

PROJECT ID: 1570-01-70
WITH: N/A

COUNTY: POLK

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details (Includes Erosion Control)
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 = 216

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ST. CROIX FALLS - TURTLE LAKE

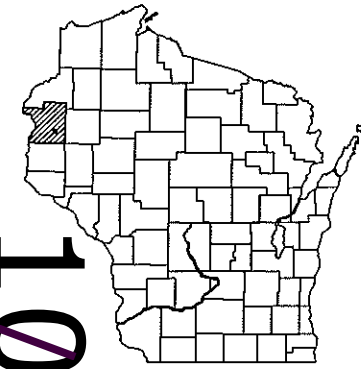
STH 46 INTERSECTION

USH 8

POLK COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1570-01-70	WISC 2013311	1

STATE PROJECT NUMBER
1570-01-70



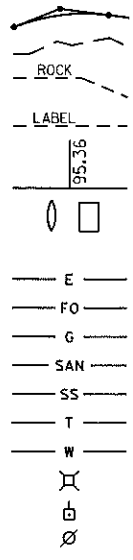
DESIGN DESIGNATION

	USH 8	STH 46
A.A.D.T. (2013)	= 11,200	4,150
A.A.D.T. (2033)	= 13,700	5,200
D.H.V.	= 4.2%	4.2%
D.D.	= 61/39	61/39
T.	= 4.5%	4.5%
DESIGN SPEED	= 60	60
ESALS	= 9,402,400	

CONVENTIONAL SYMBOLS

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

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

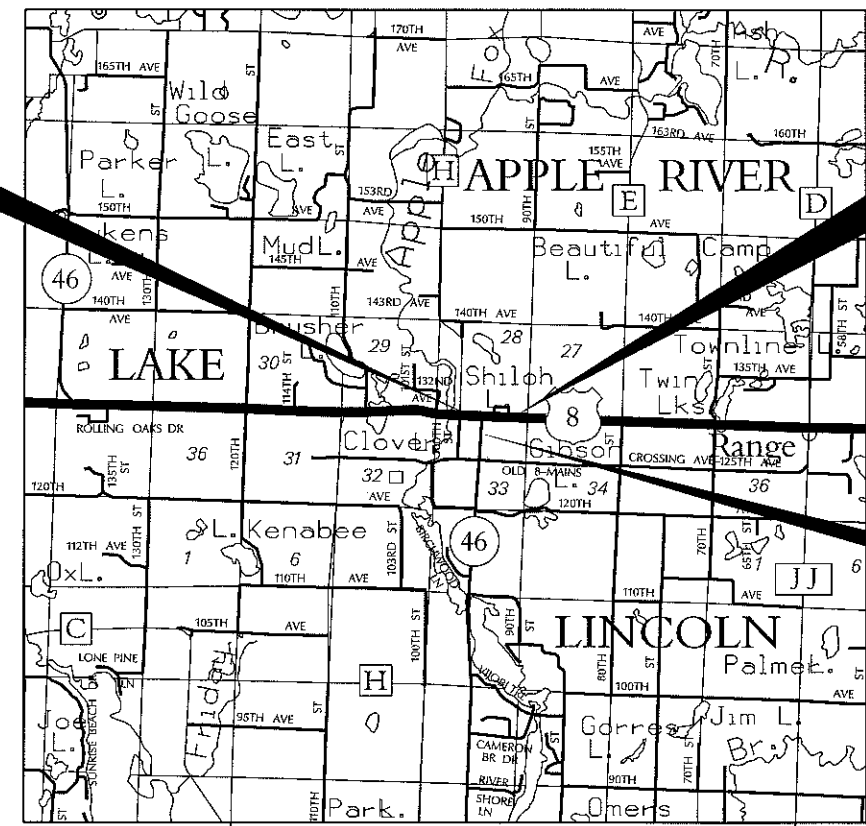


BEGIN PROJECT
STA. 100'EB'+00.00
Y = 268,007.528
X = 535,537.268

END PROJECT
STA. 112'EB'+96.21

T-34-N

BEGIN CONSTRUCTION
STA. 200'NB'+00.00



R-17-W

R-16-W

R-15-W

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.244 MI.

"ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO VERTICAL DATUM NAVD 88 (2007)."
"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), POLK COUNTY."

ORIGINAL PLANS PREPARED BY



5325 Wall Street, Suite 2305 Madison, WI 53718
608-249-4545 Fax: 608-249-4402



DATE: 10-23-12 Ben C. Wilkinson
(Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	FLEMING, ANDRE
Designer	OURSTON ROUNDABOUT ENG., INC.
Project Manager	DIANE SLICK
Regional Examiner	
Regional Supervisor	ANDREW STENSLAND
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 10/29/12 Cindy [Signature]
(Signature)

E

SECTION 2 ORDER OF SHEETS

- GENERAL NOTES & UTILITY CONTACTS
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- INTERSECTION DETAILS
- PAVING DETAILS
- EROSION CONTROL
- STORM SEWER
- PERMANENT SIGNING
- LIGHTING
- TRAFFIC SIGNALS
- PAVEMENT MARKING
- TRAFFIC CONTROL STAGING
- ALIGNMENT LAYOUT

BEN WILKINSON

OURSTON ROUNABOUT ENGINEERING, INC.

5325 WALL STREET, SUITE 2305

MADISON, WI 53718

PHONE: (608)249-4545

BWILKINSON@OURSTON.COM

DIANE SLICK

WISCONSIN DEPARTMENT OF TRANSPORTATION

NORTHWEST REGION

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SUPERIOR, WI 54880

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DIANE.SLICK@DOT.WI.GOV

DNR CONTACT

BILL GANTZ

ENVIRONMENTAL REVIEW COORDINATOR

NORTHERN REGION HEADQUARTERS

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SPOONER, WI 54801

(715) 635-4227

UTILITY CONTACTS

GREG CARDINAL

NORTHWEST COMMUNICATIONS

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AMERY, WI 54001

PHONE: (715) 268-7101

GREGCARDINAL@AMERYTEL.NET

STEVE STROSHANE

POLK BURNETT ELECTRIC CO-OP

1001 STATE ROAD 35

CENTURA, WI 54824

PHONE: (715) 646-2191

EMAIL: SSTROSHANE@POLK-BURNETT.ORG

KURT CHILDS

DAIRYLAND POWER COOPERATIVE

3200 EAST AVE S

PO BOX 817

LA CROSSE, WI 54602

PHONE: (608) 787-1367

EMAIL: KDC@DAIRYNET.COM

TOM HAASE

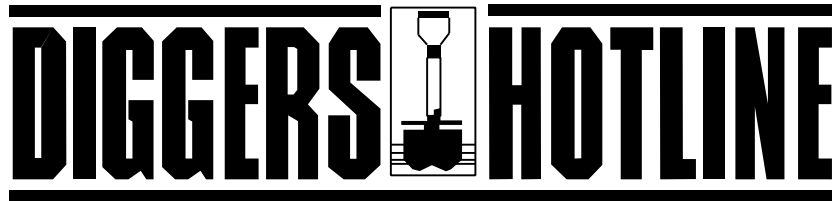
CHARTER COMMUNICATIONS

2304 S MAIN ST

RICE LAKE, WI 54868

PHONE: (715) 234-5341 x252

EMAIL: TOM.HAASE@CHARTERCOM.COM



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

DESIGN CONTACTS

GENERAL NOTES

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK.

THE LOCATIONS OF EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE TOPSOILED, FERTILIZED, AND SEEDED AS DIRECTED BY THE ENGINEER.

RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE IMMEDIATELY AFTER FINISHED GRADING IS COMPLETE.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

CURB AND GUTTER RADII ARE MEASURED TO THE FACE OF THE CURB.

CURB AND GUTTER GRADES ARE MEASURED AT THE FLANGE.

THE LOCATION OF STORM SEWER STRUCTURES REFERS TO THE CENTER OF THE STRUCTURE.

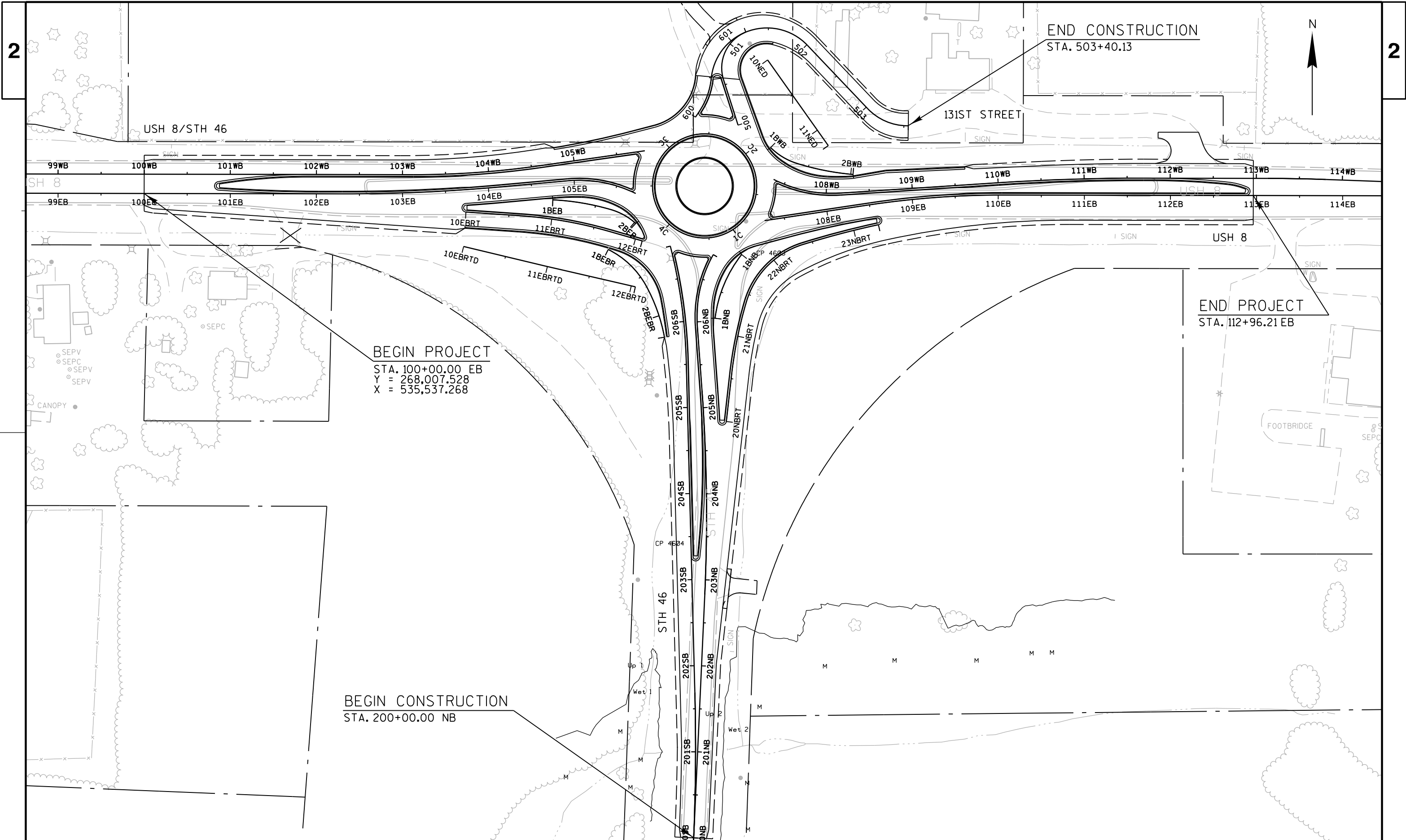
WHEN TEMPORARY PAVEMENT MARKING REMOVABLE TAPE IS REQUIRED, IT SHALL BE CUT THROUGH ITS FULL WIDTH AND THICKNESS AT 25 FOOT INTERVALS.

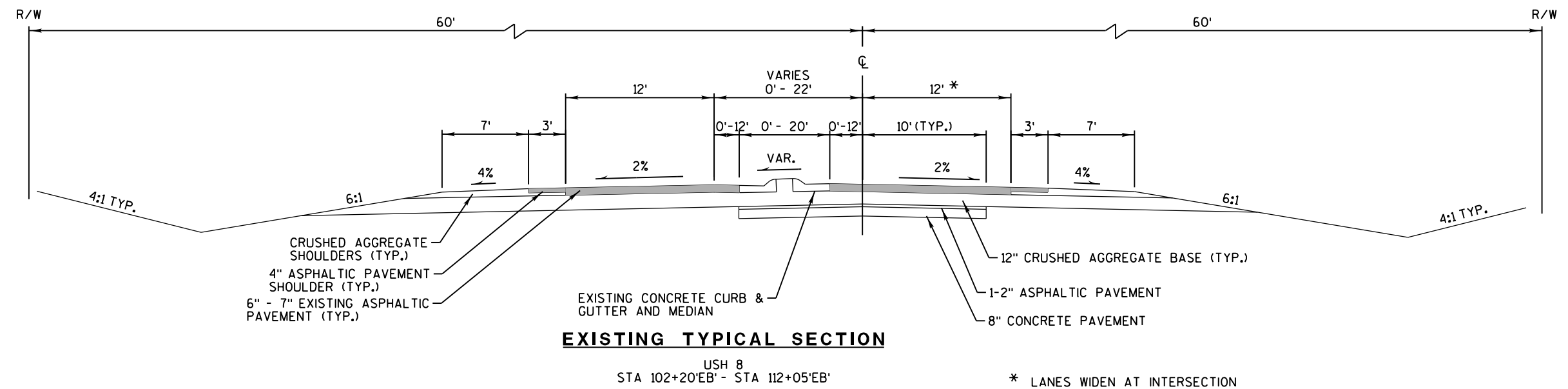
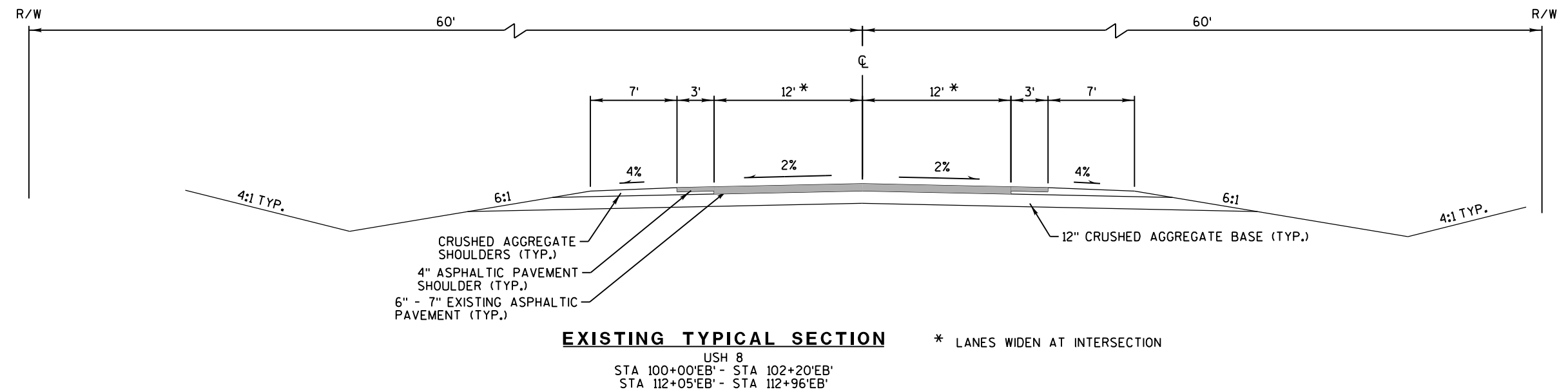
SOME OF THE EXISTING PAVEMENT MATERIALS CAN BE RECYCLED INTO THE PROPOSED PAVEMENT. CONTACT THE DEPARTMENT FOR A COPY OF THE PROJECT SOILS REPORT.

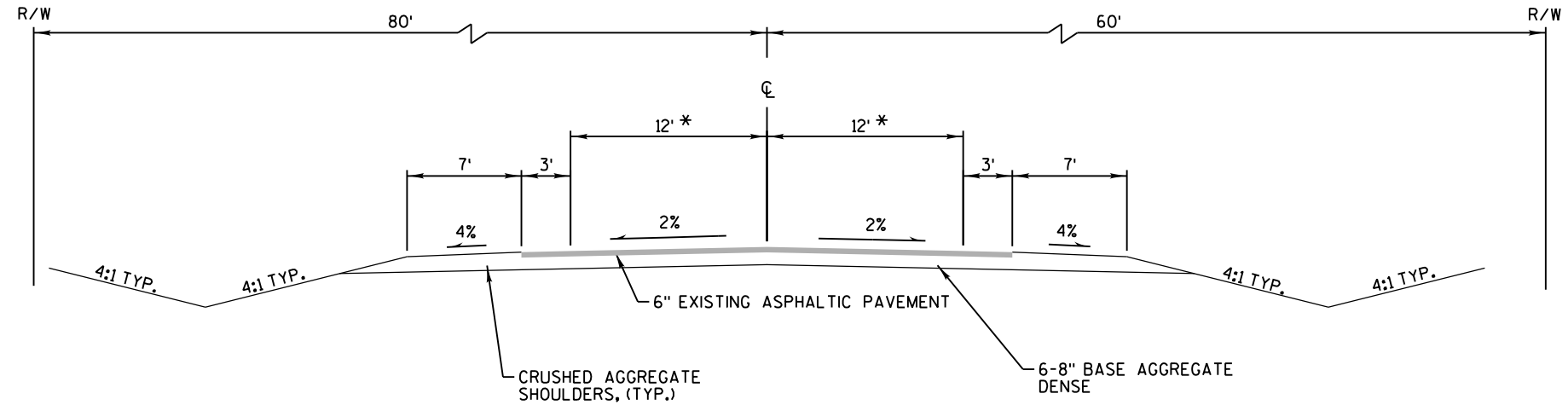
NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY THE ENGINEER.

ASPHALTIC SURFACE SPECIAL SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS

TOTAL PAVEMENT	LAYER DEPTH
STH 46 (10-INCH)	2.5-INCH UPPER LAYER 3.5-INCH LOWER LAYER 4-INCH LOWER LAYER
131ST STREET (4-INCH)	2-INCH UPPER LAYER 2-INCH LOWER LAYER
SHOULDERS (3.5-INCH)	3.5-INCH LAYER



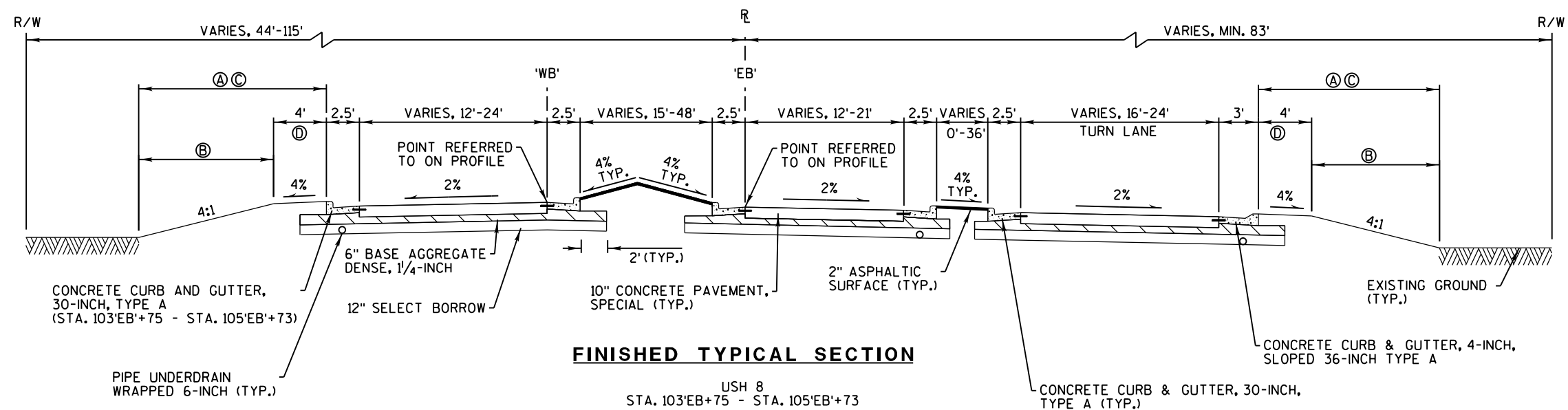
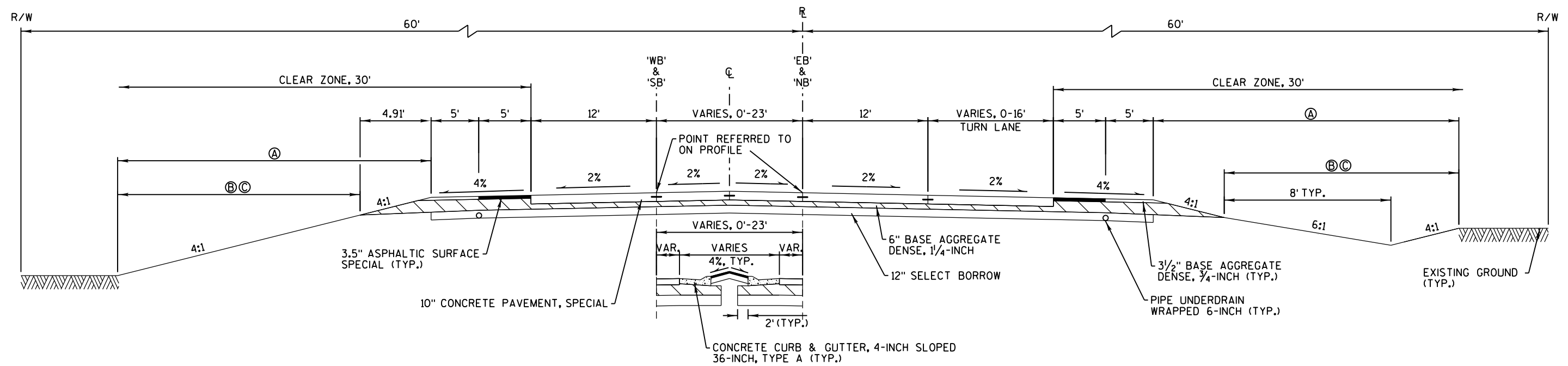




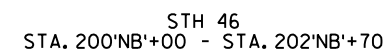
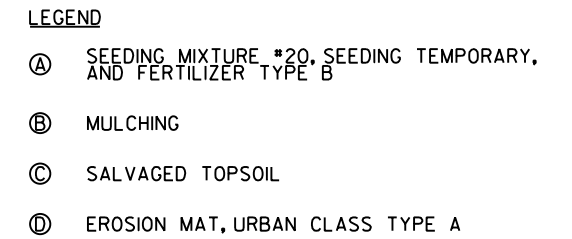
* LANES WIDEN AT INTERSECTION

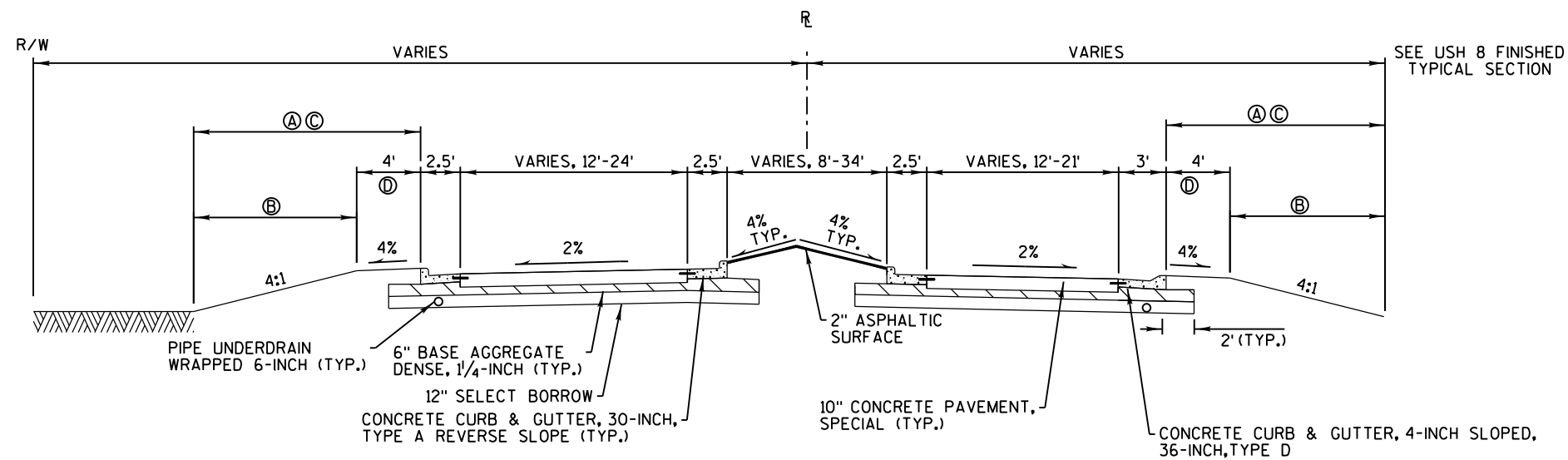
EXISTING TYPICAL SECTION

STH 46
STA 200+00'NB' - STA 206+81'NB'



2



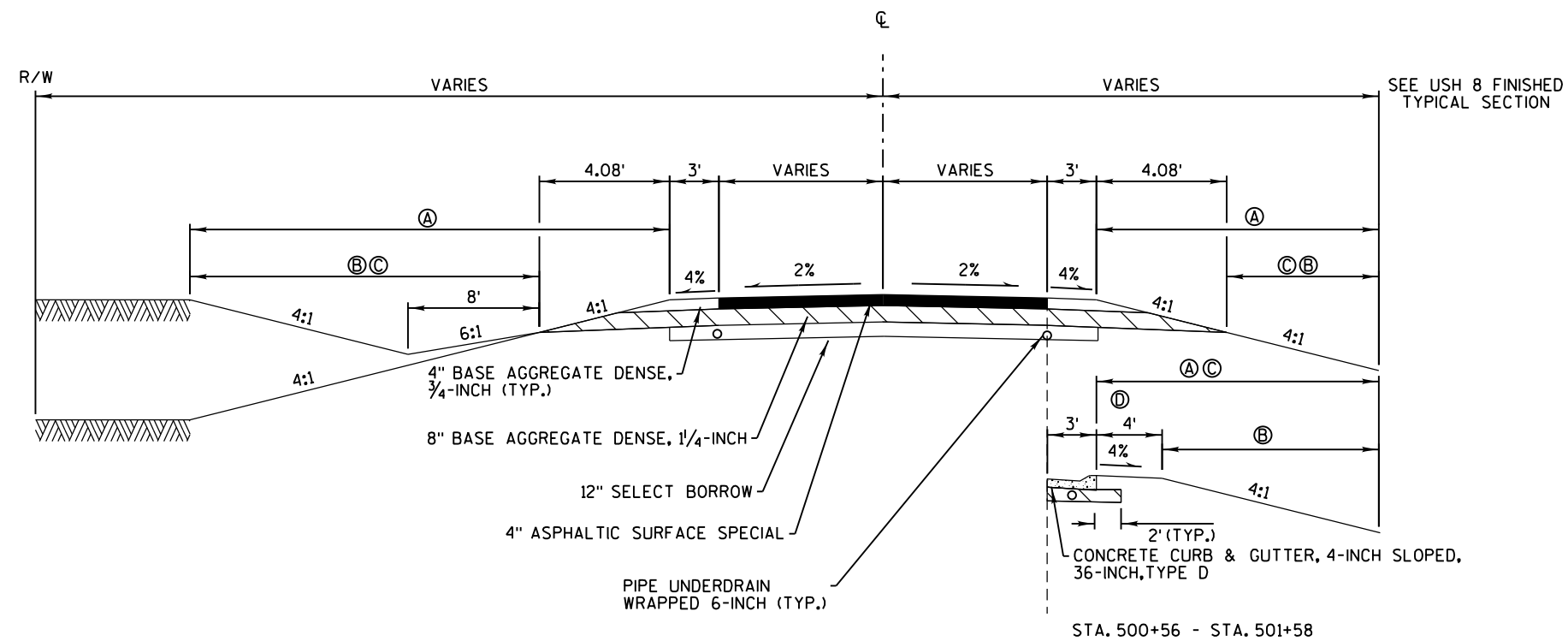


131ST STREET FINISHED TYPICAL SECTION

STA. 500+00 - STA. 500+56

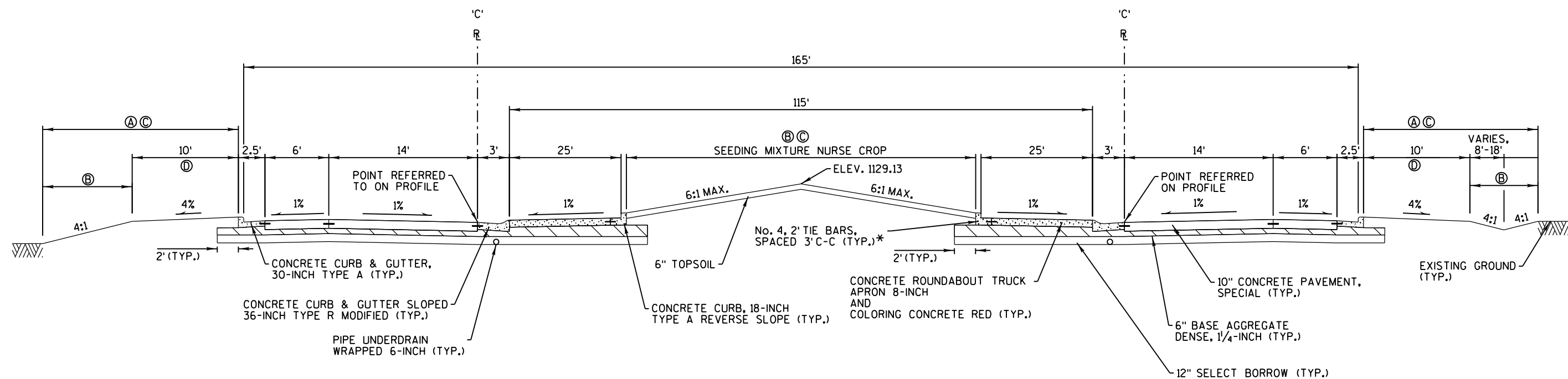
LEGEND

- Ⓐ SEEDING MIXTURE #20, SEEDING TEMPORARY, AND FERTILIZER TYPE B
- Ⓑ MULCHING
- Ⓒ SALVAGED TOPSOIL
- Ⓓ EROSION MAT, URBAN CLASS TYPE A



131ST STREET FINISHED TYPICAL SECTION

STA. 500+56 - STA. 503+40



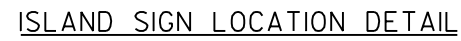
FINISHED TYPICAL SECTION

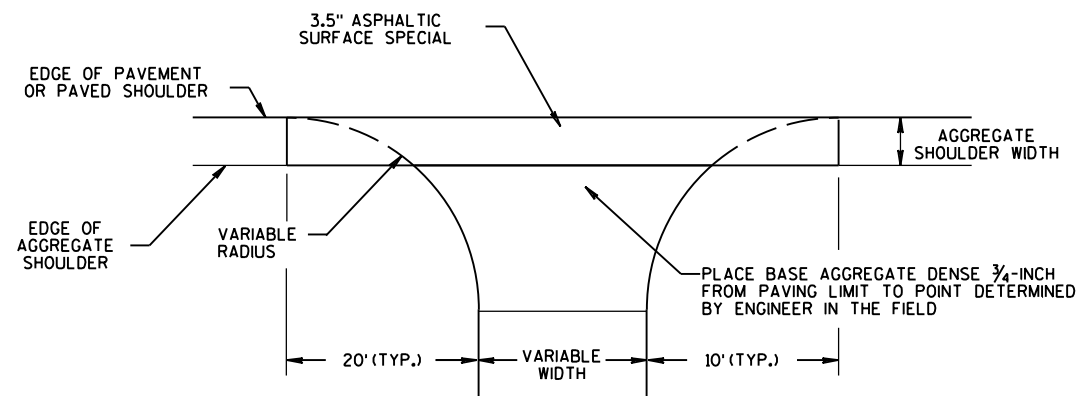
ROUNDABOUT
STA. 1'C+00 - STA. 4'C+80.13

*INCIDENTAL TO CURB/CURB & GUTTER BID ITEMS

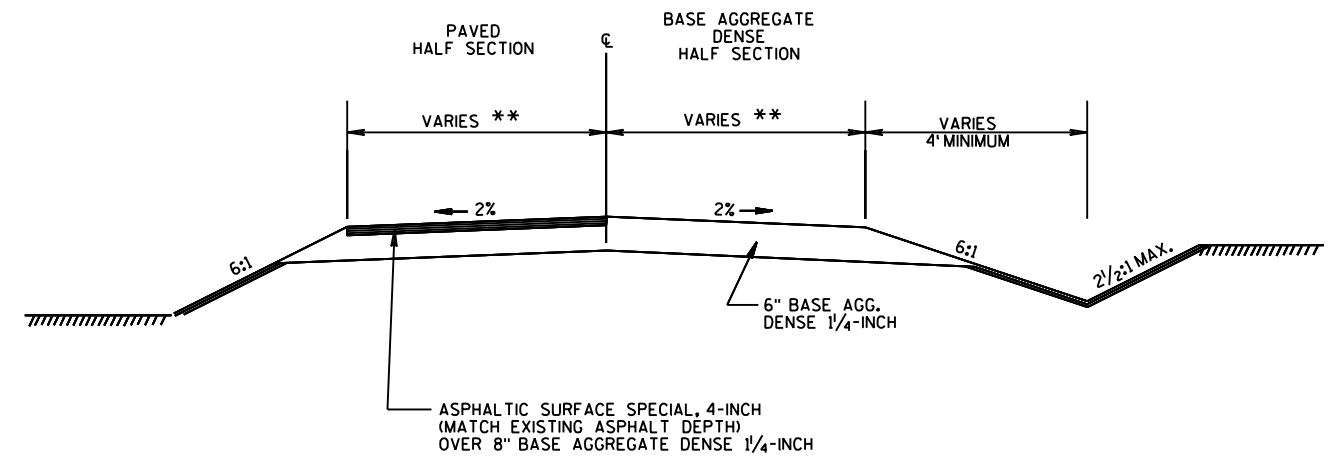
LEGEND

- Ⓐ SEEDING MIXTURE #20, SEEDING TEMPORARY, AND FERTILIZER TYPE B
- Ⓑ MULCHING
- Ⓒ SALVAGED TOPSOIL
- Ⓓ EROSION MAT, URBAN CLASS TYPE A



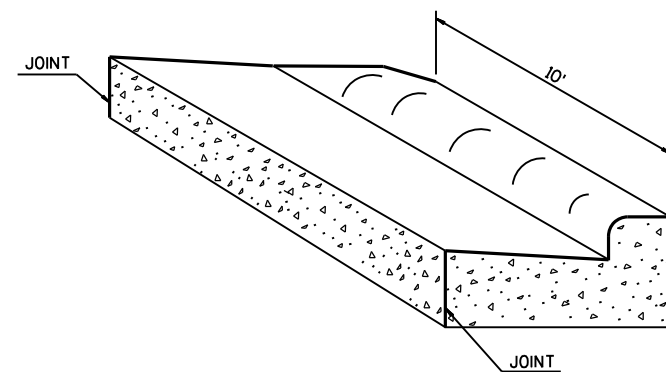


GRAVEL DRIVEWAY DETAIL



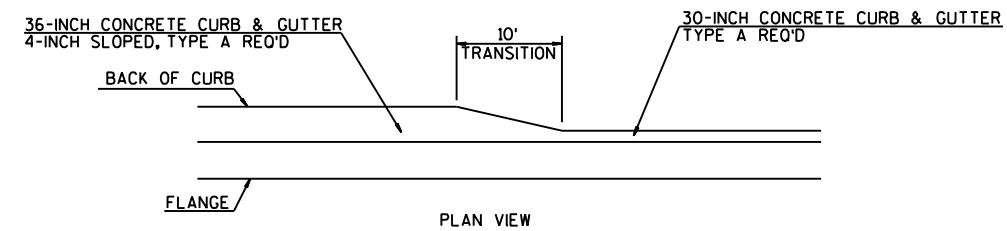
** DRIVEWAY PROFILES NOT EXPECTED TO EXCEED 10%. SEE PAVING DETAILS FOR EXACT LAYOUTS AND WIDTHS OF DRIVEWAYS.

TYPICAL SECTION FOR DRIVEWAYS

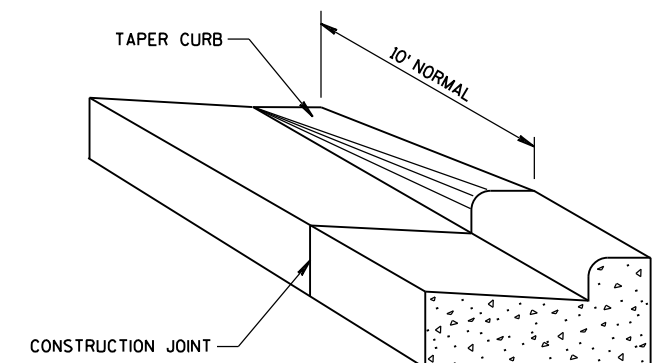


CONCRETE CURB & GUTTER TRANSITION DETAILS

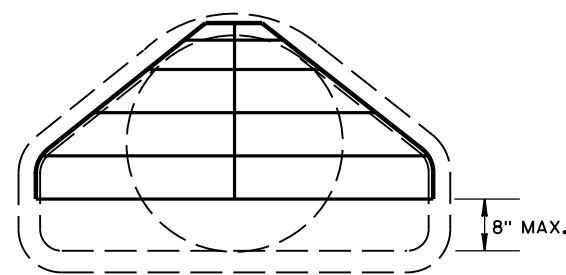
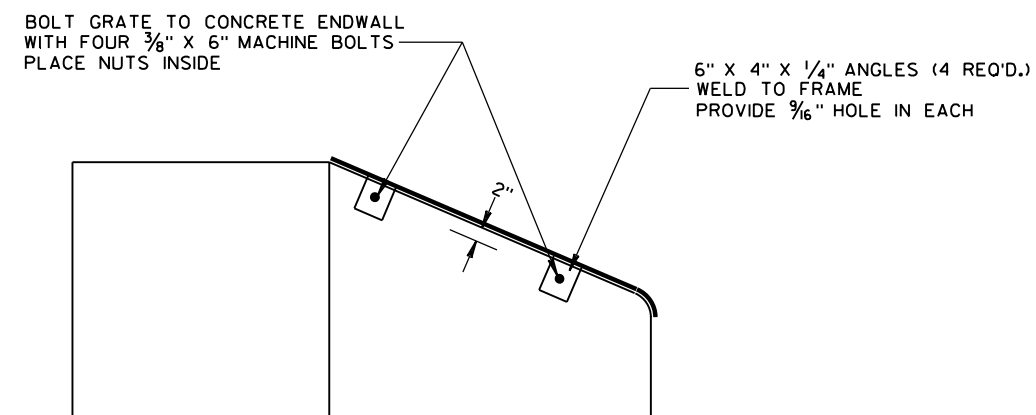
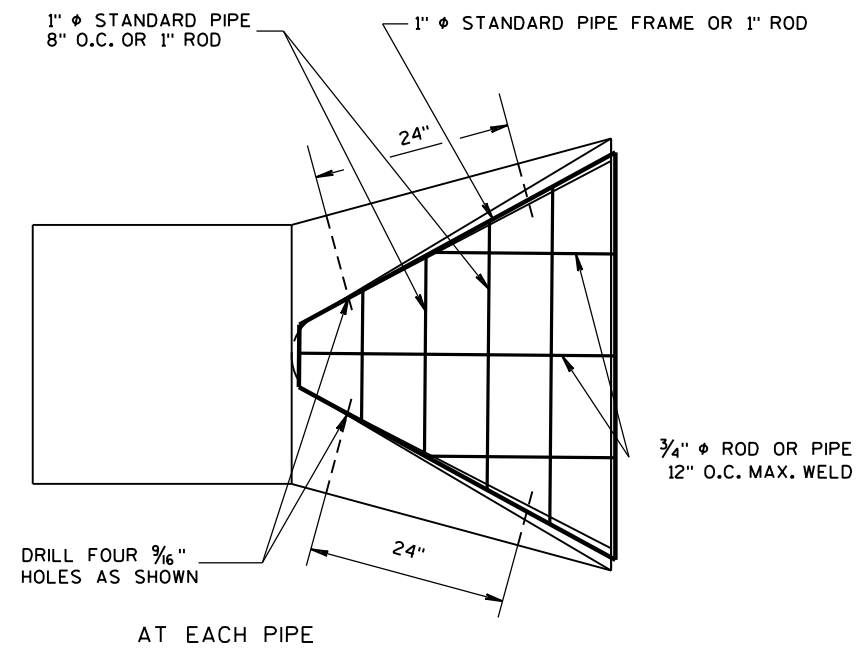
36-INCH CONCRETE CURB & GUTTER, 4-INCH SLOPED, TYPE A TO 30-INCH CONCRETE CURB & GUTTER, TYPE A (TO BE MEASURED AND PAID FOR AS 36-INCH CONCRETE CURB & GUTTER, 4-INCH SLOPED, TYPE A)



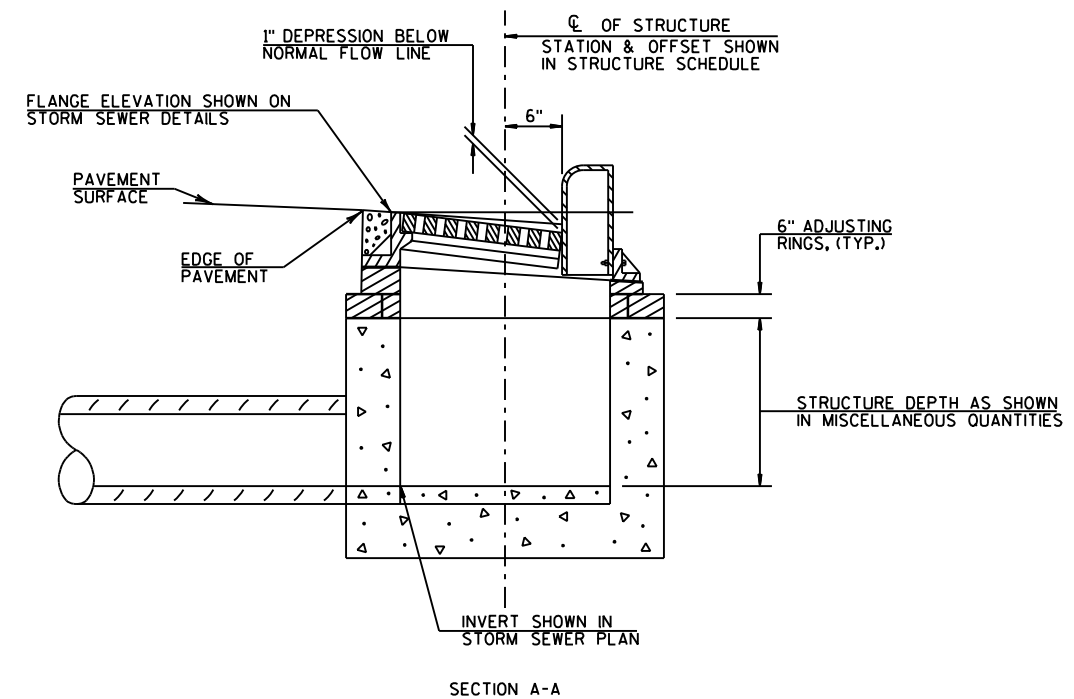
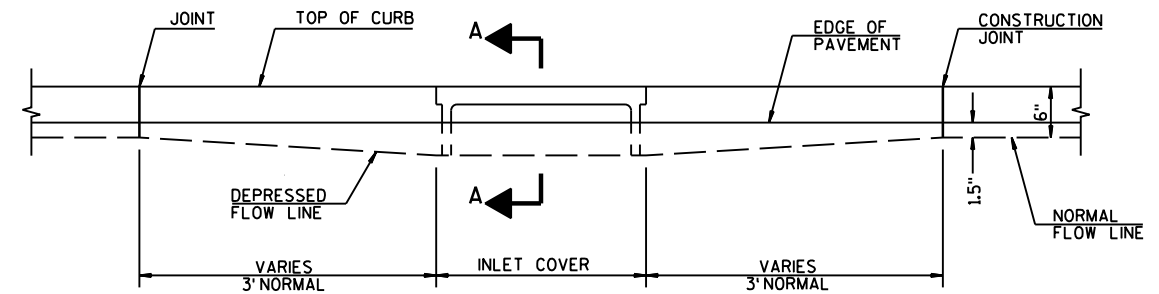
PLAN VIEW



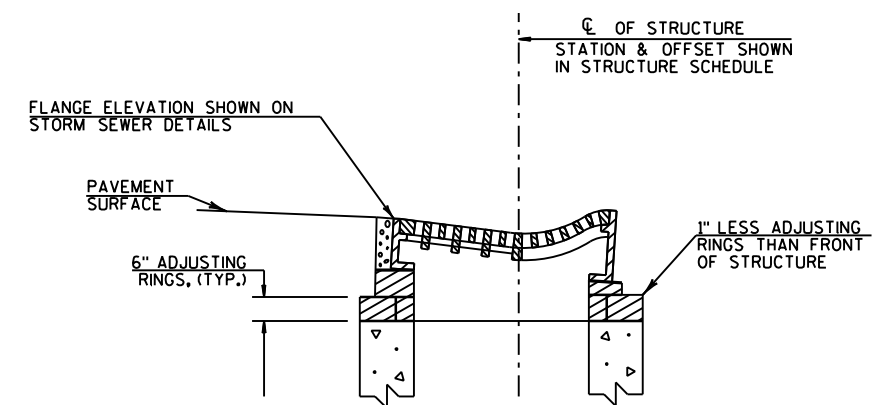
DETAIL OF CURB & GUTTER TERMINATION



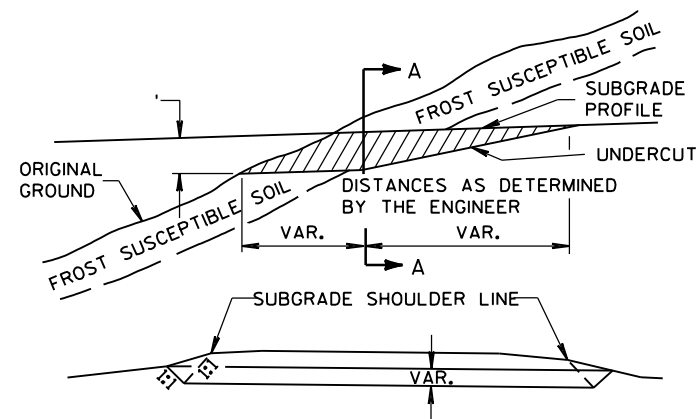
PIPE GRATE DETAIL



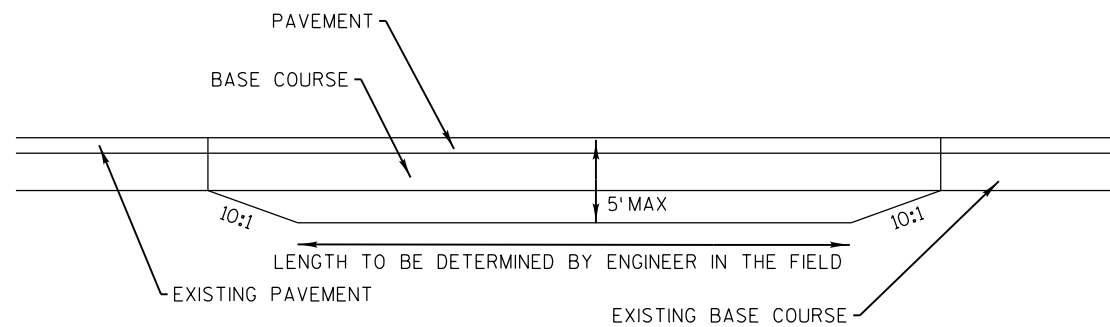
DETAIL OF CURB AND GUTTER AT INLETS



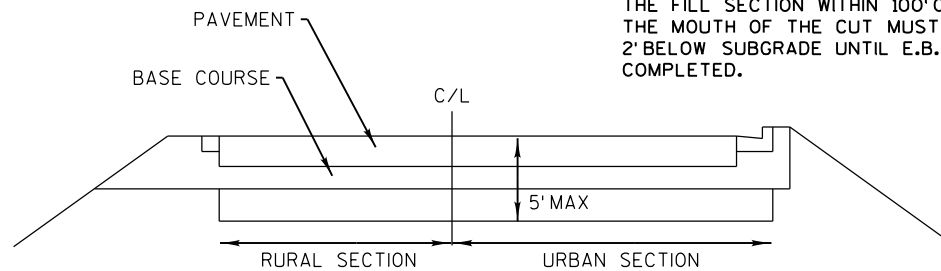
DETAIL OF TYPE T INLETS



SECTION A-A
CROSS SECTION SHOWING UNDERCUT
DETAIL FOR EXCAVATION BELOW
SUBGRADE AT CUTS



NOTE: EXACT LOCATIONS AND EXTENT OF E.B.S. SECTIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER
BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED.

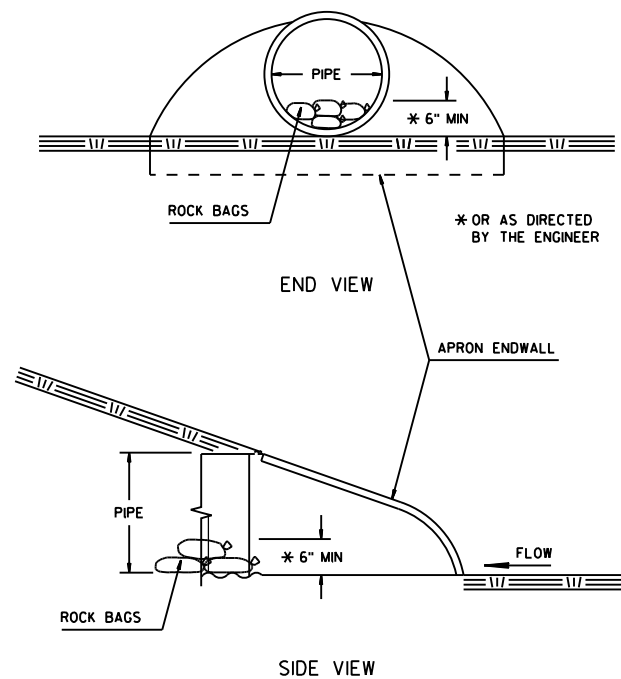


EXCAVATION BELOW SUBGRADE

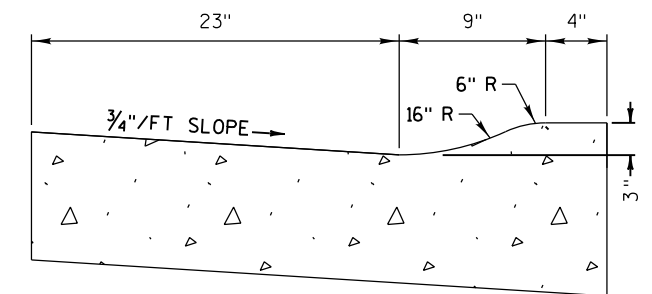
RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

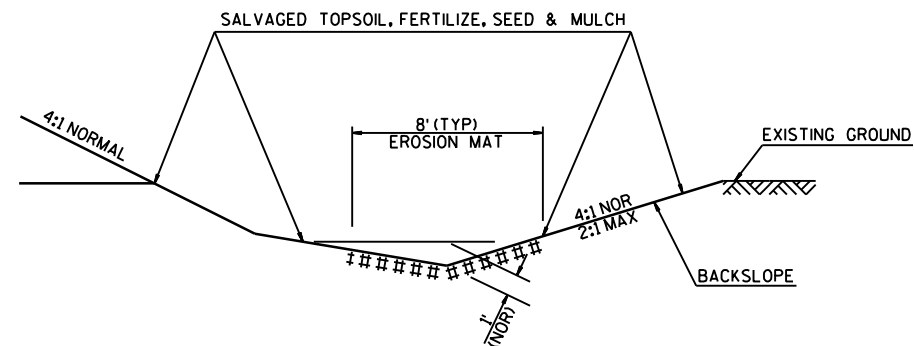
TOTAL PROJECT AREA = 11.6 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 6.8 ACRES



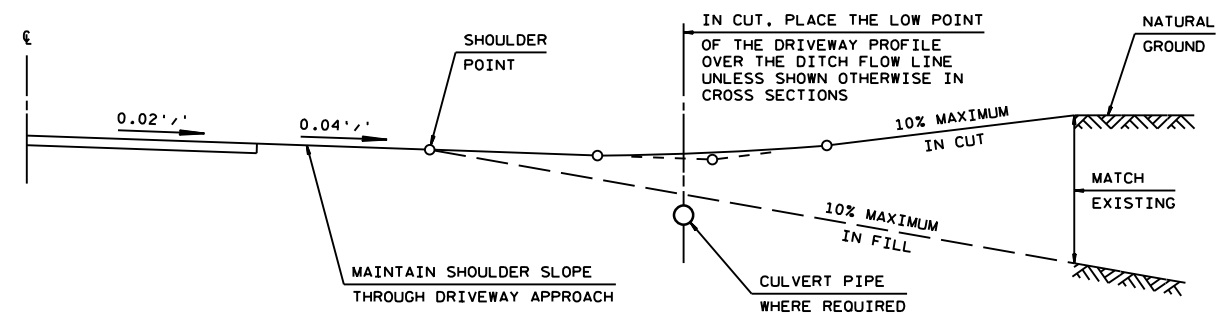
CULVERT PIPE CHECKS



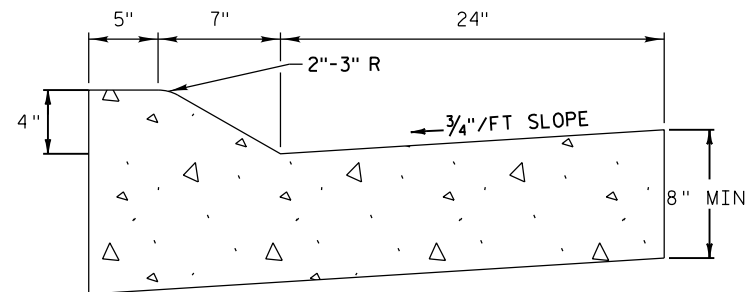
DETAIL FOR CONCRETE CURB & GUTTER
SLOPED 36-INCH TYPE R MODIFIED



TYPICAL INSTALLATION FOR EROSION MAT
DITCH LINING
(SEE EROSION CONTROL PLANS FOR LOCATIONS)

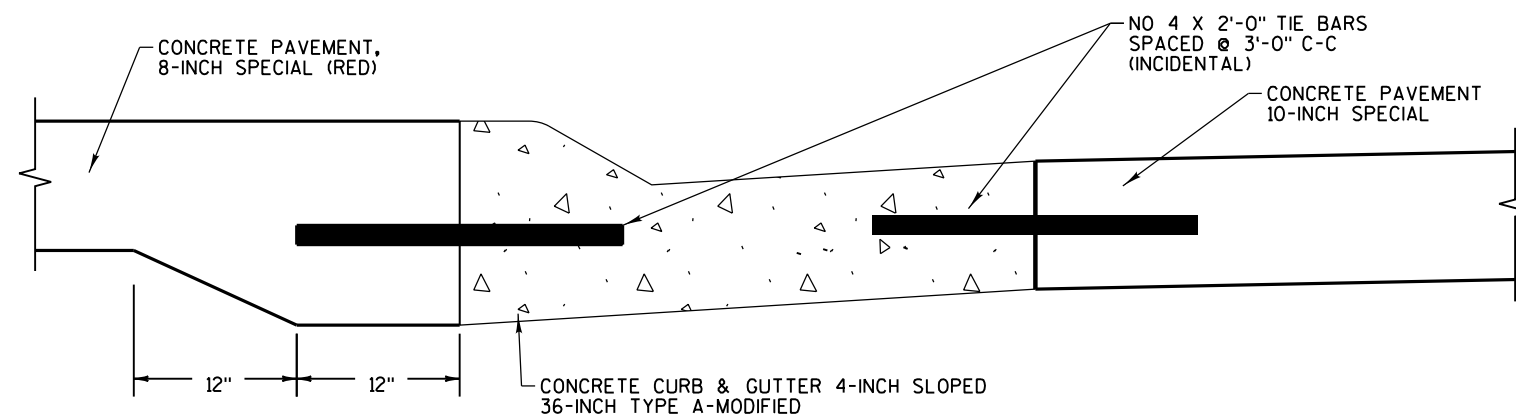


TYPICAL RURAL DRIVEWAY PROFILE

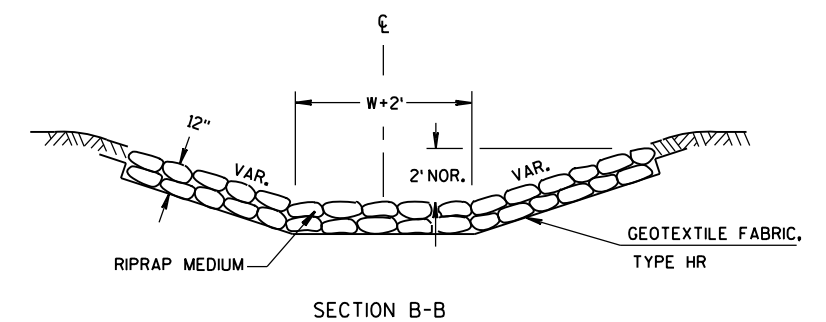
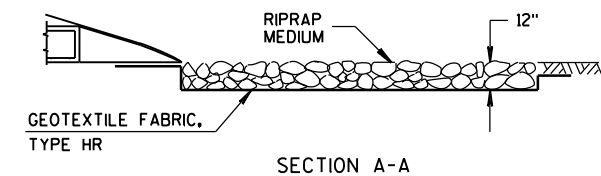
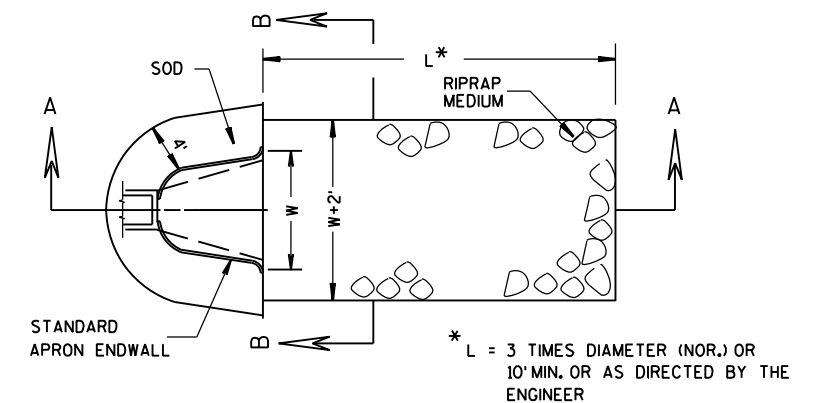


DETAIL FOR CONCRETE CURB & GUTTER,
4-INCH SLOPED 36-INCH TYPE A MODIFIED

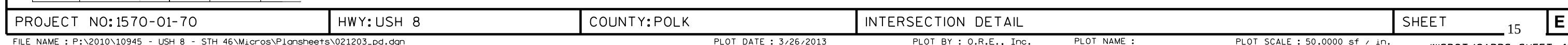
NOTE: PLACE 6" BASE AGGREGATE DENSE
1 1/4-INCH UNDER CONCRETE PAVEMENT
8-INCH SPECIAL AND
EXTEND TWO-FOOT BEYOND
EDGE OF CONCRETE.

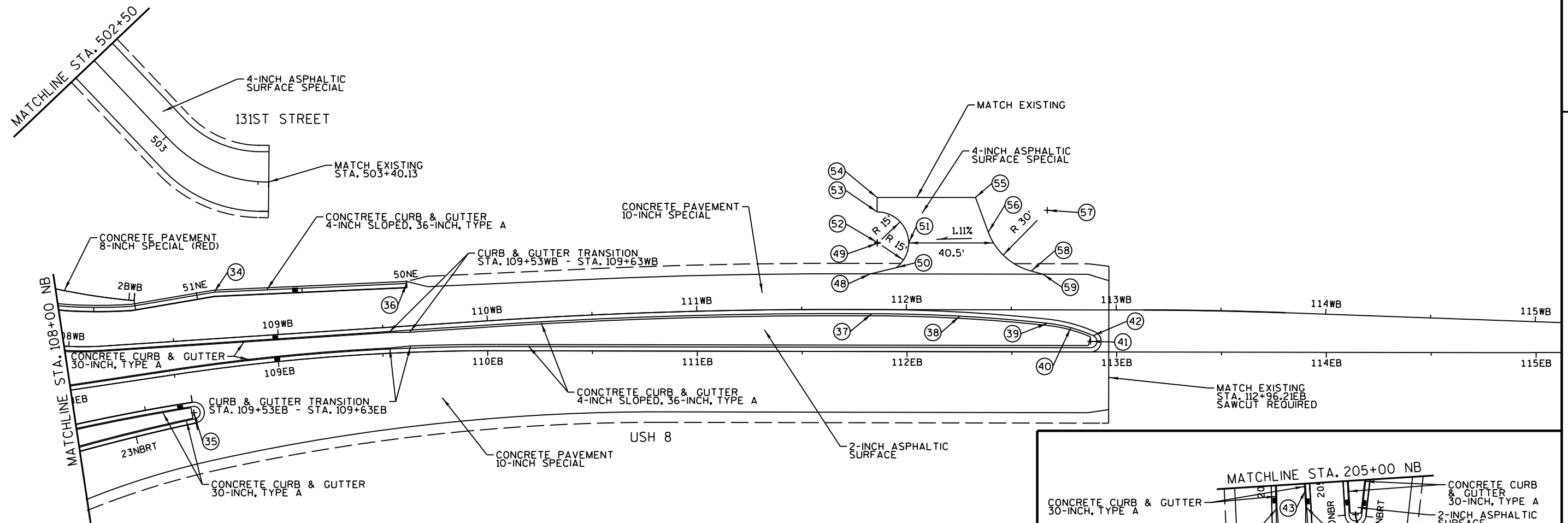


TRUCK OVERTRACKING PAD DETAIL



RIPRAP AND GEOTEXTILE FABRIC DETAIL
AT APRON ENDWALLS





DATA TABLE

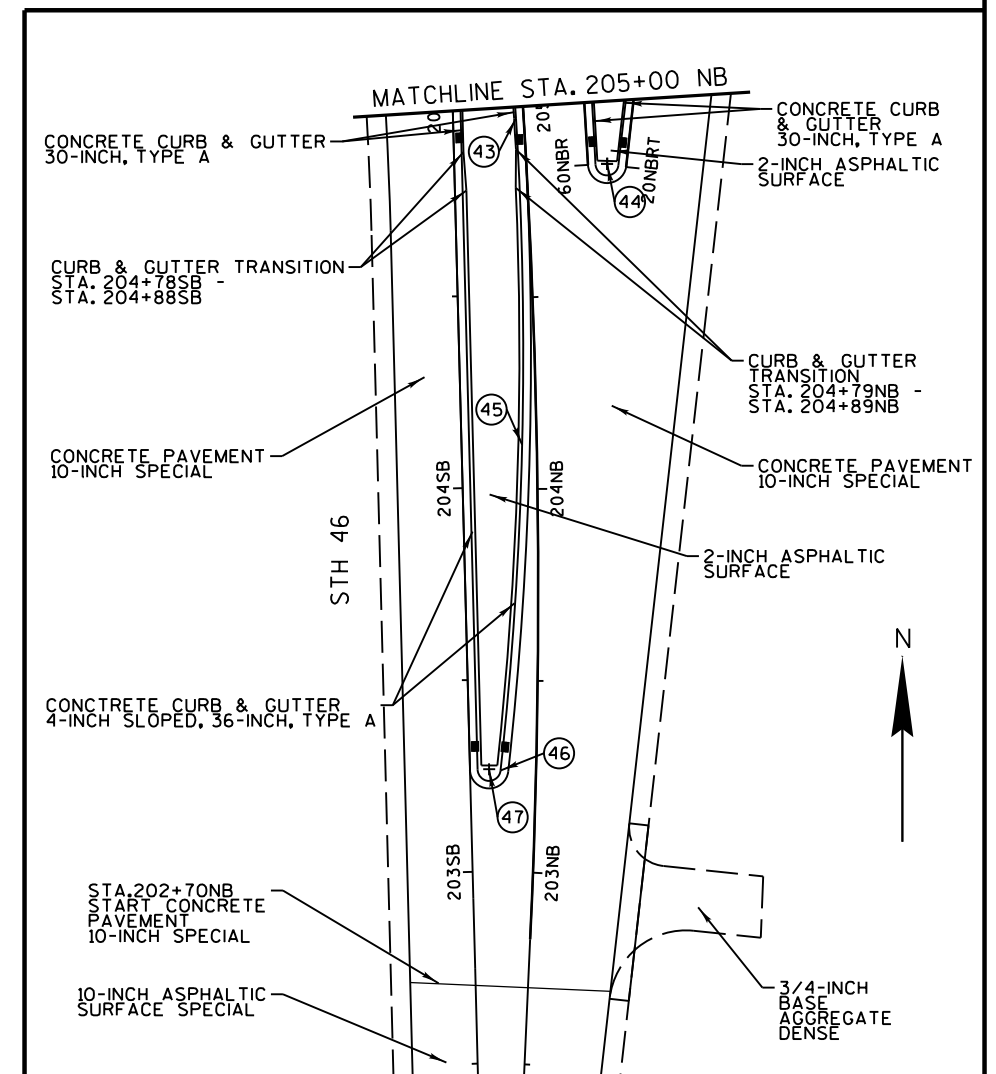
NUMBER	STATION	OFFSET	LOCATION	RADIUS
34	108+70.83 WB	-22.15	LT	--
35	108+56.62 EB	19.30	RT	3'
36	109+62.72 WB	-20.28	LT	--
37	111+83.42 WB	2.00	RT	--
38	112+25.38 WB	3.10	RT	798'
39	112+67.18 WB	6.40	RT	--
40	112+78.38 WB	8.47	RT	73'
41	112+87.62 EB	-5.00	LT	3'
42	112+89.08 WB	12.25	RT	--
43	204+96.80 NB	-2.00	LT	--
44	204+83.63 NB	21.00	RT	3'
45	204+11.61 NB	-3.81	LT	1000'
46	203+26.41 NB	-9.23	LT	--
47	203+26.67 NB	-12.22	LT	3'
48	111+82.67 WB	-16.98	LT	--
49	111+86.02 WB	-31.98	LT	15'
50	111+95.02 WB	-19.98	LT	--
51	112+01.02 WB	-31.78	LT	--
52	111+86.02 WB	-31.54	LT	15'
53	111+85.89 WB	-46.54	LT	--
54	111+85.87 WB	-53.40	LT	--
55	112+32.82 WB	-53.49	LT	--
56	112+38.98 WB	-37.01	LT	--
57	112+67.08 WB	-47.50	LT	30'
58	112+59.48 WB	-18.48	LT	--
59	112+65.15 WB	-17.00	LT	--

LEGEND

- PROPOSED INLET
- PROPOSED MANHOLE
- ③ DATA POINT

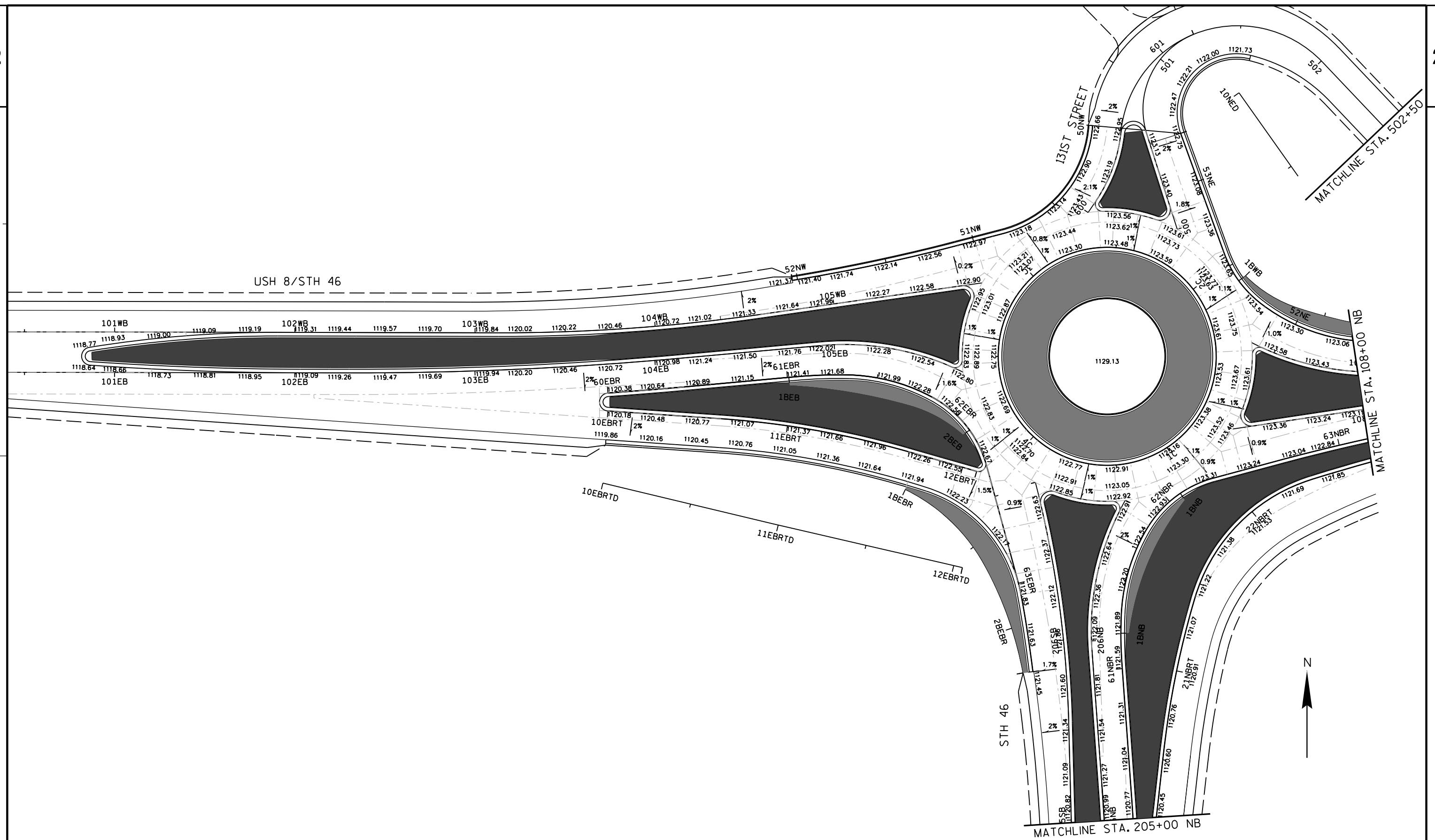
NOTE

DIMENSIONS ARE SHOWN
TO FACE OF CURB
SEE ALIGNMENT DETAILS
FOR ADDITIONAL ALIGNMENT
INFORMATION



2

2 |



PROJECT NO:1570-01-70

HWY: USH 8

COUNTY:POLK

PAVING DETAIL

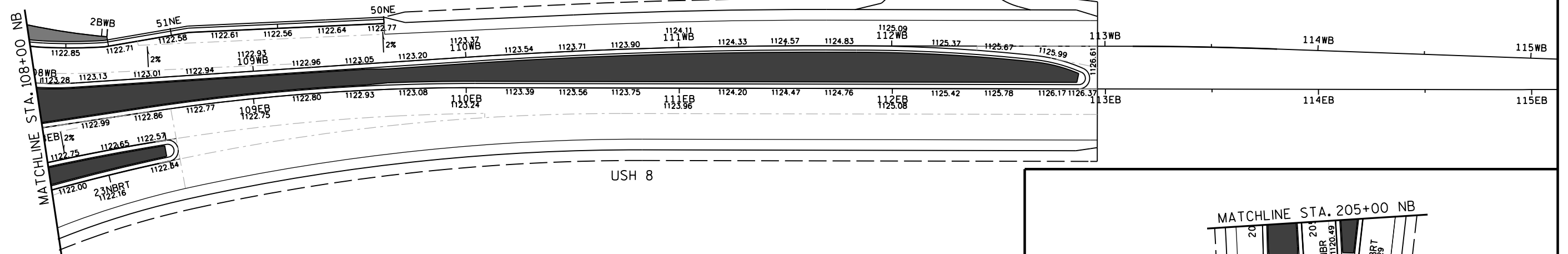
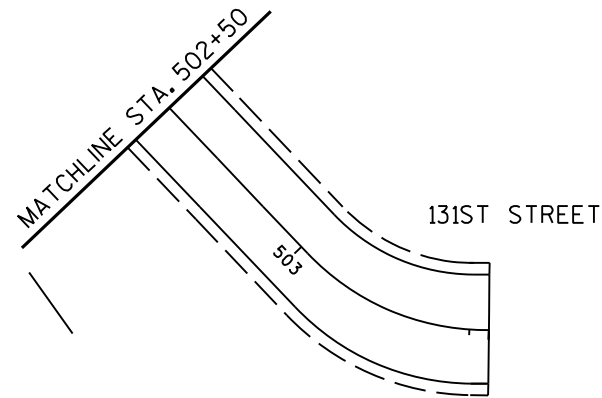
SHEET

7

E

2

2



STH 46



PROJECT NO: 1570-01-70

HWY: USH 8

COUNTY: POLK

PAVING DETAIL

SHEET

18

E

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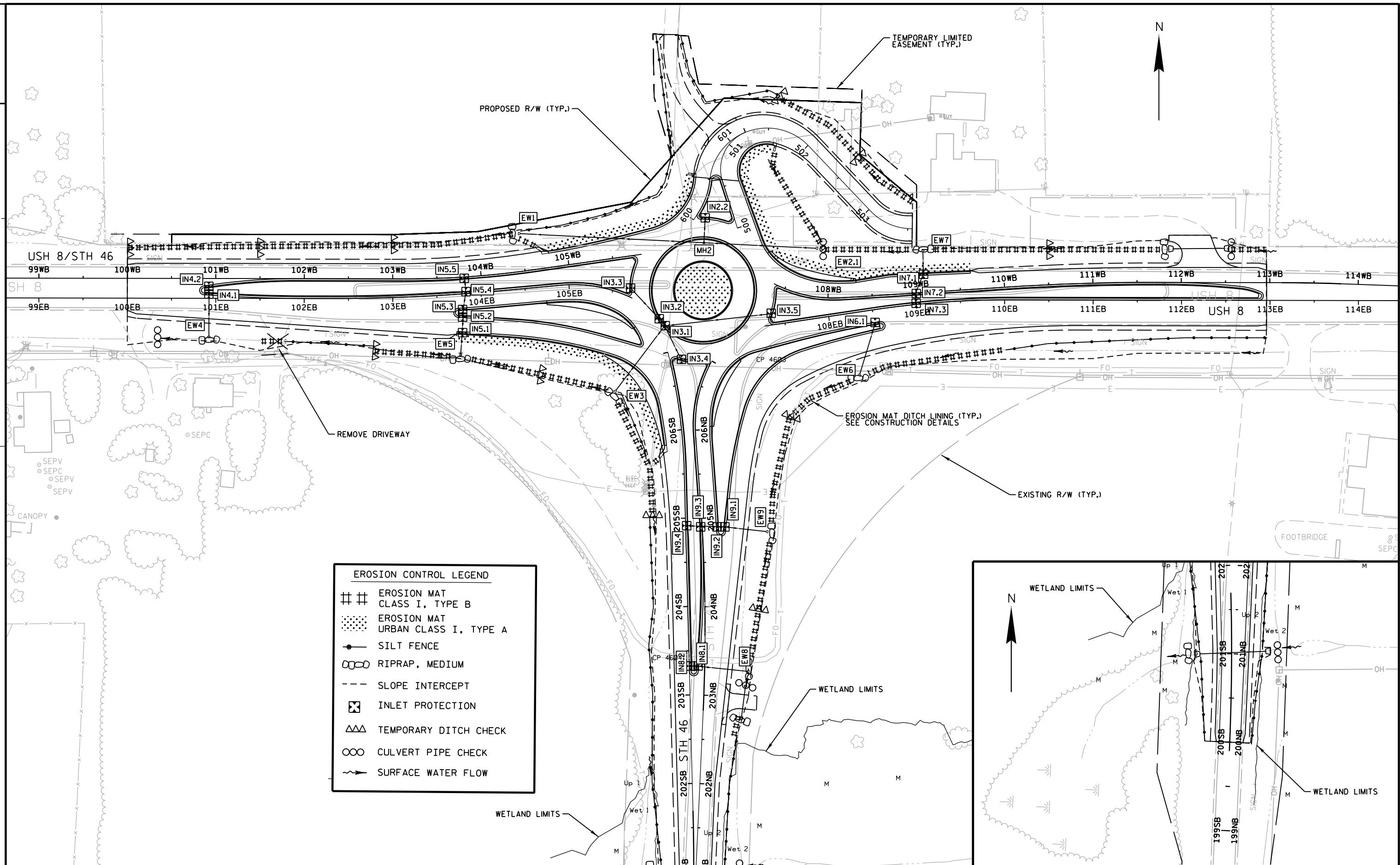
PLOT DATE : 10/31/2012

PLOT BY : O.R.E., Inc.

PLOT NAME :

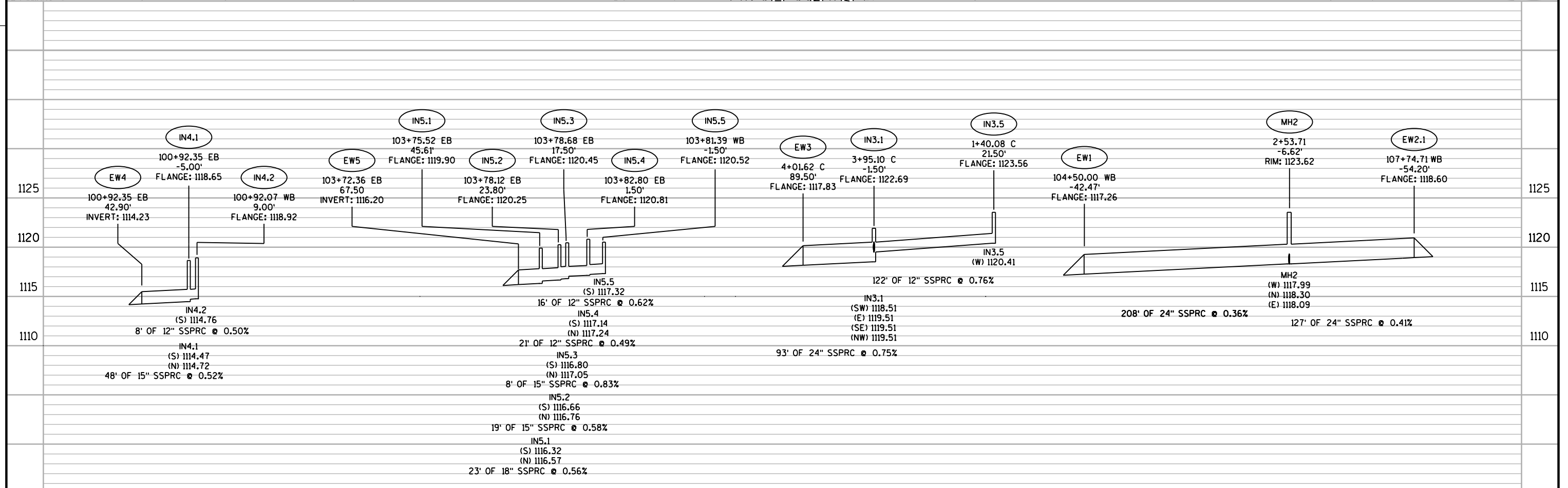
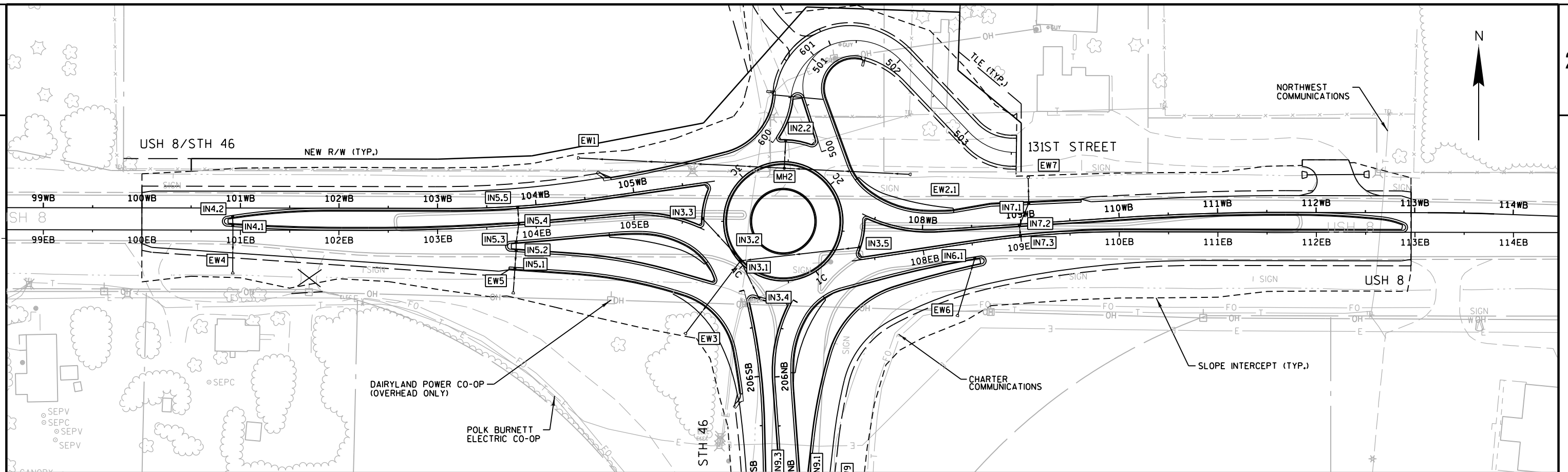
PLOT SCALE : 50.0000 sf / in.

WISDOT/CADDs SHEET 42

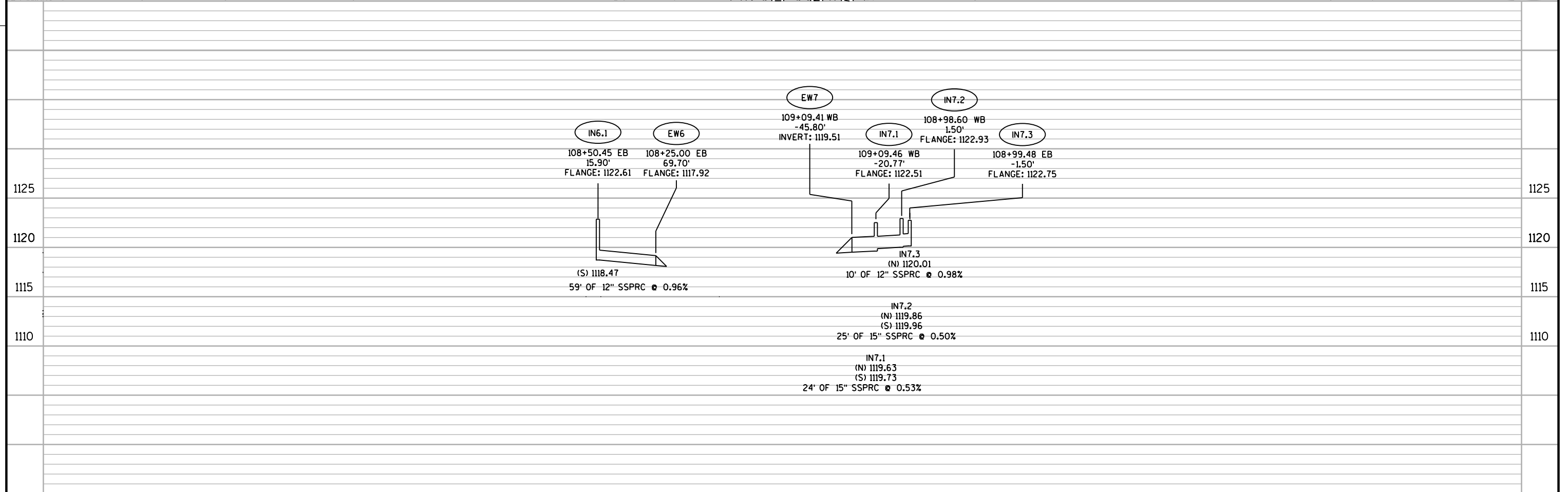


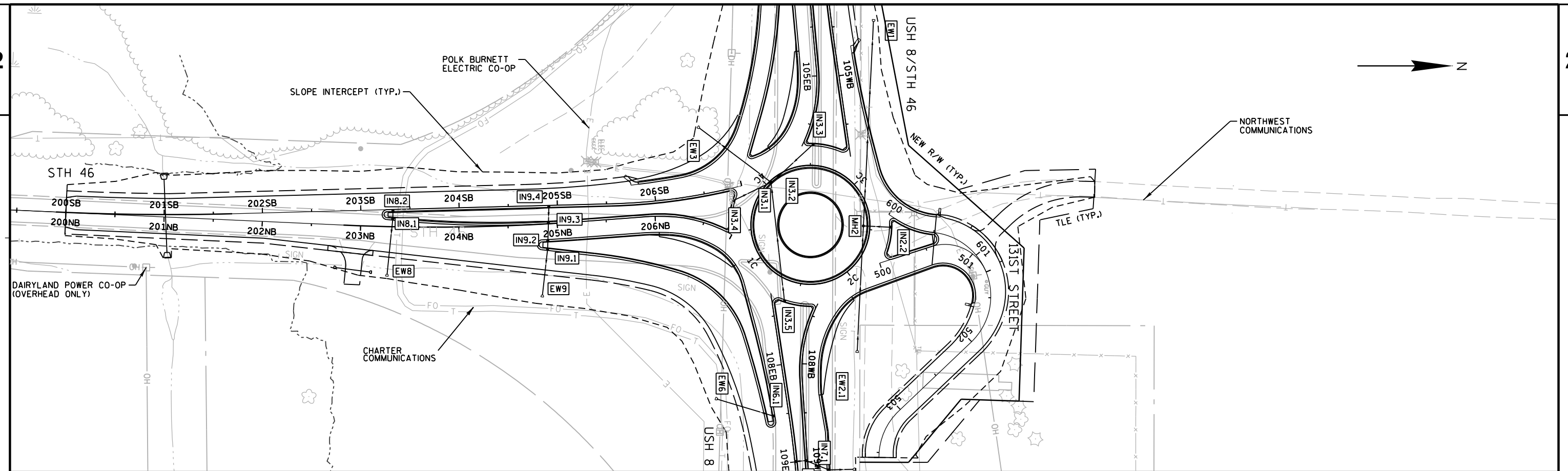
EROSION CONTROL LEGEND

- ## EROSION MAT CLASS I, TYPE B
- ░░ EROSION MAT URBAN CLASS I, TYPE A
- SILT FENCE
- RIPRAP, MEDIUM
- SLOPE INTERCEPT
- ⊠ INLET PROTECTION
- △△ TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
</



2 |





STORM SEWER SUMMARY

STRUCTURE										REMARKS	DISCHARGE PIPE					
NO.	STATION	OFFSET	STRUCTURE	STRUCTURE TYPE	COVER TYPE	RIM OR FLANGE ELEV	TOP OF STRUCTURE ELEV	FLOWLINE OF STRUCTUE	STRUCTURE DEPTH FEET		SIZE INCHES	DISTANCE FEET	SLOPE %	PIPE CLASS	522.1015 DRAINS TO	DOWNSTREAM DISCHARGE ELEV
IN4.2	100'WB'+92.07	9.00 RT	INLET	2X3-FT	HM	1118.92	1117.92	1114.76	3.16		12	8	0.50%	III	IN4.1	1114.72
IN4.1	100'EB'+92.35	5.00 LT	INLET	2X3-FT	HM	1118.65	1117.65	1114.47	3.18		15	48	0.52%	III	EW4	1114.23
EW4	100'EB'+92.35	42.90 RT	ENDWALL	---	---	---	---	---	---		15	---	---	---	---	---
IN5.5	103'WB'+81.39	1.50 RT	INLET	2X3-FT	H	1120.52	1119.52	1117.32	2.20		12	16	0.62%	III	IN5.4	1117.24
IN5.4	103'EB'+82.80	1.50 LT	INLET	2X3-FT	H	1120.81	1119.81	1117.14	2.67		12	21	0.49%	III	IN5.3	1117.05
IN5.3	103'EB'+78.68	17.50 RT	INLET	2X3-FT	H	1120.45	1119.45	1116.80	2.65	PIPE UNDERDRAIN CONNECTION	15	8	0.83%	III	IN5.2	1116.76
IN5.2	103'EB'+78.12	23.80 RT	INLET	2X3-FT	H	1120.25	1119.25	1116.66	2.59	PIPE UNDERDRAIN CONNECTION	15	19	0.58%	III	IN5.1	1116.57
IN5.1	103'EB'+75.52	45.61 RT	INLET	2X3-FT	HM	1119.90	1118.90	1116.32	2.58		18	23	0.56%	III	EW5	1116.20
EW5	103'EB'+72.36	67.50 RT	ENDWALL	---	---	---	---	---	---		---	---	---	---	---	---
IN6.1	108'EB'+50.45	15.90 RT	INLET	2X3-FT	H	1122.61	1121.61	1118.47	3.14		12	59	0.96%	III	EW6	1117.92
EW6.0	108'EB'+25.00	69.70 RT	ENDWALL	---	---	---	---	---	---		---	---	---	---	---	---
IN8.2	203'SB'+32.87	1.50 RT	INLET	2X3-FT	HM	1119.09	1118.09	1115.20	2.89		12	8	0.50%	III	IN8.1	1115.16
IN8.1	203'NB'+32.47	10.34 LT	INLET	2X3-FT	HM	1119.34	1118.34	1115.06	3.28		12	58	0.50%	III	EW8	1114.77
EW8	203'NB'+28.08	48.30 RT	ENDWALL	---	---	---	---	---	---		12	---	---	---	---	---
IN9.4	204'SB'+91.27	1.50 RT	INLET	2X3-FT	H	1120.74	1119.74	1116.77	2.97		12	16	0.62%	III	IN9.3	1116.69
IN9.3	204'NB'+91.03	1.50 LT	INLET	2X3-FT	H	1120.91	1119.91	1116.59	3.32		12	21	0.53%	III	IN9.2	1116.50
IN9.2	204'NB'+89.57	18.99 RT	INLET	2X3-FT	H	1120.57	1119.57	1116.25	3.32	PIPE UNDERDRAIN CONNECTION	15	6	0.70%	III	IN9.1	1116.21
IN9.1	204'NB'+89.14	23.82 RT	INLET	2X3-FT	H	1120.33	1119.33	1115.96	3.37		18	48	0.51%	III	EW9	1115.72
EW9	204'NB'+81.23	72.00 RT	ENDWALL	---	---	---	---	---	---		18	---	---	---	---	---
IN7.3	108'EB'+99.48	1.50 LT	INLET	2X3-FT	H-S	1122.75	1121.75	1120.01	1.74		12	10	0.98%	III	IN7.2	1119.96
IN7.2	108'EB'+98.60	1.50 RT	INLET	2X3-FT	H-S	1122.93	1121.93	1119.86	2.07		15	25	0.50%	III	IN7.1	1119.73
IN7.1	109'WB'+09.46	20.77 LT	INLET	2X3-FT	HM-S	1122.51	1121.51	1119.63	1.88	PIPE UNDERDRAIN CONNECTION	15	24	0.53%	III	EW7	1119.51
EW7	109'WB'+09.41	45.80 LT	ENDWALL	---	---	---	---	---	---		---	---	---	---	---	---
IN2.2	2+53.16'C	21.50 RT	INLET	2X3-FT	H-S	1123.54	1122.54	1118.44	4.10		12	29	0.56%	III	MH2	1118.30
EW2.1	107'WB'+74.71	54.20 LT	ENDWALL	---	---	---	---	---	---		24	127	0.41%	III	MH2	1119.09
MH2	2'C+53.71	6.62 LT	MANHOLE	4-FT DIAM	J	1123.62	1122.37	1117.99	4.38		24	208	0.36%	III	EW1	1117.26
EW1	104'WB'+50.00	42.50 LT	ENDWALL	---	---	---	---	---	---	PIPE GRATE REQUIRED	---	---	---	---	---	---
IN3.3	3'C+47.93	21.50 RT	INLET	2X3-FT	H-S	1122.84	1121.84	1119.90	1.94		12	49	0.53%	III	IN3.2	1119.66
IN3.2	3'C+85.11	1.50 LT	INLET	2X2.5-FT	T	1122.68	1121.60	1119.56	2.04		12	10	0.76%	III	IN3.1	1119.51
IN3.5	1'C+40.08	21.50 RT	INLET	2X3-FT	H-S	1123.56	1122.56	1120.41	2.15		12	122	0.76%	III	IN3.1	1119.51
IN3.4	4'C+26.47	21.50 RT	INLET	2X3-FT	H-S	1122.86	1121.86	1119.72	2.14		12	43	0.53%	III	IN3.1	1119.51
IN3.1	3'C+95.10	1.50 LT	INLET	4-DIAM	T	1122.69	1121.69	1118.51	3.18	PIPE GRATE REQUIRED	24	93	0.75%	III	EW3	1117.83
EW3	4'C+01.62	91.50 LT	ENDWALL	---	---	---	---	---	---		---	---	---	---	---	---

STRUCTURE DEPTH = RIM ELEVATION MINUS 15" FOR STRUCTURES WITH TYPE J CASTINGS (9" CASTING, 6" ADJUSTING)
STRUCTURE DEPTH = FLANGE ELEVATION MINUS 12" FOR STRUCTURES WITH TYPE H, H-S, HM, & HM-S CASTINGS (6" CASTING, 6" ADJUSTING)
STRUCTURE DEPTH = FLANGE ELEVATION MINUS 13" FOR STRUCTURES WITH TYPE T CASTINGS (7" CASTING, 6" ADJUSTING)
OFFSET IS TO CENTER OF STRUCTURE FOR MANHOLES AND INLETS
OFFSET IS TO END OF STRUCTURE ENDWALLS

THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRAFFIC UNIT A MINIMUM OF TWO WEEKS PRIOR TO THE NEED FOR SIGN PLACEMENT TO ALLOW FOR STAKING OF ANY PERMANENT SIGNING REQUIRED ON THE PROJECT.

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT
ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE
REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND
ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE
SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS, AND THERE SHALL NOT BE MORE THAN
ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES FOR TYPE II SIGNING ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

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LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

XXX DENOTES SIGN NUMBER

* SIGN TO REMAIN IN PLACE
UNTIL NEW SIGNS ARE INSTALLED

** MOVE SIGNS AS NEEDED FOR USE DURING CONSTRUCTION. DO NOT REMOVE UNTIL NEW SIGNS ARE INSTALLED.

PROJECT NO:1570-01-70

HWY: USH 8

COUNTY:POLK

SIGN REMOVALS

SHEET

24

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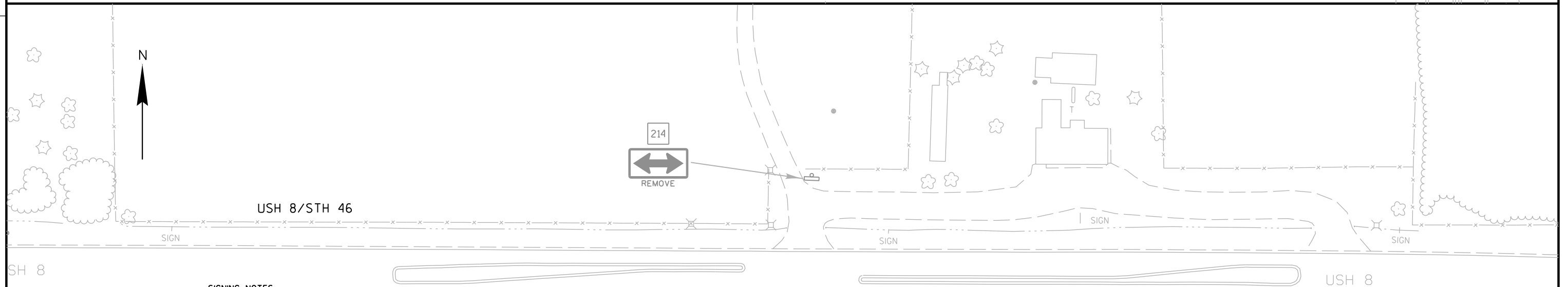
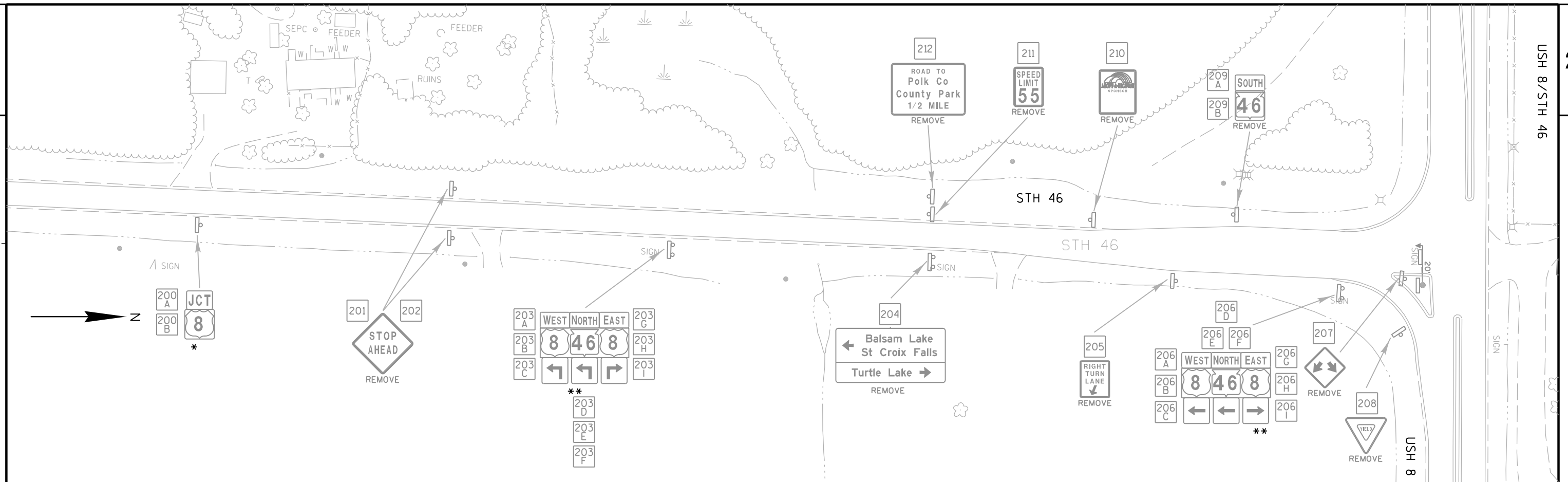
PLOT DATE : 3/26/2013

PLOT BY : O.R.E., Inc.

PLOT NAME :

PLOT SCALE : 100.0000 sf / in.

WISDOT/CADDS SHEET 42



SIGNING NOTES

THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRAFFIC UNIT A MINIMUM OF TWO WEEKS PRIOR TO THE NEED FOR SIGN PLACEMENT TO ALLOW FOR STAKING OF ANY PERMANENT SIGNING REQUIRED ON THE PROJECT.

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WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERRECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERRECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES FOR TYPE II SIGNING ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

SEPC

PROJECT NO: 1570-01-70

HWY: USH 8

COUNTY: POLK

SIGN REMOVALS

SHEET

25

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SIGNING NOTES

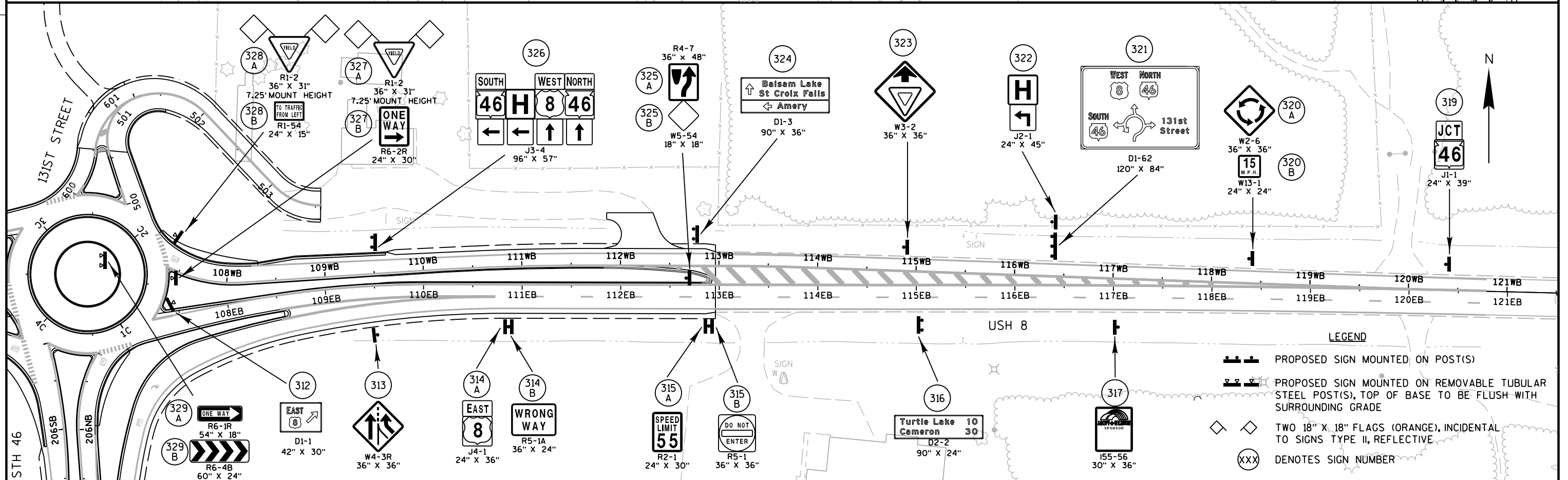
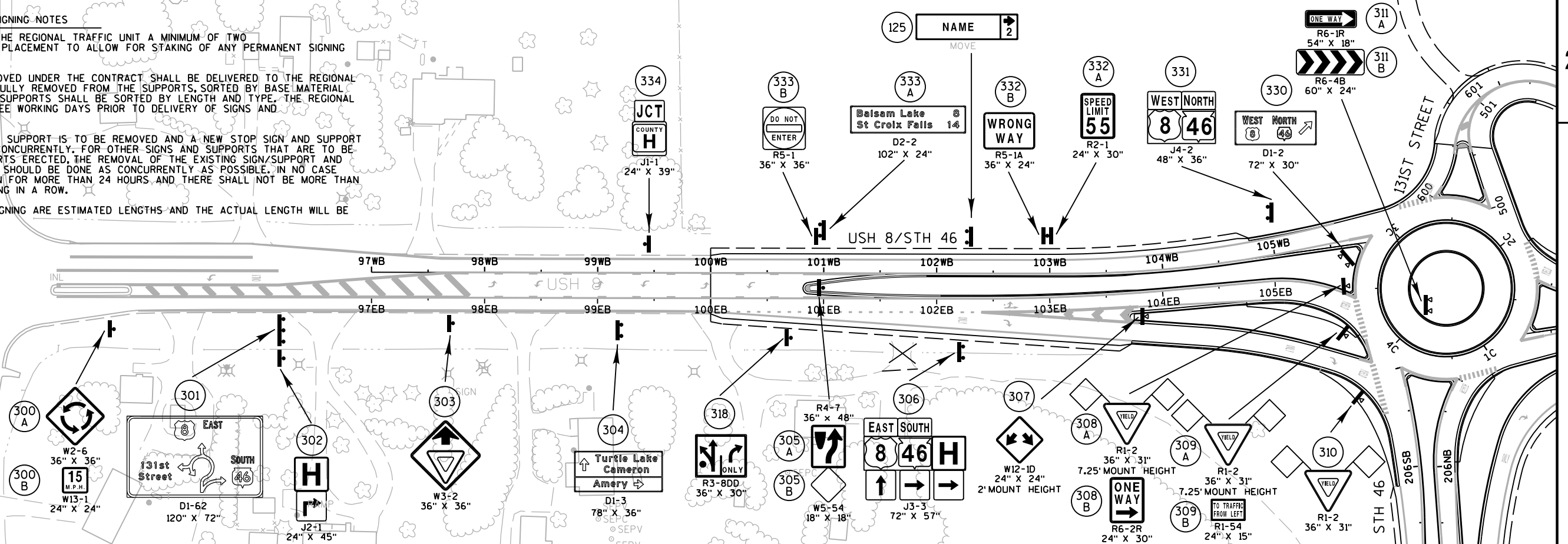
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WOOD POSTS SIZES FOR TYPE II SIGNING ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

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PROJECT NO: 1570-01-70

HWY: USH 8

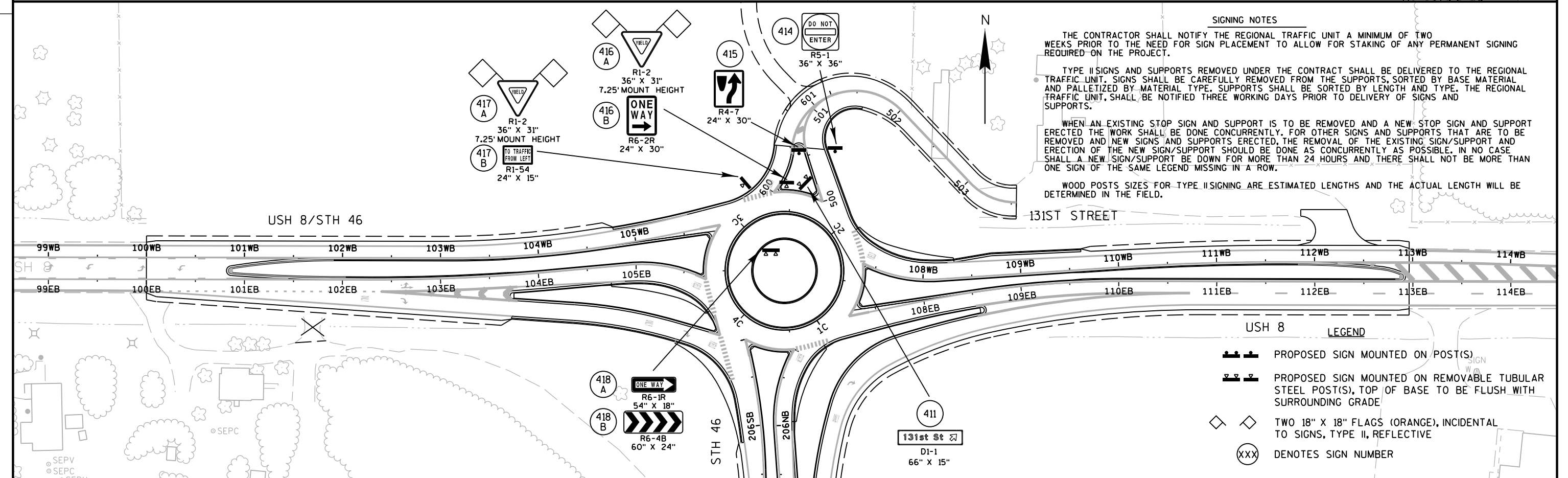
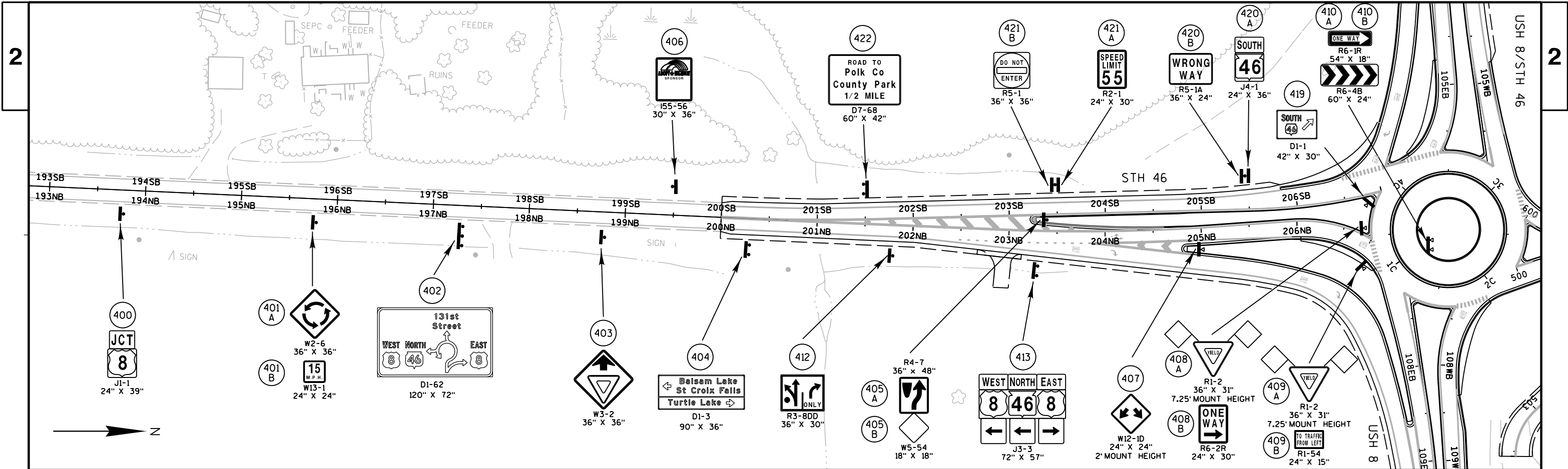
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PERMANENT SIGNING

SHEET

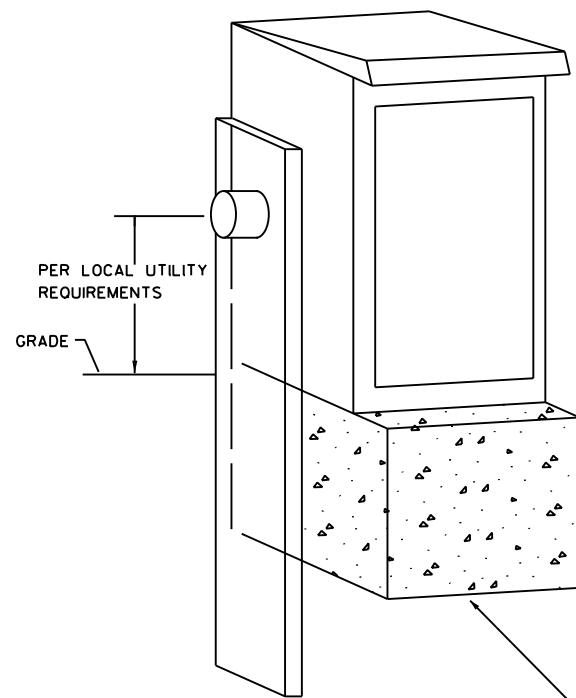
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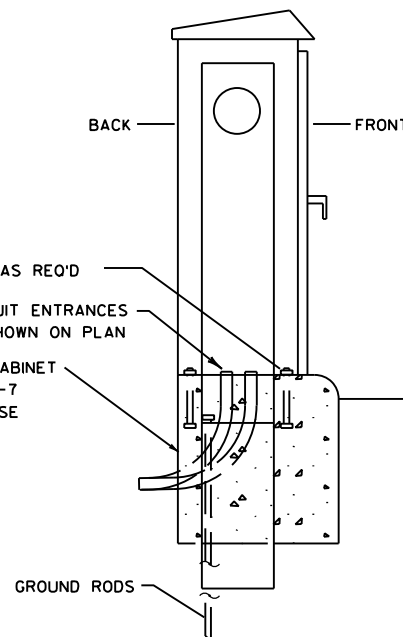


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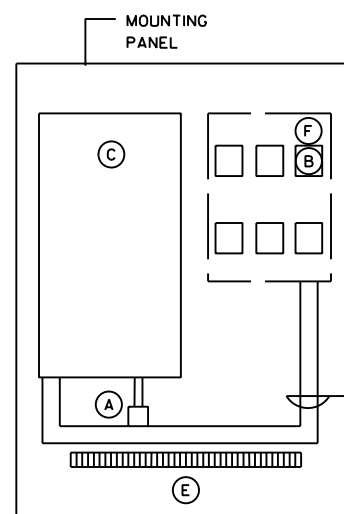


CABINET VIEW

ANCHOR BOLTS AS REQ'D
CONDUIT ENTRANCES
AS SHOWN ON PLAN
CONCRETE CONTROL CABINET
BASES SEE S.D.D. 9C5-7
TYPE B CONCRETE BASE



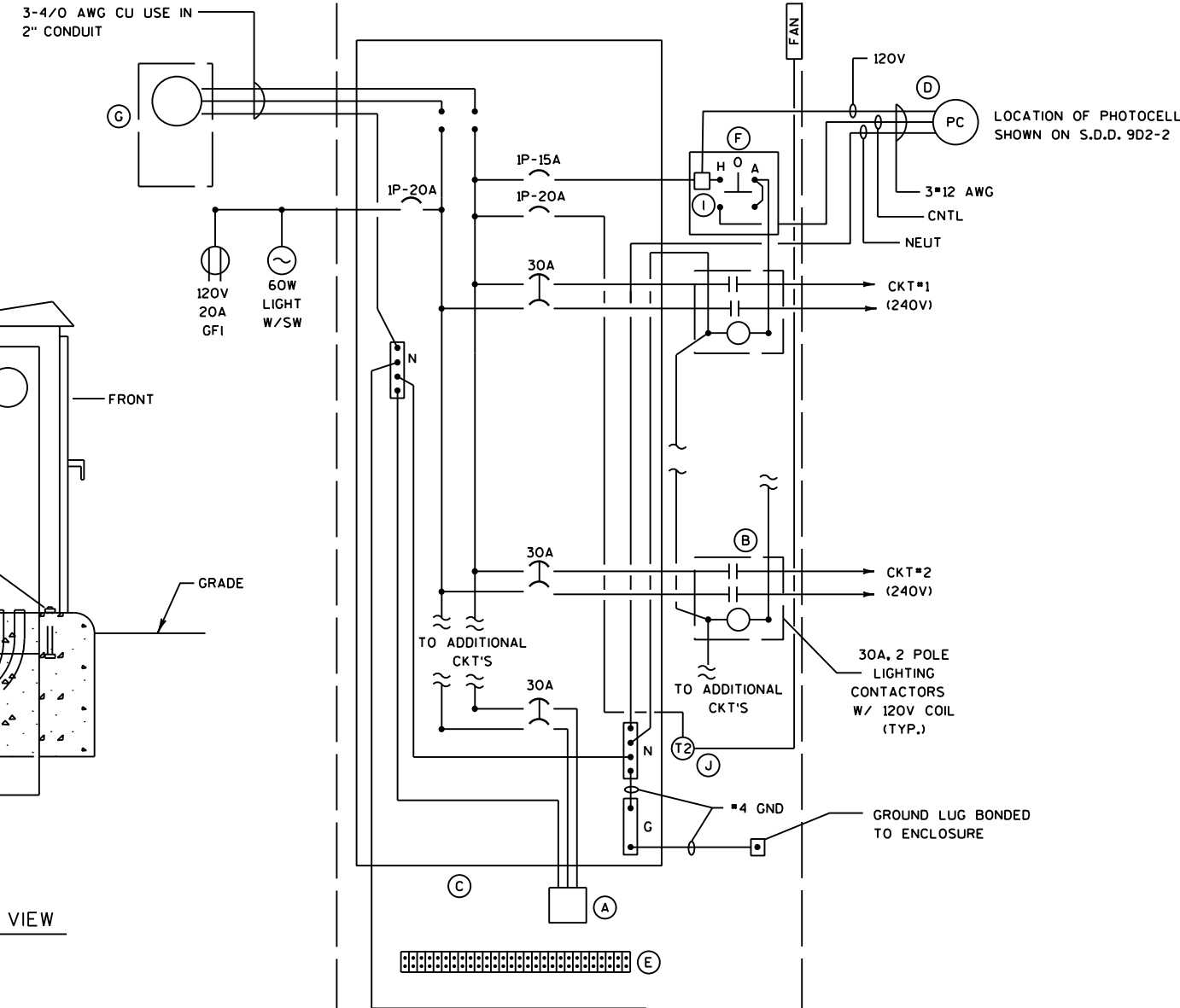
SIDE VIEW



EQUIPMENT LAYOUT

WISDOT LIGHTING CONTROL CABINET

NO SCALE

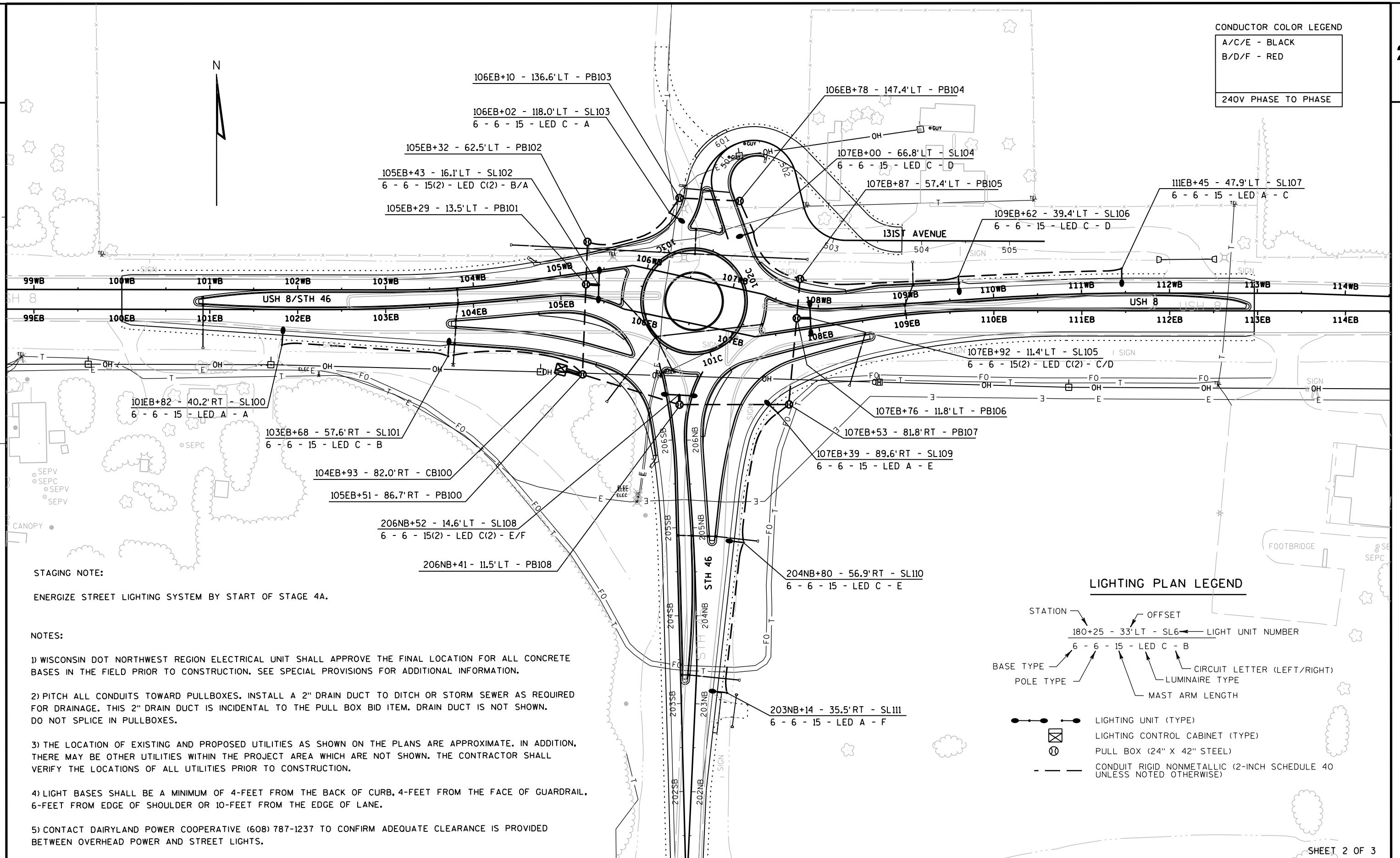


CONTROL DIAGRAM

- EQUIPMENT**
- (A) SURGE ARRESTOR
 - (B) 2 POLE, 30A 600V ELECTRICALLY HELD CONTACTOR, 120V CONTROL COIL, OPEN TYPE (TYP. OF 6),
 - (C) 100A MLO, 120/240V, 1PH, 3W, 24CKT., PANELBOARD WITH QUICK OFF BRANCH BREAKERS, 22000 A RMS INTERRUPTING CAPACITY.
 - (D) BUTTON TYPE PHOTOCELL, 120V.
 - (E) FIELD WIRING TERMINATION STRIP (MIN. 30 BLOCKS)
 - (F) H-O-A SWITCH
 - (G) 100A, 120/240V, 1PH, 3W METER PEDESTAL
 - (I) CONTROL TERMINAL BLOCK, TB1
 - (J) THERMOSTAT FOR FAN CONTROL

NOTES:

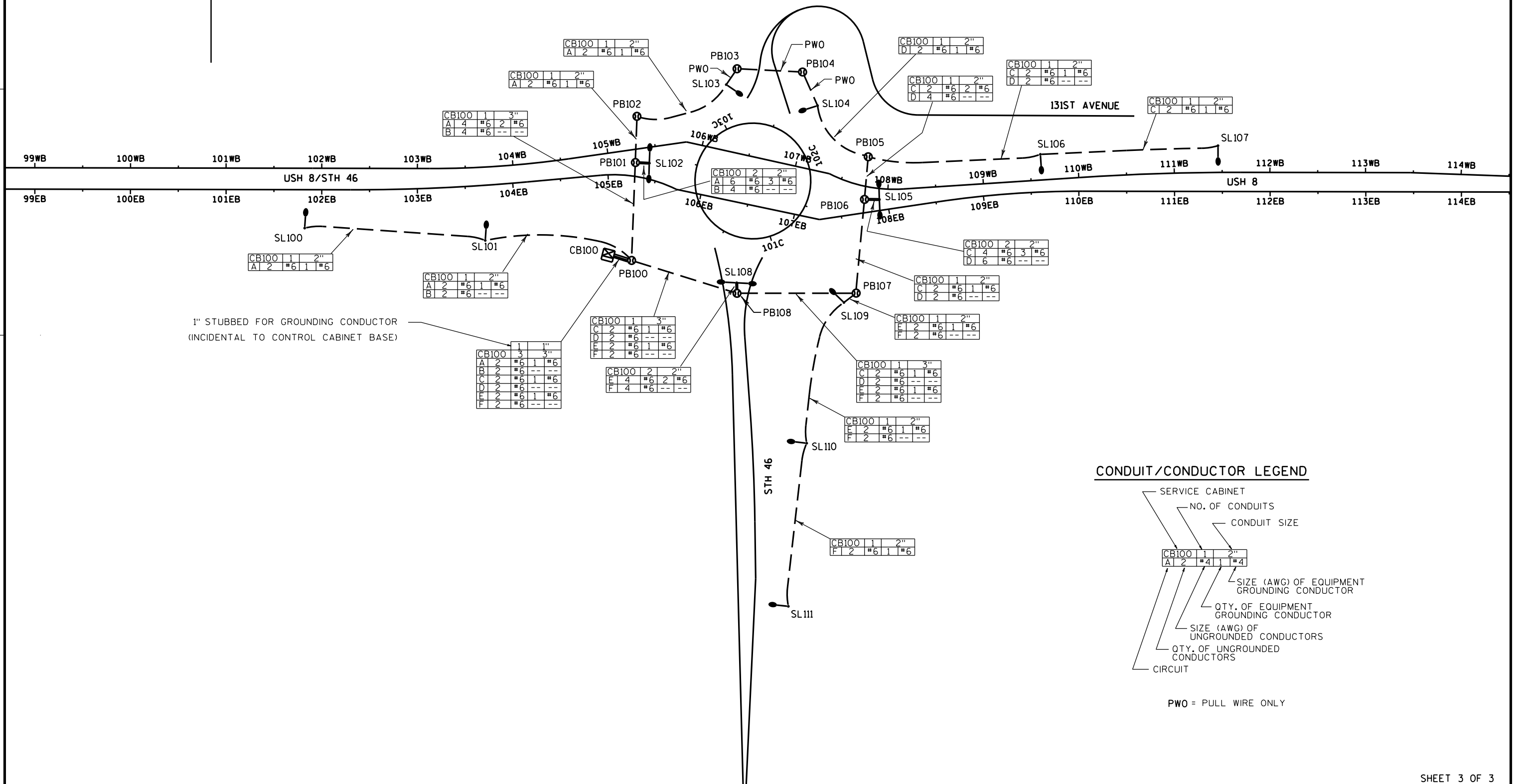
- ALL CONTROL WIRING SHALL BE COLOR CODED #12 AWG, XLP UNLESS OTHERWISE NOTED.
- ALL POWER AND CONTROL WIRING SHALL BE NEATLY ROUTED, LABELED AND SUPPORTED.
- THE LIGHTING CONTROL CABINET SHALL BE COMPLETELY WIRED UP TO THE FIELD WIRING TERMINATION STRIP IN THE CONTRACTORS SHOP AND TESTED PRIOR TO THE INSTALLATION AT SITE.
- A COPY OF THIS SHEET WITH AS-BUILT (RECORD) CONDITIONS SHALL BE PUT IN A PLASTIC PROTECTOR IN THE CABINET.
- THE CONTRACTOR SHALL COMPLY WITH LOCAL UTILITY INSTALLATION REQUIREMENTS.
- USE #10 AWG XLP CONDUCTORS FROM THE 30A CB'S TO THE FIELD WIRING TERMINATION STRIP. PROVIDE A GROUND WIRE AND NEUTRAL WIRE TO FIELD WIRING TERMINATION STRIP FROM PANELBOARD FOR EACH UNDERGROUND CABLE RUN TO LIGHTING UNITS AS REQUIRED.
- CABINET DOOR TO OPEN AWAY FROM ROADWAY.
- CABINET SHALL NOT OVERLAP THE CONCRETE CONTROL BASE.
- CONFIRM METER PLACEMENT WITH WISDOT AND UTILITY. PLACE METER AS REQUIRED FOR MAINTAINING BENDING RADIUS OF CONDUCTORS.
- ATTACH ALL EQUIPMENT TO CABINET MOUNTING CHANNEL.
- PROVIDE MINIMUM CABINET HEIGHT ALLOWABLE TO FIT NECESSARY COMPONENTS & MAINTAIN CODE CLEARANCES.
- SEE S.D.D. 9D2-2 USE CABINET TYPE 3866.



CONDUCTOR COLOR LEGEND

A/C/E - BLACK
B/D/F - RED

240V PHASE TO PHASE



SHEET 3 OF 3

PROJECT NO: 1570-01-70

HWY: USH 8

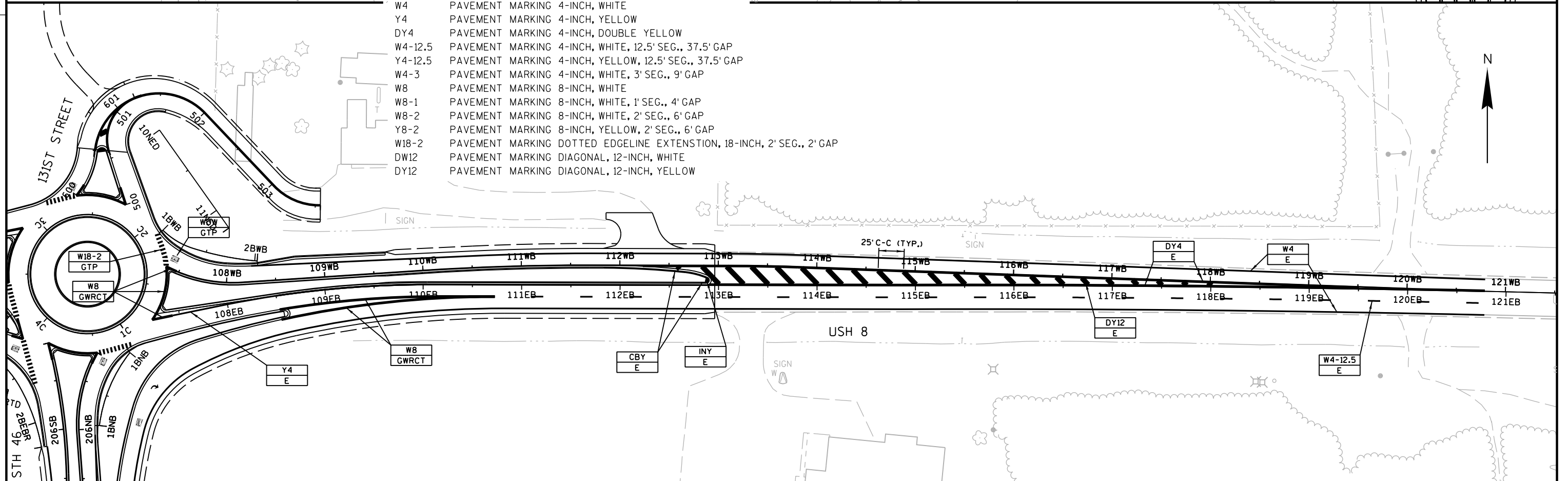
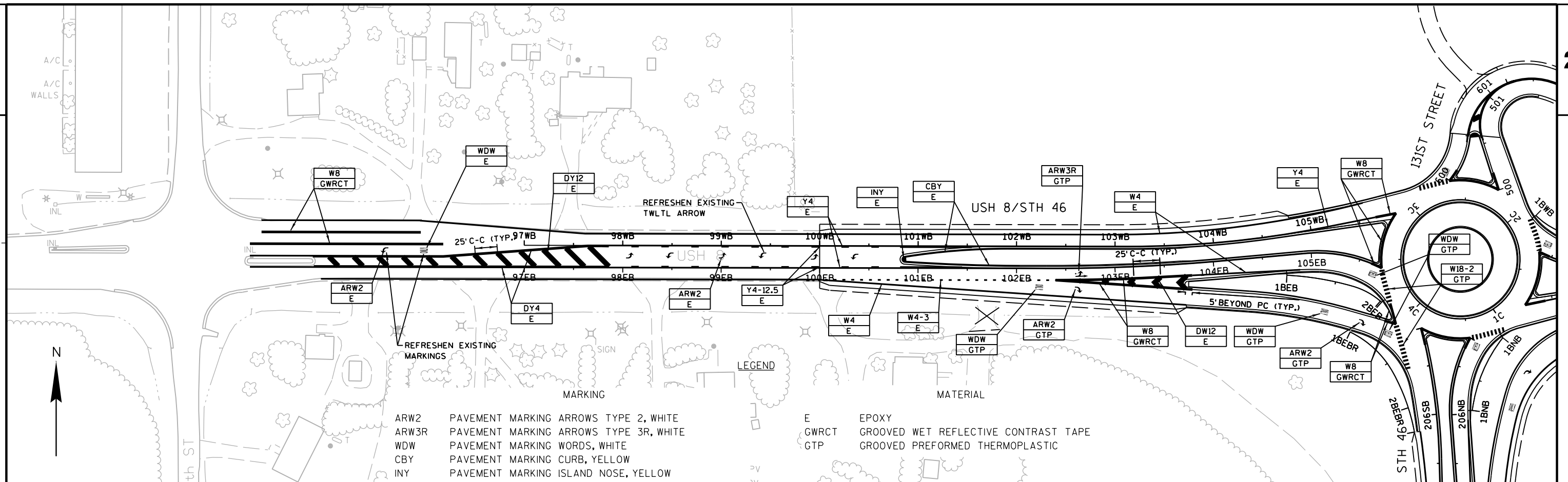
COUNTY: POLK

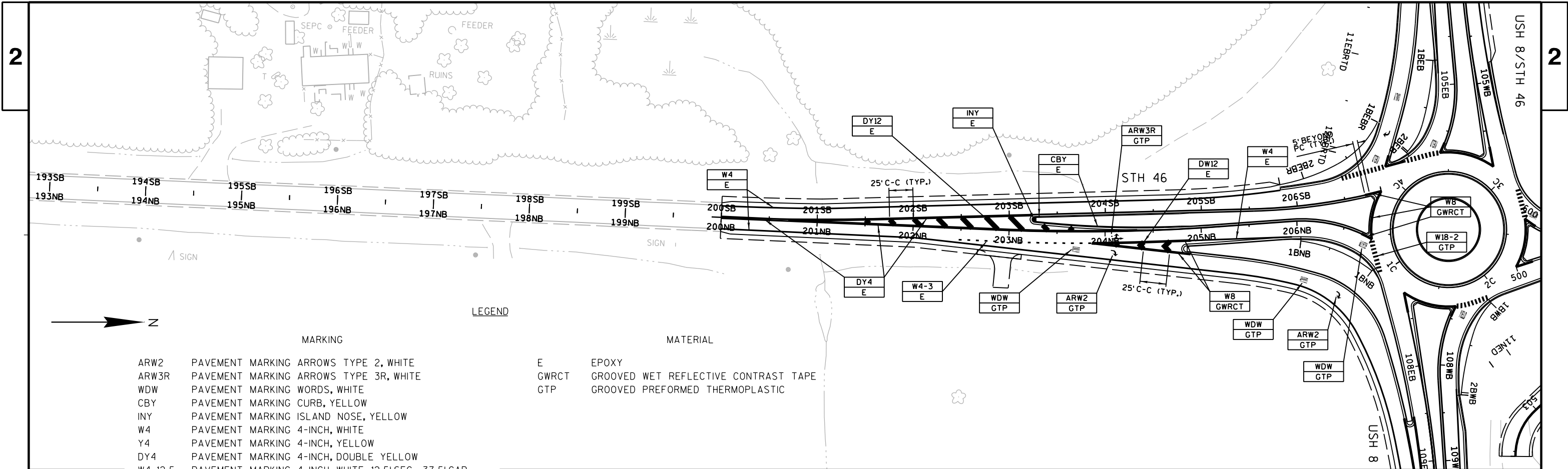
LIGHTING PLANS

SHEET

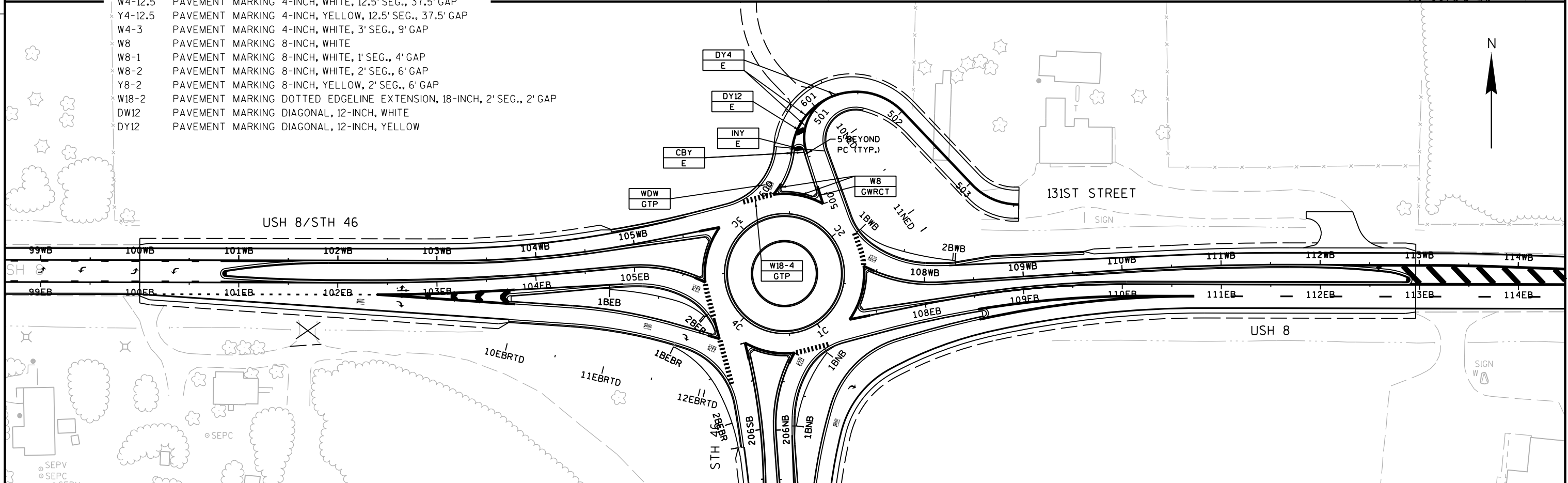
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MARKING			MATERIAL	
ARW2	PAVEMENT MARKING	ARROWS TYPE 2, WHITE	E	EPOXY
ARW3R	PAVEMENT MARKING	ARROWS TYPE 3R, WHITE	GWRCT	GROOVED WET REFLECTIVE CONTRAST TAPE
WDW	PAVEMENT MARKING	WORDS, WHITE	GTP	GROOVED PREFORMED THERMOPLASTIC
CBY	PAVEMENT MARKING	CURB, YELLOW		
INY	PAVEMENT MARKING	ISLAND NOSE, YELLOW		
W4	PAVEMENT MARKING	4-INCH, WHITE		
Y4	PAVEMENT MARKING	4-INCH, YELLOW		
DY4	PAVEMENT MARKING	4-INCH, DOUBLE YELLOW		
W4-12.5	PAVEMENT MARKING	4-INCH, WHITE, 12.5' SEG., 37.5' GAP		
Y4-12.5	PAVEMENT MARKING	4-INCH, YELLOW, 12.5' SEG., 37.5' GAP		
W4-3	PAVEMENT MARKING	4-INCH, WHITE, 3' SEG., 9' GAP		
W8	PAVEMENT MARKING	8-INCH, WHITE		
W8-1	PAVEMENT MARKING	8-INCH, WHITE, 1' SEG., 4' GAP		
W8-2	PAVEMENT MARKING	8-INCH, WHITE, 2' SEG., 6' GAP		
Y8-2	PAVEMENT MARKING	8-INCH, YELLOW, 2' SEG., 6' GAP		
W18-2	PAVEMENT MARKING	DOTTED EDGE LINE EXTENSION, 18-INCH, 2' SEG., 2' GAP		
DW12	PAVEMENT MARKING	DIAGONAL, 12-INCH, WHITE		
DY12	PAVEMENT MARKING	DIAGONAL, 12-INCH, YELLOW		



GENERAL NOTES FOR TRAFFIC CONTROL**GENERAL NOTES FOR TRAFFIC CONTROL**

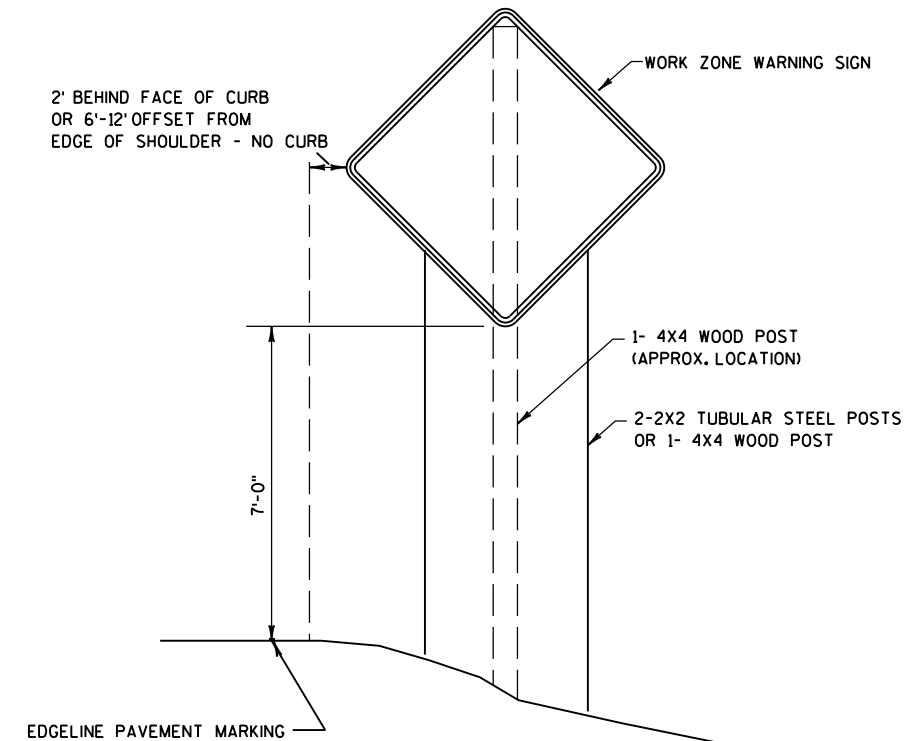
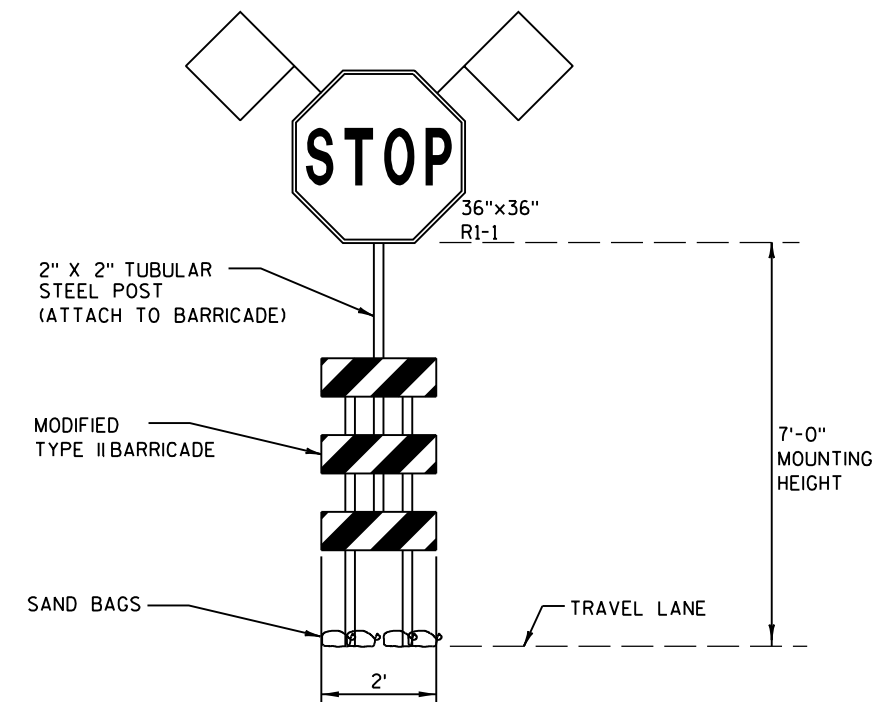
- 1) THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- 2) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER.
- 3) ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- 4) FOR NIGHTTIME OPERATION, ALL DRUMS IN TAPERS SHALL HAVE A TYPE "C" WARNING LIGHT.
- 5) ALL TYPE III BARRICADES WITH SIGNS SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.
- 6) ALL TEMPORARY PAVEMENT SHALL CONSIST OF 5 INCHES OF ASPHALTIC SURFACE TEMPORARY, ON 8 INCHES OF BASE AGGREGATE DENSE.
- 7) ALL PAVEMENT MARKINGS ON PERMANENT PAVEMENT SHALL BE REMOVABLE TAPE.
- 8) EXISTING STOP AHEAD AND STOP SIGNS CAN BE RELOCATED AND USED FOR TRAFFIC CONTROL.
- 9) ALL TEMPORARY STOP SIGNS SHALL HAVE TWO FLAGS MOUNTED ABOVE THE SIGN.
- 10) "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
- 11) BARRICADE STRIPES ARE TO BE SLOPED DOWNWARD IN THE DIRECTION OF TRAFFIC FLOW.
- 12) ALL TRAFFIC CONTROL DRUMS ARE SPACED AT 50-FEET UNLESS OTHERWISE NOTED.

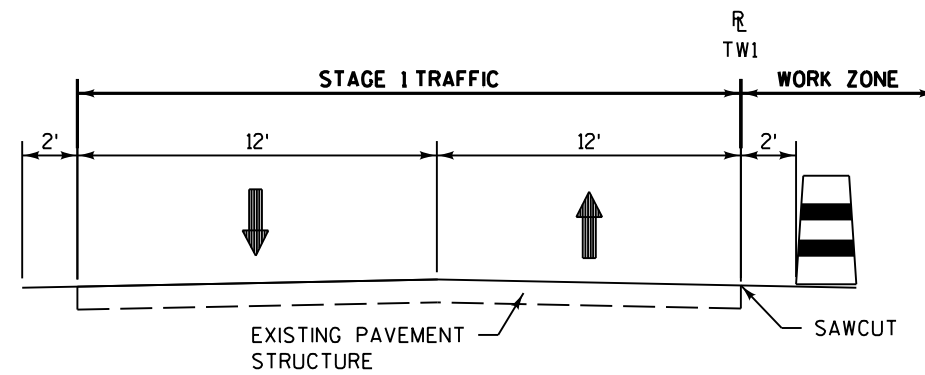
**STANDARD WISDOT
WORK ZONE TRAFFIC CONTROL SYMBOLS**

↑	TRAFFIC CONTROL BARRICADE TYPE III	⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS/BASES
↑↑	TRAFFIC CONTROL BARRICADE TYPE III W/ SIGN		
●	TRAFFIC CONTROL DRUMS	MB	TRAFFIC CONTROL SIGNS PCMS
●	TRAFFIC CONTROL DRUMS W/ WARNING LIGHTS TYPE C	◇ ◇	FLAGS, 16" x 16", ORANGE
●	TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT	→	DIRECTION OF TRAFFIC
┌	TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT	⋈	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
		—x—x—x—	REMOVING PAVEMENT MARKING

**WORK ZONE
PAVEMENT MARKINGS**

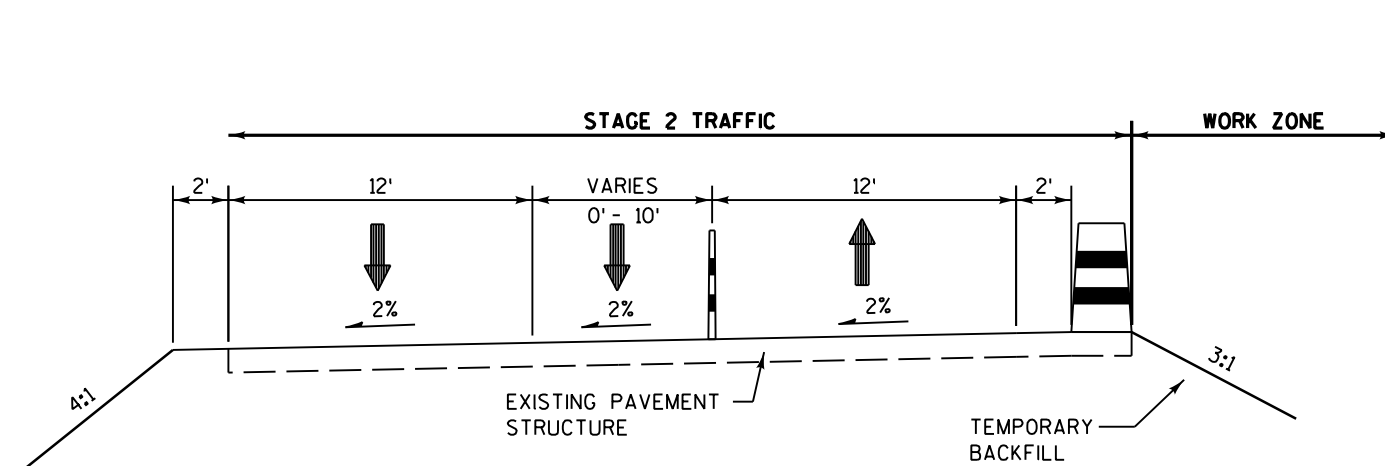
Y4	CONTINUOUS YELLOW, 4-INCH	TY	TEMPORARY DOTTED EDGE LINE, 12-INCH 2' SEG., 2' GAP
BY	BROKEN YELLOW, 4-INCH 2' SEG., 6' GAP.	A2	ARROW, WHITE, TYPE 2
DY	CONTINUOUS DOUBLE YELLOW, 4-INCH	TPM	TEMPORARY PAVEMENT MARKING
W4	CONTINUOUS WHITE, 4-INCH	TPMRT	TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
W8	CONTINUOUS WHITE, 8-INCH	RPM	REMOVE PAVEMENT MARKING
SB	STOP BAR, WHITE, 12-INCH		

**TYPICAL TEMPORARY TRAFFIC CONTROL DETAIL**
MOUNTING ON FIXED SUPPORTLONG TERM
7 DAYS OR MORE**TEMPORARY STOP SIGN**PAID FOR AS:
1-TRAFFIC CONTROL BARRICADES TYPE II
1-TRAFFIC CONTROL SIGNS



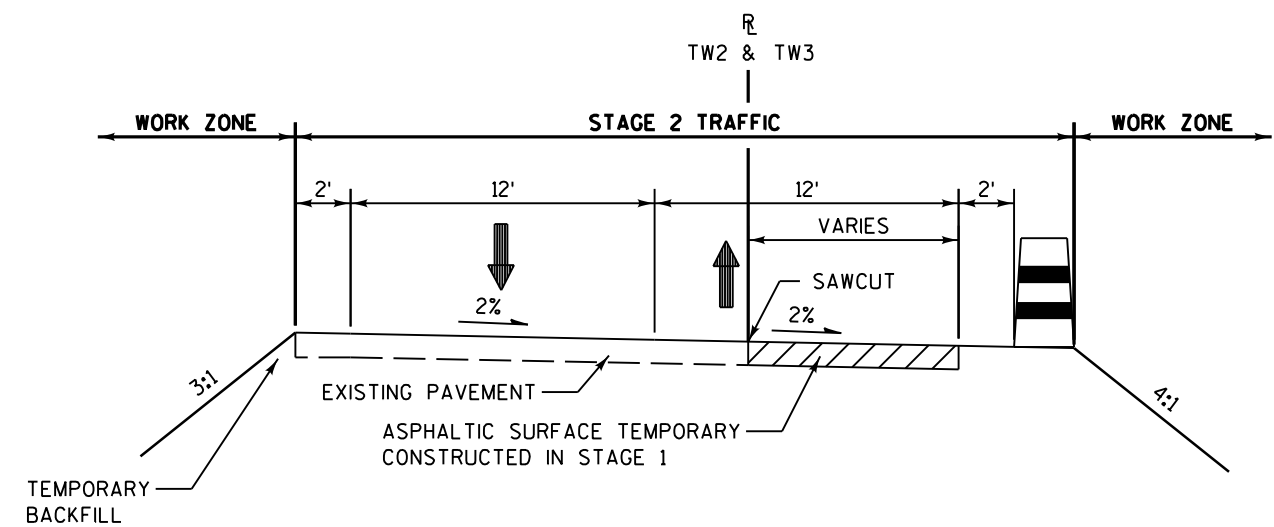
STAGE 1 TYPICAL SECTION

STH 46



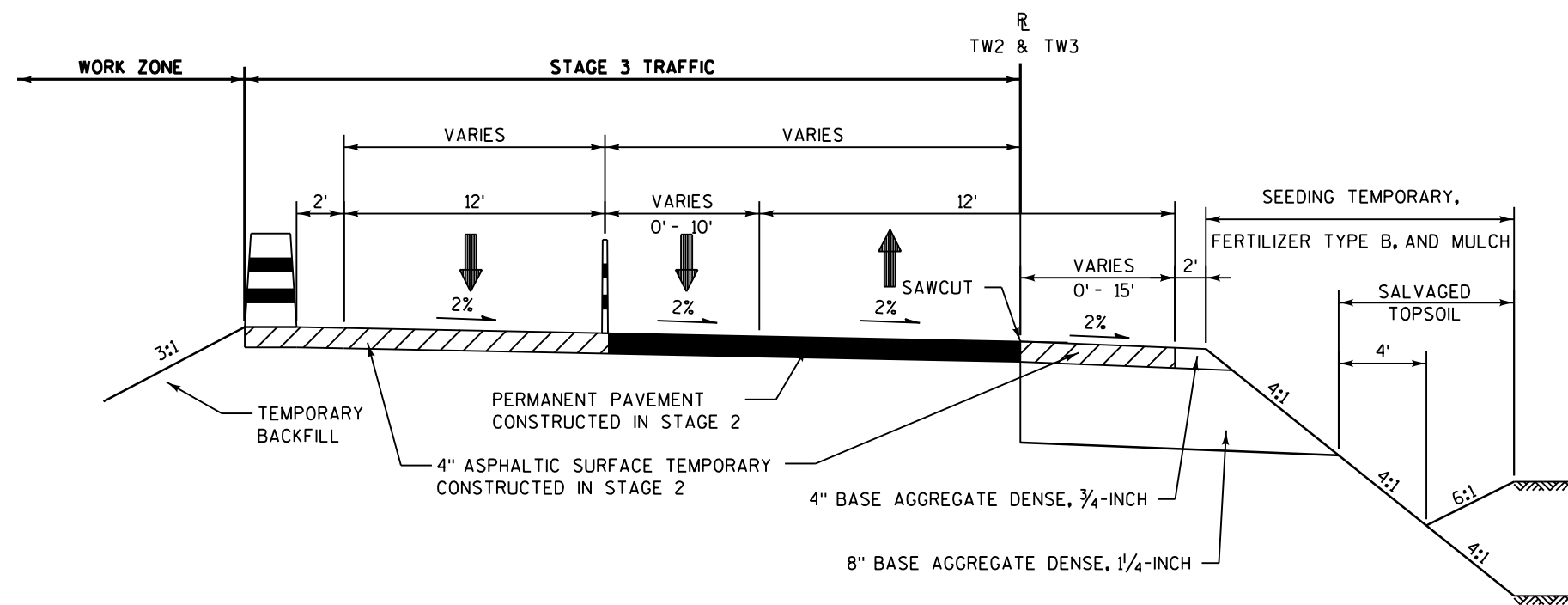
STAGE 2A & 2B TYPICAL SECTION

USH 8



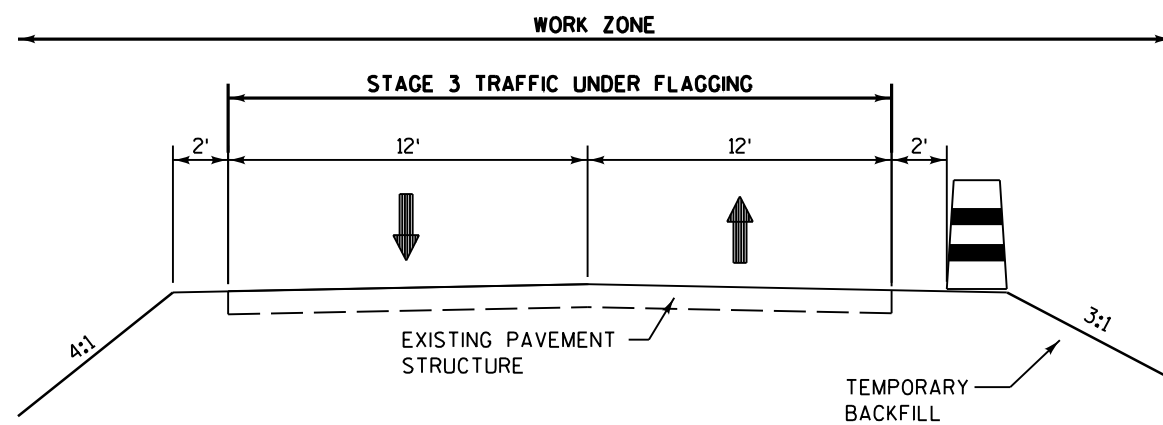
STAGE 2A & 2B TYPICAL SECTION

STH 46



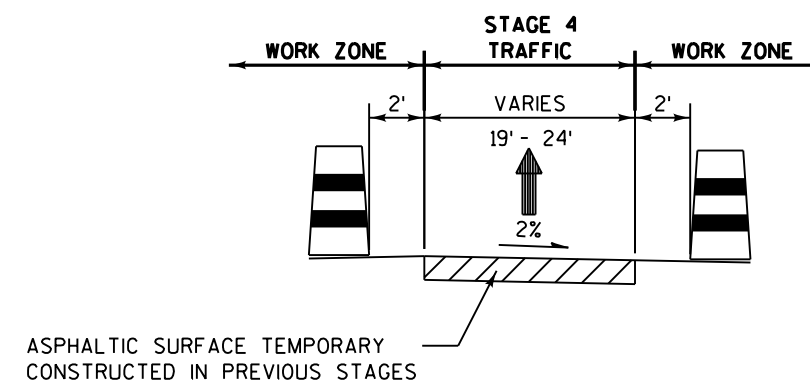
STAGE 3 TYPICAL SECTION

USH 8



STAGE 3 TYPICAL SECTION

STH 46
STA 200+00NB - 203+30NB

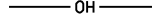


STAGE 4A TYPICAL SECTION

CIRCULATORY ROADWAY

LEGEND

- 

TYPE 4 WOOD POLE
- 

OVERHEAD SIGNAL CABLE
- 

SIGNAL HEAD, OVERHEAD MOUNT
- 

250W HPS LUMINAIRE, 15-FOOT MAST ARM, MOUNT ON WOOD POLE
- 

SIGNAL HEAD NUMBER
- 

STOP SIGN
- 

LANE DESIGNATION (FOR INFORMATION ONLY)
- 

TEMPORARY SIGNAL SUPPORT
- 

RED CIRCULAR INDICATOR
- 

YELLOW CIRCULAR INDICATOR
- 

GREEN CIRCULAR INDICATOR
- 

RED ARROW
- 

YELLOW ARROW
- 

GREEN ARROW
- 

TEMPORARY TRAFFIC SIGNAL CABINET

NOTE: ALL LENSES ARE 12-INCH

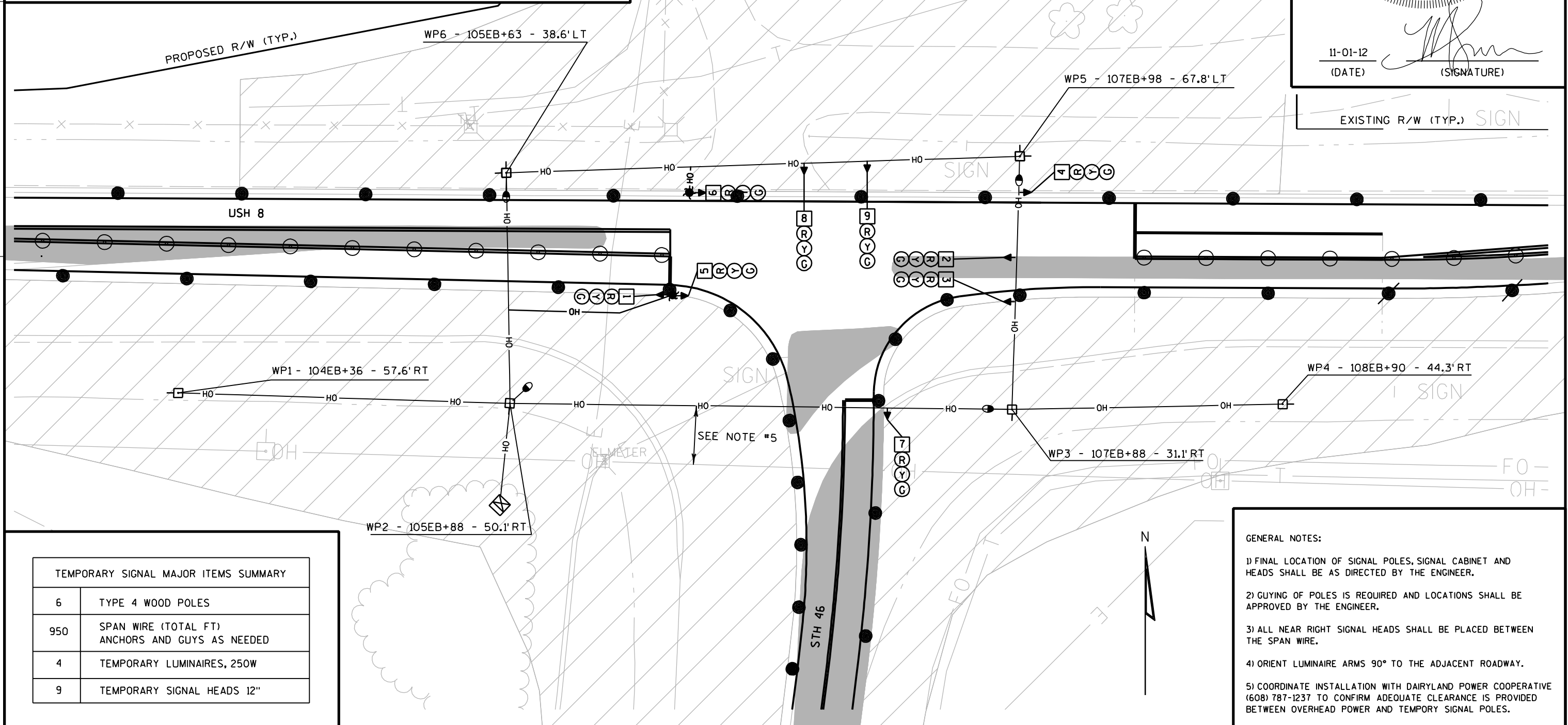
TEMPORARY TRAFFIC SIGNAL
PLANS DESIGNED BY:



11-01-12
(DATE)

(SIGNATURE)

EXISTING R/W (TYP.) SIGN



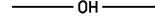
TEMPORARY SIGNAL MAJOR ITEMS SUMMARY

6	TYPE 4 WOOD POLES
950	SPAN WIRE (TOTAL FT) ANCHORS AND GUYS AS NEEDED
4	TEMPORARY LUMINAIRES, 250W
9	TEMPORARY SIGNAL HEADS 12"

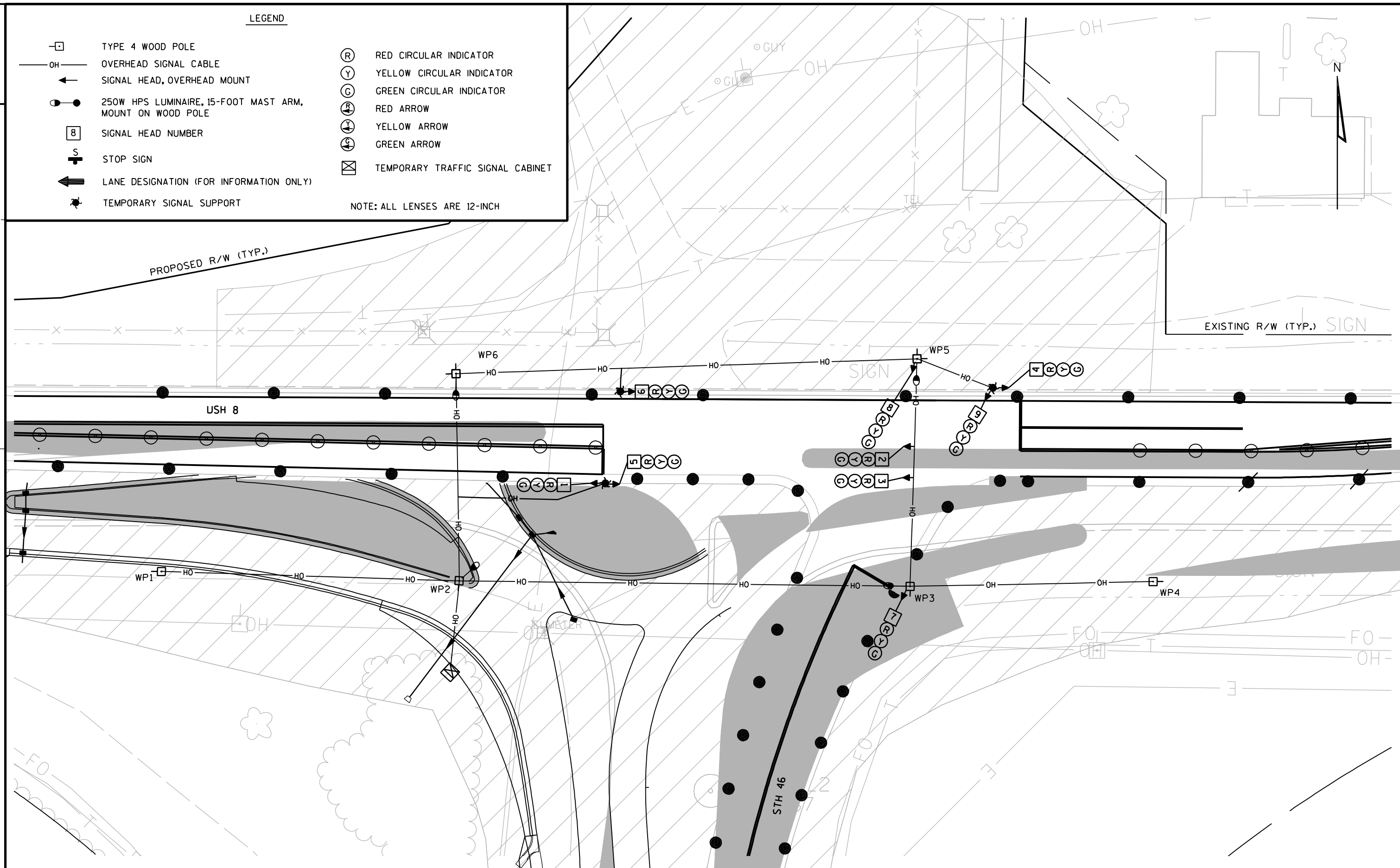
GENERAL NOTES:

- 1) FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINET AND HEADS SHALL BE AS DIRECTED BY THE ENGINEER.
- 2) GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
- 3) ALL NEAR RIGHT SIGNAL HEADS SHALL BE PLACED BETWEEN THE SPAN WIRE.
- 4) ORIENT LUMINAIRE ARMS 90° TO THE ADJACENT ROADWAY.
- 5) COORDINATE INSTALLATION WITH DAIRYLAND POWER COOPERATIVE (608) 787-1237 TO CONFIRM ADEQUATE CLEARANCE IS PROVIDED BETWEEN OVERHEAD POWER AND TEMPORARY SIGNAL POLES.

LEGEND

- | | | | |
|---|--|---|----------------------------------|
|  | TYPE 4 WOOD POLE |  | RED CIRCULAR INDICATOR |
|  | OVERHEAD SIGNAL CABLE |  | YELLOW CIRCULAR INDICATOR |
|  | SIGNAL HEAD, OVERHEAD MOUNT |  | GREEN CIRCULAR INDICATOR |
|  | 250W HPS LUMINAIRE, 15-FOOT MAST ARM, MOUNT ON WOOD POLE |  | RED ARROW |
|  | SIGNAL HEAD NUMBER |  | YELLOW ARROW |
|  | STOP SIGN |  | GREEN ARROW |
|  | LANE DESIGNATION (FOR INFORMATION ONLY) |  | TEMPORARY TRAFFIC SIGNAL CABINET |
|  | TEMPORARY SIGNAL SUPPORT | | |

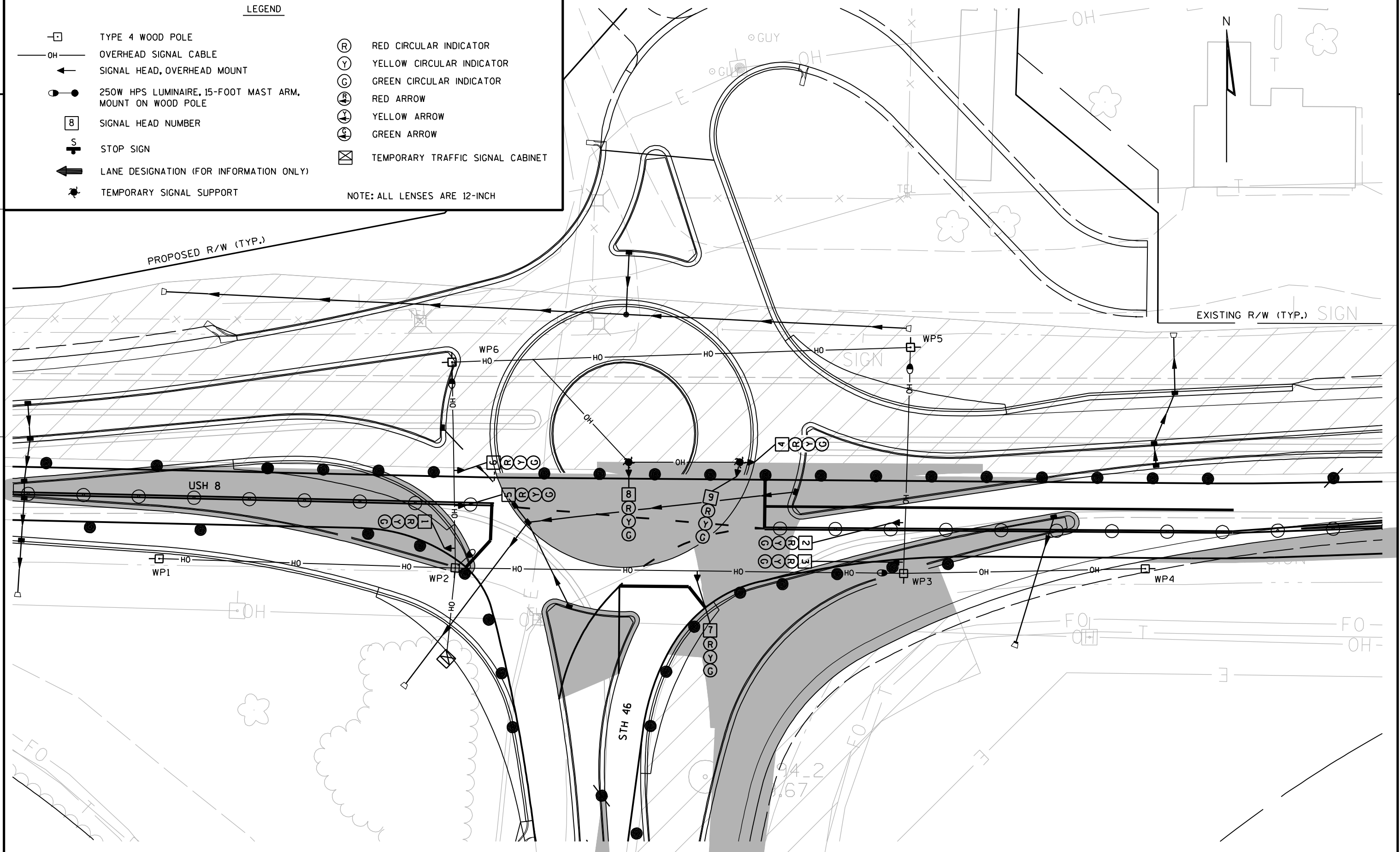
NOTE: ALL LENSES ARE 12-INCH



2 |

	RED CIRCULAR INDICATOR
	YELLOW CIRCULAR INDICATOR
	GREEN CIRCULAR INDICATOR
	RED ARROW
	YELLOW ARROW
	GREEN ARROW
	TEMPORARY TRAFFIC SIGNAL CABINET

NOTE: ALL LENSES ARE 12-INCH



SHEET 38

WISDOT/CADDS SHEET 42

SEQUENCE OF OPERATION

		NOT USED								←							
		NOT USED								NOT USED							
RING 1		Ø1				Ø2				Ø3				Ø4			
		CLEAR TO				CLEAR TO				CLEAR TO				CLEAR TO			
		R/W	**			R/W	**			R/W	**			R/W	**		
	Ø1																
	Ø2	4,5,6															
	Ø3																
	Ø4																
	Ø5																
	Ø6	1,2,3															
	Ø7																
	Ø8	7,8,9															
	Ø2P																
	Ø4P																
	Ø6P																
	Ø8P																

		NOT USED								→							
		NOT USED								↑							
RING 2		Ø5				Ø6				Ø7				Ø8			
		CLEAR TO				CLEAR TO				CLEAR TO				CLEAR TO			
		R/W	**			R/W	**			R/W	**			R/W	**		
	Ø1																
	Ø2	4,5,6															
	Ø3																
	Ø4																
	Ø5																
	Ø6	1,2,3															
	Ø7																
	Ø8	7,8,9															
	Ø2P																
	Ø4P																
	Ø6P																
	Ø8P																



TEMPORARY TRAFFIC SIGNAL TIMING

PHASE	GREEN	YELLOW	ALL RED
1			
2	25.0	5.0	2.0
3			
4			
5			
6	25.0	5.0	2.0
7			
8	15.0	5.0	2.0

CONTROLLER LOGIC

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

OVERLAPS

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

TYPE OF INTERCONNECT COMMUNICATION	
NONE	x
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM #:	SS- -

TYPE OF PRE-EMPT	
NONE	x
RAILROAD	
EMERGENCY VEHICLE	
3M	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

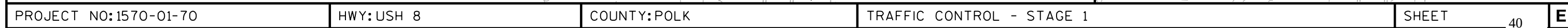
TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	x
IN SEPARATE DOT LIGHTING CABINET	

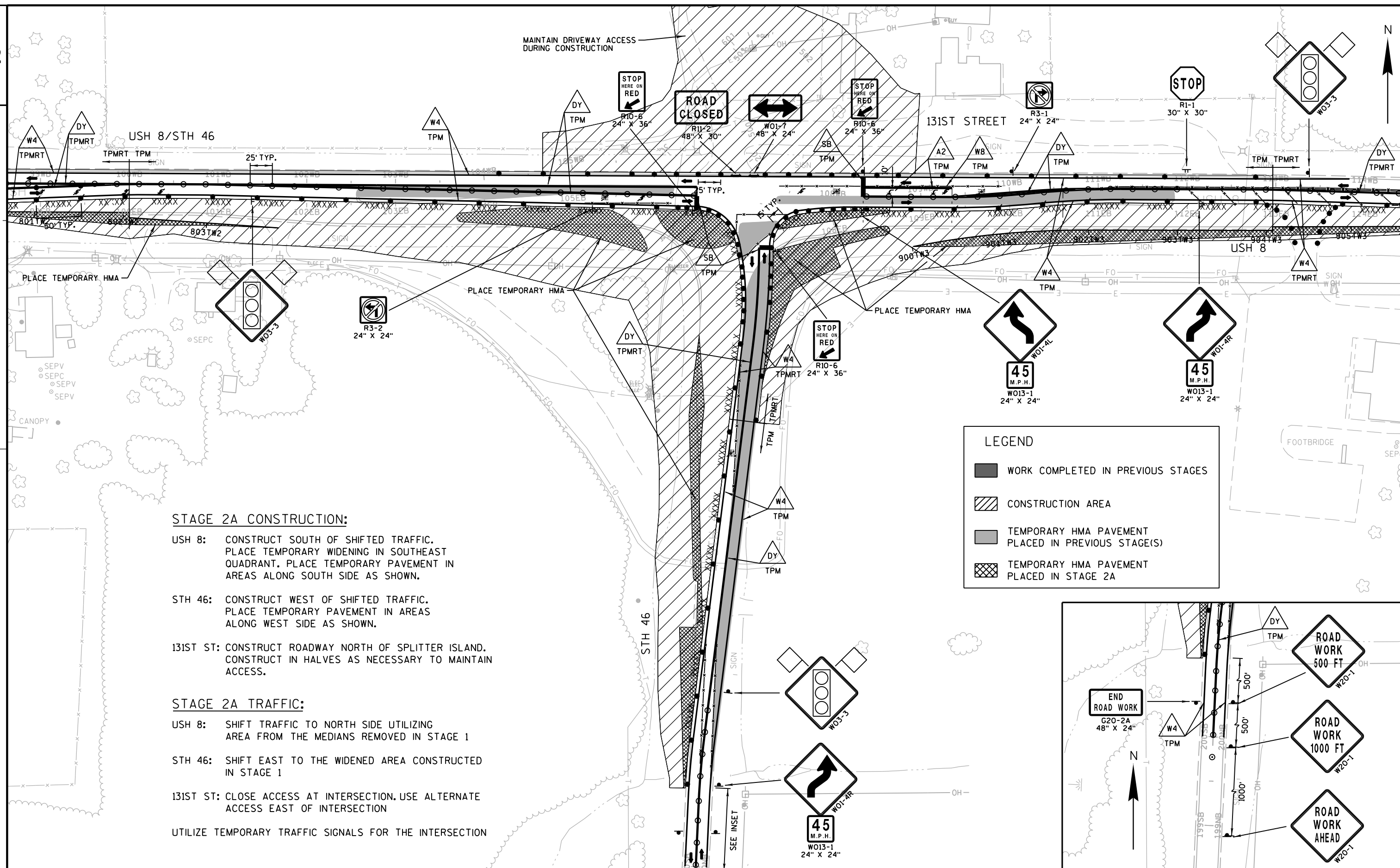
** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

BARRIER

CHART 1

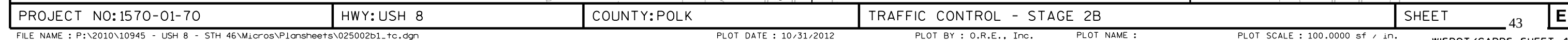
PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1		
2	6	8
3		
4		
5		
6	2	8
7		
8		2,6



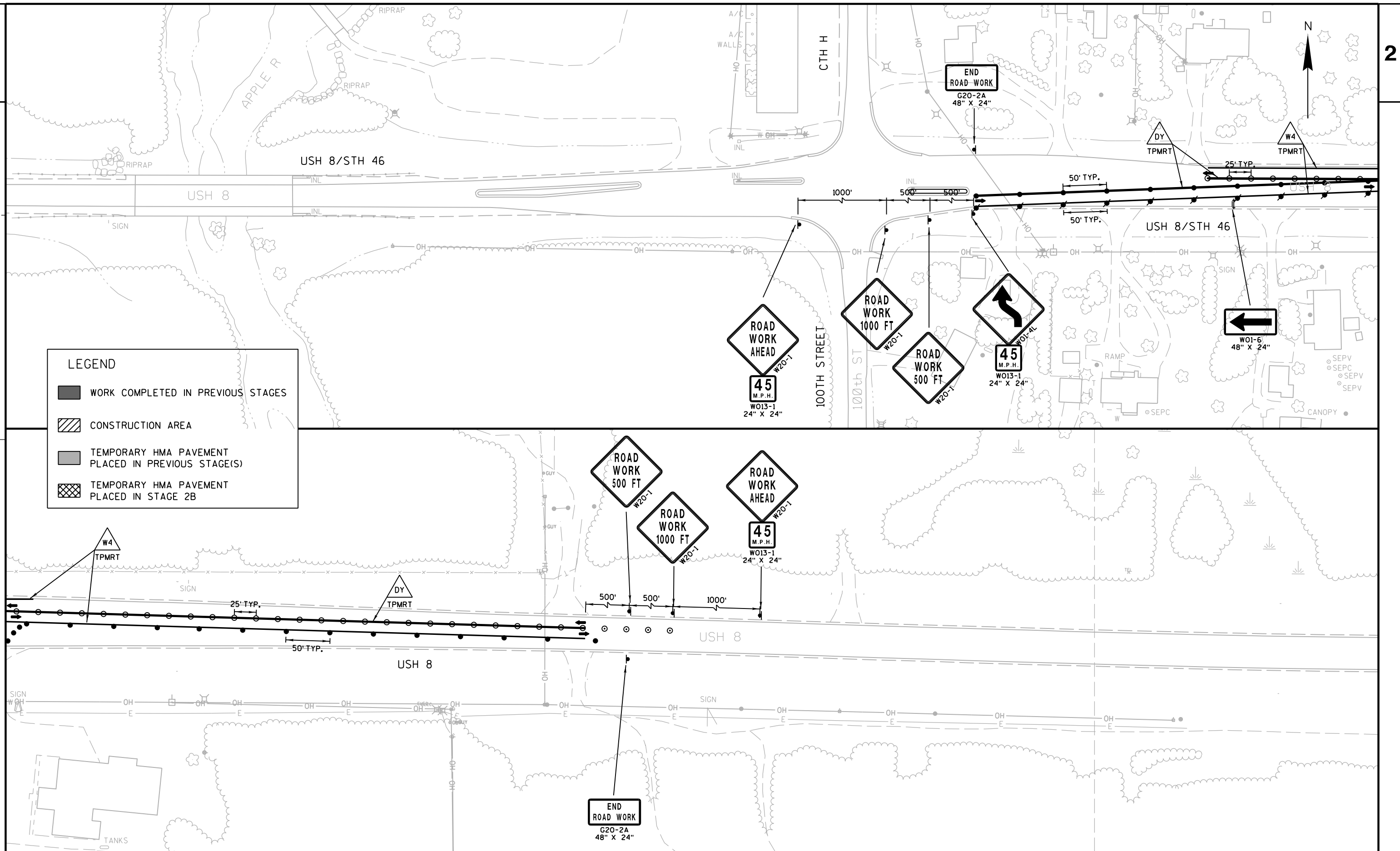


2 |

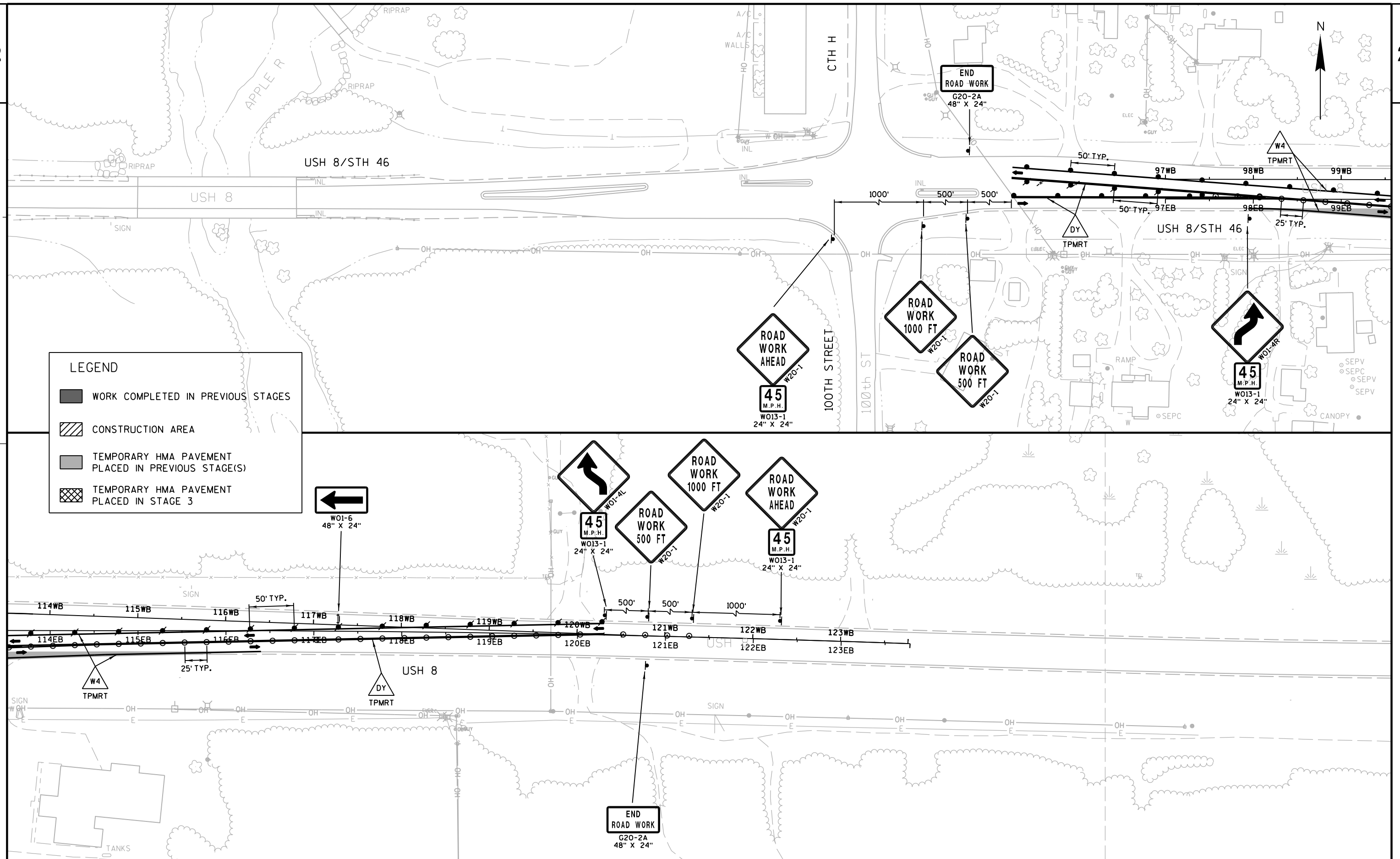


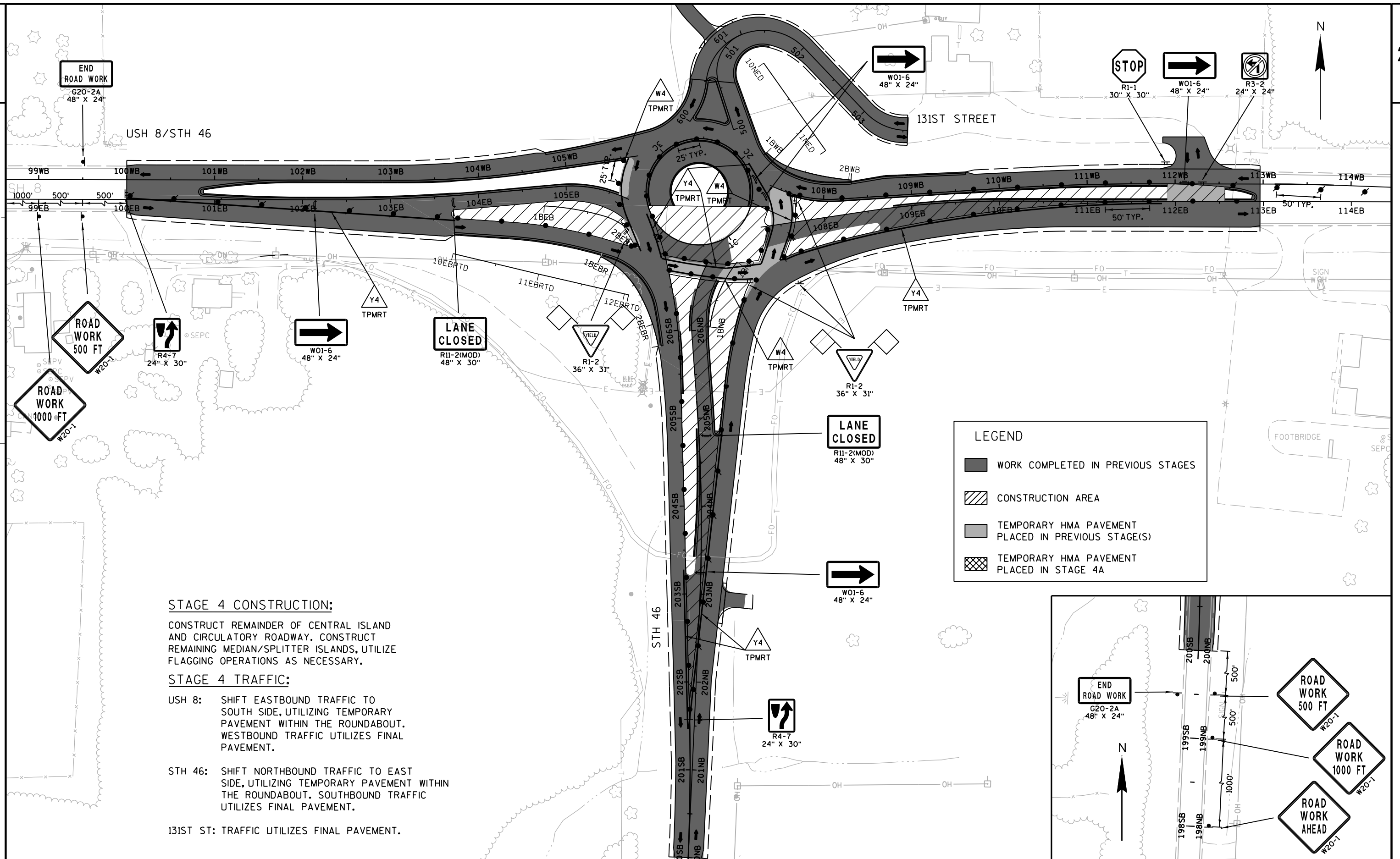


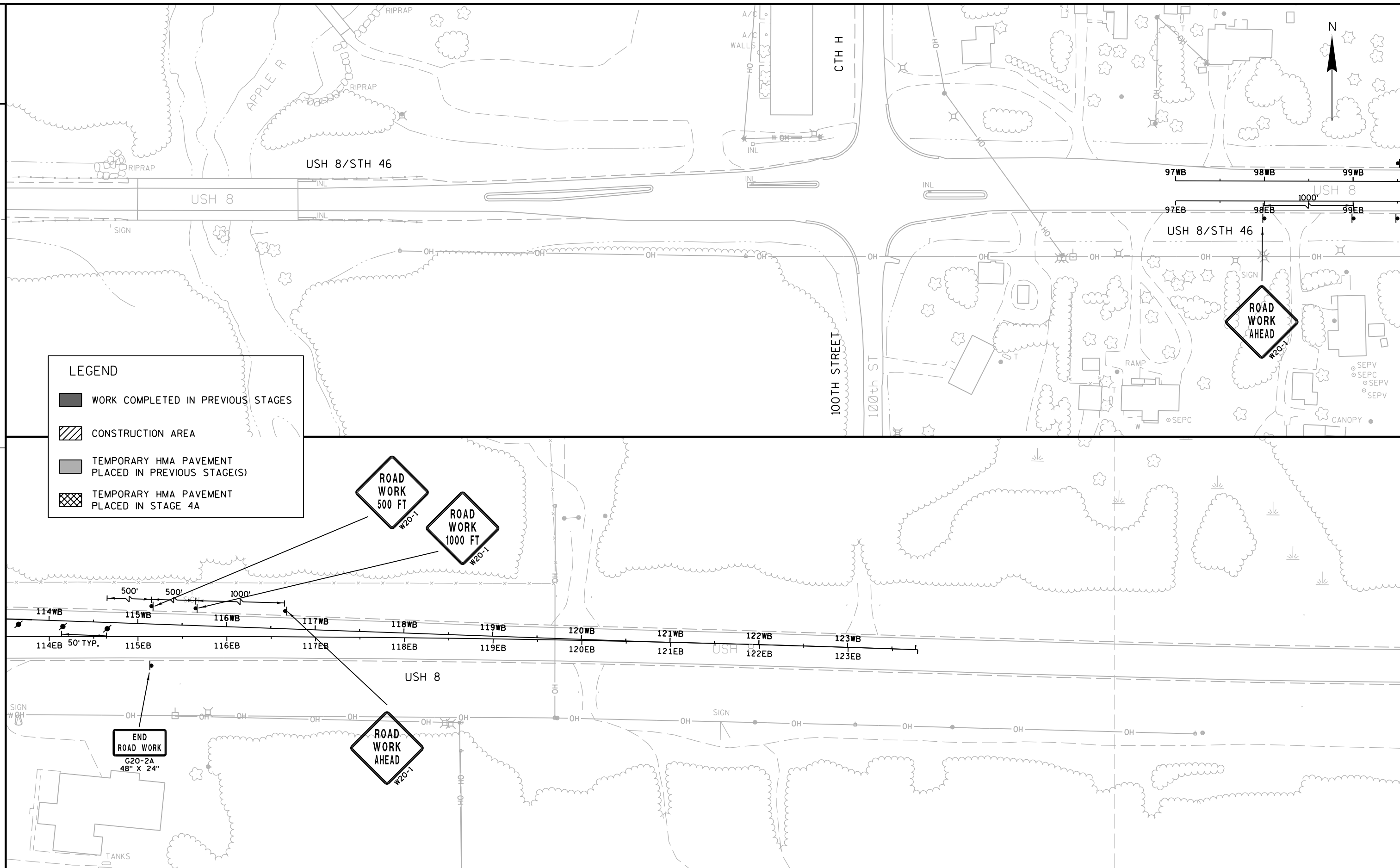
2

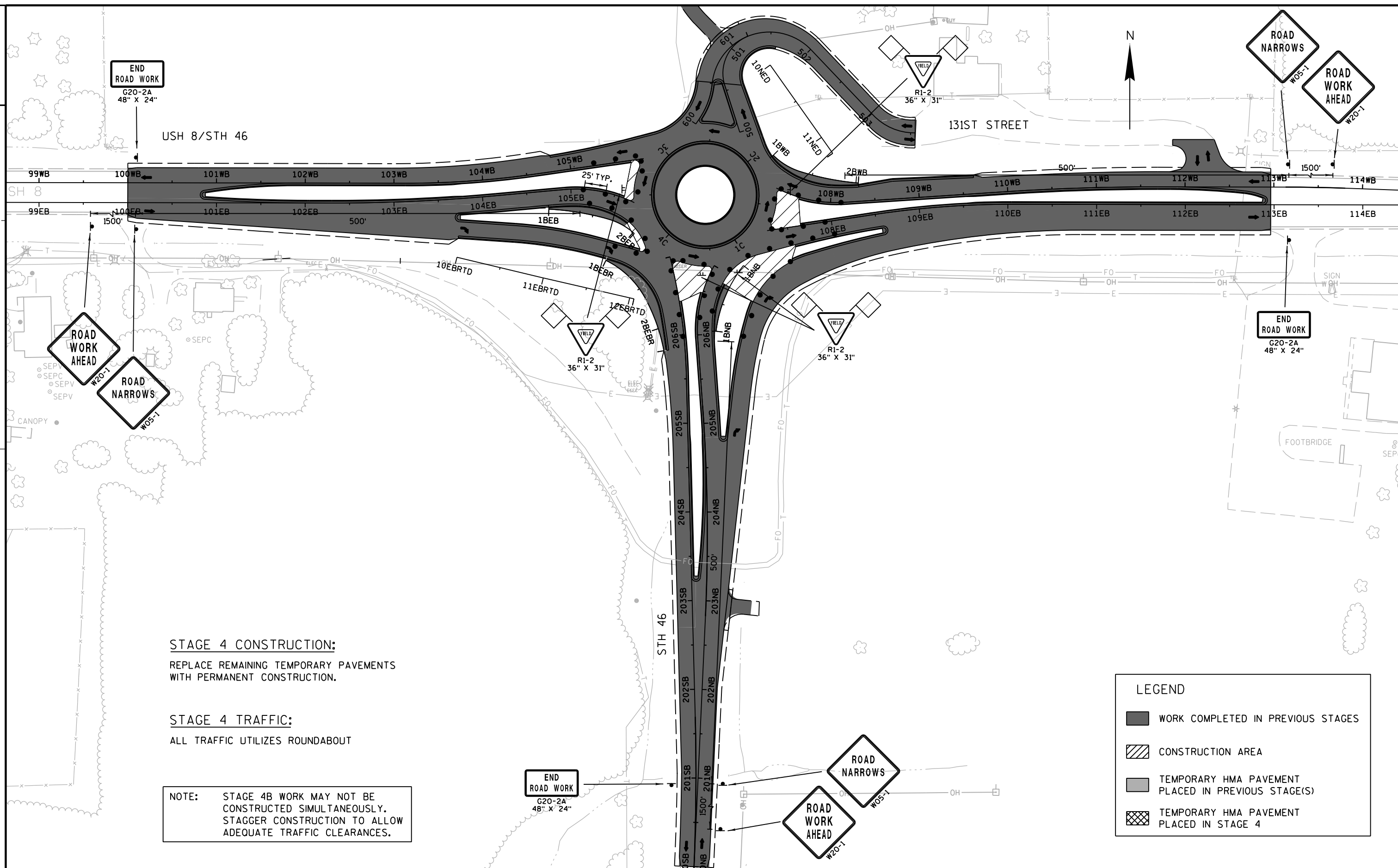


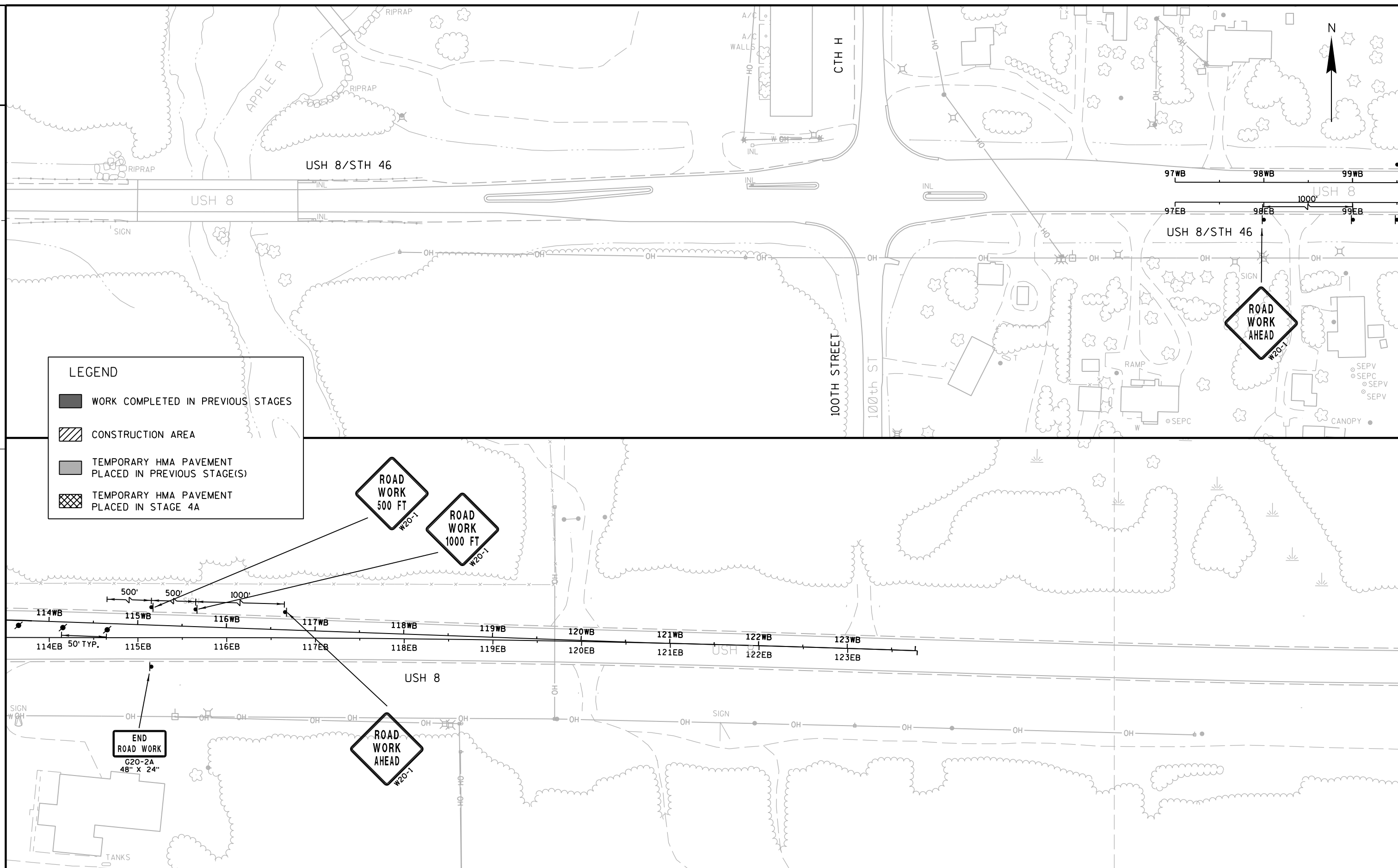
PROJECT NO:1570-01-70	HWY:USH 8	COUNTY:POLK	TRAFFIC CONTROL - STAGE 2B	SHEET 44	E
FILE NAME : P:\2010\10945 - USH 8 - STH 46\Micros\Plansheets\025002b2_.tcdgn		PLOT DATE : 10/31/2012	PLOT BY : O.R.E., Inc.	PLOT NAME :	PLOT SCALE : 100.0000 sf / in.

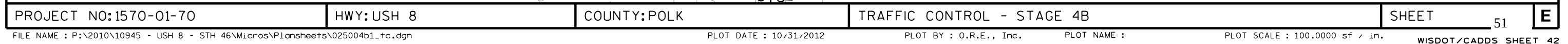


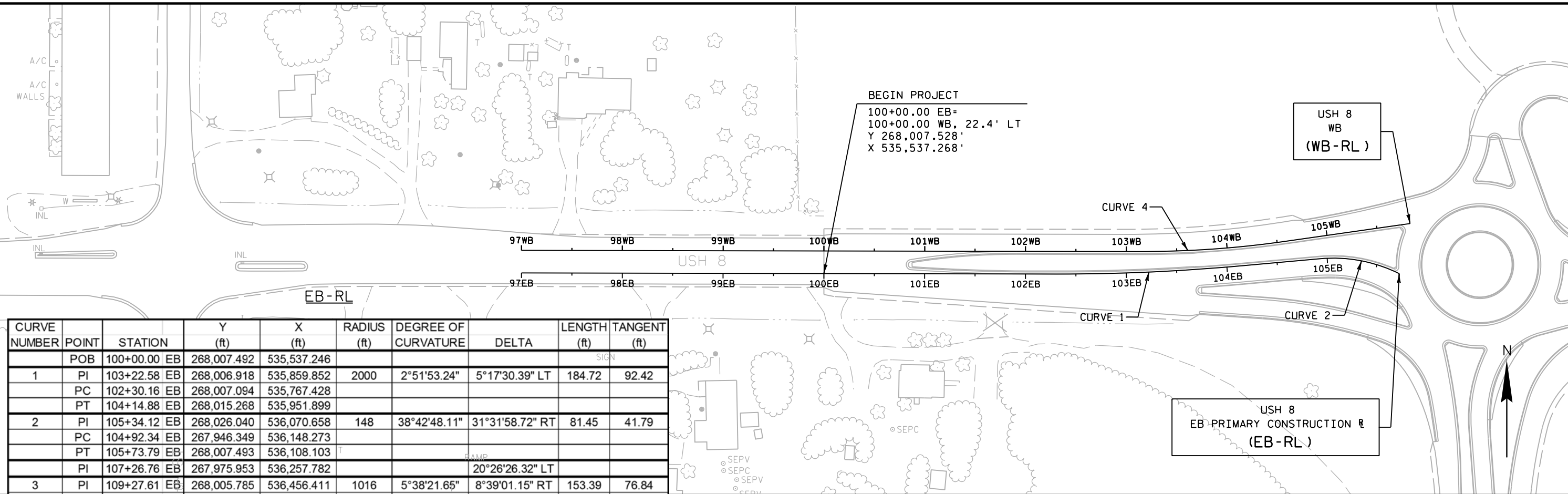








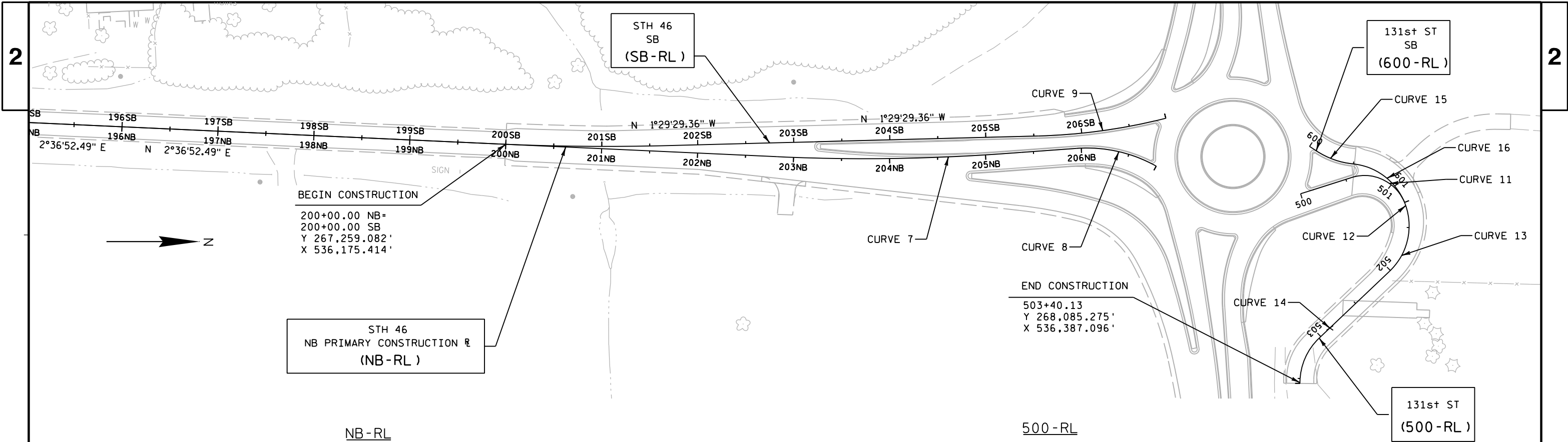




CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	100+00.00 EB	268,007.492	535,537.246					
1	PI	103+22.58 EB	268,006.918	535,859.852	2000	2°51'53.24"	5°17'30.39" LT	184.72	92.42
	PC	102+30.16 EB	268,007.094	535,767.428					
	PT	104+14.88 EB	268,015.268	535,951.899					
2	PI	105+34.12 EB	268,026.040	536,070.658	148	38°42'48.11"	31°31'58.72" RT	81.45	41.79
	PC	104+92.34 EB	267,946.349	536,148.273					
	PT	105+73.79 EB	268,007.493	536,108.103					
	PI	107+26.76 EB	267,975.953	536,257.782			20°26'26.32" LT		
3	PI	109+27.61 EB	268,005.785	536,456.411	1016	5°38'21.65"	8°39'01.15" RT	153.39	76.84
	PC	108+50.77 EB	267,994.372	536,380.421					
	PT	110+04.16 EB	268,005.640	536,533.253					
	POE	112+96.21 EB	268,005.085	536,825.300					

CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	100+00.00 WB	268,029.907	535,537.491					
4	PI	103+86.00 WB	268,029.209	535,923.308	1016	5°38'21.65"	8°13'36.09" LT	145.88	73.07
	PC	103+12.93 WB	268,029.347	535,850.242					
	PT	104+58.81 WB	268,039.526	535,995.641					
	PI	105+83.13 WB	268,057.082	536,118.718			20°36'59.92" RT		
5	PI	107+77.29 WB	268,005.194	536,304.712	148	38°42'48.11"	30°57'39.81" LT	79.98	40.99
	PC	107+36.30 WB	268,023.933	536,268.257					
	PT	108+16.28 WB	268,007.880	536,345.614					
6	PI	110+84.91 WB	268,025.482	536,613.674	2500	2°17'30.59"	3°51'56.61" RT	168.67	84.37
	PC	110+00.55 WB	268,019.954	536,529.486					
	PT	111+69.22 WB	268,025.322	536,698.043					
	POE	112+96.21 WB	268,025.080	536,825.338					

CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
10	PC	100+00.00 C	268,003.07	536,129.08					
	PCC	101+90.07 C	268,029.52	536,247.16					
	PT	103+80.13 C	268,003.07	536,129.08					



CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	200+00.00 NB	267,259.080	536,175.475					
	PI	203+41.77 NB	267,600.494	536,191.065			3°23'17.01" LT		
7	PI	204+60.37 NB	267,719.084	536,189.464	2000	2°51'53.24"	3°24'18.95" LT	118.87	59.45
	PC	204+00.92 NB	267,659.639	536,190.267					
	PT	205+19.79 NB	267,778.377	536,185.132					
8	PI	206+39.37 NB	267,897.641	536,176.419	148	38°42'48.11"	33°26'02.40" RT	86.36	44.45
	PC	205+94.92 NB	267,853.309	536,179.658					
	PT	206+81.28 NB	267,936.421	536,198.142					
	POE	206+81.28 NB	267,936.421	536,198.142					

SB-RL

CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	200+00.00 SB	267,259.080	536,175.475					
	PI	200+79.61 SB	267,338.608	536,179.106			4°06'21.85" LT		
9	PI	206+22.24 SB	267,881.048	536,164.983	598	9°34'52.44"	12°51'43.43" LT	134.24	67.4
	PC	205+54.83 SB	267,813.667	536,166.737					
	PT	206+89.07 SB	267,946.349	536,148.273					
	POE	206+89.07 SB	267,946.349	536,148.273					

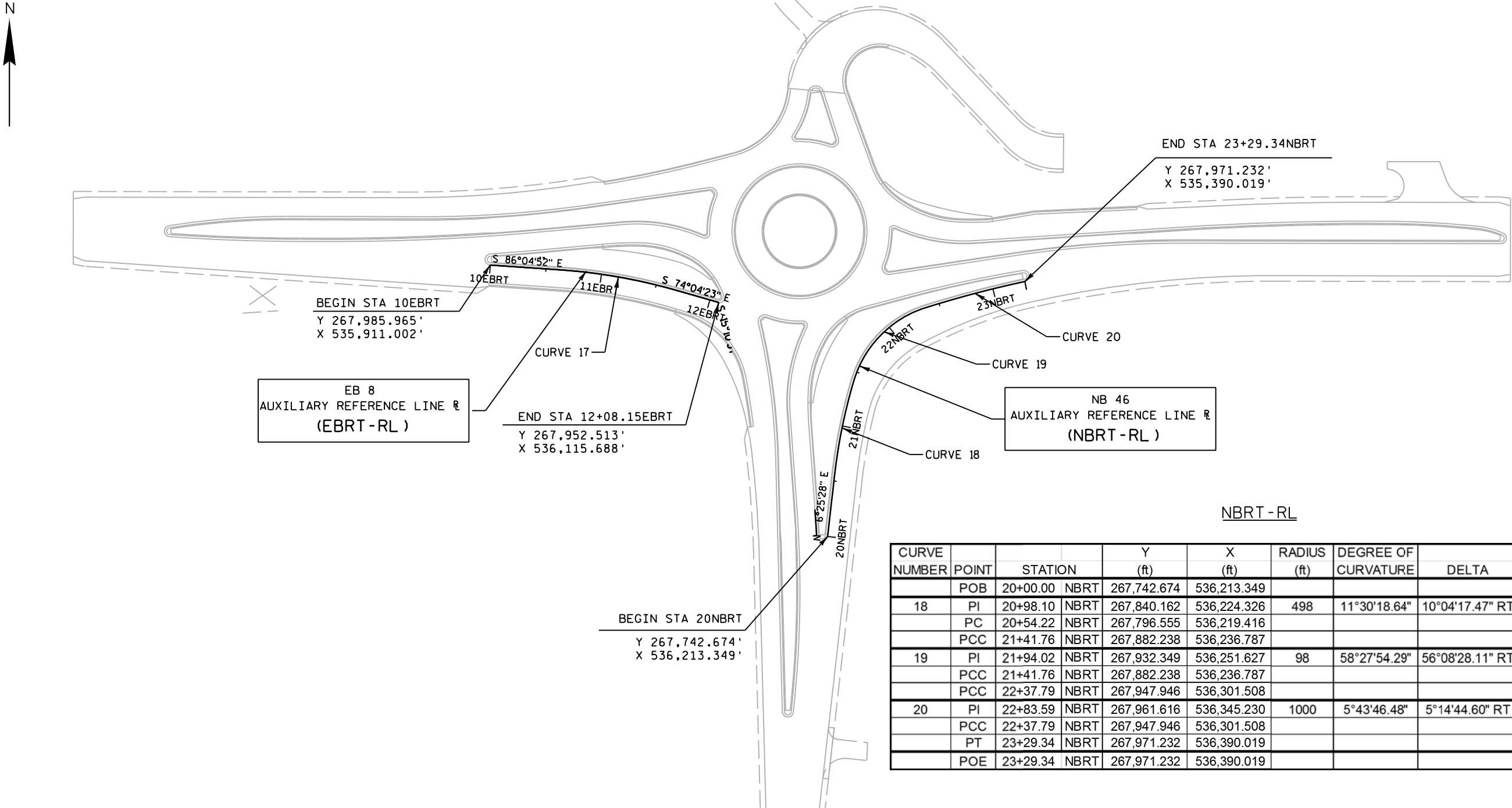
CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	500+00.00	268,086.790	536,226.988					
11	PI	500+97.10	268,179.268	536,197.402	45	127°19'26.24"	85°36'51.16" RT	67.24	41.68
	PC	500+55.41	268,139.569	536,210.103					
	PCC	501+22.66	268,194.967	536,236.014					
12	PI	501+26.24	268,196.316	536,239.331	65	88°08'50.47"	6°18'24.24" RT	7.15	3.58
	PCC	501+22.66	268,194.967	536,236.013					
	PCC	501+29.81	268,197.292	536,242.776					
13	PI	501+80.35	268,211.069	536,291.399	48.93	117°05'10.08"	91°50'45.17" RT	78.44	50.54
	PCC	501+29.81	268,197.292	536,242.776					
	PT	502+08.25	268,162.028	536,303.603					
14	PI	502+87.11	268,085.596	536,322.622	49.06	116°46'31.39"	75°44'27.25" LT	64.86	38.16
	PC	502+48.95	268,122.622	536,313.409					
	PT	503+13.81	268,085.406	536,360.777					
	POE	505+40.09	268,084.279	536,587.051					

600-RL

CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	600+00.00	268,102.981	536,182.140					
15	PI	600+25.58	268,115.646	536,193.309	83	69°01'51.81"	34°15'15.43" LT	49.62	25.58
	PC	600+00.00	268,096.012	536,176.917					
	PRC	600+49.62	268,141.101	536,195.806					
16	PI	600+88.89	268,180.178	536,199.640	65	88°08'50.47"	62°16'13.53" RT	70.64	39.27
	PRC	600+49.62	268,141.101	536,195.806					
	PT	601+20.27	268,194.967	536,236.014					
	POE	601+20.27	268,194.967	536,236.014					

EBRT-RL

CURVE NUMBER	POINT	STATION		Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	10+00.00	EBRT	267,985.965	535,911.002					
17	PI	11+15.36	EBRT	267,978.081	536,026.091	498	11°30'18.64"	12°00'29.61" RT	104.37	52.38
	PC	10+62.98	EBRT	267,981.661	535,973.835					
	PT	11+67.35	EBRT	267,963.708	536,076.458					
	POE	12+08.15	EBRT	267,952.513	536,115.688					



NBRT-RL

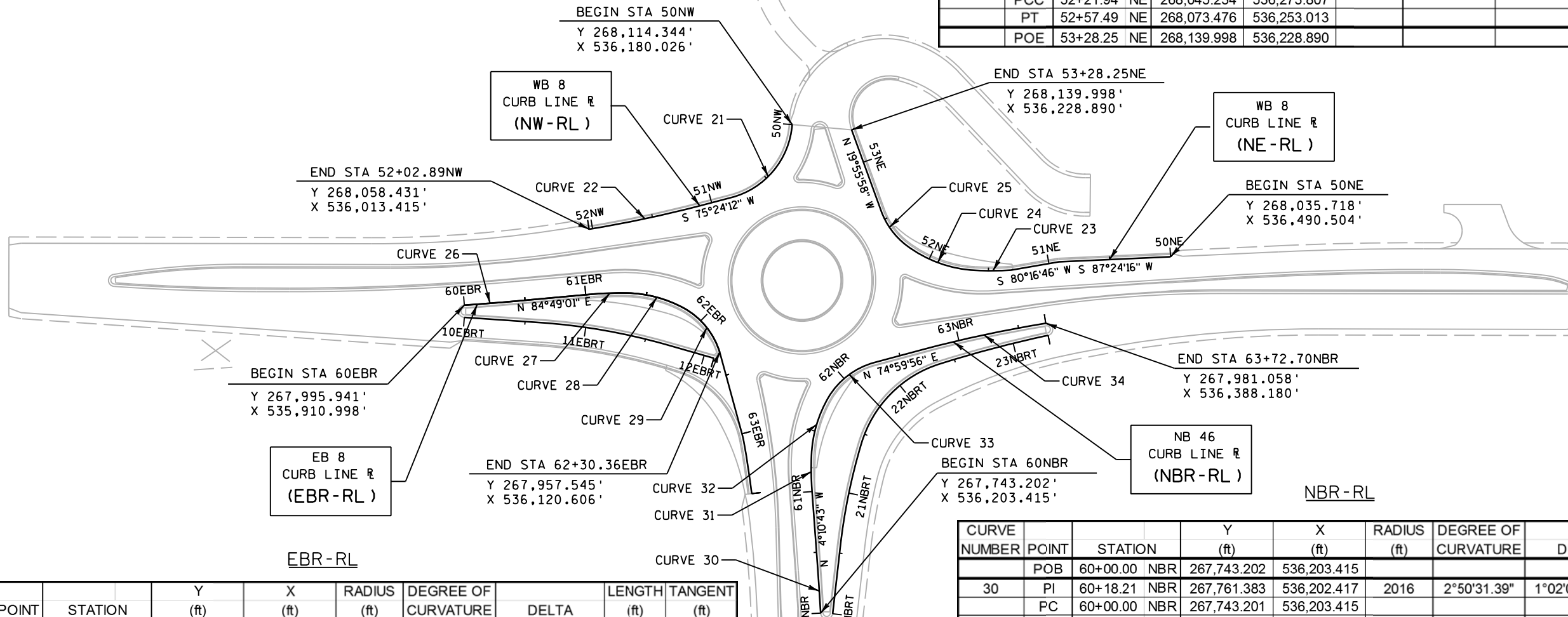
CURVE NUMBER	POINT	STATION		Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	20+00.00	NBRT	267,742.674	536,213.349					
18	PI	20+98.10	NBRT	267,840.162	536,224.326	498	11°30'18.64"	10°04'17.47" RT	87.54	43.88
	PC	20+54.22	NBRT	267,796.555	536,219.416					
	PCC	21+41.76	NBRT	267,882.238	536,236.787					
19	PI	21+94.02	NBRT	267,932.349	536,251.627	98	58°27'54.29"	56°08'28.11" RT	96.03	52.26
	PCC	21+41.76	NBRT	267,882.238	536,236.787					
	PCC	22+37.79	NBRT	267,947.946	536,301.508					
20	PI	22+83.59	NBRT	267,961.616	536,345.230	1000	5°43'46.48"	5°14'44.60" RT	91.56	45.81
	PCC	22+37.79	NBRT	267,947.946	536,301.508					
	PT	23+29.34	NBRT	267,971.232	536,390.019					
	POE	23+29.34	NBRT	267,971.232	536,390.019					

NW-RL

CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	50+00.00 NW	268,144.344	536,180.026					
21	PI	50+48.01 NW	268,096.465	536,176.544	67	85°30'57.92"	71°14'33.61" RT	83.31	48.01
	PC	50+00.00 NW	268,144.344	536,180.026					
	PT	50+83.31 NW	268,084.367	536,130.088					
22	PI	51+56.52 NW	268,065.919	536,059.245	1000	5°43'46.48"	5°19'03.08" RT	92.81	46.44
	PC	51+10.08 NW	268,077.621	536,104.183					
	PT	52+02.89 NW	268,058.431	536,013.415					
	POE	52+02.89 NW	268,058.431	536,013.415					

NE-RL

CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	50+00.00 NE	268,035.718	536,490.504					
23	PI	51+46.25 NE	268,023.871	536,344.949	252	22°44'11.11"	6°37'10.66" RT	29.11	14.57
	PC	51+31.68 NE	268,024.826	536,359.491					
	PCC	51+60.80 NE	268,024.598	536,330.393					
24	PI	51+92.32 NE	268,026.173	536,298.912	102	56°10'20.40"	34°20'43.15" RT	61.14	31.52
	PCC	51+60.80 NE	268,024.598	536,330.393					
	PCC	52+21.94 NE	268,045.234	536,273.807					
25	PI	52+40.22 NE	268,056.289	536,259.246	62	92°24'45.17"	32°51'32.98" RT	35.56	18.28
	PCC	52+21.94 NE	268,045.234	536,273.807					
	PT	52+57.49 NE	268,073.476	536,253.013					
	POE	53+28.25 NE	268,139.998	536,228.890					



EBR-RL

CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	60+00.00 EBR	267,995.941	535,910.998					
26	PI	60+21.24 EBR	267,997.414	535,932.189	2016	2°50'31.39"	1°12'26.62" LT	42.48	21.24
	PC	60+00.00 EBR	267,995.941	535,910.998					
	PT	60+42.48 EBR	267,999.333	535,953.344					
27	PI	61+19.81 EBR	268,006.319	536,030.360	252	22°44'11.11"	6°37'10.66" RT	29.11	14.57
	PC	61+05.24 EBR	268,005.002	536,015.846					
	PCC	61+34.36 EBR	268,005.954	536,044.929					
28	PI	61+58.80 EBR	268,005.341	536,069.364	102	56°10'20.40"	26°57'09.08" RT	47.98	24.44
	PCC	61+34.36 EBR	268,005.954	536,044.929					
	PCC	61+82.34 EBR	267,993.719	536,090.868					
29	PI	62+07.62 EBR	267,981.696	536,113.114	62	92°24'45.17"	44°22'34.88" RT	48.02	25.29
	PCC	61+82.34 EBR	267,993.719	536,090.868					
	PT	62+30.36 EBR	267,957.545	536,120.606					
	POE	62+30.36 EBR	267,957.545	536,120.606					

NBR-RL

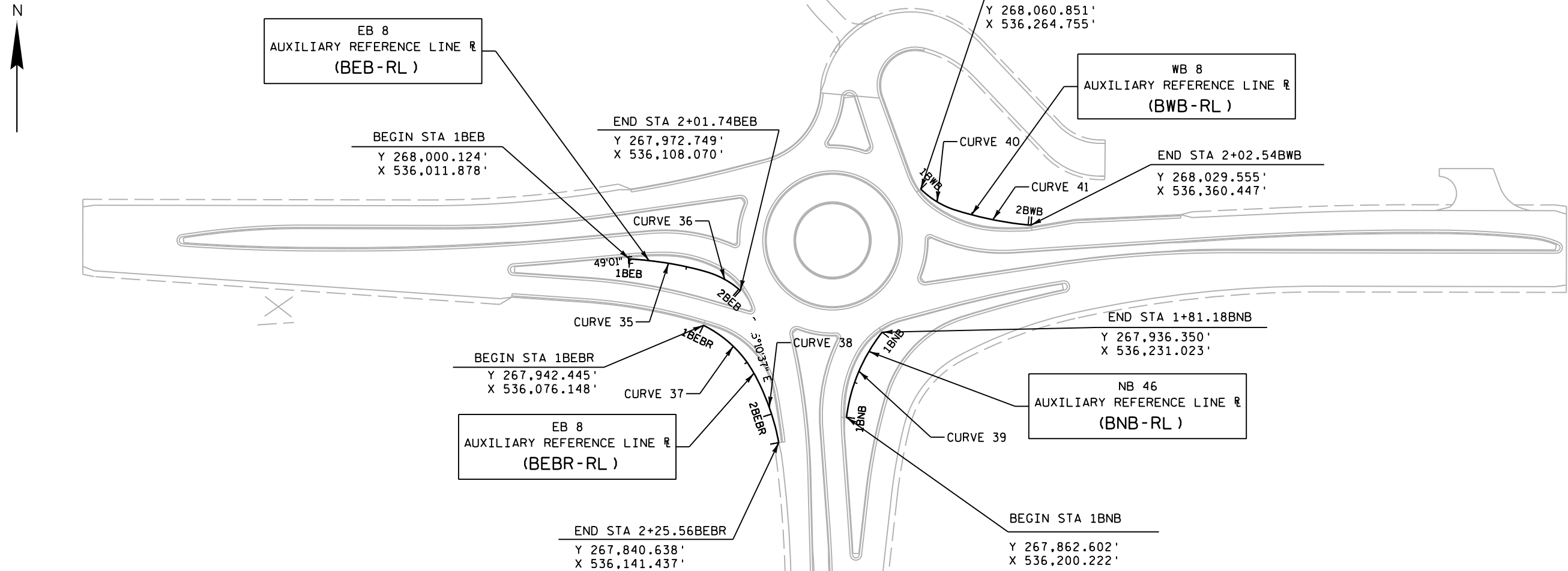
CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	60+00.00 NBR	267,743.202	536,203.415					
30	PI	60+18.21 NBR	267,761.383	536,202.417	2016	2°50'31.39"	1°02'05.86" LT	36.42	18.21
	PC	60+00.00 NBR	267,743.201	536,203.415					
	PT	60+36.42 NBR	267,779.543	536,201.090					
31	PI	61+15.47 NBR	267,858.384	536,195.329	252	22°44'11.11"	6°37'10.66" RT	29.11	14.57
	PC	61+00.89 NBR	267,843.849	536,196.391					
	PCC	61+30.01 NBR	267,872.945	536,195.950					
32	PI	61+55.56 NBR	267,898.476	536,197.038	102	56°10'20.40"	28°07'48.67" RT	50.08	25.55
	PCC	61+30.01 NBR	267,872.945	536,195.950					
	PT	61+80.09 NBR	267,920.478	536,210.036					
33	PI	62+05.41 NBR	267,942.278	536,222.913	62	92°24'45.17"	44°25'40.44" RT	48.08	25.32
	PCC	61+80.09 NBR	267,920.478	536,210.036					
	PT	62+28.16 NBR	267,948.832	536,247.370					
34	PI	63+21.15 NBR	267,972.901	536,337.189	1000	5°43'46.48"	5°54'43.83" RT	103.19	51.64
	PC	62+69.51 NBR	267,959.534	536,287.309					
	PT	63+72.70 NBR	267,981.058	536,388.180					
	POE	63+72.70 NBR	267,981.058	536,388.180					

BEB-RL

CURVE NUMBER	POINT	STATION		Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	1+00.00	BEB	268,000.124	526,011.878					
35	PI	1+34.00	BEB	267,998.364	536,045.837	300	19°05'54.94"	12°56'00.33" RT	67.72	34
	PC	1+00.00	BEB	268,000.124	536,011.878					
	PCC	1+67.72	BEB	267,989.047	536,078.540					
36	PI	1+85.03	BEB	267,984.306	536,095.186	75	76°23'39.74"	25°59'23.97" RT	34.02	17.31
	PCC	1+67.72	BEB	267,989.047	536,078.540					
	PT	2+01.74	BEB	267,972.749	536,108.070					
	POE	2+01.74	BEB	267,972.749	536,108.070					

BWB-RL

CURVE NUMBER	POINT	STATION		Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	1+00.00	BWB	268,060.851	536,264.755					
40	PI	1+17.99	BWB	268,048.197	536,277.538	75	76°23'39.74"	26°58'21.92" LT	35.31	17.99
	PC	1+00.00	BWB	268,060.851	536,264.755					
	PCC	1+35.31	BWB	268,042.718	536,294.670					
41	PI	1+69.06	BWB	268,032.436	536,326.818	300	19°05'54.94"	12°50'17.76" LT	67.22	33.75
	PCC	1+35.31	BWB	268,042.718	536,294.670					
	PT	2+02.53	BWB	268,029.555	536,360.447					
	POE	2+02.54	BWB	268,029.555	536,360.447					

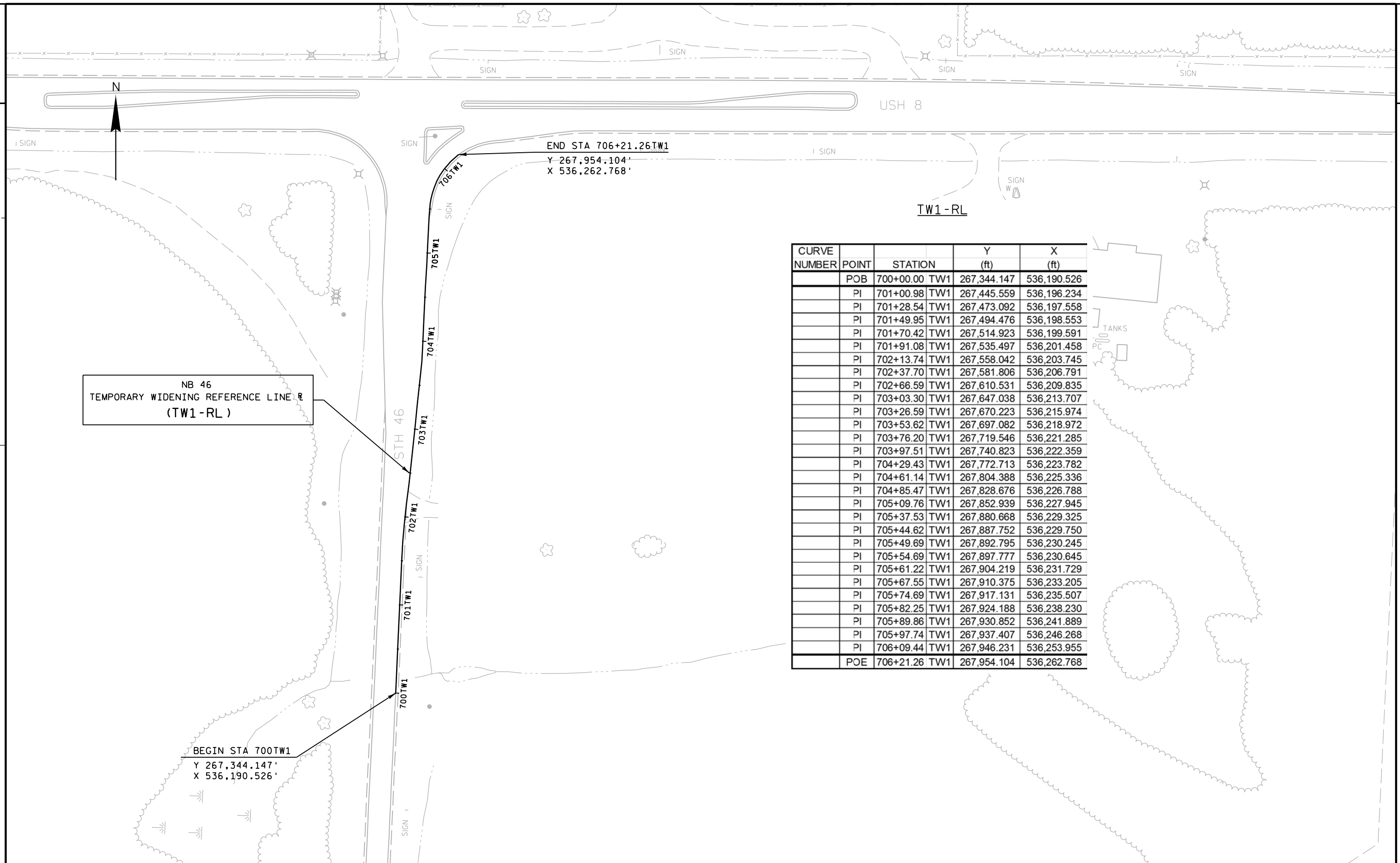


BEBR-RL

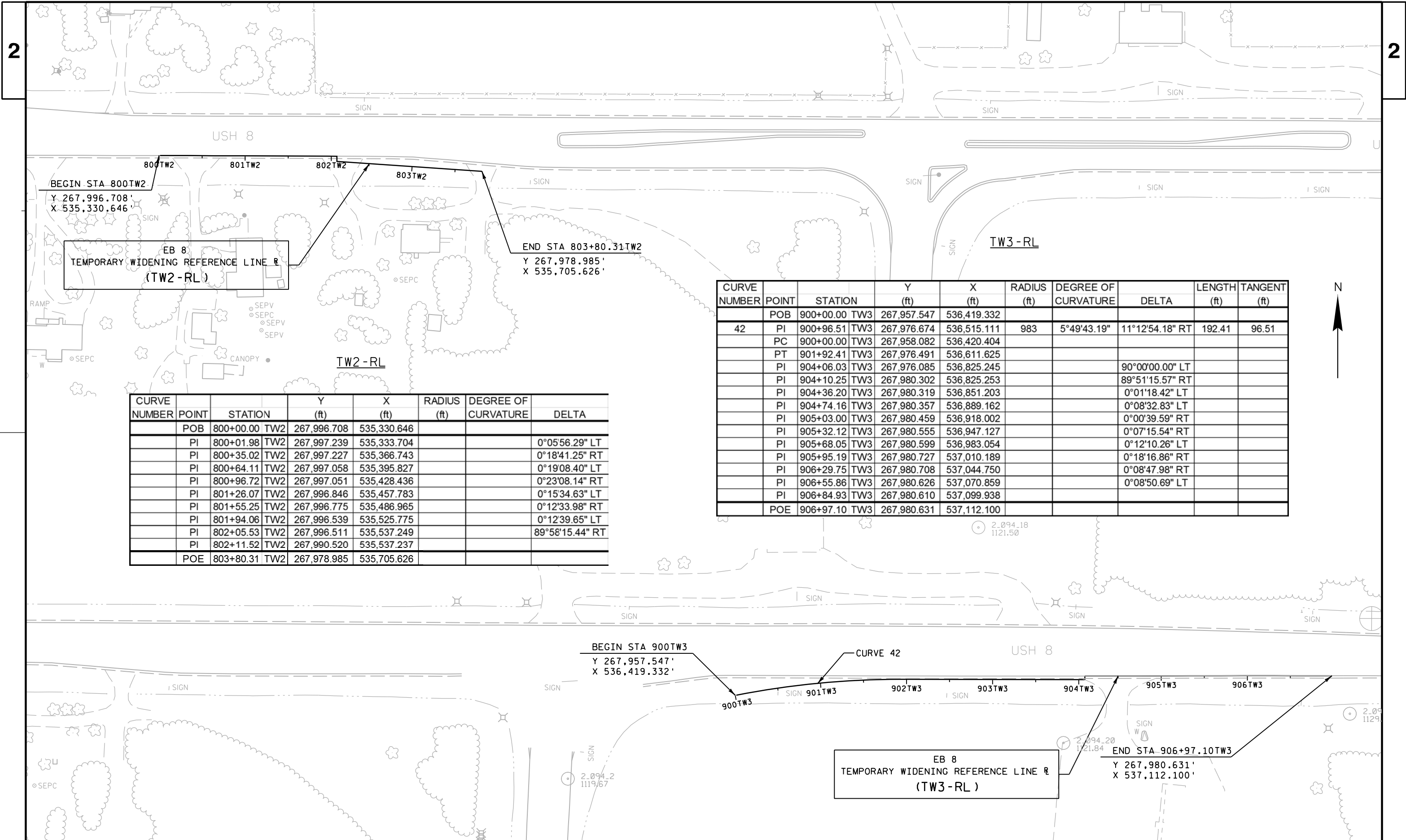
CURVE NUMBER	POINT	STATION		Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	1+00.00	BEBR	267,942.445	536,076.148					
37	PI	1+31.69	BEBR	267,928.566	536,104.637	100	57°17'44.81"	35°10'00.51" RT	61.38	31.69
	PC	1+00.00	BEBR	267,942.445	536,076.148					
	PCC	1+61.38	BEBR	267,900.811	536,119.932					
38	PI	1+93.74	BEBR	267,872.465	536,135.553	200	28°38'52.40"	18°23'05.73" RT	64.18	32.37
	PCC	1+61.38	BEBR	267,900.811	536,119.932					
	PT	2+25.55	BEBR	267,840.638	536,141.437					
	POE	2+25.56	BEBR	267,840.638	536,141.437					

BNB-RL

CURVE NUMBER	POINT	STATION		Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	1+00.00	BNB	267,862.602	536,200.222					
39	PI	1+41.61	BNB	267,903.880	536,205.449	150	38°11'49.87"	31°00'21.97" LT	81.17	41.61
	PC	1+00.00	BNB	267,936.567	536,231.193					
	PT	1+81.17	BNB	267,862.602	536,200.222					
	POE	1+81.18	BNB	267,936.350	536,231.023					



CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)
	POB	700+00.00 TW1	267,344.147	536,190.526
	PI	701+00.98 TW1	267,445.559	536,196.234
	PI	701+28.54 TW1	267,473.092	536,197.558
	PI	701+49.95 TW1	267,494.476	536,198.553
	PI	701+70.42 TW1	267,514.923	536,199.591
	PI	701+91.08 TW1	267,535.497	536,201.458
	PI	702+13.74 TW1	267,558.042	536,203.745
	PI	702+37.70 TW1	267,581.806	536,206.791
	PI	702+66.59 TW1	267,610.531	536,209.835
	PI	703+03.30 TW1	267,647.038	536,213.707
	PI	703+26.59 TW1	267,670.223	536,215.974
	PI	703+53.62 TW1	267,697.082	536,218.972
	PI	703+76.20 TW1	267,719.546	536,221.285
	PI	703+97.51 TW1	267,740.823	536,222.359
	PI	704+29.43 TW1	267,772.713	536,223.782
	PI	704+61.14 TW1	267,804.388	536,225.336
	PI	704+85.47 TW1	267,828.676	536,226.788
	PI	705+09.76 TW1	267,852.939	536,227.945
	PI	705+37.53 TW1	267,880.668	536,229.325
	PI	705+44.62 TW1	267,887.752	536,229.750
	PI	705+49.69 TW1	267,892.795	536,230.245
	PI	705+54.69 TW1	267,897.777	536,230.645
	PI	705+61.22 TW1	267,904.219	536,231.729
	PI	705+67.55 TW1	267,910.375	536,233.205
	PI	705+74.69 TW1	267,917.131	536,235.507
	PI	705+82.25 TW1	267,924.188	536,238.230
	PI	705+89.86 TW1	267,930.852	536,241.889
	PI	705+97.74 TW1	267,937.407	536,246.268
	PI	706+09.44 TW1	267,946.231	536,253.955
	POE	706+21.26 TW1	267,954.104	536,262.768



CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA
	POB	800+00.00 TW2	267,996.708	535,330.646			
	PI	800+01.98 TW2	267,997.239	535,333.704			0°05'56.29" LT
	PI	800+35.02 TW2	267,997.227	535,366.743			0°18'41.25" RT
	PI	800+64.11 TW2	267,997.058	535,395.827			0°19'08.40" LT
	PI	800+96.72 TW2	267,997.051	535,428.436			0°23'08.14" RT
	PI	801+26.07 TW2	267,996.846	535,457.783			0°15'34.63" LT
	PI	801+55.25 TW2	267,996.775	535,486.965			0°12'33.98" RT
	PI	801+94.06 TW2	267,996.539	535,525.775			0°12'39.65" LT
	PI	802+05.53 TW2	267,996.511	535,537.249			89°58'15.44" RT
	PI	802+11.52 TW2	267,990.520	535,537.237			
	POE	803+80.31 TW2	267,978.985	535,705.626			

CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	900+00.00 TW3	267,957.547	536,419.332					
42	PI	900+96.51 TW3	267,976.674	536,515.111	983	5°49'43.19"	11°12'54.18" RT	192.41	96.51
	PC	900+00.00 TW3	267,958.082	536,420.404					
	PT	901+92.41 TW3	267,976.491	536,611.625					
	PI	904+06.03 TW3	267,976.085	536,825.245			90°00'00.00" LT		
	PI	904+10.25 TW3	267,980.302	536,825.253			89°51'15.57" RT		
	PI	904+36.20 TW3	267,980.319	536,851.203			0°01'18.42" LT		
	PI	904+74.16 TW3	267,980.357	536,889.162			0°08'32.83" LT		
	PI	905+03.00 TW3	267,980.459	536,918.002			0°00'39.59" RT		
	PI	905+32.12 TW3	267,980.555	536,947.127			0°07'15.54" RT		
	PI	905+68.05 TW3	267,980.599	536,983.054			0°12'10.26" LT		
	PI	905+95.19 TW3	267,980.727	537,010.189			0°18'16.86" RT		
	PI	906+29.75 TW3	267,980.708	537,044.750			0°08'47.98" RT		
	PI	906+55.86 TW3	267,980.626	537,070.859			0°08'50.69" LT		
	PI	906+84.93 TW3	267,980.610	537,099.938					
	POE	906+97.10 TW3	267,980.631	537,112.100					

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DATE 29MAR13		E S T I M A T E O F Q U A N T I T I E S			
LINE				1570-01-70	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	5.000	5.000
0020	204.0100	REMOVING PAVEMENT	SY	1,680.000	1,680.000
0030	204.0150	REMOVING CURB & GUTTER **P**	LF	260.000	260.000
0040	204.0195	REMOVING CONCRETE BASES	EACH	1.000	1.000
0050	204.9060.S	REMOVING (ITEM DESCRIPTION) 01. POLE	EACH	1.000	1.000
0060	204.9105.S	REMOVING (ITEM DESCRIPTION) 01. STOP SIGN FLASHER	LS	1.000	1.000
0070	205.0100	EXCAVATION COMMON	CY	11,002.000	11,002.000
0080	208.1100	SELECT BORROW	CY	5,440.000	5,440.000
0090	213.0100	FINISHING ROADWAY (PROJECT) 01. 1570-01-70	EACH	1.000	1.000
0100	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	1,000.000	1,000.000
0110	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	12,220.000	12,220.000
0120	405.0100	COLORING CONCRETE RED **P**	CY	235.000	235.000
0130	416.0508	CONCRETE ROUNDABOUT TRUCK APRON 8-INCH **P**	SY	760.000	760.000
0140	455.0605	TACK COAT	GAL	80.000	80.000
0150	465.0105	ASPHALTIC SURFACE	TON	405.000	405.000
0160	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	1,345.000	1,345.000
0170	465.0315	ASPHALTIC FLUMES	SY	28.000	28.000
0180	522.0118	CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	34.000	34.000
0190	522.0124	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	58.000	58.000
0200	522.0148	CULVERT PIPE REINFORCED CONCRETE CLASS III 48-INCH	LF	74.000	74.000
0210	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	3.000	3.000
0220	522.1015	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	EACH	1.000	1.000
0230	522.1018	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	EACH	5.000	5.000
0240	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	5.000	5.000
0250	522.1048	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH	EACH	2.000	2.000
0260	601.0405	CONCRETE CURB & GUTTER 18-INCH TYPE A **P**	LF	205.000	205.000
0270	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A **P**	LF	2,543.000	2,543.000
0280	601.0551	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE A **P**	LF	1,958.000	1,958.000
0290	601.0553	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D **P**	LF	67.000	67.000
0300	606.0200	RIPRAP MEDIUM	CY	40.000	40.000
0310	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	470.000	470.000
0320	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	130.000	130.000
0330	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	71.000	71.000
0340	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	428.000	428.000
0350	611.0530	MANHOLE COVERS TYPE J	EACH	1.000	1.000
0360	611.0624	INLET COVERS TYPE H	EACH	9.000	9.000
0370	611.0627	INLET COVERS TYPE HM	EACH	5.000	5.000
0380	611.0636	INLET COVERS TYPE HM-S	EACH	1.000	1.000

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DATE 29MAR13		E S T I M A T E O F Q U A N T I T I E S			
LINE				1570-01-70	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0390	611.0639	INLET COVERS TYPE H-S	EACH	6.000	6.000
0400	611.0652	INLET COVERS TYPE T	EACH	2.000	2.000
0410	611.2004	MANHOLES 4-FT DIAMETER	EACH	1.000	1.000
0420	611.3004	INLETS 4-FT DIAMETER	EACH	1.000	1.000
0430	611.3225	INLETS 2X2.5-FT	EACH	1.000	1.000
0440	611.3230	INLETS 2X3-FT	EACH	21.000	21.000
0450	611.8120.S	COVER PLATES TEMPORARY	EACH	14.000	14.000
0460	611.9800.S	PIPE GRATES	EACH	7.000	7.000
0470	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	190.000	190.000
0480	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	5,355.000	5,355.000
0490	612.0806	APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH	EACH	18.000	18.000
0500	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1570-01-70	EACH	1.000	1.000
0510	619.1000	MOBILIZATION	EACH	1.000	1.000
0520	620.0300	CONCRETE MEDIAN SLOPED NOSE **p**	SF	539.000	539.000
0530	621.0100	LANDMARK REFERENCE MONUMENTS	EACH	5.000	5.000
0540	624.0100	WATER	MGAL	244.000	244.000
0550	625.0500	SALVAGED TOPSOIL	SY	9,330.000	9,330.000
0560	627.0200	MULCHING	SY	7,860.000	7,860.000
0570	628.1504	SILT FENCE	LF	3,610.000	3,610.000
0580	628.1520	SILT FENCE MAINTENANCE	LF	7,220.000	7,220.000
0590	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	8.000	8.000
0600	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	7.000	7.000
0610	628.2004	EROSION MAT CLASS I TYPE B	SY	2,420.000	2,420.000
0620	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	920.000	920.000
0630	628.7005	INLET PROTECTION TYPE A	EACH	6.000	6.000
0640	628.7015	INLET PROTECTION TYPE C	EACH	23.000	23.000
0650	628.7504	TEMPORARY DITCH CHECKS	LF	240.000	240.000
0660	628.7555	CULVERT PIPE CHECKS	EACH	20.000	20.000
0670	629.0210	FERTILIZER TYPE B	CWT	6.000	6.000
0680	630.0120	SEEDING MIXTURE NO. 20	LB	222.000	222.000
0690	630.0200	SEEDING TEMPORARY	LB	213.000	213.000
0700	630.0400	SEEDING NURSE CROP	LB	3.000	3.000
0710	633.5200	MARKERS CULVERT END	EACH	2.000	2.000
0720	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	12.000	12.000
0730	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	31.000	31.000
0740	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	9.000	9.000
0750	634.0622	POSTS WOOD 4X6-INCH X 22-FT	EACH	6.000	6.000
0760	634.0812	POSTS TUBULAR STEEL 2X2-INCH X 12-FT	EACH	13.000	13.000
0770	634.0814	POSTS TUBULAR STEEL 2X2-INCH X 14-FT	EACH	8.000	8.000
0780	634.0816	POSTS TUBULAR STEEL 2X2-INCH X 16-FT	EACH	2.000	2.000
0790	637.0202	SIGNS REFLECTIVE TYPE II	SF	798.540	798.540
0800	638.2102	MOVING SIGNS TYPE II	EACH	57.000	57.000
0810	638.2602	REMOVING SIGNS TYPE II	EACH	104.000	104.000
0820	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	48.000	48.000
0830	638.4000	MOVING SMALL SIGN SUPPORTS	EACH	16.000	16.000
0840	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0850	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1570-01-70	EACH	1.000	1.000
0860	643.0300	TRAFFIC CONTROL DRUMS	DAY	16,096.000	16,096.000
0870	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	843.000	843.000
0880	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	276.000	276.000

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DATE 29MAR13		E S T I M A T E O F Q U A N T I T I E S			
LINE					1570-01-70
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0890	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	276.000	276.000
0900	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	1,438.000	1,438.000
0910	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	2,829.000	2,829.000
0920	643.0900	TRAFFIC CONTROL SIGNS	DAY	4,640.000	4,640.000
0930	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	408.000	408.000
0940	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	80.000	80.000
0950	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	16,132.000	16,132.000
0960	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	360.000	360.000
0970	646.0600	REMOVING PAVEMENT MARKINGS	LF	4,669.000	4,669.000
0980	646.0805.S	PAVEMENT MARKING OUTFALL	EACH	18.000	18.000
0990	646.0843.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	LF	1,300.000	1,300.000
1000	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	8.000	8.000
1010	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	2.000	2.000
1020	647.0456	PAVEMENT MARKING CURB EPOXY	LF	475.000	475.000
1030	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	4.000	4.000
1040	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	745.000	745.000
1050	647.0955	REMOVING PAVEMENT MARKINGS ARROWS	EACH	4.000	4.000
1060	647.0965	REMOVING PAVEMENT MARKINGS WORDS	EACH	4.000	4.000
1070	649.0200	TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	LF	8,260.000	8,260.000
1080	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	20,910.000	20,910.000
1090	649.0701	TEMPORARY PAVEMENT MARKING 8-INCH	LF	200.000	200.000
1100	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	210.000	210.000
1110	649.0900	TEMPORARY PAVEMENT MARKING STOP LINE 12-INCH	LF	46.000	46.000
1120	649.1000	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH	LF	200.000	200.000
1130	649.1700	TEMPORARY PAVEMENT MARKING ARROWS	EACH	2.000	2.000
1140	649.1800	TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE	EACH	2.000	2.000
1150	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	33.000	33.000
1160	650.4500	CONSTRUCTION STAKING SUBGRADE **P**	LF	6,208.000	6,208.000
1170	650.5000	CONSTRUCTION STAKING BASE **P**	LF	2,206.000	2,206.000
1180	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER **P**	LF	67.000	67.000
1190	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	3.000	3.000
1200	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT **P**	LF	4,032.000	4,032.000
1210	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 1570-01-70	LS	1.000	1.000
1220	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1570-01-70	LS	1.000	1.000
1230	650.9920	CONSTRUCTION STAKING SLOPE STAKES **P**	LF	6,208.000	6,208.000
1240	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH **P**	LF	1,707.000	1,707.000
1250	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH **P**	LF	415.000	415.000
1260	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	9.000	9.000
1270	654.0106	CONCRETE BASES TYPE 6	EACH	12.000	12.000
1280	654.0210	CONCRETE CONTROL CABINET BASES TYPE 8	EACH	1.000	1.000
1290	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG **P**	LF	2,520.000	2,520.000
1300	655.0625	ELECTRICAL WIRE LIGHTING 6 AWG **P**	LF	11,815.000	11,815.000

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DATE 29MAR13		E S T I M A T E O F Q U A N T I T I E S			
LINE				1570-01-70	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1310	656.0200	ELECTRICAL SERVICE METER BREAKER	LS	1.000	1.000
		PEDESTAL (LOCATION) 01. CB 100			
1320	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH	EACH	12.000	12.000
		BOLT CIRCLE			
1330	657.0327	POLES TYPE 6-ALUMINUM	EACH	12.000	12.000
1340	657.0715	LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH	EACH	15.000	15.000
		CLAMP 15-FT			
1350	661.0200	TEMPORARY TRAFFIC SIGNALS FOR	LS	1.000	1.000
		INTERSECTIONS (LOCATION) 01. USH 8 &			
		STH 46			
1360	690.0150	SAWING ASPHALT	LF	3,255.000	3,255.000
1370	690.0250	SAWING CONCRETE	LF	2,500.000	2,500.000
1380	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	3,128.000	3,128.000
1390	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.	HRS	1,200.000	1,200.000
		00/HR			
1400	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	300.000	300.000
1410	SPV.0060	SPECIAL 01. PAVEMENT MARKING GROOVED	EACH	5.000	5.000
		PREFORMED THERMOPLASTIC ARROWS TYPE 2			
1420	SPV.0060	SPECIAL 02. PAVEMENT MARKING GROOVED	EACH	2.000	2.000
		PREFORMED THERMOPLASTIC ARROWS TYPE 3R			
1430	SPV.0060	SPECIAL 03. PAVEMENT MARKING GROOVED	EACH	10.000	10.000
		PREFORMED THERMOPLASTIC WORDS			
1440	SPV.0060	SPECIAL 04. LIGHTING CONTROL CABINET	EACH	1.000	1.000
1450	SPV.0060	SPECIAL 05. LUMINAIRES LED CATEGORY A	EACH	4.000	4.000
1460	SPV.0060	SPECIAL 06. LUMINAIRES LED CATEGORY C	EACH	11.000	11.000
1470	SPV.0090	SPECIAL 01. CONCRETE CURB & GUTTER	LF	436.000	436.000
		4-INCH SLOPED 36-INCH TYPE A MODIFIED			
		p			
1480	SPV.0090	SPECIAL 02. CONCRETE CURB & GUTTER	LF	369.000	369.000
		4-INCH SLOPED 36-INCH TYPE R MODIFIED			
		p			
1490	SPV.0090	SPECIAL 03. CONCRETE CURB AND GUTTER	LF	5,578.000	5,578.000
		CURE AND SEAL TREATMENT			
1500	SPV.0090	SPECIAL 04. PAVEMENT MARKING GROOVED	LF	96.000	96.000
		PREFORMED THERMOPLASTIC DOTTED EDGELINE			
		EXT 18"			
1510	SPV.0105	SPECIAL 01. CONSTRUCTION STAKING	LS	1.000	1.000
		CONCRETE ROUNDABOUT			
1520	SPV.0105	SPECIAL 02. CONSTRUCTION STAKING	LS	1.000	1.000
		CONCRETE PAVEMENT JOINT LAYOUT			
1530	SPV.0105	SPECIAL 03. PROJECT CONCRETE CRACK	LS	1.000	1.000
		MITIGATION AND REPAIR SPECIAL			
1540	SPV.0180	SPECIAL 01. CONCRETE PAVEMENT 10-INCH	SY	9,380.000	9,380.000
		SPECIAL **p**			
1550	SPV.0180	SPECIAL 02. CONCRETE PAVEMENT 8-INCH	SY	285.000	285.000
		SPECIAL **p**			
1560	SPV.0195	SPECIAL 01. ASPHALTIC SURFACE SPECIAL	TON	1,065.000	1,065.000

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REMOVING SMALL PIPE CULVERTS

203.0100			
STATION	LOCATION	EACH	COMMENTS
CATEGORY CODE 0010			
STAGE 2			
101'EB'+70	RT	1	REMOVE 34 LF OF CMCP 18-INCH
2'C'+25		1	REMOVE 48 LF OF RCCP 24-INCH
STAGE 2 SUBTOTAL		2	
STAGE 3			
112'WB'+20	LT	1	REMOVE 54 LF OF RCCP 24-INCH
201'NB'+00		1	REMOVE 78 LF OF CMCP 48-INCH
202'NB'+90	RT	1	REMOVE 24 LF OF CMCP 18-INCH
STAGE 3 SUBTOTAL		3	
TOTAL		5	

REMOVING PAVEMENT

204.0100			
STATION - STATION	LOCATION	SY	COMMENTS
CATEGORY CODE 0010			
STAGE 1			
102'EB'+56 - 3'C'+45	LT	440	MEDIAN
107'EB'+40 - 111'WB'+85	LT	510	MEDIAN
4'C'+70 - 1'C'+35	RT	110	ISLAND
STAGE 1 SUBTOTAL		1,060	
STAGE 3			
102'EB'+56 - 104'EB'+10	LT	100	MEDIAN
110'EB'+23 - 111'EB'+85	LT	70	MEDIAN
STAGE 3 SUBTOTAL		170	
USH 8		450	PAVEMENT BELOW ROAD (SEE EXISTING TYPICAL SECTION)
TOTAL		1,680	

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REMOVING CURB & GUTTER

204.0150			
STATION - STATION	LOCATION	LF	COMMENTS
CATEGORY CODE 0010			
STAGE 1			
206'NB'+38 - 107'EB'+30	RT	77	SOUTHEAST CURB RADIUS
STAGE 1 SUBTOTAL		77	
STAGE 2			
107'EB'+30 - 107'EB'+80	RT	53	SOUTHEAST CURB RADIUS
105'EB'+25 - 206'WB'+35	RT	130	SOUTHWEST CURB RADIUS
STAGE 2 SUBTOTAL		183	
TOTAL		260	

REMOVING STOP SIGN FLASHERS AND POLE ITEMS

		204.0195 REMOVING CONCRETE BASES EACH	204.9105.S.01 REMOVING STOP SIGN FLASHER LS	204.9060.S.01 REMOVING POLE EACH
STATION - STATION	LOCATION			
CATEGORY CODE 0010				
STAGE 1				
1'C'+15	RT	1	1	1
TOTALS		1	1	1

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EARTHWORK SUMMARY

Division	From/To Station	205.0100		Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6) Factor	Mass Ordinate +/- (7)	Waste	Comment:
		Cut (2)	EBS Excavation (3)							
Division 1 (STAGE 1)							1.35			
Temporary Widening TW1	700'TW1'+00 - 706'TW1'+00	902	0	0	902	13	18	884		
Division 1 Subtotal		902	0	0	902	13	18	884	884	
Division 2 (STAGE 2A)										
Temporary Widening TW2	800'TW2'+00 - 803'TW2'+80	149	0	0	149	107	144	5		Use waste from STAGE 1
Temporary Widening TW3	900+00'TW3' - 906'TW3+97	80	0	0	80	556	751	-671		
Division 2 Subtotal		229	0	0	229	663	895	-666	0	
Division 3 (STAGE 2B)										
USH 8 EB	100'EB'+00 - 105'EB'+50	2,433	0	0	2,433	247	333	2,100		
USH 8 EB	107'EB'+50 - 112'EB'+96	2,718	0	0	2,718	80	108	2,610		
USH 8 EBRT	10'EBRT - 12'EB'RT+08	174	0	0	174	528	713	-539		
USH 8 WB	104'WB'+50 - 105'WB'+50	88	0	0	88	213	288	-200		
STH 46 NB	204'NB'+81 - 206'NB'+50	165	0	0	165	336	454	-289		
STH 46 SB	203'SB'+00 - 206'SB'+89	26	0	0	26	675	911	-885		
131ST NB	500+00 - 503+50	783	0	0	783	1,694	2,287	-1,504		
131ST SB	600+00 - 600+50	0	0	0	0	159	215	-215		
DRIVEWAY	501+00 LT	15	0	0	15	230	311	-296		
ROUNDA BOUT	1'C+85 - 3'C+24 & 3'C+65 - 4'C+79	39	0	0	39	367	495	-456		
Division 3 Subtotal		6,441	0	0	6,441	4,529	6,114	327	327	
Division 4 (STAGE 3)										
USH 8 WB	100'WB'+00 - 104'WB'+50	764	0	500	264	14	19	245		
USH 8 WB	107'WB'+50 - 112'WB'+96	1,142	0	500	642	81	109	533		
STH 46 NB	200'NB'+00 - 204'NB'+81	772	0	0	772	320	432	340		
STH 46 NB RT	20'NBRT'+00 - 23'NBRT'+00	409	0	0	409	218	294	115		
STH 46 SB	200'SB'+00 - 203'SB'+00	303	0	0	303	112	151	152		
ROUNDA BOUT	3'C+24 - 3'C+65 & 1'C+50 - 1'C+85	20	0	0	20	183	247	-227		
Division 4 Subtotal		3,410	0	1,000	2,410	928	1,253	1,157	1,157	
Division 5 (STAGE 4)										
ROUNDA BOUT	3'C+65 - 1'C+50	20	0	0	20	783	1,057	-1,037		
Division 5 Subtotal		20	0	0	20	783	1,057	-1,037	0	Use waste from previous STAGES
Grand Total		11,002		1,000	10,002	6,916	9,337	665	2,369	

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns.
- 2) Salvaged/Unusable Pavement Material is included in Cut.
- 3) EBS Excavation to be backfilled w ith Breaker Run.
- 4) Salvaged/Unusable Pavement Material = Length * Typical Width * Typical Depth
Value includes existing concrete and asphaltic pavement and curb & gutter
- 5) Available Material = Cut - Salvaged/Unusable Pavement Material
- 6) Expanded Fill = (Unexpanded Fill * Fill Factor)

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BASE AGGREGATE DENSE AND WATER ITEMS					
STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	208.1100 SELECT BORROW CY	624.0100 WATER MGAL
CATEGORY CODE 0010					
STAGE 1					
102'EB'+56 - 3'C'+45	LT	--	200	--	2.7
107'EB'+40 - 111'WB'+85	LT	--	230	--	3.1
4'C'+70 - 1'C'+35	RT	--	50	--	0.7
700'TW1'+00 - 706'TW'+21	RT	80	700	--	10.4
STAGE 1 SUBTOTALS		80	1,180	--	17
STAGE 2					
100'EB'+00 - 105'EB'+74	LT & RT	60	1,390	660	28.1
107'EB'+27 - 112'EB'+96	LT & RT	130	1,550	580	30.1
104'WB'+70 - 105'WB'+83	LT & RT	--	130	110	3.2
202'SB'+70 - 206'SB'+89	LT & RT	20	560	230	10.8
22'NBRT'+68 - 23'NBRT'+29	LT & RT	20	560	230	10.8
500+00 - 503+55	LT & RT	20	90	80	2.5
600+00 - 600+51	LT & RT	120	510	390	13.6
CIRCLE	LT & RT	--	810	420	16.4
STAGE 2 SUBTOTALS		370	5,600	2,700	116
STAGE 3					
100'WB'+00 - 105'WB'+74	LT & RT	50	1,040	570	22.1
107'WB'+36 - 112'WB'+96	LT & RT	30	1,150	590	23.6
200'NB'+00 - 22'NBRT'+68	LT & RT	70	1,450	880	32.0
200'SB'+00 - 202'SB'+70	LT & RT	30	250	50	4.4
CIRCLE	LT & RT	--	170	170	4.5
STAGE 3 SUBTOTALS		550	4,060	2,260	87
STAGE 4					
CIRCLE	LT & RT	--	200	190	5.2
SPLITTER ISLANDS	LT & RT	--	1,180	290	19.6
STAGE 4 SUBTOTALS		--	1,380	480	25
TOTALS		1,000	12,220	5,440	244

CONCRETE PAVEMENT ITEMS

STATION - STATION	LOCATION	405.0100 COLORING CONCRETE (RED) CY	SPV.0180.01 CONCRETE PAVEMENT 10" - SPECIAL SY	416.0508 CONCRETE ROUNDAABOUT TRUCK APRON 8-INCH SY	SPV.0180.02 CONCRETE PAVEMENT 8" - SPECIAL SY
CATEGORY CODE 0010					
STAGE 2					
100'EB'+00 - 104'EB'+60	RT	--	1,120	--	--
105'EB'+39 - 105'EB'+83	RT	--	20	--	--
107'EB'+27 - 112'EB'+96	RT	--	1,475	--	--
104'WB'+69 - 105'WB'+83	LT	--	230	--	--
204'NB'+84 - 206'NB'+81	RT	--	350	--	--
202'SB'+70 - 206'SB'+89	LT	--	745	--	--
500+00 - 500+58	RT	--	115	--	--
600+00 - 600+51	LT	--	85	--	--
10'EBRT'+00 - 12'EBRT'+08	RT	--	370	--	--
22'NBRT'+68 - 23'NBRT'+29	RT	--	105	--	--
1'C'+85 - 3'C'+24	RT	--	505	--	--
3'C'+66 - 4'C'+79	RT	--	405	--	--
1'C'+85 - 3'C'+24	LT	53	--	240	--
EASTBOUND RT OSOW PAD	RT	24	--	--	110
NORTHBOUND OSOW PAD	RT	7	--	--	30
WESTBOUND OSOW PAD	RT	1	--	--	5
STAGE 2 SUBTOTALS		85	5,525	240	145
STAGE 3					
102'EB'+80 - 105'EB'+83	RT	--	325	--	--
108'EB'+79 - 110'EB'+70	RT	--	85	--	--
100'WB'+00 - 104'WB'+77	LT	--	855	--	--
107'WB'+36 - 112'WB'+96	LT	--	945	--	--
3'C'+42 - 3'C'+66	RT	--	95	--	--
1'C'+43 - 1'C'+85	RT	--	105	--	--
202'NB'+70 - 204'NB'+84	RT	--	750	--	--
20'NBRT'+00 - 22'NBRT'+86	RT	--	505	--	--
3'C'+42 - 3'C'+66	LT	26	--	115	--
1'C'+43 - 1'C'+85	LT	26	--	115	--
WESTBOUND OSOW PAD	RT	13	--	--	60
STAGE 3 SUBTOTALS		65	3,665	230	60
STAGE 4					
4'C'+79 - 1'C'+43	RT	--	190	--	--
3'C'+66 - 1'C'+43	LT	66	--	290	--
NORTHBOUND OSOW PAD	RT	4	--	--	15
EASTBOUND THRU OSOW PAD	RT	15	--	--	65
STAGE 4 SUBTOTALS		85	190	290	80
TOTALS		235	9,380	760	285

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ASPHALTIC ITEMS						
STATION - STATION	LOCATION	SPV.0195.01 ASPHALTIC SURFACE SPECIAL TON	455.0605 TACK COAT GAL	465.0125 ASPHALTIC SURFACE TEMPORARY TON	465.0105 ASPHALTIC SURFACE TON	465.0315 ASPHALTIC FLUMES SY
CATEGORY CODE 0010						
STAGE 1						
TEMPORARY SURFACE		--	--	475	--	--
STAGE 1 SUBTOTALS		--	--	475	--	--
STAGE 2						
100'EB'+00 - 103'EB'+70	RT	40	--	--	--	--
108'EB'+59 - 112'EB'+96	RT	45	--	--	--	--
202'WB'+70 - 205'SB'+84	LT	35	5	--	--	7
104'WB'+75	LT	--	--	--	--	7
22'NBRT'+68 - 23'NBRT'+29	RT	5	--	--	--	--
500+56 - 503+40	LT/RT	220	25	--	--	7
STAGE 2A TEMP SURFACE	LT	--	--	670	--	--
STAGE 2B TEMP SURFACE	RT	--	--	150	--	--
STAGE 2 SUBTOTALS		345	30	820	--	21
STAGE 3						
100'WB'+00 - 104'WB'+77	LT	50	--	--	--	7
109'WB'+63 - 112'WB'+96	LT	36	--	--	--	--
200'NB'+00 - 204'NB'+84	LT/RT	540	45	--	--	--
20'NBRT'+00 - 22'NBRT'+86	LT	25	--	--	--	--
200'SB'+00 - 202+70'SB'	LT	29	--	--	--	--
131ST STREET EAST ACCESS	LT	40	5	--	--	--
STAGE 3 TEMP SURFACE	LT	--	--	50	--	--
STAGE 3 SUBTOTALS		720	50	50	--	7
STAGE 4						
ISLANDS		--	--	--	405	--
STAGE 4 SUBTOTALS		--	--	--	405	--
TOTALS		1,065	80	1,345	405	28

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CULVERT PIPE ITEMS													
		522.0118	522.0124	522.0148					522.1018	522.1024	522.1048	633.5200	650.6000
		CULVERT PIPE REINFORCED CONCRETE CLASS III							APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE			633.5200 MARKERS CULVRET	650.6000 CONSTRUCTION
STATION	LOCATION	18-INCH	24-INCH	48-INCH	INVERT		OUTLET		18-INCH	24-INCH	48-INCH	END	STAKING
CATEGORY	CODE 0010	LF	LF	LF	STATION	ELEV	STATION	ELEV	EACH	EACH	EACH	EACH	EACH
STAGE 3													
112'WB'+20	38.4' LT	--	58	--	112'WB'+48.6, 38.6' LT	1120.99	112'WB'+90.7, 38.2' LT	1120.71	--	2	--	--	1
201'NB'+01.5		--	--	74	201'NB'+04.6, 36.0' RT	1109.36	200'SB'+99.8, 35.9' LT	1109.22	--	--	2	2	1
202+NB'+94.	45' RT	34	--	--	202'NB'+76.8, 43.5' RT	1114.39	203'NB'+10.6, 46.6' RT	1114.01	2	--	--	--	1
TOTALS		34	58	74					2	2	2	2	3
									XX	XX			

XX QUANTITIES LISTED ELSEWHERE

CONCRETE CURB AND GUTTER ITEMS									
		601.0405	601.0409	601.0553	601.0551	SPV.0090.01	SPV.0090.02	650.5500	SPV.0090.03
		CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONSTRUCTION	CONCRETE
		CURB & GUTTER	CURB & GUTTER	CURB & GUTTER	CURB & GUTTER	CURB & GUTTER	CURB & GUTTER	STAKING	CURB & GUTTER
		18-INCH TYPE A	30-INCH TYPE A	4-INCH SLOPED	4-INCH SLOPED	4-INCH SLOPED	36-INCH TYPE R	CURB, GUTTER AND	CURE AND SEAL
		36-INCH TYPE D	36-INCH TYPE A	36-INCH TYPE D	36-INCH TYPE A	36-INCH TYPE A	36-INCH TYPE R	CURB & GUTTER	TREATMENT
STATION - STATION	LOCATION	LF	LF	LF	LF	LF	LF	LF	LF
CATEGORY CODE 0010									
STAGE 2									
10'EBRT'+00 - 11'EBRT'+73	RT	--	0	--	169	--	--	--	169
11'EBRT'+73 - 205'SB'+84	RT/LT	--	--	--	--	135	--	--	135
205'SB'+28 - 206'SB'+39	RT	--	111	--	--	--	--	--	111
203'NB'+42 - 204'NB'+89	LT	--	--	--	146	--	--	--	146
206'NB'+00 - 206'NB'+48	LT	--	49	--	--	--	--	--	49
204'NB'+85 - 206'NB'+04	RT	--	119	--	--	--	--	--	119
206'NB'+04 - 206'NB'+67	RT	--	--	--	--	55	--	--	55
104+WB'+79 - 600+51	LT	--	200	--	--	--	--	--	200
NORTH SPLITTER ISLAND		--	116	--	--	--	--	--	116
1'C+80 - 1'C+92	RT	--	--	--	--	18	--	--	18
1'C+86 - 3'C+23	LT	--	--	--	--	--	132	--	132
2'C+13 - 2'C+97	LT	45	--	--	--	--	--	--	45
2'C+97 - 500+01	RT	--	0	--	87	--	--	--	87
500+01 - 501+58	RT	--	--	67	--	--	--	67	67
STAGE 2 SUBTOTALS		45	595	67	402	208	132	67	1,449

CONTINUED ON NEXT SHEET

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CONCRETE CURB AND GUTTER ITEMS (CONTINUED)									
STATION - STATION	LOCATION	601.0405	601.0409	601.0553	601.0551	SPV.0090.01	SPV.0090.02	650.5500	SPV.0090.03
		CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONSTRUCTION	CONCRETE
CATEGORY CODE 0010		CURB & GUTTER	CURB & GUTTER	CURB & GUTTER	CURB & GUTTER	CURB & GUTTER	CURB & GUTTER	STAKING	CURB & GUTTER
		18-INCH TYPE A	30-INCH TYPE A	4-INCH SLOPED	4-INCH SLOPED	4-INCH SLOPED	36-INCH TYPE R	CURB, GUTTER AND	CURE AND SEAL
		LF	LF	LF	LF	LF	LF	LF	LF
STAGE 3									
100'EB'+87 - 103'EB'+78	LT	--	--	--	290	--	--	--	290
100'WB'+87 - 103'WB'+76	RT	--	--	--	290	--	--	--	290
103'EB'+78 - 105'EB'+62	RT	--	183	--	--	--	--	--	183
103'WB'+76 - 105'WB'+69	LT	--	192	--	--	--	--	--	192
108'EB'+79 - 109'EB'+53	LT	--	74	--	--	--	--	--	74
107'WB'+64 - 109'WB'+53	RT	--	189	--	--	--	--	--	189
109'EB'+53 - 111'EB'+91	LT	--	--	--	238	--	--	--	238
109'WB'+53 - 111'WB'+91	RT	--	--	--	238	--	--	--	238
112'EB'+56 - 112'EB'+87	LT	--	--	--	31	--	--	--	31
112'WB'+57 - 112'WB'+88	RT	--	--	--	32	--	--	--	32
20'NBRT'+00 - 21'NBRT'+57	RT	--	157	--	--	--	--	--	157
1'C+80 - 108'WB'+33	RT/LT	--	--	--	--	90	--	--	90
108'WB'+33 - 109'WB'+63	LT	--	--	--	130	--	--	--	130
3'C+23 - 3'C+66	LT	--	--	--	--	--	42	--	42
1'C+43 - 1'C+86	LT	--	--	--	--	--	43	--	43
1'C+28 - 2'C+13	LT	46	--	--	--	--	--	--	46
2'C+97 - 3'C+81	LT	46	--	--	--	--	--	--	46
STAGE 3 SUBTOTALS		92	795	--	1,249	90	85	--	2,311
STAGE 4									
STAGE 4A									
103'EB'+74 - 104'EB'+73	RT	--	100	--	--	--	--	--	100
104'EB'+73 - 3'C+71	RT	--	--	--	--	93	--	--	93
10'EBRT'+00 - 12'EBRT'+06	LT	--	206	--	--	--	--	--	206
107'EB'+65 - 108'EB'+79	LT	--	114	--	--	--	--	--	114
107'EB'+56 - 108'EB'+56	RT	--	100	--	--	--	--	--	100
111'EB'+91 - 112'EB'+56	LT	--	--	--	66	--	--	--	66
111'WB'+91 - 112'WB'+57	RT	--	--	--	66	--	--	--	66
203'WB'+28 - 204'SB'+88	RT	--	--	--	160	--	--	--	160
204'SB'+88 - 205'WB'+28	RT	--	40	--	--	--	--	--	40
203'NB'+27 - 203'NB'+42	LT	--	--	--	15	--	--	--	15
204'NB'+89 - 206'NB'+00	LT	--	111	--	--	--	--	--	111
22'NBRT'+22 - 23'NBRT'+28	LT	--	107	--	--	--	--	--	107
3'C+66 - 1'C+43	LT	--	--	--	--	--	152	--	152
3'C+81 - 1'C+28	LT	68	--	--	--	--	--	--	68
STAGE 4B									
3C+71 - 3'C+79	RT	--	--	--	--	14	--	--	14
3C+79 - 3'C+92	RT	--	19	--	--	--	--	--	19
105'EB'+62 - 105'WB'+69	LT/RT	--	45	--	--	--	--	--	45
107'EB'+65 - 107'WB'+64	LT/RT	--	83	--	--	--	--	--	83
206'NB'+04 - 206'SB'+39	LT/RT	--	100	--	--	--	--	--	100
206'NB'+67 - 4'C+25	RT	--	--	--	--	31	--	--	31
4'C+25 - 107+56	RT	--	63	--	--	--	--	--	63
21'NBRT'+57 - 22'NBRT'+22	LT	--	65	--	--	--	--	--	65
STAGE 4 SUBTOTALS		68	1,153	--	307	138	152	--	1,818
TOTALS		205	2,543	67	1,958	436	369	67	5,578

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STORM SEWER SUMMARY

NO.	STATION	OFFSET	REINFORCED CONCRETE																	650.4000 CONSTRUCTION STAKING	RIM OR FLANGE ELEV	FLOWLINE OF STRUCTURE	DEPTH FT
			MANHOLES 611.2004 4-FT DIAMETER EACH	INLETS			APRON ENDWALLS				MANHOLE COVERS 611.0530 TYPE J EACH	INLET COVERS											
				611.3004 4-FT DIAMETER EACH	611.3225 2x2.5-FT EACH	611.3230 2x3-FT EACH	522.1012 12-INCH EACH	522.1015 15-INCH EACH	522.1018 18-INCH EACH	522.1024 24-INCH EACH		611.0624 TYPE H EACH	611.0627 TYPE HM EACH	611.0636 TYPE HM-S EACH	611.0639 TYPE H-S EACH	611.0652 TYPE T EACH							
				611.3004 4-FT DIAMETER EACH	611.3225 2x2.5-FT EACH	611.3230 2x3-FT EACH	522.1012 12-INCH EACH	522.1015 15-INCH EACH	522.1018 18-INCH EACH	522.1024 24-INCH EACH		611.0624 TYPE H EACH	611.0627 TYPE HM EACH	611.0636 TYPE HM-S EACH	611.0639 TYPE H-S EACH	611.0652 TYPE T EACH							
IN4.2	100'WB'+92.07	9.00 RT			1								1				1	1118.92	1114.76	3.16			
IN4.1	100'EB'+92.35	5.00 LT			1								1				1	1118.65	1114.47	3.18			
EW4	100'EB'+92.35	42.90 RT						1									1	-	1114.23	-			
IN5.5	103'WB'+81.39	1.50 RT			1							1					1	1120.52	1117.32	2.20			
IN5.4	103'EB'+82.80	1.50 LT			1							1					1	1120.81	1117.14	2.67			
IN5.3	103'EB'+78.68	17.50 RT			1							1					1	1120.45	1116.80	2.65			
IN5.2	103'EB'+78.12	23.80 RT			1							1					1	1120.25	1116.66	2.59			
IN5.1	103'EB'+75.52	45.61 RT			1								1				1	1119.90	1116.32	2.58			
EW5	103'EB'+72.36	67.50 RT						1									1	-	1116.20	-			
IN6.1	108'EB'+50.45	15.90 RT			1							1					1	1122.61	1118.47	3.14			
EW6.0	108'EB'+25.00	69.70 RT					1										1		1117.92	-			
IN8.2	203'SB'+32.87	1.50 RT			1								1				1	1119.09	1115.20	2.89			
IN8.1	203'NB'+32.47	10.34 LT			1								1				1	1119.34	1115.06	3.28			
EW8	203'NB'+28.08	48.30 RT					1										1	-	1114.77	-			
IN9.4	204'SB'+91.27	1.50 RT			1							1					1	1120.74	1116.77	2.97			
IN9.3	204'NB'+91.03	1.50 LT			1							1					1	1120.91	1116.59	3.32			
IN9.2	204'NB'+89.57	18.99 RT			1							1					1	1120.57	1116.25	3.32			
IN9.1	204'NB'+89.14	23.82 RT			1							1					1	1120.33	1115.96	3.37			
EW9	204'NB'+81.23	72.00 RT						1									1	-	1115.72	-			
IN7.3	108'EB'+99.48	1.50 LT			1										1		1	1122.75	1120.01	1.74			
IN7.2	108'EB'+98.60	1.50 RT			1										1		1	1122.93	1119.86	2.07			
IN7.1	109'WB'+09.46	22.28 LT			1									1			1	1122.51	1119.63	1.88			
EW7	109'WB'+09.41	45.80 LT						1									1	-	1119.51	-			
IN2.2	2+53.16'C	21.50 RT			1										1		1	1123.54	1118.44	4.10			
EW2.1	107'WB'+74.71	54.20 LT							1								1	-	1118.60	-			
MH2	2'C+53.71	6.62 LT	1								1						1	1123.62	1117.99	4.38			
EW1	104'WB'+50.00	42.50 LT							1								1	-	1117.26	-			
IN3.3	3'C+47.93	21.50 RT			1										1		1	1122.84	1119.90	1.94			
IN3.2	3'C+85.11	1.50 LT			1											1	1	1122.68	1119.56	2.04			
IN3.5	1'C+40.08	21.50 RT			1										1		1	1123.56	1120.41	2.15			
IN3.4	4'C+26.47	21.50 RT			1										1		1	1122.86	1119.72	2.14			
IN3.1	3'C+95.10	1.50 LT		1			1									1	1	1122.69	1118.51	3.18			
EW3	4'C+01.62	91.50 LT							1								1	-	1117.83	-			
TOTALS:			1	1	1	21	3	1	3	3	1	9	5	1	6	2	33						

STRUCTURE DEPTH = RIM ELEVATION MINUS 15" FOR STRUCTURES WITH TYPE J CASTINGS (9" CASTING, 6" ADJUSTING)

STRUCTURE DEPTH = FLANGE ELEVATION MINUS 12" FOR STRUCTURES WITH TYPE H, H-S, HM, & HM-S CASTINGS (6" CASTING, 6" ADJUSTING)

STRUCTURE DEPTH = FLANGE ELEVATION MINUS 13" FOR STRUCTURES WITH TYPE T CASTINGS (7" CASTING, 6" ADJUSTING)

OFFSET IS TO CENTER OF STRUCTURE FOR MANHOLES AND INLETS

OFFSET IS TO END OF STRUCTURE ENDWALLS

XX QUANTITIES LISTED ELSEWHERE

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STORM SEWER PIPE SUMMARY

FROM STRUCTURE	TO STRUCTURE	608.0312 12-INCH LF	608.0315 15-INCH LF	608.0318 18-INCH LF	608.0324 24-INCH LF
CATEGORY CODE 0010					
STAGE 2					
IN4.1	EW4	--	48	--	--
IN5.4	IN5.3	21	--	--	--
IN5.3	IN5.2	--	8	--	--
IN5.2	IN5.1	--	19	--	--
IN5.1	EW5	--	--	23	--
IN6.1	EW6.0	59	--	--	--
IN8.2	IN8.1	8	--	--	--
IN9.4	IN9.3	16	--	--	--
IN9.3	IN9.2	21	--	--	--
IN9.2	IN9.1	--	6	--	--
IN2.2	MH2	29	--	--	--
EW2.1	MH2	--	--	--	127
MH2	EW1	--	--	--	208
IN3.3	IN3.2	49	--	--	--
IN3.2	IN3.1	10	--	--	--
IN3.5	IN3.1	122	--	--	--
IN3.4	IN3.1	43	--	--	--
IN3.1	EW3	--	--	--	93
STAGE 2 SUBTOTALS		378	81	23	428
STAGE 3					
IN4.2	IN4.1	8	--	--	--
IN5.5	IN5.4	16	--	--	--
IN8.1	EW8	58	--	--	--
IN9.1	EW9	--	--	48	--
IN7.3	IN7.2	10	--	--	--
IN7.2	IN7.1	--	25	--	--
IN7.1	EW7	--	24	--	--
STAGE 3 SUBTOTALS		92	49	48	
TOTALS		470	130	71	428

RIPRAP AND GEOTEXTILE FABRIC ITEMS

STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
CATEGORY CODE 0010			
STAGE 2			
100'EB'+92	RT	3	5
103'EB'+72	RT	3	6
104'WB'+50	LT	3	7
108'EB'+25	RT	2	4
3'C'+95.38	RT	3	7
UNDISTRIBUTED		4	6
STAGE 2 SUBTOTALS		18	35
STAGE 2			
109'WB'+09	LT	3	6
111'WB'+80	LT	3	7
201'SB'+00	LT	6	12
202'NB'+80	RT	3	6
204'NB'+81	RT	3	6
UNDISTRIBUTED		4	8
STAGE 3 SUBTOTALS		22	45
TOTALS		40	80

PIPE GRATES

STATION	LOCATION	611.9800.S EACH
CATEGORY CODE 0010		
STAGE 2		
104'WB'+50	LT	1
107'WB'+74.70	LT	1
3'C'+95.38	RT	1
STAGE 2 SUBTOTAL		3
STAGE 3		
112'WB'+20	LT	2
201'NB'+00		2
STAGE 3 SUBTOTAL		4
TOTALS		7

COVER PLATES TEMPORARY

LOCATION		611.8120.S EACH
CATEGORY CODE 0010		
STAGE 2		
100'EB'+92.35	LT	1
103'EB'+78.12	RT	1
103'EB'+75.52	RT	1
108'EB'+50.45	RT	1
203'SB'+32.87	RT	1
203'NB'+32.47	LT	1
204'SB'+91.27	RT	1
204'NB'+91.03	LT	1
204'NB'+89.14	RT	1
3'C'+85.11	LT	1
1'C'+40.06	RT	1
4'C'+26.44	RT	1
3'C'+95.11	LT	1
STAGE 2 SUBTOTALS		13
STAGE 3		
3'C'+47.86	RT	1
STAGE 3 SUBTOTALS		1
TOTALS		14

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CONCRETE MEDIAN ITEMS

		620.0300 CONCRETE MEDIAN SLOPED NOSE	
STATION	LOCATION	SF	COMMENTS
CATEGORY CODE 0010			
STAGE 2			
500+07 - 500+12	LT	24	TYPE 2
600+04 - 600+09	RT	19	TYPE 2
500+58 - 500+64	LT	63	TYPE 1
STAGE 2 SUBTOTAL		106	
STAGE 3			
100'EB'+81 - 100'EB'+87	LT	47	TYPE 1
112'EB'+86 - 112+92	LT	45	TYPE 1
204'NB'+79 - 204'SB'+85	RT	47	TYPE 1
STAGE 3 SUBTOTAL		139	
STAGE 4			
104'EB'+69 - 104'EB'+75	RT	48	TYPE 1
105'EB'+67 - 105'EB'+73	LT	18	TYPE 2
105'WB'+72 - 105'WB'+78	RT	25	TYPE 2
107'EB'+31 - 107'EB'+37	LT	24	TYPE 2
107'WB'+39 - 107'WB'+45	RT	19	TYPE 2
108'EB'+55 - 108'EB'+61	RT	49	TYPE 2
203'SB'+22 - 203'SB'+28	RT	49	TYPE 1
206'NB'+73 - 206'NB'+79	LT	19	TYPE 2
206'SB'+78 - 206'SB'+84	RT	24	TYPE 2
12'EBRT'+08 - 12'EBRT'+14	RT	19	TYPE 2
STAGE 4 SUBTOTAL		294	
TOTAL		539	

LANDMARK REFERENCE MONUMENTS

		621.0100 LANDMARK REFERENCE MONUMENTS
LOCATION		EACH
CATEGORY CODE 0010		
STAGE 4		
SECTION 28 AND SECTION 33, T34N R16W, STA. 106+70.43 44.86' RT		5
TOTAL		5

EDGEDRAIN OUTLET AND OUTFALL MARKERS

		612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH LF	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH	646.0805.S PAVEMENT MARKING OUFALL EACH	
STATION	LOCATION					COMMENTS
CATEGORY CODE 0010						
STAGE 2						
100'EB'+00 - 12'EB'RT'+08	RT	--	600	--	--	
100'EB'+50	RT	10	--	1	1	
102'EB'+50	RT	10	--	1	1	
103'EB'+75	RT	--	--	--	--	TIES INTO IN5.1
103'EB'+79 - 105'EB'+74	RT	--	200	--	--	TIES INTO IN5.3
104'WB'+50 - 105'WB'+83	LT	--	150	--	--	
22'NBRT' +68 - 112'EB'+96	RT	--	500	--	--	
109'EB'+00	RT	10	--	1	1	
111'EB'+00	RT	10	--	1	1	
107'EB'+27 - 108'EB'+50	RT	--	120	--	--	TIES INTO IN6.1
203'SB'+29 - 206'SB'+89	LT	--	360	--	--	
204'SB'+50	LT	10	--	1	1	
204'WB'+90 - 206'WB'+81	RT	--	220	--	--	TIES INTO IN9.2
600+00 - 503+55	LT	--	390	--	--	
600+75	LT	10	--	1	1	
503+50	LT	10	--	1	1	
500+00 - 503+55	RT	--	360	--	--	
501+50	RT	18	--	1	1	
503+50	RT	10	--	1	1	
1'C'+85 - 3'C'+24	LT	--	140	--	--	
3C'+66 - 4'C'+79	LT	--	115	--	--	TIES INTO IN3.1 AND IN3.2
STAGE 2 SUBTOTAL		98	3,155	9	9	
STAGE 3						
100'WB'+00 - 104'WB'+50	LT	--	450			
100'WB'+00	LT	10	--	1	1	
102'WB'+50	LT	10	--	1	1	
104'WB'+50	LT	10	--	1	1	
107'WB'+36 - 112'WB'+96	LT	--	560	--	--	
109'EB'+09	LT	--	--	--	--	TIES INTO IN7.1
111'WB'+00	LT	10	--	1	1	
200'NB'+00 - 22'NBRT'+68	RT	--	730	--	--	
200'NB'+05	RT	10	--	1	1	
202'NB'+50	RT	10	--	1	1	
20'NBRT'+00	RT	12	--	1	1	
200'SB'+00 - 203'SB'+29	LT	--	330	--	--	
200'SB'+05	LT	10	--	1	1	
202'SB'+50	LT	10	--	1	1	
3'C'+42 - 3'C'+66	LT	--	40	--	--	
1'C'+43 - 1'C'+85	LT	--	40	--	--	
STAGE 3 SUBTOTAL		92	2,150	9	9	
STAGE 4						
4'C'+79 - 1'C'+43	LT	--	50			
STAGE 4 SUBTOTAL		--	50	--	--	
TOTALS		190	5,355	18	18	

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LANDSCAPING ITEMS							
STATION - STATION		625.0500	627.0200	629.0210	630.0120	630.0200	630.0400
LOCATION		SALVAGED	MULCHING	FERTILIZER	SEED MIX	SEED	SEED
CATEGORY CODE 0010		TOPSOIL	SY	TYPE B	NO. 20	TEMPORARY	NURSE CROP
		SY	SY	CWT	LBS	LBS	LBS
STAGE 2							
100'EB'+00 - 12'EBRT'+08		RT	1,470	1,180	0.9	32	32
22'NBRT'+68 - 112'EB'+96		RT	780	520	0.5	14	14
104'WB'+70 - 105'WB'+83		LT	340	290	0.2	8	8
202'SB'+70 - 206'SB'+89		LT	540	510	0.3	14	14
600+00 - 601+00		LT	490	470	0.3	13	13
500+00 - 503+55		RT	1,460	1,370	0.9	37	37
501+00 - 503+55		LT	710	710	0.4	19	19
STAGE 2 SUBTOTALS			5,790	5,050	3.5	137	137
STAGE 3							
100'WB'+00 - 104'WB'+70		LT	710	710	0.4	19	19
107'WB'+36 - 112'WB'+96		LT	910	910	0.6	25	25
200'NB'+00 - 22'NBRT'+68		RT	1,560	1,190	1.0	32	32
STAGE 3 SUBTOTALS			3,180	2,810	2.0	76	76
STAGE 4							
CIRCLE		LT	360	--	0.2	9	--
STAGE 4 SUBTOTALS			360	--	0.2	9	--
TOTALS			9,330	7,860	6	222	213

CULVERT PIPE CHECKS		
STATION	LOCATION	628.7555
CATEGORY CODE 0010		
STAGE 1		
100'EB'+20	RT	2
STAGE 1 SUBTOTALS		2
STAGE 2		
107'WB'+75	LT	3
STAGE 2 SUBTOTALS		3
STAGE 3		
112'WB'+50	LT	3
201'NB'+00	RT	10
203'NB'+10	RT	2
STAGE 3 SUBTOTALS		15
TOTAL		20

EROSION CONTROL MOBILIZATIONS ITEMS		
LOCATION	628.1905	628.1910
	EROSION CONTROL	EMERGENCY
CATEGORY CODE 0010		
	EACH	EACH
STAGE 1	2	1
STAGE 2	2	2
STAGE 3	2	2
STAGE 4	2	2
TOTALS	8	7

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SILT FENCE ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 MAINTENANCE LF
CATEGORY CODE 0010			
STAGE 1			
TEMPORARY ROADWAYS		500	1,000
UNDISTRIBUTED		100	200
STAGE 1 SUBTOTALS		600	1,200
STAGE 2			
100'EB'+00 - 12'EBRT'+08	RT	100	200
22'NBRT'+68 - 112'EB'+96	RT	300	600
104'WB'+70 - 105'WB'+83	LT	135	270
202'SB'+70 - 206'WB'+89	LT	380	760
600+00 - 601+00	LT	215	430
501+00 - 503+55	LT	165	330
TEMPORARY ROADWAYS		900	1,800
UNDISTRIBUTED		500	1,000
STAGE 2 SUBTOTALS		2,695	5,390
STAGE 3			
200'NB'+00 - 22'NBRT'+68	RT	255	510
UNDISTRIBUTED		60	120
STAGE 3 SUBTOTALS		315	630
TOTALS		3,610	7,220

EROSION MAT ITEMS

STATION - STATION	LOCATION	628.2004 CLASS 1 TYPE B SY	628.2006 URBAN CLASS 1 TYPE A SY
CATEGORY CODE 0010			
SATGE 2			
100'EB'+00 - 12'EBRT'+08	RT	240	100
22'NBRT'+68 - 112'EB'+96	RT	180	--
104'WB'+70 - 105'WB'+83	LT	--	50
202'SB'+70 - 206'WB'+89	LT	140	40
600+00 - 601+00	LT	--	40
500+00 - 503+55	RT	110	80
501+00 - 503+55	LT	180	--
UNDISTRIBUTED		180	60
STAGE 2 SUBTOTALS		1,030	370
STAGE 3			
100'WB'+00 - 104'WB'+70	LT	400	--
107'WB'+36 - 112'WB'+96	LT	380	100
200'NB'+00 - 22'NBRT'+68	RT	360	--
UNDISTRIBUTED		250	20
STAGE 3 SUBTOTALS		1,390	120
STAGE 4			
CIRCLE		--	360
UNDISTRIBUTED		--	70
STAGE 4 SUBTOTALS		--	430
TOTALS		2,420	920

TEMPORARY DITCH CHECKS

STATION - STATION	LOCATION	628.7504 LF
CATEGORY CODE 0010		
STAGE 1		
UNDISTRIBUTED		60
STAGE 1 SUBTOTAL		60
STAGE 2		
100'EB'+00 - 12'EBRT'+08	RT	24
22'NBRT'+68 - 112'EB'+96	RT	--
104'WB'+70 - 105'WB'+83	LT	--
202'SB'+70 - 206'WB'+89	LT	12
600+00 - 601+00	LT	--
500+00 - 503+55	RT	--
501+00 - 503+55	LT	24
UNDISTRIBUTED		24
STAGE 2 SUBTOTAL		84
STAGE 3		
100'WB'+00 - 104'WB'+70	LT	36
107'WB'+36 - 112'WB'+96	LT	12
200'NB'+00 - 22'NBRT'+68	RT	24
UNDISTRIBUTED	LT	24
STAGE 3 SUBTOTAL		96
TOTALS		240

INLET PROTECTION

STRUCTURE NO.	628.7005 TYPE A EA	628.7015 TYPE C EA
CATEGORY CODE 0010		
2.2	--	1
3.1	--	1
3.2	--	1
3.3	--	1
3.4	--	1
3.5	--	1
4.1	--	1
4.2	--	1
5.1	--	1
5.2	--	1
5.3	--	1
5.4	--	1
5.5	--	1
6.1	--	1
7.1	--	1
7.2	--	1
7.3	--	1
8.1	--	1
8.2	--	1
9.1	--	1
9.2	--	1
9.3	--	1
9.4	--	1
UNDISTRIBUTED	6	--
TOTALS		23

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TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	SIGN MESSAGE	637.0202		634.0614	634.0616	634.0618	634.0622	634.0812	634.0814	634.0816	STRUCTURE ID OR MOUNTED ON SAME POST/ SIGN AS	REMARKS
				SIGNS, TYPE II		POSTS WOOD	POSTS WOOD	POSTS WOOD	POSTS WOOD	TUBULAR STEEL POST	TUBULAR STEEL POST	TUBULAR STEEL POST		
				W X H	S.F.	4x6x14 EACH	4x6x16 EACH	4x6x18 EACH	4x6x22 EACH	12 FT EACH	14 FT EACH	16 FT EACH		
CATEGORY 0010														
300A	EB USH 8, W OF 131ST ST	W2-6		36 x 36	9.00			1						
300B	EB USH 8, W OF 131ST ST	W13-1		24 x 24	4.00								300A	
301	EB USH 8, W OF 131ST ST	D1-62	USH 8 EAST 131ST ST STH 46 SCUTH	120 x 72	60.00		3							ROUNDA BOUT GUIDE
302	EB USH 8, W OF 131ST ST	J2-1		24 x 45	7.50	1								ROUTE TURN ASSEMBLY
		D9-2	H	24 x 24	--									
		MB5-1R	ADVANCED RIGHT	21 x 21	--									
303	EB USH 8, W OF 131ST ST	W3-2		36 x 36	9.00		1							
304	EB USH 8, W OF 131ST ST	D1-3	TURTLE LAKE CAMERON AMERY	78 x 36	19.50		2							
305A	EB USH 8, W OF 131ST ST	R4-7		36 x 48	12.00	1								
305B	EB USH 8, W OF 131ST ST	W5-54		18 x 18	2.25								305A	MOUNT AT 4-FT
306	EB USH 8, W OF 131ST ST	J3-3		72 x 57	28.50			2						DIRECTIONAL ASSEMBLY
		M3-2	EAST	24 x 12	--									
		M1-4	8	24 x 24	--									
		M6-1	AHEAD	21 x 21	--									
		M3-3	SOUTH	24 x 12	--									
		M1-6	46	24 x 24	--									
		MB6-1	RIGHT	21 x 21	--									
		D9-2	H	24 x 24	--									
		M6-1	RIGHT	21 x 21	--									
307	EB USH 8, W OF 131ST ST	W12-1D		24 x 24	4.00					1				MOUNT AT 2-FT
308A	EB USH 8, W OF 131ST ST	R1-2		36 x 31	3.88	1								MOUNT AT 7-FT; 18"x18" FLAGS INCIDENTAL TO SIGNS
308B	EB USH 8, W OF 131ST ST	R6-2R		24 x 30	5.00								308A	MOUNT BELOW 308A
309A	EB USH 8, W OF 131ST ST	R1-2		36 x 31	3.88						1			MOUNT AT 7-FT; 18"x18" FLAGS INCIDENTAL TO SIGNS
309B	EB USH 8, W OF 131ST ST	R1-54		24 x 15	2.50								309A	MOUNT BELOW 309A
310	EB USH 8, RT TURN LANE	R1-2		36 x 31	3.88						1			18"x18" FLAGS INCIDENTAL TO SIGNS
311A	EB USH 8, CENTRAL ISLAND	R6-1R		54 x 18	6.75								311B	MOUNT ABOVE 311B
311B	EB USH 8, CENTRAL ISLAND	R6-4B		60 x 24	10.00					2				MOUNT AT 4-FT
312	EB USH 8, E OF 131ST ST	D1-1	USH 8 EAST	42 x 30	8.75					1				ROUNDA BOUT EXIT GUIDE
313	EB USH 8, E OF 131ST ST	W4-3R		36 x 36	9.00		1							
314A	EB USH 8, E OF 131ST ST	J4-1		24 x 36	6.00		1							REASSURANCE ASSEMBLY
		M3-2	EAST	24 x 12	--									
		M1-4	8	24 x 24	--									
314B	EB USH 8, E OF 131ST ST	R5-1A		36 x 24	6.00								314A	FACES WB
315A	EB USH 8, E OF 131ST ST	R2-1	55	24 x 30	5.00		1							
315B	EB USH 8, E OF 131ST ST	R5-1		36 x 36	9.00								315A	FACES WB
316	EB USH 8, E OF 131ST ST	D2-2	TURTLE LAKE 10 CAMERON 30	90 x 24	15.00		2							
317	EB USH 8, E OF 131ST ST	I55-56		30 x 36	7.50		1							ADOPT A HIGHWAY
318	EB USH 8, W OF 131ST ST	R3-8DD		36 x 30	7.50	1								
319	WB USH 8, E OF 131ST ST	J1-1		24 x 39	6.50		1							JUNCTION ASSEMBLY
		M2-1	JCT	21 x 15	--									
		M1-6	46	24 x 24	--									
320A	WB USH 8, E OF 131ST ST	W2-6		36 x 36	9.00			1						
320B	WB USH 8, E OF 131ST ST	W13-1		24 x 24	4.00								320A	

SUBTOTAL

284.89 4 13 4 0 4 2 0

CONTINUED ON NEXT SHEET

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TYPE II SIGNS AND SUPPORTS (CONTINUED)

SIGN NO.	LOCATION	SIGN CODE	SIGN MESSAGE	637.0202		634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	634.0622 POSTS WOOD 4x6x22 EACH	634.0812 TUBULAR STEEL POST 12 FT EACH	634.0814 TUBULAR STEEL POST 14 FT EACH	634.0816 TUBULAR STEEL POST 16 FT EACH	STRUCTURE ID OR MOUNTED ON SAME POST/ SIGN AS	REMARKS
				SIGNS, TYPE II W X H	S.F.									
321	WB USH 8, E OF 131ST ST	D1-62	USH 8 WEST, STH 46 NORTH STH 46 SOUTH 131ST ST	120 x 84	70.00				3					ROUNABOUT GUIDE
322	WB USH 8, E OF 131ST ST	J2-1		24 x 45	7.50	1								ROUTE TURN ASSEMBLY
		D9-2	H	24 x 24	--									
		MB5-1L	ADVANCED LEFT	21 x 21	--									
323	WB USH 8, E OF 131ST ST	W3-2		36 x 36	9.00		1							
324	WB USH 8, E OF 131ST ST	D1-3	BALSAM LAKE ST CROIX FALLS AMERY	90 x 36	22.50		2							
325A	WB USH 8, E OF 131ST ST	R4-7		36 x 48	12.00	1								
325B	WB USH 8, E OF 131ST ST	W5-54		18 x 18	2.25								325A	MOUNT AT 4-FT
326	WB USH 8, E OF 131ST ST	J3-4		96 x 57	38.00			2						DIRECTIONAL ASSEMBLY
		M3-3	SOUTH	24 x 12	--									
		M1-6	46	24 x 24	--									
		MB6-1	LEFT	21 x 21	--									
		D9-2	H	24 x 24	--									
		M6-1	LEFT	21 x 21	--									
		M3-4	WEST	24 x 12	--									
		M1-4	8	24 x 24	--									
		M6-1	AHEAD	21 x 21	--									
		M3-1	NORTH	24 x 12	--									
		M1-6	46	24 x 24	--									
		M6-1	AHEAD	21 x 21	--									
327A	WB USH 8, E OF 131ST ST	R1-2		36 x 31	3.88						1			MOUNT AT 7-FT; 18"x18" FLAGS INCIDENTAL TO SIGNS
327B	WB USH 8, E OF 131ST ST	R6-2R		24 x 30	5.00								327A	MOUNT BELOW 308A
328A	WB USH 8, E OF 131ST ST	R1-2		36 x 31	3.88						1			MOUNT AT 7-FT; 18"x18" FLAGS INCIDENTAL TO SIGNS
328B	WB USH 8, E OF 131ST ST	R1-54		24 x 15	2.50								328A	MOUNT BELOW 309A
329A	WB USH 8, CENTRAL ISLAND	R6-1R		54 x 18	6.75								329B	MOUNT ABOVE 311B
329B	WB USH 8, CENTRAL ISLAND	R6-4B		60 x 24	10.00					2				MOUNT AT 4-FT
330	WB USH 8, W OF 131ST ST	D1-2	USH 8 WEST STH 46 NORTH	72 x 30	15.00							2		ROUNABOUT EXIT GUIDE
331	WB USH 8, W OF 131ST ST	J4-2		48 x 36	12.00		2							REASSURANCE ASSEMBLY
		M3-4	WEST	24 x 12	--									
		M1-4	8	24 x 24	--									
		M3-1	NORTH	24 x 12	--									
		M1-6	46	24 x 24	--									
332A	WB USH 8, W OF 131ST ST	R2-1	55	24 x 30	5.00		1							
332B	WB USH 8, W OF 131ST ST	R5-1A		36 x 24	6.00								332A	FACES EB
333A	WB USH 8, W OF 131ST ST	D2-2	BALSAM LAKE 8 ST CROIX FALLS 14	102 x 24	17.00		2							
333B	WB USH 8, W OF 131ST ST	R5-1		36 x 36	9.00								333A	FACES EB
334	WB USH 8, W OF 131ST ST	J1-1		24 x 39	6.50		1							JUNCTION ASSEMBLY
		M2-1	JCT	21 x 15	--									
		M1-5A	H	24 x 24	--									
334	NB STH 46 RT TURN BYPASS	W4-3R		36 x 36	9.00		1							
400	NB STH 46, S OF USH 8	J1-1		24 x 39	6.50		1							JUNCTION ASSEMBLY
		M2-1	JCT	21 x 15	--									
		M1-4	8	24 x 24	--									
401A	NB STH 46, S OF USH 8	W2-6		36 x 36	9.00			1						
401B	NB STH 46, S OF USH 8	W13-1		24 x 24	4.00								401A	

SUBTOTAL

292.26

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TYPE II SIGNS AND SUPPORTS (CONTINUED)

SIGN NO.	LOCATION	SIGN CODE	SIGN MESSAGE	637.0202		634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	634.0622 POSTS WOOD 4x6x22 EACH	634.0812 TUBULAR STEEL POST 12 FT EACH	634.0814 TUBULAR STEEL POST 14 FT EACH	634.0816 TUBULAR STEEL POST 16 FT EACH	STRUCTURE ID OR MOUNTED ON SAME POST/ SIGN AS	REMARKS
				SIGNS, TYPE II W X H	S.F.									
402	NB STH 46, S OF USH 8	D1-62	131ST ST USH 8 WEST, STH 46 NORTH USH 8 EAST	120 x 72	60.00				3					ROUNDAABOUT GUIDE
403	NB STH 46, S OF USH 8	W3-2		36 x 36	9.00		1							
404	NB STH 46, S OF USH 8	D1-3	ST CROIX FALLS	90 x 36	22.50		2							
405A	NB STH 46, S OF USH 8	R4-7		36 x 48	12.00	1								
405B	NB STH 46, S OF USH 8	W5-54		18 x 18	2.25								405A	MOUNT AT 4-FT
406	NB STH 46, S OF USH 8	I55-56		30 x 36	7.50		1							ADOPT A HIGHWAY
407	NB STH 46, S OF USH 8	W12-1D		24 x 24	4.00						1			MOUNT AT 2-FT
408A	NB STH 46, S OF USH 8	R1-2		36 x 31	3.88	1								MOUNT AT 7-FT; 18"x18" FLAGS INCIDENTAL TO SIGNS
408B	NB STH 46, S OF USH 8	R6-2R		24 x 30	5.00								408A	MOUNT BELOW 308A
409A	NB STH 46, S OF USH 8	R1-2		36 x 31	3.88						1			MOUNT AT 7-FT; 18"x18" FLAGS INCIDENTAL TO SIGNS
409B	NB STH 46, S OF USH 8	R1-54		24 x 15	2.50								409B	MOUNT BELOW 309A
410A	NB STH 46, CENTRAL ISLAND	R6-1R		54 x 18	6.75								410B	MOUNT ABOVE 311B
410B	NB STH 46, CENTRAL ISLAND	R6-4B		60 x 24	10.00					2				MOUNT AT 4-FT
411	NB 131ST ST	D1-1	131ST ST	66 x 15	6.87					2				ROUNDAABOUT EXIT GUIDE
412	NB STH 46	R3-8DD		36 x 30	7.50	1								
413	SB STH 46	D7-68		72 x 57	28.50			2						DESTINATION ASSEMBLY
		M3-4	WEST	24 x 12	--									
		M1-4	8	24 x 24	--									
		M6-1	LEFT	21 x 21	--									
		M3-1	NORTH	24 x 12	--									
		M1-6	46	24 x 24	--									
		M6-1	LEFT	21 x 21	--									
		M3-2	EAST	24 x 12	--									
		M1-4	8	24 x 24	--									
		M6-1	RIGHT	21 x 21	--									
414	NB 131ST ST	R5-1		36 x 36	9.00		1							FACES SB
415	SB 131ST ST	R4-7		24 x 30	5.00	1								
416A	SB 131ST ST	R1-2		36 x 31	3.88						1			MOUNT AT 7-FT; 18"x18" FLAGS INCIDENTAL TO SIGNS
416B	SB 131ST ST	R6-2R		24 x 30	5.00								416A	MOUNT BELOW 308A
417A	SB 131ST ST	R1-2		36 x 31	3.88						1			MOUNT AT 7-FT; 18"x18" FLAGS INCIDENTAL TO SIGNS
417B	SB 131ST ST	R1-54		24 x 15	2.50								417A	MOUNT BELOW 309A
418A	SB 131ST ST, CENTRAL ISLAND	R6-1R		54 x 18	6.75								418B	MOUNT ABOVE 311B
418B	SB 131ST ST, CENTRAL ISLAND	R6-4B		60 x 24	10.00					2				MOUNT AT 4-FT
419	SB STH 46	D1-1	STH 46 SOUTH	42 x 30	8.75					1				ROUNDAABOUT EXIT GUIDE
420A	SB STH 46	J4-1		24 x 36	6.00		1							REASSURANCE ASSEMBLY
		M3-3	SOUTH	24 x 12	--									
		M1-6	46	24 x 24	--									
420B	SB STH 46	R5-1A		36 x 24	6.00								420A	FACES NB
421A	SB STH 46	R2-1	55	24 x 30	5.00		1							
421B	SB STH 46	R5-1		36 x 36	9.00								421A	FACES NB
422	SB STH 46	D7-68	ROAD TO POLK CO COUNTY PARK 1/2 MILE	60 x 42	17.50	2								
SUBTOTAL					221.39	6	7	2	3	7	4	0		
TOTALS					798.54	12	31	9	6	13	8	2		

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REMOVING & MOVING SIGNS AND SUPPORTS

SIGN NO.	LOCATION	638.2102	638.2602	638.3000	638.4000	MOUNTED ON	REMARKS
		MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	MOVING SMALL SIGN SUPPORTS EACH	SAME POST/ ASSEMBLY AS	
100A	EB USH 8	1	1	1	1	--	MOVE AS NEEDED FOR STAGING
100B	EB USH 8	1	1	--	--	100A	
100C	EB USH 8	1	1	--	--	100A	
100D	EB USH 8	1	1	--	--	100A	
100E	EB USH 8	1	1	--	--	100A	
100F	EB USH 8	1	1	--	--	100A	MOVE AS NEEDED FOR STAGING
101A	EB USH 8	1	1	1	1	--	
101B	EB USH 8	1	1	--	--	101A	
102	EB USH 8	--	1	1	--	--	
103	EB USH 8	--	1	2	--	--	
104A	EB USH 8	1	1	1	1	--	MOVE AS NEEDED FOR STAGING
104B	EB USH 8	1	1	--	--	104A	
104C	EB USH 8	1	1	--	--	104A	
104D	EB USH 8	1	1	--	--	104A	
104E	EB USH 8	1	1	--	--	104A	
104F	EB USH 8	1	1	--	--	104A	FACES WB MOVE AS NEEDED FOR STAGING
104G	EB USH 8	1	1	--	--	104A	
105A	EB USH 8	--	1	1	1	--	
105B	EB USH 8	1	1	--	--	105A	
105C	EB USH 8	1	1	--	--	105A	
106	EB USH 8	--	1	1	--	--	FACES WB
107A	EB USH 8	--	1	1	--	--	
107B	EB USH 8	--	1	--	--	107A	
107C	EB USH 8	--	1	--	--	107A	
108	EB USH 8	--	1	1	--	--	
109A	EB USH 8	--	1	2	--	--	FACES WB
109B	EB USH 8	--	1	--	--	109A	
110	EB USH 8	--	1	1	--	--	
111A	WB USH 8	--	1	1	--	--	
111B	WB USH 8	--	1	--	--	111A	
112A	WB USH 8	1	1	2	2	--	MOVE AS NEEDED FOR STAGING
112B	WB USH 8	1	1	--	--	112A	
112C	WB USH 8	1	1	--	--	112A	
112D	WB USH 8	1	1	--	--	112A	
112E	WB USH 8	1	1	--	--	112A	
112F	WB USH 8	1	1	--	--	112A	MOVE AS NEEDED FOR STAGING
112G	WB USH 8	1	1	--	--	112A	
112H	WB USH 8	1	1	--	--	112A	
112I	WB USH 8	1	1	--	--	112A	
113A	WB USH 8	1	1	1	1	--	
113B	WB USH 8	1	1	--	--	113A	MOVE AS NEEDED FOR STAGING
114	WB USH 8	--	1	2	--	--	
115A	WB USH 8	--	1	1	--	--	
115B	WB USH 8	--	1	--	--	115A	
116	WB USH 8	--	1	1	--	--	
117A	WB USH 8	1	1	1	1	--	MOVE AS NEEDED FOR STAGING
SUBTOTAL		29	46	22	8	--	

CONTINUED ON NEXT SHEET

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REMOVING & MOVING SIGNS AND SUPPORTS (CONTINUED)

SIGN NO.	LOCATION	638.2102	638.2602	638.3000	638.4000	MOUNTED ON	REMARKS
		MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	MOVING SMALL SIGN SUPPORTS EACH	SAME POST/ ASSEMBLY AS	
117B	WB USH 8	1	1	--	--	117A	FACES EB MOVE AS NEEDED FOR STAGING
117C	WB USH 8	1	1	--	--	117A	
118A	WB USH 8	1	1	2	2	--	
118B	WB USH 8	1	1	--	--	118A	
118C	WB USH 8	1	1	--	--	118A	
118G	WB USH 8	1	1	--	--	118A	FACES EB
118H	WB USH 8	1	1	--	--	118A	
118I	WB USH 8	1	1	--	--	118A	
118J	WB USH 8	1	1	--	--	118A	
119	WB USH 8	--	1	1	--	--	
120	WB USH 8	--	1	1	--	--	FACES EB
121	WB USH 8	--	1	1	--	--	
122A	WB USH 8	--	1	1	--	--	
122B	WB USH 8	--	1	--	--	122A	
122C	WB USH 8	--	1	--	--	122A	
122D	WB USH 8	--	1	--	--	122A	FACES EB
123A	WB USH 8	--	1	1	--	--	
123B	WB USH 8	--	1	--	--	123A	
123D	WB USH 8	--	1	--	--	123A	
124A	WB USH 8	--	1	2	--	--	
124B	WB USH 8	--	1	--	--	124A	
124C	WB USH 8	--	1	--	--	124A	
124D	WB USH 8	--	1	--	--	124A	
124E	WB USH 8	--	1	--	--	124A	
125	WB USH 8	1	--	--	2	--	
200A	NB STH 46	--	1	1	--	--	FACES NB MOVE AS NEEDED FOR STAGING
200B	NB STH 46	--	1	--	--	200A	
201	NB STH 46	--	1	1	--	--	
202	SB STH 46	--	1	1	--	--	
203A	NB STH 46	1	1	2	2	--	
203B	NB STH 46	1	1	--	--	203A	
203C	NB STH 46	1	1	--	--	203A	
203D	NB STH 46	1	1	--	--	203A	
203E	NB STH 46	1	1	--	--	203A	
203F	NB STH 46	1	1	--	--	203A	
203G	NB STH 46	1	1	--	--	203A	
203H	NB STH 46	1	1	--	--	203A	
203I	NB STH 46	1	1	--	--	203A	
204	NB STH 46	--	1	2	--	--	
205	NB STH 46	--	1	1	--	--	
206A	NB STH 46	1	1	2	2	--	MOVE AS NEEDED FOR STAGING
206B	NB STH 46	1	1	--	--	206A	
206C	NB STH 46	1	1	--	--	206A	
206D	NB STH 46	1	1	--	--	206A	
206E	NB STH 46	1	1	--	--	206A	
SUBTOTAL		24	44	19	8	--	

CONTINUED ON NEXT SHEET

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REMOVING & MOVING SIGNS AND SUPPORTS (CONTINUED)							
SIGN NO.	LOCATION	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	MOUNTED ON SAME POST/ ASSEMBLY AS	REMARKS
206F	NB STH 46	1	1	--	--	206A	
206G	NB STH 46	1	1	--	--	206A	
206H	NB STH 46	1	1	--	--	206A	
206I	NB STH 46	1	1	--	--	206A	
207	NB STH 46	--	1	1	--	--	
208	NB STH 46	--	1	1	--	--	
209A	SB STH 46	--	1	1	--	--	
209B	SB STH 46	--	1	--	--	209A	
210	SB STH 46	--	1	1	--	--	
211	SB STH 46	--	1	1	--	--	
212	SB STH 46	--	1	1	--	--	
213A	NB STH 46	--	1	--	--	--	MOUNTED TO SIGNAL POLE
213B	NB STH 46	--	1	--	--	213A	MOUNTED TO TROMBONE ARM
214	131ST STREET	--	1	1	--	--	
		--	--	--	--	--	
SUBTOTAL		4	14	7	0	--	
TOTALS		57	104	48	16		

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TRAFFIC CONTROL ITEMS

CATEGORY 0010	643.0300		643.0420		643.0500		643.0600		643.0705		643.0715		643.0900		643.1050		646.0600	647.0955	647.0965
	DRUMS		BARRICADES		FLEXIBLE TUBULAR MARKER POST EACH		FLEXIBLE TUBULAR MARKER BASE EACH		WARNING LIGHTS		WARNING LIGHTS		SIGNS		PCMS		REMOVING PAVEMENT MARKINGS L.F.	REMOVING PAVEMENT MARKINGS ARROWS EACH	REMOVING PAVEMENT MARKINGS WORDS EACH
	STAGE	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS			
STAGE 1																			
WEST LEG		18	22	396	--	--	--	--	--	--	5	90	5	90	1	18	--	--	--
EAST LEG		18	25	450	--	--	--	--	--	--	5	90	5	90	1	18	--	--	--
SOUTH LEG		18	25	450	1	18	--	--	--	--	5	90	4	72	1	18	--	--	--
NORTH LEG		18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:			72	1,296	1	18	0	0	0	0	15	270	14	252	3	54	0	0	0
STAGE 2A																			
WEST LEG		51	47	2,397	1	51	38	38	2	102	11	561	11	561	1	51	744	1	1
EAST LEG		51	55	2,805	--	--	50	50	--	--	4	204	13	663	1	51	3,338	2	2
SOUTH LEG		51	29	1,479	--	--	9	9	--	--	--	--	8	408	1	51	587	--	--
NORTH LEG		51	--	--	3	153	--	--	4	204	--	--	3	153	--	--	--	--	--
SUBTOTALS:			131	6,681	4	204	97	97	6	306	15	765	35	1,785	3	153	4,669	3	3
STAGE 2B																			
WEST LEG		4	55	220	2	8	36	36	4	16	11	44	12	48	1	4	--	--	--
EAST LEG		4	48	192	2	8	48	48	4	16	4	16	14	56	1	4	--	--	--
SOUTH LEG		4	33	132	1	4	9	9	2	8	--	--	9	36	1	4	--	--	--
NORTH LEG		4	--	--	10	40	--	--	18	72	--	--	3	12	--	--	--	--	--
SUBTOTALS:			136	544	15	60	93	93	28	112	15	60	38	152	3	12	0	0	0
STAGE 3																			
WEST LEG		51	54	2,754	1	51	33	33	2	102	5	255	12	612	1	51	--	1	1
EAST LEG		51	52	2,652	5	255	53	53	8	408	22	1,122	18	918	1	51	--	--	--
SOUTH LEG		51	31	1,581	1	51	--	--	2	102	7	357	11	561	1	51	--	--	--
NORTH LEG		51	--	--	4	204	--	--	8	408	--	--	4	204	--	--	--	--	--
SUBTOTALS:			137	6,987	11	561	86	86	20	1,020	34	1,734	45	2,295	3	153	0	1	1
STAGE 4A																			
WEST LEG		14	12	168	2	28	--	--	4	56	8	112	7	98	1	14	--	--	--
EAST LEG		14	27	378	1	14	--	--	2	28	5	70	7	98	1	14	--	--	--
SOUTH LEG		14	20	280	2	28	--	--	4	56	6	84	7	98	1	14	--	--	--
NORTH LEG		14	--	--	1	14	--	--	--	--	--	--	--	--	--	--	--	--	--
CIRCLE		14	36	504	2	28	--	--	4	56	9	126	6	84	--	--	--	--	--
SUBTOTALS:			95	1,330	8	112	0	0	14	196	28	392	27	378	3	42	0	0	0
STAGE 4B																			
WEST LEG		12	16	192	--	--	--	--	--	--	--	--	4	48	1	12	--	--	--
EAST LEG		12	10	120	--	--	--	--	--	--	--	--	4	48	1	12	--	--	--
SOUTH LEG		12	23	276	--	--	--	--	--	--	--	--	5	60	1	12	--	--	--
NORTH LEG		12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:			49	588	0	0	0	0	0	0	0	0	13	156	3	36	0	0	0
TOTALS:			525	16,096	31	843	276	276	54	1,438	79	2,829	145	4,640	15	408	4,669	4	4

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TRAFFIC CONTROL ITEMS														
CATEGORY 0010	649.0200 TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT, 4-INCH				649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE, 4-INCH				649.0701 TEMPORARY PAV'T MARKING 8-INCH	649.0801 TEMPORARY PAV'T MARKING REMOVABLE TAPE 8-INCH	649.0900 TEMPORARY PAV'T MARKING STOP LINE 12-INCH	649.1000 TEMPORARY PAV'T MARKING STOP LINE REMOVABLE TAPE, 12-INCH	649.1700 TEMPORARY PAV'T MARKING ARROWS	649.1800 TEMPORARY PAV'T MARKING ARROWS REMOVABLE TAPE
	WHITE		YELLOW		WHITE		YELLOW		WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
	L.F.	SKIPS L.F.	L.F.	SKIPS L.F.	L.F.	SKIPS L.F.	L.F.	SKIPS L.F.	L.F.	L.F.	L.F.	L.F.	EACH	EACH
STAGE 1														
WEST LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
EAST LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SOUTH LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NORTH LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAGE 2A														
WEST LEG	1,380	--	2,230	--	790	--	1,480	--	--	--	12	--	--	--
EAST LEG	1,120	--	1,150	--	810	--	1,450	--	100	--	22	--	2	--
SOUTH LEG	1,190	--	1,190	--	290	--	230	--	--	--	12	--	--	--
NORTH LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:	3,690	0	4,570	0	1,890	0	3,160	0	100	0	46	0	2	0
STAGE 2B														
WEST LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
EAST LEG	--	--	--	--	--	--	--	--	100	--	--	--	--	--
SOUTH LEG	--	--	--	--	--	--	--	--	--	--	--	20	--	--
NORTH LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:	0	0	0	0	0	0	0	0	100	0	0	20	0	0
STAGE 3														
WEST LEG	--	--	--	--	1,920	--	3,570	--	--	--	--	46	--	--
EAST LEG	--	--	--	--	2,410	--	3,430	--	--	210	--	22	--	2
SOUTH LEG	--	--	--	--	1,350	--	1,220	--	--	--	--	43	--	--
NORTH LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:	0	0	0	0	5,680	0	8,220	0	0	210	0	111	0	2
STAGE 4A														
WEST LEG	--	--	--	--	--	--	380	--	--	--	--	--	--	--
EAST LEG	--	--	--	--	--	--	440	20	--	--	--	--	--	--
SOUTH LEG	--	--	--	--	--	--	530	--	--	--	--	--	--	--
NORTH LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NORTH LEG	--	--	--	--	290	--	300	--	--	--	--	69	--	--
SUBTOTALS:	0	0	0	0	290	0	1,650	20	0	0	0	69	0	0
STAGE 4B														
WEST LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
EAST LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SOUTH LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NORTH LEG	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS:	3,690	0	4,570	0	7,860	0	13,030	20	200	210	46	200	2	2

PAVEMENT MARKING

646.0843.S
GROOVED WET

			646.0106	646.0106	646.0106	646.0106	646.0126	REFLECT	647.0166	647.0356			647.0726	647.0726	SPV.0060.01	SPV.0060.02	SPV.0060.03		SPV.0090.04
			EPOXY					CONTRAST	ARROWS	WORDS	647.0606		DIAGONAL		GROOVED PREFORMED THERMOPLASTIC				
			4-INCH	4-INCH	4-INCH	4-INCH	8-INCH	TAPE	EPOXY	EPOXY	647.0456	ISLAND NOSE	EPOXY		ARROWS	ARROWS	WORDS	WORDS	DOTTED EDGELINE
			WHITE	WHITE SKIPS	YELLOW	YELLOW SKIPS	WHITE	8-INCH	TYPE 2	"ONLY"	CURB EPOXY	EPOXY	12-INCH	12-INCH	TYPE 2	TYPE 3R	"ONLY"	"YIELD"	EXTENSION
STATION TO	STATION	LOCATION	LF	LF	LF	LF	LF	WHITE	WHITE	WHITE	LF	EA	LF	LF	EA	EA	EA	EA	LF
CTH H	-	CIRCLE	WEST LEG	1,738	59	3,008	152	360	278	8	2	218	1	53	219	1	1	1	--
100'EB'	-	CIRCLE	EB RT BYPASS	374	--	--	--	--	--	--	--	--	--	--	2	--	2	1	24
CIRCLE	-	120+78'EB'	EAST LEG	1,254	251	4,057	--	--	436	--	--	109	1	--	330	--	--	1	--
200'NB'	-	CIRCLE	SOUTH LEG	785	35	1,892	--	--	205	--	--	137	1	30	104	--	1	1	--
202'NB'	-	120+78'EB'	NB RT BYPASS	1,803	--	--	--	--	--	--	--	--	--	--	2	--	2	--	--
CIRCLE	-	503+55	131ST ST	--	--	724	--	--	--	--	--	10	1	--	9	--	--	1	--
3'C'	-	4'C'	CIRCLE-WEST	--	--	--	--	--	125	--	--	--	--	--	--	--	--	--	20
1'C'	-	2'C'	CIRCLE-EAST	--	--	--	--	--	90	--	--	--	--	--	--	--	--	--	18
4'C'	-	1'C'	CIRCLE-SOUTH	--	--	--	--	--	81	--	--	--	--	--	--	--	--	--	18
2'C'	-	3'C'	CIRCLE-NORTH	--	--	--	--	--	84	--	--	--	--	--	--	--	--	--	16
TOTAL 0010			5,954	345	9,681	152	360	1,300	8	2	475	4	84	661	5	2	5	5	96
			16,132										745		10				

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CONSTRUCTION STAKING ITEMS					
STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.7000 CONCRETE PAVEMENT LF	650.9920 SLOPE STAKES LF
CATEGORY CODE 0010					
STAGE 1					
700'TW1'+00 - 706'TW1'+21	RT	621	621	--	621
STAGE 1 SUBTOTALS		621	621	--	621
STAGE 2					
100'EB'+00 - 105'EB'+74	RT & LT	574	--	574	574
107'EB'+27 - 112'EB'+96	RT & LT	569	--	569	569
104'WB'+70 - 105'WB'+83	RT & LT	113	--	113	113
202'SB'+70 - 206'SB'+89	RT & LT	419	--	419	419
10'EBRT'+00 - 12'EBRT'+08	RT & LT	208	--	208	208
22'NBRT'+68 - 23'NBRT'+29	RT & LT	61	--	61	61
500+00 - 503+55	RT & LT	355	297	58	355
600+00 - 600+51	RT & LT	112	91	51	112
800'TW2'+00 - 802'TW2'+30	RT & LT	230	230	--	230
900'TW3'+00 - 906'TW3'+97	RT & LT	697	697	--	697
STAGE 2 SUBTOTALS		3,338	1,315	2,053	3,338
STAGE 3					
100'WB'+00 - 104'WB'+70	RT & LT	470	--	470	470
107'WB'+36 - 112'WB'+96	RT & LT	560	--	560	560
200'NB'+00 - 206'NB'+81	RT & LT	681	--	681	681
200'SB'+00 - 202'SB'+70	RT & LT	270	270	--	270
22'NBRT'+00 - 22'NBRT'+68	RT & LT	268	--	268	268
STAGE 3 SUBTOTALS		2,249	270	1,979	2,249
TOTALS		6,208	2,206	4,032	6,208

CONSTRUCTION STAKING ITEMS

	650.9910 SUPPLEMENTAL CONTROL LS	SPV.0105.01 CONCRETE ROUNDAABOUT LS	SPV.0105.02 CONCRETE JOINT LAYOUT LS
CATEGORY CODE 0010			
PROJECT 1570-01-70	1	1	1
TOTALS	1	1	1

SAWING PAVEMENT ITEMS				
STATION - STATION	LOCATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF	COMMENTS
CATEGORY CODE 0010				
STAGE 1				
102'EB'+56 - 3'C'+45	LT	--	727	
107'EB'+40 - 111'WB'+85	LT	--	915	
4'C'+70 - 1'C'+35	RT	--	148	
700'TW1'+00 - 706'TW'+21	RT	620	--	
STAGE 1 SUBTOTALS		620	1,790	
STAGE 2				
97'EB'+94 - 201'SB'+55	RT/LT	1,470	--	
706'TW1+21 - 115'EB'+83	RT	895	--	
4'C'+08 - 108'EB'+20	RT	185	--	
USH 8		--	200	SEE EXISTING TYPICAL SECTIONS
STAGE 2 SUBTOTALS		2,550	200	
STAGE 3				
102'EB'+56 - 104'EB'+10	LT	--	150	
110'EB'+23 - 111'EB'+85	LT	--	160	
100'WB'+00	RT & LT	31	--	
112'WB'+96	RT & LT	30	--	
200'SB'+00	RT & LT	24	--	
USH 8		--	200	SEE EXISTING TYPICAL SECTIONS
STAGE 3 SUBTOTALS		85	510	
TOTALS		3,255	2,500	

PROJECT CONCRETE CRACK MITIGATION AND REPAIR SPECIAL

	SPV.0105.03 LS
CATEGORY CODE 0010	
PROJECT 1570-01-70	1
TOTALS	1

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LIGHTING CONDUIT AND WIRE				
		CONDUIT RIGID NONMETALLIC SCHEDULE 40		ELECTRICAL WIRE LIGHTING 6 AWG 655.0625
FROM	TO	2-INCH 652.0225 LF	3-INCH 652.0235 LF	LF
CB 100	- PB 100	--	25	185
CB 100	- PB 100	--	25	185
CB 100	- PB 100	--	25	185
PB 100	- SL 101	170	--	910
SL 101	- SL 102	190	--	606
PB 100	- PB 101	--	100	1,120
PB 101	- SL 102	15	--	135
PB 101	- SL 102	15	--	81
PB 101	- PB 102	50	--	186
PB 102	- SL 103	110	--	366
SL 103	- PB 103	20	--	--
PB 103	- PB 104	70	--	--
PB 104	- SL 104	40	--	--
SL 104	- PB 105	70	--	246
PB 105	- SL 106	205	--	1,085
SL 106	- SL 107	190	--	606
PB 105	- PB 106	50	--	496
PB 106	- SL 105	25	--	185
PB 106	- SL 105	25	--	296
PB 106	- PB 107	100	--	560
PB 107	- SL 109	15	--	135
SL 109	- SL 110	155	--	835
SL 110	- SL 111	172	--	552
PB 107	- PB 108	--	125	1,370
PB 108	- SL 108	10	--	110
PB 108	- SL 108	10	--	110
PB 108	- PB 100	--	115	1,270
TOTALS		1707	415	11815

ALL ITEMS ON THIS SHEET ARE IN CATEGORY 0010

LIGHTING PULLBOXES				
				PULLBOXES STEEL 24X42-INCH 653.0140
PULLBOX NUMBER	STATION	OFFSET	R/L	EACH
PB 100	105EB+51	86.7'	RT	1
PB 101	105EB+29	13.5'	LT	1
PB 102	105EB+32	62.5'	LT	1
PB 103	106EB+10	136.6'	LT	1
PB 104	106EB+78	147.4'	LT	1
PB 105	107EB+87	57.4'	LT	1
PB 106	107EB+76	11.8'	RT	1
PB 107	107EB+53	81.8'	RT	1
PB 108	206NB+41	11.5'	LT	1
TOTAL				9

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STREET LIGHTS

				CONCRETE BASES TYPE 6 654.0106	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE 657.0255	POLES TYPE 6 ALUMINUM 657.0327	LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FT 657.0715	LUMNAIRES LED		ELECTRICAL WIRE LIGHTING 12 AWG 655.0610
LIGHT NUMBER	STATION	OFFSET	R/L	EACH	EACH	EACH	EACH	CATEGORY A SPV.0060.05	CATEGORY C SPV.0060.06	EACH
SL 100	101EB+82	40.2'	RT	1	1	1	1	1	-	168
SL 101	103EB+68	57.6'	RT	1	1	1	1	-	1	168
SL 102	105EB+43	16.1'	LT	1	1	1	2	-	2	336
SL 103	106EB+02	118.0'	LT	1	1	1	1	-	1	168
SL 104	107EB+00	66.8'	LT	1	1	1	1	-	1	168
SL 105	107EB+92	11.4'	LT	1	1	1	2	-	2	336
SL 106	109EB+62	39.4'	LT	1	1	1	1	-	1	168
SL 107	111EB+45	47.9'	LT	1	1	1	1	1	-	168
SL 108	206NB+52	14.6'	LT	1	1	1	2	-	2	336
SL 109	107EB+39	89.6'	RT	1	1	1	1	1	-	168
SL 110	204NB+80	56.9'	RT	1	1	1	1	-	1	168
SL 111	203NB+14	35.5'	RT	1	1	1	1	1	-	168
TOTALS				12	12	12	15	4	11	2520

TEMPORARY TRAFFIC SIGNALS

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (USH 8 & STH 46) 661.0200.01	
LOCATION	LS
USH 8 & STH 46 - STAGES 2A / 2B & 3	1
1	

LIGHTING CONTROL & MISCELLANEOUS ITEMS

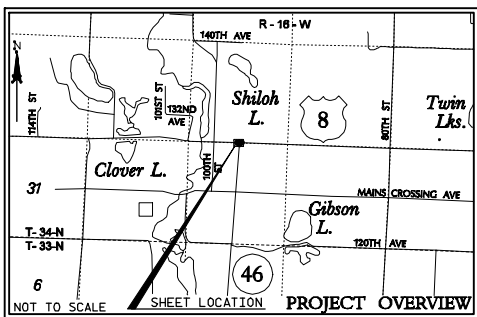
				CONCRETE CONTROL CABINET BASES TYPE 8 654.0210	LIGHTING CONTROL CABINET SPV.0060.04	ELECTRICAL SERVICE METER BREAKER PEDESTAL 656.0200.01	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS 650.8500.01
CABINET NUMBER	STATION	OFFSET	R/L	EACH	EACH	LS	LS
CB100	104EB+93	82.0'	RT	1	1	1	1
TOTALS				1	1	1	1

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CONVENTIONAL SYMBOLS AND ABBREVIATIONS

STATE, COUNTY, & TOWN LINE	ACCESS POINT	AP
SECTION LINE	ACCESS RIGHTS	AR
QUARTER LINE	ACRES	AC.
SIXTEENTH LINE	AND OTHERS	ET. AL.
PROPOSED REFERENCE LINE	CENTERLINE	C/L
PROPOSED R/W LINE	CERTIFIED SURVEY MAP	CSM
EXISTING H.E. LINE	DOCUMENT	DOC.
PROPERTY LINE	HIGHWAY EASEMENT	H.E.
EASEMENT LINE	LAND CONTRACT	LC
CORPORATE LIMITS	MONUMENT	MON.
EXISTING CENTERLINE	PAGE	P.
LOT & TIE LINES	PROPERTY LINE	PL
UTILITIES	PERMANENT LIMITED EASEMENT	P.L.E.
TELEPHONE, GAS, ELECTRIC, CABLE TV, FIBER OPTIC	RECORDED AS	(100)
FIRE HYDRANT	REFERENCE LINE	R/L
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)	REMAINING	REM.
NO ACCESS (BY ACQUISITION)	RIGHT-OF-WAY	R/W
NO ACCESS (BY STATUTORY AUTHORITY)	SECTION	SEC.
FEE (HATCH VARIES)	SQUARE FEET	SO. FT.
TEMPORARY LIMITED EASEMENT	STATION	STA.
PERMANENT LIMITED EASEMENT	TEMPORARY LIMITED EASEMENT	T.L.E.
R/W BOUNDARY POINT	VOLUME	V.
TIE POINT	CURVE DATA	
PARCEL NUMBER	LONG CHORD	LCH
SIGN NUMBER (OF PHASE)	LONG CHORD BEARING	LCB
BUILDING	RADIUS	R
FOUND IRON PIPE/PIN	DEGREE OF CURVE	D
R/W MONUMENT	CENTRAL ANGLE OR DELTA	DELTA
R/W STANDARD	LENGTH OF CURVE	L
SIGN	TANGENT	TAN
	POWER POLE	POWER POLE
	TELEPHONE POLE	TELEPHONE POLE
	TELEPHONE PEDESTAL	TELEPHONE PEDESTAL
	GUY POLE	GUY POLE
	SECTION CORNER	SECTION CORNER
	FOUND IRON PIPE/PIN	FOUND IRON PIPE/PIN
	R/W MONUMENT	R/W MONUMENT
	R/W STANDARD	R/W STANDARD
	SIGN	SIGN



NOTES:

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, POLK COUNTY ZONE, NAD83 (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 (TYPICALLY 3/4" X 24" REBAR WITH A PLASTIC CAP) 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 SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

THE POINT OF INTERSECTIONS DESIGNATED WITH A 90000 SERIES NUMBER HAVE BEEN CREATED FOR THE PURPOSE OF SHOWING A CLOSED TRAVERSE. THE POINTS ARE INTENDED TO BE ON THE RIGHT-OF-WAY LINES BUT NOT NECESSARILY ON OR ANY PART OF A BOUNDARY, SIXTEENTH, QUARTER OR SECTION (P.L.S.S.) LINE. THESE POINTS WILL NOT BE MONUMENTED IN THE FIELD.

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR USH 8 AND SIDE ROADS ESTABLISHED FROM PREVIOUS PROJECTS 8072-03-21 AND 1570-21-21.

EXISTING ACCESS CONTROL ALONG USH 8 ESTABLISHED FROM PREVIOUS PROJECTS 8072-03-21 AND 1570-21-21.

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

UTILITY INTERESTS REQUIRED		
UTILITY NUMBER	OWNERS	INTEREST REQUIRED
10	AMERY TELCOM	RELEASE OF RIGHTS
20	POLK BURNETT ELECTRIC CO-OP	RELEASE OF RIGHTS

SCHEDULE OF LANDS AND INTERESTS REQUIRED			OWNER NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT			
PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W ACRES REQUIRED			TLE ACRES REQUIRED
			NEW	EXISTING H.E.	TOTAL	
1	THE DAVID N. WATERMAN FAMILY TRUST	FEE & TLE	0.64	0.00	0.64	0.19
2	LINDUS PROPERTIES, INC.	FEE & TLE	0.39	0.00	0.39	0.06

ALIGNMENT DATA
131ST STREET

POB STA 500+00.00
Y = 268099.60
X = 536222.89
PISTA 500+83.65
Y = 268179.27
X = 536197.40
DELTA 85°37'12"
D = 127°19'26"
T = 41.69'
L = 67.25'
R = 45.00'
LC = 61.16'
LCB = N25°04'06"E
(900) PC STA 500+41.96
Y = 268139.57
X = 536210.10
(901) PCC STA 501+09.21
Y = 268194.97
X = 536236.02
PISTA 501+53.54
Y = 268211.66
X = 536277.08
DELTA = 68°34'50"
D = 88°08'50"
T = 44.32'
L = 77.80'
R = 65.00'
LC = 73.24'
LCB = S77°49'53"E

ALIGNMENT DATA
131ST STREET (CONTINUED)

(902) PT STA 501+87.01
Y = 268179.53
X = 536307.61
PISTA 503+15.45
Y = 268086.43
X = 536396.09
DELTA = 45°46'36"
D = 89°31'29"
T = 27.02'
L = 51.13'
R = 64.00'
LC = 49.78'
LCB = S66°25'46"E
(903) PC STA 502+88.43
Y = 268106.02
X = 536377.48
(904) PT STA 503+39.56
Y = 268086.11
X = 536423.11
POE STA 503+64.56
Y = 268085.81
X = 536448.11

STATION/OFFSET TABLE 131ST ST.		
POINT	STATION	OFFSET
40013	501+05.27	-45.37
40014	501+92.71	-76.98
40015	502+34.00	-35.00
40016	503+45.67	-30.00
40017	503+46.13	19.67
65001	500+61.98	-56.48
65002	500+82.68	-99.93
65003	500+96.41	-150.35
65004	501+04.30	-126.14
65005	500+98.35	-74.06
65006	501+84.96	-87.75
65007	502+20.67	-48.55
65008	503+45.50	-49.48

UTILITY EASEMENT INFORMATION	
PARCEL 1	WISCONSIN POWER COOPERATIVE VOL 149 OF RECORDS PG 71 DOC#213479
PARCEL 2	POLK-BURNETT ELECTRIC COOPERATIVE VOL 147 OF RECORDS PG 265 DOC#213870
	POLK-BURNETT ELECTRIC COOPERATIVE VOL 515 OF RECORDS PG 179 DOC#457318
	POLK-BURNETT ELECTRIC COOPERATIVE VOL 535 OF RECORDS PG 375 DOC#462287

V 993 P 521

ALIGNMENT TIE: 3027 TO STA WB 106+70.43 = 44.86' N00°18'11"W

ALIGNMENT DATA
USH 8

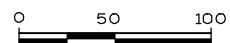
POB STA WB 97+00.00
Y = 268030.51
X = 535237.31
(910) PISTA WB 101+90.54
Y = 268029.58
X = 535727.85
PISTA WB 103+86.00
Y = 268029.21
X = 535923.31
DELTA = 08°13'32"
D = 05°38'22"
T = 73.05'
L = 145.86'
R = 1016.00'
LC = 145.73'
LCB = N85°59'45"E
(911) PC STA WB 103+12.95
Y = 268029.35
X = 535850.26
(912) PT STA WB 104+58.80
Y = 268039.52
X = 535995.63
(913) PISTA WB 105+83.14
Y = 268057.08
X = 536118.72
PISTA WB 107+76.23
Y = 268005.19
X = 536304.71
DELTA = 19°20'46"
D = 38°42'48"
T = 25.23'
L = 49.97'
R = 148.00'
LC = 49.74'
LCB = S84°05'03"E

ALIGNMENT DATA
USH 8 (CONTINUED)

(914) PC STA WB 107+51.00
Y = 268011.97
X = 536280.41
(915) PT STA WB 108+00.98
Y = 268006.84
X = 536329.88
PISTA WB 110+85.38
Y = 268025.48
X = 536613.67
DELTA = 03°52'00"
D = 02°17'31"
T = 84.39'
L = 168.71'
R = 2500.00'
LC = 168.68'
LCB = N88°10'34" E
(916) PC STA WB 110+00.99
Y = 268019.95
X = 536529.46
PT STA WB 111+69.70
Y = 268025.32
X = 536698.06
PISTA WB 113+47.36
Y = 268024.98
X = 536875.72

COURSE TABLE		
COURSE	BEARING	DISTANCE
3026-90046	S 89°51'06" E	2010.60
90046-90045	N 00°06'31" E	39.49
90045-40000	N 00°06'31" E	37.87
40000-40001	N 00°06'31" E	12.13
40001-40002	S 89°53'29" E	250.00
40002-40003	N 87°59'09" E	95.68
40003-40004	N 79°10'22" E	177.27
40004-40013	N 41°38'10" E	157.43
40013-40014	S 88°03'48" E	155.69
40014-40015	S 01°56'12" W	58.89
40015-40016	S 50°10'43" E	83.62
40016-40017	S 00°09'27" W	49.67
40017-3027	S 71°04'55" W	239.33
3027-90046	N 89°51'06" W	615.81
3026-3027	S 89°51'06" E	2626.41

SCALE, FEET



TRANSPORTATION PROJECT PLAT NO: 1570-01-20 - 4.01

THAT PART OF THE SE 1/4 OF THE SW 1/4 AND THE SW 1/4 OF THE SE 1/4 OF SECTION 28, ALL IN T-34-N, R-16-W, TOWN OF APPLE RIVER, POLK COUNTY, WISCONSIN

RELOCATION ORDER USH 8, ST. CROIX FALLS - TURTLE LAKE (STH 46 INTERSECTION), POLK COUNTY

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

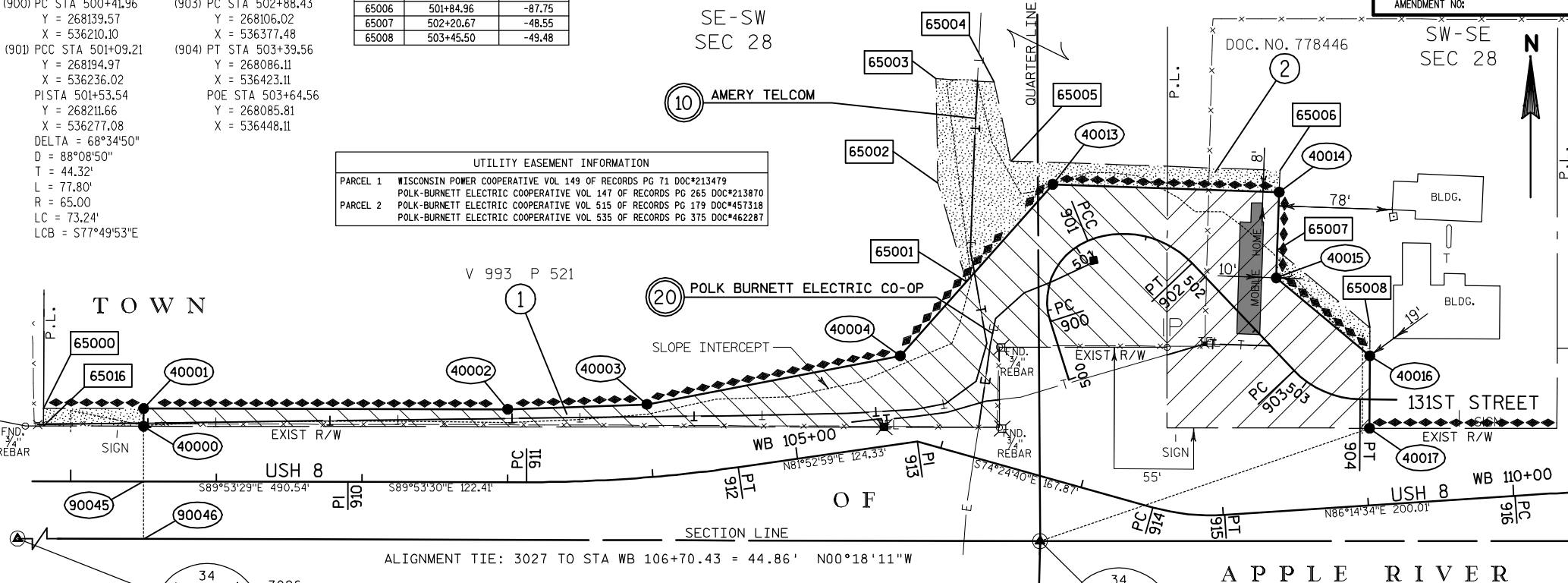
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (D) OR (2), WISCONSIN STATUTES.

ACCEPTED FOR RECORDING AND FILING IN
THE OFFICE OF THE REGISTER OF DEEDS
IN ...POLK... COUNTY, WISCONSIN AT
10:45 AM ON ...MARCH 2, 2012...
AS DOCUMENT #...793237... AND
FILED IN ...ENV. 324B...

.....LAURIE ANDERSON.....
SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1570-01-20-4.01
AMENDMENT NO:



STATION/OFFSET TABLE USH 8		
POINT	STATION	OFFSET
40000	WB 100+50.00	-37.87
40001	WB 100+50.00	-50.00
40002	WB 103+00.00	-50.00
40003	WB 104+00.00	-50.00
40004	WB 105+80.00	-60.00
65000	WB 99+81.29	-50.00
65016	WB 99+81.29	-37.84

3027
FOUND 1/8" REBAR
W/ALUMINUM CAP
Y = 267988.77
X = 536203.04

FAA Fleming, Andre & Associates, Inc.
CONSULTING ENGINEERS
3615 N. Hastings Way • Suite 100
Eau Claire, WI 54603

I, JOHN T. MUELLER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1570-01-20-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

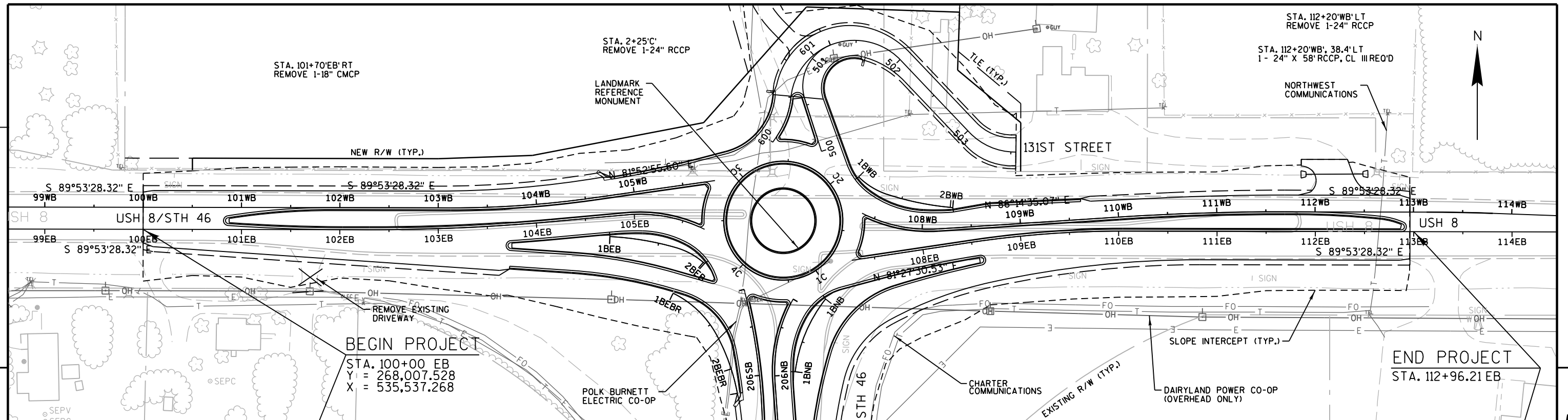
DATE 2/14/2012



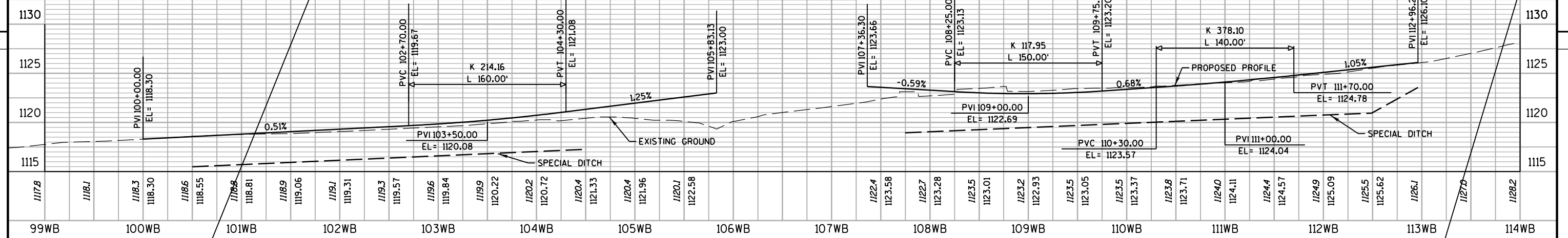
John T. Mueller

THIS PLAT AND RELOCATION ORDER ARE APPROVED
FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
DATE 2/14/2012

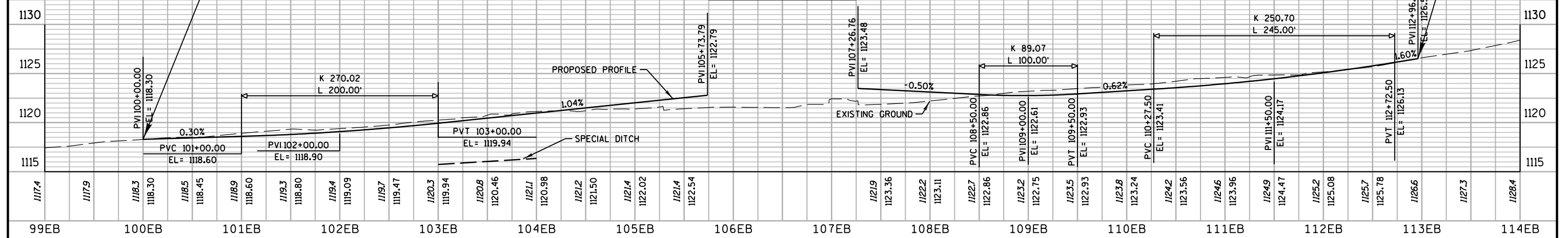
Michael Piller

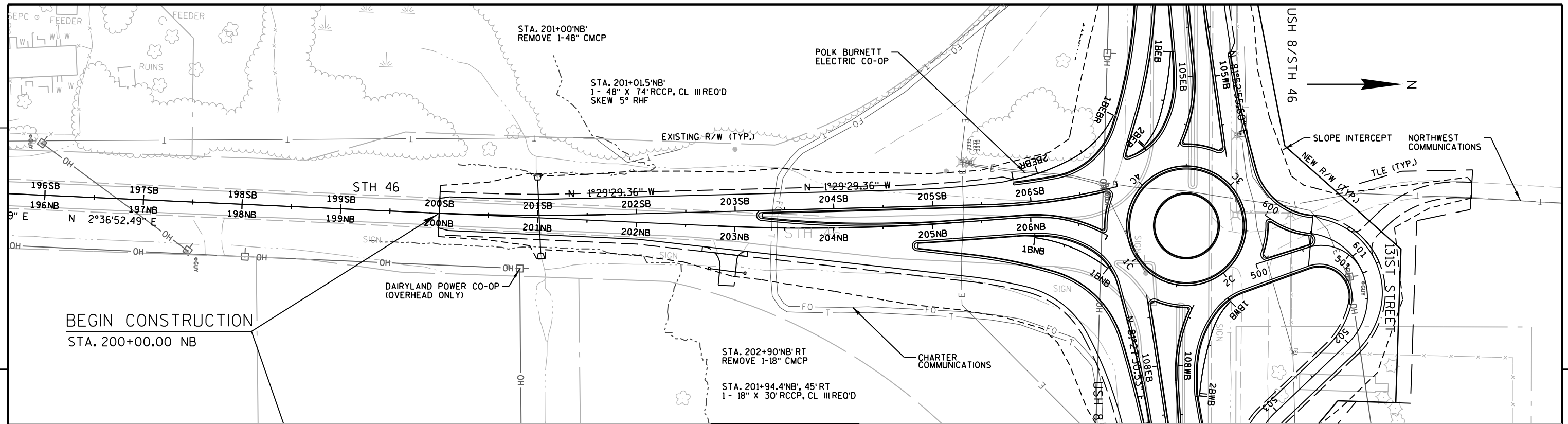


WB PROFILE

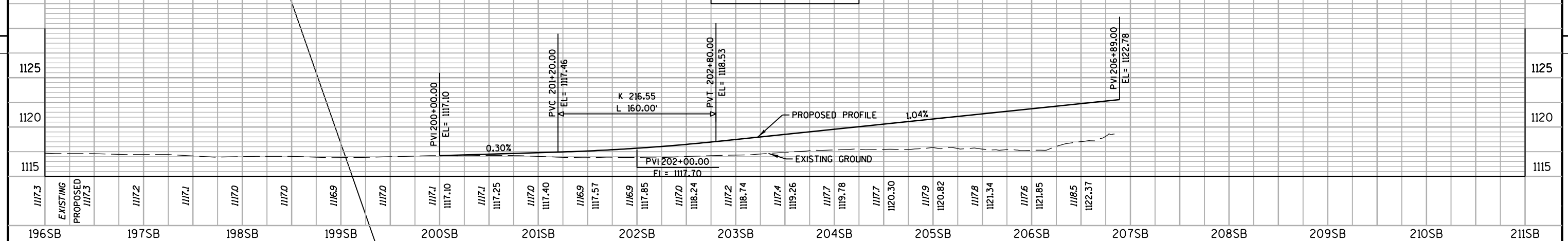


EB PROFILE

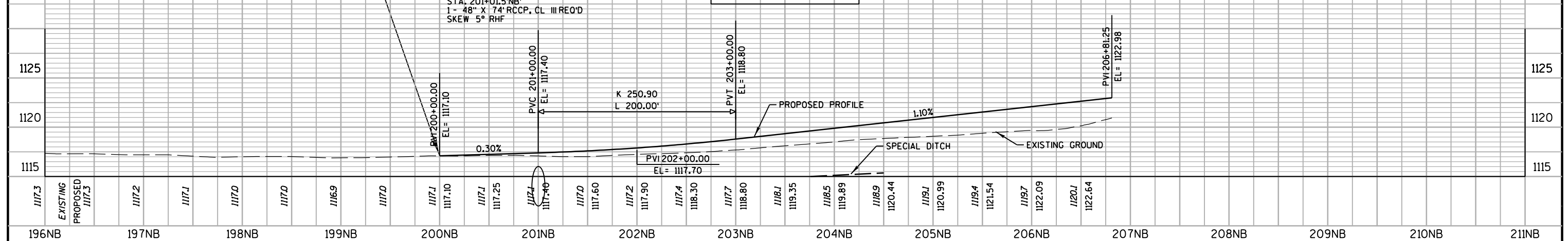


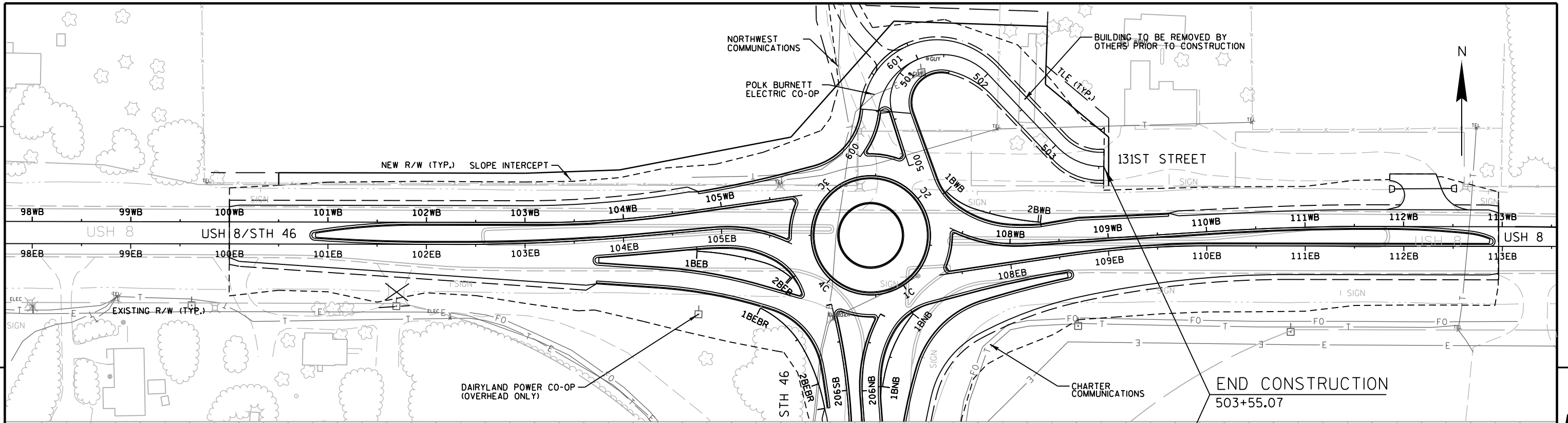


SB PROFILE

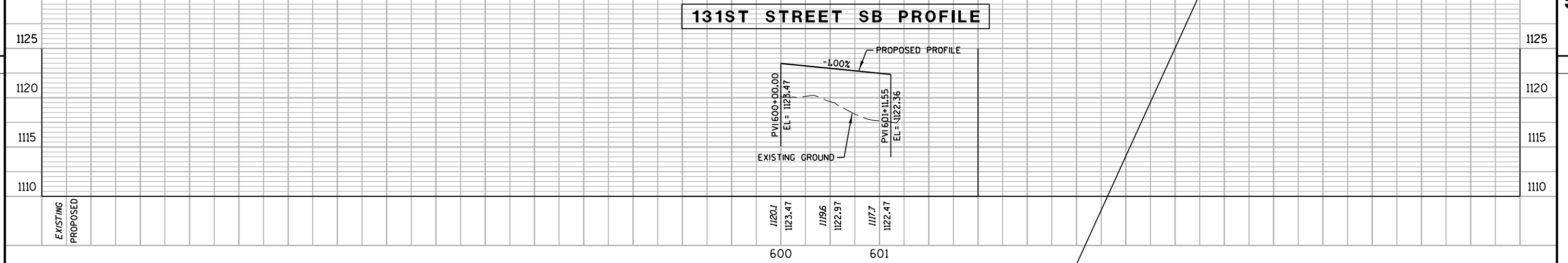


NB PROFILE

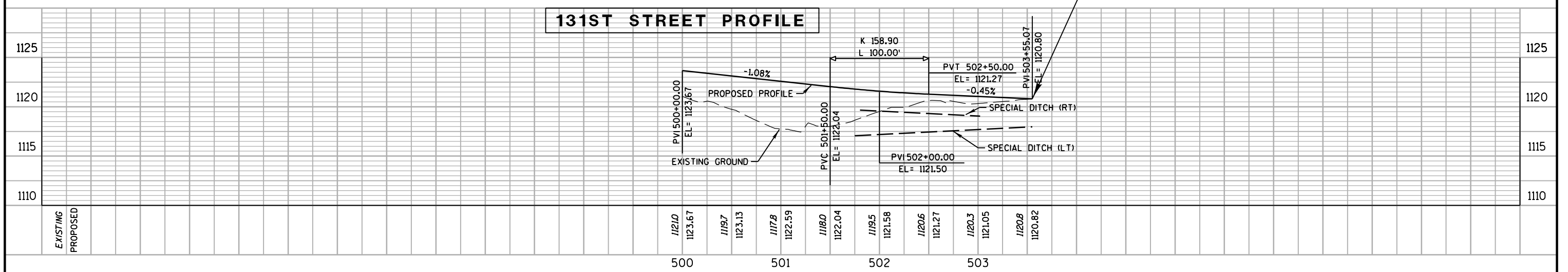


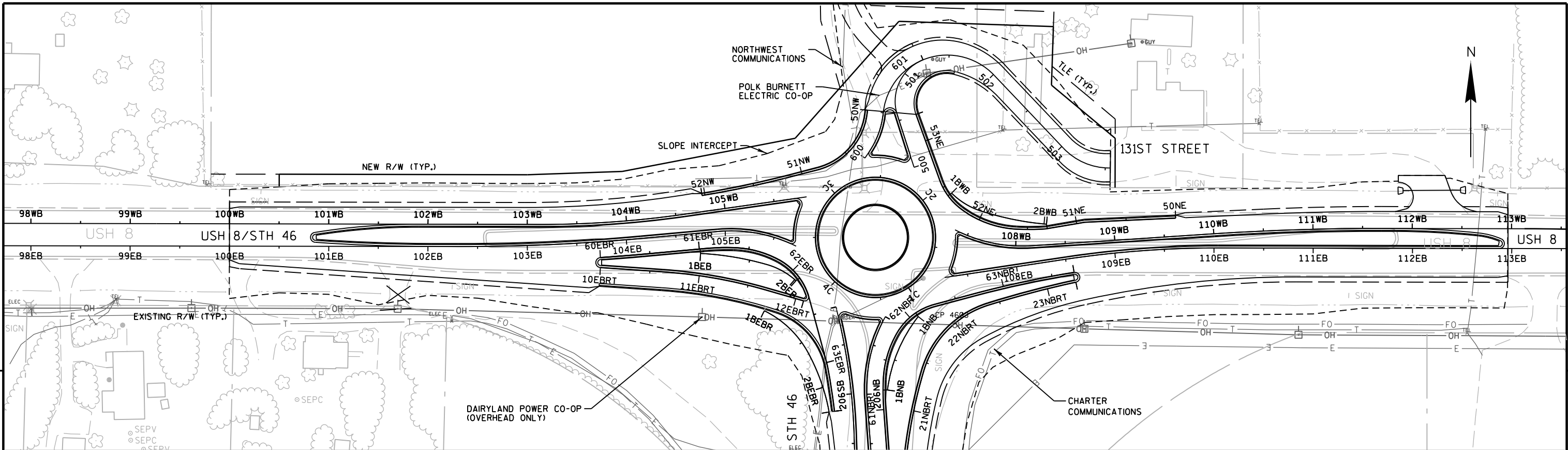


131ST STREET SB PROFILE

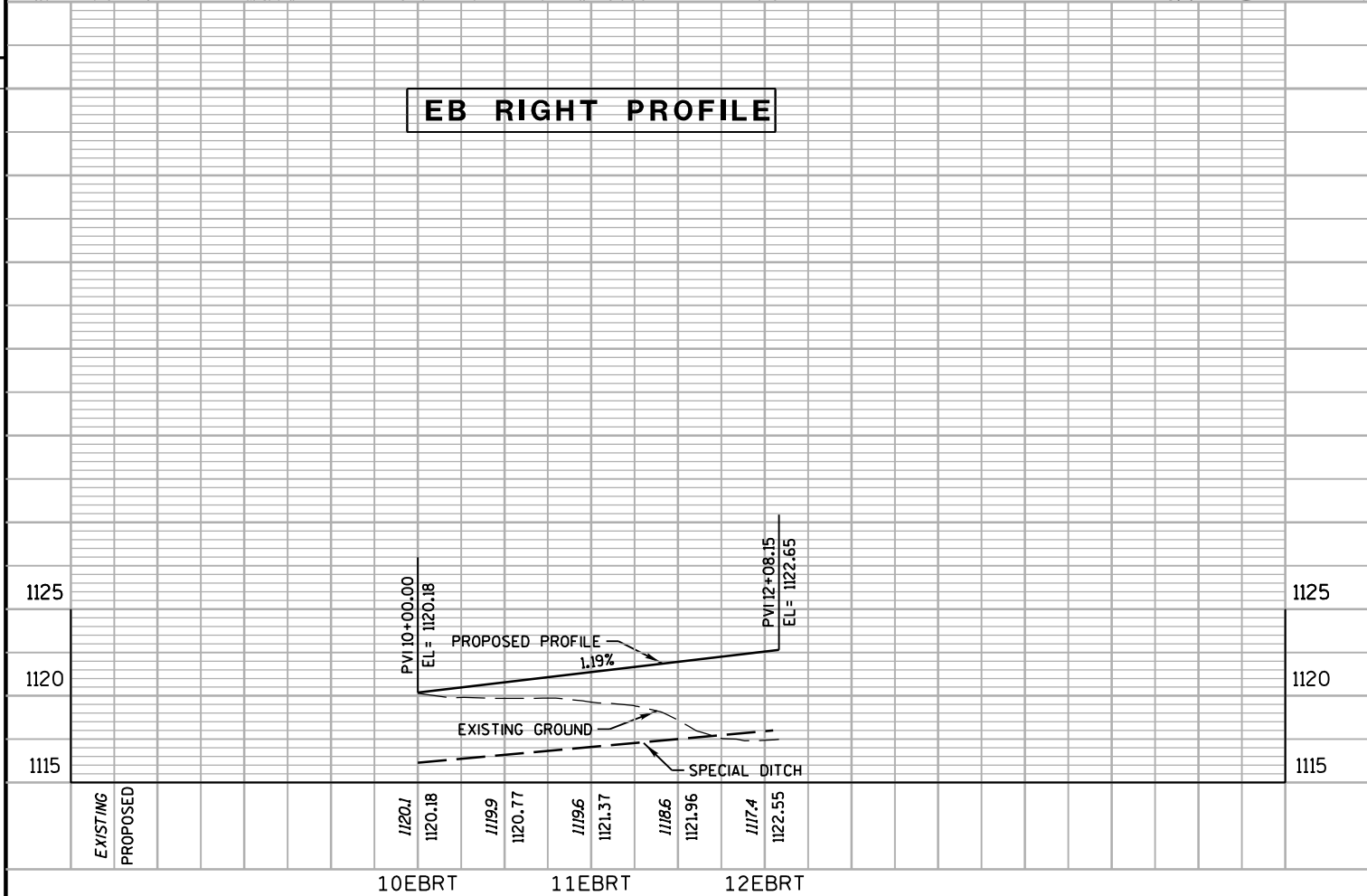


131ST STREET PROFILE

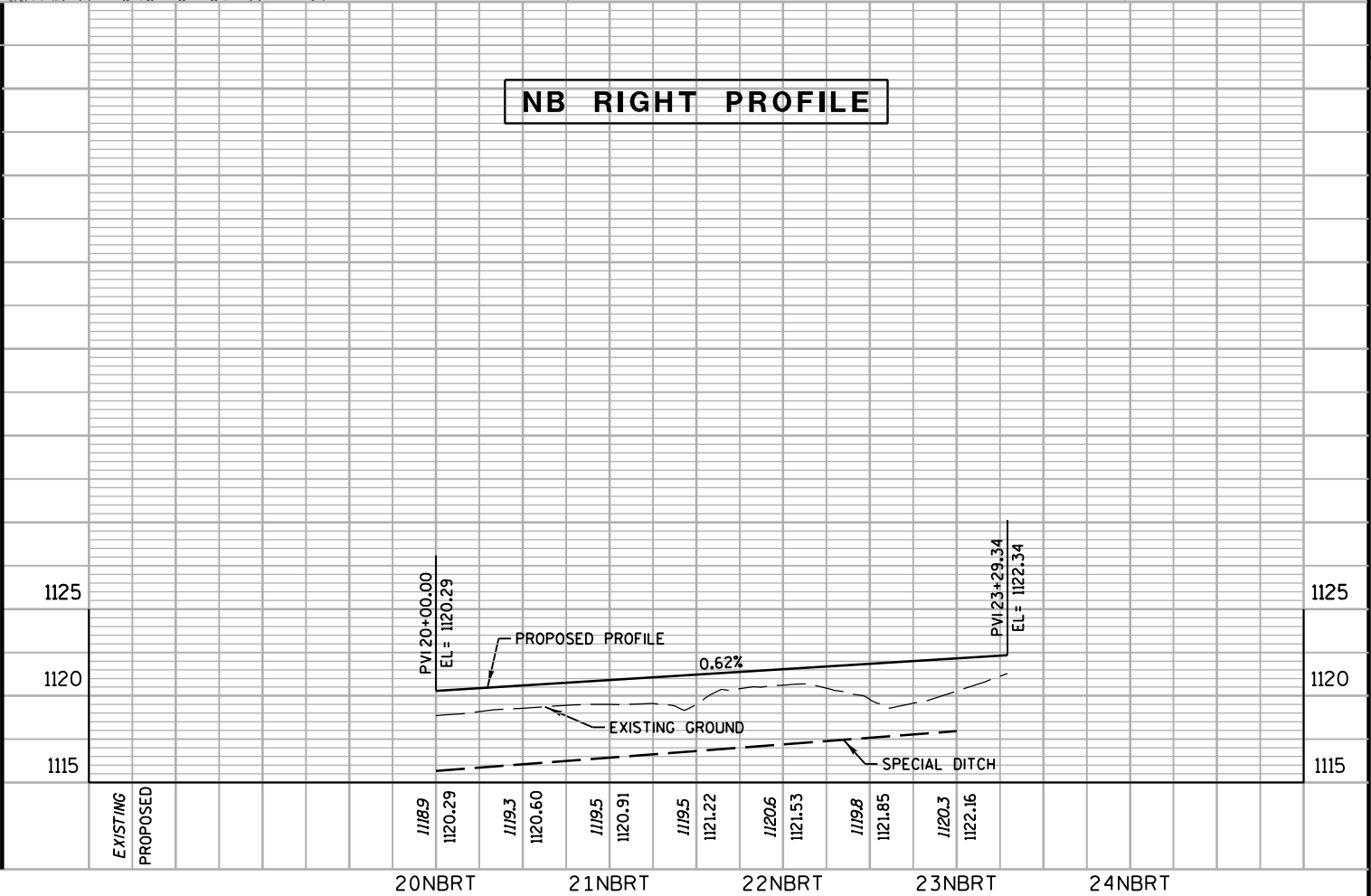


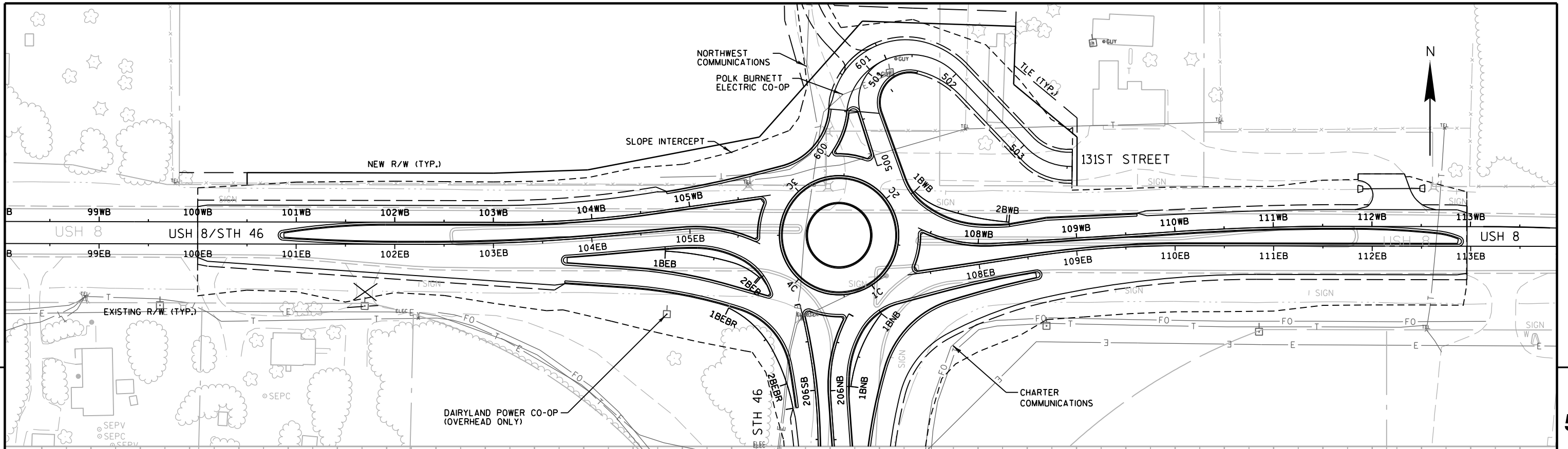


EB RIGHT PROFILE

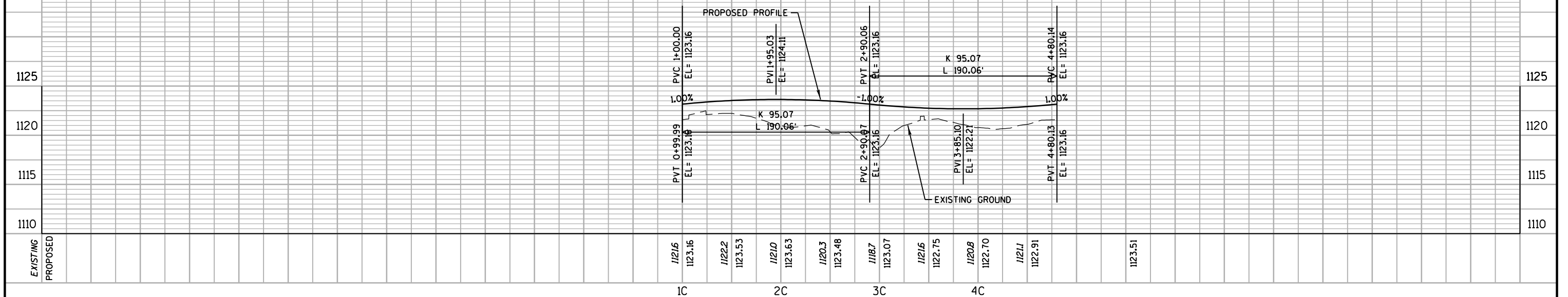


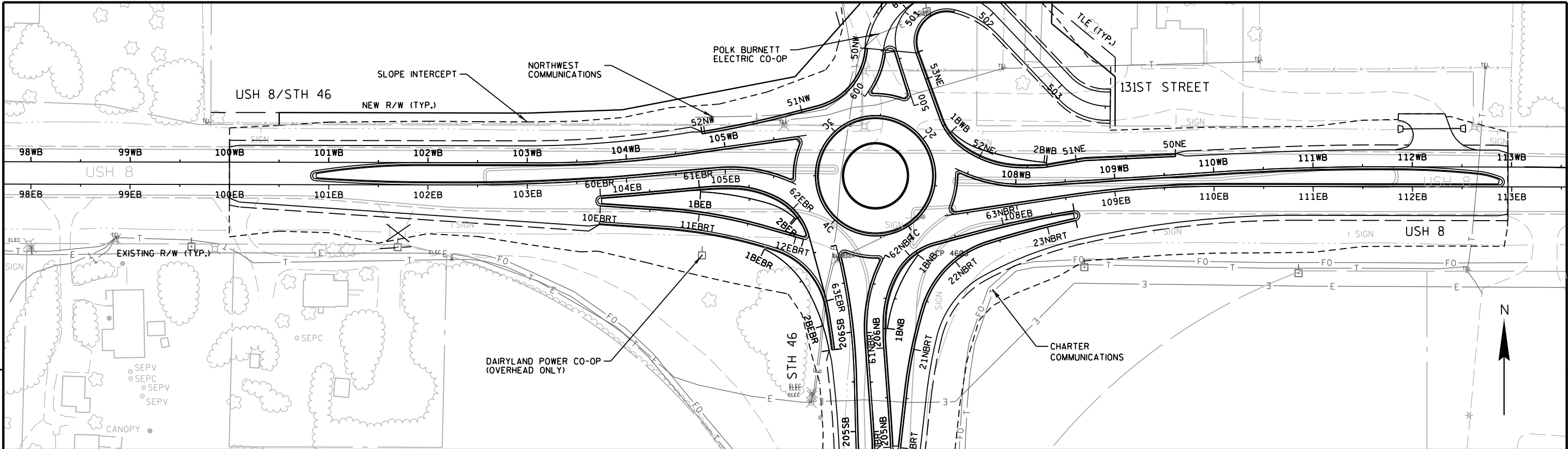
NB RIGHT PROFILE



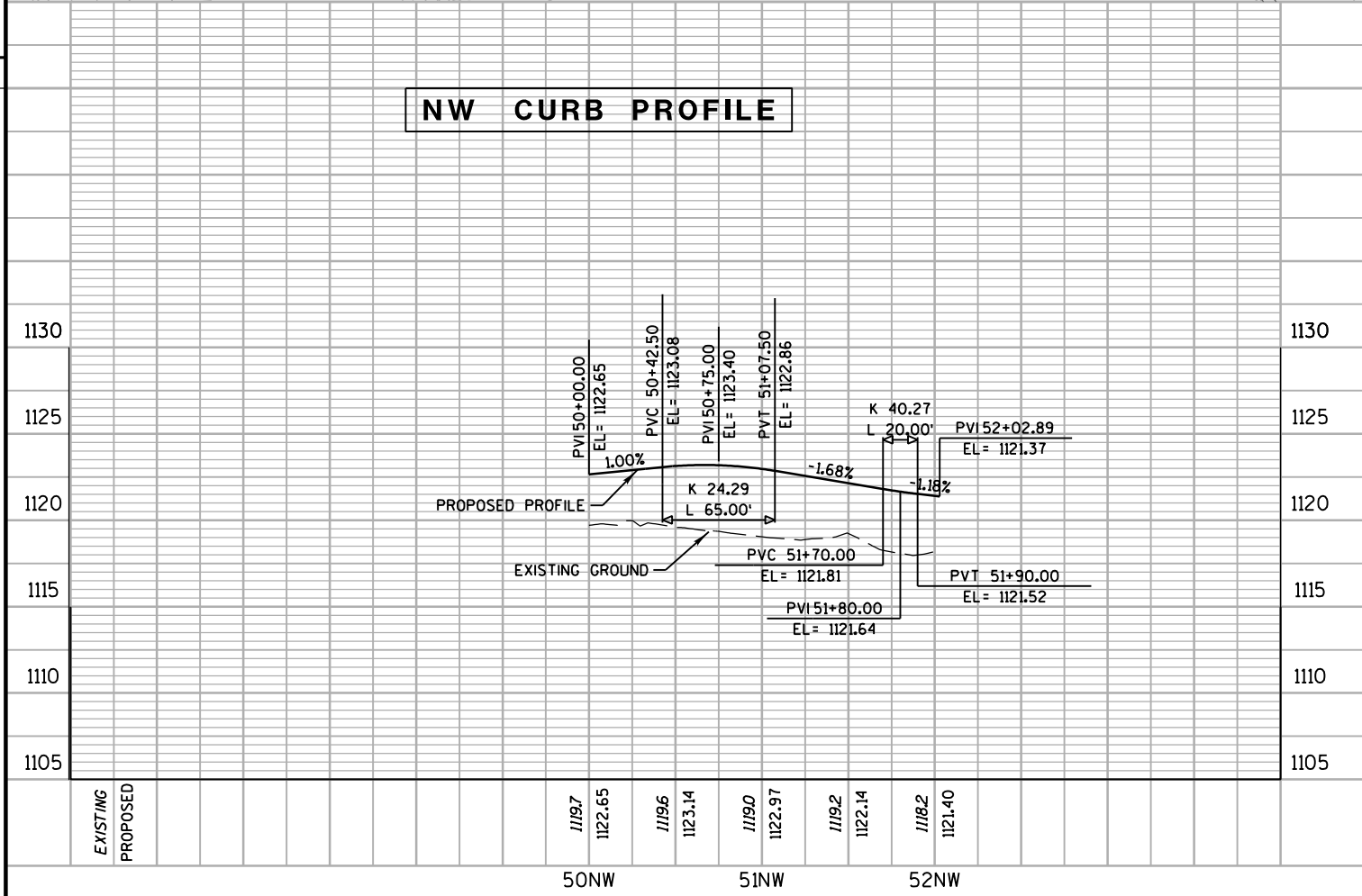


CIRCLE PROFILE

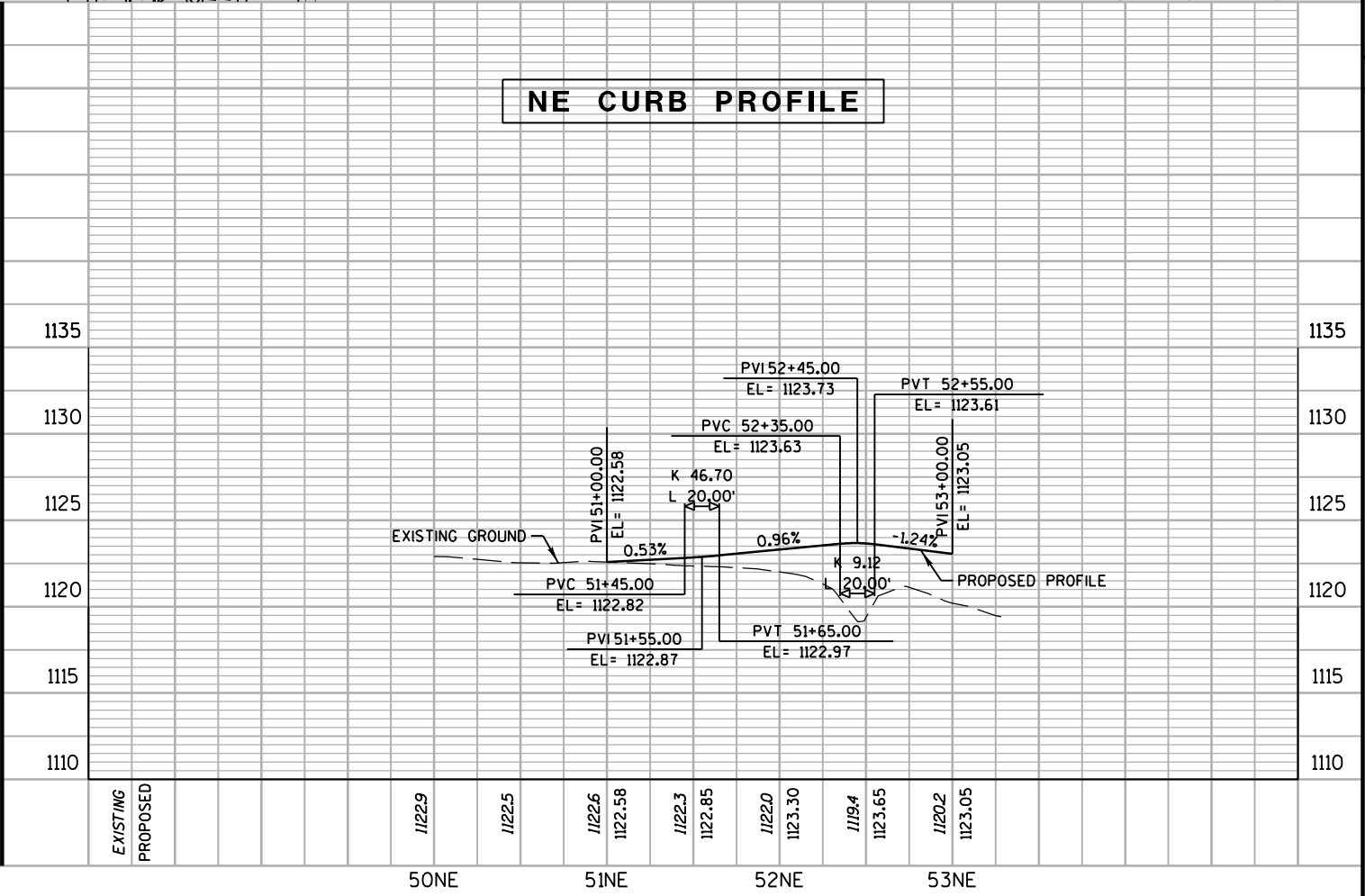


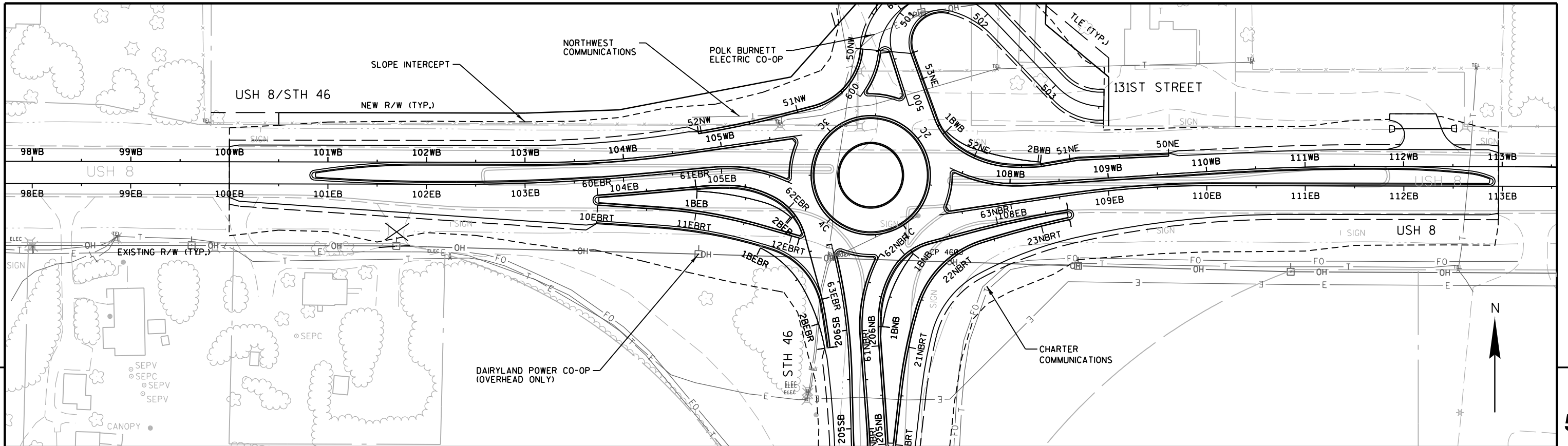


NW CURB PROFILE

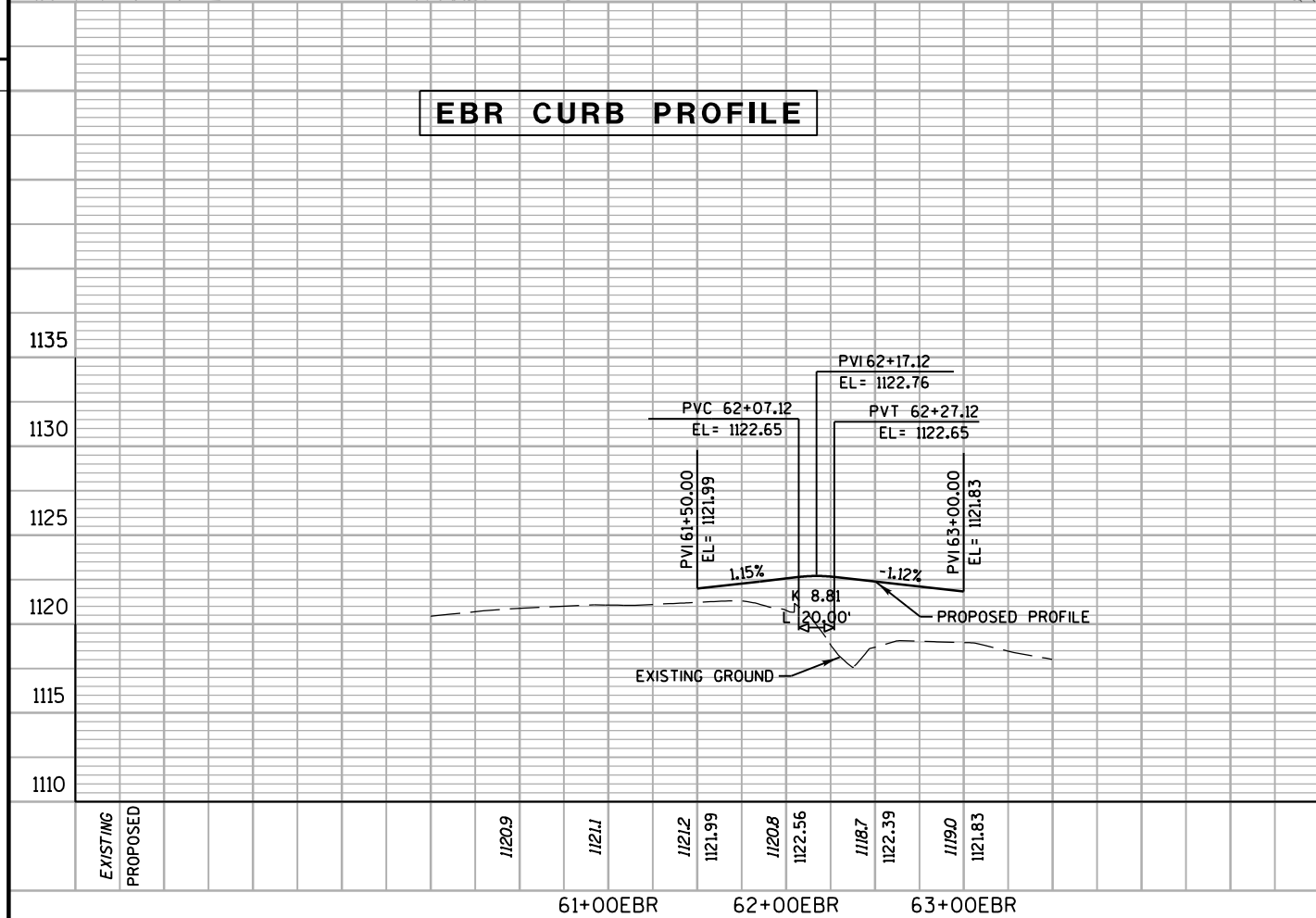


NE CURB PROFILE

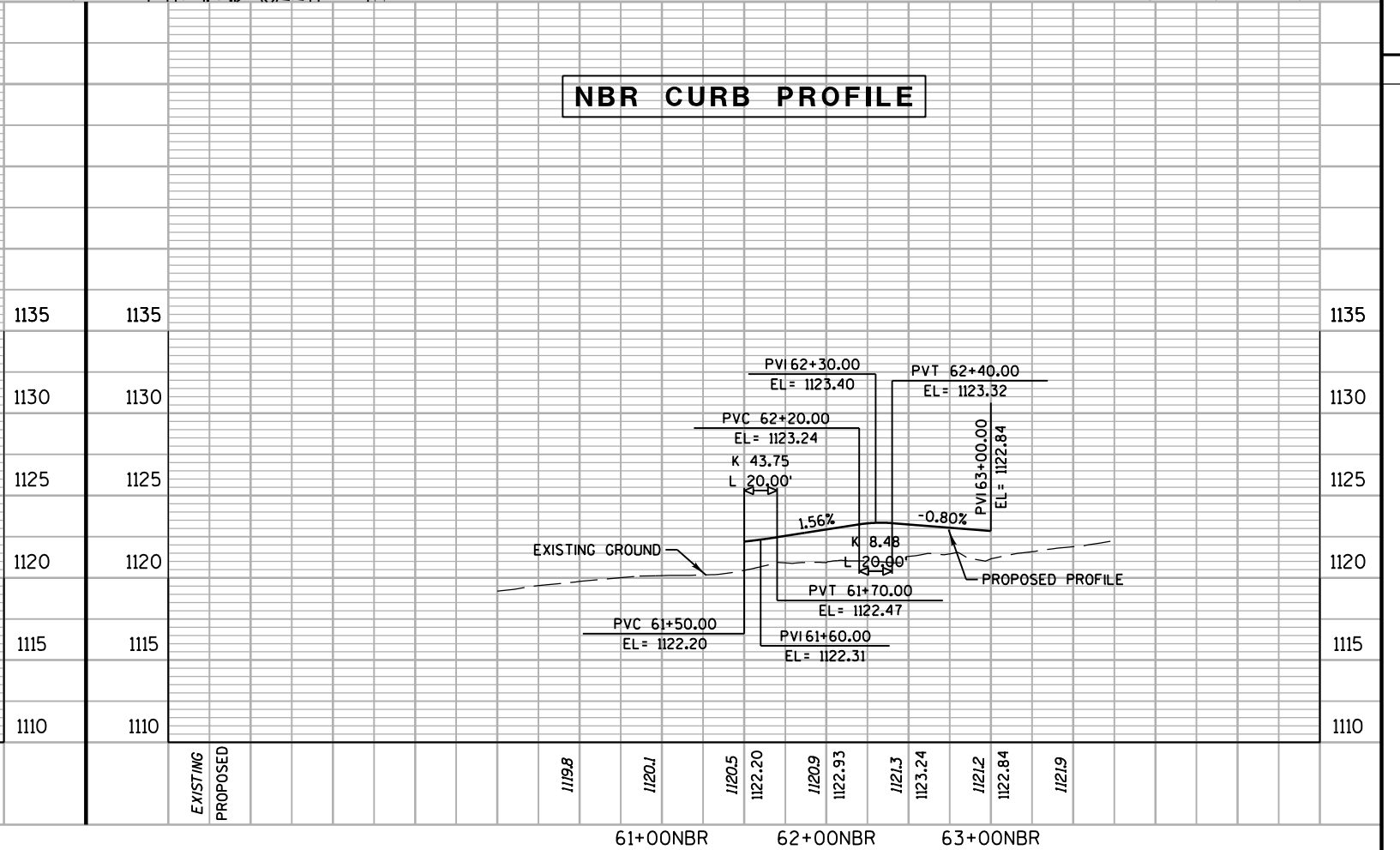




EBR CURB PROFILE

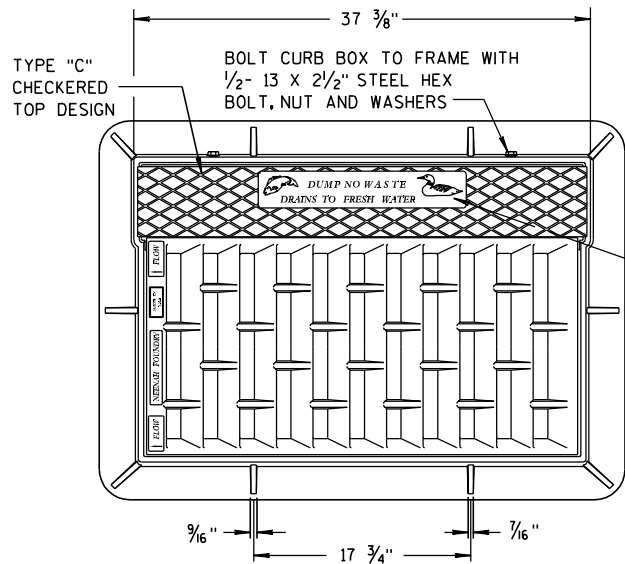


NBR CURB PROFILE

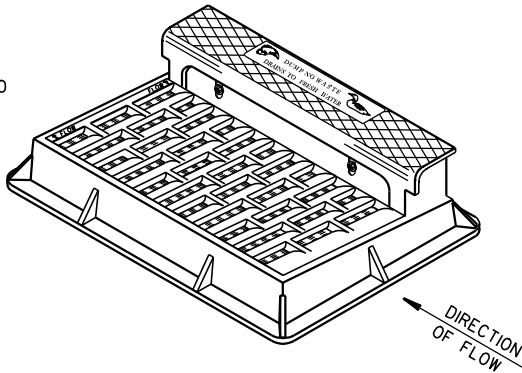


Standard Detail Drawing List

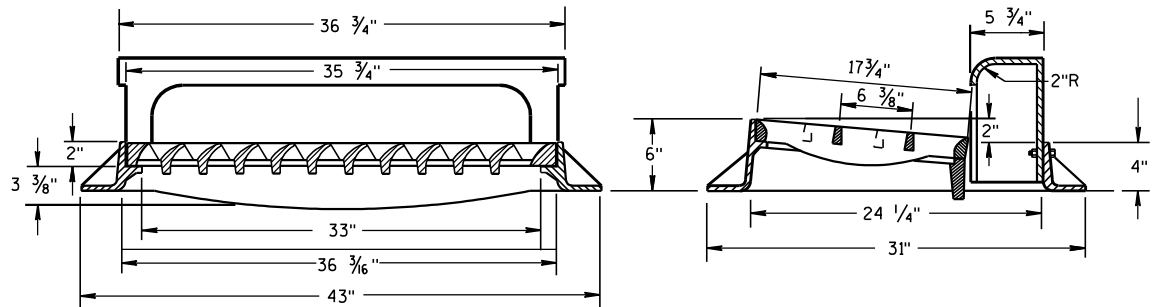
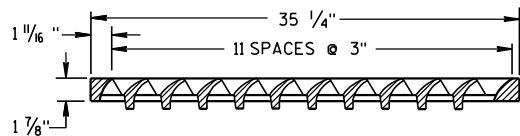
08A05-18A	INLET COVERS TYPE A, H, A-S, & H-S
08A05-18C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-18D	INLET COVER, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D15-04A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
09B02-07	CONDUIT
09B04-09	PULL BOX
09C03-03	TRANSFORMER/PEDESTAL BASES
09C05-07	CONCRETE CONTROL CABINET BASES
09C07-04	CONCRETE BASE, TYPE 6
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02	SIGNAL OR LIGHTING CONTROL CABINET
09E01-11E	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 6 (35 FEET)
09E01-11G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
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
11B02-02	CONCRETE MEDIAN NOSE
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01C	CONCRETE PAVEMENT JOINT TIES
13C18-01E	CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-01	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C07-12D	ROUNDABOUT ARROWS
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C08-15F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C12-03	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING
15D06-02	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D27-01	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-01	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS



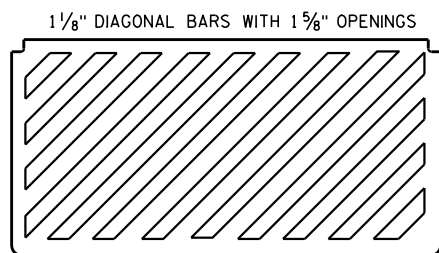
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

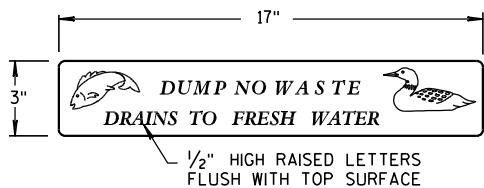


TYPE "H"
(APPROXIMATE WEIGHT 441 LBS.)
FRAME..... 181 LBS.
GRATE..... 146 LBS.
CURB BOX..... 114 LBS.

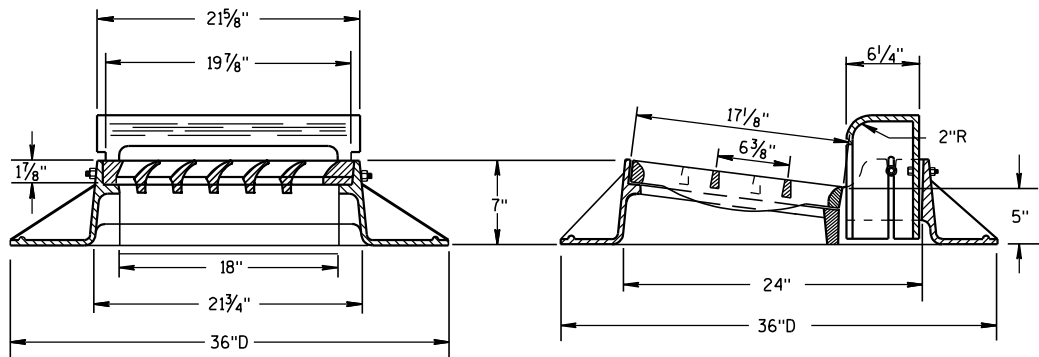
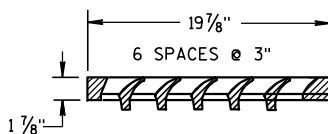
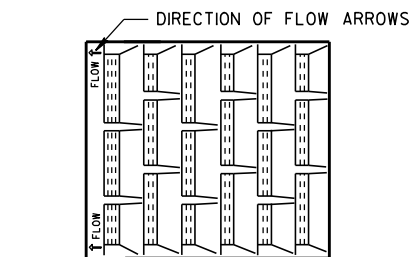


**SPECIAL GRATE FOR
TYPE "H" COVER**

(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.

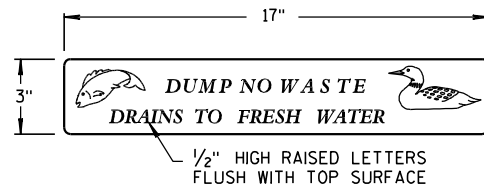
GENERAL NOTES

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.

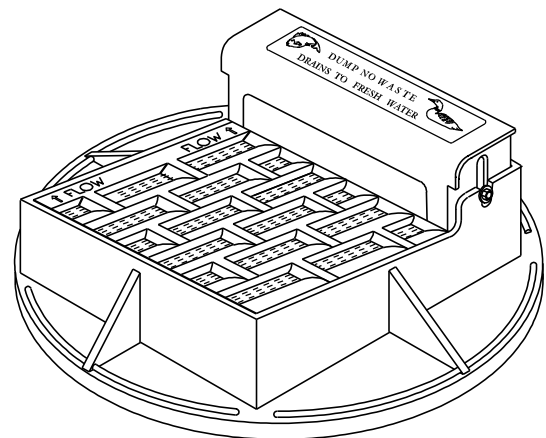
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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



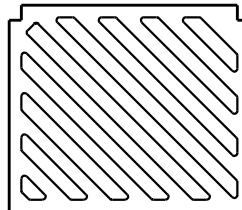
LOGO DETAIL

NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

1" DIAGONAL BARS
WITH 1 1/2" OPENINGS



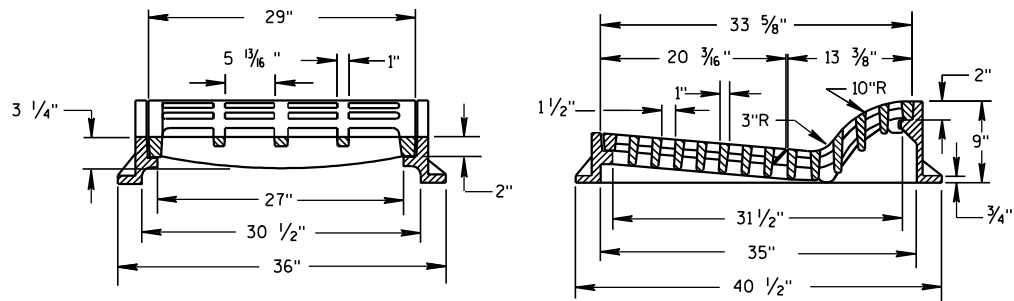
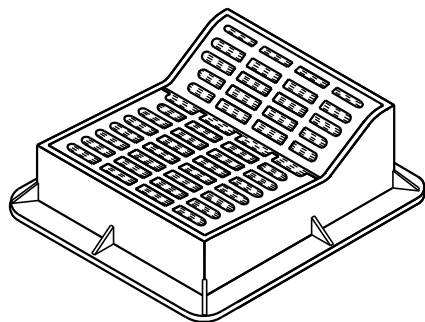
**SPECIAL GRATE FOR
TYPE "A" COVER**

(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. Zoon ROADWAY STANDARDS 94 ENGINEER
FHWA

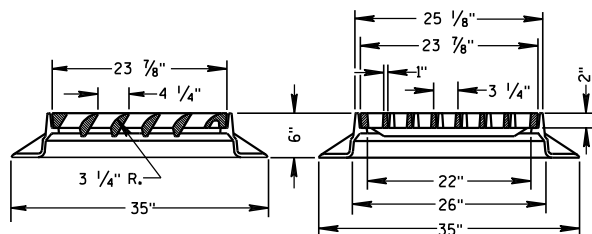
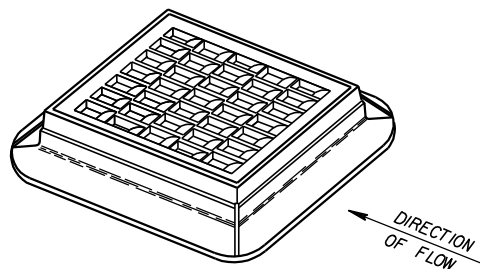


TYPE "F"

(APPROXIMATE WEIGHT 644 LBS.)

FRAME.....302 LBS.
GRATE.....160 LBS.
GRATE.....182 LBS.

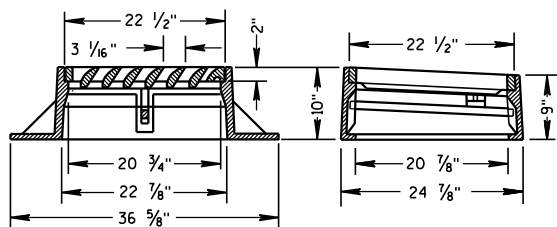
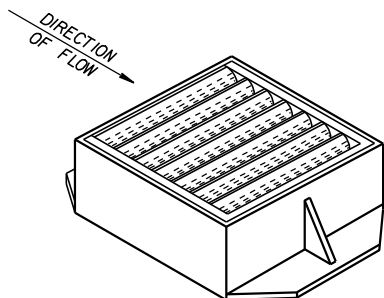
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



TYPE "S"

(APPROXIMATE WEIGHT 333 LBS.)

FRAME.....164 LBS.
GRATE.....169 LBS.



TYPE "V"

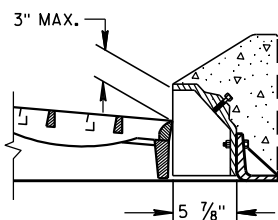
(APPROXIMATE WEIGHT 410 LBS.)

FRAME.....269 LBS.
GRATE.....136 LBS.
SAFETY BAR.....5 LBS.

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

(APPROXIMATE WEIGHT CURB BOX 68 LBS.)

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



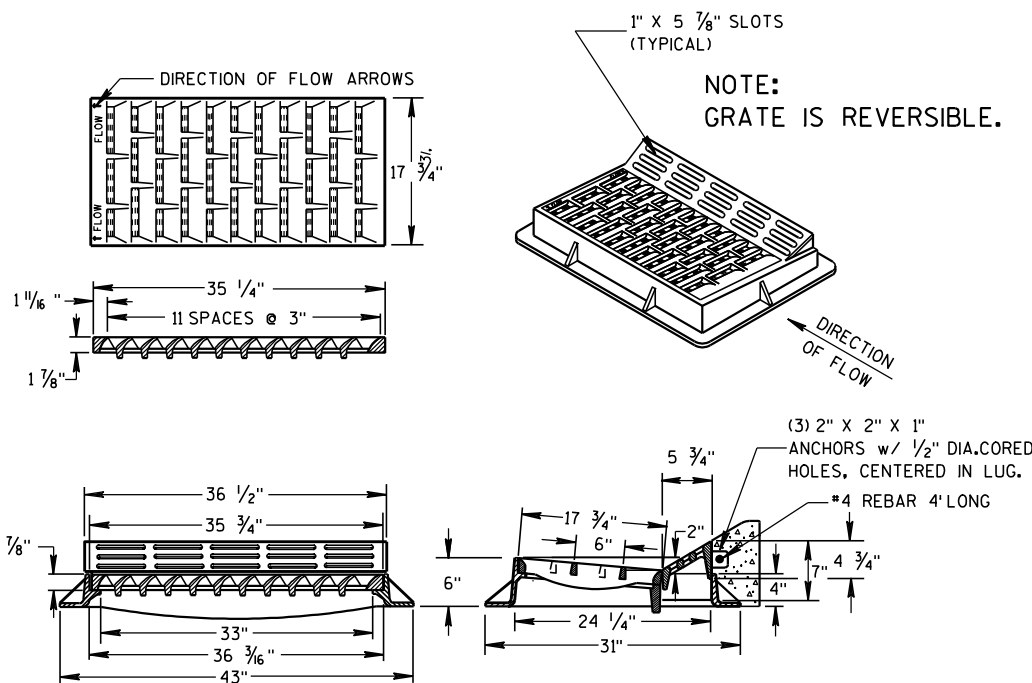
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

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

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

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



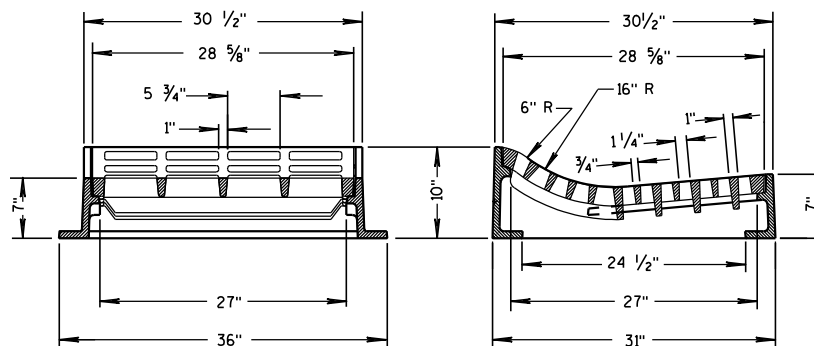
TYPE "HM"

(APPROXIMATE WEIGHT 414 LBS.)

FRAME.....181 LBS.
GRATE.....159 LBS.
CURB BOX.....74 LBS.

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

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

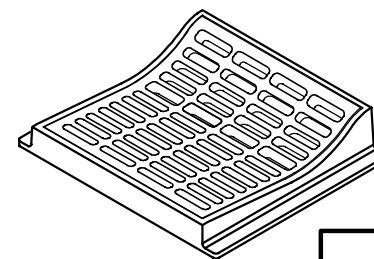


TYPE "T"

(APPROXIMATE WEIGHT 530 LBS.)

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

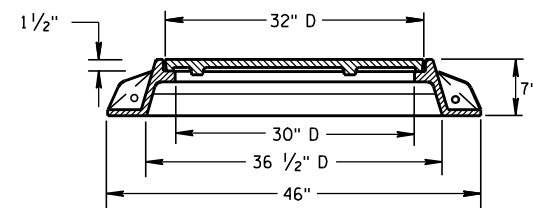
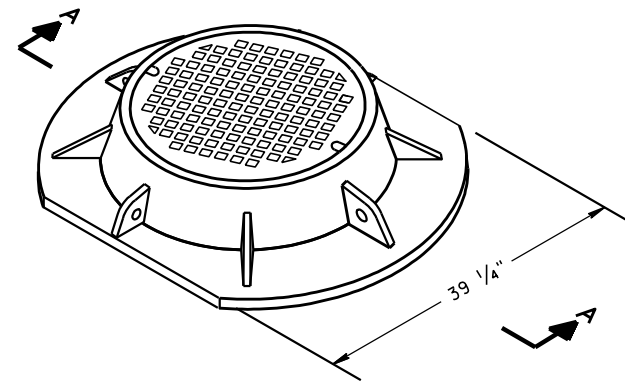
USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



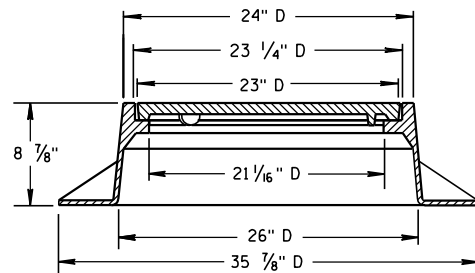
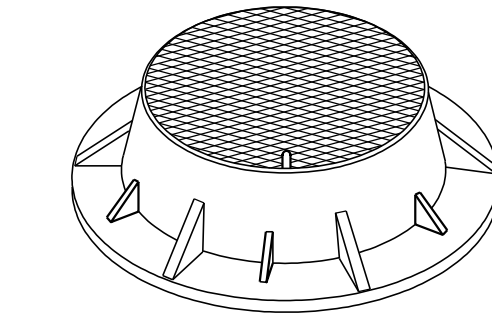
INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-S

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DEPARTMENT OF TRANSPORTATION

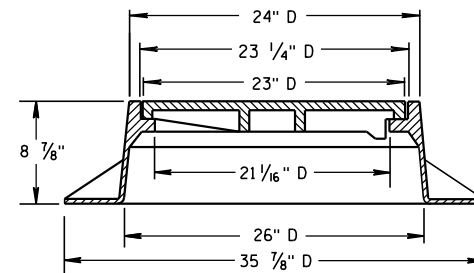
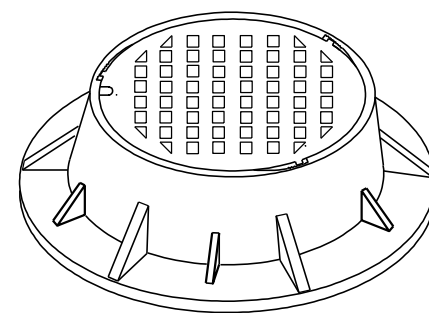
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6/5/2012 /S/ Jerry H. Zeng
DATE ROADWAY STANDARDS 95
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SECTION A-A
TYPE "K"
 (APPROXIMATE WEIGHT 439 LBS.)
 FRAME.....216 LBS.
 LID.....223 LBS.



TYPE "J"
 (APPROXIMATE WEIGHT 267 LBS.)
 FRAME.....152 LBS.
 LID.....115 LBS.



TYPE "J" SPECIAL
 TYPE "B" NON-ROCKING SELF-SEAL LID
 (APPROXIMATE WEIGHT 267 LBS.)
 FRAME.....158 LBS.
 LID.....109 LBS.
 (NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

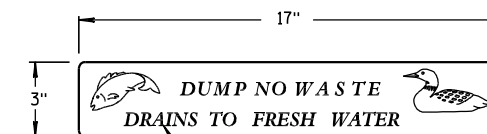
GENERAL NOTES

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

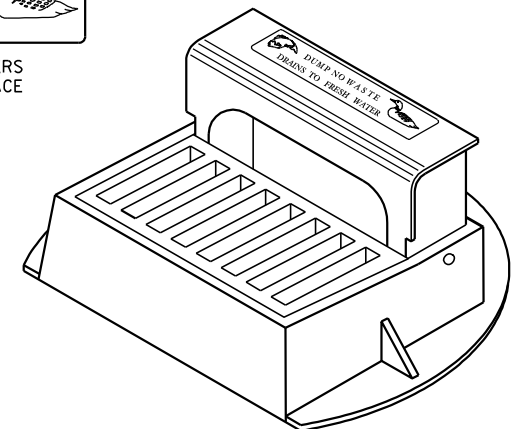
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

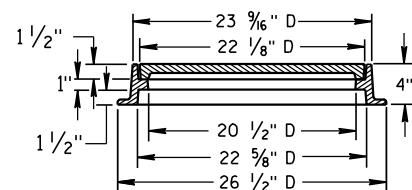
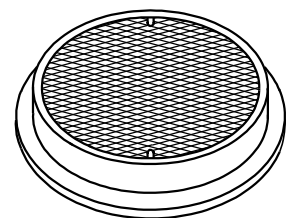
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



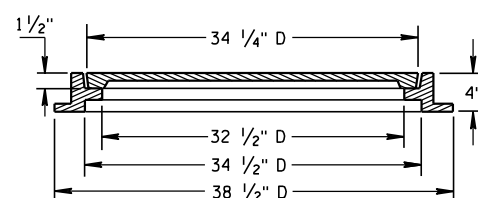
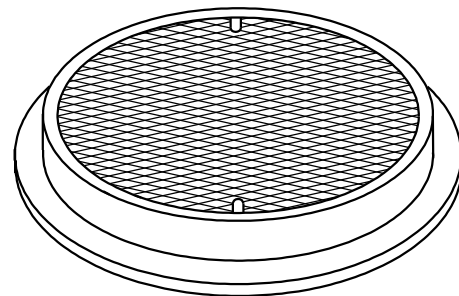
LOGO DETAIL



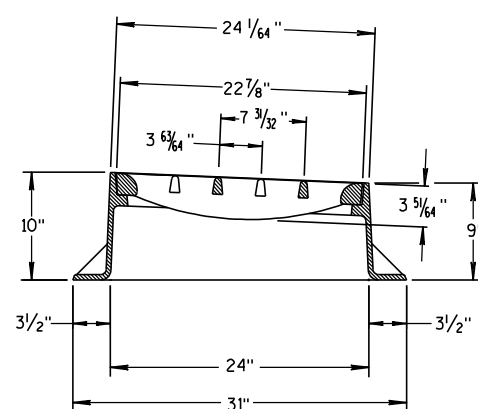
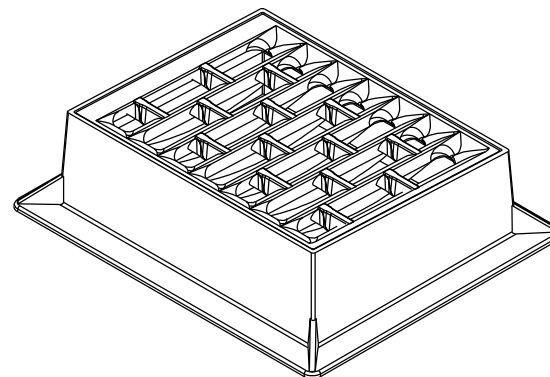
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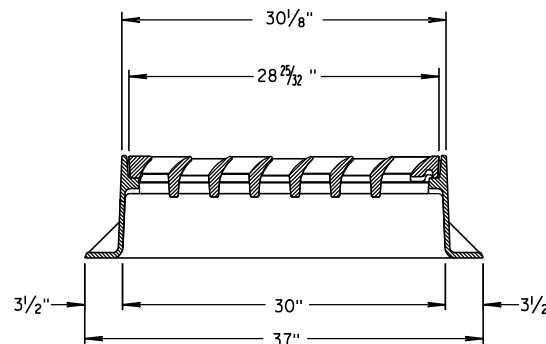
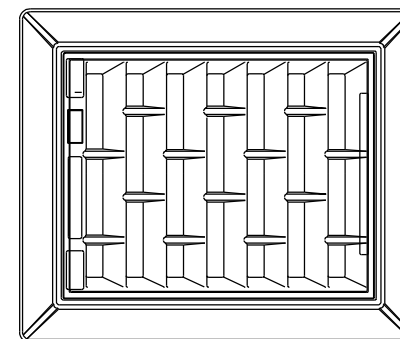
TYPE "L"
 (APPROXIMATE WEIGHT 158 LBS.)
 FRAME.....81 LBS.
 LID.....77 LBS.



TYPE "M"
 (APPROXIMATE WEIGHT 377 LBS.)
 FRAME.....125 LBS.
 LID.....252 LBS.



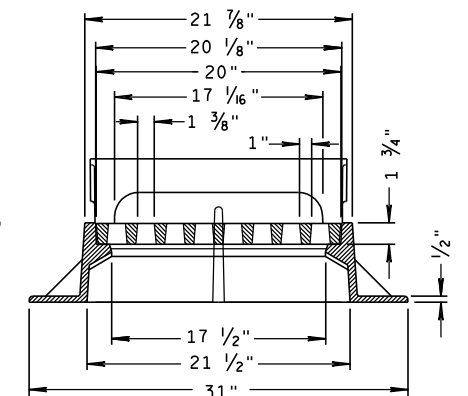
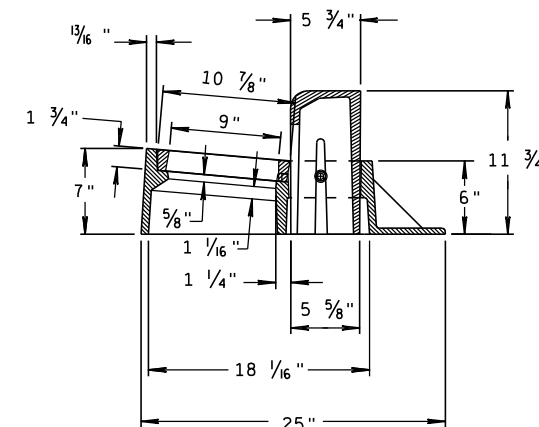
INLET COVER TYPE "BW"



INLET COVER TYPE "Z"

(APPROXIMATE WEIGHT 344 LBS.)

FRAME.....206 LBS.
 GRATE.....46 LBS.
 CURB BOX.....92 LBS.



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

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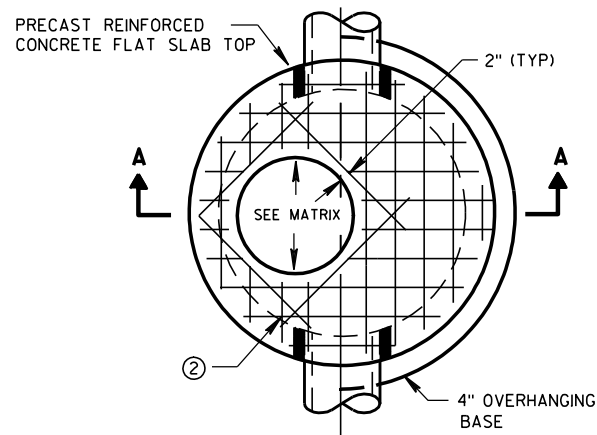
ROADWAY STANDARDS 196

ENGINEER

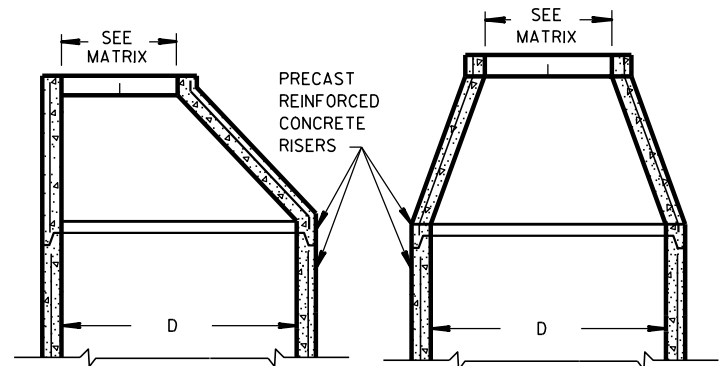
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S.D.D. 8 A 5-18d

S.D.D. 8 A 5-18d

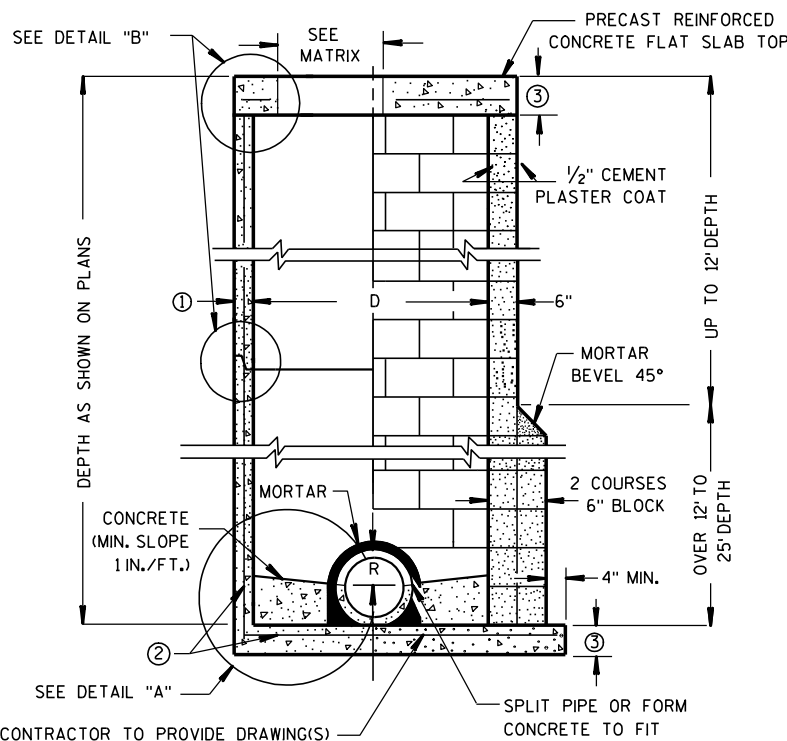


PLAN VIEW CIRCULAR OPENING



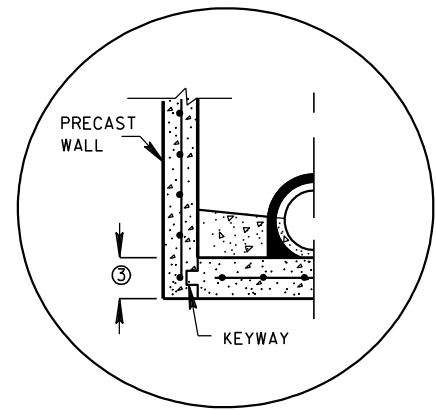
OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

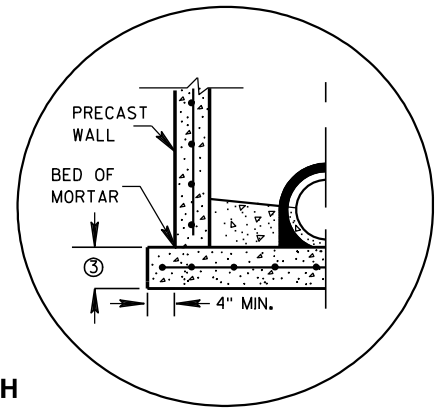


CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

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



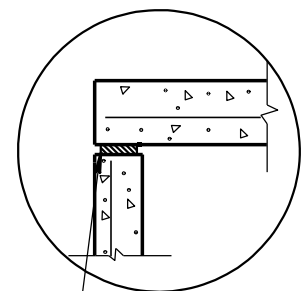
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



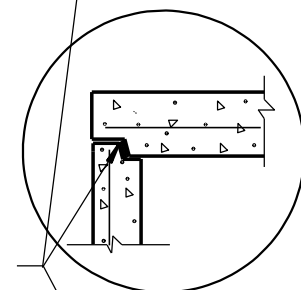
SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

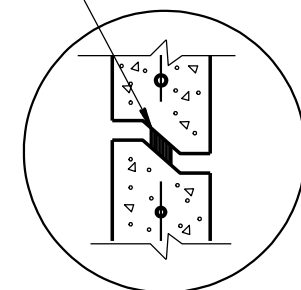
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)



TOP WITH PLAIN END JOINT

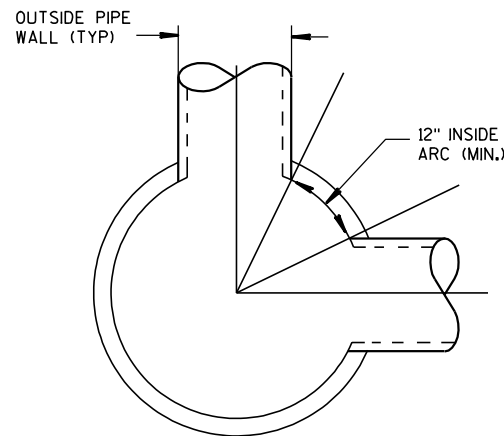


TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST 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

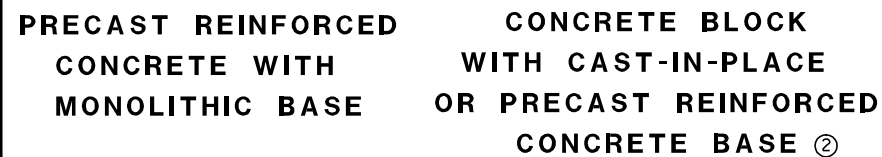
PIPE MATRIX

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

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CIRCULAR INLETS W/ FLAT TOP



DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

DETAIL "C"

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

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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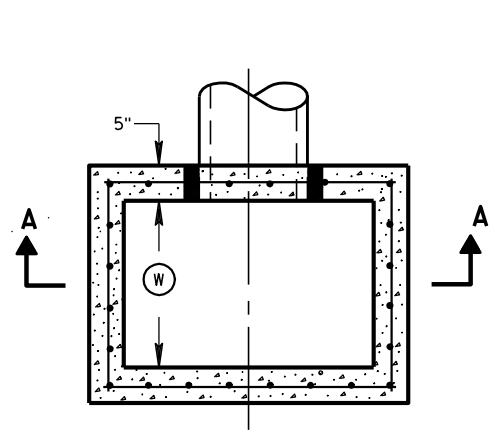
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DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS [00

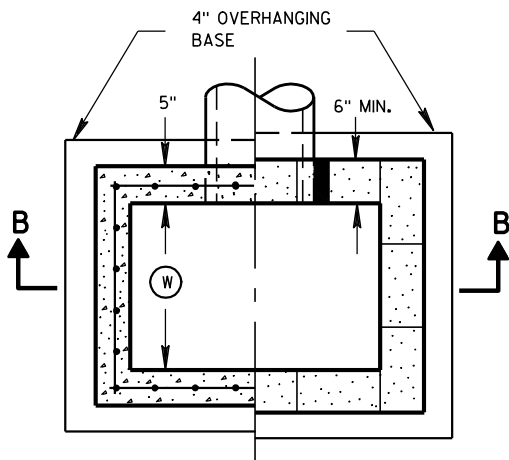
FHWA

ENGINEER

270

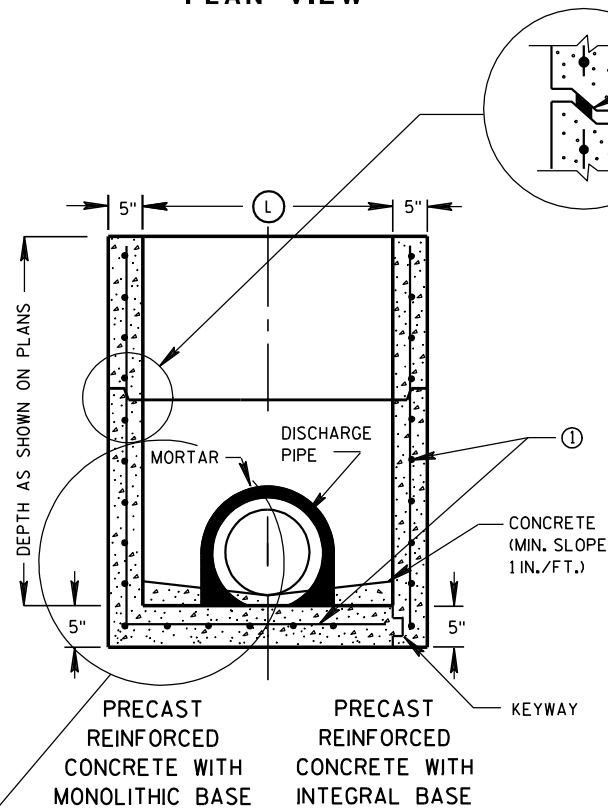


PLAN VIEW

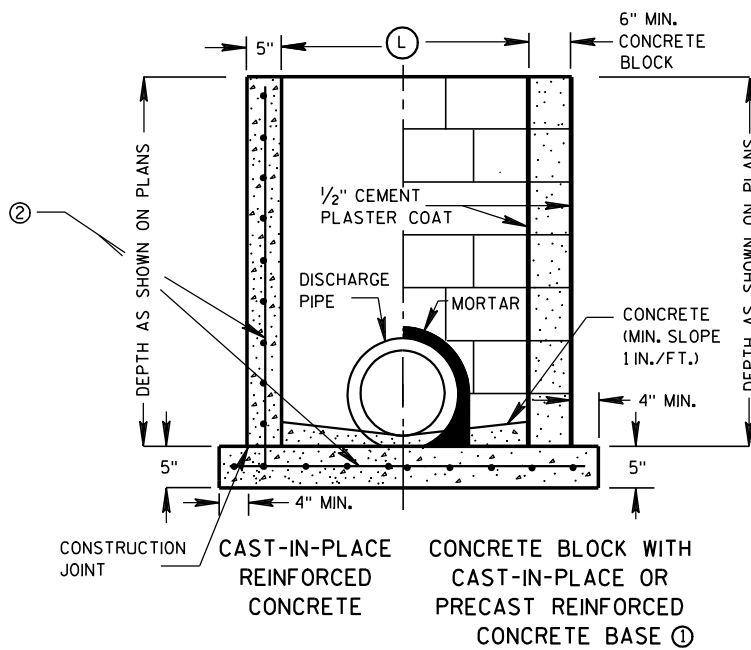


PLAN VIEW

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



SECTION A-A



SECTION B-B

SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

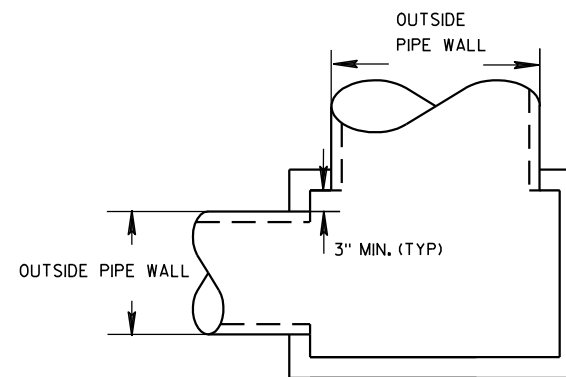
- FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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

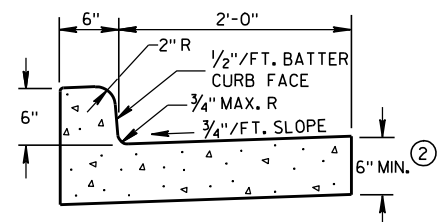


DETAIL "A"

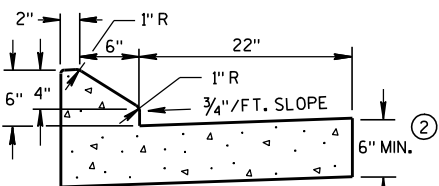
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

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DEPARTMENT OF TRANSPORTATION

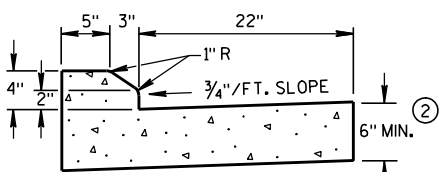
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TYPES A & D ①

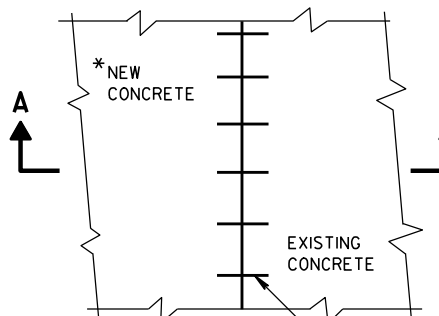


6" SLOPED CURB TYPES G & J ①



4" SLOPED CURB TYPES G & J ①

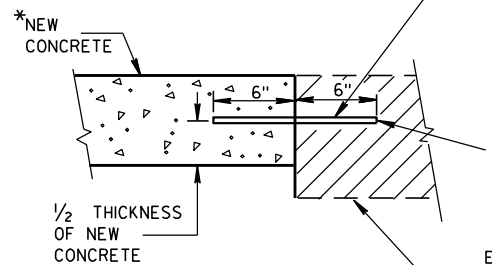
CONCRETE CURB & GUTTER 30"



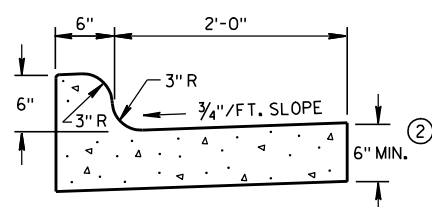
PLAN VIEW

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

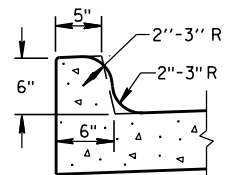
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.



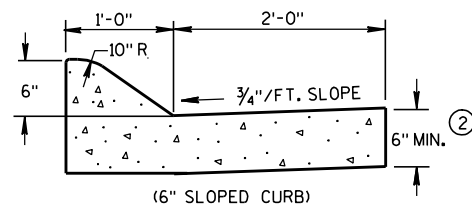
SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT



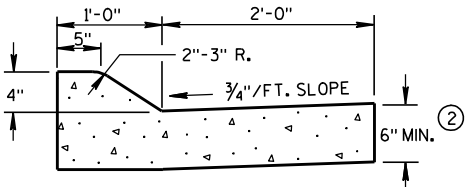
TYPES K & L ①



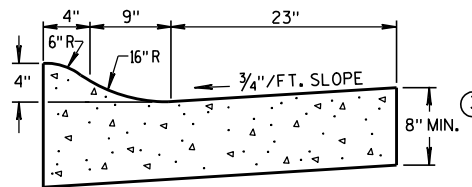
OPTIONAL CURB SHAPE
FOR TYPES K & L ①



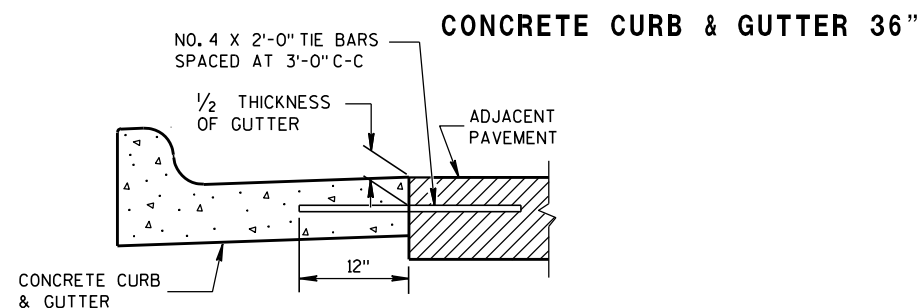
(6" SLOPED CURB)



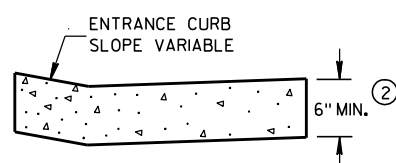
TYPES A & D ①



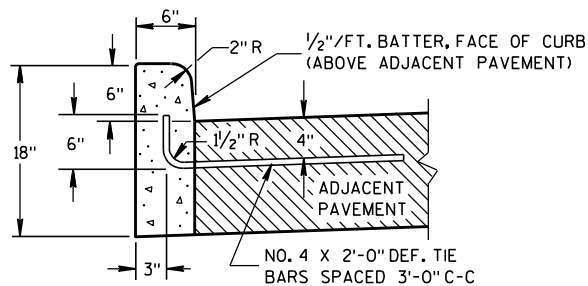
4" SLOPED CURB TYPES R & T ① ④



TYPICAL TIE BAR LOCATION ①

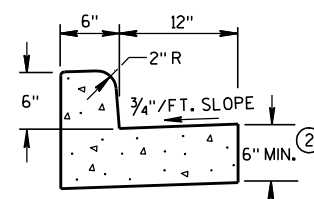


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

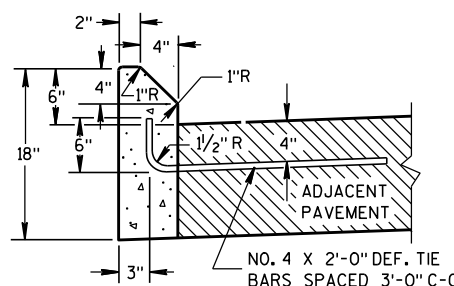


TYPES A & D ①

CONCRETE CURB



TYPES A & D
CONCRETE CURB & GUTTER 18"



TYPES G & J ①

GENERAL NOTES

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

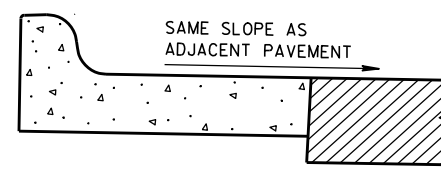
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

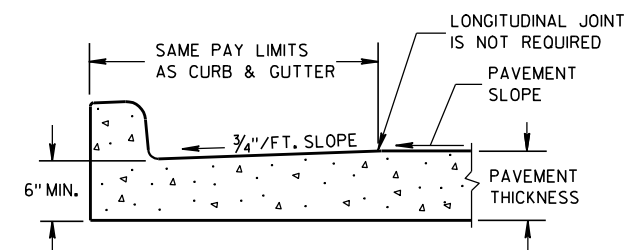
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

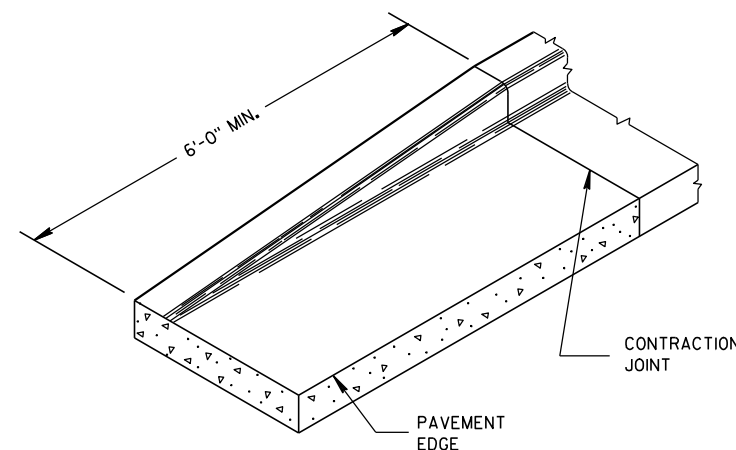
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER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



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



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

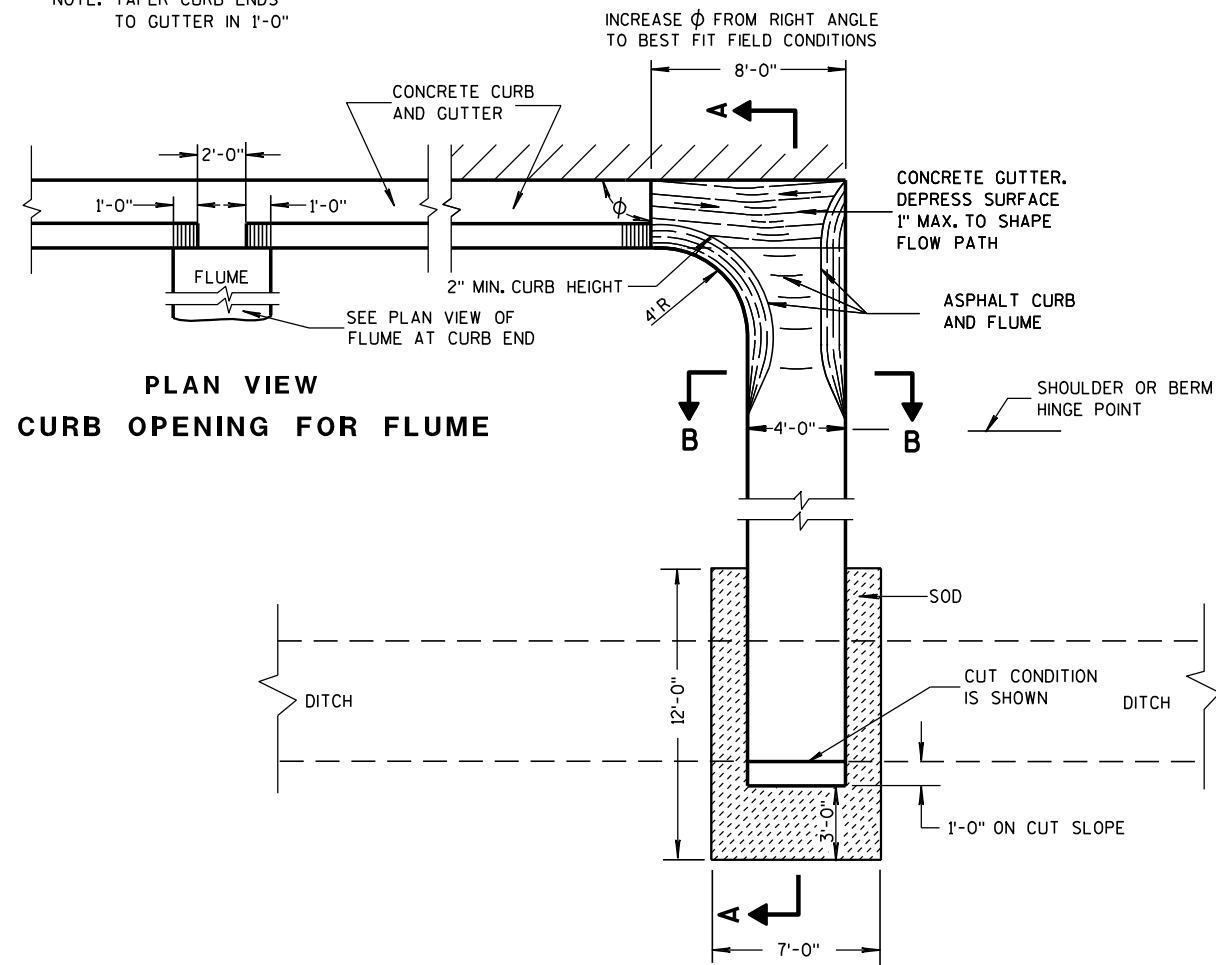
DATE

FHWA

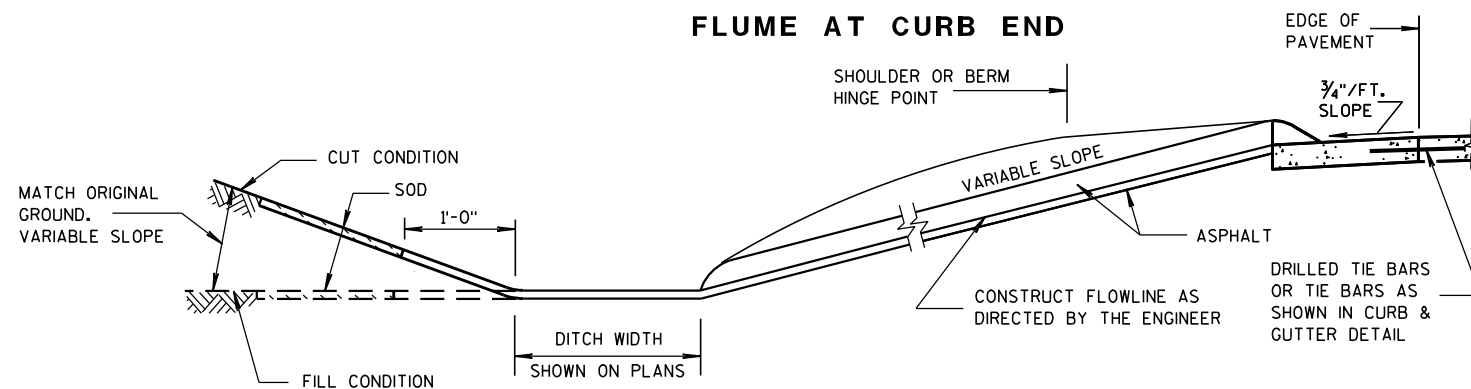
/S/ Jerry H. 7-117
ROADWAY STANDARDS 100 ENT
ENGINEER

ASPHALTIC FLUME

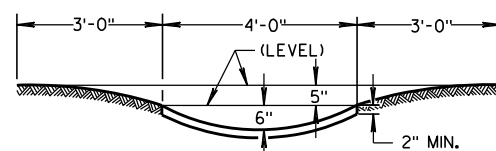
NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"



PLAN VIEW FLUME AT CURB END



SECTION A-A



SECTION B-B

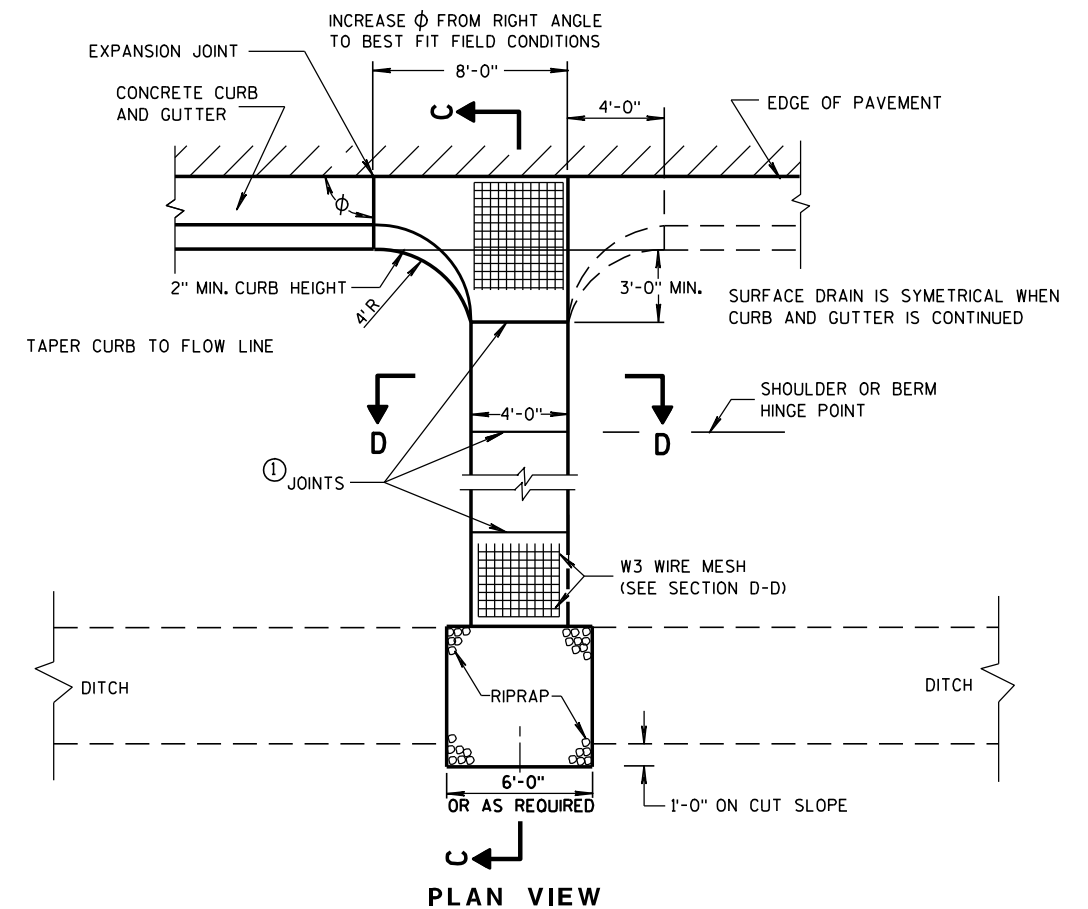
GENERAL NOTES

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

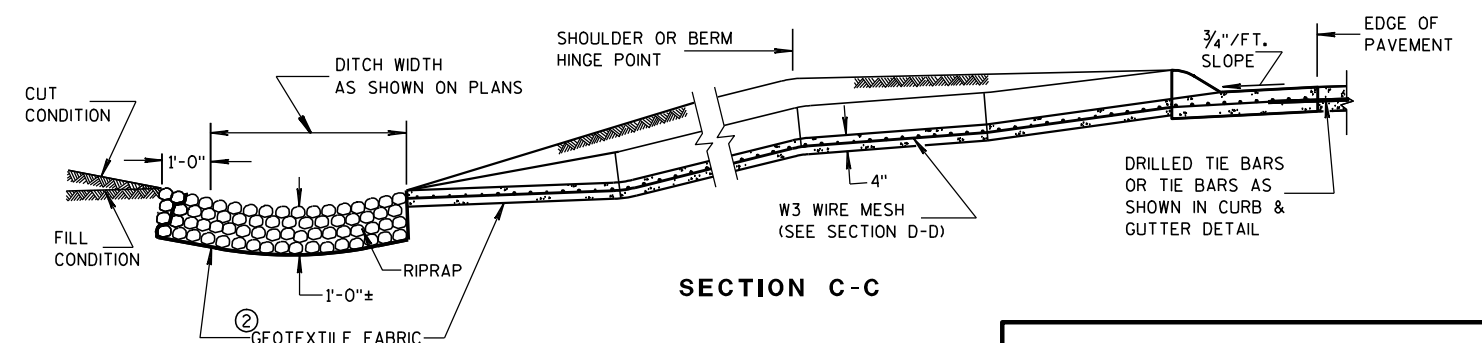
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE 1/8" TO 1/4" INCH WIDE BY 1 1/2" INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

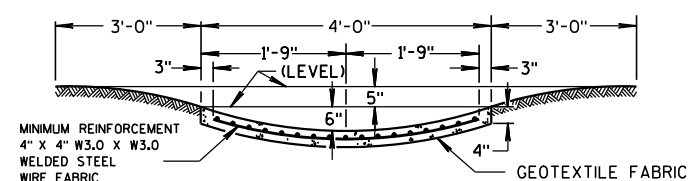
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08

DATE

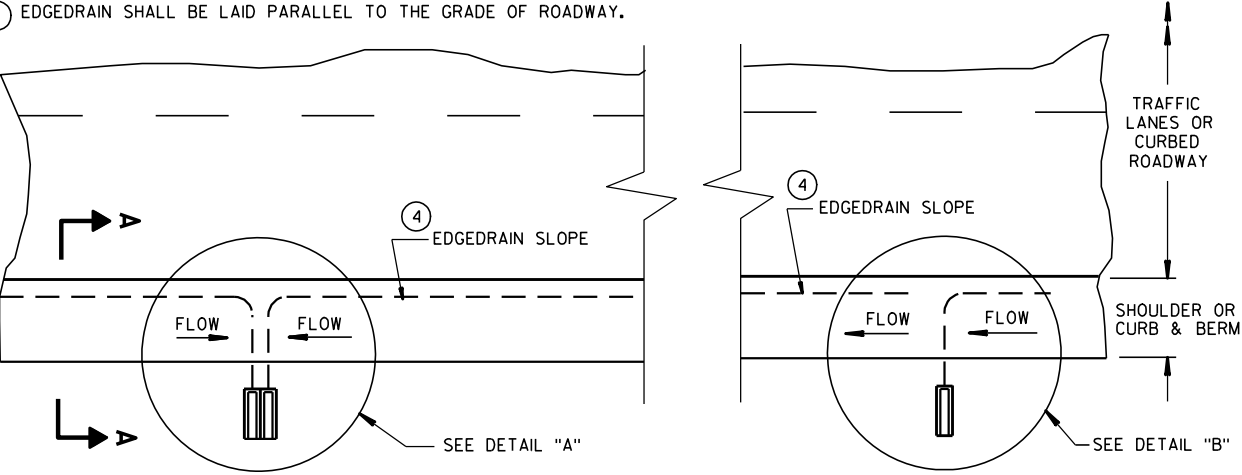
/S/ Jerry H. 7000
ROADWAY STANDARDS 101
ENGINEER

FHWA

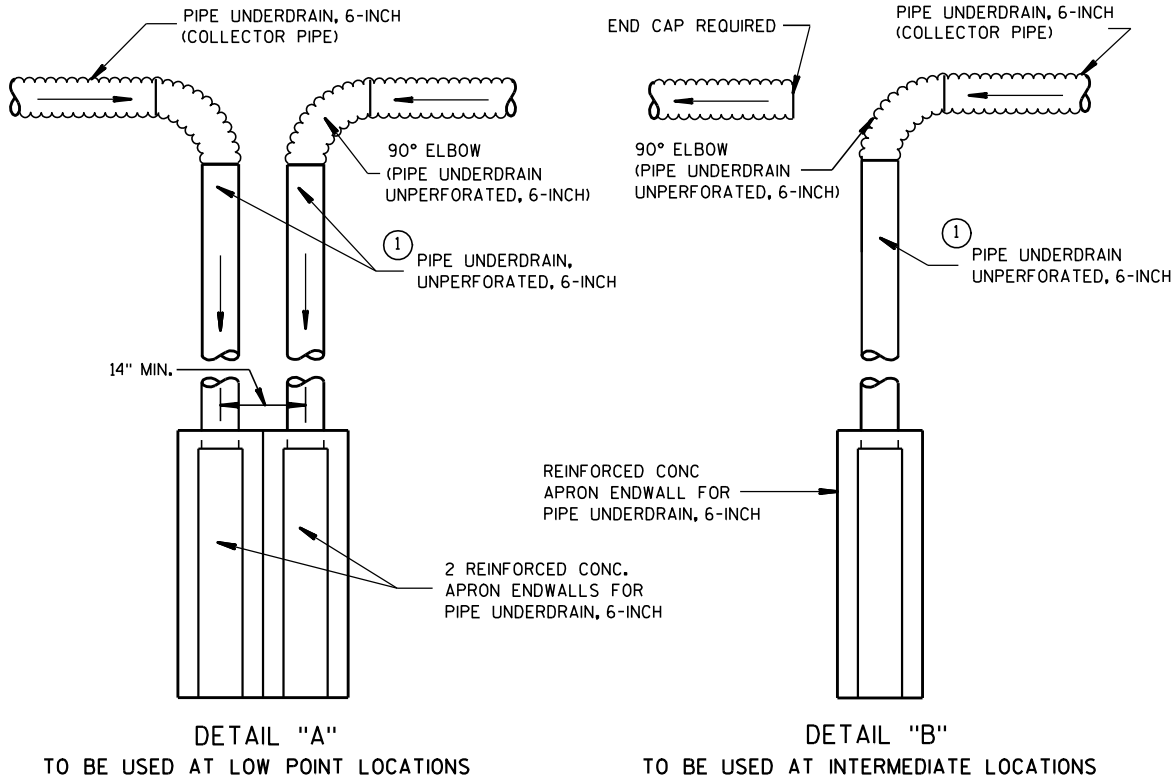
GENERAL NOTES

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

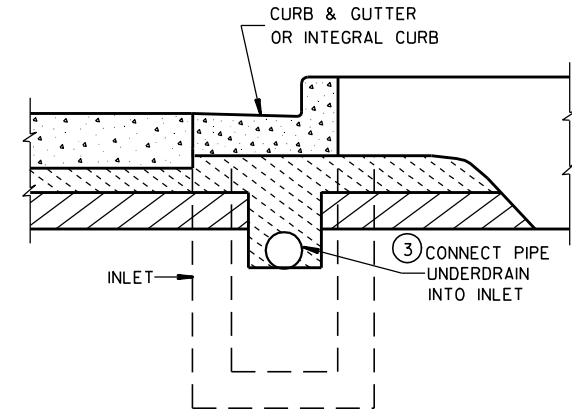
- 1 UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.
TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.
- 2 MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.
- 3 EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.
- 4 EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



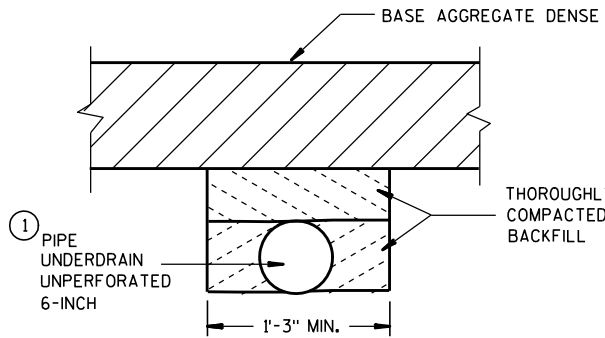
PLAN VIEW
ROADWAY WITH SHOULDERS OR CURBS
(EDGEDRAIN OUTLETS TO ROADSIDE) 2



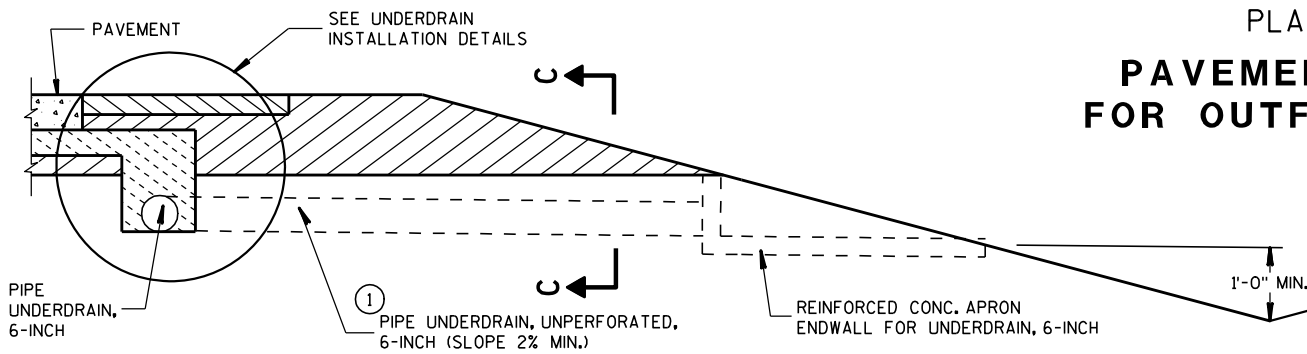
TYPICAL DRAIN OUT DETAILS



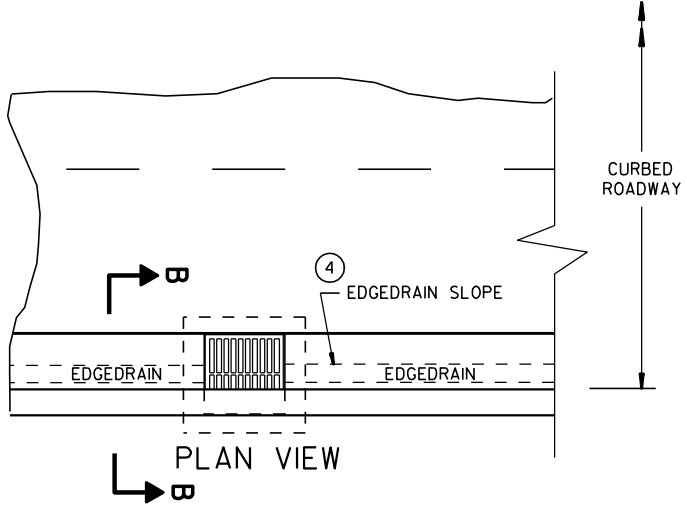
SECTION B-B
URBAN CROSS SECTION



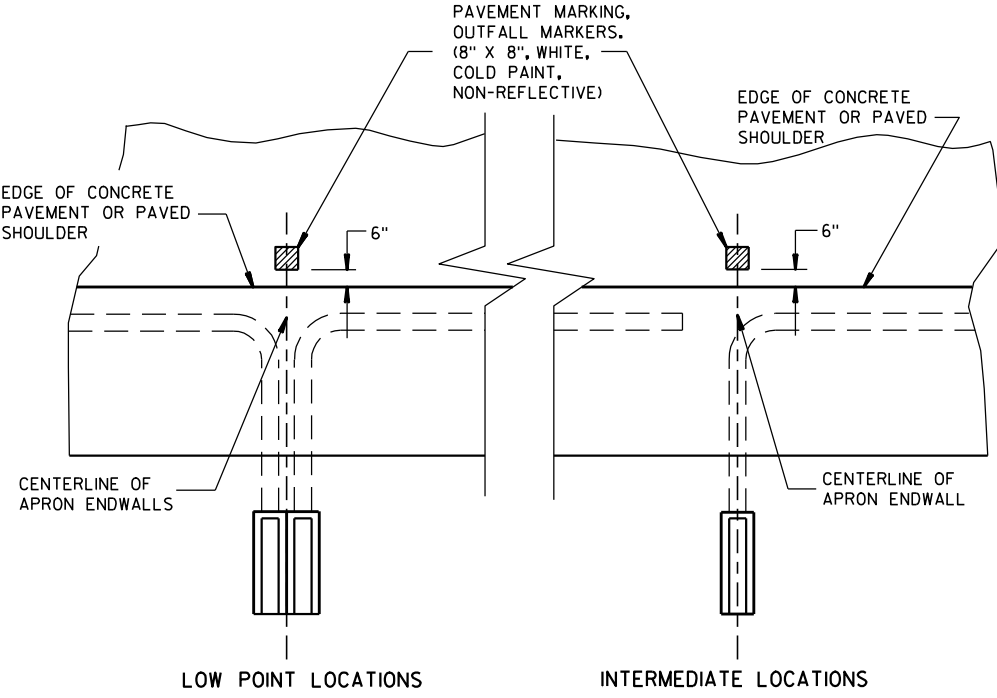
SECTION C-C
(TRENCH FOR OUTFALL PIPE)



SECTION A-A
RURAL CROSS SECTION



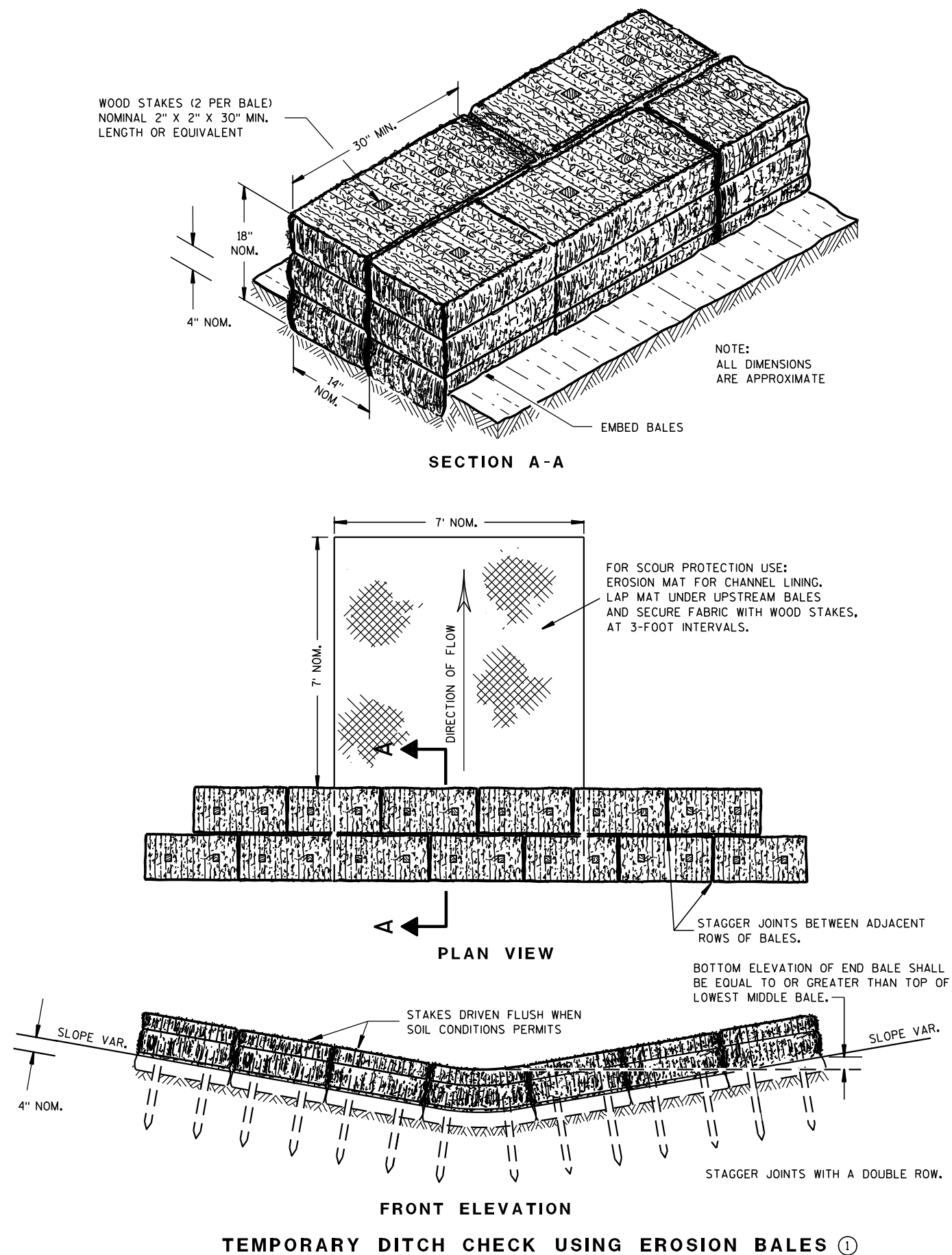
ROADWAY WITH CURBS
(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



PLAN VIEW
PAVEMENT MARKING
FOR OUTFALL MARKERS

EDGEDRAIN OUTLET
AND OUTFALL MARKERS

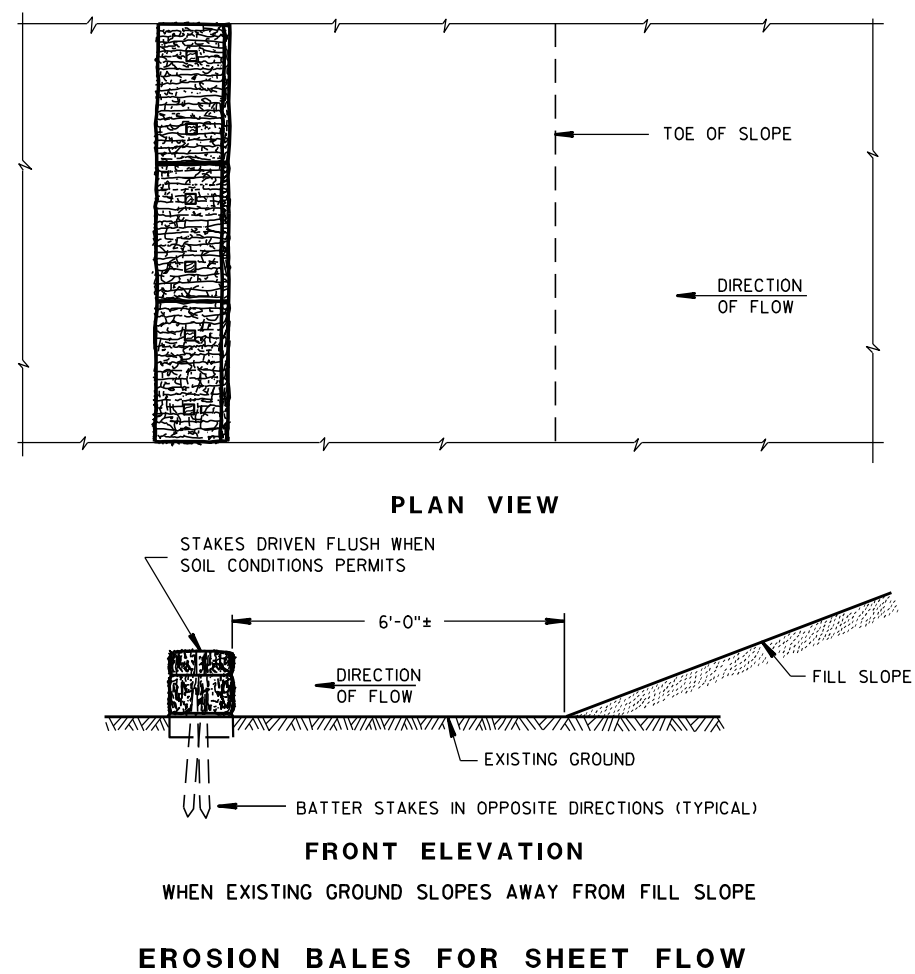
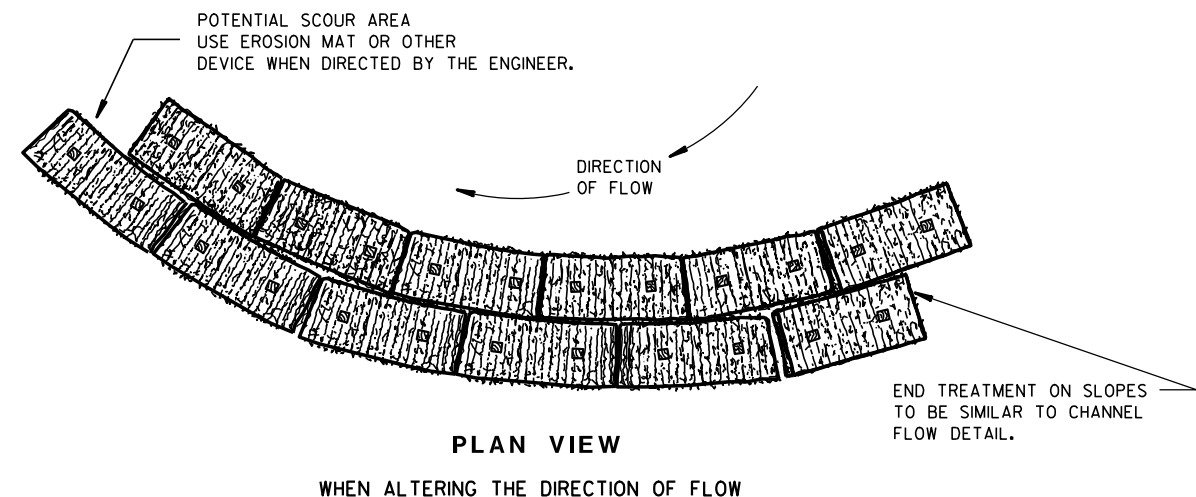
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

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

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



TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

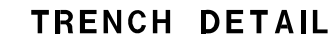
6/04/02
DATE

/S/ Beth Connolly
CHIEF ROADWAY DEVELOPER 103 ENGINEER

FHWA



- 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

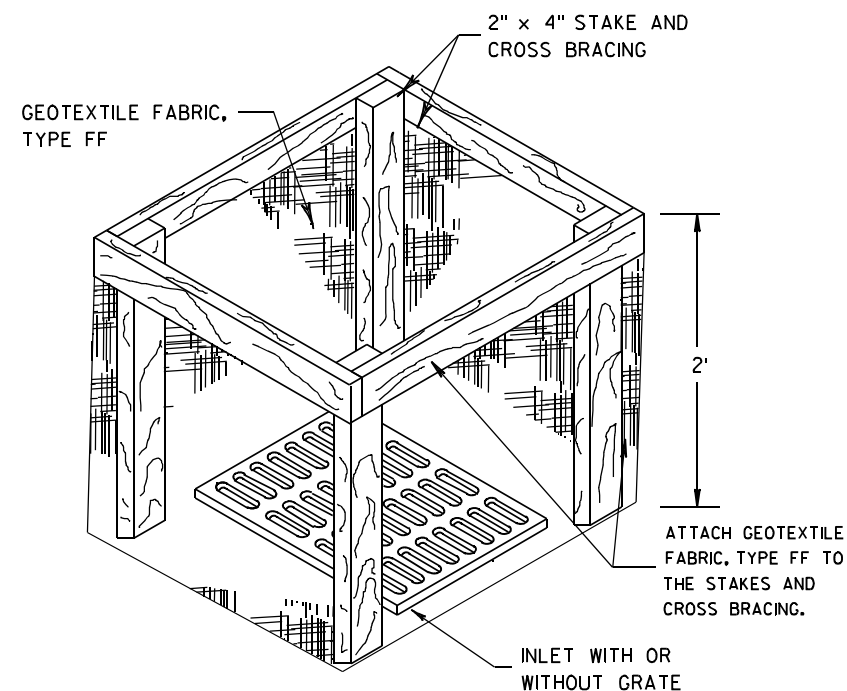
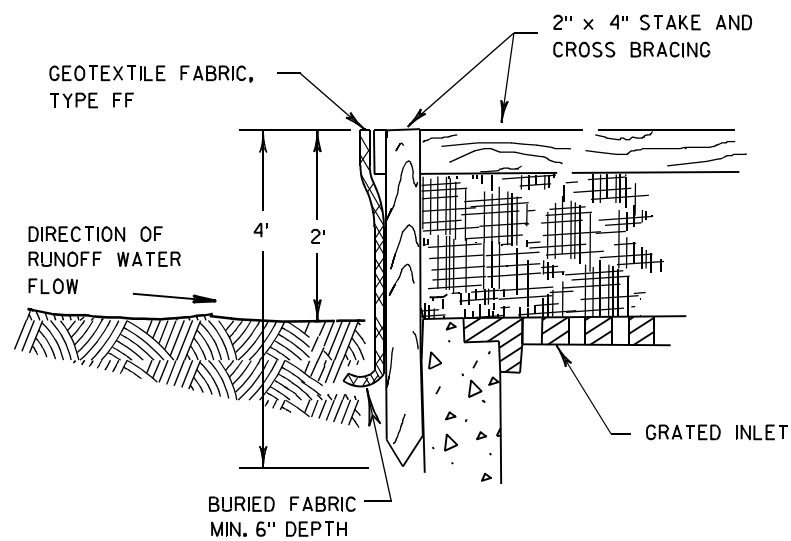
APPROVED
4-29-05
DATE

/S/ Beth Connolly
CHIEF ROADWAY DEVELOPMENT

104

ENGINEER

FHWA



INLET PROTECTION, TYPE A

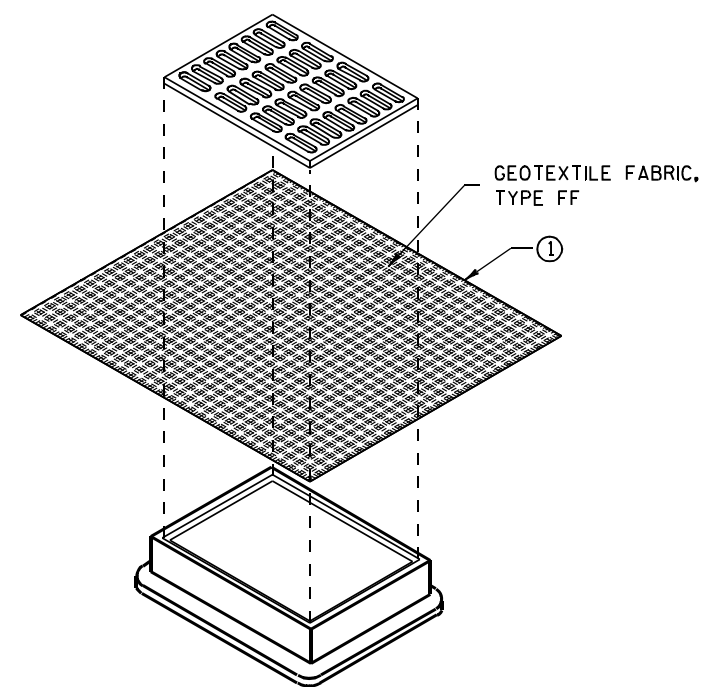
GENERAL NOTES

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.

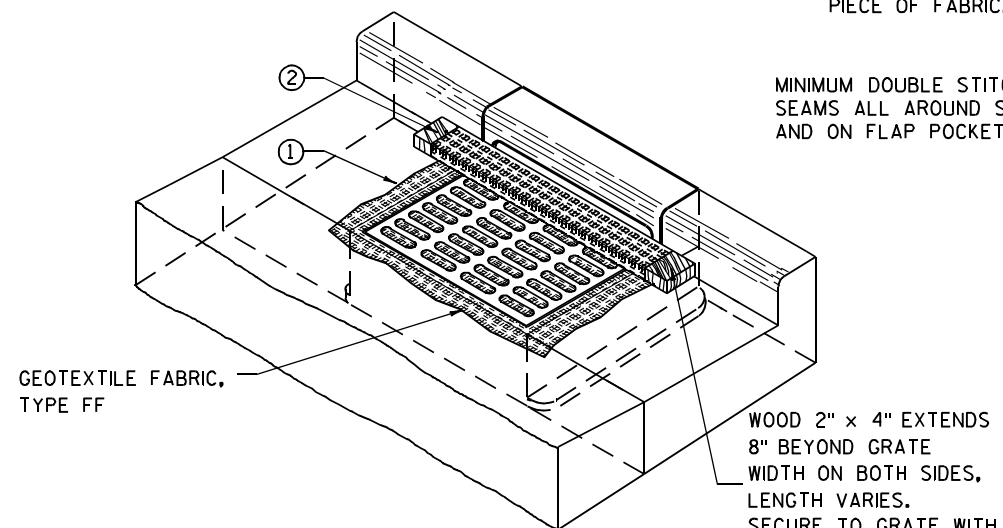
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

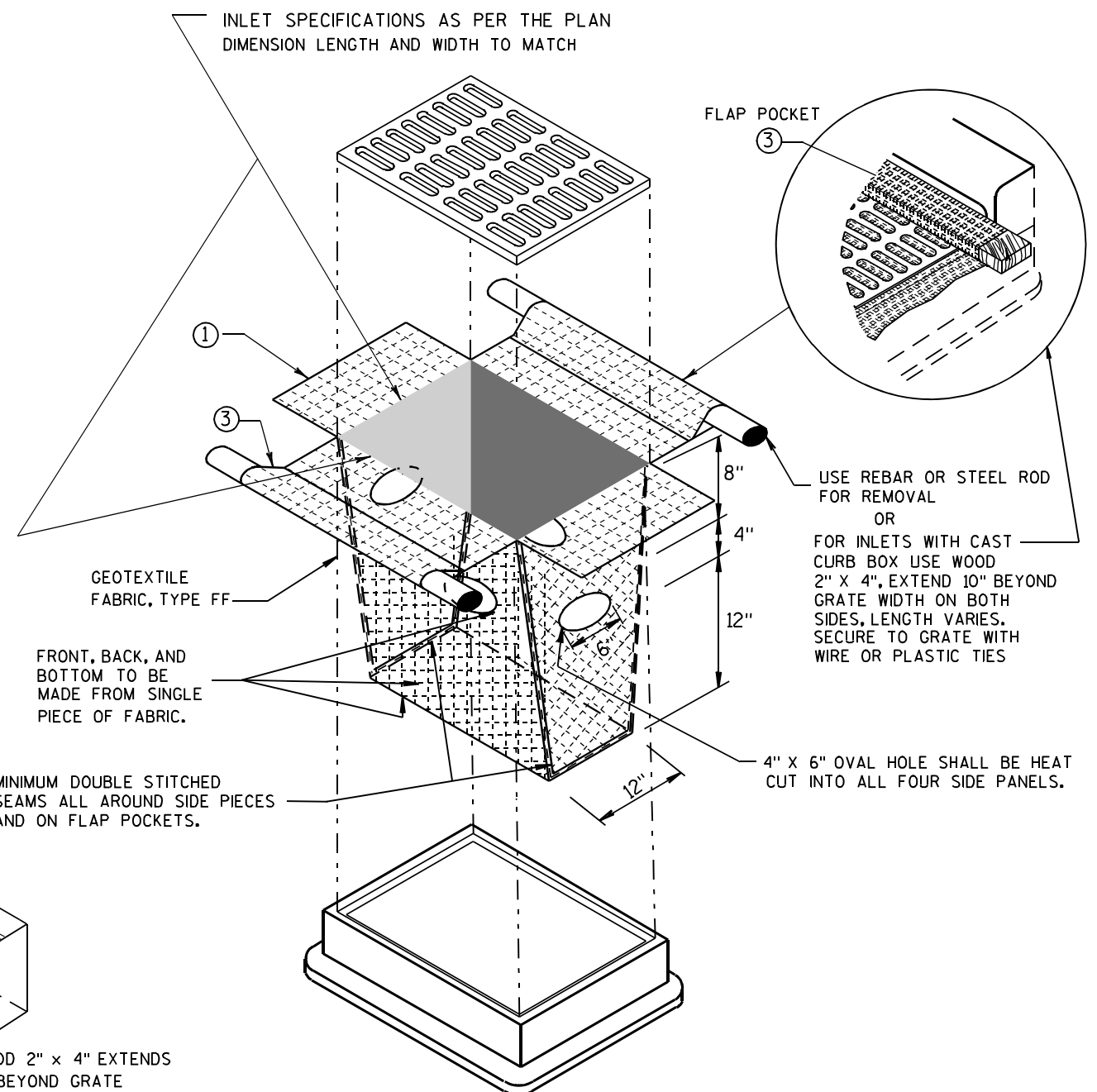
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



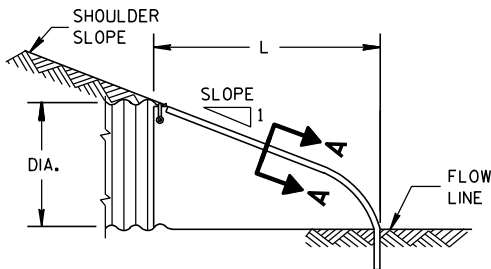
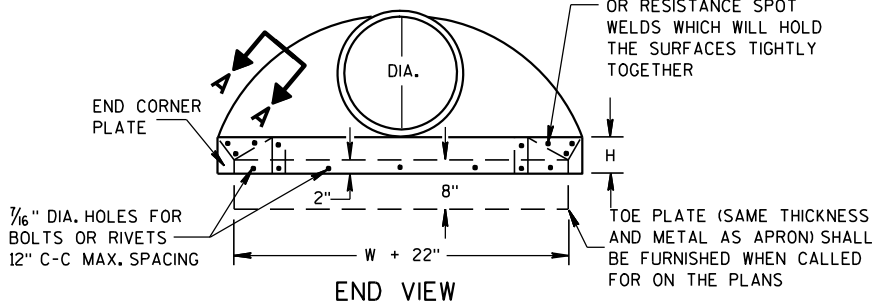
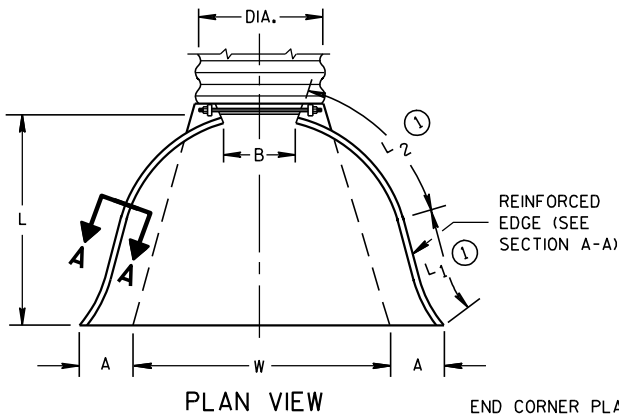
INLET PROTECTION, TYPE D

(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 105 CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

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")	L ₁ ①	L ₂ ①			W (±2")
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

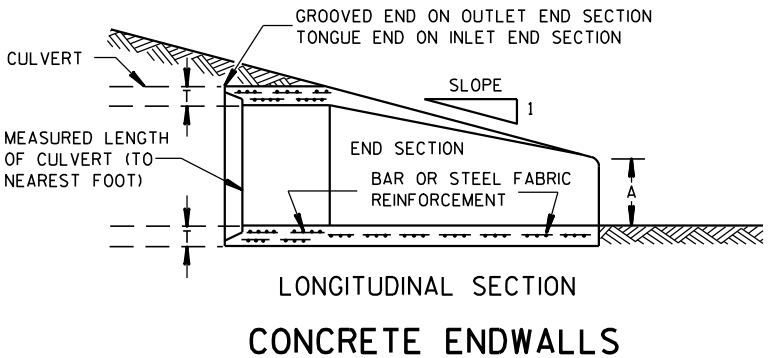
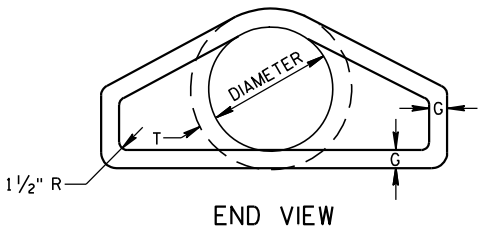
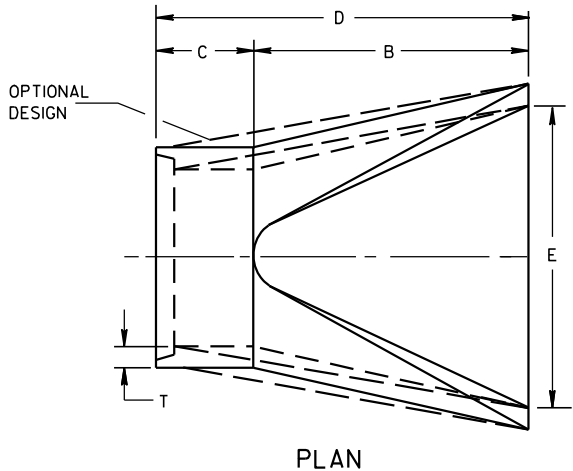
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

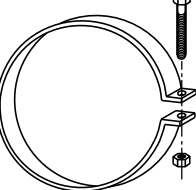
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43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

*MINIMUM
**MAXIMUM

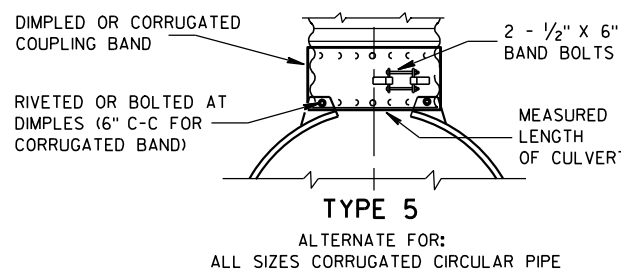
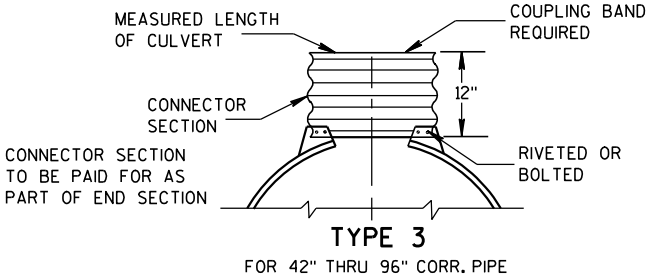
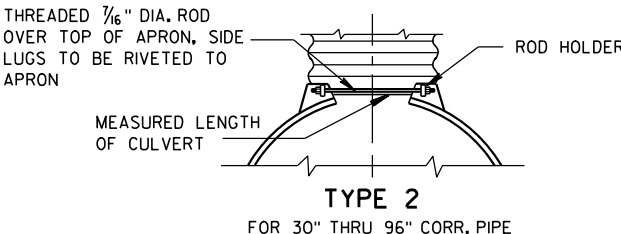
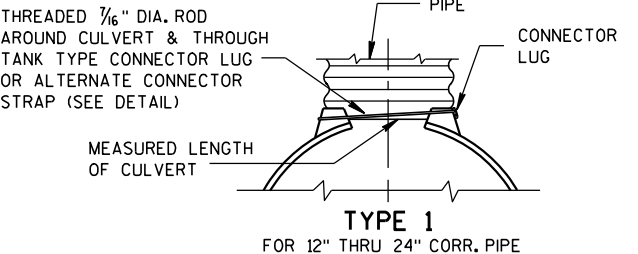


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



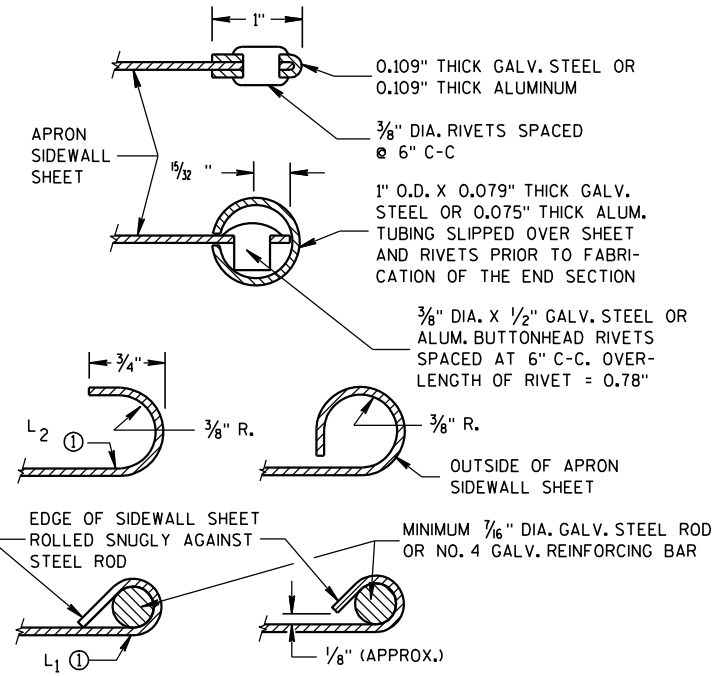
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

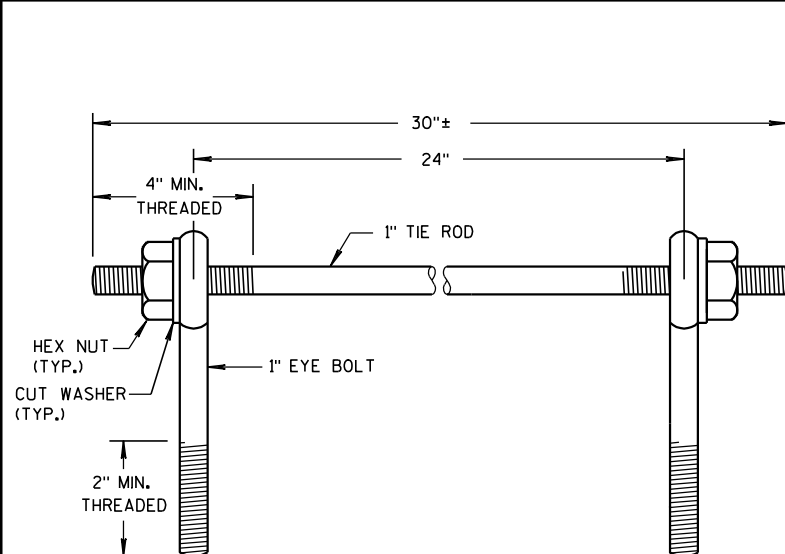
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

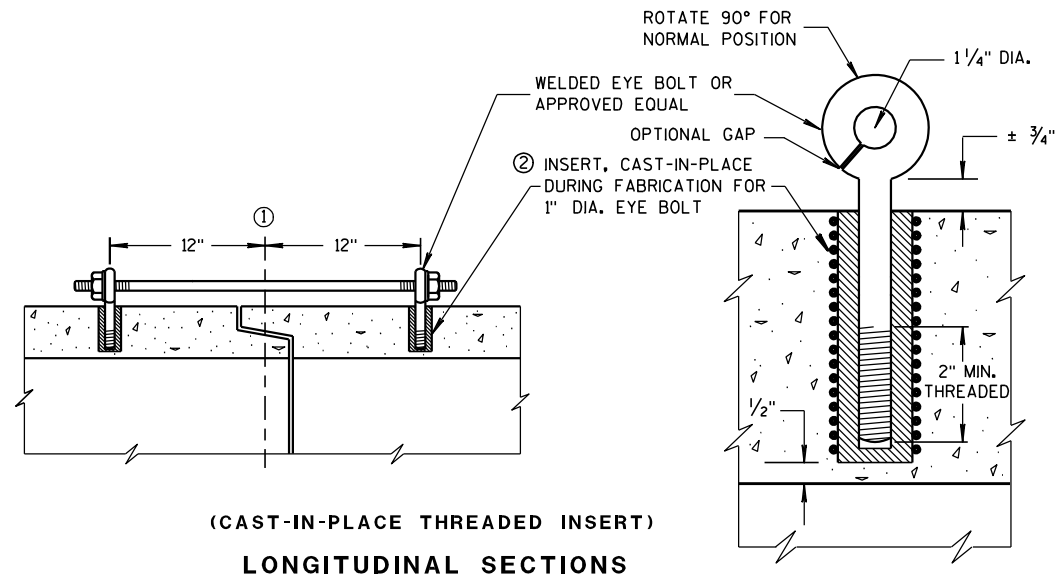
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP	106	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

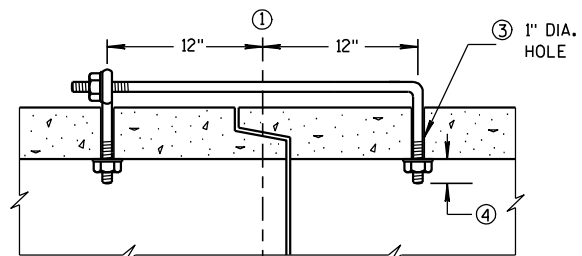
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

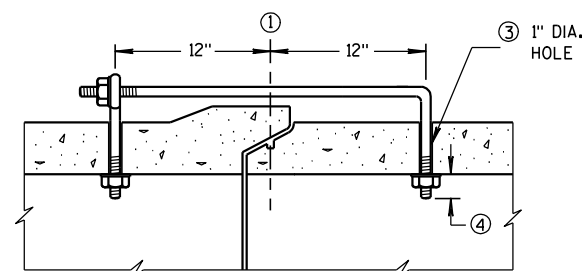
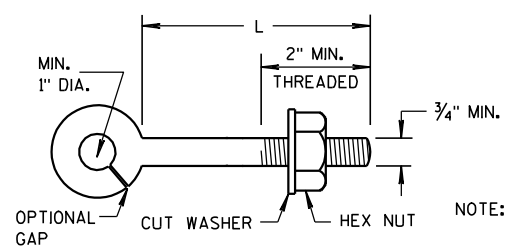
DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

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)

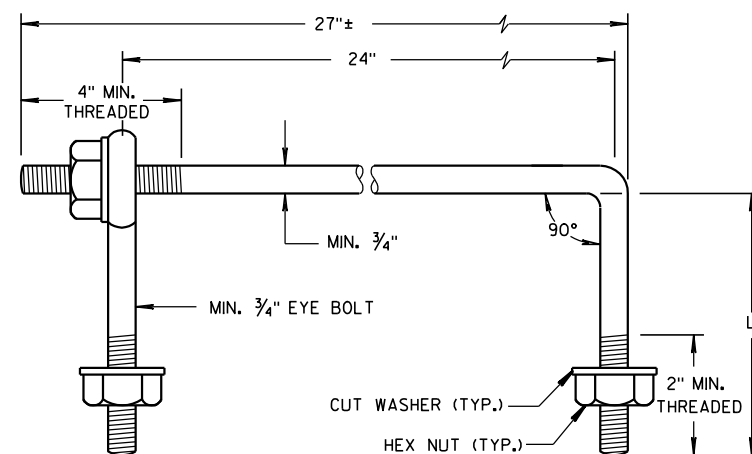
(MODIFIED BELL PIPE)
LONGITUDINAL SECTION

EYE BOLT

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

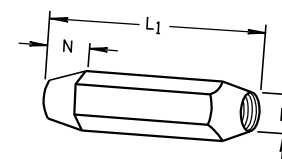
EYE BOLT DIMENSION TABLE

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"	

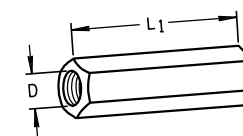
ADJUSTABLE TIE ROD TABLE

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 1/6

DIMENSIONS SHOWN ARE IN INCHES



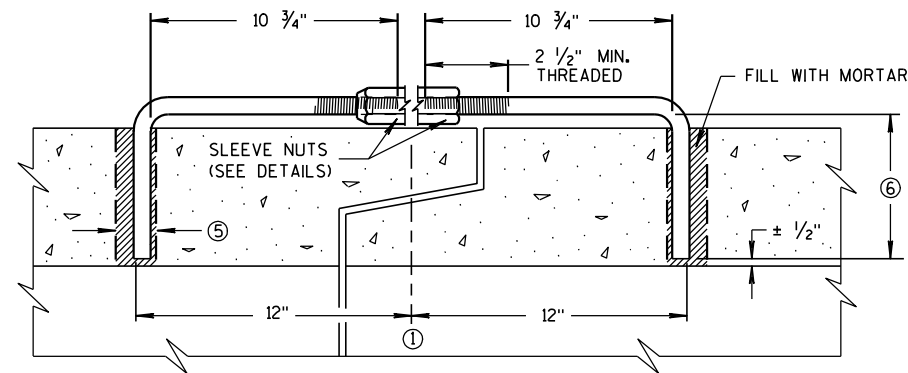
TAPERED



PLAIN

RIGHT AND LEFT THREADS

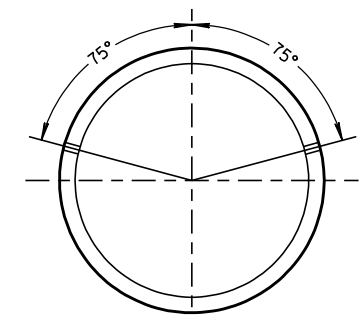
SLEEVE NUTS



LONGITUDINAL SECTION

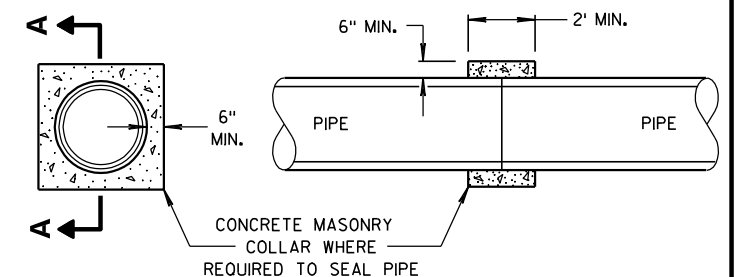
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

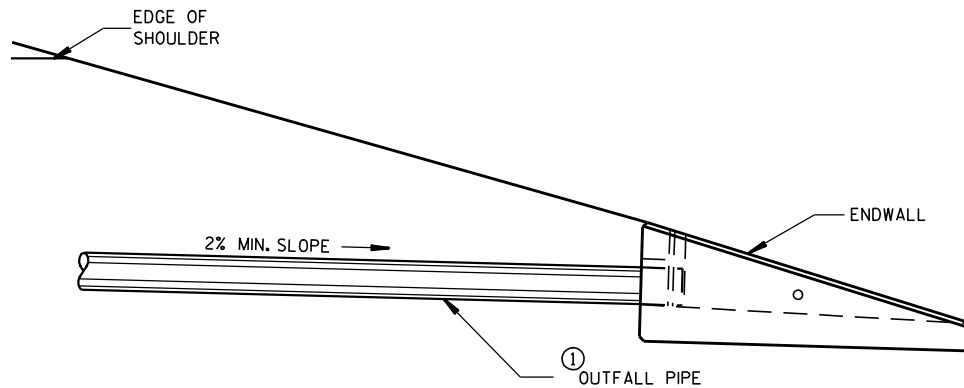
JOINT TIES FOR CONCRETE
PIPE AND CONCRETE
COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

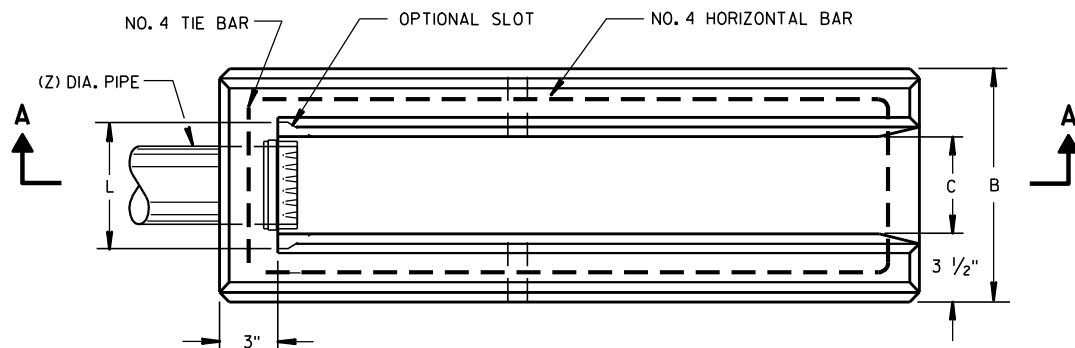
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 107
FHWA ENGINEER

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

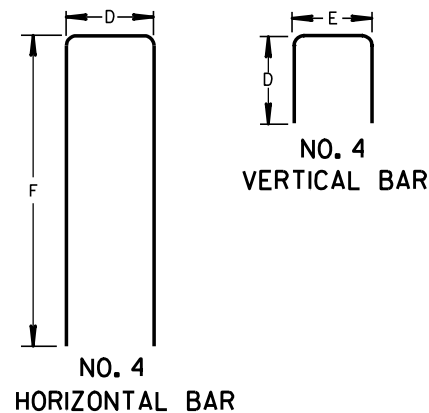
** APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



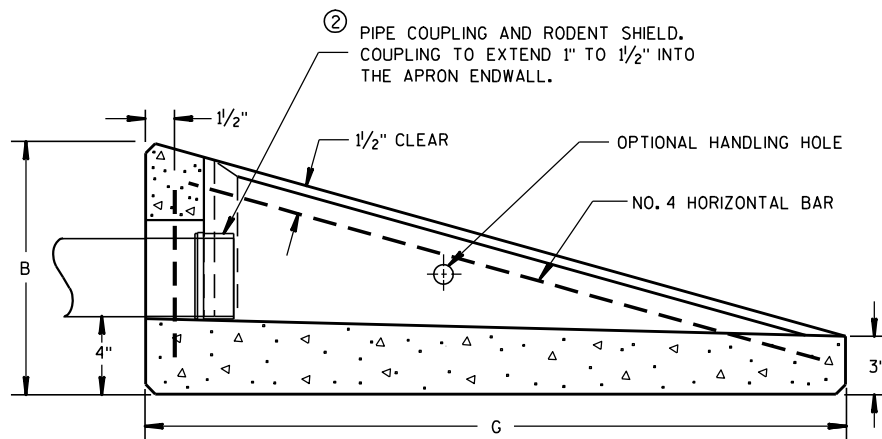
INSTALLATION DETAIL



PLAN VIEW

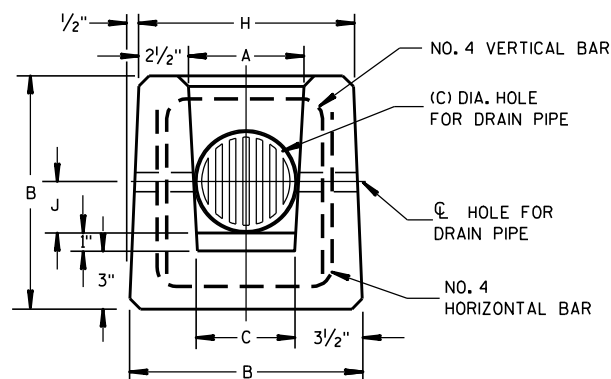


BAR STEEL REINFORCEMENT DETAILS



SECTION A-A

CONCRETE APRON ENDWALL FOR UNDERDRAIN



END VIEW

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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

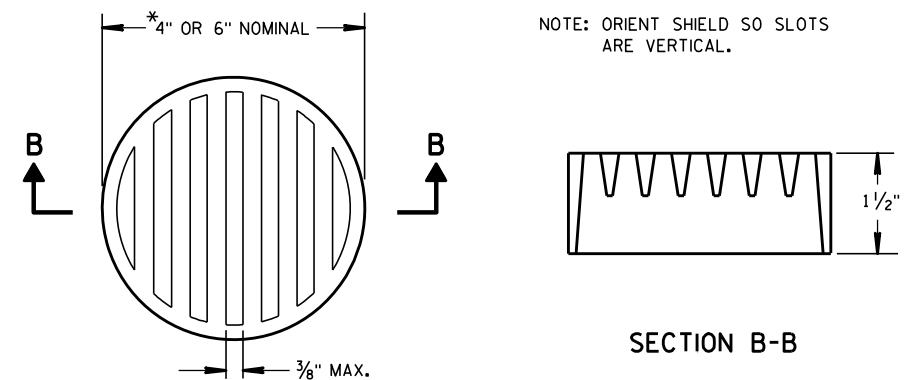
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

- ① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

- ② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

REINFORCED
CONCRETE APRON ENDWALL
FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

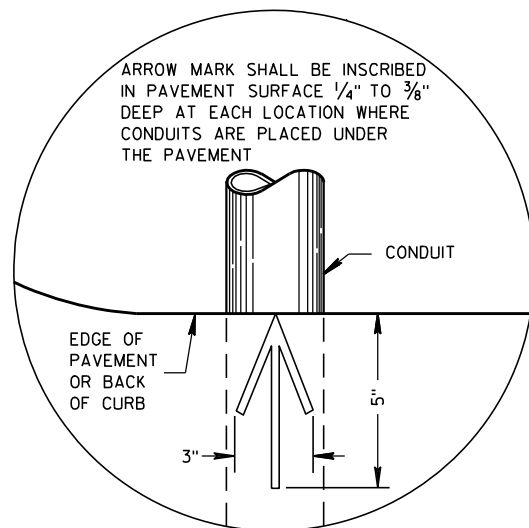
3/10/98

DATE

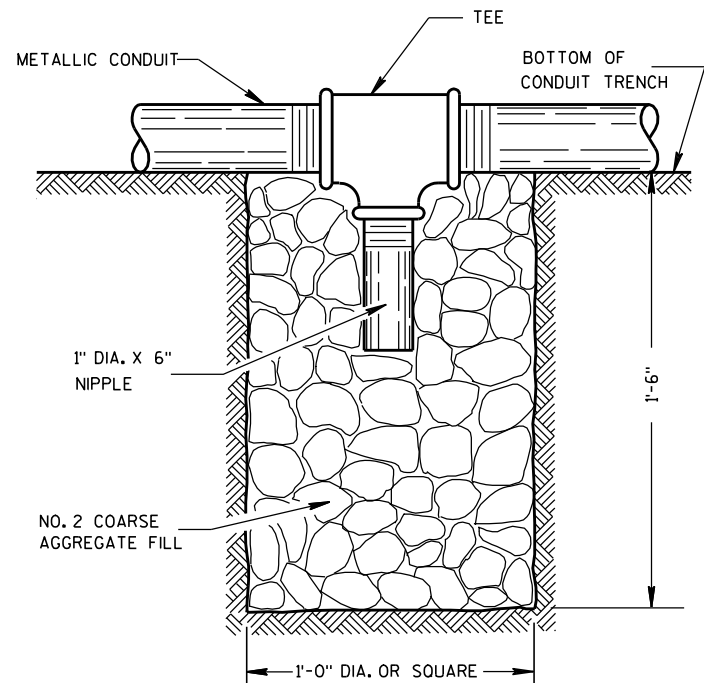
FHWA

/S/ Rory L. Rhin...
CHIEF ROADWAY DEVELOPER

108 INEER

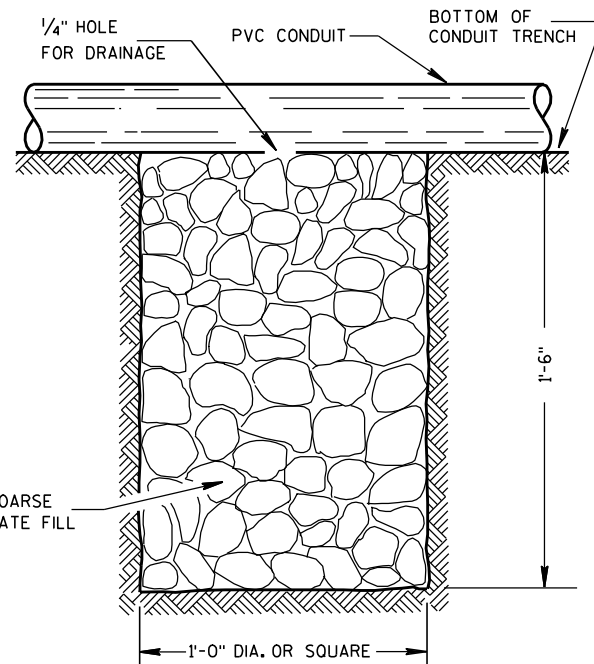


**PLAN VIEW
ARROW MARK**



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.

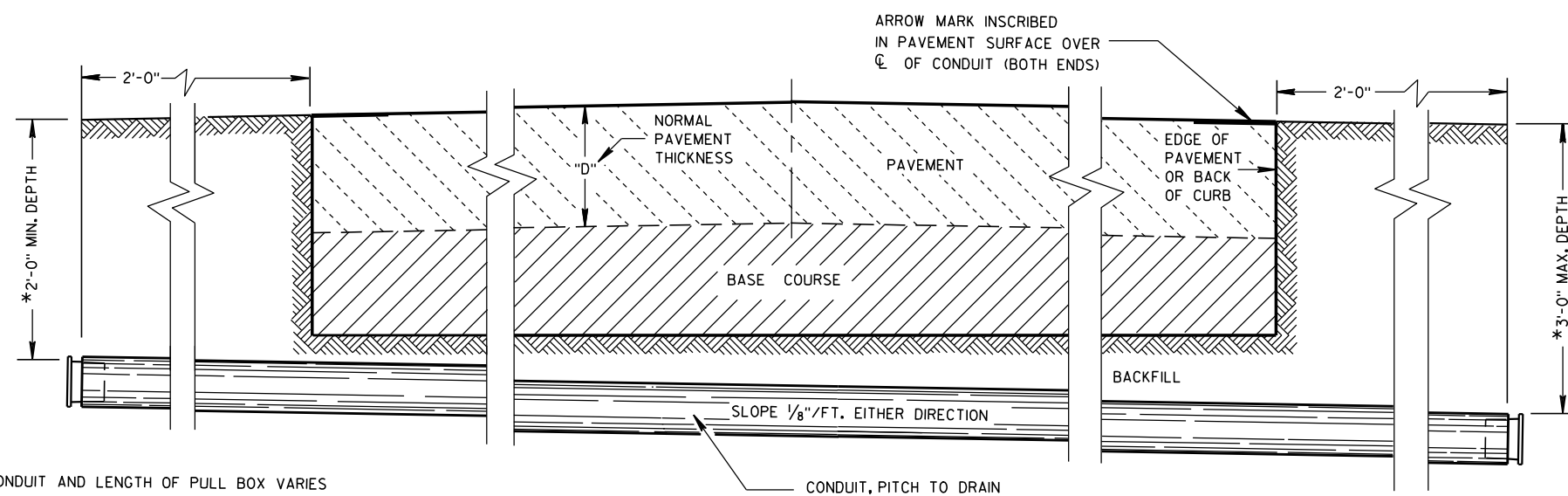
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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 ENGR 109 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. THE MECHANICAL CONNECTION (INSIDE AND OUTSIDE) TO THE PULL BOX, SHALL BE TOTALLY AND PERMANENTLY SEALED WITH A SILICONE OR RUBBERIZED CAULKING COMPOUND AS APPROVED BY THE ENGINEER.

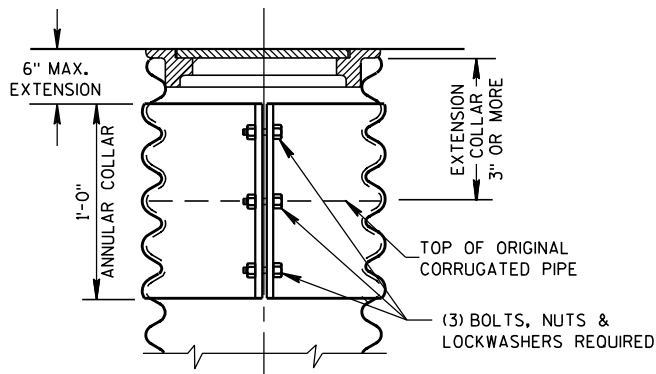
GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

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

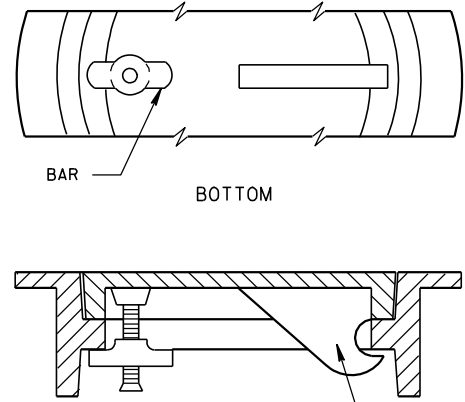
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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

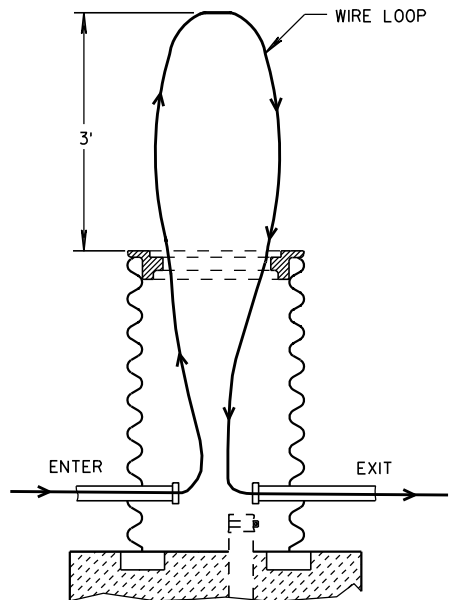
IF PULL BOX EQUIPMENT GROUNDING IS REQUIRED USING AN EQUIPMENT GROUNDING ELECTRODE IN EACH PULL BOX, THE EQUIPMENT GROUNDING ELECTRODE SHALL BE 5/8" X 8'-0", COPPERCLAD AND BE EXOTHERMICALLY WELDED TO A #4 AWG, COPPER, STRANDED WIRE (BARE OR GREEN INSULATED). THE #4 AWG WIRE SHALL BE 4 FEET IN LENGTH, NEATLY COILED, TAPED AND AVAILABLE FOR USE WHEN REQUIRED.



CORRUGATED PIPE EXTENDER

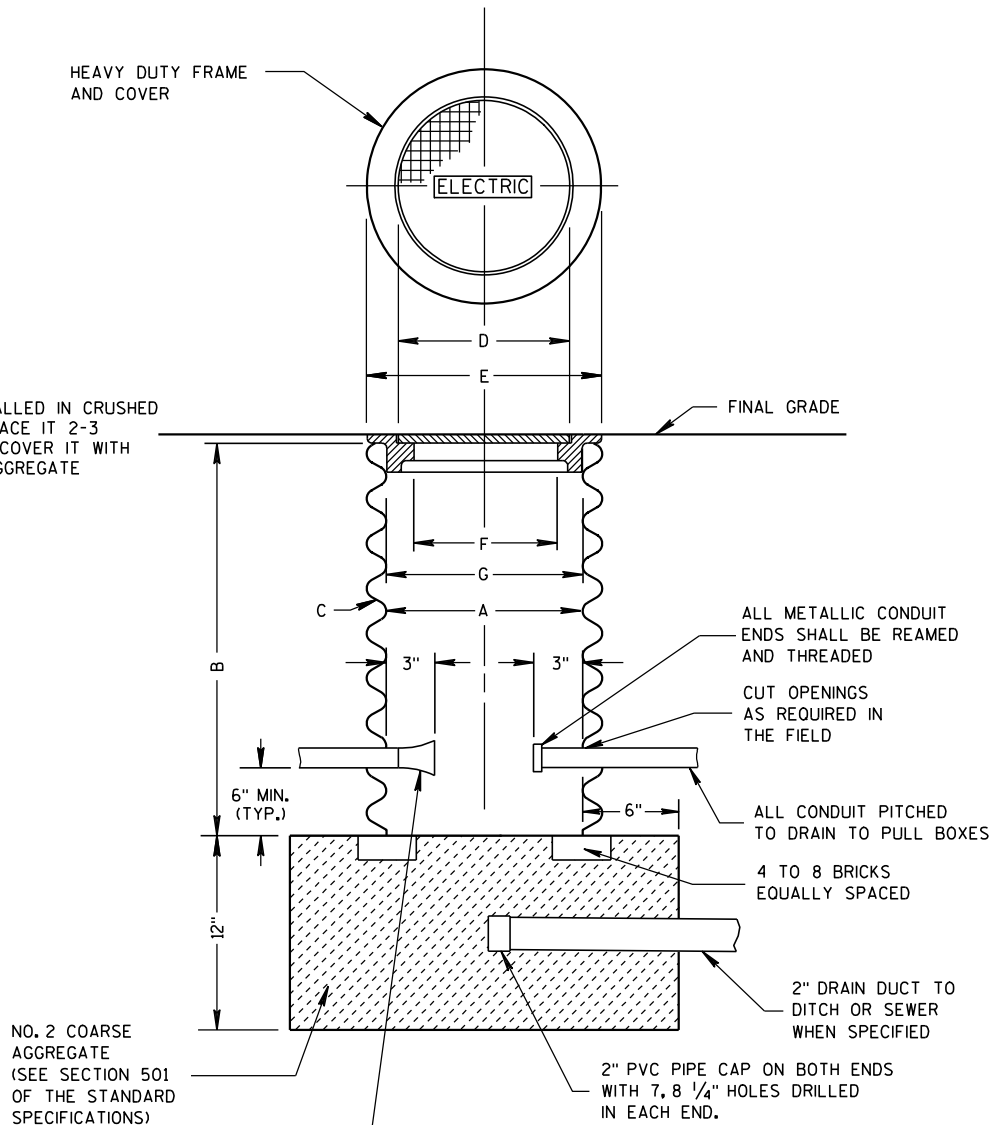


ALTERNATE COVER (LOCKING)

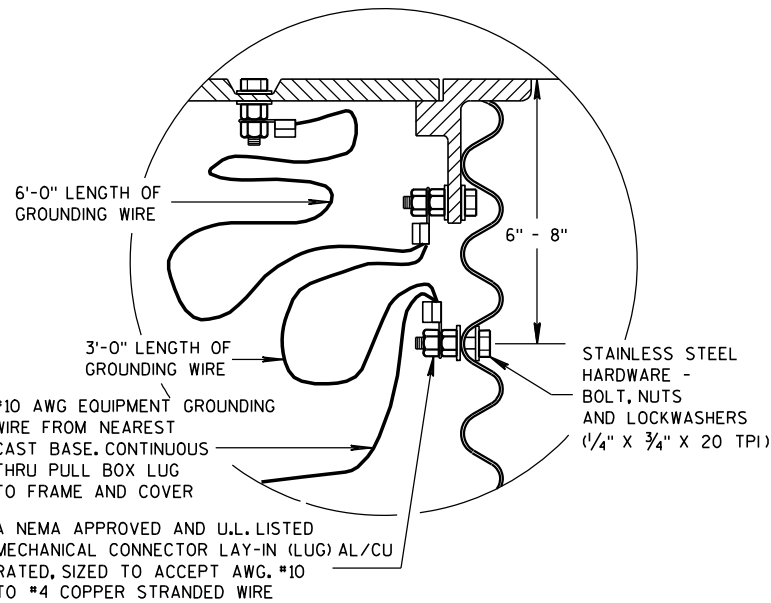


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE



PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/27/06 /S/ Balu Ananthanarayanan
DATE STATE ELECTRICAL ENGI 110 HWYS
FHWA

GENERAL NOTES

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

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

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

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

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

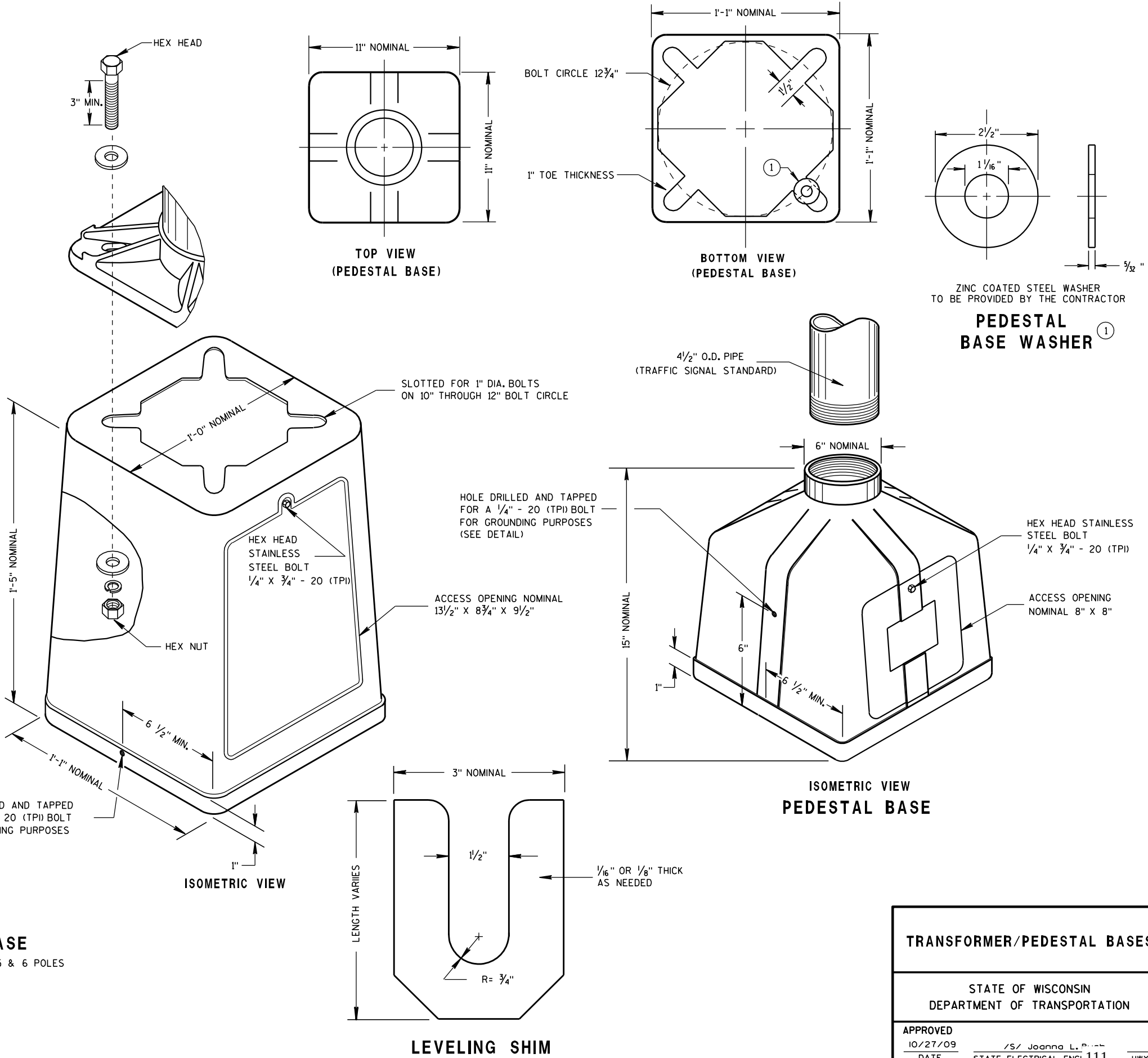
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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

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

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

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



TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

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

TRANSFORMER/PEDESTAL BASES

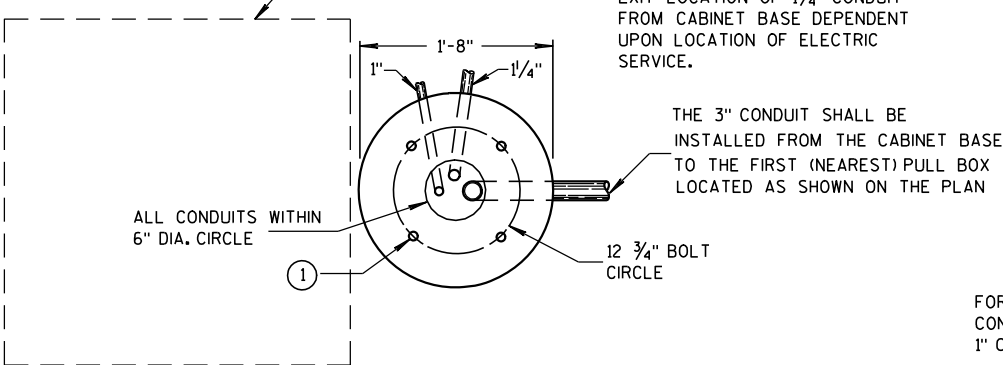
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/27/09
DATE
/S/ Joanna L. P...
STATE ELECTRICAL ENGI 111
HWYS
FHWA

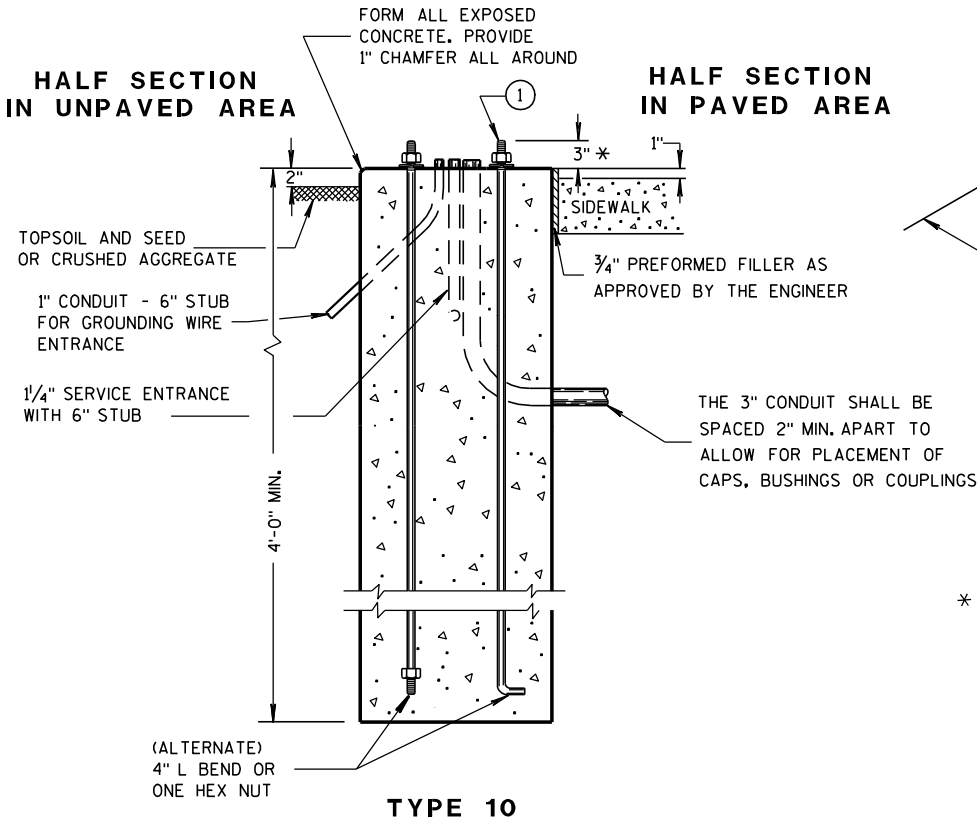
CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

* INCLUDES MAINTENANCE PLATFORM.

TYPICAL 3'-0" X 3'-0" X 4" THICK
MAINTENANCE PLATFORM.
LOCATION TO BE DETERMINED
IN THE FIELD. COST TO BE
INCLUDED UNDER CONCRETE
CONTROL CABINET TYPE 10.



HALF SECTION IN UNPAVED AREA

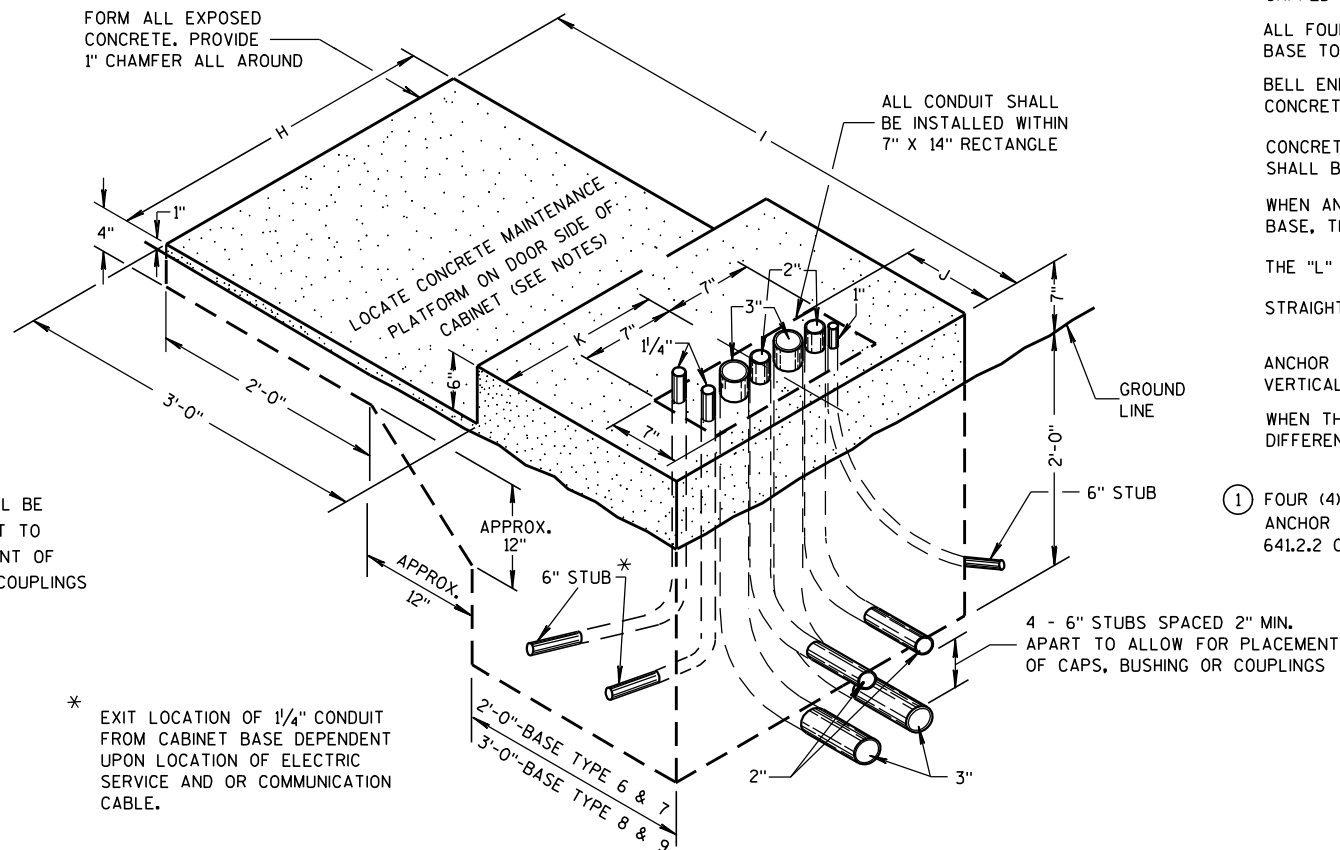


TYPE 10

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE
THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

CONDUIT LOCATIONS IN 24" X 36" PULL BOX

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)



TYPE 6, 7, 8 AND 9
(ISOMETRIC VIEW)

* EXIT LOCATION OF 1/4" CONDUIT
FROM CABINET BASE DEPENDENT
UPON LOCATION OF ELECTRIC
SERVICE AND OR COMMUNICATION
CABLE.

GENERAL NOTES

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

INSTALL FOUR 1/2" INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE
MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR
STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE
CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

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

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A
36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR
SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM
FINISHED AND LEVEL.

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

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET
BASE TO THE FIRST (NEAREST) PULL BOX LOCATED AS SHOWN ON THE PLANS.

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

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

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10
BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

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

WHEN THIS DRAWING IS USED FOR STREET LIGHTING CABINET BASES, CONDUIT MAY BE
DIFFERENT AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

- ① FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6"
ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND
641.2.2 OF THE STANDARD SPECIFICATIONS.

CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10
DATE

FHWA

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STATE ELECTRICAL ENGI 112

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CONCRETE CONTROL CABINET BASES

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

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

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

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

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

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

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

ANCHOR RODS SHALL BE 1" X 3'-6".

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

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

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

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

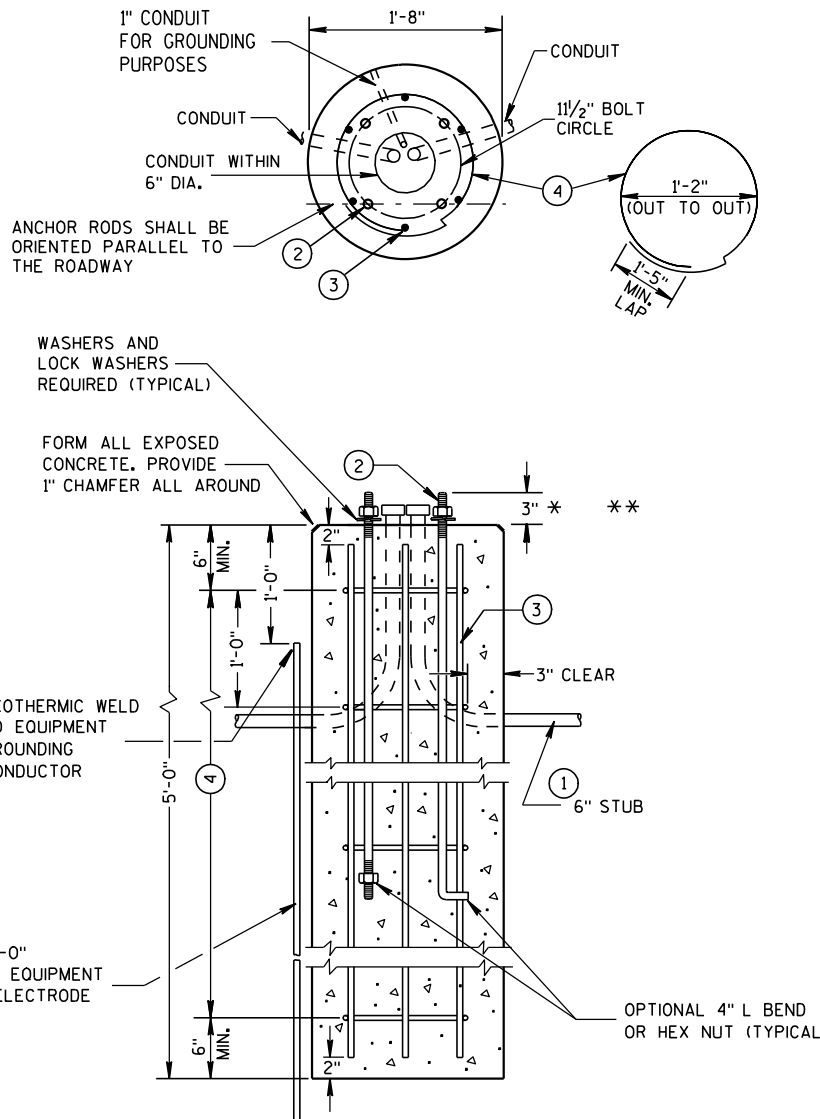
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

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

② (4) 1" DIA. X 3'-6" ANCHOR RODS

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

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

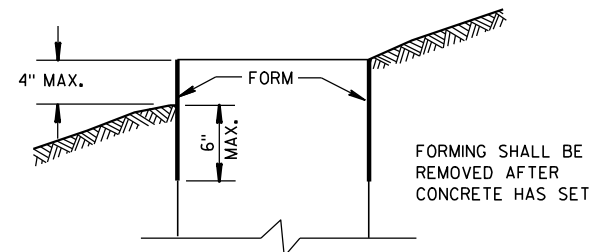


CONCRETE BASE, TYPE 6 (FOR 35' LIGHT POLES)

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

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



FORMING DETAIL

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	0.4
LBS. OF HOOP BAR STEEL	16
LBS. OF VERTICAL BAR STEEL	18

CONCRETE BASE, TYPE 6

STATE OF WISCONSIN
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3/3/10

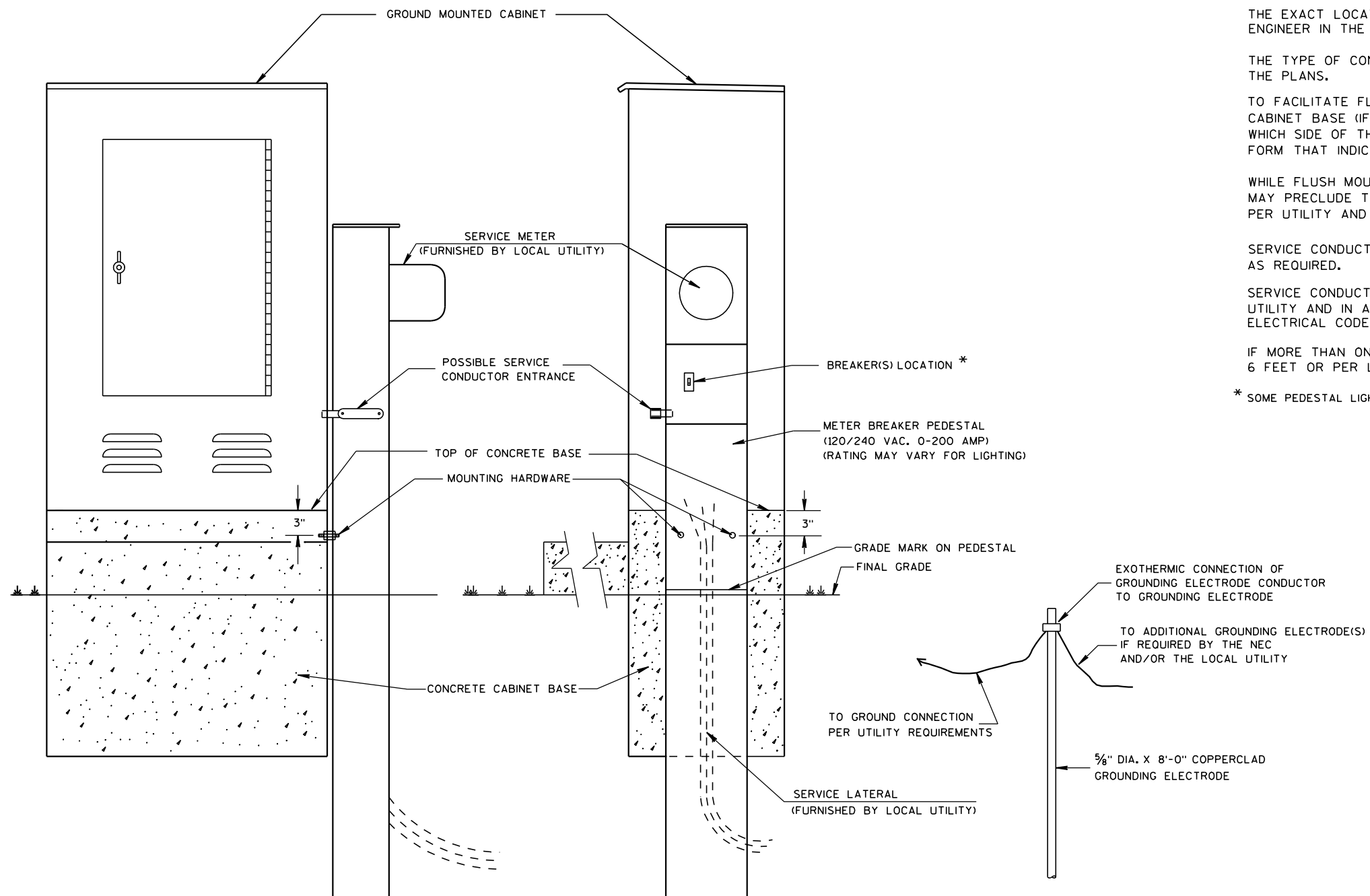
DATE

FHWA

/S/ Joanna L. Pugh

STATE ELECTRICAL ENGI 113

HWYS



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

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

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

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

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

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

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

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

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION
(METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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10/27/09

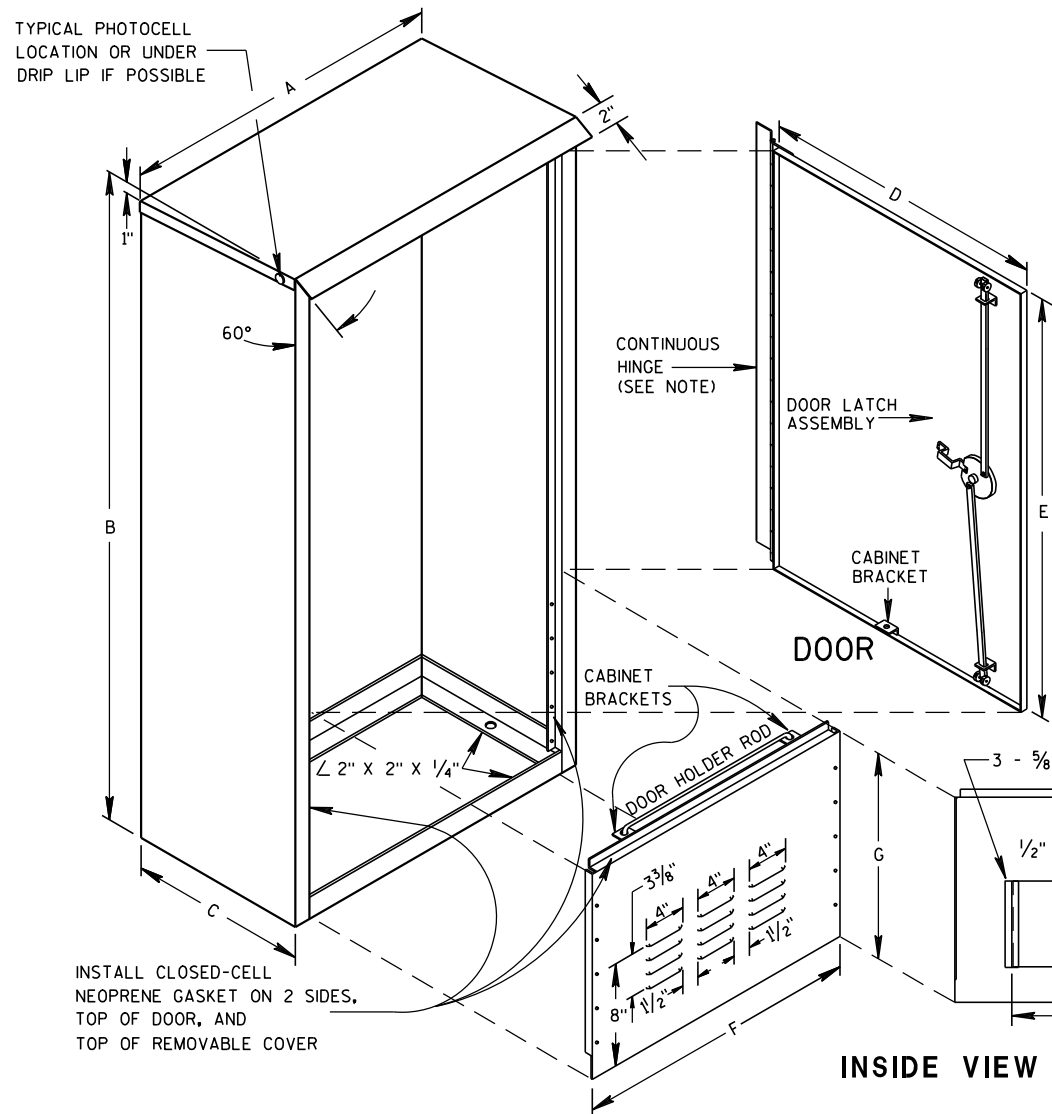
DATE

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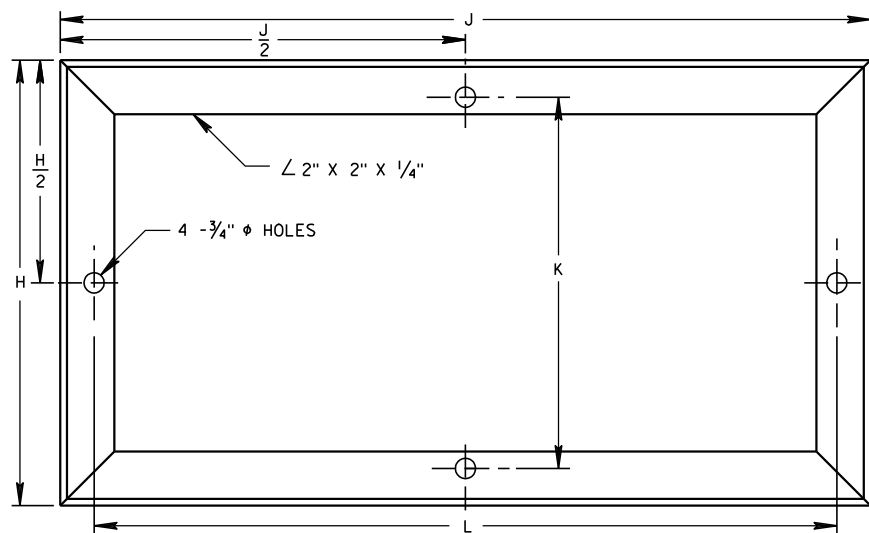
/S/ Joanna L. Bush

STATE ELECTRICAL ENGI 114

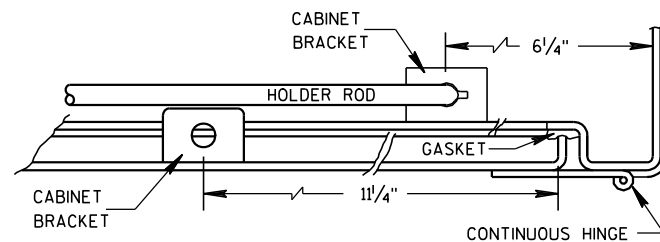
HWYS



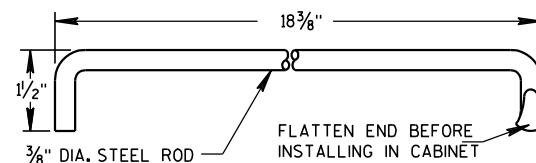
INSTALL CLOSED-CELL NEOPRENE GASKET ON 2 SIDES, TOP OF DOOR, AND TOP OF REMOVABLE COVER



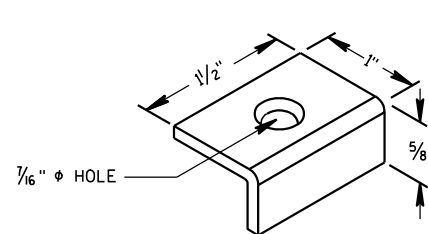
MOUNTING BASE



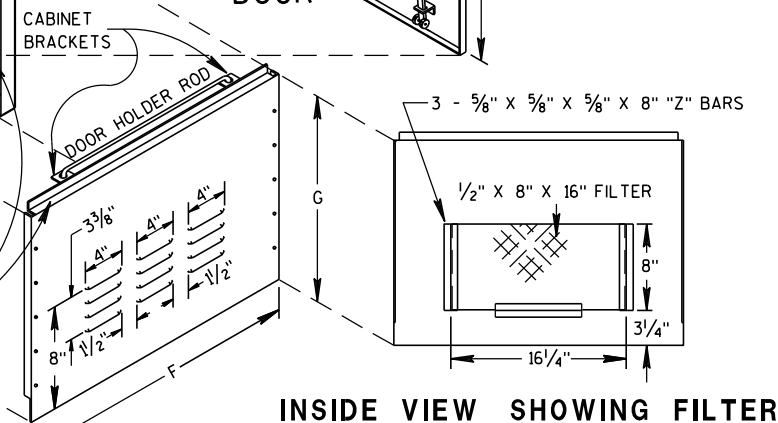
HINGE & DOOR HOLDER



HOLDER ROD



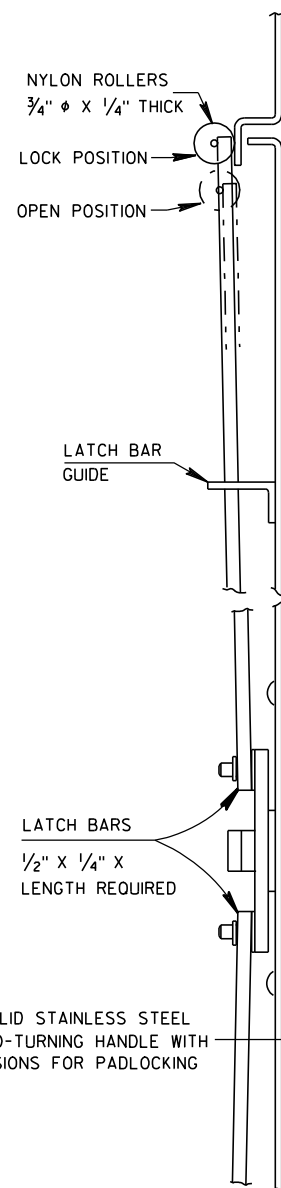
CABINET BRACKET



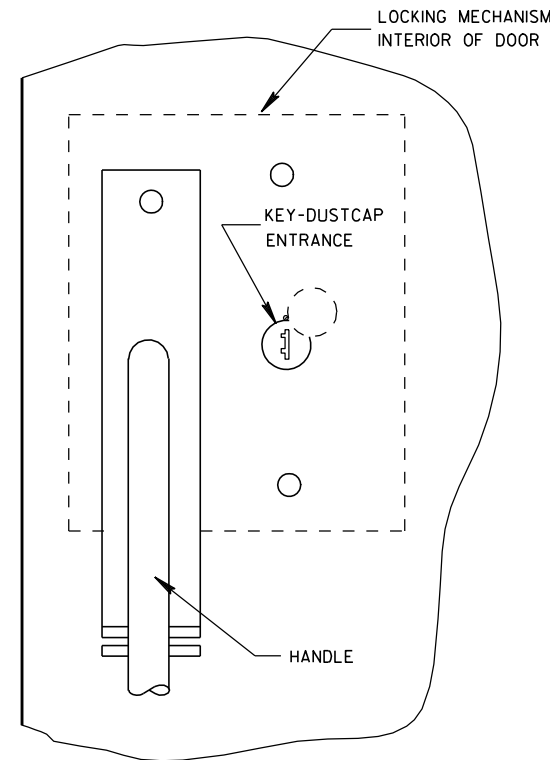
INSIDE VIEW SHOWING FILTER

TABLE OF DIMENSIONS (INCHES)

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

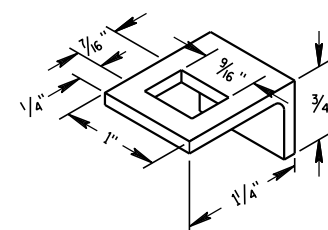


SIDE VIEW



FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

GENERAL NOTES

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

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

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

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

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

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

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

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

SIGNAL OR LIGHTING CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/21/96 /S/ Balu Ananthanarayanan
DATE STATE ELECTRICAL ENGI 115 HWYS
FHWA



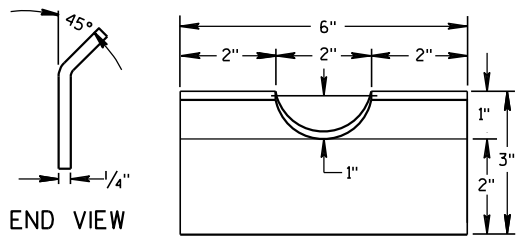
- ①. 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" x 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ②. GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ③. CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ④. FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" x 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑤. SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

INTERCHANGEABLE MOUNTING DETAIL

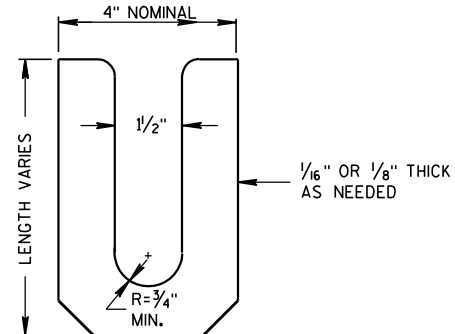
TYPE 6 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 6 (35 FEET)

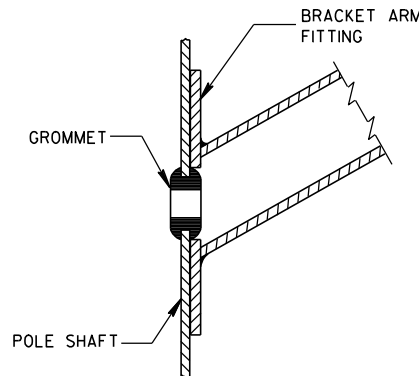
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



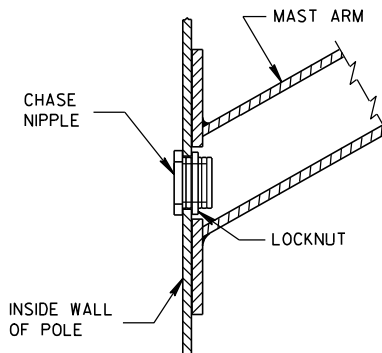
FRONT VIEW
RECTANGULAR CLAMP SHIM
(4 TO A SET)



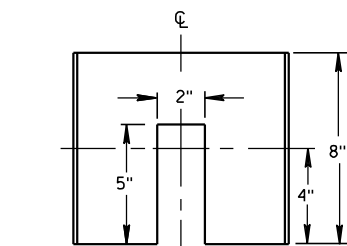
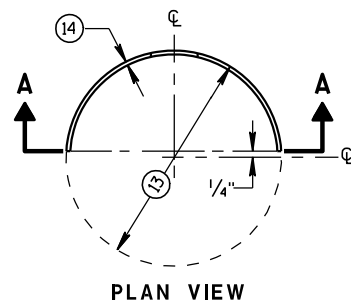
LEVELING SHIM
SHALL BE ALUMINUM



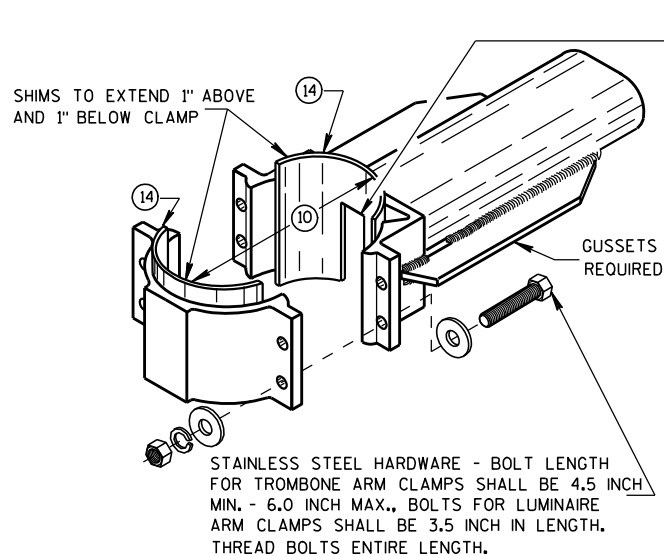
TYPICAL APPLICATION OF
GROMMET IN POLE SHAFT



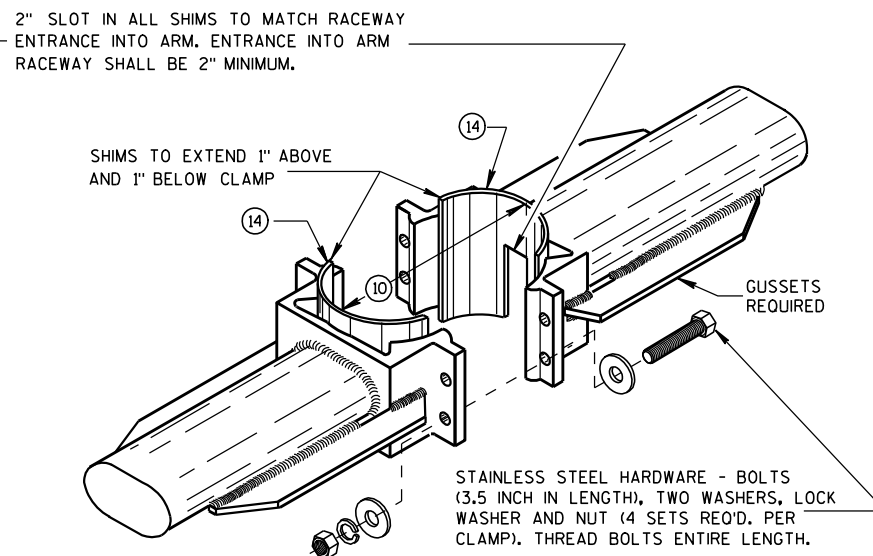
TYPICAL APPLICATION OF
CHASE NIPPLE IN POLE SHAFT



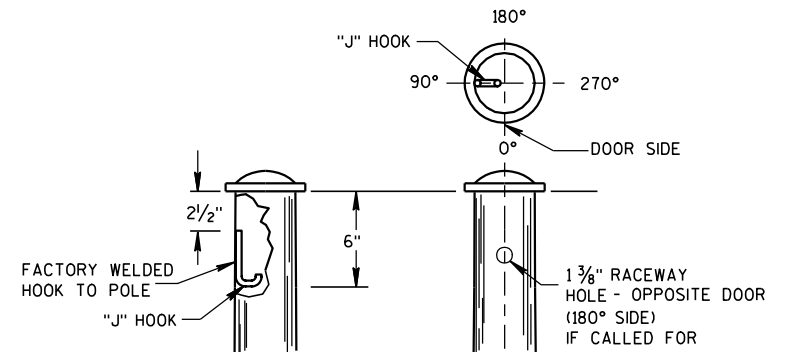
SECTION A-A
CIRCULAR CLAMP SHIM
(2 TO A SET)



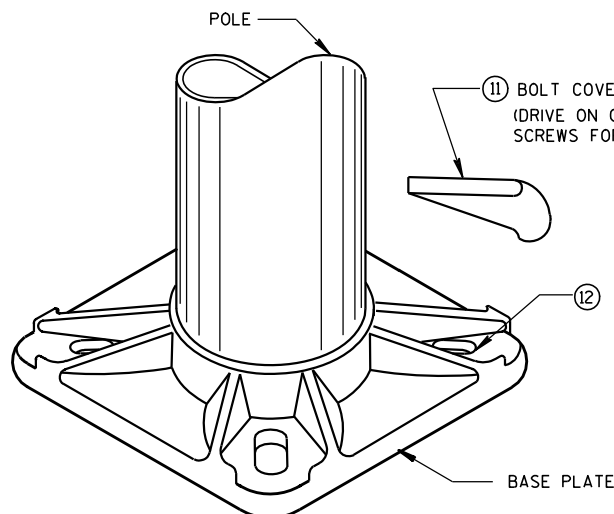
TYPICAL TROMBONE MAST ARM AND SINGLE
LUMINAIRE MAST ARM MOUNTING CLAMP



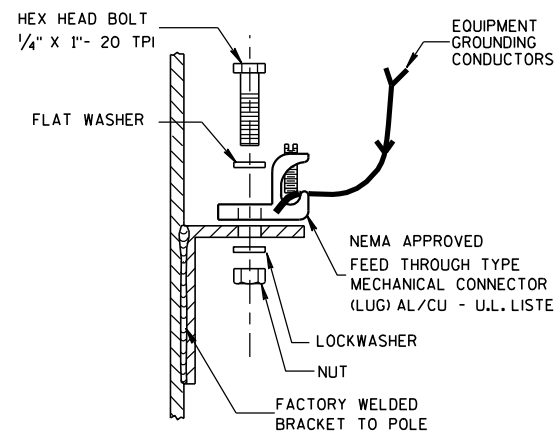
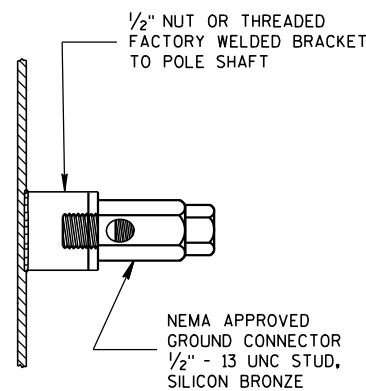
TYPICAL LUMINAIRE MAST ARM
(DOUBLE) MOUNTING BRACKETS



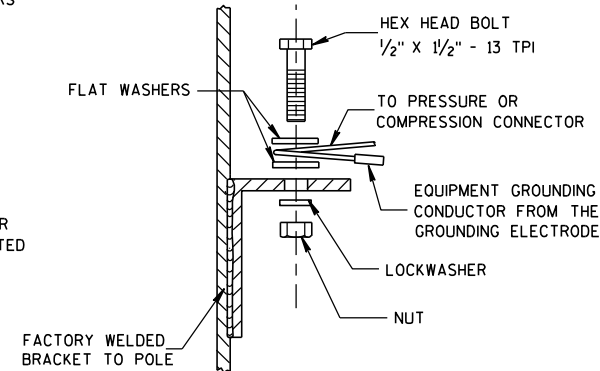
TYPICAL "J" HOOK LOCATION



BASE PLATE



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



GENERAL NOTES

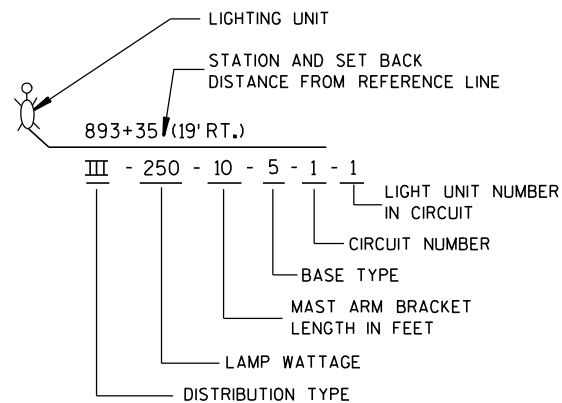
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

10. 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
11. INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
12. BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
13. OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)
14. VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")
SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".
SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.
SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
15. LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

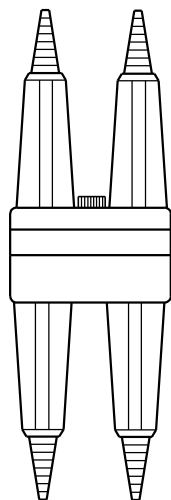
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

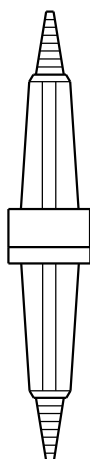
APPROVED
3/2/11
DATE
/S/ Thomas J. Gorman
STATE ELECTRICAL ENGI 117
HWYS
FHWA



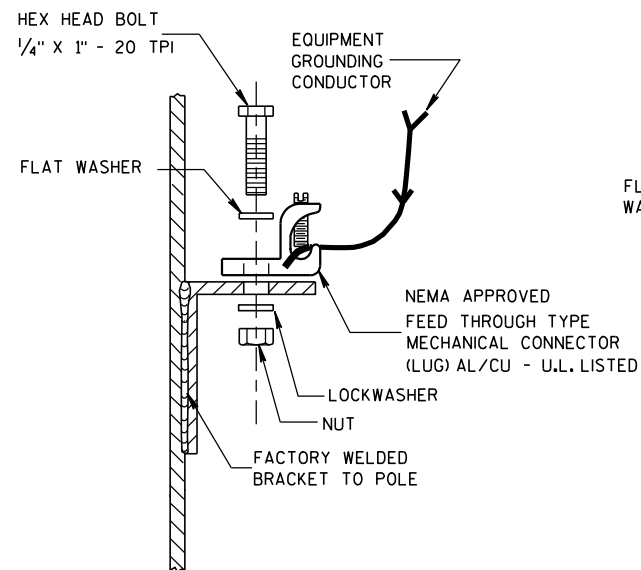
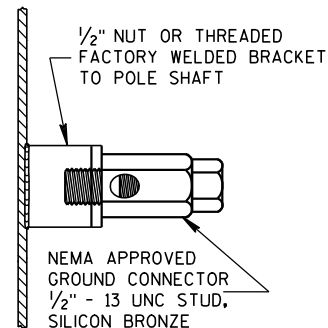
LIGHTING UNIT CODE
(TYPICAL)



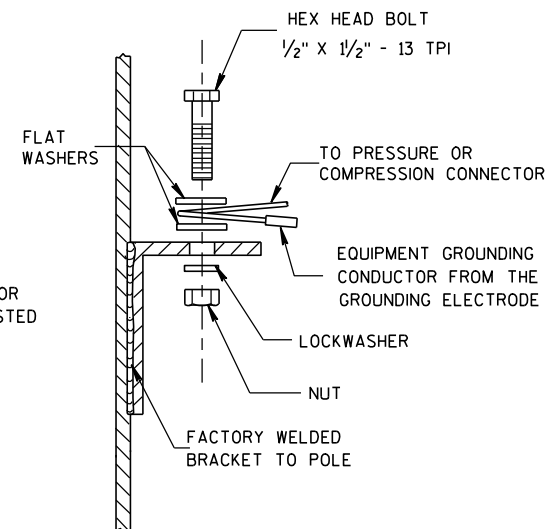
DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



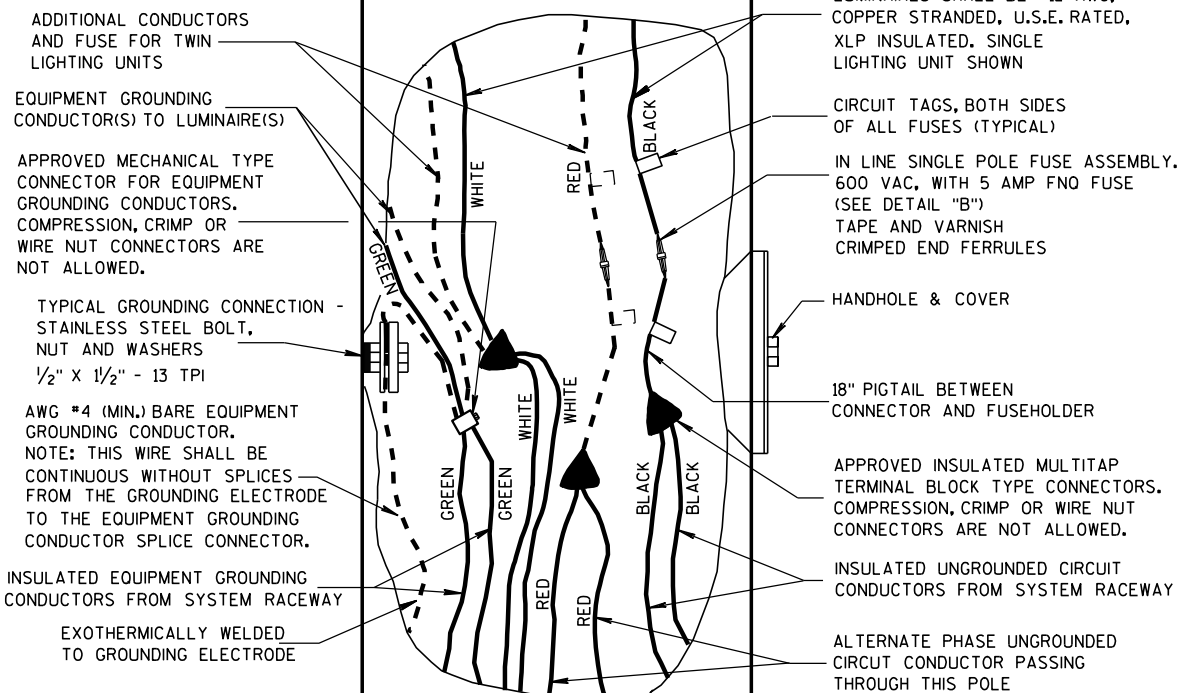
TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



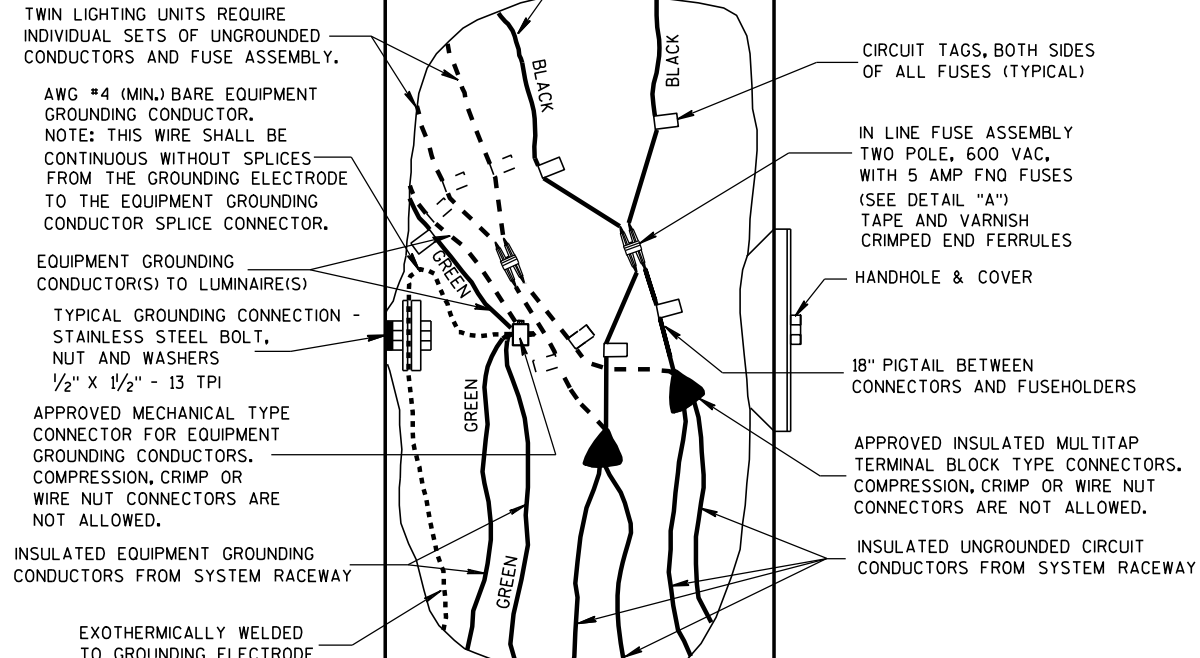
UNGROUND CONDUCTORS TO LUMINAIRES SHALL BE #12 AWG, COPPER STRANDED, U.S.E. RATED, XLP INSULATED. SINGLE LIGHTING UNIT SHOWN

GENERAL NOTES

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



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



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

NON-FREWAY LIGHTING UNIT
POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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3/2/2011 /S/ Thomas J. Gossion
DATE STATE ELECTRICAL ENGI 118 HWYS
FHWA

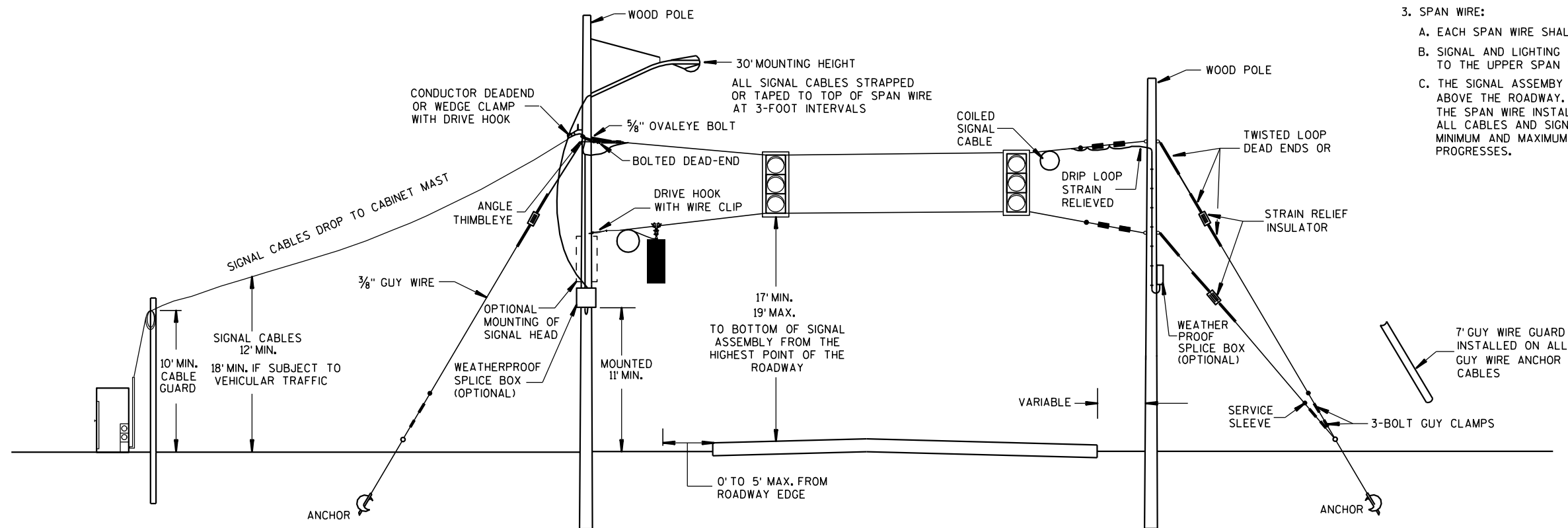
GENERAL NOTES

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

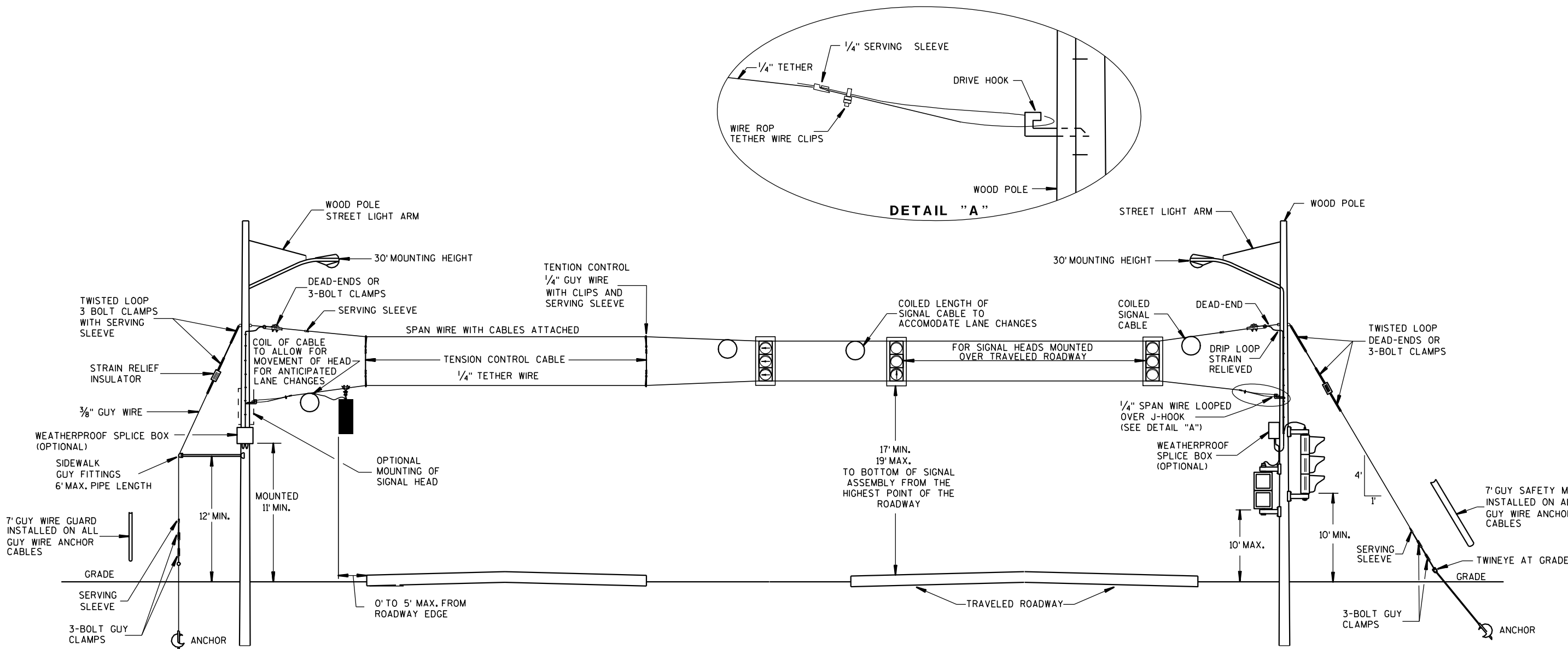
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

/S/ Balu Ananthan
STATE ELECTRICAL ENGI 119 HWYS

FHWA



GENERAL NOTES

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

- WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
- SIGNAL FACES:
 - ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
 - EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
 - EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
 - 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.
 - FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
- SPAN WIRE:
 - EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
 - SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
 - 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.

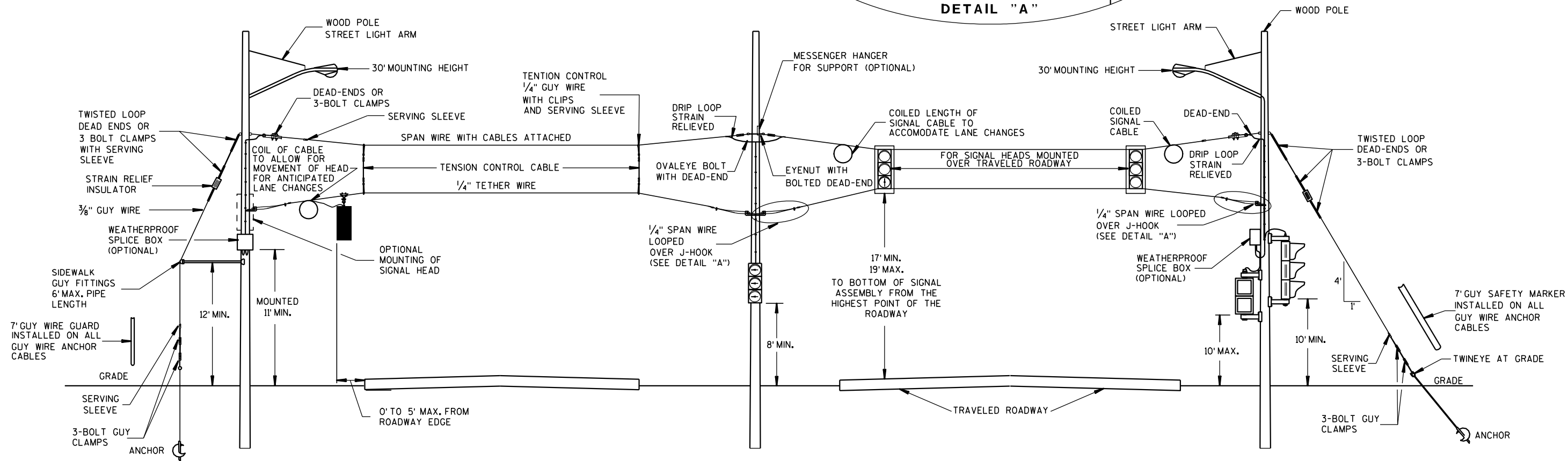
SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

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

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**SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS**

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
2. SIGNAL FACES:
 - A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
 - B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
 - C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
 - D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
 - E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

3. SPAN WIRE:
 - A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
 - B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
 - C. THE SIGNAL 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

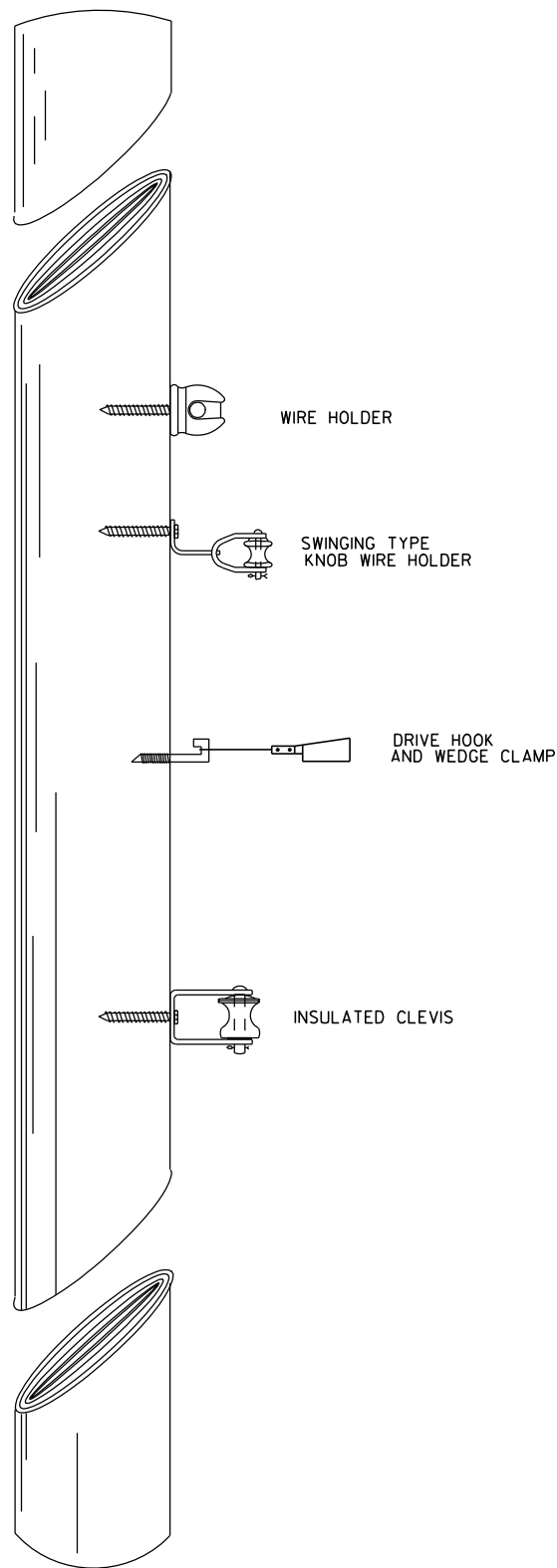
APPROVED

7-14-08

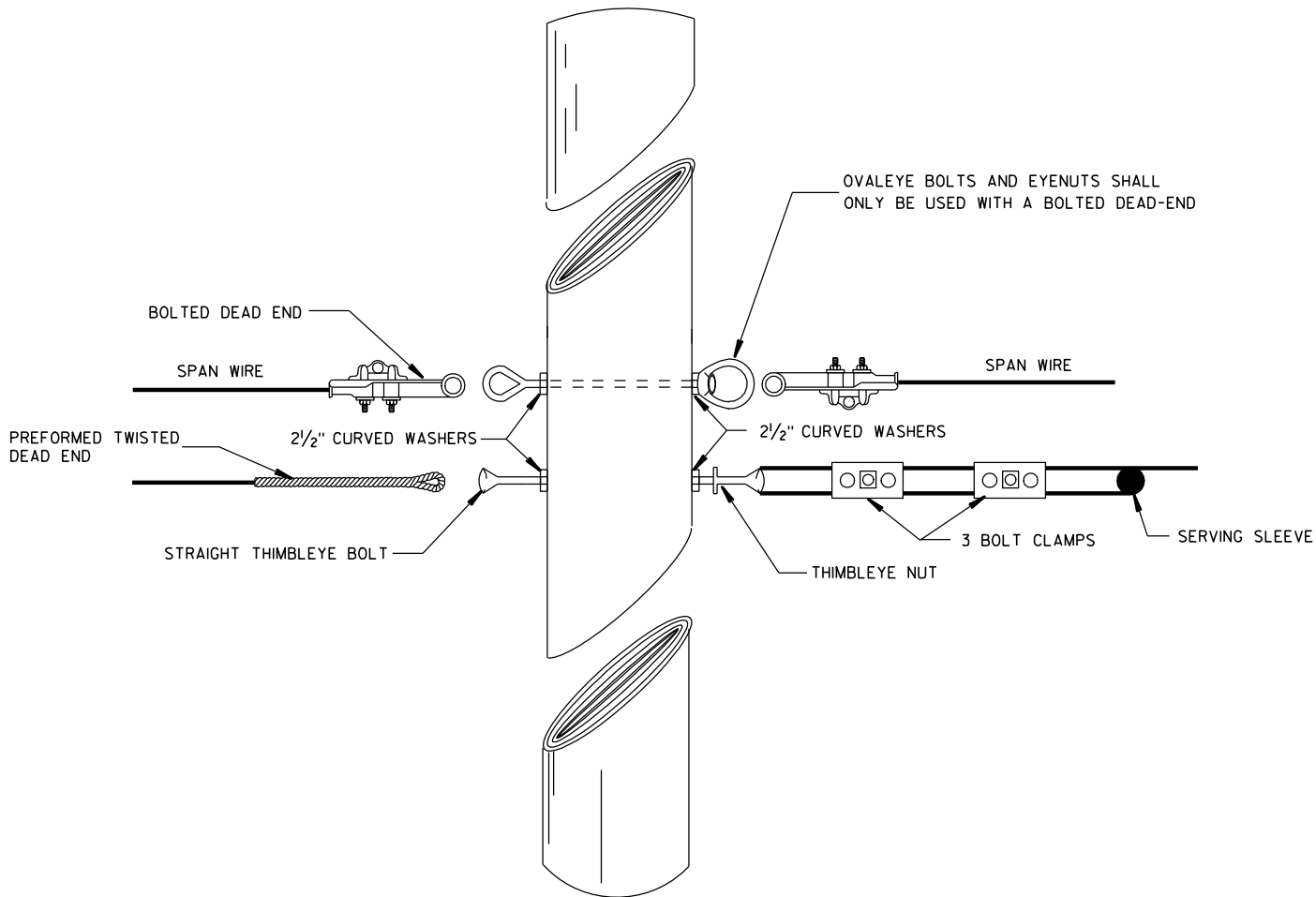
DATE

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/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 121 HWYS



TYPICAL CABLE HANGERS

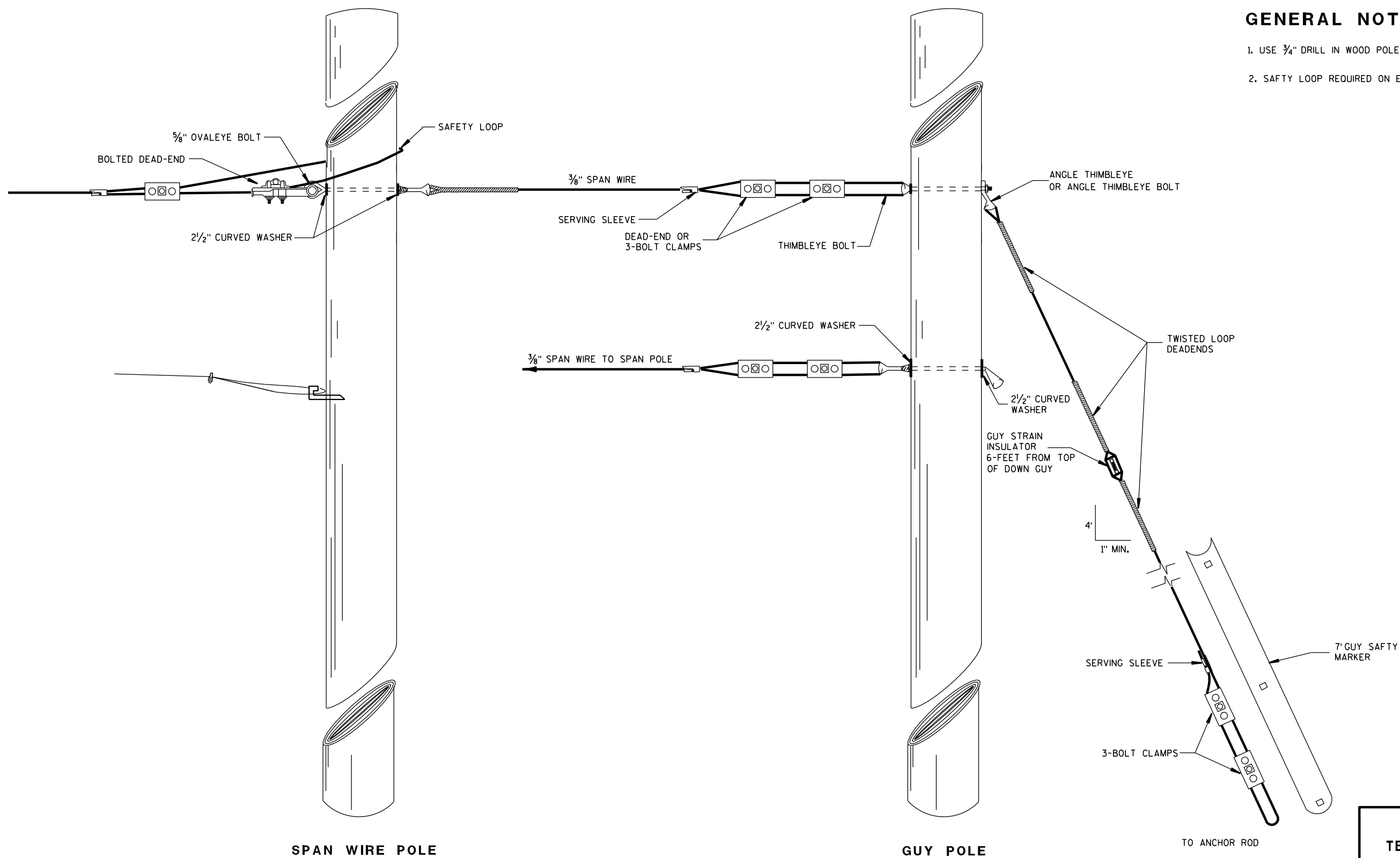


TYPICAL DEAD-ENDING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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DATE STATE ELECTRICAL ENGI 122 HWYS
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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

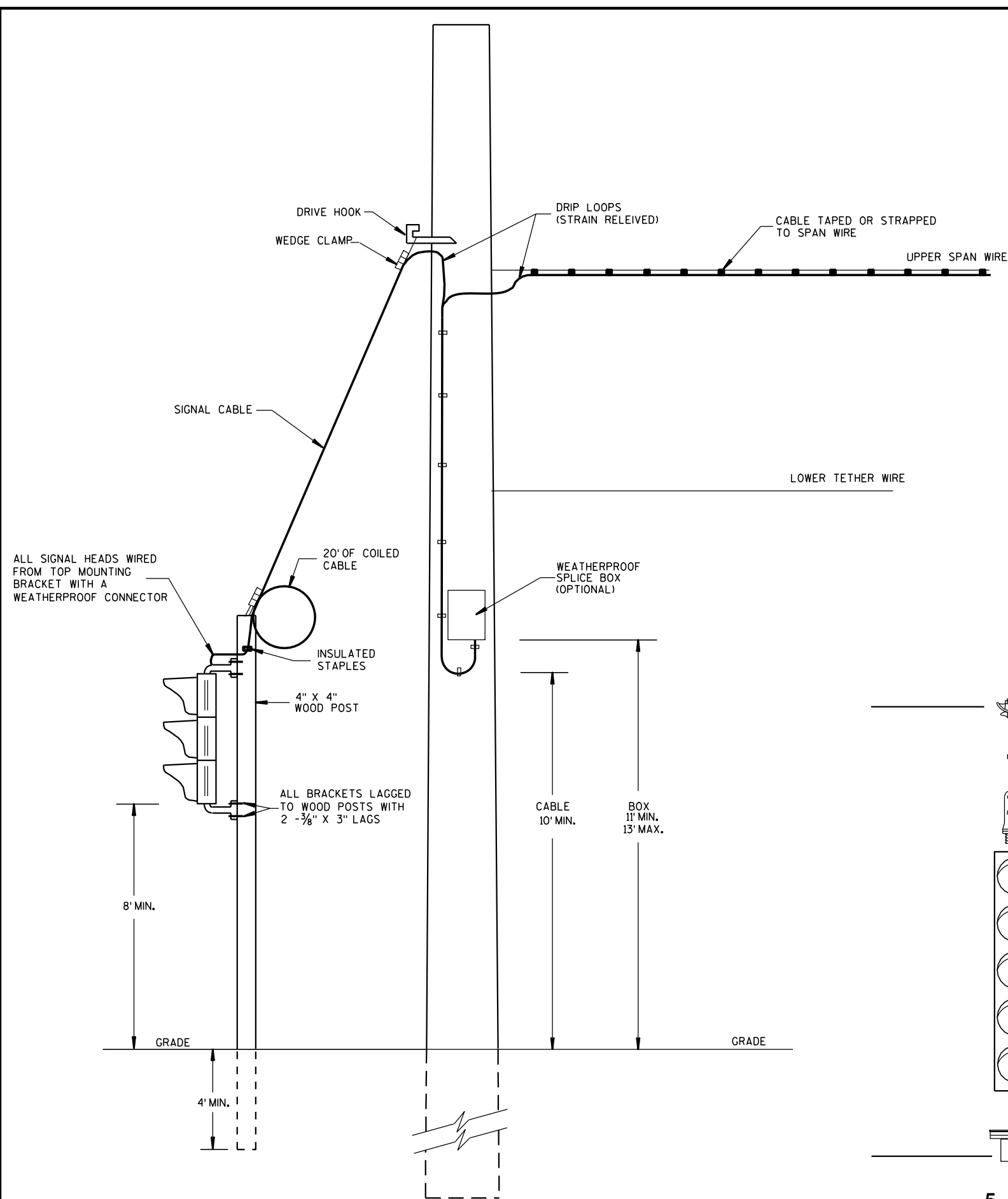
APPROVED

7-14-08

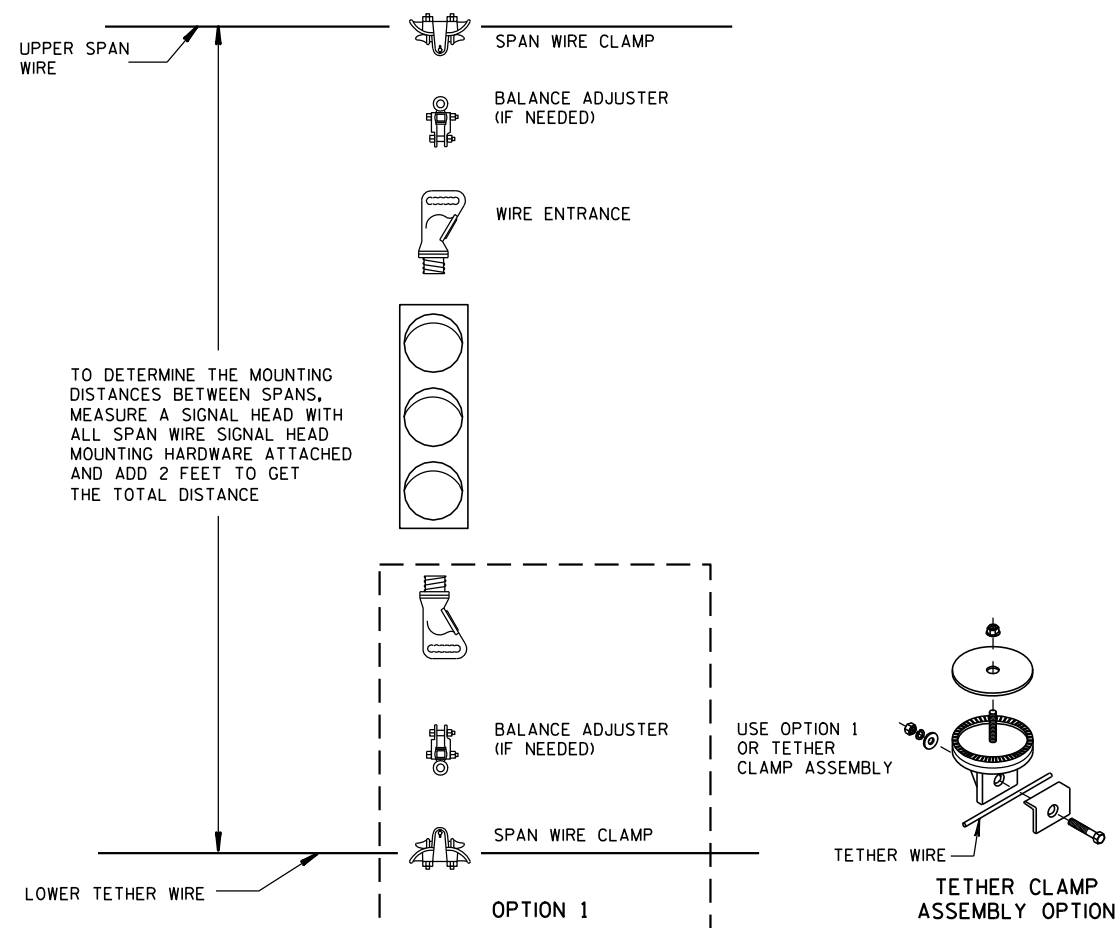
DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGR 123 HWYS

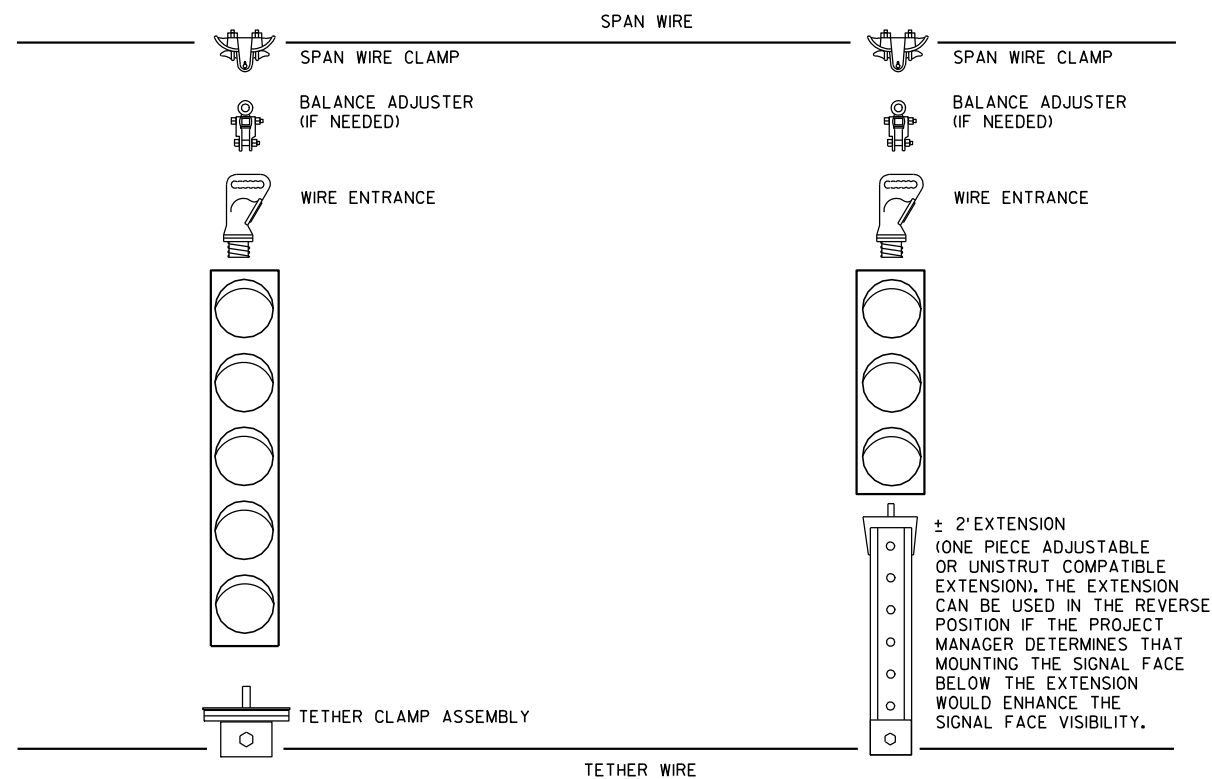
FHWA



TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



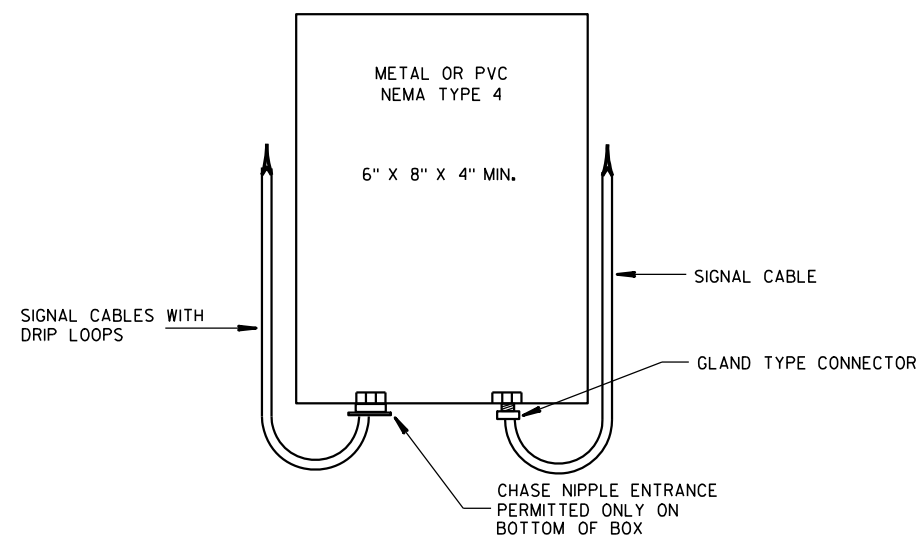
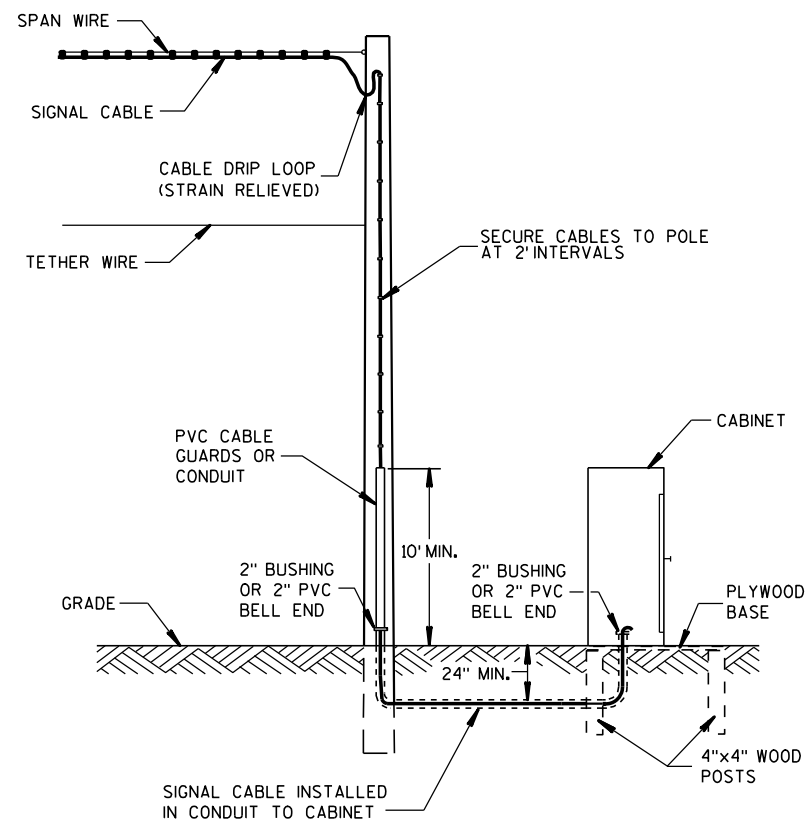
TYPICAL SPAN WIRE MOUNTING HARDWARE

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

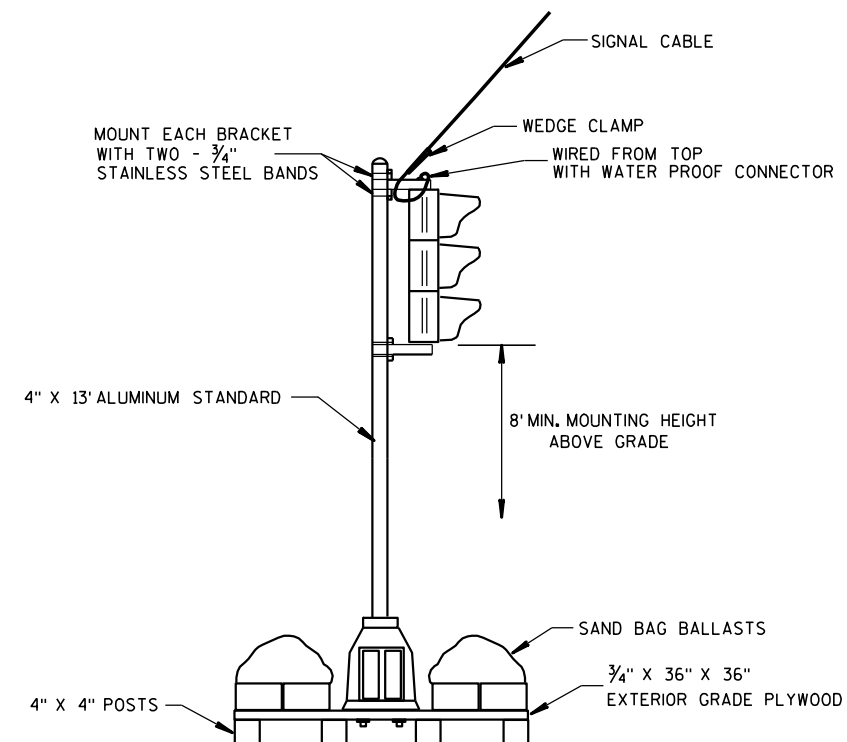
APPROVED

7-14-08
DATE/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 124 HWYS

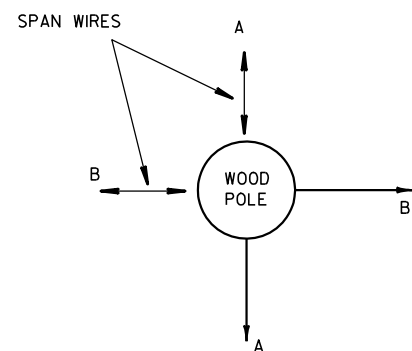
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SPLICE BOX

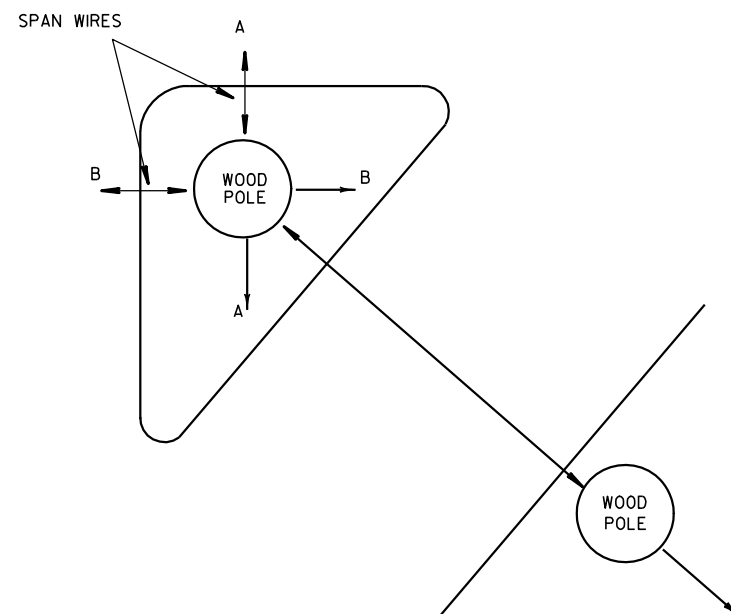


TYPICAL SKID TYPE TEMPORARY

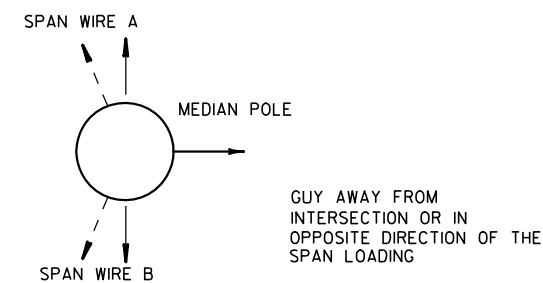


ALL DOWN OR SIDEWALK GUYS SHALL BE INSTALLED IN THE OPPOSITE DIRECTION OF THE STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



MEDIAN POLES

**SPAN WIRE
TEMPORARY TRAFFIC SIGNAL**

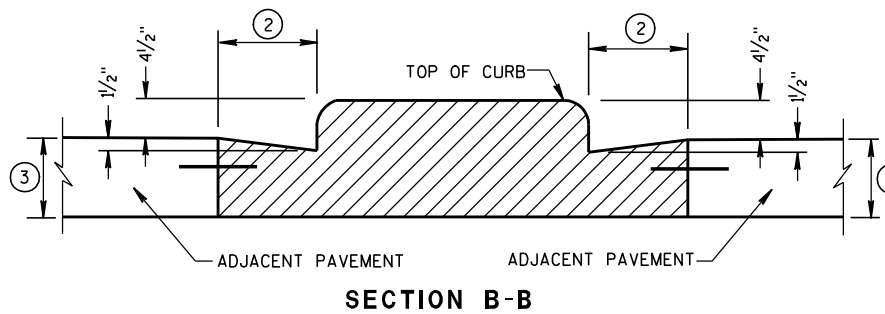
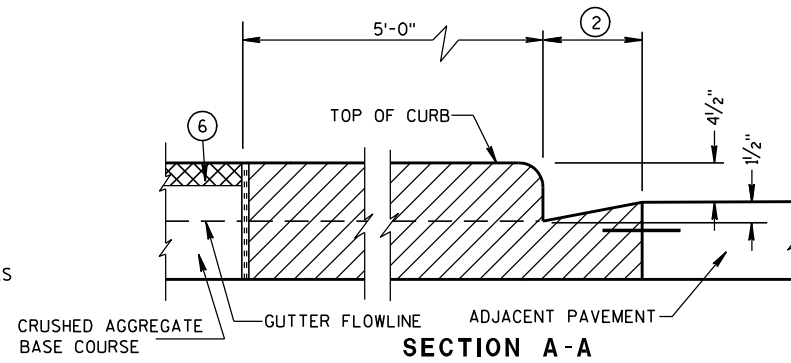
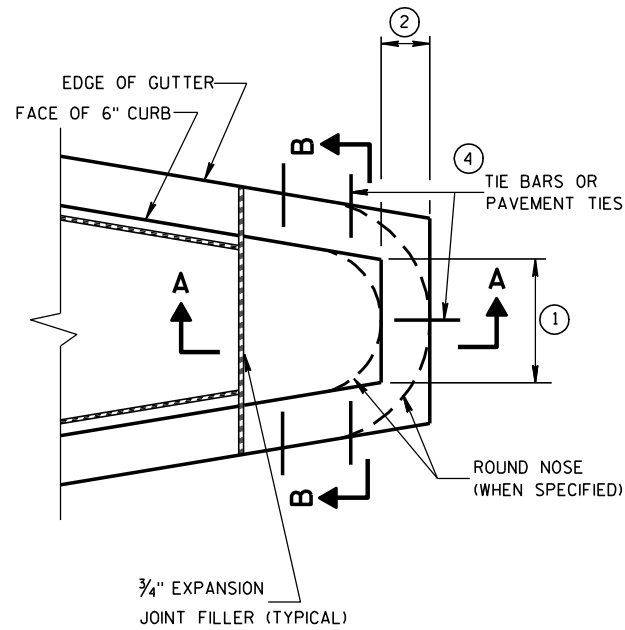
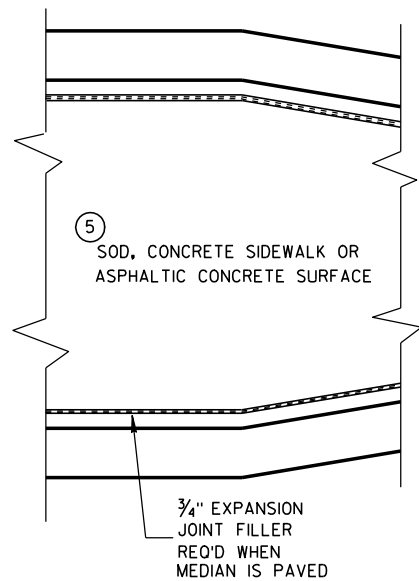
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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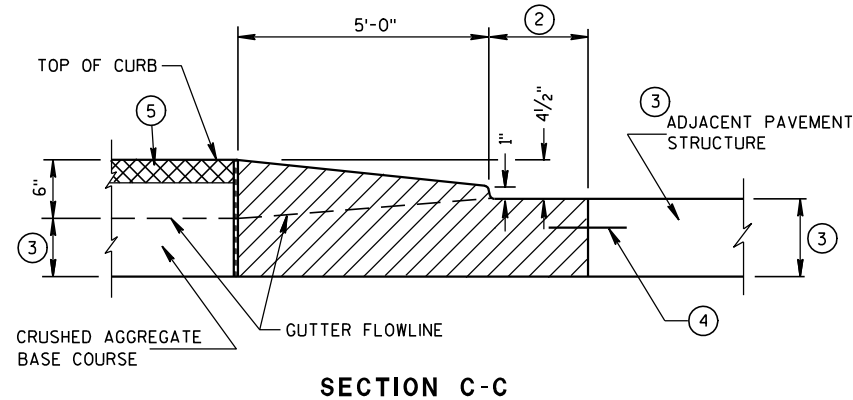
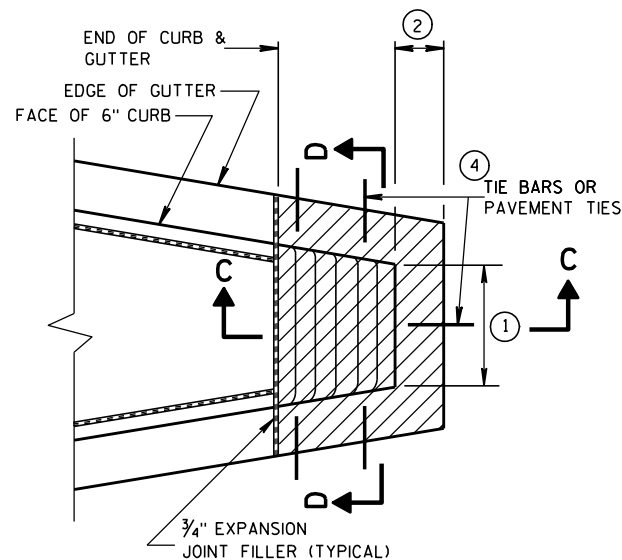
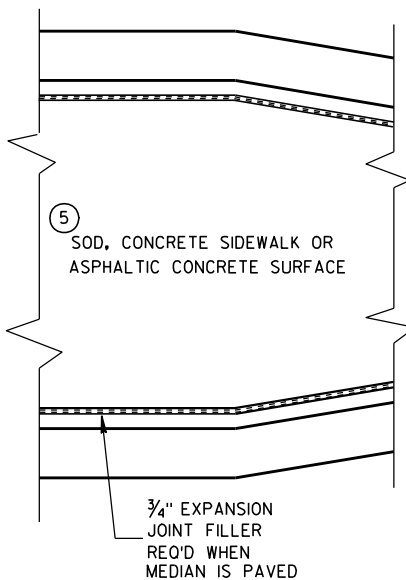
7-14-08
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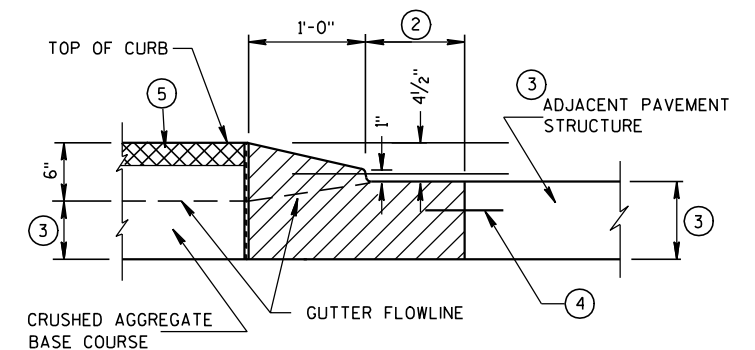
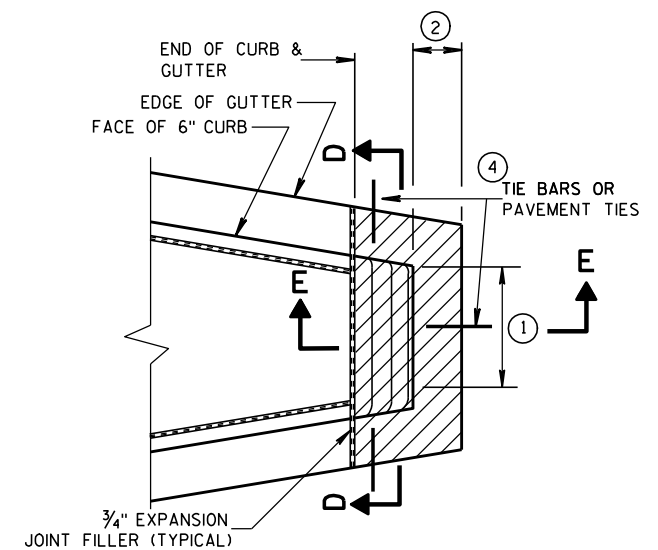
/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGR 125 HWYS



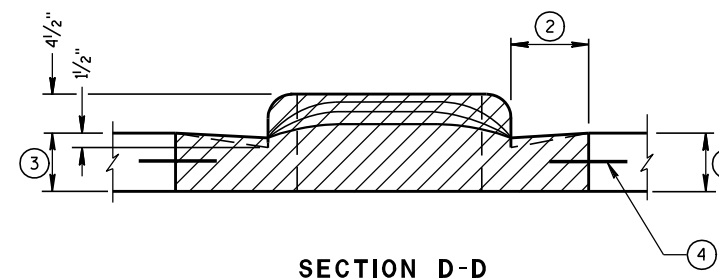
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



GENERAL NOTES

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

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
 - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

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

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

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

CONCRETE MEDIAN NOSE

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DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006

DATE

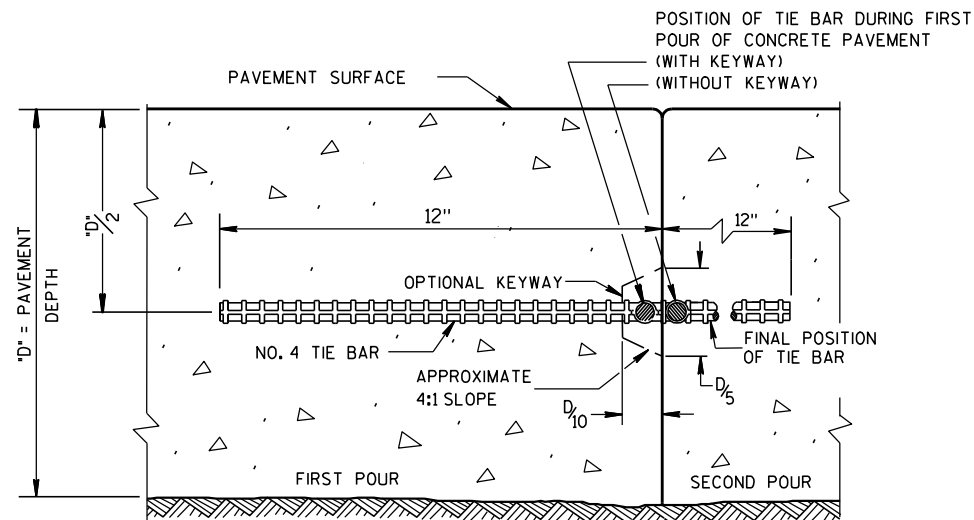
FHWA

/S/ Jerry H. 7----

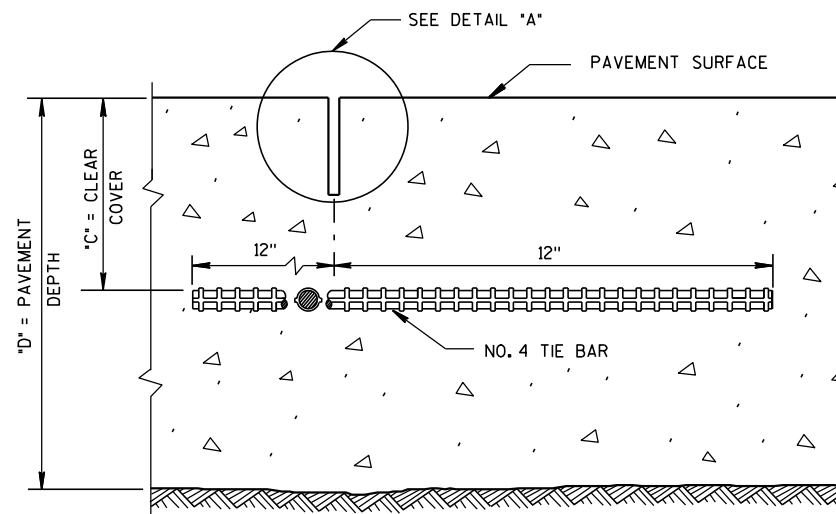
ROADWAY STANDARDS 126

ENGINEER

NT



CONSTRUCTION JOINT



SAWED JOINT

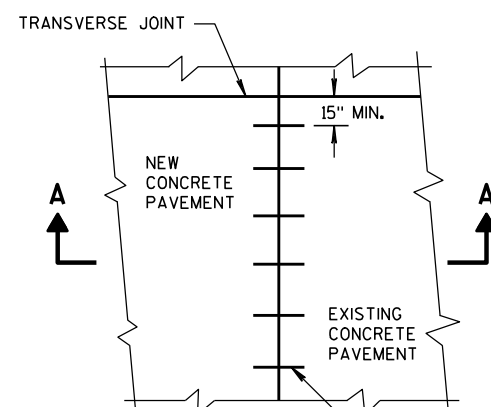
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

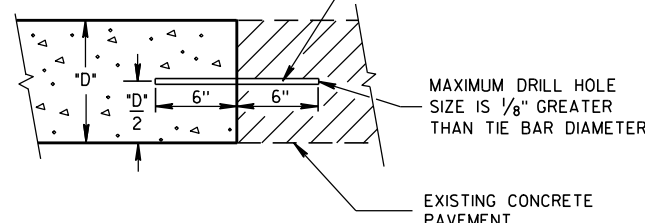
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

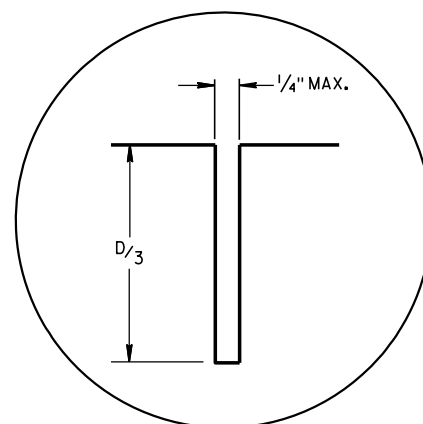


PLAN VIEW

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

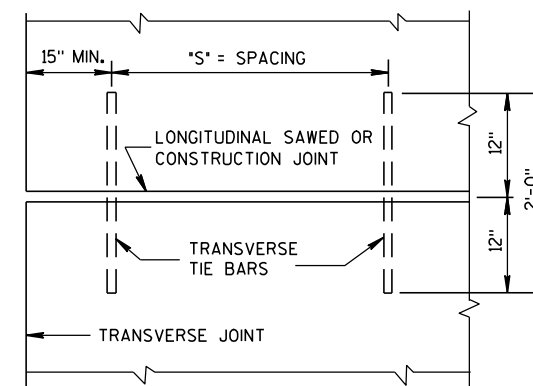


**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"

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

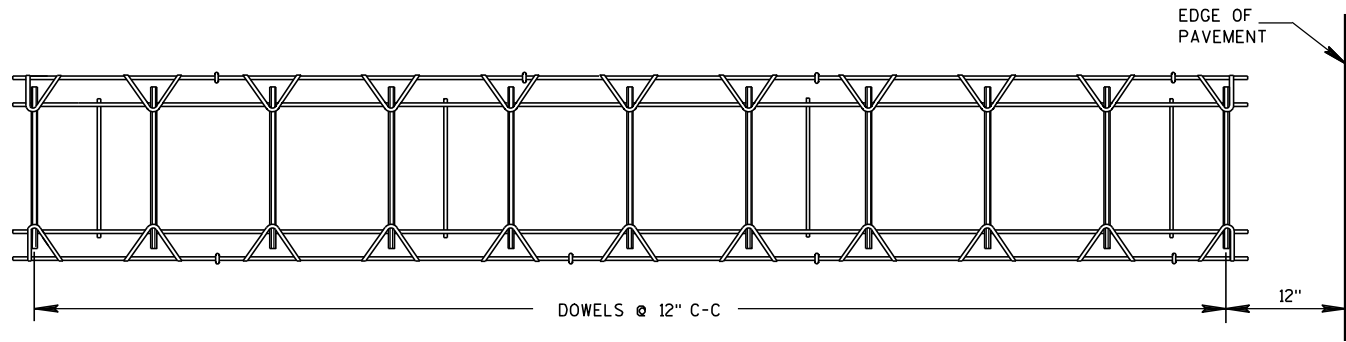


**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

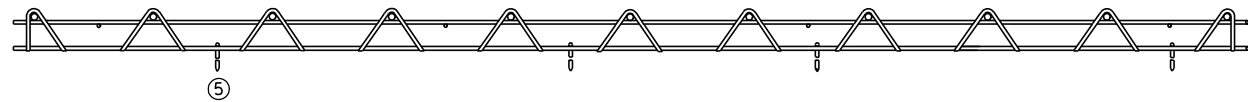
**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-5-2010 DATE /S/ Deb Bischoff INEER
PAVEMENT POLICY & Di 127
FHWA



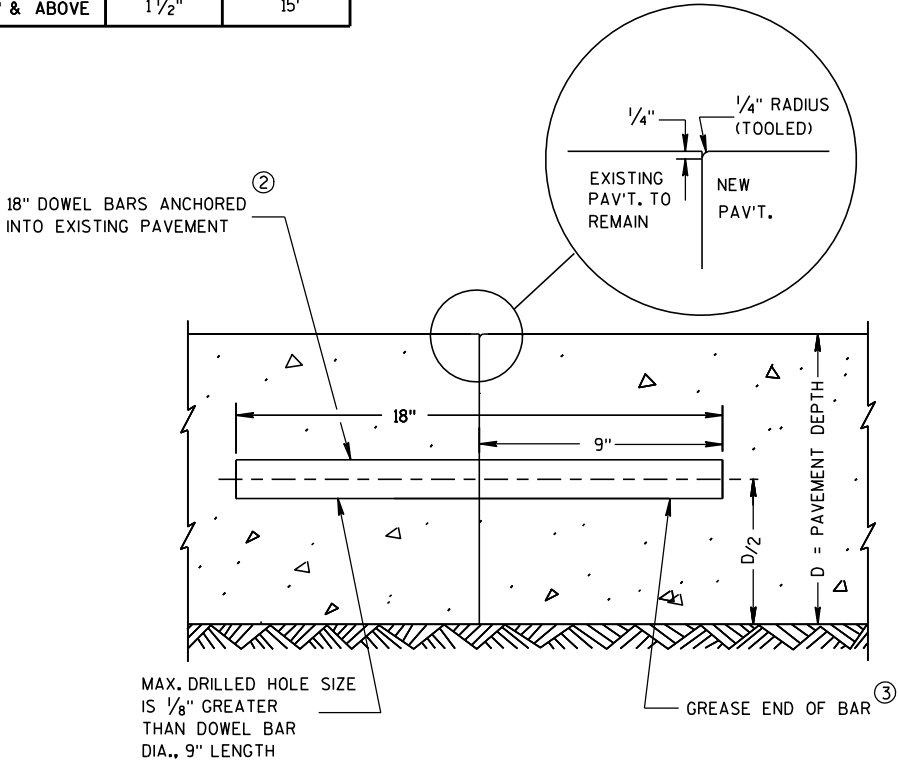
PLAN VIEW



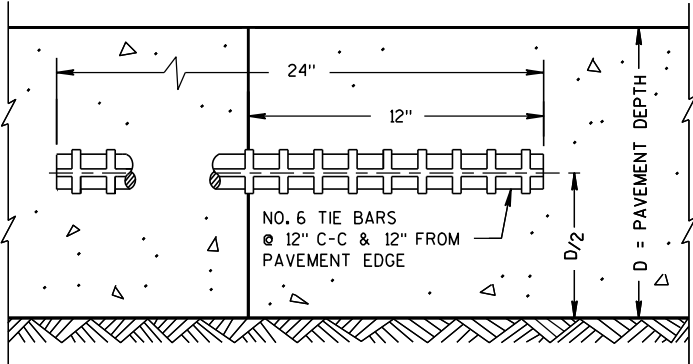
SIDE VIEW
CONTRACTION JOINT DOWEL ASSEMBLY

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

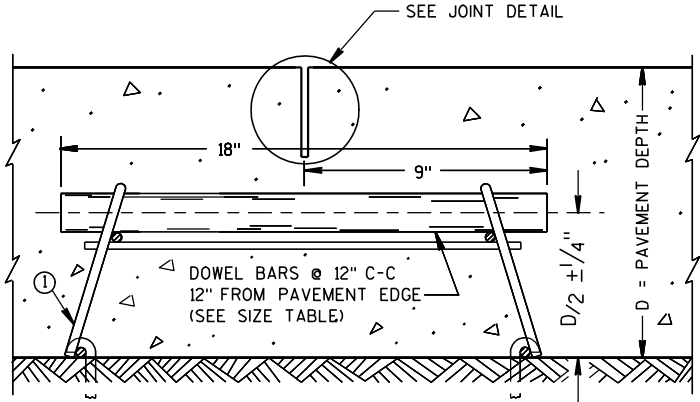
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



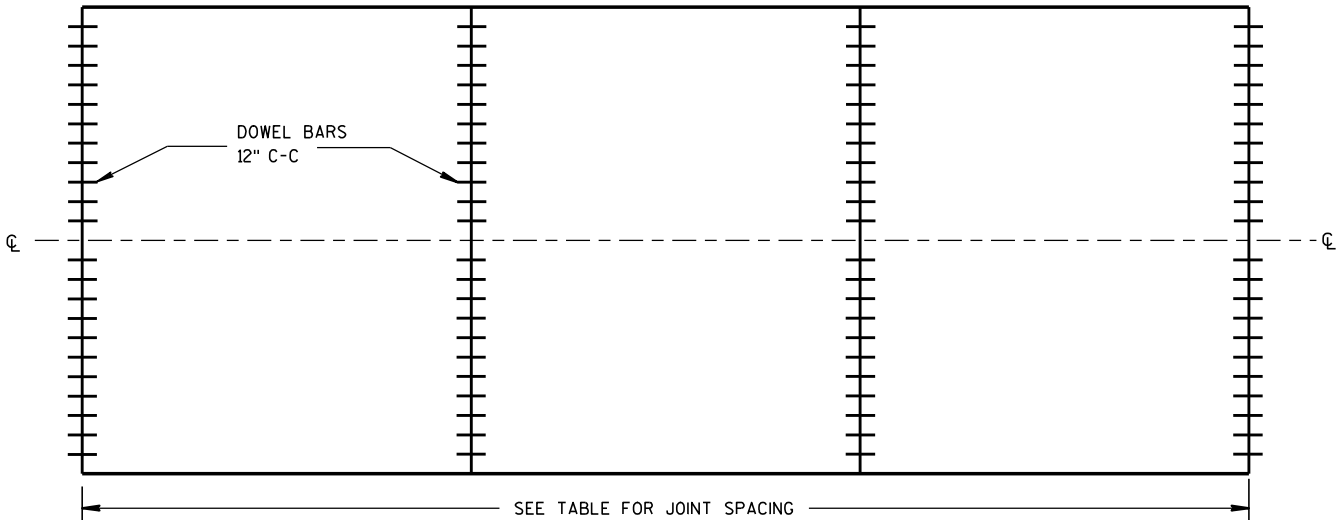
TRANSVERSE CONTRACTION JOINTS ABUTTING
EXISTING PAVEMENT
DOWEL BAR DETAIL



TRANSVERSE CONSTRUCTION JOINT



DOWELED CONTRACTION JOINT



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

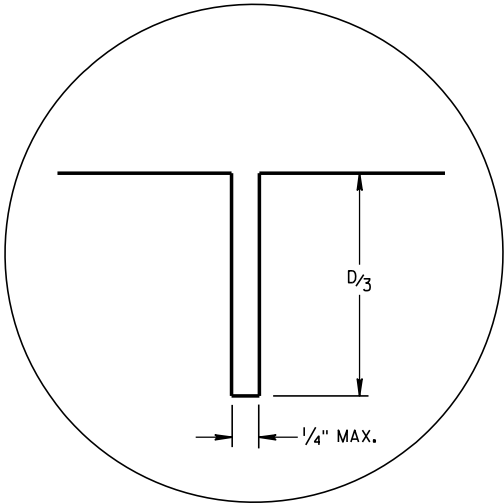
FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

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

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

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

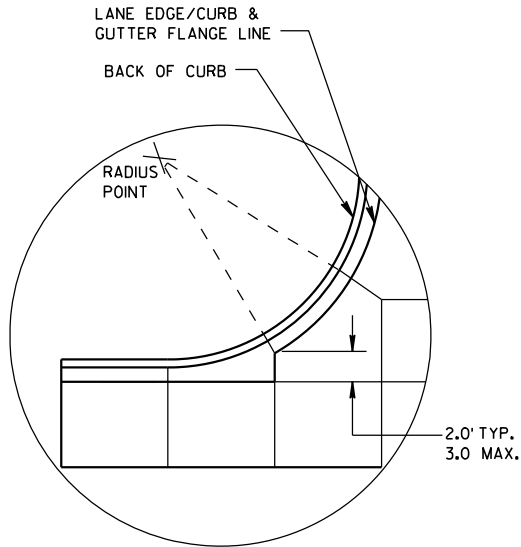


JOINT DETAIL

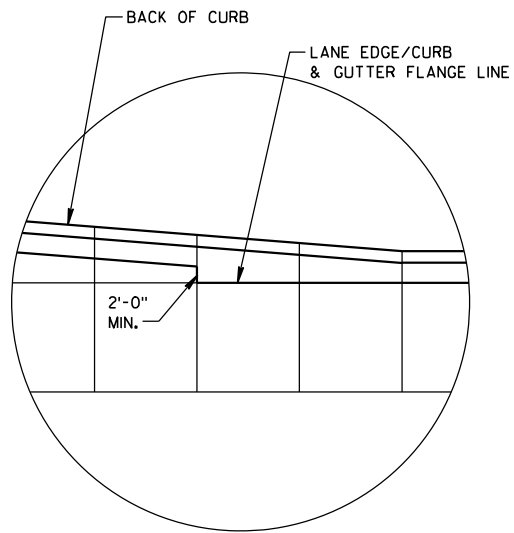
URBAN DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

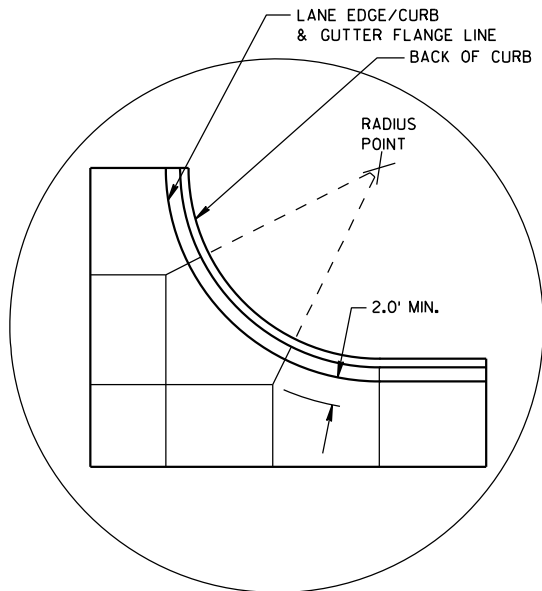
APPROVED
12/11/2009 /S/ Deb Bischoff
DATE PAVEMENT POLICY & DE 128
FHWA NEER



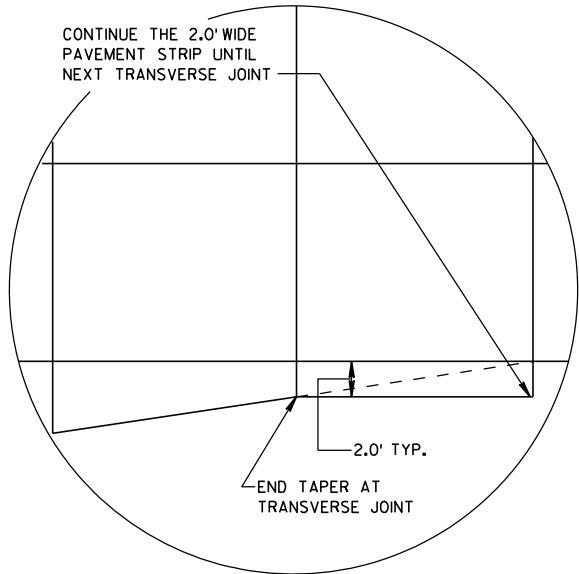
DETAIL "A"



DETAIL "B"



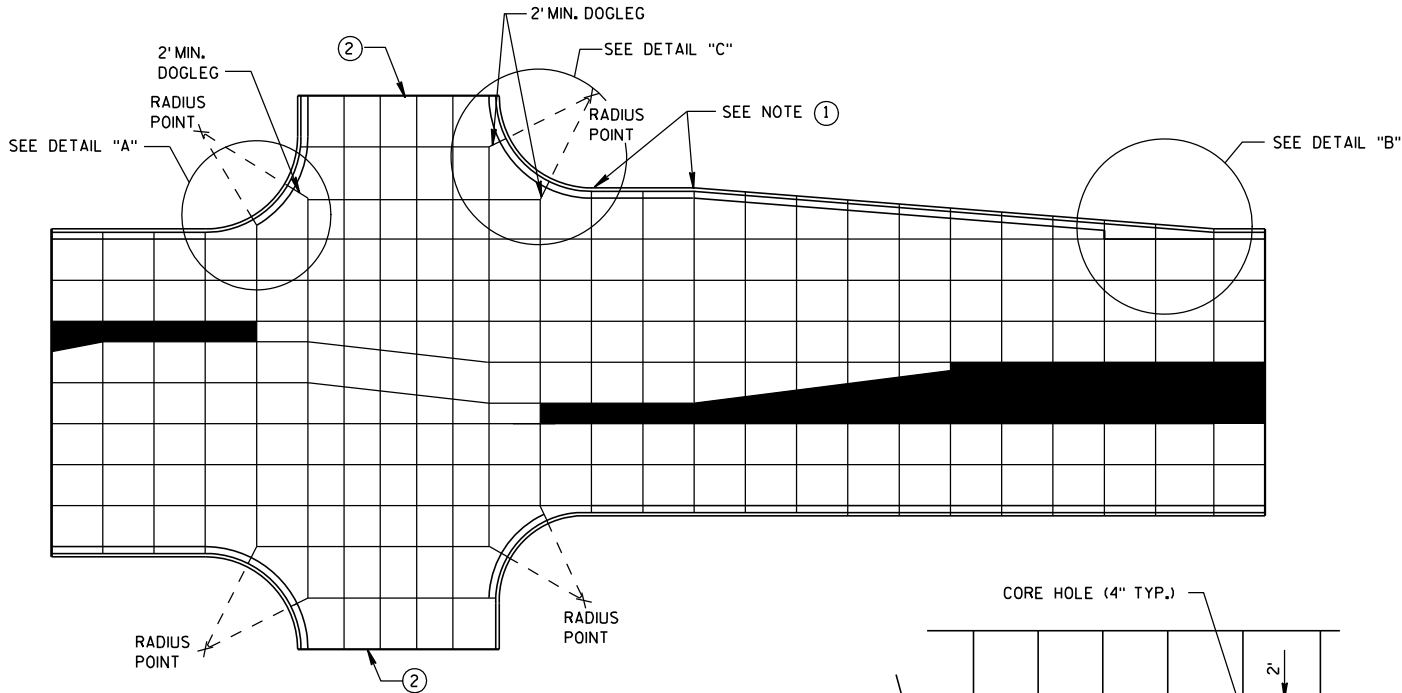
DETAIL "C"



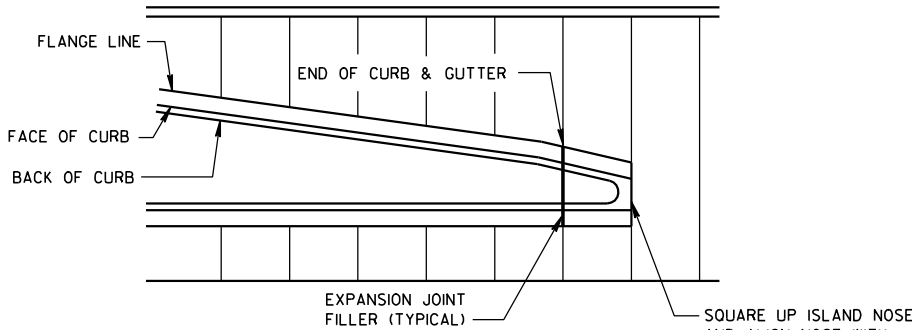
DETAIL "D"

GENERAL NOTES

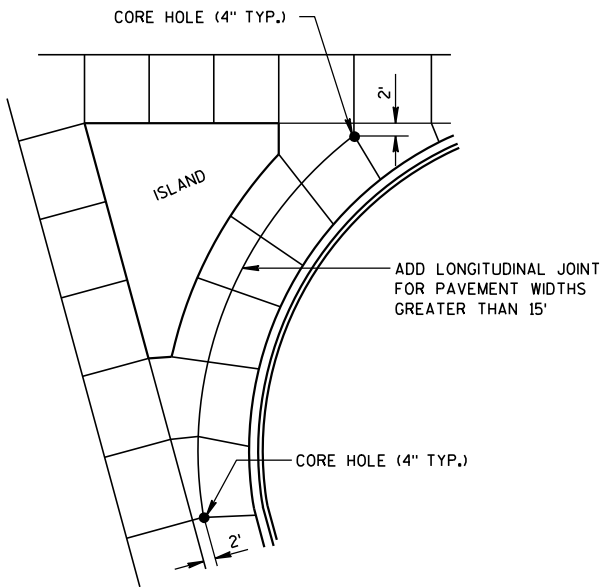
- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER 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



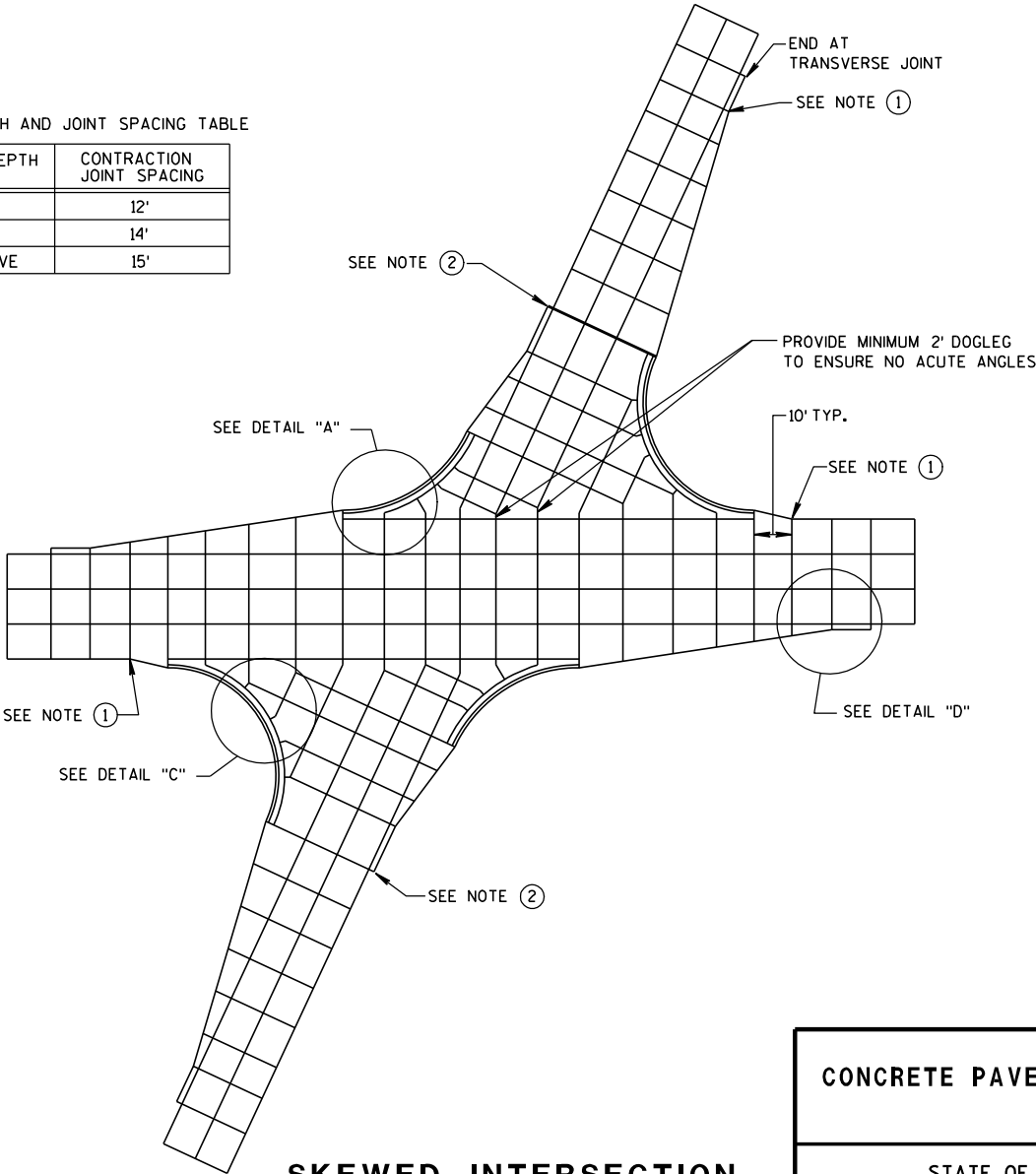
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

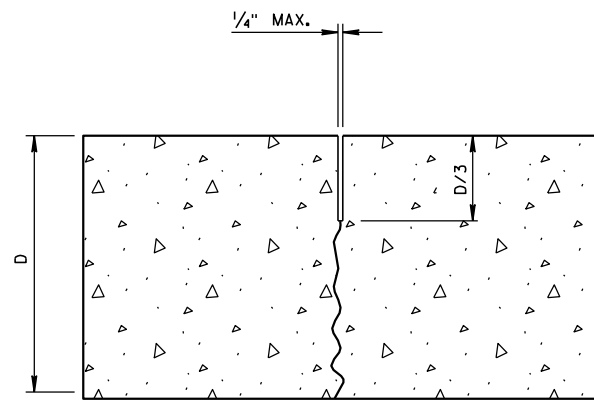
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



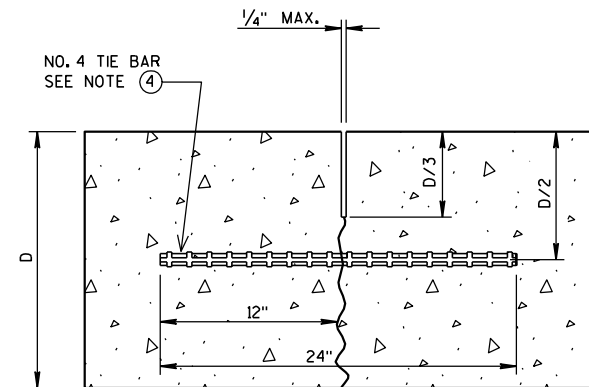
SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

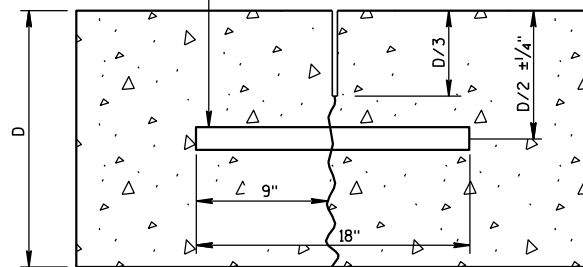


UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

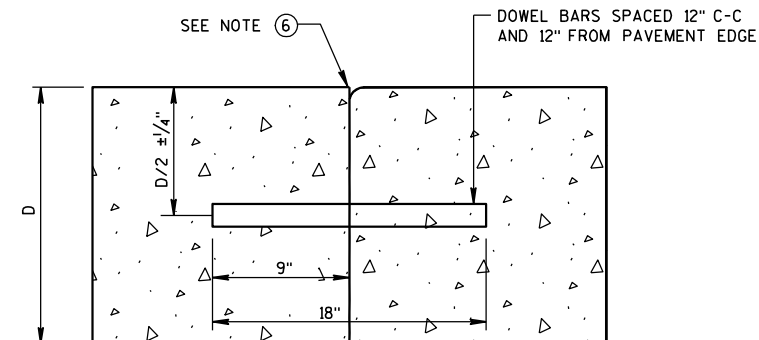
DOWEL BARS AT 12" C-C
12" FROM PAVEMENT EDGE



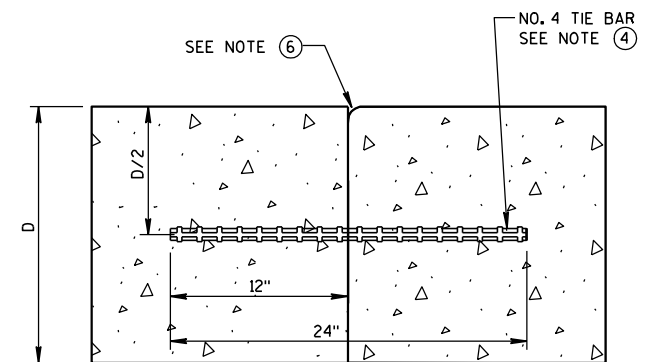
DOWELED-TRANSVERSE

CONTRACTION JOINTS

SEE NOTE ②

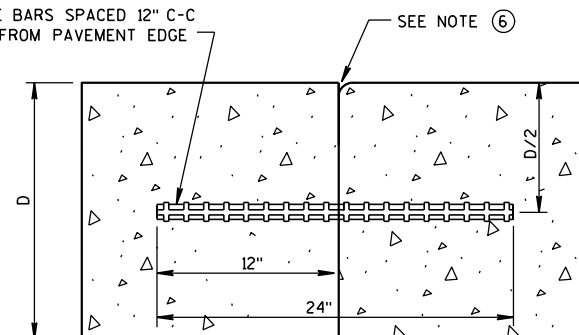


DOWELED TRANSVERSE



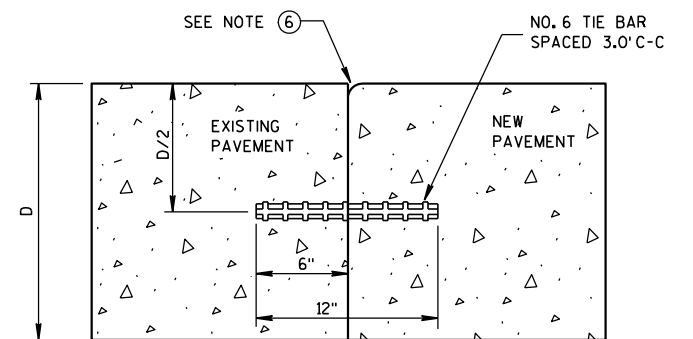
TIED LONGITUDINAL

NO. 6 TIE BARS SPACED 12" C-C
AND 12" FROM PAVEMENT EDGE



TIED TRANSVERSE

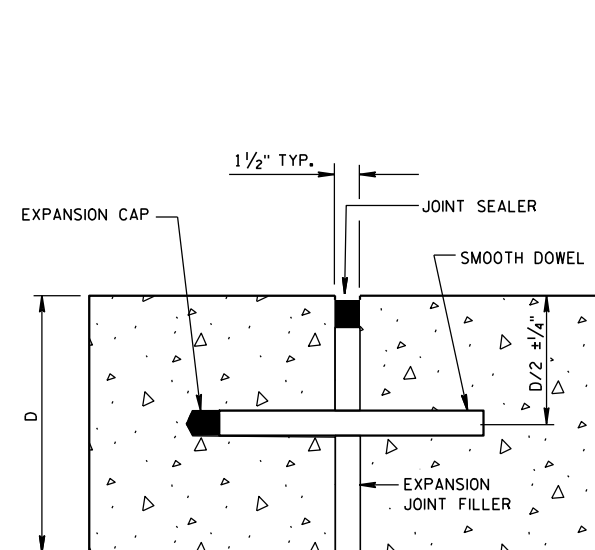
SEE NOTE ③



TIED LONGITUDINAL TO EXISTING

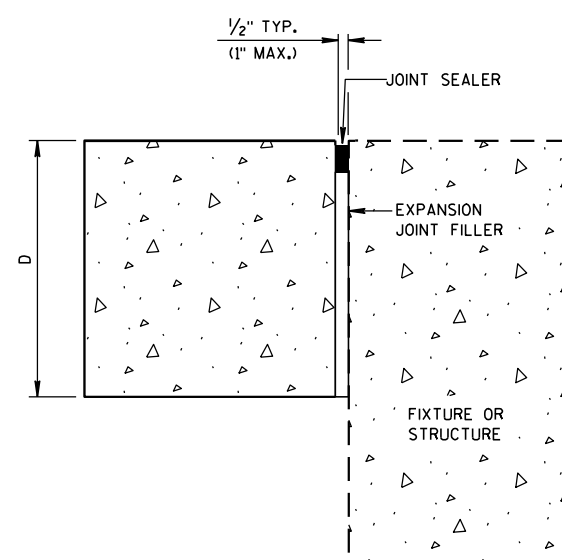
CONSTRUCTION JOINTS

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 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 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

GENERAL NOTES

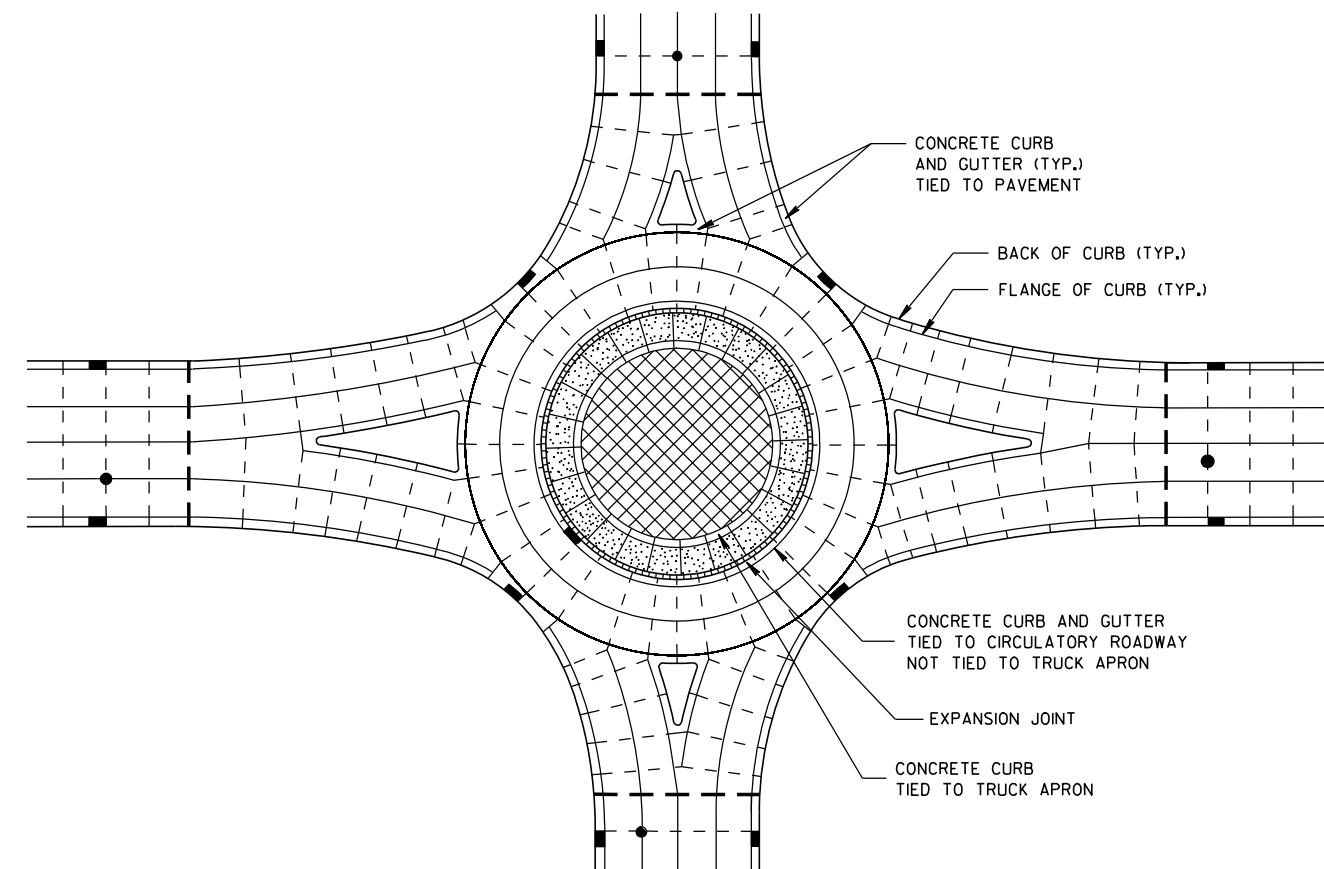
MAXIMUM JOINT SPACING IS IN ACCORDANCE WITH THE TABLE SHOWN ON SDD 13C18-1a.

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

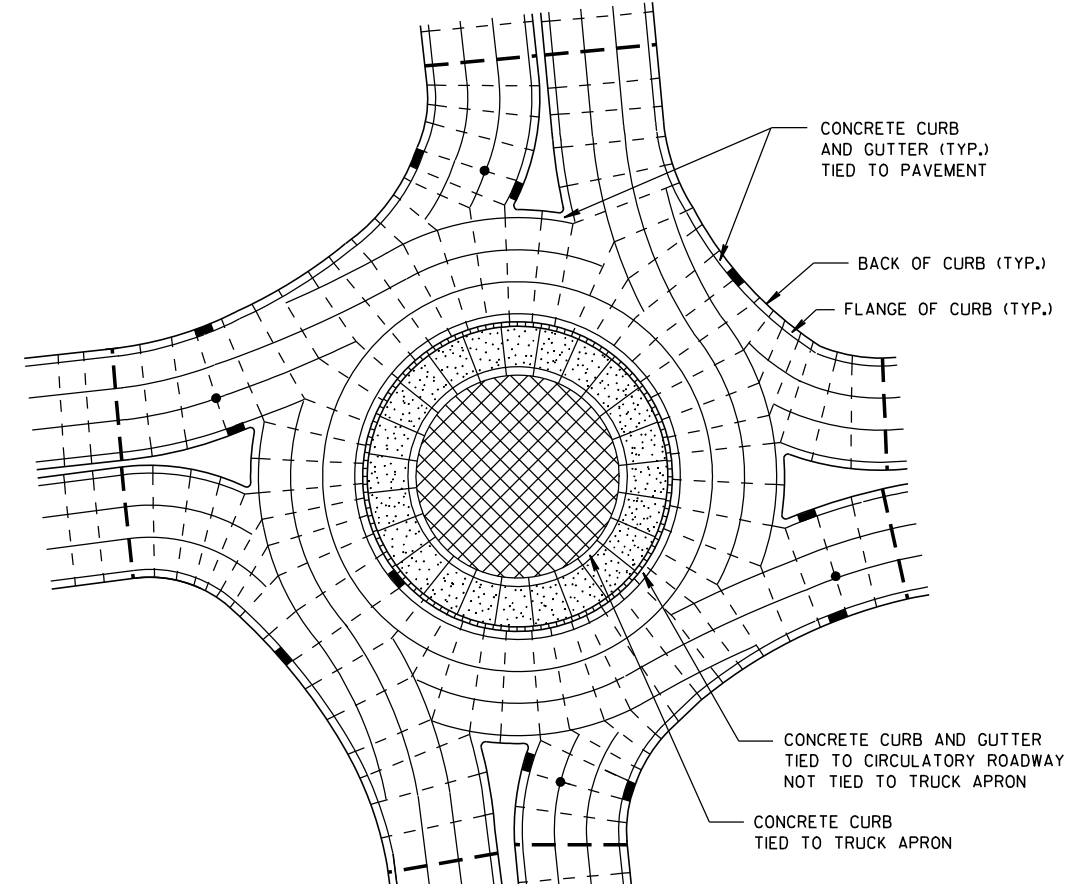
DO NOT DOWEL OR TIE THE TRUCK APRON TRANSVERSE JOINTS.

LEGEND

- — DOWELED JOINT
- TIED JOINT
- ▤ EXPANSION JOINT
- — POTENTIAL DOWELED EXPANSION JOINT
- ▤ TRUCK APRON
- ▤ CENTRAL ISLAND
- • UTILITY STRUCTURES



ISOLATED CIRCLE JOINT LAYOUT FOR ROUNDABOUTS



PINWHEEL JOINT LAYOUT FOR ROUNDABOUTS

CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10-5-2010

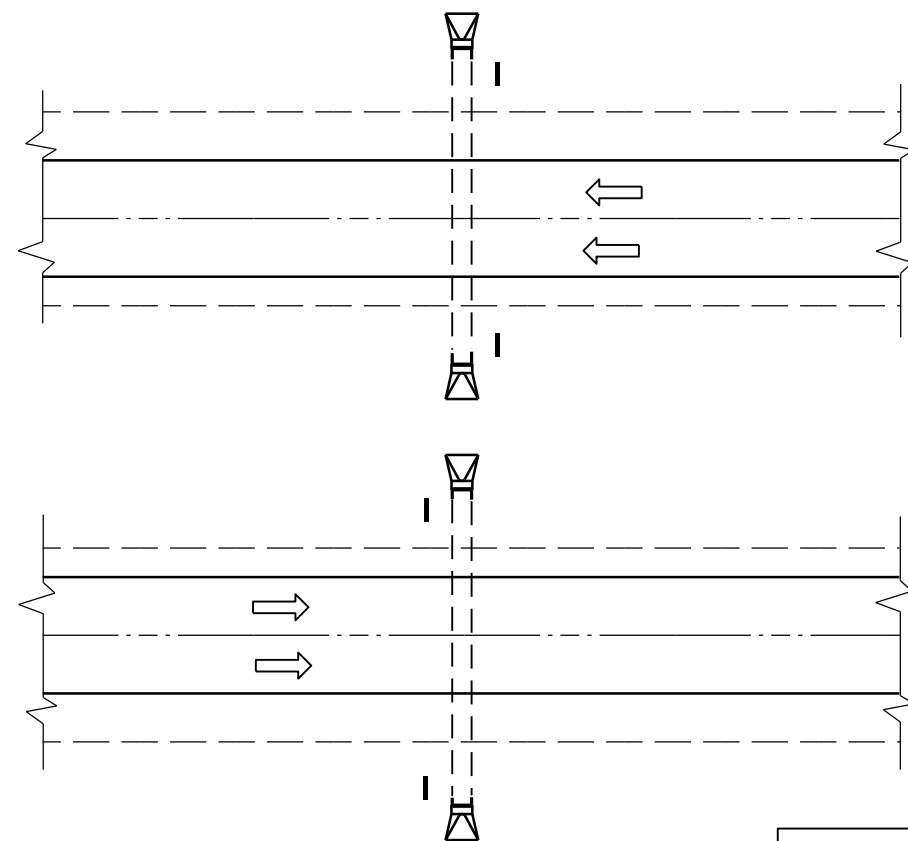
DATE

FHWA

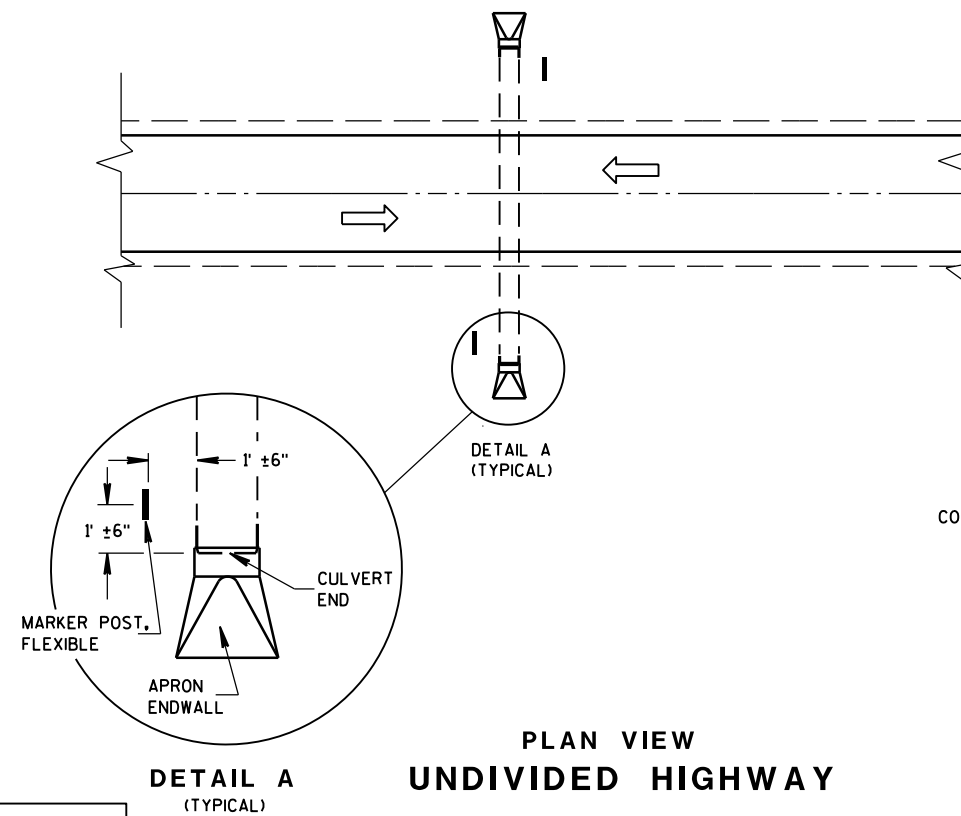
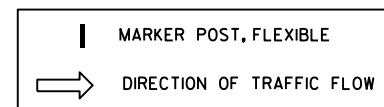
/S/ Deb Bischoff

PAVEMENT POLICY & Di 131

INEER



PLAN VIEW
DIVIDED HIGHWAY

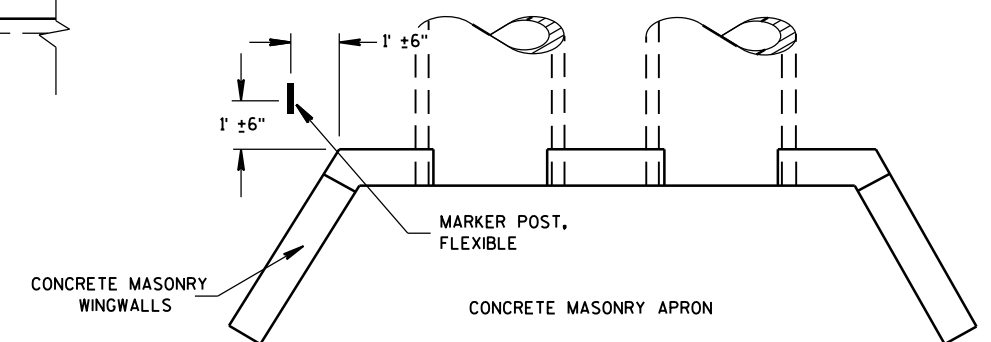


PLAN VIEW
UNDIVIDED HIGHWAY

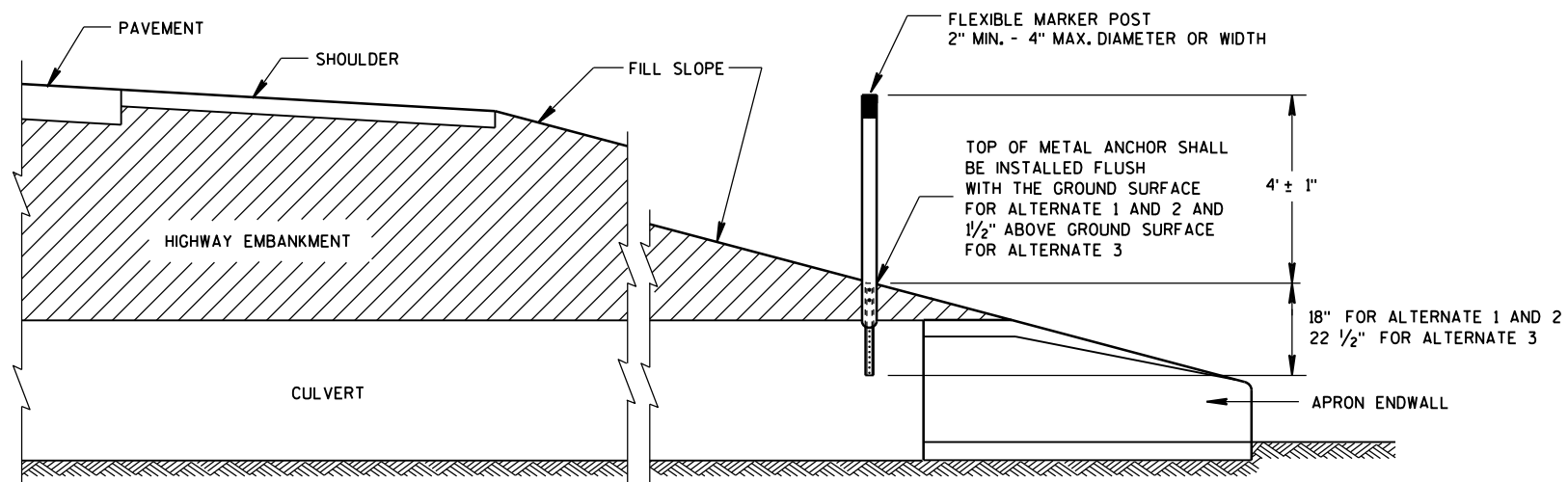
FLEXIBLE MARKER POST LOCATION

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.



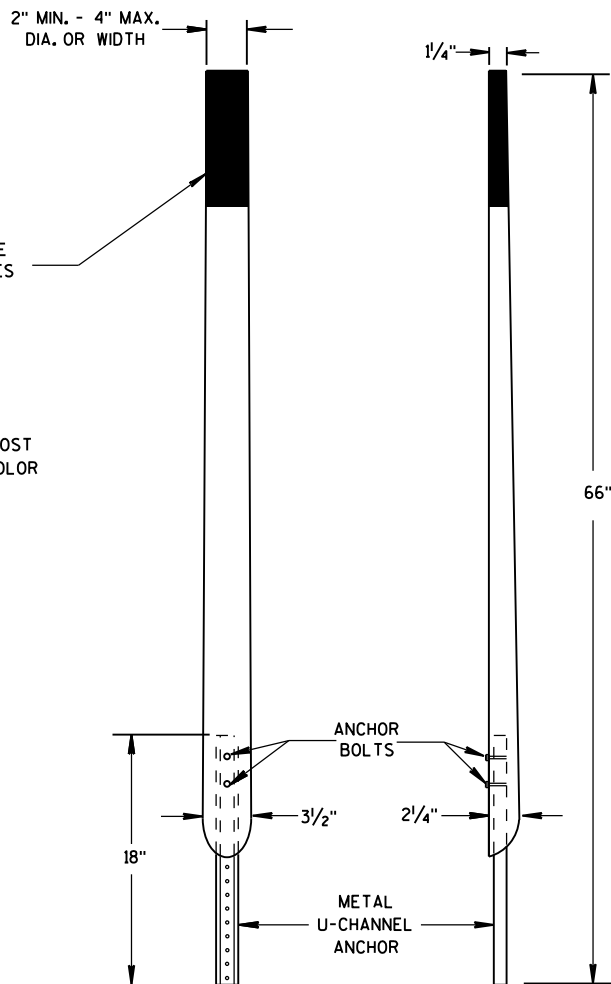
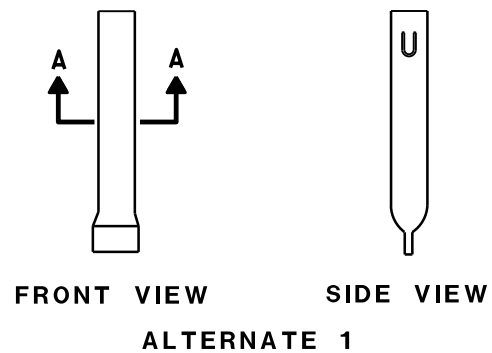
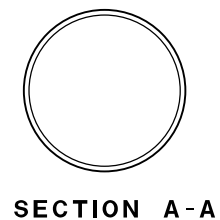
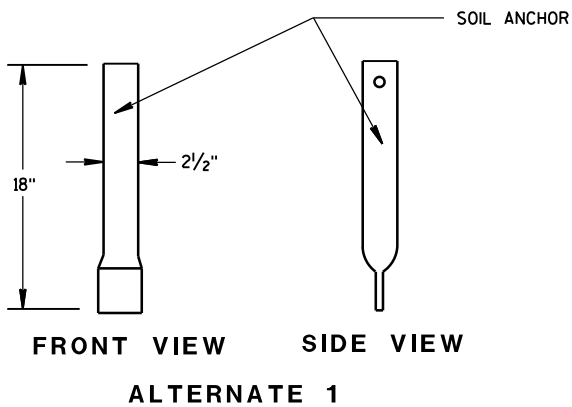
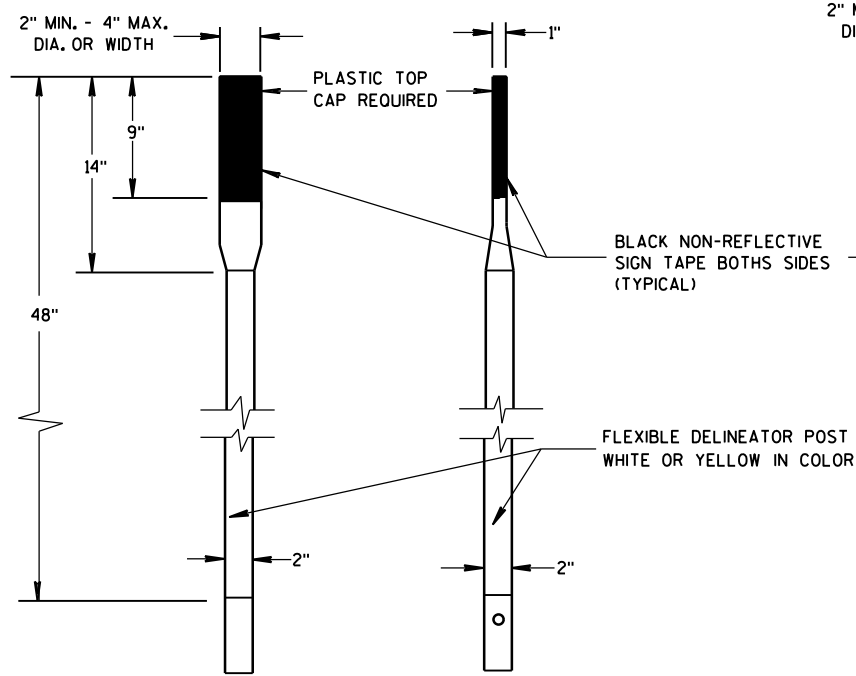
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



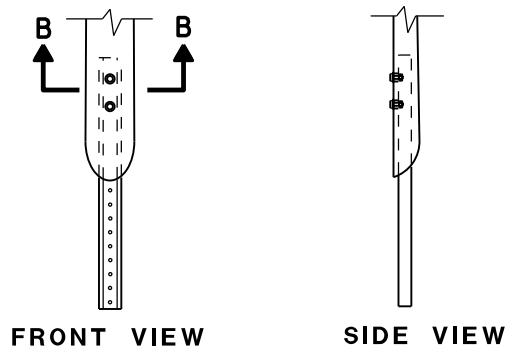
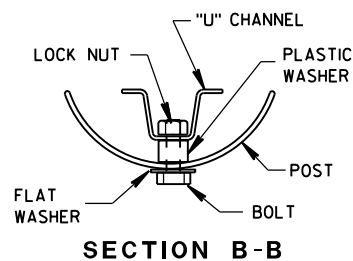
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

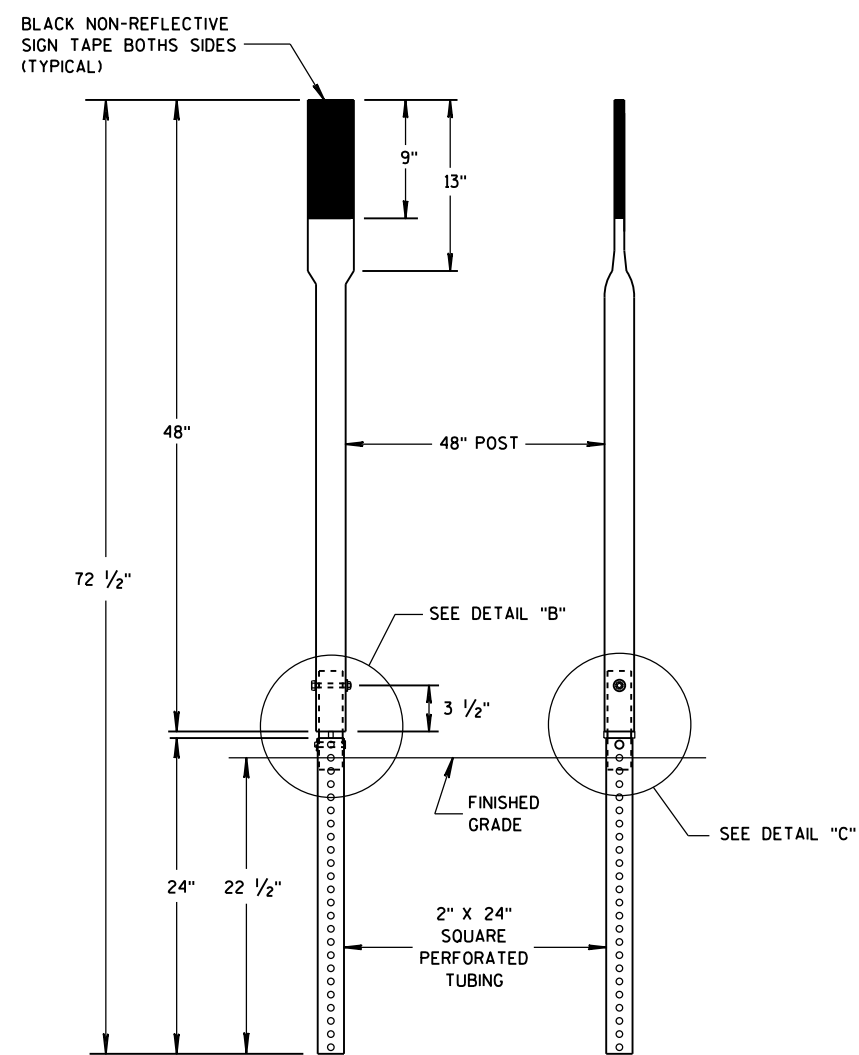
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 132



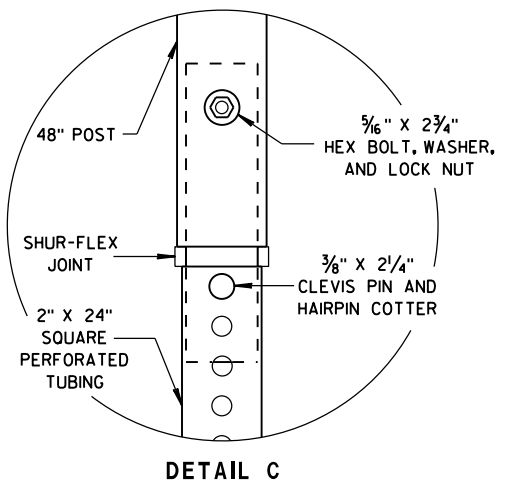
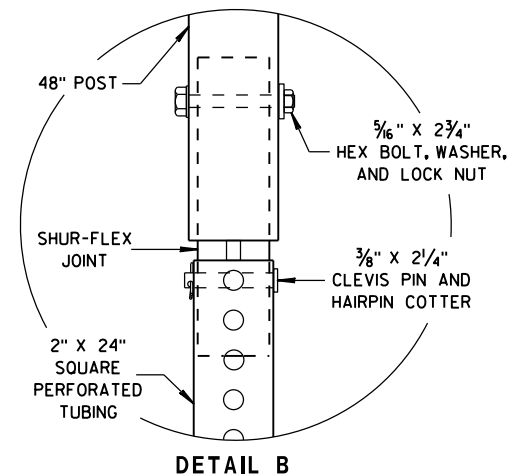
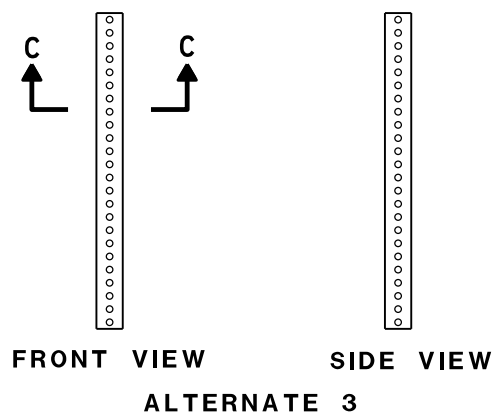
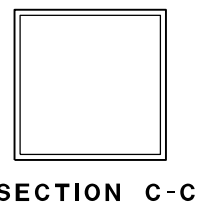
FRONT VIEW SIDE VIEW
ALTERNATE 2
FLEXIBLE MARKER POSTS



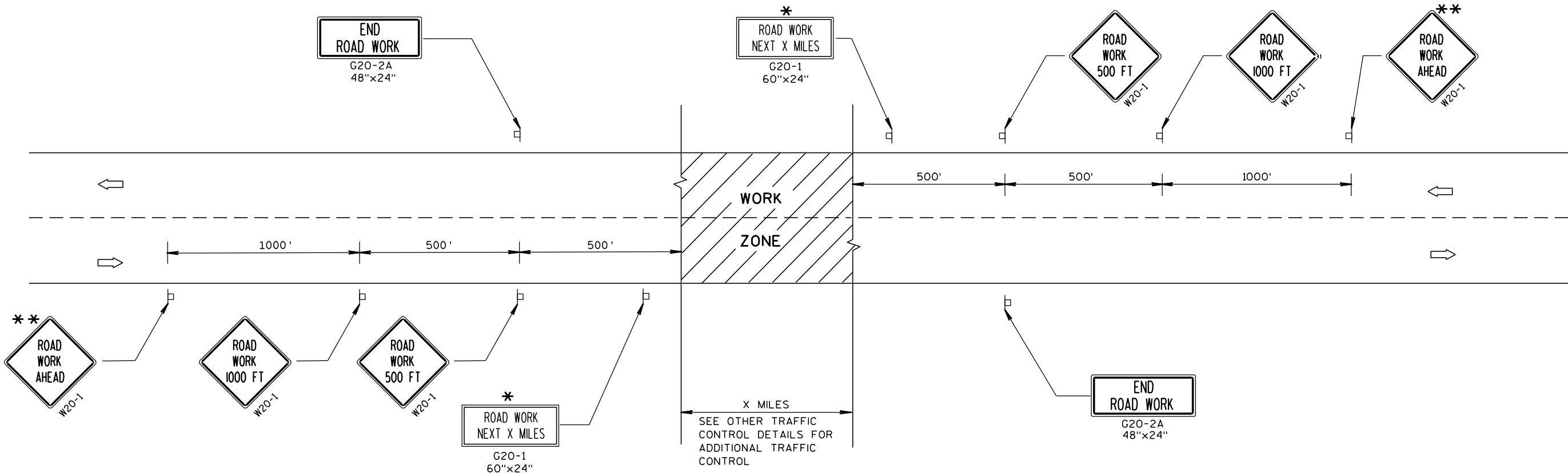
FRONT VIEW SIDE VIEW
ALTERNATE 2
FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW
ALTERNATE 3



FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 133 IGN
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.

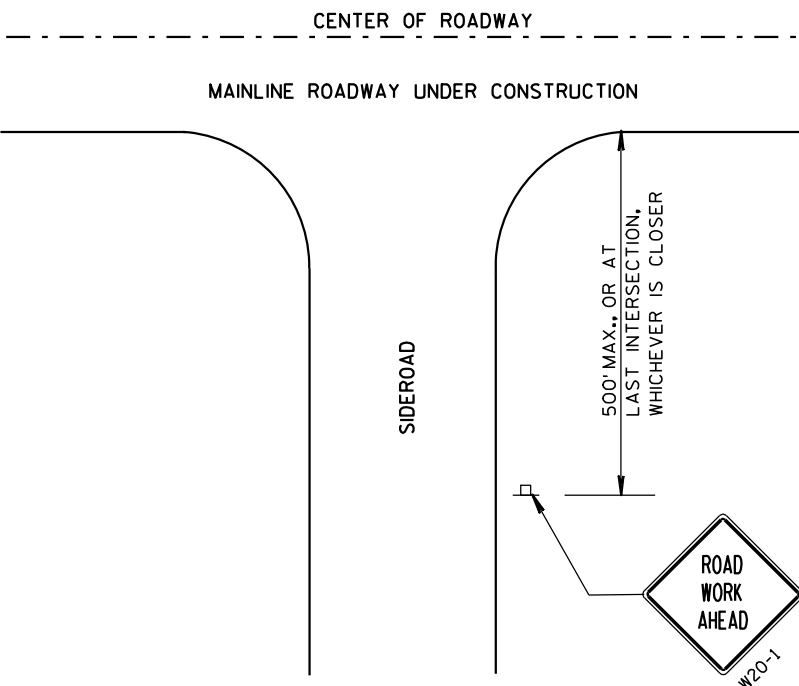
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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 OR SIGNING.



LEGEND

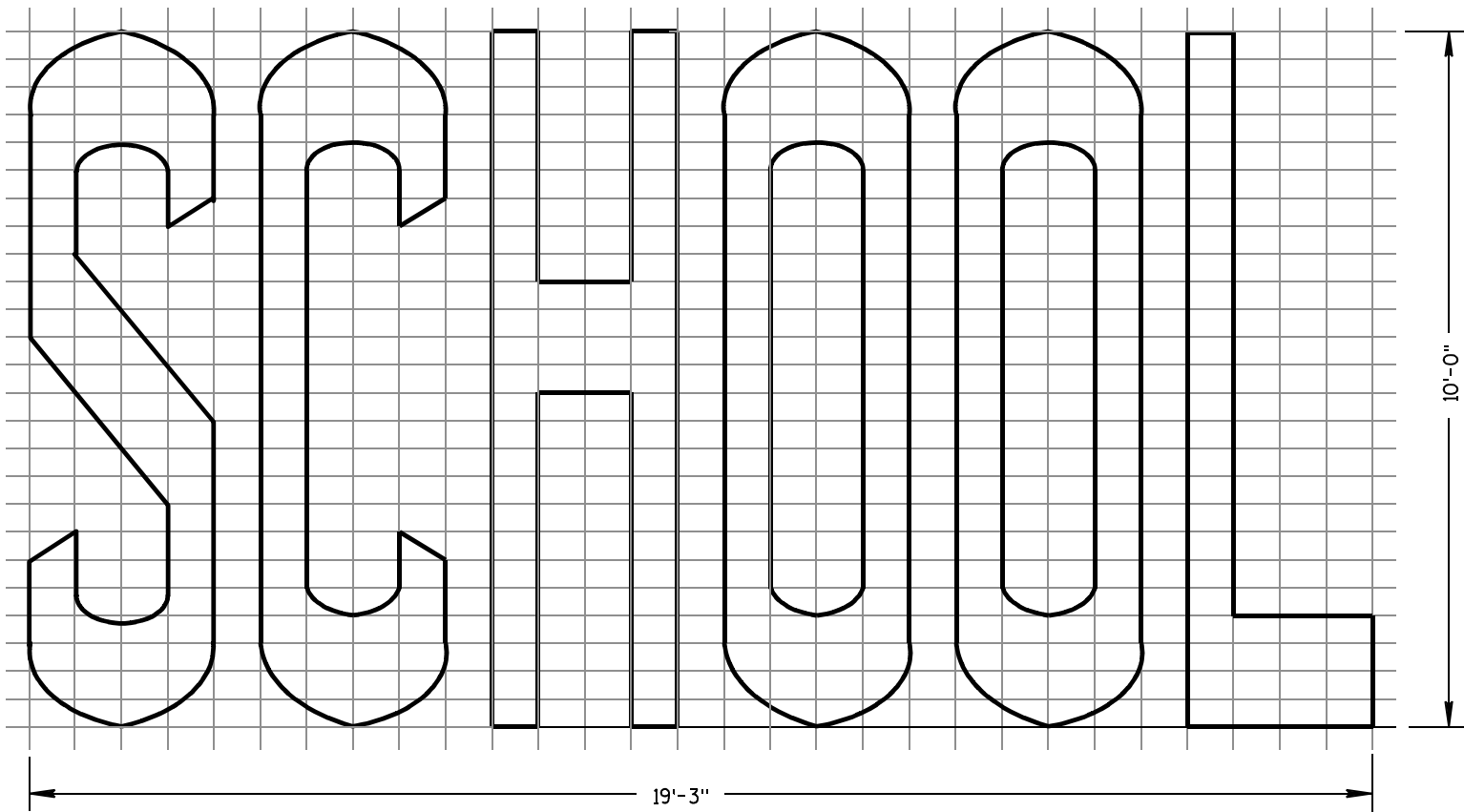
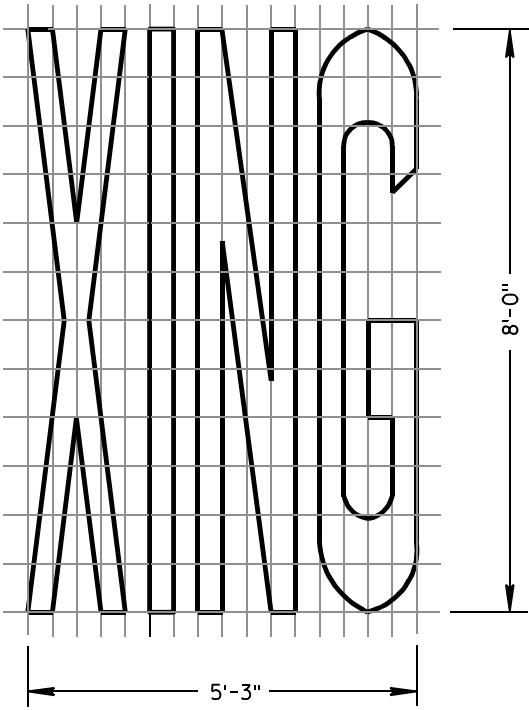
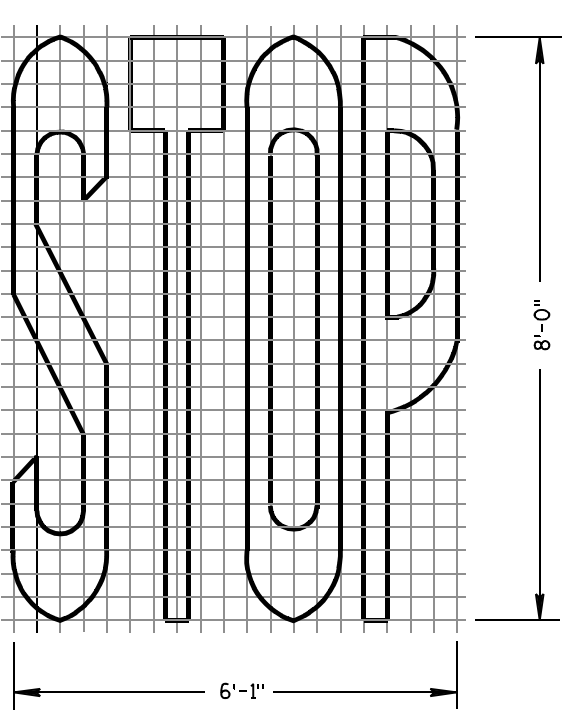
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

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	5/23/00	/S/ Chester J. Neer	
DATE		CHIEF SIGNS AND MARKING	134
FHWA			

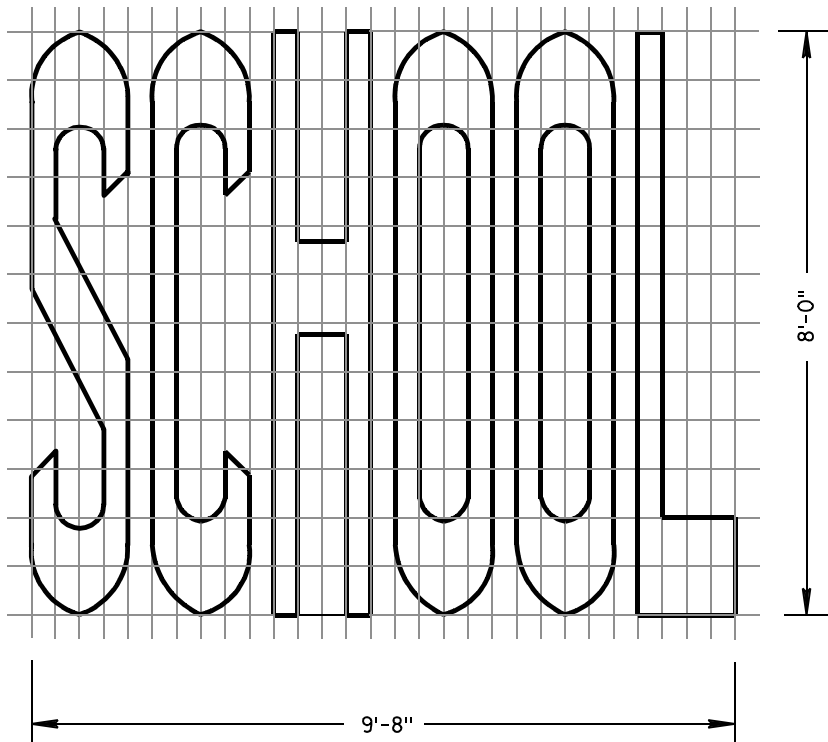
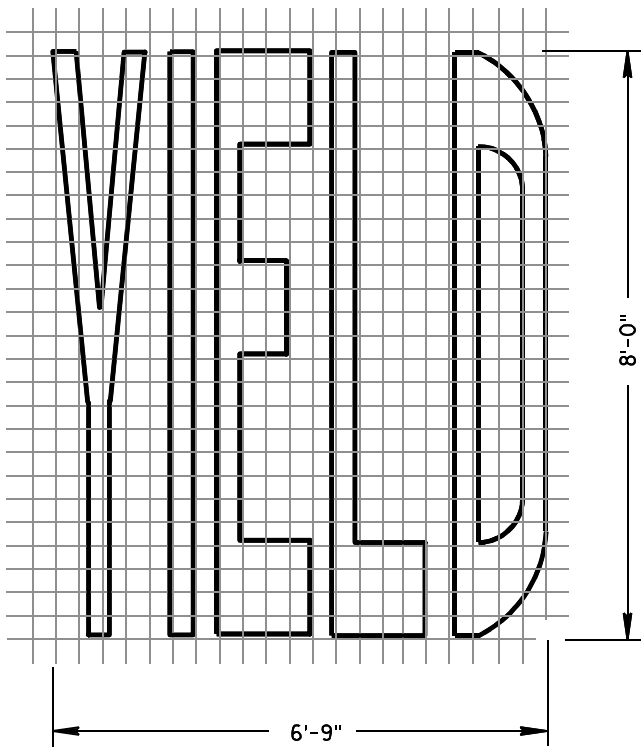
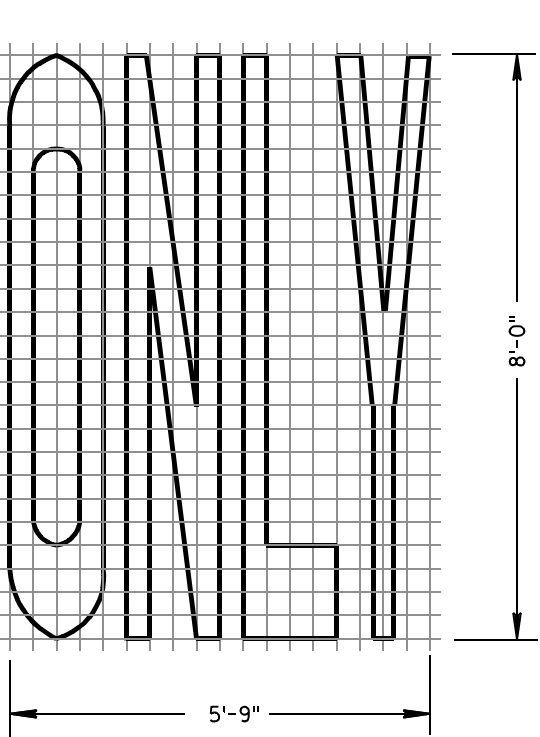
GENERAL NOTES

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.

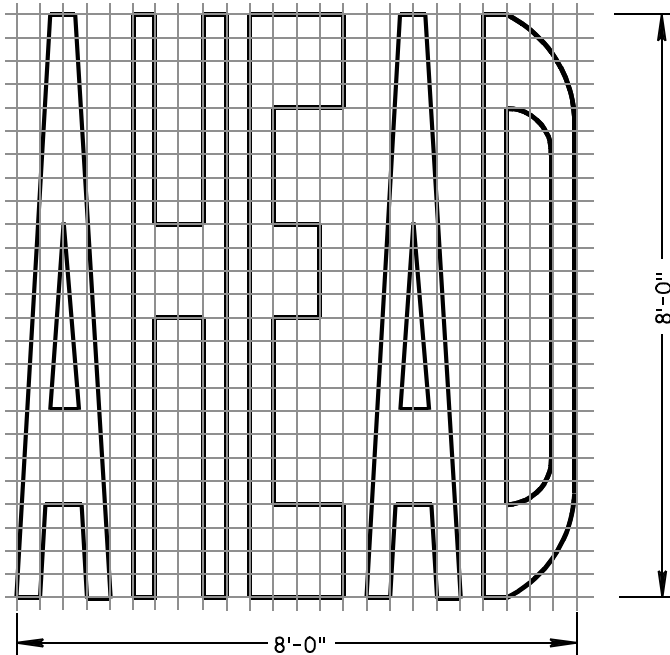
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

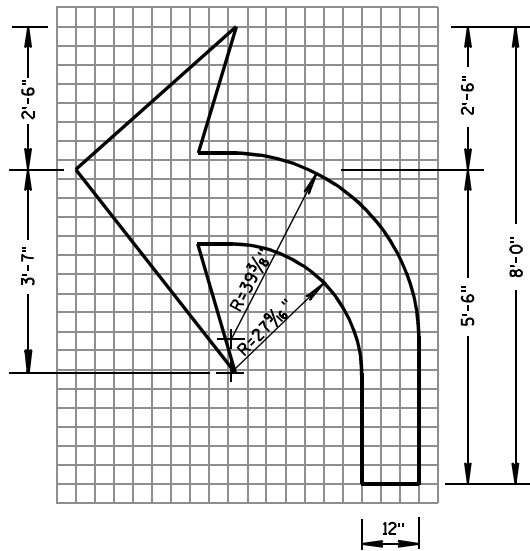
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

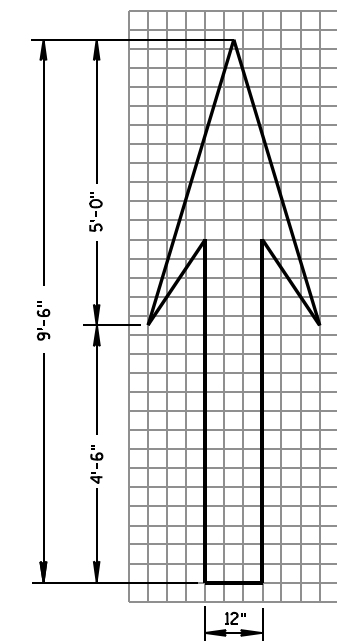
7-1-11
DATE

/S/ Thomas N. Nothmann
STATE TRAFFIC ENGINEER 135 IGN

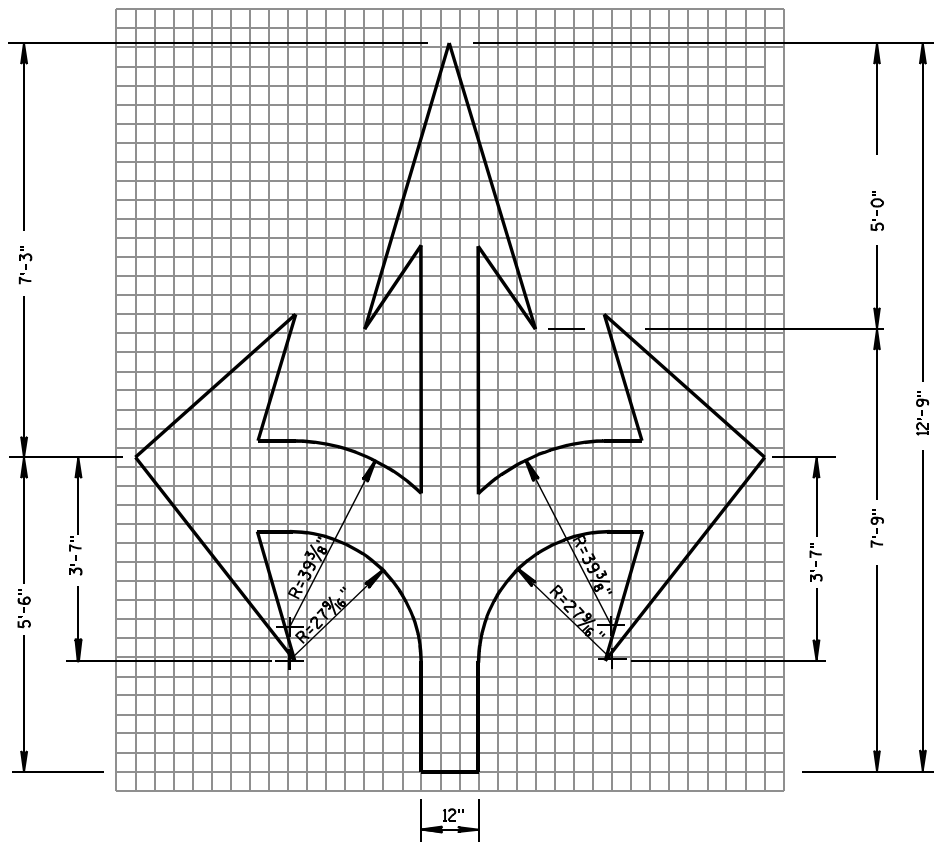
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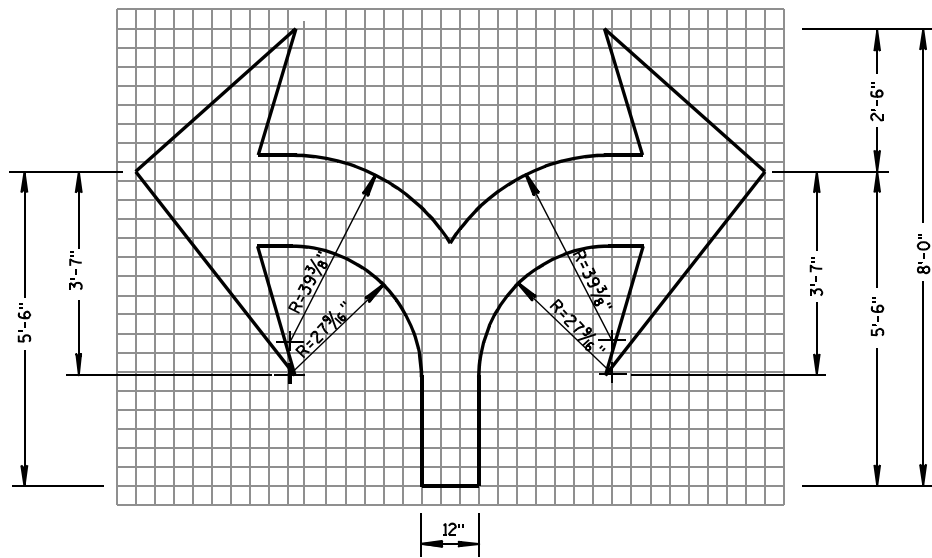
TYPE 2



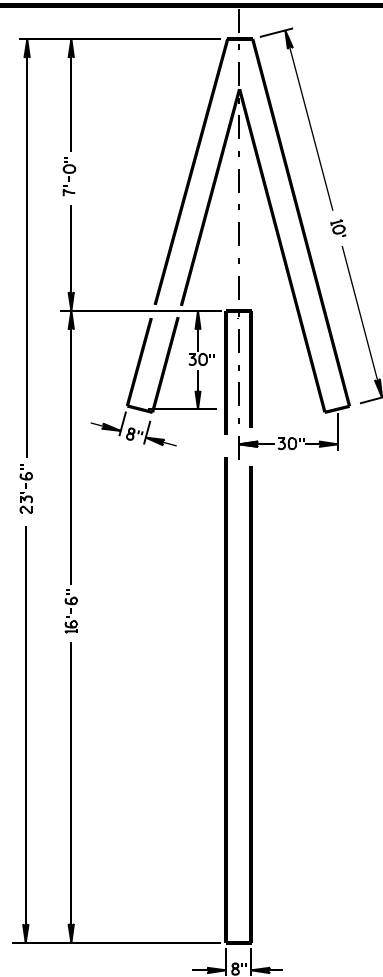
TYPE 1



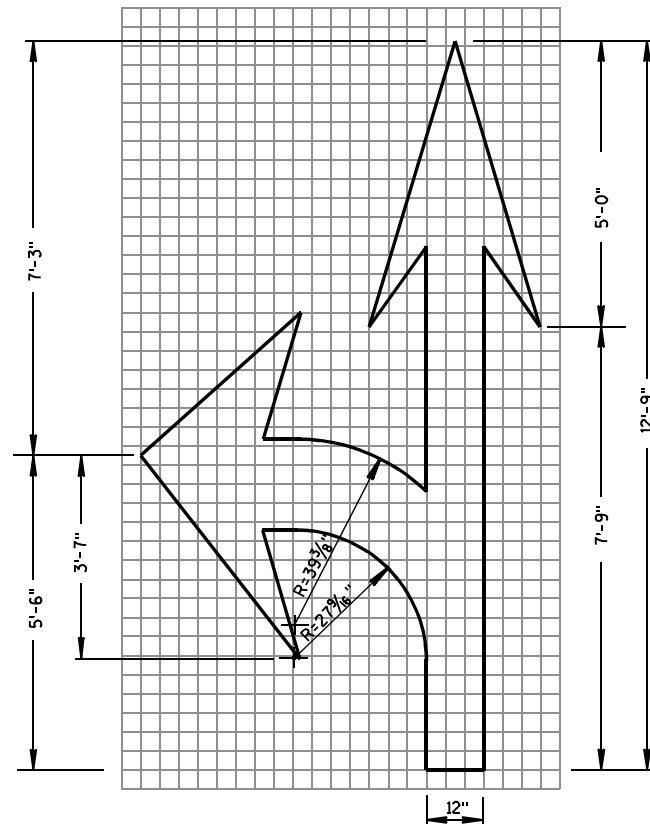
TYPE 6



TYPE 7



TYPE 4

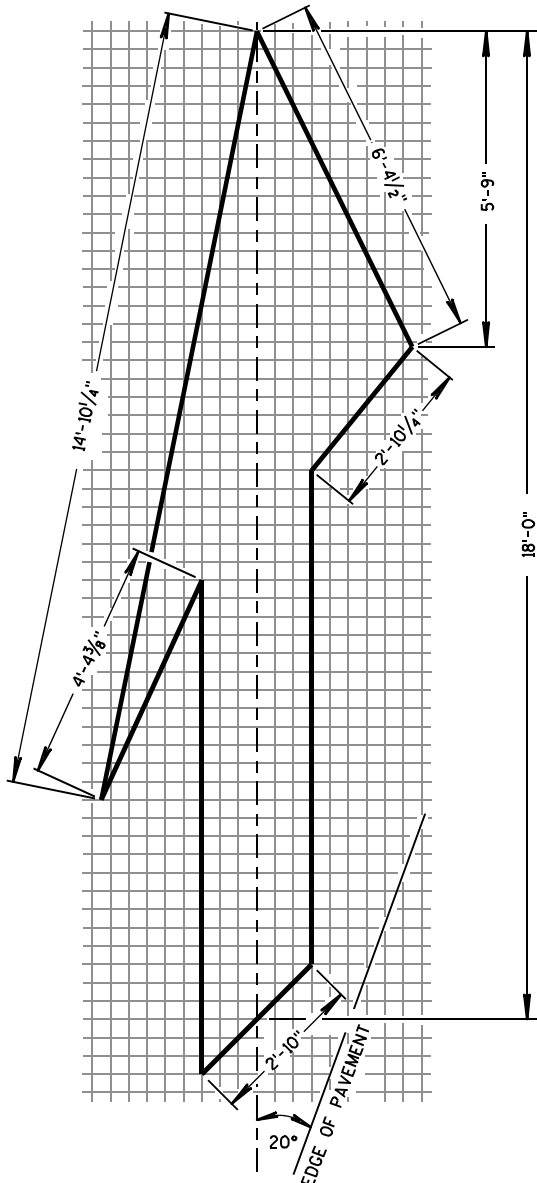


TYPE 3

GENERAL NOTES

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

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

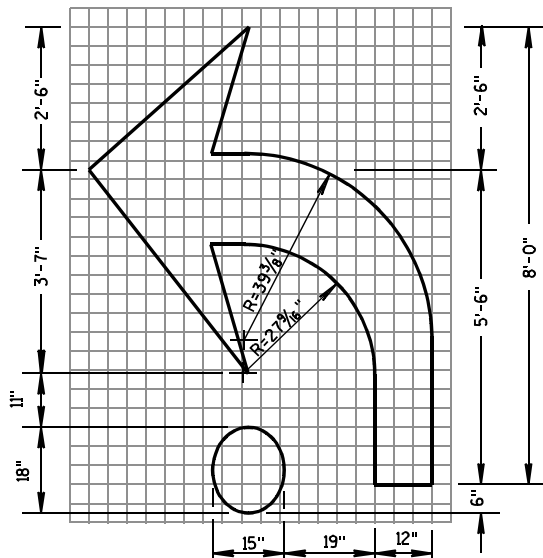


TYPE 5 LANE DROP ARROW

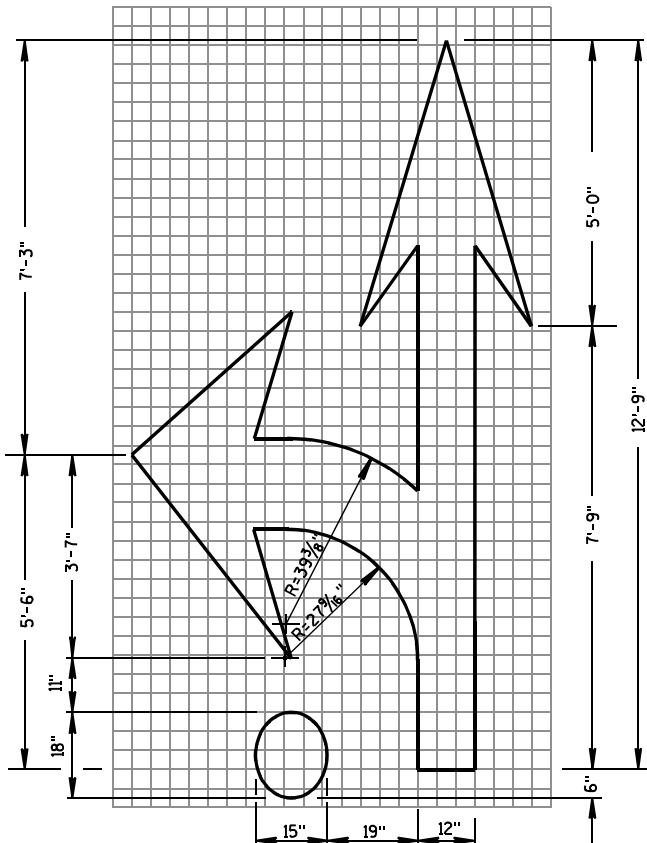
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

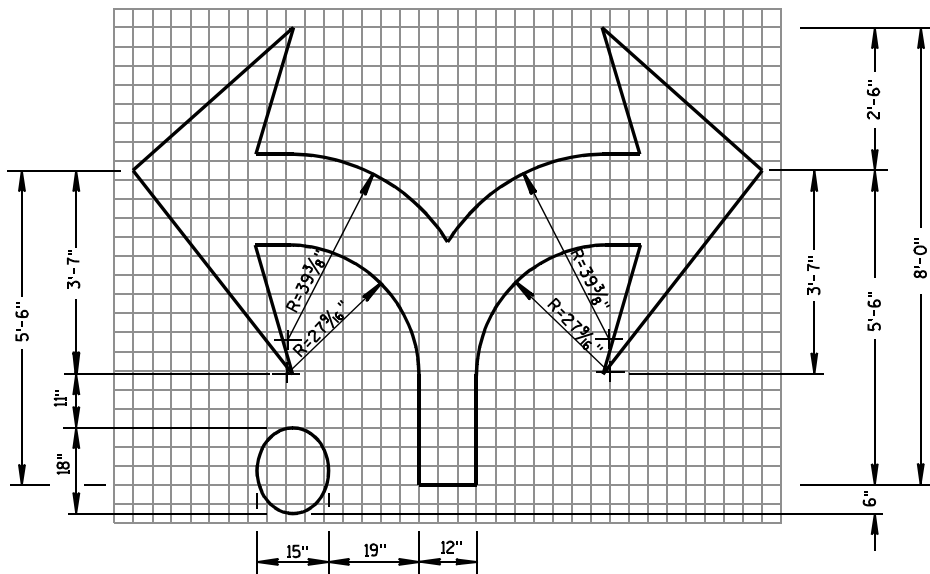
APPROVED
DATE 7/1/11 /S/ Thomas N. Nathahn
STATE TRAFFIC ENGINEER 136 SIGN
FHWA



TYPE 2R



TYPE 3R

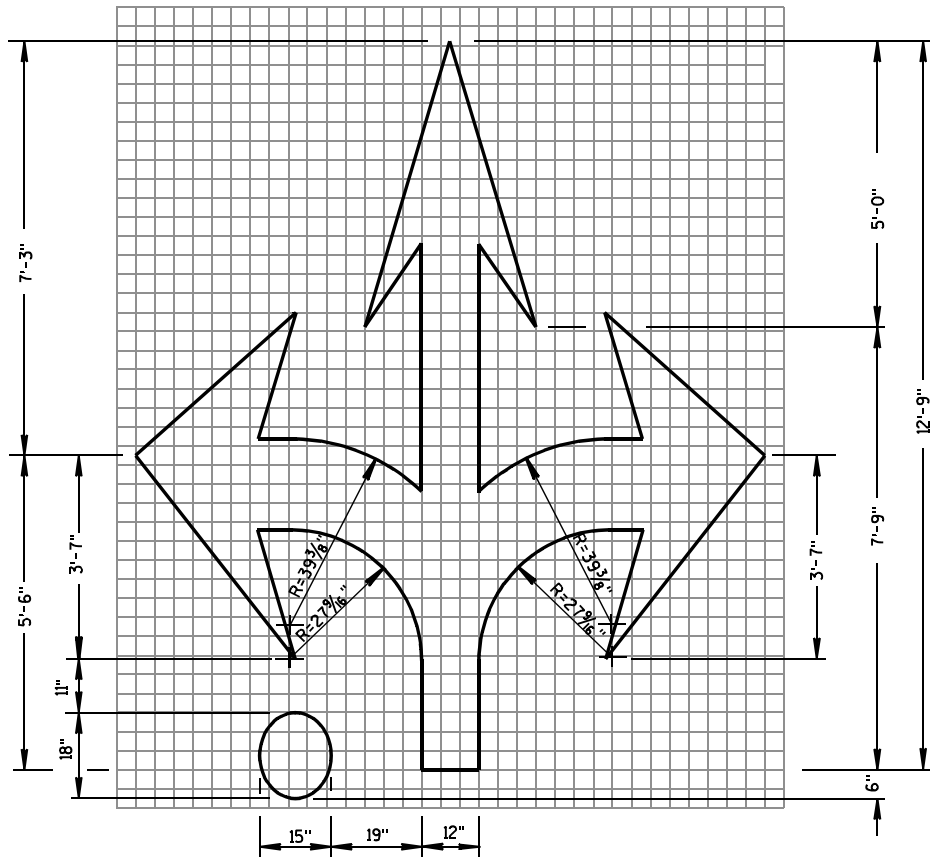


TYPE 7R

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 6R

ROUNDABOUT ARROWS

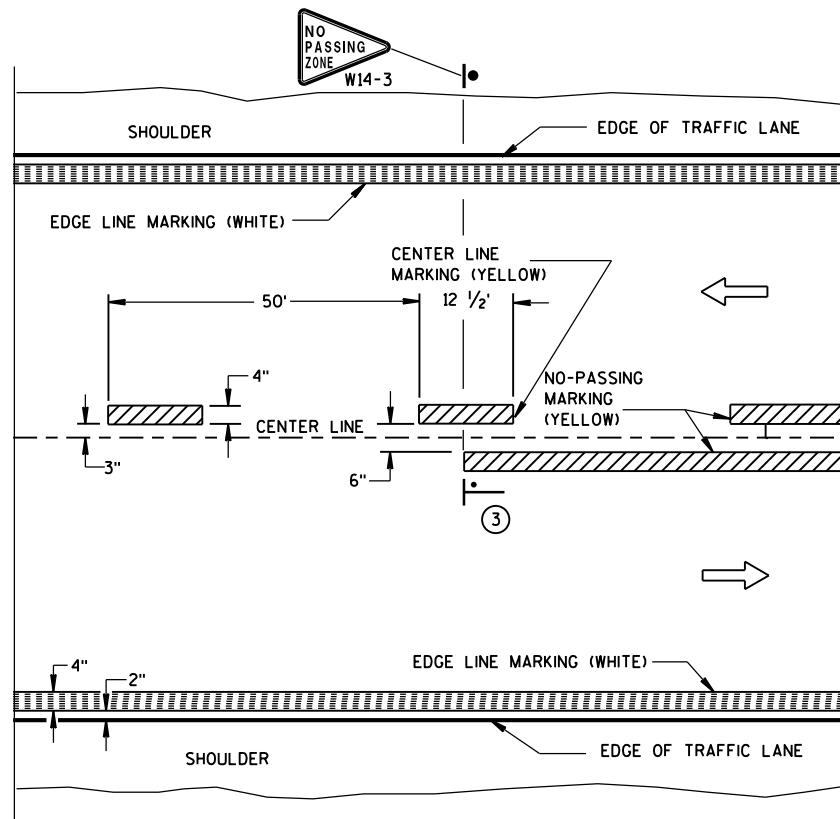
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

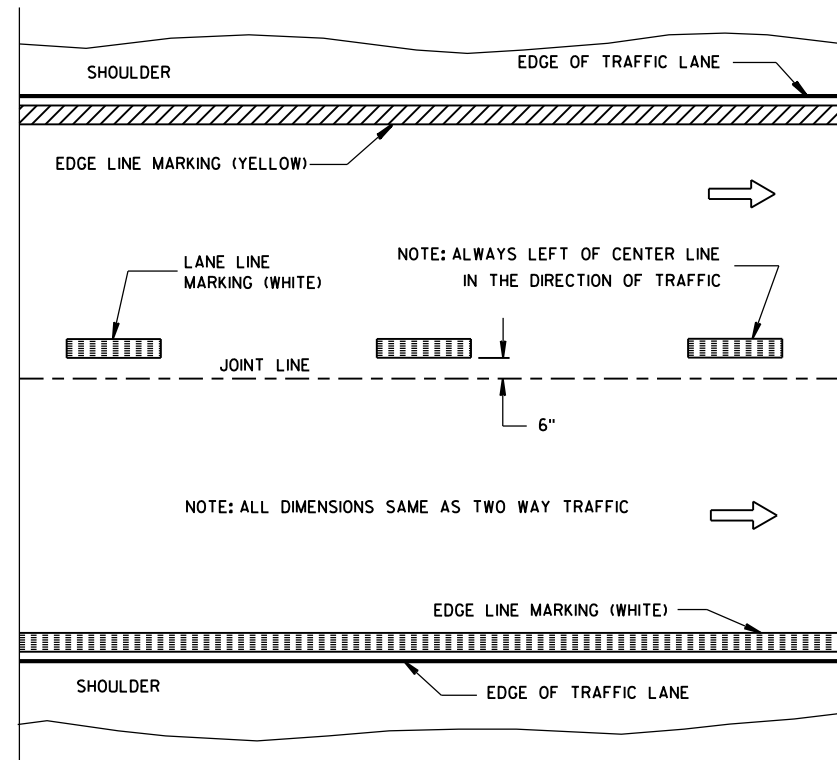
7/1/11
DATE

/S/ Thomas N. Neumann
STATE TRAFFIC ENGINE 137 SIGN

FHWA

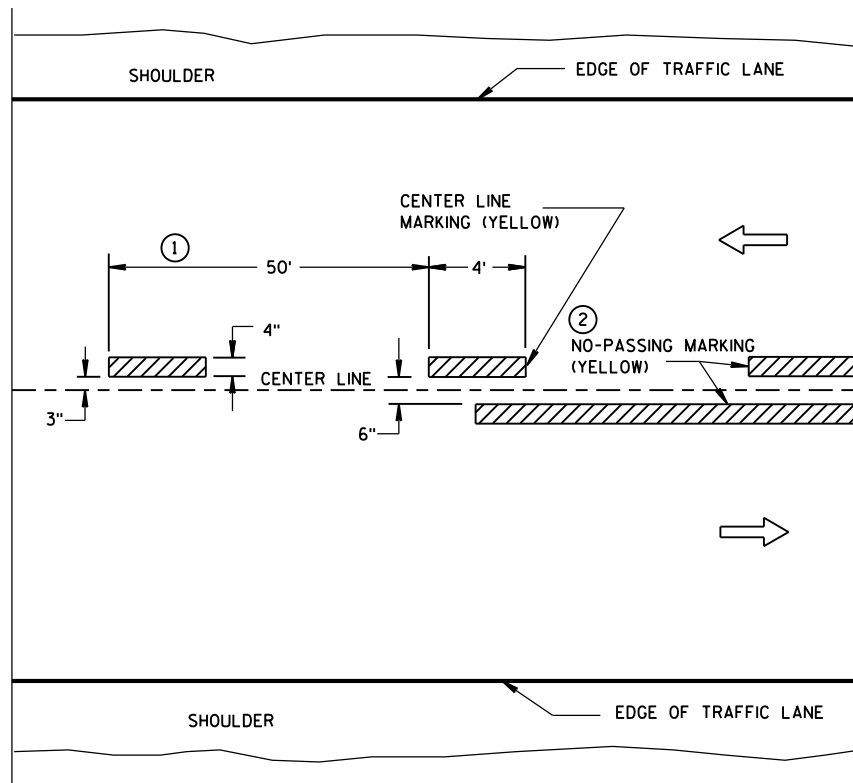


TWO WAY TRAFFIC

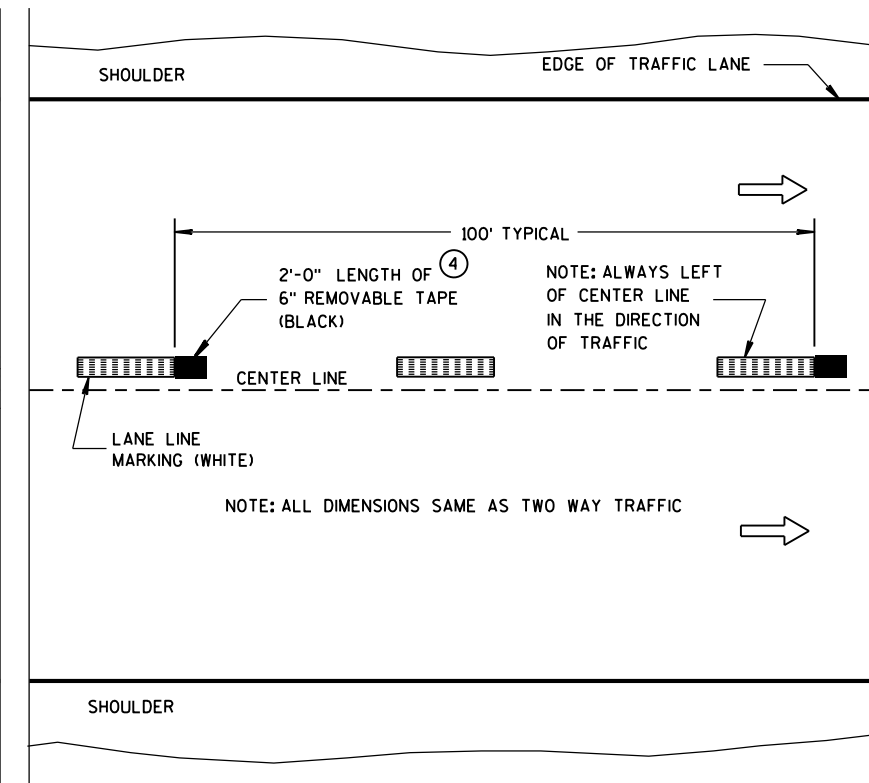


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

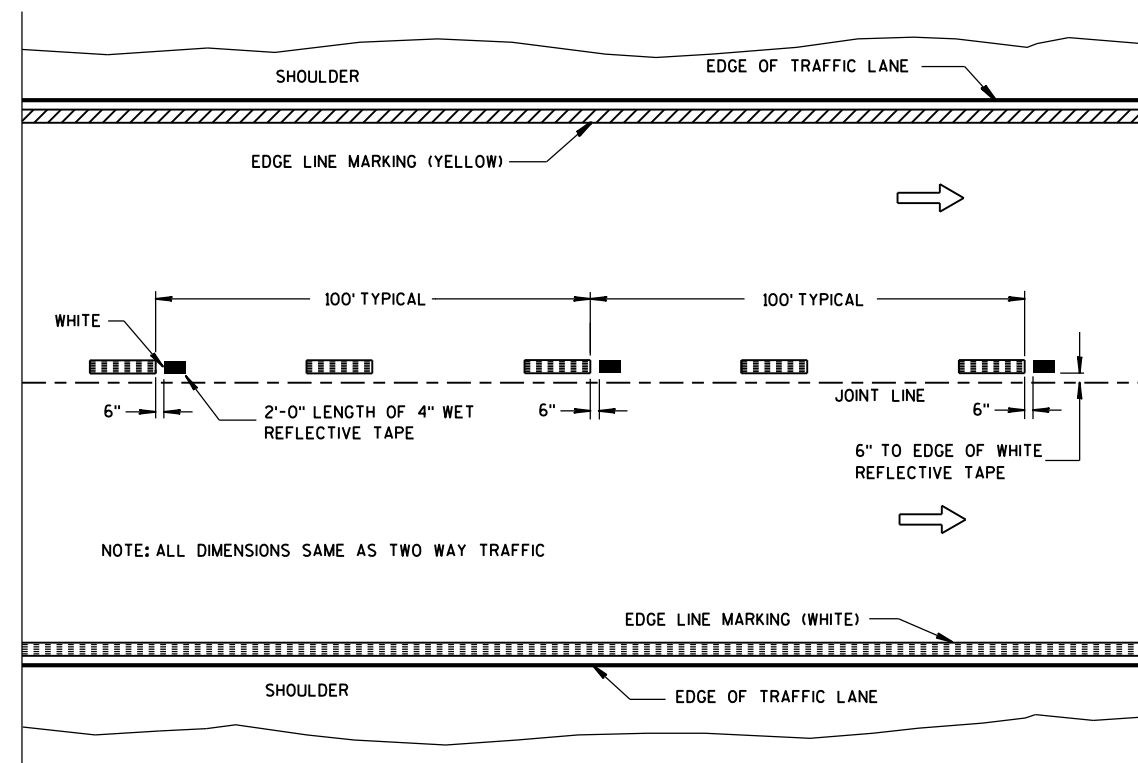
GENERAL NOTES

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**

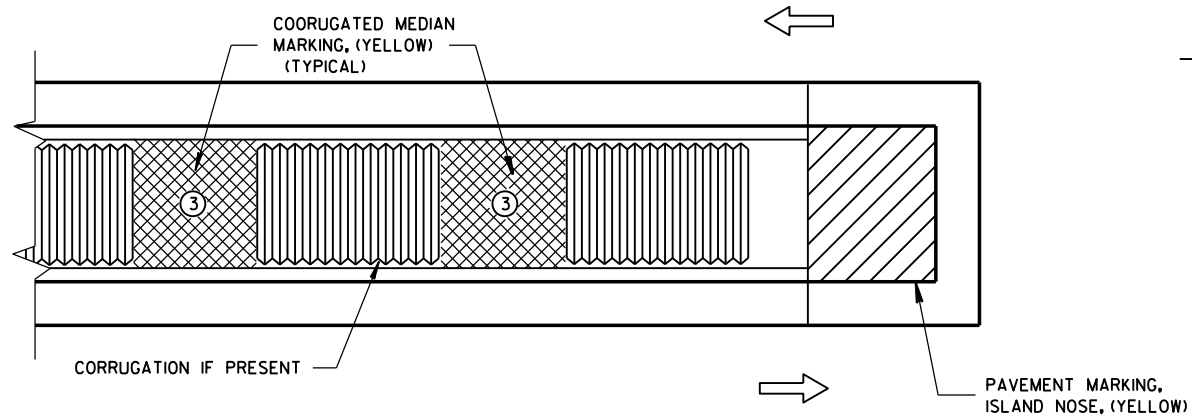
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

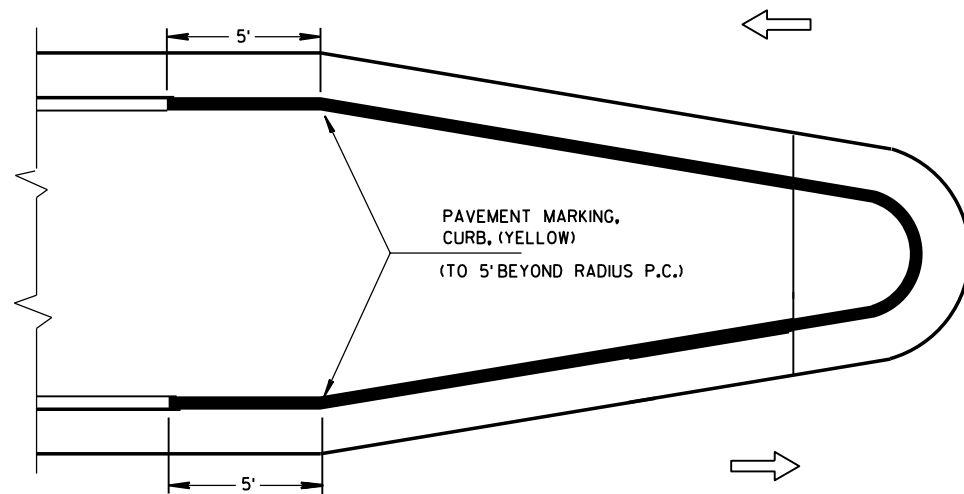
PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

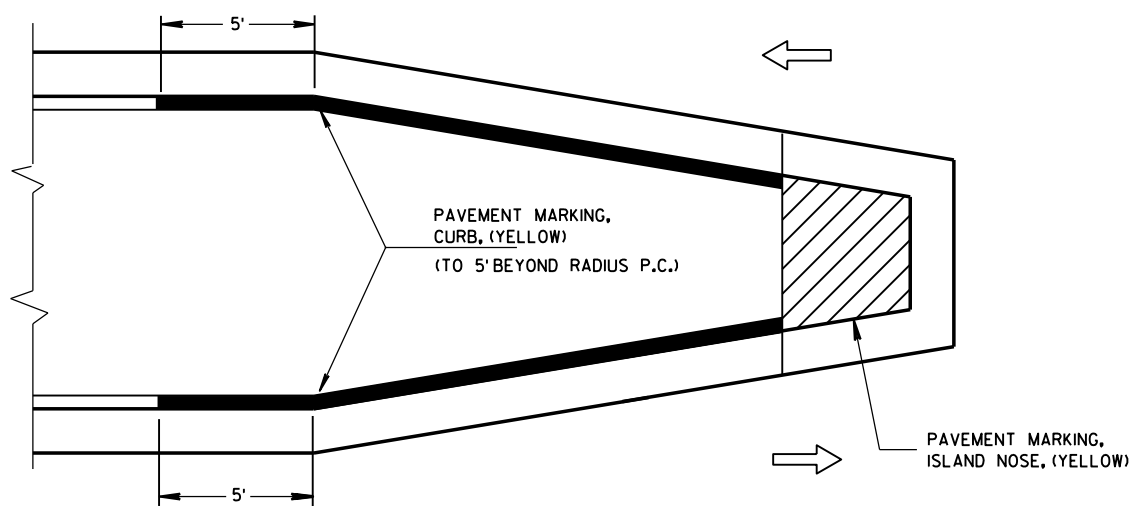
APPROVED
10-1-2012 /S/ Travis Fettes
DATE STATE TRAFFIC ENGINE 138 :SIGN
FHWA



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

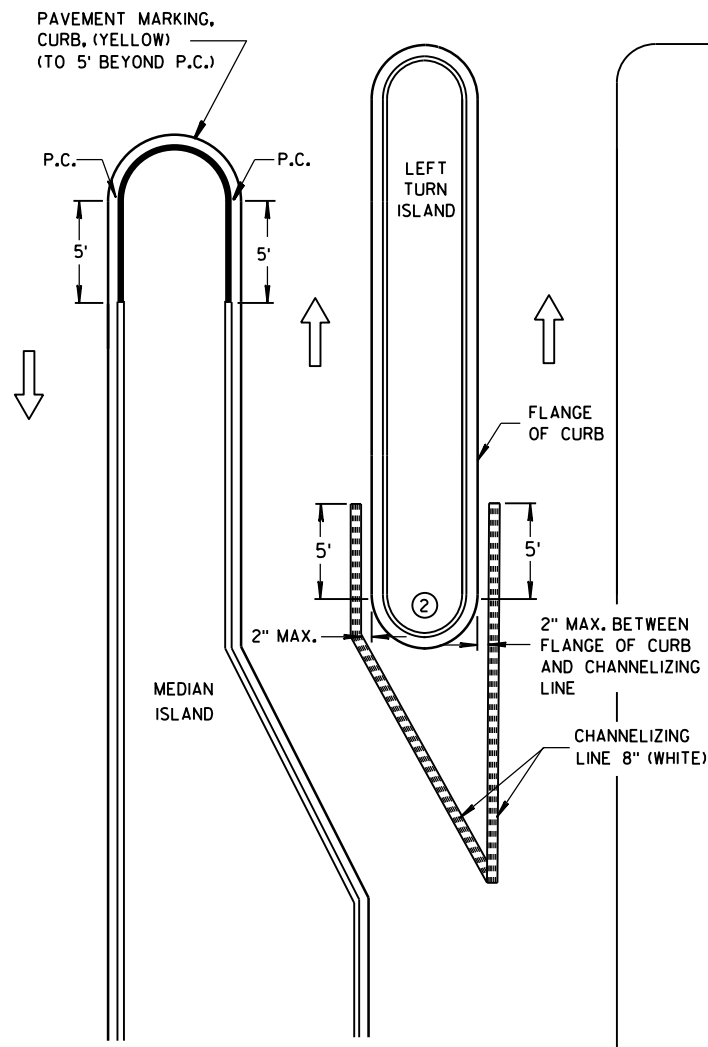


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

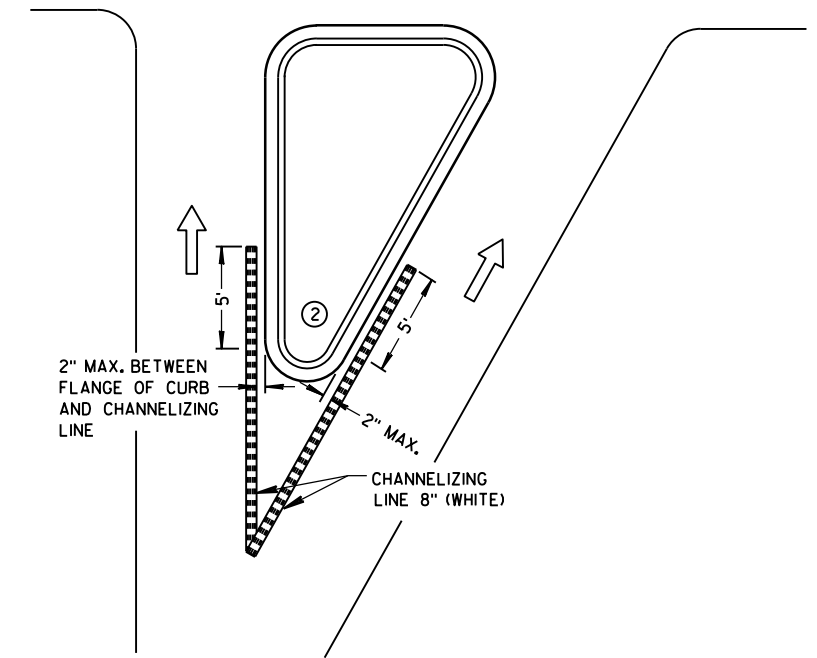
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

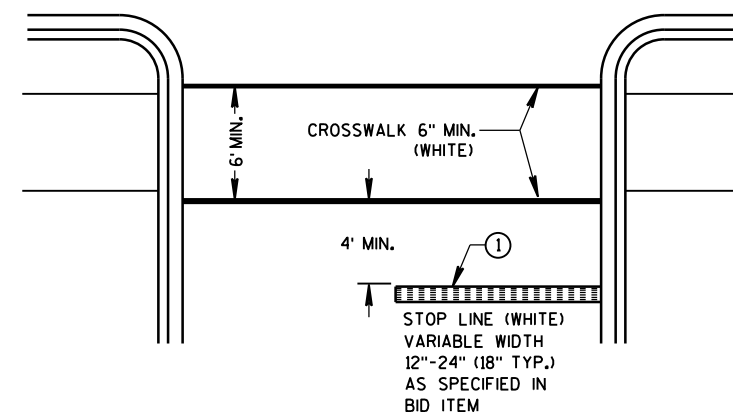
- ① STOP LINE IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- ③ WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED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



RIGHT TURN ISLAND

LEGEND

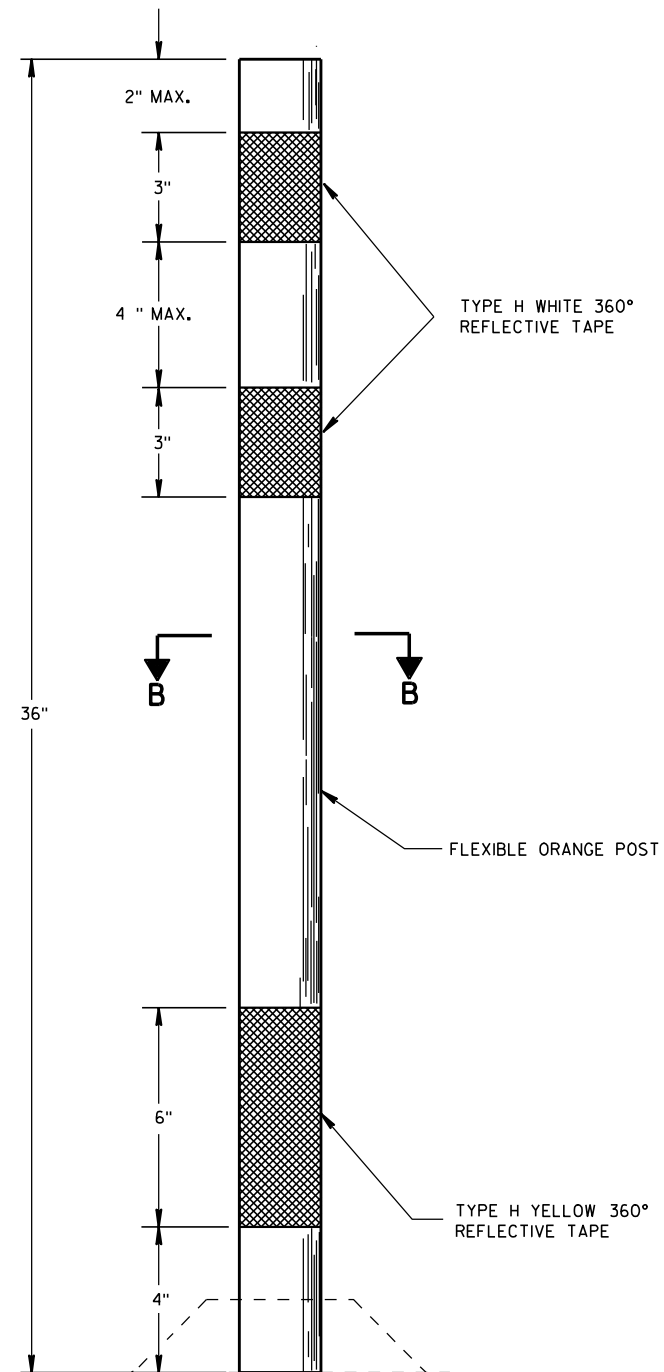
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL



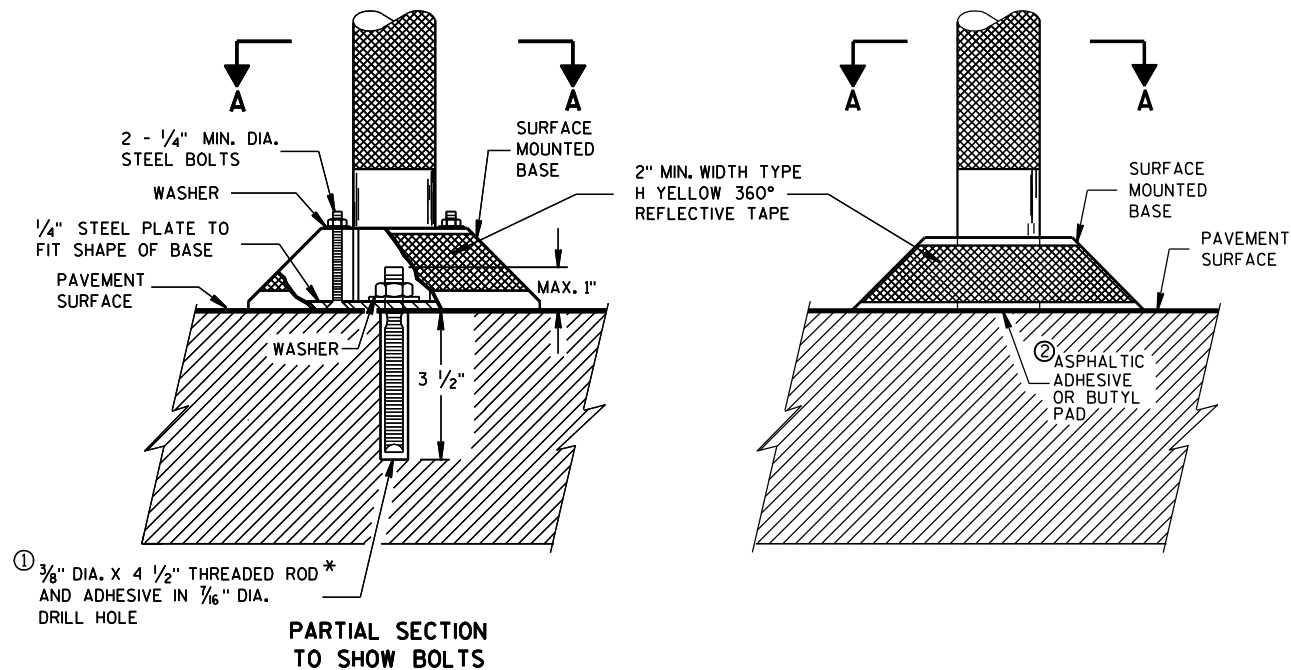
STOP LINE AND CROSSWALK

PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)

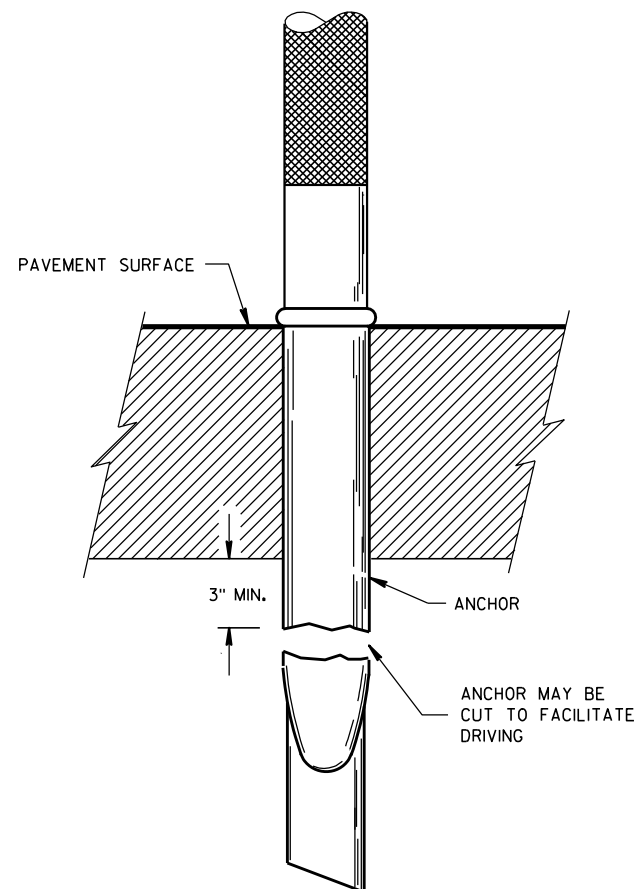
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 139



FLEXIBLE TUBULAR MARKER POST

PARTIAL SECTION
TO SHOW BOLTS

POST BASES ON NEW OR EXISTING PAVEMENT



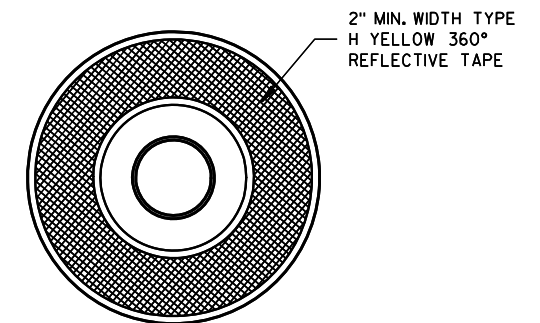
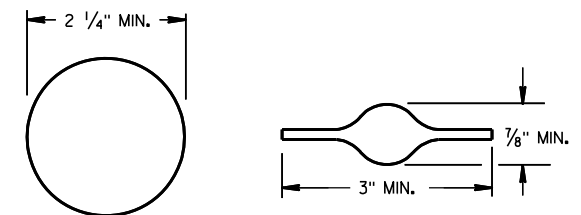
POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

- ① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.
- ② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

SECTION A-A
SURFACE MOUNTED BASESECTION B-B
ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER
POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

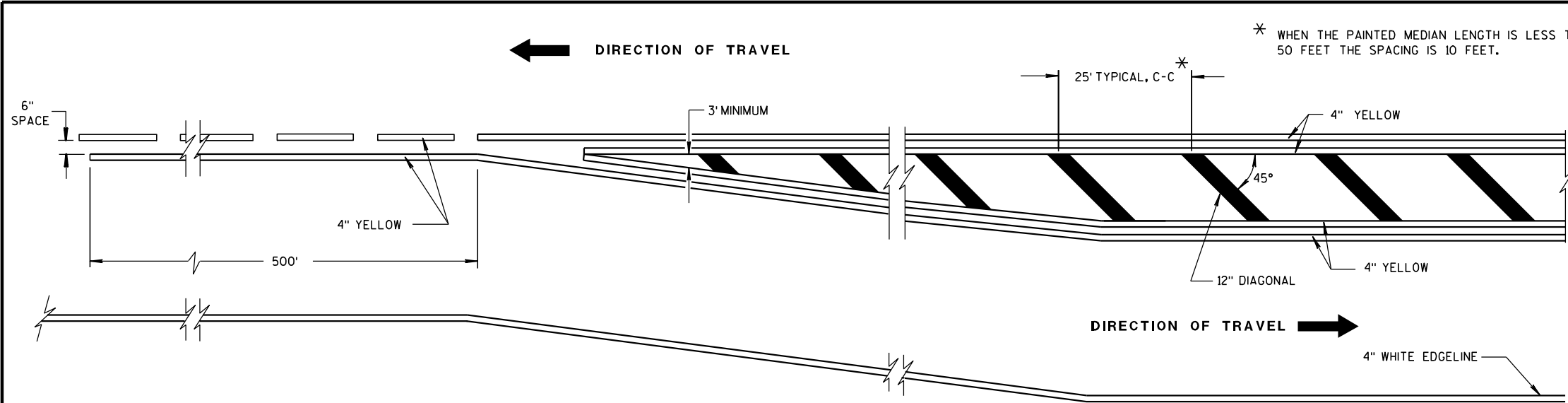
2/17/94
DATE

FHWA

/S/ Chester J. ...
DIRECTOR, OFFICE OF 140

6

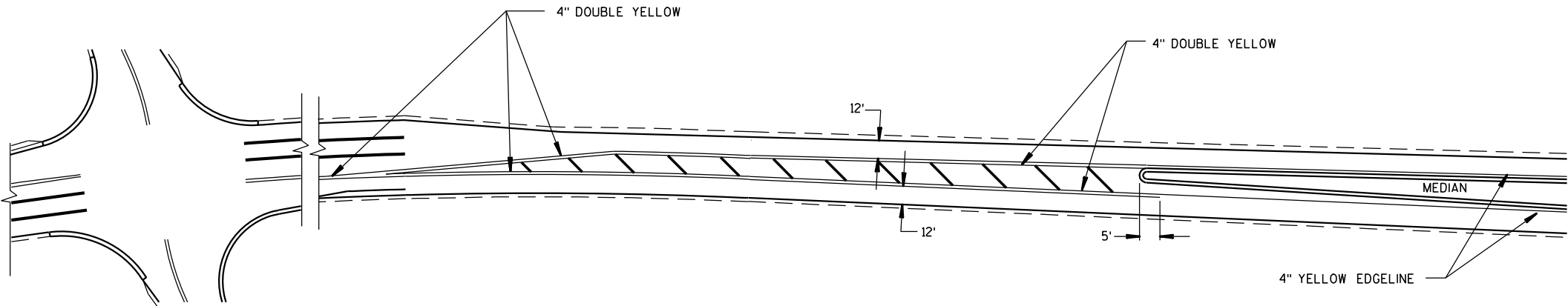




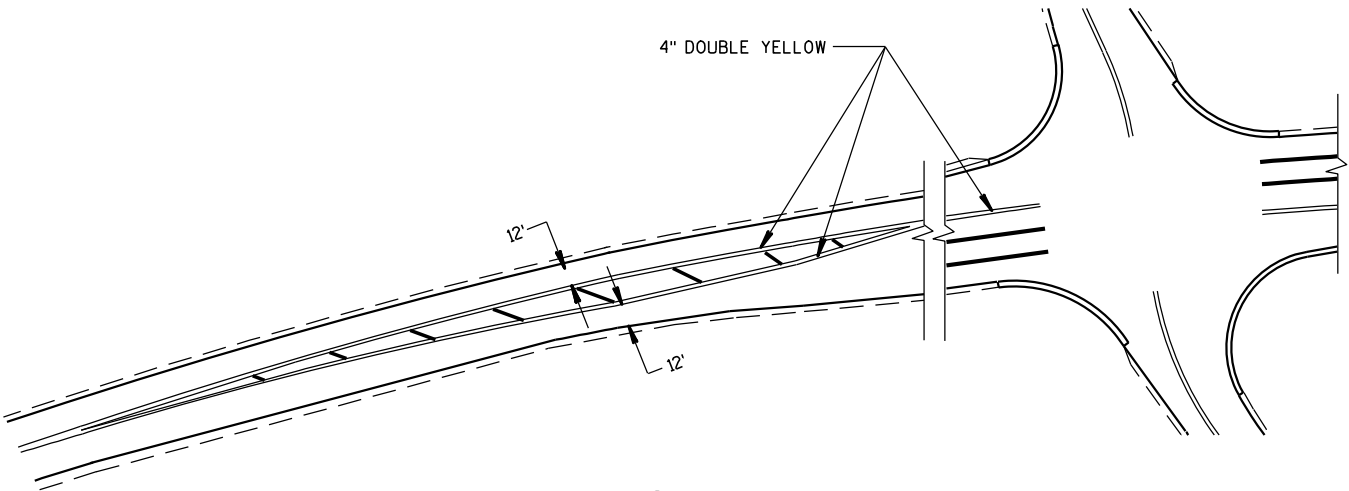
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

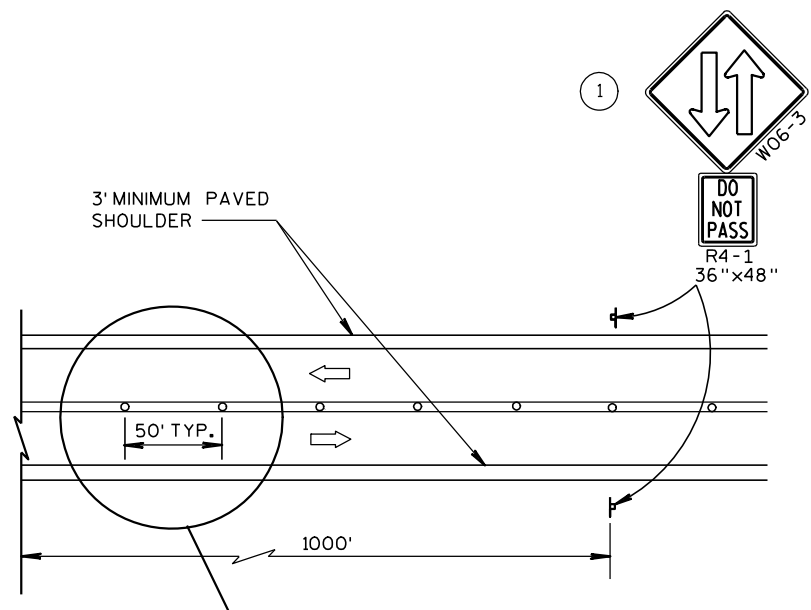


APPROACH MARKINGS FOR OTHER MEDIAN TYPES

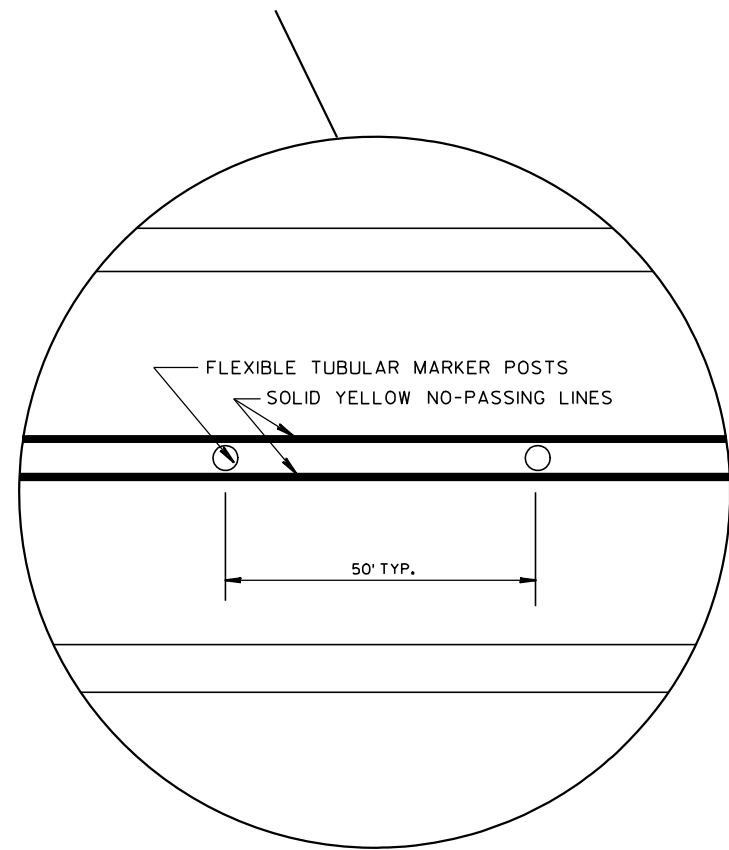


NON APPROACH MARKINGS

MEDIAN ISLAND MARKING			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEE 142	IGN	
FHWA			



TWO LANE, TWO WAY OPERATION



- LEGEND**
- POST WITH ATTACHED SIGN
 - FLEXIBLE TUBULAR MARKER AND BASE
 - DIRECTION OF TRAFFIC

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERS NOTED.

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

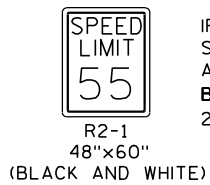
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

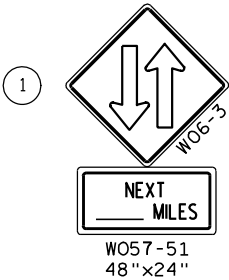
THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC @ 50' SPACING.

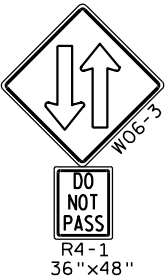
COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW.



IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.



THE WO6-3 WITH THE W057-51 SHALL BE LOCATED 200' BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND/OR 500' BEYOND ANY SIDEROAD. THE WO6-3 WITH THE R4-1 SHALL BE LOCATED 1000' BEYOND THE WO6-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN WO6-3 SIGNS.



TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12-4-95 DATE	/S/ Chester J. DIRECTOR, OFFICE OF 143
FHWA	

SYMBOLS

- TRAFFIC CONTROL DRUM
- ┐ POST MOUNTED SIGN
- ➡ DIRECTION OF TRAFFIC FLOW
- ⓧ ARROW BOARD IN CAUTION MODE

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

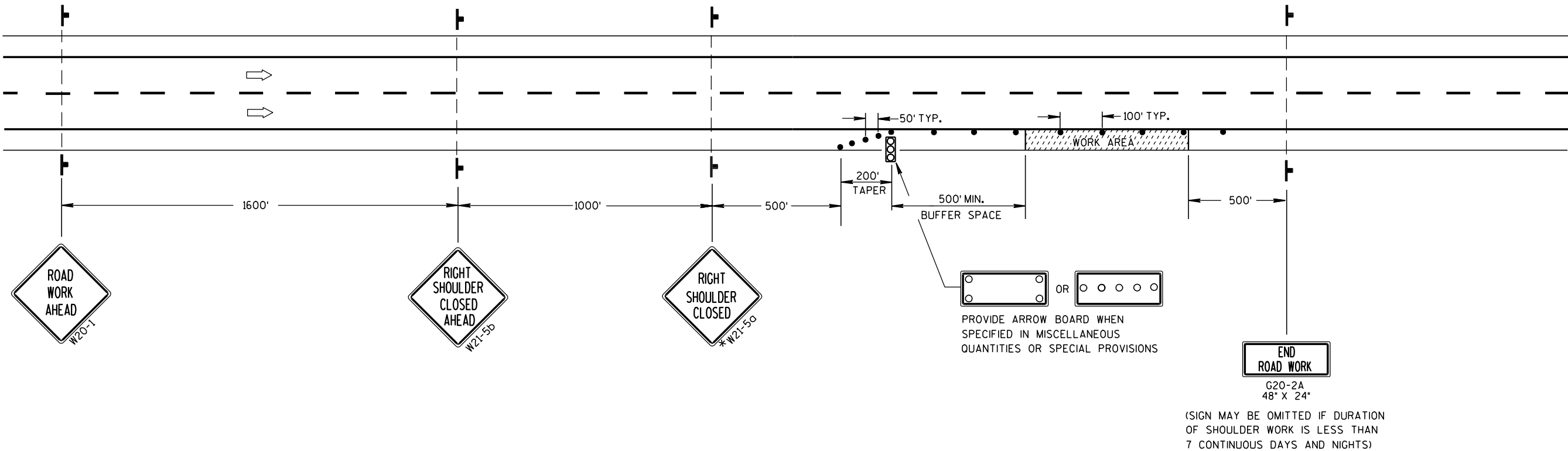
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 /S/ Chester J. Sauer
DATE CHIEF SIGNS AND MAR 144 INEER
FHWA

GENERAL NOTES

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

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

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

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

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

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

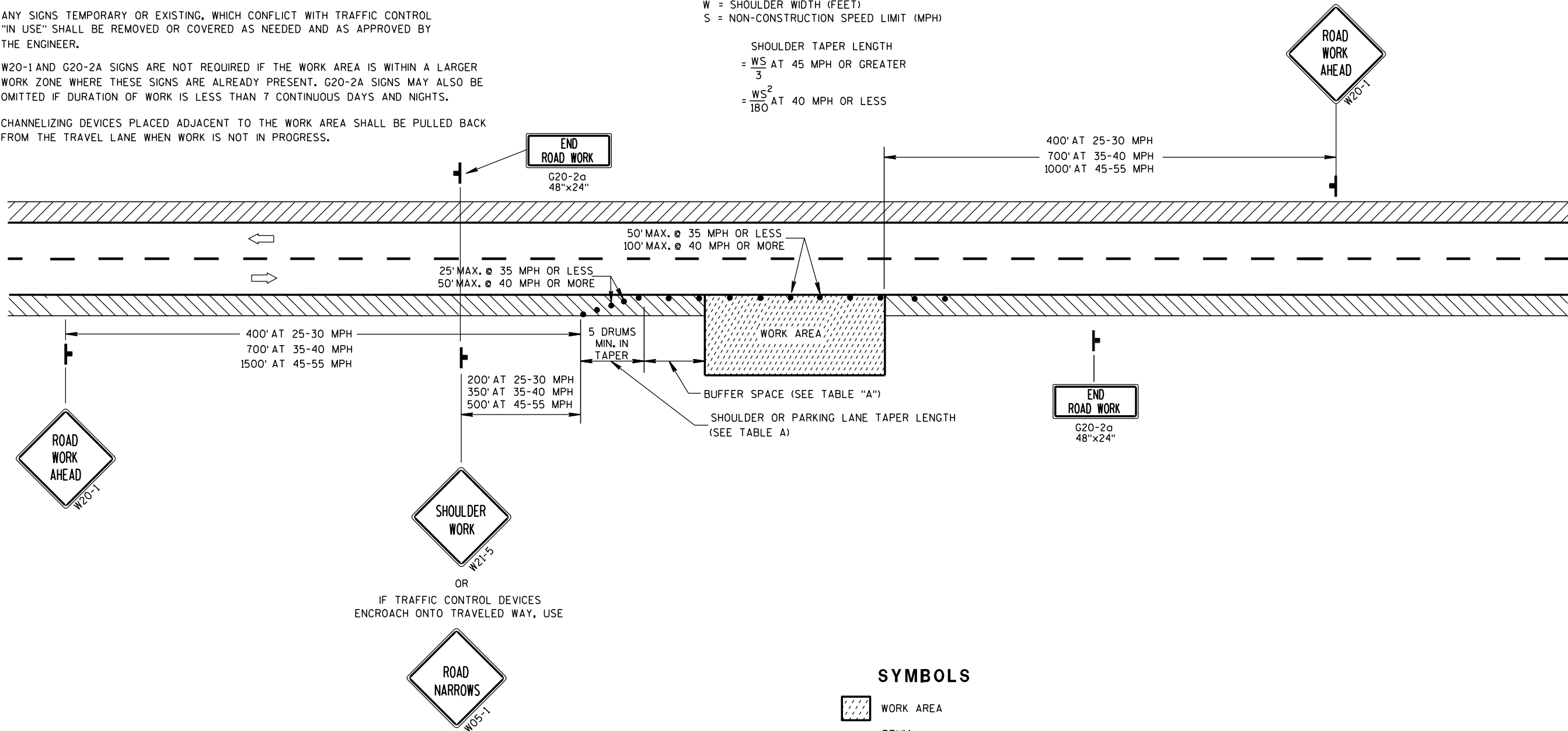
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S	W	4	6	8	
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

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

SHOULDER TAPER LENGTH
= $\frac{WS}{3}$ AT 45 MPH OR GREATER
= $\frac{WS^2}{180}$ AT 40 MPH OR LESS



SYMBOLS

- WORK AREA
- DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

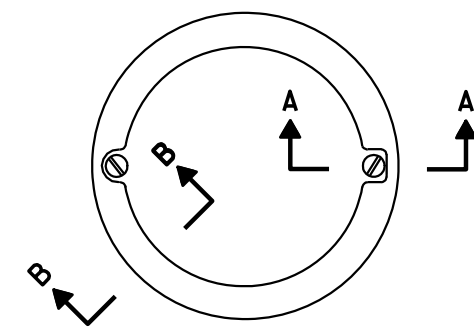
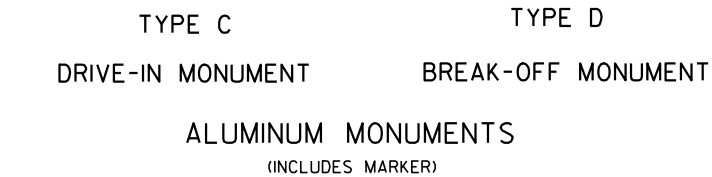
TRAFFIC CONTROL,
WORK ON SHOULDER OR
PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

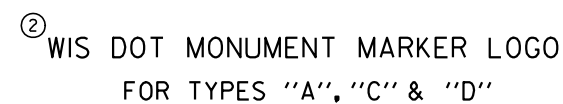
APPROVED
5/23/00 /S/ Chester J. NNEER
DATE CHIEF SIGNS AND MARK 145
FHWA

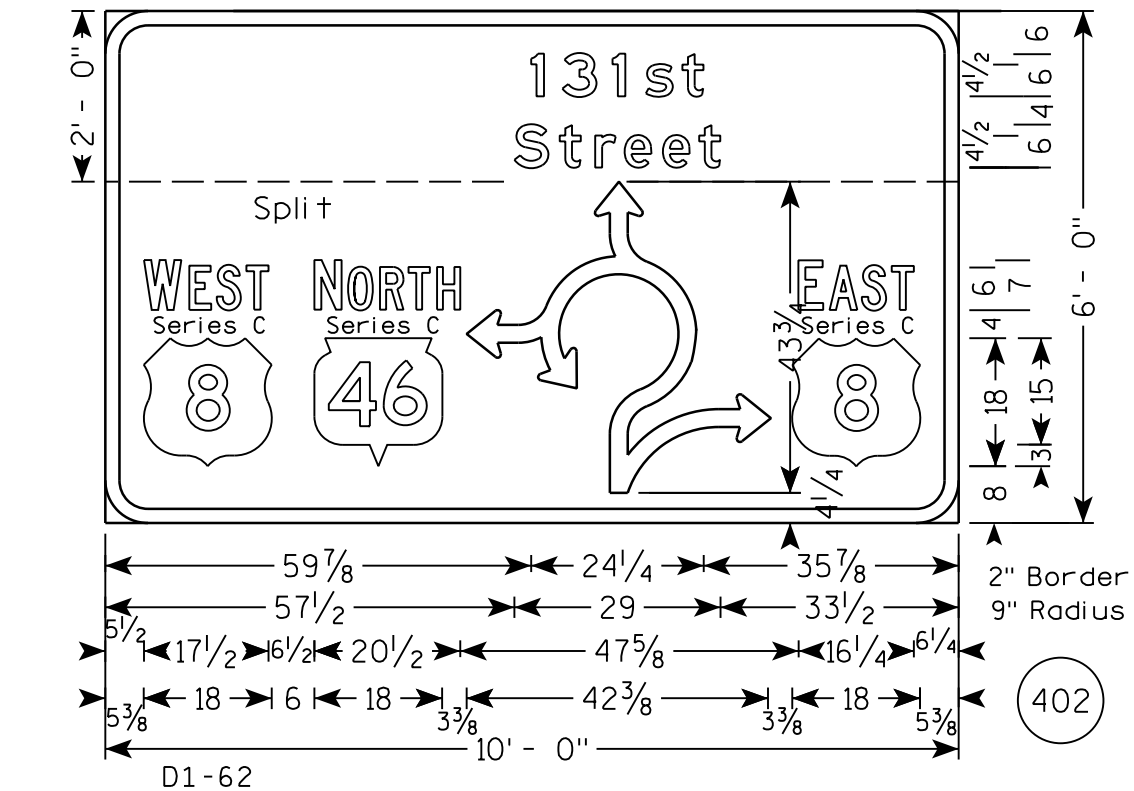
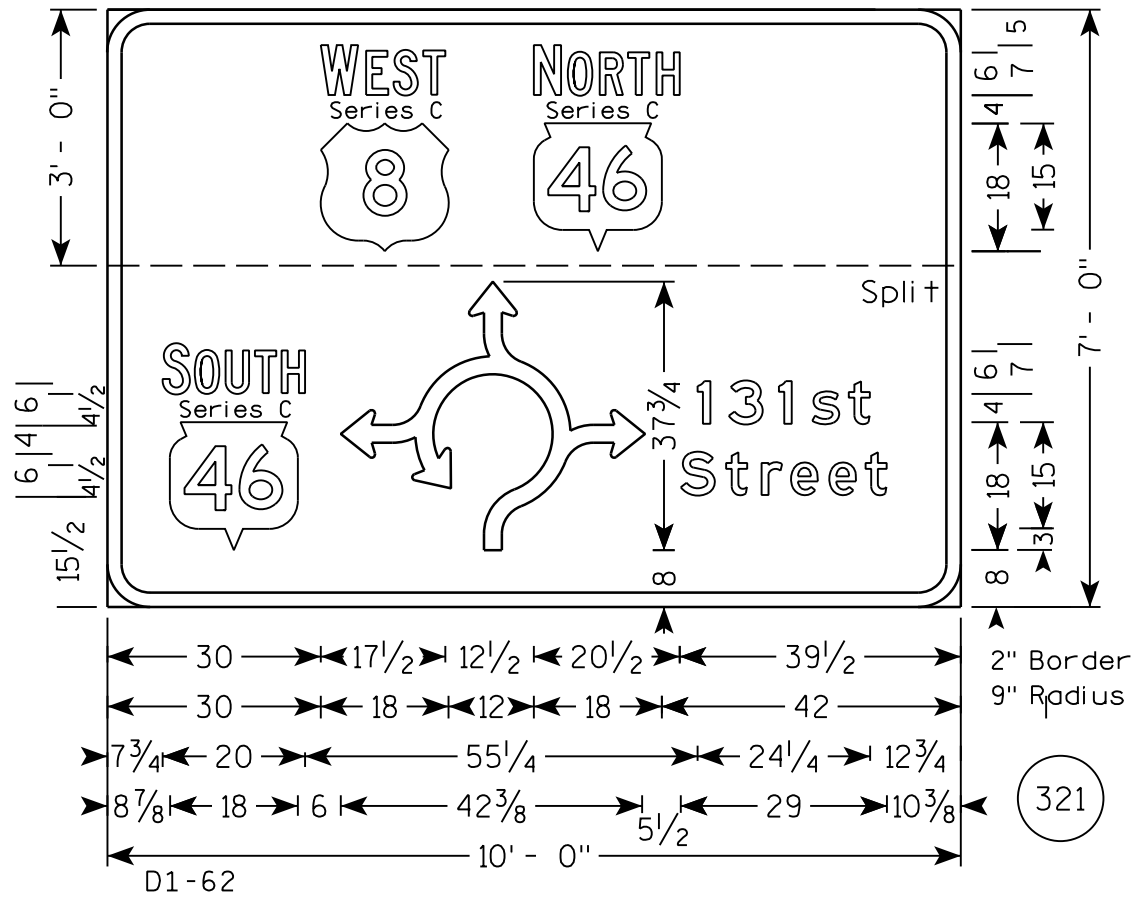


S.D.D. 16 A 1-6



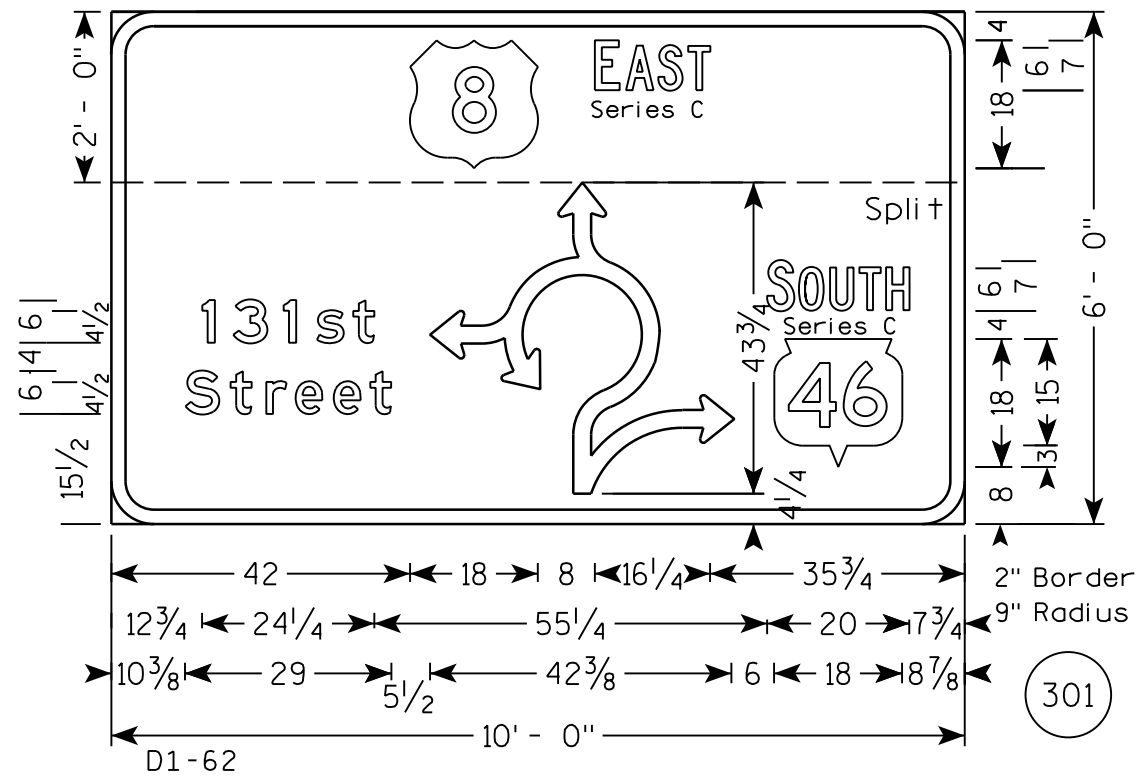
APPROVED
9/22/1999
DATE
FHW





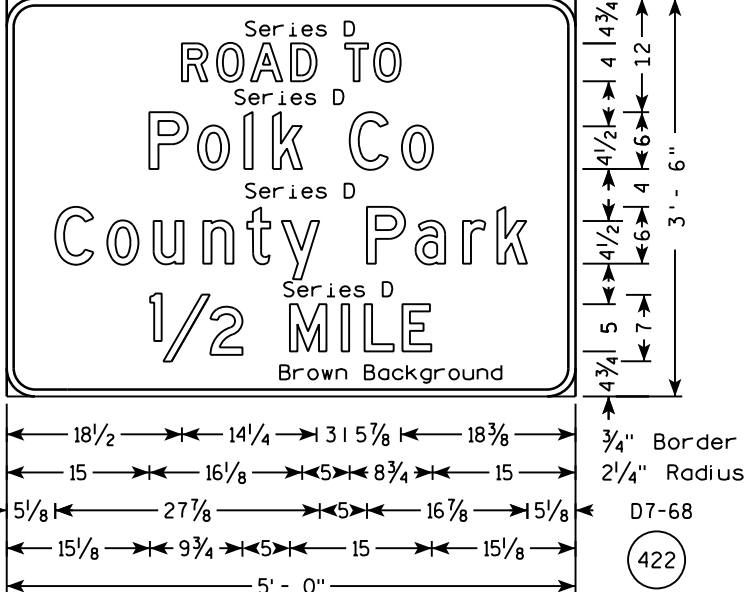
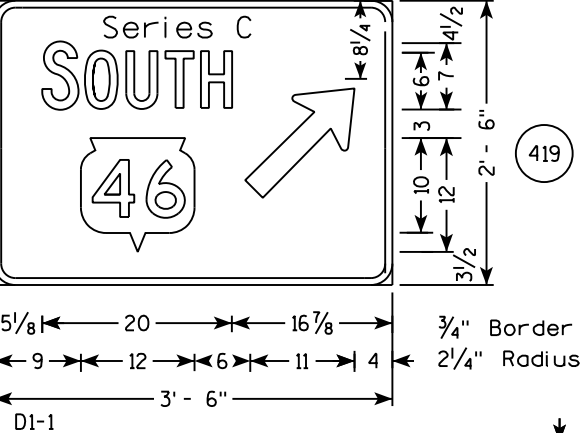
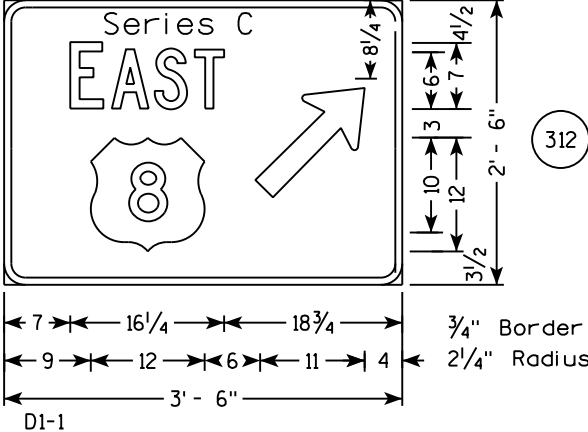
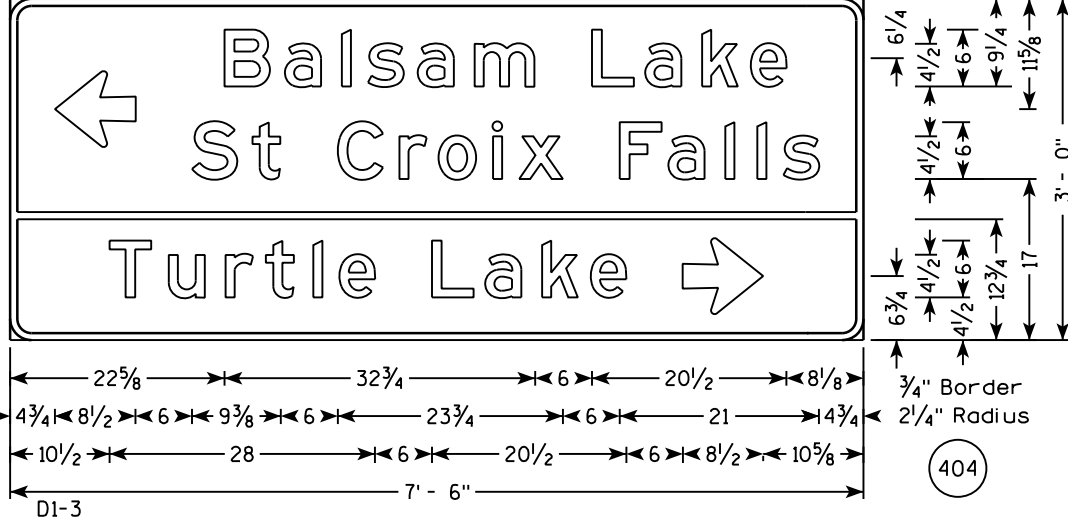
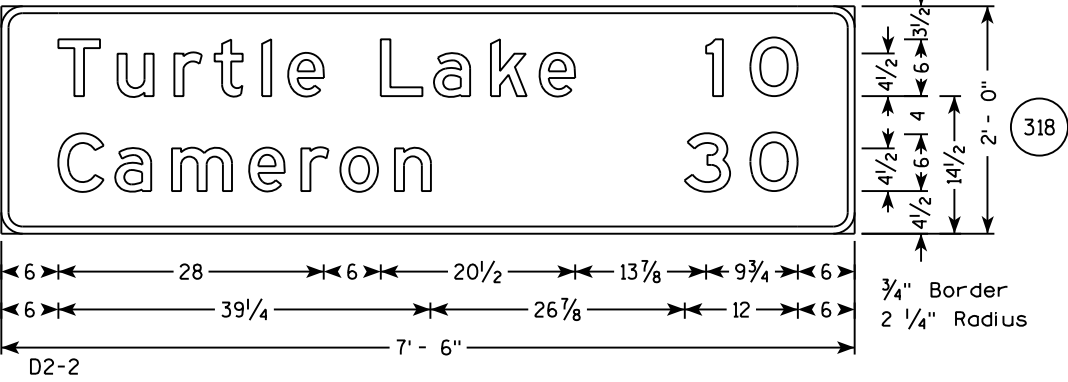
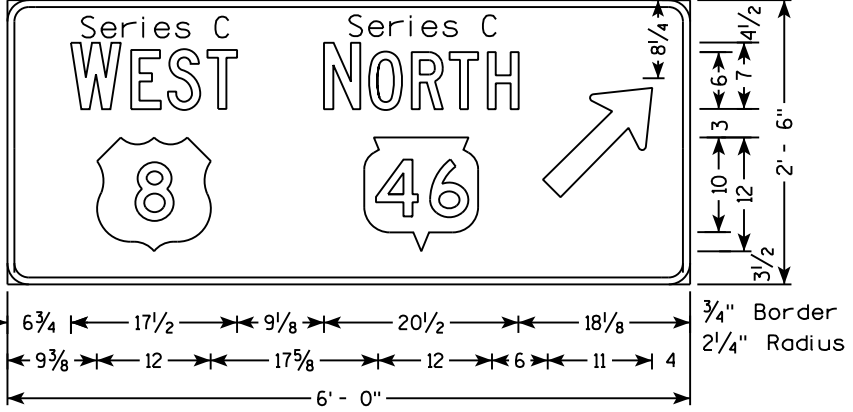
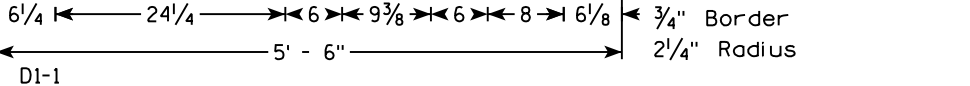
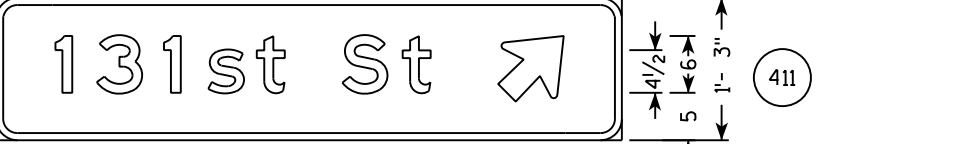
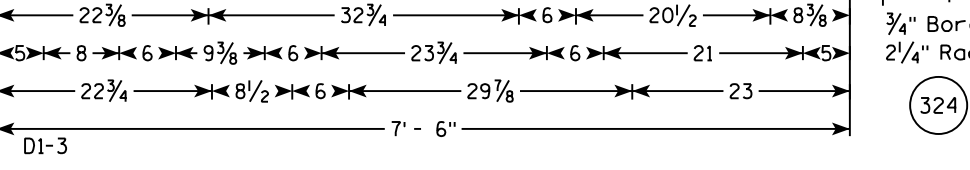
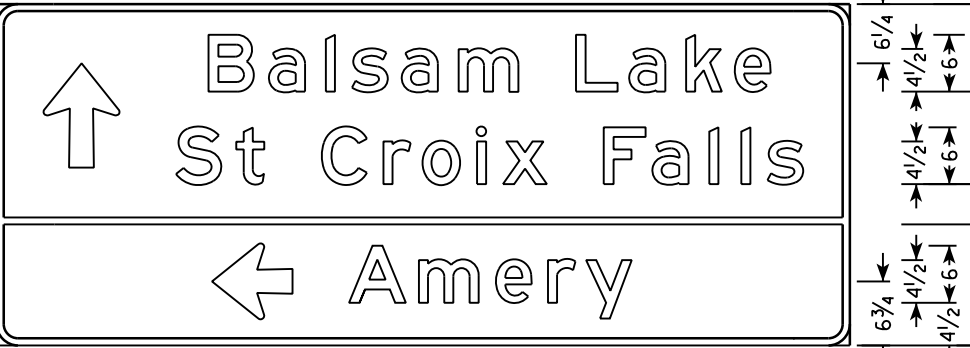
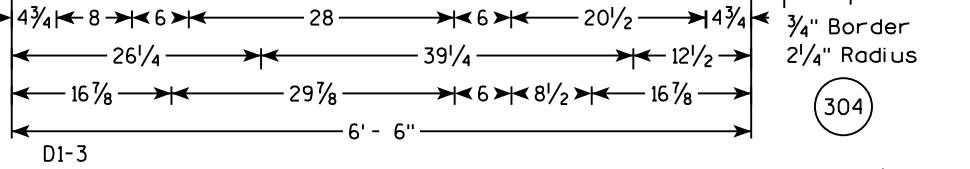
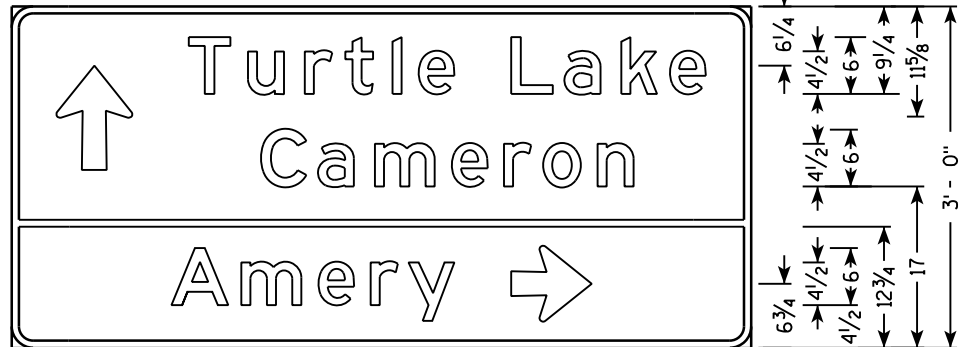
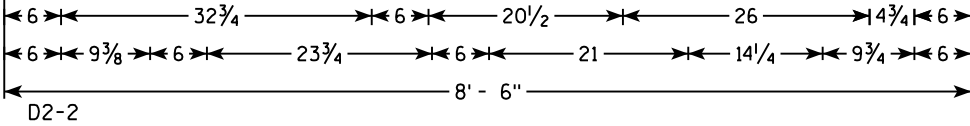
NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Green
Message - White
3. Message Series - E except as noted
4. For Roundabout Detail refer to Standard Plate A11-12 for dimensions.



NOTES

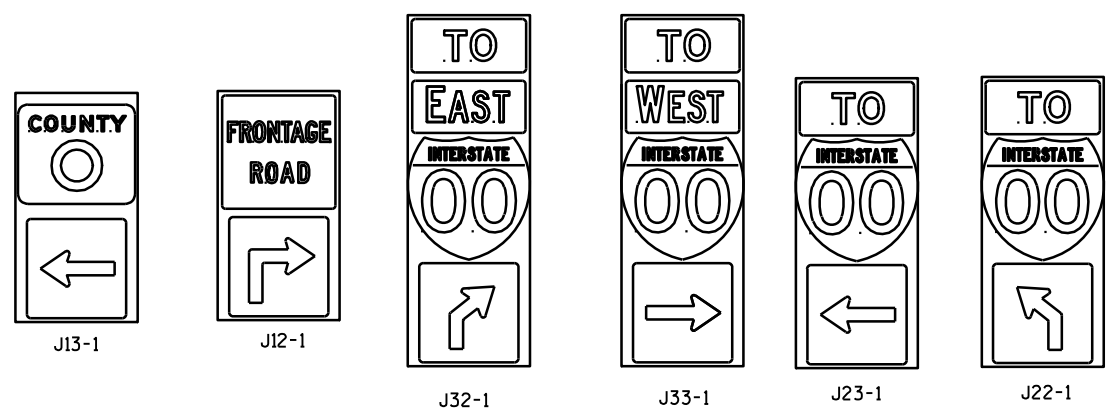
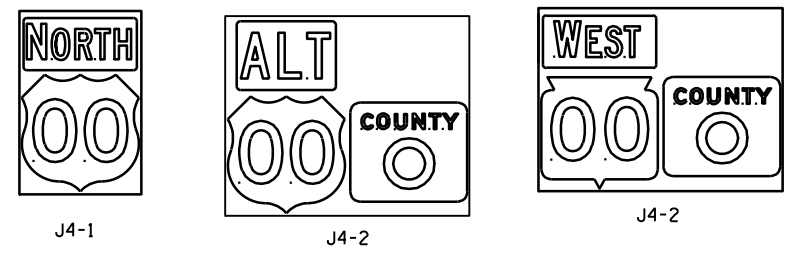
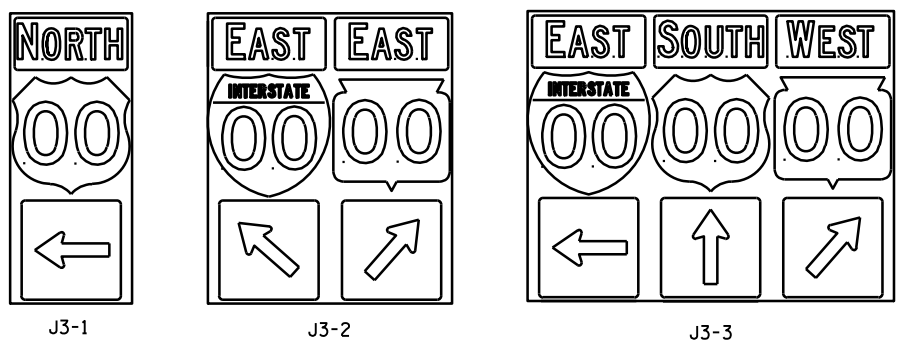
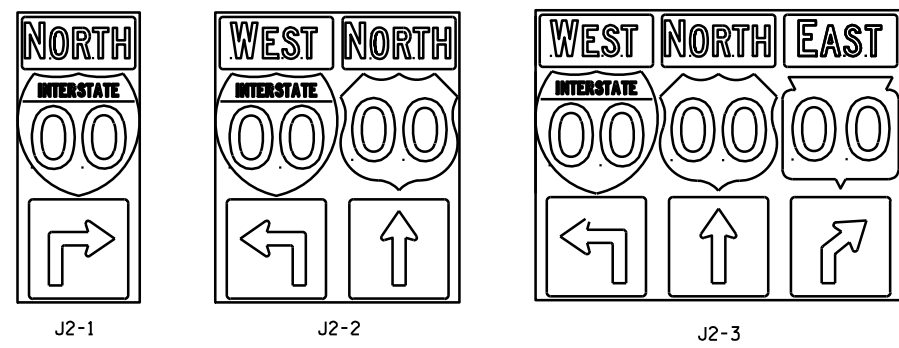
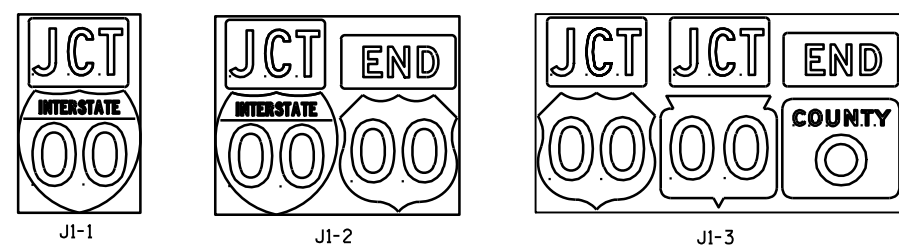
- 1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Green except as noted
Message - White
- 3. Message Series - E except as noted



7

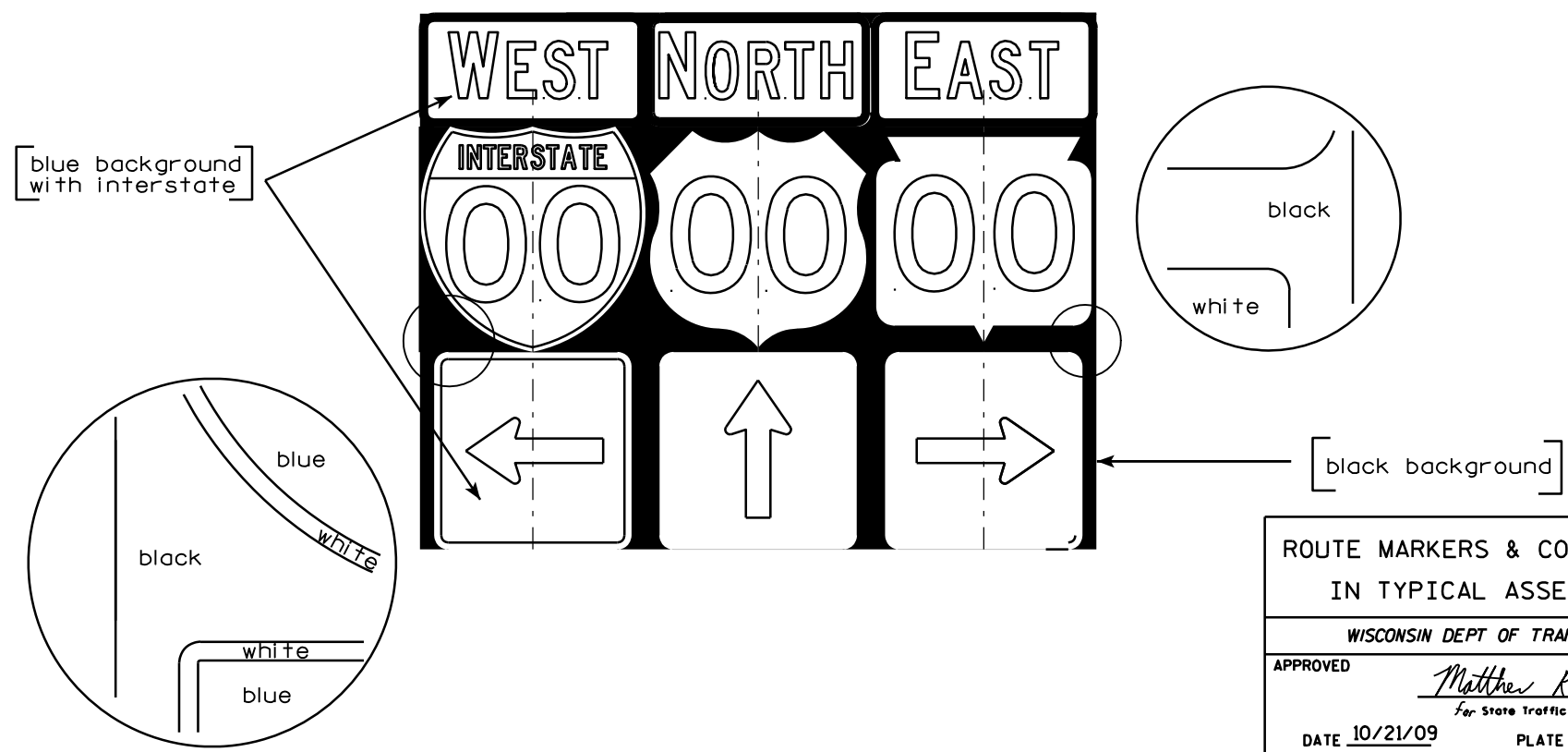
7

TYPICAL ASSEMBLIES



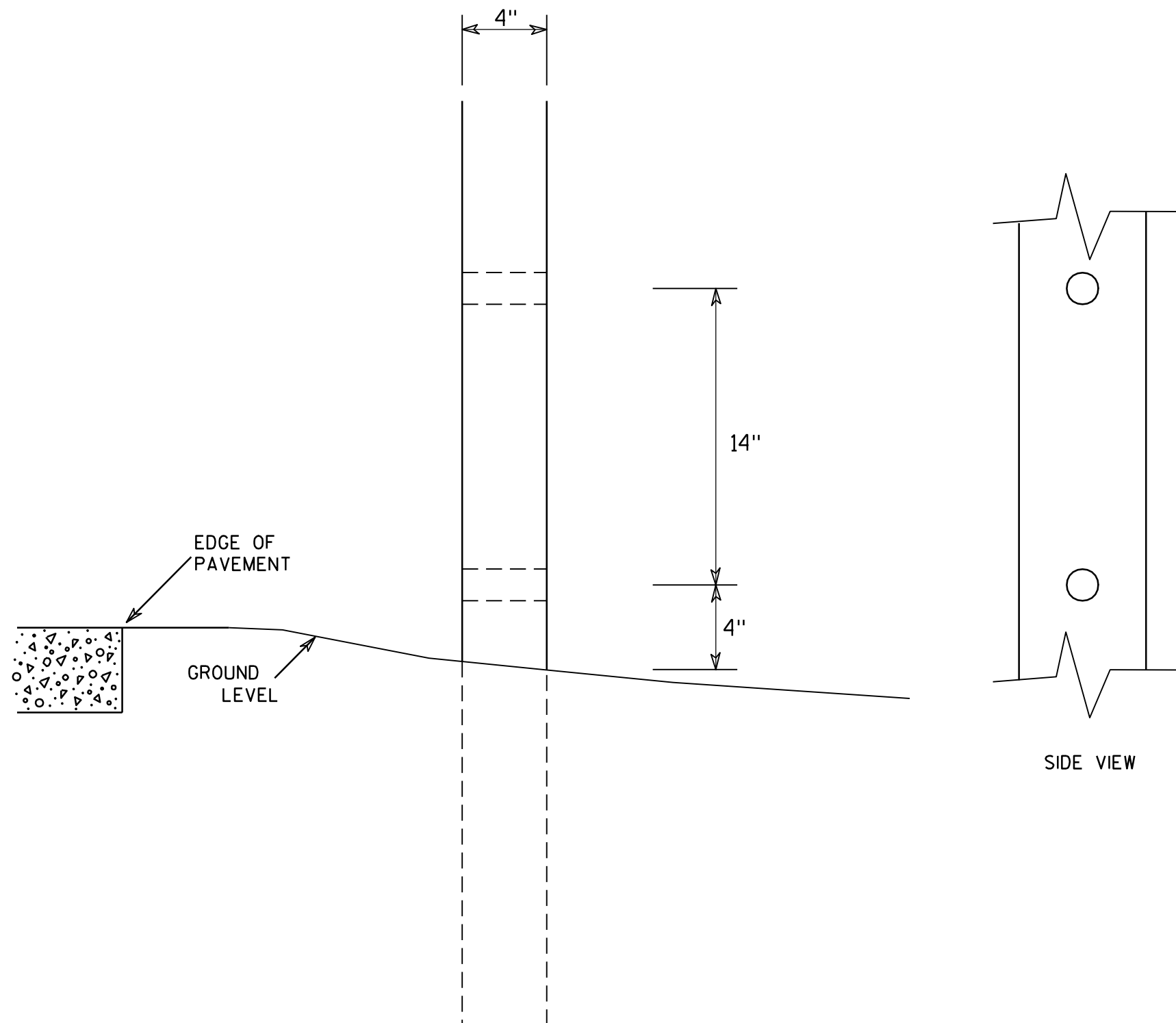
NOTES

- 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 since base material is plywood.
- 5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
- 6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
- 7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
- 8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
- 9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.



ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 10/21/09	PLATE NO. A2-1S.6

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

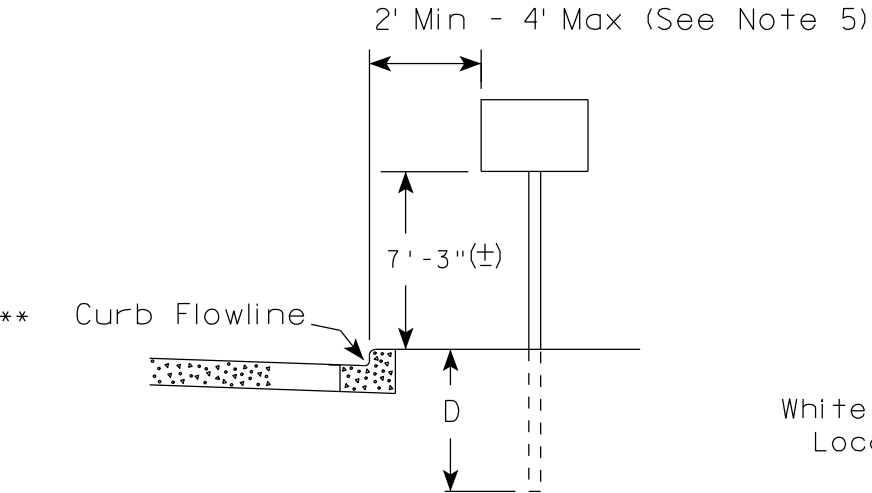
HWY:

COUNTY:

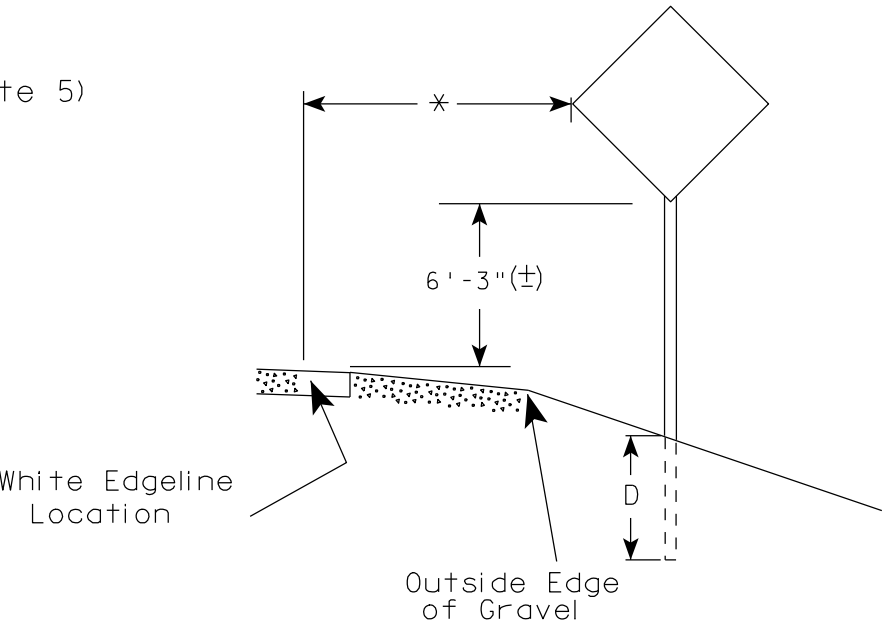
SHEET NO: 150

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) 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), 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" (±).

POST EMBEDMENT DEPTH

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

* 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.

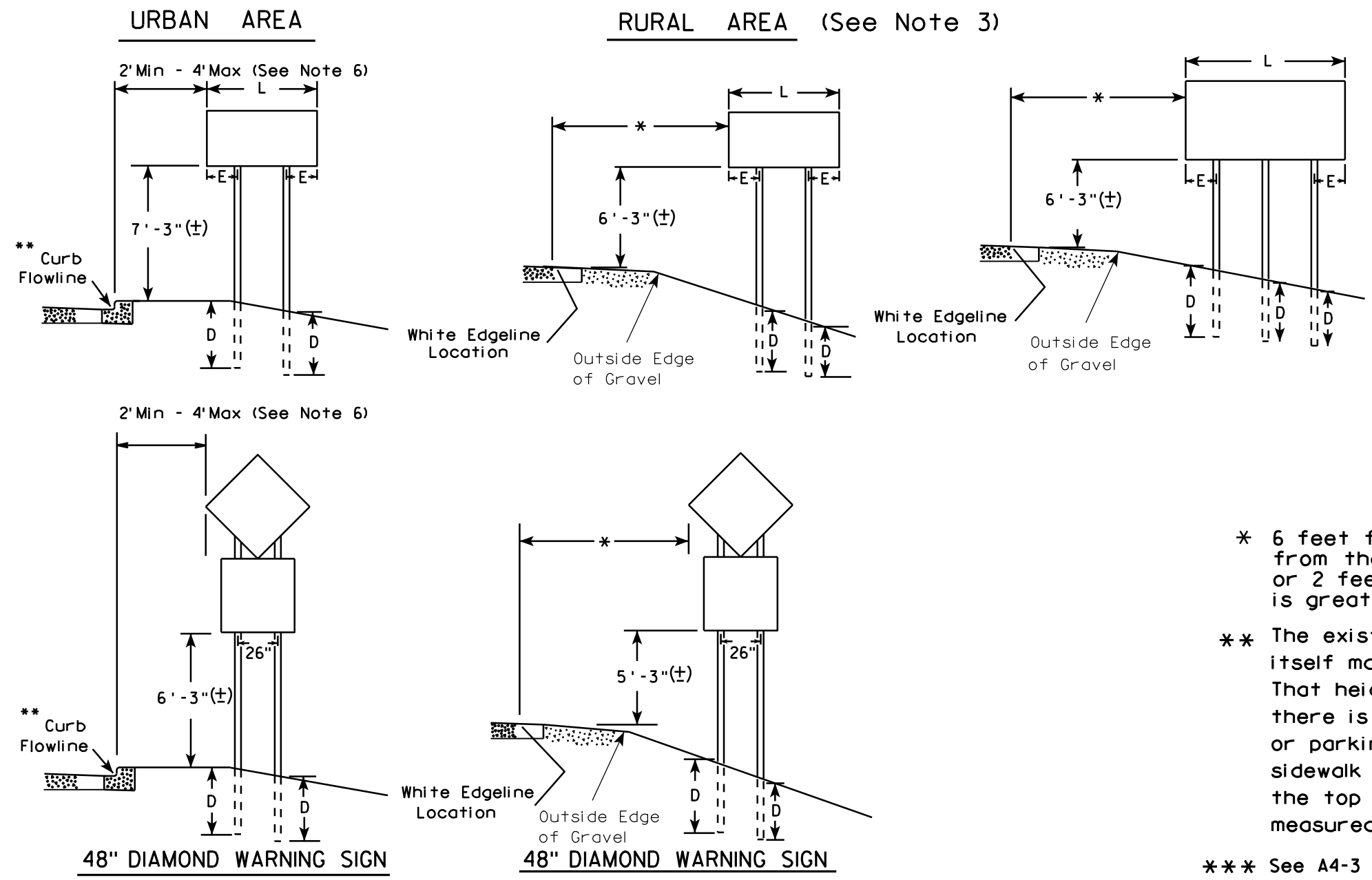
** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



GENERAL NOTES

1. For multiple post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

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

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

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

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

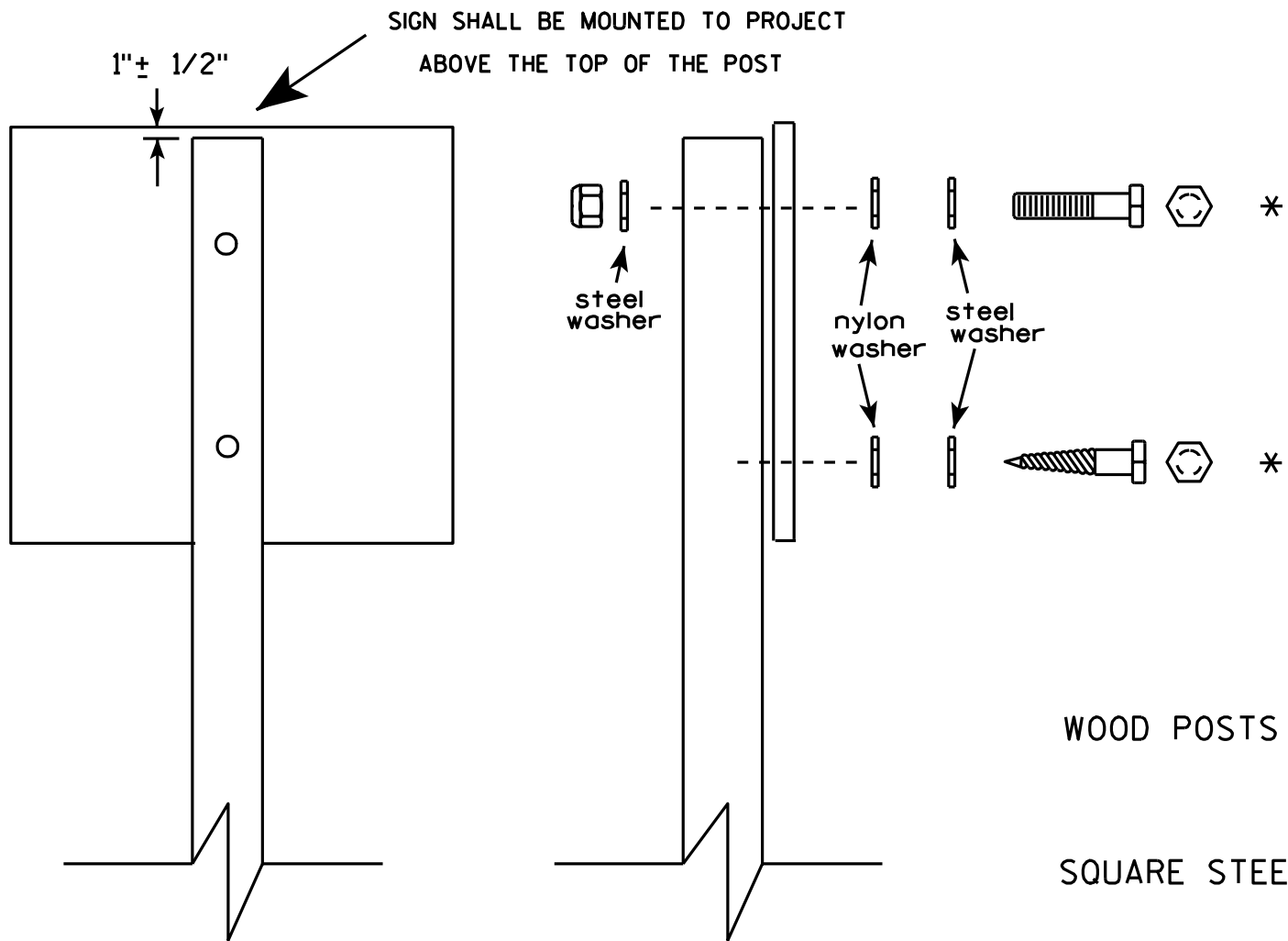
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

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

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

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

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 152	E
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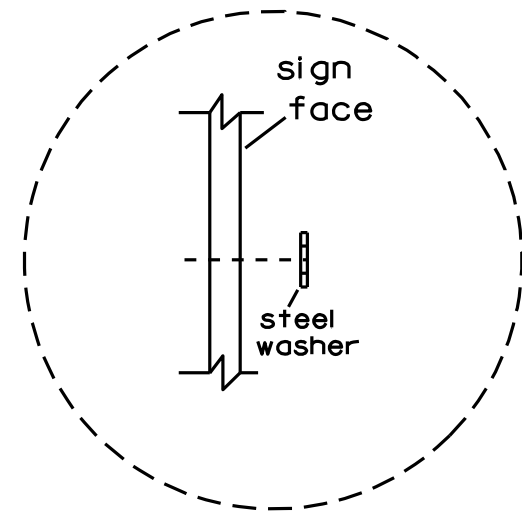


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

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



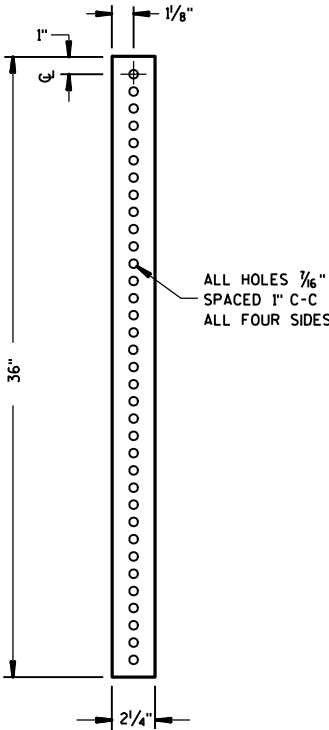
Washer Placement when Sign Has Other Than Type H or Type F Face

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

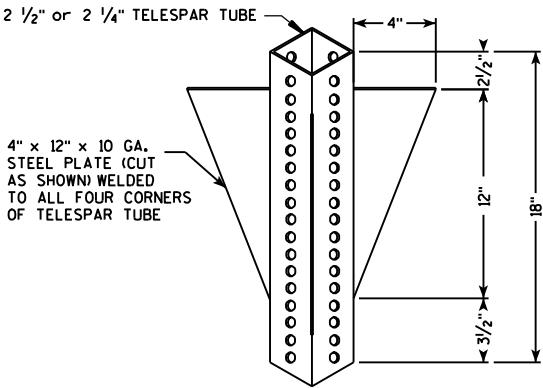
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

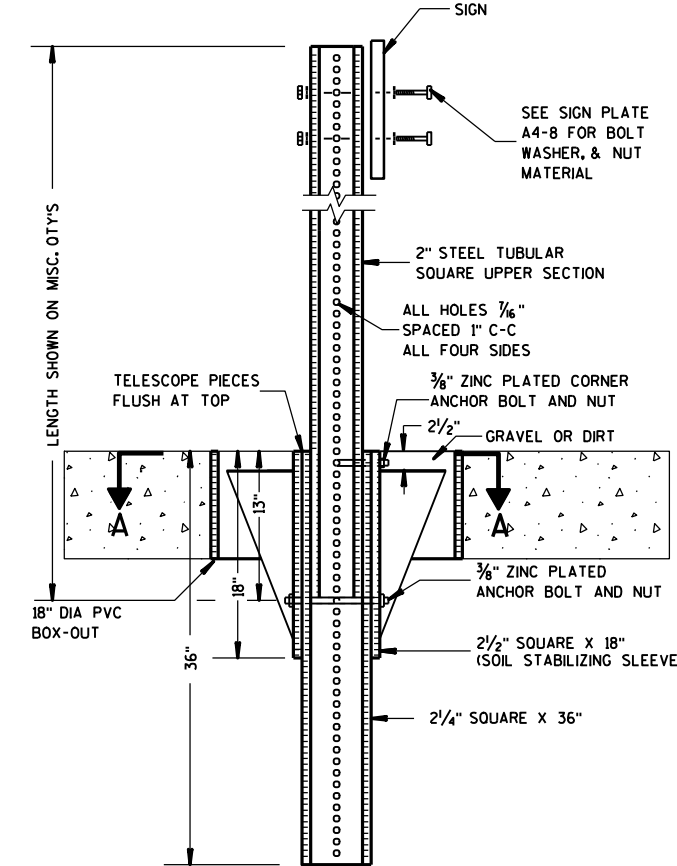
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



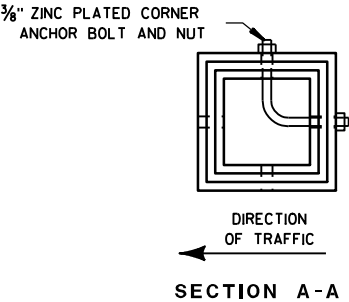
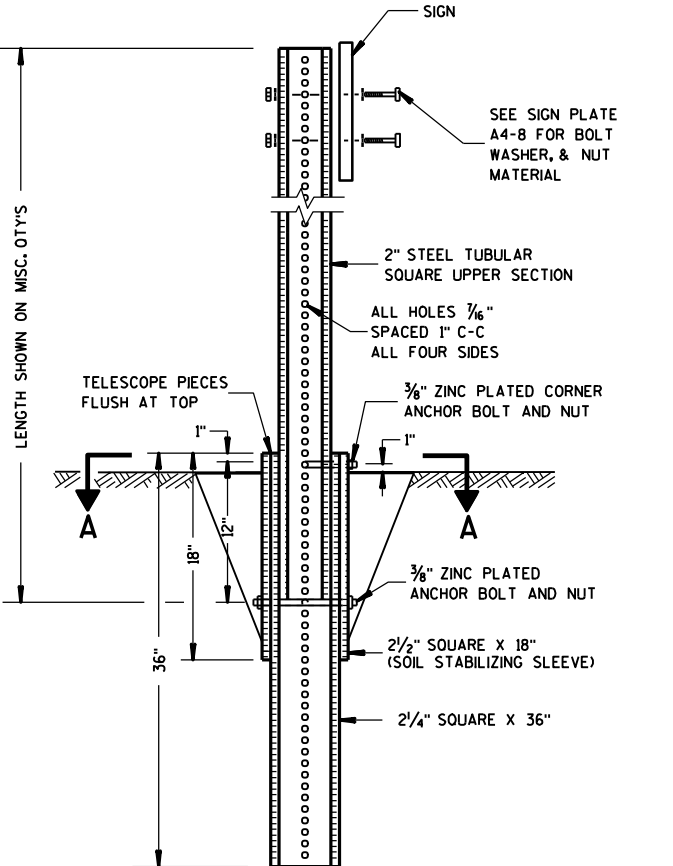
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



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



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



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

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

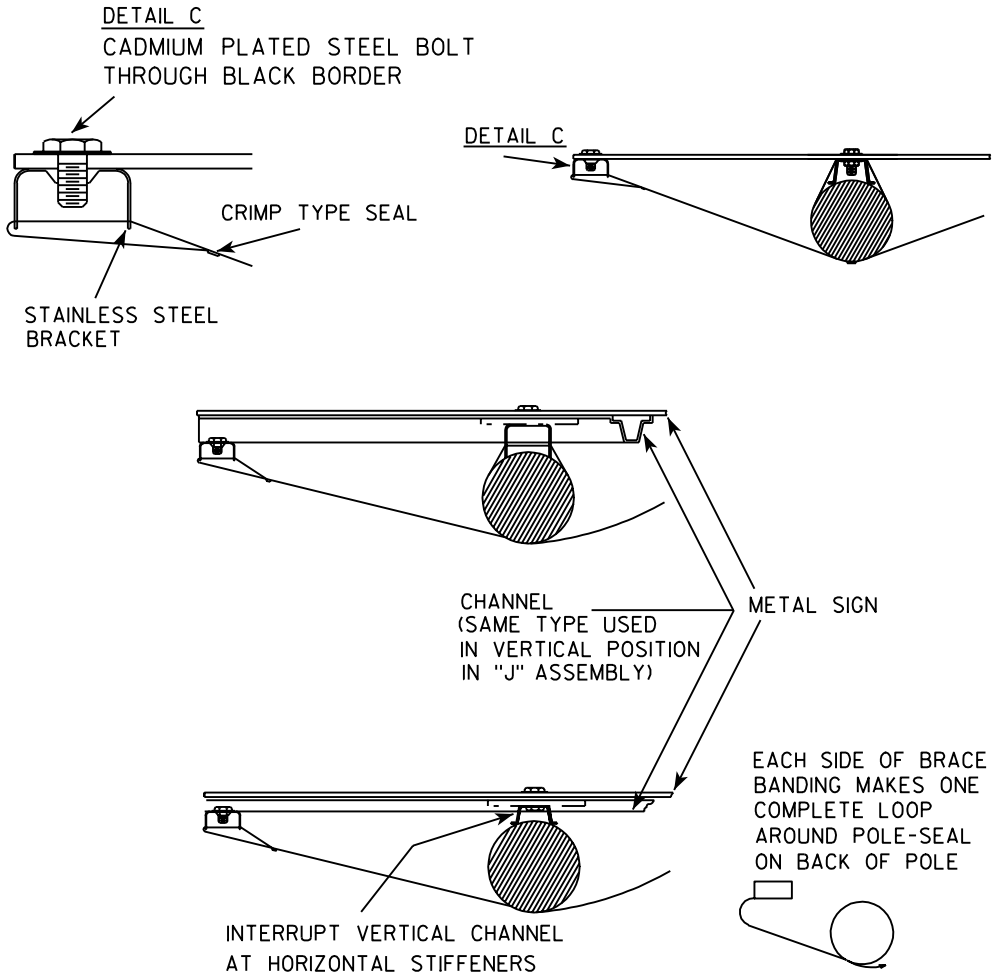
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

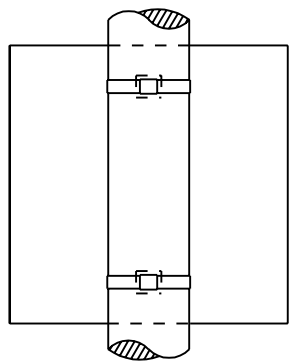
BRACE BANDING



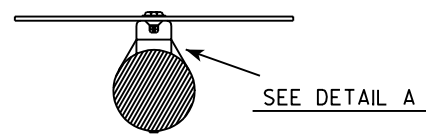
BRACE BANDING

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

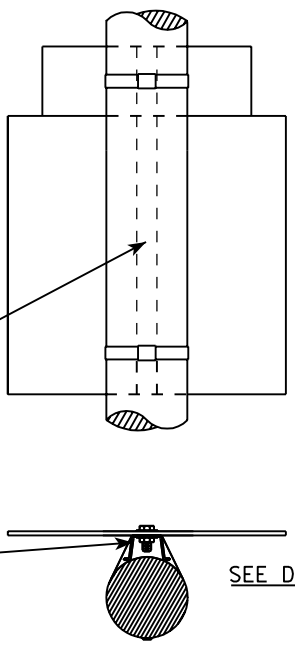
SINGLE SIGN



BRACKET BANDING

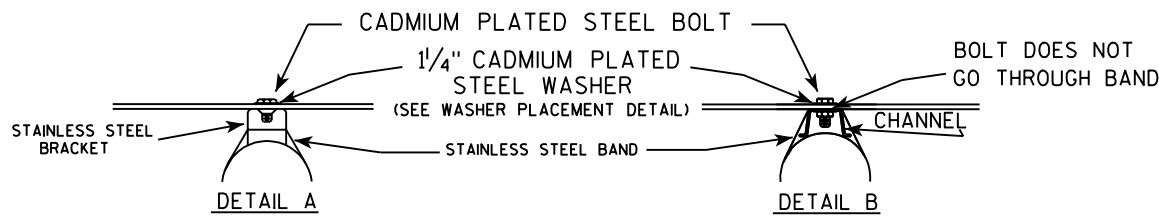


"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

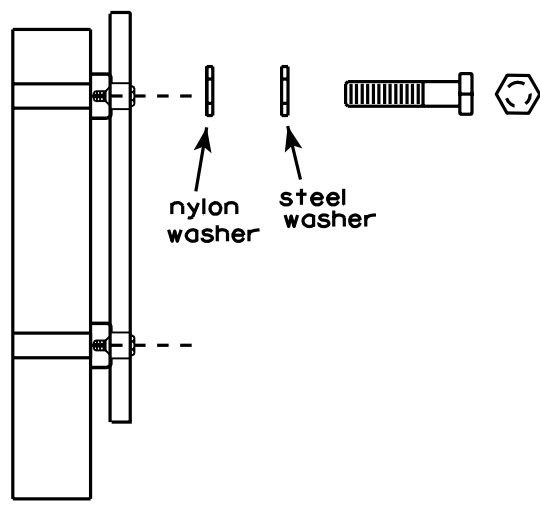
SEE DETAIL B



GENERAL NOTES

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

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

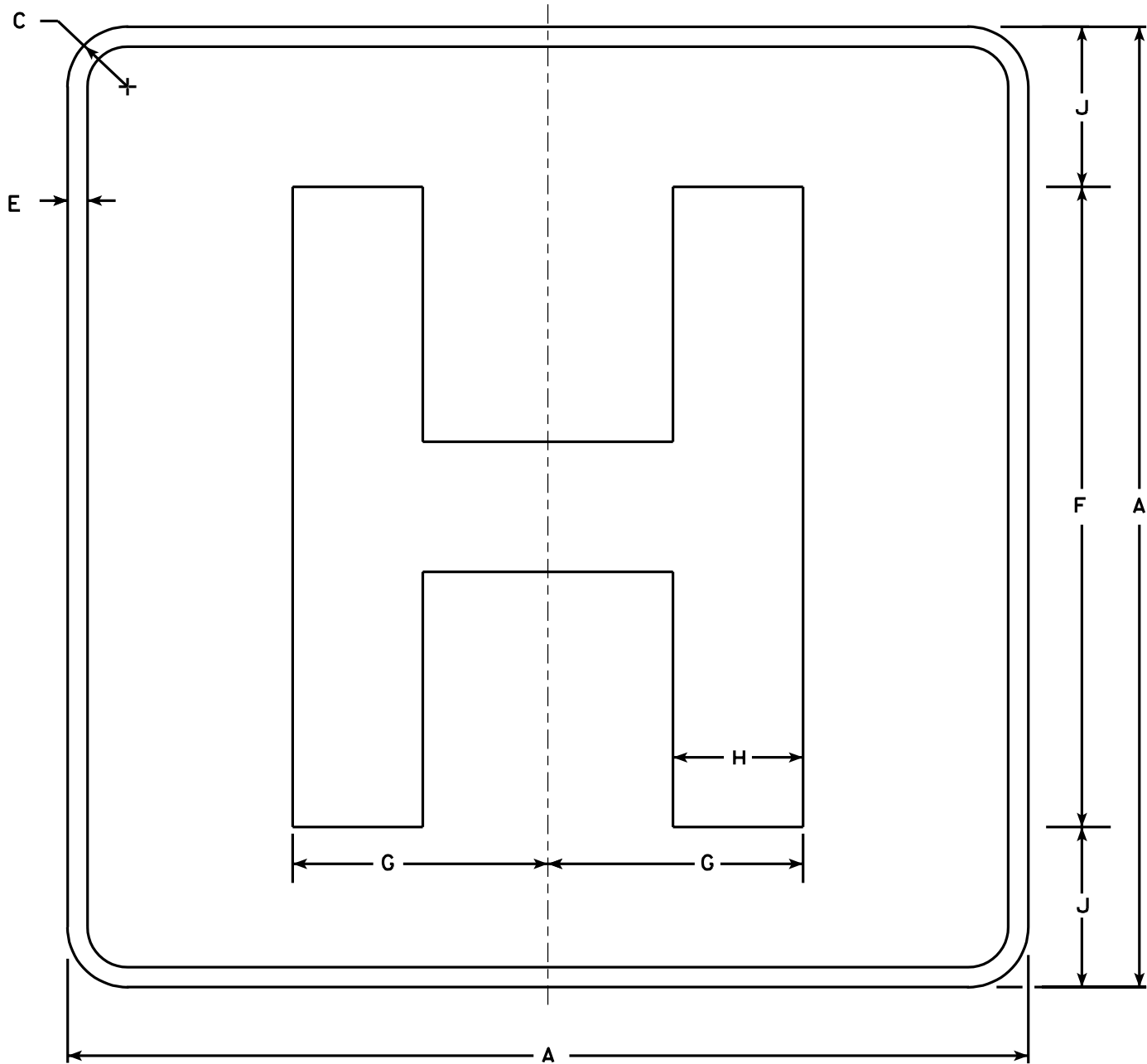
DATE 11/08/05 PLATE NO. A5-9.2

7

Metric equivalent
for this sign is:

SIZE	
1	450 mmX 450 mm
2	600 mmX 600 mm
3	900 mmX 900 mm
4	X
5	X

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



NOTES

- Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Blue
Message - White - Type H Reflective
- Message Series - E Modified
- 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.

STANDARD SIGN
D9-2

WISCONSIN DEPT OF TRANSPORTATION

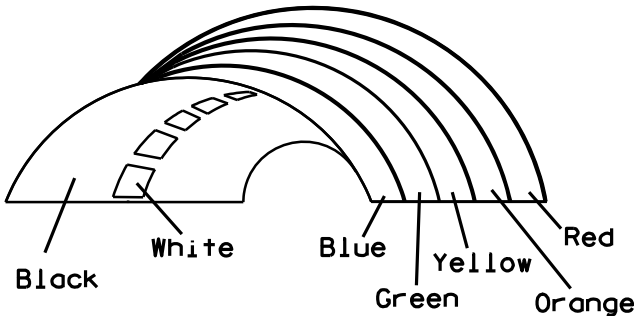
APPROVED
Chester J. Spang
for State Traffic Engineer

DATE 1/15/02 PLATE NO. D9-2.4



* VARIES

Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
Message - (See Note 5)
- 3. Message Series - (See Note 6)
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Border - Blue
Line 1- Red
Line 2 - Black
Line 3-5 - Blue
- 6. Line 1- Dutch 8011L
Line 2 - Series E
Line 3-5 - Series C
- 7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign 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																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 157

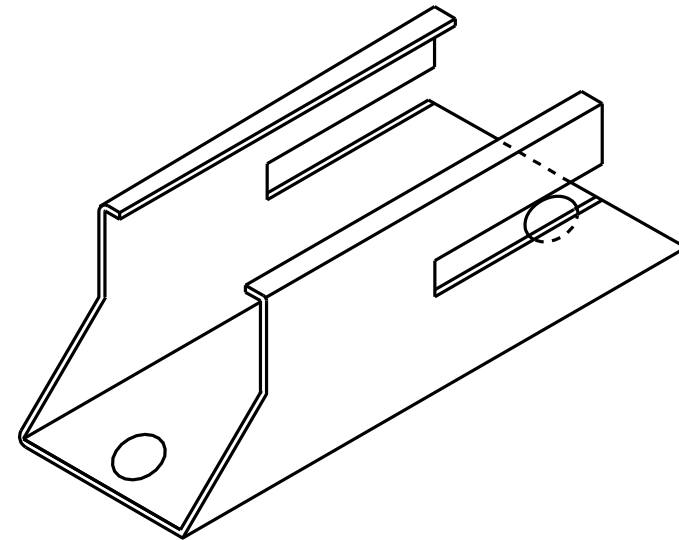
STANDARD SIGN
I55-56

WISCONSIN DEPT OF TRANSPORTATION

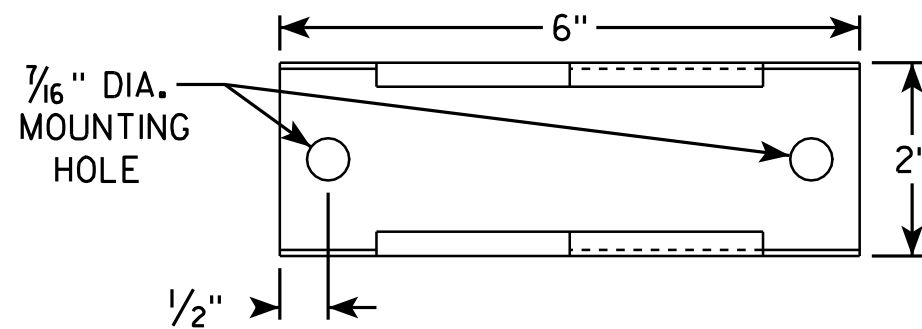
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/27/11 PLATE NO. I55-56.3

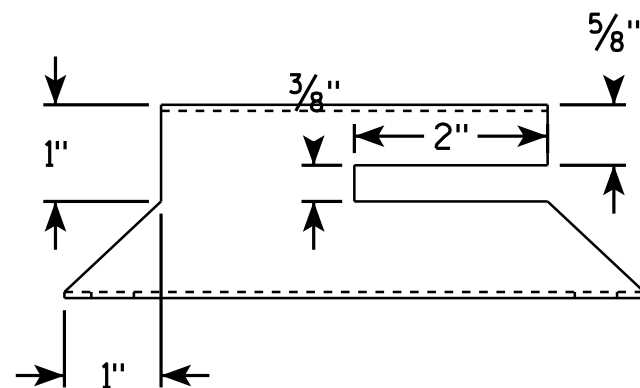
ISOMETRIC VIEW



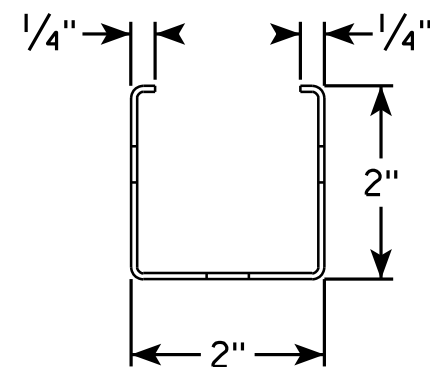
TOP VIEW



SIDE VIEW



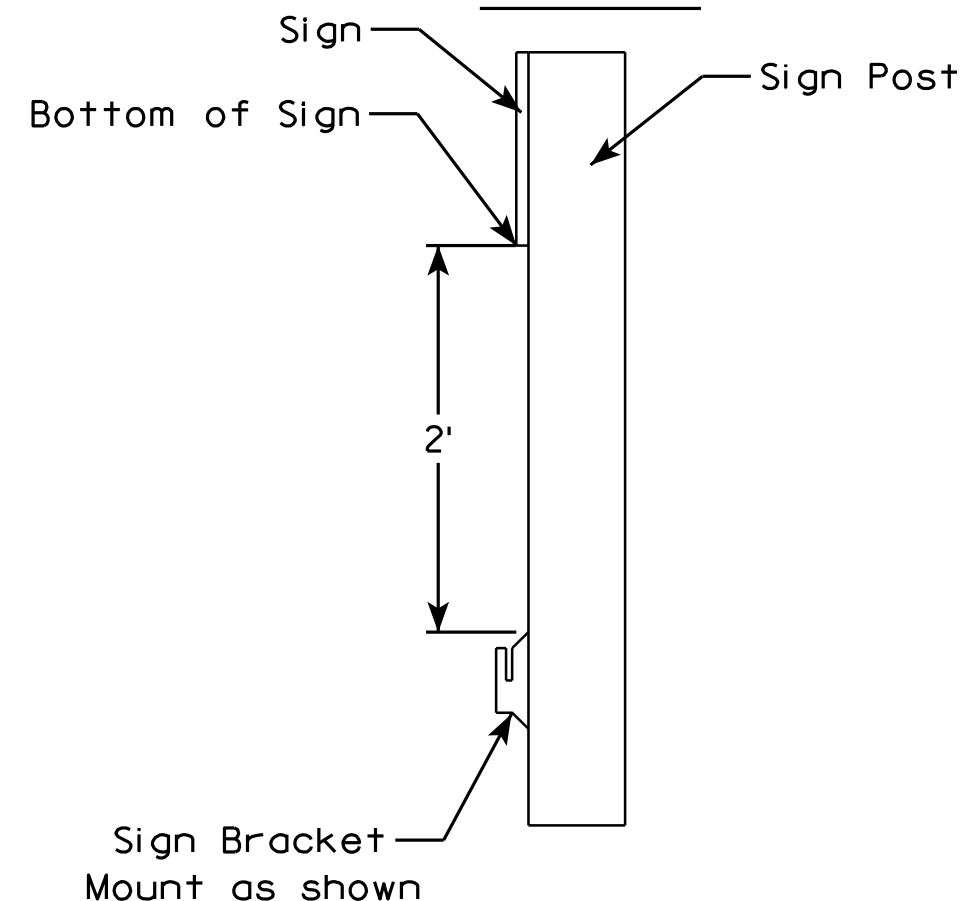
END VIEW



NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

SIDE VIEW



ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/5/10 PLATE NO. I55-56B.1

PROJECT NO:

HWY:

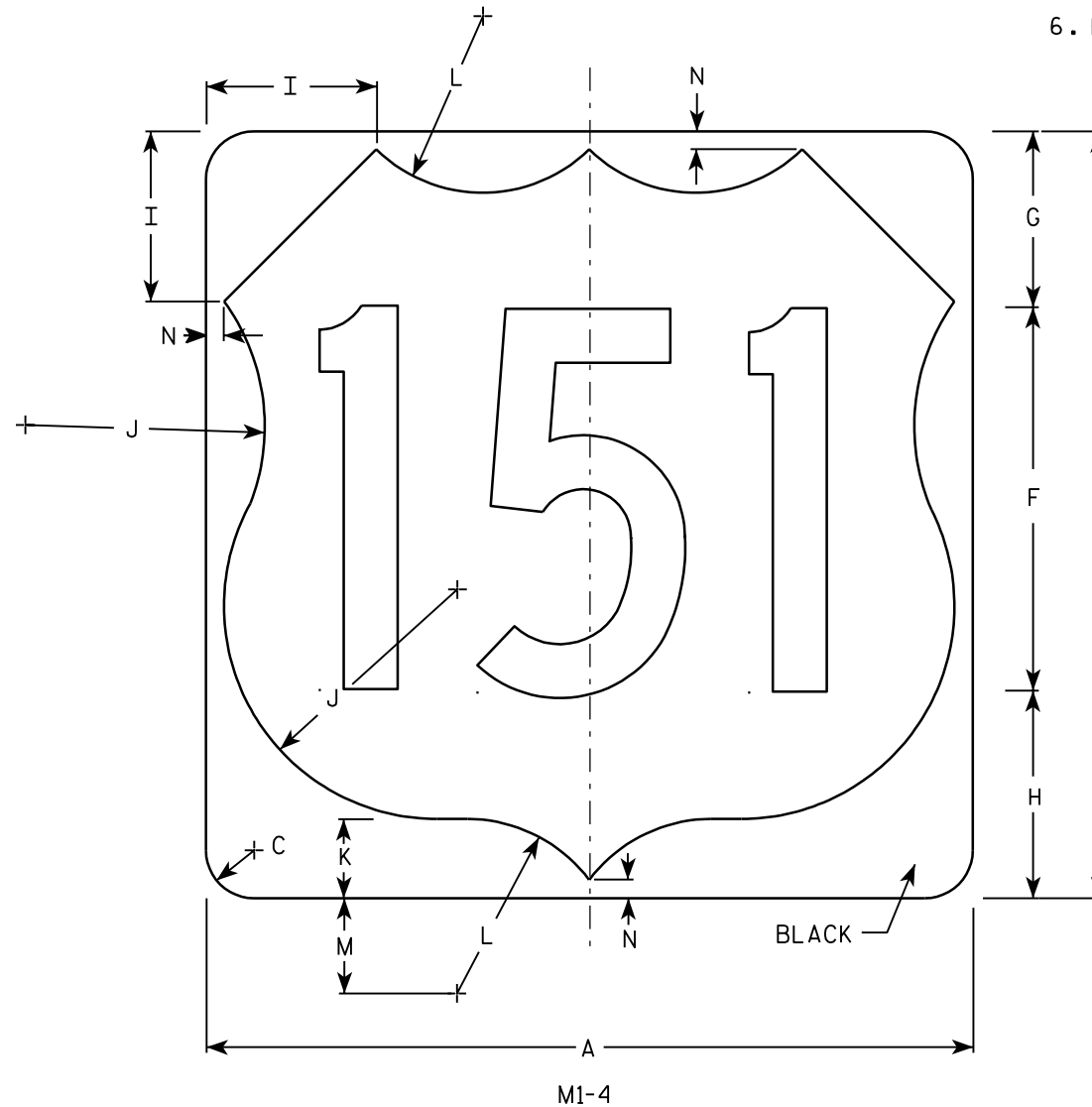
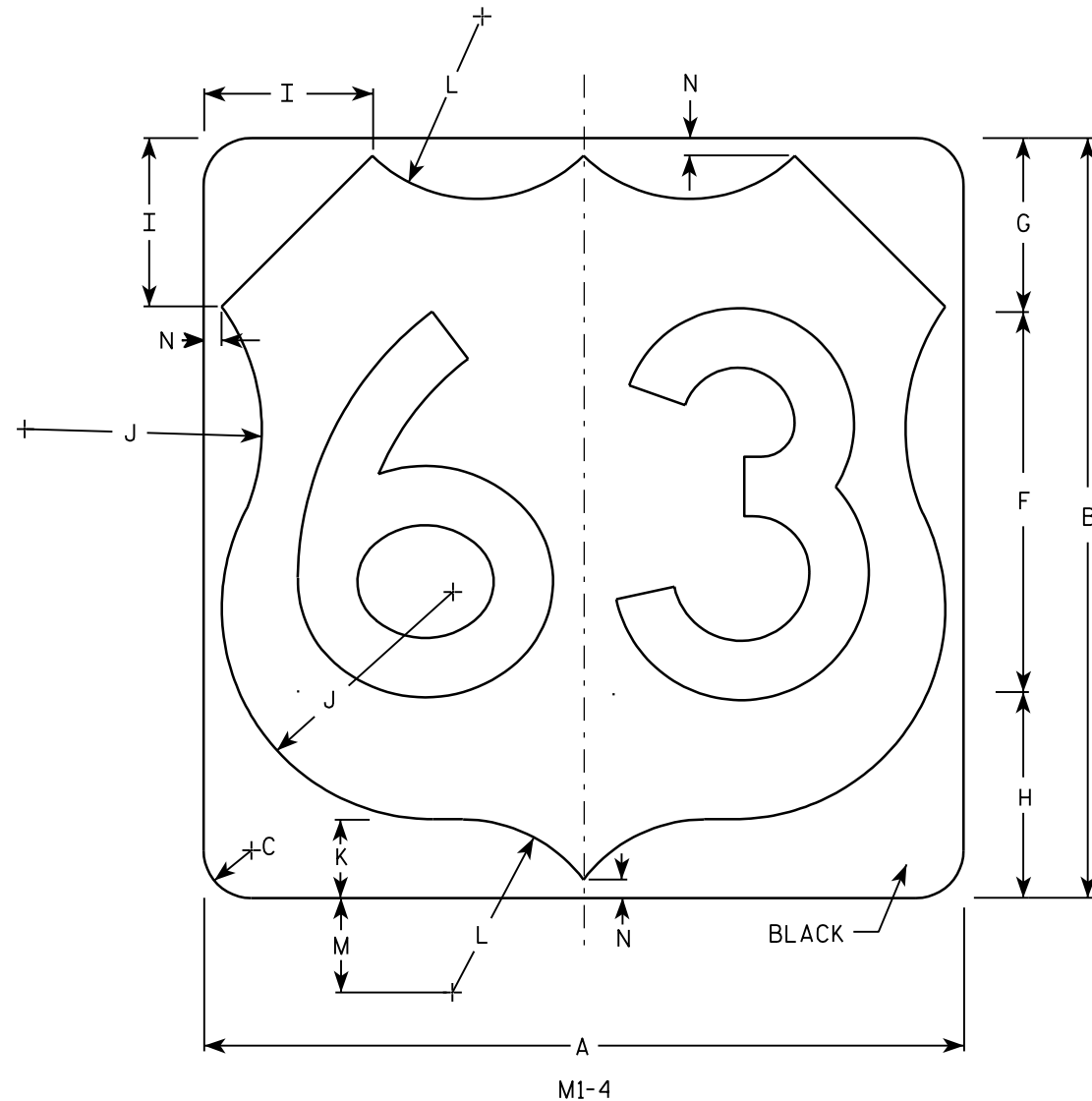
COUNTY:

SHEET NO: 158

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 numerals and adjust
spacing as per Plate A10-1.
- Permanent Signs
Background - Type H Reflective
Detour or other temporary signs
Background - Reflective



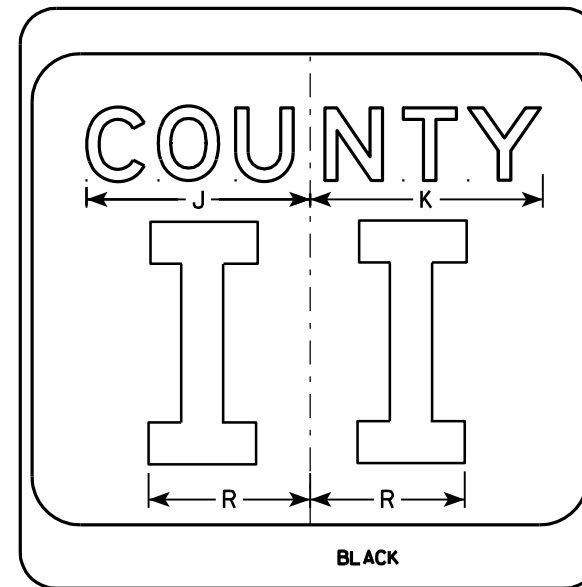
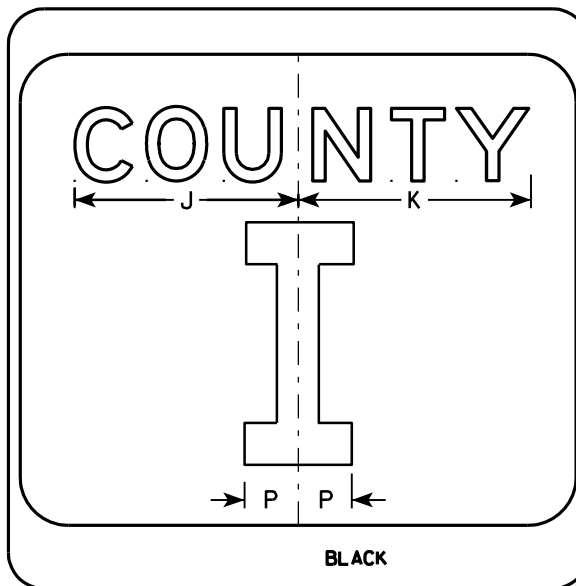
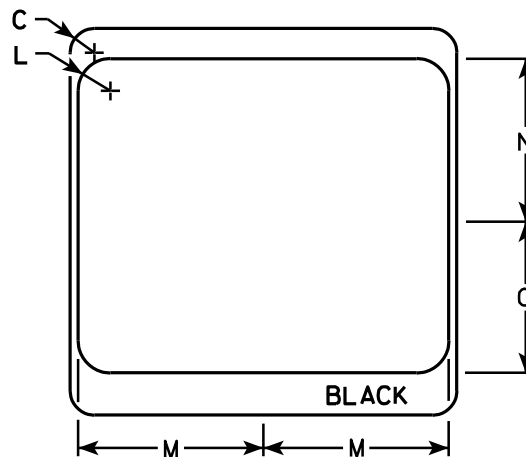
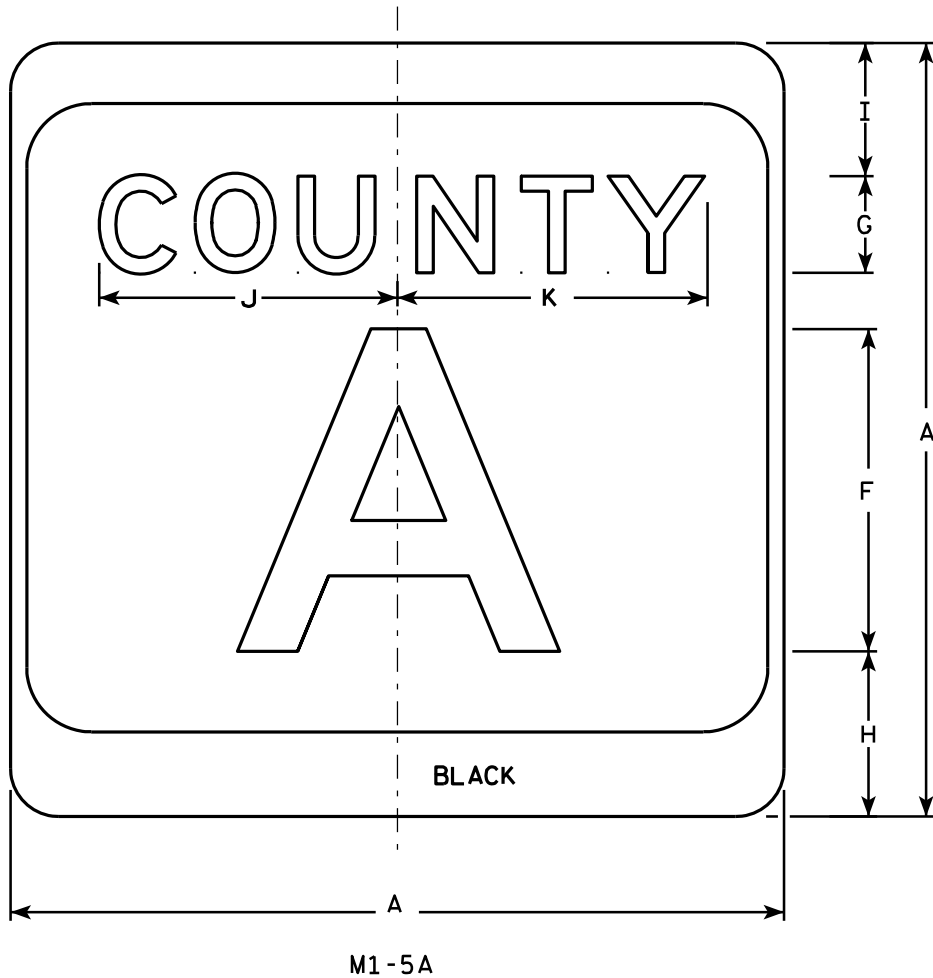
Metric equivalent
for this sign is:

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

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

PROJECT NO: HWY: COUNTY: SHEET NO: 159 E

7



NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 160	E
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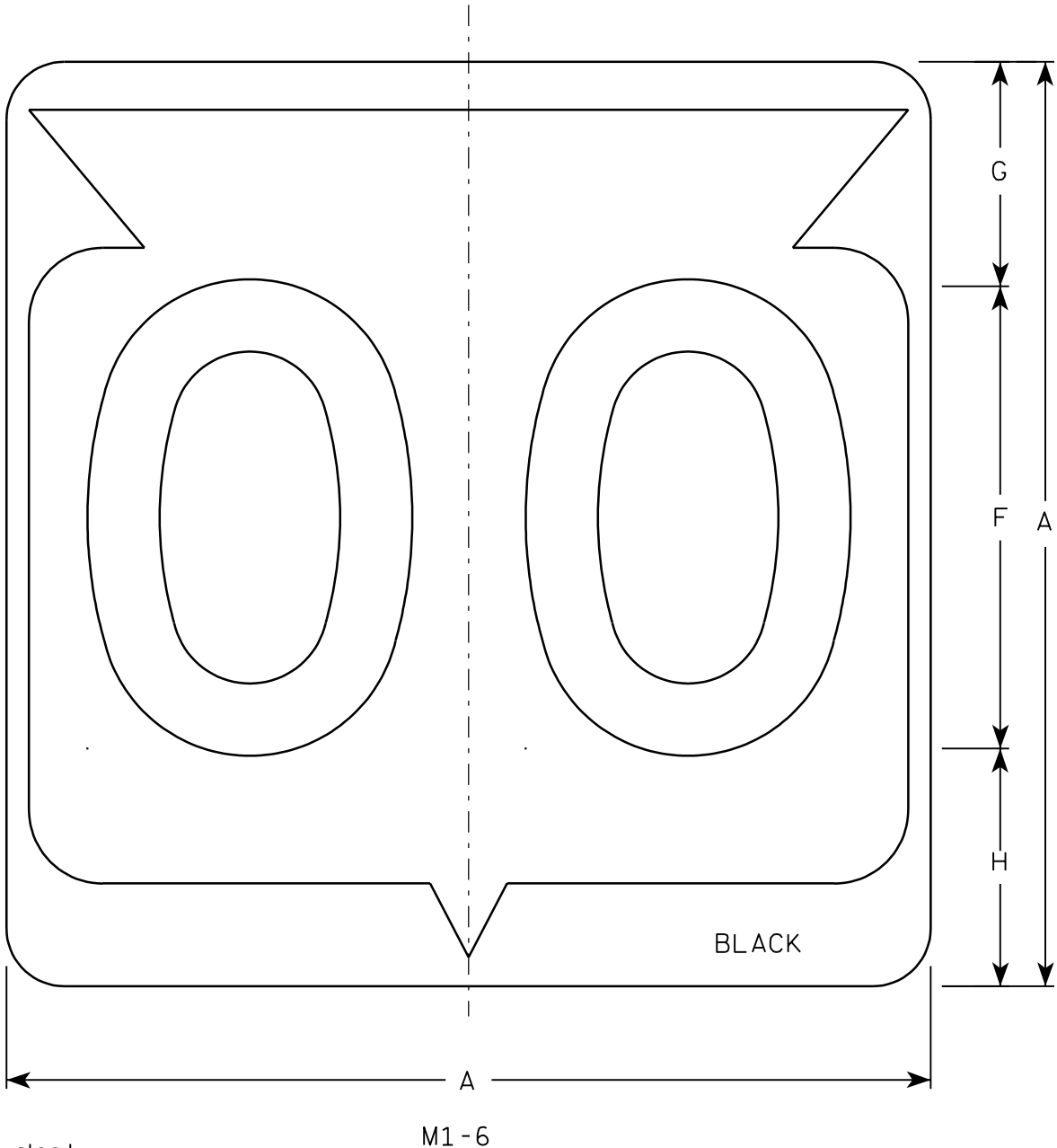
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

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:

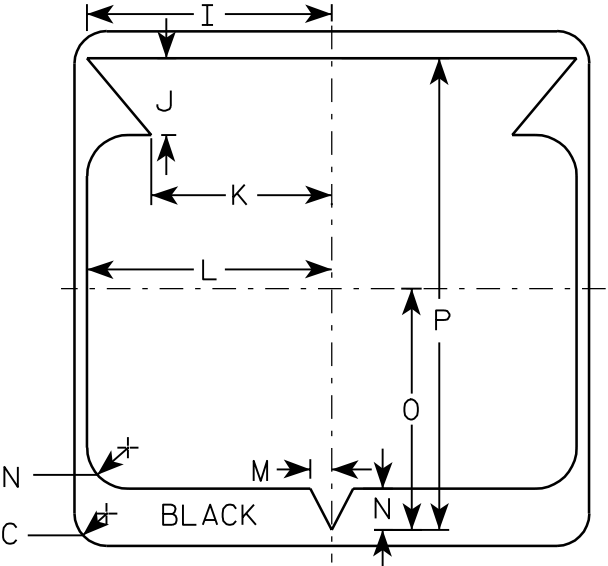
COUNTY:

SHEET NO: 161

E

NOTES

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



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

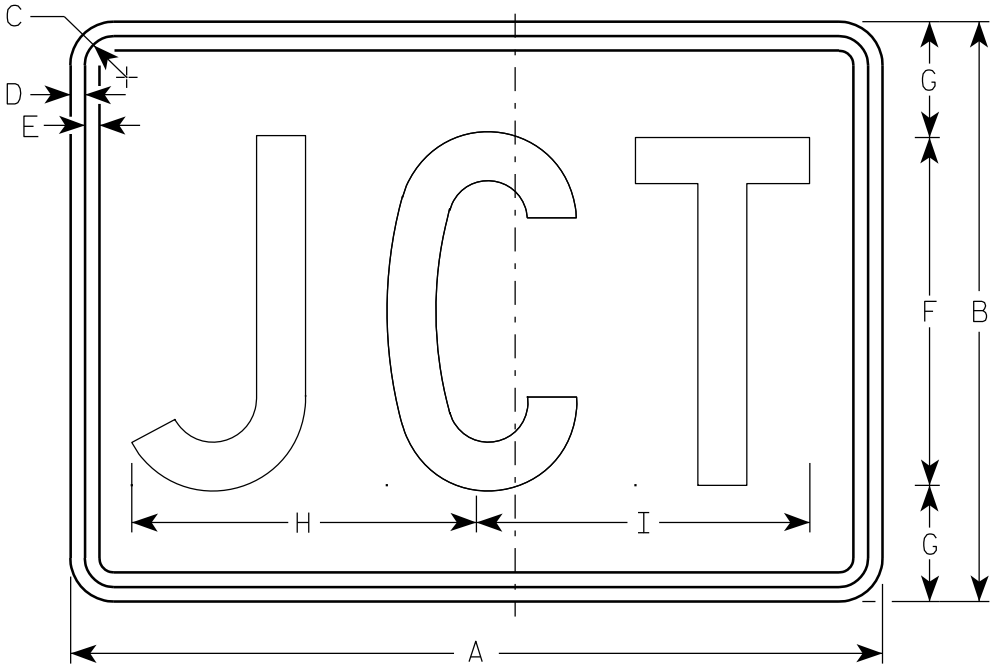
Chester J. Spang
for State Traffic Engineer

DATE 3/20/02

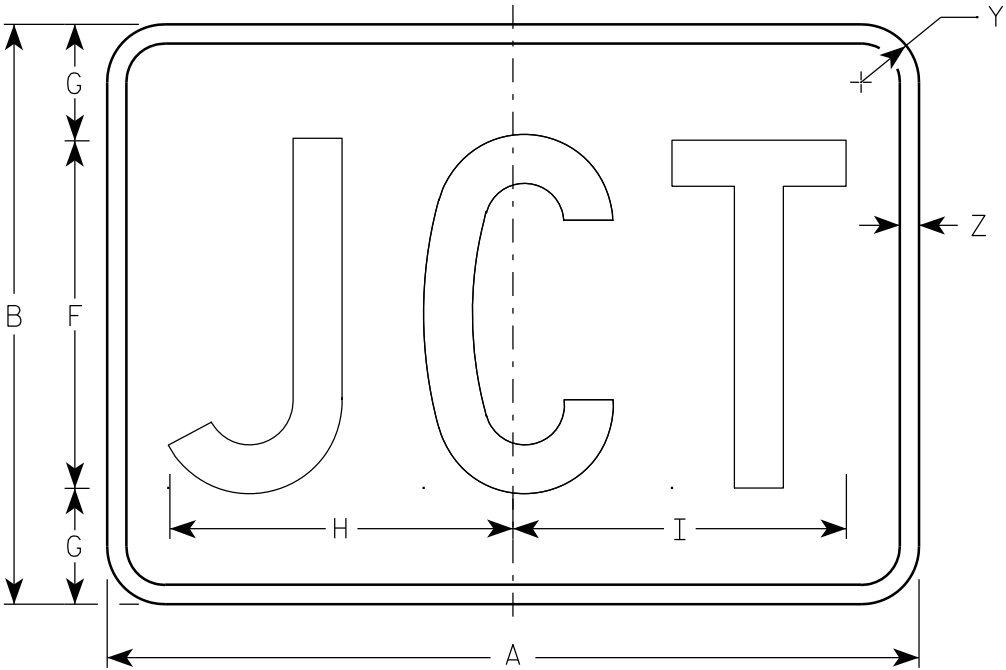
PLATE NO. M1-6.9

NOTES

1. Sign is Type II - See Note 5 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base
material is plywood but borders shall be rounded
as shown. When base material is metal, the
corners and borders shall be rounded.
5. M2-1 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB2-1 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG2-1 Background - Green
Message - White - Type H Reflective
MK2-1 Background - Green
Message - White - Type H Reflective
MM2-1 Background - White - Type H Reflective
Message - Green
MN2-1 Background - Brown
Message - White - Type H Reflective
MR2-1 Background - Brown
Message - Yellow - Type H Reflective



M2-1
MK2-1
MM2-1
MR2-1



MB2-1
MG2-1
MN2-1

Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 375 mm
3	750 mm X 525 mm
4	750 mm X 525 mm
5	750 mm X 525 mm

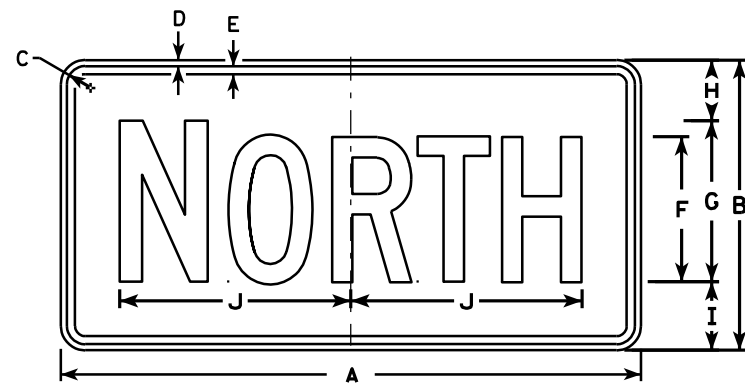
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20	0.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8		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

STANDARD SIGN
M2 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

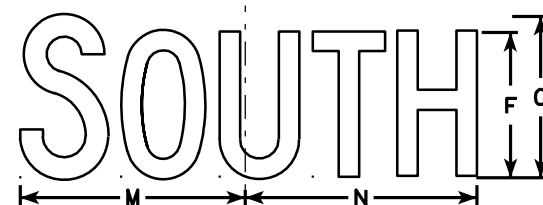
DATE 3/16/10 PLATE NO. M2-1.10



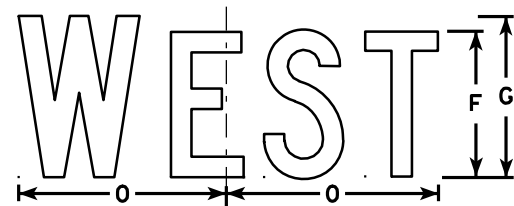
M3-1
MK3-1
M03-1



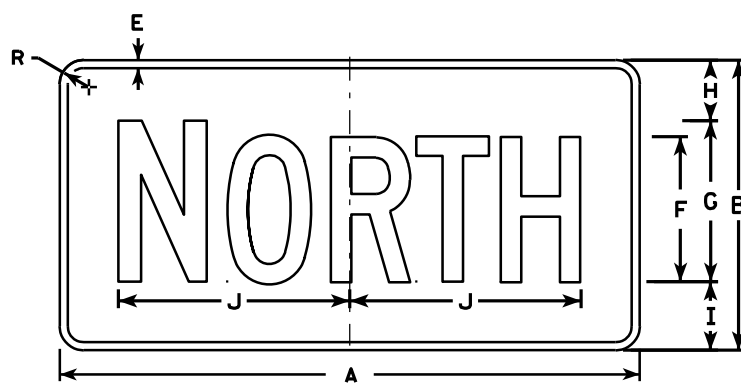
M3-2
MK3-2
M03-2



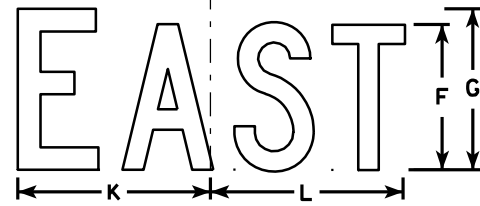
M3-3
MK3-3
M03-3



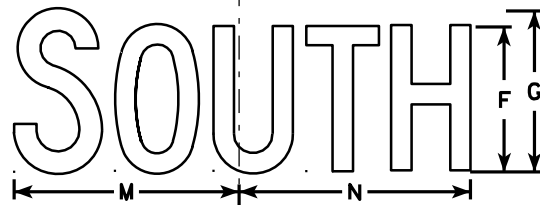
M3-4
MK3-4
M03-4



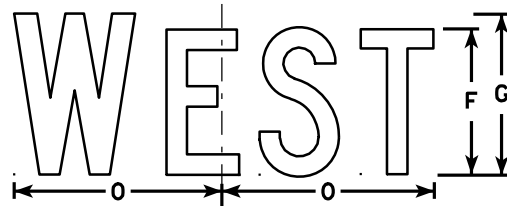
MB3-1
MG3-1
MM3-1
MN3-1



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

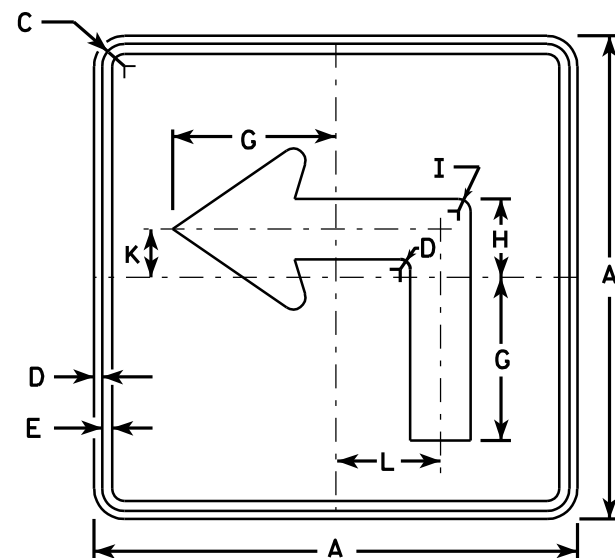
PROJECT NO: HWY: COUNTY: SHEET NO: 163 E

STANDARD SIGNS M3-1 thru M3-4 SERIES

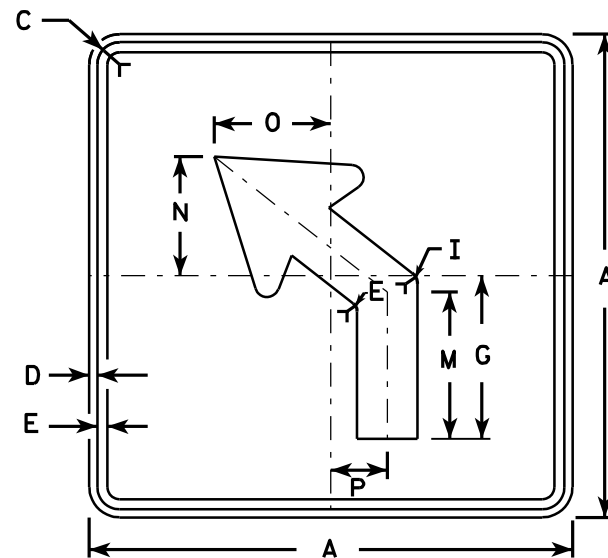
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

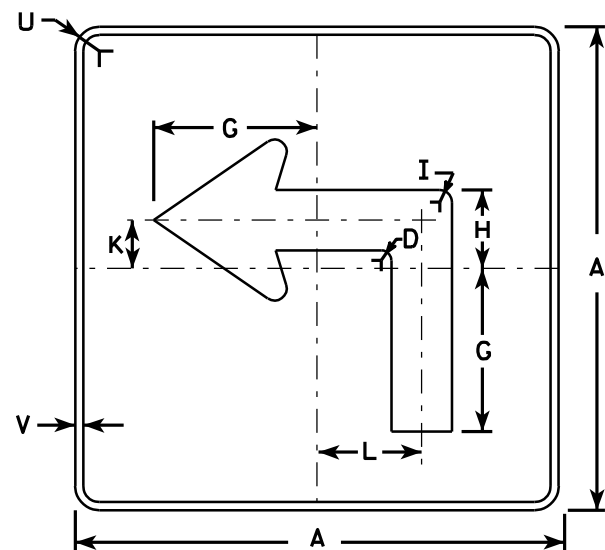
DATE 11/10/10 PLATE NO. M3-1.12



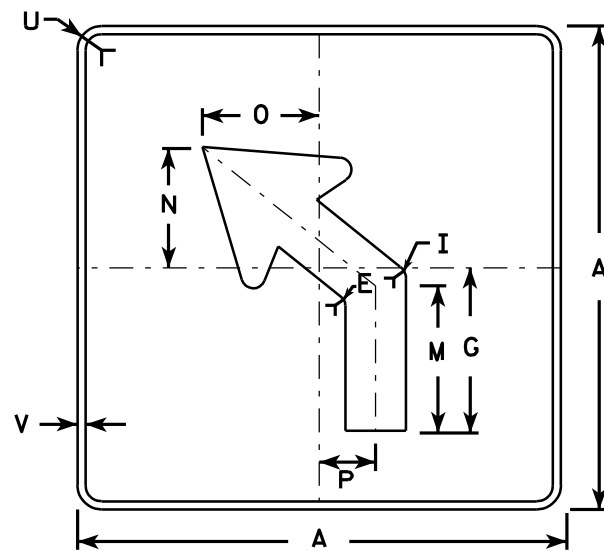
M5-1L
MK5-1L
MM5-1L
MO5-1L
MR5-1L



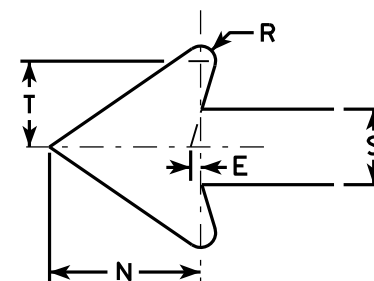
M5-2L
MK5-2L
MM5-2L
MO5-2L
MR5-2L



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



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



Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq.
1																												
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 164	E
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NOTES

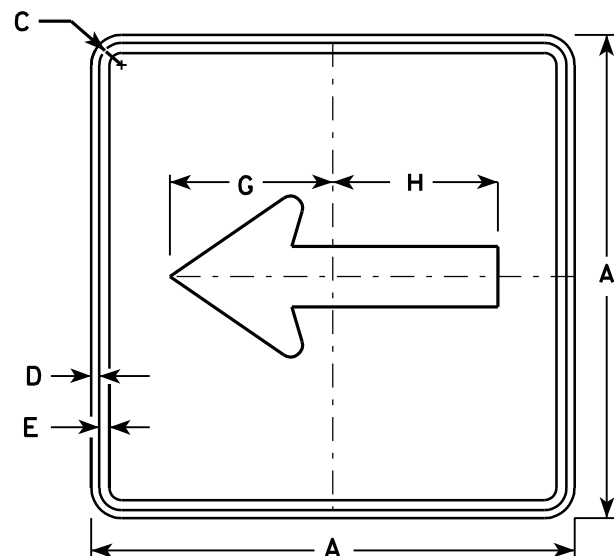
- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M5-1 and M5-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective)
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
MO5-1 and MO5-2 Background - Orange - Reflective
Message - Black
MR5-1 and MR5-2 Background - Brown
Message - Yellow - Type H Reflective
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

STANDARD SIGN
M5-1 & M5-2

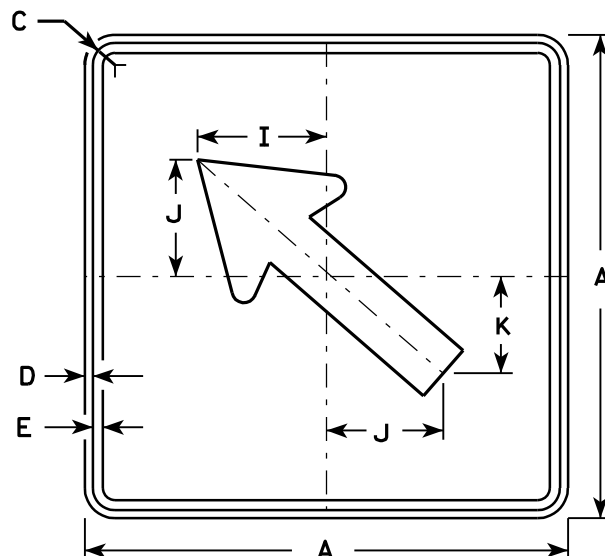
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

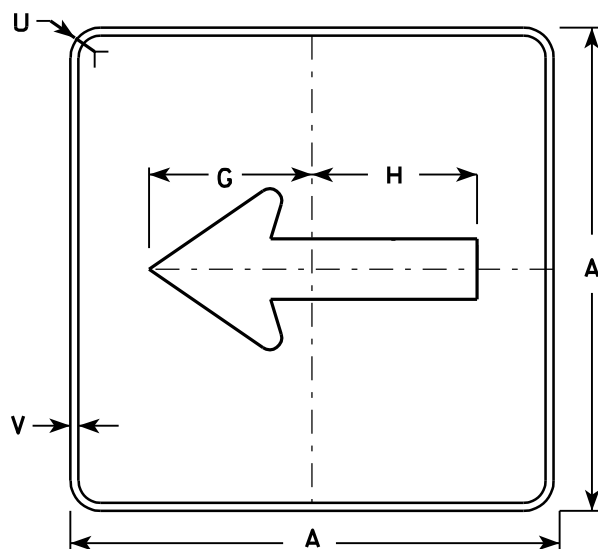
DATE 3/16/10 PLATE NO. M5-1.11



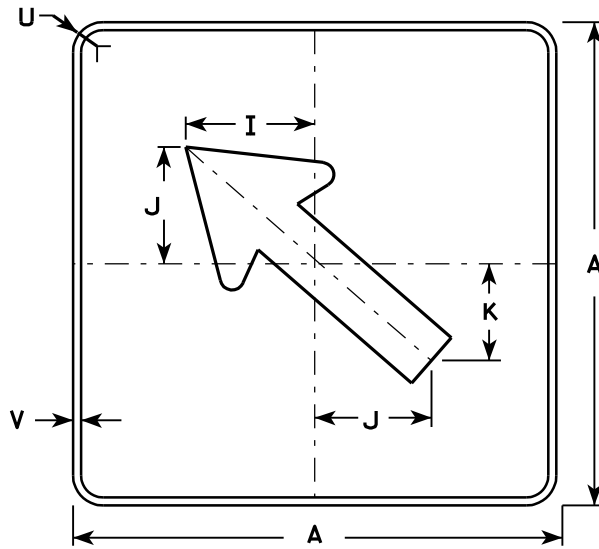
M6-1
MK6-1
MM6-1
MO6-1
MR6-1



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



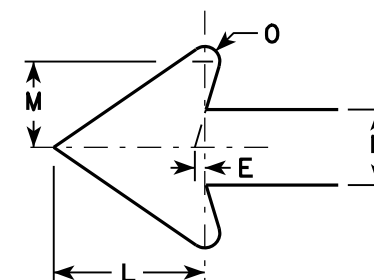
MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

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

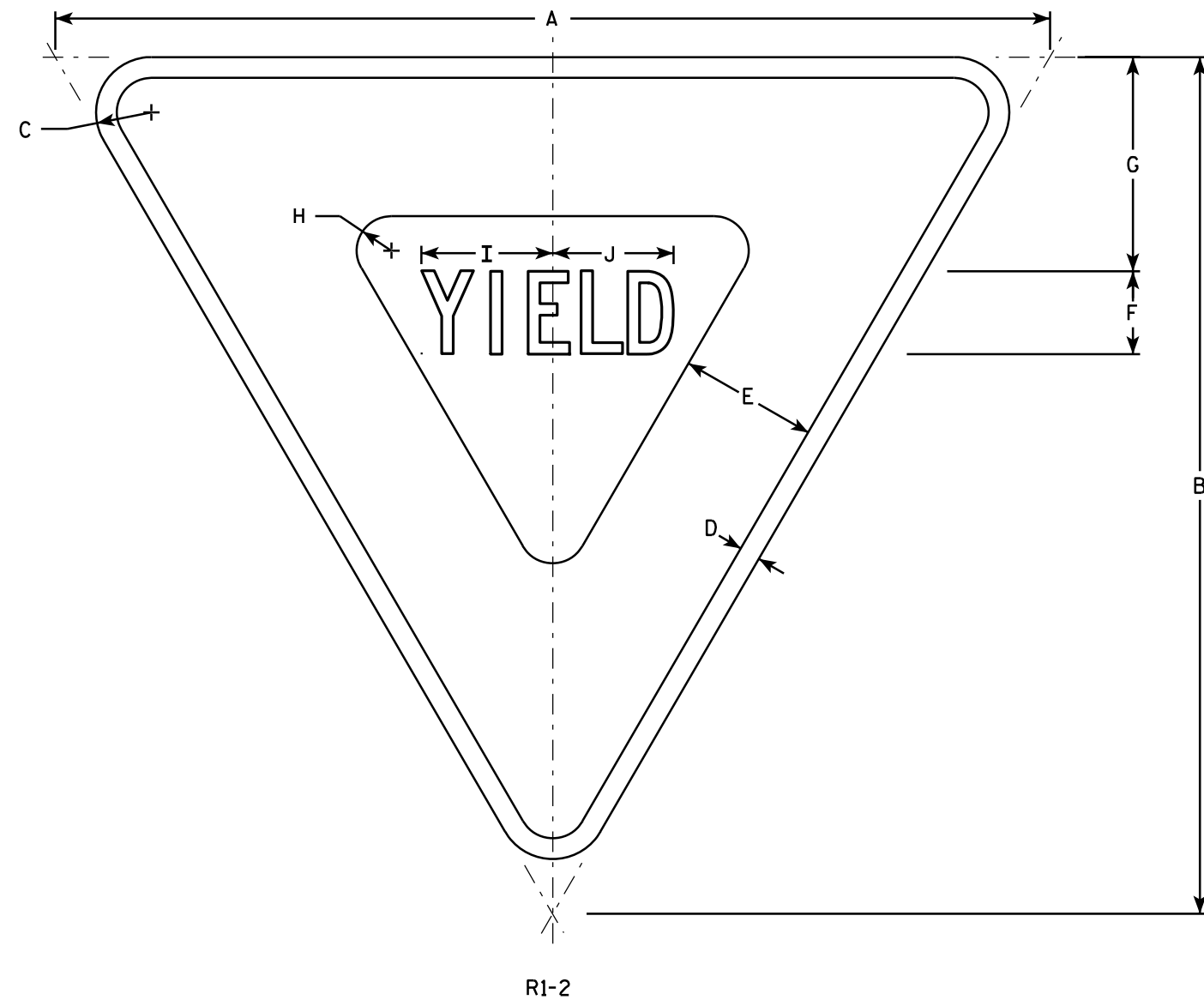


Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56

PROJECT NO: HWY: COUNTY: SHEET NO: 165 E



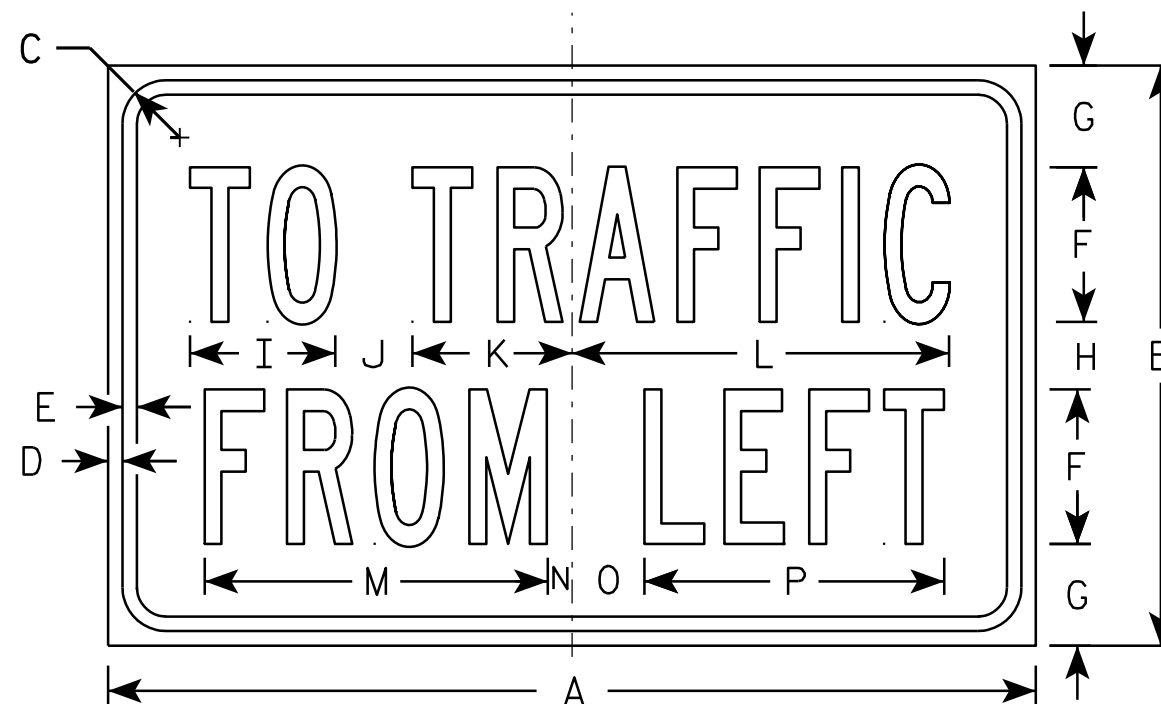
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

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

STANDARD SIGN	
R1-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/02/10	PLATE NO. R1-2.11

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 166		E
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R1-54

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 - B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	15	1 1/8	3/8	3/8	4	2 5/8	1 3/4	3 3/4	2	4 1/8	9 3/4	8 7/8	5/8	1 7/8	7 3/4											2.5
2M	24	15	1 1/8	3/8	3/8	4	2 5/8	1 3/4	3 3/4	2	4 1/8	9 3/4	8 7/8	5/8	1 7/8	7 3/4											2.5
3																											
4																											
5																											

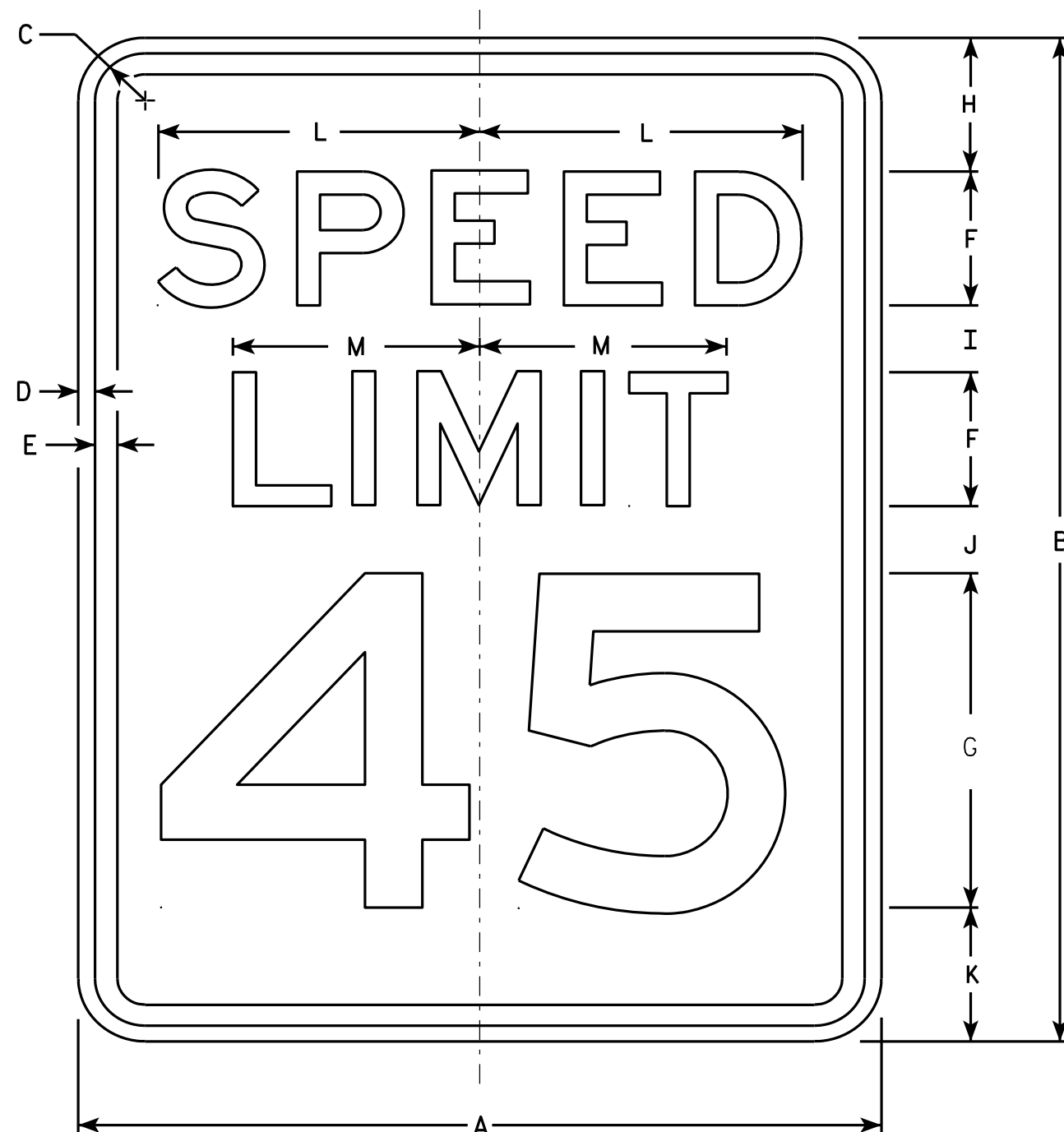
STANDARD SIGN
R1-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-54.2

PROJECT NO: HWY: COUNTY: SHEET NO: 167 E



R2-1

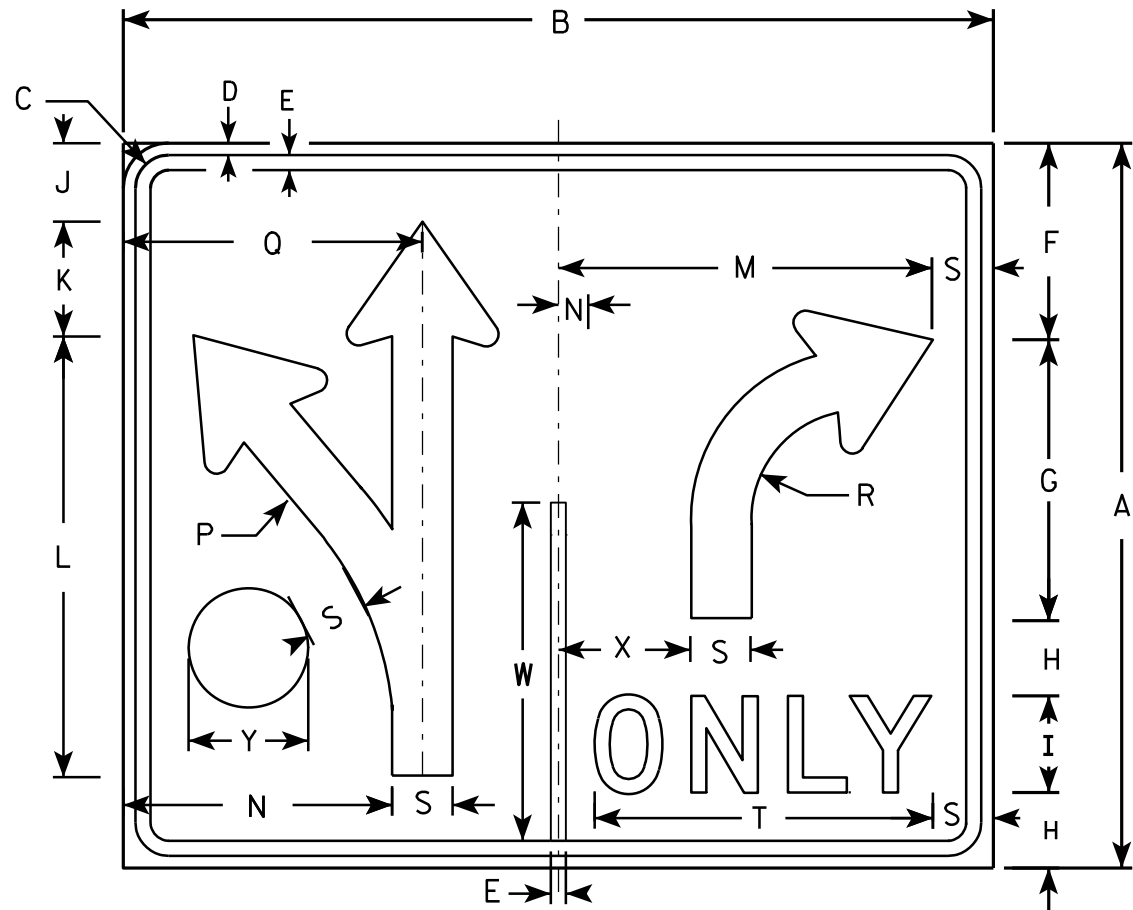
NOTES

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

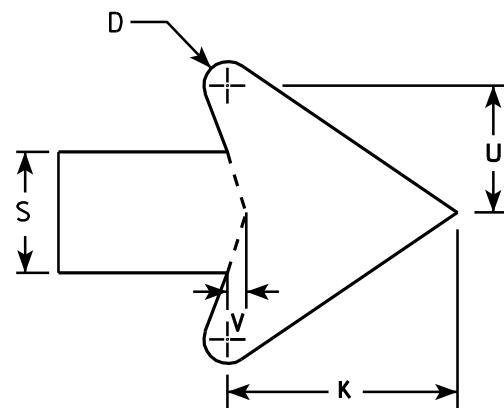
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8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



R3-8DD



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.
5. R3-8B & R3-8C is the same but reversed.

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	15 1⁄2	1 1⁄4		13 1⁄4	12 3⁄8	4 1⁄2	2 1⁄2	14	2 5⁄8	3⁄8	14	5 1⁄4	4 1⁄4		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	15 1⁄2	1 1⁄4		13 1⁄4	12 3⁄8	4 1⁄2	2 1⁄2	14	2 5⁄8	3⁄8	14	5 1⁄4	4 1⁄4		7.5
3																											

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 169	E
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STANDARD SIGN
R3-8DD

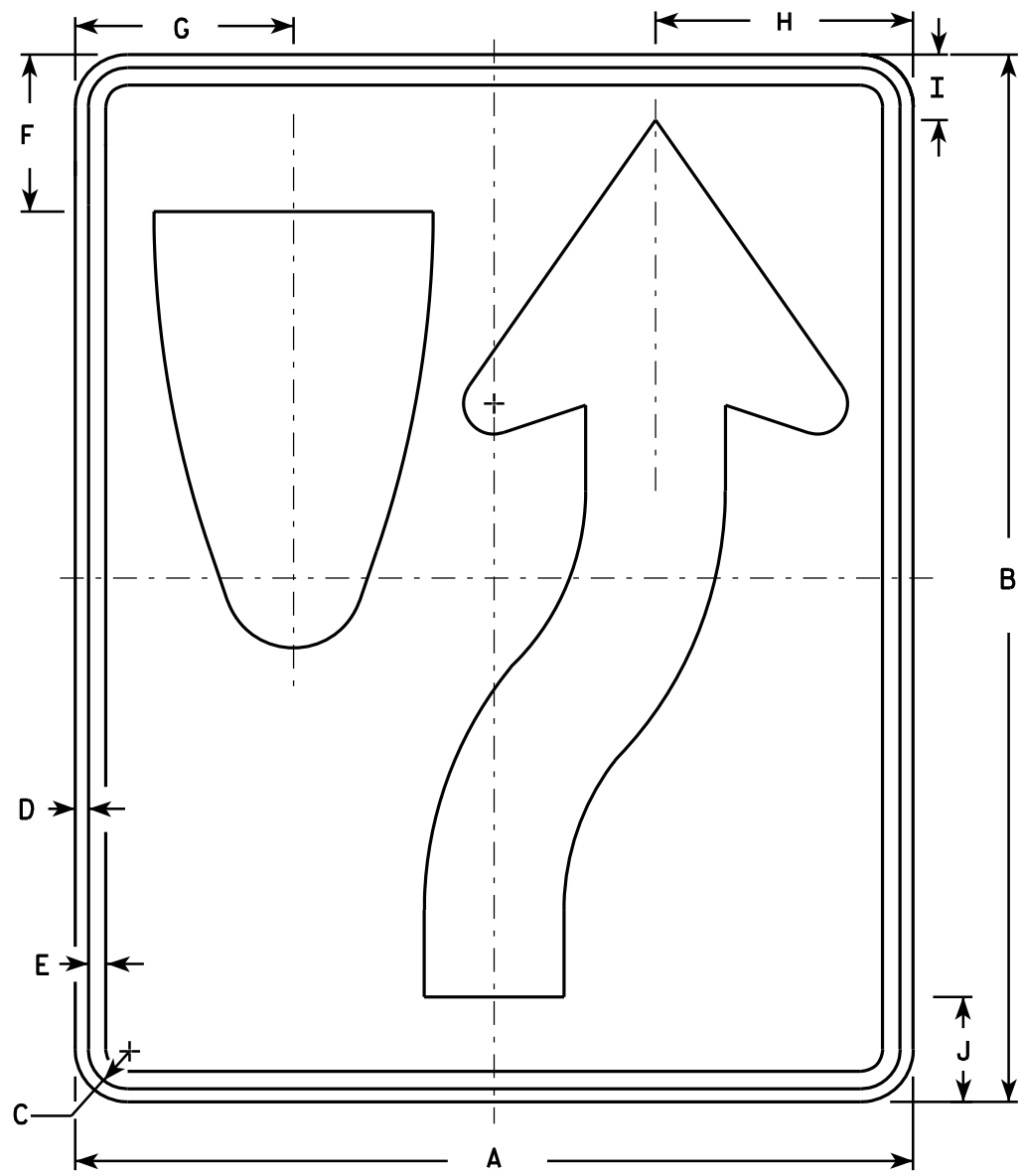
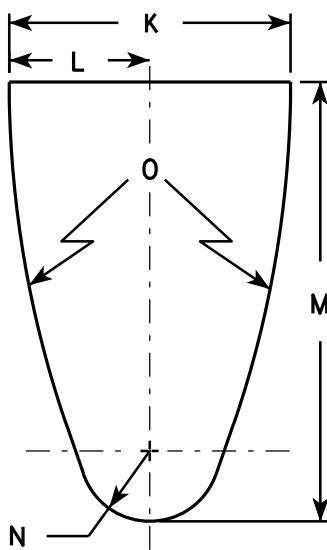
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

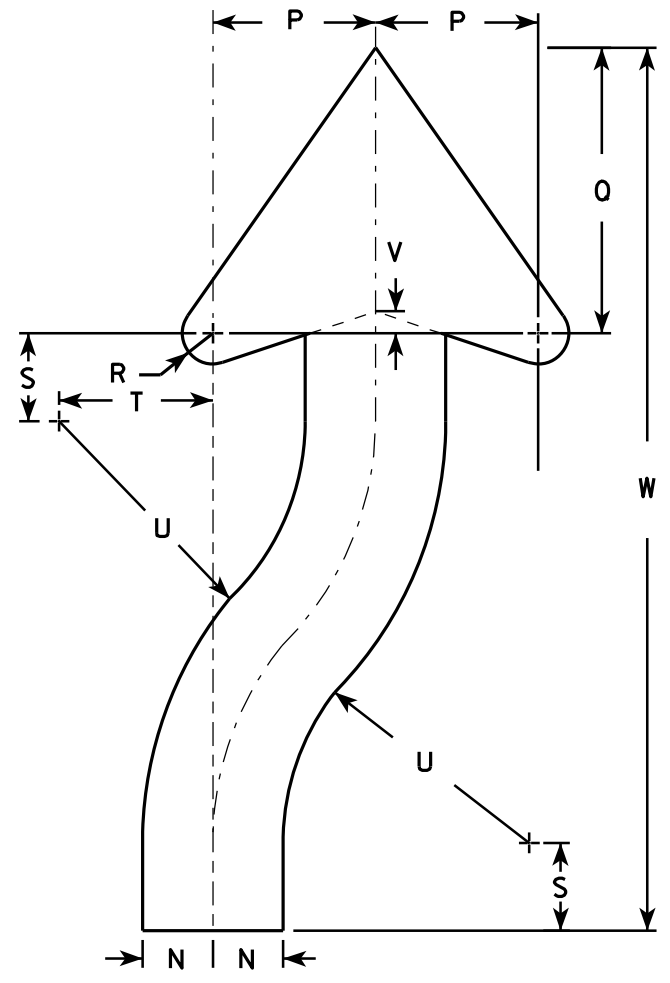
DATE 3/18/2011 PLATE NO. R3-8DD.2

NOTES

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



R4-7



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 170

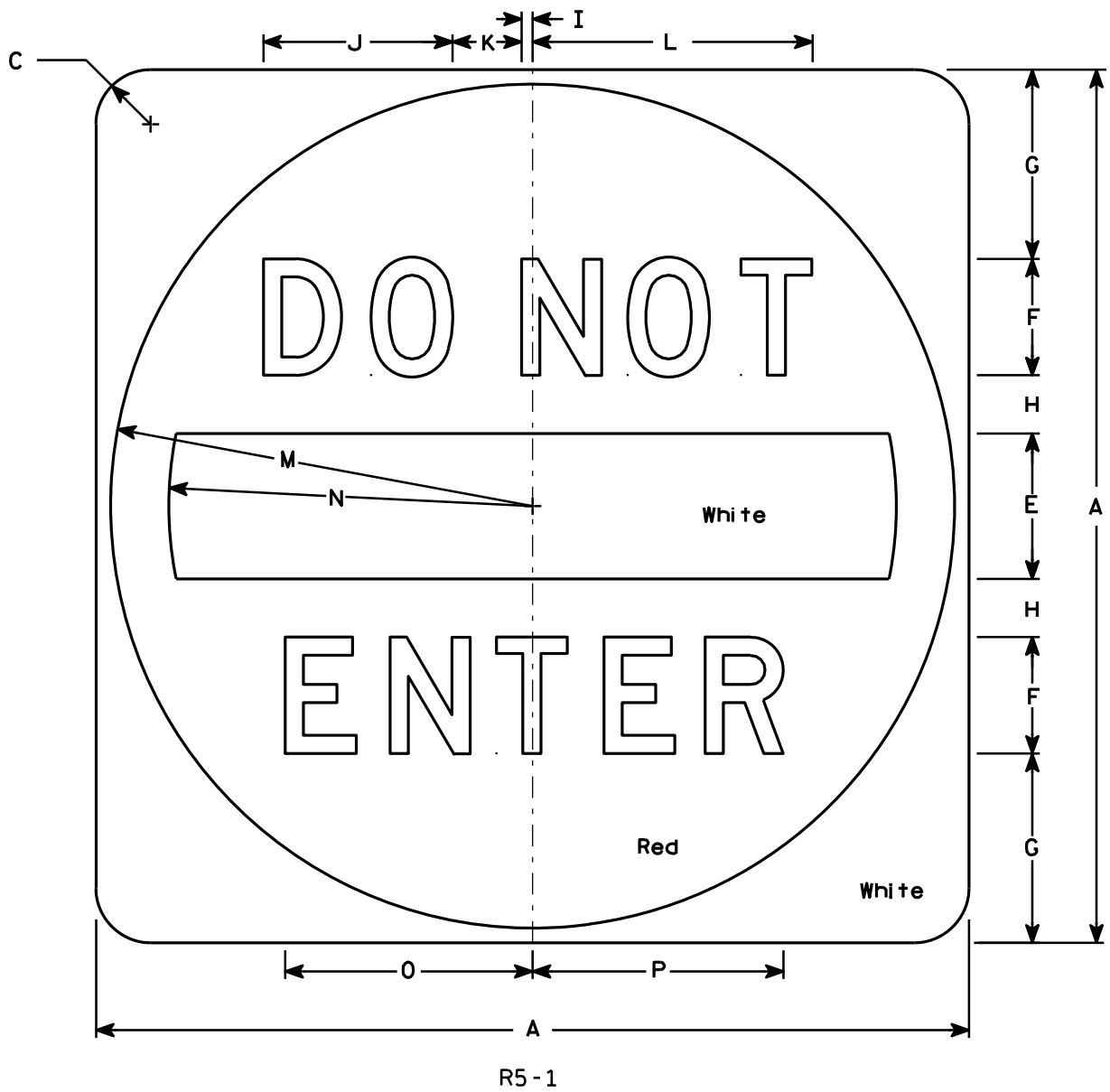
E

NOTES

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

Background - See detail

Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the corners shall be rounded.



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

STANDARD SIGN

R5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch

for State Traffic Engineer

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

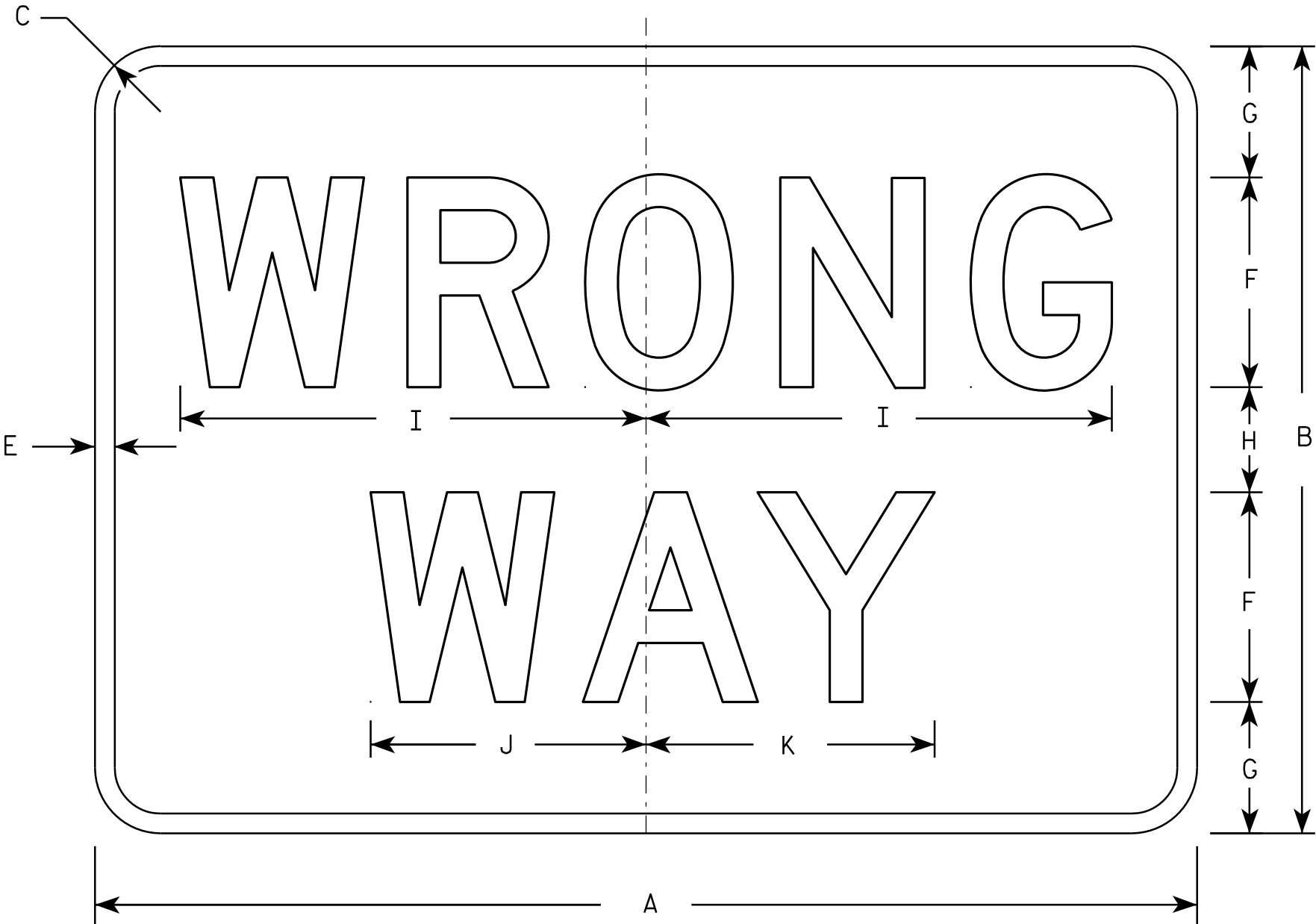
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 171

E



R5-1A

NOTES

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

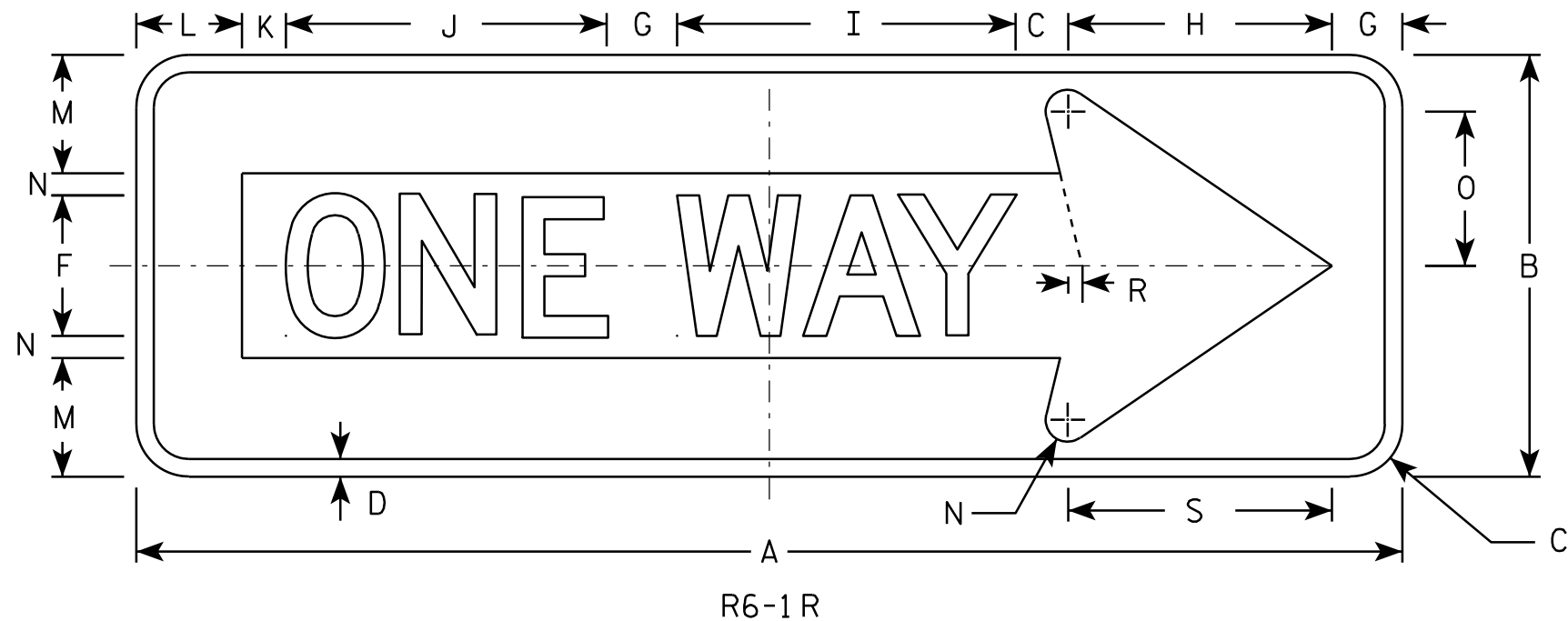
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

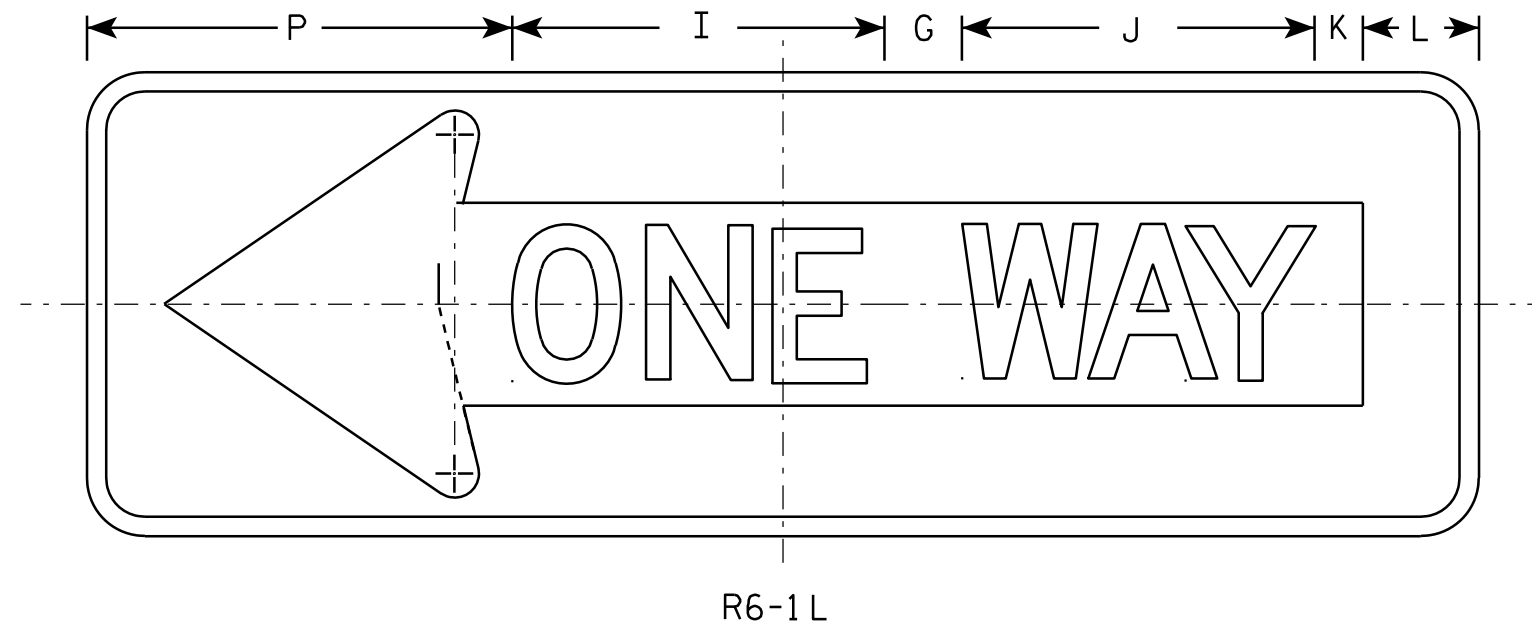
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



NOTES

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



R6-1 L

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	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2								3.0
2M	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
3	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
4	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
5																											

STANDARD SIGN R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

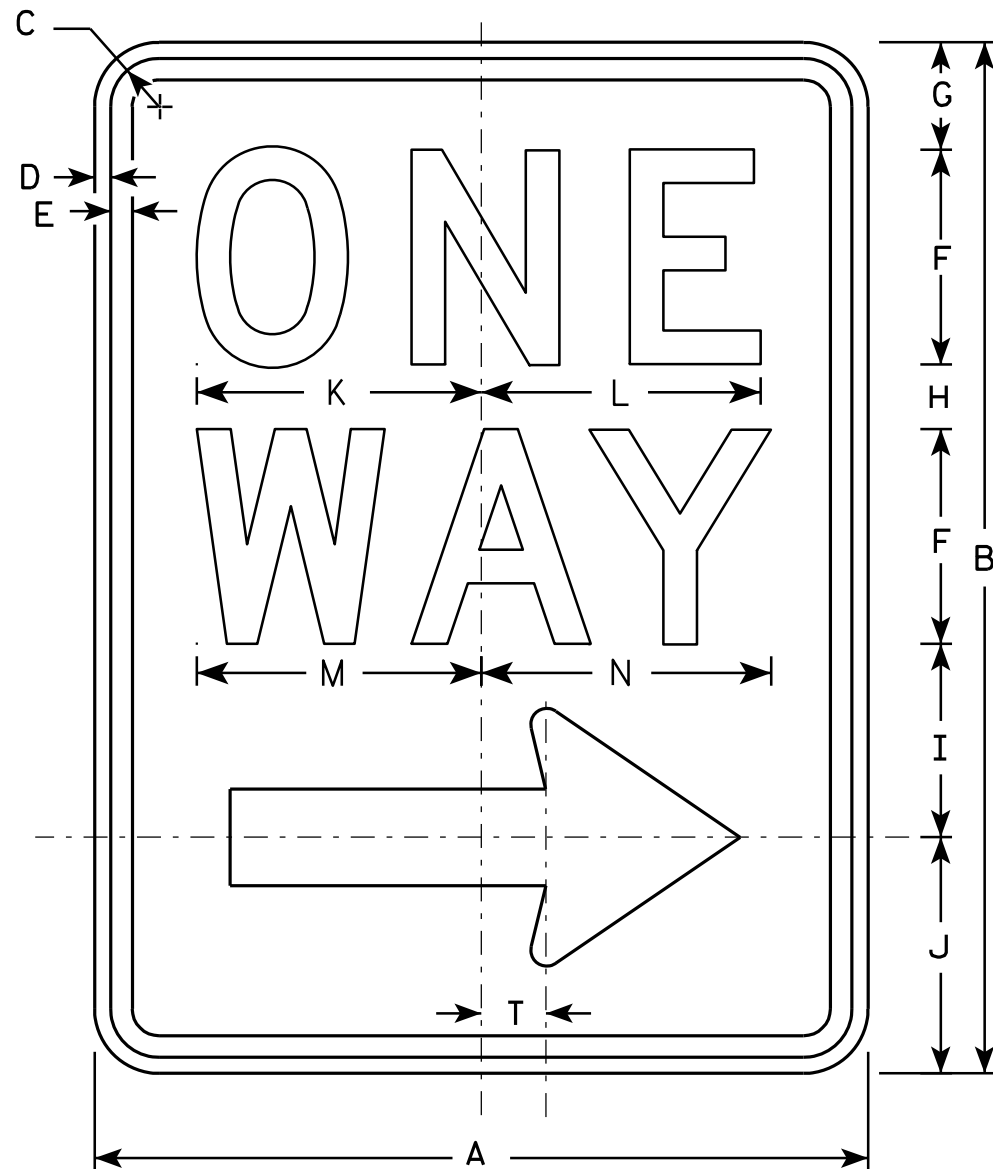
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

PROJECT NO:

SHEET NO: 173

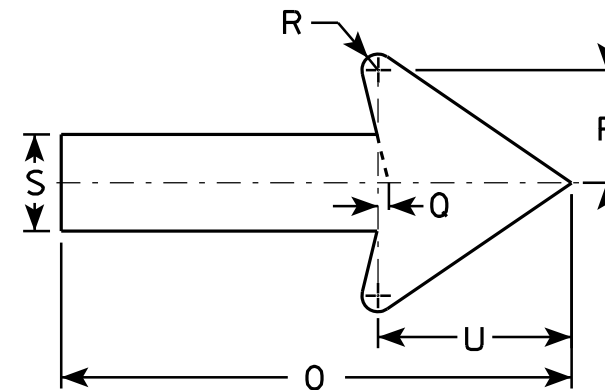
E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



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

STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

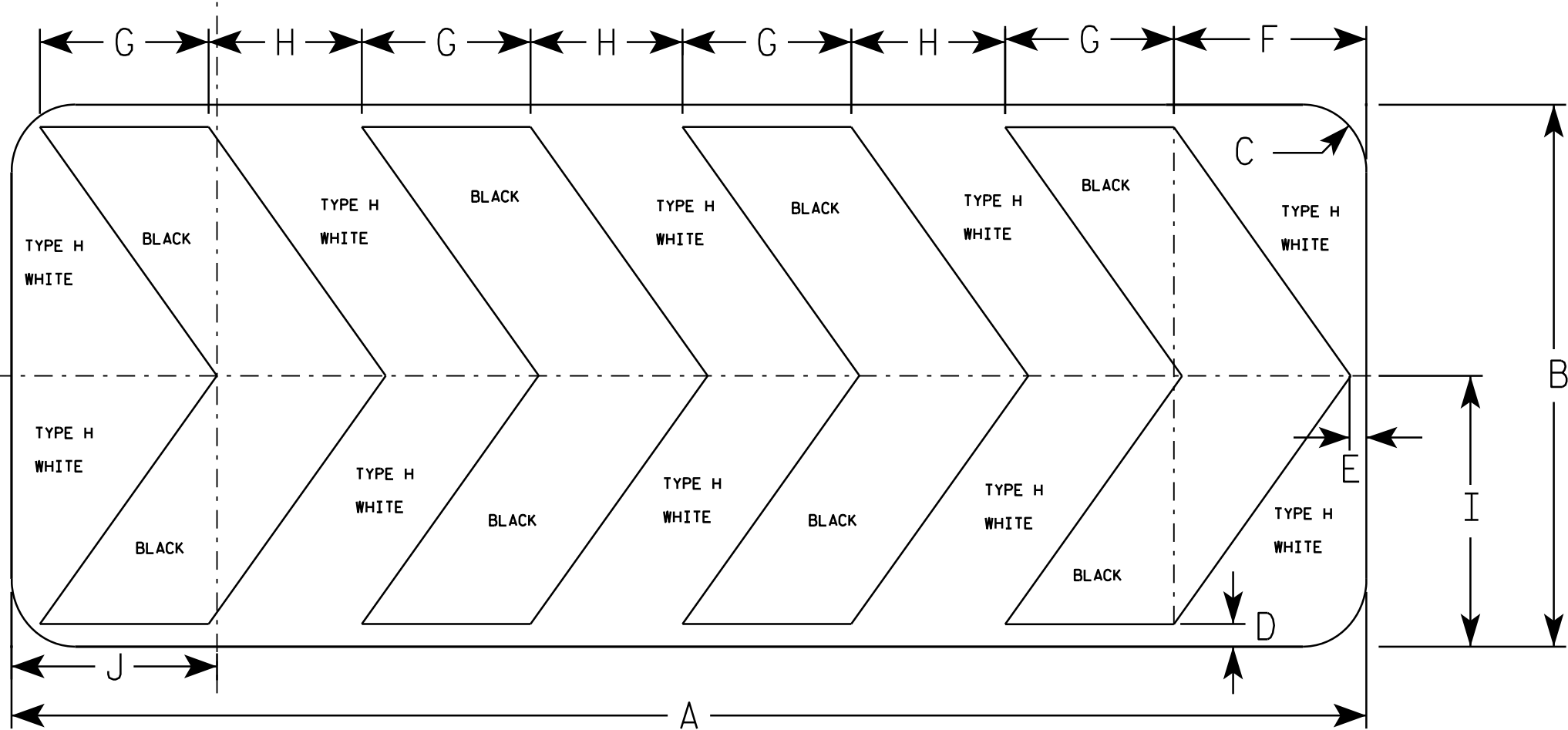
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO: HWY: COUNTY: SHEET NO: 174 E

NOTES

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



R6-4B

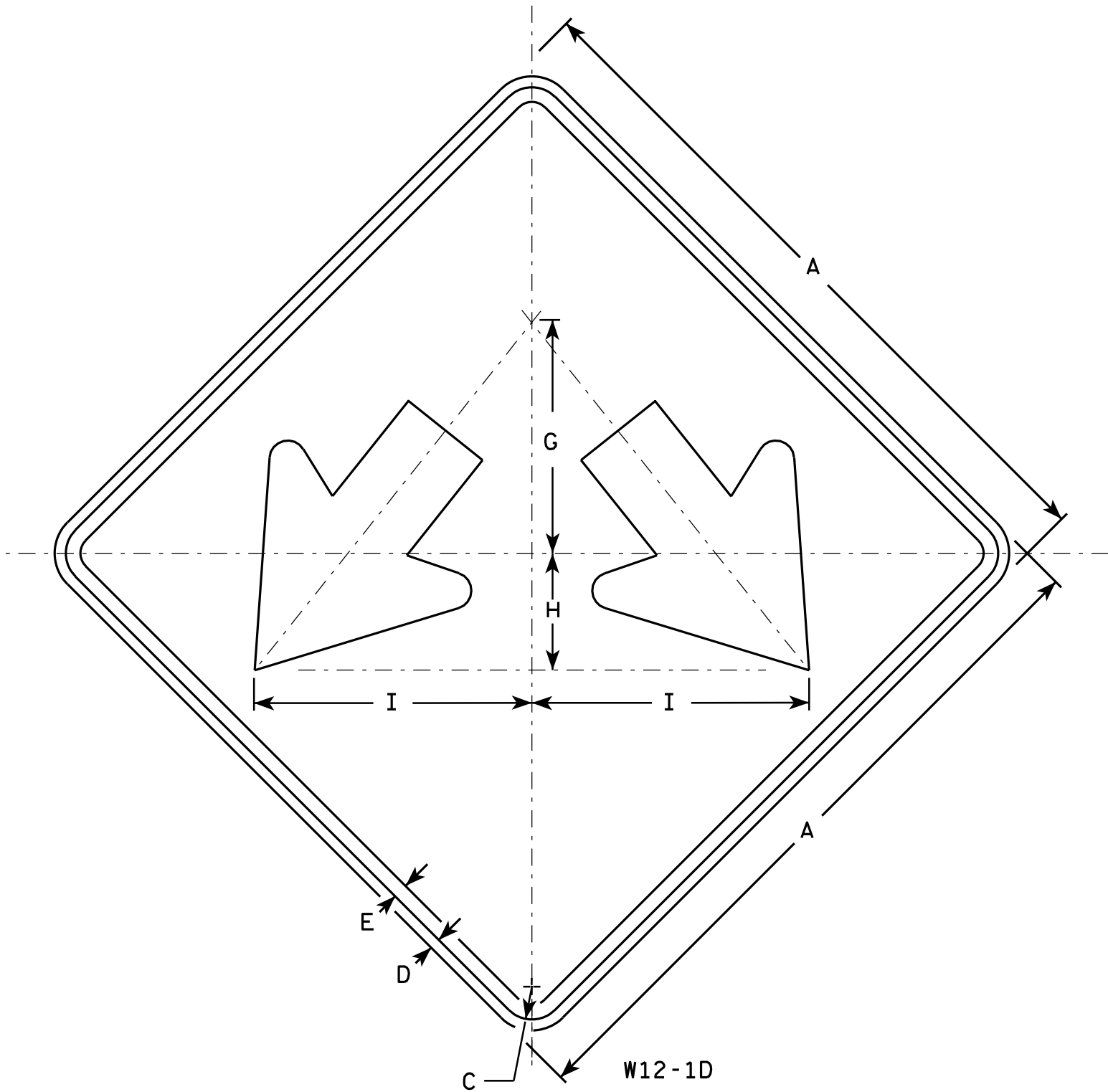
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	24	2 1/4	1	3/4	8 1/2	7 1/2	6 3/4	12	9 1/8																	10.0
2M	60	24	2 1/4	1	3/4	8 1/2	7 1/2	6 3/4	12	9 1/8																	10.0
3																											
4																											
5																											

STANDARD SIGN
R6-4B

WISCONSIN DEPT OF TRANSPORTATION

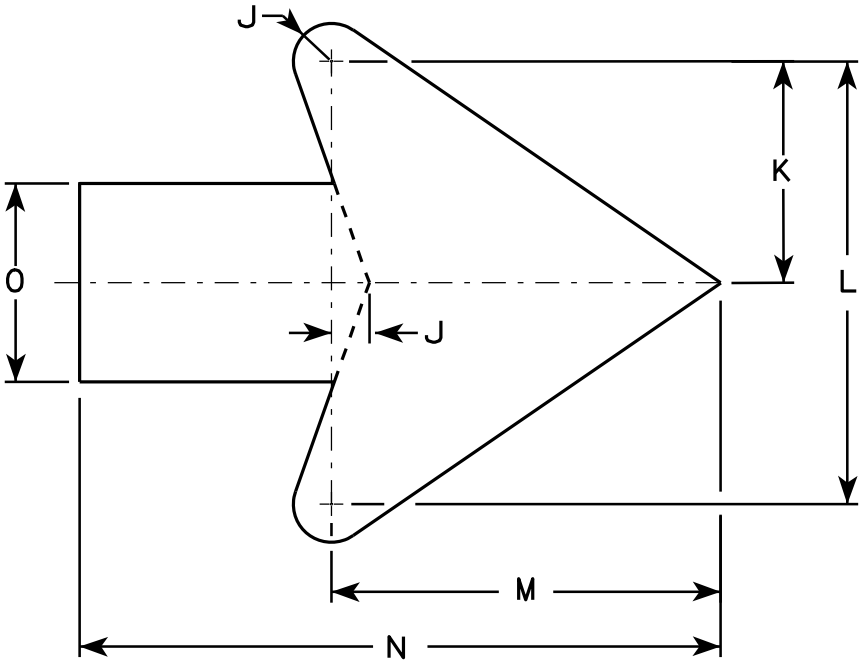
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 1/03/11 PLATE NO. R6-4B.2



NOTES

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



Arrow Detail

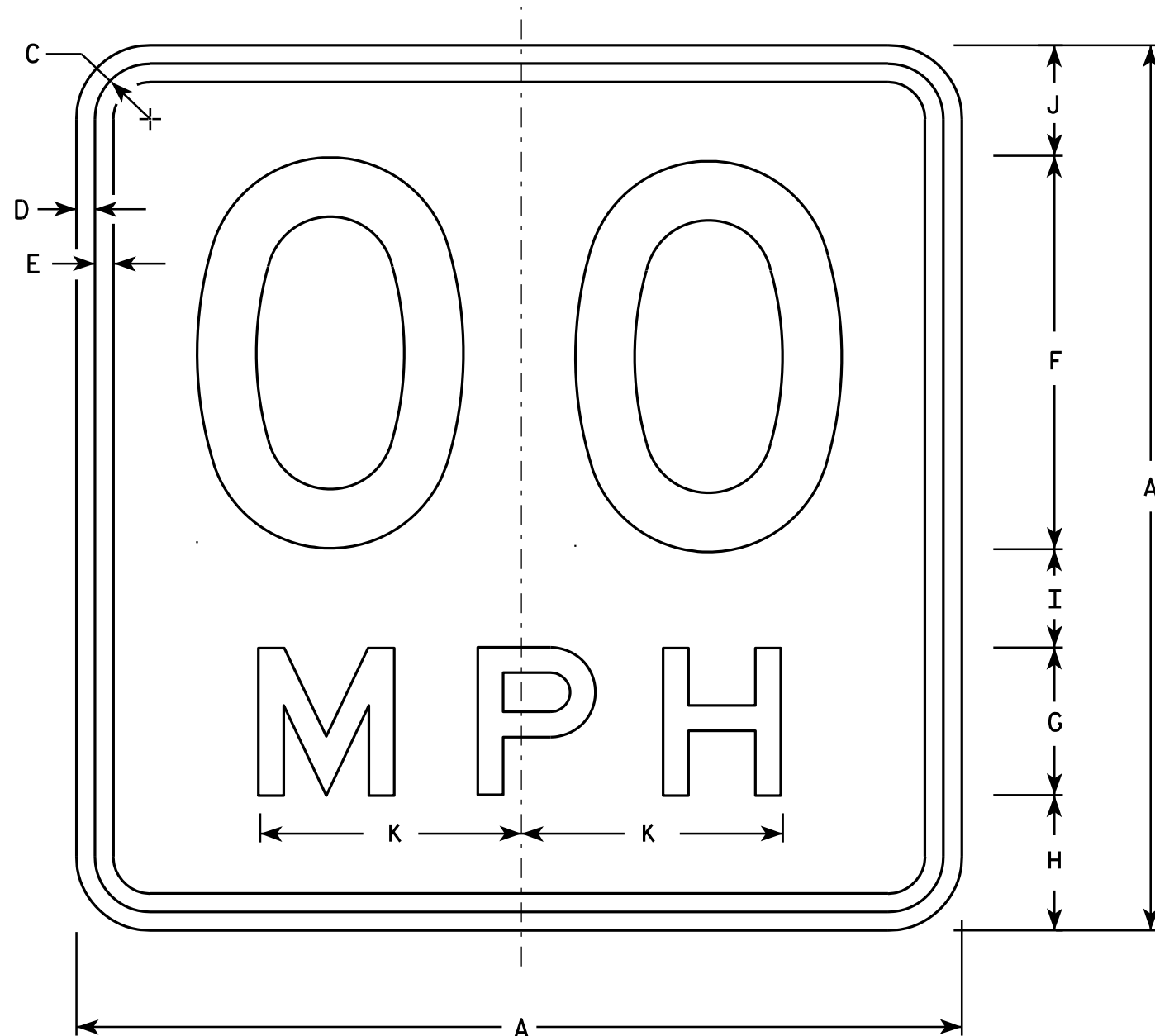
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4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

STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

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



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 - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
Line 2 is Series E

W13-1

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

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

STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

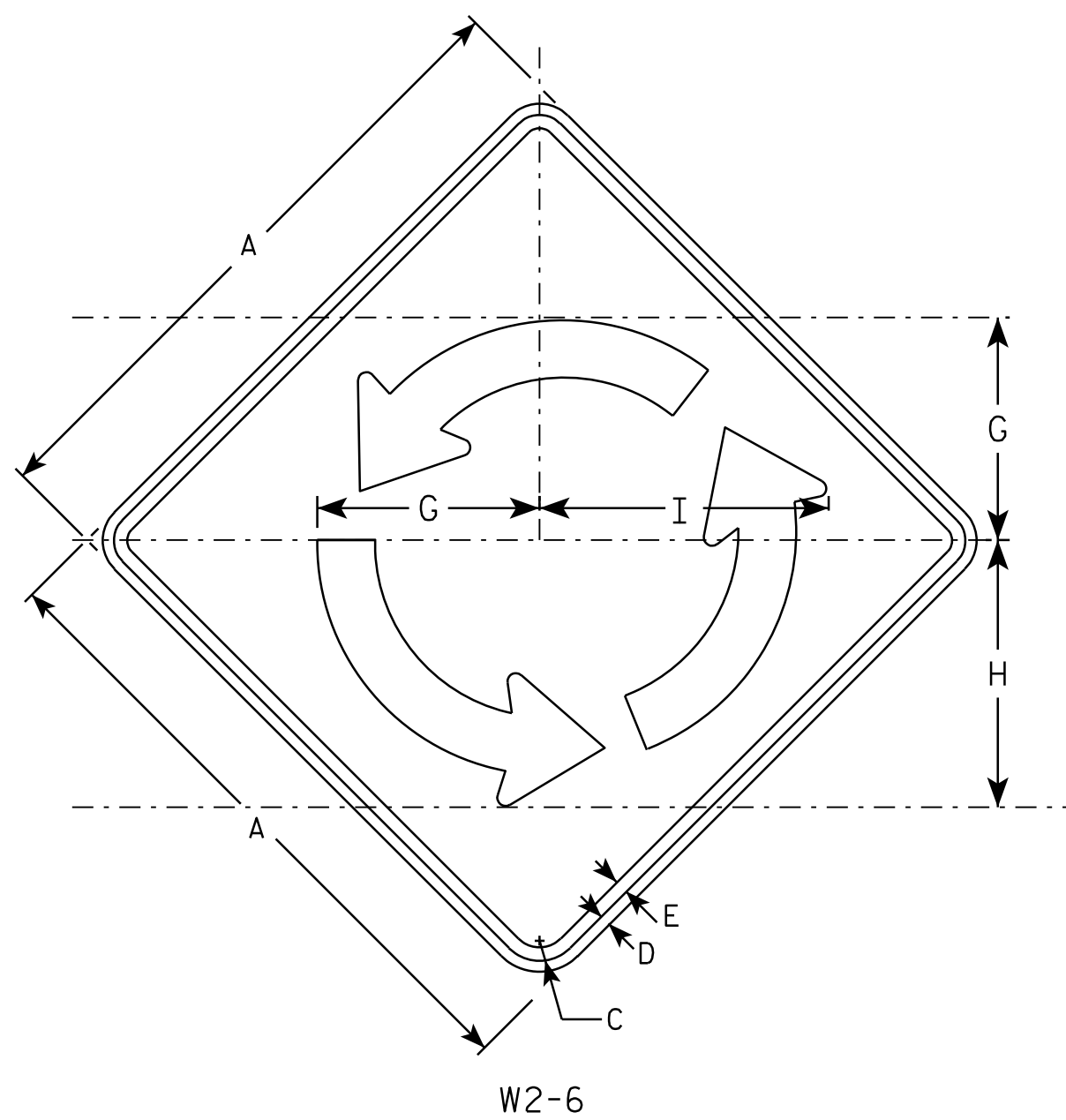
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 177

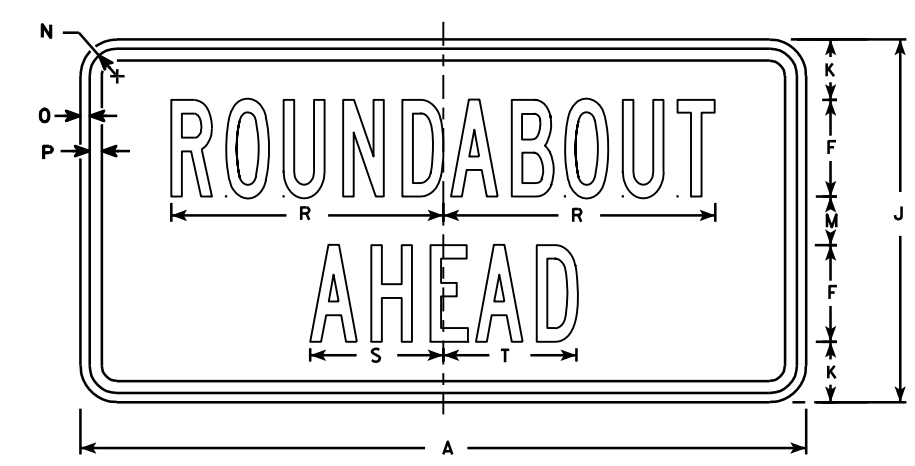
E



W2-6

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.



W2-6P

																								W2-6	W2-6P	
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	Area sq. ft.	Area sq. ft.
1																										
2S	30		1 3⁄8	½	5⁄8	4	10 3⁄8	12 ½	13 ½	15	2 ½		2	1 ⅛	3⁄8	½		11 ¼	5 ½	5 ½					6.25	3.12
2M	30		1 3⁄8	½	5⁄8	4	10 3⁄8	12 ½	13 ½	15	2 ½		2	1 ⅛	3⁄8	½		11 ¼	5 ½	5 ½					6.25	3.12
3	36		1 5⁄8	5⁄8	¾	5	12 ½	15	16 ¼	18	2 5⁄8		2 ¾	1 ⅛	3⁄8	½		14	7	6 ¾					9.00	4.50
4	48		2 ¼	¾	1	6	16 5⁄8	20	16 ¼	24	4 3⁄8		3 5⁄8	1 3⁄8	½	5⁄8		17	8 ¼	8 ¼					16.0	8.0
5																										

STANDARD SIGN

W2-6

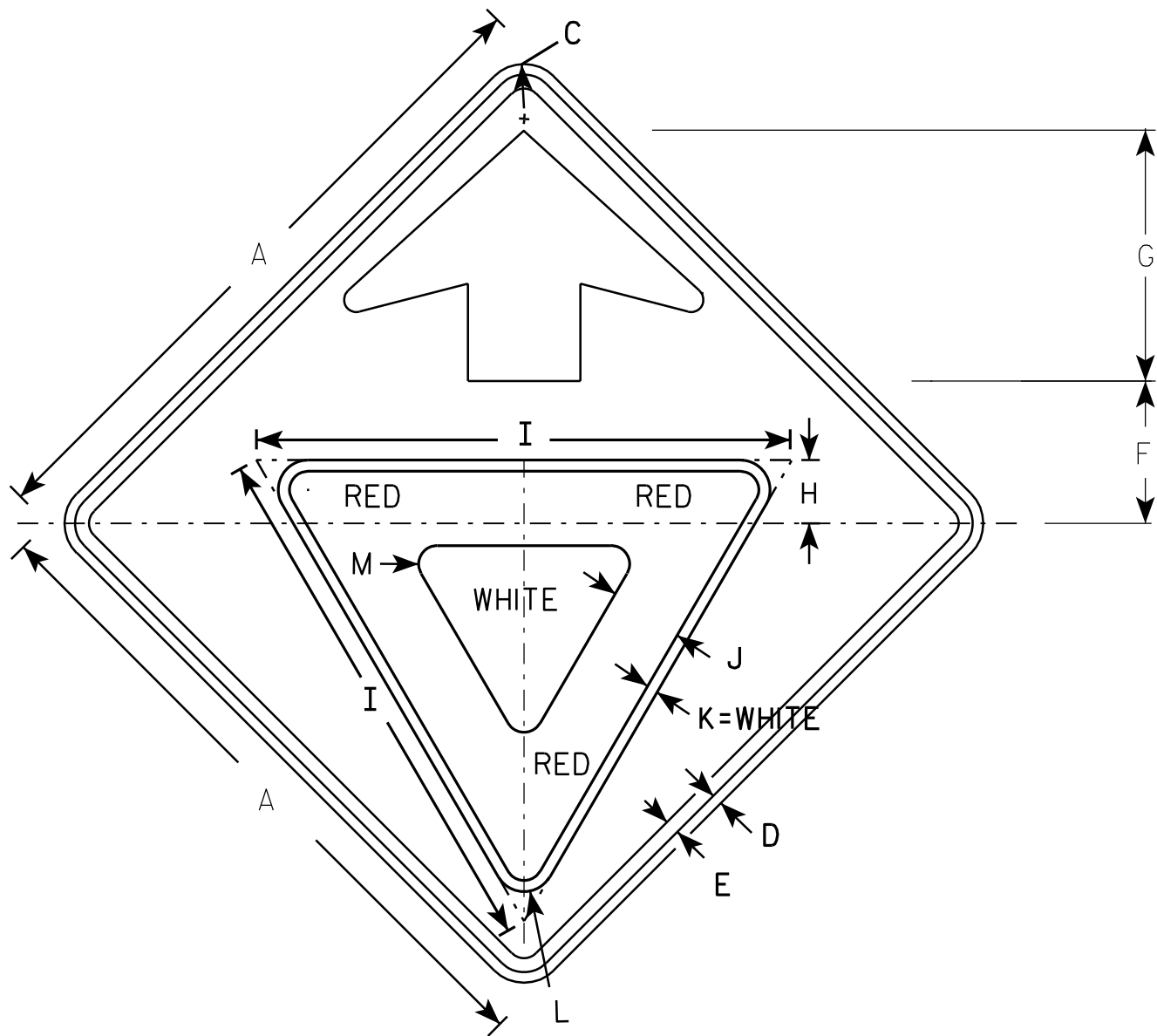
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

for State Traffic Engineer

DATE 6/29/12

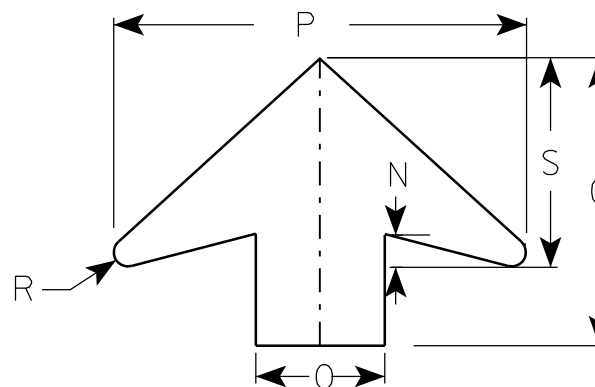
PLATE NO. W2-6.5



W3-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

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

PROJECT NO:

STANDARD SIGN
W3-2

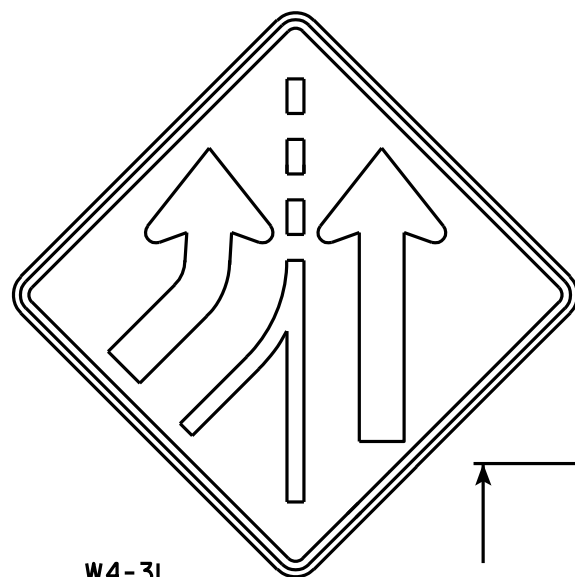
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

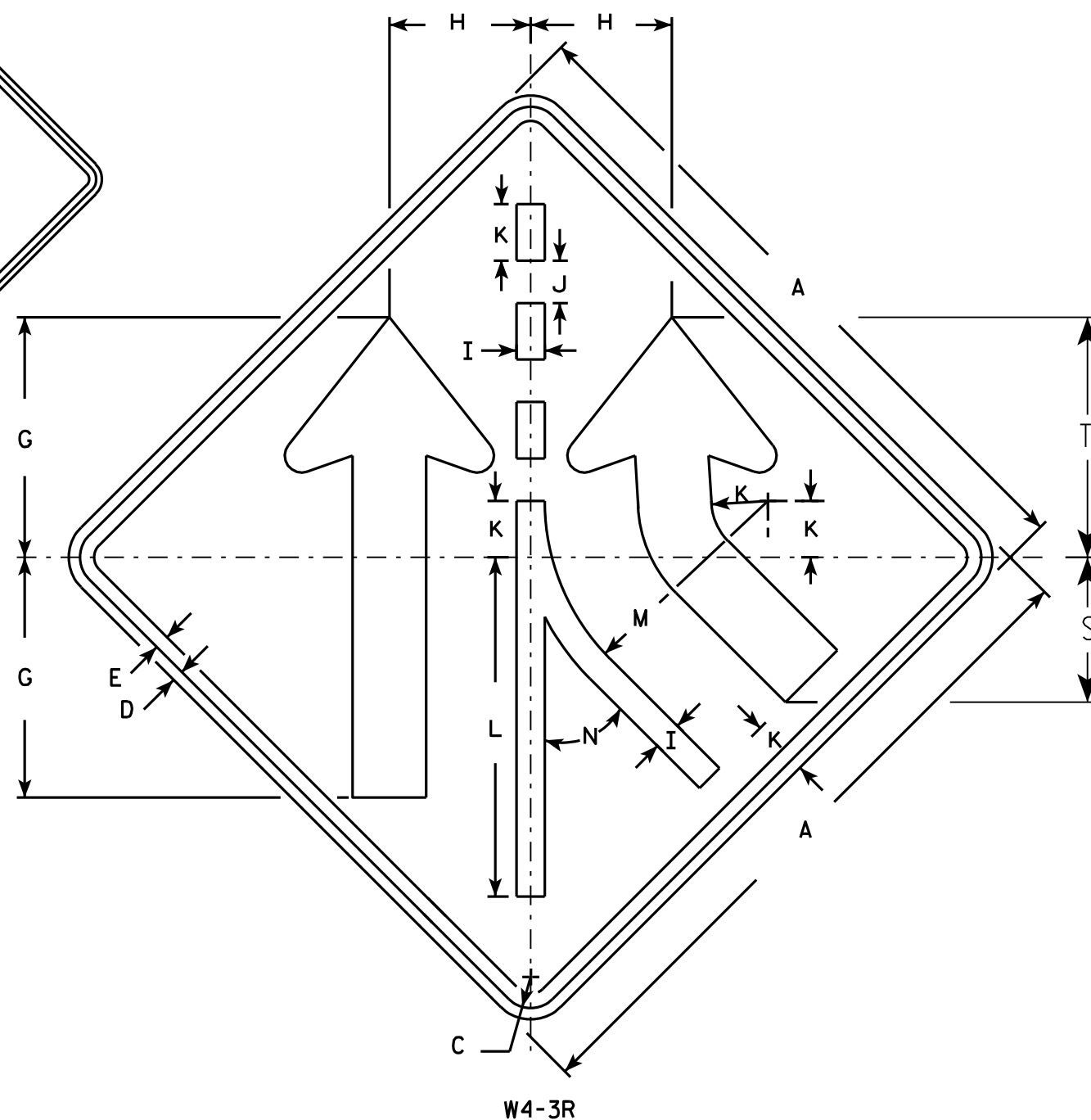
DATE 6/7/10 PLATE NO. W3-2..9

SHEET NO: 179

E



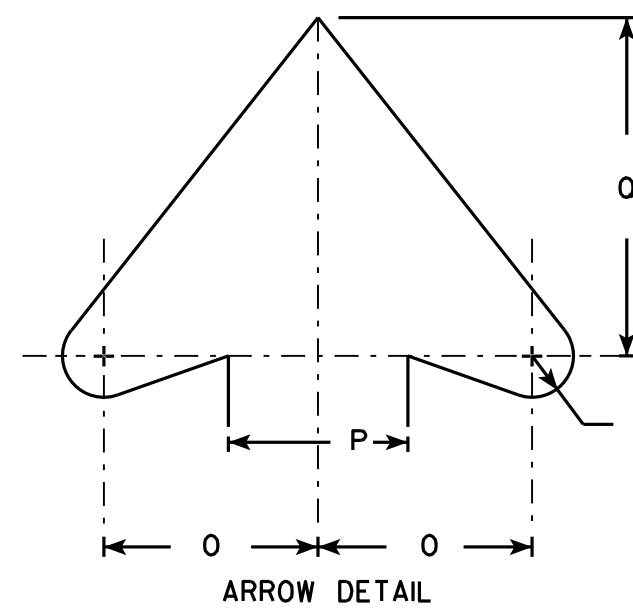
W4-3L



W4-3R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-3 L is the same as W4-3 R except the arrow is reversed along the vertical centerline.



ARROW DETAIL

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

STANDARD SIGN W4-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

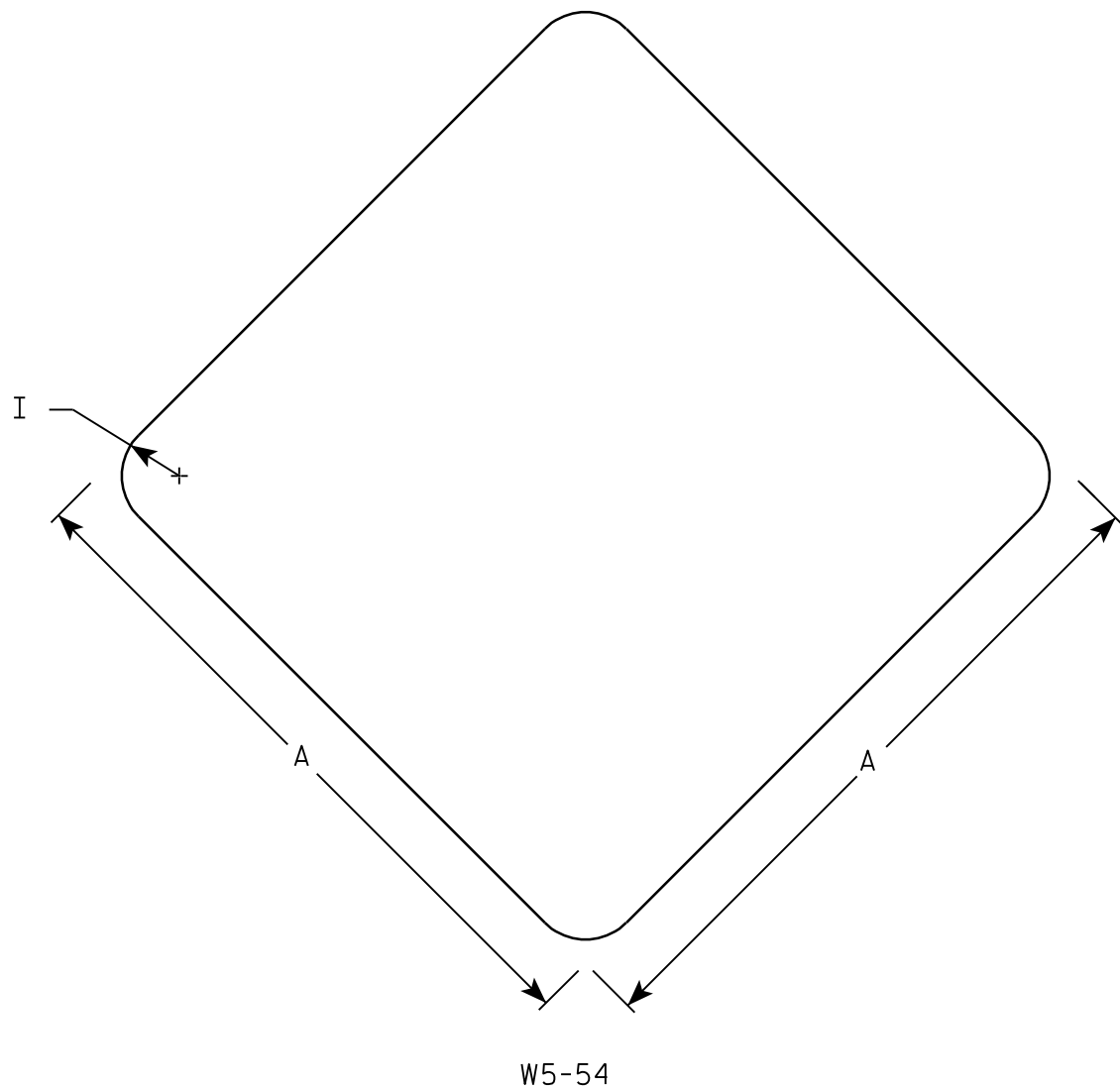
DATE 3/21/11 PLATE NO. W4-3.7

PROJECT NO:

SHEET NO: 180

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
- 3. Corners may be square or rounded when base material is plywood. When base material is metal the corners shall be rounded.

7

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

STANDARD SIGN

W5-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 11/3/10 PLATE NO. W5-54.8

USH 8 EB							
Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordinate
100+00.00	140.4	0	0	0	0	0	0
100+50.00	130.8	251.1	251.1	0	0	0	251.1
100+92.35	133.8	207.5	207.5	0	0	0	458.6
101+00.00	135	38.1	38.1	0	0	0	496.7
101+50.00	147.2	261.3	261.3	0	0	0	758
102+00.00	132.1	258.7	258.7	11.8	10.9	10.9	1005.7
102+50.00	142.3	254.2	254.2	14.1	24	24	1235.9
103+00.00	149	269.8	269.8	18.2	29.9	29.9	1475.8
103+50.00	147	274.1	274.1	18.9	34.4	34.4	1715.5
104+00.00	88.5	218	218	1	18.4	18.4	1915.1
104+50.00	71	147.6	147.6	6.6	7.1	7.1	2055.6
105+00.00	69.1	129.7	129.7	35.3	38.9	38.9	2146.4
105+50.00	64	123.2	123.2	54.9	83.6	83.6	2186.1
Sub Total:		2433.2	2433.2		247.1	247.1	

USH 8 EB							
Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordinate
107+50.00	59.62	0	0	7.56	0	0	0
108+00.00	53.91	105.1	105.1	18.66	24.3	24.3	80.8
108+50.00	72	116.6	116.6	13.52	29.8	29.8	167.6
109+00.00	150.72	206.2	206.2	2.2	14.5	14.5	359.3
109+50.00	180.98	307.1	307.1	0.79	2.8	2.8	663.6
110+00.00	189.65	343.2	343.2	1.07	1.7	1.7	1005.1
110+50.00	192.02	353.4	353.4	1.69	2.6	2.6	1355.9
111+00.00	190.42	354.1	354.1	1.55	3	3	1707
111+50.00	178.07	341.2	341.2	0	1.4	1.4	2046.8
112+00.00	157.4	310.6	310.6	0	0	0	2357.4
112+50.00	145.24	280.2	280.2	0	0	0	2637.6
Sub Total:		2717.7	2717.7		80.1	80.1	

USH 8 WB							
Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordinate
100+00.00	32.6	0	0	0	0	0	0
100+50.00	57.2	83.1	83.1	0	0	0	83.1
101+00.00	58.8	107.3	107.3	0	0	0	190.5
101+50.00	58.9	109	109	0	0	0	299.4
102+00.00	53.4	103.9	103.9	0	0	0	403.4
102+50.00	52.7	98.2	98.2	0	0	0	501.6
103+00.00	48.1	93.3	93.3	0.2	0.2	0.2	594.7
103+50.00	46	87.1	87.1	3	2.9	2.9	678.8
104+00.00	42.2	81.7	81.7	8.4	10.6	10.6	750
104+50.00	22.2	59.7	59.7	14.3	21	21	788.6
105+00.00	4.3	24.5	24.5	55.6	64.7	64.7	748.4
105+50.00	0	3.9	3.9	81.4	126.8	126.8	625.5
Sub Total:		851.7	851.7		226.2	226.2	

USH 8 WB							
Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordinate
107+50.00	40.6	0	0	63.4	0	0	0
107+74.71	49.3	41.1	41.1	38.6	46.7	46.7	-5.5
108+00.00	53.5	48.1	48.1	9	22.3	22.3	20.3
108+50.00	65.8	110.5	110.5	0.5	8.8	8.8	122
109+00.00	69.8	125.6	125.6	1.1	1.4	1.4	246.3
109+09.41	69.3	24.2	24.2	0.9	0.3	0.3	270.2
109+50.00	69.8	104.6	104.6	0.6	1.2	1.2	373.5
110+00.00	77.1	136	136	0	0.6	0.6	509
110+50.00	64.1	130.7	130.7	0	0	0	639.7
111+00.00	56.1	111.3	111.3	0	0	0	751
111+50.00	32.2	81.8	81.8	0	0	0	832.8
112+00.00	82.6	106.4	106.4	0	0	0	939.1
112+20.00	56.6	51.6	51.6	0	0	0	990.7
112+50.00	69.9	70.3	70.3	0	0	0	1061
Sub Total:		1142.3	1142.3		81.3	81.3	

9

9

STH 46 NB

Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
200+00.00	49.4	0	0	0	0	0	0
200+50.00	46.7	89	89	0	0	0	89
201+00.00	40.5	80.8	80.8	10.7	9.9	9.9	159.9
201+50.00	42.5	76.8	76.8	12.4	21.5	21.5	215.2
202+00.00	44	80.1	80.1	15.2	25.6	25.6	269.71
202+50.00	13	52.8	52.8	23.7	36.0	36.0	286.51
203+00.00	37.9	47.1	47.1	49.4	67.7	67.7	265.91
203+50.00	57.5	88.4	88.4	21.5	65.7	65.7	288.61
204+00.00	68.7	116.8	116.8	26.1	44.1	44.1	361.31
204+50.00	82.3	139.8	139.8	27.3	49.5	49.5	451.61
205+00.00	19.8	94.5	94.5	16.9	40.9	40.9	505.21
205+50.00	14.9	32.1	32.1	35	48	48	489.31
206+00.00	8.3	21.5	21.5	66.2	93.7	93.7	417.11
206+50.00	10.4	17.3	17.3	99	153	153	281.41
Grand Total:		937.0	937.0		655.59	655.59	

STH 46 SB

Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
200+00.00	48.7	0	0	0	0	0	0
200+50.00	44.2	86	86	1.6	1.4	1.4	84.6
201+00.00	38.5	76.6	76.6	3.9	5	5	156.2
201+50.00	30.9	64.3	64.3	16.8	19.2	19.2	201.3
202+00.00	19.7	46.8	46.8	25.5	39.2	39.2	209
202+50.00	11.7	29	29	25.4	47.2	47.2	190.8
203+00.00	5.5	15.8	15.8	31.2	52.4	52.4	154.2
203+50.00	2.1	7	7	34.4	60.7	60.7	100.5
204+00.00	0.6	2.5	2.5	41.2	70	70	33.1
204+50.00	0	0.6	0.6	50.6	85	85	-51.3
205+00.00	0	0	0	45.3	88.7	88.7	-140
205+50.00	0	0	0	45.3	83.9	83.9	-223.9
206+00.00	0	0	0	71.7	108.3	108.3	-332.2
206+50.00	0	0	0	68.1	126.2	126.2	-458.4
Sub Total:		328.6	328.6		787.2	787.2	

USH 8 EB RT

Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
10+00.00	54.3	0	0	32.6	0	0	0
10+50.00	34.1	81.9	81.9	46.3	73	73	8.9
11+00.00	21.5	51.5	51.5	65.9	103.9	103.9	-43.5
11+50.00	8.7	28	28	92.6	146.8	146.8	-162.4
12+00.00	3.8	11.5	11.5	97.7	176.2	176.2	-327.1
12+08.15	2.8	1	1	89.5	28.2	28.2	-354.3
Grand Total:		173.9	173.9		528.2	528.2	

STH 46 NB RT

Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
20+00.00	53.7	0	0	24.3	0	0	0
20+50.00	55.4	101	101	24.1	44.8	44.8	56.2
21+00.00	47.9	95.6	95.6	25.1	45.6	45.6	106.2
21+50.00	20.1	63	63	33.6	54.4	54.4	114.8
22+00.00	32.3	48.5	48.5	9.9	40.3	40.3	123.1
22+50.00	26.5	54.5	54.5	8.5	17.1	17.1	160.5
22+93.19	23.9	40.3	40.3	9	14	14	186.8
23+00.00	23.4	6	6	9.7	2.4	2.4	190.4
Grand Total:		408.8	408.8		218.4	218.4	

Circle

Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
Grand Total:		79.3	79.3		733.4	733.4	

131ST Street NB

Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
500+00.00	48.8	0	0	68.6	0	0	0
500+50.00	8.1	52.7	52.7	169.8	220.8	220.8	-168.1
501+00.00	56.2	59.6	59.6	234.5	374.3	374.3	-482.8
501+50.00	0	52.1	52.1	227.9	428.1	428.1	-858.8
502+00.00	31.4	29.1	29.1	248.5	441.1	441.1	-1270.8
502+50.00	122.4	142.4	142.4	0	230.1	230.1	-1358.5
503+00.00	130.1	233.7	233.7	0	0	0	-1124.8
503+50.00	100.5	213.5	213.5	0	0	0	-911.3
Grand Total:		783	783		1694.3	1694.3	

131ST Street SB

Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
600+00.00	0	0	0	92.6	0	0	0
600+50.00	0	0	0	79.6	159.4	159.4	-159.4
Grand Total:		0	0		159.4	159.4	

TW1

Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
700+00.00	27.9	0	0	0	0	0	0
700+50.00	18.8	43.3	43.3	0	0	0	43.3
701+00.00	17.4	33.6	33.6	0	0	0	76.9
701+50.00	20.1	34.7	34.7	2.2	2.1	2.1	109.5
702+00.00	45.6	60.8	60.8	0	2.1	2.1	168.2
702+50.00	24.3	64.7	64.7	0.6	0.6	0.6	232.4
703+00.00	26.4	47	47	2.9	3.3	3.3	276
703+50.00	37.9	59.5	59.5	0.7	3.3	3.3	332.2
704+00.00	49.7	81.1	81.1	0.1	0.7	0.7	412.5
704+50.00	58.5	100.2	100.2	0.6	0.6	0.6	512.1
705+00.00	66.5	115.7	115.7	0.1	0.6	0.6	627.2
705+50.00	68.2	124.7	124.7	0	0.1	0.1	751.7
706+00.00	79.1	136.4	136.4	0	0	0	888.1
Grand Total:		901.5	901.5		13.4	13.4	

TW2

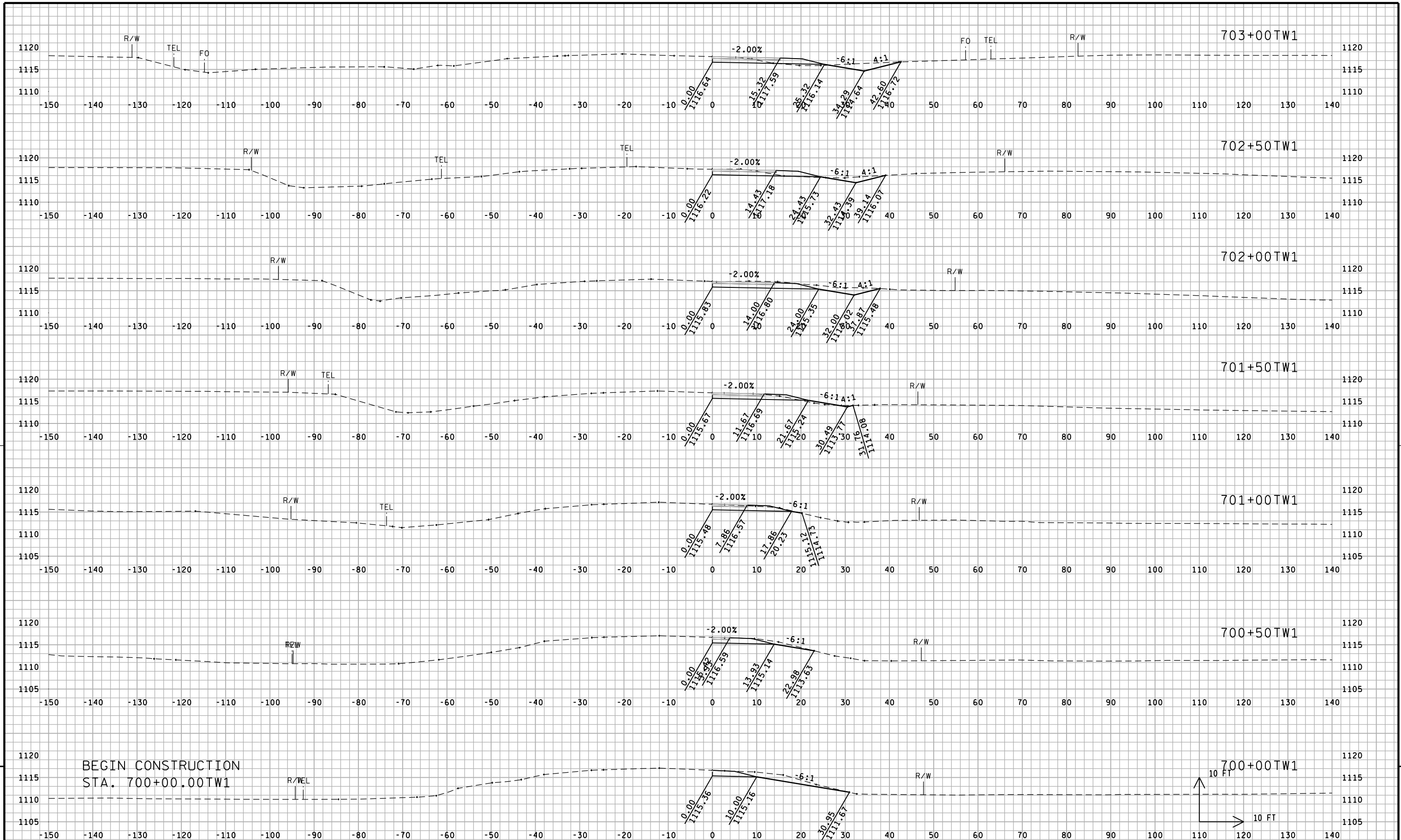
Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
800+00.00	14.1	0	0	0	0	0	0
800+50.00	13.6	25.6	25.6	0	0	0	25.6
801+00.00	13.4	25	25	1.7	1.6	1.6	49
801+50.00	11.3	22.9	22.9	8.9	9.8	9.8	62.1
802+00.00	17.8	27	27	0	8.2	8.2	80.8
802+50.00	4.6	20.7	20.7	15.3	14.2	14.2	87.3
803+00.00	2.5	6.6	6.6	17.9	30.7	30.7	63.1
803+50.00	2.3	4.5	4.5	17.5	32.8	32.8	34.8
803+80.31	27.9	17	17	0	9.8	9.8	41.9
Grand Total:		149.1	149.1		107.2	107.2	

TW3

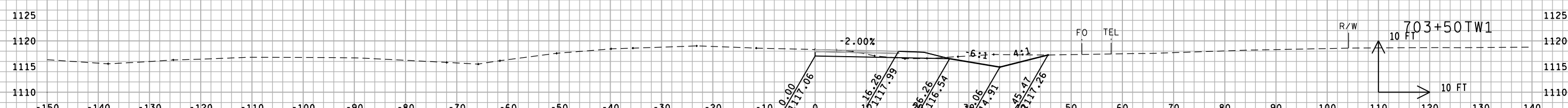
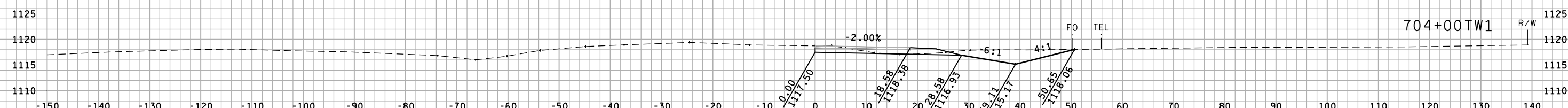
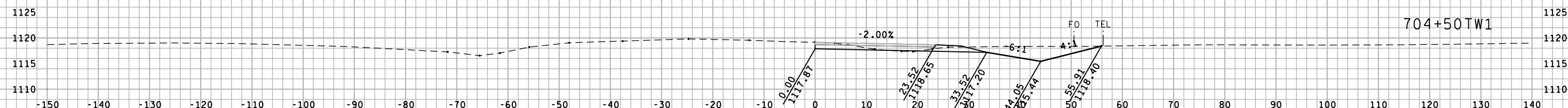
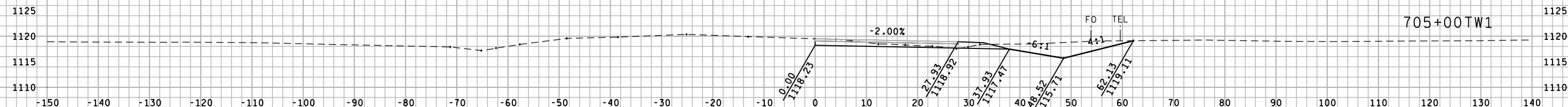
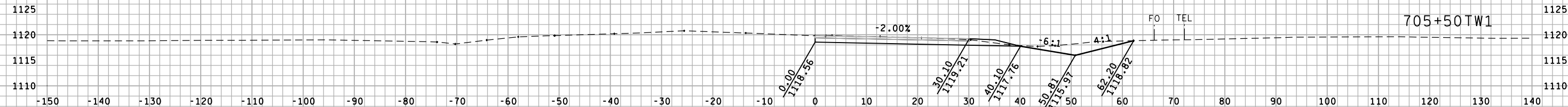
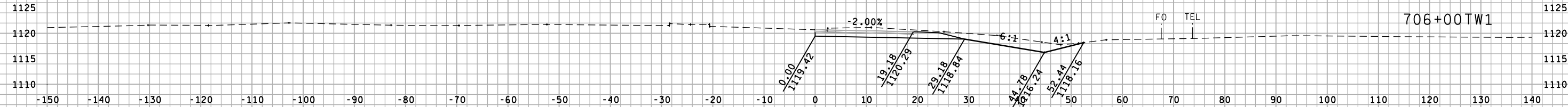
Station	Cut			Fill			Mass
	Area	Volume	Adjusted	Area	Volume	Adjusted	Ordnate
900+00.00	1.7	0	0	16.9	0	0	0
900+50.00	3.5	4.8	4.8	40	52.6	52.6	-47.8
901+00.00	2.9	5.9	5.9	42.2	76.1	76.1	-118
901+50.00	0.5	3.1	3.1	36.5	72.9	72.9	-187.8
902+00.00	0.1	0.5	0.5	33.3	64.6	64.6	-251.9
902+50.00	0	0.1	0.1	31.4	59.9	59.9	-311.7
903+00.00	0	0	0	32.7	59.3	59.3	-371
903+50.00	0	0	0	29.1	57.2	57.2	-428.2
904+00.00	0	0	0	23.7	48.9	48.9	-477.2
904+50.00	23.2	21.5	21.5	1.5	23.3	23.3	-479
905+00.00	0	21.5	21.5	14.2	14.5	14.5	-472
905+50.00	0.9	0.8	0.8	3.7	16.6	16.6	-487.7
906+00.00	2.2	2.9	2.9	2.3	5.6	5.6	-490.4
906+50.00	5.9	7.5	7.5	1.4	3.4	3.4	-486.3
906+97.10	7.8	12	12	0.1	1.3	1.3	-475.6
Grand Total:		80.5	80.5		556.2	556.2	

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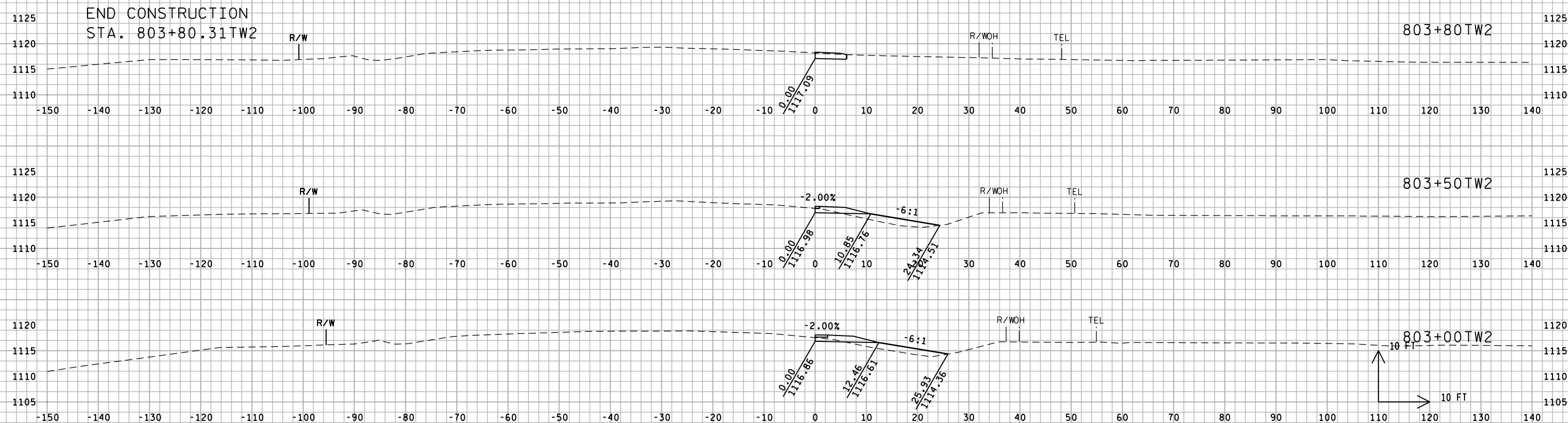
END CONSTRUCTION
STA. 706+21.26TW1



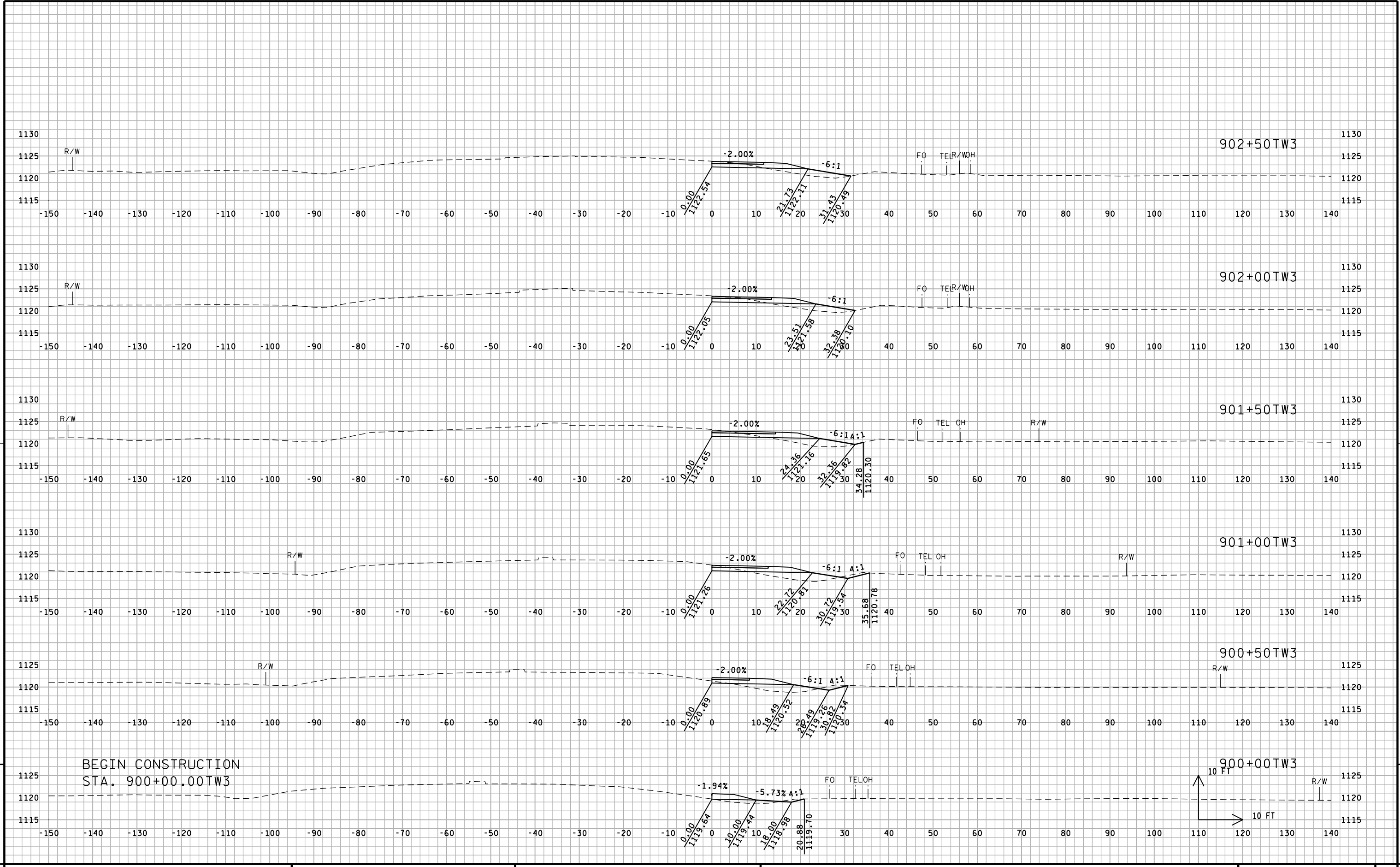
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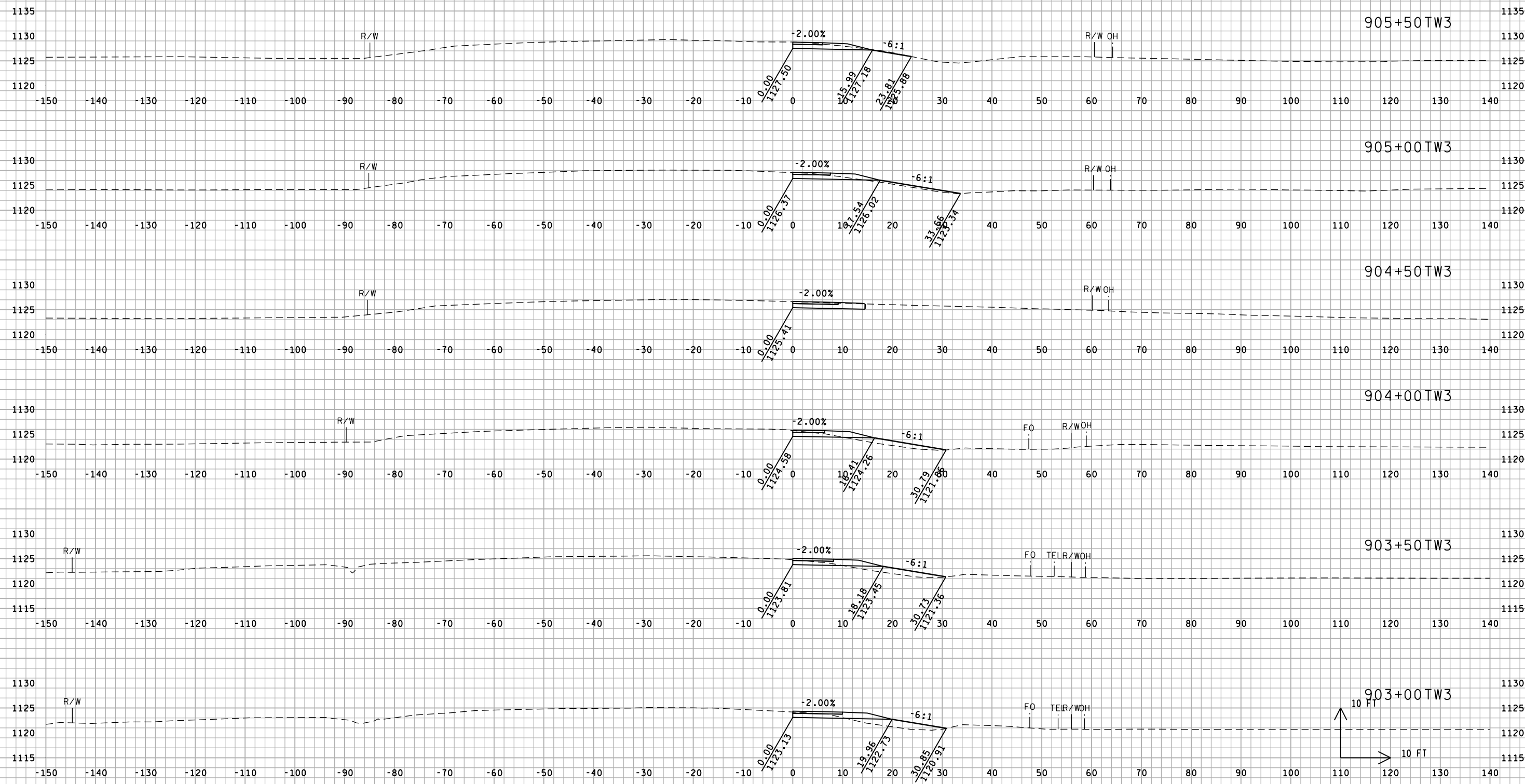
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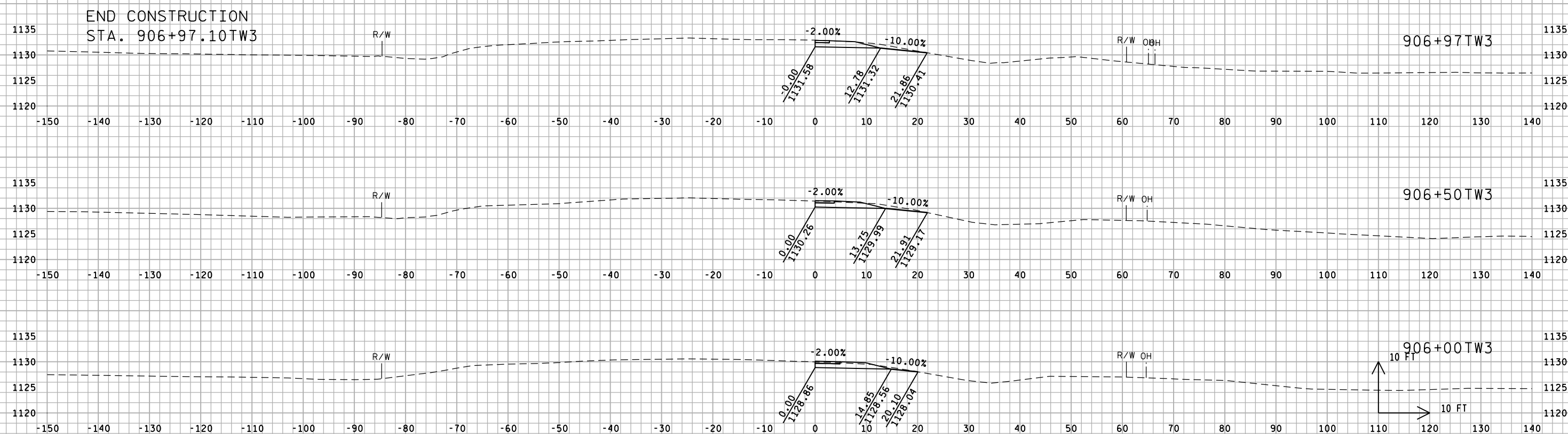
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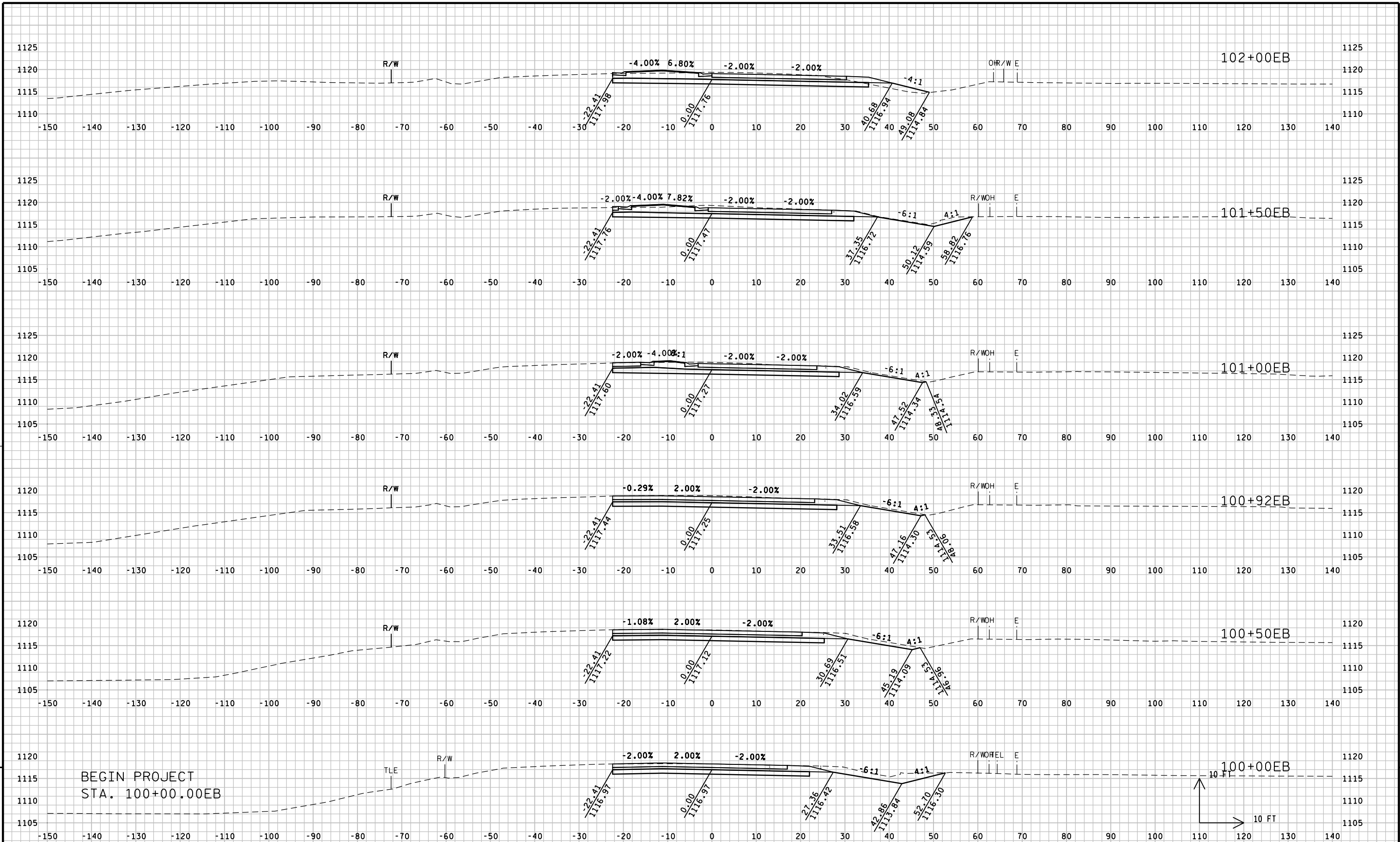


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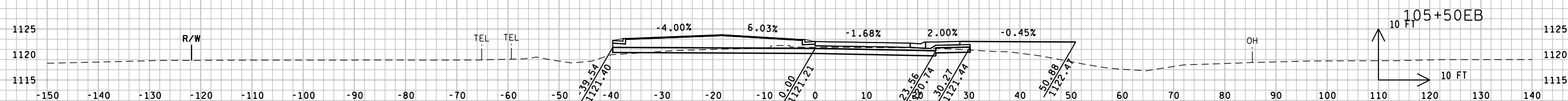


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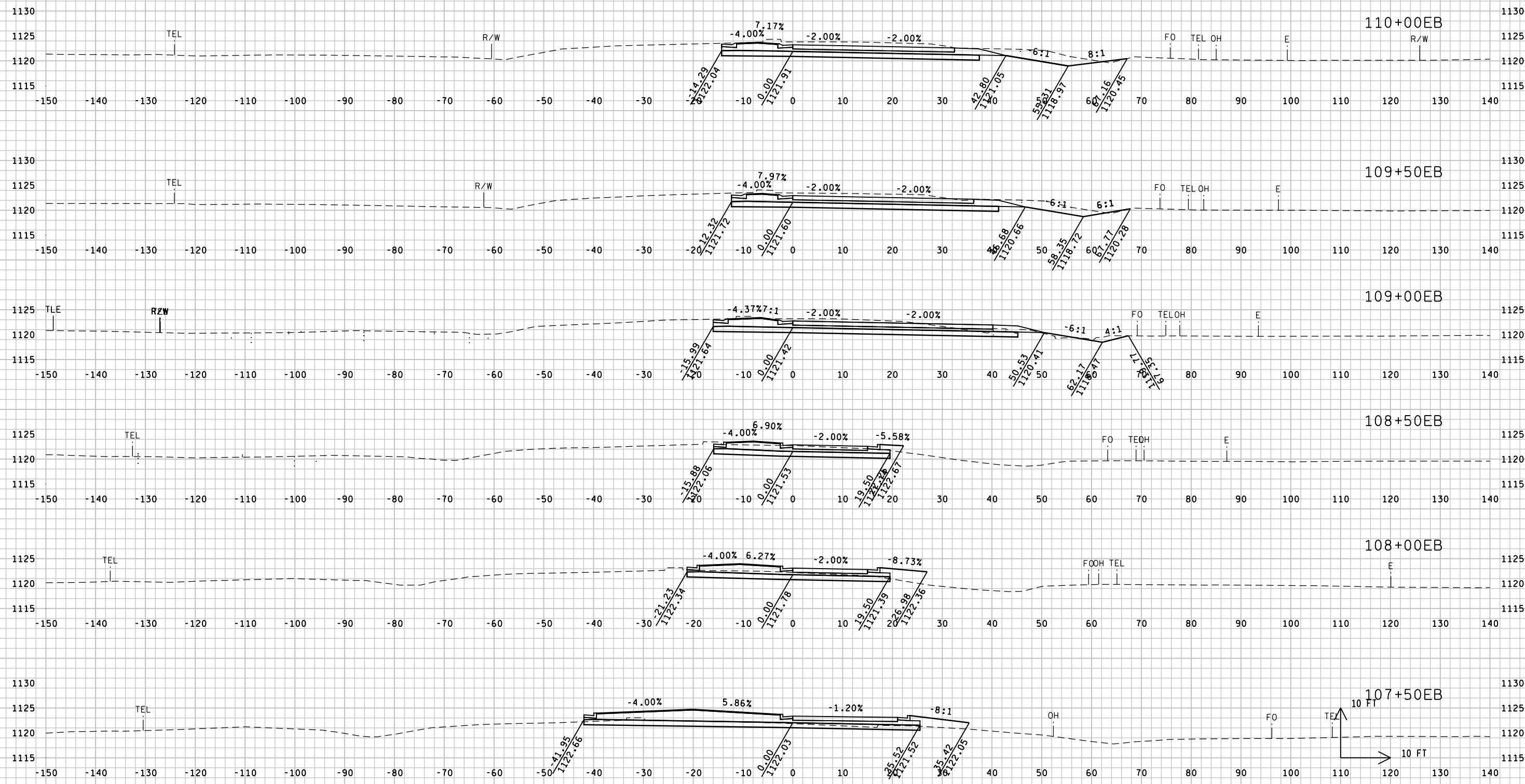
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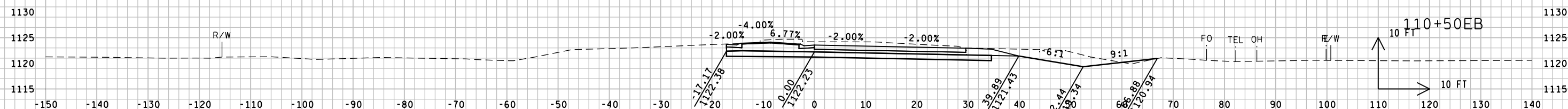
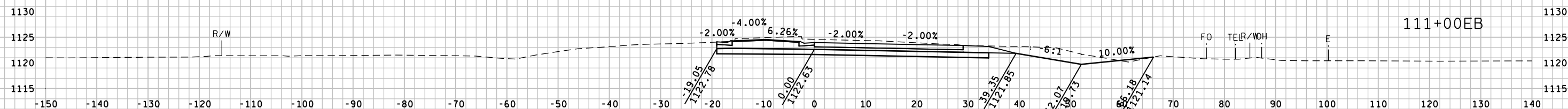
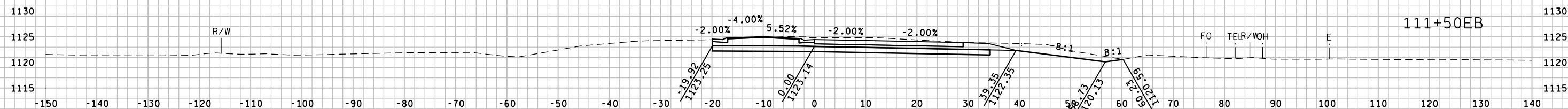
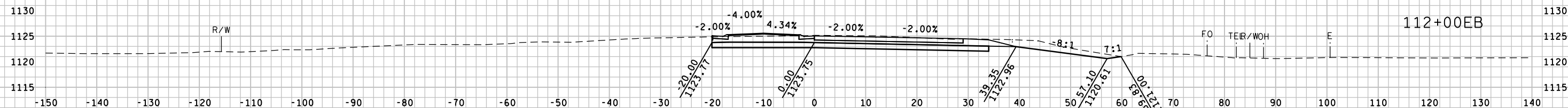
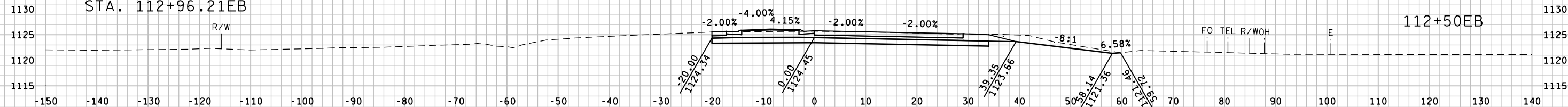
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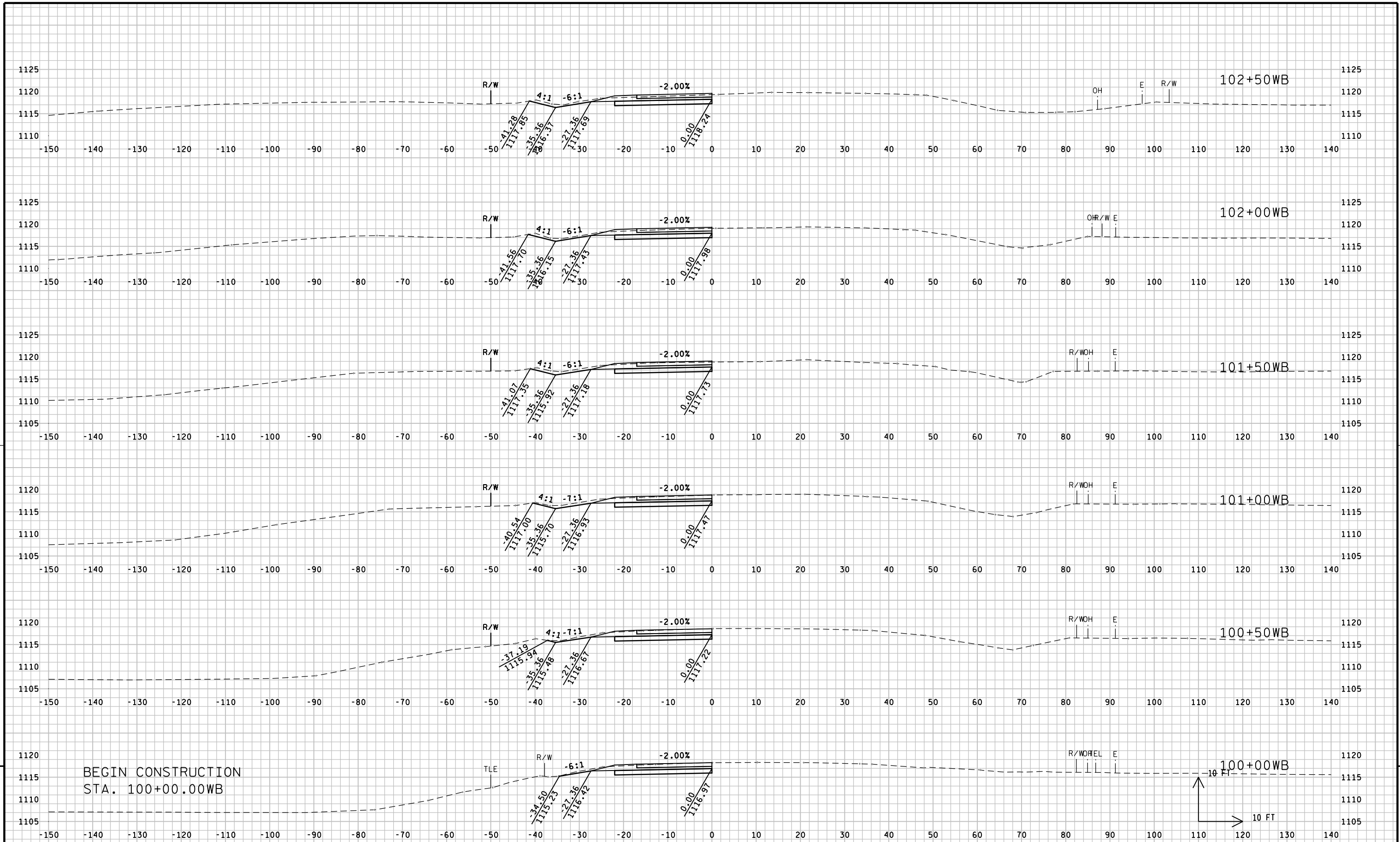
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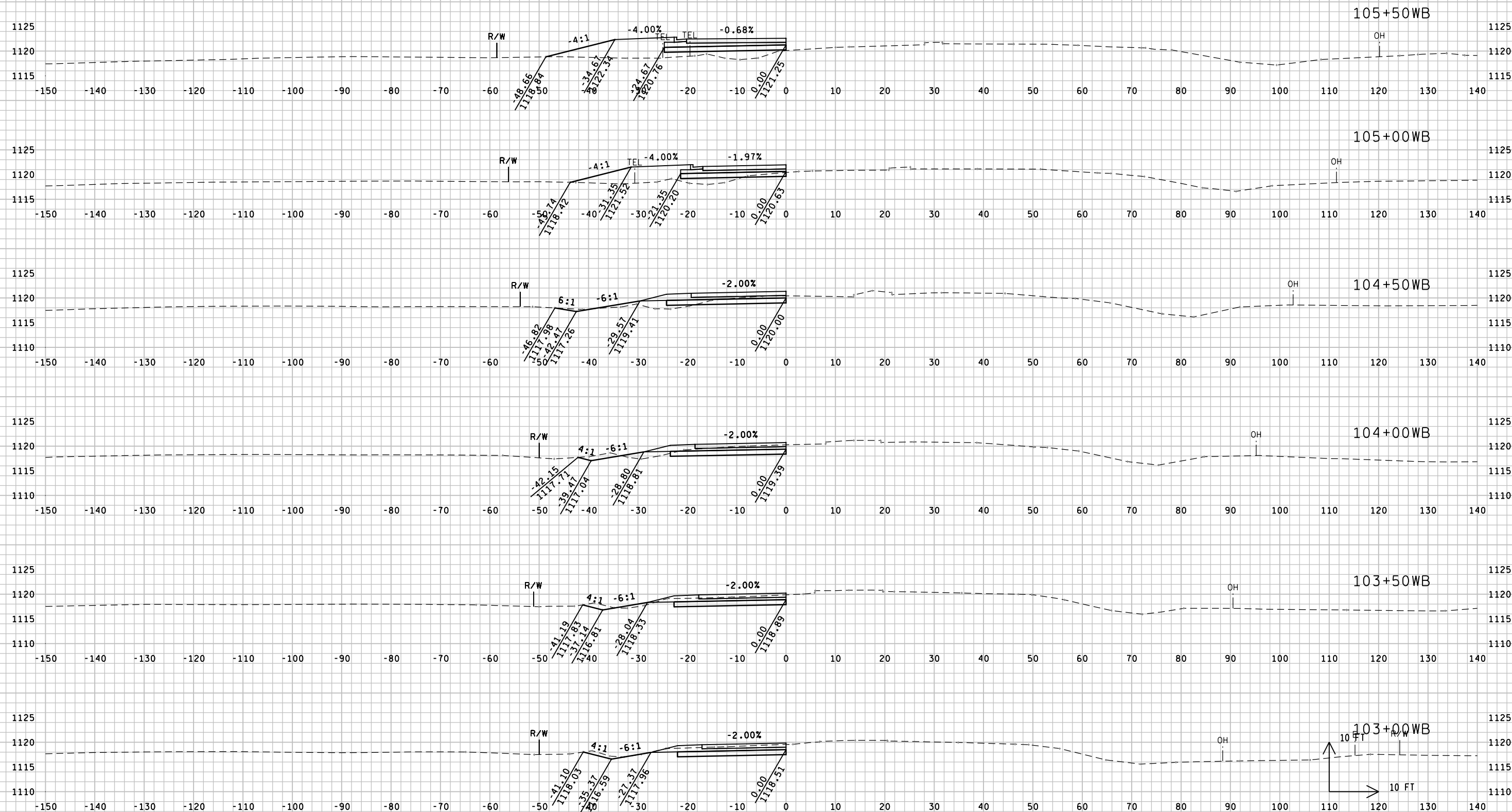
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END PROJECT
STA. 112+96.21EB



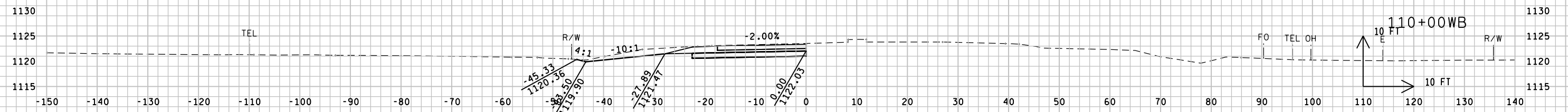
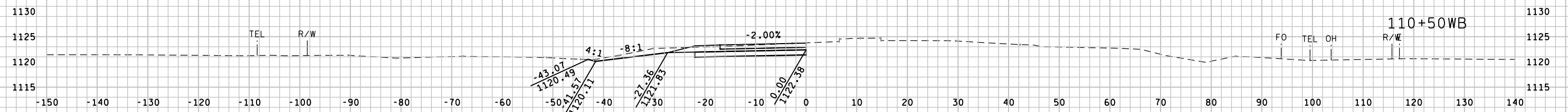
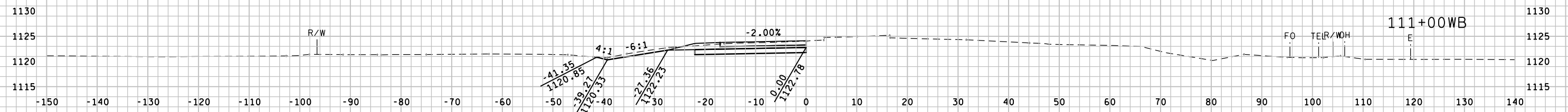
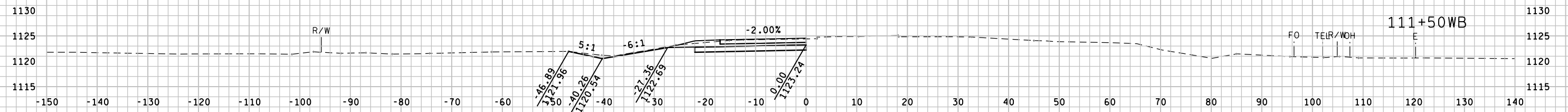
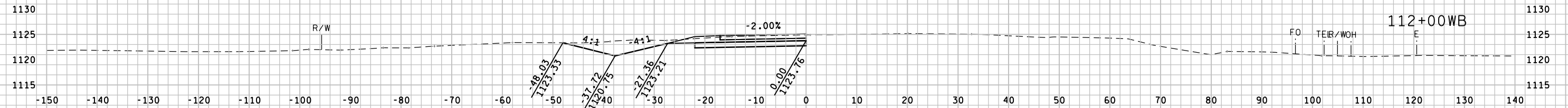
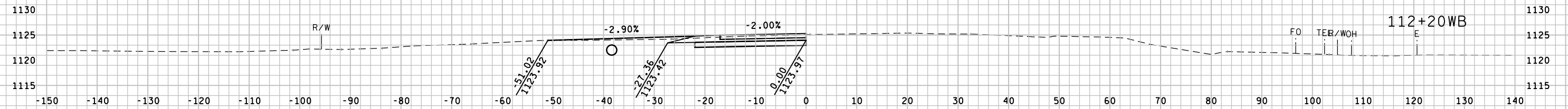


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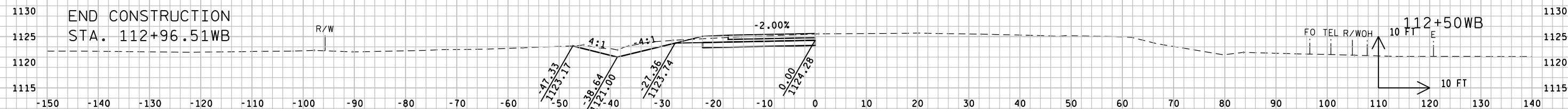


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PROJECT NO: 1570-01-70

HWY: USH 8

COUNTY: POLK

CROSS SECTIONS: WB USH 8

SHEET

202

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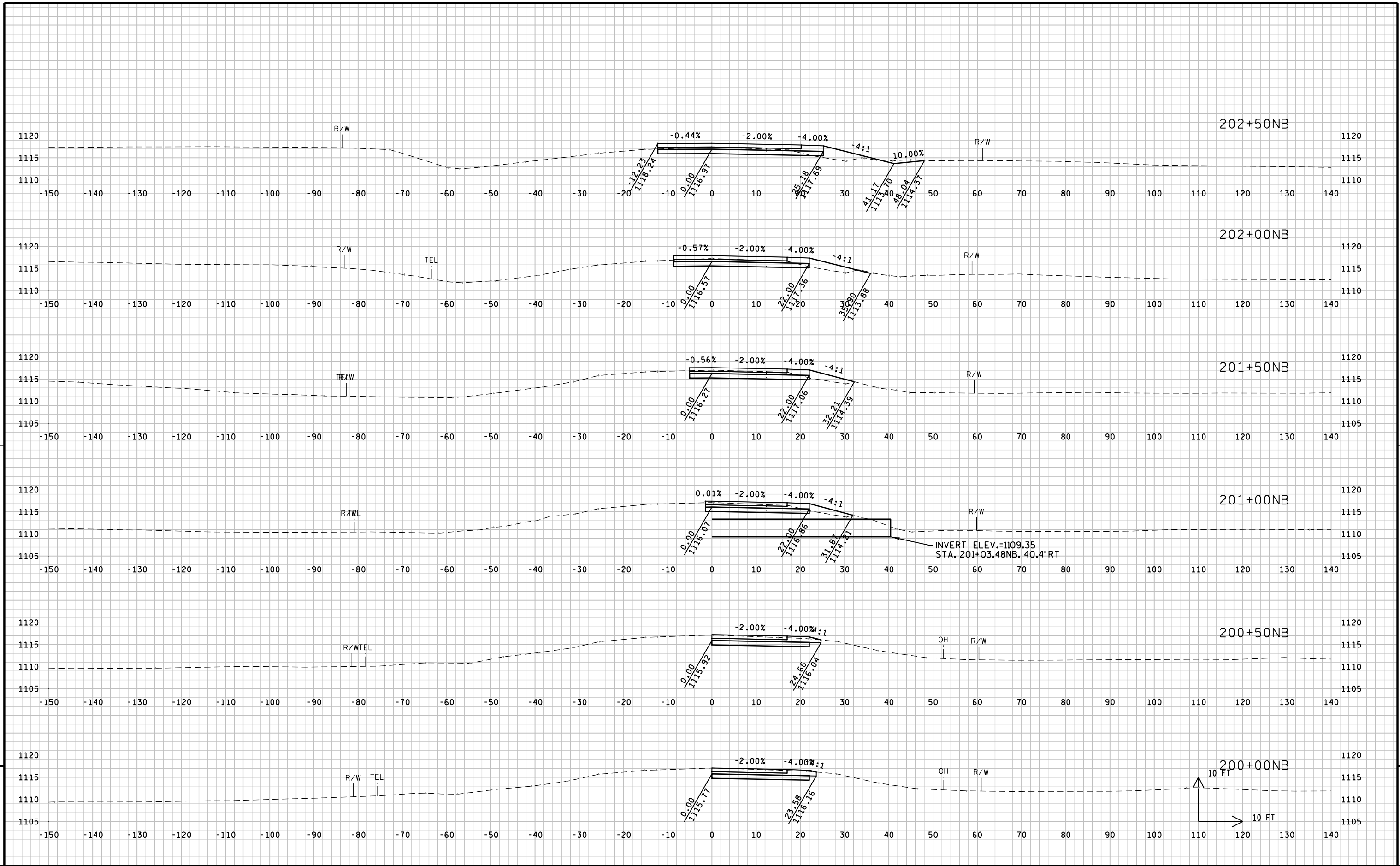
PLOT DATE : 10/25/2012

PLOT BY : O.R.E., Inc.

PLOT NAME :

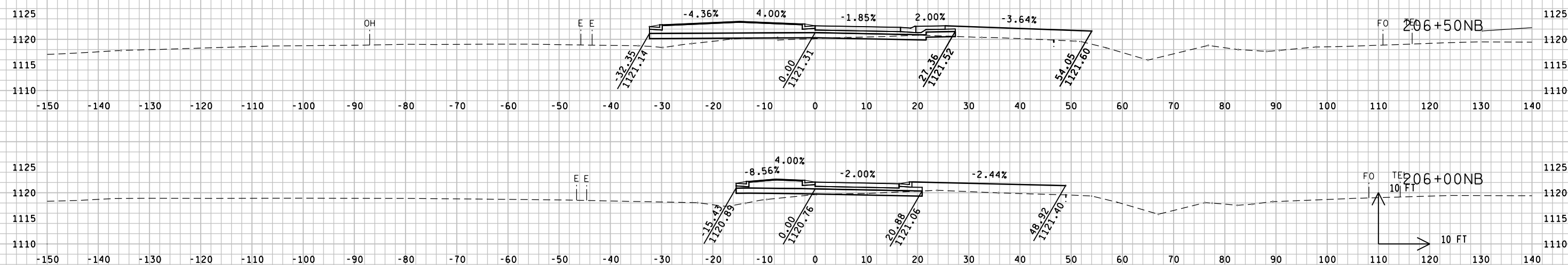
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WISDOT/CADDs SHEET 21





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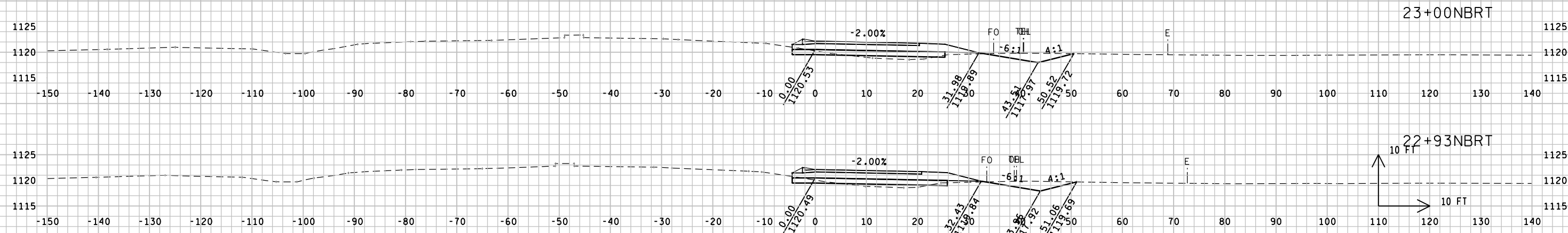
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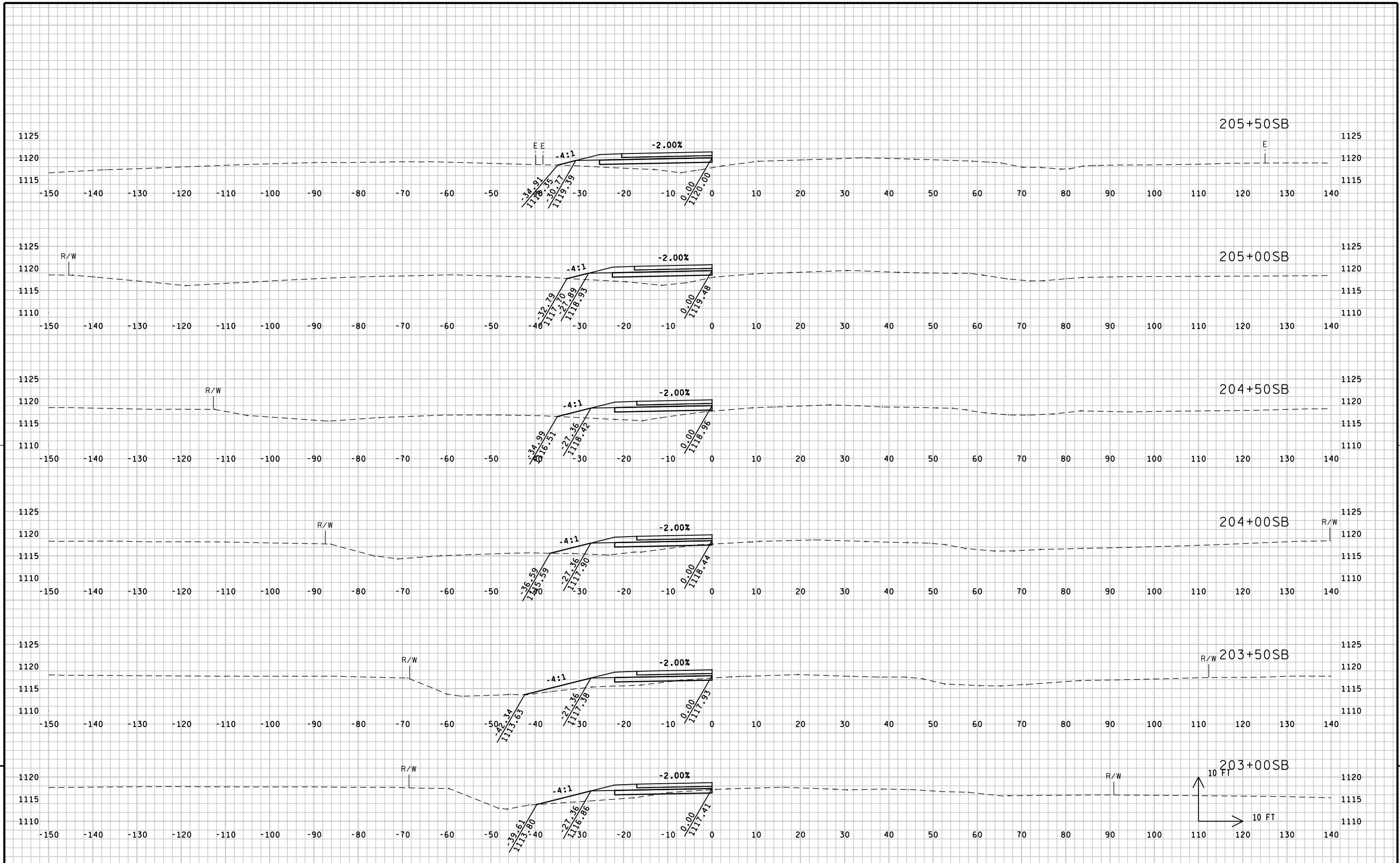


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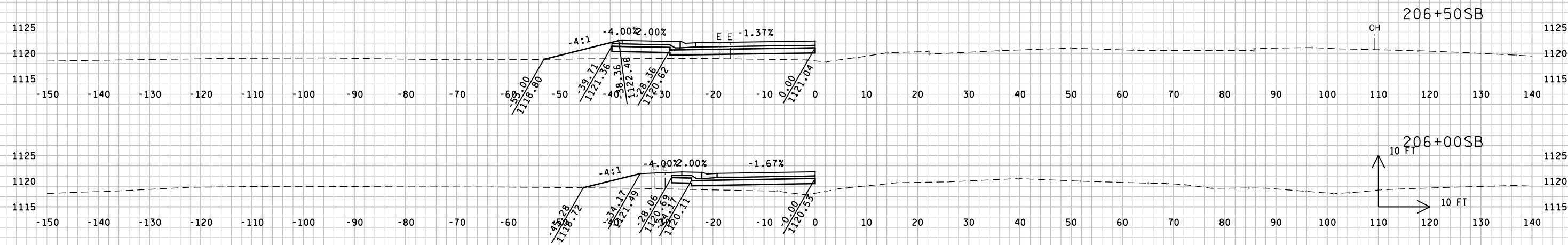
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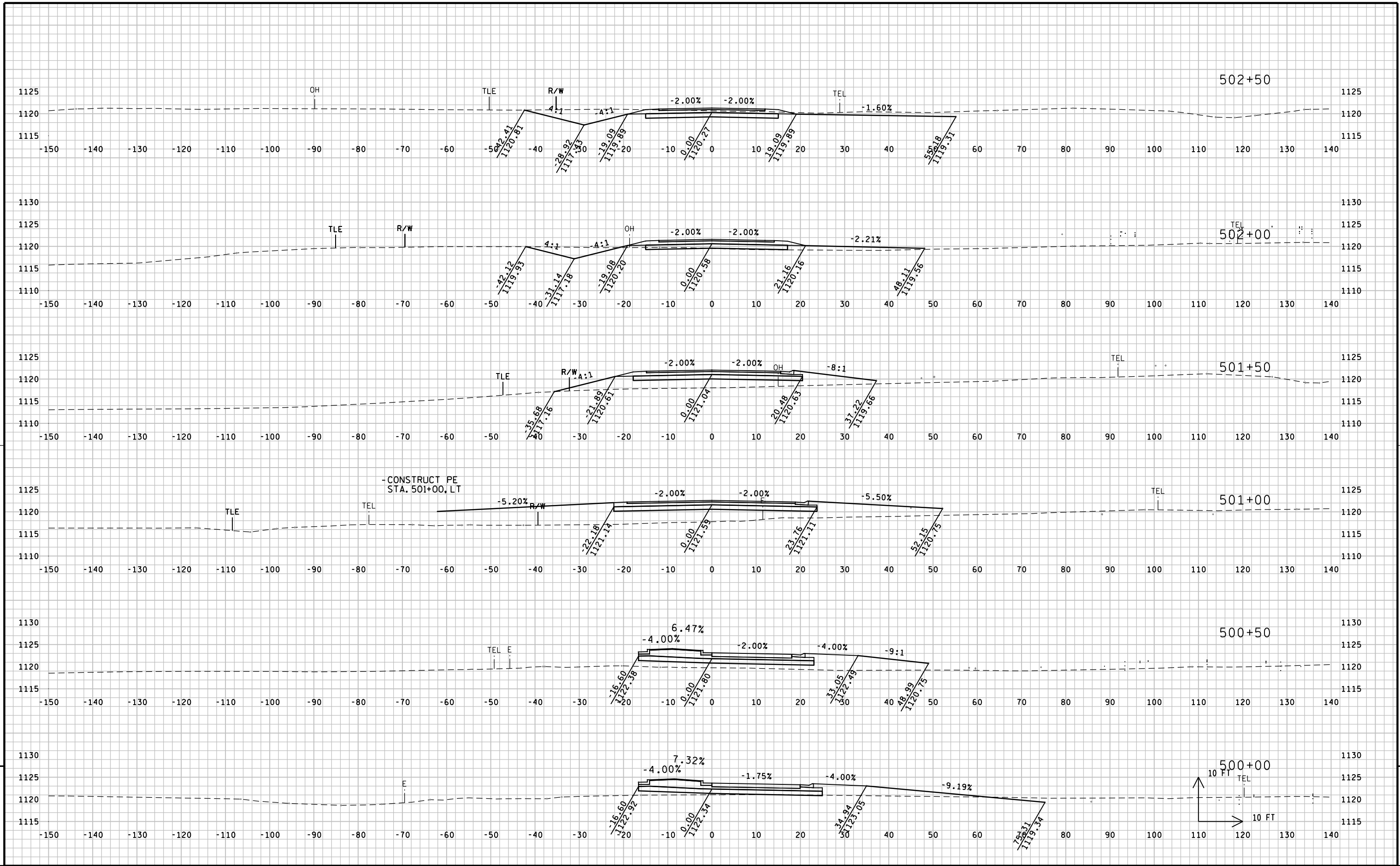
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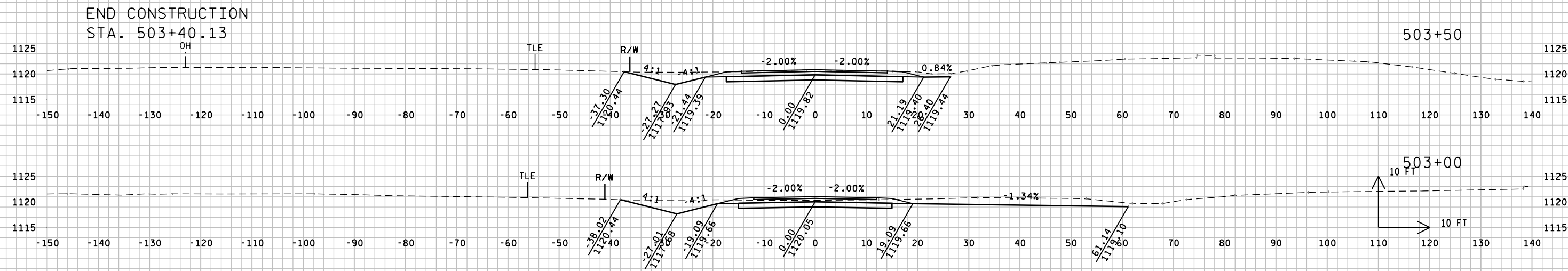
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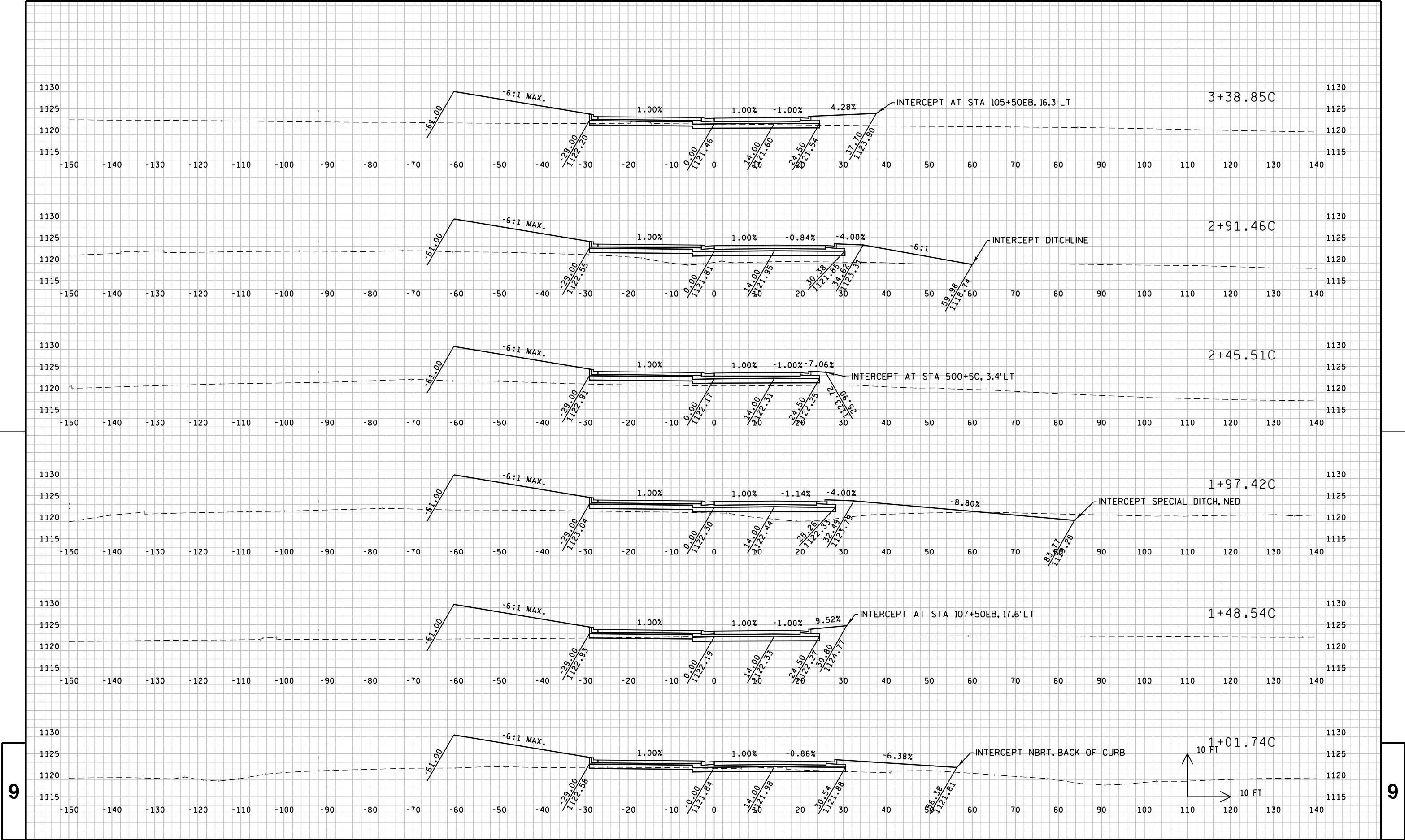
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PROJECT NO: 1570-01-70

HWY: USH 8

COUNTY: POLK

CROSS SECTIONS: CIRCLE

SHEET

214

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FILE NAME : P:\2010\10945 - USH 8 - STH 46\Micros\Plansheets\X Sections\XS Circle.dgn

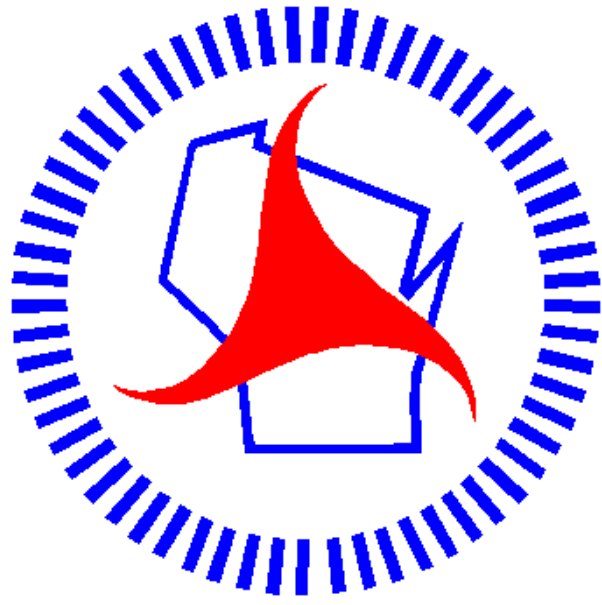
PLOT DATE : 10/25/2012

PLOT BY : O.R.E., Inc.

PLOT NAME :

PLOT SCALE : 20.0000 sf / in.

WISDOT/CADDs SHEET 21



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