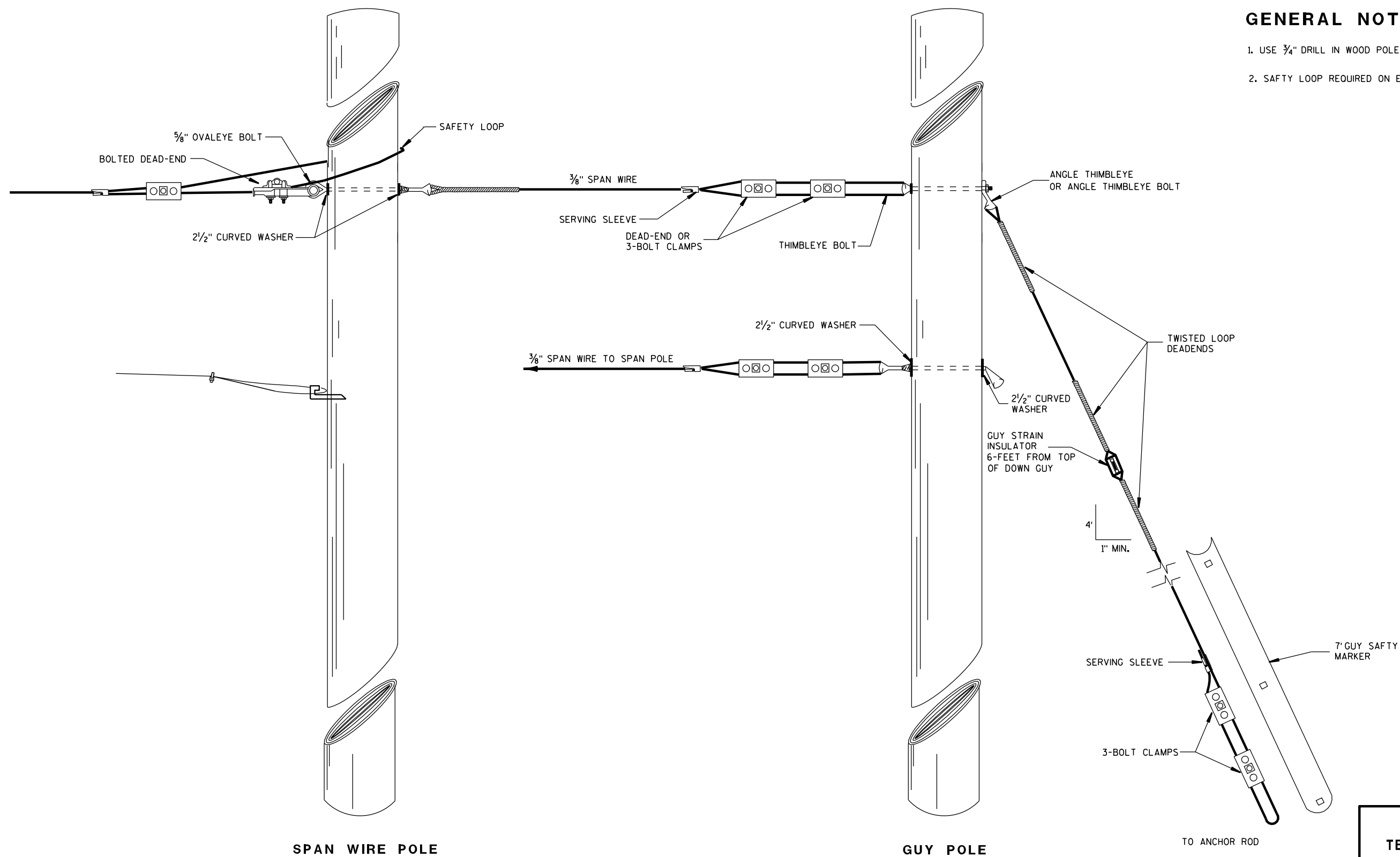
DATE

/S/ Balu Ananthanarayanan

STATE ELECTRICAL ENGI 100

HWYS

FHWA



SPAN WIRE POLE

GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

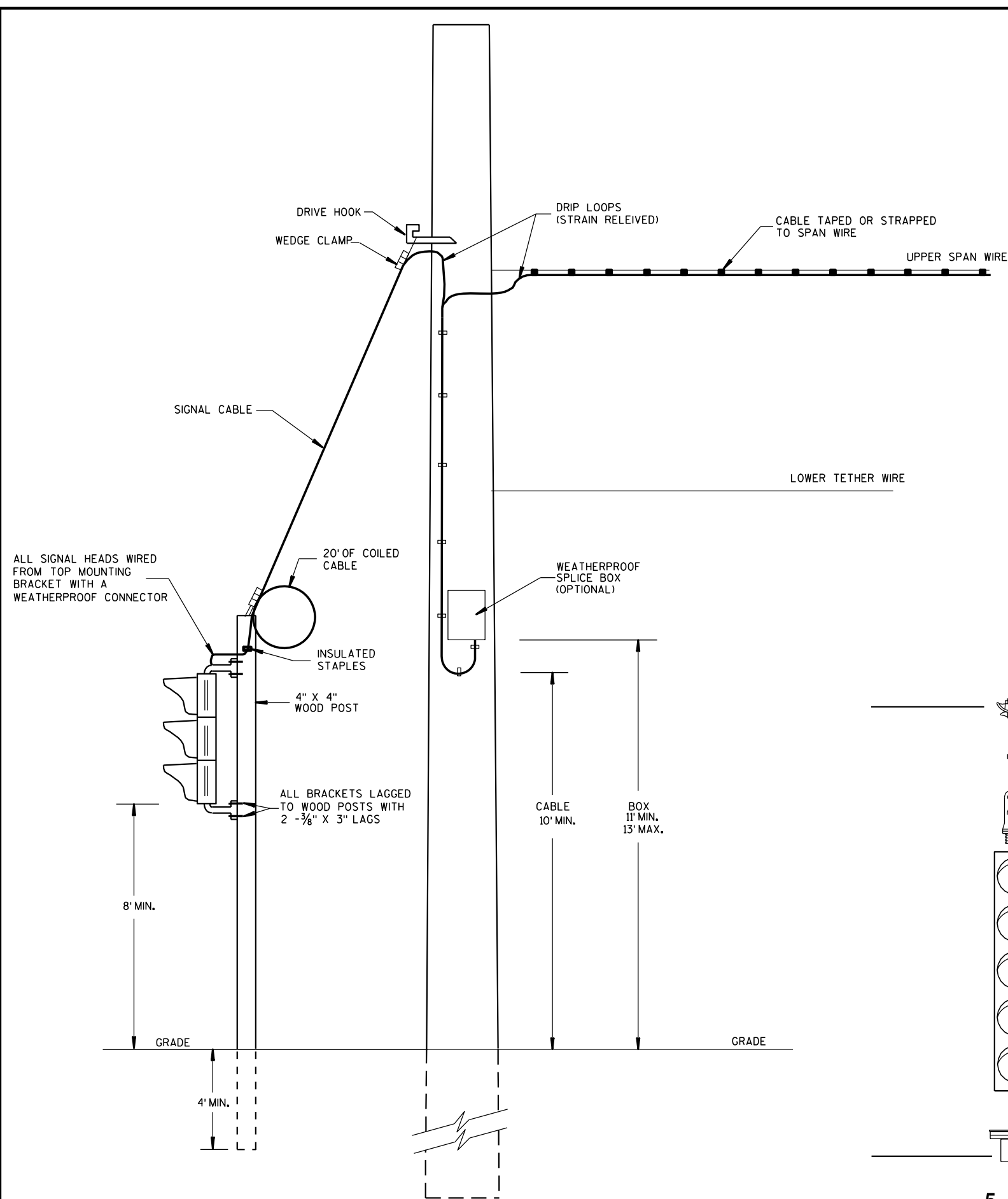
GENERAL NOTES

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.
2. SAFETY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.

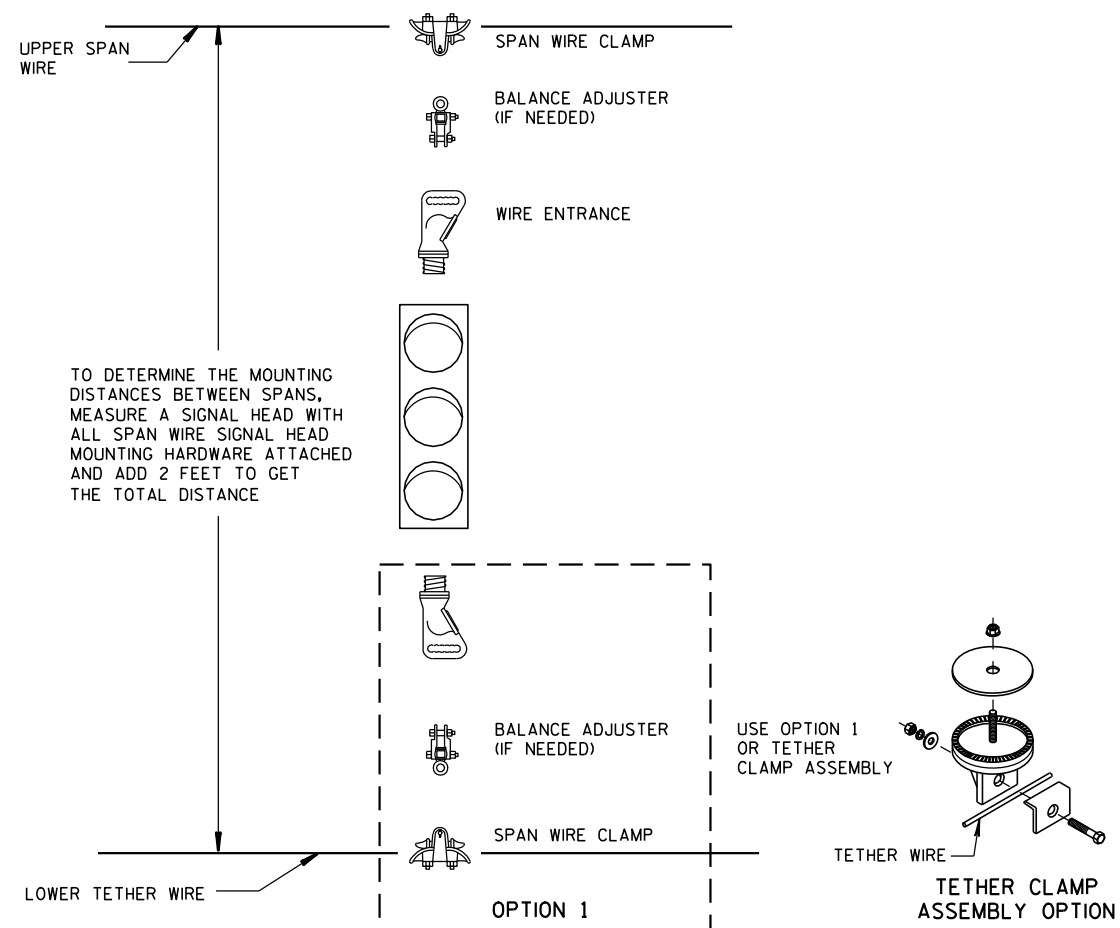
**SPAN WIRE
TEMPORARY TRAFFIC SIGNAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

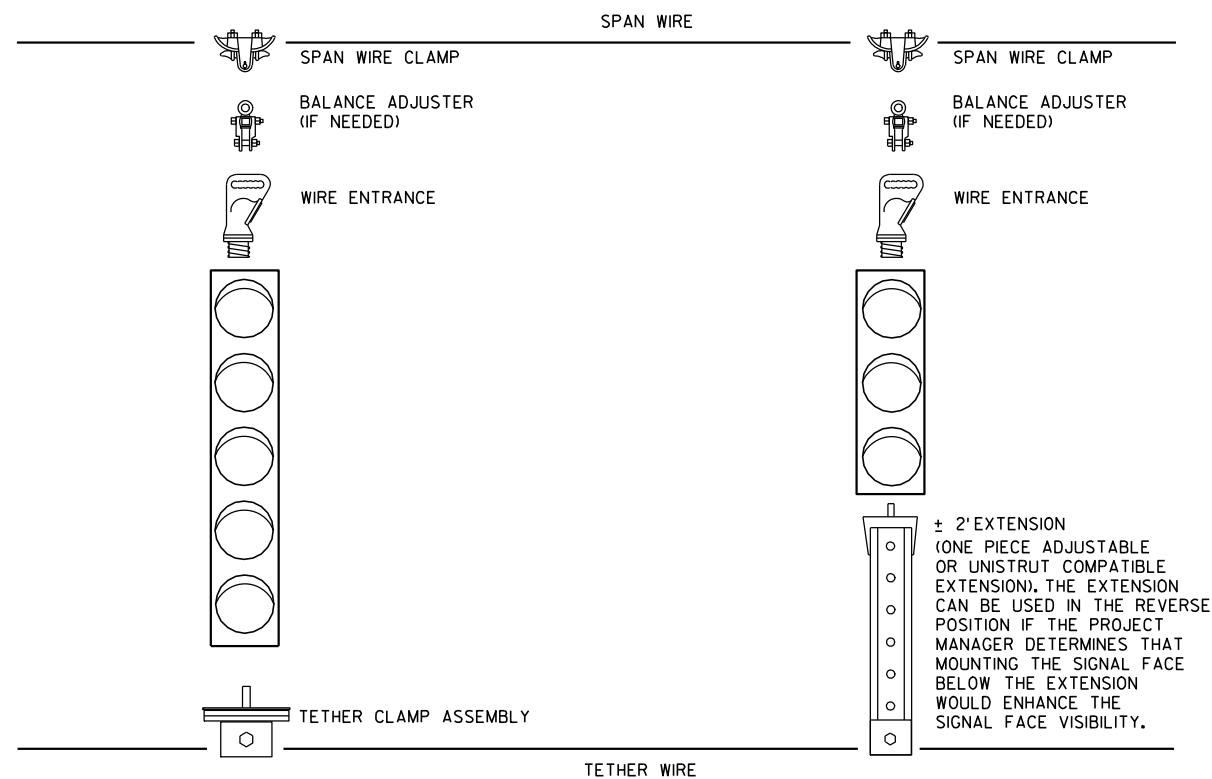
APPROVED
7-14-08
DATE /S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 101 HWYS
FHWA



TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TYPICAL SPAN WIRE MOUNTING HARDWARE

5 SECTION VERTICAL WITH 3 SECTION
VERTICAL ON ONE SPAN WIRESPAN WIRE
TEMPORARY TRAFFIC SIGNALSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08

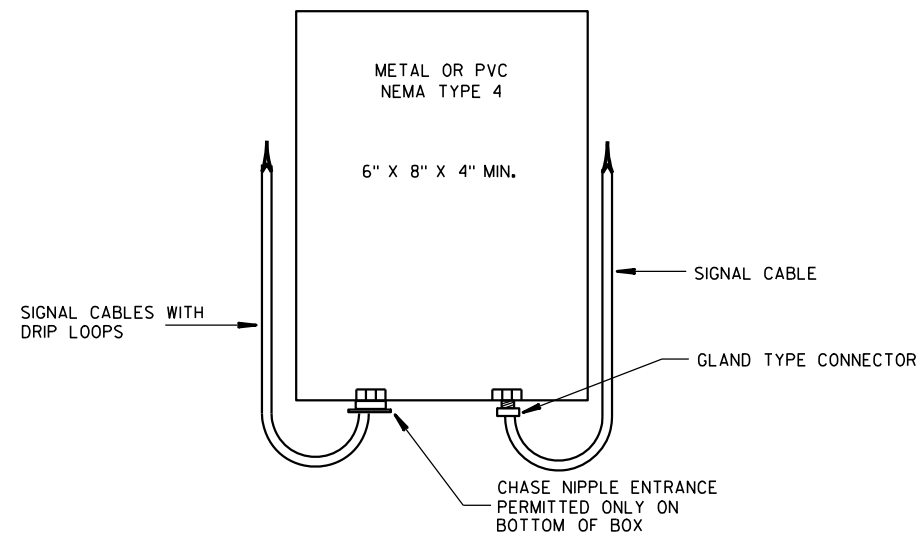
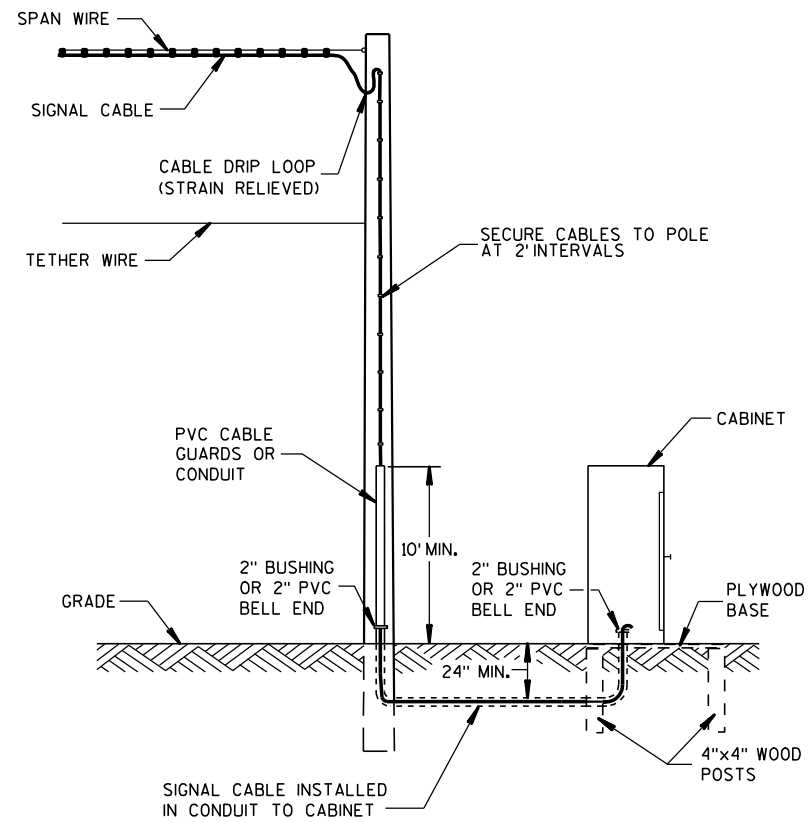
DATE

/S/ Balu Ananthanarayanan

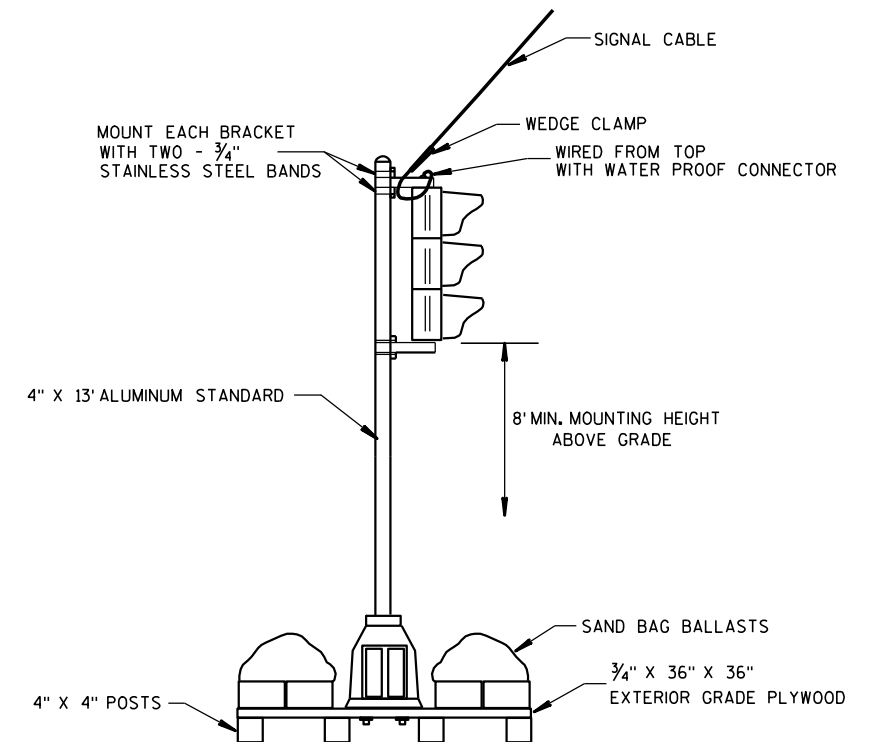
STATE ELECTRICAL ENGI 102

HWYS

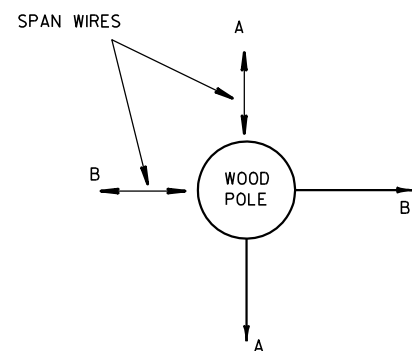
FHWA



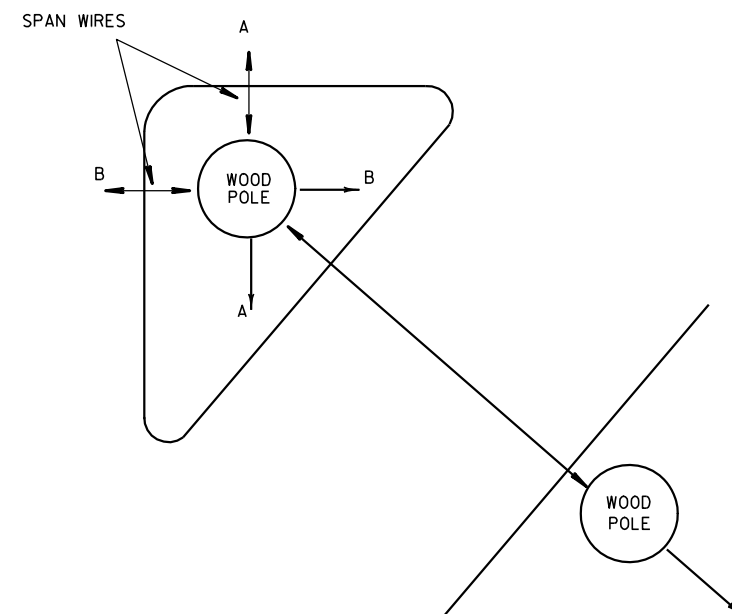
SPLICE BOX



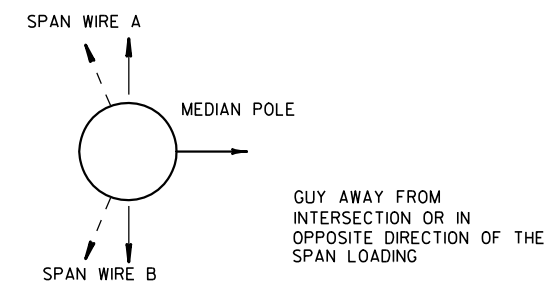
TYPICAL SKID TYPE TEMPORARY



CORNER POLES



ISLAND POLES



MEDIAN POLES

**SPAN WIRE
TEMPORARY TRAFFIC SIGNAL**

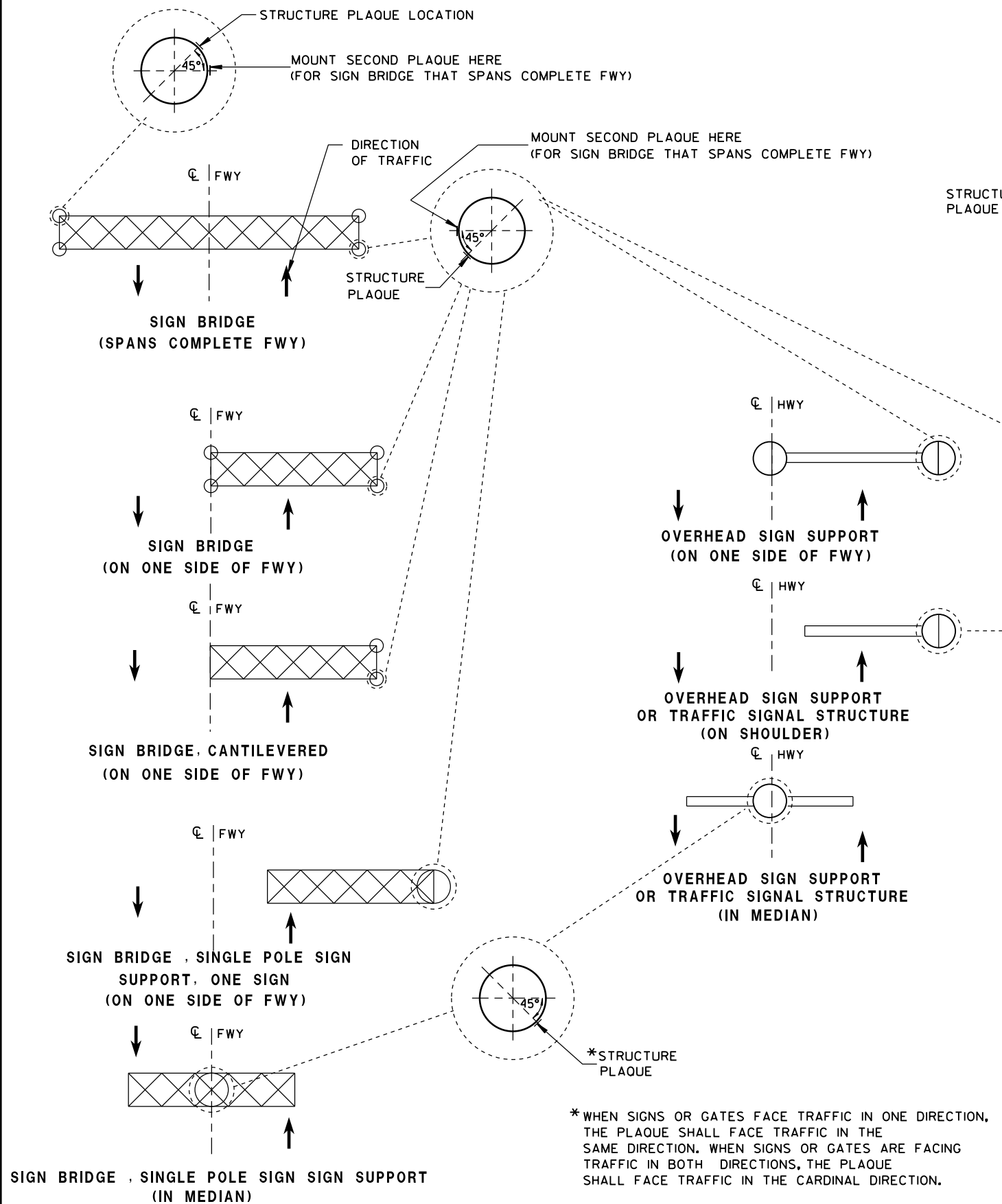
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 103 HWYS



LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

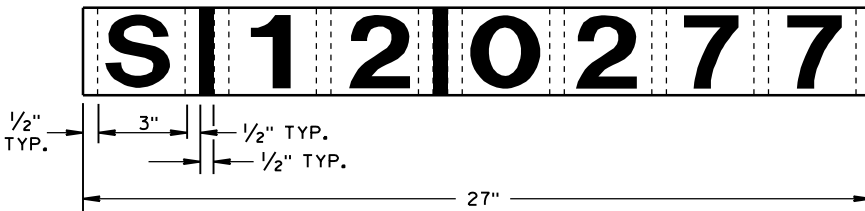
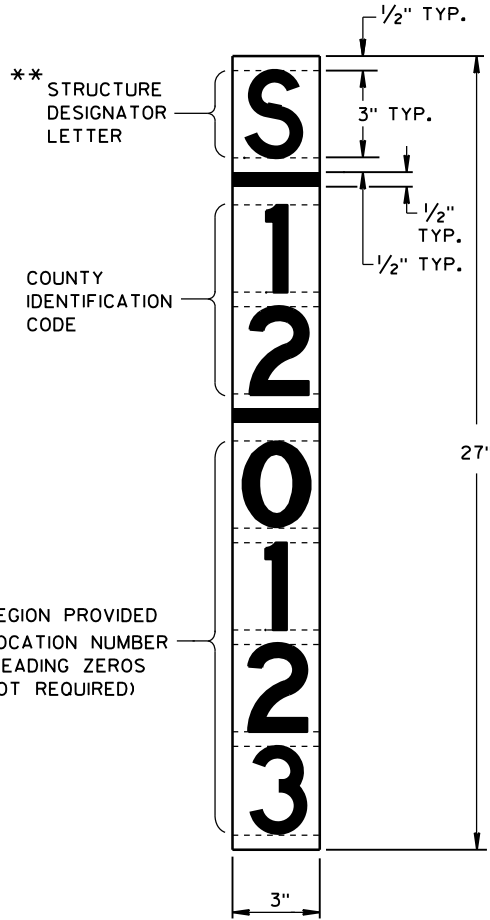
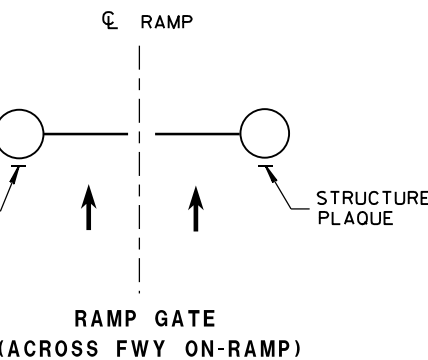
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



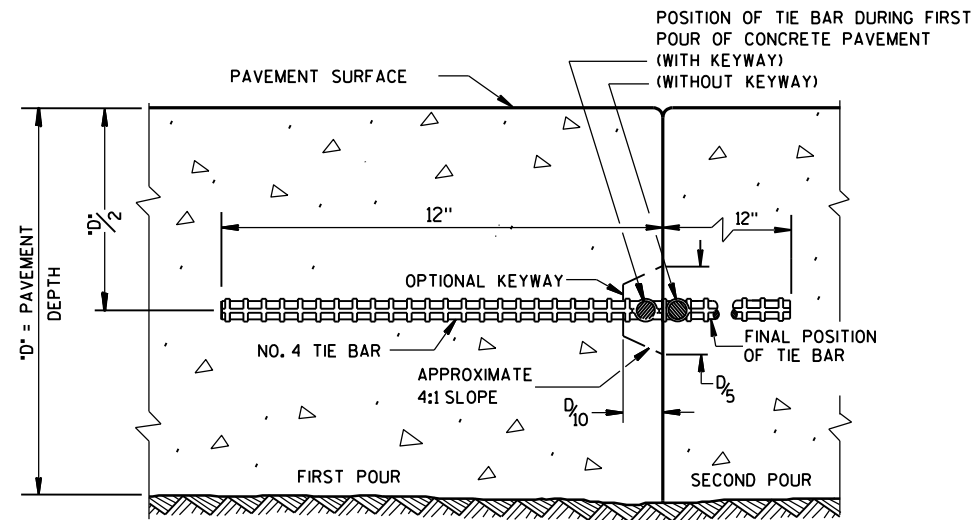
IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

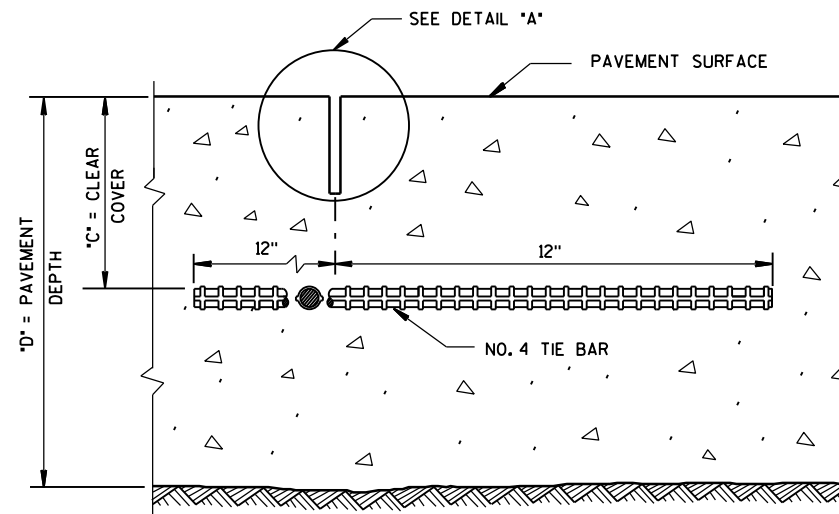
STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/4/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 104 SIGN
FHWA



CONSTRUCTION JOINT



SAWED JOINT

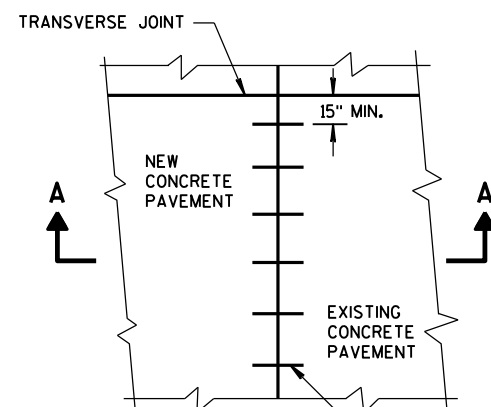
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

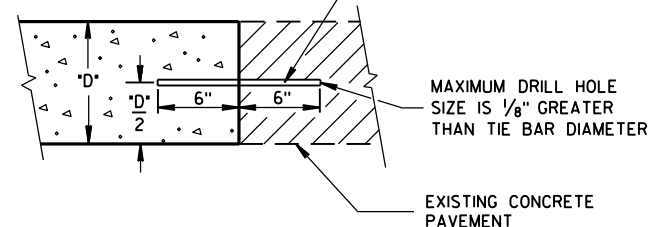
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

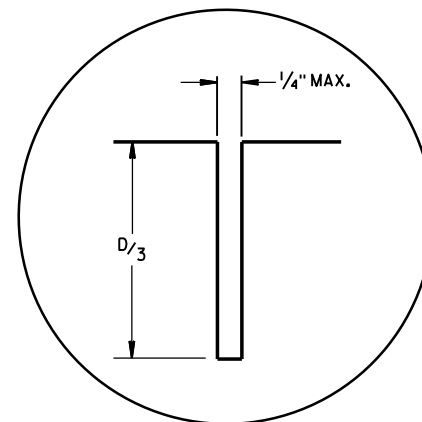


PLAN VIEW

NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



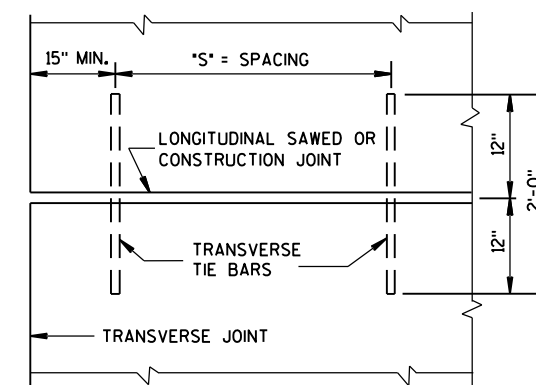
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

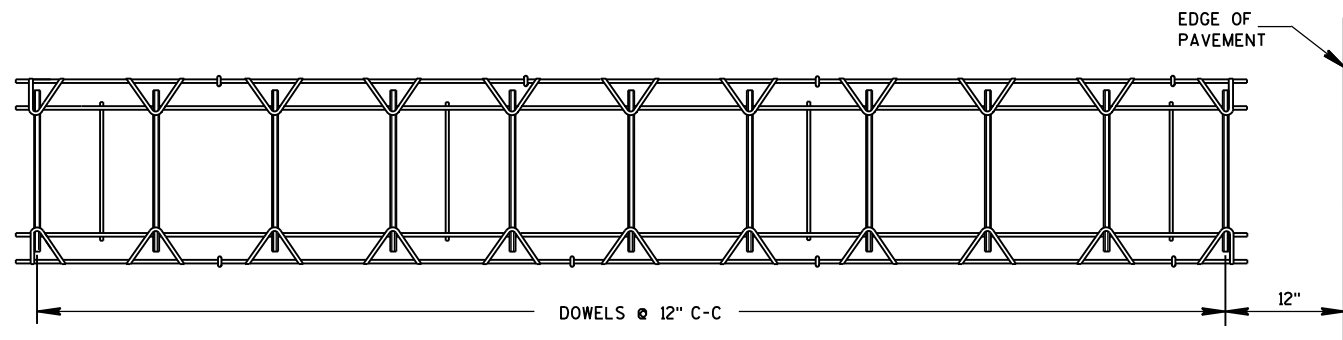
APPROVED

5-3-2013
DATE

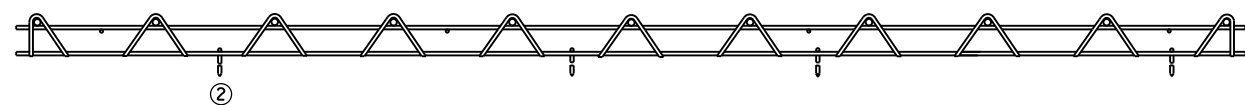
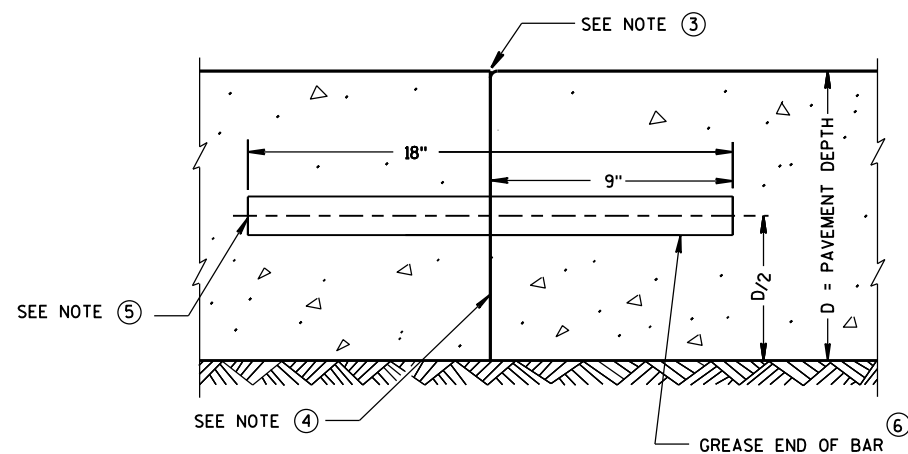
/S/ Deb Bischoff
PAVEMENT POLICY & DE 105

VEER

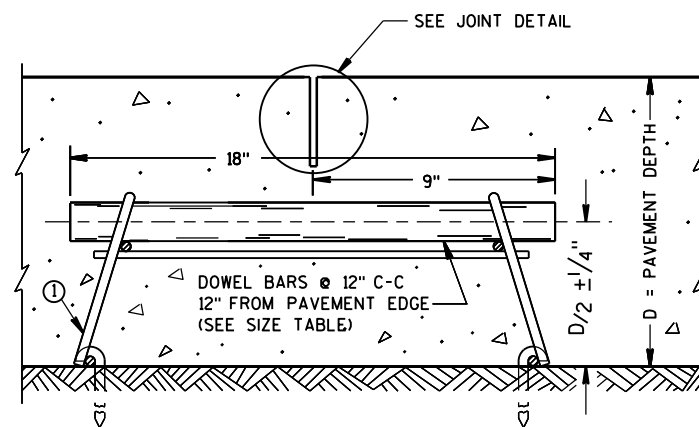
FHWA



PLAN VIEW

SIDE VIEW
CONTRACTION JOINT DOWEL ASSEMBLY ①

TRANSVERSE CONSTRUCTION JOINT



DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

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

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

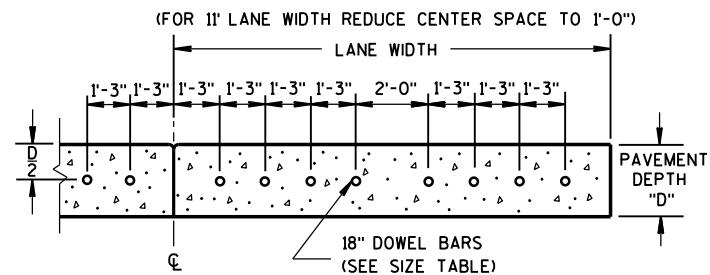
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

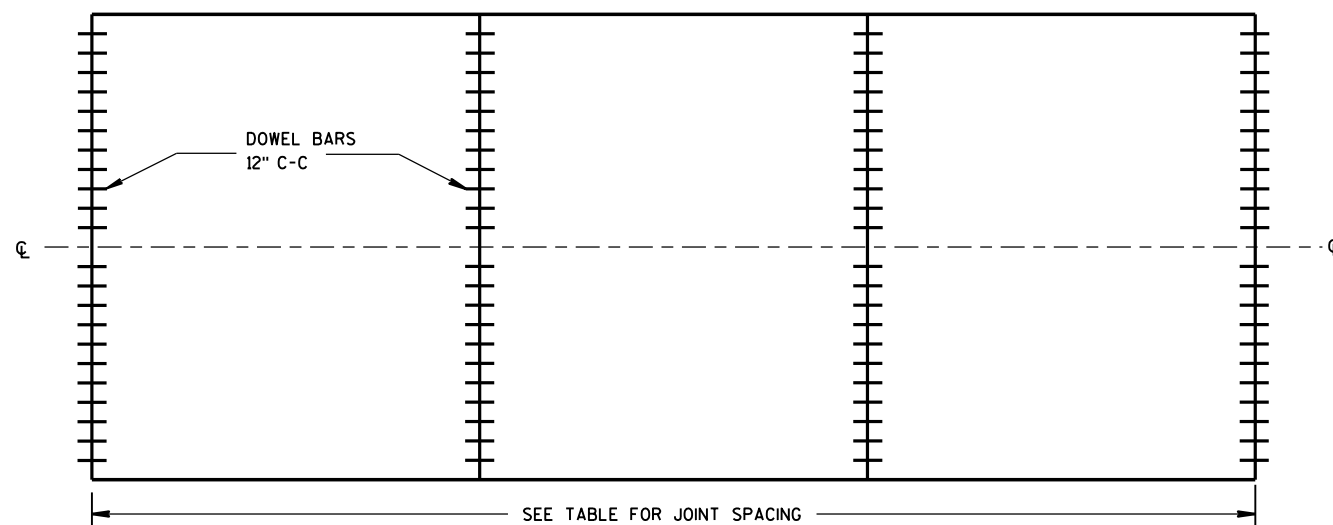
CONSTRUCTION JOINTS

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

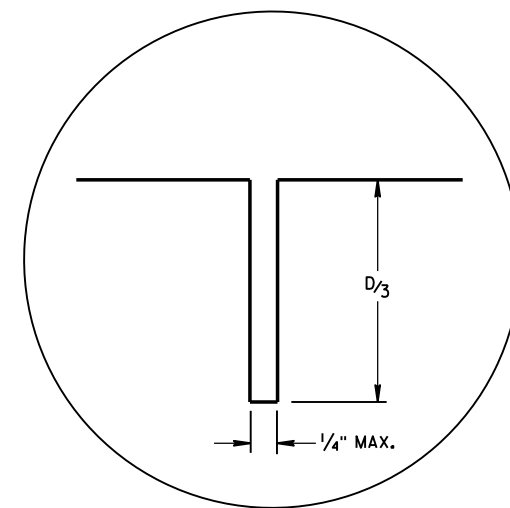
- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

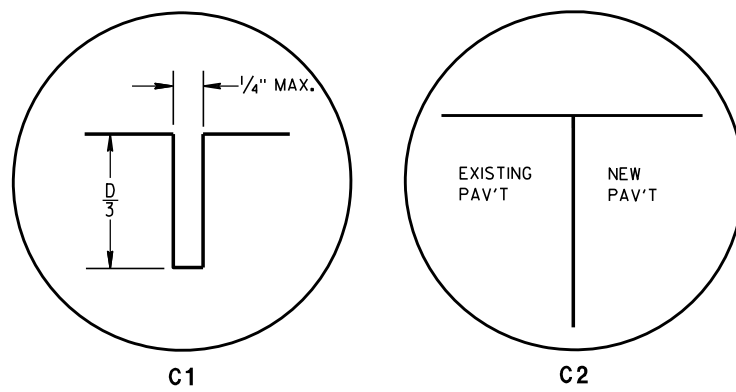
URBAN DOWELED
CONCRETE PAVEMENTSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

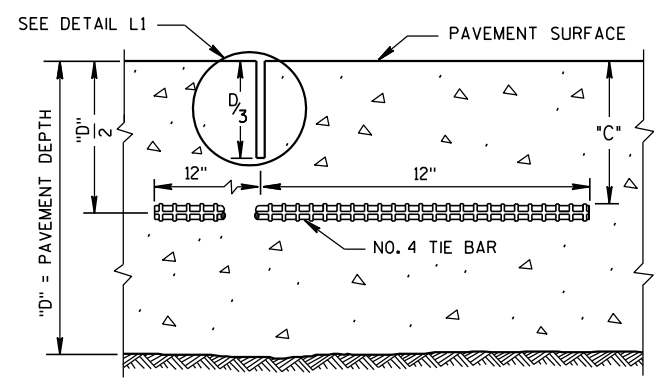
5/3/2013
DATE/S/ Deb Bischoff
PAVEMENT POLICY & DE 106

JEER

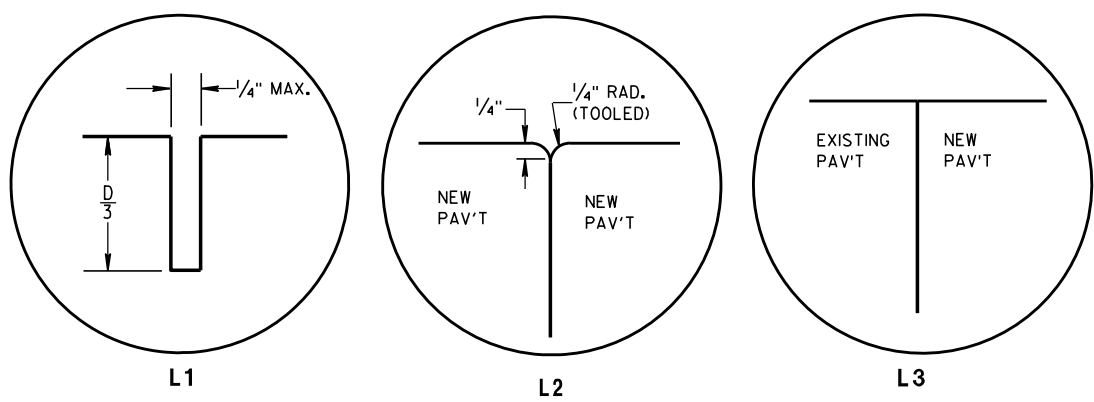
FHWA



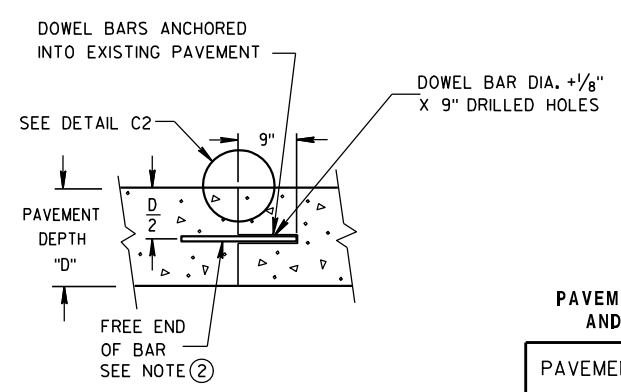
TRANSVERSE JOINTS



**SECTION C-C
SAWED JOINT**



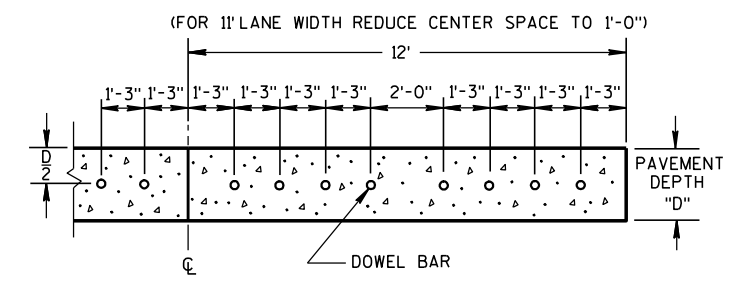
LONGITUDINAL JOINTS



SECTION D-D

GENERAL NOTES

- ANCHOR TIE BARS AND DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.
- PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.
- ① INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.
- ② APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



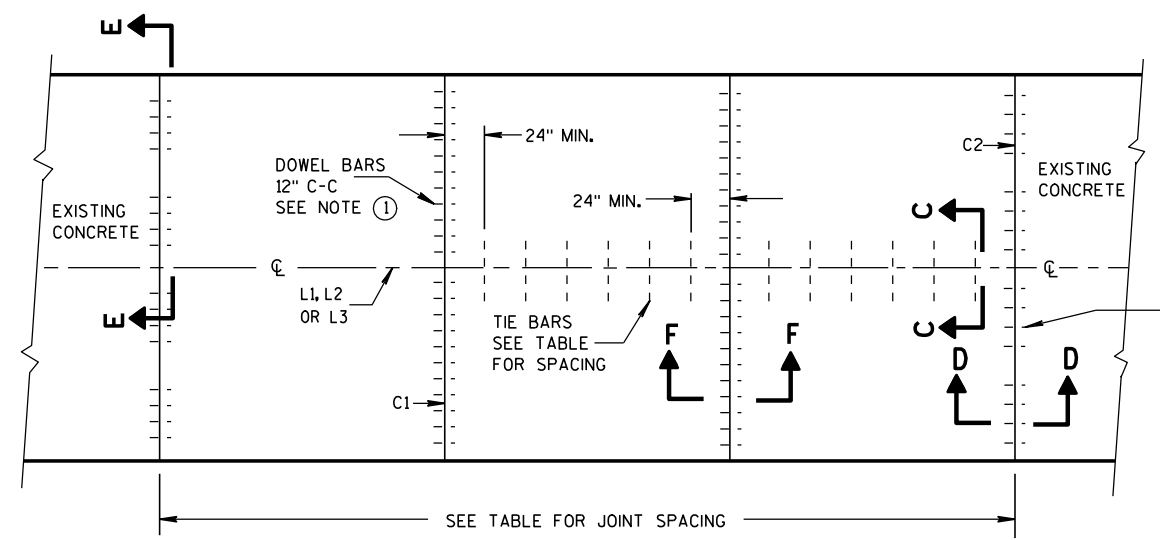
**SECTION E-E
SPACING OF DOWEL BARS
ANCHORED INTO EXISTING PAVEMENT**

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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

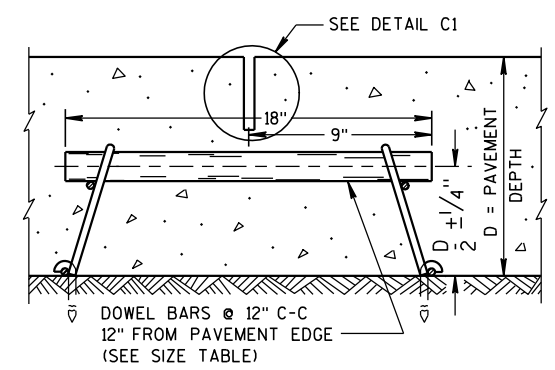
TIE BAR LOCATION TABLE

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



**PLAN VIEW
CONCRETE BASE
CONTRACTION JOINT LOCATIONS**

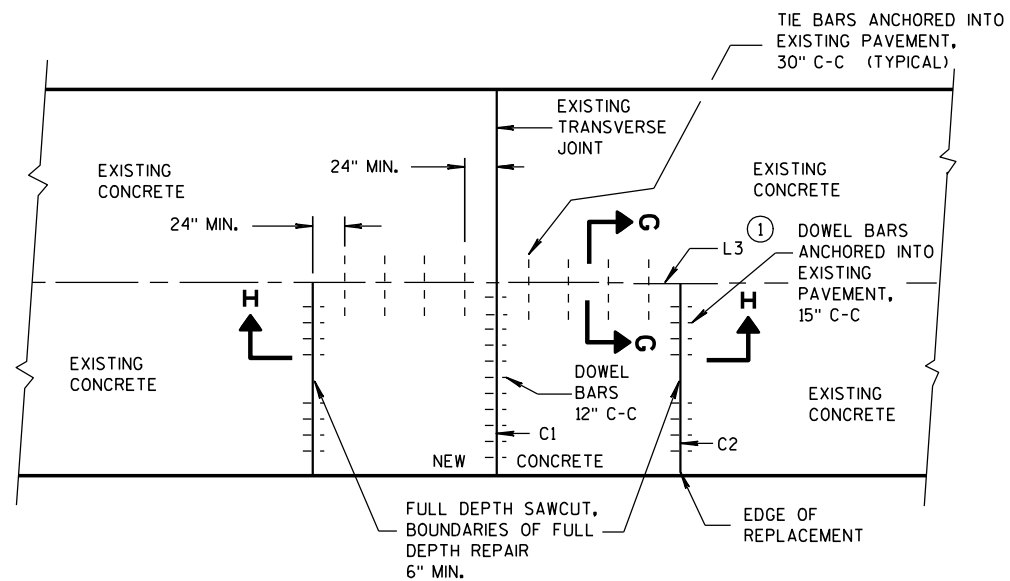
DOWEL BARS ANCHORED INTO EXISTING PAVEMENT, 15" C-C



**SECTION F-F
CONTRACTION JOINT**

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
107

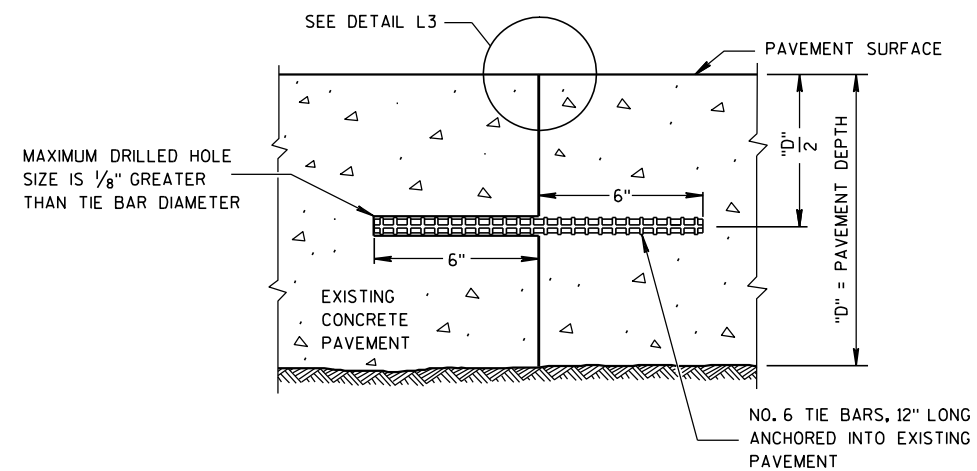


PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR

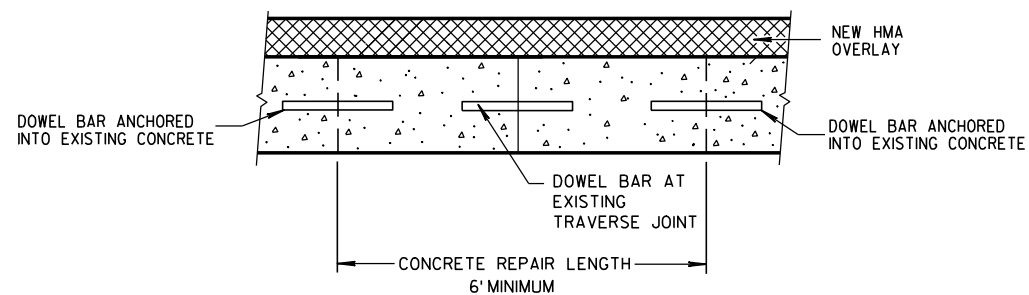
GENERAL NOTES

- ① USE AN ENGINEER-APPROVED BOND BREAKER AT THE LONGITUDINAL JOINT IN LIEU OF TIE BARS FOR SINGLE LANE CONCRETE BASE REPAIRS UP TO 15 FEET IN LENGTH.



SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



SECTION H-H

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

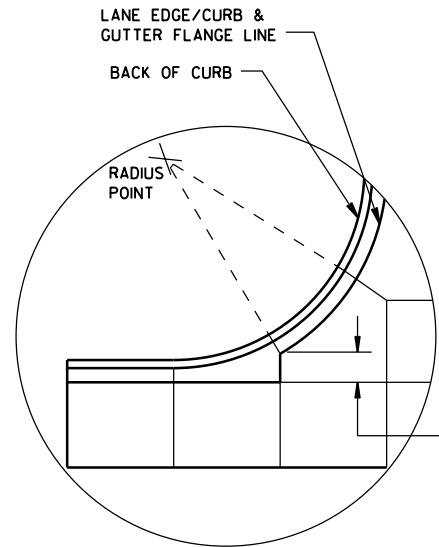
12-11-2009
DATE

FHWA

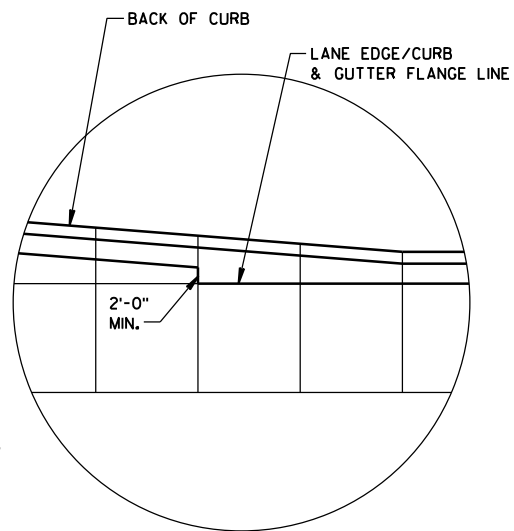
/S/ Deb Bischoff

PAVEMENT POLICY & D 108

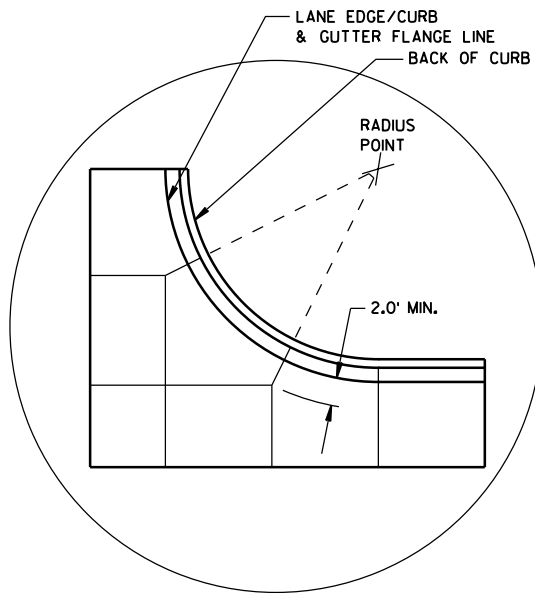
ENGINEER



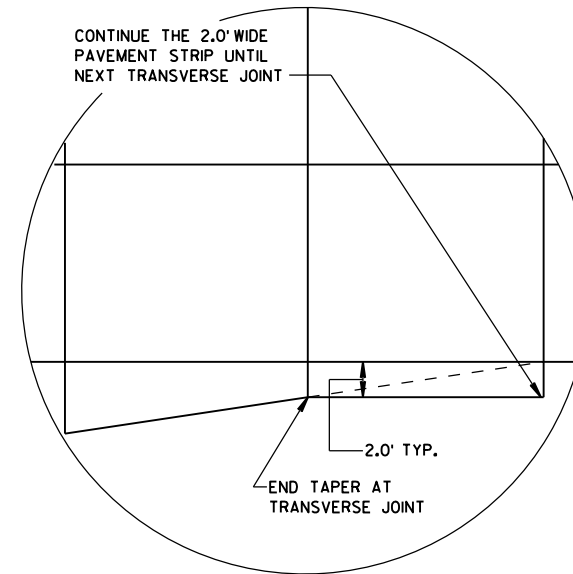
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

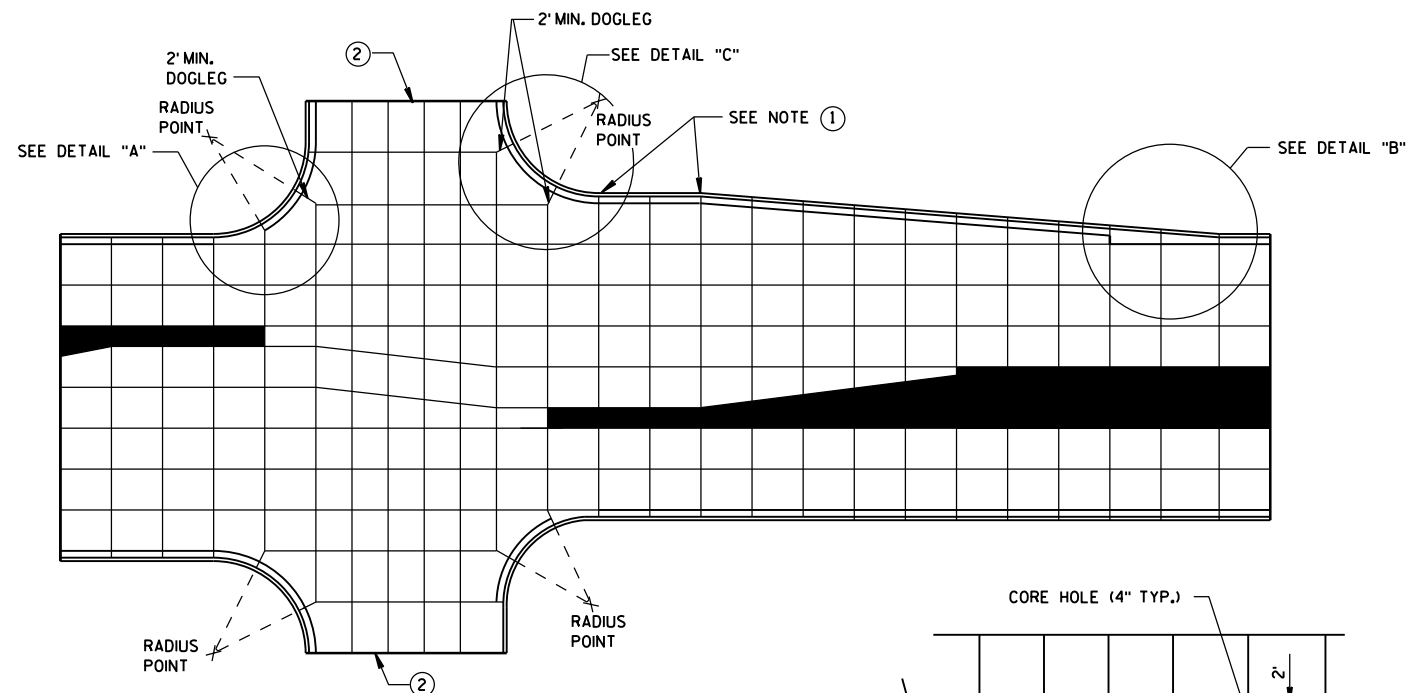
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

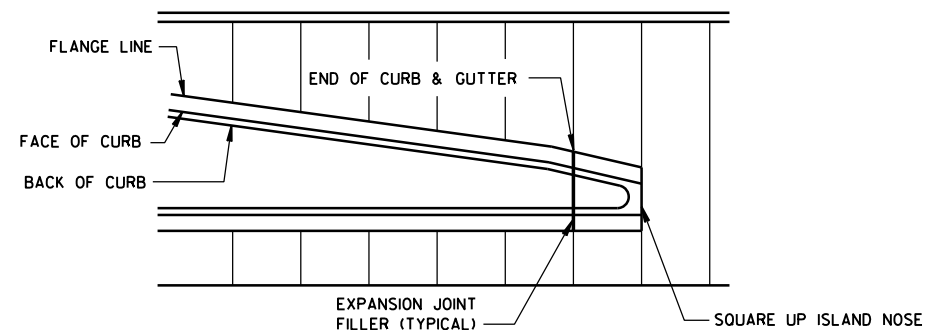
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

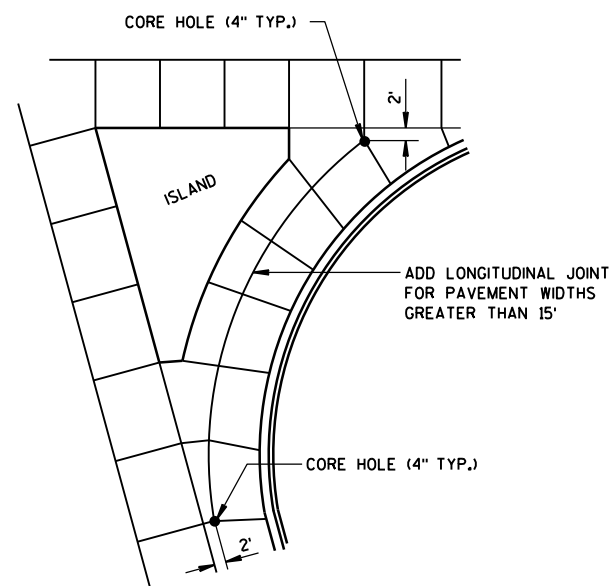
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



STANDARD INTERSECTION



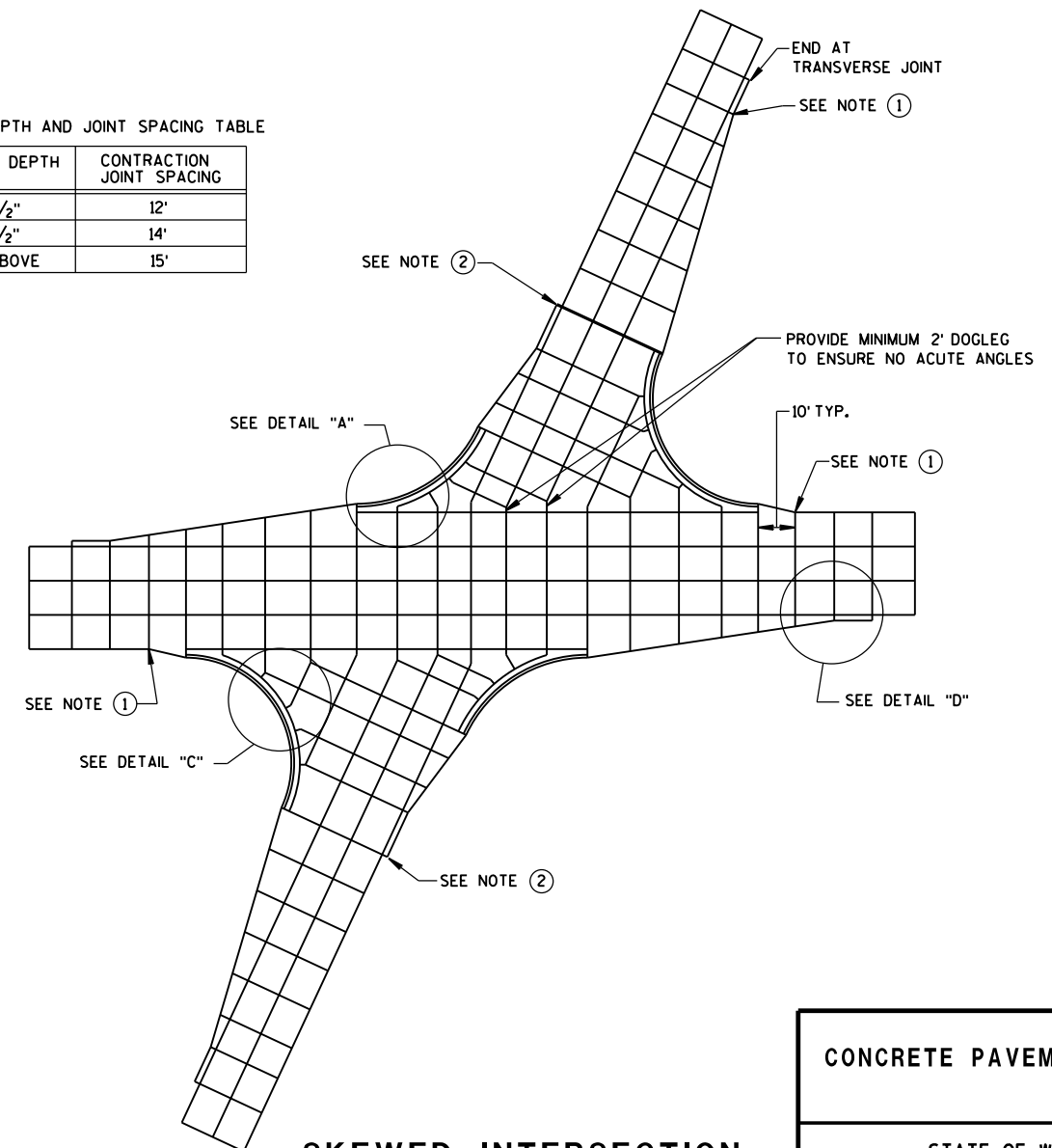
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

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



SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

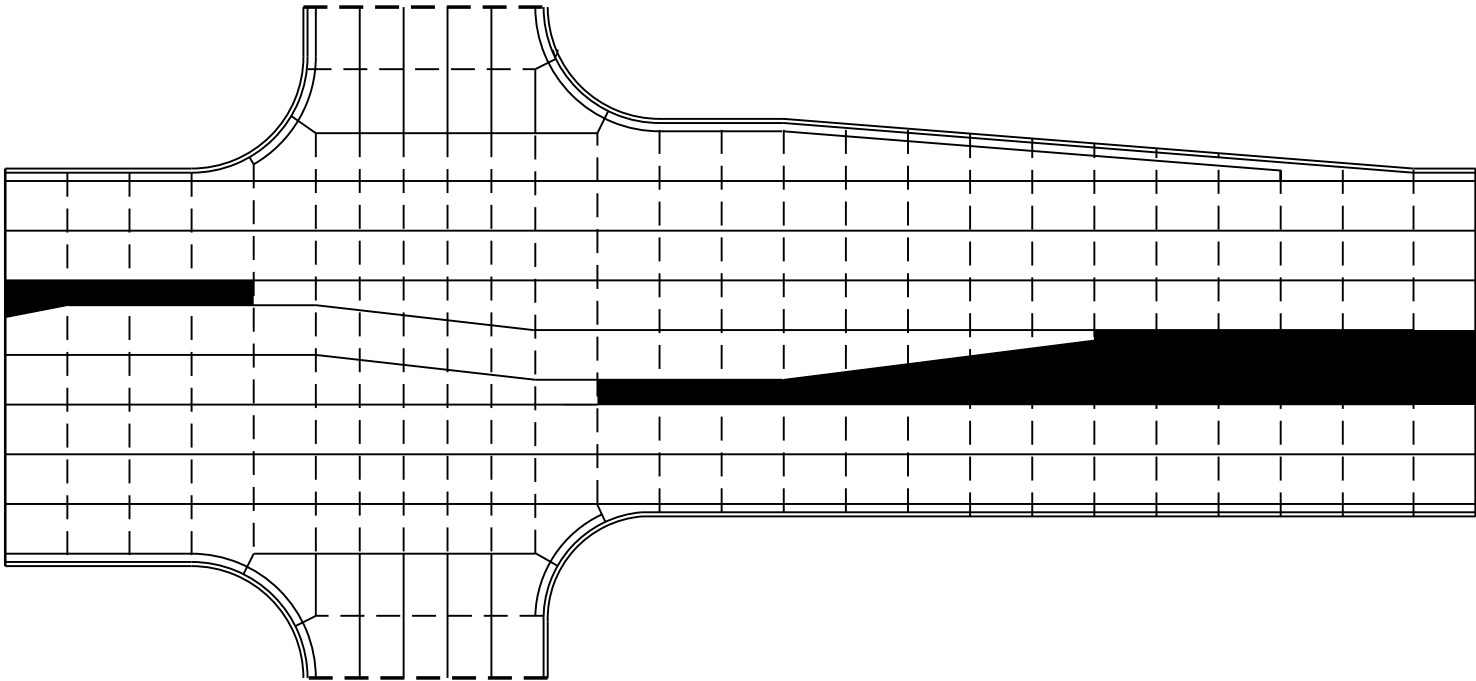
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 109

LEGEND

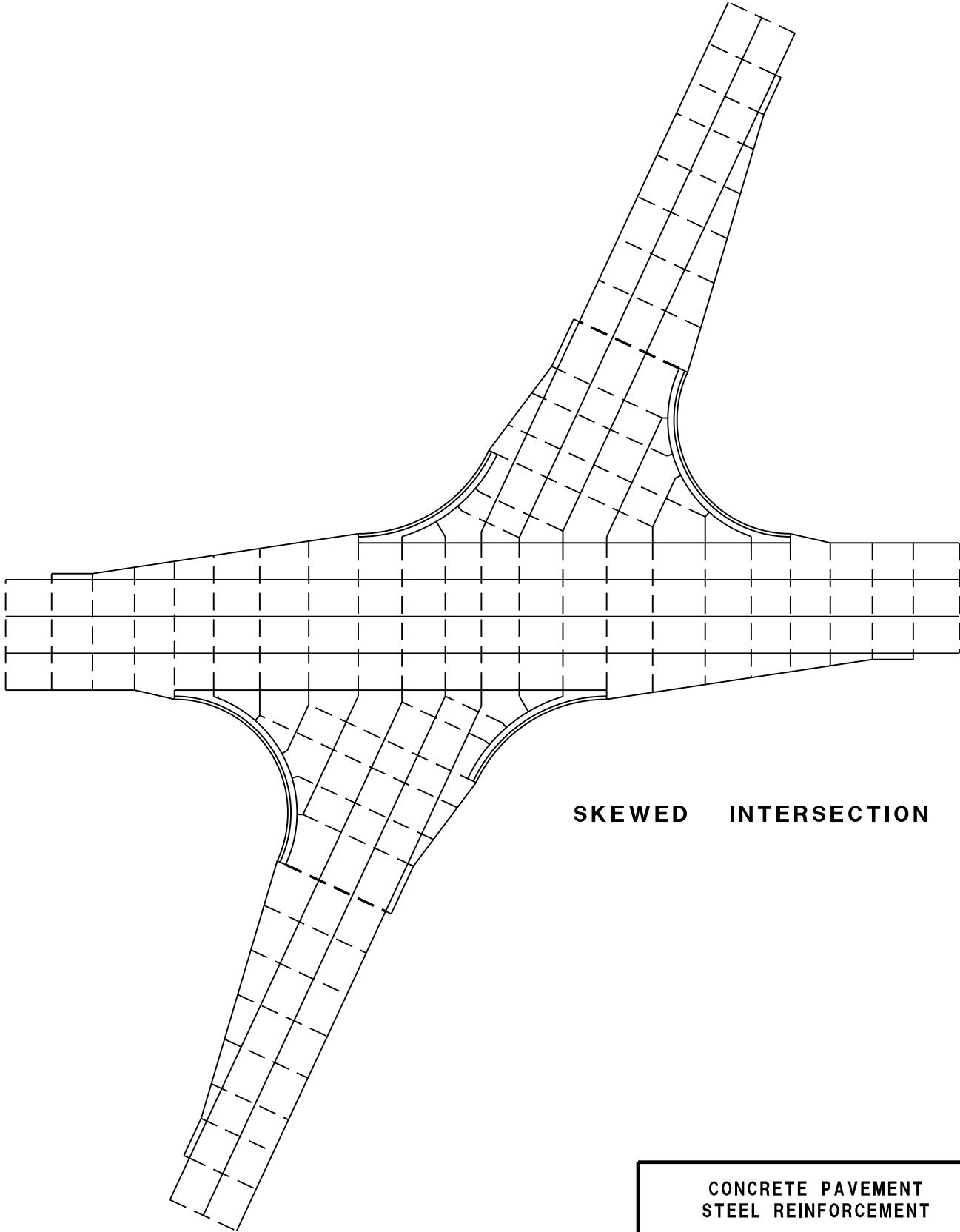
- POTENTIAL DOWELED EXPANSION JOINT
- DOWELED JOINT
- TIED JOINT

GENERAL NOTES

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



STANDARD INTERSECTION

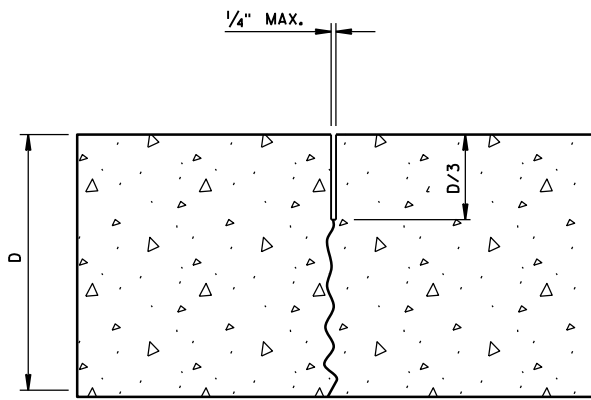


SKEWED INTERSECTION

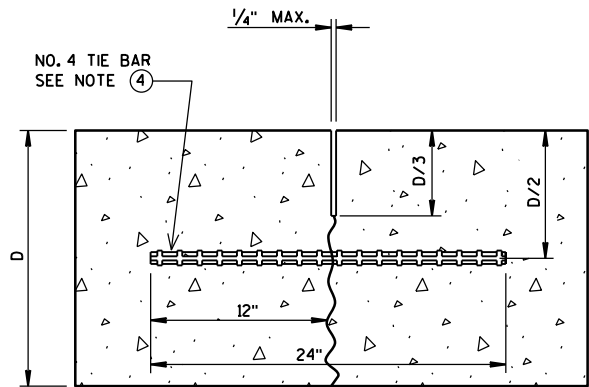
CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

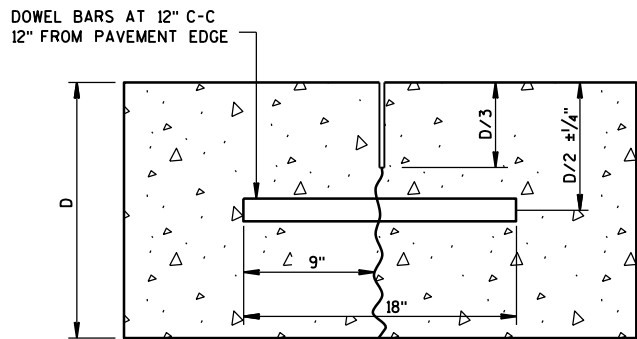
110



UNDOWELED-TRANSVERSE



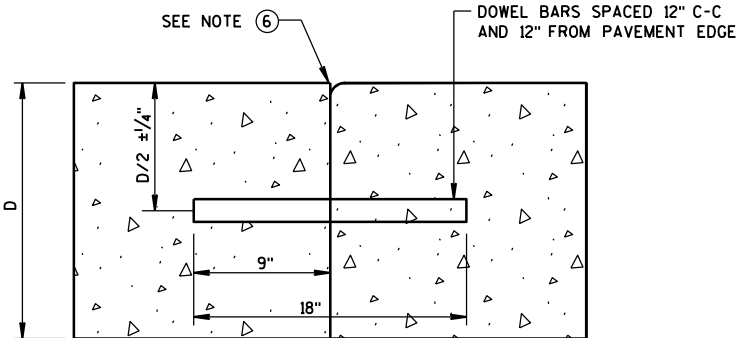
TIED LONGITUDINAL



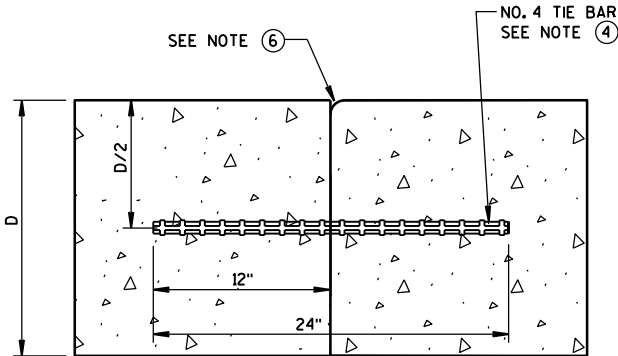
DOWELED-TRANSVERSE

CONTRACTION JOINTS

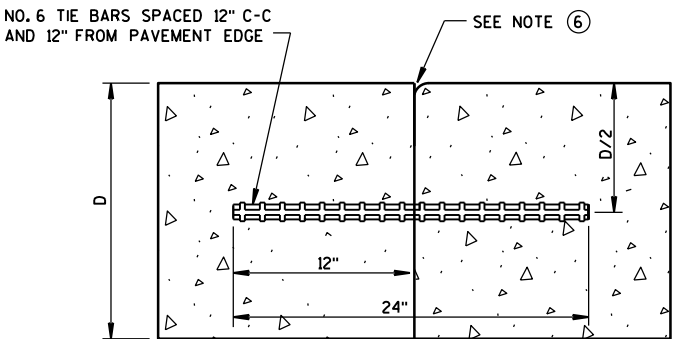
SEE NOTE ②



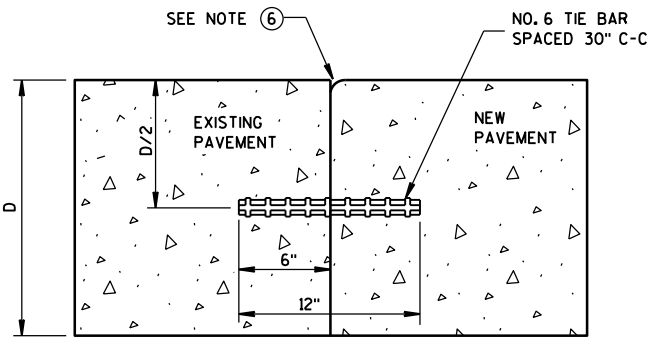
DOWELED TRANSVERSE



TIED LONGITUDINAL



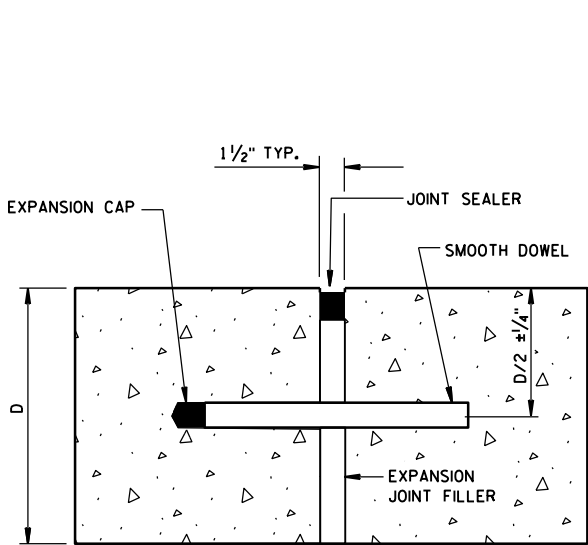
TIED TRANSVERSE
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



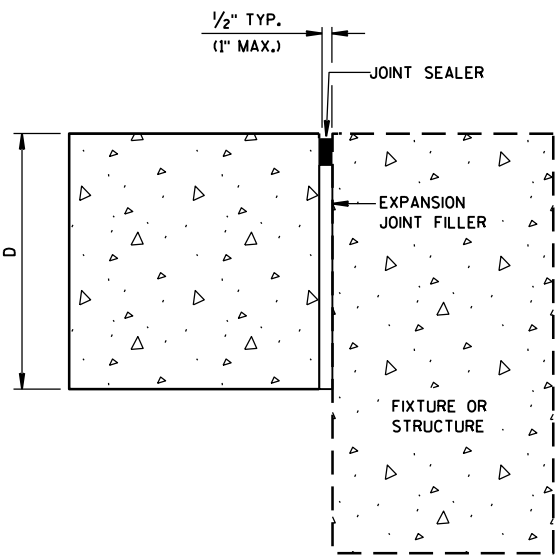
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE ⑤



DOWELED-TRANSVERSE
SEE NOTE ①



UNTIED-LONGITUDINAL

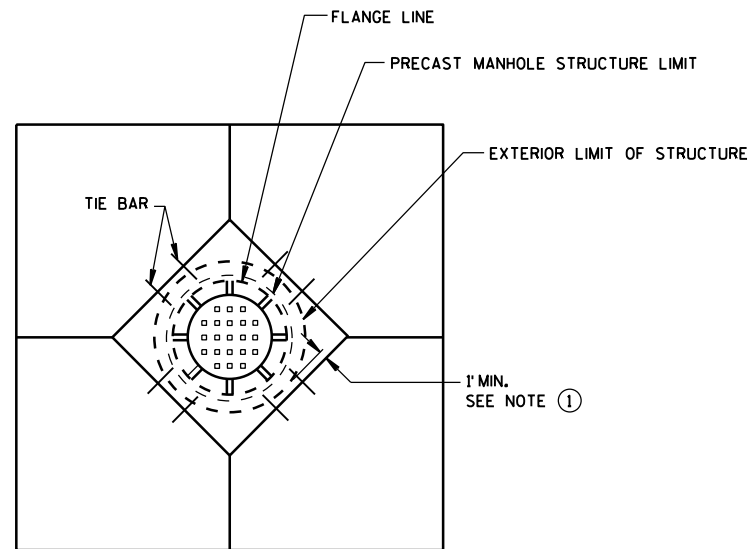
EXPANSION JOINTS

GENERAL NOTES

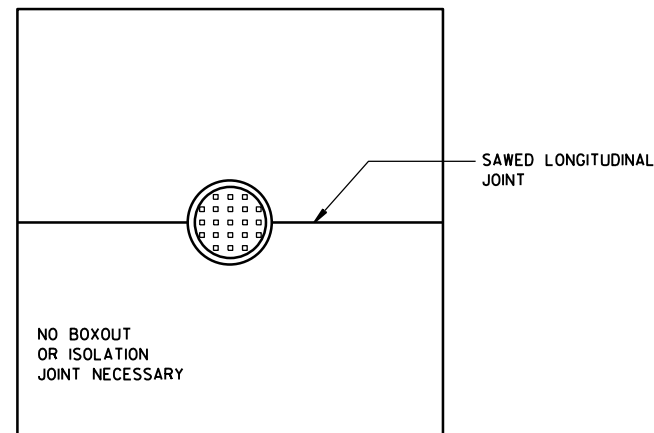
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.

CONCRETE PAVEMENT
JOINT TYPES

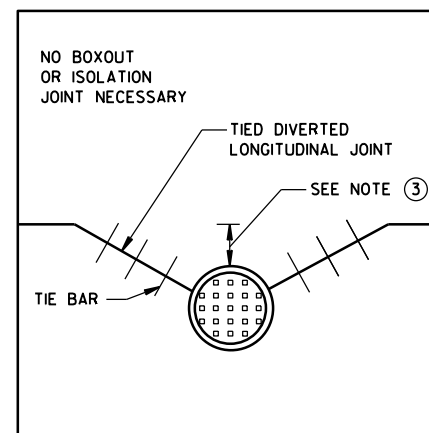
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 111



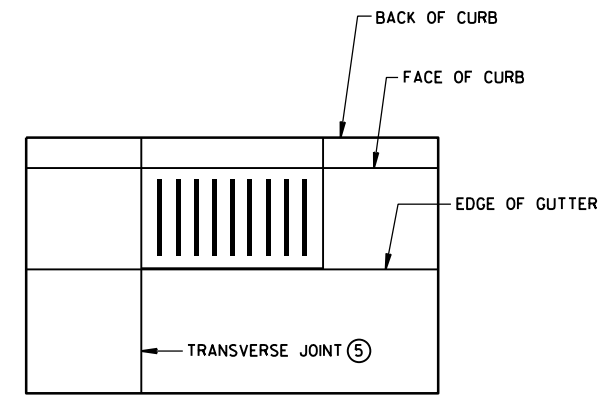
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**



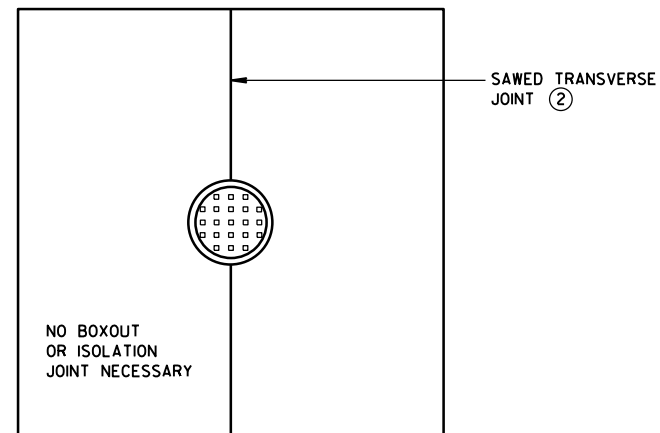
**MANHOLE WITH
LONGITUDINAL JOINT**



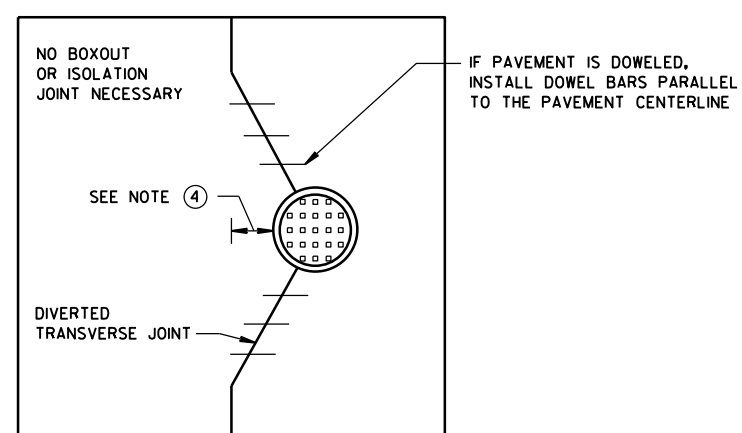
**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**INLET WITH
TRANSVERSE JOINT**



**MANHOLE WITH
TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**

GENERAL NOTES

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

**CONCRETE PAVEMENT
JOINTING AT UTILITY FIXTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

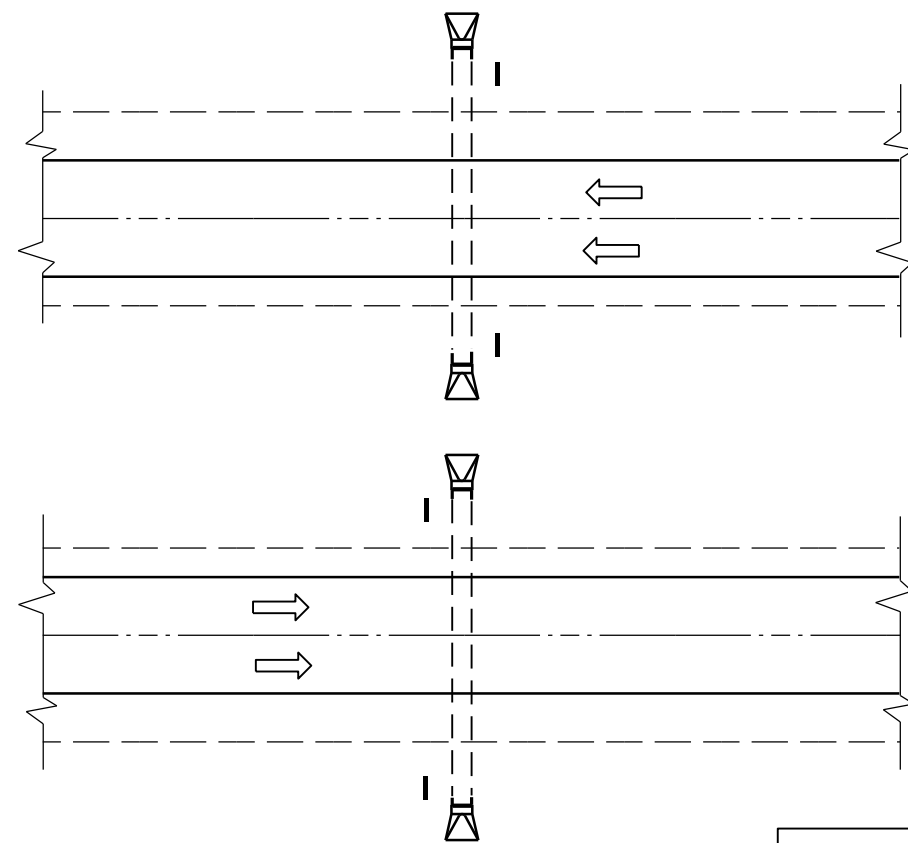
5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE

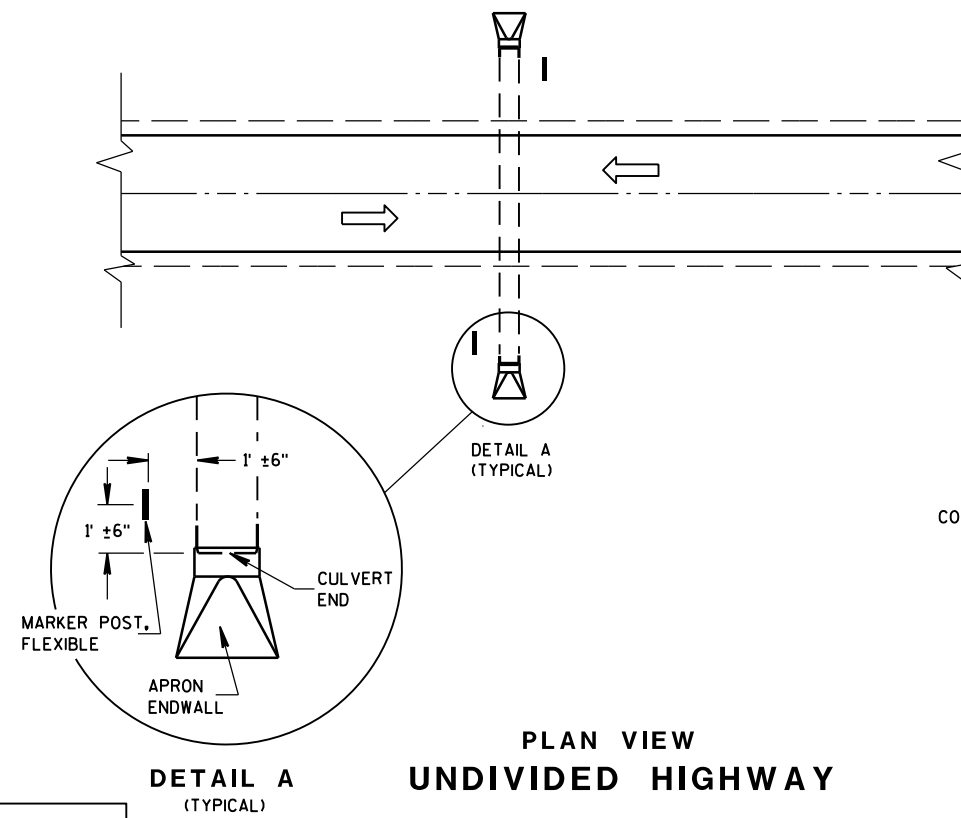
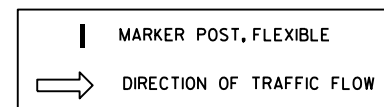
112

NEER

FHWA



PLAN VIEW
DIVIDED HIGHWAY

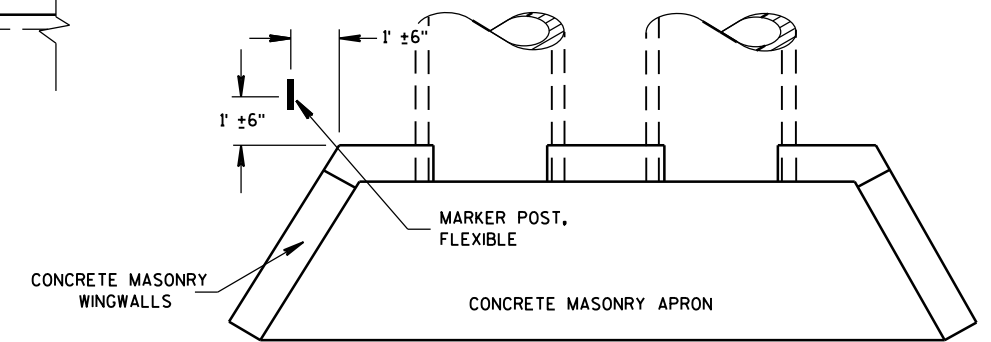


PLAN VIEW
UNDIVIDED HIGHWAY

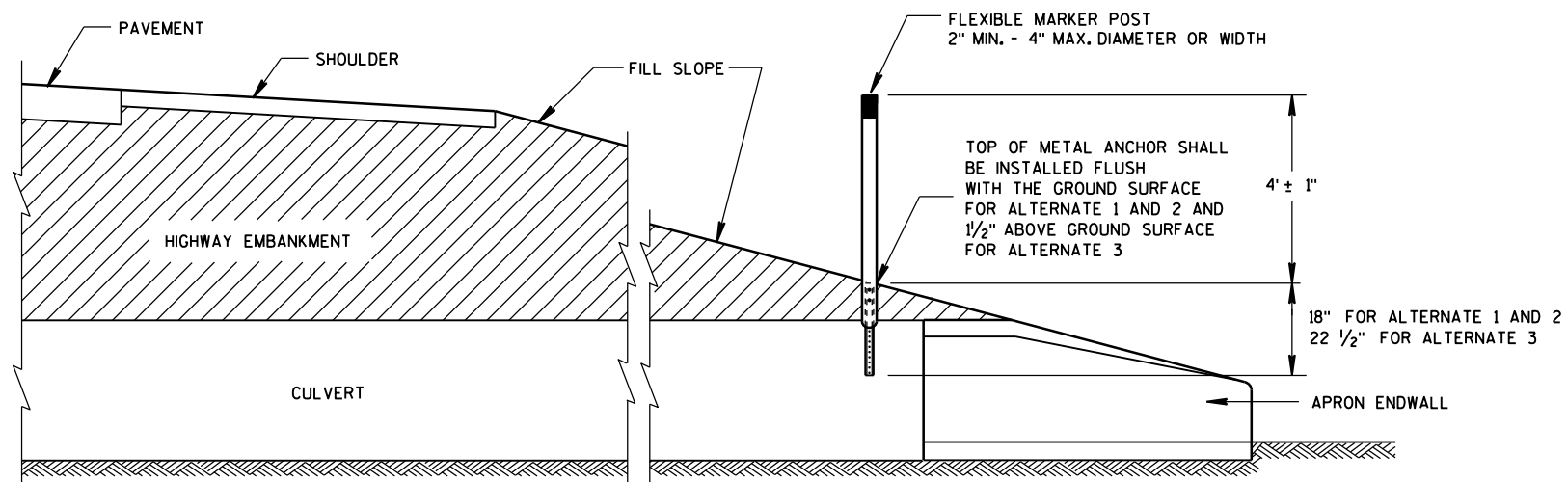
FLEXIBLE MARKER POST LOCATION

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.



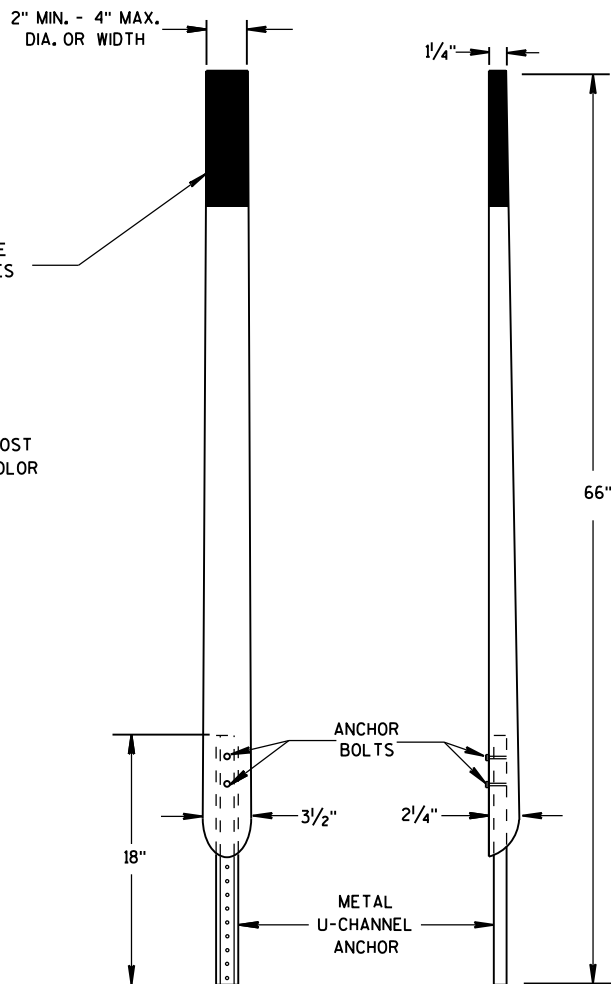
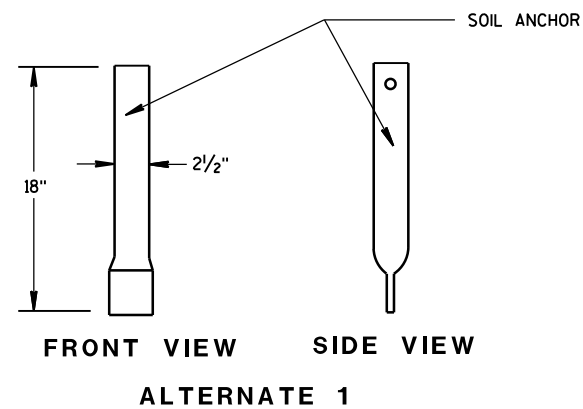
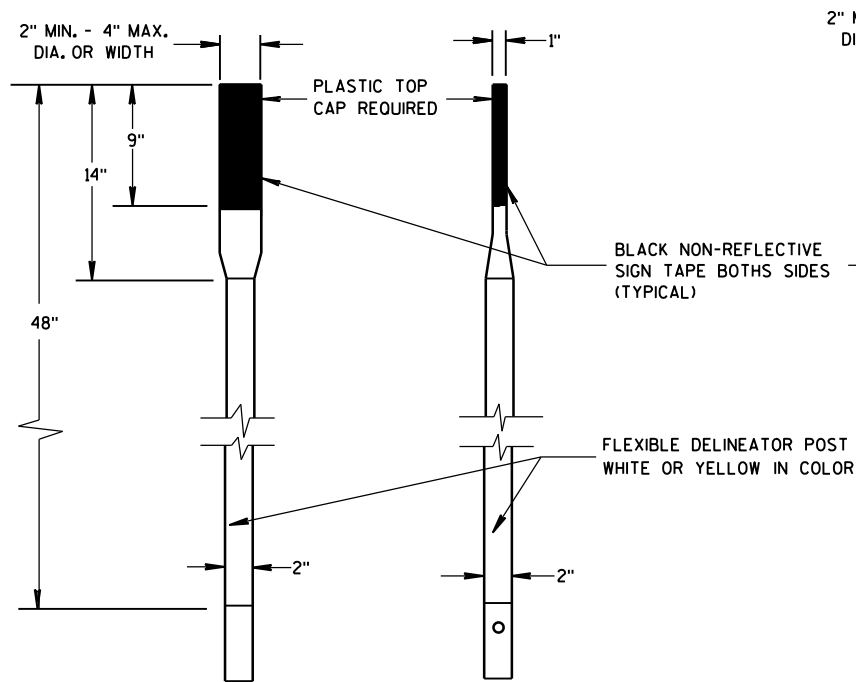
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

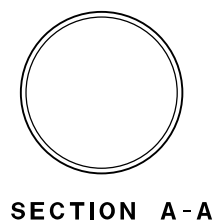
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 113

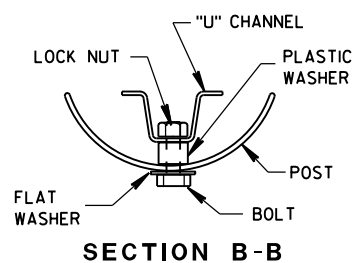
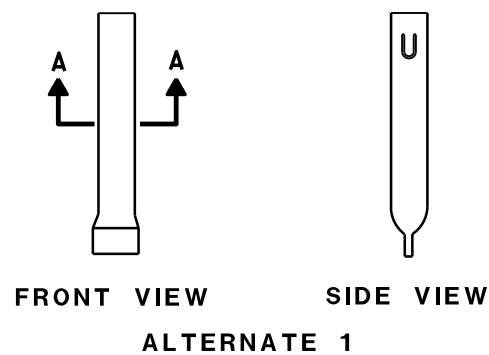


FRONT VIEW SIDE VIEW
ALTERNATE 2

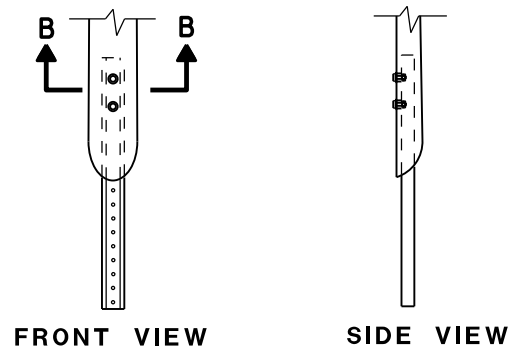
FLEXIBLE MARKER POSTS



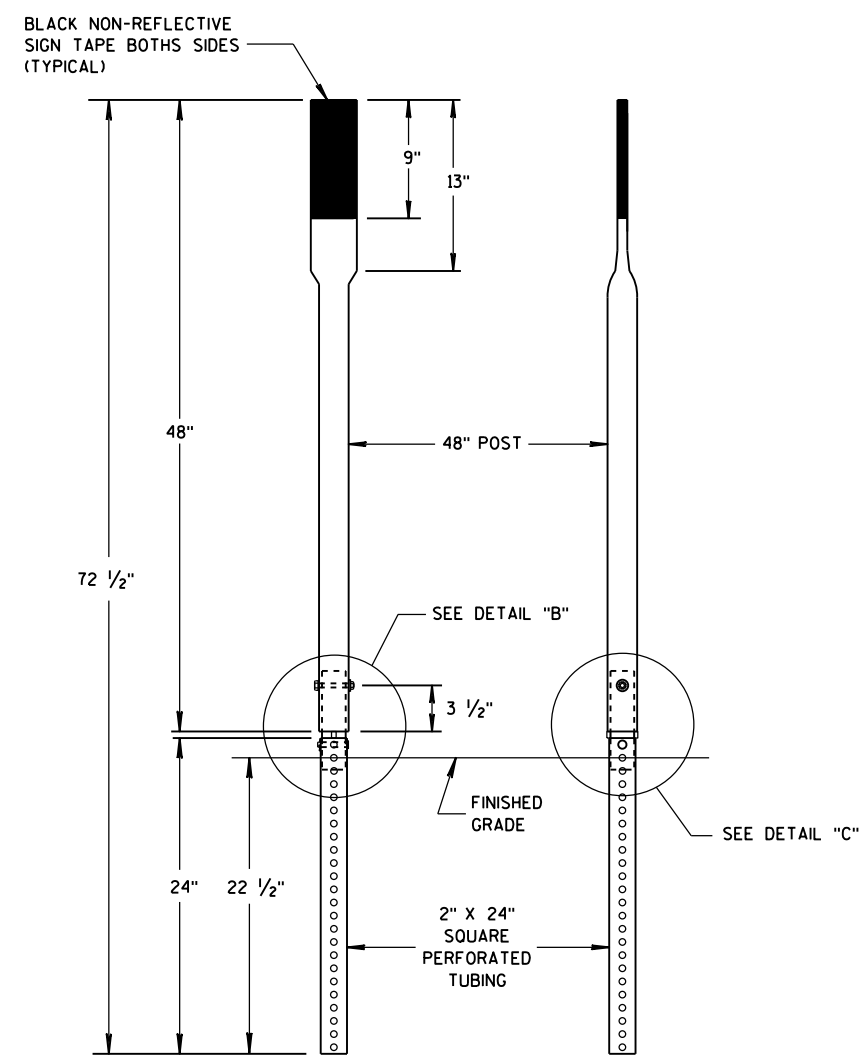
SECTION A-A



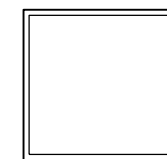
SECTION B-B



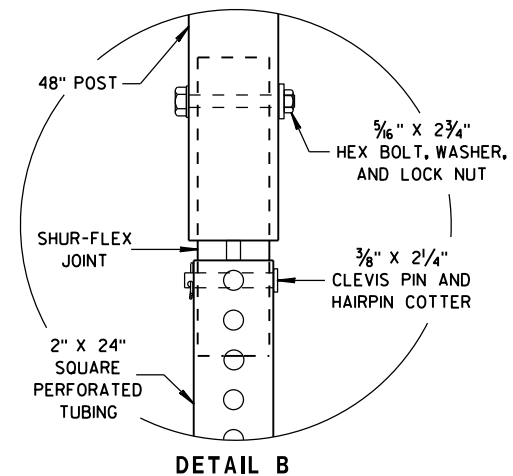
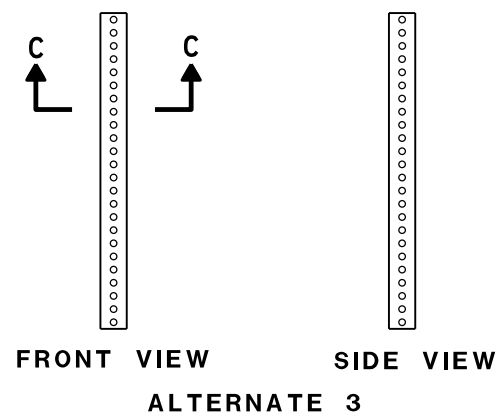
FRONT VIEW SIDE VIEW
ALTERNATE 2
FLEXIBLE MARKER POST ANCHORS



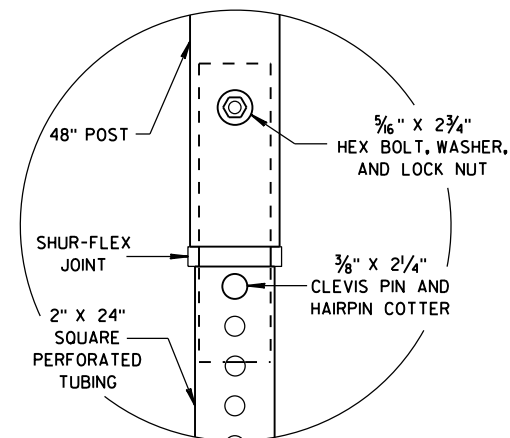
FRONT VIEW SIDE VIEW
ALTERNATE 3



SECTION C-C



DETAIL B



DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

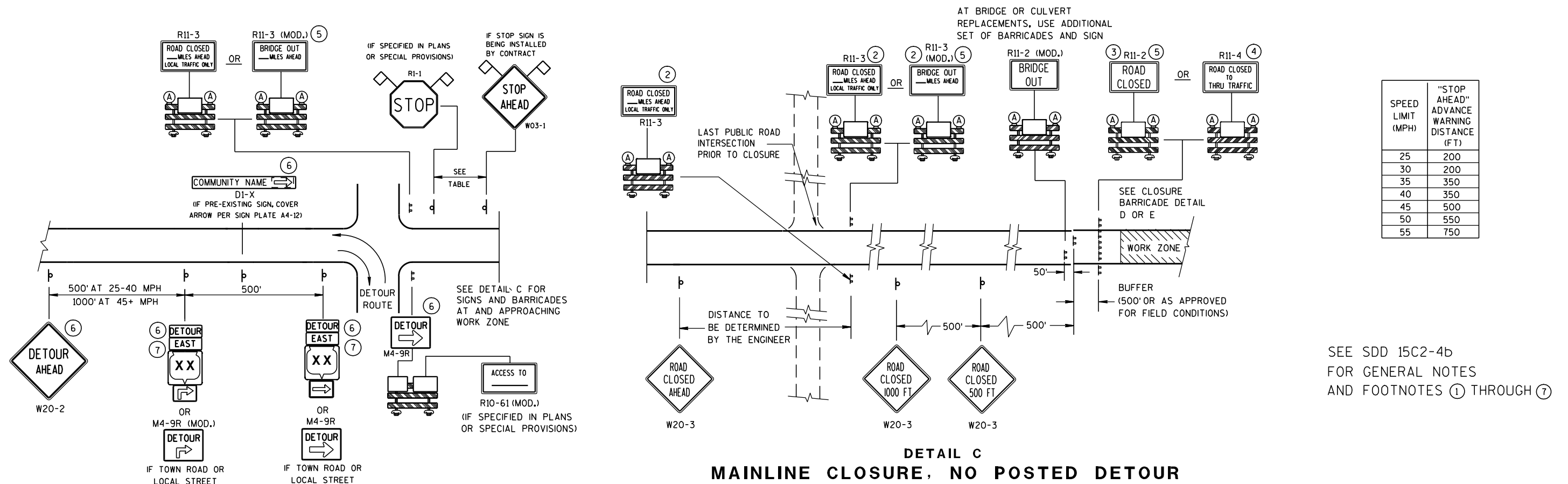
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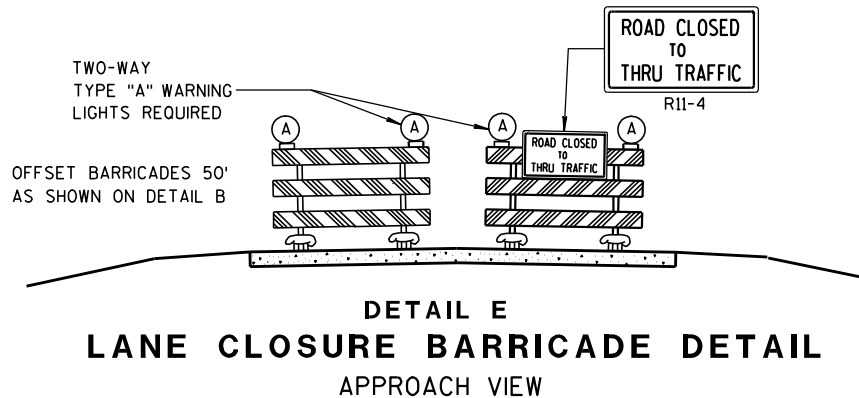
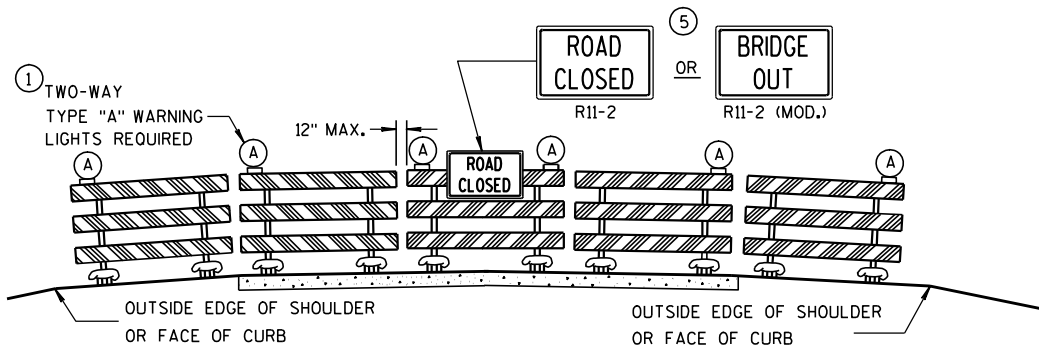
DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 114

IGN





SEE SDD 15C2-4a 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.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

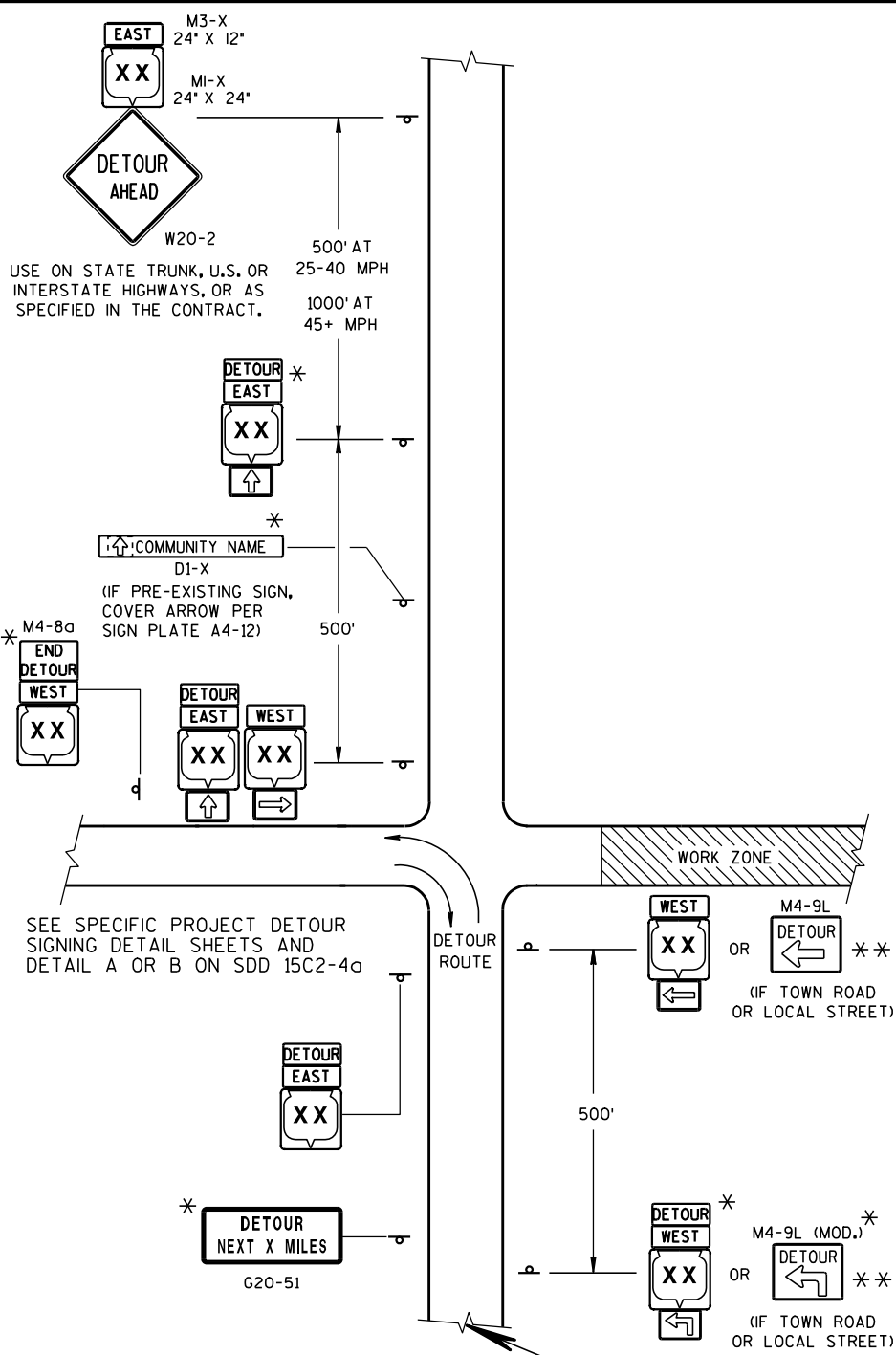
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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 AND 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		
APPROVED		
9/16/03 DATE	/S/ Thomas N. N CHIEF SIGNS AND MAR 116	INEER
FHWA		



LEGEND

POST MOUNTED SIGN

WORK ZONE

DETOUR EAST M4-8 M3-X

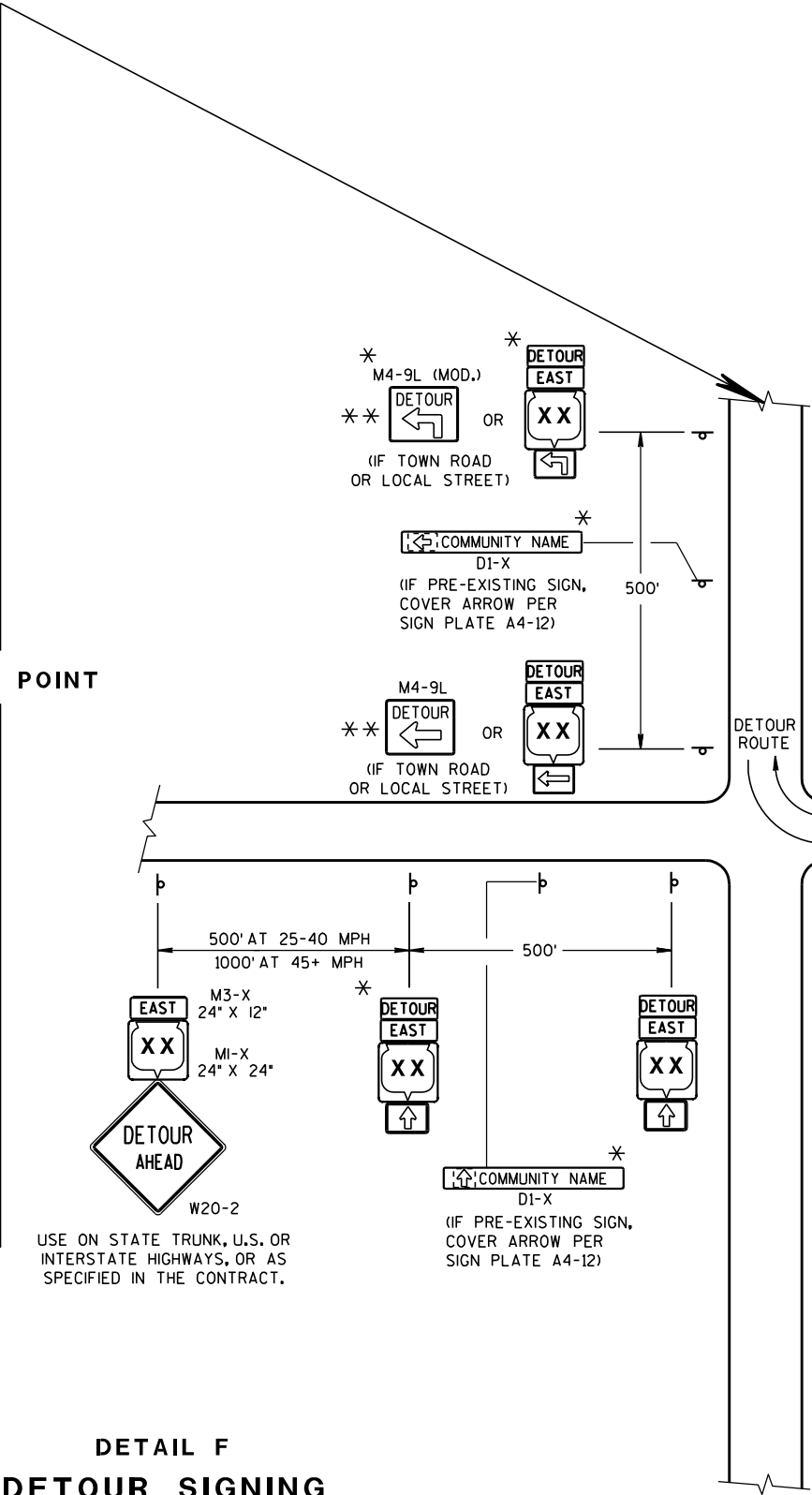
M1-4 OR COUNTY M1-5A OR M1-6

M05-1 OR M06-1 OR M06-1

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

MATCH POINT

DETAIL F
DETOUR SIGNING



GENERAL NOTES

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

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

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

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

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

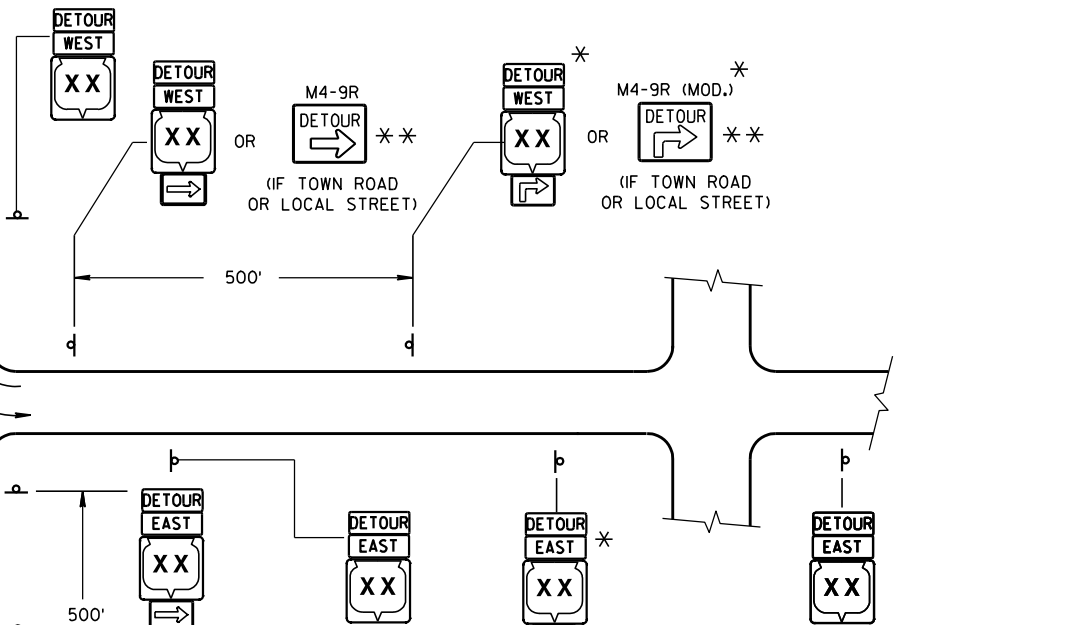
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

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

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

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

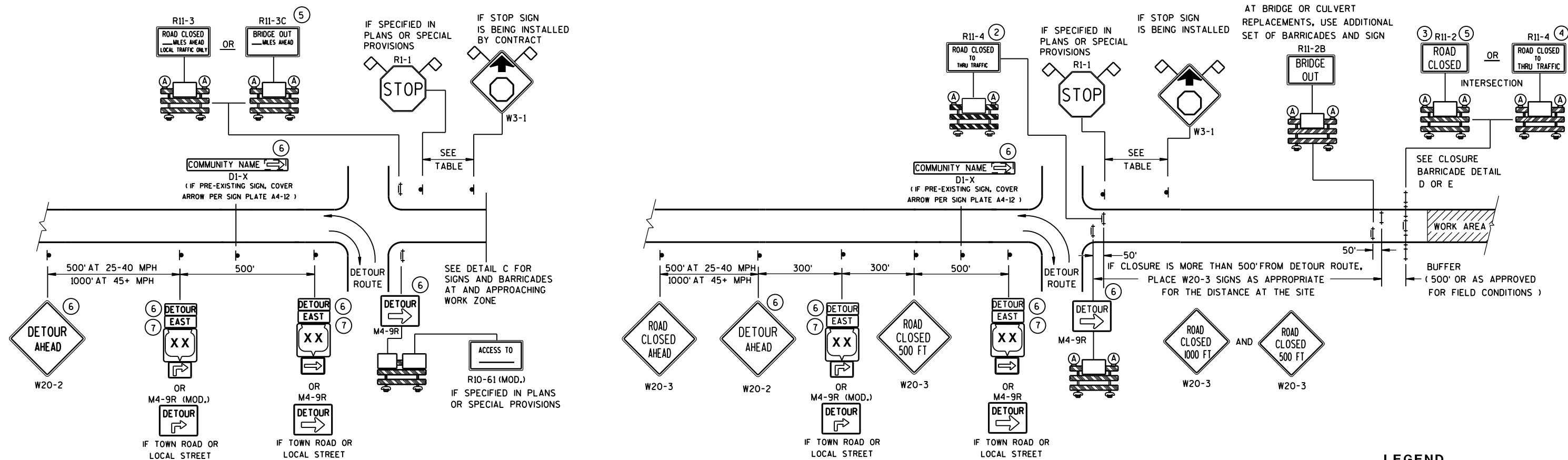


PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA.)

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

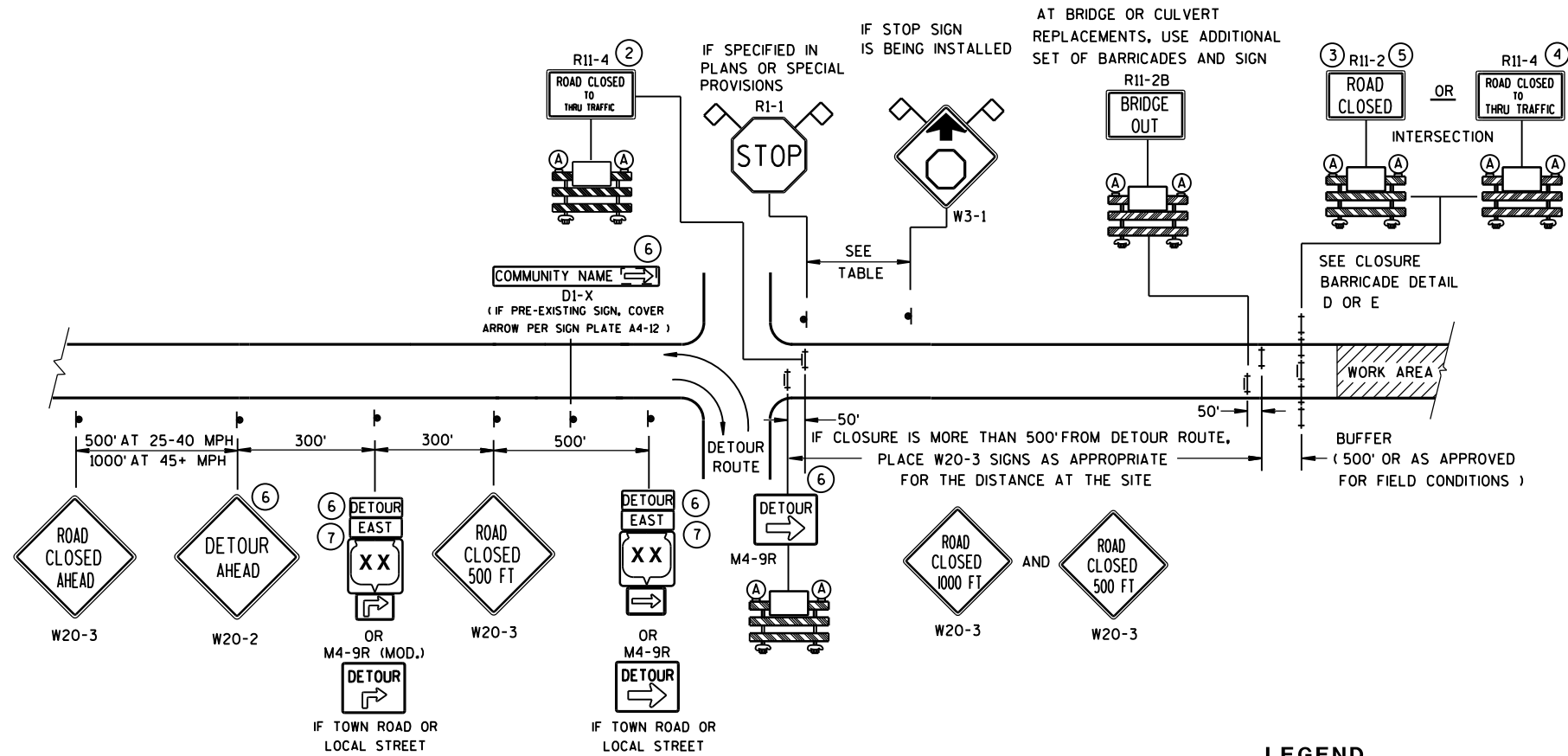
APPROVED
9-16-03 DATE /S/ Thomas N. N... CHIEF SIGNS AND MAR 117 INEER
FHWA



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

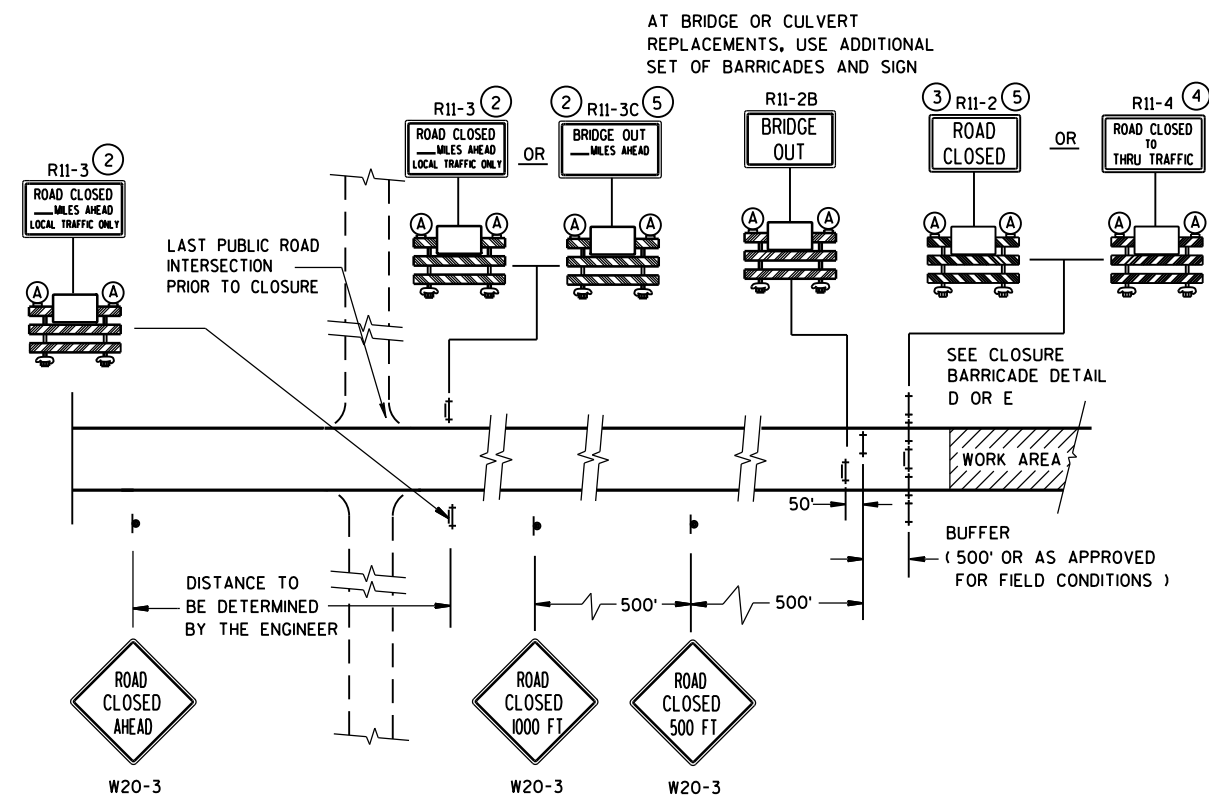
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



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

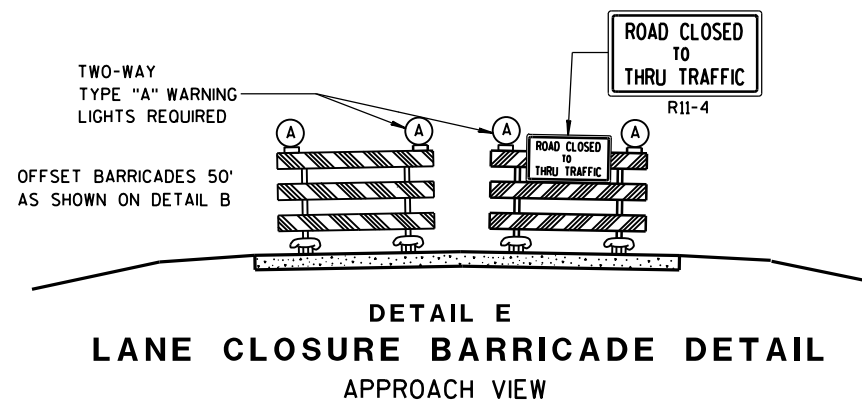
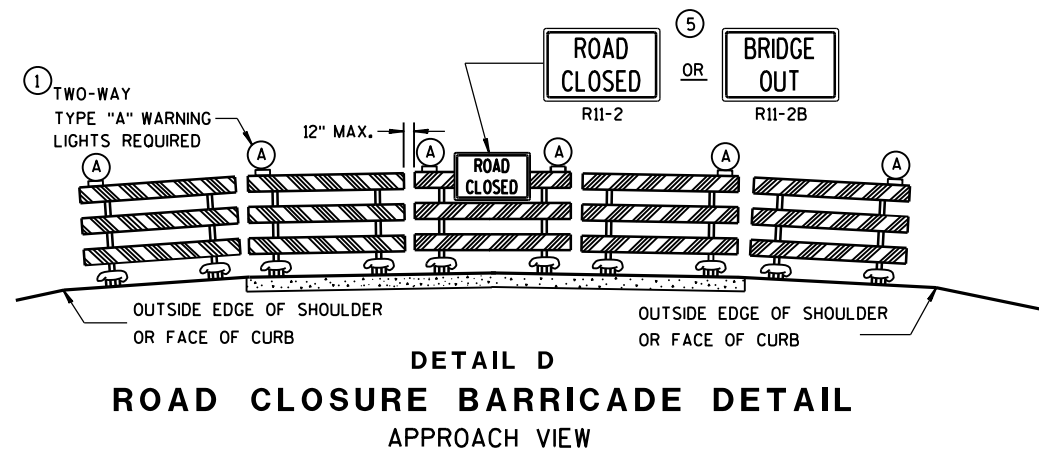
- ## LEGEND
- | | |
|---|---------------------------------------|
|  | SIGN ON PERMANENT SUPPORT |
|  | TYPE III BARRICADE |
|  | TYPE III BARRICADE WITH ATTACHED SIGN |
|  | TYPE "A" WARNING LIGHT (FLASHING) |
|  | WORK AREA |
|  | M4-8 |
|  | M3-X |
|  | M1-4 |
| OR | |
|  | M1-5A |
| OR | |
|  | M1-6 |
|  | M05-1 |
| OR | |
|  | M06-1 |
|  | FLAGS, 16" X 16" MIN., (ORANGE) |

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	/S/ Travis Feltz	
DATE	STATE TRAFFIC ENGINE 118	ESIGN
FHWA		



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.

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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.

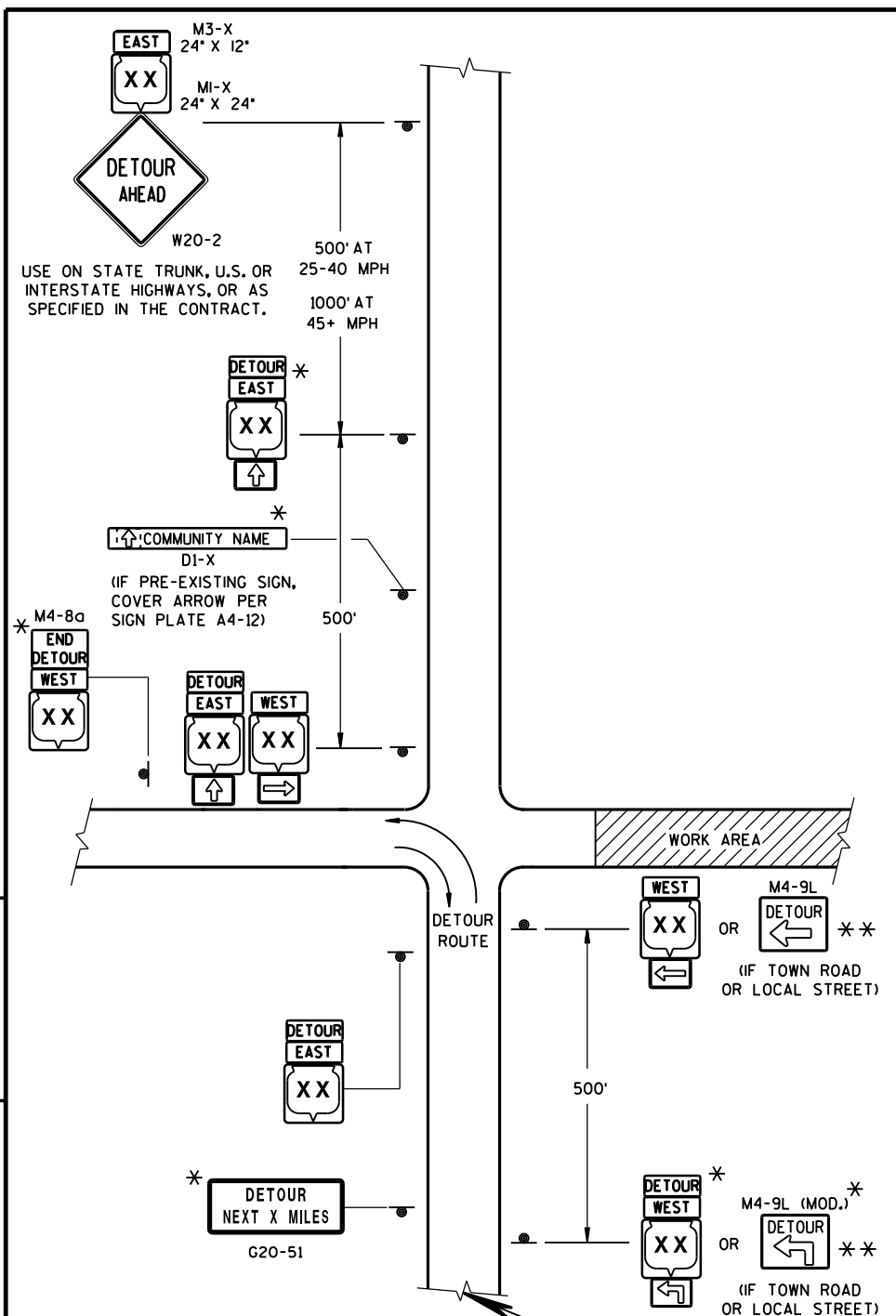
R1-1 SHALL BE 36" X 36".

- 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 ENGINE 119 ESIGN
FHWA



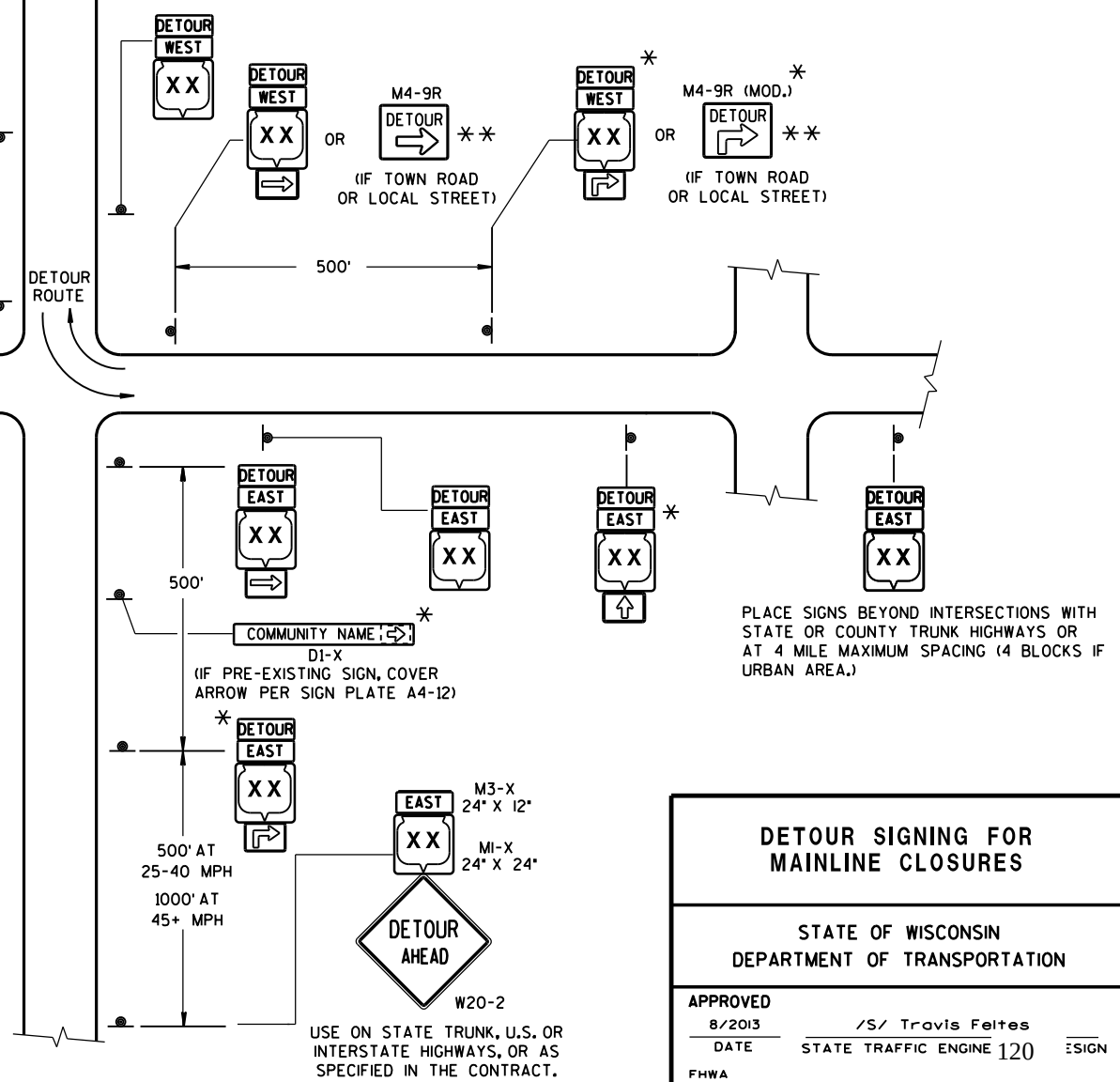
THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT

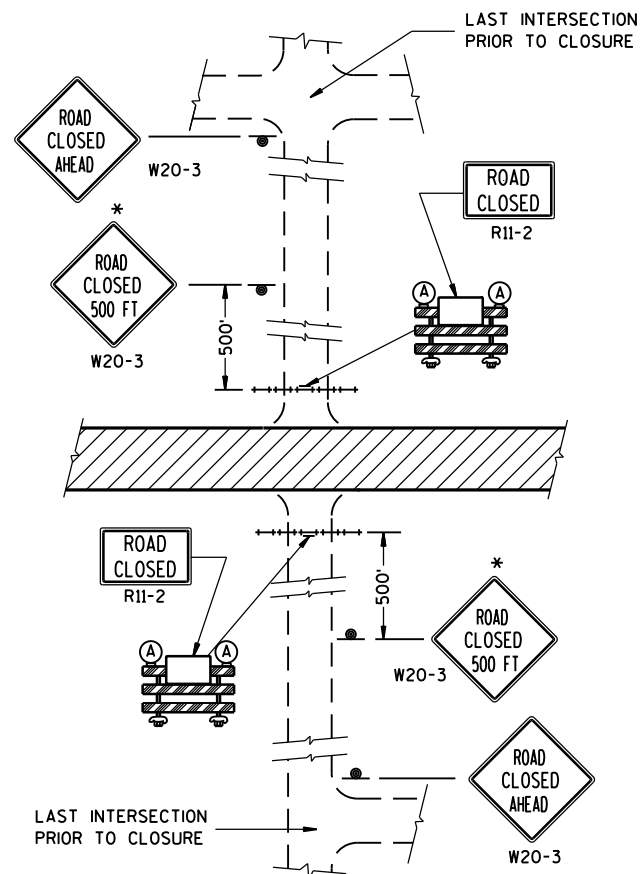
DETAIL F
DETOUR SIGNING

GENERAL NOTES

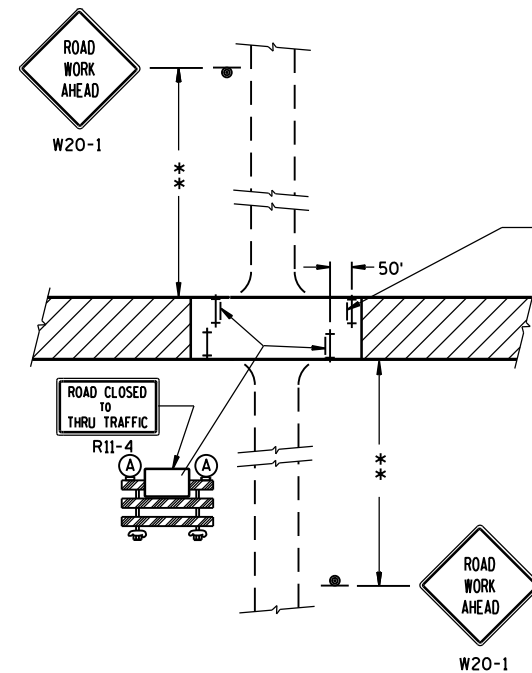
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
 - M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



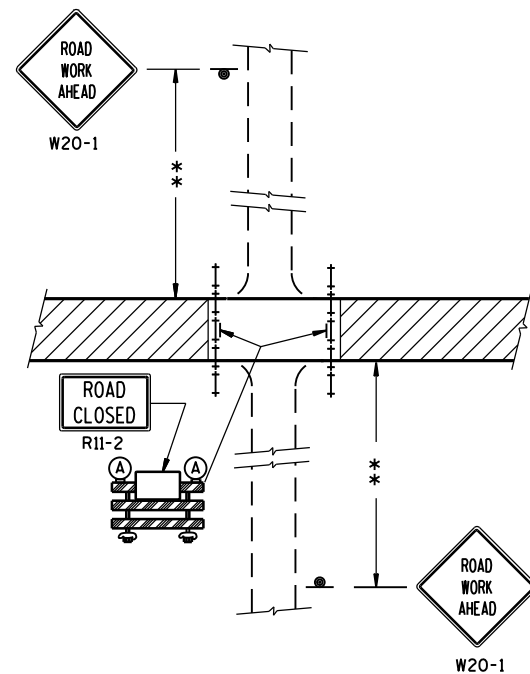
DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINE 120 SIGN
FHWA	



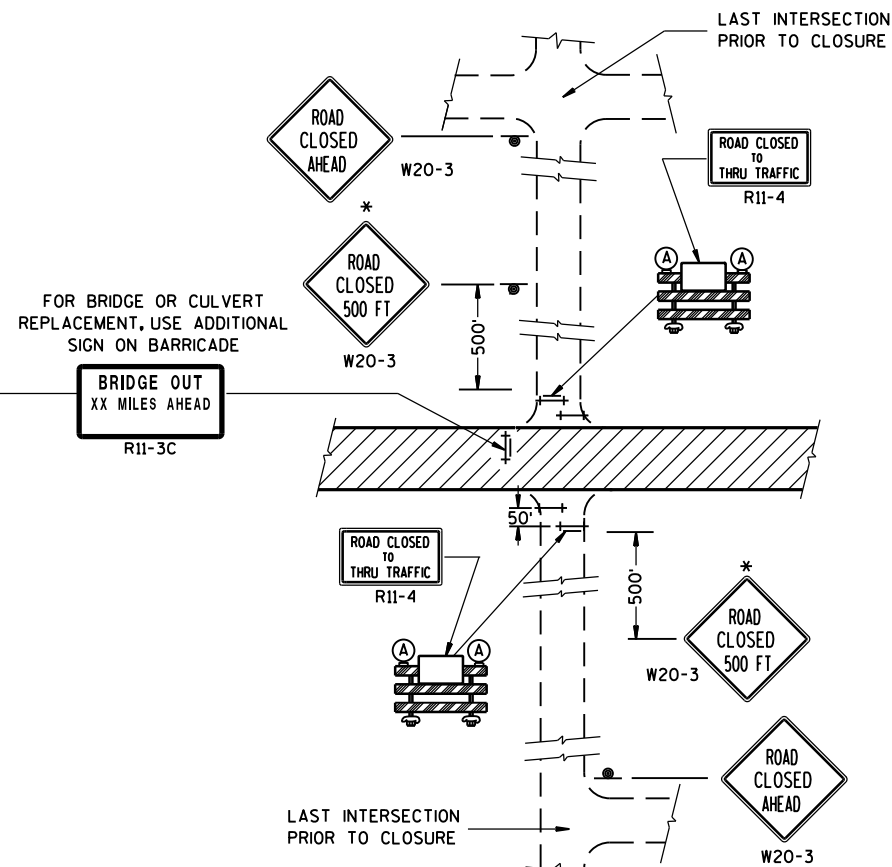
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT).



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

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

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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

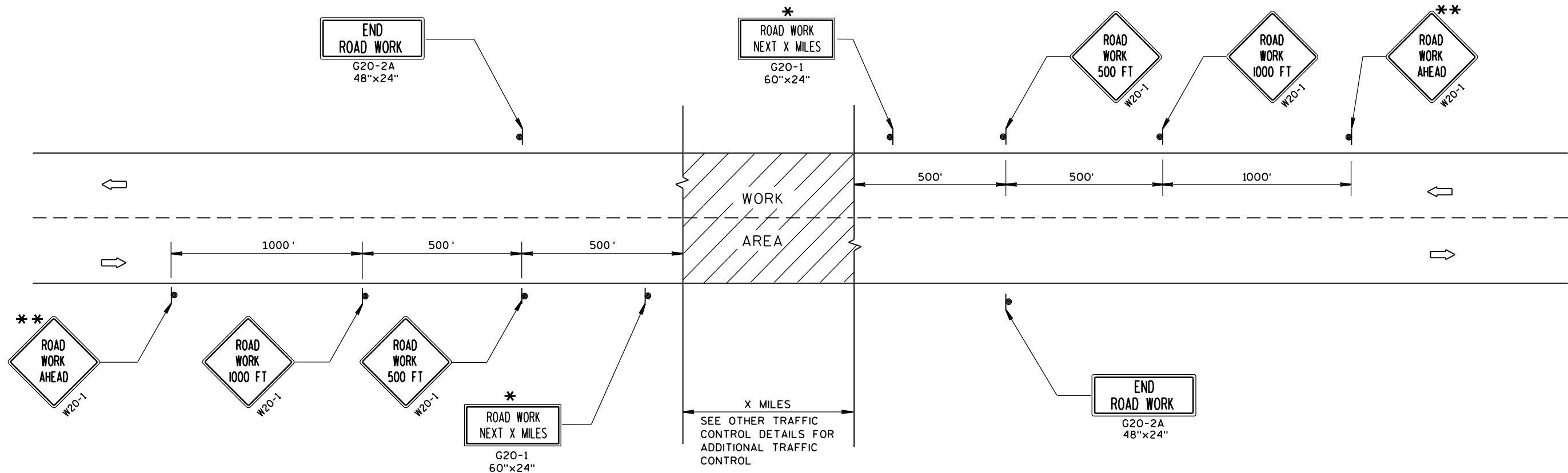
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 /S/ Travis Feltes

DATE STATE TRAFFIC ENGINE 121 SIGN

FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

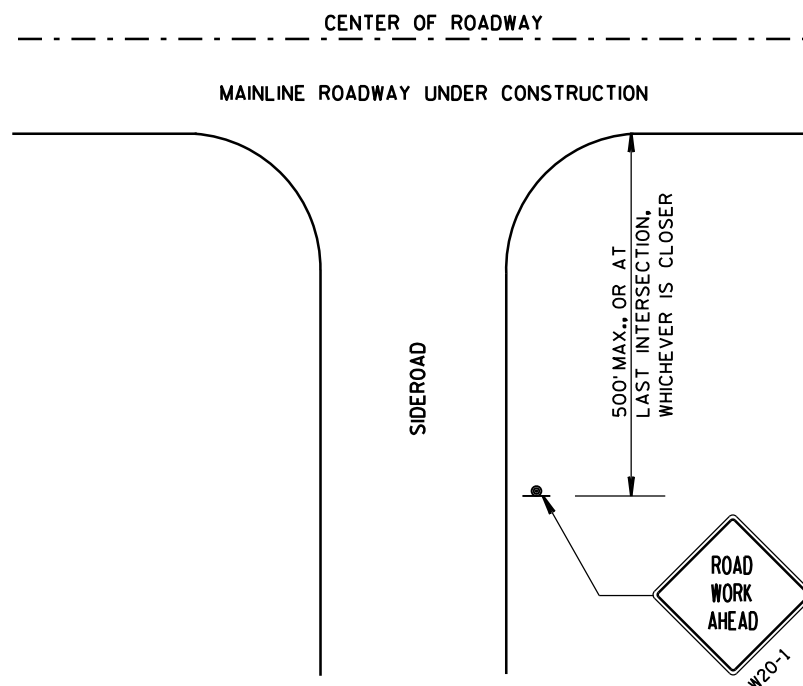
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

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



LEGEND

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

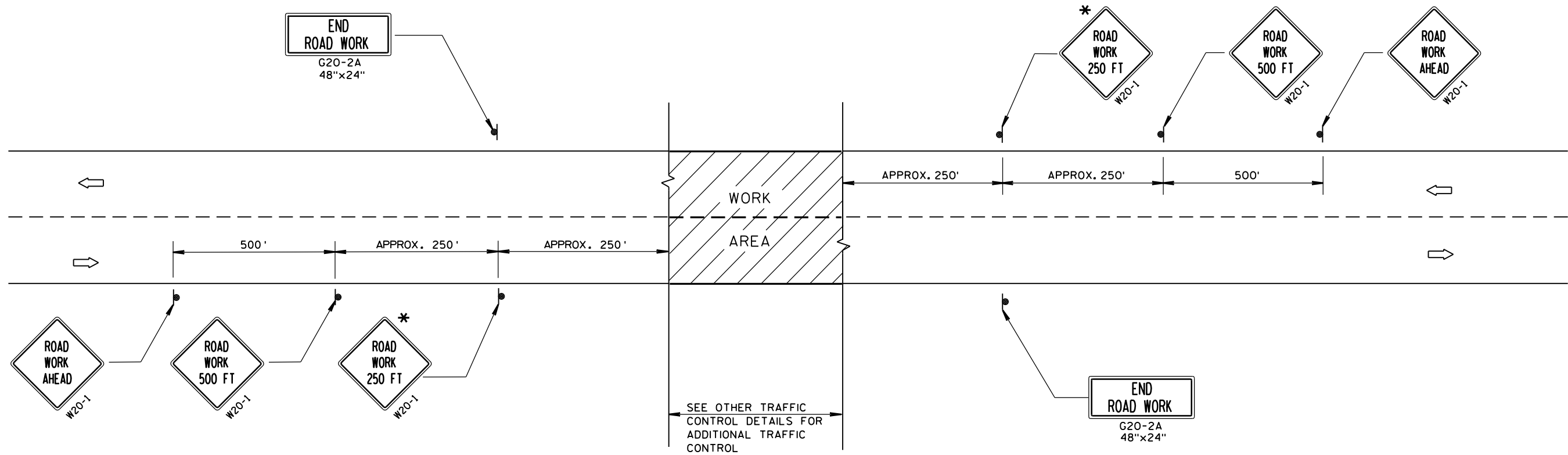
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER SIGN

FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

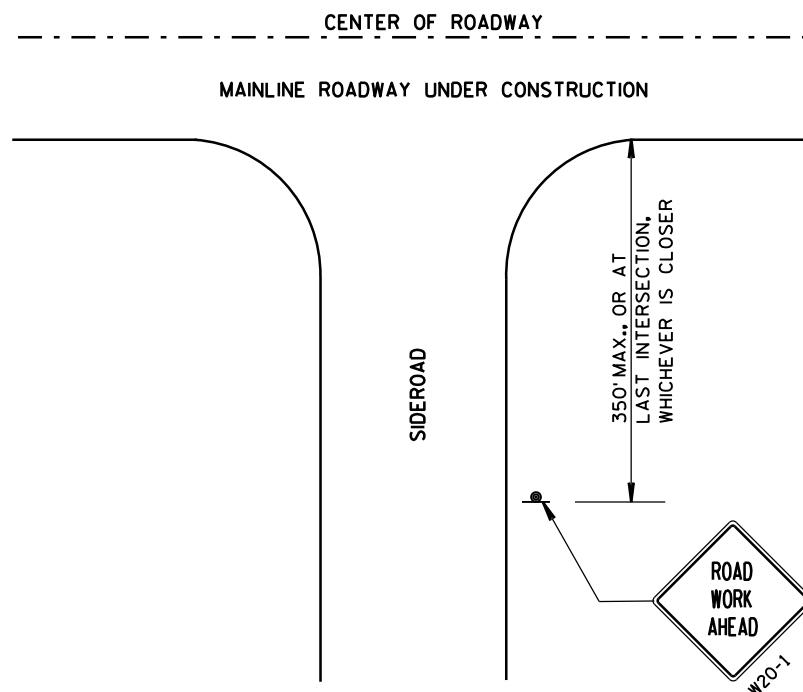
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



LEGEND

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

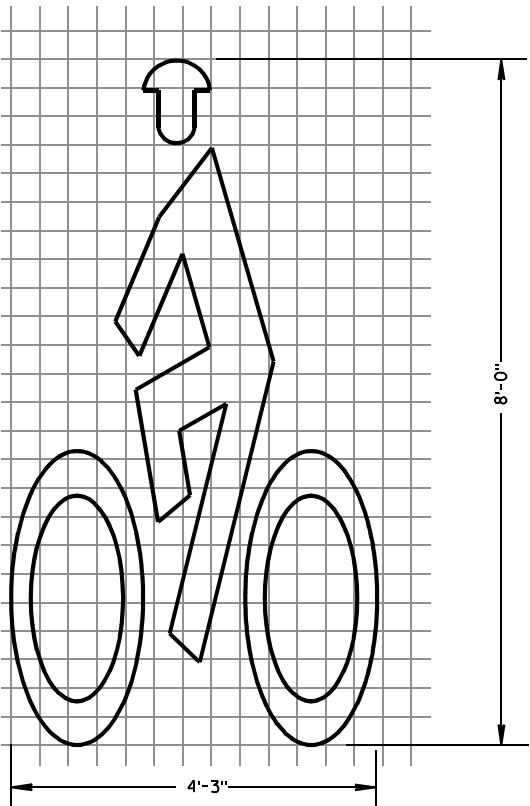
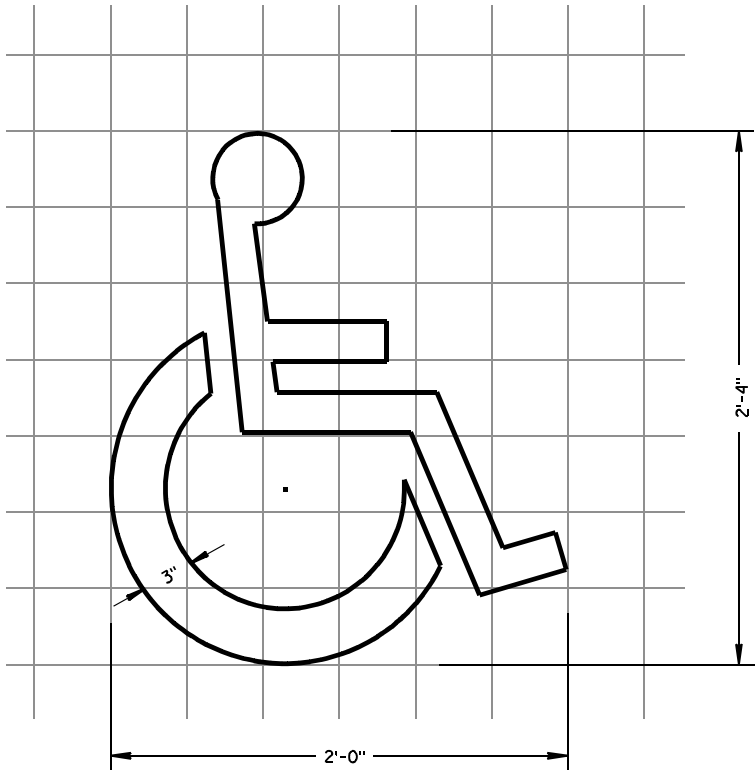
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 40 M.P.H.
OR LESS TWO-WAY UNDIVIDED
ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

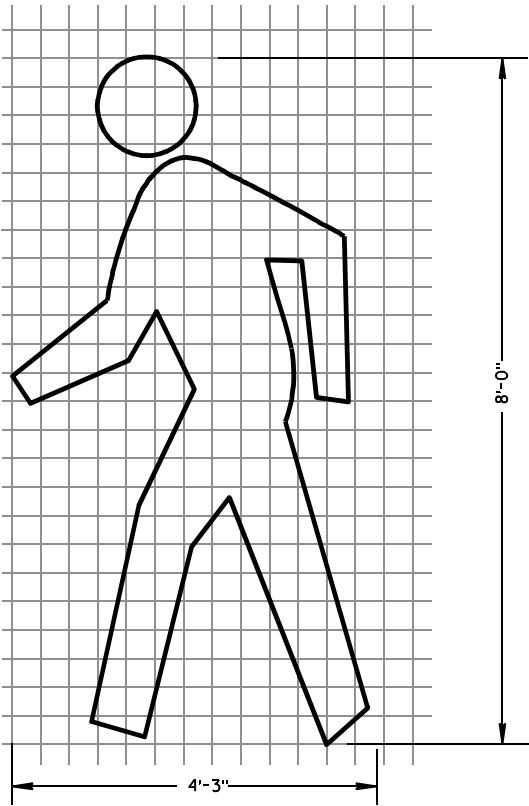
APPROVED

8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER SIGN

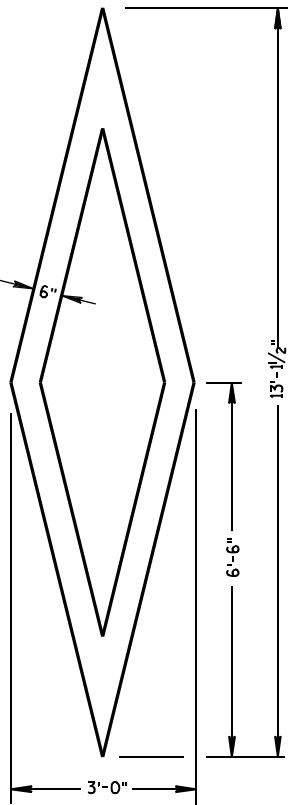
FHWA



BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL
LANE SYMBOL

GENERAL NOTES

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

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

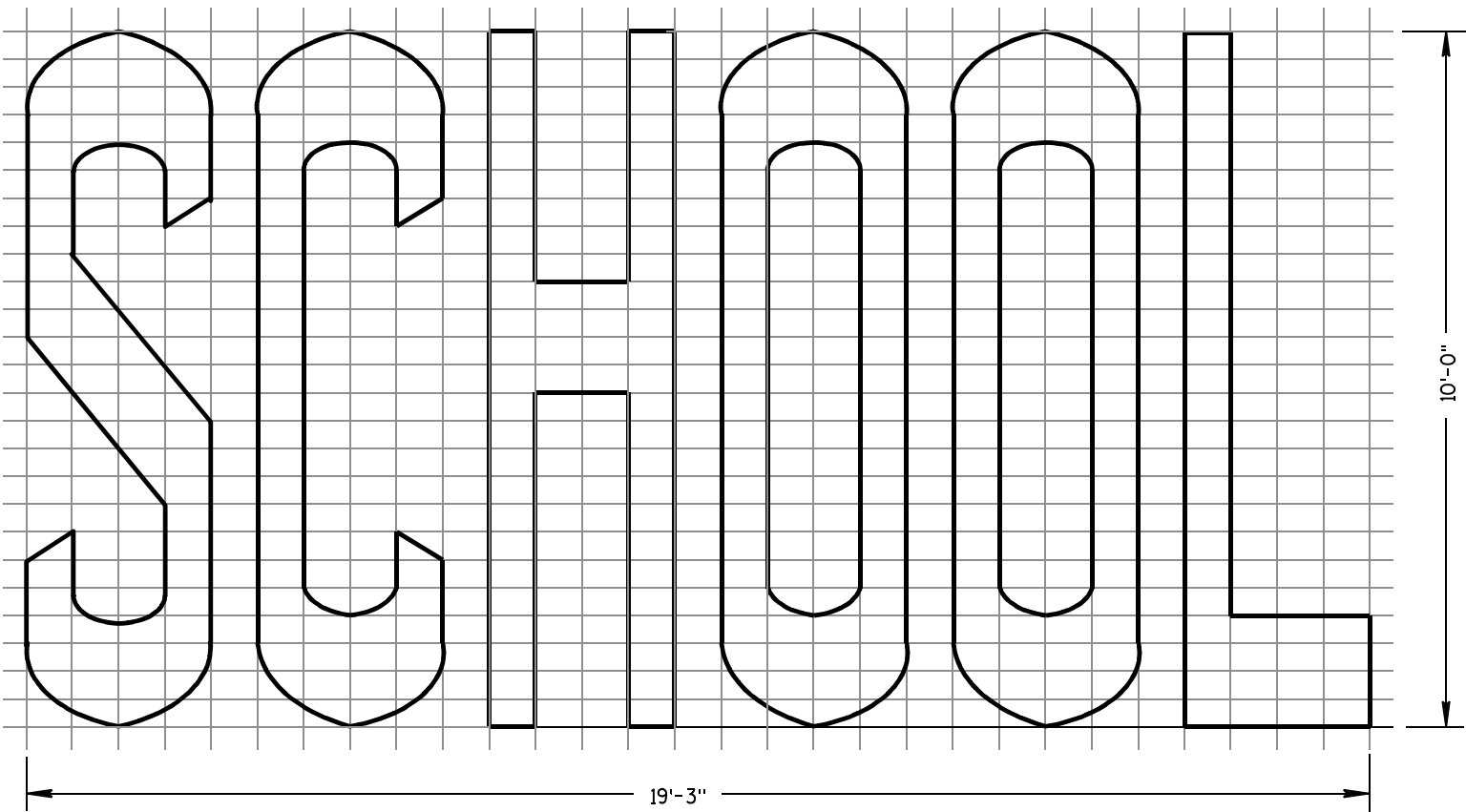
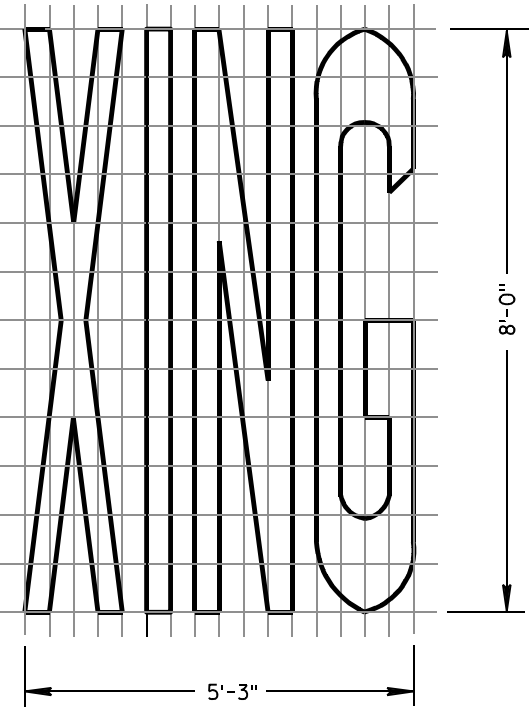
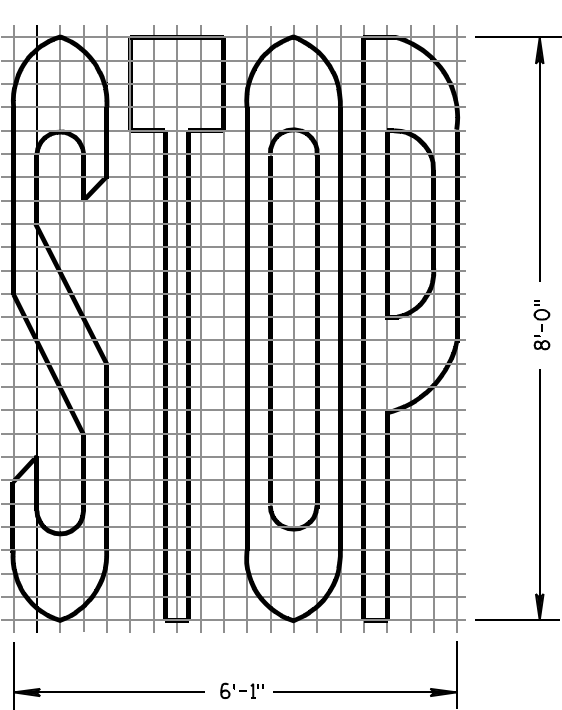
A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

PAVEMENT MARKING SYMBOLS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/1/11 DATE	/S/ Thomas N. Nathan STATE TRAFFIC ENGINEER 124 IGN
FHWA	

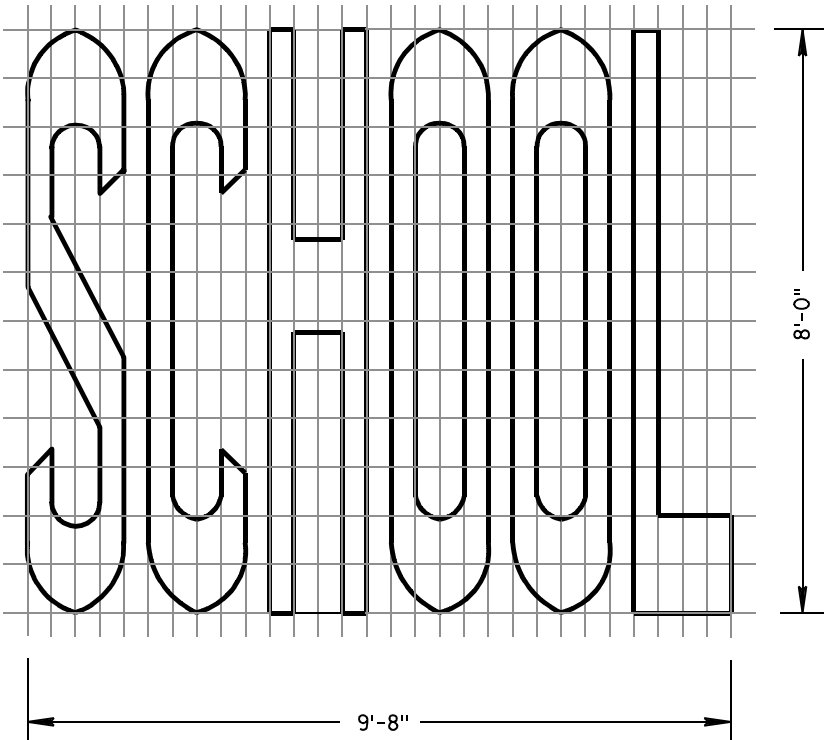
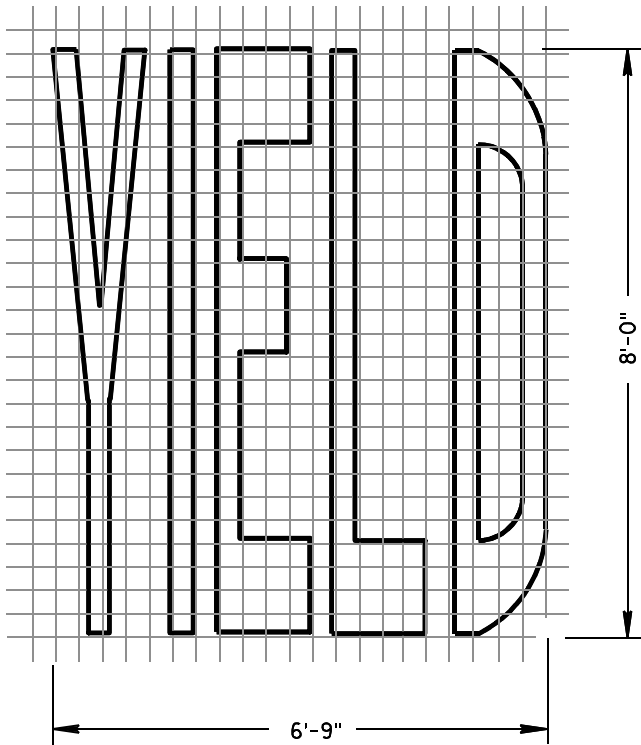
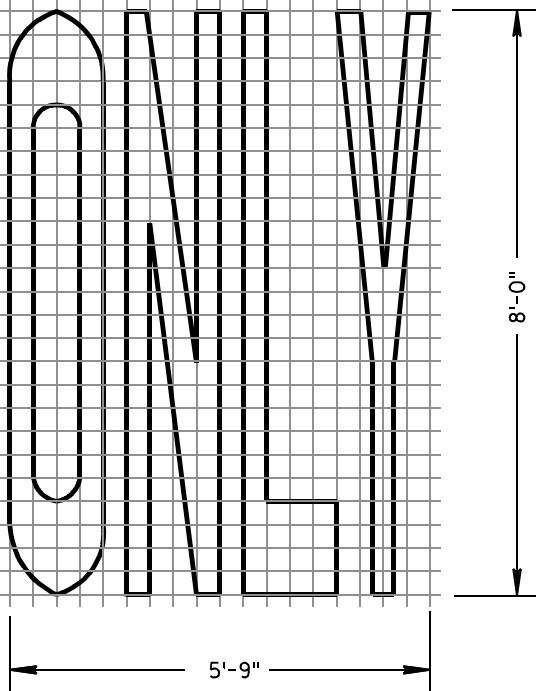
GENERAL NOTES

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

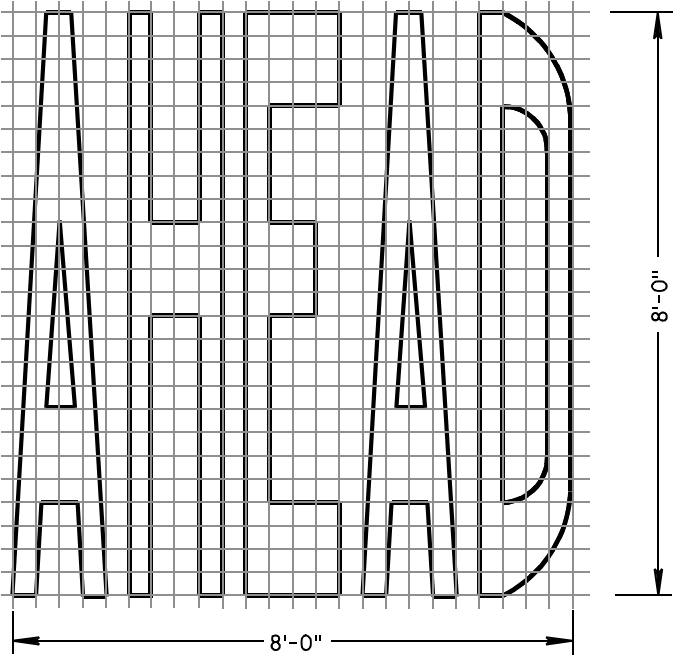
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

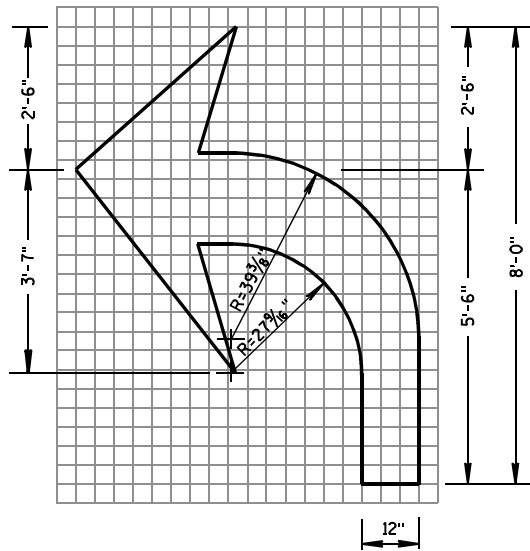
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

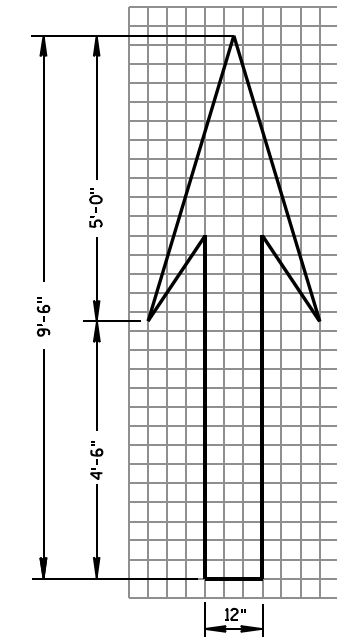
7-1-11
DATE

/S/ Thomas N. Nothmann
STATE TRAFFIC ENGINEER 125 IGN

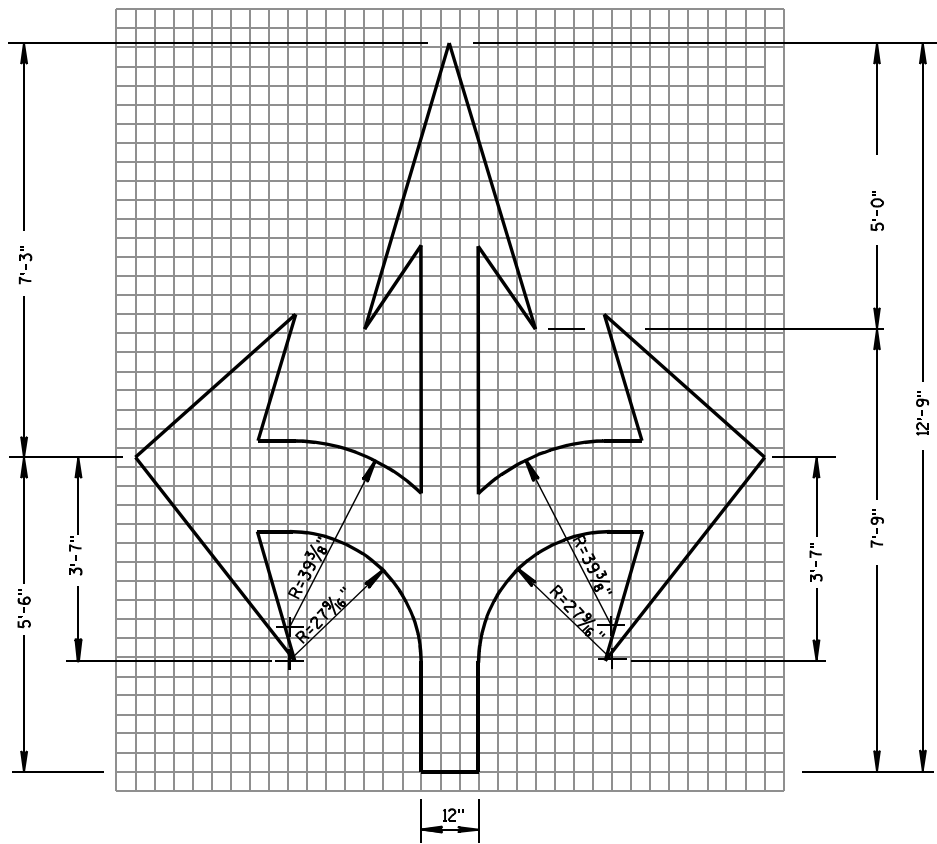
FHWA



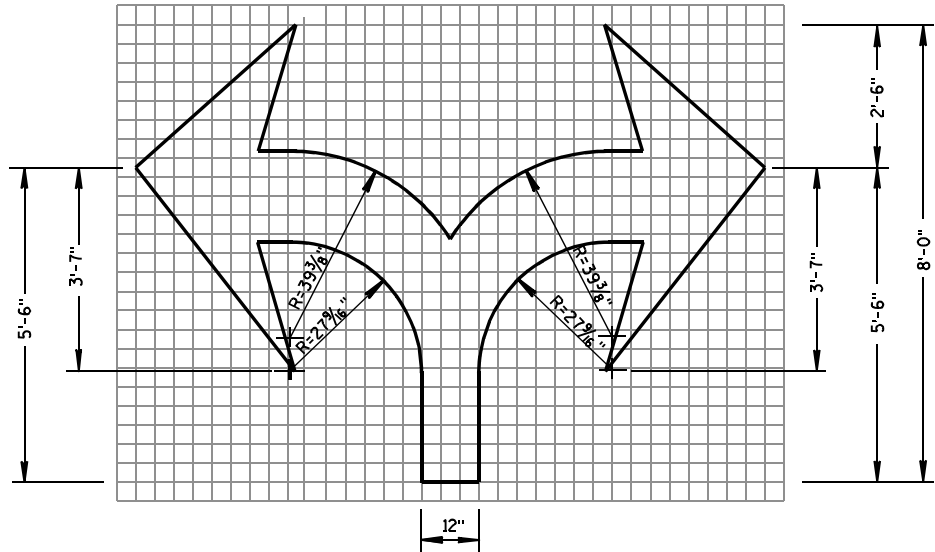
TYPE 2



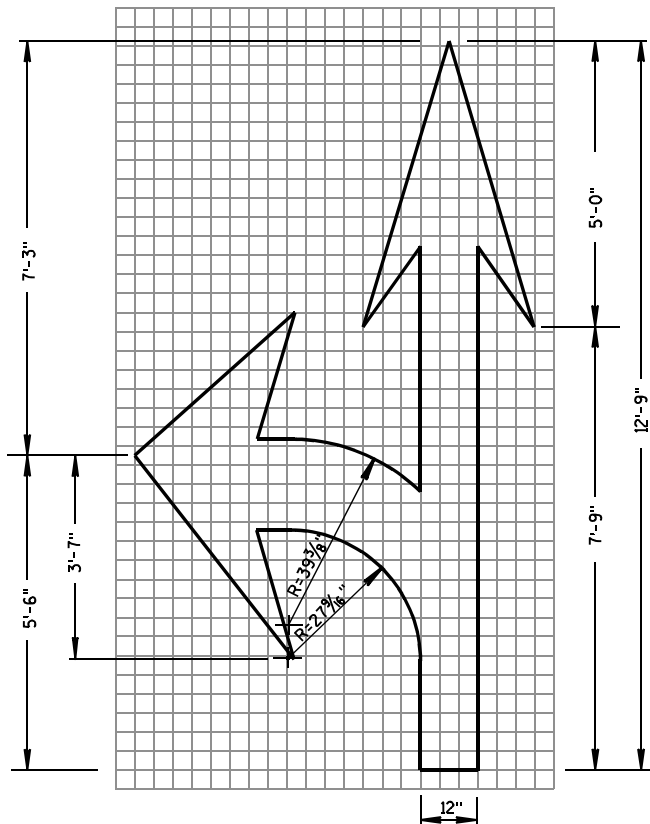
TYPE 1



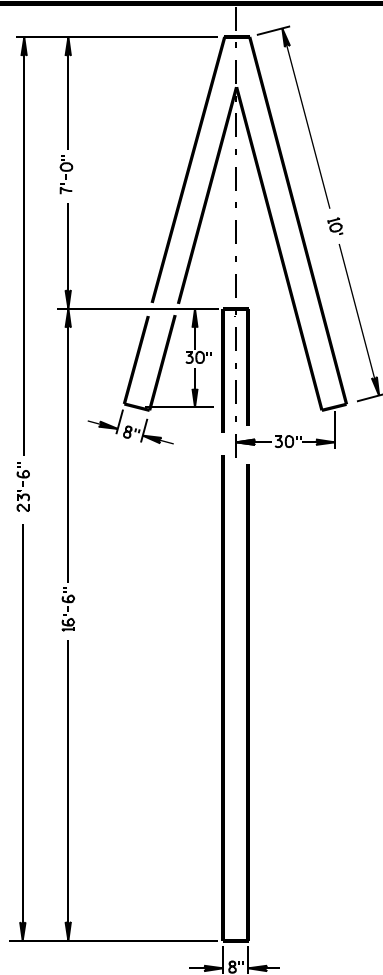
TYPE 6



TYPE 7



TYPE 3

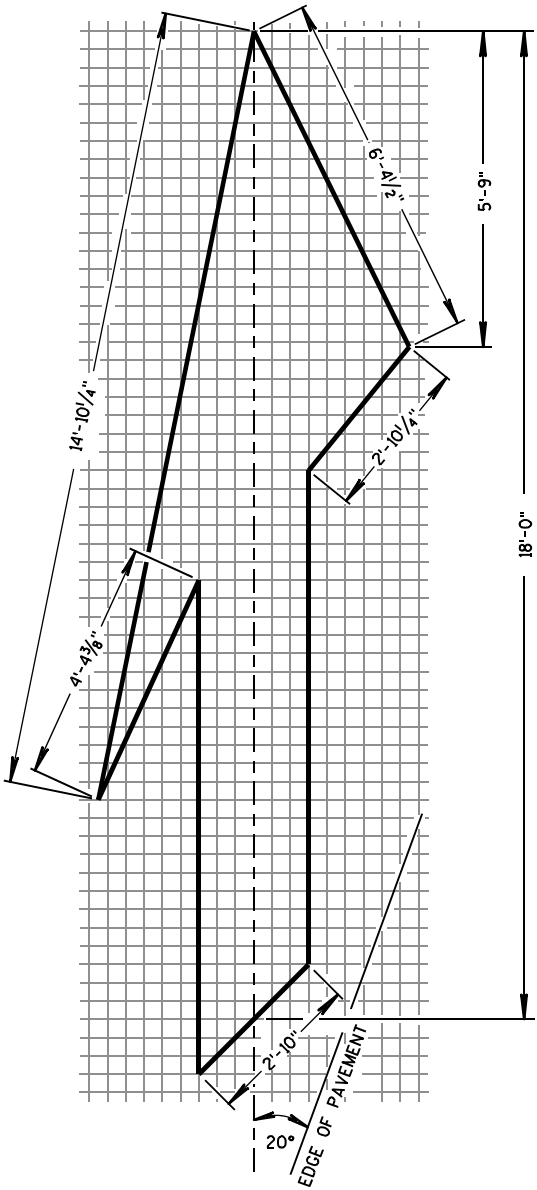


TYPE 4

GENERAL NOTES

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

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

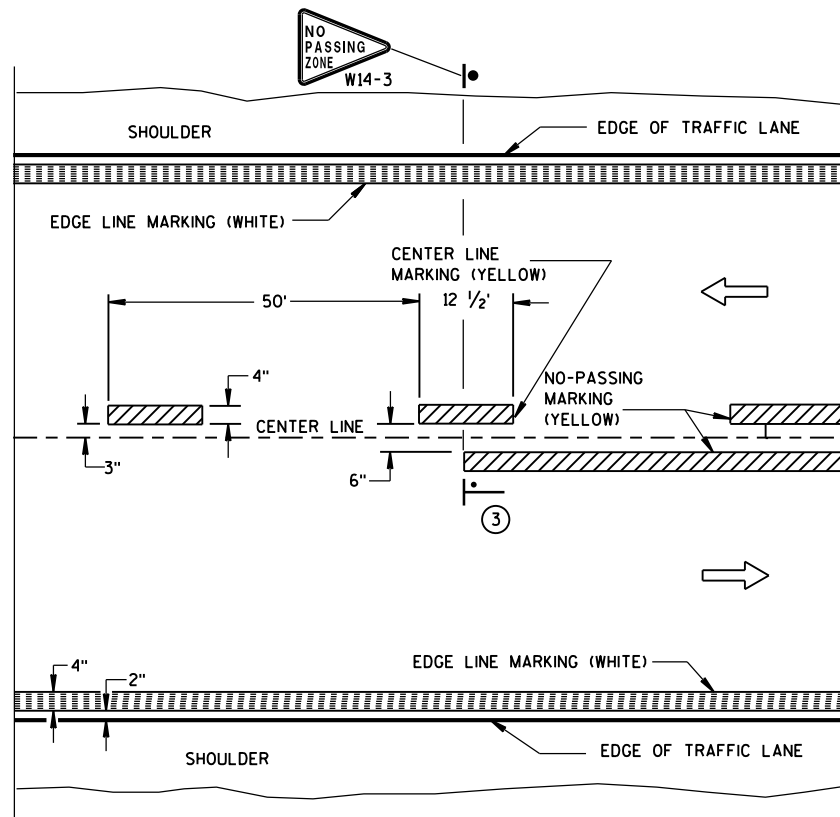


TYPE 5 LANE DROP ARROW

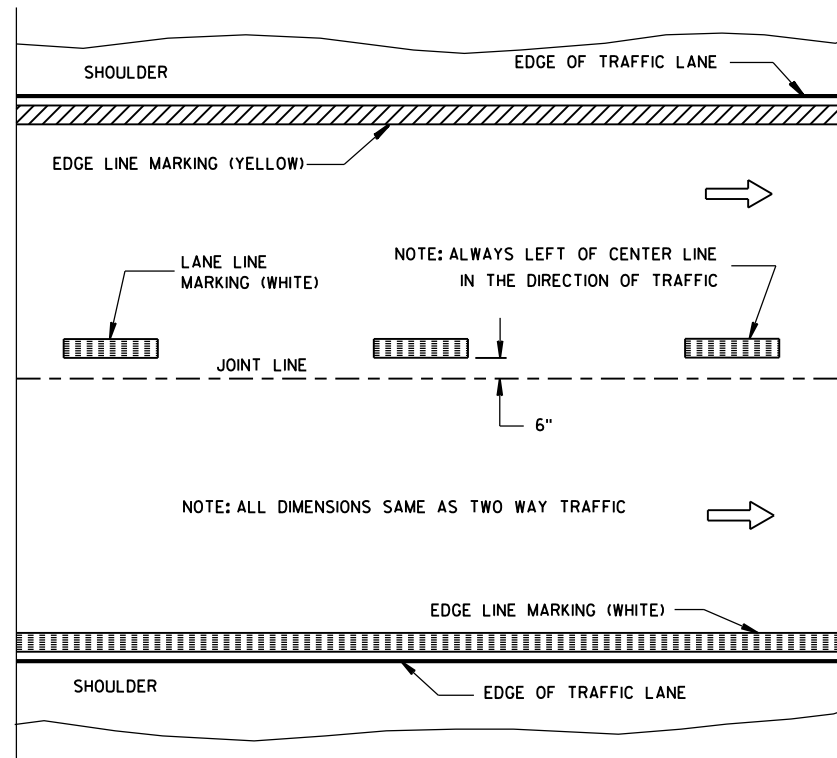
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 7/1/11
/S/ Thomas N. Nathahn
STATE TRAFFIC ENGINEER 126 SIGN
FHWA

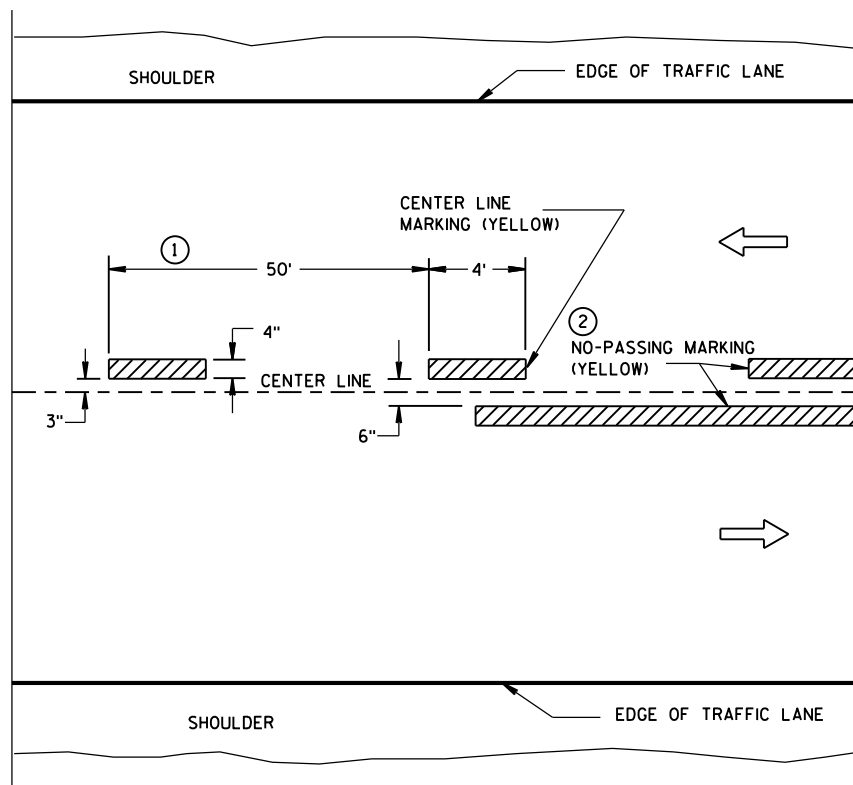


TWO WAY TRAFFIC

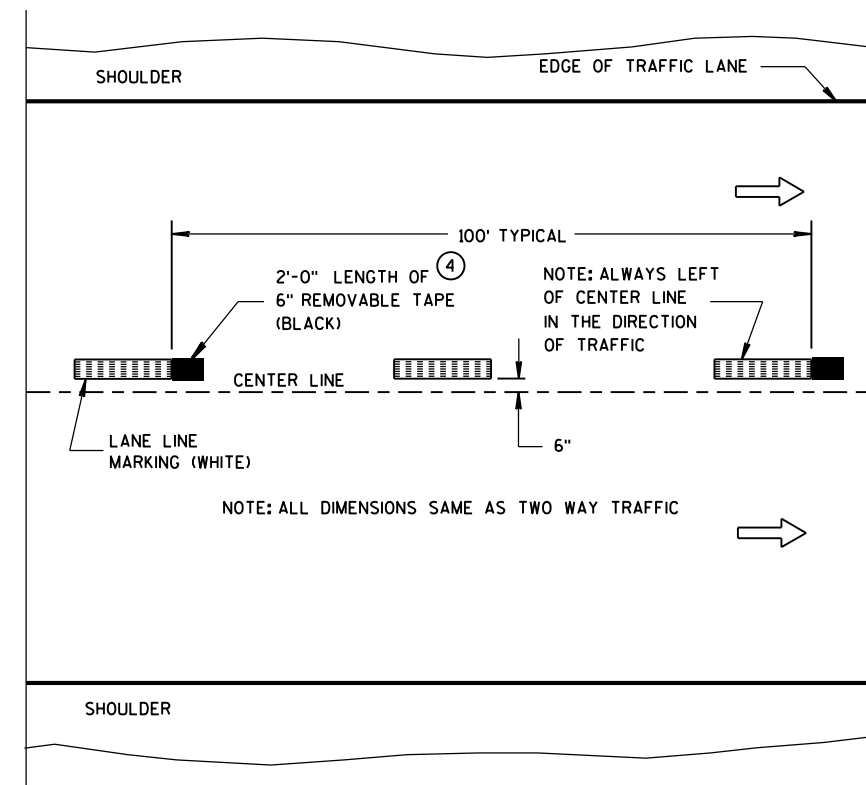


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

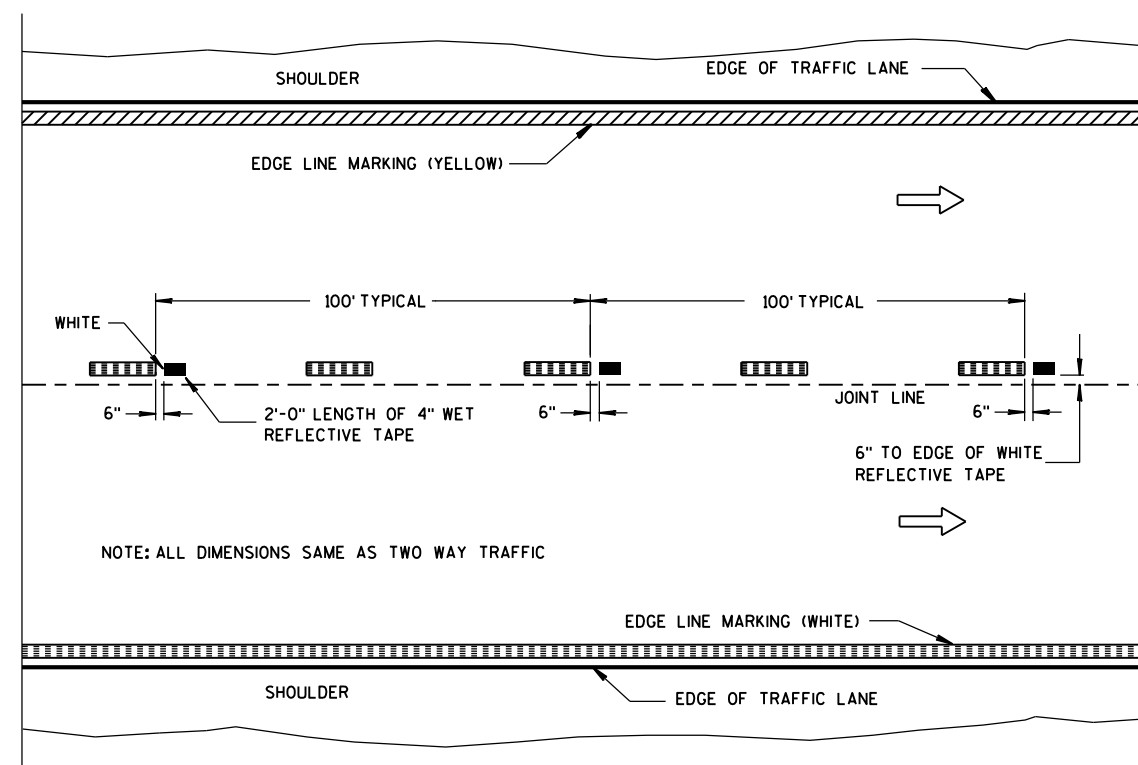
GENERAL NOTES

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)

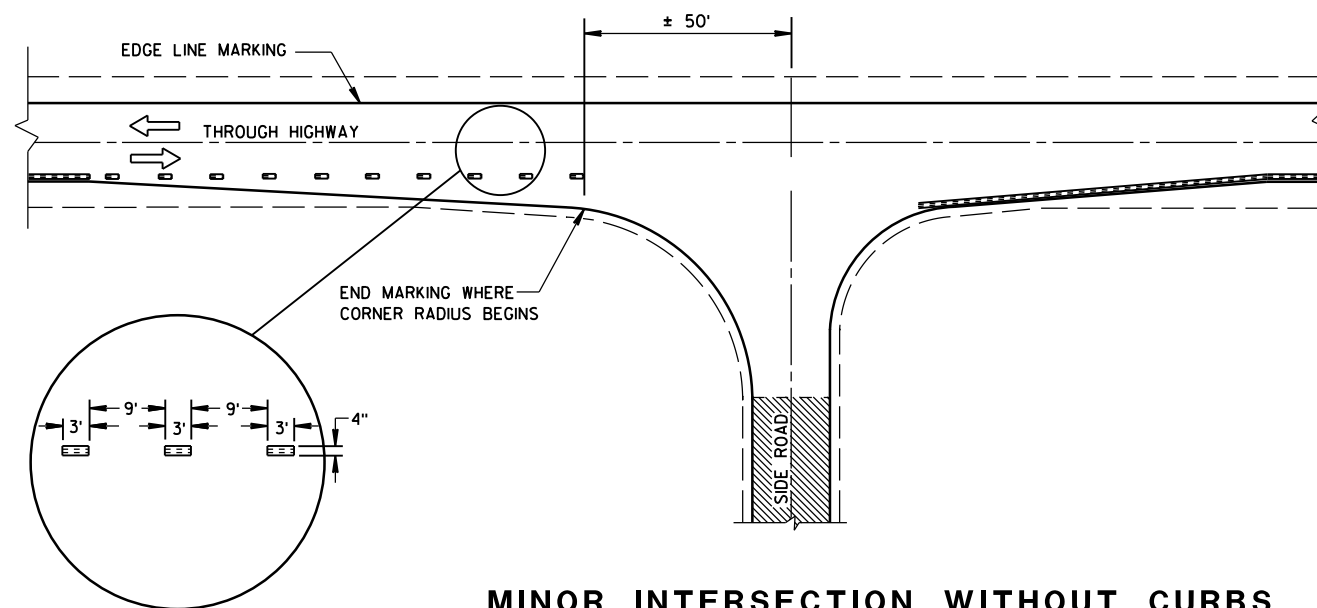
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

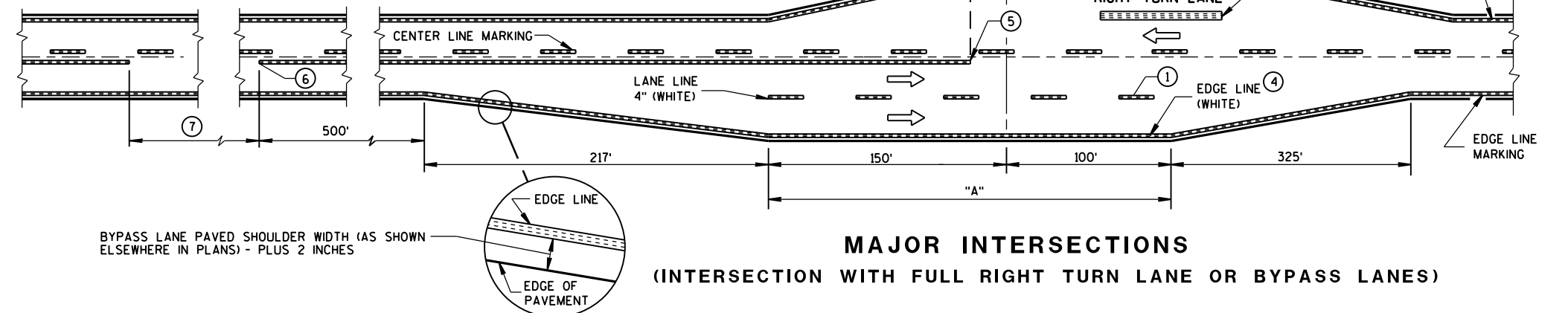
FHWA

/S/ Travis Feltes
STATE TRAFFIC E 127



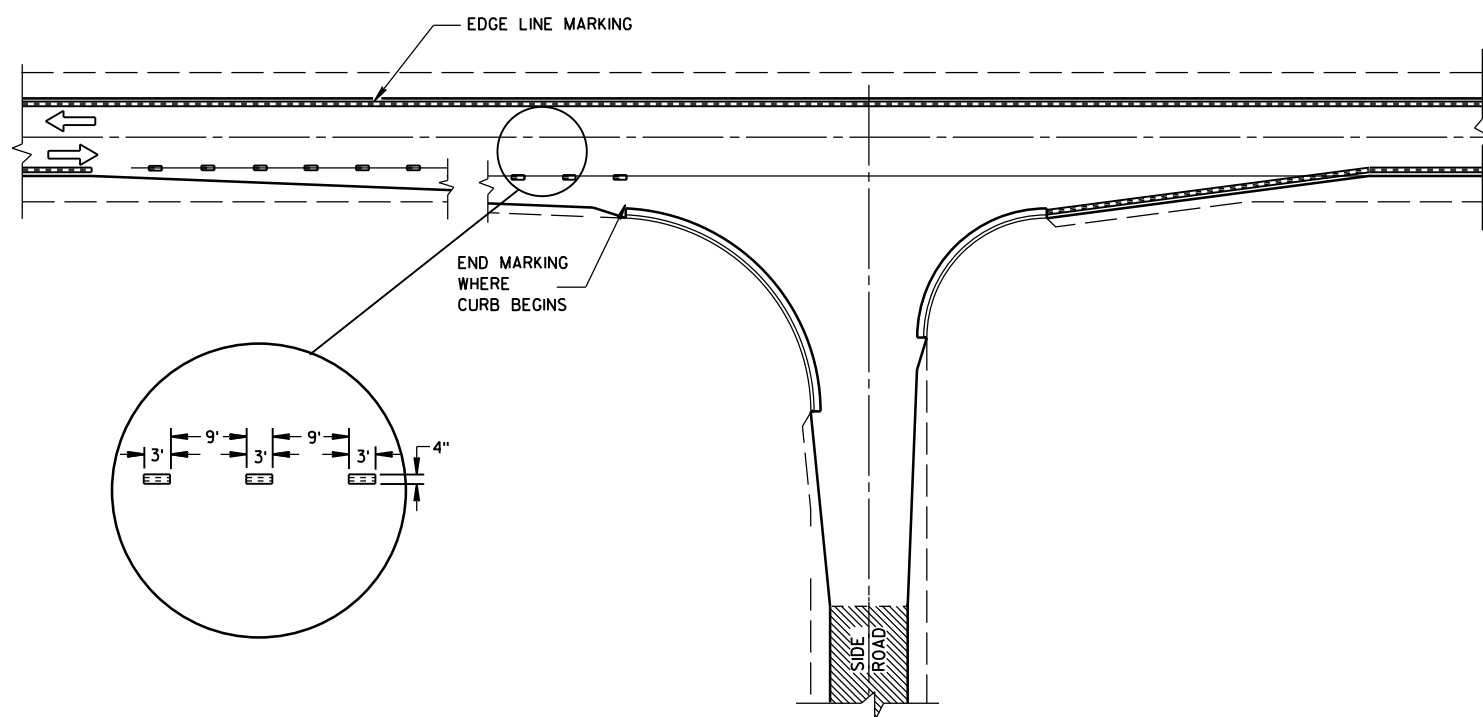
MINOR INTERSECTION WITHOUT CURBS

7	
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792

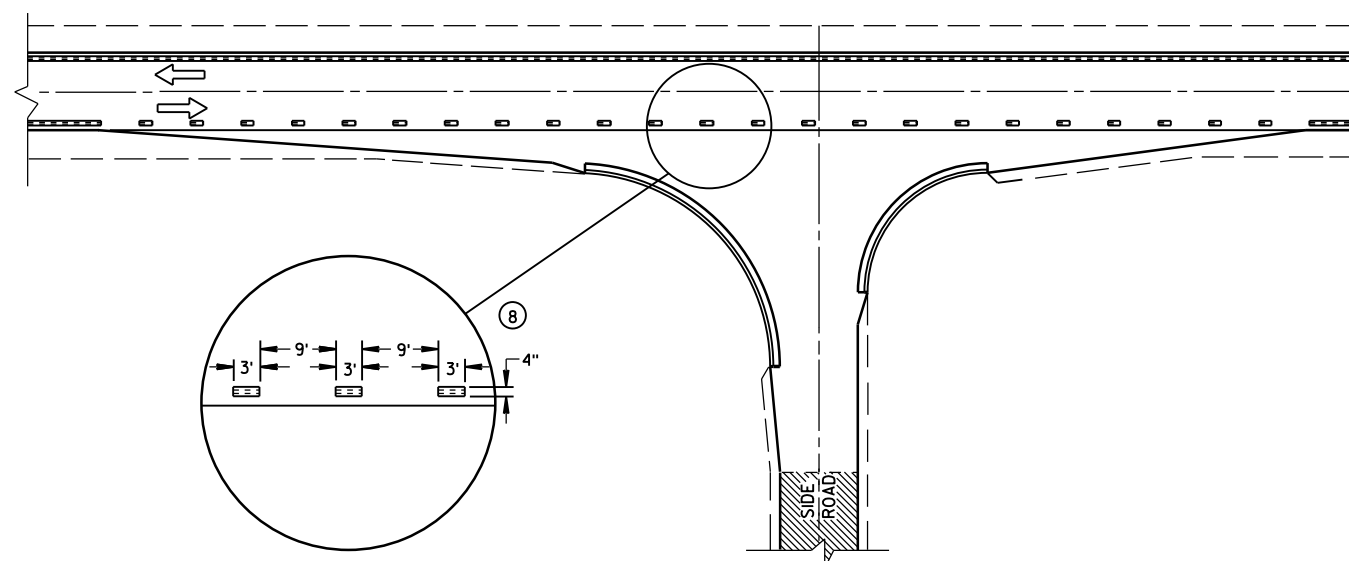


MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS (TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING (INTERSECTIONS)

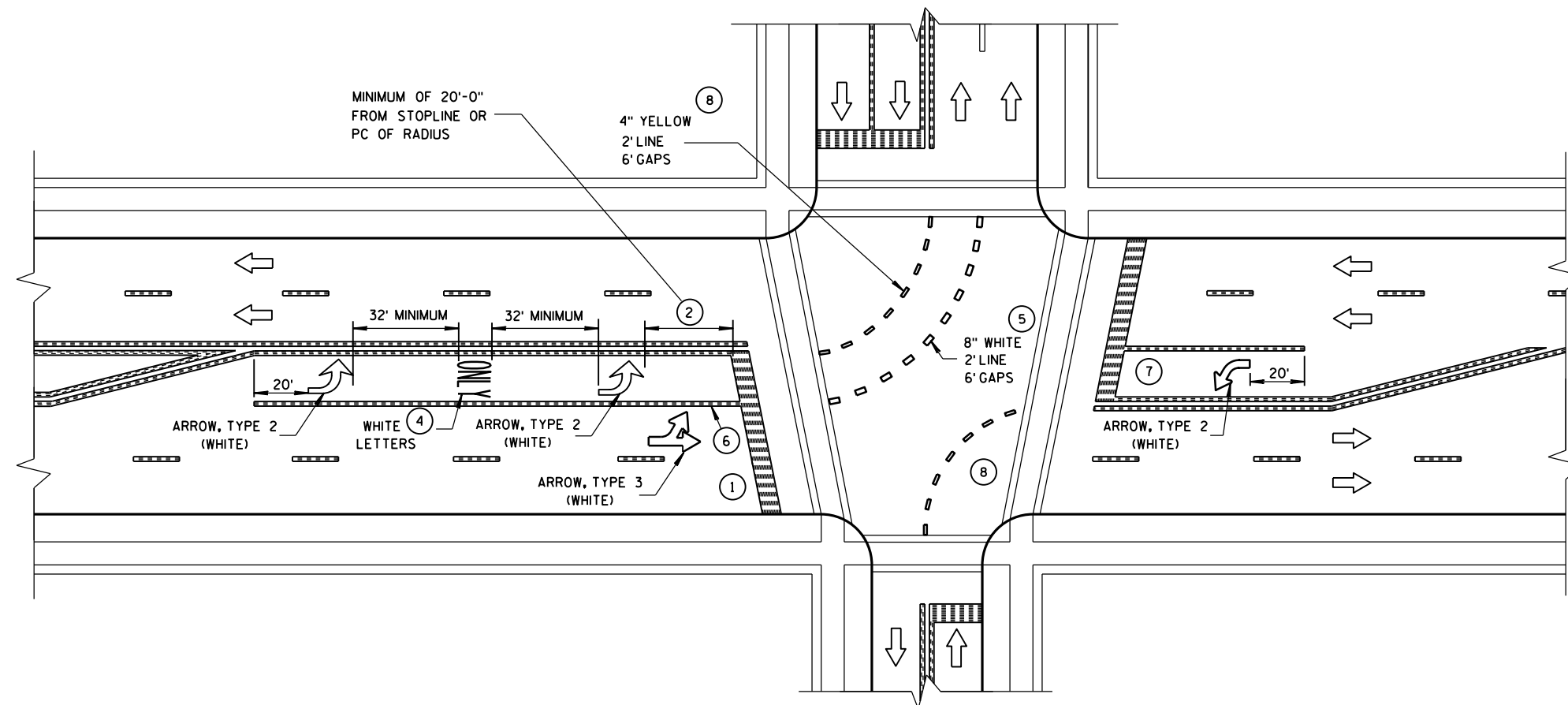
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 128

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

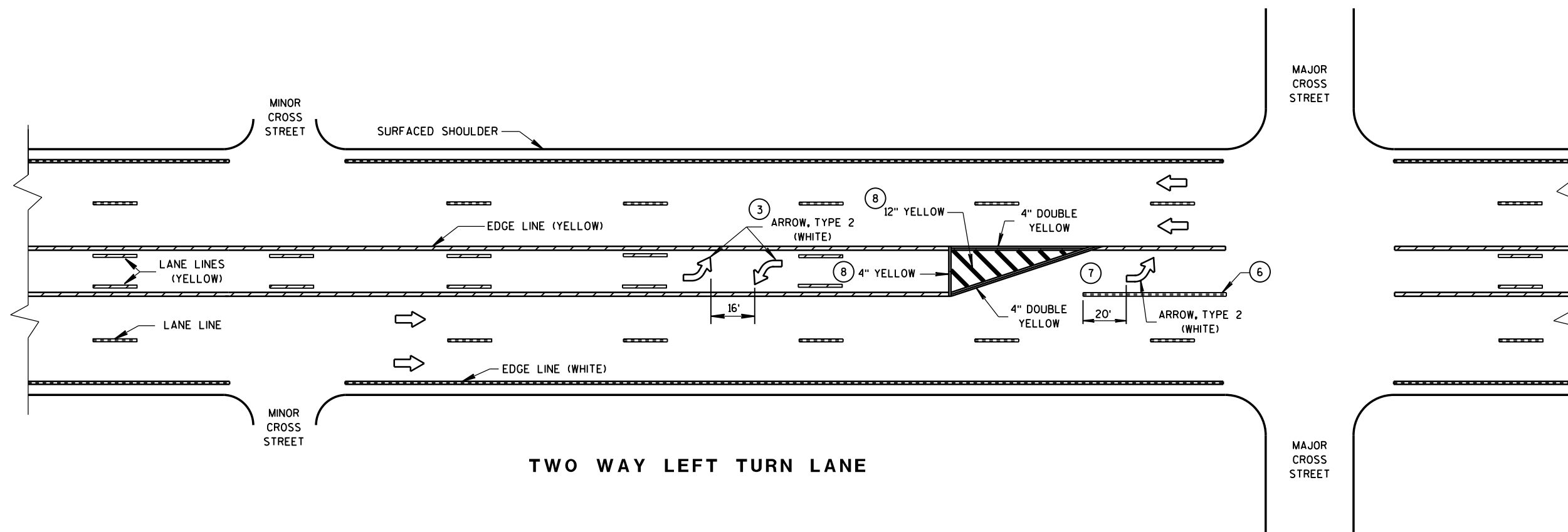
ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL



GENERAL NOTES

- ① STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DISTANCE MAY BE ADJUSTED TO ACCOMMODATE SHORT LEFT TURN LANES, AS APPROVED BY THE ENGINEER.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400 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

GENERAL NOTES

ORIENT ANCHOR BOLTS IN FOOTING AND PROVIDE ANCHOR BOLT STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER FABRICATION DRAWING.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

SIGN SUPPORTS SHALL BE LOCATED NORMAL TO ROADWAY.

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

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

BAR CAGE TO BE ASSEMBLED USING TIE WIRES ONLY, NO WELDING.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACK FILLING AROUND THE BASE. ANY REQUIRED BACKFILL SHALL BE WELL COMPACTED IN LAYERS OF 1 FOOT OR LESS. COMPACTION SHALL BE BY MECHANICAL MEANS. CARE SHALL BE TAKEN SO NO DAMAGE OCCURS TO THE CONCRETE BASE DURING COMPACTION.

EXCAVATION OF MATERIALS NOT OCCUPIED BY CONCRETE SHALL BE MINIMIZED TO REDUCE DISTURBANCE OF THE SURROUNDING SOILS.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

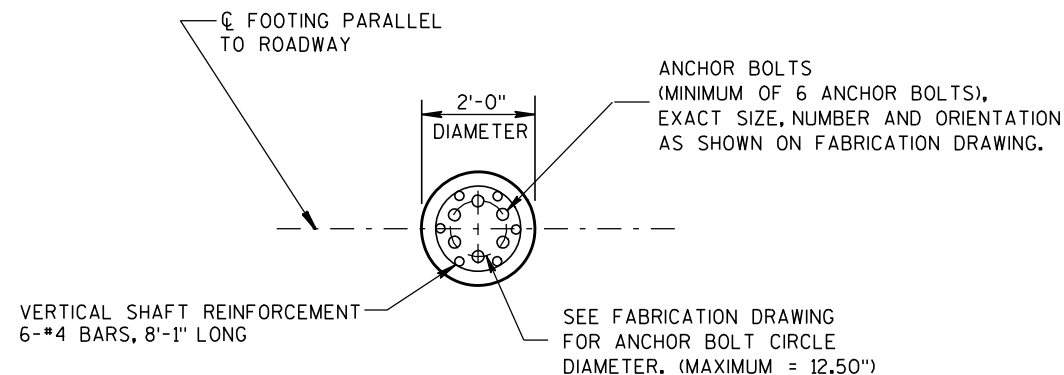
IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

THE REINFORCEMENT AND ANCHOR BOLTS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

ANY DAMAGE TO THE CONCRETE BASE DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

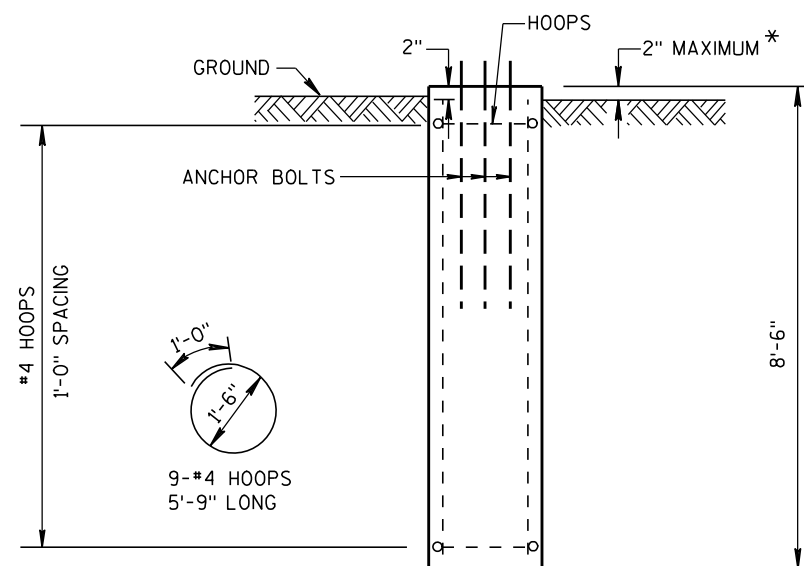
CONCRETE MASONRY ----- $f_c=3,500$ p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ----- $f_y=60,000$ p.s.i.
ANCHOR BOLTS ----- AASHTO M314 GRADE 55

THIS FOOTING HAS BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 20 DEGREES (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 350 PSF (COHESIVE SOILS).



PLAN VIEW

* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.



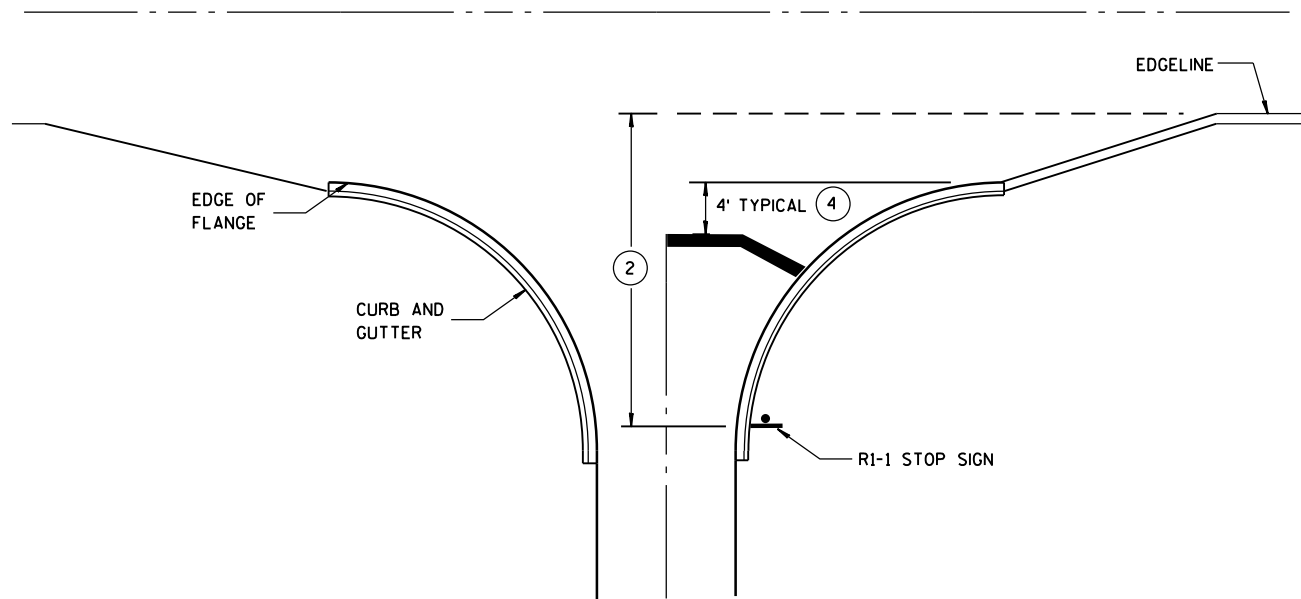
ELEVATION VIEW

CONCRETE - 1.0 C.Y. PER FOOTING
H.S. REINFORCEMENT - 67 LBS. PER FOOTING

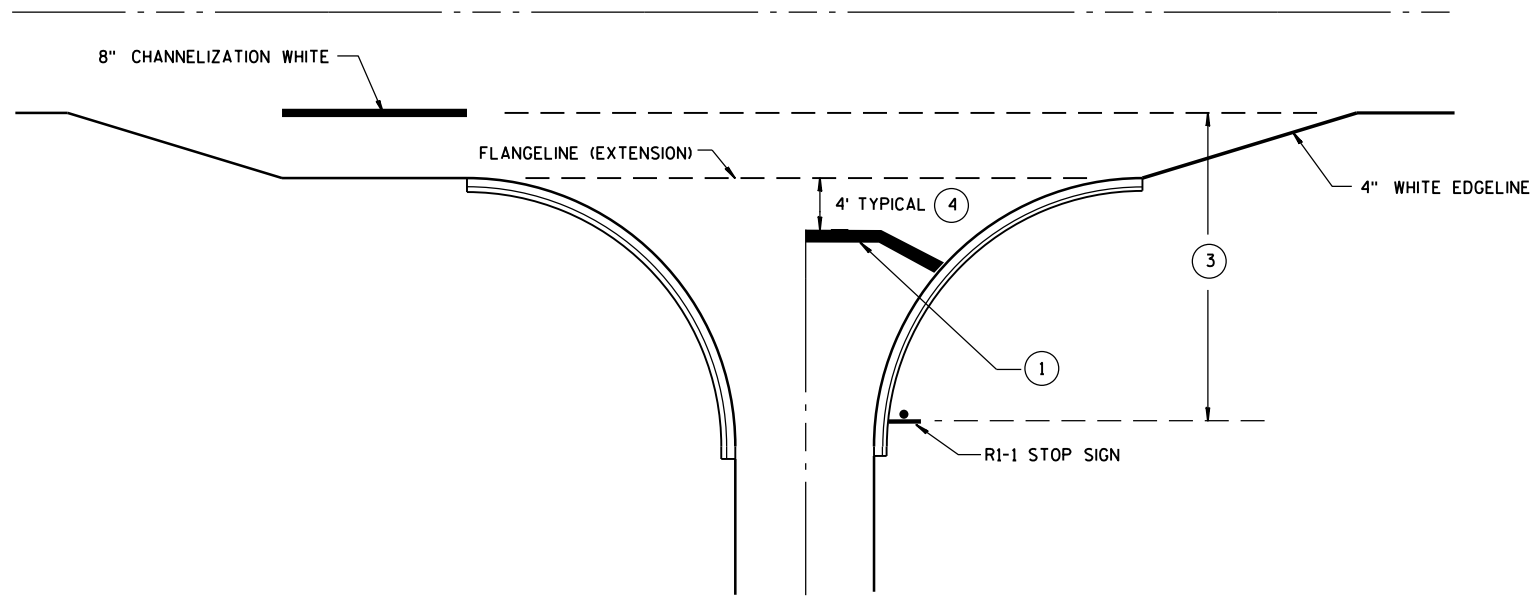
24" DIAMETER CANTILEVER
OVERHEAD SIGN SUPPORT BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

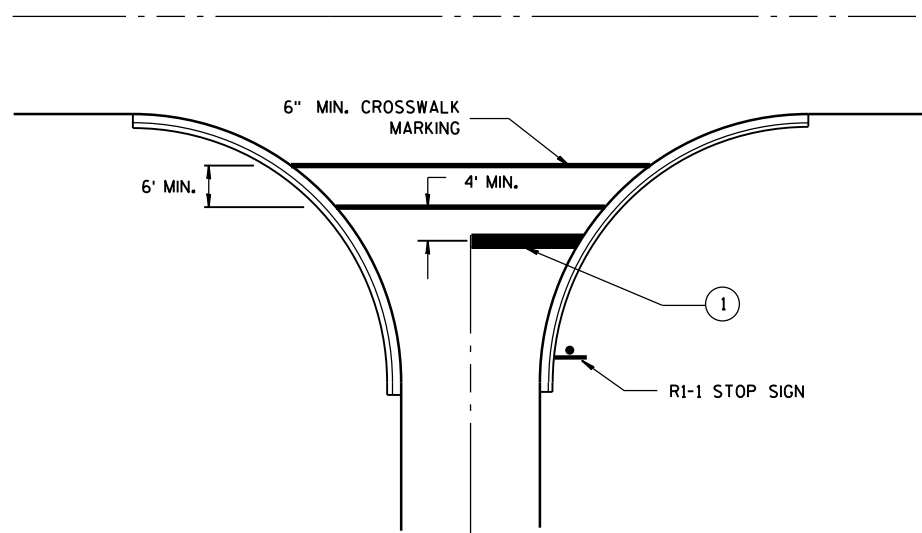
APPROVED
4-17-09 /S/ Thomas N. Nothmann
DATE STATE TRAFFIC ENGINE 130 SIGN
FHWA



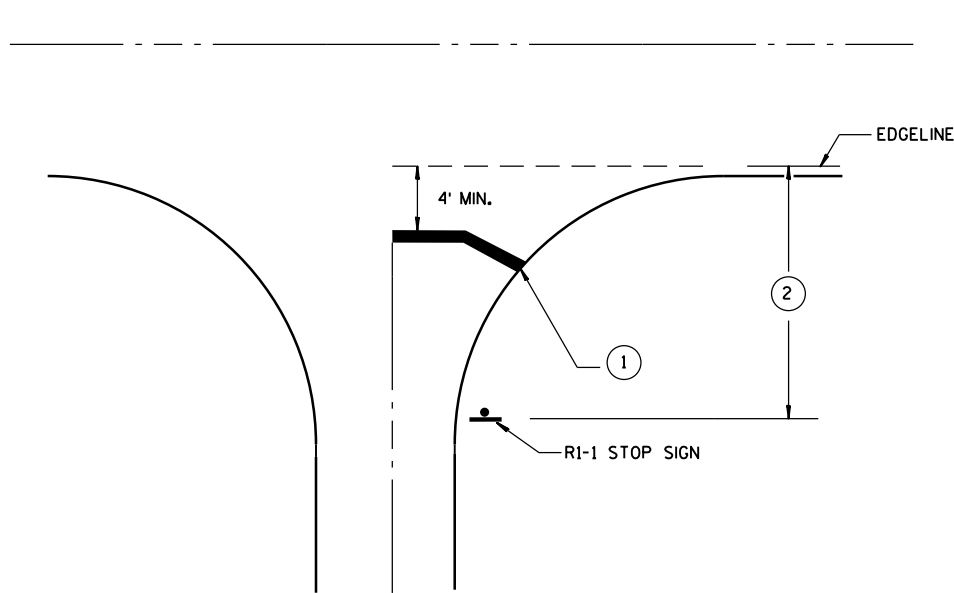
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



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

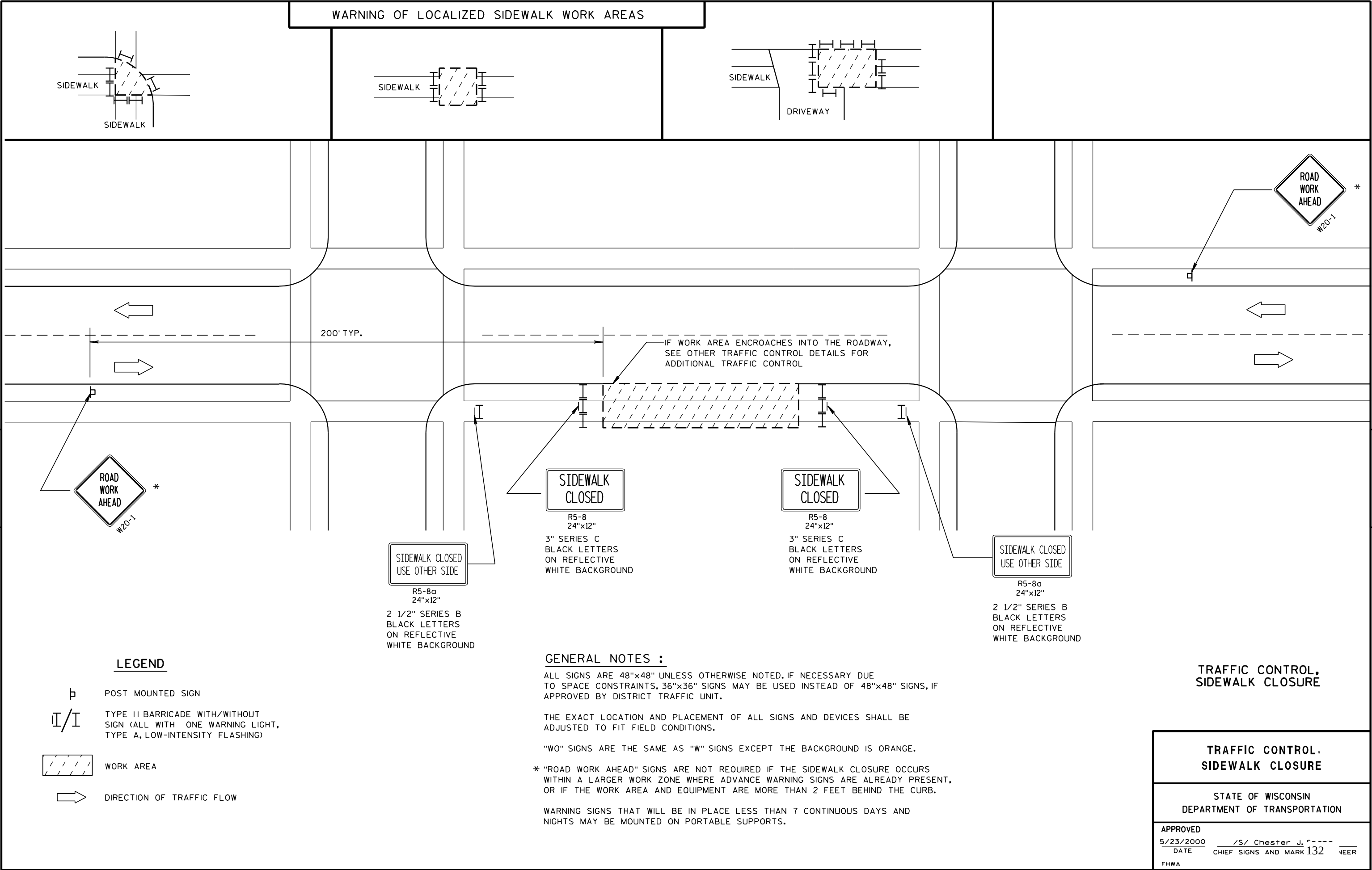
GENERAL NOTES

- 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

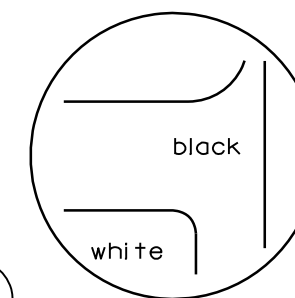
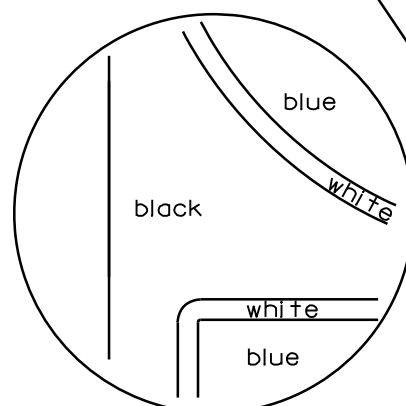
APPROVED
DATE 4/30/2013 /S/ Travis Feltes
STATE TRAFFIC ENGINEER 131
FHWA



7



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

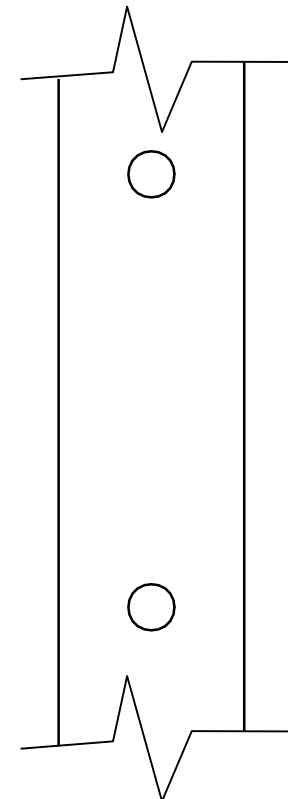
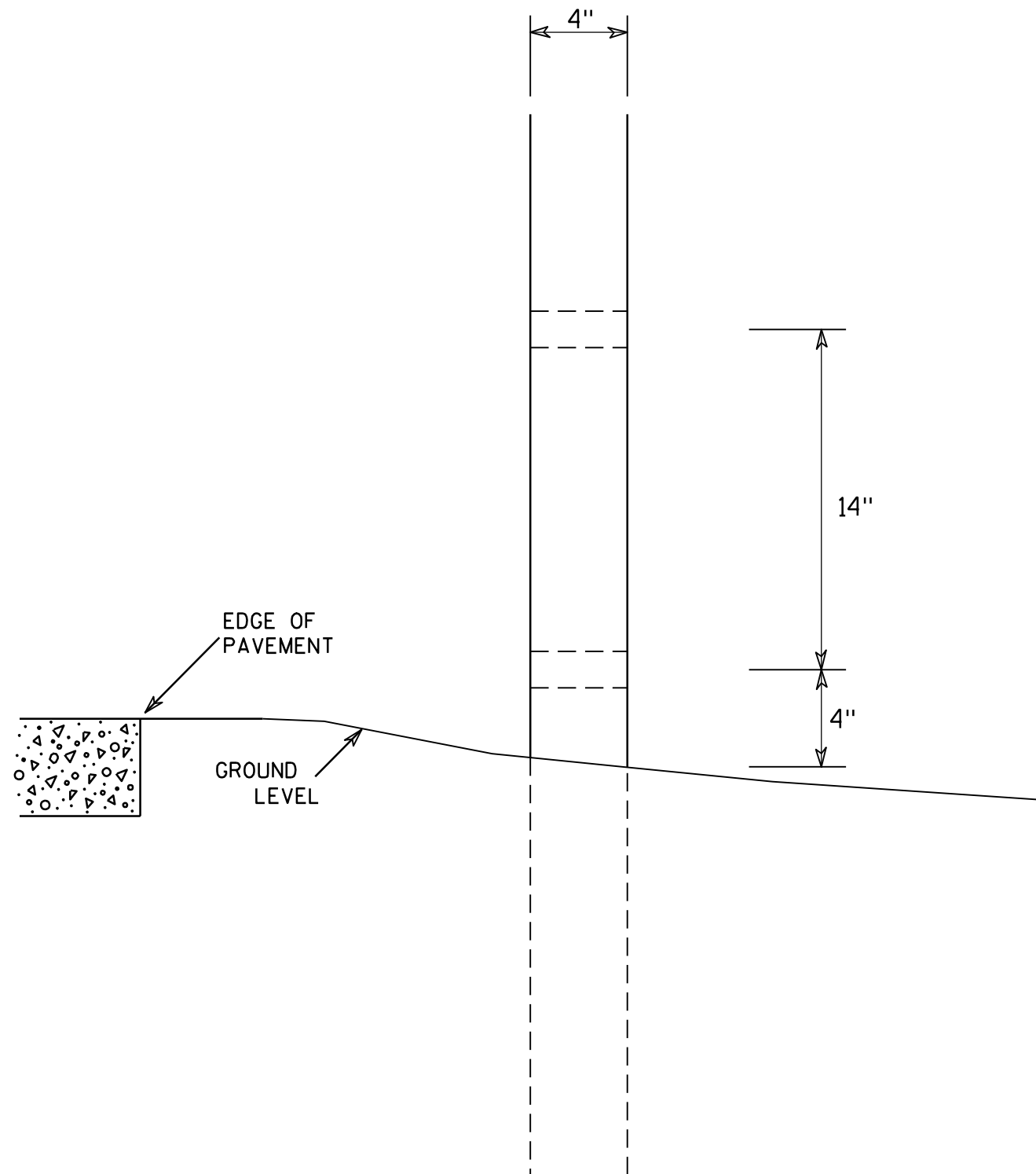


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ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<u>Matthew R Rauch</u> for State Traffic Engineer
DATE <u>3/25/13</u>	PLATE NO. <u>A2-1S.7</u>

NOTES

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



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

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:

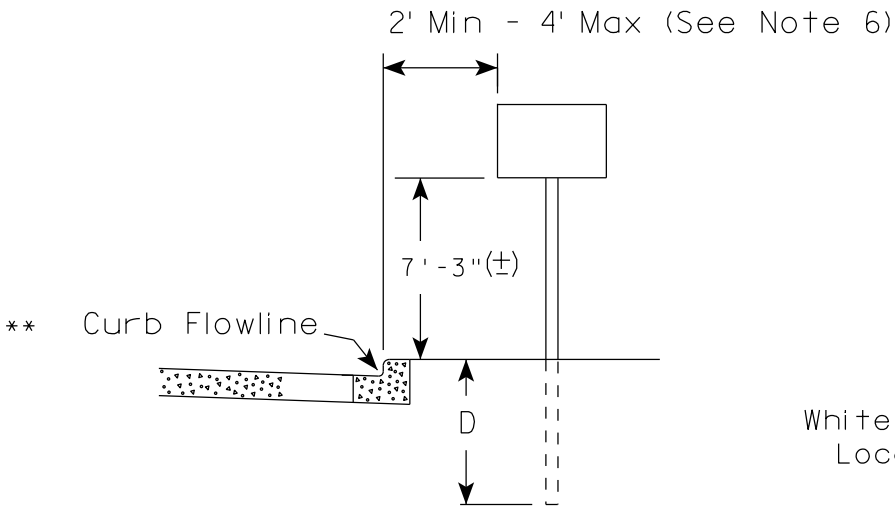
HWY:

COUNTY:

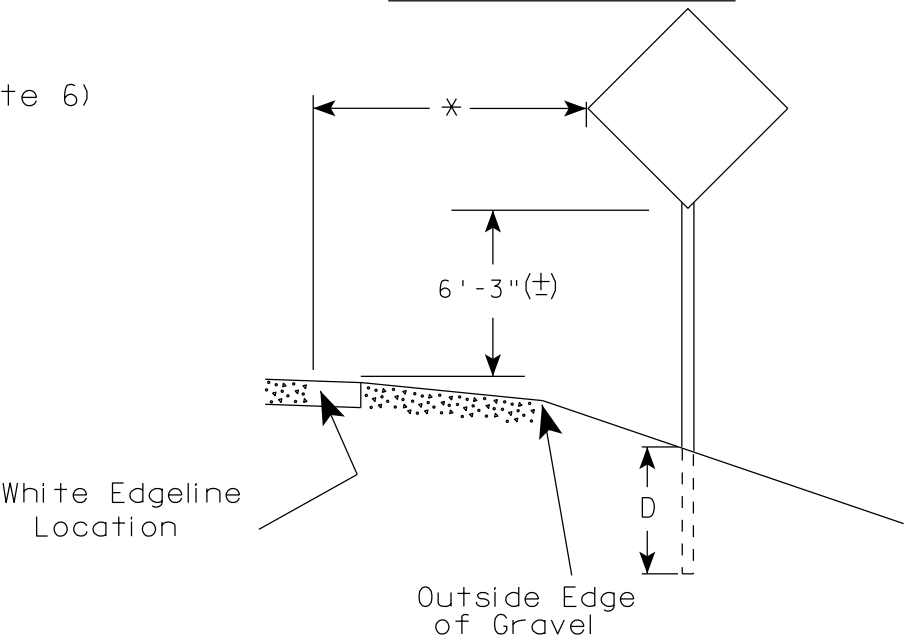
SHEET NO: 134

E

URBAN AREA



RURAL AREA (See Note 2)

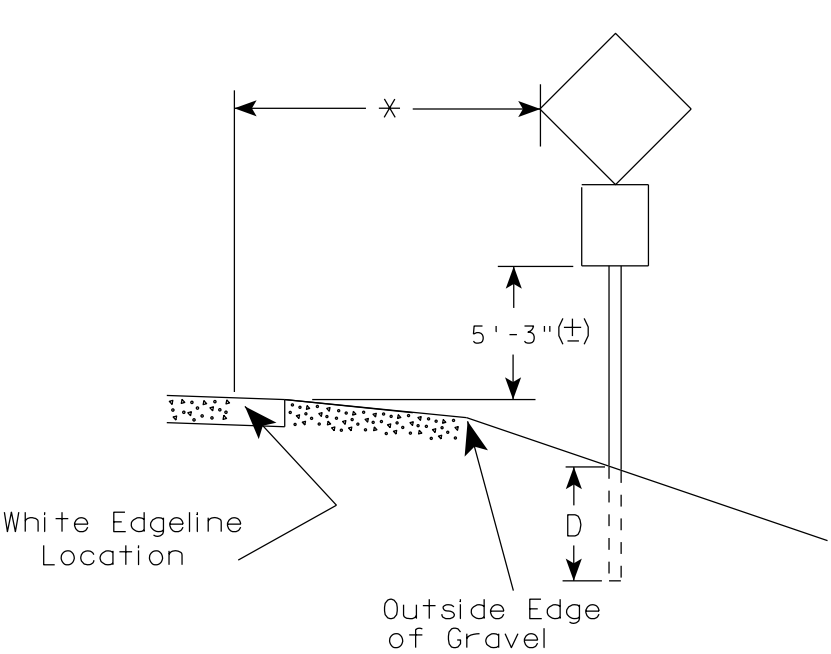


GENERAL NOTES

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 (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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



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

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

135

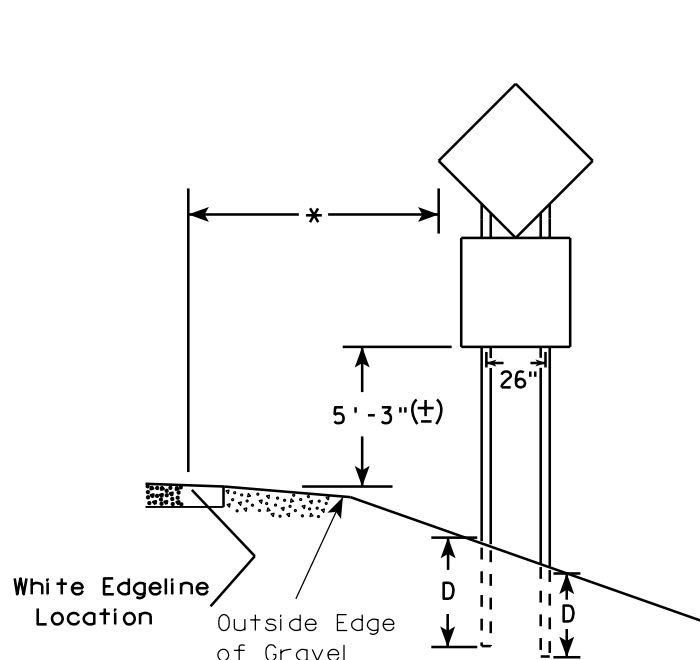
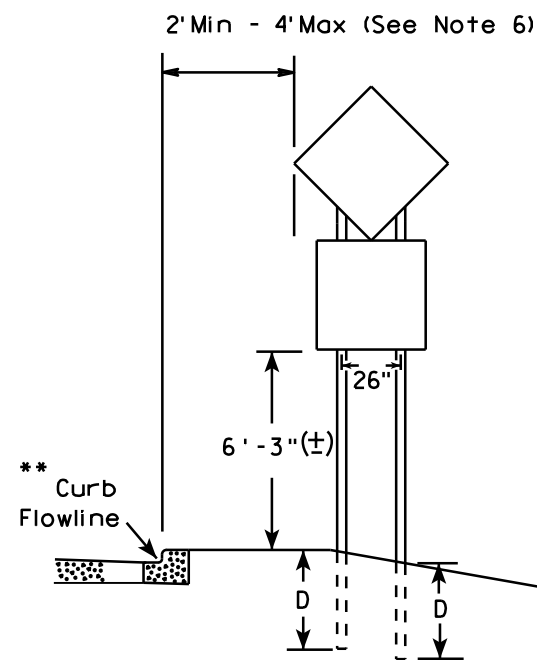
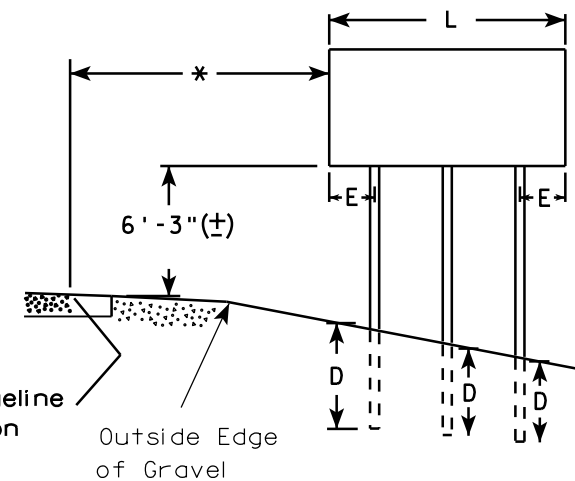
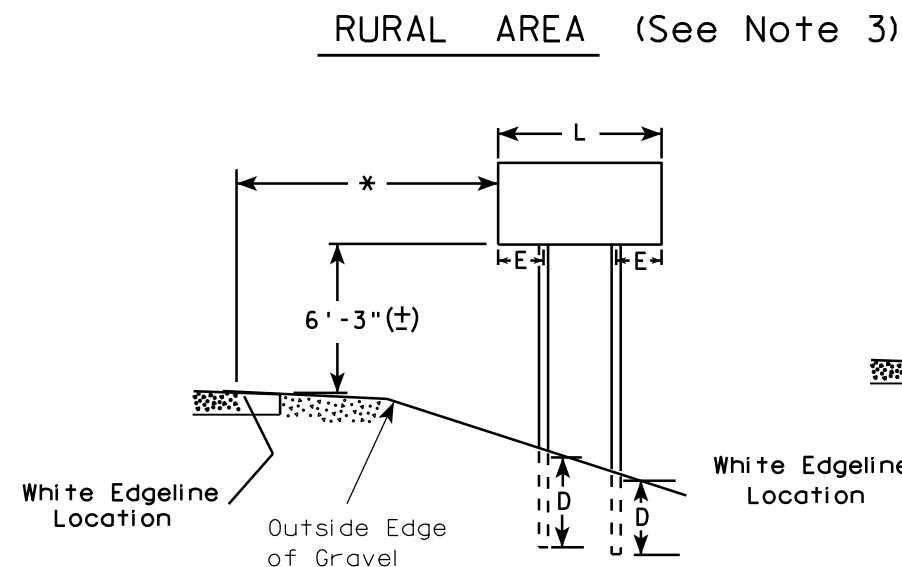
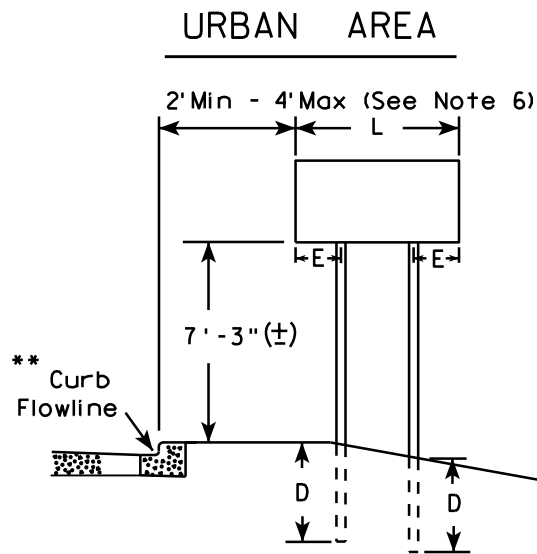
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- 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 (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

- * 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.
- ** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.
- *** See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

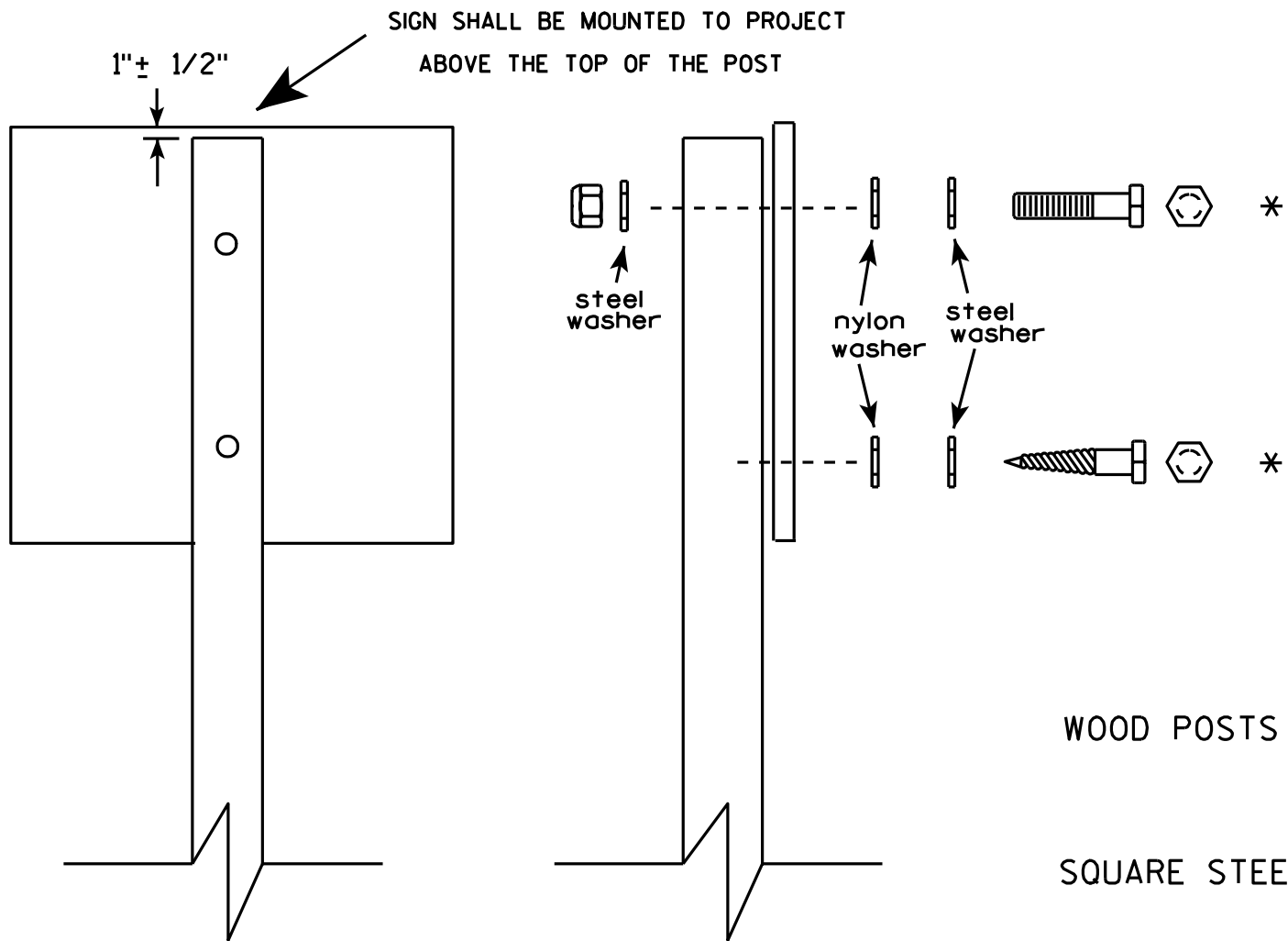
SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

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

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 9/30/13	PLATE NO. 136 12

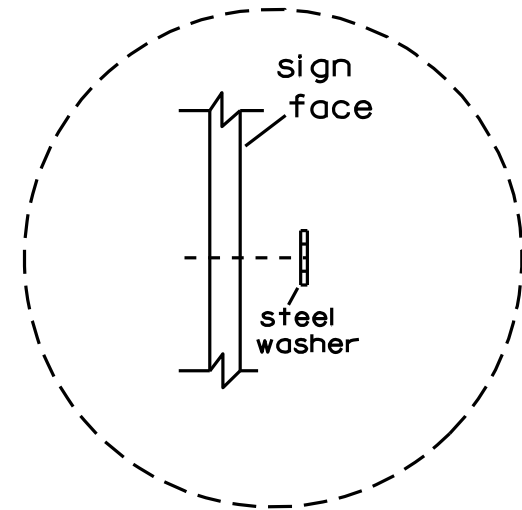


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

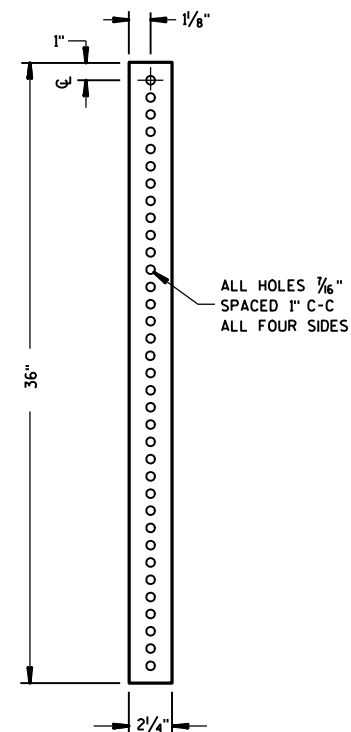


Washer Placement when Sign Has Other Than Type H or Type F Face

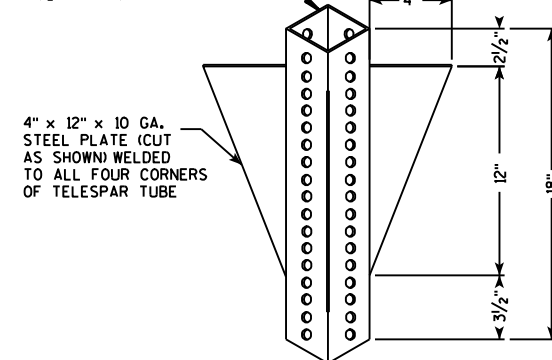
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

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



2 1/2" or 2 1/4" TELESPAR TUBE



LENGTH SHOWN ON MISC. QTY'S

18" DIA PVC BOX-OUT

TELESCOPE PIECES FLUSH AT TOP

36"

18"

13"

2 1/4" SQUARE X 36"

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

3/8" ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" GRAVEL OR DIRT

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES

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

SIGN

LENGTH SHOWN ON MISC. QTY'S

TELESCOPE PIECES FLUSH AT TOP

1"

12"

18"

36"

2" STEEL TUBULAR SQUARE UPPER SECTION

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

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

1"

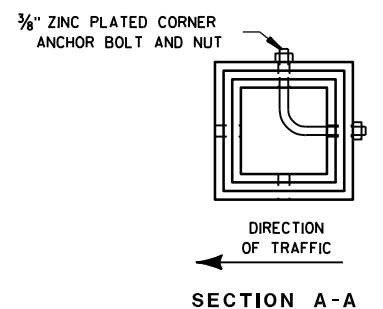
$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

$2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)

$2\frac{1}{4}$ " SQUARE X 36"

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

SIGN



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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

DATE 5/30/12 PLATE NO. A4-9.7

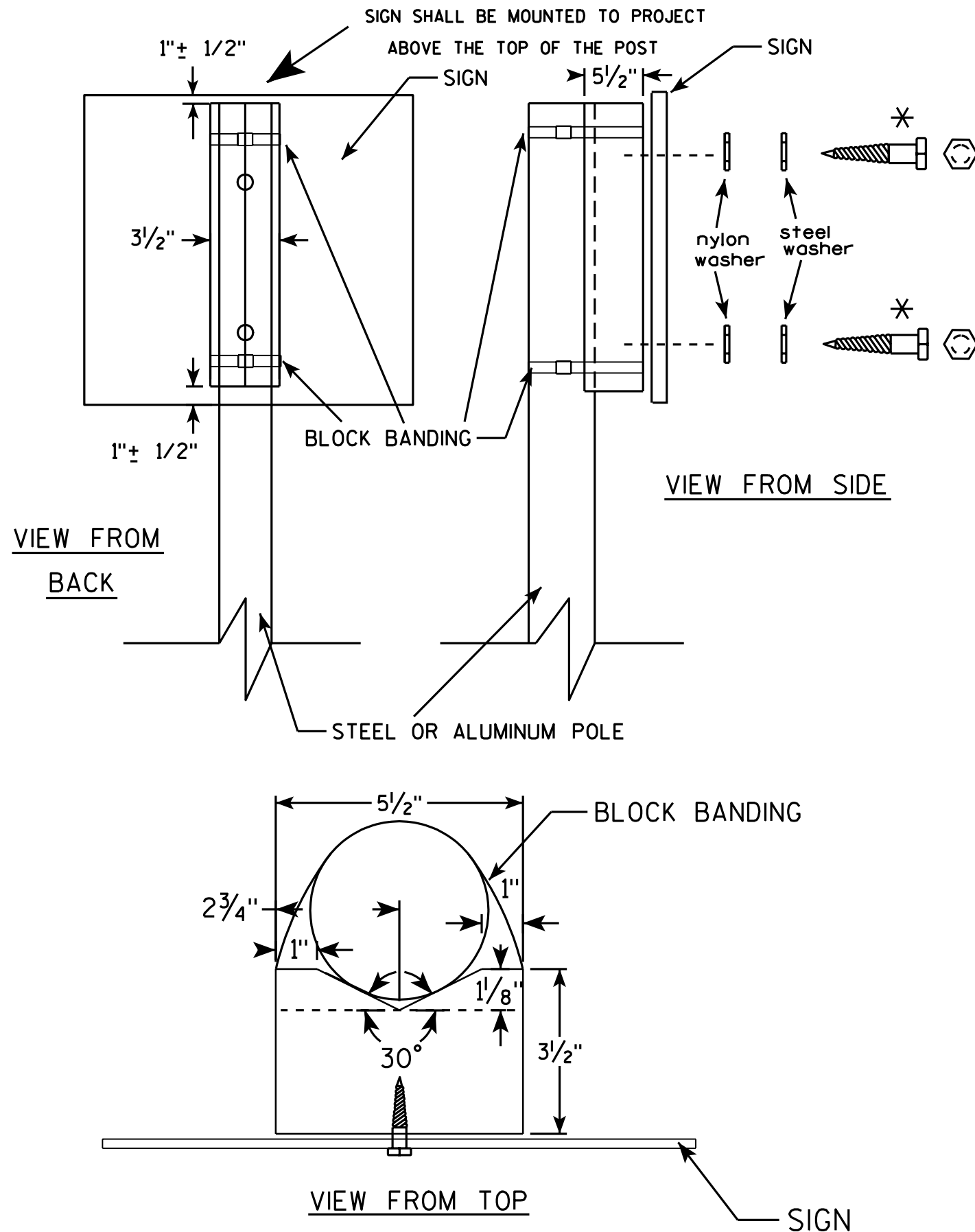
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 138

E



GENERAL NOTES

1. WOOD 4"x6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
 - b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
 - c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

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

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

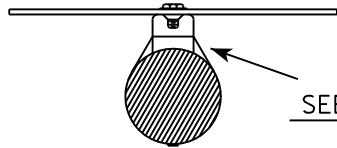
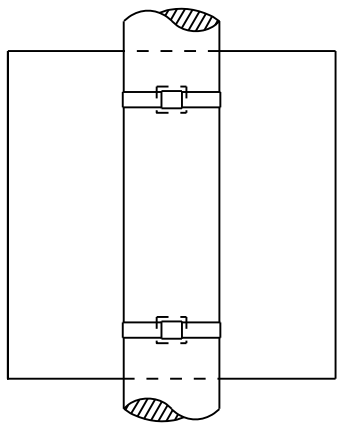
PROJECT NO:

SHEET NO: 139

E

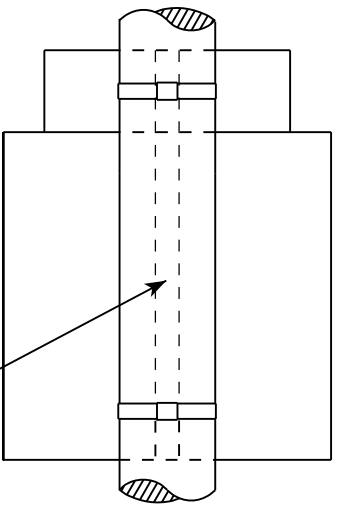
BANDING

SINGLE SIGN

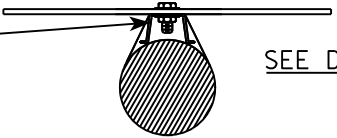


SEE DETAIL A

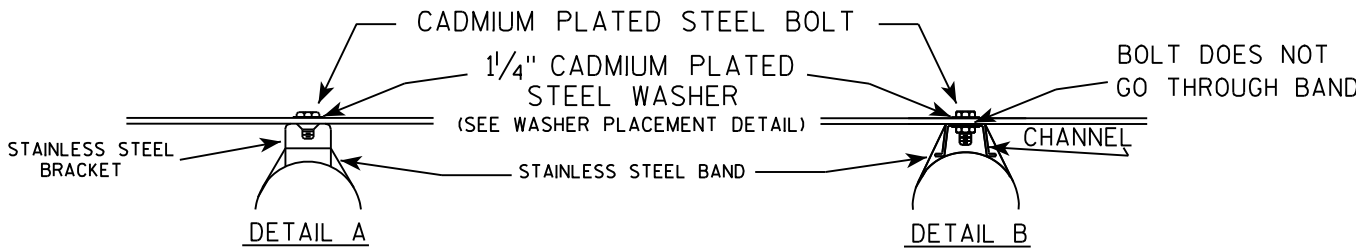
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



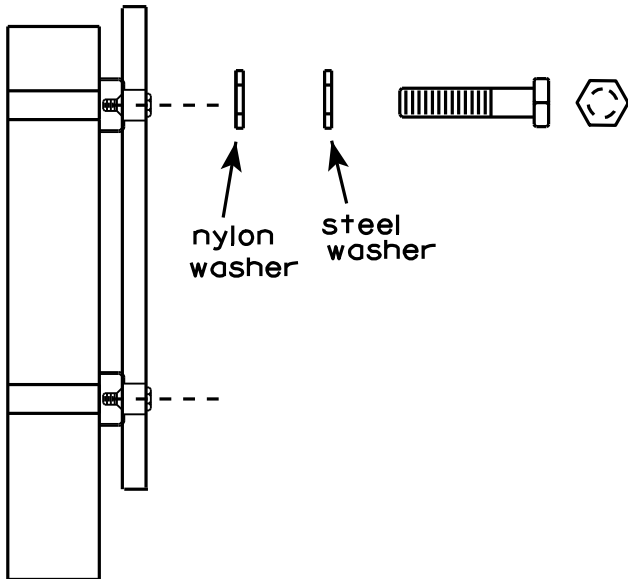
SEE DETAIL B



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

WASHER PLACEMENT



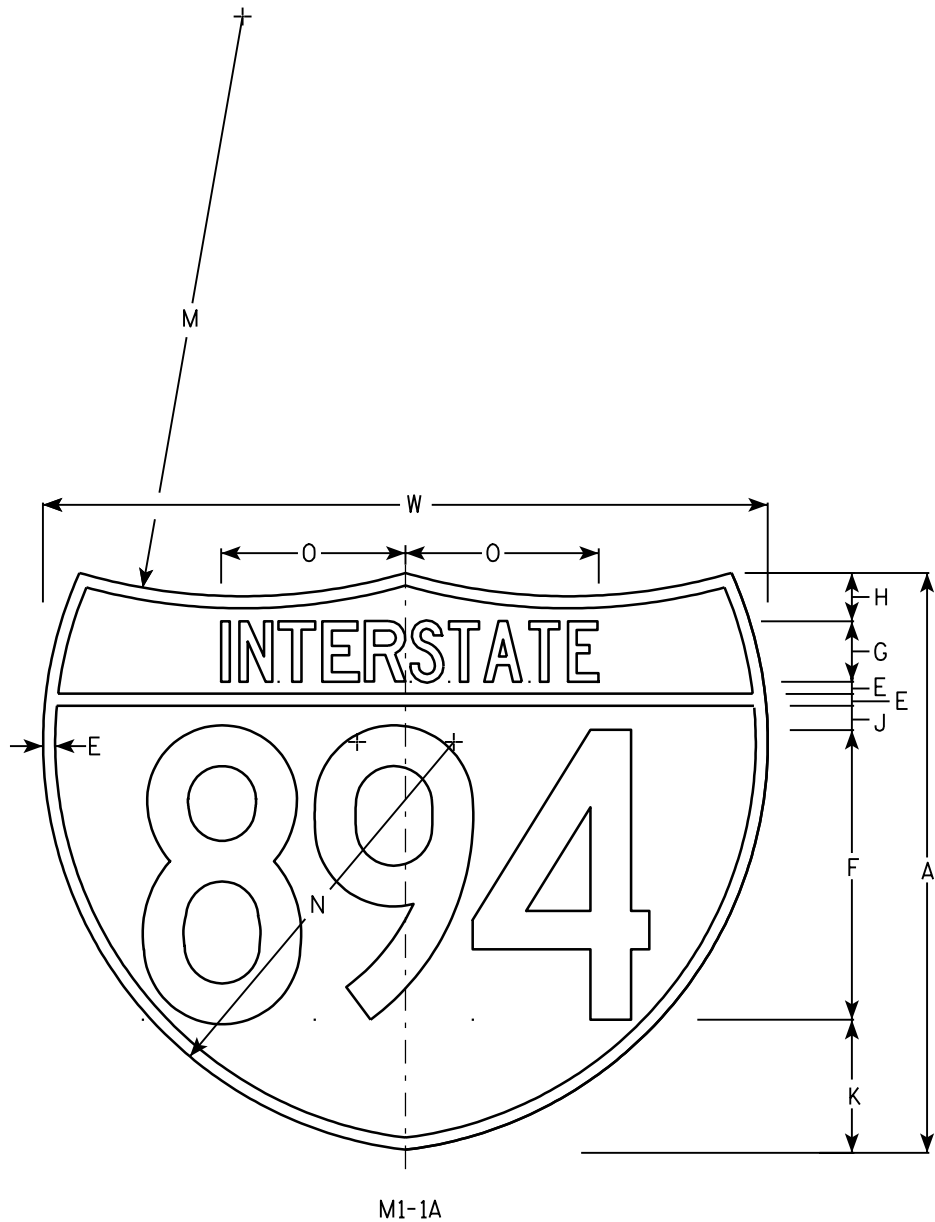
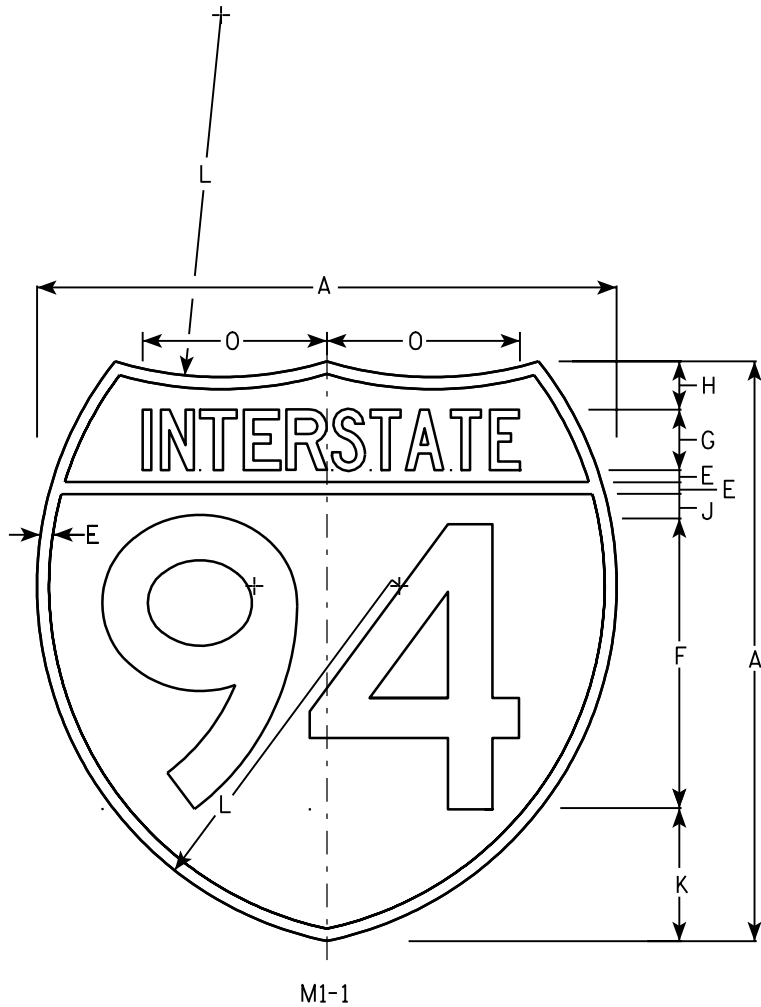
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3



NOTES

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

Metric equivalent for these signs are:

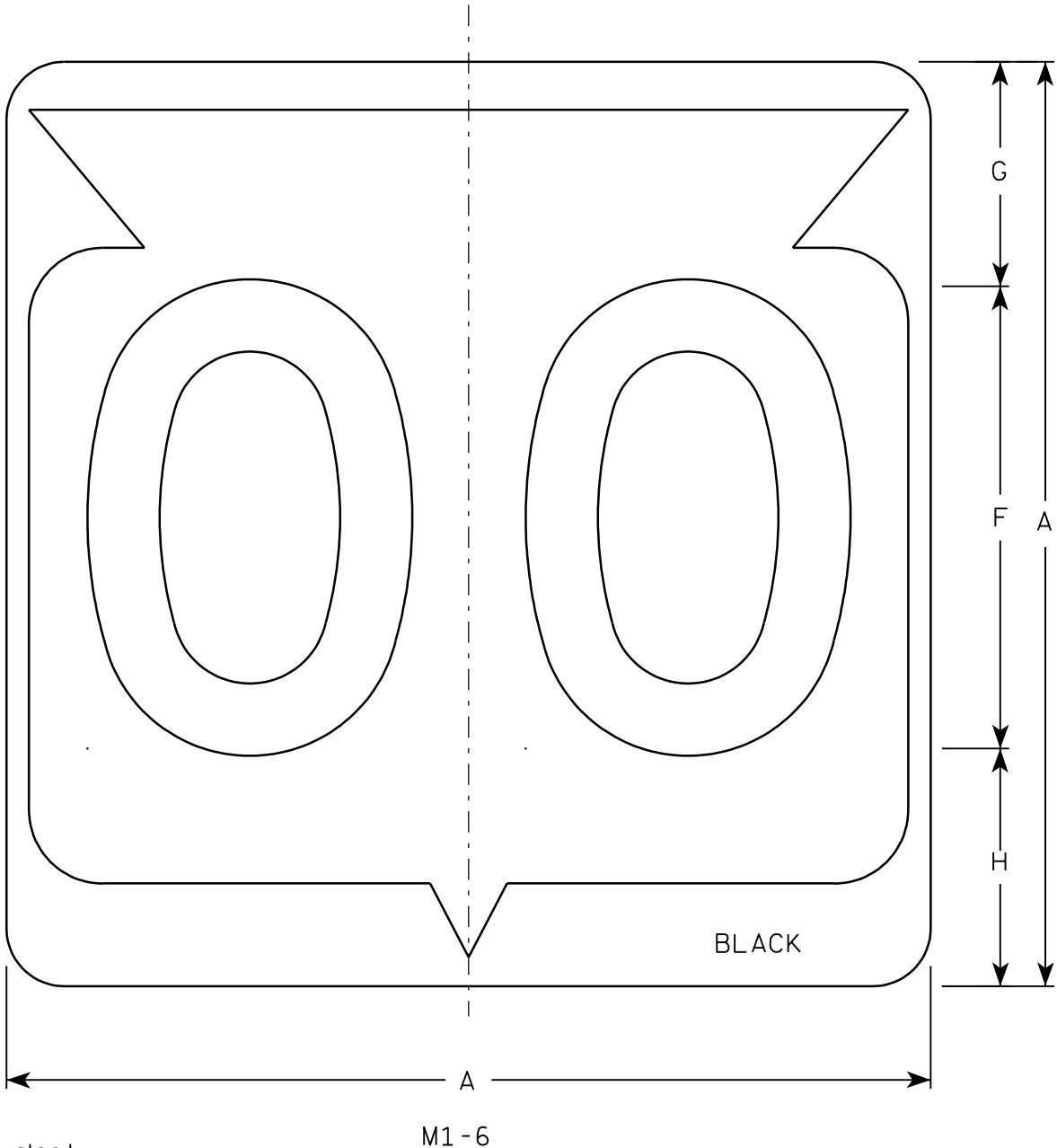
SIZE	M1 - 1	SIZE	M1 - 1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Area sq. ft.	Area sq. ft.	Area m ²	Area m ²
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 08/23/05 PLATE NO. M1-1.8

7



Metric equivalent
for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

PROJECT NO:

HWY:

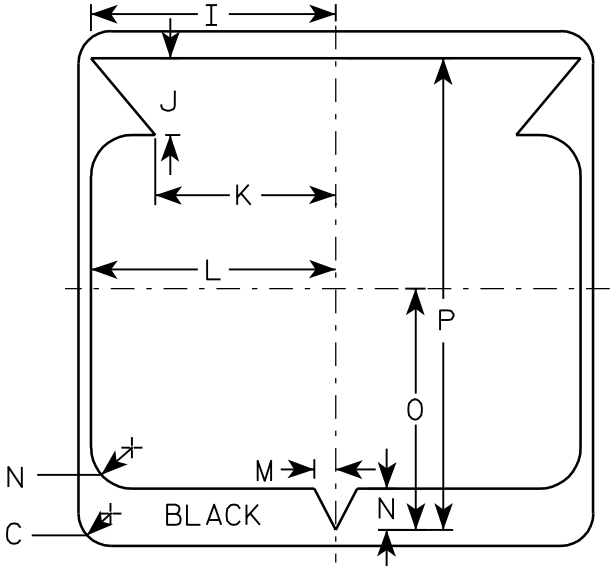
COUNTY:

SHEET NO: 142

E

NOTES

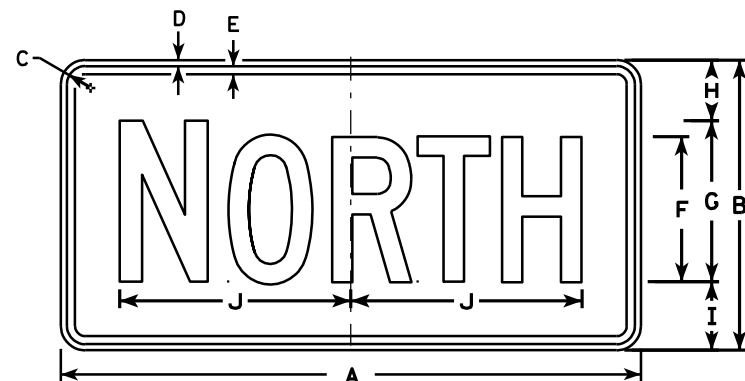
- Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black - See Note 6
Message - Black
- Message Series - See note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
- Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

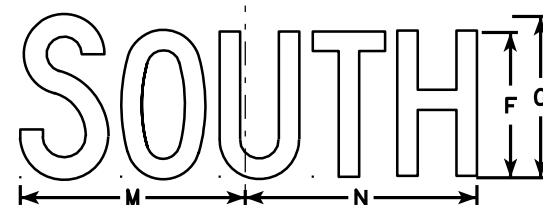
APPROVED
Chester J. Spang
for State Traffic Engineer
DATE 3/20/02 PLATE NO. M1-6.9



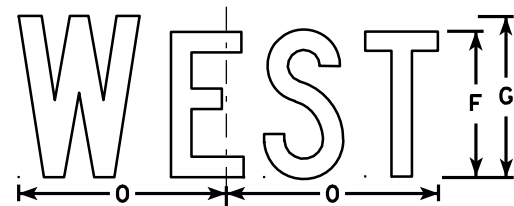
M3-1
MK3-1
M03-1



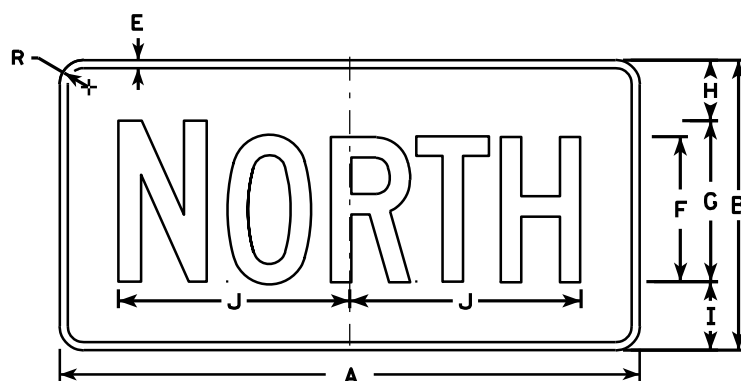
M3-2
MK3-2
M03-2



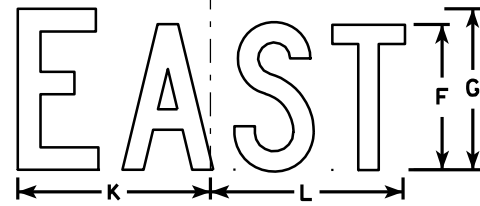
M3-3
MK3-3
M03-3



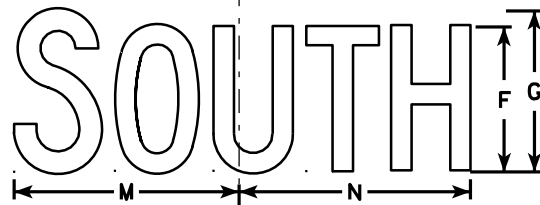
M3-4
MK3-4
M03-4



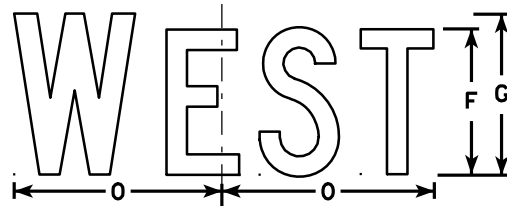
MB3-1
MG3-1
MM3-1
MN3-1



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



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



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

NOTES

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

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

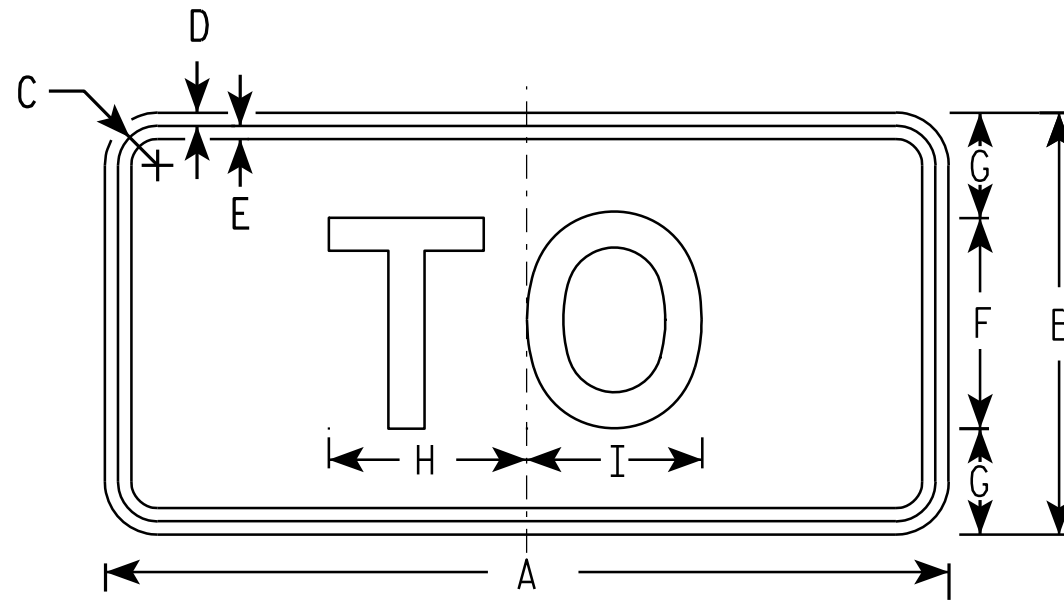
PROJECT NO: HWY: COUNTY: SHEET NO: 143 E

STANDARD SIGNS M3-1 thru M3-4 SERIES

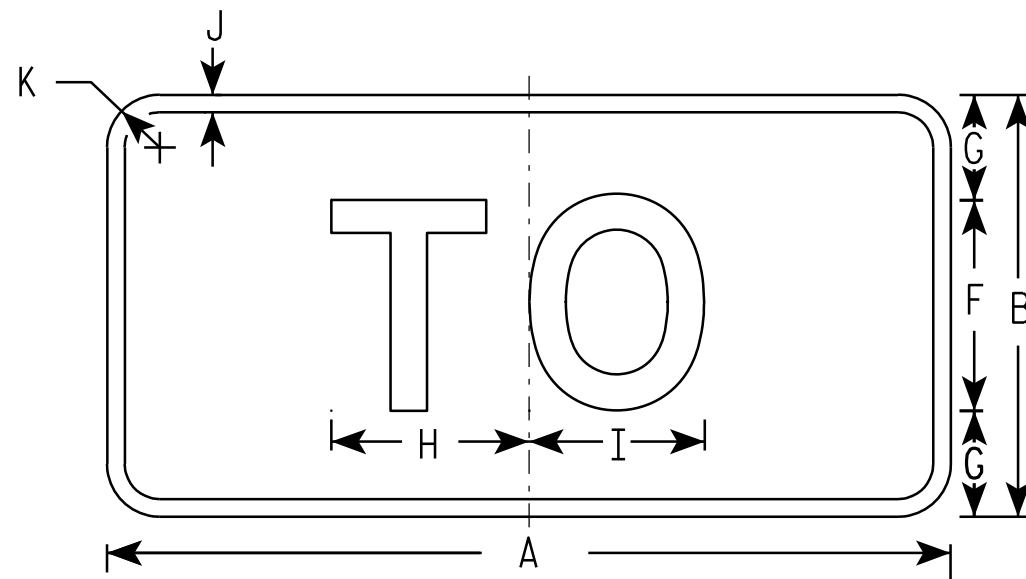
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



M4-5
MK4-5
MM4-5



MB4-5
MG4-5
MN4-5

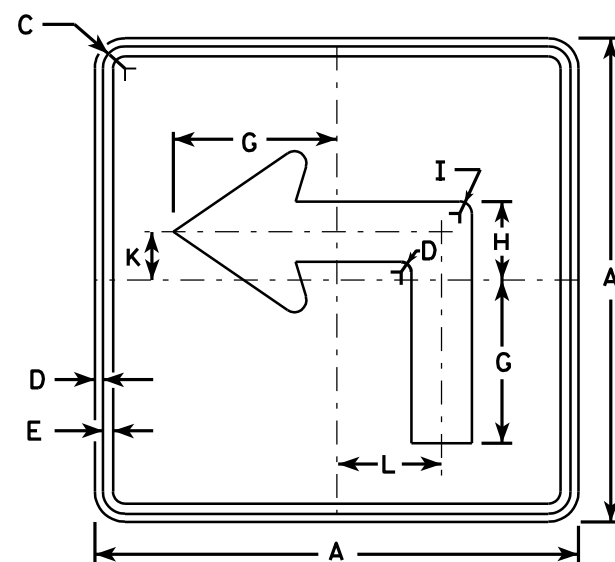
NOTES

- Sign is Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 5
Message - See note 5
- Message Series - E
- 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.
- M4-5 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB4-5 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG4-5 Background - Green
Message - White - Type H Reflective
MK4-5 Background - Green
Message - White - Type H Reflective
MM4-5 Background - White - Type H Reflective
Message - Green
MN4-5 Background - Brown
Message - White - Type H Reflective

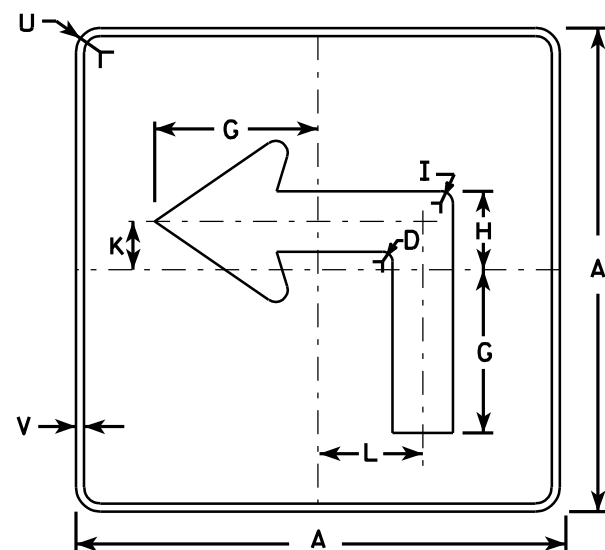
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2											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

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: 144 **E**

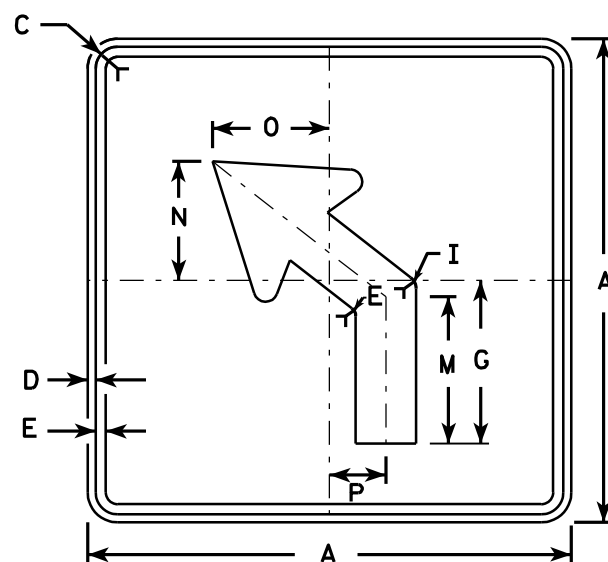
STANDARD SIGN M4 - 5	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/10/10	PLATE NO. M4-5.6



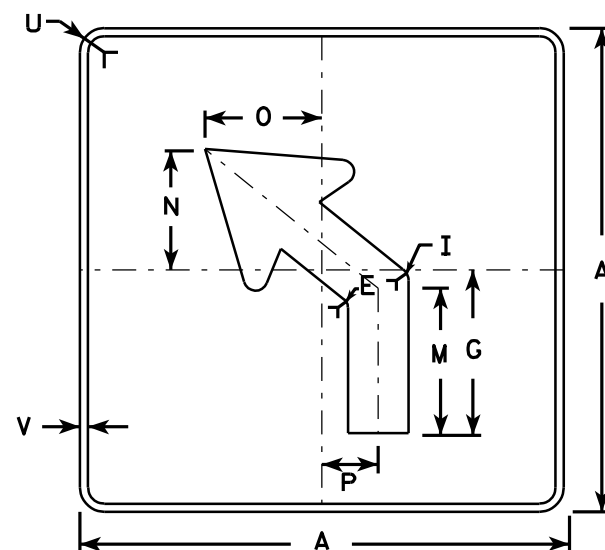
M5-1L
MK5-1L
MM5-1L
M05-1L
MP5-1L
MR5-1L



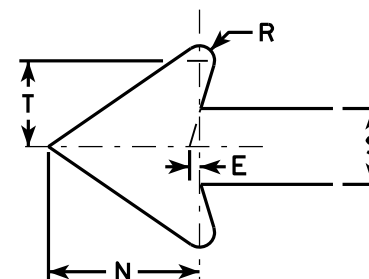
MB5-1L
MG5-1L
MN5-1L



M5-2L
MK5-2L
MM5-2L
M05-2L
MP5-2L
MR5-2L



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

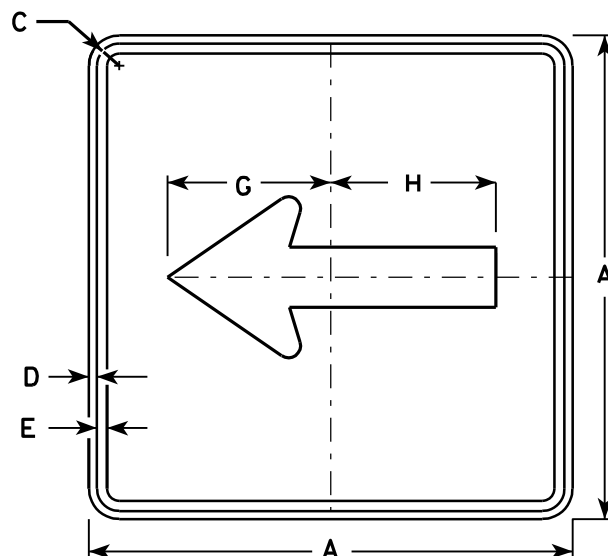


NOTES

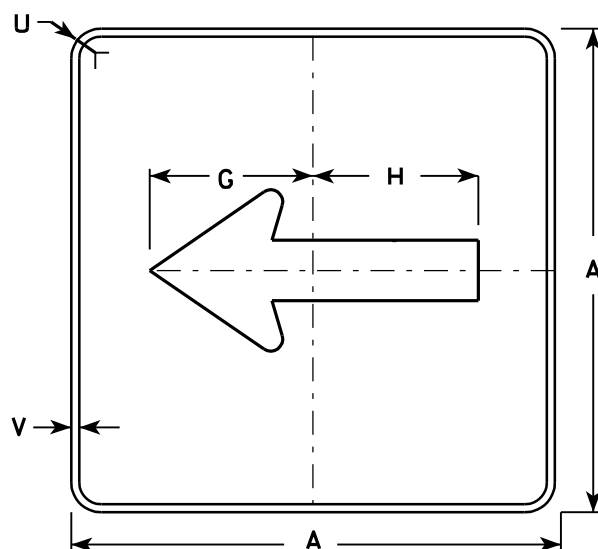
- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M5-1 and M5-2 Background - White - Type H Reflective
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
M05-1 and M05-2 Background - Orange - Type F Reflective
Message - Black
MP5-1 and MP5-2 Background - White - Type H Reflective
Message - Blue
MR5-1 and MR5-2 Background - Brown
Message - Yellow - Type H Reflective
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

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

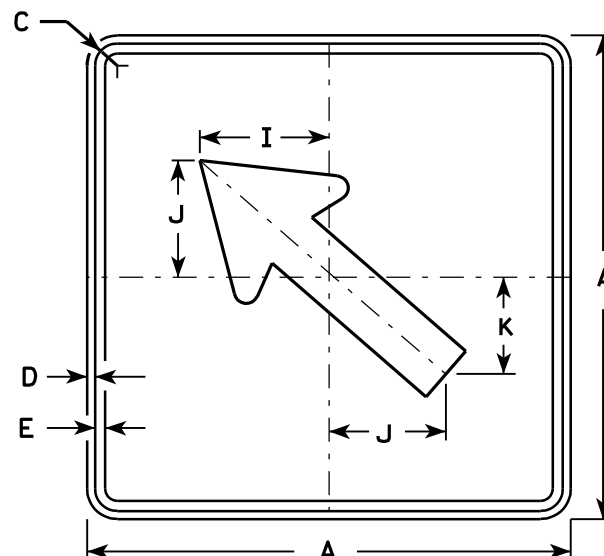
STANDARD SIGN	
M5-1 & M5-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 7/29/13	PLATE NO. M5-1.12



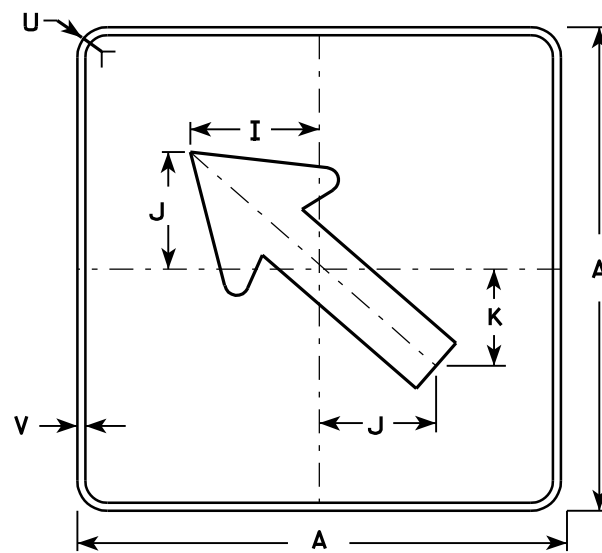
M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1



MB6-1
MG6-1
MN6-1



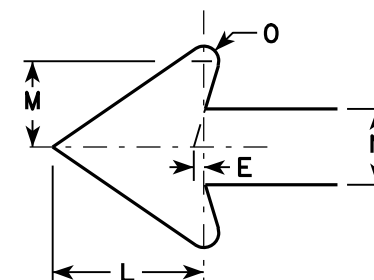
M6-2
MK6-2
MM6-2
MO6-2
MP6-2
MR6-2



MB6-2
MG6-2
MN6-2

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
 - Background - See note 4
 - Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White - Type H Reflective
Message - Black
 MB6-1 and MB6-2 Background - Blue
Message - White - Type H Reflective
 MG6-1 and MG6-2 Background - Green
Message - White - Type H Reflective
 MK6-1 and MK6-2 Background - Green
Message - White - Type H Reflective
 MM6-1 and MM6-2 Background - White - Type H Reflective
Message - Green
 MN6-1 and MN6-2 Background - Brown
Message - White - Type H Reflective
 MO6-1 and MO6-2 Background - Orange - Type F Reflective
Message - Black
 MP6-1 and MP6-2 Background - White - Type H Reflective
Message - Blue
 MR6-1 and MR6-2 Background - Brown
Message - Yellow - Type H Reflective



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

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-1.13

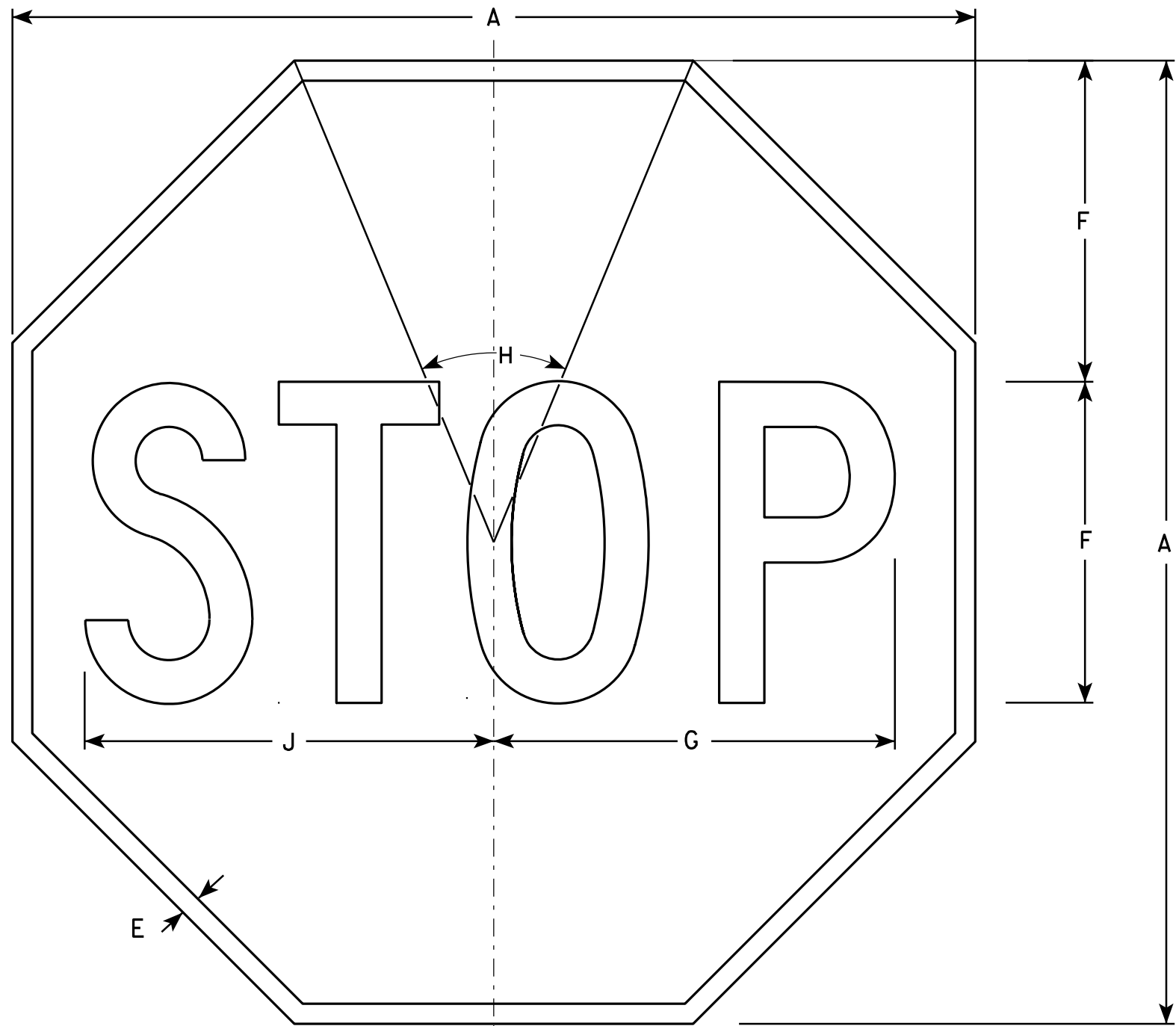
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 146

E



NOTES

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

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

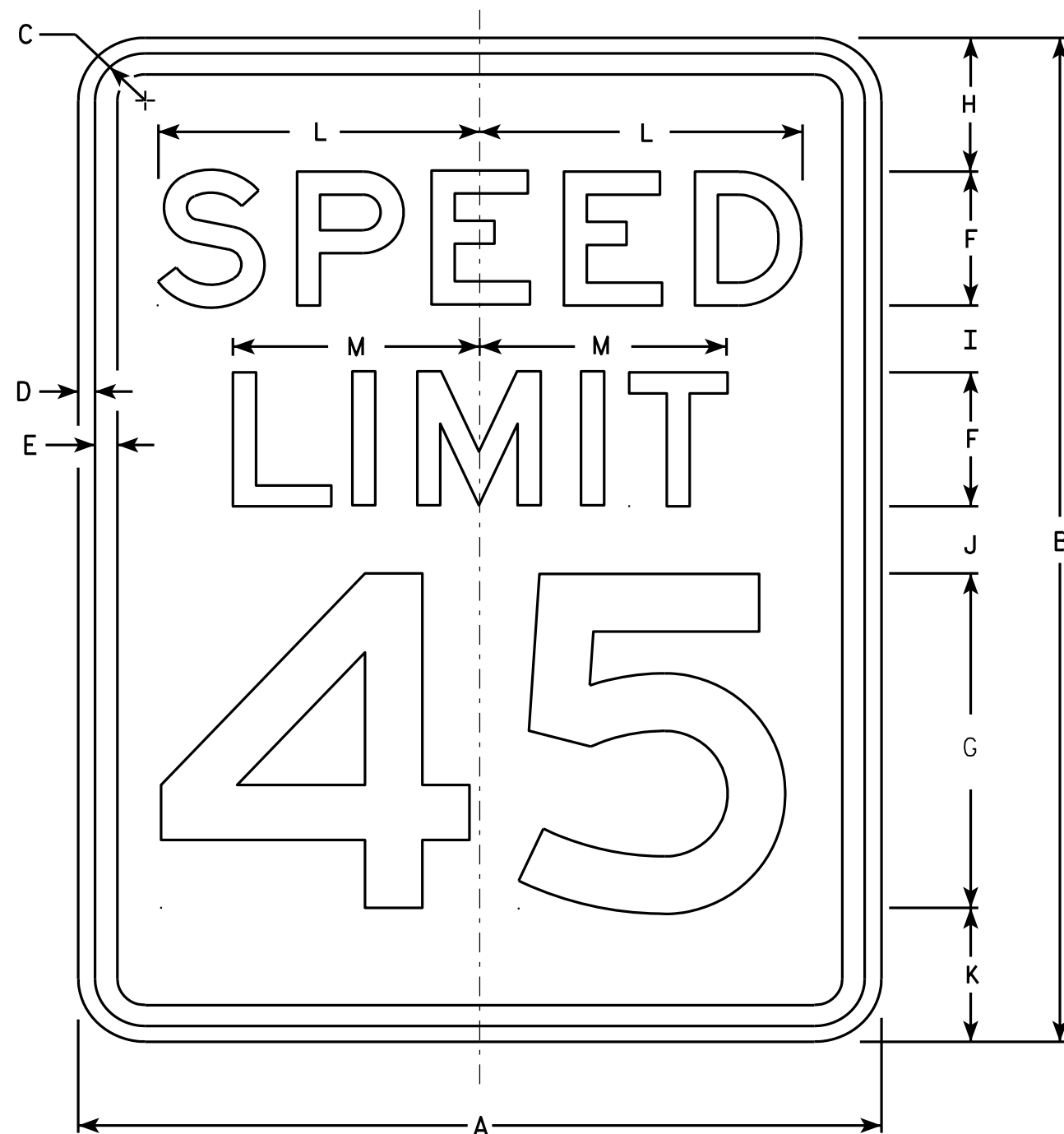
DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 147



R2-1

NOTES

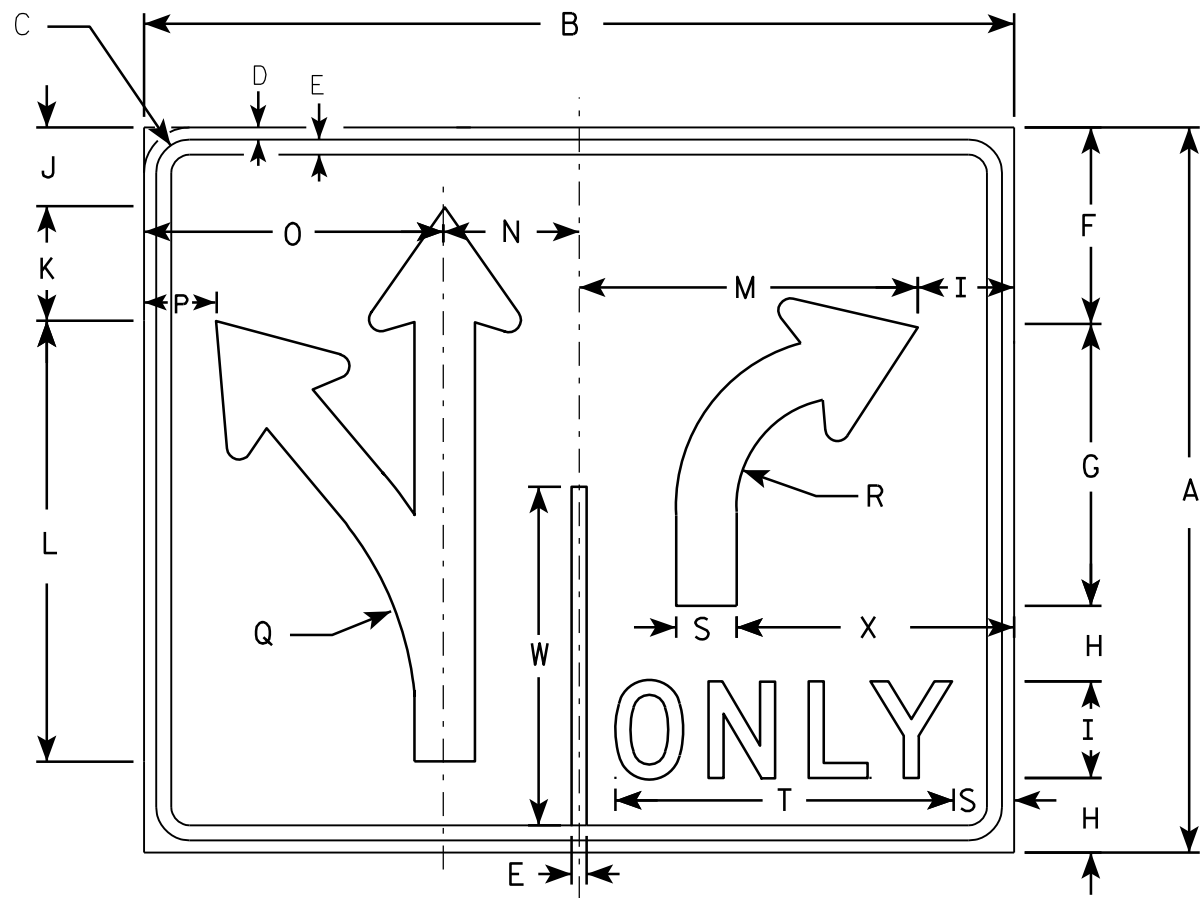
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

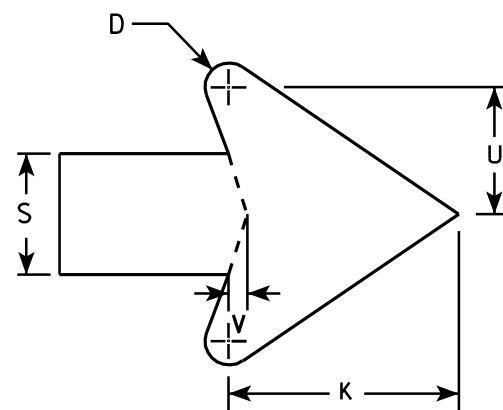
STANDARD SIGN R2-1

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

PROJECT NO: HWY: COUNTY: SHEET NO: 148 E



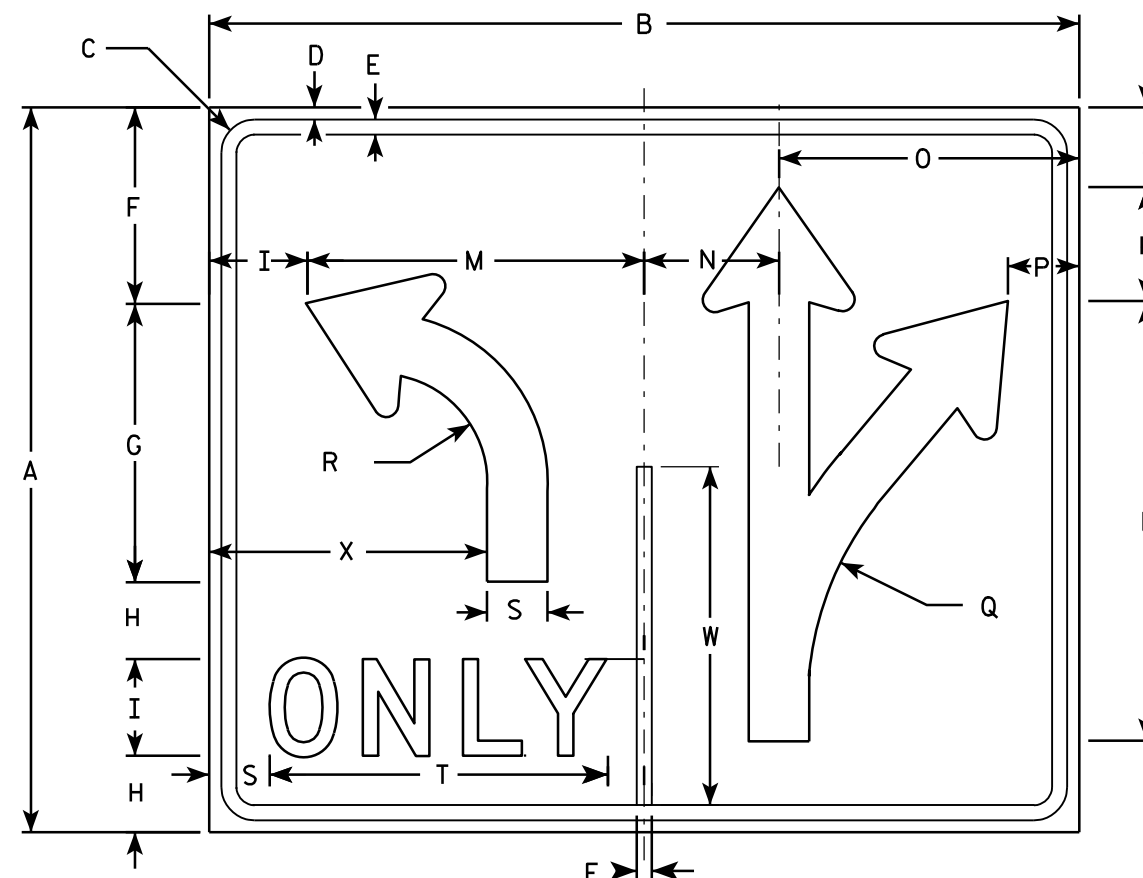
R3-8



ARROW DETAIL

NOTES

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



R3-8A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3⁄8	1⁄2	5⁄8	8 1⁄8	11 5⁄8	3 1⁄8	4	3 1⁄4	4 3⁄4	18 1⁄4	14	5 5⁄8	12 3⁄8	3	13 1⁄4	4 1⁄2	2 1⁄2	14	2 5⁄8	3⁄8	14	11 1⁄2			7.5
2M	30	36	1 3⁄8	1⁄2	5⁄8	8 1⁄8	11 5⁄8	3 1⁄8	4	3 1⁄4	4 3⁄4	18 1⁄4	14	5 5⁄8	12 3⁄8	3	13 1⁄4	4 1⁄2	2 1⁄2	14	2 5⁄8	3⁄8	14	11 1⁄2			7.5
3																											
4	48	54	2 1⁄4	3⁄4	1	13 1⁄4	18 1⁄2	5 1⁄8	6	5 1⁄4	7 1⁄8	29 1⁄8	21	8 3⁄8	18 5⁄8	4 3⁄8	21 7⁄8	7 1⁄4	3 3⁄4	20 5⁄8	4	5⁄8	22 3⁄8	17 1⁄4			18.0
5	48	54	2 1⁄4	3⁄4	1	13 1⁄4	18 1⁄2	5 1⁄8	6	5 1⁄4	7 1⁄8	29 1⁄8	21	8 3⁄8	18 5⁄8	4 3⁄8	21 7⁄8	7 1⁄4	3 3⁄4	20 5⁄8	4	5⁄8	22 3⁄8	17 1⁄4			18.0

STANDARD SIGN R3-8 & R3-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8.5

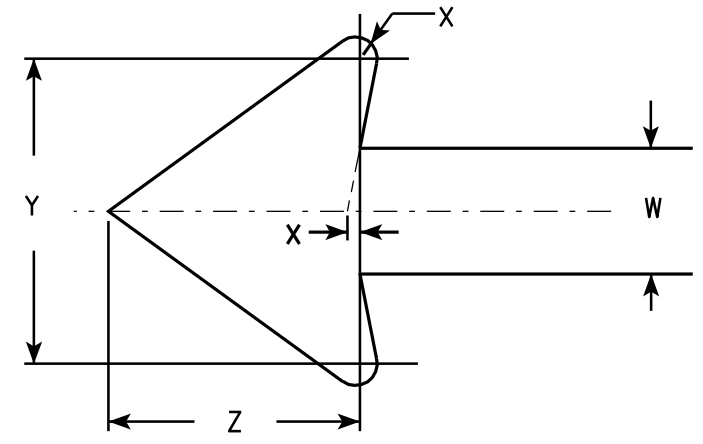
PROJECT NO: HWY: COUNTY: SHEET NO: 149 E



R7-53

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. R7-53D (double arrow)
R7-53L (left arrow)
R7-53R (right arrow)

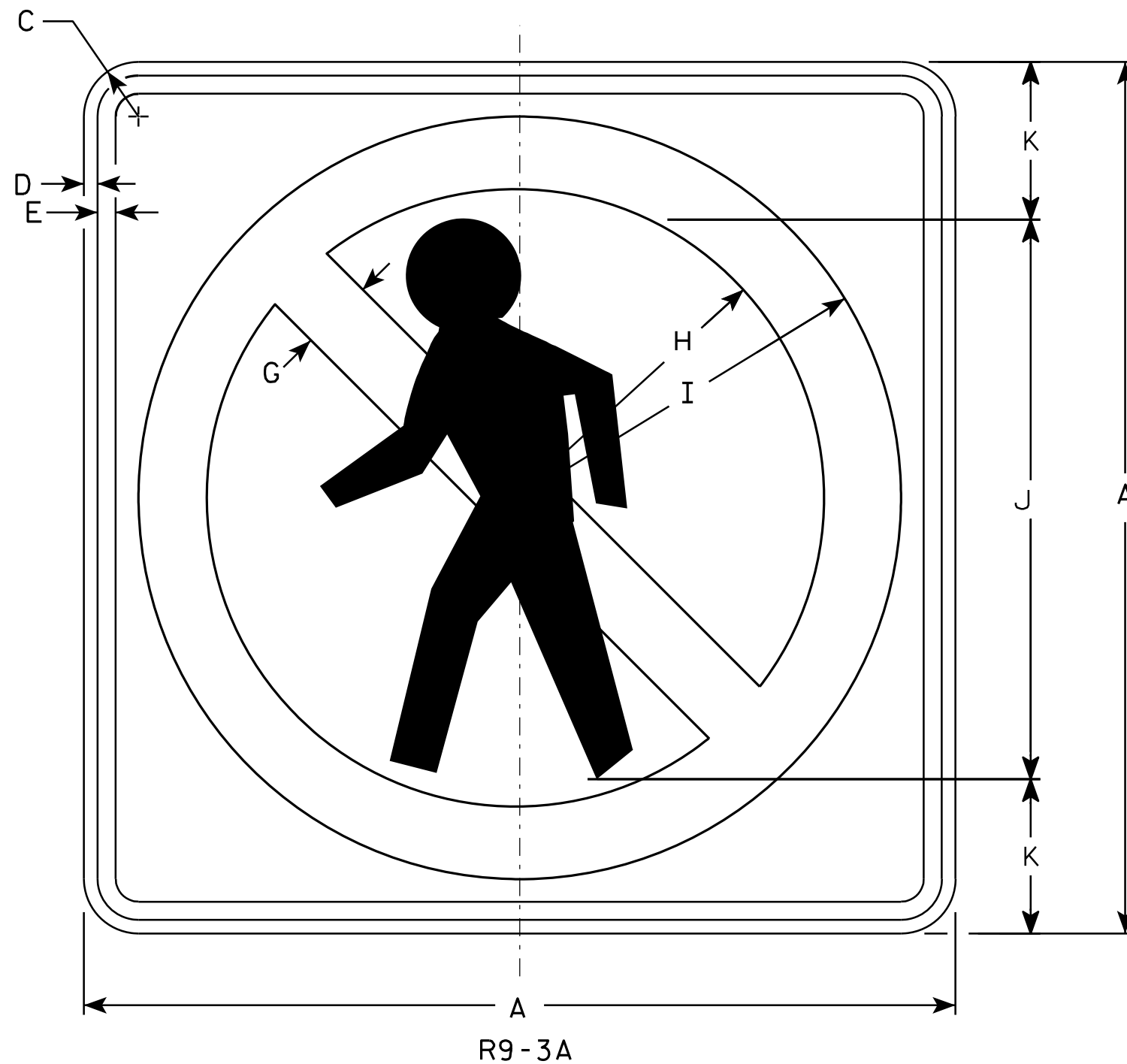


ARROW DETAIL

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	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 5/8	1 3/4	1/4	4 1/2	2 3/8	3 7/8	3/4	1/8	1 3/4	1 1/2	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	3 3/8	1 1/2	5/8	5 3/8	3	5 7/8	1 1/8	1/4	2 5/8	2 1/4	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	4	2	5/8	6 5/8	3 5/8	7 3/4	1 1/2	1/4	3 1/2	3	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	4	2	5/8	6 5/8	3 5/8	7 3/4	1 1/2	1/4	3 1/2	3	5.0
4																											
5																											

STANDARD SIGN R7-53	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/31/2011	PLATE NO. R7-53.6

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 150	E
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NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	18		1 1/8	3/8	3/8		1 1/2	6 1/4	7 7/8	12	3																2.25
2M	18		1 1/8	3/8	3/8		1 1/2	6 1/4	7 7/8	12	3																2.25
3																											
4	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	15	4																4.00
5																											

STANDARD SIGN R9-3A

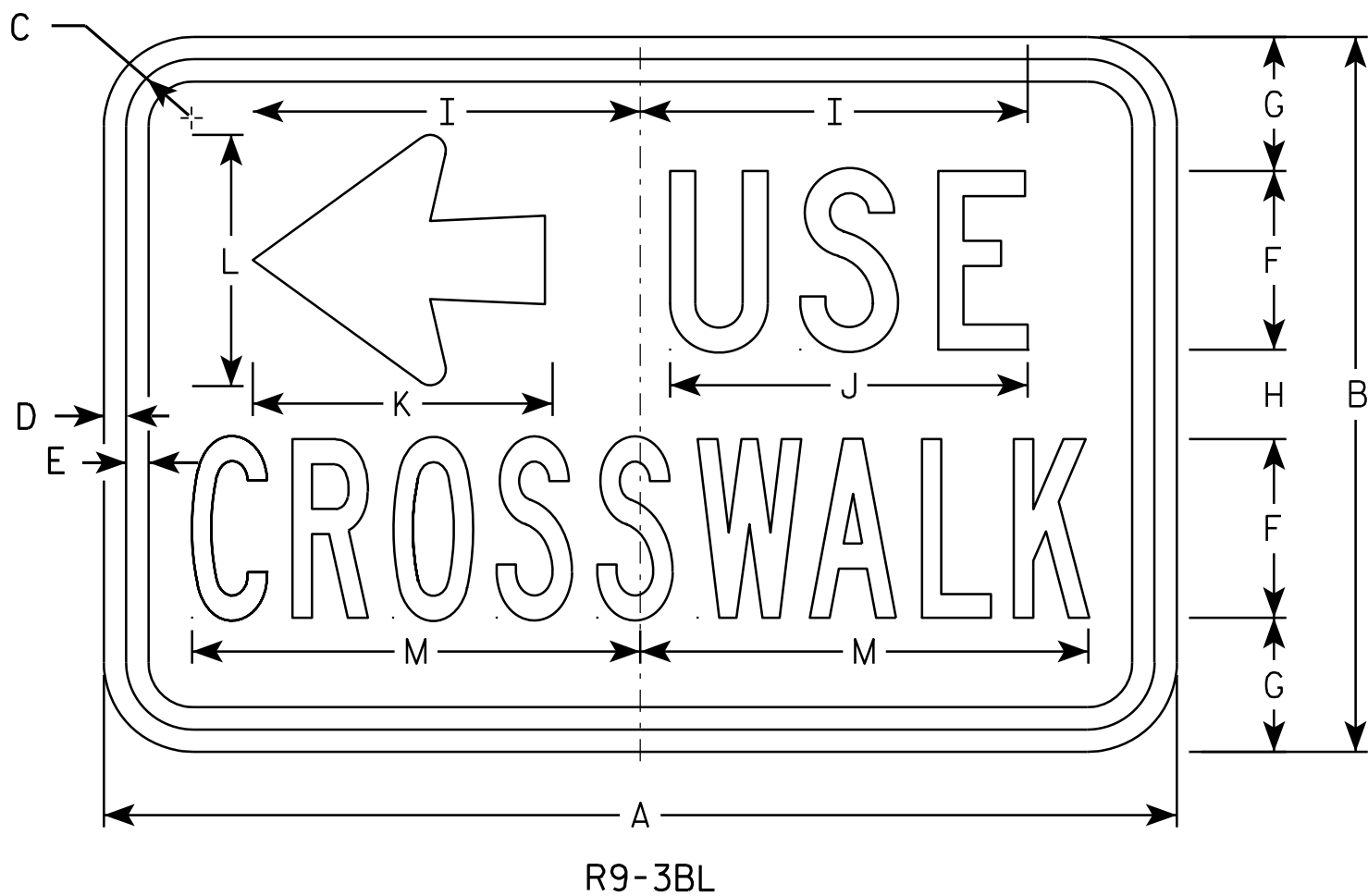
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/4/10 PLATE NO. R9-3A.2

PROJECT NO: HWY: COUNTY: SHEET NO: 151 E

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

Metric equivalent
for this sign is:

SIZE	
1	
2	450 mm X 300 mm
3	
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	18	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	6 1/2	6	5	4 1/4	7 1/2														1.5	0.14
3																												
4																												
5																												

PROJECT NO:

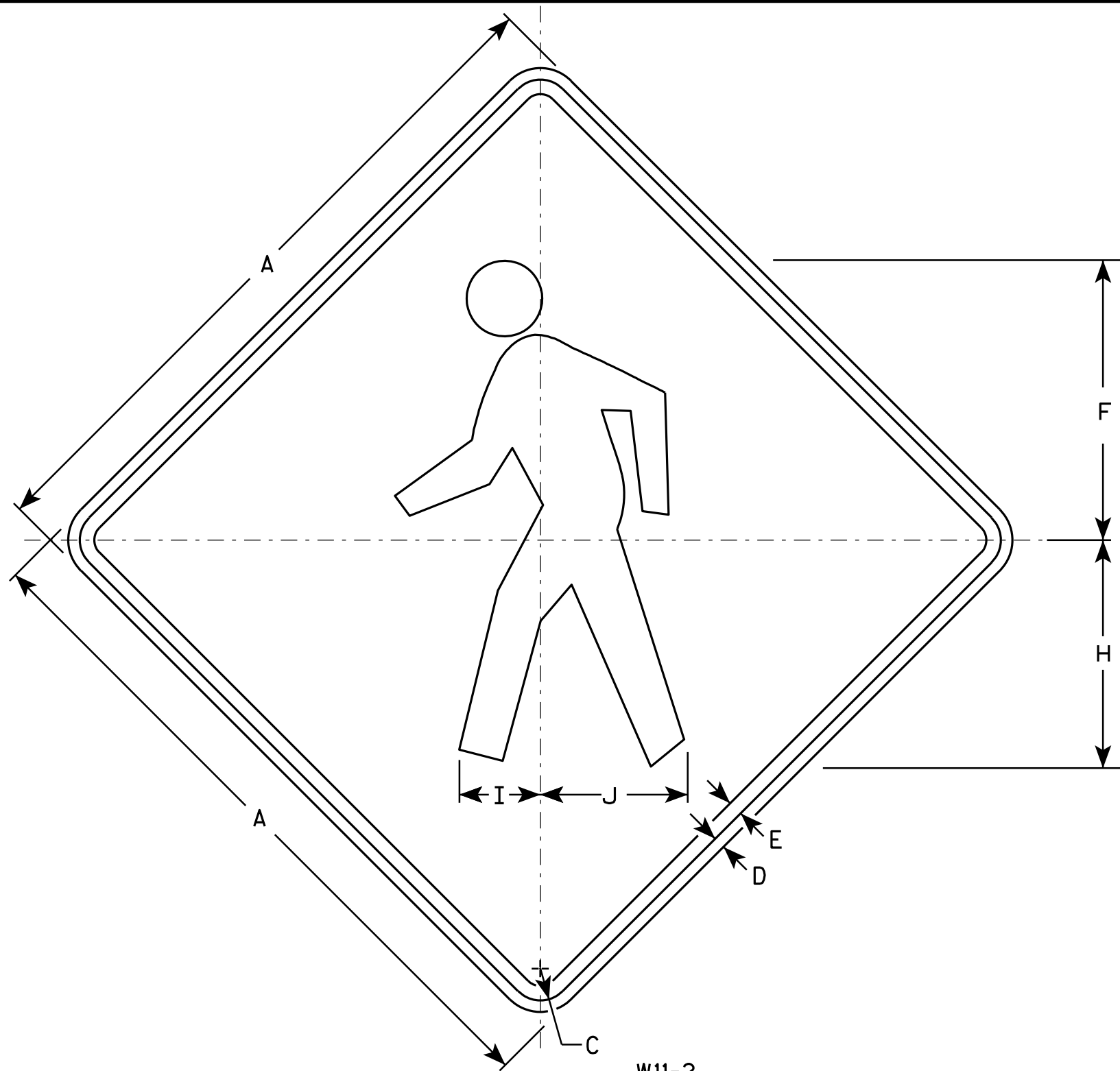
HWY:

COUNTY:

SHEET NO: 152

E

7



NOTES

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

W11-2

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

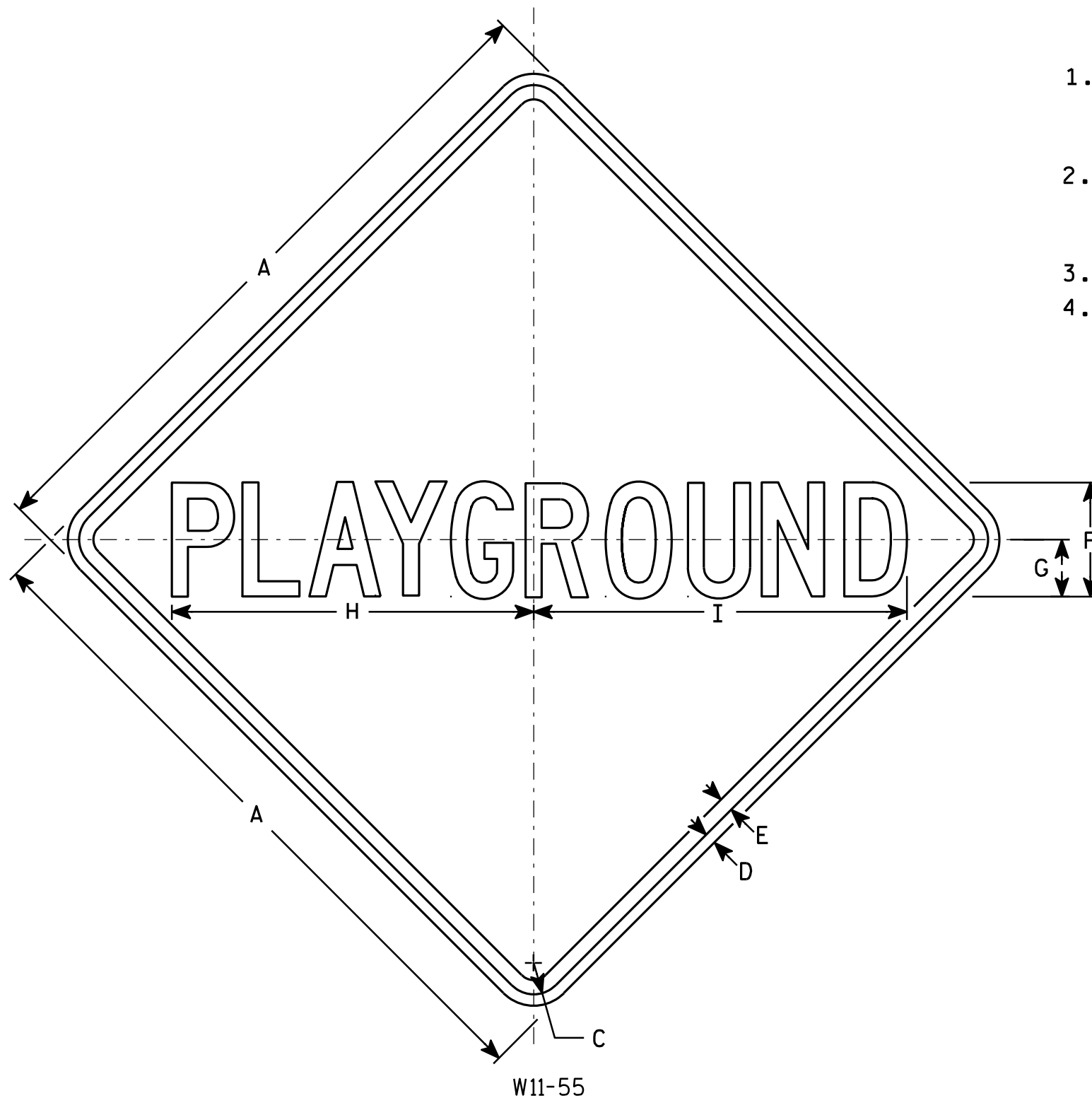
STANDARD SIGN W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO: HWY: COUNTY: SHEET NO: 153 E



W11-55

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 ³ / ₈	1/2	⁵ / ₈	5	2 1/2	15 ⁷ / ₈	16 ³ / ₈																		6.25
2S	30		1 ³ / ₈	1/2	⁵ / ₈	5	2 1/2	15 ⁷ / ₈	16 ³ / ₈																		6.25
2M	30		1 ³ / ₈	1/2	⁵ / ₈	5	2 1/2	15 ⁷ / ₈	16 ³ / ₈																		6.25
3																											
4																											
5																											

STANDARD SIGN
W11-55

WISCONSIN DEPT OF TRANSPORTATION

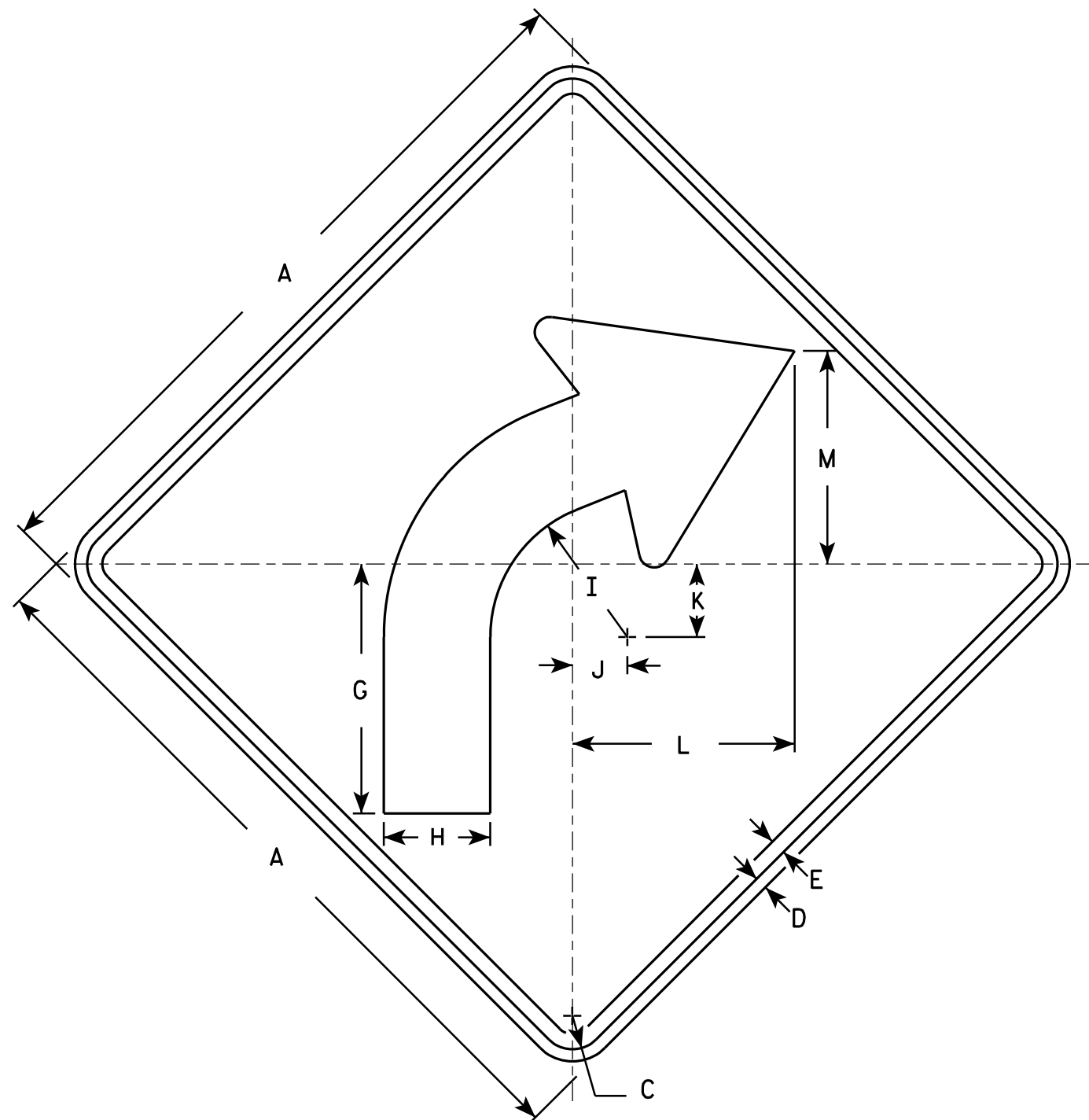
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W11-55.7

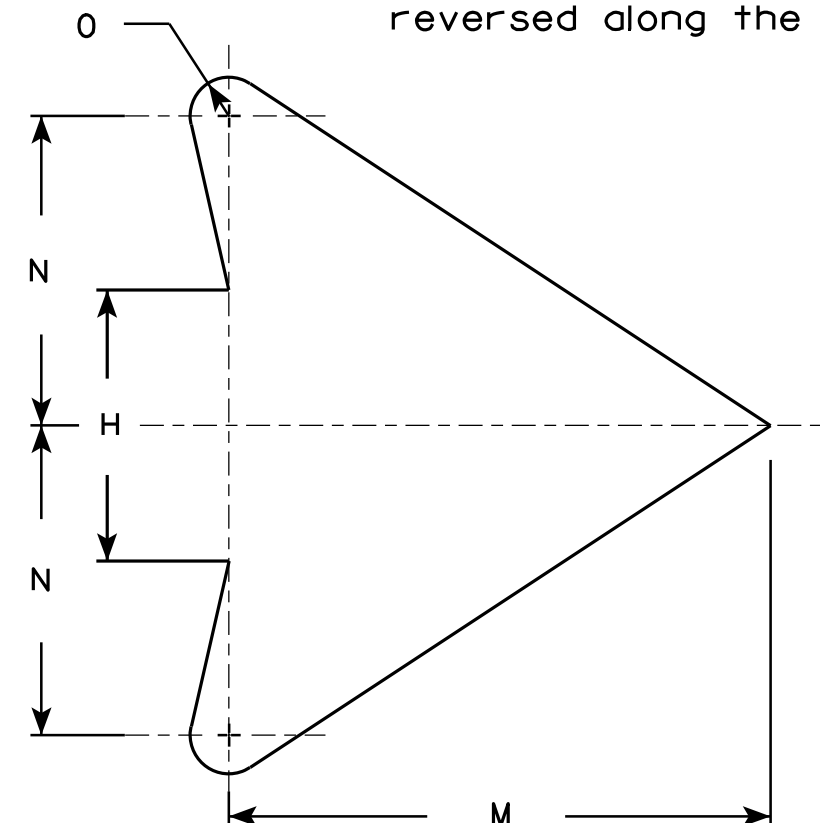
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 154	E
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NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

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

STANDARD SIGN W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

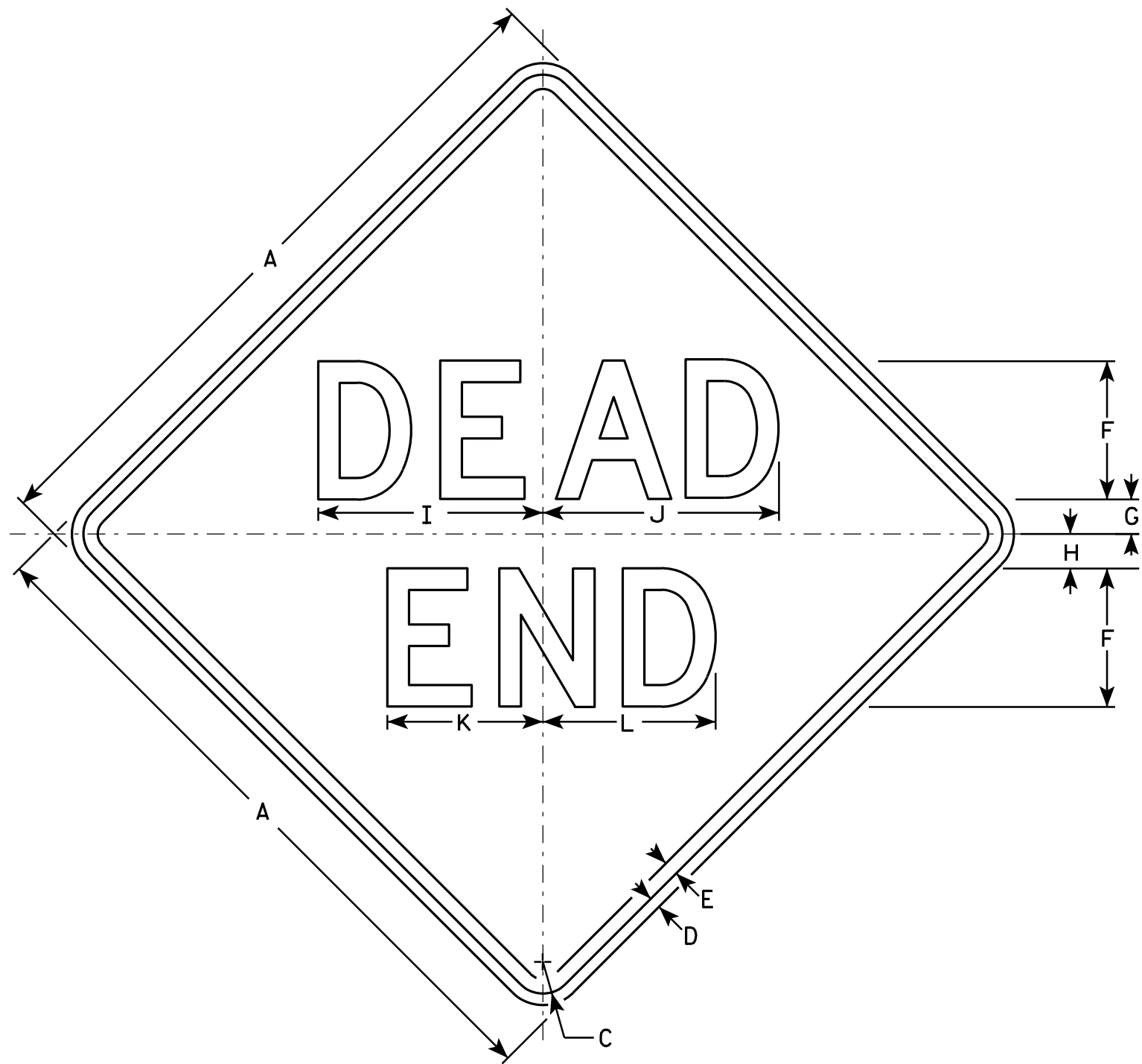
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 155

E



W14-1

NOTES

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

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

STANDARD SIGN
W14-1

WISCONSIN DEPT OF TRANSPORTATION

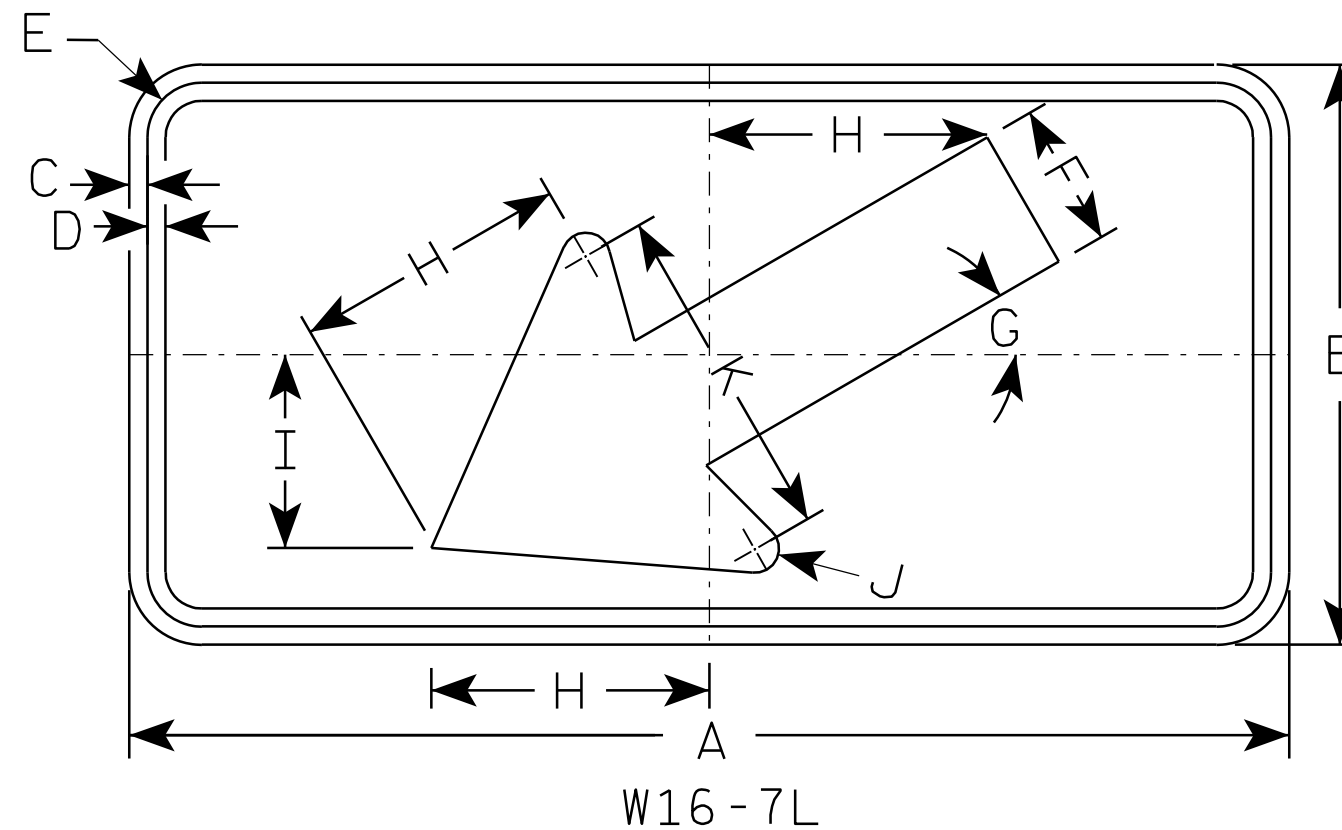
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W14-1.7

PROJECT NO: HWY: COUNTY: SHEET NO: 156 E

NOTES

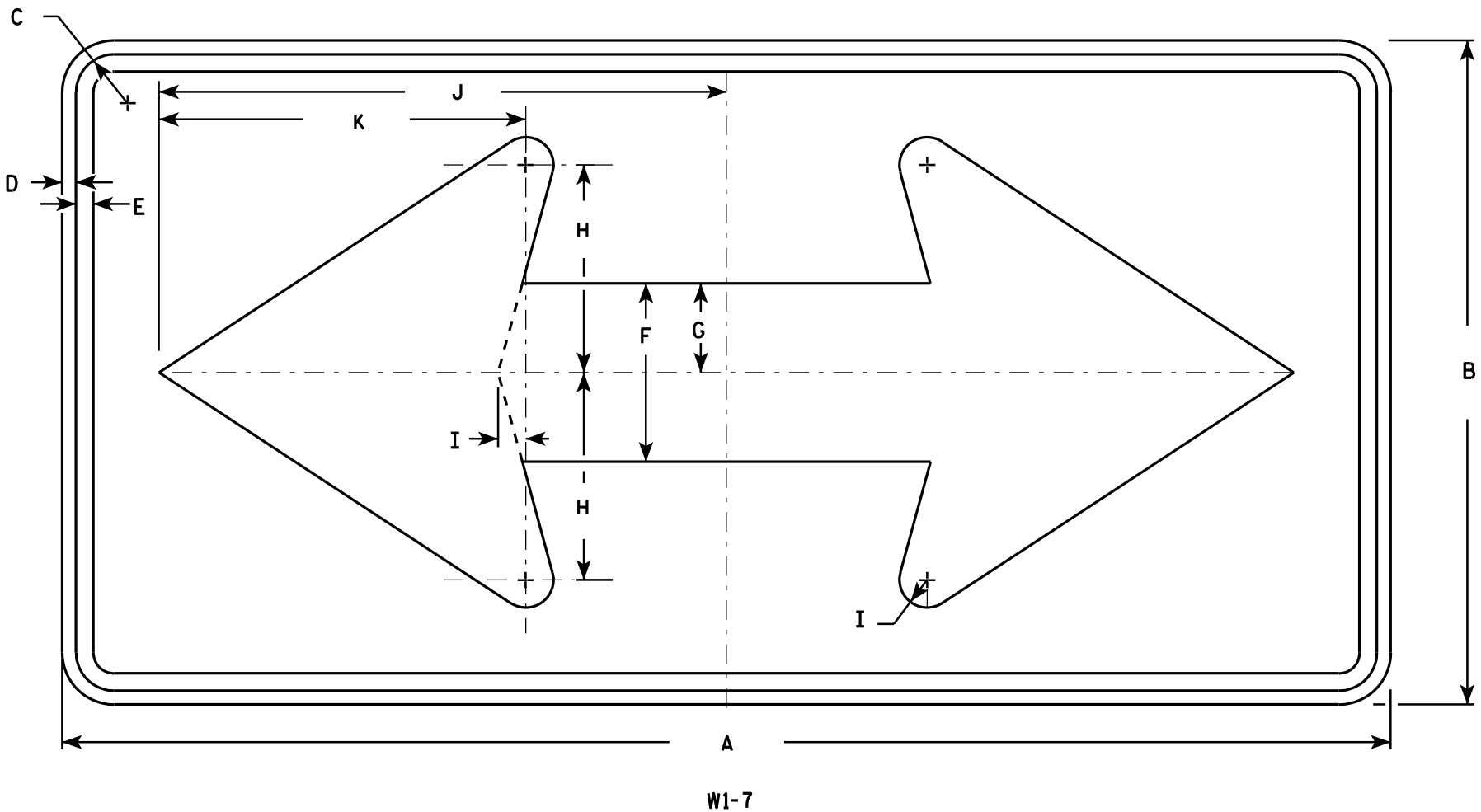
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W16-7R is the same as W16-L except the arrow is reversed along the vertical centerline.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4																											8
5																											8

STANDARD SIGN	
W16-7	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/02/10	PLATE NO. W16-7.5

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 157	E
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NOTES

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

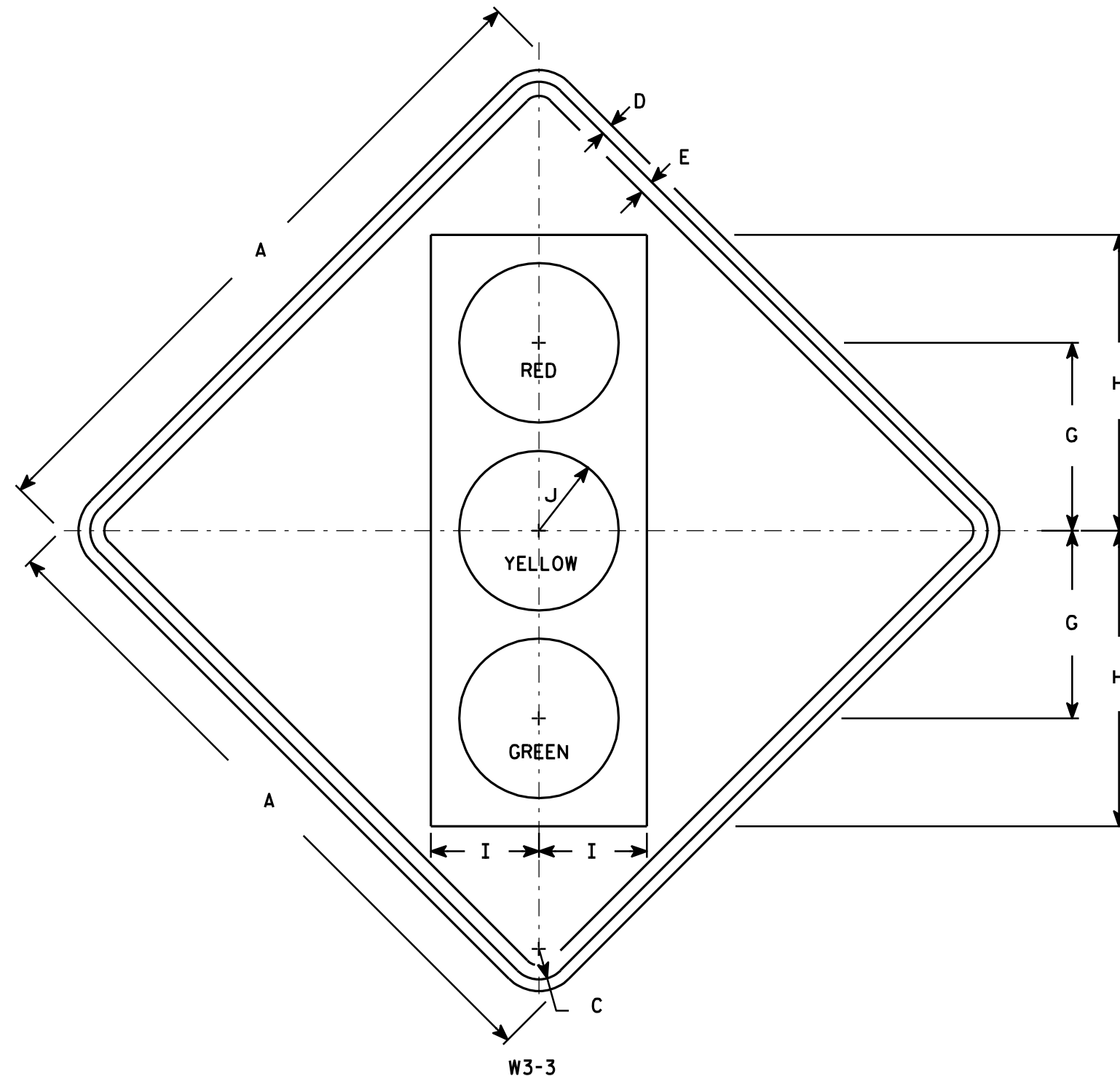
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30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

STANDARD SIGN
W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



NOTES

- 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

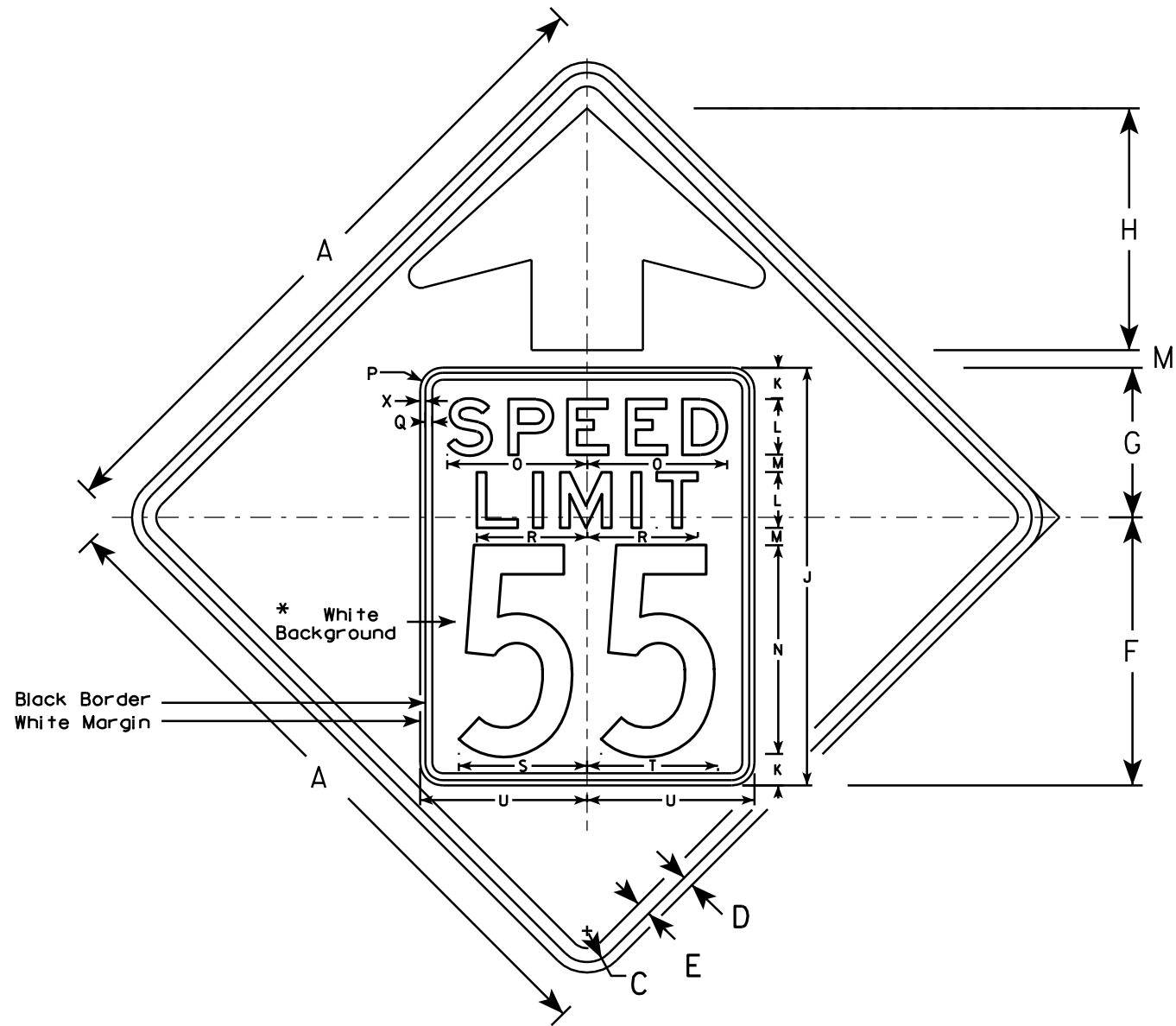
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 159

E

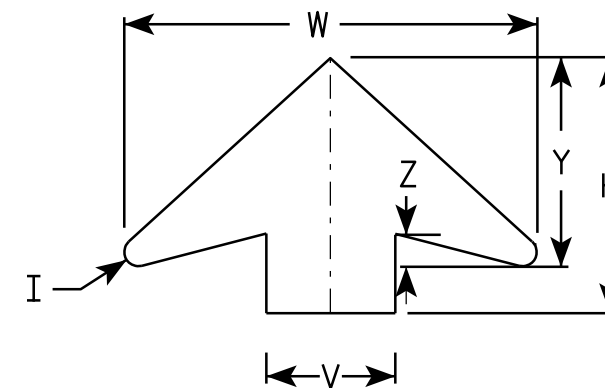


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
Background - YELLOW*
Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5⁄8	5⁄8	3⁄4	14 1⁄2	9 1⁄2	11 1⁄2	5⁄8	24	2	3	1	12	7 1⁄8	1 1⁄2	3⁄8	5 3⁄4	7 1⁄4	7 1⁄8	9	6	19 1⁄4	3⁄8	9 3⁄4	1 5⁄8	9.0
2M	36		1 5⁄8	5⁄8	3⁄4	14 1⁄2	9 1⁄2	11 1⁄2	5⁄8	24	2	3	1	12	7 1⁄8	1 1⁄2	3⁄8	5 3⁄4	7 1⁄4	7 1⁄8	9	6	19 1⁄4	3⁄8	9 3⁄4	1 5⁄8	9.0
3	36		1 5⁄8	5⁄8	3⁄4	14 1⁄2	9 1⁄2	11 1⁄2	5⁄8	24	2	3	1	12	7 1⁄8	1 1⁄2	3⁄8	5 3⁄4	7 1⁄4	7 1⁄8	9	6	19 1⁄4	3⁄8	9 3⁄4	1 5⁄8	9.0
4	48		2 1⁄4	3⁄4	1	19 1⁄4	10 3⁄4	17 3⁄8	7⁄8	30	2 1⁄4	4	1 1⁄4	15	10	1 5⁄8	1⁄2	8	9 1⁄4	9 3⁄8	12	8	25 5⁄8	3⁄8	13	2	16.0
5	48		2 1⁄4	3⁄4	1	19 1⁄4	10 3⁄4	17 3⁄8	7⁄8	30	2 1⁄4	4	1 1⁄4	15	10	1 5⁄8	1⁄2	8	9 1⁄4	9 3⁄8	12	8	25 5⁄8	3⁄8	13	2	16.0

STANDARD SIGN

W3-5

WISCONSIN DEPT OF TRANSPORTATION

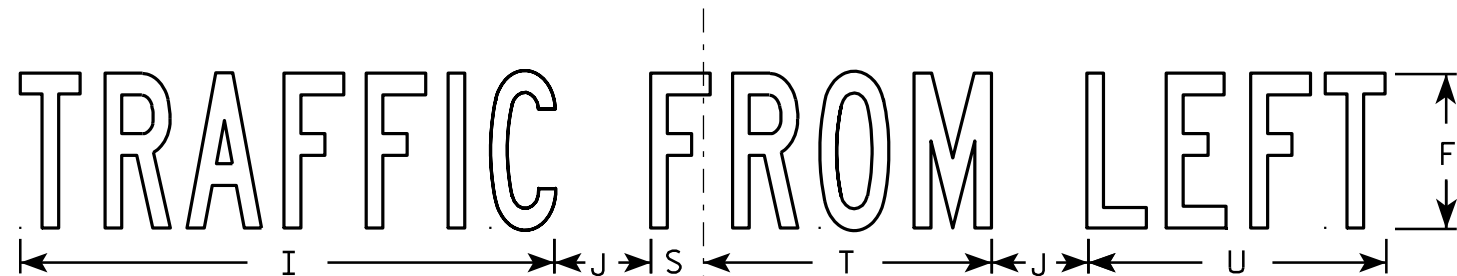
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

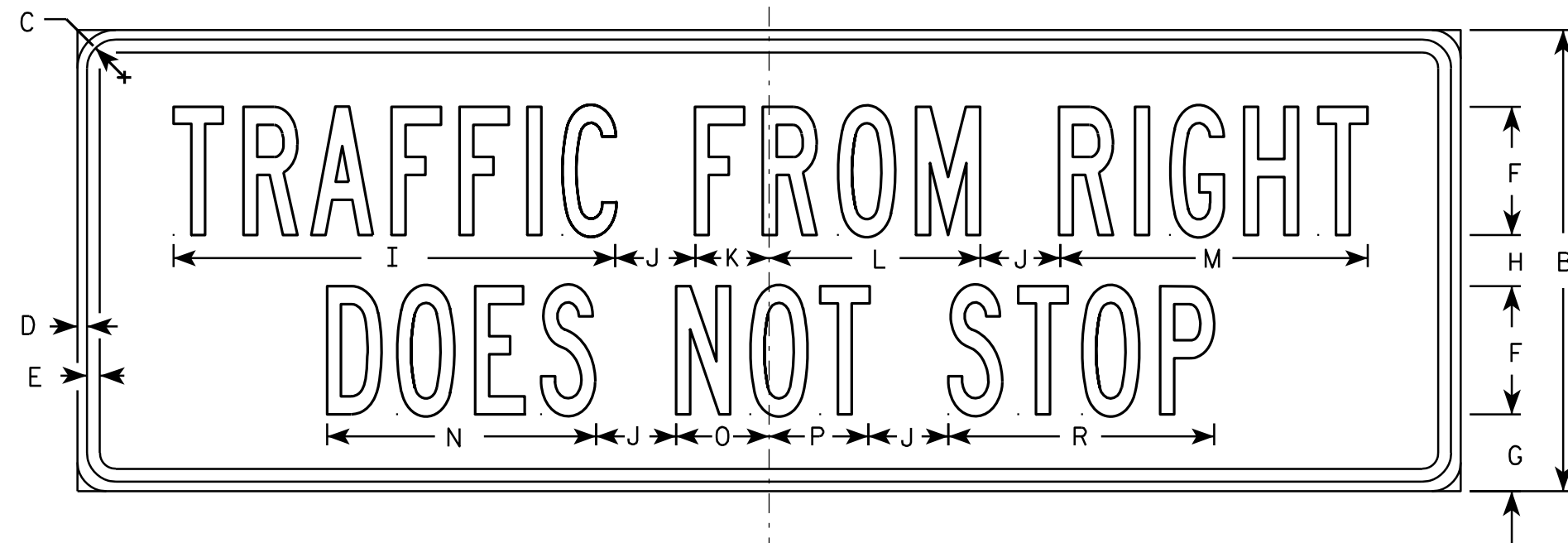
PROJECT NO:

SHEET NO: 160

E



W4-4AL



W4-4AR

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	10 3/8	1 1/2	1 3/4	4 7/8	7 1/4	6 1/4	2 1/4	2 1/4		6 1/4	1	5 5/8	5 3/4						2.5
2M	30	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	10 3/8	1 1/2	1 3/4	4 7/8	7 1/4	6 1/4	2 1/4	2 1/4		6 1/4	1	5 5/8	5 3/4						2.5
3	42	15	1 1/8	3/8	1/2	4	2 5/8	1 3/4	13 7/8	2 3/8	2 1/8	6 3/4	9 3/4	8 3/8	2 3/4	3 3/8		8 3/8	1 1/8	7 3/4	7 3/4						4.4
4	54	18	1 1/8	3/8	1/2	5	3	2	17 1/4	3 1/8	2 7/8	8 1/4	12	10 1/2	3 5/8	3 7/8		10 3/8	1 3/4	9 3/8	9 5/8						6.8
5																											

STANDARD SIGN
W4-4AL & W4-4AR

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-4A.2

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 161

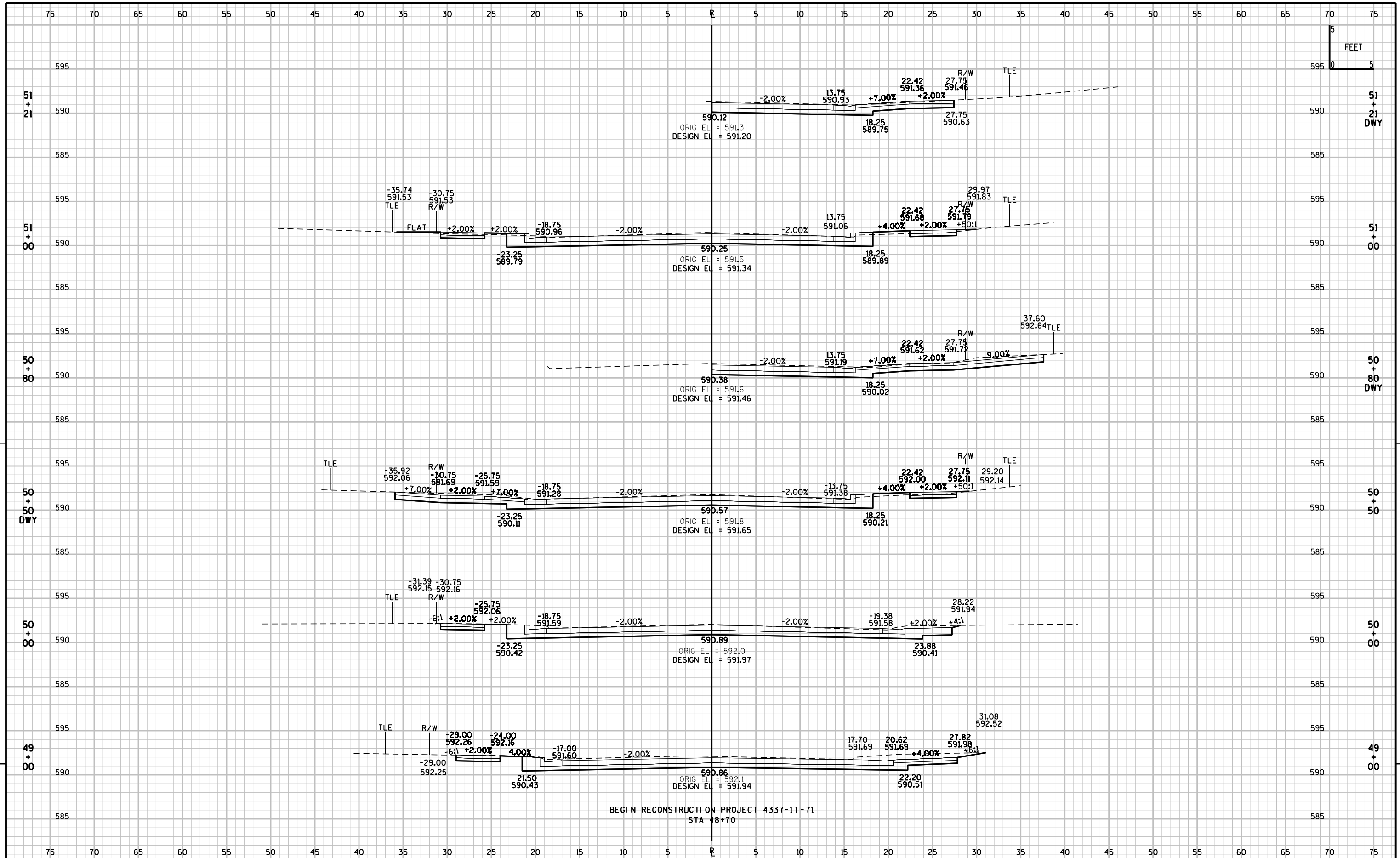
E

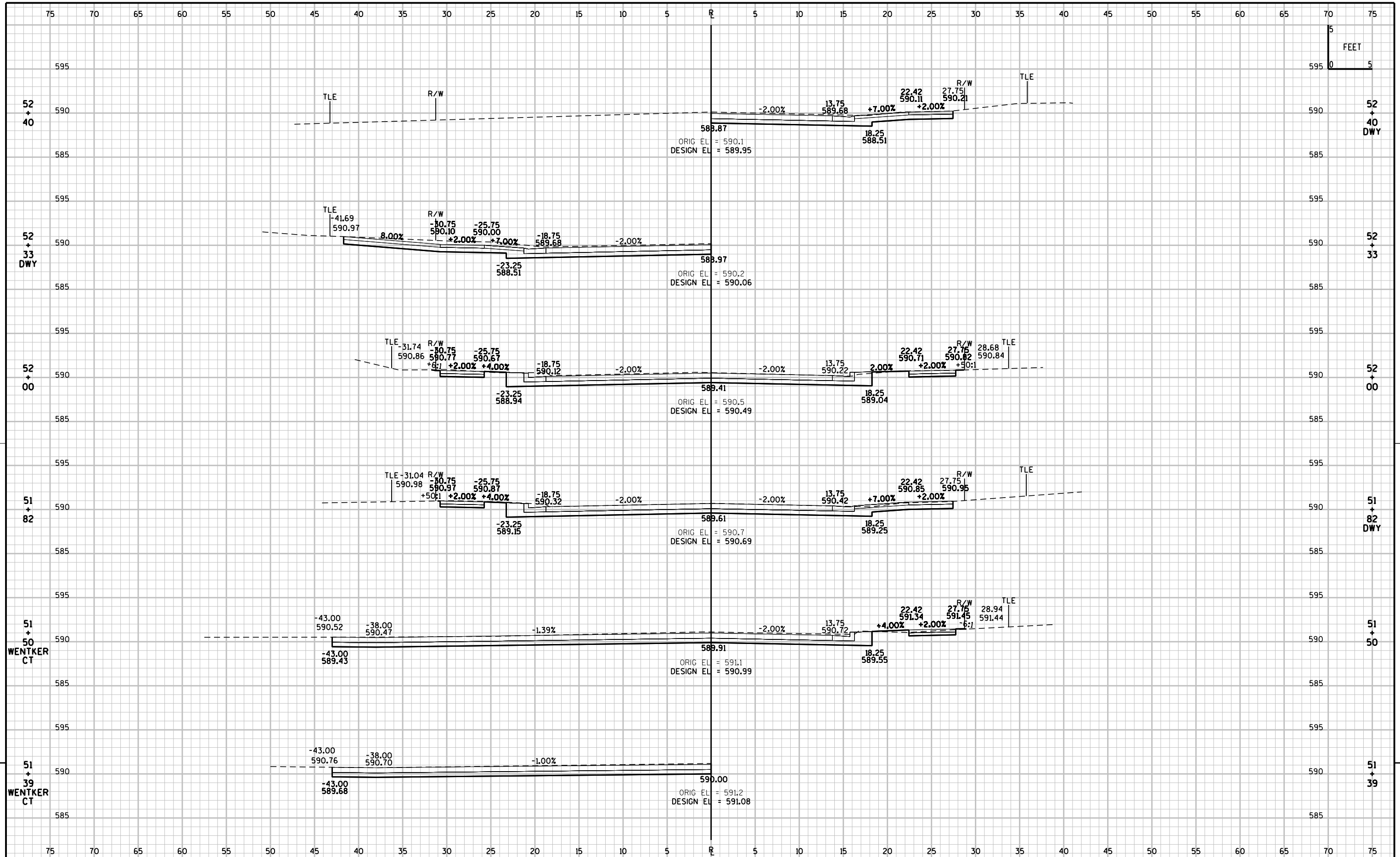
14TH STREET - 4337-11-71 - CATEGORY 0010

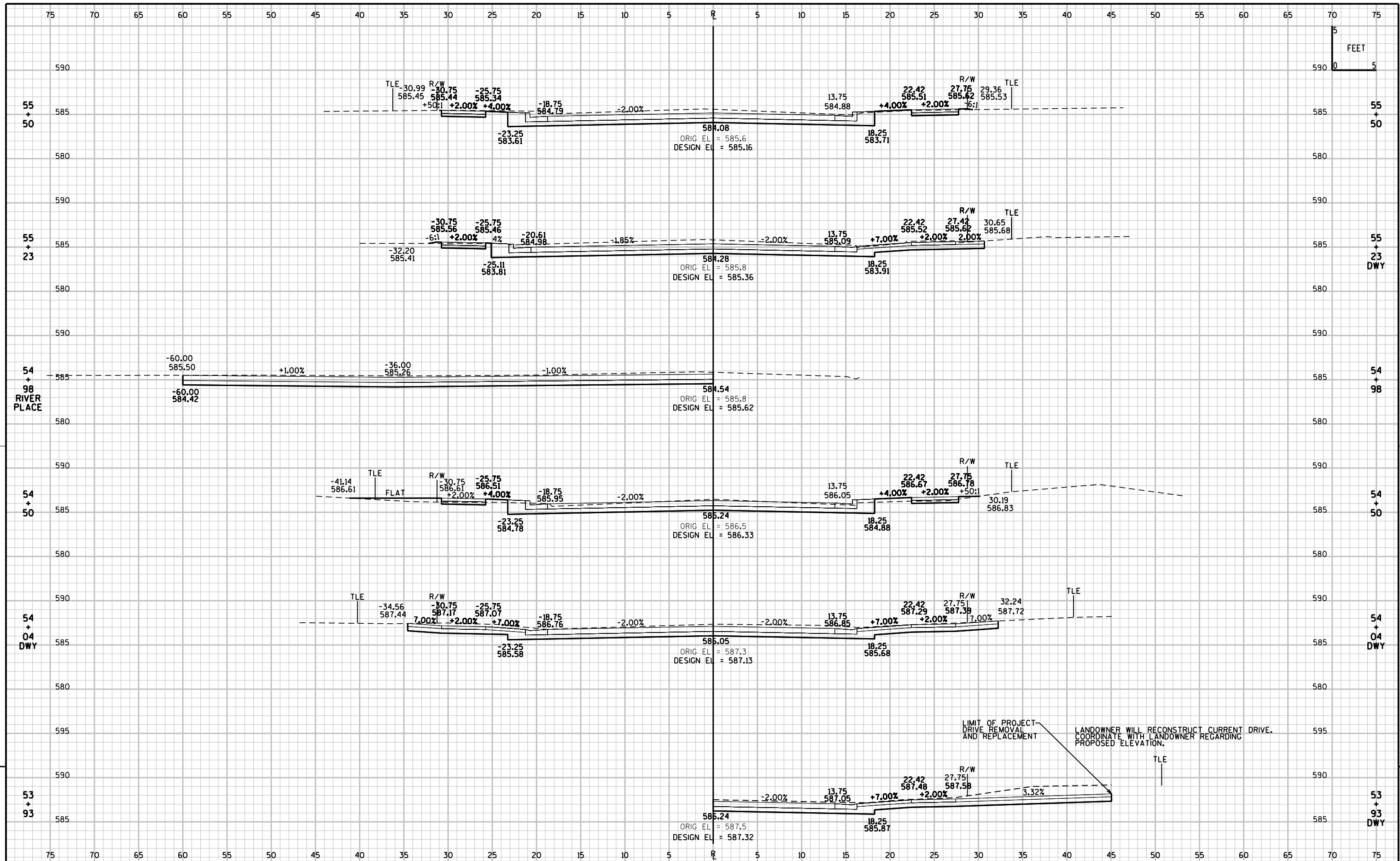
STATION	AREA (SF)			INCREMENTAL VOLUME (CY) (UNADJUSTED)			CUMULATIVE VOLUME (CY)		MASS ORDINATE
	CUT	UNUSABLE MATERIAL *	FILL	CUT	UNUSABLE MATERIAL *	FILL	CUT 1.00	EXPANDED FILL 1.25	
50+00	61.84	17.50	0.01	0	0	0	0	0	0
50+50	61.44	17.50	1.23	114	32	1	114	1	80
51+00	52.22	17.50	2.30	105	32	3	219	6	149
51+50	74.12	30.00	0.67	117	44	3	336	9	219
51+82	57.30	17.50	0.00	78	28	0	414	9	268
52+00	56.63	17.50	0.40	38	12	0	452	10	294
52+50	63.05	17.50	0.01	111	32	0	563	10	372
53+00	70.50	17.50	0.00	124	32	0	687	10	463
53+50	62.88	17.50	1.21	124	32	1	810	12	553
54+04	77.93	17.50	0.00	141	35	1	951	13	657
54+50	46.57	17.50	5.64	106	30	5	1,057	19	727
54+98	93.47	39.00	2.10	124	50	7	1,182	28	793
55+23	75.45	17.50	0.18	78	26	1	1,260	29	844
55+50	66.40	17.50	0.48	71	18	0	1,331	29	897
55+77	80.49	17.50	0.01	73	18	0	1,404	30	952
56+00	66.05	17.50	0.01	62	15	0	1,467	30	1,000
56+20	81.34	17.50	0.00	55	13	0	1,521	30	1,042
56+50	65.57	17.50	0.65	82	19	0	1,603	30	1,103
57+00	63.58	17.50	0.04	120	32	1	1,722	31	1,190
57+14	71.01	17.50	0.03	35	9	0	1,757	31	1,215
57+50	74.05	17.50	1.81	97	23	1	1,854	32	1,287
58+14	156.90	53.00	0.00	274	84	2	2,128	35	1,475
58+50	76.39	17.50	0.00	156	47	0	2,283	35	1,583
59+04	98.84	17.50	0.00	175	35	0	2,458	35	1,724
59+50	89.60	17.50	0.00	161	30	0	2,619	35	1,854
60+50	51.67	17.50	1.61	262	65	3	2,881	39	2,047
60+73	62.75	17.50	0.00	49	15	1	2,929	40	2,080
60+93	62.75	17.50	0.00	46	13	0	2,976	40	2,114

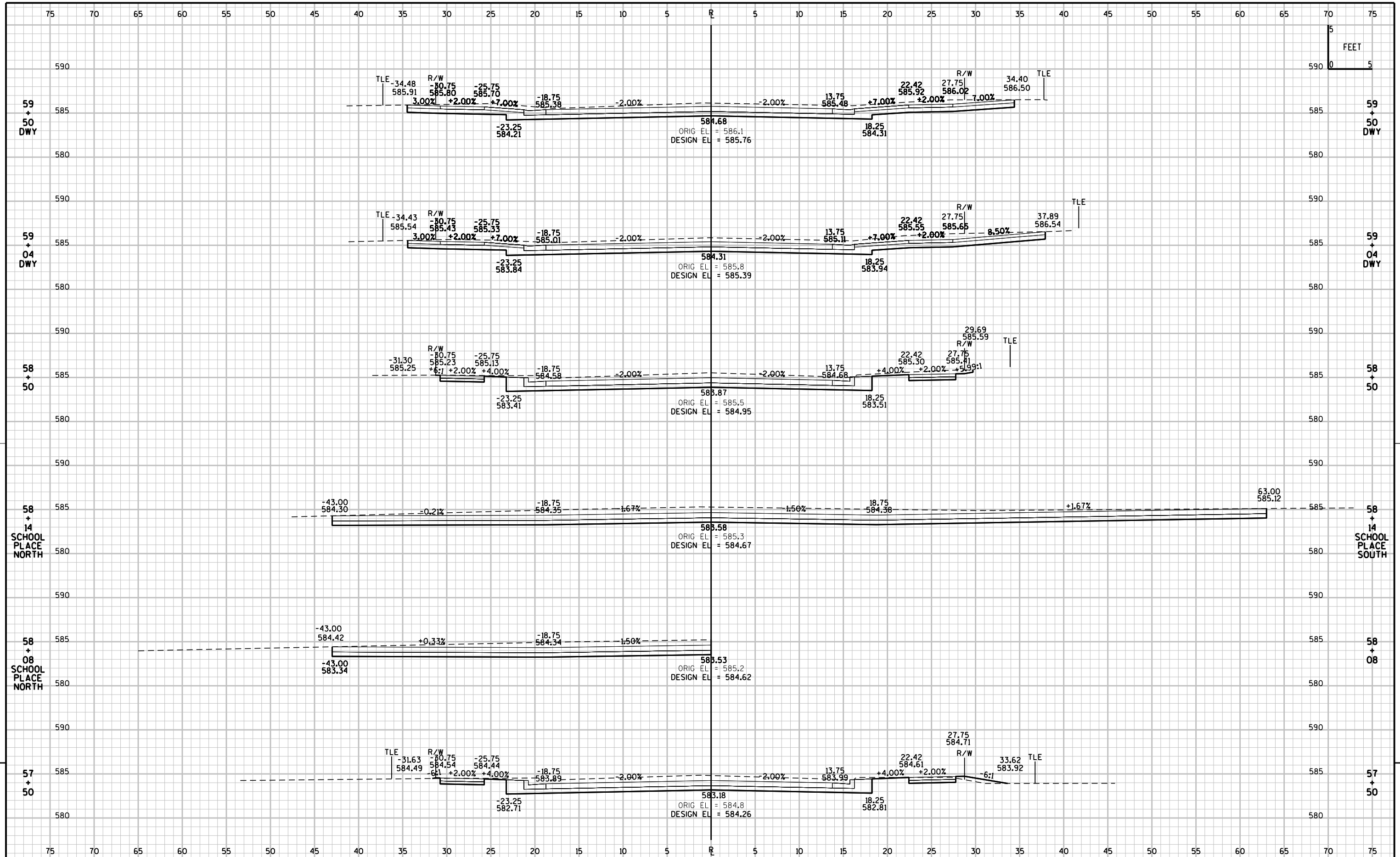
INCREMENTAL TOTALS 2,976 822 32

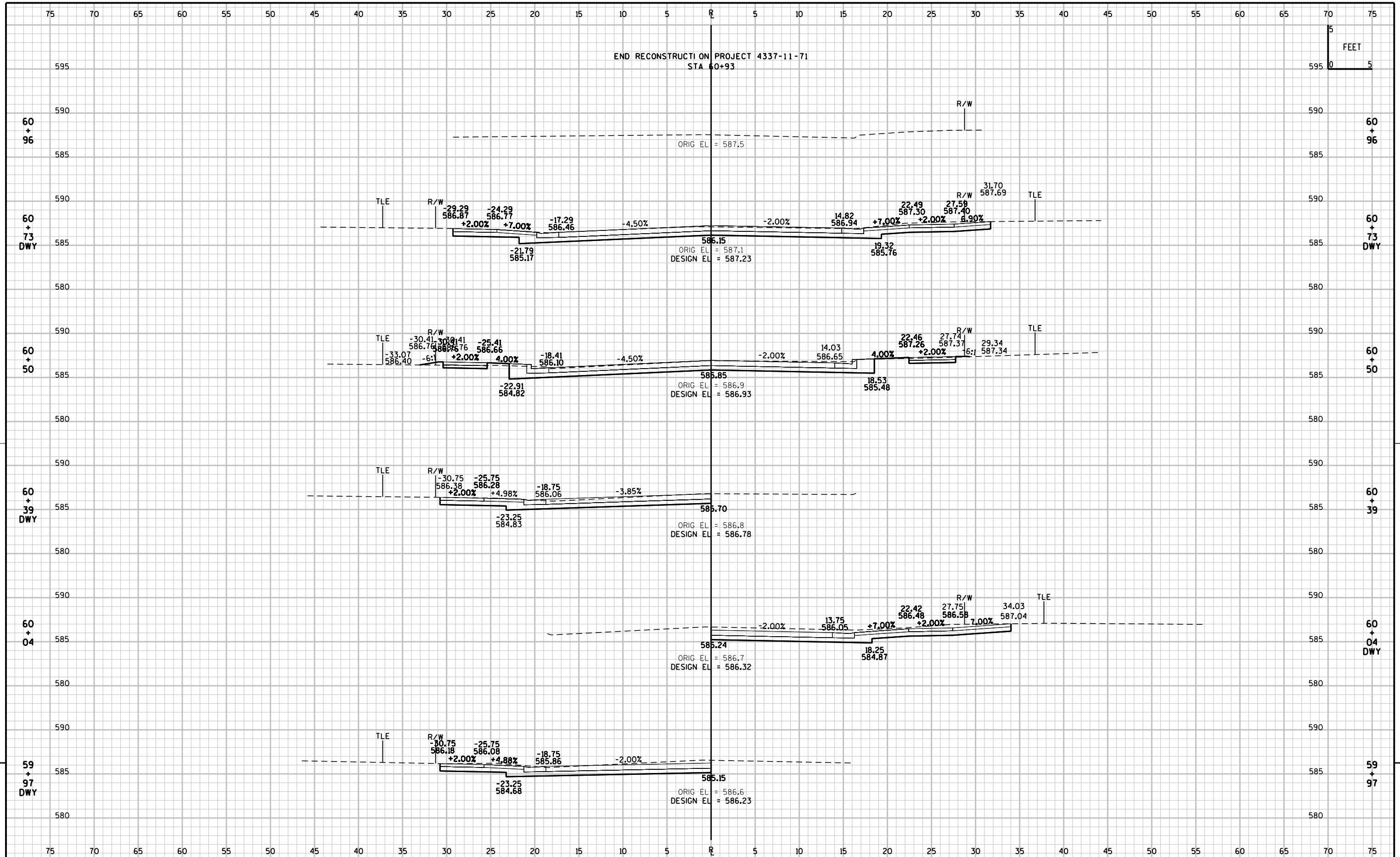
*ASSUME 6" EXISTING ASPHALTIC PAVEMENT 35 FT WIDE

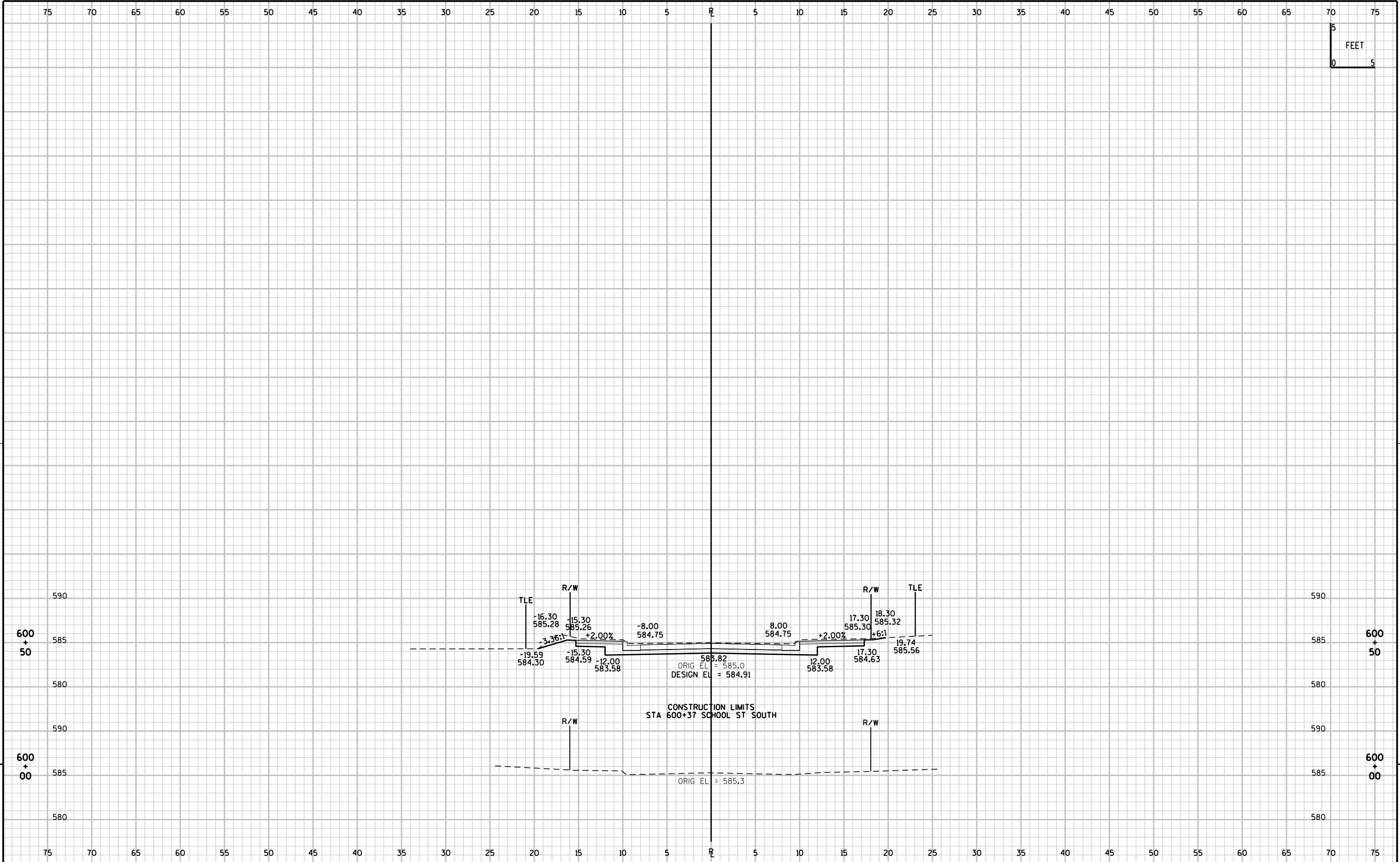




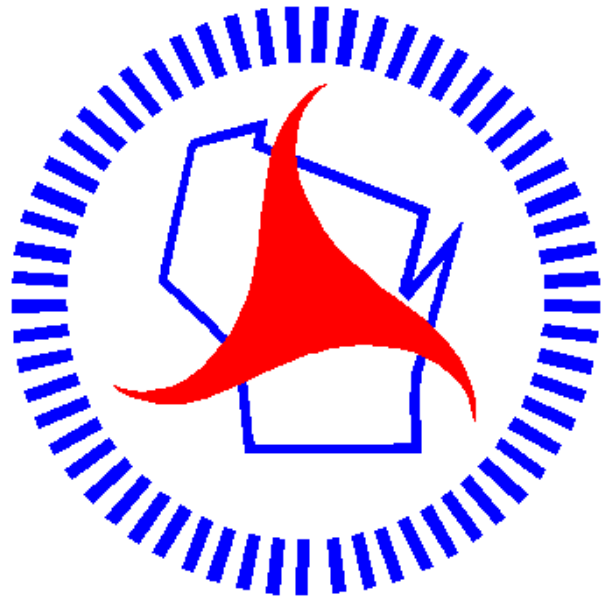








Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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