WKE MAR 13

PROJECT ID: 2810-06-70

COUNTY: WAUKESHA

ORDER OF SHEETS

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

TOTAL SHEETS = 386

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

BIG BEND TO WAUKESHA ROAD

HENNEBERRY AVENUE TO IH 43

STH 164

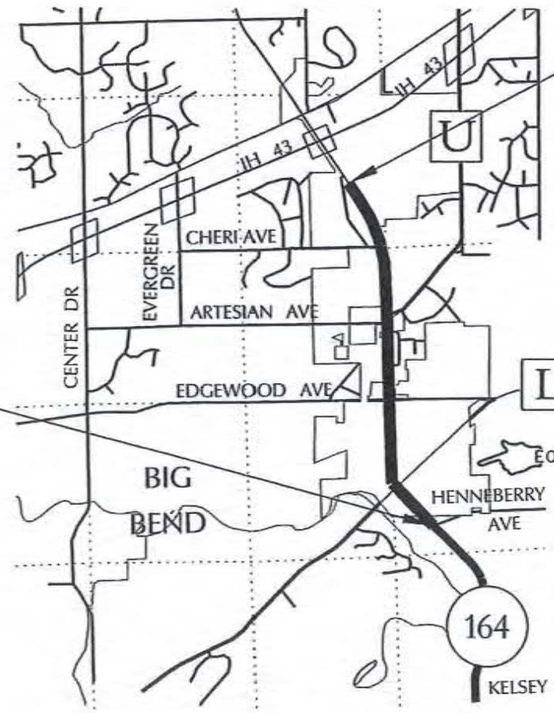
WAUKESHA COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2810-06-70		

STATE PROJECT NUMBER

2810-06-70





LAYOUT

SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 2.525 MI.

DESIGN DESIGNATION

A.A.D.T.	=	13,700	(2013)
A.A.D.T.	=	17,300	(2033)
D.H.V.	=	5.5%	
D.D.	=	58/42	
T.	=	6.9%	
DESIGN SPEED	=	55-35	(SEE TYPICALS)
ESALS	=	2,613,400	

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT	L	SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

-"Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), 'Waukesha' County, NAD 1983 (97)

* Elevations show on this plan are referenced to the National Geodetic Vertical Datum of 1988 NAVD 88 (2007)

ORIGINAL PLANS PREPARED BY

Ourston Roundabout Engineering

5325 Wall Street, Suite 2305 Madison, WI 53718

608-249-4545 Fax: 608-249-4402

WISCONSIN BEN C. WILKINSON E-36032 MADISON WISCONSIN PROFESSIONAL ENGINEER

DATE: 10-24-12 Ben C. Wilkinson (Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	OURSTON ROUNDABOUT ENG., INC.
Project Manager	STEVE HOFF
Regional Examiner	
Regional Supervisor	MANOJOY NAG

APPROVED FOR THE DEPARTMENT

DATE: 11/1/12 (Signature)

E

SECTION 2 SHEET ORDER

GENERAL NOTES & HMA LIFT TABLE
UTILITY CONTACTS
PROJECT OVERVIEW
TYPICAL SHEETS
CONSTRUCTION DETAILS
INTERSECTION DETAILS
PLAN DETAILS
PAVEMENT GRADES
EROSION CONTROL
STORM SEWER
PERMANENT SIGNING
TRAFFIC SIGNAL PLAN
PAVEMENT MARKING
TRAFFIC CONTROL STAGING
DETOUR ROUTE
ALIGNMENT LAYOUT

HMA PAVEMENT

NOMINAL THICKNESS REQUIREMENTS (INCHES)
AGGREGATE GRADATION NOMINAL SIZE (mm)

ROADWAY	HMA PAVEMENT	TOTAL THICKNESS	PERFORMANCE GRADE DESIGNATION	UPPER LAYER	PERFORMANCE GRADE DESIGNATION	LOWER LAYER
STH 164 STA. 137+25 TO STA. 153+50 STH 164 STA. 196+58 TO STA. 255+50 CTH L, EDGEWOOD AVE.	E-3	5.5"	PG 58-28	2" 12.5 mm	PG 58-28	3.5" 25.0 mm
STH 164 STA. 153+50 TO STA. 155+63	E-3	6"	PG 58-28	2" 12.5 mm	PG 58-28	4" 25.0 mm
SIDEROAD RESURFACING: NEVINS, ROSE, MAPLE, KING'S PKWY, RAMONA, PARK	E-1	4"	PG 58-28	2" 12.5 mm	PG 58-28	2" 12.5 mm
NEVINS ST RECONSTRUCTION STA. 52+00 TO STA. 53+82.31	E-3	4"	PG 58-28	2" 12.5 mm	PG 58-28	2" 12.5 mm

GENERAL NOTES

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

EROSION CONTROL MEASURES AS SHOWN ON THE PLANS ARE SUGGESTED LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER OR BASED ON THE EROSION CONTROL IMPLEMENTATION PLAN.

INSTALL EROSION CONTROL MEASURES PRIOR TO STARTING WORK IN IMPACTED AREAS.

SHOULDER CROSS SLOPES ON THE OUTSIDE OF CURVES ARE 4% DOWN UNTIL ROADWAY CROSS SLOPE IS 2% UNILATERAL. THEN THE SHOULDER CROSS SLOPE WILL TRANSITION TO MATCH THE FULL SUPERELEVATION RATE.

CURVE DATA IS BASED ON ARC DEFINITION, OR R = 5729.58' FOR A ONE DEGREE CURVE.

CURB AND GUTTER GRADES ARE SHOWN AT THE FLANGE UNLESS NOTED OTHERWISE. STATION AND OFFSET AT CURB AND GUTTER ARE TO THE FLANGE.

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

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

ALL DISTURBED AREAS EXCEPT THE AREAS BETWEEN THE SUBGRADE SHOULDER POINTS, SHALL BE FINISHED WITH TOPSOIL OR SALVAGED TOPSOIL, FERTILIZED, SEEDED, AND MULCHED UNLESS NOTED OTHERWISE.

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

PAVE SHOULDERS TO FULL WIDTH IN LOCATIONS WHICH REQUIRE STEEL PLATE BEAM GUARD.

SIDEWALK REMOVAL AND REPLACEMENT SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD, PLAN SHEETS INDICATE APPROXIMATE LOCATION.

RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE NOT MORE THAN 7 CALENDAR DAYS AFTER GRADING IS COMPLETE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

TRAFFIC SIGNAL PLANS PREPARED BY WISDOT.

2

UTILITY CONTACTS

* DENOTES NON-MEMBER OF DIGGERS HOTLINE

AT&T
7721 W. FOND DU LAC AVE, 1ST FL.
MILWAUKEE, WI 53218
DEAN HERRO
(414) 678-2644
dh2572@att.com

TIME WARNER CABLE
1320 N MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
LUKAS LACROSSE
(414) 908-4766
lukas.lacrosse@twcable.com

WISDOT TRAFFIC LIGHTING
935 S 60TH STREET
WEST ALLIS, WI 53214
MATT PFEIFER
(414) 266-1154
matthew.pfeifer@dot.wi.gov

WE ENERGIES (ELECTRIC)
SEND ALL CORRESPONDANCE TO:
DAN SANDE
333 W. EVERETT STREET, A299
MILWAUKEE WI, 53203
(414) 221-4578

CONSTRUCTION FIELD CONTACT:
S13 W33800 HWY 18
DELAFIELD, WI 53018
TERRY CONNELLY
(262) 968-5771
(800) 662-4PWR (EMERGENCIES)
terry.connelly@we-energies.com

*BIG BEND SANITARY
W230 S9185 NEVINS STREET
BIG BEND WI, 53103
(262) 662-4891
JAMIE SONEBERG
jsoneberg@wi.rr.com

WE ENERGIES (GAS)
SEND ALL CORRESPONDANCE TO:
DAN SANDE
333 W. EVERETT STREET, A299
MILWAUKEE WI, 53203
(414) 221-4578

CONSTRUCTION FIELD CONTACT:
500 S. 116TH ST
WEST ALLIS, WI 53214
JOE DABLE
(414) 944-5543
joe.dable@we-energies.com

ATC MANAGEMENT, INC.
801 O'KEEFE ROAD
PO BOX 6113
DEPERE, WI 54115
MIKE OLSEN
(920) 338-6582
molsen@atcllc.com

WISDOT SIGNALS
935 S. 60TH ST
WEST ALLIS, WI 53214
DENNIS CAULEY
(414) 266-1170
dennis.cauley@dot.wi.gov

OTHER AGENCIES

WISCONSIN DEPARTMENT OF
NATURAL RESOURCES - SE REGION
141 N.W. BARSTOW STREET, RM. 180
WAUKESHA, WI 53187
CRAIG WEBSTER
(262) 574-2141

WISCONSIN DEPARTMENT OF
TRANSPORTATION - SE REGION
141 N.W. BARSTOW STREET
WAUKESHA, WI 53187-0798
STEVE HOFF
PROJECT MANAGER
(262) 548-6718
steve.hoff@dot.wi.gov

DIGGERS HOTLINE

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

N

BEGIN CONSTRUCTION
STA. 45+94.20

CTH L

NEVINS ST.

EQUATION
AHEAD 168+19.43
BACK 167+93.24

STH 164

KINGS PKWY
STA. 176+21.13

BEGIN CONSTRUCTION
STA. 46+71.03

EDGEWOOD AVE.

VILLA DR.
STA. 203+75.02

TRIBUTARY OF THE
FOX RIVER

ARTESIAN AVE.
STA. 218+50.13

STH 164

2

JOY LA.
STA. 156+17.69

CTH L
STA. 160+98

ROSE AVE.
STA. 168+19.43

MAPLE AVE.
STA. 174+16.26

RAMONA AVE.
STA. 178+75.61

PARK AVE.
STA. 184+31.80

EDGEWOOD AVE.
STA. 191+98.68

MARDITH AVE.
STA. 203+65.64

MARDITH AVE.
STA. 215+45

CTH U
STA. 221+40.11

TRIBUTARY OF THE
FOX RIVER

ORCHARD ST
STA. 156+27

END CONSTRUCTION
STA. 53+31.21

END CONSTRUCTION
STA. 53+68.66

END RECONSTRUCTION
BEGIN RESURFACING
STA. 196+58

END RESURFACING,
BEGIN RECONSTRUCTION
STA. 153+50

STH 164

HENNEBERRY AVE.
STA. 141+50

BEGIN PROJECT 2810-06-70
RESURFACING, STA. 137+25

I-43

N

CTH ES

STH 164

CTH ES

CHERI AVE.
STA. 245+25.86

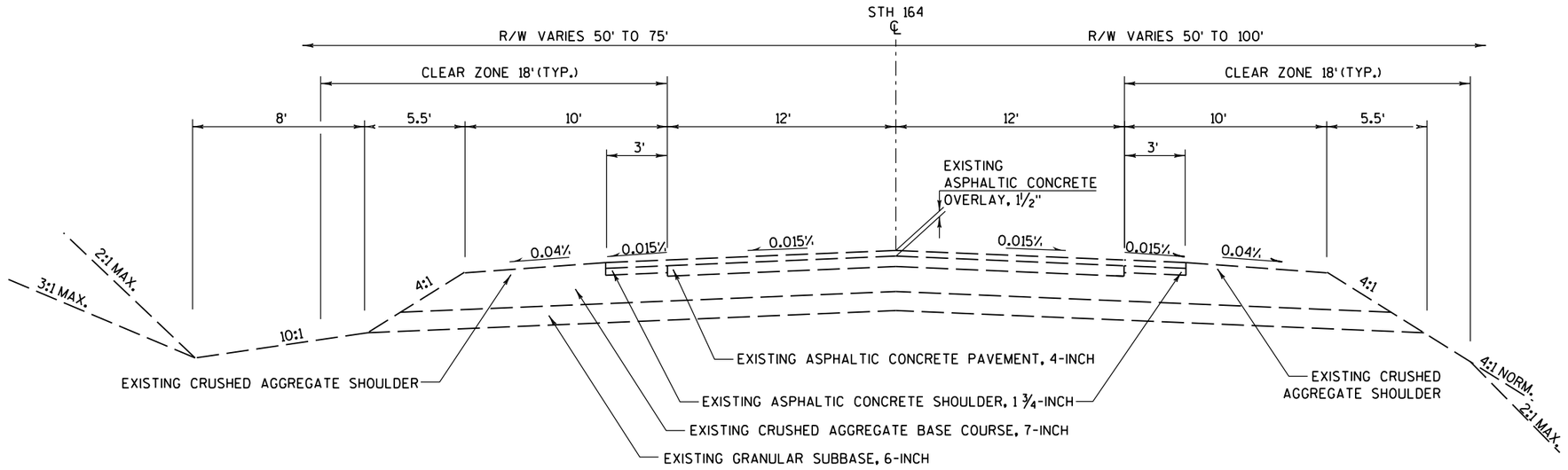
STH 164

STH 164

END PROJECT 2810-06-70
STA. 270+82.65

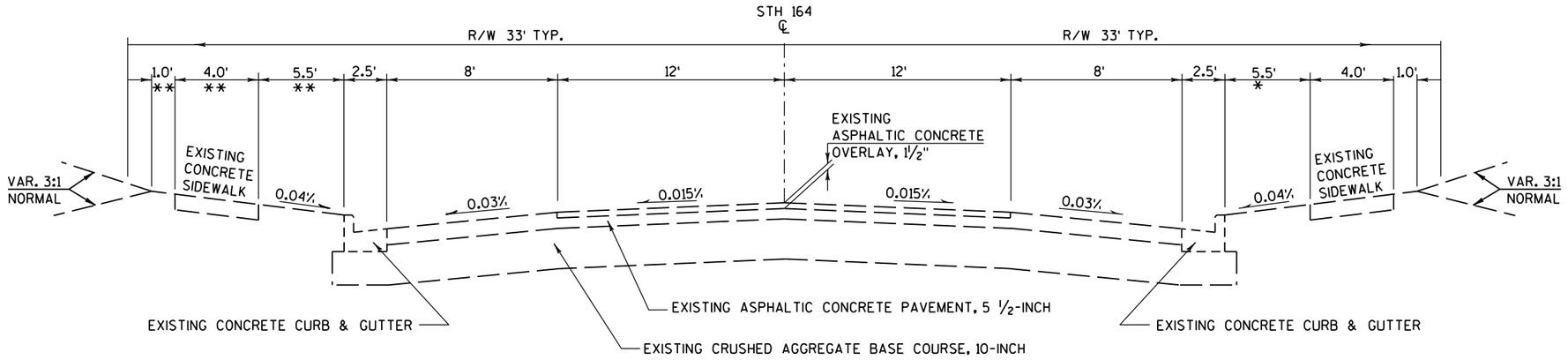
I-43

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PROJECT OVERVIEW	SHEET 4	E



EXISTING TYPICAL SECTION

STA. 137+25 - STA. 156+00



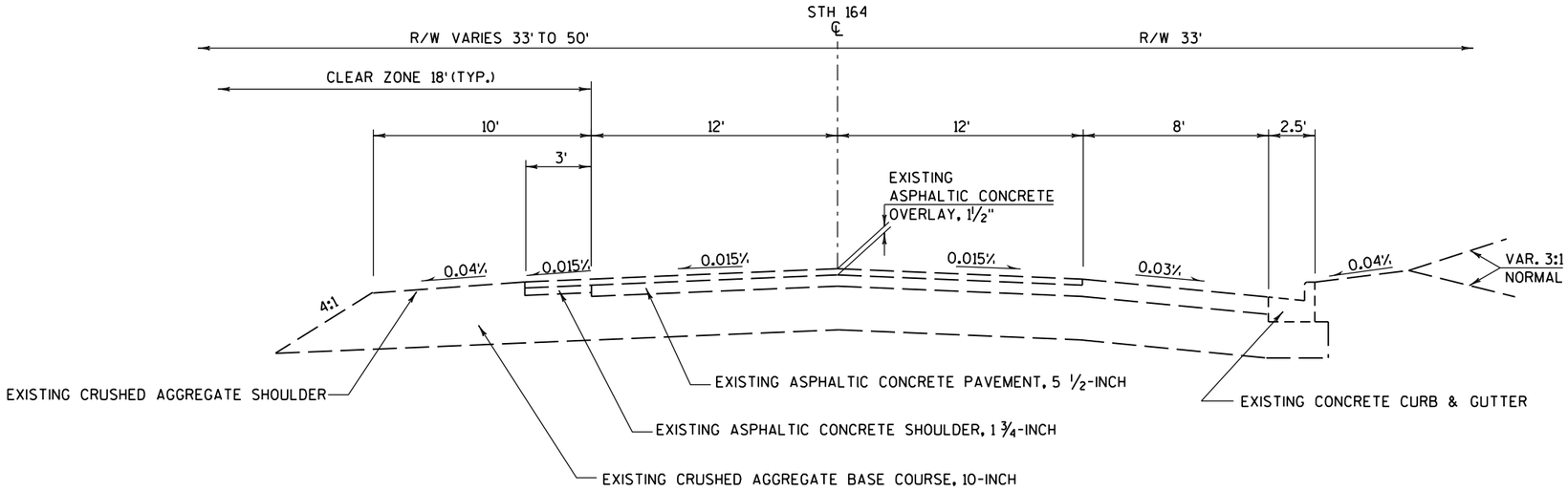
EXISTING TYPICAL SECTION

STA. 156+00 TO STA. 196+50

*2.5' FROM STA. 161+00 TO STA. 165+00

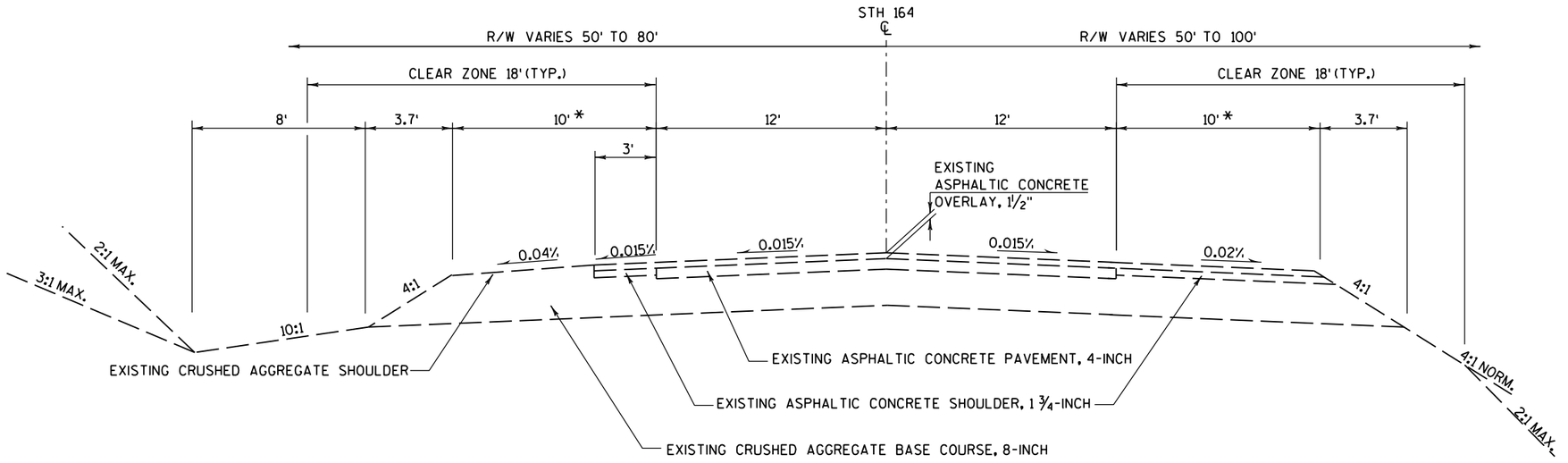
**FROM STA. 156+00 TO STA. 161+00:
- NO SIDEWALK
- 1.5' BEHIND CURB PRIOR TO SLOPES

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EXISTING TYPICAL SECTIONS	SHEET 5	E



EXISTING TYPICAL SECTION

STA. 196+50 TO STA. 216+00

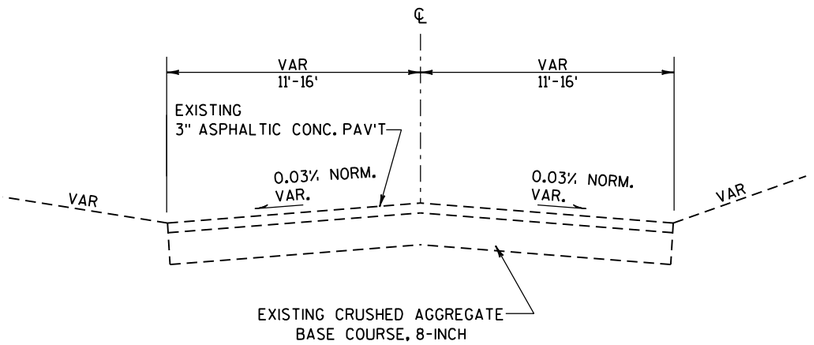


EXISTING TYPICAL SECTION

STA. 216+00 TO STA. 270+83

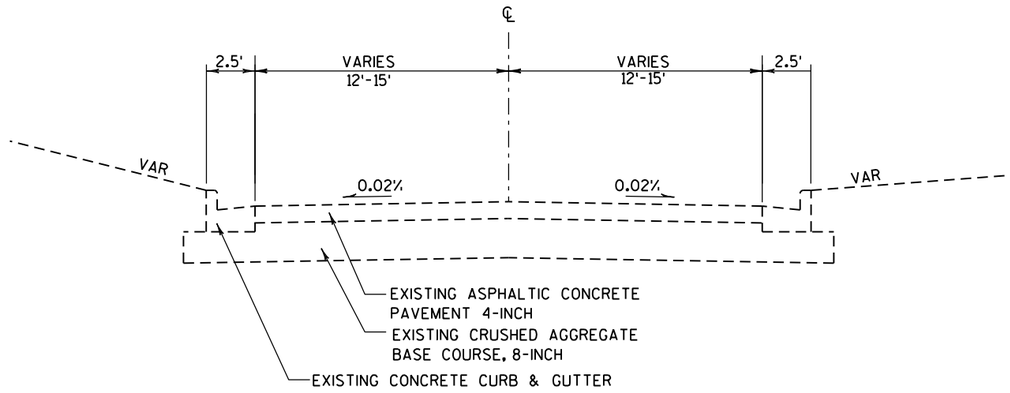
*10' PAVED SHOULDER HALF SECTION EXISTS ON BOTH SIDES, STA. 219+00 TO STA. 235+25 AND 3' PAVED SHOULDER LT & RT AT STA. 239+00 TO STA. 255+50, EXCEPT WHERE PAVED FULL WIDTH FOR BEAM GUARD AT CHERI AVE.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EXISTING TYPICAL SECTIONS	SHEET 6	E



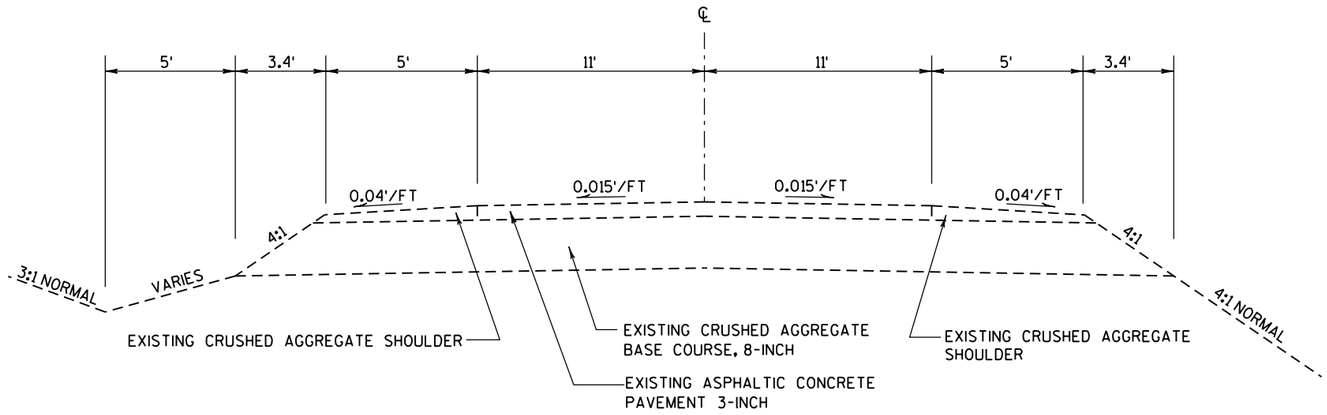
EXISTING TYPICAL SECTION

ORCHARD AVE.
NEVINS ST.
ROSE AVE.
MAPLE AVE.
KING'S PKWY.
RAMONA AVE.
PARK AVE.
ABBEY COURT



EXISTING TYPICAL SECTION

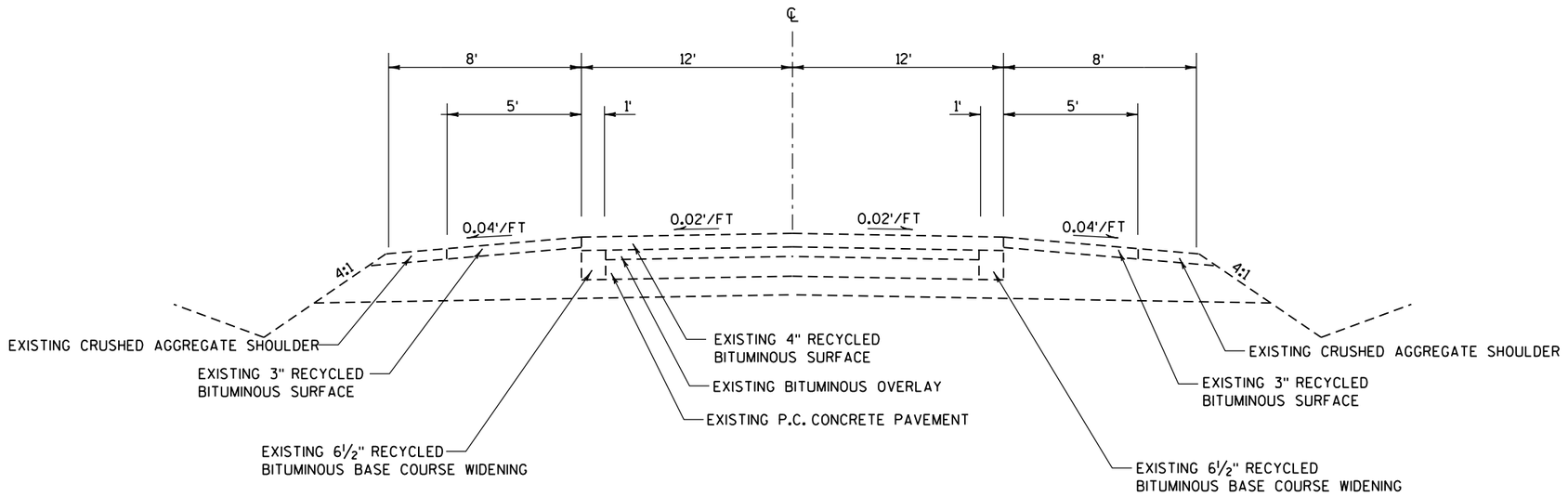
EDGEWOOD AVE.
STA. 46+75 TO STA. 49+20



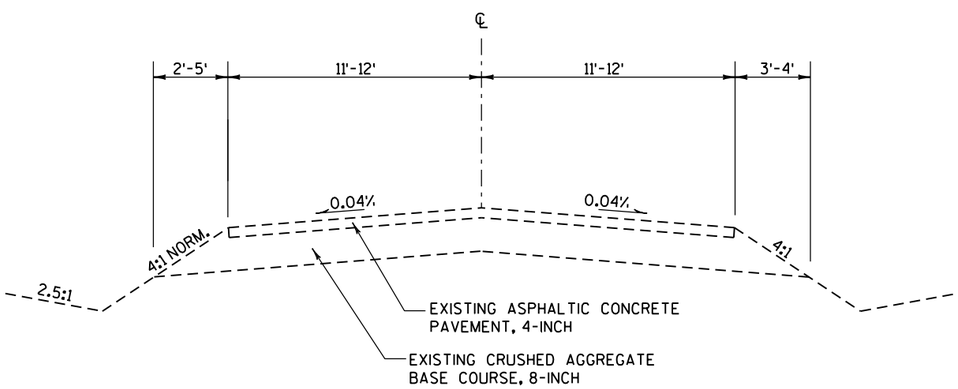
EXISTING TYPICAL SECTION

EDGEWOOD AVE.
STA. 50+50 TO STA. 52+75

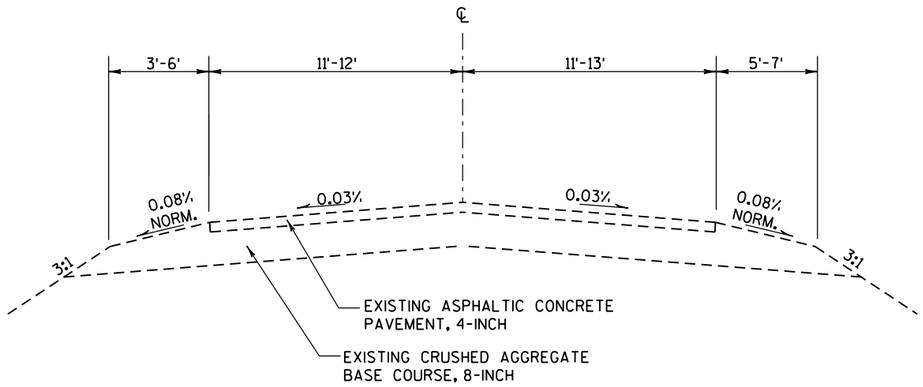
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EXISTING TYPICAL SECTIONS	SHEET 7	E



EXISTING TYPICAL SECTION
CTH L
STA 45+94 TO 49+00
STA 51+51 TO 53+31

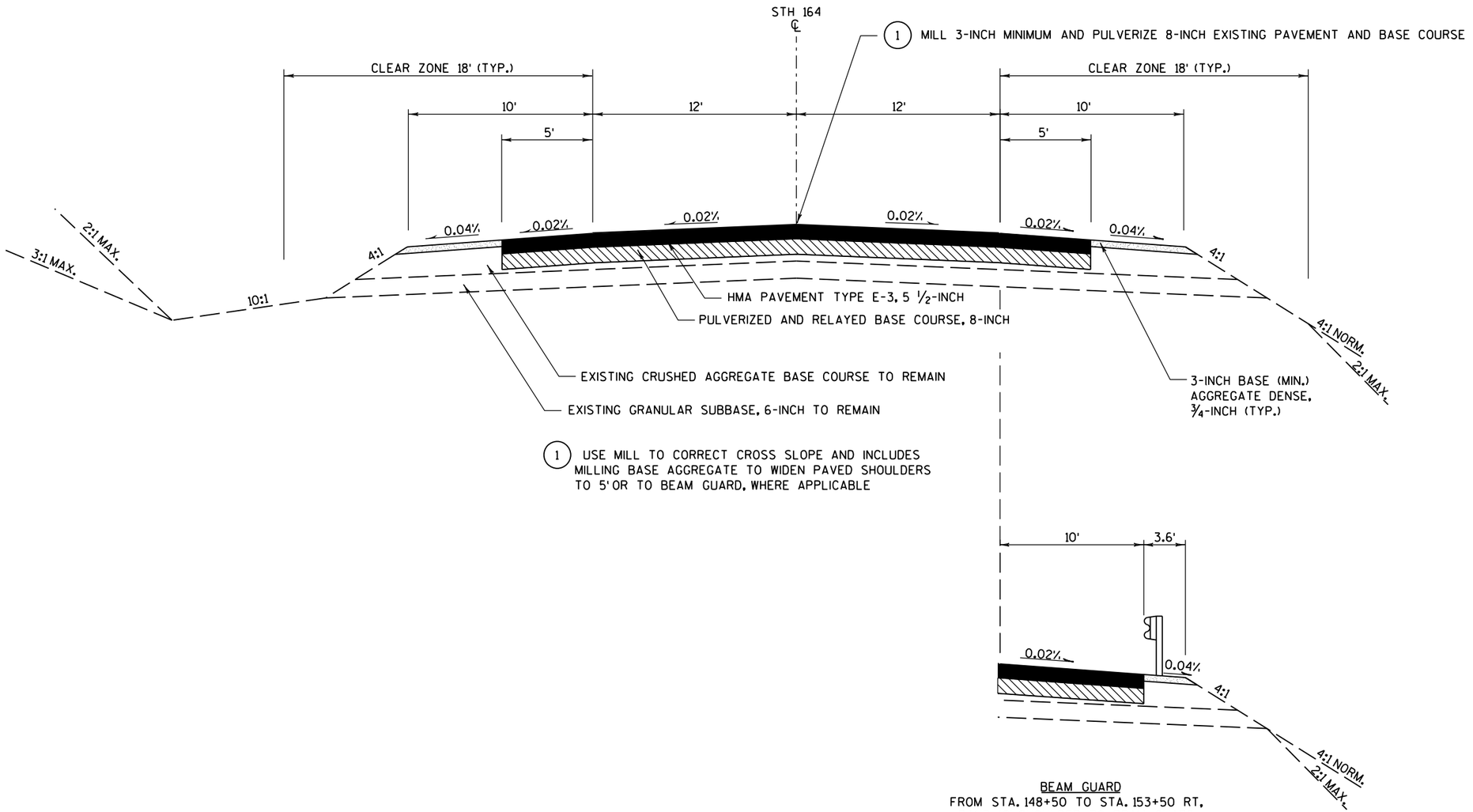


EXISTING TYPICAL SECTION
HENNEBERRY AVE.
ARTESIAN AVE.



EXISTING TYPICAL SECTION
VILLA DR.
CTH U
CHERI AVE.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EXISTING TYPICAL SECTIONS	SHEET 8	E

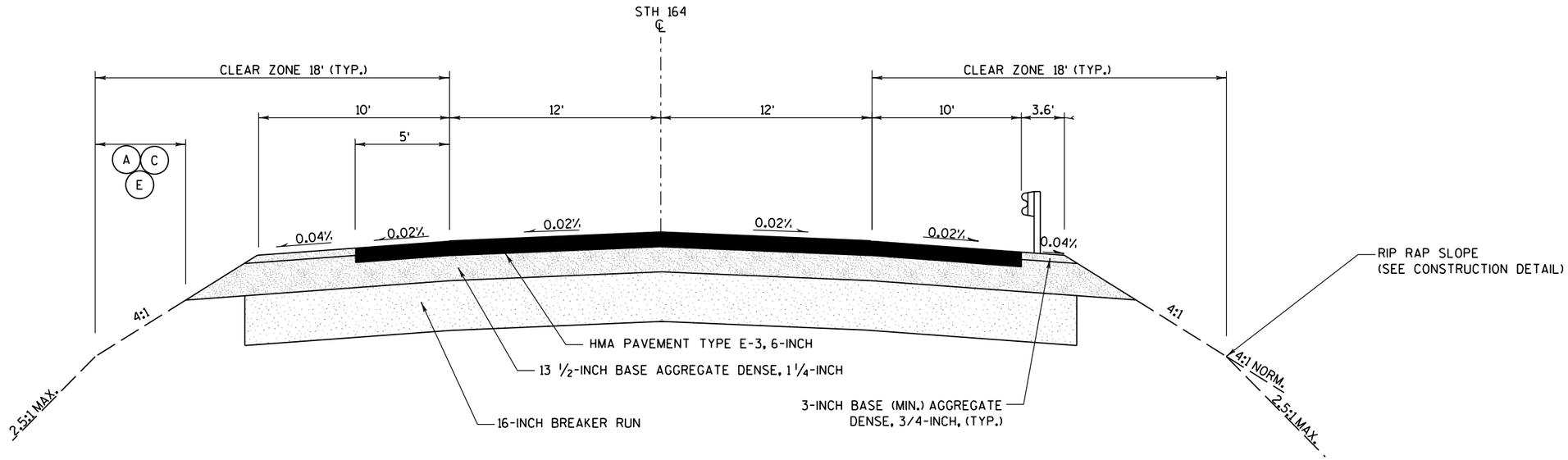


BEAM GUARD
FROM STA. 148+50 TO STA. 153+50 RT,
PAVE 10' SHOULDER TO BEAM GUARD

TYPICAL FINISHED SECTION

STA. 137+25 - STA. 153+50
DESIGN SPEED= 40 MPH

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	FINISHED TYPICAL SECTIONS	SHEET 9	E



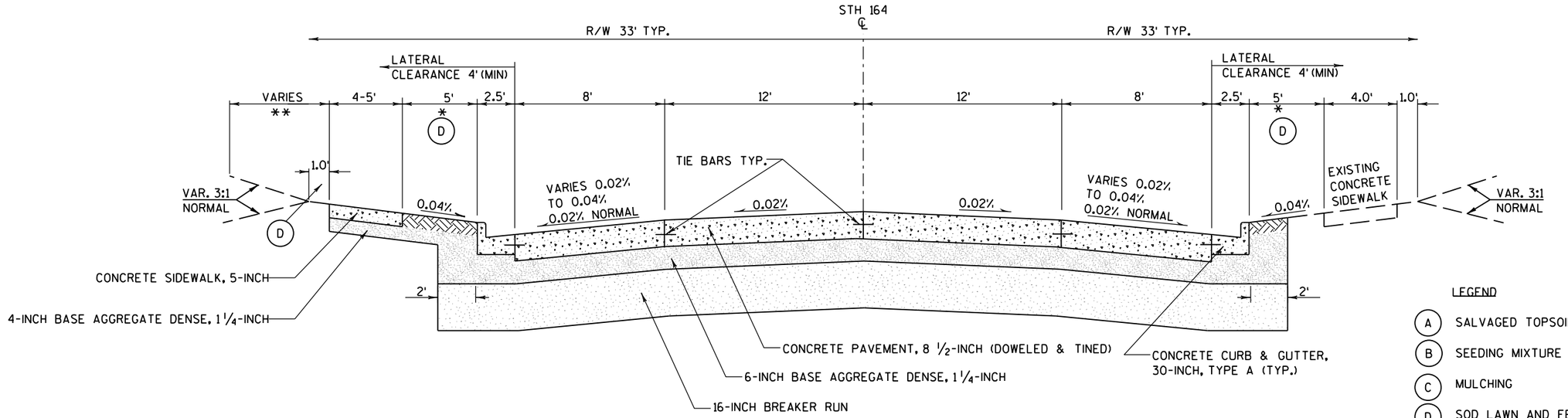
TYPICAL FINISHED SECTION

STA. 153+50 - STA. 155+63
DESIGN SPEED= 40 MPH

LEGEND

- (A) SALVAGED TOPSOIL
- (B) SEEDING MIXTURE #40 AND FERTILIZER TYPE B
- (C) MULCHING
- (D) SOD LAWN AND FERTILIZER TYPE B
- (E) SEEDING MIXTURE #20, SEEDING TEMPORARY, AND FERTILIZER TYPE B

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	FINISHED TYPICAL SECTIONS	SHEET 10	E



TYPICAL FINISHED SECTION

STA. 155+63 TO STA. 196+58

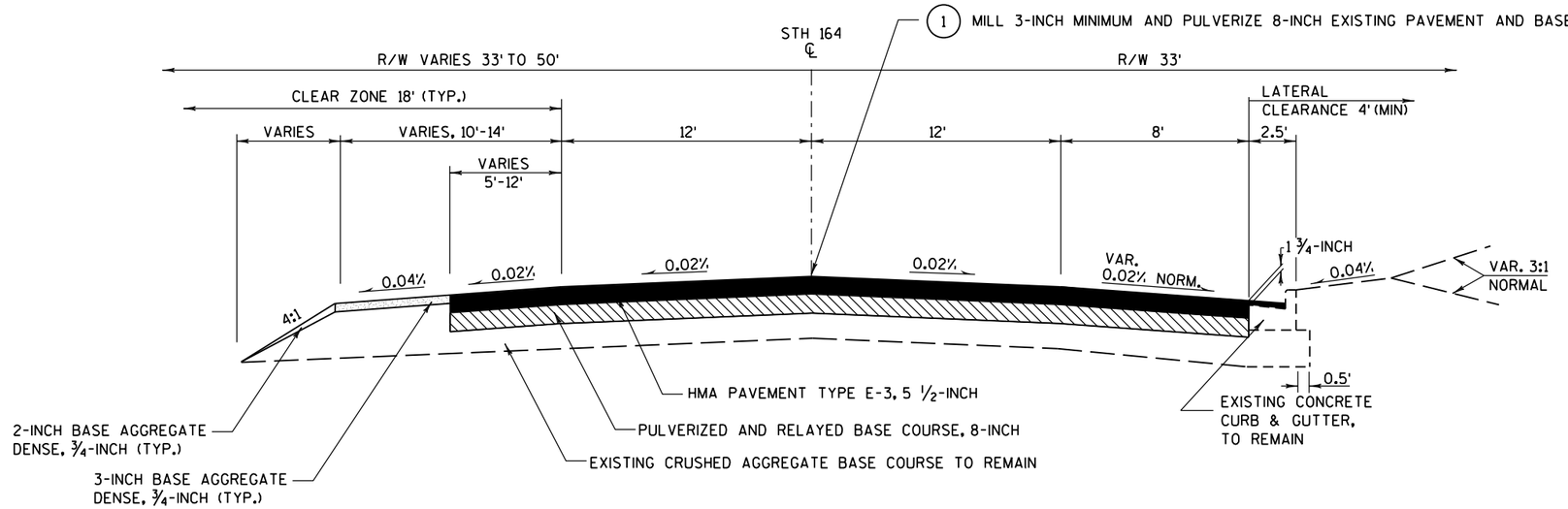
DESIGN SPEED FOR STA. 155+63 TO STA. 165+00 = 40 MPH
DESIGN SPEED FOR STA. 165+00 TO STA. 196+58 = 35 MPH

LEGEND

- (A) SALVAGED TOPSOIL
- (B) SEEDING MIXTURE #40 AND FERTILIZER TYPE B
- (C) MULCHING
- (D) SOD LAWN AND FERTILIZER TYPE B
- (E) SEEDING MIXTURE #20, SEEDING TEMPORARY, AND FERTILIZER TYPE B

* 5' TERRACE & 5' SIDEWALK AT STA. 156+50 TO STA. 160+50, RT
5' TERRACE & 5' SIDEWALK AT STA. 161+81 TO STA. 167+53, RT & LT

** PLACE SALVAGED TOPSOIL, SEED, FERTILIZER, AND MULCH
ALL DISTURBED AREAS TO SLOPE INTERCEPTS

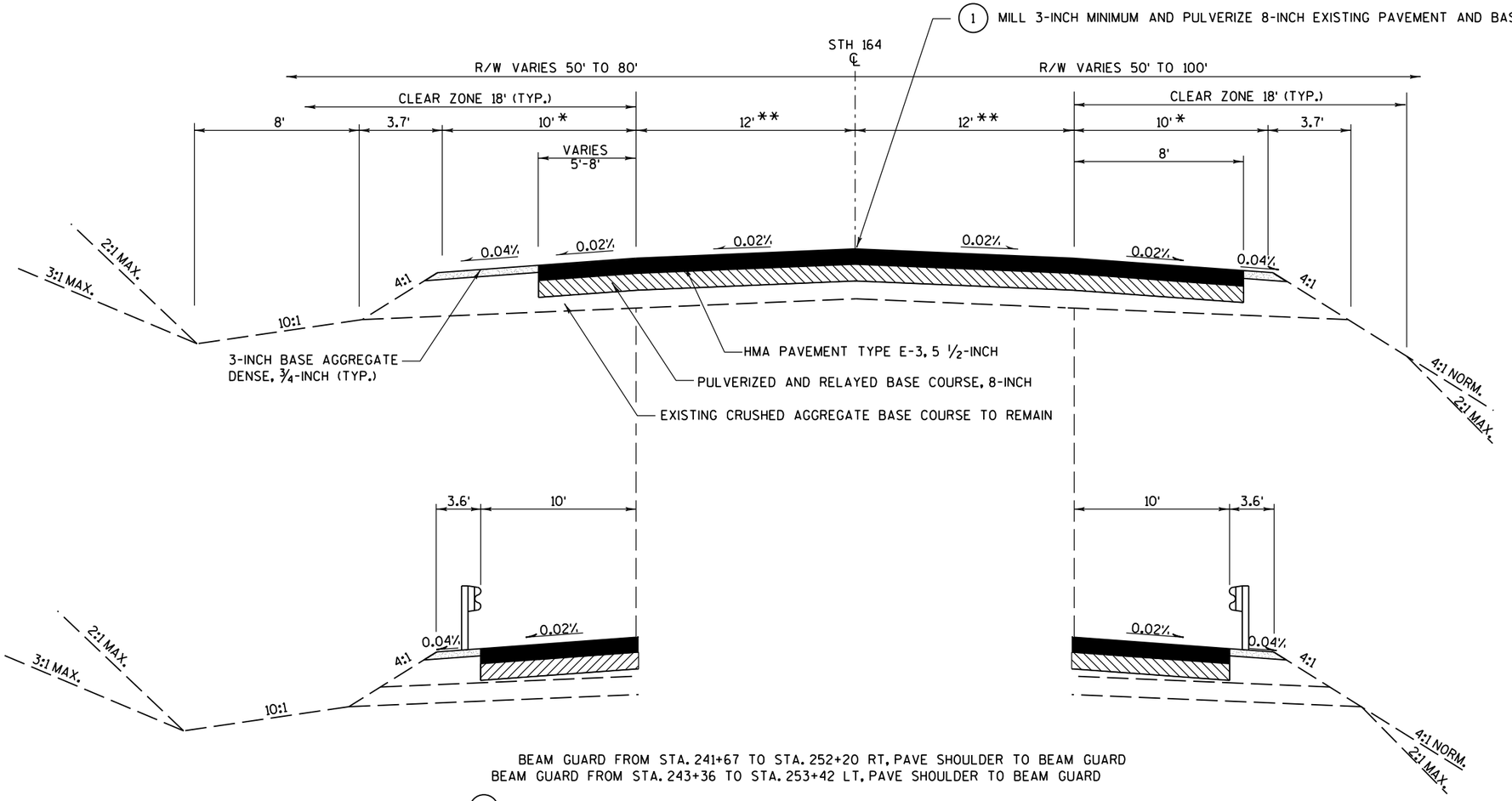


TYPICAL FINISHED SECTION

STA. 196+58 TO STA. 216+00
DESIGN SPEED = 35 MPH

(1) USE MILL TO CORRECT CROSS SLOPE AND INCLUDES MILLING BASE AGGREGATE TO WIDEN PAVED SHOULDERS TO 5 FT

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	FINISHED TYPICAL SECTIONS	SHEET 11	E



BEAM GUARD FROM STA. 241+67 TO STA. 252+20 RT, PAVE SHOULDER TO BEAM GUARD
BEAM GUARD FROM STA. 243+36 TO STA. 253+42 LT, PAVE SHOULDER TO BEAM GUARD

(1) USE MILL TO CORRECT CROSS SLOPE AND INCLUDES MILLING BASE AGGREGATE TO WIDEN FOR PAVED SHOULDERS

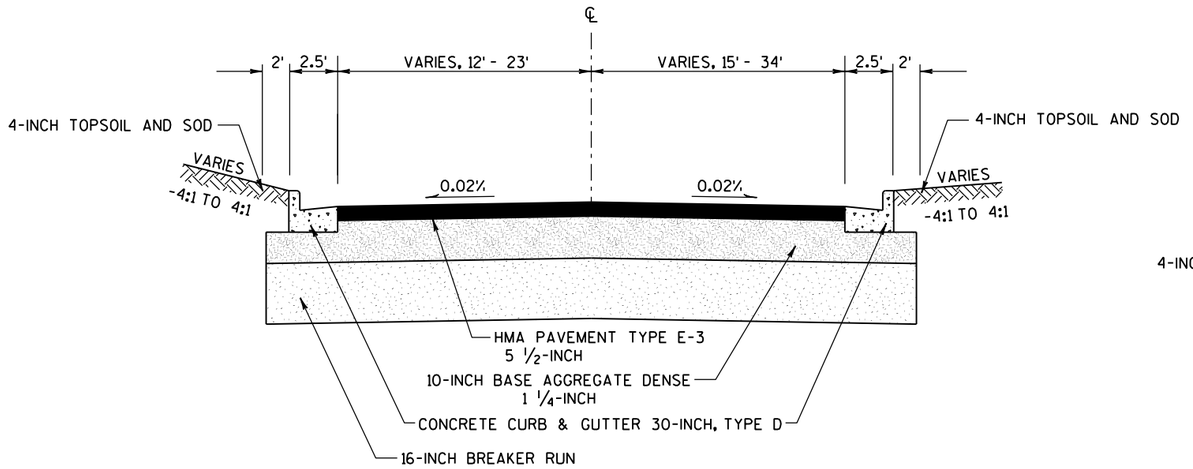
TYPICAL FINISHED SECTION

STA. 216+00 TO STA. 270+83

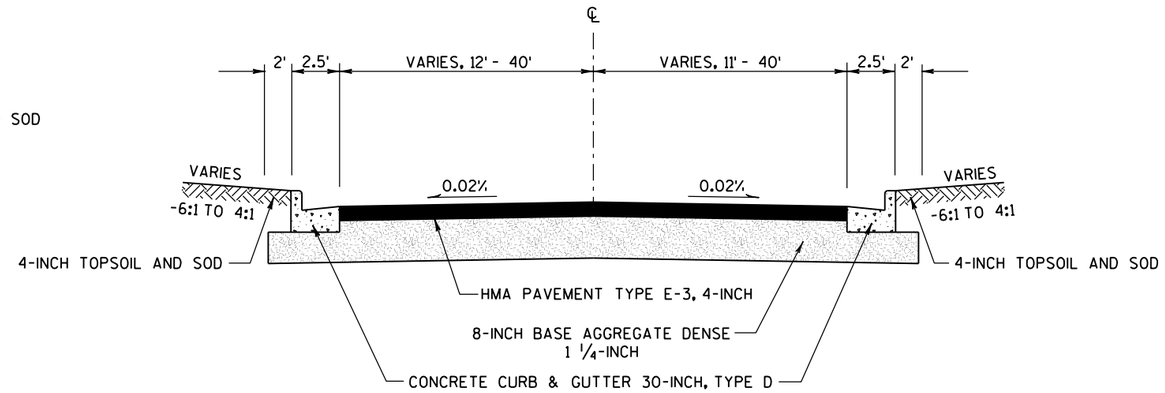
DESIGN SPEED FOR STA. 216+00 TO STA. 222+00 = 40 MPH
DESIGN SPEED FOR STA. 222+00 TO STA. 270+83 = 60 MPH

*5' PAVED SHOULDER LT AT STA. 235+00 TO STA. 241+82, EXCEPT WHERE PAVED FULL WIDTH FOR BEAM GUARD AT CHERI AVE.
5' PAVED SHOULDER RT AT STA. 254+44 TO STA. 255+50.
10' PAVED SHOULDER LT AT STA. 253+30 TO STA. 254+65, TAPER TO EXISTING AT STA. 254+65 TO STA. 255+50.

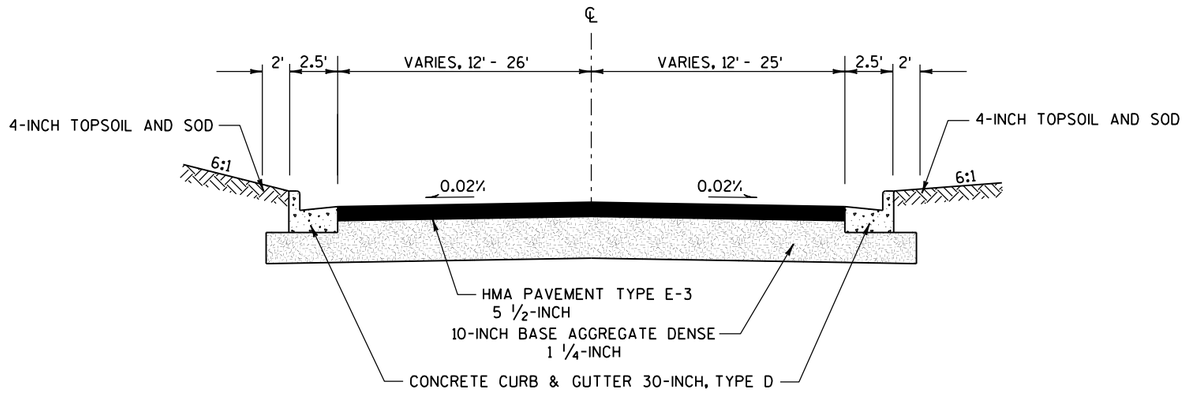
**STA. 216+27 TO STA. 223+16 RT, LANE WIDTH VARIES 12'-24' FOR TURN LANES
STA. 216+96 TO STA. 221+76 LT, LANE WIDTH VARIES 12'-24' FOR TURN LANES
STA. 243+77 TO STA. 249+57 LT, LANE WIDTH VARIES 12'-24' FOR TURN LANES



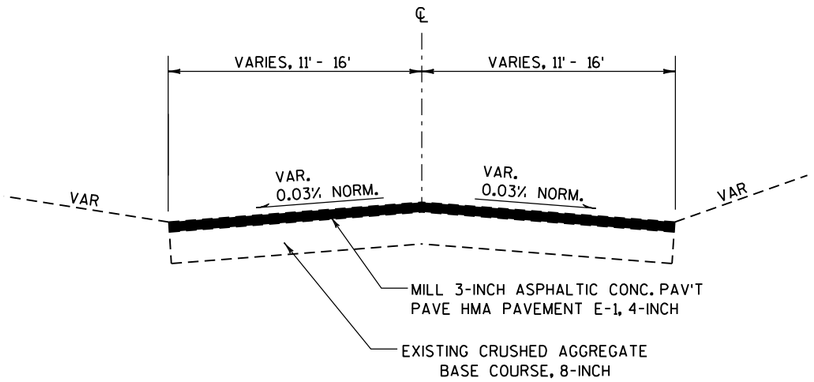
TYPICAL FINISHED SECTION
CTH L
STA. 45+94.20 TO STA. 49+21.72
STA. 50+84.15 TO STA. 53+31.21



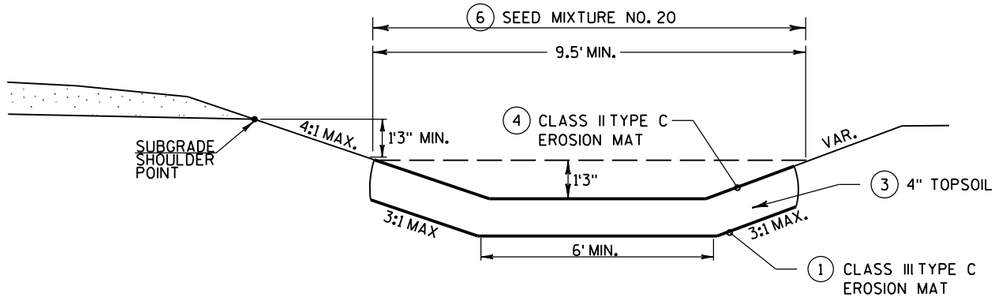
TYPICAL FINISHED SECTION
NEVINS ST.
STA. 52+00.00 TO STA. 53+82.31
(CUL DE SAC)



TYPICAL FINISHED SECTION
EDGEWOOD AVE.
STA. 46+71.00 TO STA. 49+20.67
STA. 50+80.00 TO STA. 53+68.66

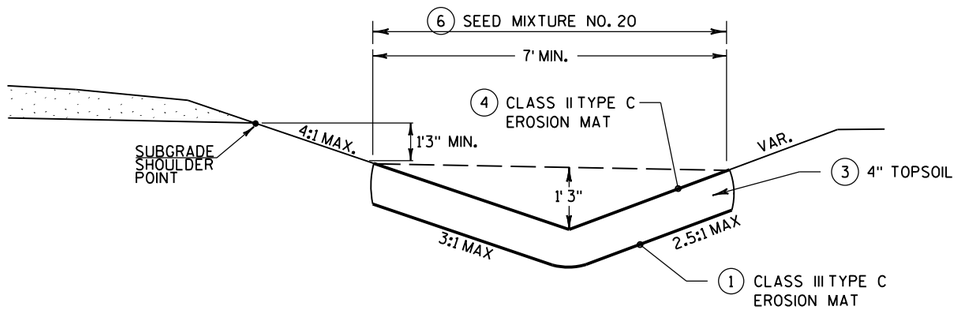


TYPICAL FINISHED SECTION
NEVINS ST.
ROSE AVE.
MAPLE AVE.
KING'S PKWY.
RAMONA AVE.
PARK AVE.
VILLA DR.
ABBEY COURT



DETAIL OF TRAPEZOIDAL CLASS III TYPE C EROSION MAT DITCH

STA. 224+50 TO STA. 225+00, RT



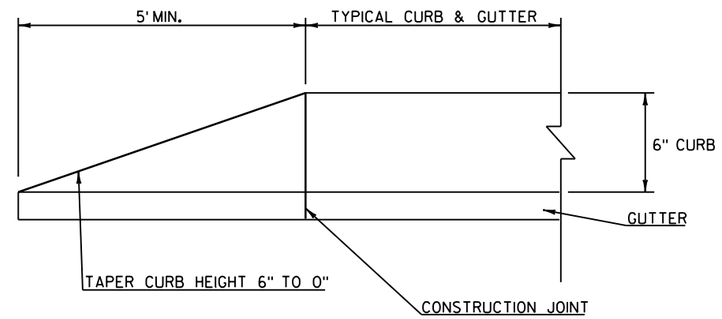
DETAIL OF V-SHAPE CLASS III TYPE C EROSION MAT DITCH

STA. 224+25 TO STA. 224+50, RT
STA. 225+00 TO STA. 225+50, LT
STA. 225+50 TO STA. 232+50, LT & RT

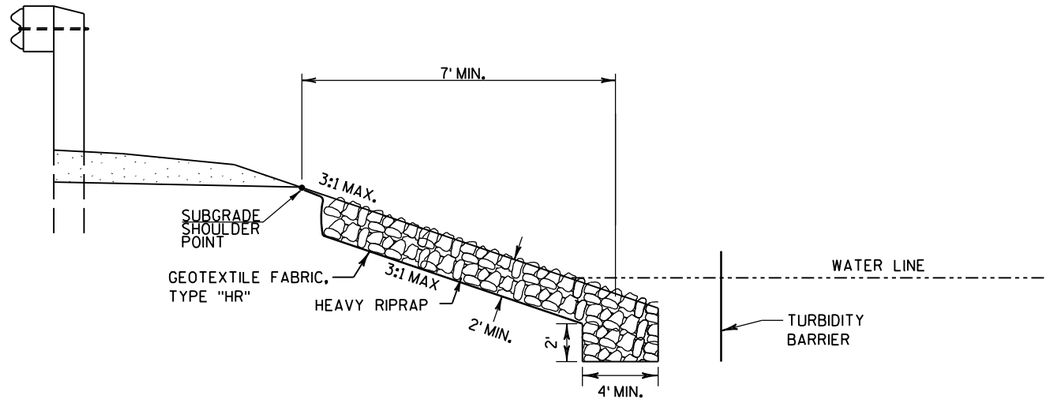
CONSTRUCTION PHASING

1. PLACE CLASS III TYPE C EROSION MAT WITHIN 48 HOURS AFTER REMOVING EXISTING CONCRETE DITCHES
2. PLACE TEMPORARY DITCH CHECKS
3. PLACE 4" TOPSOIL
4. PLACE CLASS II TYPE C EROSION MAT WITHIN 48 HOURS OF TOPSOIL PLACEMENT
5. PLACE TEMPORARY DITCH CHECKS
6. PLACE SEED MIXTURE NO. 20
7. PLACE STONE OR ROCK DITCH CHECKS

2



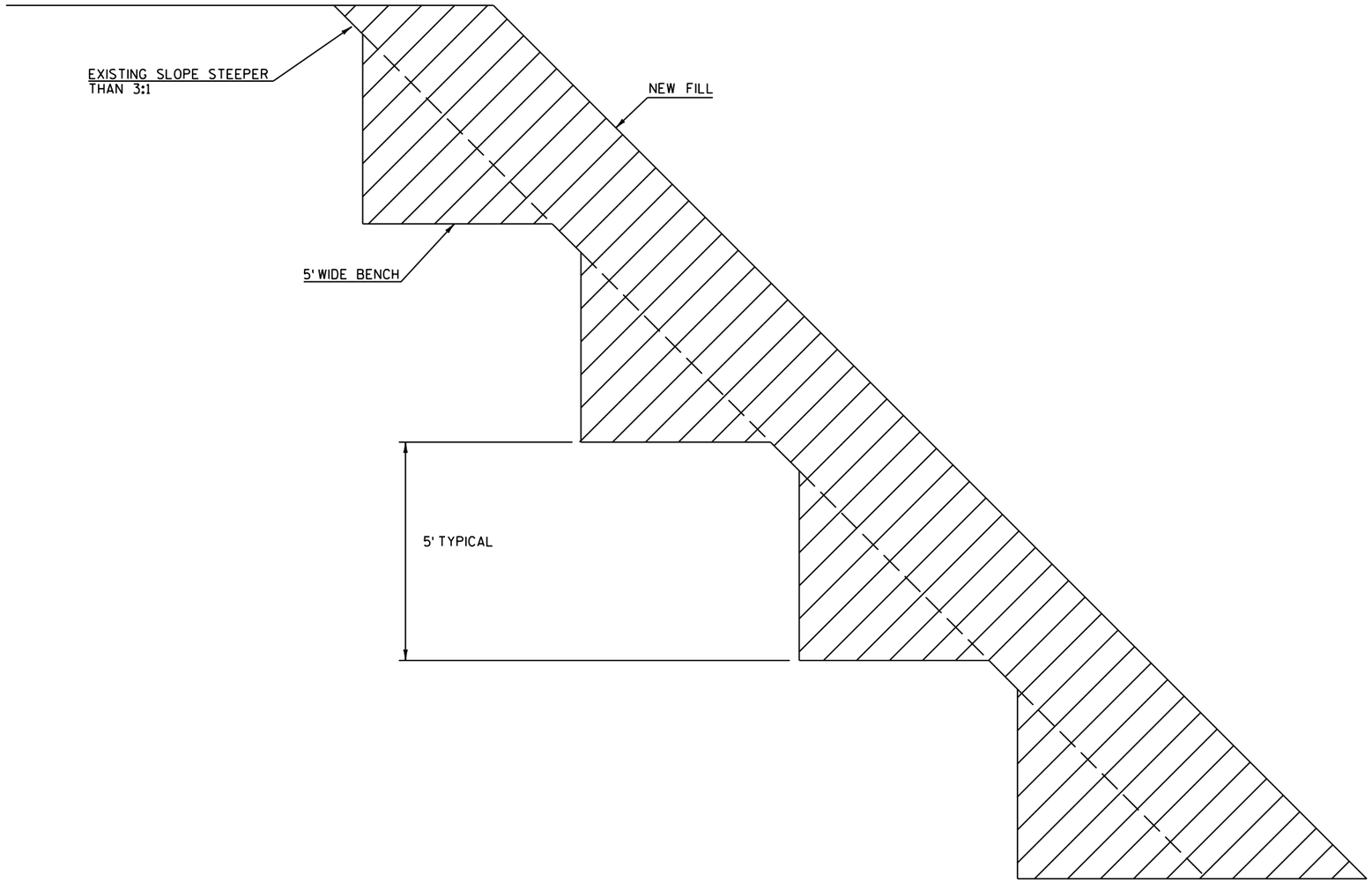
CURB & GUTTER TERMINI DETAIL



DETAIL OF HEAVY RIPRAP SLOPE

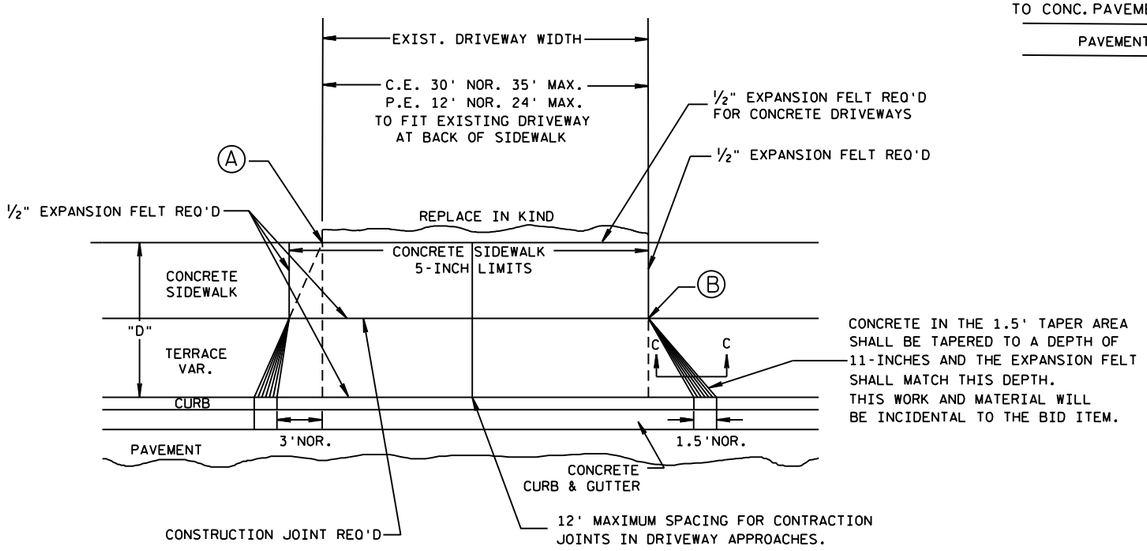
STA. 151+50 TO STA. 155+25, RT

2



DETAIL FOR PLACING FILL ON SLOPES STEEPER THAN 3:1

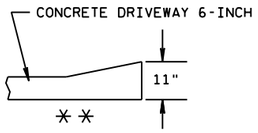
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 15	E



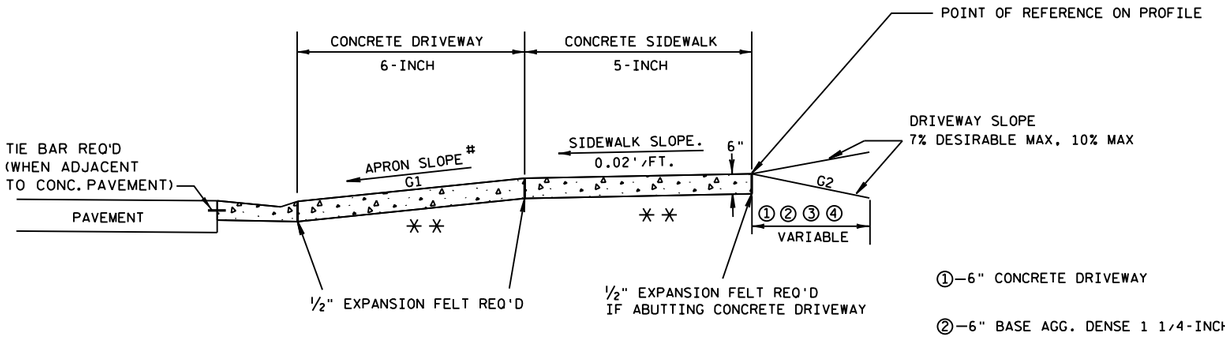
PLAN VIEW

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

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



SECTION C-C



TYPICAL SIDEWALK SECTION

①—6" CONCRETE DRIVEWAY

②—6" BASE AGG. DENSE 1 1/4-INCH

③—6" BASE AGGREGATE DENSE 1 1/4-INCH BASE WITH 3" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

④—8" BASE AGGREGATE DENSE 1 1/4-INCH BASE WITH 4" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
- FOR C.E. ONLY

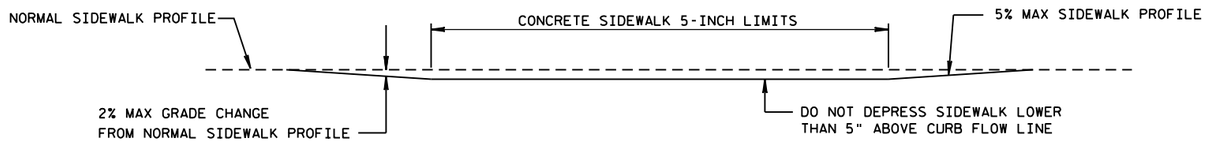
✳✳ = 6" BASE AGGREGATE DENSE 1 1/4-INCH REQ'D UNDER CONCRETE DRWY

\#

TERRACE WIDTH	APRON SLOPE (G1) MIN %	DESIRABLE %	MAX %
3 FT	7.0	8.5	9.0
4 FT	5.0	7.0	9.0
5 FT	4.0	7.0	9.0
6 FT	4.0	7.0	9.0
7 FT	3.5	7.0	9.0
8 FT	3.0	7.0	9.0

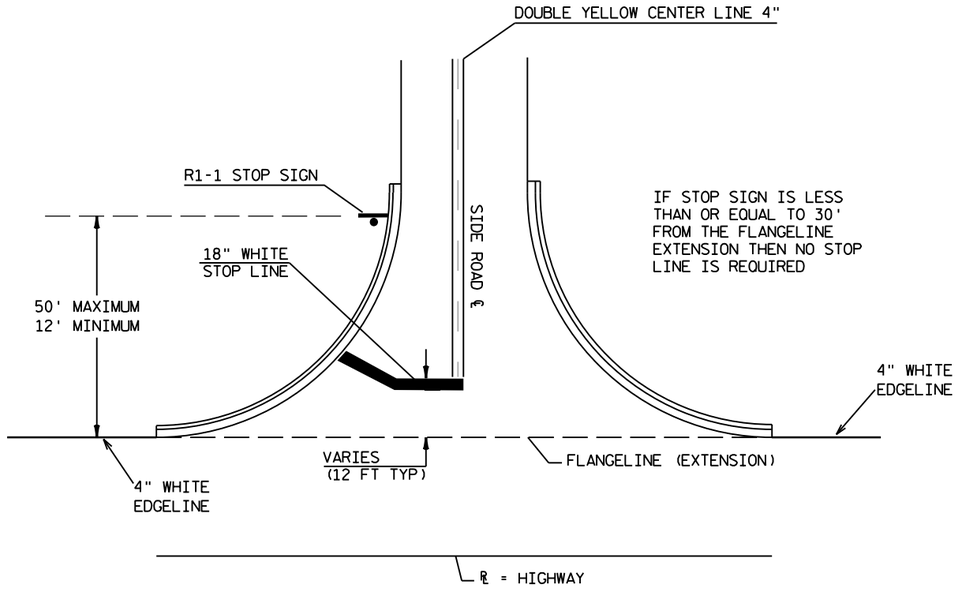
NOTE: ALGEBRAIC DIFFERENCE BETWEEN TANGENT GRADES G1 & G2 TO NOT EXCEED 15%

DEPRESS SIDEWALK PROFILE IF DRIVEWAY APRON EXCEEDS MAX SLOPE

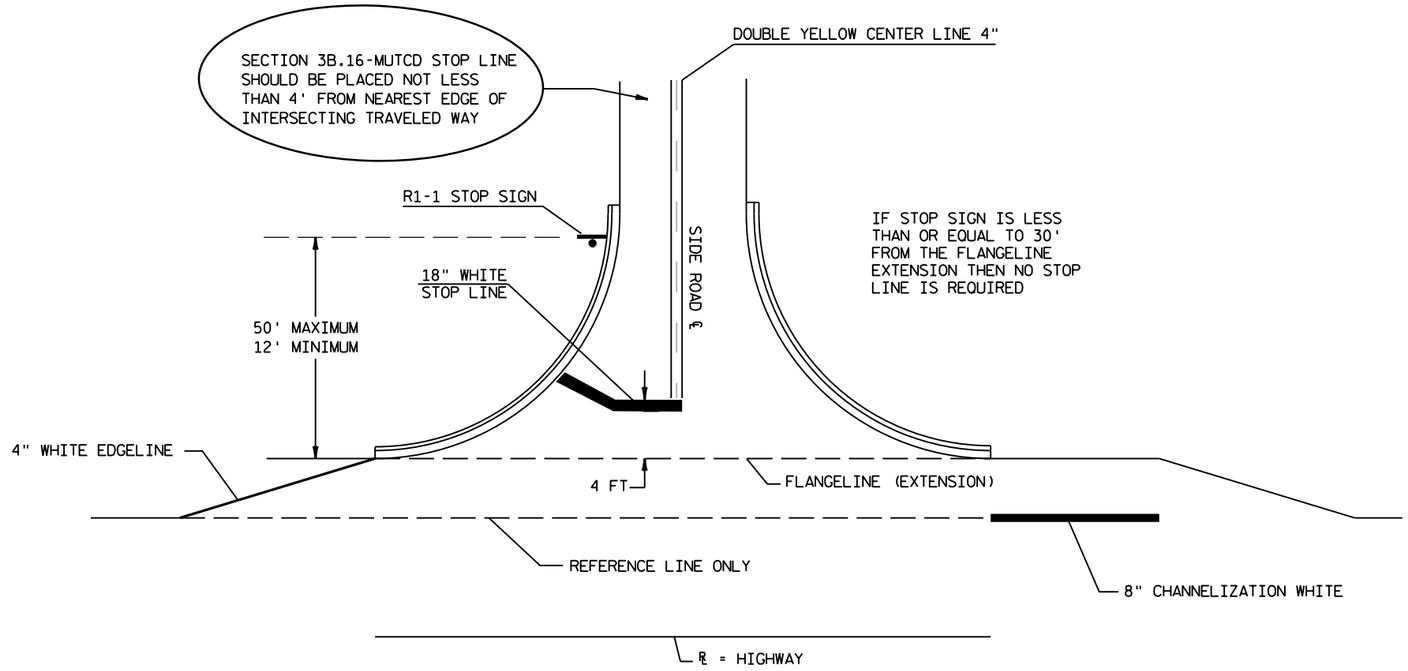


DEPRESSED SIDEWALK PROFILE DETAIL

DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER



TYPICAL PAVEMENT MARKING FOR SIDEROADS



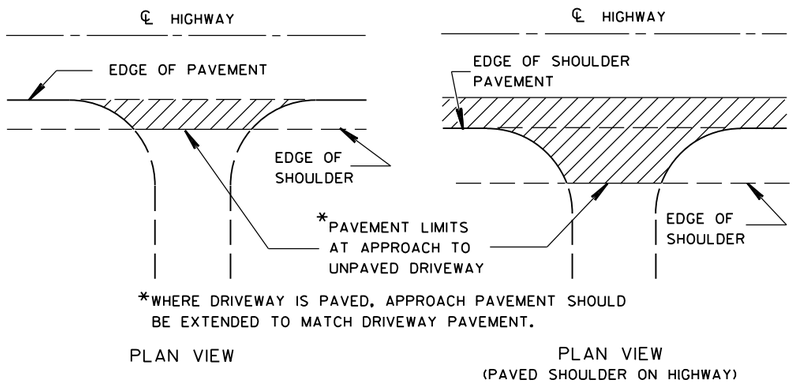
TYPICAL PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE

NOTES:

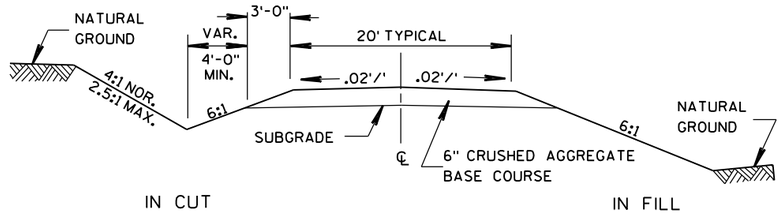
18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

STOP LINES REQUIRED WHERE:

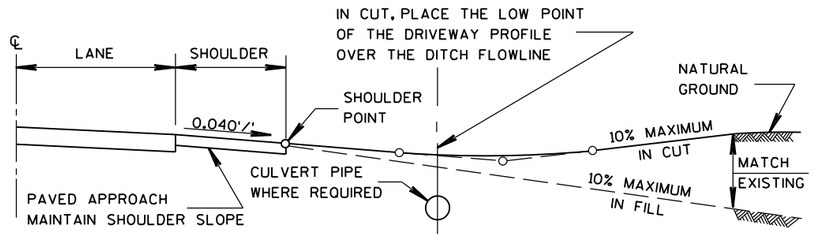
- CROSSWALK MARKINGS EXIST OR BEING PROVIDED
- LARGE RADII
- OFFSET LEFT TURNS WHERE STOP BAR FOR LEFT TURN IS SET BACK FROM THRU MOVEMENT.



RURAL DRIVEWAY INTERSECTION DETAIL

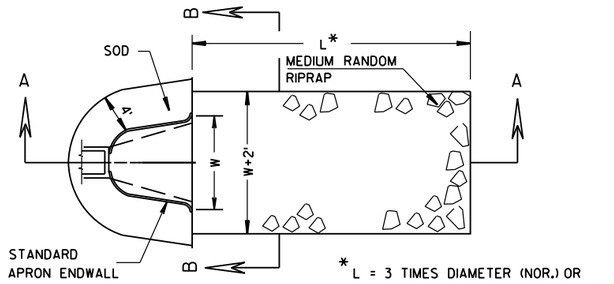


TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE

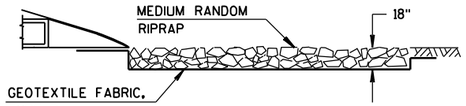


TYPICAL DRIVEWAY PROFILES

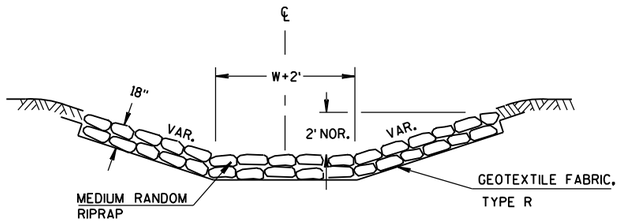
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 17	E



* L = 3 TIMES DIAMETER (NOR.) OR 10' MIN. OR AS DIRECTED BY THE ENGINEER

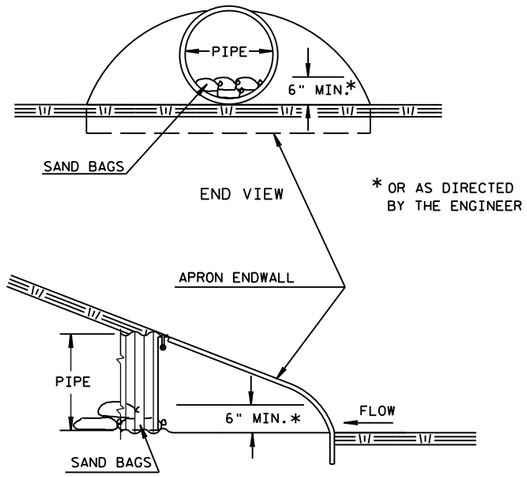


SECTION A-A



SECTION B-B

SOD, MEDIUM RANDOM RIPRAP AND GEOTEXTILE FABRIC
DETAIL AT APRON ENDWALLS



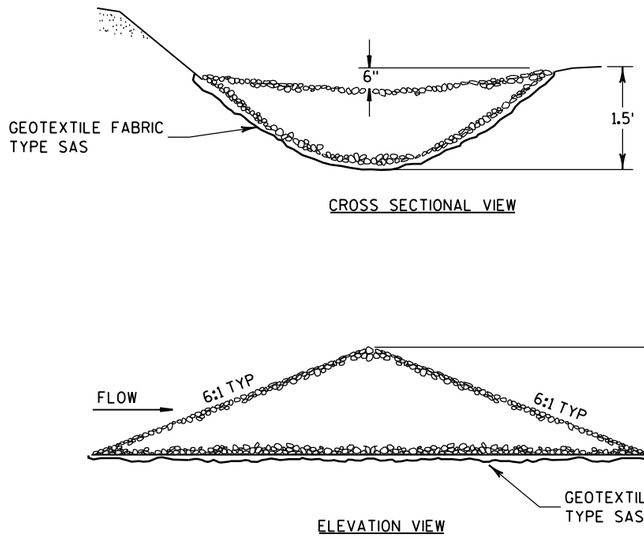
SIDE VIEW

CULVERT PIPE DITCH CHECK

RUNOFF COEFFICIENT TABLE

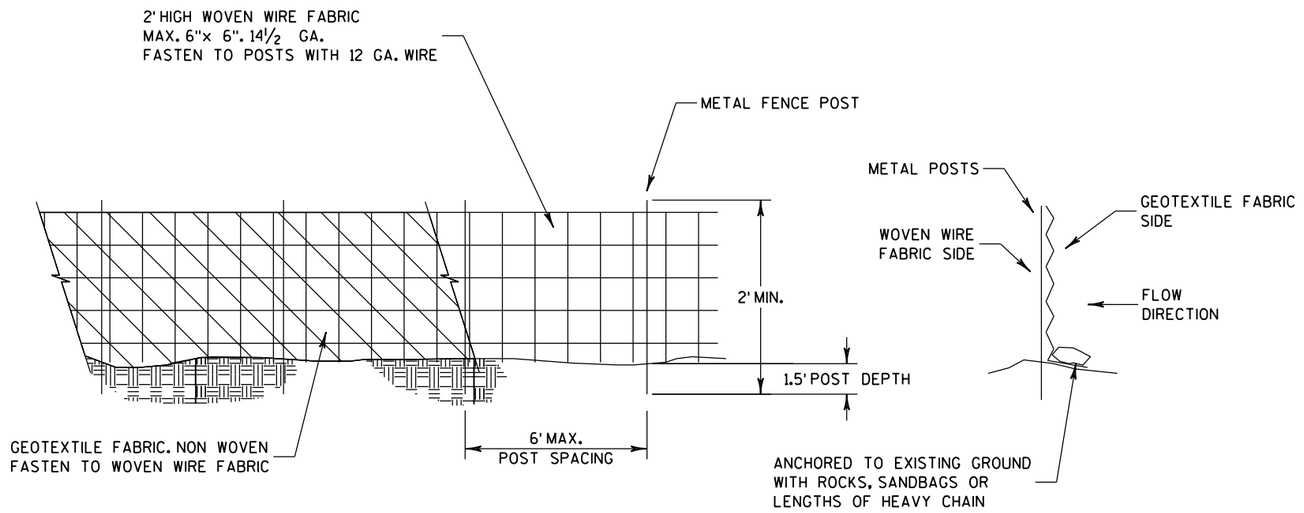
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP- TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE- TURF			.25 .32			.27 .34			.28 .36			.30 .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 = 42.03 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 25.42 ACRES



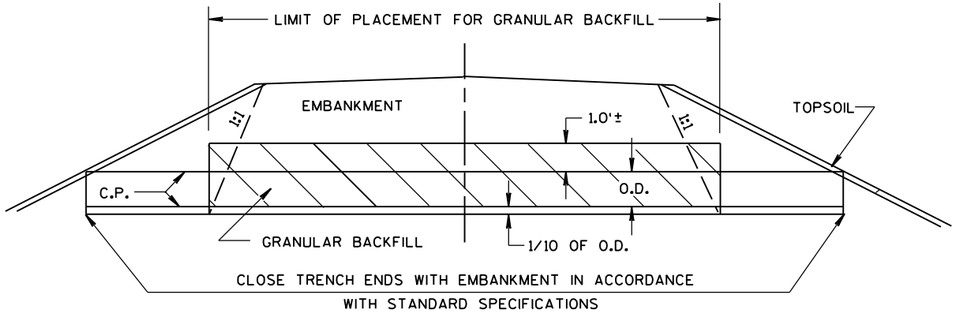
STONE OR ROCK DITCH CHECK DETAIL

SEE EROSION CONTROL
PLAN FOR LOCATIONS

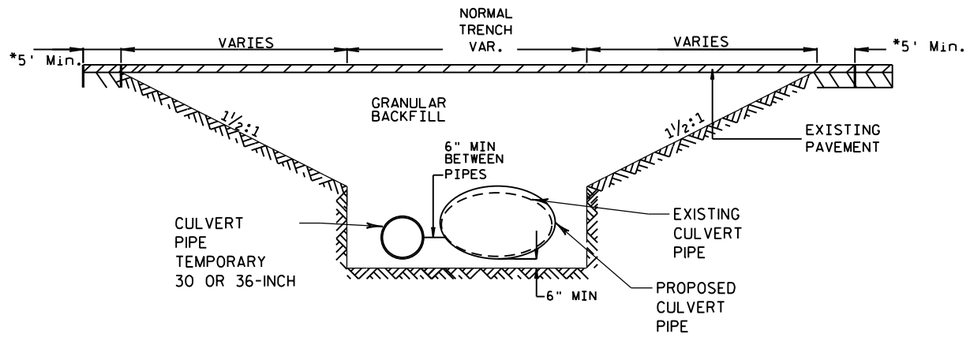


HEAVY DUTY SILT FENCE DETAIL

INSTALL AS NECESSARY AS
DIRECTED BY THE ENGINEER



CULVERT BACKFILL DETAIL

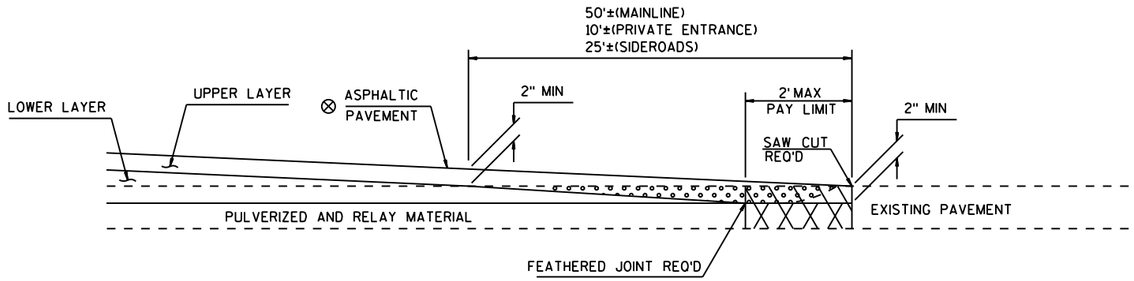


TEMPORARY PIPE INSTALLATION DETAIL

STA 155+62
STA 216+58
STA 221+64

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 19	E

2



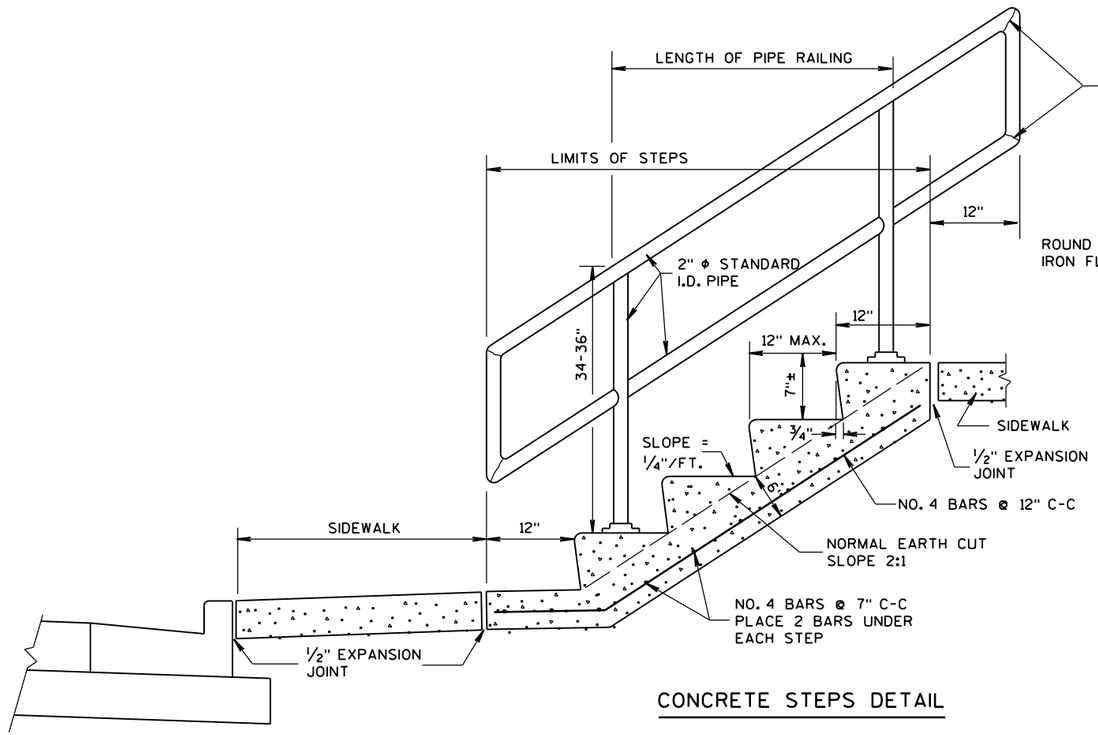
⊗ SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

REMOVING ASPHALTIC SURFACE, MILLING

REMOVING ASPHALTIC SURFACE, BUTT JOINTS (FULL DEPTH REMOVAL OPTIONAL)

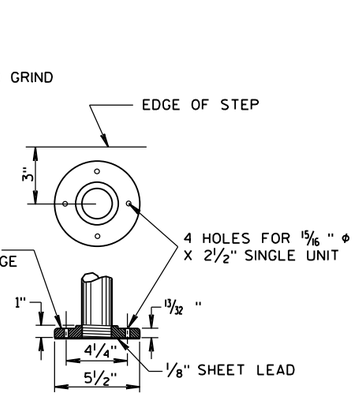
ASPHALTIC WEDGING (FULL DEPTH REMOVAL OPTION)

BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS



CONCRETE STEPS DETAIL

STA. 158+50 LT
STA. 158+75 RT
STA. 174+30 RT



FLANGE DETAIL

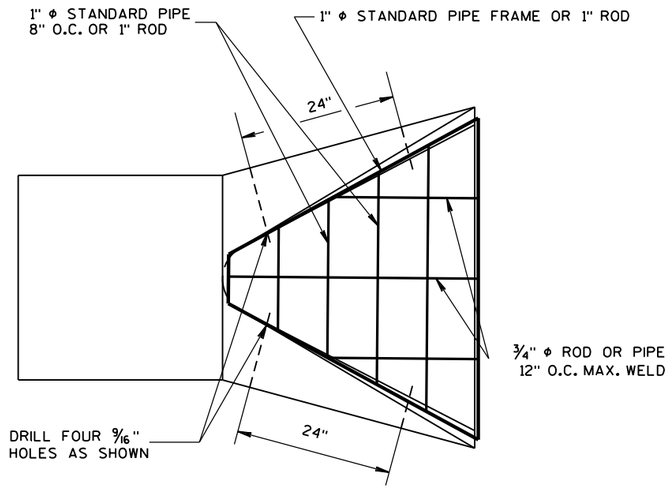
NOTE:

THE EXACT LOCATION, WIDTHS, & NUMBER OF STEPS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

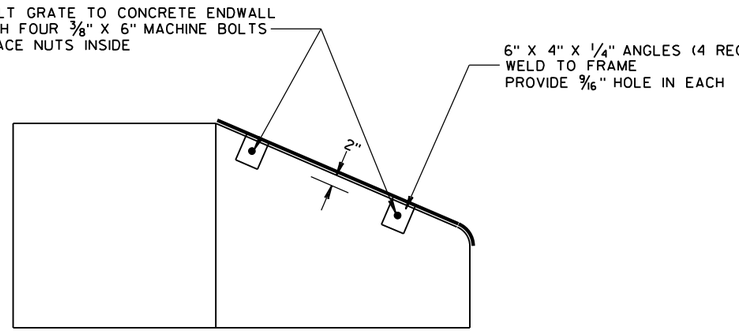
STEEL REINFORCEMENT AND PIPE RAILING NOT REQUIRED ON STEPS WITH 2 RISERS OR LESS.

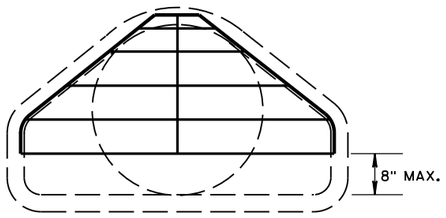
MINIMUM WIDTH OF STEP EQUALS 4 FEET.

RAILING TO BE PLACED ON LEFT ASCENDING SIDE OF STEPS ONLY.

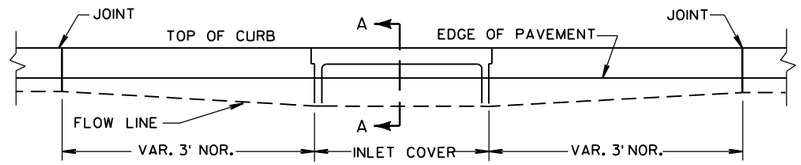


AT EACH PIPE

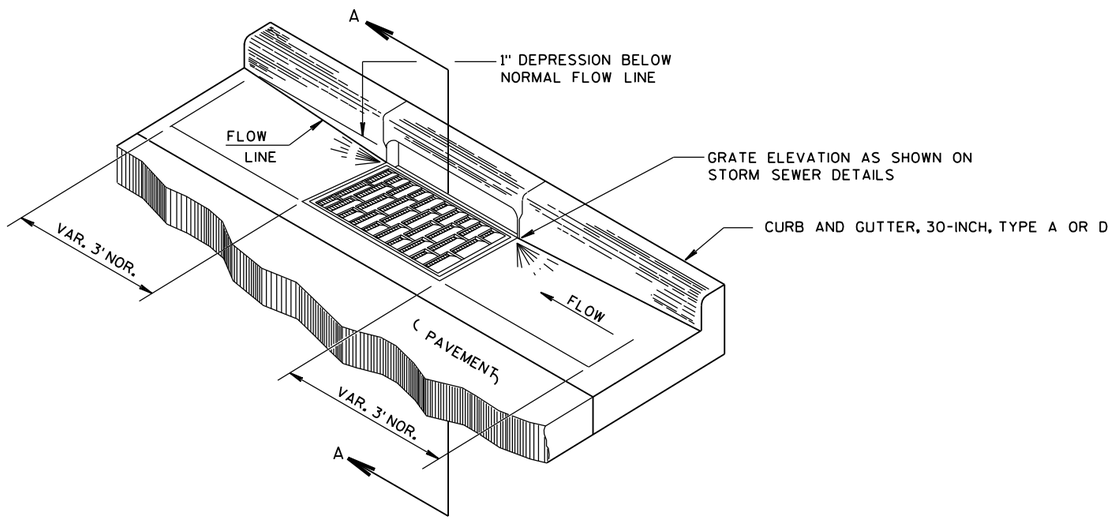


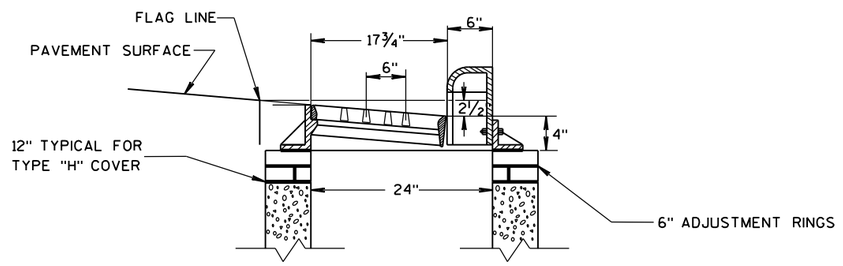


PIPE GRATE DETAIL



ELEVATION





SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

(TYPE 2X3-H INLET SHOWN)

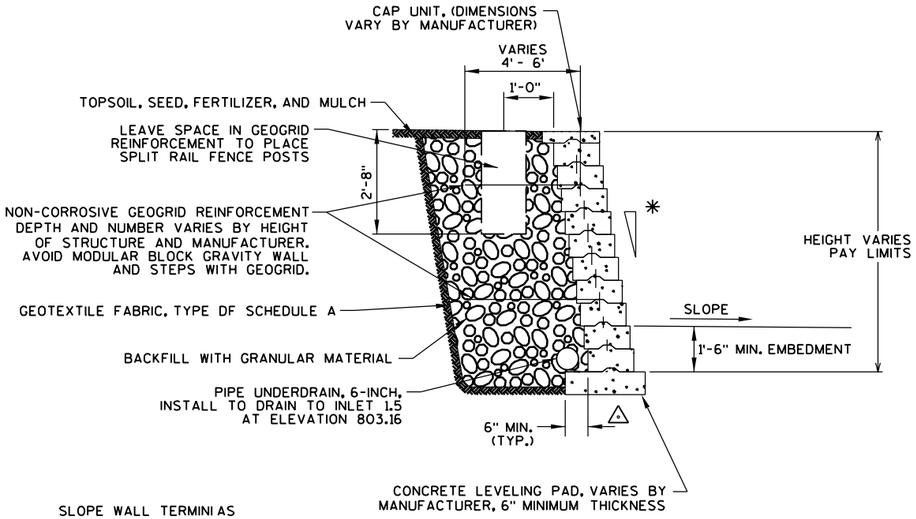
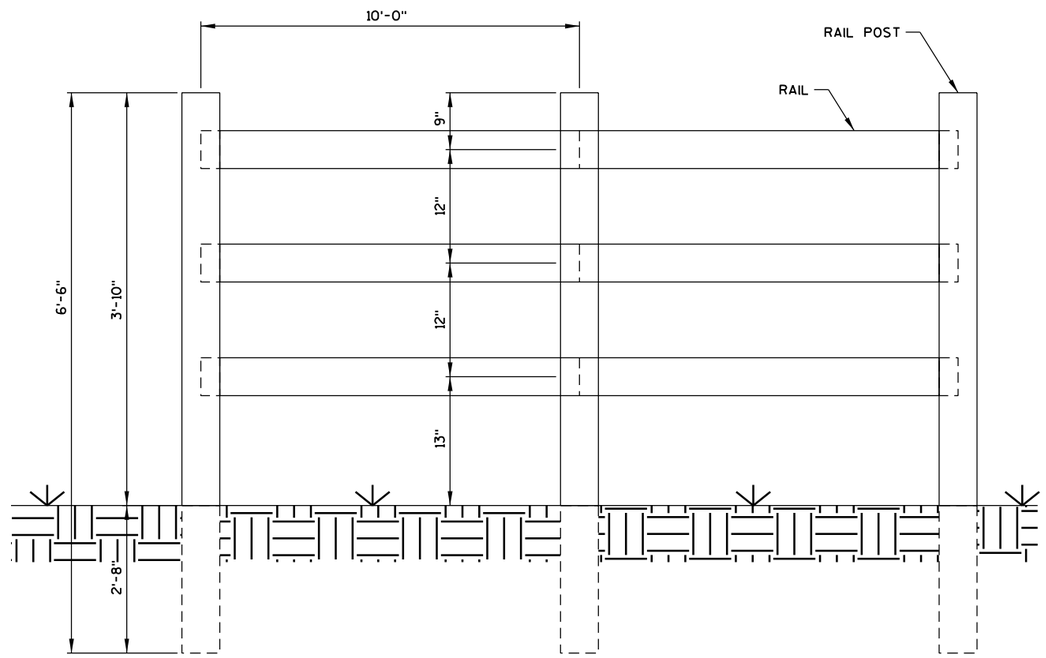


TABLE OF EXTERNAL STABILITY SAFETY FACTORS			
GLOBAL ROTATION	1.3	SLIDING	1.5
BEARING CAPACITY	2.0	OVERTURNING	2.0

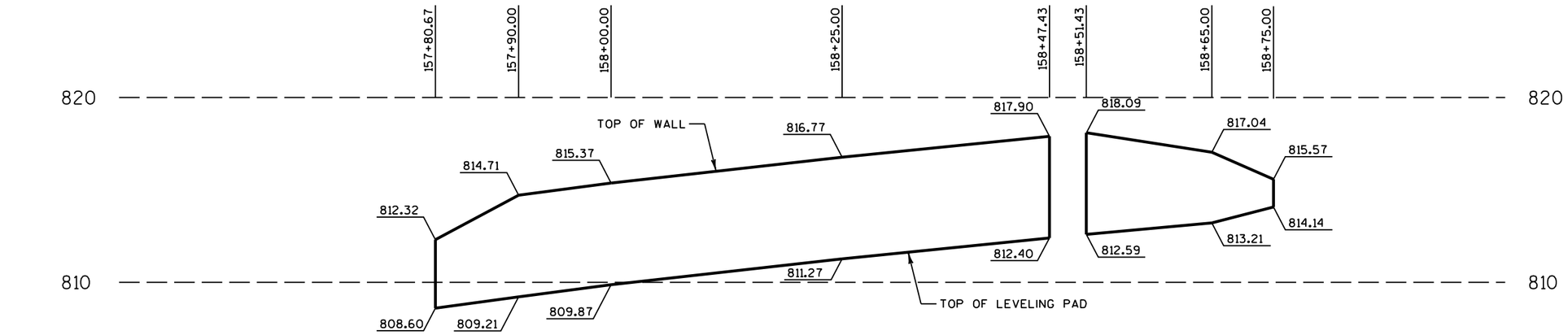
TYPICAL DETAIL FOR MECHANICALLY STABILIZED EARTH MODULAR BLOCK WALL

STA. 157+80 TO 158+75, 31.0'LT

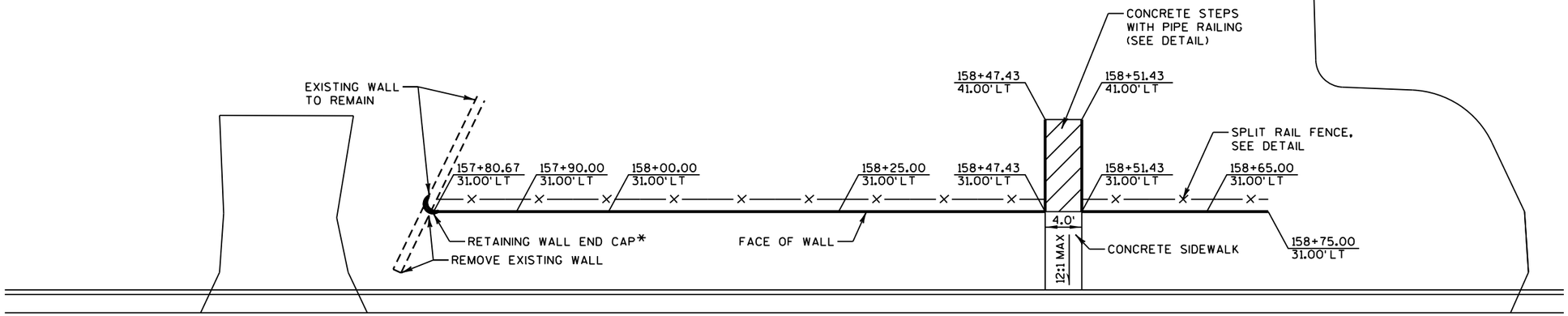


SPLIT RAIL FENCE DETAIL

(SEE MECHANICALLY STABILIZED EARTH MODULAR BLOCK WALL DETAIL)



ELEVATION VIEW



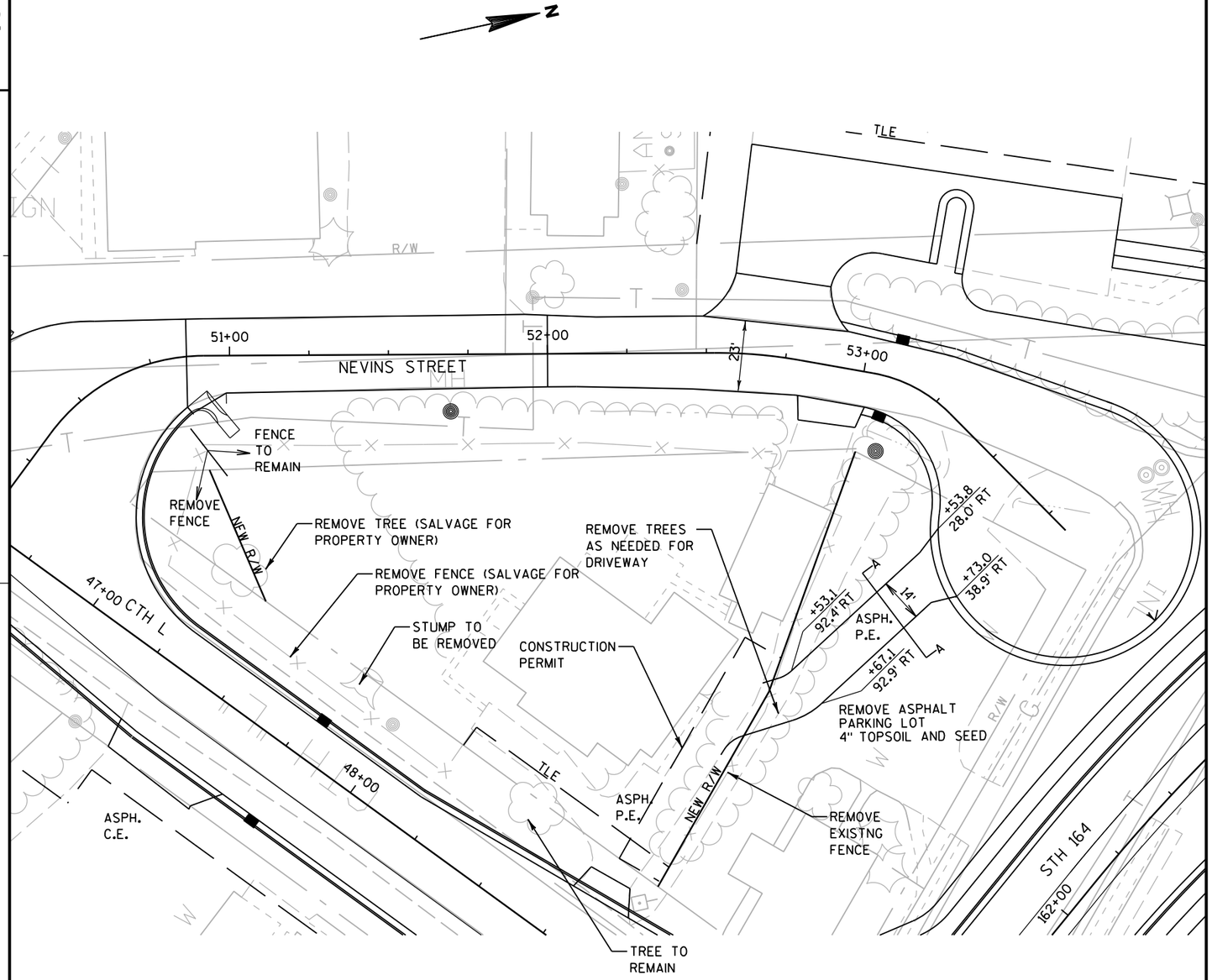
PLAN VIEW

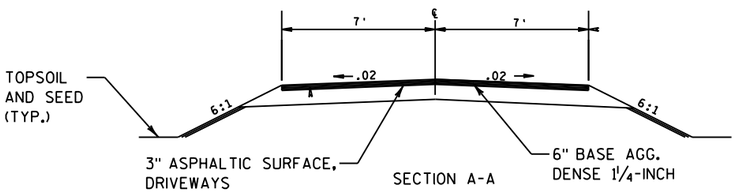
*ENCASE END OF EXISTING AND PROPOSED RETAINING WALL WITH A CONCRETE END CAP.

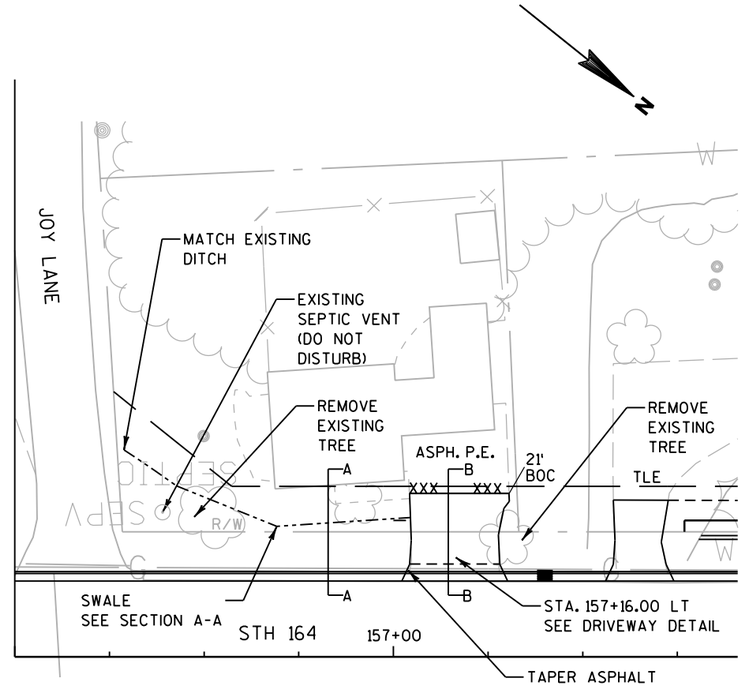
MECHANICALLY STABILIZED EARTH MODULAR BLOCK WALL

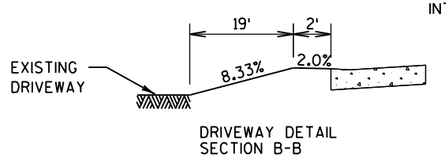
STA. 157+80.67 TO STA 158+75.00
31.00' - 41.00'LT

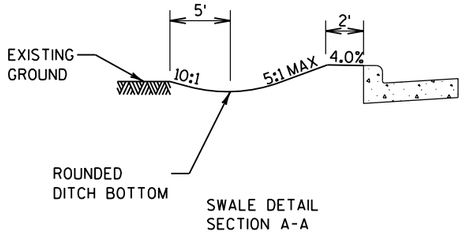
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 23	E



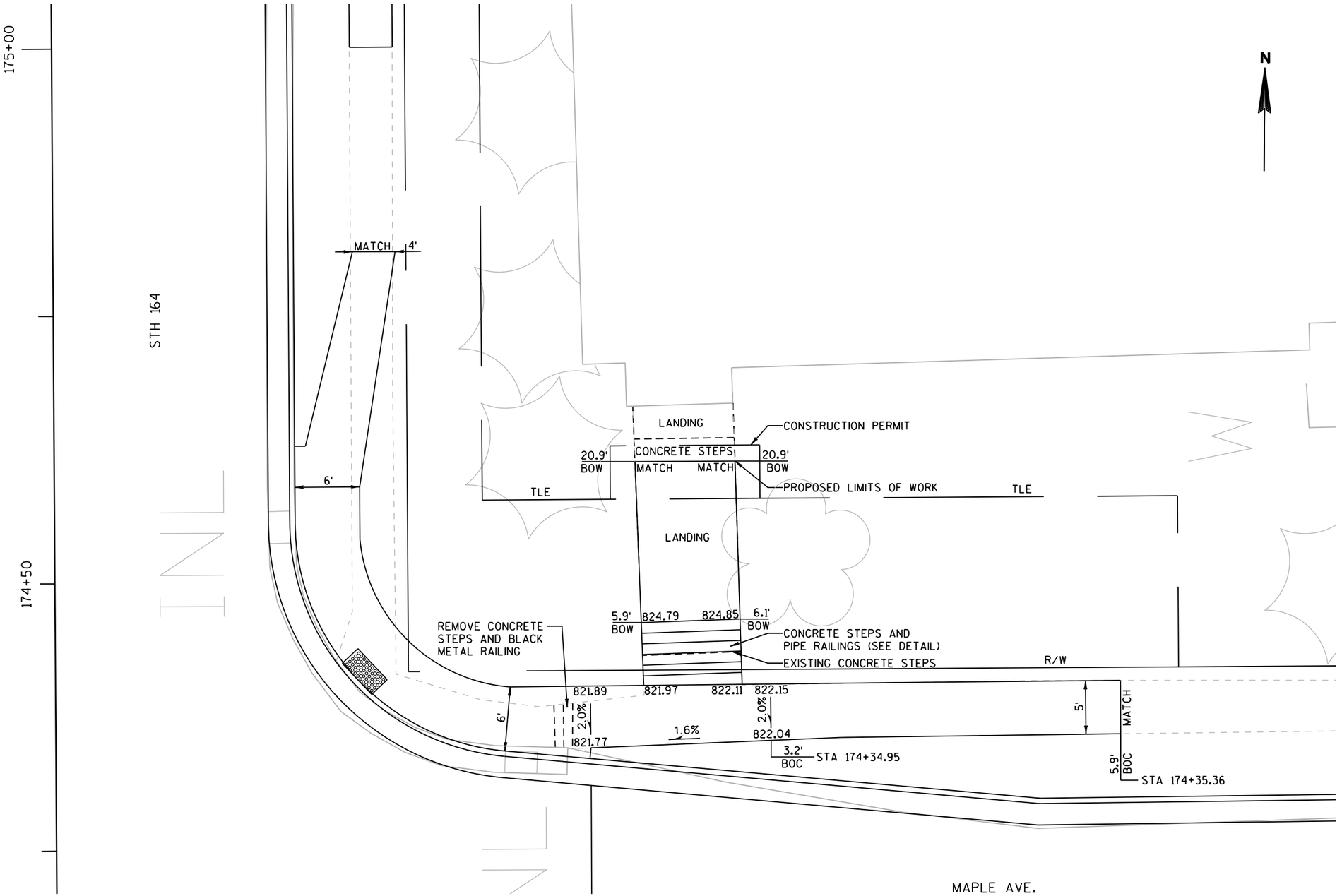








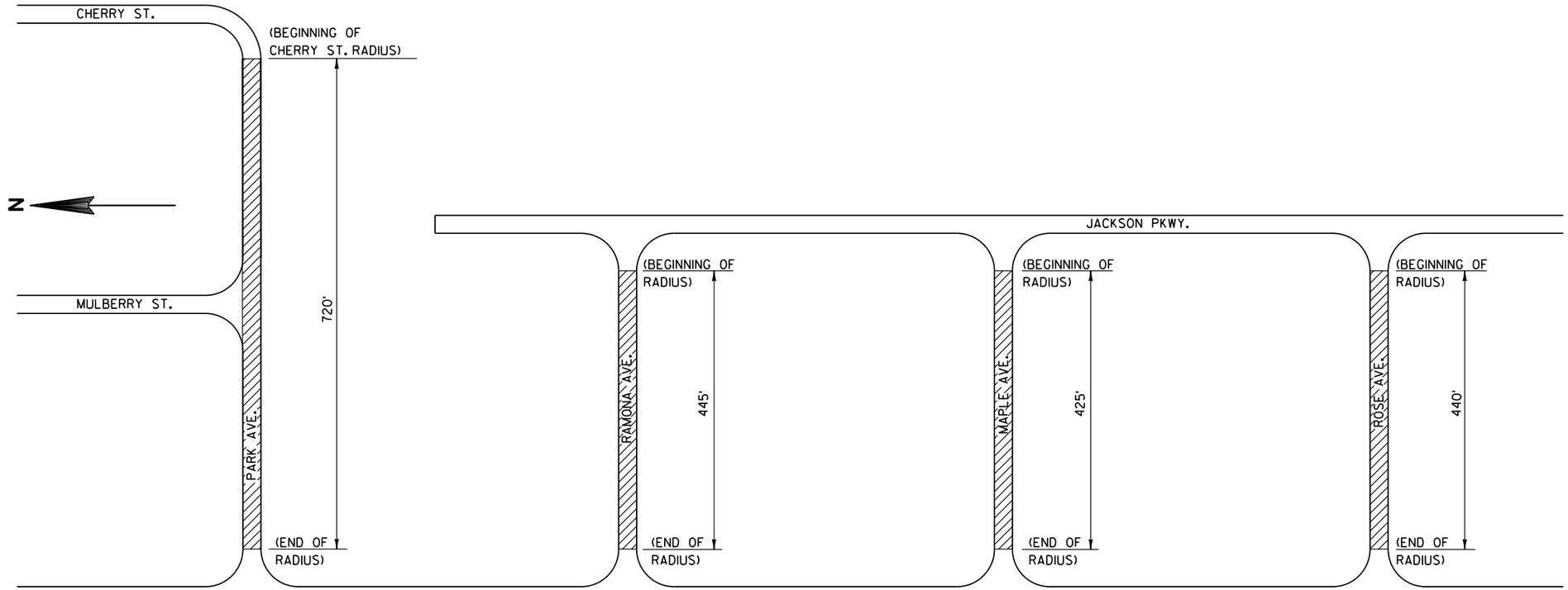
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CONSTRUCTION DETAILS	SHEET 24	E



SIDEWALK REPLACEMENT DETAIL

AT MAPLE AVE.

2

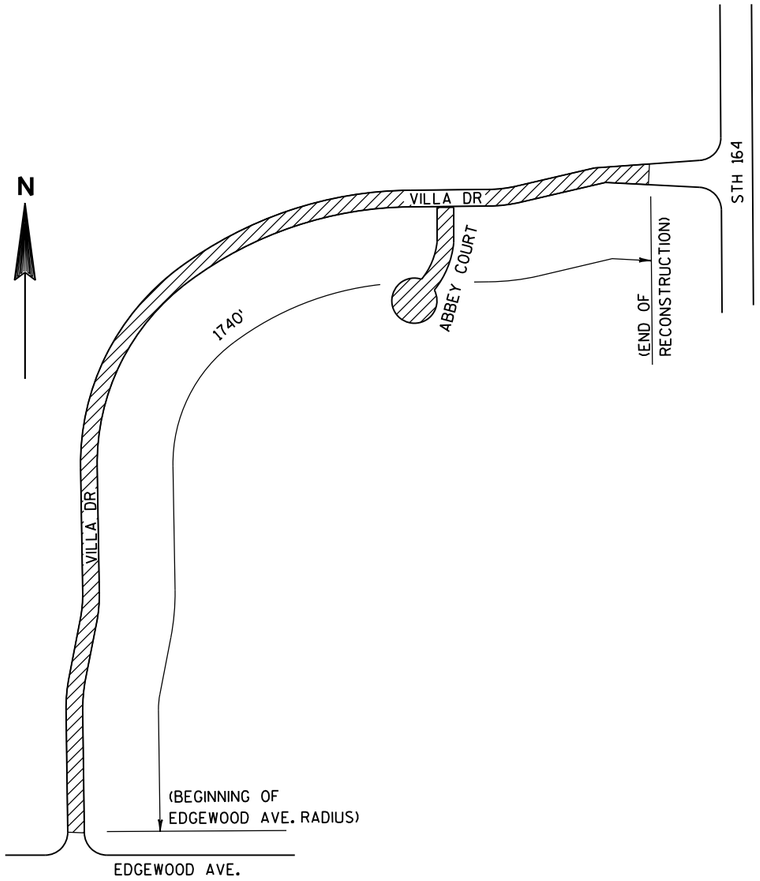


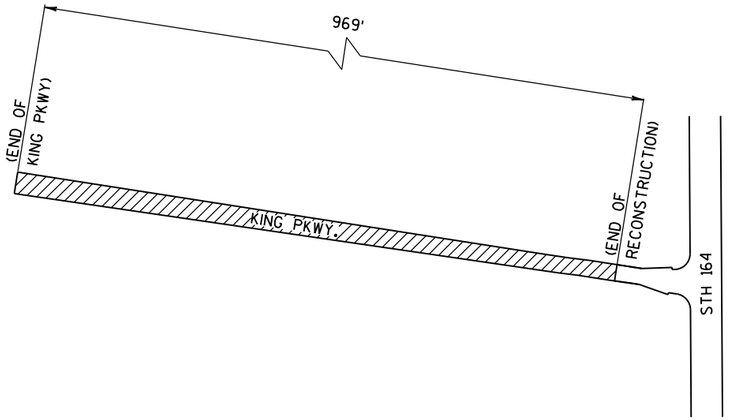
DETAIL FOR VILLAGE SIDE STREET RESURFACING

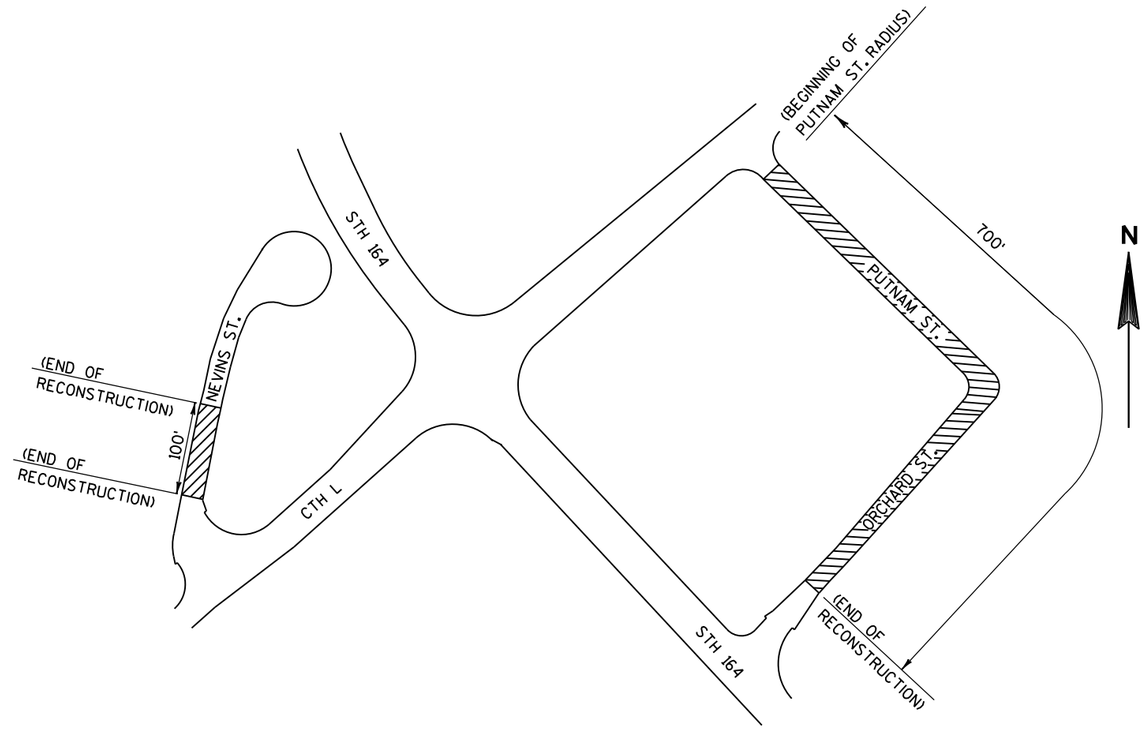
ROSE AVE.
MAPLE AVE.
RAMONA AVE.
PARK AVE.

MILL EXISTING ASPHALT AND OVERLAY 4" HMA TYPE E-1
(SEE TYPICAL SECTION)

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 26	E







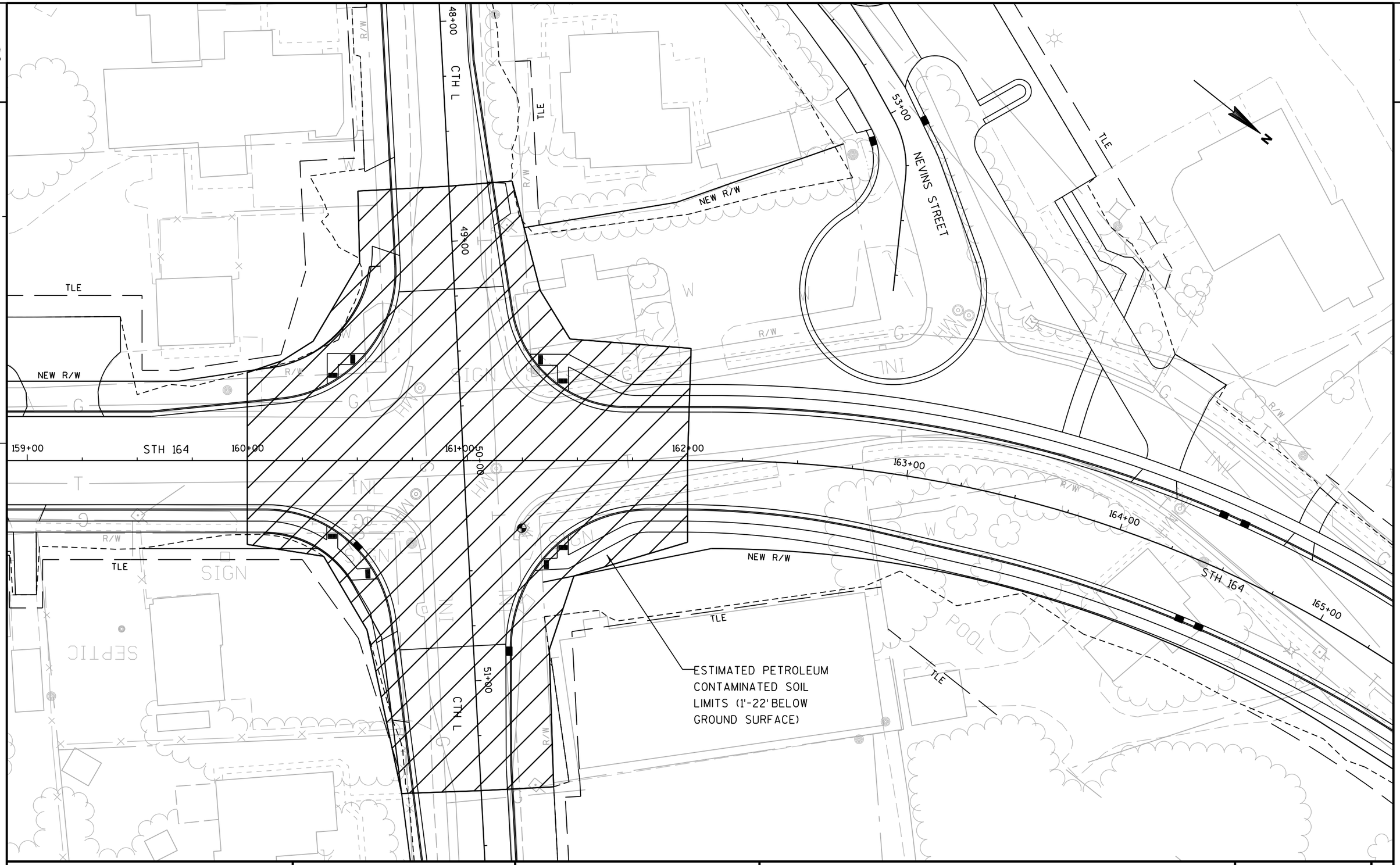
DETAIL FOR VILLAGE SIDE STREET RESURFACING

ORCHARD ST./PUTNAM ST.
NEVINS ST.
KING PKWY.
VILLA DRIVE
ABBEY COURT

MILL EXISTING ASPHALT AND OVERLAY 4" HMA TYPE E-1
(SEE TYPICAL SECTION)

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 27	E

2



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CONTAMINATED SOIL DETAIL - CTH L	SHEET	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021001_CD.DGN PLOT DATE : 11/1/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 200.0000 FT / in.

2

N

EDGEWOOD AVE.

49+00

51+00

FILLER CAPS

CANOPY

INL

SIGN

SIGN

SIGN

TLE

NEW R/W

TLE

NEW R/W

NEW R/W

TLE

R/W

R/W

R/W

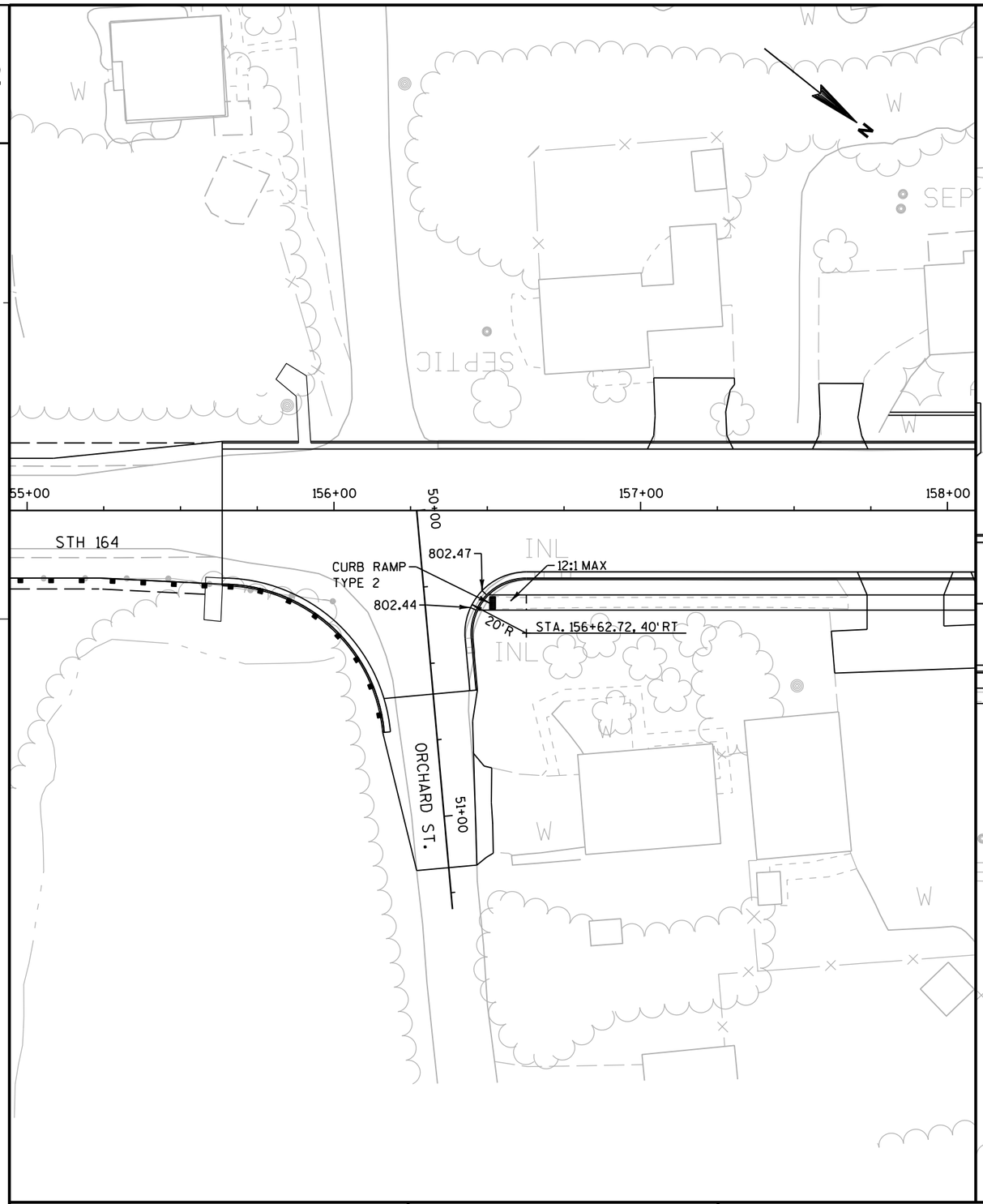
R/W

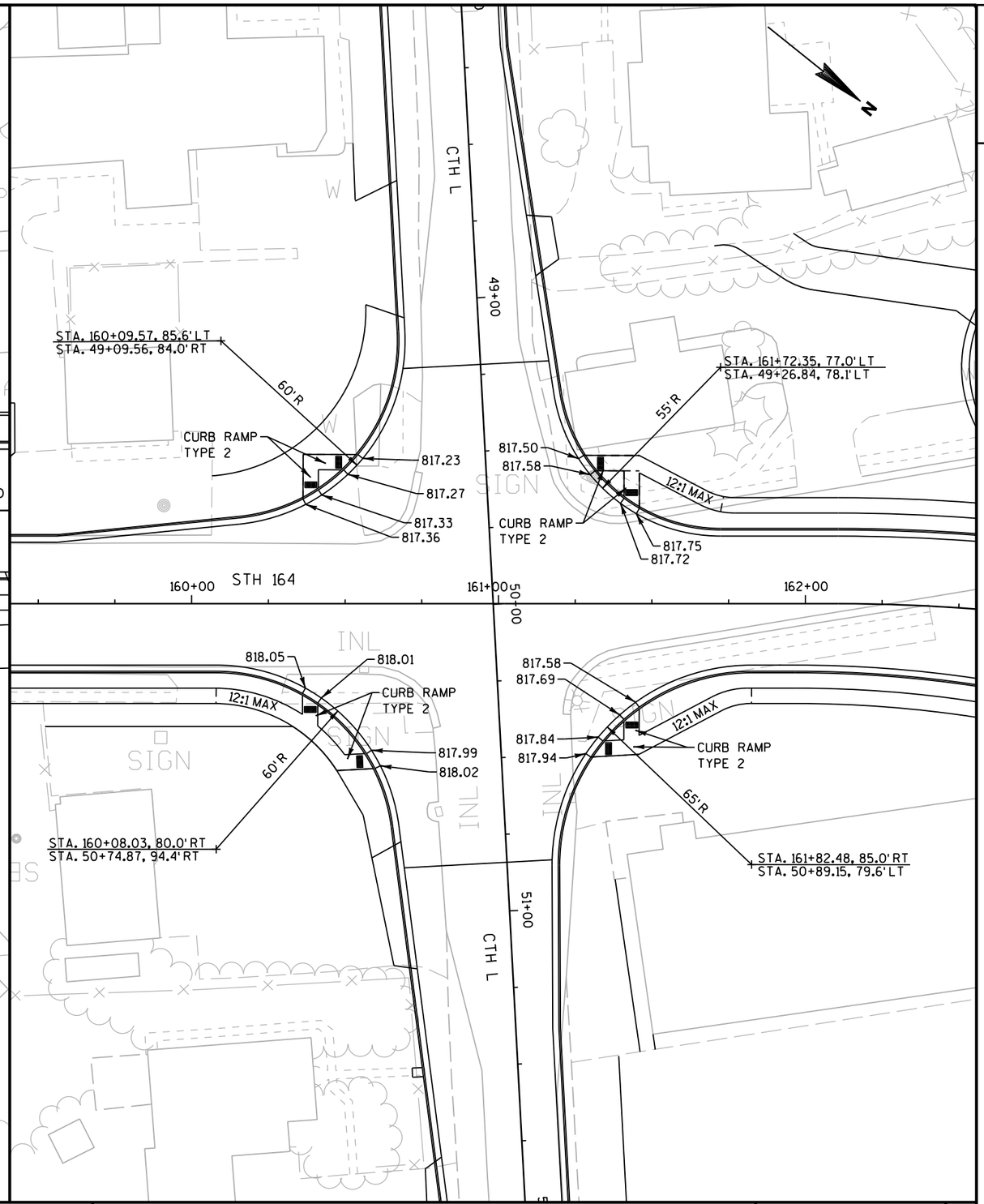
POTENTIALLY CONTAMINATED SOIL LIMITS
(6'-8' BELOW GROUND SURFACE).
CONTROL CONSTRUCTION OPERATIONS

190+00 191+00 192+00 193+00 STH 164 194+00 195+00

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CONTAMINATED SOIL DETAIL - EDGEWOOD AVE.	SHEET	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021001_CD.DGN
PLOT DATE : 11/1/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 200.0000 FT / in.
WISDOT/CADDS SHEET 42





PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CURB RAMP DETAILS	SHEET 30	E

2

N

SEPTIC

12:1 MAX
12:1 MAX
MATCH EXISTING
816.04
816.11
CURB RAMP TYPE 7B

167+00
50+00
169+00

STH 164

816.13
816.04
816.36
816.48
12:1 MAX
CURB RAMP TYPE 2
STA. 167+55.09, 42.0' RT
22' R

ROSE AVE.

817.13
817.02
12:1 MAX
MATCH EXISTING
STA. 168+57.79, 43.0' RT
23' R

51+00

MATCH EXISTING
12:1 MAX
821.30
821.39
STA. 173+76.15, 45.0' RT
25' R
CURB RAMP TYPE 2

N

POOL

PKWY.
KINGS PKWY.
49+00

STA. 176+62.95, 40.0' LT
STA. 175+92.06, 40.0' LT
+ 20' R

MATCH EXISTING
12:1 MAX
821.01
820.96
CURB RAMP TYPE 7B

174+00
50+00
175+00

STH 164

MATCH EXISTING
12:1 MAX
CURB RAMP TYPE 2
822.63
822.81
20' R
823.28
823.24
12:1 MAX
CURB RAMP TYPE 2
823.16
823.30

176+00
50+00

821.56
821.49
CURB RAMP TYPE 1A
24' R
MATCH EXISTING
STA. 174+55.53, 44.0' RT
12:1 MAX

MAPLE AVE.

51+00

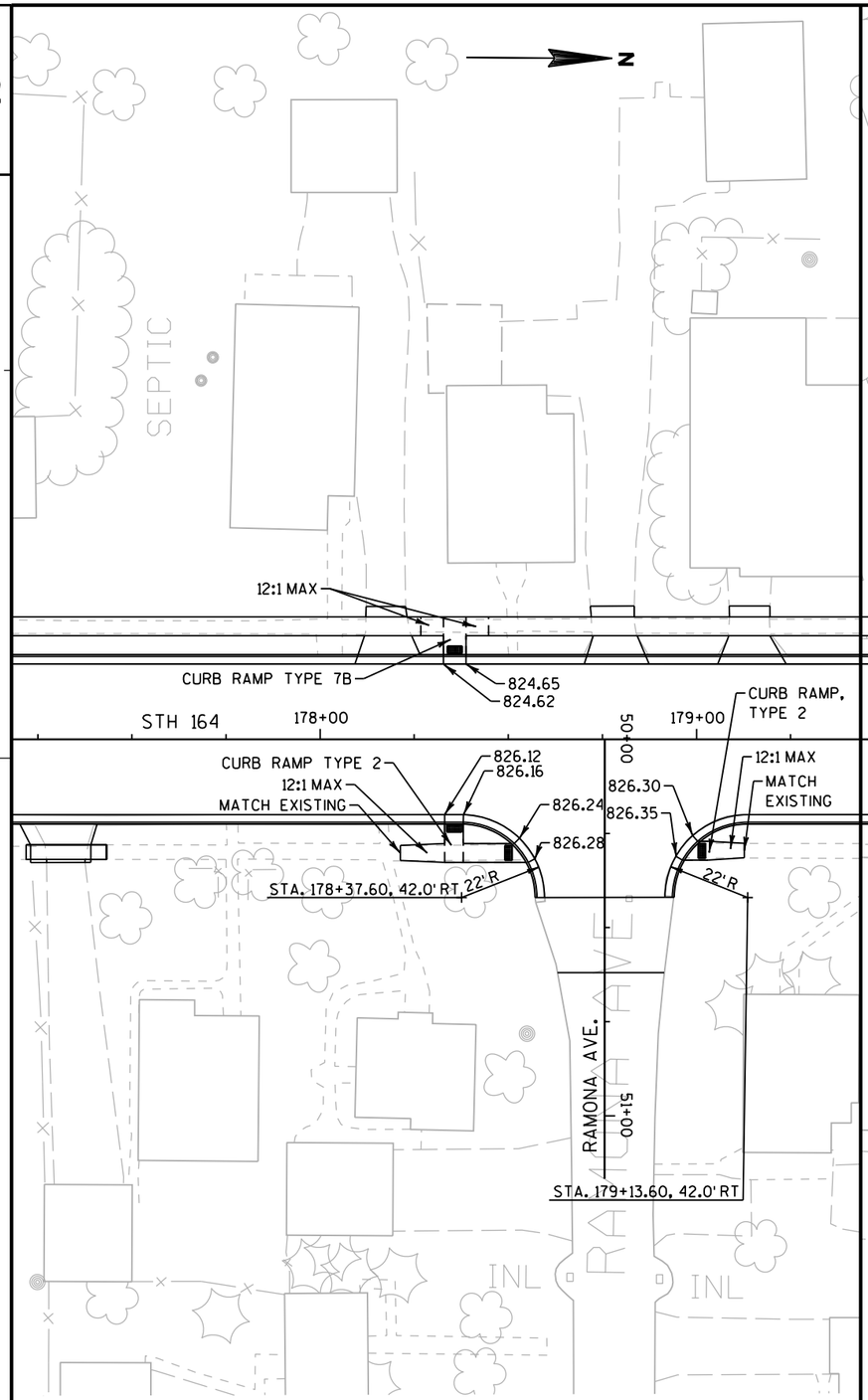
MATCH EXISTING

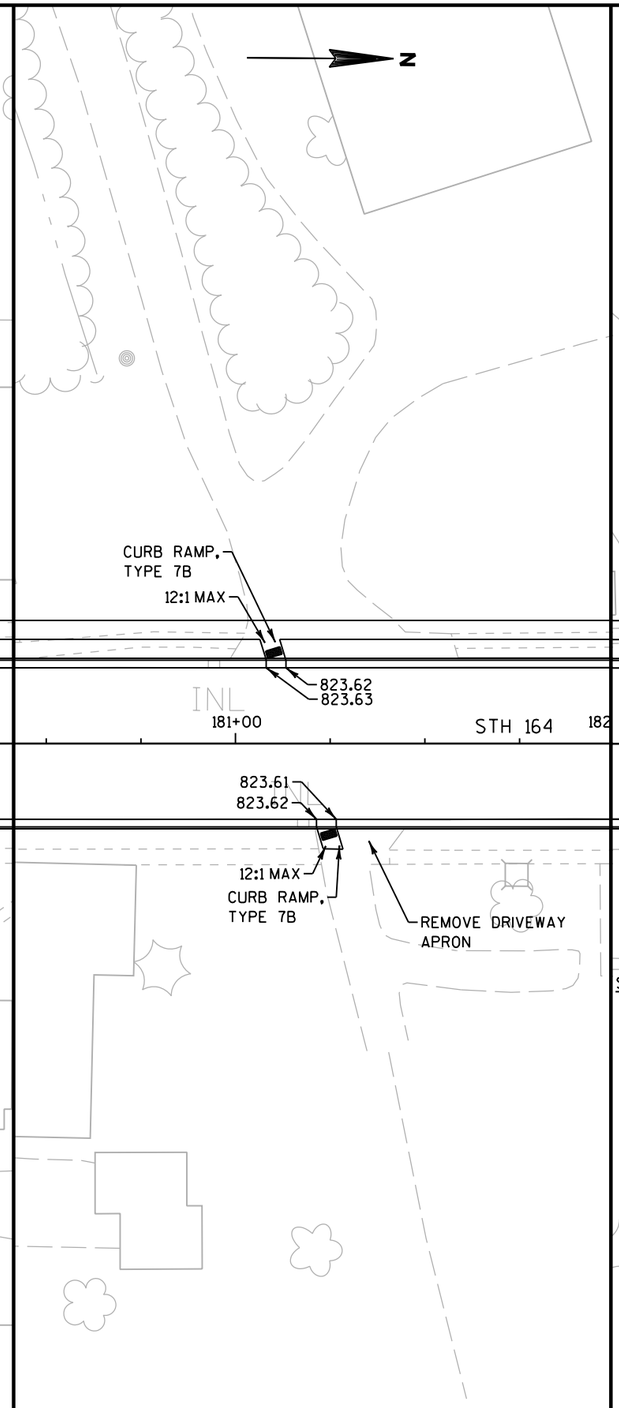
822.24
822.21
CURB RAMP TYPE 7B
12:1 MAX
MATCH EXISTING

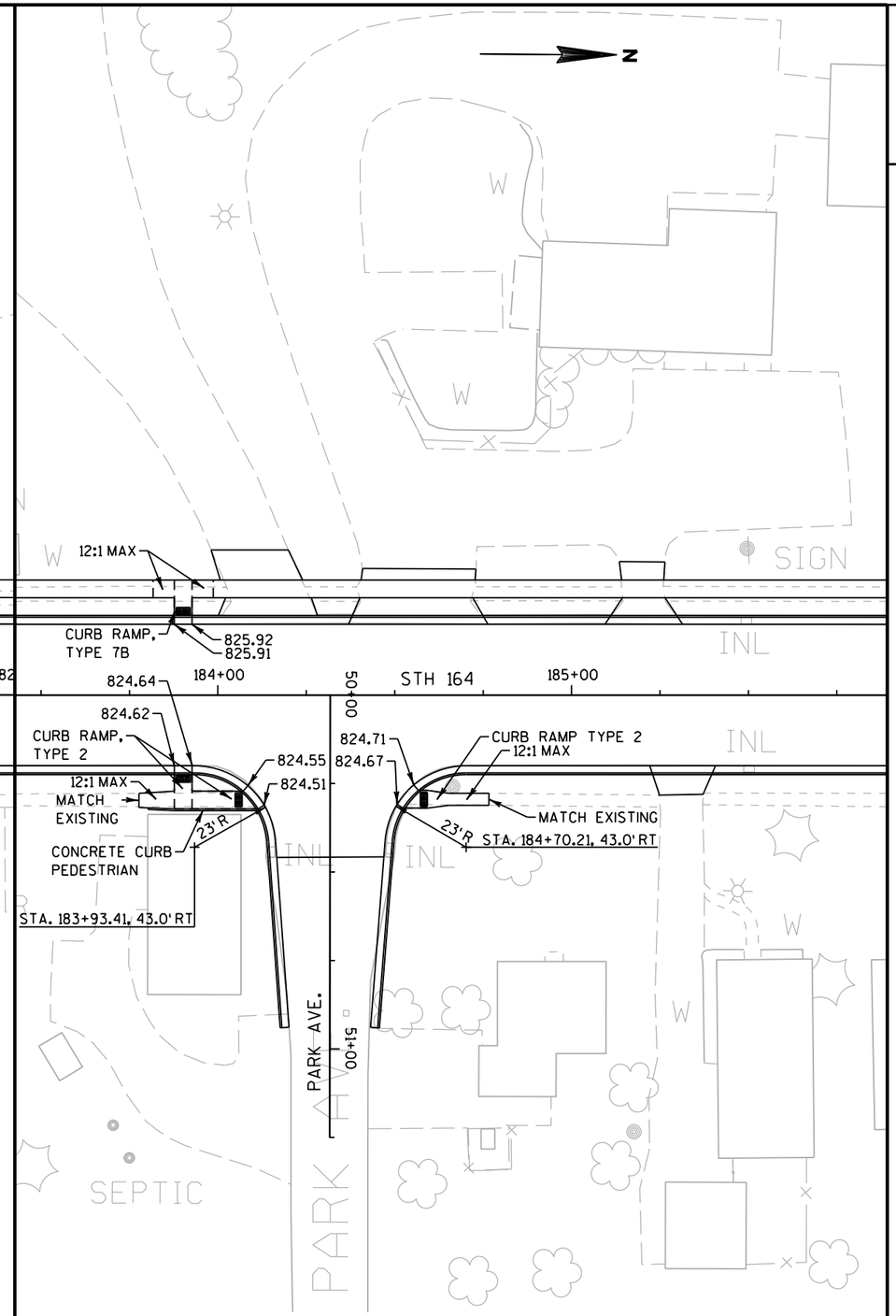
SIGN

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CURB RAMP DETAILS	SHEET 31	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021102_id.dgn
PLOT DATE : 10/31/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 40.0000 FT / in.
WISDOT/CADDS SHEET 42







PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CURB RAMP DETAILS	SHEET E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021103_id.dgn
PLOT DATE : 10/31/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 40.0000 FT / in.
WISDOT/CADDS SHEET 42

2

N

EDGEWOOD AVE.

49+00

STA. 191+34.24, 79.7' LT
STA. 49+20.36, 67.5' RT

50' R

CONCRETE CURB
PEDESTRIAN

12:1 MAX

828.54
828.50

CURB RAMP
TYPE 2

828.28
828.22

STA. 192+87.75, 80.0' LT
STA. 49+19.92, 86.0' LT

12:1 MAX

60' R

828.80
828.85

CURB RAMP
TYPE 2

828.93
829.00

FILLER
CAPS

INL

SIGN

MH

190+00 191+00 192+00 193+00 STH 164 194+00 195+00

50+00

828.71
828.75

CURB RAMP
TYPE 2

12:1 MAX

828.82
828.86

60' R

STA. 191+13.61, 80.0' RT
STA. 50+79.88, 85.2' RT

829.12
829.15

CURB RAMP
TYPE 2

829.03
828.99

12:1 MAX

12:1 MAX

50' R

STA. 192+65.28, 81.2' RT
STA. 50+81.24, 66.5' LT

51+00

EDGEWOOD AVE.

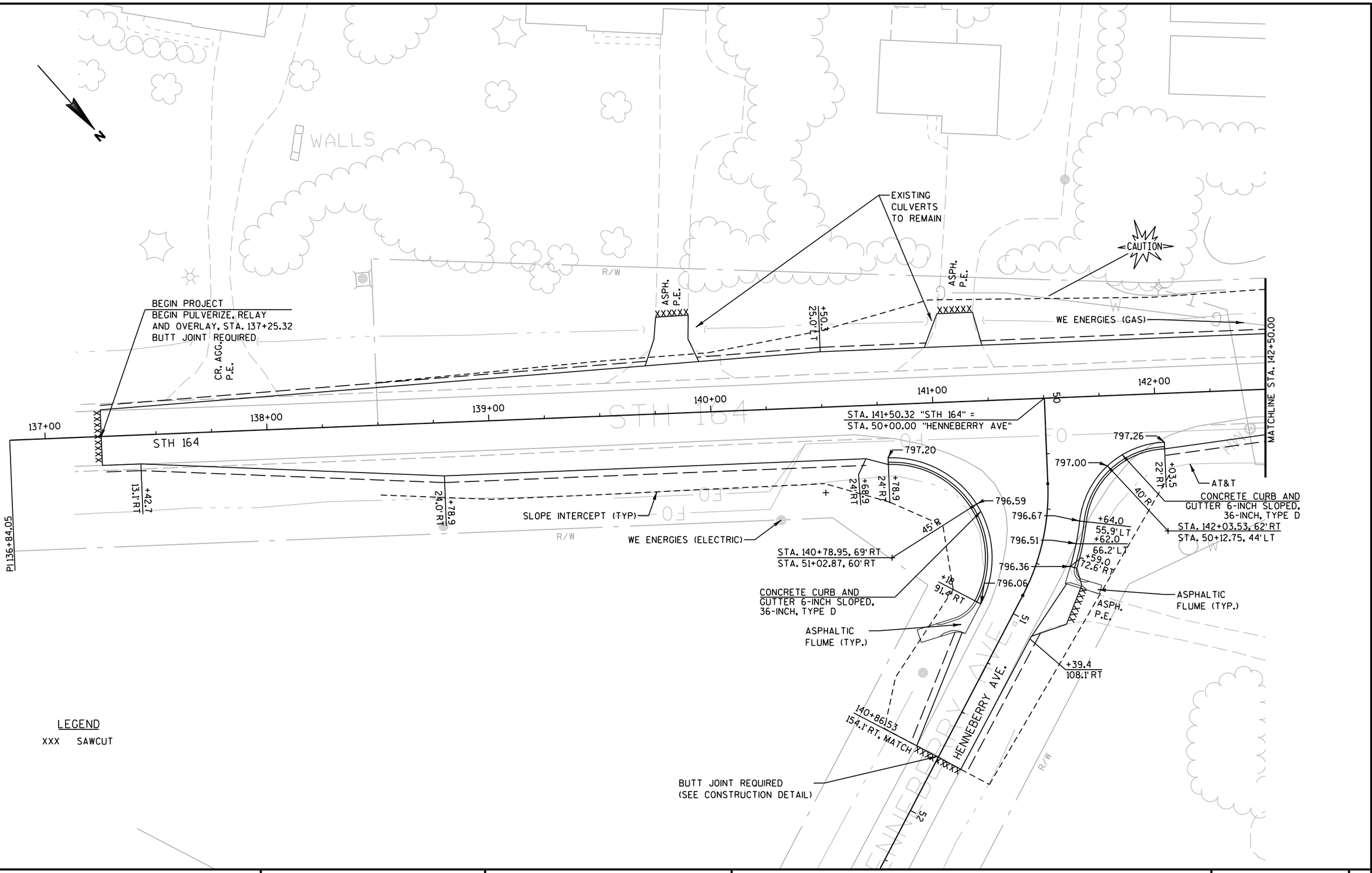
POOL

SEPTIC

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CURB RAMP DETAILS	SHEET	E

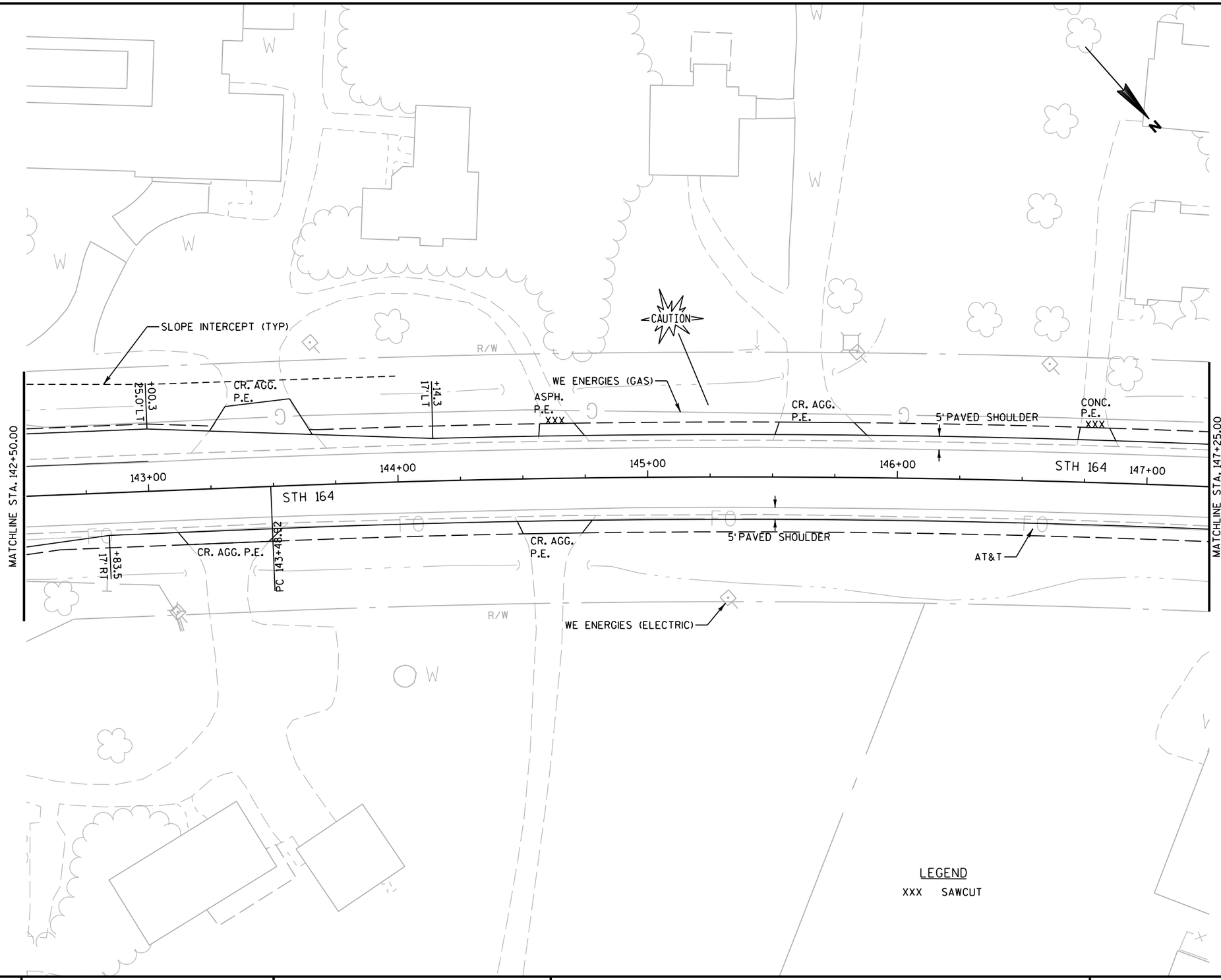
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021104_id.dgn PLOT DATE : 10/31/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 40.0000 sf / in.

2



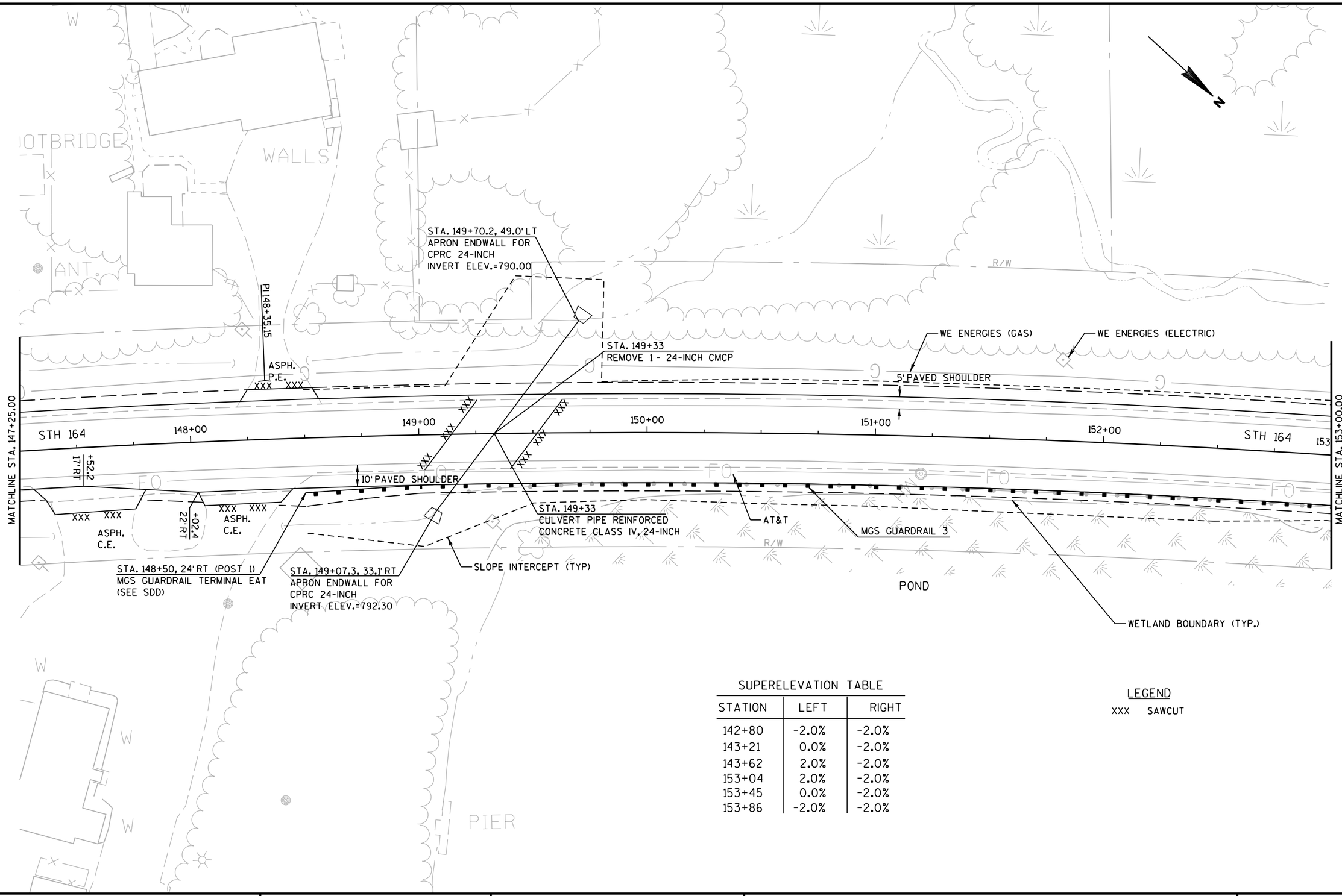
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 34	E

2



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 35	E

2



SUPERELEVATION TABLE

STATION	LEFT	RIGHT
142+80	-2.0%	-2.0%
143+21	0.0%	-2.0%
143+62	2.0%	-2.0%
153+04	2.0%	-2.0%
153+45	0.0%	-2.0%
153+86	-2.0%	-2.0%

LEGEND

XXX SAWCUT

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 36	E

LEGEND

XXX SAWCUT

BOC BACK OF CURB

BOW BACK OF WALK

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	156+76.74, 44.94' RT	RRSP NW FACE 24" MAPLE; NE CORNER STA. 164 & ORCHARD ST.	806.11

JOY LANE

ASPHALTIC FLUME (TYP.)

STA. 155+76.8, 41'LT
APRON ENDWALL FOR CPRC HE 48 X 76-INCH
INVERT ELEV.=788.70

STA. 155+72.62, 38.9'LT
MATCH EXISTING CULVERT INVERT ELEVATION

STA. 155+62 (SEE NOTE 1)
REMOVE 1 - 45 X 72-INCH CMPA AND ENDWALLS

STA. 155+62 (SEE NOTE 1)
CPRC HE-III 48 X 76-INCH

STA. 155+57.63
CULVERT PIPE TEMPORARY 30-INCH
(SEE NOTE 1)

END PULVERIZE, RELAY AND OVERLAY

BEGIN RECONSTRUCT HMA PAVEMENT

WE ENERGIES (GAS)

STA. 153+50

STA. 153+00.00

STH 164

154+00

155+00

156+00

157+00

158+00

159+00

MATCHLINE STA. 153+00.00

MILL & PULVERIZE

5' PAVED SHOULDER

10' PAVED SHOULDER

CAUTION

TLE

PLE

+63.6 20'LT

+8.6 17'LT

+23.6 22'RT

+63.6 22'RT

CONCRETE PAVEMENT

HMA PAVEMENT

800.02

AT&T

ASPHALTIC FLUME (TYP.)

MGS GUARDRAIL 3

STA. 155+43.94, 35.5'RT
MATCH EXISTING CULVERT INVERT ELEVATION

SLOPE INTERCEPT (TYP)

WETLAND BOUNDARY (TYP.)

STA. 155+47.9, 37'RT
APRON ENDWALL FOR CPRC HE 48 X 76-INCH
INVERT ELEV.=791.20

55'R

STA. 155+63.62, 77'RT
STA. 50+71.04, 70'RT

CONCRETE CURB AND GUTTER 30-INCH, TYPE A

STA. 156+15.91, 72.3'RT
MGS GUARDRAIL TERMINAL TYPE 2

803.39

+18.4 72.1'RT

51+00

8'

ORCHARD ST.

STA. 156+27.00 "STH 164" =
STA. 50+00.00 "ORCHARD ST."

+62.7 20'RT

803.33

802.47

802.39

801.03

+42.8 41.8'RT

802.95

CONC. HMA

+44.3 58.7'RT

WE ENERGIES (ELECTRIC)

AT&T

CONCRETE SIDEWALK 5-INCH

STA. 156+62.72, 40'RT
STA. 50+43.02, 32'LT

BM #1

TREES TO REMAIN DO NOT DAMAGE

ASPH. P.E.

156+46.62
115.5'RT, MATCH

REMOVE & REPLACE CONCRETE STEPS (SEE CONSTRUCTION DETAILS)

CONSTRUCT RETAINING WALL (SEE CONSTRUCTION DETAILS)

42.7' BOC

TLE

18.9' BOC

16.7' BOC

ASPH. P.E.

CR. AGG. P.E.

NEW R/W

25'

22'

20.5' BOW

17.5' BOW

28.5' BOW

TLE

ASPH. C.E.

CONCRETE STEPS (SEE CONSTRUCTION DETAIL)

CR. AGG. P.E.

NOTE 1: CONSTRUCT THE CULVERT AT STA. 155+62 UTILIZING THE PHASES BELOW:

PHASE 1:
- -INSTALL TEMPORARY CULVERT AND OPEN STH 164 BACK TO TWO LANE OPERATION
- -DIVERT FLOW FROM EXISTING CULVERT TO THE TEMPORARY CULVERT

PHASE 2:
- -REMOVE THE EXISTING CULVERT AND PLACE THE PROPOSED CULVERT
- -DIVERT FLOW FROM TEMPORARY CULVERT TO PROPOSED CULVERT

PHASE 3:
- -REMOVE TEMPORARY CULVERT

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 37	E

2

MATCHLINE STA. 49+00.00

CAUTION

STA. 160+09.57, 85.6' LT
STA. 49+09.56, 84.0' RT

ASPH. C.E.

+09.6
24.0' RT

817.62
HMA CONC.

CTH L

817.22

+32.3
23.4' LT

STA. 160+98.26 "STH 164" =
STA. 49+99.79 "CTH L"

STA. 161+72.35, 77.0' LT
STA. 49+26.84, 78.1' LT

55' R

REMOVE ASPHALT PARKING LOT
4" TOPSOIL AND SEED

PI 53+82.31

NEVINS STREET

40' R

CONCRETE SIDEWALK, 5-INCH

42.9'
BOC

CR. AGG. C.E.

+56.4
20' LT

TLE

NEW R/W

+15.5
25.9' LT

60' R

817.24

817.47

WE ENERGIES (GAS)

+72.4
22.0' LT

817.70

817.62

CONCRETE SIDEWALK
5-INCH

8'

5'

5'

CONCRETE SIDEWALK 5-INCH

ASPH. C.E.

PI 164+07.13

43.9'
BOW

CR. AGG. P.E.

16.1'
BOW

10'

MATCHLINE STA. 159+00.00

STH 164

160+00

161+00

162+00

163+00

164+00

165+00

818.00

816.92

817.76

BM #2

817.78

5'

TLE

SIGN BASE TO REMAIN

+08.0
20.0' RT

60' R

PI 161+01.89

PC 162+10.74

+82.5
20' RT

NEW R/W

CONCRETE SIDEWALK 5-INCH

REMOVE ASPHALT PARKING LOT
4" TOPSOIL AND SOD

65' R

818.12

STA. 160+08.03, 80.0' RT
STA. 50+74.87, 94.4' RT

+70.4
34.5' RT

ASPH. C.E.

818.47
CONC. HMA

+85.9
14.7' LT

STA. 161+82.48, 85.0' RT
STA. 50+89.15, 79.6' LT

SLOPE INTERCEPT (TYP)

TLE

51+00

CTH L

CAUTION

+39.0
12.0' LT

TLE

WE ENERGIES (ELECTRIC)

MATCHLINE STA. 165+25.00

AT&T

NEW R/W

ASPH. P.E.

12'

52+00

4.1'
BOC

ASPH. P.E.

20'

5.6'
BOC

35'

ASPH. C.E.

MATCHLINE STA. 51+75.00

MATCHLINE STA. 51+75.00

10.4'
BOC

ASPH. P.E.

53+00

CR. AGG. P.E.

9.1'
BOC

CONCRETE SIDEWALK, 5-INCH

BUTT JOINT REQUIRED
(SEE CONSTRUCTION DETAIL)

CTH L

LEGEND

XXX	SAWCUT
BOC	BACK OF CURB
BOW	BACK OF WALK

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
2	161+24.70, 30.73' RT	RRSP SW FACE PP#66-4109; NE CORNER STH 164 & CTH L	819.00

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 38	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021205_PD.DGN
PLOT DATE : 10/31/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 40.0000 FT / in.
WISDOT/CADDS SHEET 42

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
3	166+14.40, 20.34' RT	RRSP W FACE PP#66-6077; S. OF DWY TO HSE #W229 S9070	816.94

LEGEND

XXX SAWCUT
BOC BACK OF CURB
BOW BACK OF WALK

N

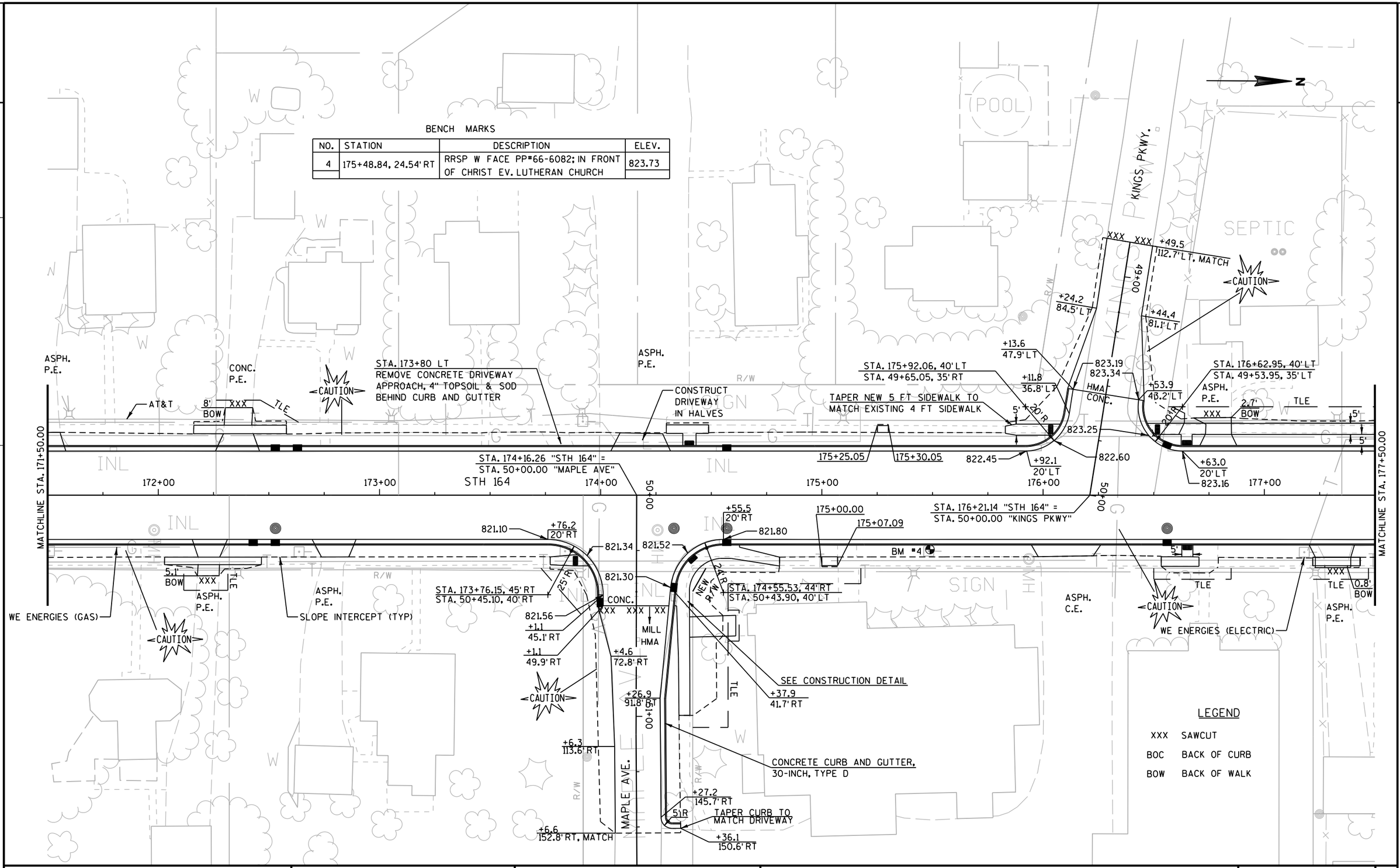
POOL
SEPTIC
SEPTIC
ASPH. P.E.
XXX
9.7' BOW
CONC. P.E.
XXX
10.0' BOW
CAUTION
TLE
AT&T
TREE TO REMAIN DO NOT DAMAGE
CONC. P.E.
XXX
10.0' BOW
EQUATION
BACK 167+93.24
AHEAD 168+19.43
REMOVE CONCRETE DRIVEWAY APPROACH, 4" TOPSOIL & SOD BEHIND NEW CURB & GUTTER
ASPH. P.E.
CR. AGG. P.E.
AT&T
ASPH. P.E.
CONSTRUCT DRIVEWAY IN HALVES
CR. AGG. P.E.
ASPH. P.E.
ASPH. P.E.
R/W
STA. 168+19.43 "STH 164" = STA. 50+00.00 "ROSE AVE"
166+00
167+00
169+00
170+00
171+00
MATCHLINE STA. 165+25.00
MATCHLINE STA. 171+50.00
STH 164
816.07
+55.1 20.0' RT
816.39
817.27
+57.8 20' RT
817.12
5'
4"
165+88.77
16'
BM #3
NEW R/W
TLE
16.4' BOW
XXX
TREE TO REMAIN DO NOT DAMAGE
ASPH. P.E.
INSTALL APRON FOR NEW P.E.
SLOPE INTERCEPT (TYP)
STA. 167+55.09, 42.0' RT
STA. 50+42.85, 37' RT
+77.0
43.7' RT
22' R
+75.5
64.3' RT
REMOVE CURB
TLE
CONCRETE CURB AND GUTTER, 30-INCH, TYPE D
+74.8
117.3' RT
ROSE AVE.
CONC.
XXX
PI 168+19.43
MILL HMA
816.69
816.83
+93.2
42' RT
23' R
STA. 168+57.79, 43.0' RT
STA. 50+42.11, 39' LT
TLE
+93.2
113.2' LT
TAPER CURB TO MATCH DRIVEWAY
CAUTION
CAUTION
WE ENERGIES (GAS)
WE ENERGIES (ELECTRIC)
ASPH. P.E.
ASPH. P.E.
WALLS

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021206_PD.DGN PLOT DATE : 11/29/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 40.0001 FT / in.

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
4	175+48.84, 24.54' RT	RRSP W FACE PP#66-6082; IN FRONT OF CHRIST EV. LUTHERAN CHURCH	823.73



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 40	E

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
5	181+68.90, 24.80' RT	RRSP W FACE PP#96-10788; S. OF DWY TO HSE #W229 S8860	825.44

LEGEND

XXX SAWCUT
BOC BACK OF CURB
BOW BACK OF WALK

N

SEPTIC
TLE
PLE
SLOPE INTERCEPT (TYP)
REMOVE SIDEWALK ALONG CURB, 4" TOPSOIL & SOD
39.6' BOW
STA. 181+00
REMOVE PARTIAL CONCRETE APPROACH, 4" TOPSOIL & SOD BEHIND CURB AND GUTTER
CR. AGG. P.E.
ASPH. P.E.
CONC. C.E.
ASPH. C.E.
CR. AGG. C.E.
WE ENERGIES (GAS)
TLE
2.8' BOW
XXX
2.9' BOW
XXX 2.9' BOW
XXX 3.0' BOW
5'
R/W
MATCHLINE STA. 177+50.00
MATCHLINE STA. 183+25.00
178+00
179+00
180+00
181+00
STH 164
182+00
183+00
CAUTION
STA. 178+75.61 "STH 164" = STA. 50+00.00 "RAMONA AVE"
00+05
824.64
+37.6 20' RT
824.55
824.71
+13.6 20' RT
824.81
4"
5'
22' R
STA. 178+37.60, 42' RT
STA. 50+42.01, 38' RT
+59.8 42' RT
824.46
CONC.
MILL HMA
TAPER CURB TO MATCH EXISTING PAVEMENT
STA. 179+13.60, 42' RT
STA. 50+41.96, 38' LT
824.80
+91.6 42' RT
+91.4 62' RT, MATCH
XXX 42' RT
1.1' BOW
ASPH. C.E.
ASPH. P.E.
AT&T
XXX CONC. P.E.
ATC
BM #5
WE ENERGIES (ELECTRIC)
00+15
RAMONA AVE.
INL
POOL

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 41	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021208_PD.DGN PLOT DATE : 10/31/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 40.0000 FT / in.

2

LEGEND

XXX SAWCUT

BOC BACK OF CURB

BOW BACK OF WALK

MATCHLINE STA. 183+25.00

MATCHLINE STA. 189+25.00

CR. AGG. C.E.

ASPH. C.E.

8.5' BOW

3.1' BOW

5.1' BOW

SLOPE INTERCEPT (TYP)

TLE

CR. AGG. P.E.

3.4' BOW

TREE TO REMAIN DO NOT DAMAGE

ASPH. P.E.

3.8' BOW

5.1' BOW

ASPH. C.E.

CAUTION

STA. 184+31.80 "STH 164" = STA. 50+00.00 "PARK AVE"

184+00 185+00 186+00 187+00 188+00 189+00

826.16 +93.4 20.0' RT

826.25

826.22 +70.2 20' RT

826.31

826.34

826.40

CONC.

STA. 183+93.41, 43' RT

STA. 50+43.06, 38' RT

+16.3 41.3' RT

+16.7 45.9' RT

HMA MILL

STA. 184+70.21, 43' RT

STA. 50+42.95, 39' LT

+47.4 40.2' RT

+46.9 45.7' RT

ASPH. P.E.

CONCRETE CURB & GUTTER 30-INCH, TYPE D

+20.1 93.8' RT

+43.1 93.9' RT, MATCH

TAPER CURB TO MATCH DRIVEWAY

PARK AVE.

50+00

51+00

REMOVE CURBED MEDIAN IN DRIVEWAY APRON

10.0' BOW

CONC. P.E.

TREE TO REMAIN DO NOT DAMAGE

9.9' BOW

ASPH. P.E.

WE ENERGIES (GAS)

ASPH. P.E.

AT&T

7.8' BOW

CR. AGG. P.E.

STH 164

CANOPY

SEPTIC

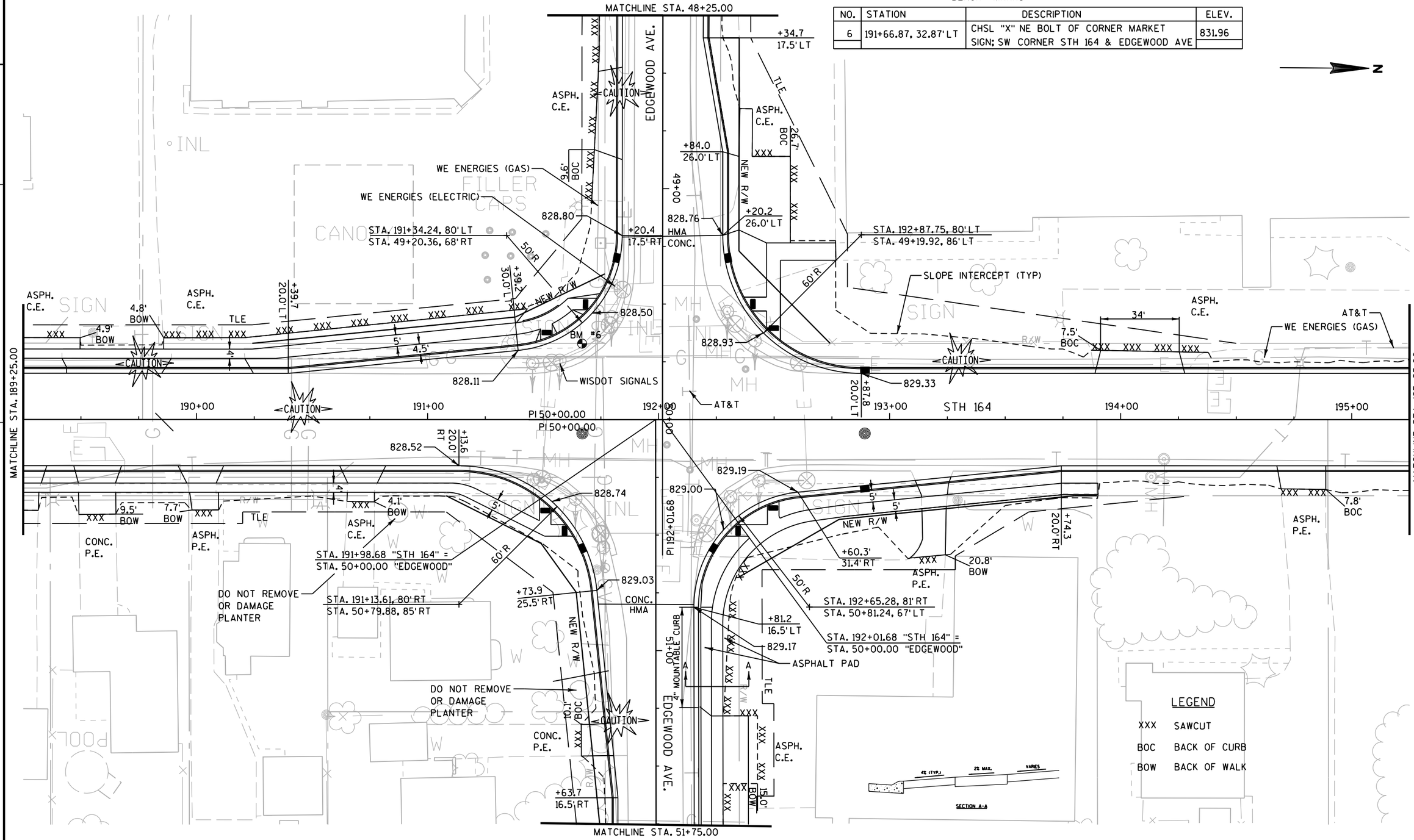
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 42	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021209_PD.DGN PLOT DATE : 10/31/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 40.0000 FT / in.

2

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
6	191+66.87, 32.87'LT	CHSL "X" NE BOLT OF CORNER MARKET SIGN; SW CORNER STH 164 & EDGEWOOD AVE	831.96



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 43	E

2

N

END RECONSTRUCTION | BEGIN PULVERIZE, RELAY AND OVERLAY

STA. 196+58

+58.0 22.5'LT

+50.2 20'LT

8.5' BOC

33' ASPH. C.E.

XXX XXX XXX

CAUTION

AT&T

R/W

ASPH. C.E.

XXX XXX XXX XXX XXX

WE ENERGIES (ELECTRIC)

WE ENERGIES (GAS)

STA. 200+10.2, 32.7'LT
APRON ENDWALL
FOR SSPRC 12-INCH

STA. 200+10
REMOVE EXISTING PIPE,
INSTALL 12-INCH SSPRC
IN SAME LOCATION

5' PAVED SHOULDER

MATCHLINE STA. 195+25.00

196+00 197+00 198+00 STH 164 199+00 200+00 201+00

CAUTION

MATCHLINE STA. 201+25.00

CONCRETE PAVEMENT

HMA PAVEMENT

XXX

8.2' BOC

XXX XXX XXX

ASPH. P.E.

1.75-INCH HMA CURB OVERLAY (TYP.)

SLOPE INTERCEPT (TYP)

ASPH. P.E.

R/W

CR. AGG. P.E.

CR. AGG. P.E.

5'

EXTEND CURB AND GUTTER TO END OF DRIVEWAY

CONCRETE CURB & GUTTER 30-INCH, TYPE D (TYP.)

CR. AGG. P.E.

STA. 200+10.2, 21.5'LT
REMOVE EXISTING INLET
INSTALL INLETS 2X3-FT AND
INLET COVER TYPE H

LEGEND

XXX SAWCUT

BOC BACK OF CURB

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 44	E

2

N

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
7	202+14.17, 47.58'LT	RRSP E. FACE PP#68-40004; ACROSS FROM HSE # W229 S8540; ± 100'S. OF VILLA DR.	825.40

VILLA DR.

18+00

49+00

50+00

51+00

MARDITH AVE.

STH 164

MATCHLINE STA. 201+25.00

MATCHLINE STA. 207+25.00

SEPTIC

SEPTIC

ASPHALTIC FLUME (TYP.)

+45.0 XXX XXX +66.4
112.4' LT 118' LT, MATCH

GRADE DITCH TO DRAIN

CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH, TYPE D (TYP.)

STA. 203+75, 38'LT
REMOVE 1 - 18-INCH CMCP AND ENDWALLS

STA. 203+10.93, 64'LT
STA. 49+26.75, 55'RT

STA. 203+09.93, 37.8'LT
APRON ENDWALL FOR CPCS 18-INCH
INVERT ELEV=823.84

BM #7

826.51

+50.4
70.2' LT

+79.0
73.9' LT

826.51

NEW R/W

40'R

+81.8
64.2' LT

826.16

XXXXX

XXXXX

XXXXX

XXXXX

826.20

826.59

+10.9
24.0' LT

+10.9
12' LT

STA. 203+01.35, 31.8'LT
APRON ENDWALL FOR 12-INCH SSPRC

CAUTION

5' PAVED SHOULDER

202+00

203+00

204+00

205+00

206+00

207+00

MILL & OVERLAY

MILL & PULVERIZE

STA. 203+23.33
REMOVE EXISTING PIPE AND ENDWALL
INSTALL 12-INCH SSPRC IN SAME LOCATION
(SEE STORM SEWER PLAN)

STA. 203+75.00 "STH 164" =
STA. 50+00.00 "VILLA DR"

GRADE DITCH TO DRAIN

CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH, TYPE D (TYP.)

ASPHALTIC FLUME (TYP.)

STA. 204+31.15, 72'LT
STA. 49+37.62, 65'LT

STA. 203+75, 38'LT
CULVERT PIPE CORRUGATED STEEL, 18-INCH

STA. 204+31.9, 35.7'LT
APRON ENDWALL FOR CPCS 18-INCH
INVERT ELEV=824.34

WE ENERGIES (ELECTRIC)

AT&T

WE ENERGIES (GAS)

826.34

STA. 204+60.03, 30.3'LT

+31.2
22.0' LT

+41.2
22.0' LT

+39.4
22.0' LT

+89.4
12.0' LT

5' PAVED SHOULDER

CAUTION

5'

5'

STA. 204+60
REMOVE EXISTING PIPE AND ENDWALL,
INSTALL 6-INCH SSCP IN SAME LOCATION
(SEE STORM SEWER PLAN)

CONCRETE CURB & GUTTER 30-INCH, TYPE D (TYP.)

STA. 204+60.1, 21.5'LT
REMOVE EXISTING INLET
INSTALL INLETS 2X3-FT AND
INLET COVER TYPE H

ASPH. P.E.

ASPH. P.E.

CR. AGG. P.E.

CR. AGG. P.E.

ASPH. P.E.

CAUTION

1.75-INCH HMA CURB OVERLAY (TYP.)

STA. 203+45.23, 27.6'RT
REMOVING EXISTING INLET
INSTALL INLETS 2X3-FT AND
INLET COVER TYPE H

+50.8
42'RT, MATCH

+82.9
41.6'RT, MATCH

STA. 203+65.64 "STH 164" =
STA. 50+00.00 "MARDITH AVE"

BUTT JOINT REQUIRED
(SEE CONSTRUCTION DETAILS)

LEGEND

XXX SAWCUT

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 45	E

2

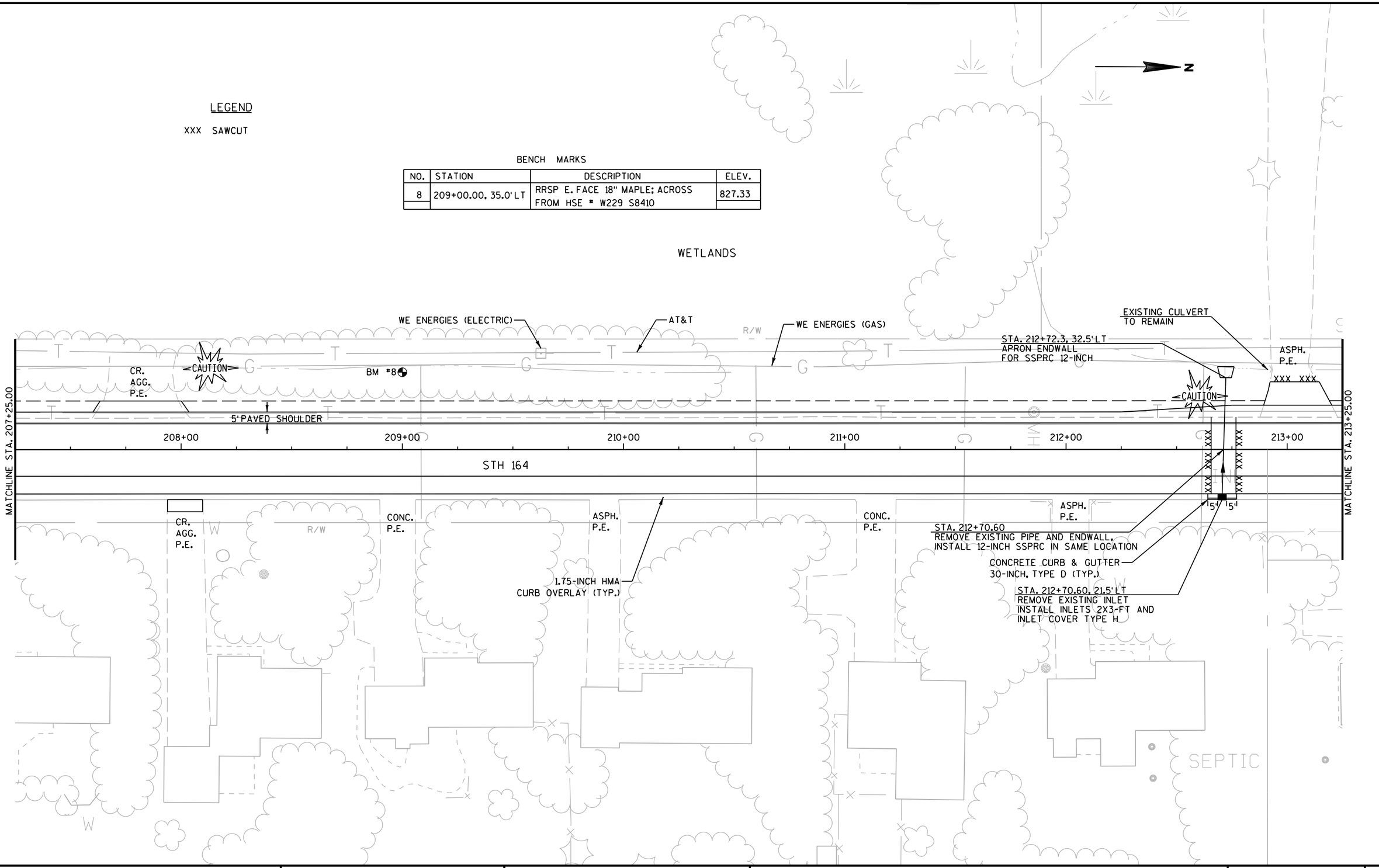
2

LEGEND

XXX SAWCUT

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
8	209+00.00, 35.0' LT	RRSP E. FACE 18" MAPLE; ACROSS FROM HSE * W229 S8410	827.33



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 46	E

NOTE 1: CONSTRUCT THE CULVERT AT STA. 216+58 UTILIZING THE PHASES BELOW:

PHASE 1:
-INSTALL TEMPORARY CULVERT AND OPEN STH 164 BACK TO TWO LANE OPERATION
-DIVERT FLOW FROM EXISTING CULVERT TO THE TEMPORARY CULVERT

PHASE 2:
-REMOVE THE EXISTING CULVERT AND PLACE THE PROPOSED CULVERT
-DIVERT FLOW FROM TEMPORARY CULVERT TO PROPOSED CULVERT

PHASE 3:
-REMOVE TEMPORARY CULVERT

BUTT JOINT REQUIRED
(SEE CONSTRUCTION DETAILS)

CAUTION

+39.5
161.5' LT

XXXXX XXXXX

+63.2
161' LT, MATCH

MILL & PULVERIZE

ARTESIAN AVE.

STA. 218+68.60 LT
REMOVE 1 - 12-INCH CMCP

STA. 218+76.1, 90.1' LT
INVERT ELEV=837.46

STA. 218+78.90 LT
CULVERT PIPE CORRUGATED STEEL, 12-INCH AND ENDWALLS

STA. 218+81.7, 70.3' LT
INVERT ELEV=835.66

STA. 219+26.02, 84' LT

STA. 49+15.21, 75' LT

STA. 218+63.87 LT
CULVERT PIPE REINFORCED CONCRETE, CLASS HE III
19X30-INCH

REMOVE EXISTING DRIVEWAY

+66.4
94.6' LT
839.63

839.24

ASPH. P.E. 17.7' BOC

GRADE DITCH TO DRAIN

ASPHALTIC FLUME (TYP.)

STA. 218+47.54 LT
REMOVE 1 - 24-INCH CMCP AND ENDWALLS

STA. 217+95.63, 64' LT
STA. 49+36.43, 55' RT

+35.6
63.7' LT
837.93

10'

40' R

60' R

837.84

839.17

836.16

834.80

+26.0
24.0' LT

+36.0
24.0' LT

STA. 219+27.0, 45.0' LT
APRON ENDWALL FOR RCCP HE 19X30-INCH
INVERT ELEV=835.00

STA. 216+48.2, 30.0' LT
APRON ENDWALL FOR CPRC HE-III 48 X 76 - INCH
INVERT ELEV=824.35

WETLAND BOUNDARY (TYP.)

ASPH. C.E.

FOOTBRIDGE

STA. 216+42.83, 27.2' LT
MATCH EXISTING CULVERT INVERT ELEVATION

WE ENERGIES (ELECTRIC)

AT&T

WE ENERGIES (GAS)

CR. AGG. P.E.

STA. 217+90.0, 46.0' LT
APRON ENDWALL FOR RCCP HE 19X30-INCH
INVERT ELEV=832.80

STA. 216+58 (SEE NOTE 1)
REMOVE 1 - 43 X 72 - INCH CMPA AND ENDWALLS

+95.6
12.0' LT

+49.0
20.0' LT

ASPHALTIC FLUME (TYP.)

8' PAVED SHOULDER

MATCHLINE STA. 213+25.00

214+00

215+00

216+00

217+00

218+00

219+00

MATCHLINE STA. 219+36.00

50+00

STA. 215+41.90 "STH 164" =
STA. 50+00.00 "MARDITH AVE"

STA. 218+50.13 "STH 164" =
STA. 50+00.00 "ARTESIAN AVE"

CONCRETE CURB AND GUTTER
6-INCH SLOPED, 36-INCH TYPE D (TYP.)

STH 164

CONC. P.E.

1.75-INCH HMA CURB OVERLAY (TYP.)

+23.2
46.8' RT, MATCH

+54.1
45.9' RT, MATCH

+77.7
20.3' RT

+0.2
22' RT

+27.5
16.4' RT

+0.0
22.0' RT

+30.1
24.3' RT

STA. 216+52.11
CULVERT PIPE TEMPORARY 36-INCH (SEE NOTE 1)

STA. 216+61.85, 28.5' RT
MATCH EXISTING CULVERT INVERT ELEVATION

STA. 216+58 (SEE NOTE 1)
CULVERT PIPE REINFORCED CONCRETE, CLASS HE-III
48 X 76 - INCH

STA. 216+67.5, 28.0' RT
APRON ENDWALL FOR CPRC HE-III 48 X 76 - INCH
INVERT ELEV=825.72

ASPH. C.E.

SIGN

R/W

PI 218+50.13

MARDITH AVE

51+00

LEGEND

XXX SAWCUT

BOC BACK OF CURB

POND

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 47	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021214_PD.DGN PLOT DATE : 11/1/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 40.0000 FT / in.

WISDOT/CADDS SHEET 42

NOTE 1: CONSTRUCT THE CULVERT AT STA. 221+64 UTILIZING THE PHASES BELOW:

PHASE 1:
-INSTALL TEMPORARY CULVERT AND OPEN STH 164 BACK TO TWO LANE OPERATION
-DIVERT FLOW FROM EXISTING CULVERT TO THE TEMPORARY CULVERT

PHASE 2:
-REMOVE THE EXISTING CULVERT AND PLACE THE PROPOSED CULVERT
-DIVERT FLOW FROM TEMPORARY CULVERT TO PROPOSED CULVERT

PHASE 3:
-REMOVE TEMPORARY CULVERT

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
9	219+83.47, 48.34' LT	RRSP E. FACE PP# 62-0993; BETWEEN ARTESIAN AVE. & CTH U	844.16

N

STA. 221+89.76, 36.2' LT
MATCH EXISTING CULVERT
INVERT ELEVATION

STA. 221+67.92
CULVERT PIPE
TEMPORARY 30-INCH
(SEE NOTE 1)

STA. 221+86.6, 35.0' LT
APRON ENDWALL FOR
CPRC 48-INCH
INVERT ELEV=842.33

STA. 221+63.53
CULVERT PIPE REINFORCED
CONCRETE CLASS IV, 48-INCH
(SEE NOTE 1)

STA. 224+85 TO STA. 231+00 LT
REMOVE CONCRETE MASONRY DITCH,
INSTALL RIPRAP DITCH
(SEE CONSTRUCTION DETAILS)

STA. 224+85.4, 28.0' LT
APRON ENDWALL FOR
CPRC HE 24X38-INCH
INVERT ELEV=865.31

STA. 224+75.8
CULVERT PIPE REINFORCED
CONCRETE CLASS HE-III
24X38-INCH

WE ENERGIES (ELECTRIC)
BM #9
CAUTION
WE ENERGIES (GAS)
CAUTION
AT&T
ASPH.
P.E.
C.R. AGG.
P.E.
ASPH.
R/W
R/W
TLE
+26.0 24.0' LT
+76.0 20.0' LT
+76.0 12.0' LT
8' PAVED SHOULDER
MATCHLINE STA. 219+36.00
MATCHLINE STA. 225+25.00
220+00
221+00
222+00
223+00
224+00
225+00
STH 164
50+00
51+00
52+00
CTH U
STA. 221+40.14 "STH 164" =
STA. 50+00.00 "CTH U"
845.28
846.74
848.96
851.14
+74.4 24.0' RT
+84.4 24.0' RT
+15.4 24.0' RT
+62.1 20.0' RT
+15.4 12.0' RT
70' R
35' R
ASPHALTIC
FLUME (TYP.)
CONCRETE CURB & GUTTER,
6-INCH SLOPED, TYPE D (TYP.)
847.08
+50.0
69.6' RT
+54.0
78.8' RT
847.08
+82.6
71.2' LT
STA. 221+63.53 (SEE NOTE 1)
REMOVE 1-48-INCH CMCP
(NO ENDWALLS EXIST)
STA. 222+15.42, 59' RT
STA. 50+81.56, 50' LT
CONCRETE CURB & GUTTER,
6-INCH SLOPED, TYPE D (TYP.)
ASPHALTIC
FLUME (TYP.)
MILL & PULVERIZE
STA. 224+76
REMOVE 1-30-INCH CMCP
AND ENDWALL
STA. 224+10 TO STA. 224+64 RT
REMOVE RIPRAP DITCH
STA. 224+64.8, 28.0' RT
APRON ENDWALL FOR CPRC
HE 24X38-INCH
INVERT ELEV=863.77
STA. 224+64 TO STA. 231+00 RT
REMOVE CONCRETE MASONRY DITCH,
INSTALL RIPRAP DITCH
(SEE CONSTRUCTION DETAILS)
POND
STA. 220+84.40, 94' RT
STA. 50+68.67, 85' RT
STA. 221+19.7, 72.5' RT
APRON ENDWALL FOR
CPRC, 48-INCH
INVERT ELEV=834.50
STA. 221+22.92, 74.7' RT
MATCH EXISTING CULVERT
INVERT ELEVATION
WETLAND BOUNDARY (TYP.)
SLOPE INTERCEPT (TYP)
+02.9
136.8' LT
+82.4
144.7' RT, MATCH
BUTT JOINT REQUIRED
(SEE CONSTRUCTION DETAILS)

LEGEND
XXX SAWCUT

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 48	E

BENCH MARKS

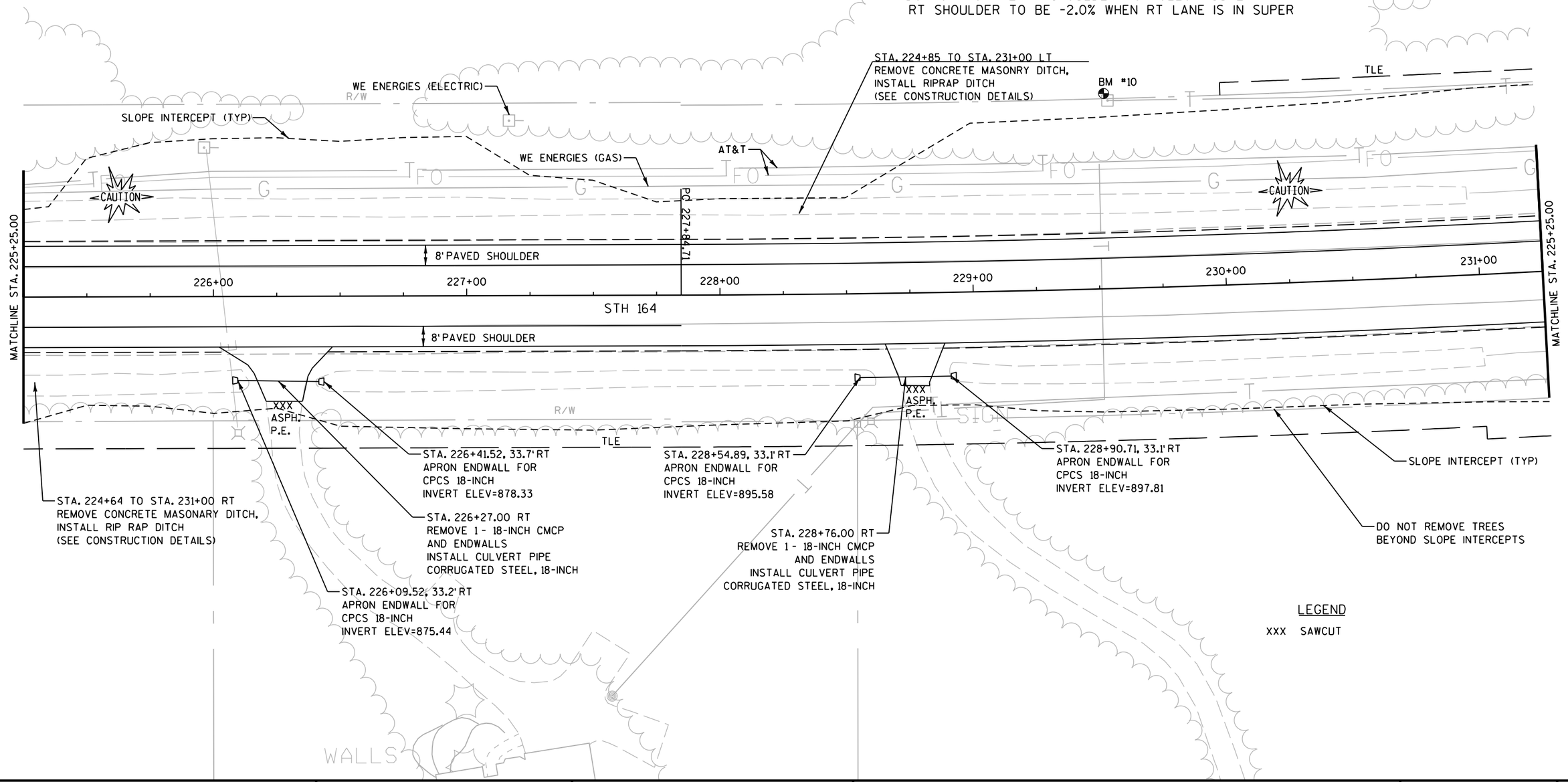
NO.	STATION	DESCRIPTION	ELEV.
10	229+53.61, 77.09' LT	RRSP E FACE PP #66T5430	914.87

SUPERELEVATION TABLE

STATION	LEFT	RIGHT
227+05	-2.0%	-2.0%
227+52	-2.0%	0.0%*
228+01	-2.0%	2.0%*
266+30	-2.0%	2.0%*
266+83	-2.0%	0.0%*
267+36	-2.0%	-2.0%

* DO NOT ROTATE RT SHOULDER TO FOLLOW SUPER
RT SHOULDER TO BE -2.0% WHEN RT LANE IS IN SUPER

N

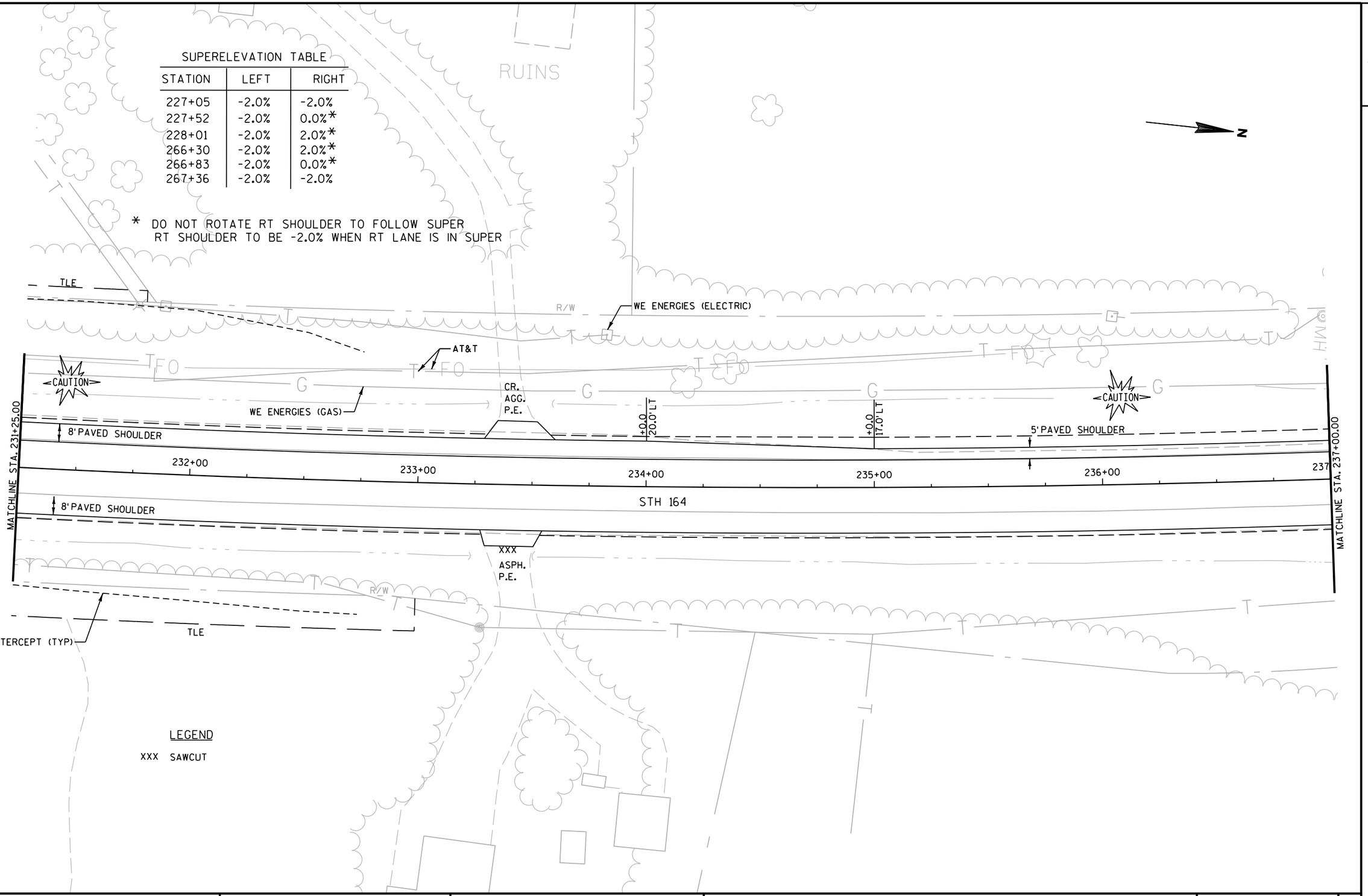


PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 49	E

SUPERELEVATION TABLE

STATION	LEFT	RIGHT
227+05	-2.0%	-2.0%
227+52	-2.0%	0.0%*
228+01	-2.0%	2.0%*
266+30	-2.0%	2.0%*
266+83	-2.0%	0.0%*
267+36	-2.0%	-2.0%

* DO NOT ROTATE RT SHOULDER TO FOLLOW SUPER
RT SHOULDER TO BE -2.0% WHEN RT LANE IS IN SUPER



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 50	E

2

N

WE ENERGIES (ELECTRIC)

R/W

SIGN

CAUTION

BM #11

STA. 238+01, 23.0' LT
APRON ENDWALL FOR CPRC, 24-INCH
INVERT ELEV=931.00

STA. 238+01
REMOVE 1 - 24-INCH CMCP
AND ENDWALLS

AT&T

AT&T

WE ENERGIES (GAS)

CAUTION

+82.6
17.0' LT

5' PAVED SHOULDER

MATCHLINE STA. 237+00.00

+00

238+00

239+00

240+00

241+00

242+00

MATCHLINE STA. 242+50.00

STH 164

8' PAVED SHOULDER

+13.7
20.0' RT

STA. 241+70.17, 24.0' RT (POST 1)
MGS GUARDRAIL TERMINAL EAT
(SEE SDD)

+70.2
22.0' RT

XXX XXX XXX

ASPH.
P.E.

STA. 238+01
CULVERT PIPE, REINFORCED CONCRETE
CLASS IV, 24-INCH

R/W

SLOPE INTERCEPT (TYP)

TLE

STA. 238+01, 39.0' RT
APRON ENDWALL FOR CPRC, 24-INCH
INVERT ELEV=929.60

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
11	238+01.29, 59.47' LT	RRSP E FACE PP #90-28606	938.49

LEGEND

XXX SAWCUT

SEPTIC

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 51	E

2

2

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
12	245+18.87, 51.20'LT	RRSP NE FACE PP*93-02779 SW CORNER STH 164 & CHERI AVE.	936.66

CAUTION

R/W

46+00

+25.0
12.6'LT

XXXXXXXXX

+25.00
11.4'LT, MATCH

BUTT JOINT REQUIRED
(SEE CONSTRUCTION DETAILS)

MILL & PULVERIZE

+50.0
15.0'RT

+50.0
15.0'LT

SLOPE INTERCEPT (TYP)

STA. 47+10.00, 17.0'RT (POST 1)
MGS GUARDRAIL TERMINAL EAT
(SEE SDD)

47+00

R/W

TILE

MATCHLINE STA. 47+25.00

MATCHLINE STA. 47+25.00

STA. 47+75.00, 17.0'LT (POST 1)
MGS GUARDRAIL TERMINAL EAT
(SEE SDD)

48+00

CAUTION

CHERI AVE.

MGS GUARDRAIL 3

WE ENERGIES (ELECTRIC)

49+00

WE ENERGIES (GAS)

CAUTION

R/W

AT&T

STA. 246+06.93, 69'LT
STA. 49+12.45, 60'LT

STA. 246+31.9, 65.50'LT
APRON ENDWALL FOR
CPRC, 24-INCH
INVERT ELEV=922.31

45'R

STA. 244+27.9, 59.0'LT
APRON ENDWALL FOR RCCP, 36-INCH
INVERT ELEV=924.85

STA. 244+77.60, 74'LT
STA. 49+40.36, 65'RT

50'R

BM #12

STA. 243+39.83, 24.0'LT (POST 1)
MGS GUARDRAIL TERMINAL EAT
(SEE SDD)

CAUTION

STA. 244+77.60
TO 245+32.00, LT
MGS GUARDRAIL 3 OS
(SEE SDD)

+7.3
24.0'LT

+35.5
22.0'LT

+80.8
11.0'LT

MGS GUARDRAIL 3

10' PAVED SHOULDER

243+00

244+00

245+00

246+00

247+00

248+00

24'

STH 164

+77.4
12.0'RT

+60
22.0'LT

+77.6
24.0'LT

50+00

STA. 245+25.86 "STH 164" =
STA. 50+00 "CHERI AVE"

MATCHLINE STA. 242+75.00

MATCHLINE STA. 248+50.00

10' PAVED SHOULDER

MGS GUARDRAIL 3

STA. 244+28
CULVERT PIPE, REINFORCED CONCRETE
CLASS IV, 36-INCH

STA. 244+28
REMOVE 1 - 36-INCH CMCP
AND ENDWALLS

STA. 246+32.10
REMOVE 1 - 24-INCH CMCP
AND ENDWALLS

STA. 246+32.10
CULVERT PIPE, REINFORCED
CONCRETE CLASS IV, 24-INCH

SLOPE INTERCEPT (TYP)

R/W

PLE

STA. 244+28.1, 68'RT
APRON ENDWALL FOR CPRC, 36-INCH
INVERT ELEV=916.93

STA. 246+32.3, 70.0'RT
APRON ENDWALL FOR
CPRC, 24-INCH
INVERT ELEV=918.06

TLE

R/W

LEGEND

XXX SAWCUT

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 52	E

2

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
13	252+26.97, 49.48' RT	RRSP SW FACE 24" OAK; S. OF DWY TO FICKAU HARDWARE	939.53

N

WETLAND BOUNDARY (TYP.)

STA. 249+91.53, 67.0' LT
APRON ENDWALL FOR
CPRC, 48-INCH
INVERT ELEV=916.60

<CAUTION>

R/W

WE ENERGIES (GAS)

AT&T

STA. 254+41.9, 33.3' LT
INVERT ELEV=939.10

STA. 254+30, 33.4' LT
CULVERT PIPE
CORRUGATED STEEL
18-INCH WITH SLOPED
ENDWALLS

STA. 254+16.6, 33.4' LT
INVERT ELEV=938.75

<CAUTION>

STA. 253+85 LT
REMOVE 1 - 18-INCH CMCP
AND ENDWALLS, AND
MOVE EXISTING FIELD
ENTRANCE

STA. 253+30.2, 24.0' LT (POST 1)
MGS GUARDRAIL TERMINAL EAT
(SEE SDD)

MGS GUARDRAIL 3

+57.5
12.0' LT

10' PAVED SHOULDER

MATCHLINE STA. 248+50.00

249+00 250+00 251+00 252+00 253+00 254+00

MATCHLINE STA. 254+50.00

STH 164

10' PAVED SHOULDER

+75.9
22.0' RT

+46.8
22.0' RT

+44.0
17.0' RT

18' R

18' R

XXX XXX XXX

STA. 253+46.8, 40.0' RT

STA. 249+47.07
REMOVE 1 - 48-INCH CMCP
AND ENDWALLS

STA. 249+47.07
CULVERT PIPE
REINFORCED CONCRETE,
CLASS IV, 48-INCH

STA. 252+09.8, 24.0' RT (POST 1)
MGS GUARDRAIL TERMINAL EAT
(SEE SDD)

BM #13

STA. 252+75.9, 40' RT

ASPH.
P.E.

SLOPE INTERCEPT (TYP)

SIGN

R/W

STA. 248+96.91, 78.0' RT
APRON ENDWALL FOR
CPRC, 48-INCH
INVERT ELEV=913.90

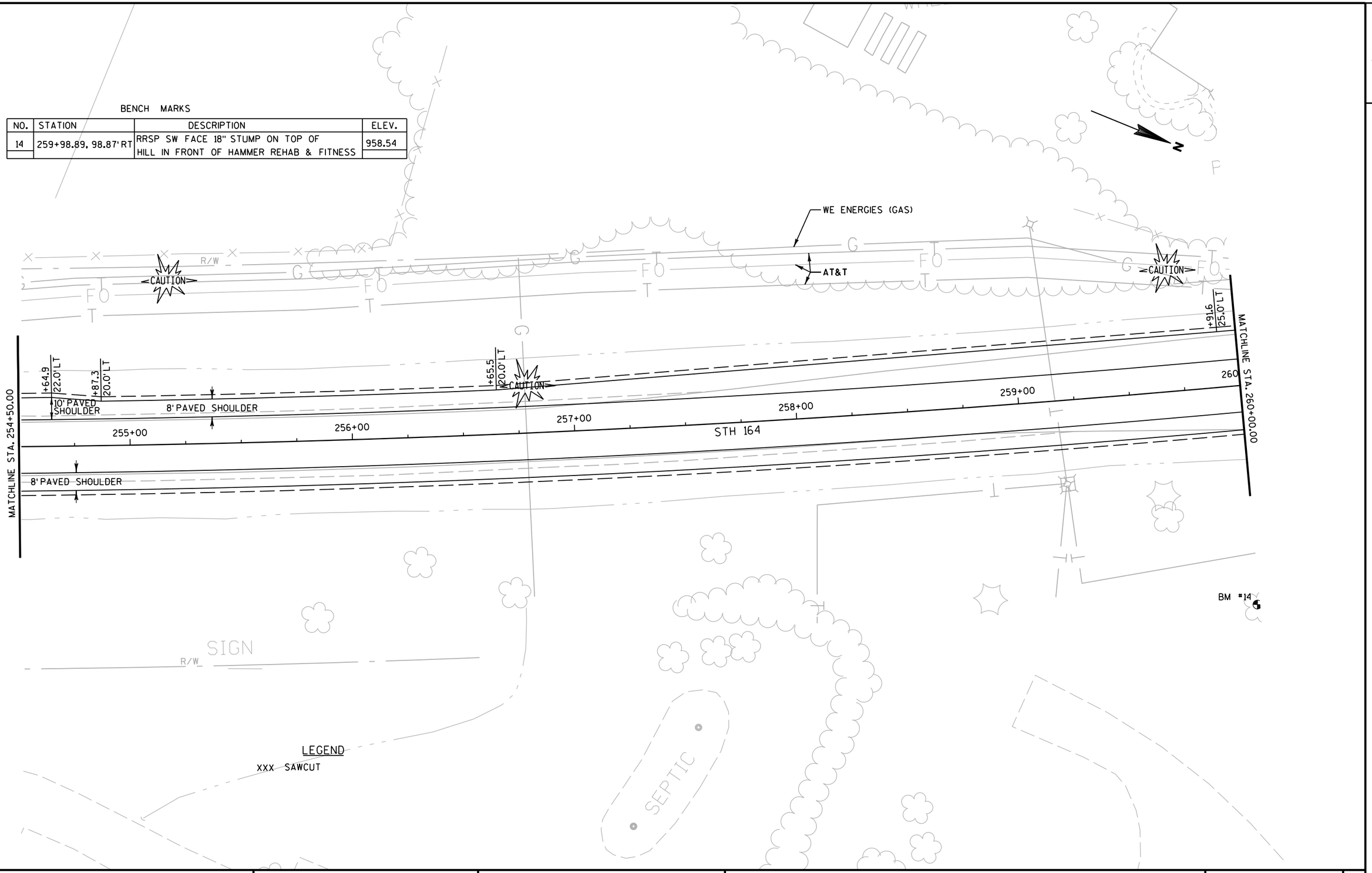
LEGEND

XXX SAWCUT

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 53	E

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
14	259+98.89, 98.87' RT	RRSP SW FACE 18" STUMP ON TOP OF HILL IN FRONT OF HAMMER REHAB & FITNESS	958.54

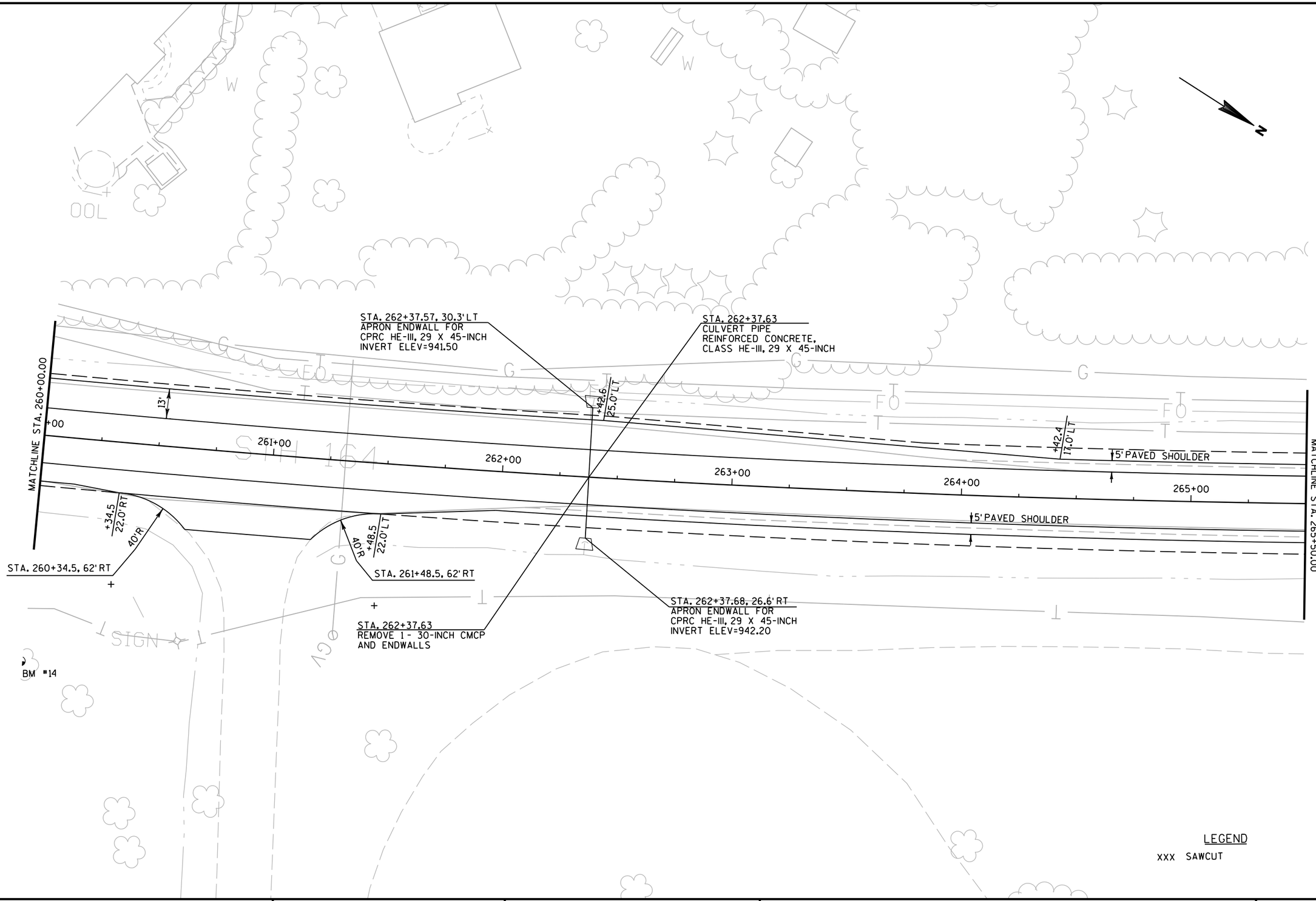


PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 54	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021221_PD.DGN PLOT DATE : 10/31/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 40.0000 FT / in.

WISDOT/CADDS SHEET 42

2

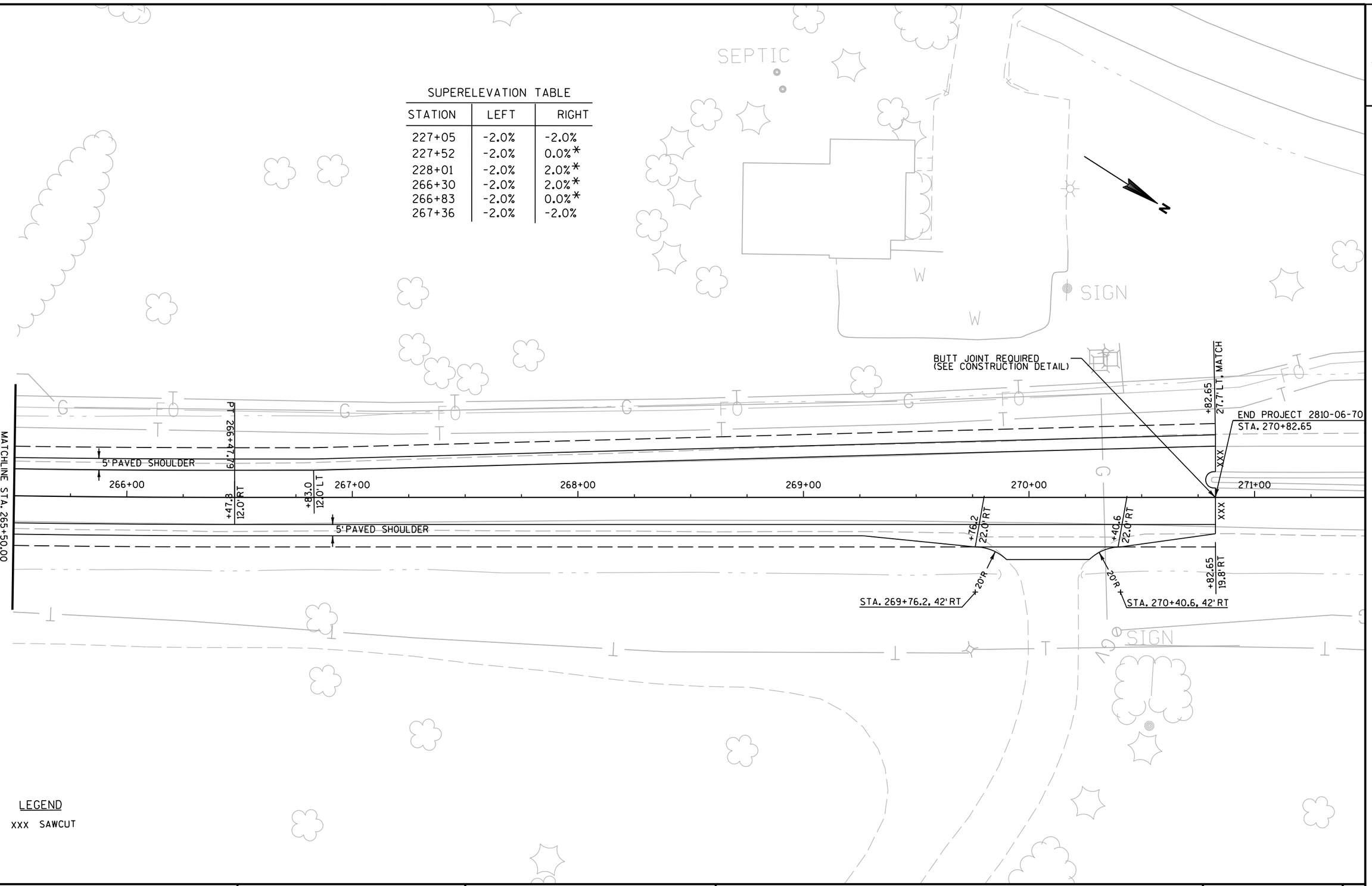


PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 55	E

2

SUPERELEVATION TABLE

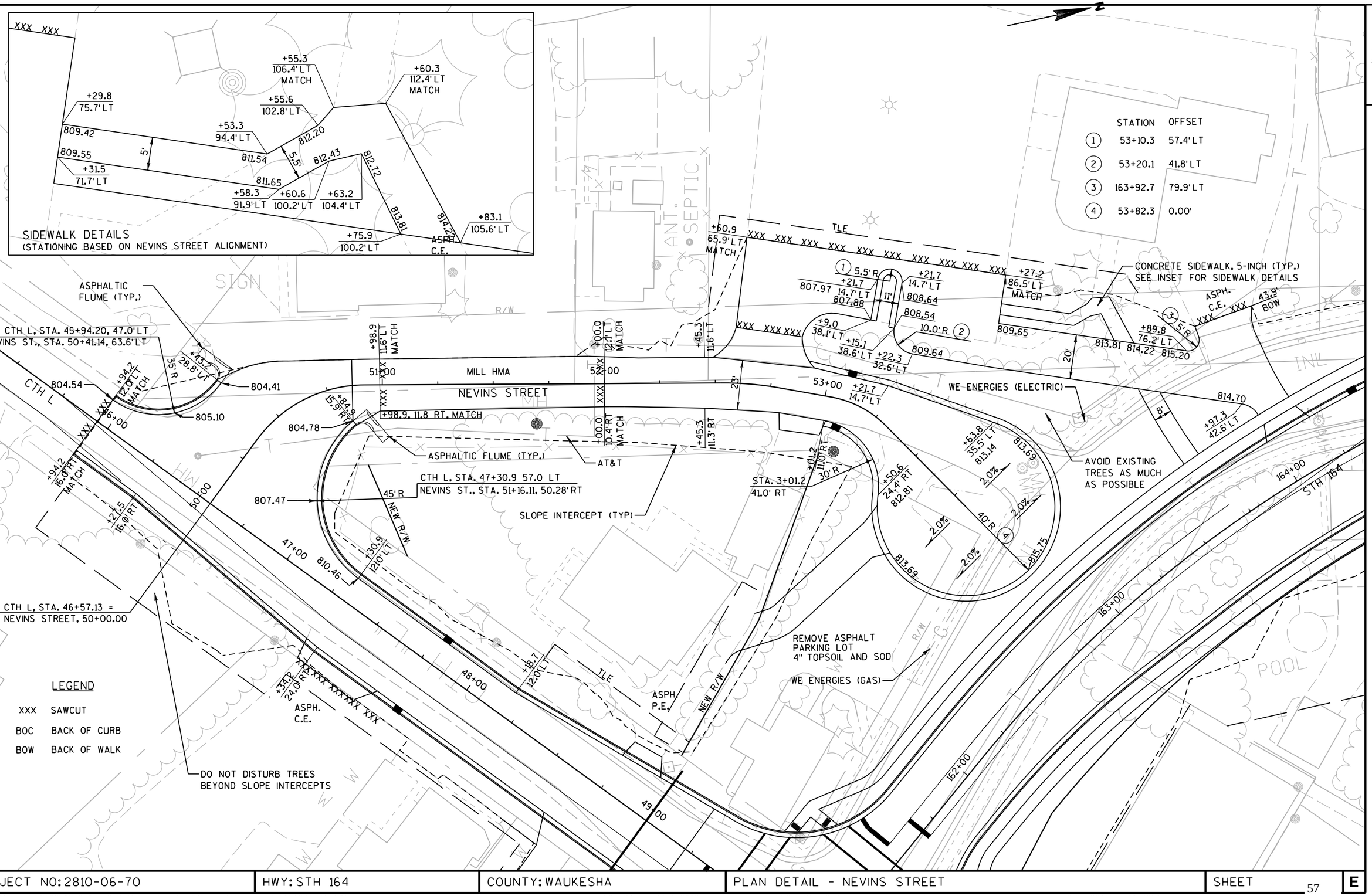
STATION	LEFT	RIGHT
227+05	-2.0%	-2.0%
227+52	-2.0%	0.0%*
228+01	-2.0%	2.0%*
266+30	-2.0%	2.0%*
266+83	-2.0%	0.0%*
267+36	-2.0%	-2.0%



LEGEND

XXX SAWCUT

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 56	E



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL - NEVINS STREET	SHEET 57	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021224_PD.DGN PLOT DATE : 11/1/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 40.0000 FT / in.
WISDOT/CADDS SHEET 42

2

N

LEGEND

XXX SAWCUT

BOC BACK OF CURB

BOW BACK OF WALK

BOP BACK OF PAVEMENT

ASPH. C.E.

17.2' BOC

18.3' BOC

XXX XXX XXX

28'

46+00

47+00

48+00

EDGEWOOD AVE.

7.5' BOC

XXX XXX XXX

7.5' BOC

TLE

ASPH. C.E.

SLOPE INTERCEPT (TYP)

MATCHLINE STA. 48+25.00

SIGN

SEPTIC

POOL

CR. AGG. P.E.

16.1' BOC

TLE

CONC. P.E.

9.4' BOP

31'

XXX

13'

52+00

53+00

54+00

EDGEWOOD AVE.

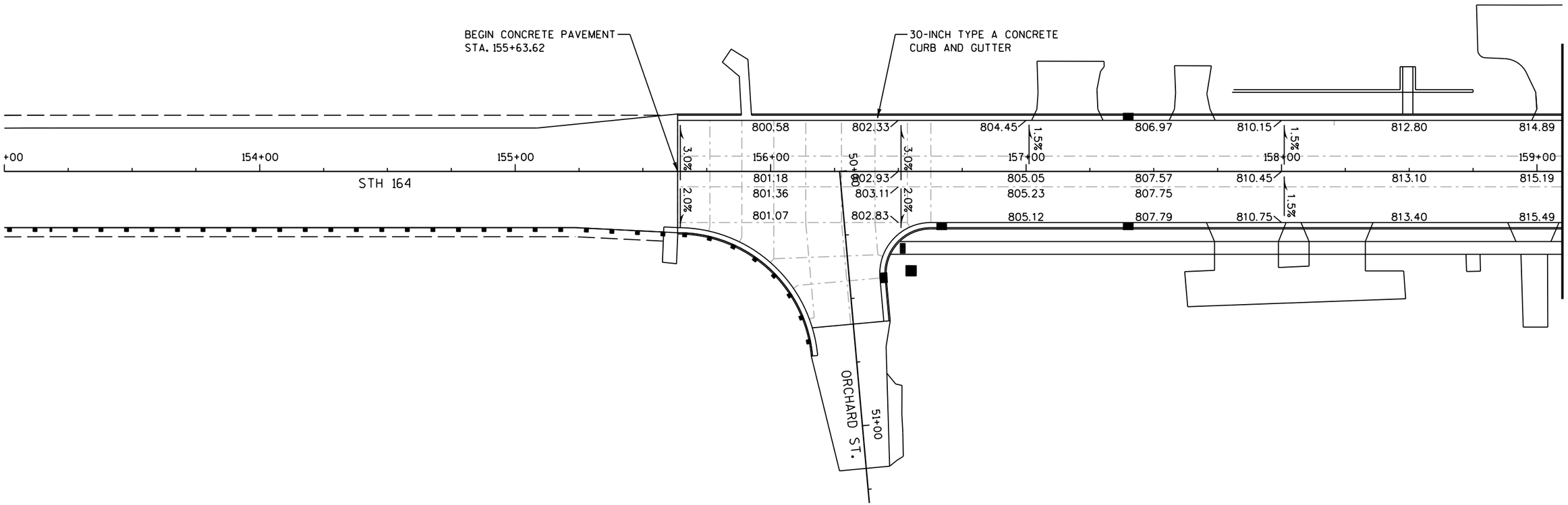
MATCHLINE STA. 51+75.00

SEPTIC

2

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN DETAIL - EDGEWOOD AVENUE	SHEET 58	E

2



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVING DETAILS	SHEET	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\021301_gr.DGN
PLOT DATE : 11/1/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 40.0000 FT / in.
WISDOT/CADDS SHEET 42

2

CTH L

48+00

49+00

30-INCH TYPE D CONCRETE
CURB AND GUTTER

53+00

NEVINS STREET

N

30-INCH TYPE A CONCRETE
CURB AND GUTTER

MATCHLINE STA. 159+10.00

STH 164

160+00

161+00

162+00

163+00

164+00

165+00

816.41 817.31 817.37 1.5% 1.5%

817.78 1.5%

817.85 1.0%

817.76 0.5%

817.43 2.0%

816.93 2.9%

816.09

815.35

814.92

814.81

815.03

816.71 817.67 817.76 1.5% 1.0%

818.08 818.17 1.5% 1.0%

818.05 1.0%

817.65 0.5%

816.99 2.0%

816.29 2.9%

815.46

814.71

814.28

814.18

814.39

817.01 817.90 1.5% 1.0%

818.31 1.0%

818.25 1.0%

817.55 0.5%

816.59 2.0%

815.65

814.71

813.92

813.50

813.41

813.66

MATCHLINE STA. 165+25.00

50+00

51+00

CTH L

30-INCH TYPE D CONCRETE
CURB AND GUTTER

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVING DETAILS	SHEET 60	E

2

2

N

BACK 167+93.24
AHEAD 168+19.43

30-INCH TYPE A CONCRETE
CURB AND GUTTER

MATCHLINE STA. 165+25.00

815.33 | 2.9% | 815.29 | 815.29 | 815.41 | 2.0% | 816.00 | 2.0% | 817.06 | 817.88 | 3.0% | 818.88 | 819.68 | 820.08 | 820.05

166+00 STA 164 167+00 50+00 169+00 170+00 171+00

814.71 | 2.9% | 815.04 | 815.37 | 815.81 | 2.0% | 816.40 | 817.53 | 2.0% | 818.48 | 819.48 | 0.5% | 820.28 | 820.68 | 820.65

818.48 | 819.54 | 2.0% | 820.34 | 820.74 | 820.71

814.04 | 814.50 | 814.91 | 815.41 | 816.00 | 818.32 | 2.0% | 819.38 | 820.18 | 820.58 | 820.55

MATCHLINE STA. 171+40.00

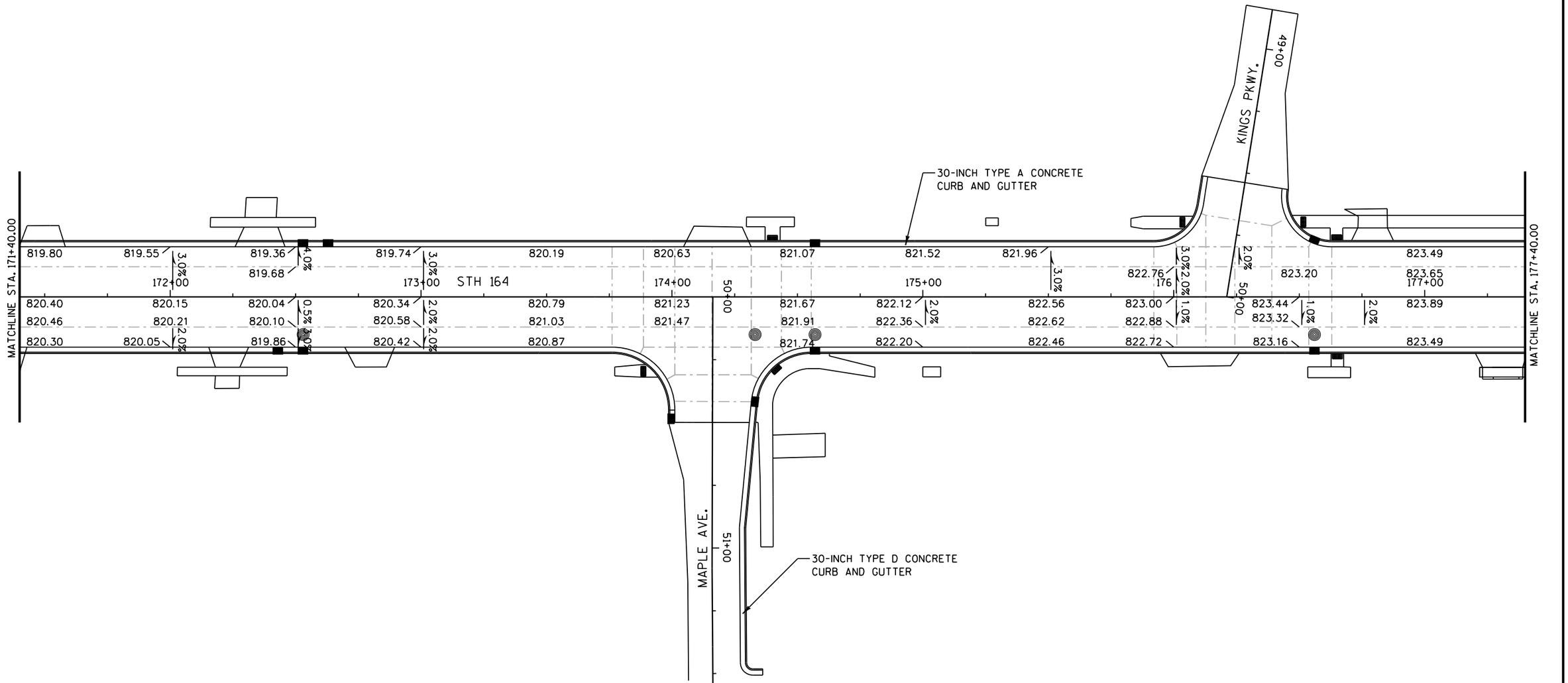
ROSE AVE. 51+00

30-INCH TYPE D CONCRETE
CURB AND GUTTER

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVING DETAILS	SHEET 61	E

2

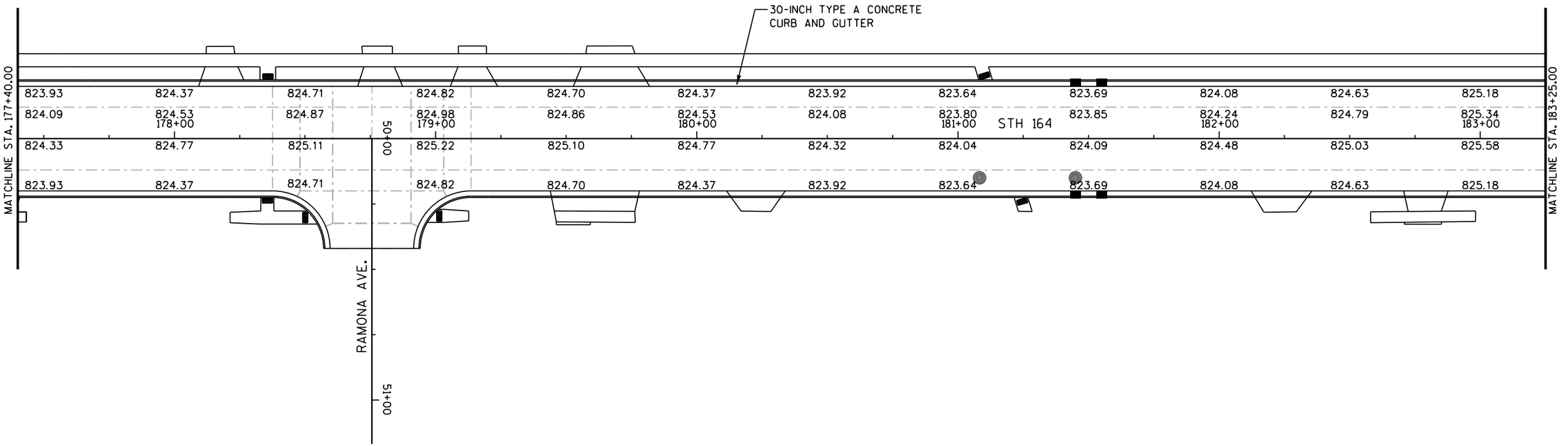
N



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVING DETAILS	SHEET 62	E

2

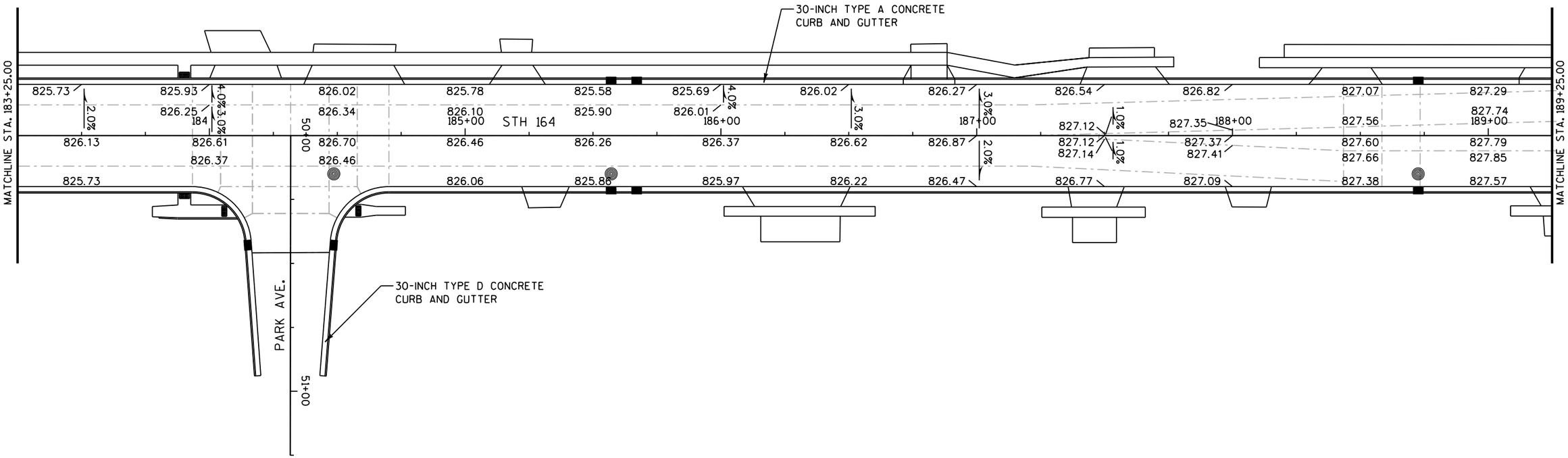
N



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVING DETAILS	SHEET 63	E

2

N



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVING DETAILS	SHEET 64	E

2

2

N

30-INCH TYPE D CONCRETE
CURB AND GUTTER

EDGEWOOD AVE.

49+00

30-INCH TYPE A CONCRETE
CURB AND GUTTER

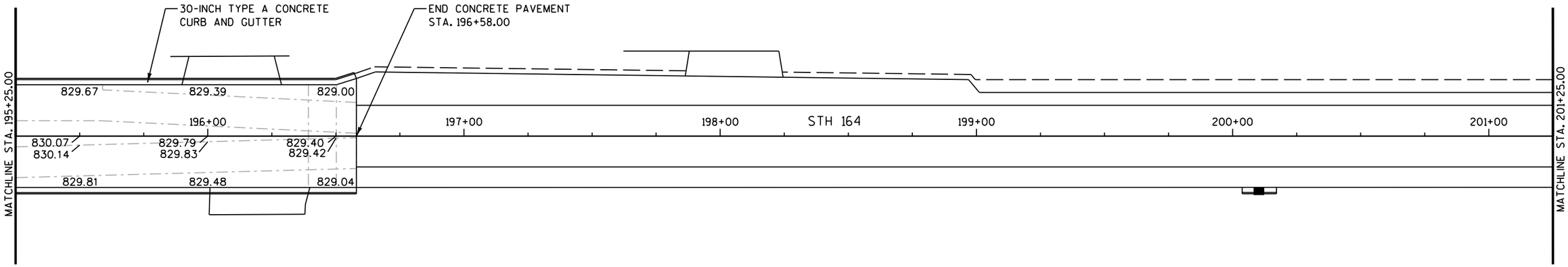
MATCHLINE STA. 189+25.00

MATCHLINE STA. 195+25.00

| | | |

2

N



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVING DETAILS	SHEET 66	E

2

N

STH 164

138 140 142 144 146 148 150 152

WALLS

FOOTBRIDGE

WALLS

W

HENNEBERRY AVE

SLOPE INTERCEPT (TYP.)

WETLAND BOUNDARY

PIER

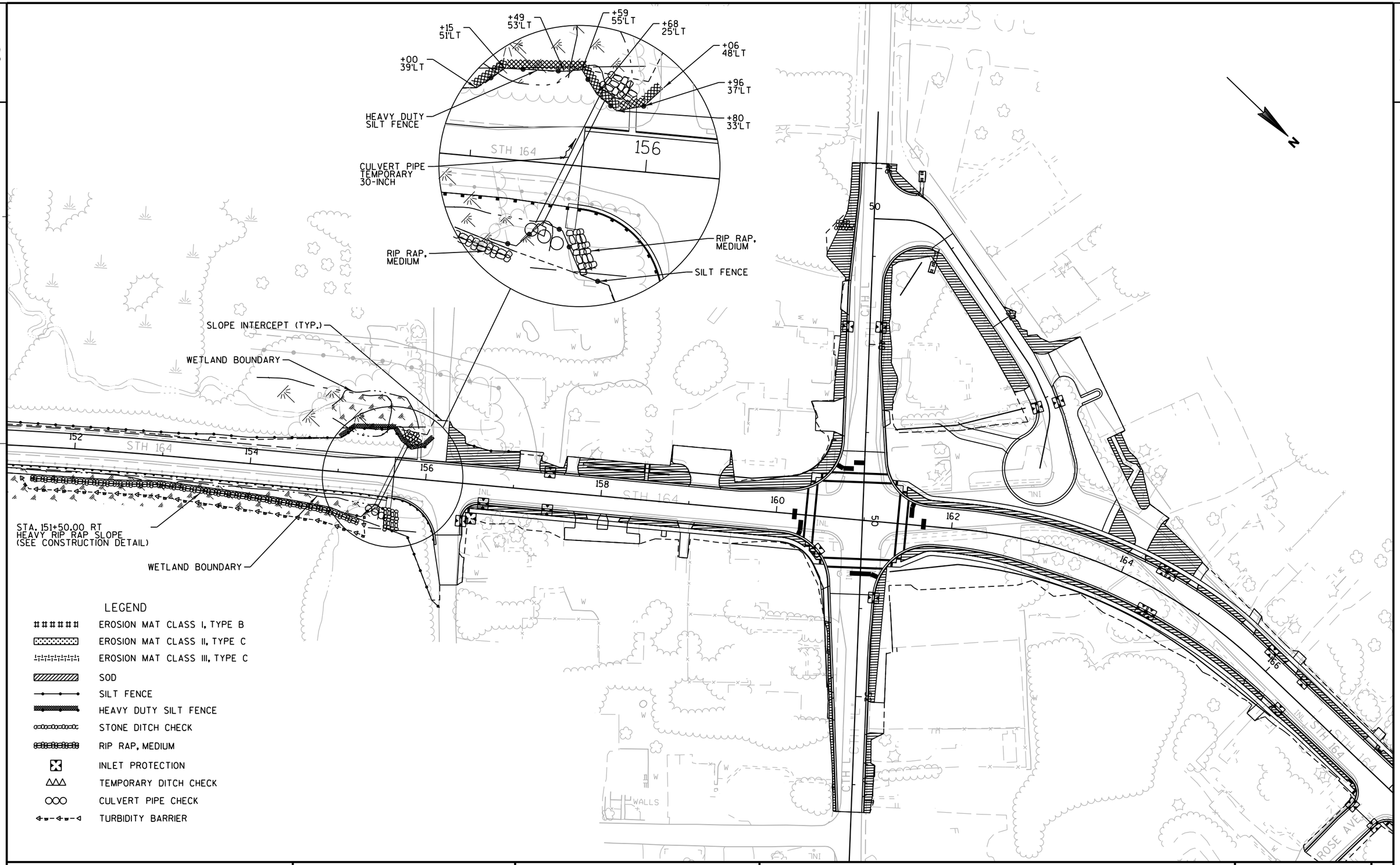
STA. 151+50.00 RT
HEAVY RIP RAP SLOPE
(SEE CONSTRUCTION DETAIL)

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS II, TYPE C
- EROSION MAT CLASS III, TYPE C
- SOD
- SILT FENCE
- HEAVY DUTY SILT FENCE
- STONE DITCH CHECK
- RIP RAP, MEDIUM
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 67	E

2



LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS II, TYPE C
- EROSION MAT CLASS III, TYPE C
- SOD
- SILT FENCE
- HEAVY DUTY SILT FENCE
- STONE DITCH CHECK
- RIP RAP, MEDIUM
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 68	E

2

2

N

BACK 167+93.24
AHEAD 168+19.43

SEPTIC

SEPTIC

SEPTIC

POOL

KINGS PKWY

SEPTIC

SEPTIC

SLOPE INTERCEPT (TYP.)

SIGN

170

STH 164

172

174

176

178

180

182

STH 164

INL

SIGN

WALLS

ROSE AVE

MAPLE AVE.

RAMONA AVE.

SEPTIC

POOL

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS II, TYPE C
- EROSION MAT CLASS III, TYPE C
- SOD
- SILT FENCE
- HEAVY DUTY SILT FENCE
- STONE DITCH CHECK
- RIP RAP, MEDIUM
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 69	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\022003_EC.DGN PLOT DATE : 12/12/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 100.0000 FT / in.

WISDOT/CADDS SHEET 42

2

2

N

EDGEWOOD AVE

SEPTIC

CANOPY

INL

FILLER CAPS

SIGN

W

A/C

STH 164

184

186

188

190

192

194

196

46

48

50

52

54

TOWER

PARK AVE

POOL

SLOPE INTERCEPT (TYP.)

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS II, TYPE C
- EROSION MAT CLASS III, TYPE C
- SOD
- SILT FENCE
- HEAVY DUTY SILT FENCE
- STONE DITCH CHECK
- RIP RAP, MEDIUM
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 70	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\022004_EC.DGN PLOT DATE : 12/12/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 100.0000 FT / in.

WISDOT/CADDS SHEET 42

2

2

N

VILLA DR.

MARDITH AVE.

198 200 202 204 206 208 210 212

STH 164

SEPTIC

SIGN

POOL

ANT.

INL

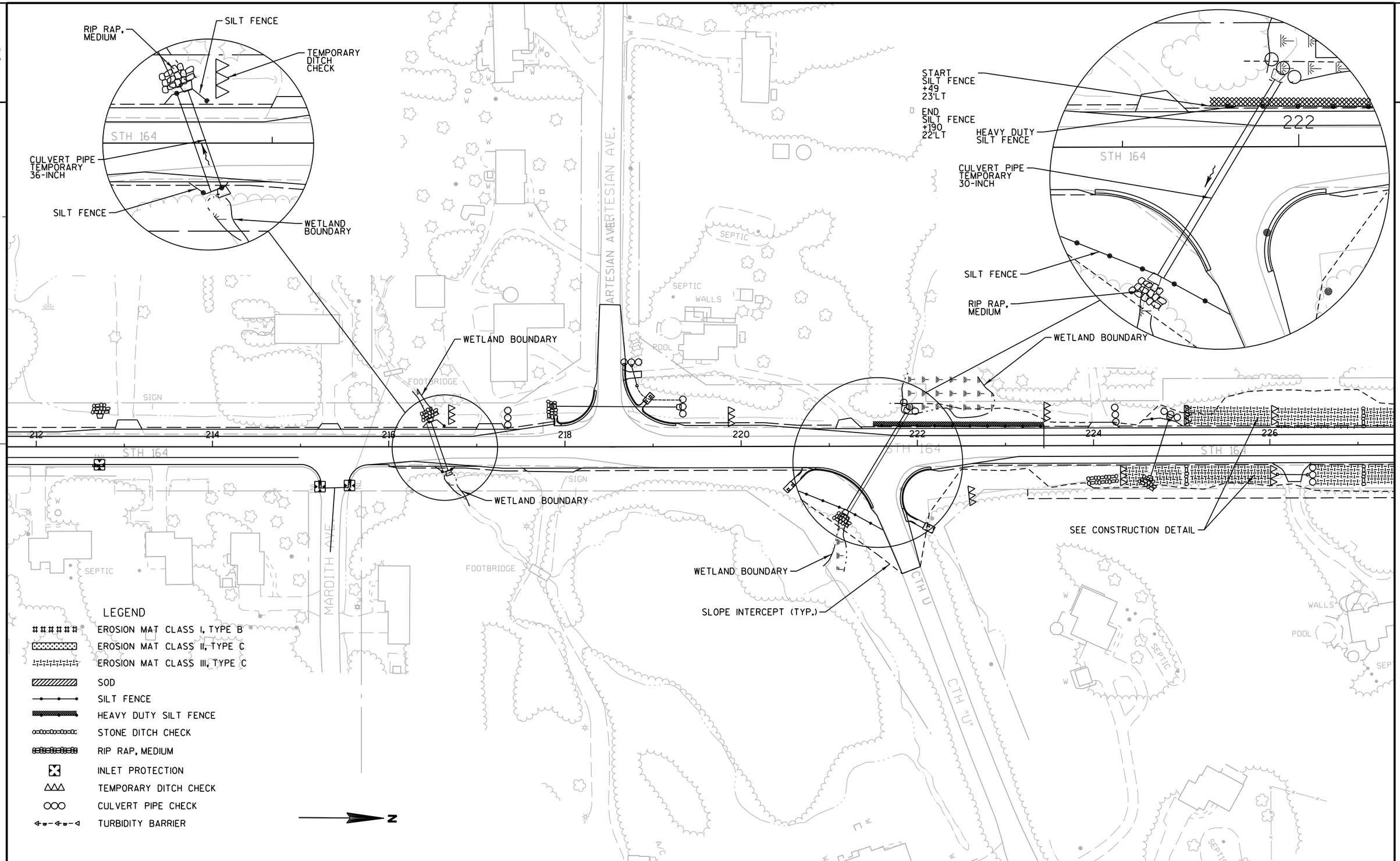
W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS II, TYPE C
- EROSION MAT CLASS III, TYPE C
- SOD
- SILT FENCE
- HEAVY DUTY SILT FENCE
- STONE DITCH CHECK
- RIP RAP, MEDIUM
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 71	E

2



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 72	E

2

N

SLOPE INTERCEPT (TYP.)

SEE CONSTRUCTION DETAIL

STH 164

STH 164

RUINS

SIGN

SEPTIC

SEPTIC

228 230 232 234 236 238 240 242

LEGEND

#######	EROSION MAT CLASS I, TYPE B
	EROSION MAT CLASS II, TYPE C
	EROSION MAT CLASS III, TYPE C
	SOD
	SILT FENCE
	HEAVY DUTY SILT FENCE
	STONE DITCH CHECK
	RIP RAP, MEDIUM
	INLET PROTECTION
△△△	TEMPORARY DITCH CHECK
○○○	CULVERT PIPE CHECK
	TURBIDITY BARRIER

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 73	E

2

2

N

SEPTIC

SEPTIC

WALLS

SEPTIC

CHERI AVE.

CHERI AVE.

WETLAND BOUNDARY

242

244

246

248

250

252

254

256

STH 164

STH 164

SIGN

SIGN

SLOPE INTERCEPT (TYP.)

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS II, TYPE C
- EROSION MAT CLASS III, TYPE C
- SOD
- SILT FENCE
- HEAVY DUTY SILT FENCE
- STONE DITCH CHECK
- RIP RAP, MEDIUM
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 74	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\022008_EC.DGN PLOT DATE : 12/12/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 100.0000 FT / in.

WISDOT/CADDS SHEET 42

2

N

WALLS

POOL

SEPTIC

SEPTIC

SEPTIC

SIGN

SIGN

SIGN

SEPTIC

SEPTIC

W

W

W

256

258

260

262

264

266

268

270

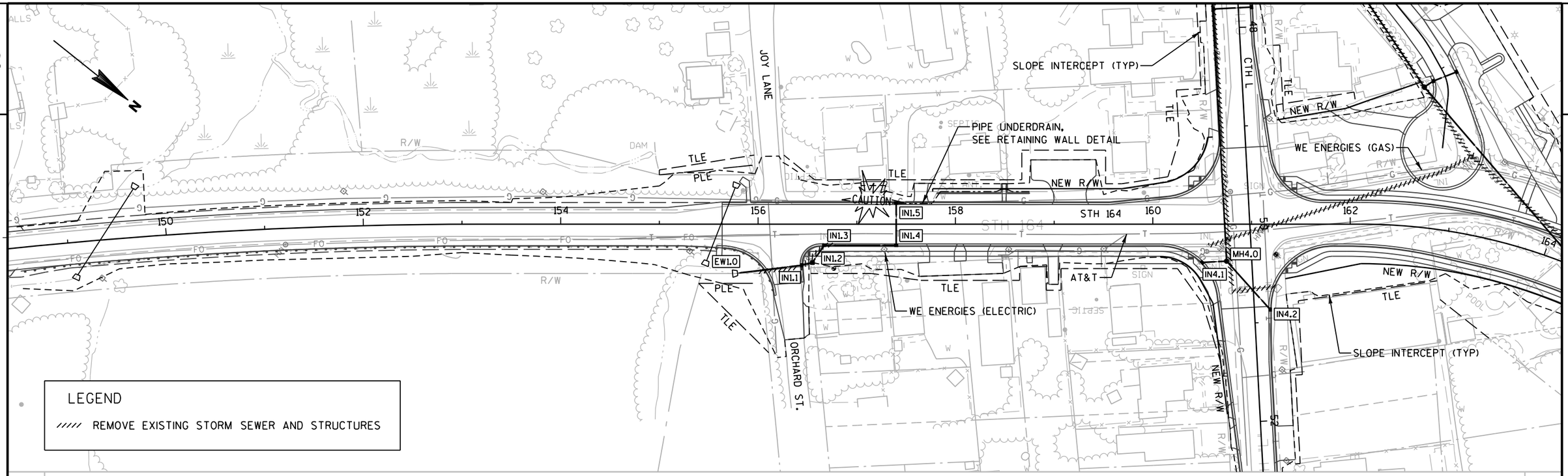
STH 164

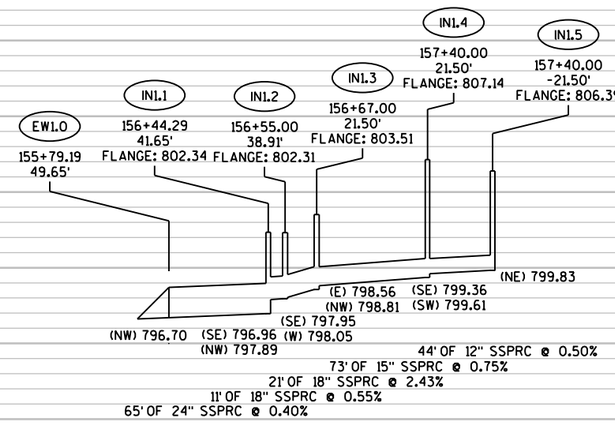
STH 164

LEGEND

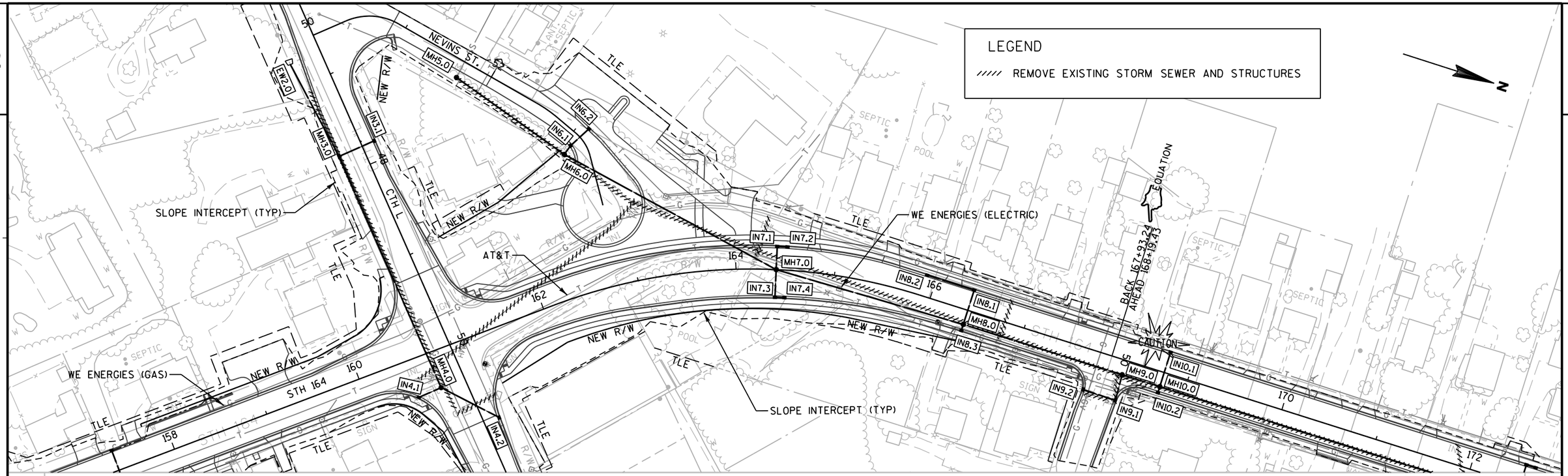
- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS II, TYPE C
- EROSION MAT CLASS III, TYPE C
- SOD
- SILT FENCE
- HEAVY DUTY SILT FENCE
- EROSION BALE, BARRIER
- STONE DITCH CHECK
- RIP RAP, MEDIUM
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

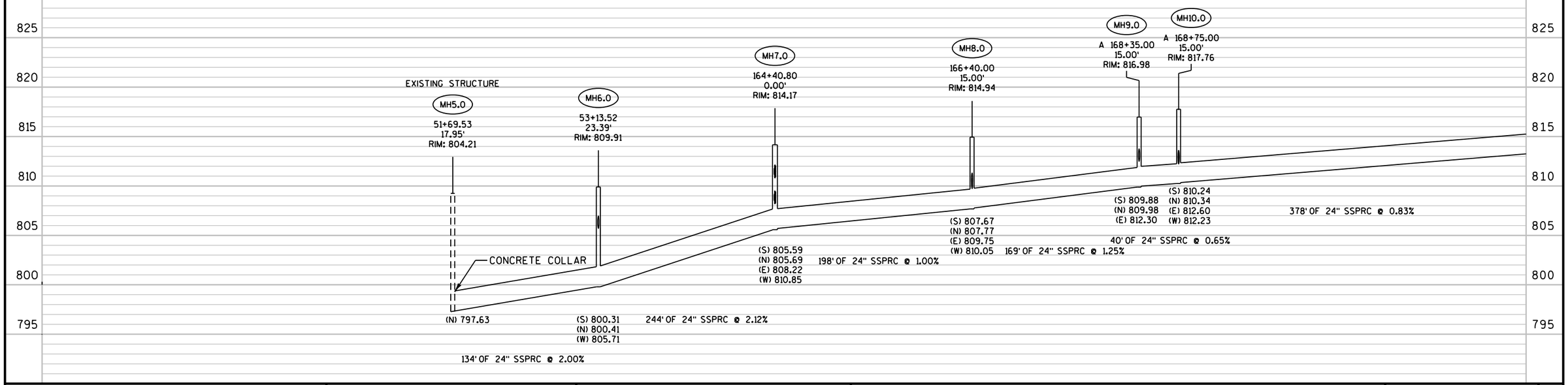
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 75	E



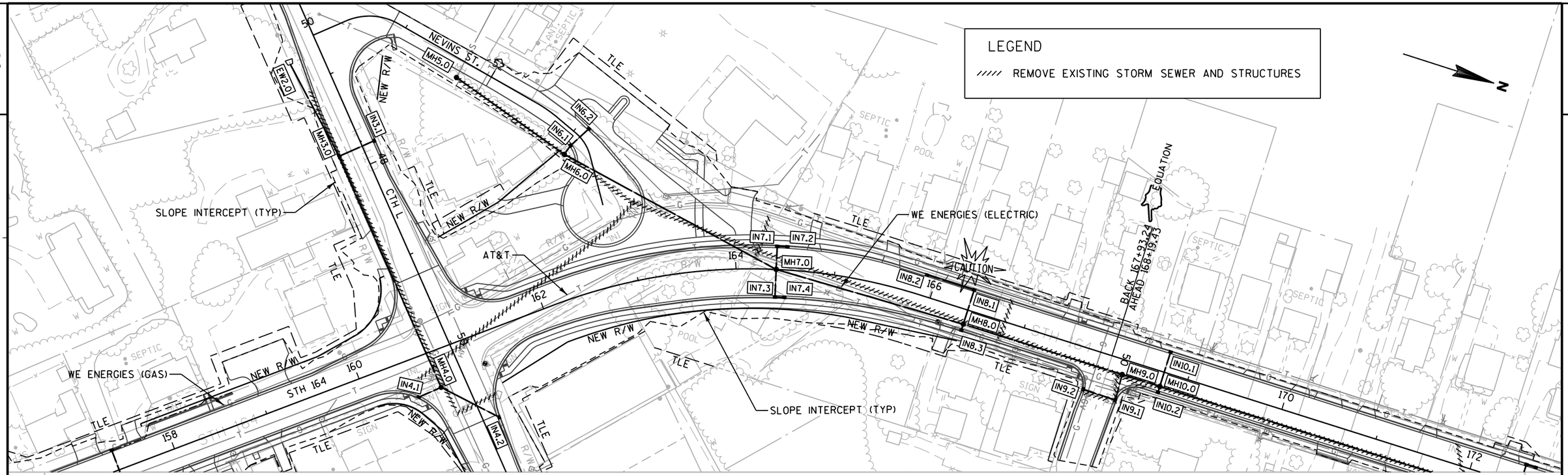


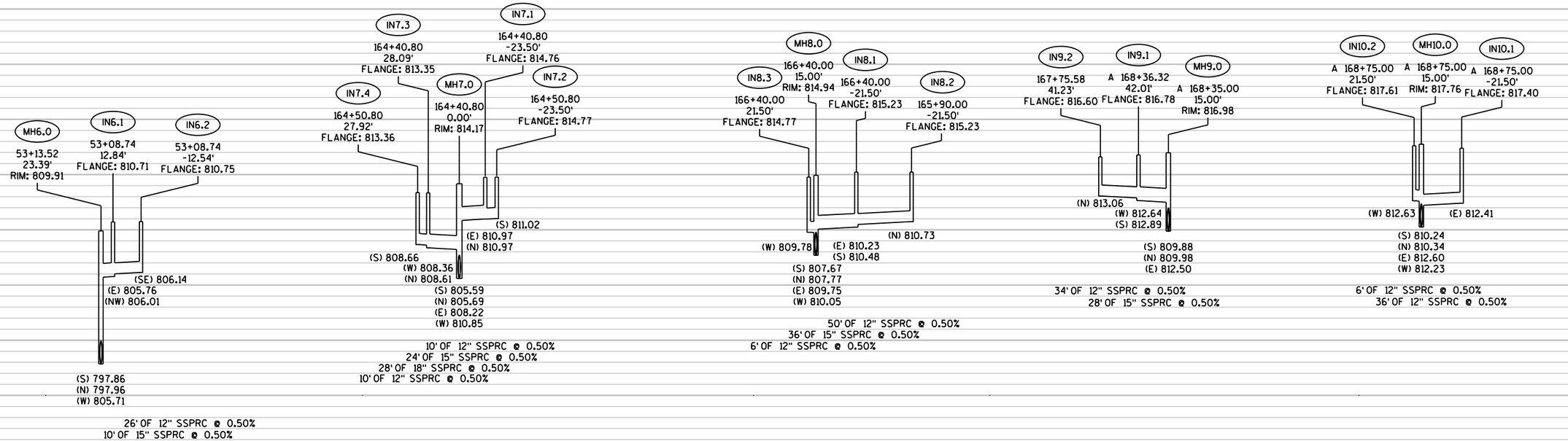
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	STORM SEWER - STH 164	SHEET 76	E



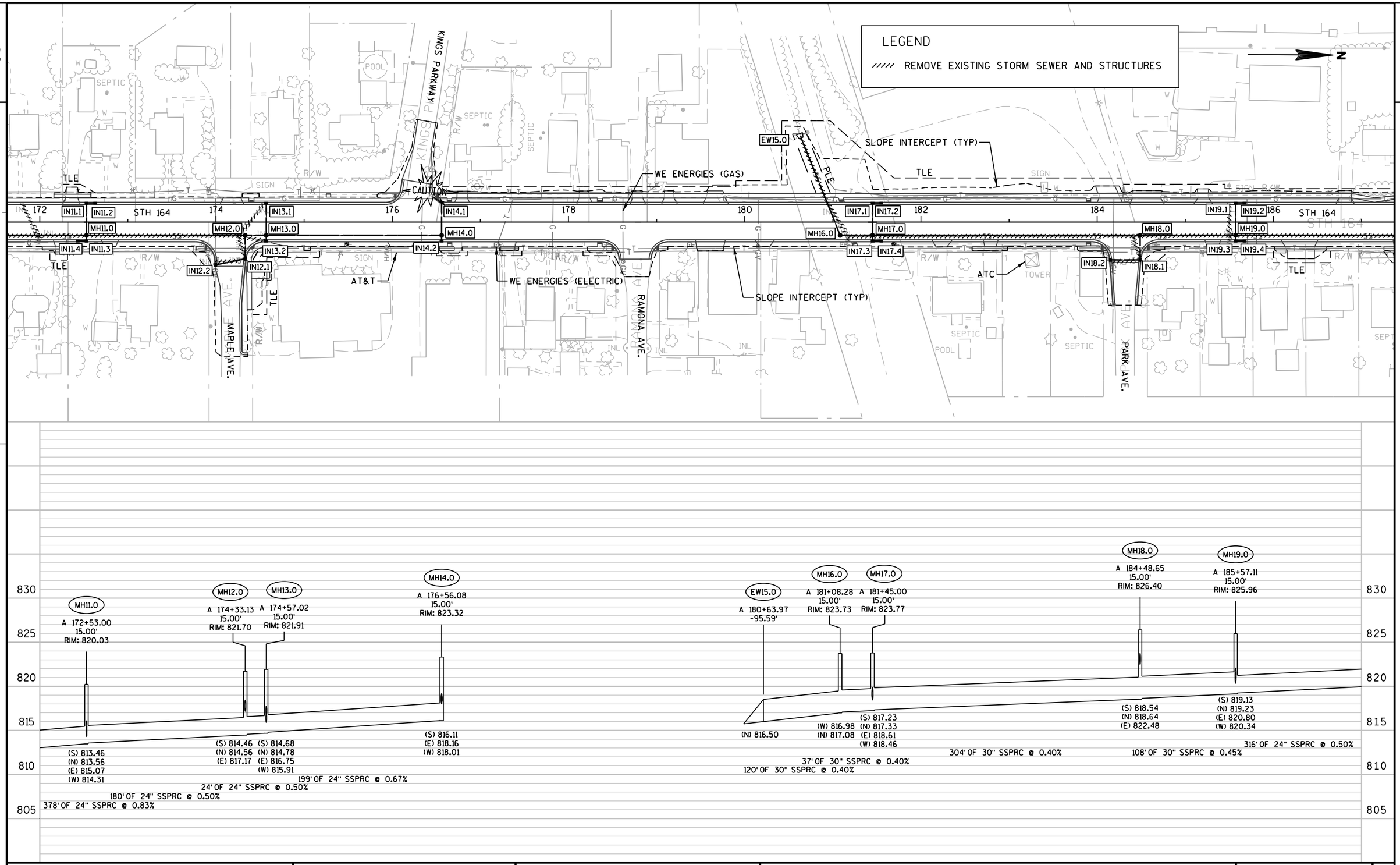


PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	STORM SEWER - STH 164	SHEET 77	E





PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	STORM SEWER - STH 164	SHEET 78	E



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	STORM SEWER - STH 164	SHEET 79	E

2

LEGEND

///// REMOVE EXISTING STORM SEWER AND STRUCTURES

N

KINGS PARKWAY

SEPTIC

POOL

R/W

SIGN

TLE

STH 164

172 174 176 178 180 182 184 186

IN11.1 IN11.2 IN11.3 IN11.4

MH11.0

MH12.0 IN12.1 IN12.2

MH13.0 IN13.1 IN13.2

MH14.0 IN14.1 IN14.2

EW15.0

MH16.0

MH17.0 IN17.1 IN17.2 IN17.3 IN17.4

MH18.0 IN18.1 IN18.2

MH19.0 IN19.1 IN19.2 IN19.3 IN19.4

WE ENERGIES (GAS)

SLOPE INTERCEPT (TYP)

CAUTION

AT&T

WE ENERGIES (ELECTRIC)

ATC

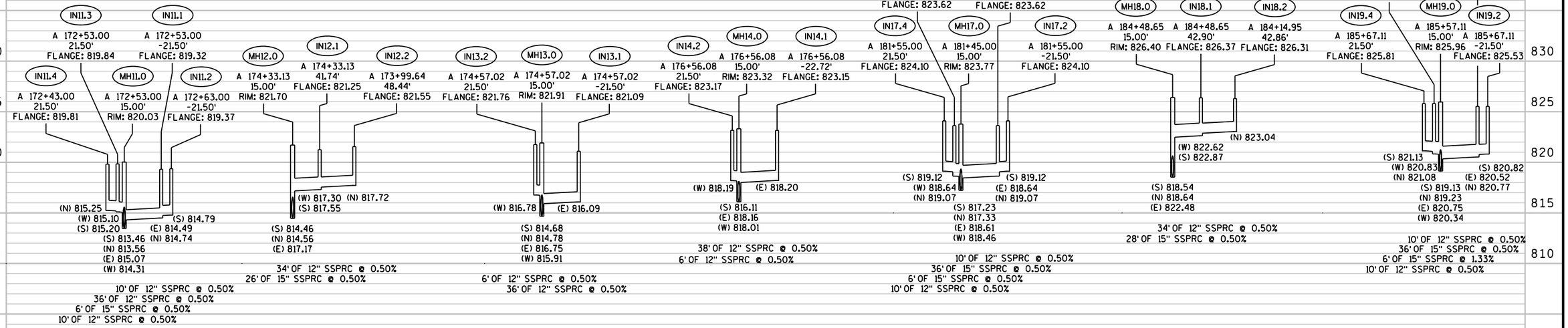
TOWER

MAPLE AVE.

RAMONA AVE.

PARK AVE.

INL



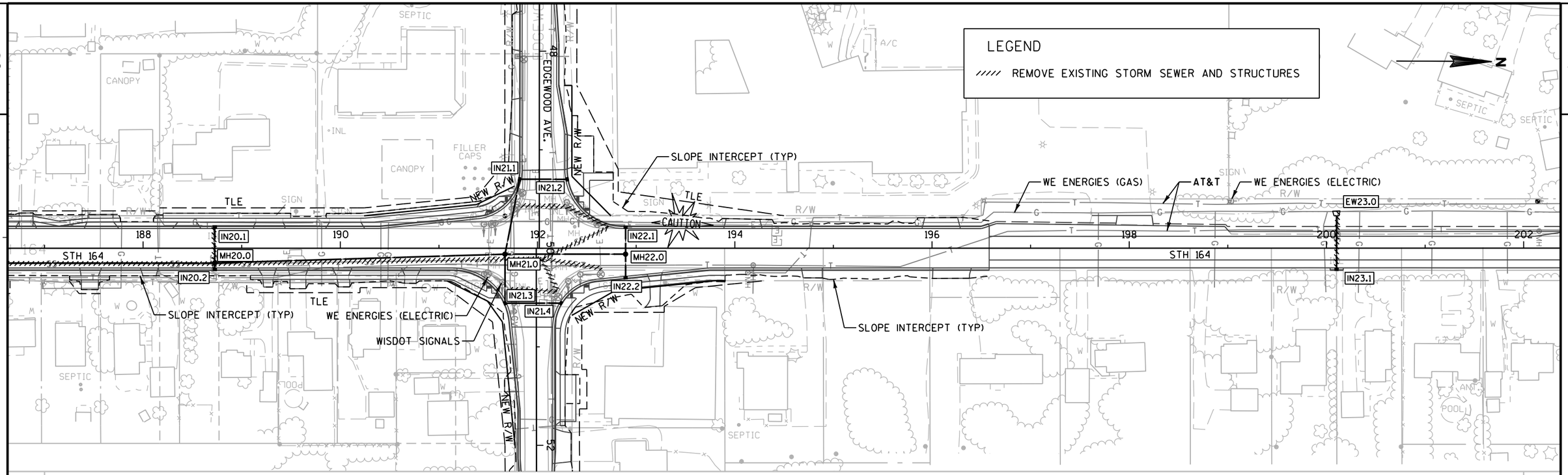
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	STORM SEWER - STH 164	SHEET 80	E

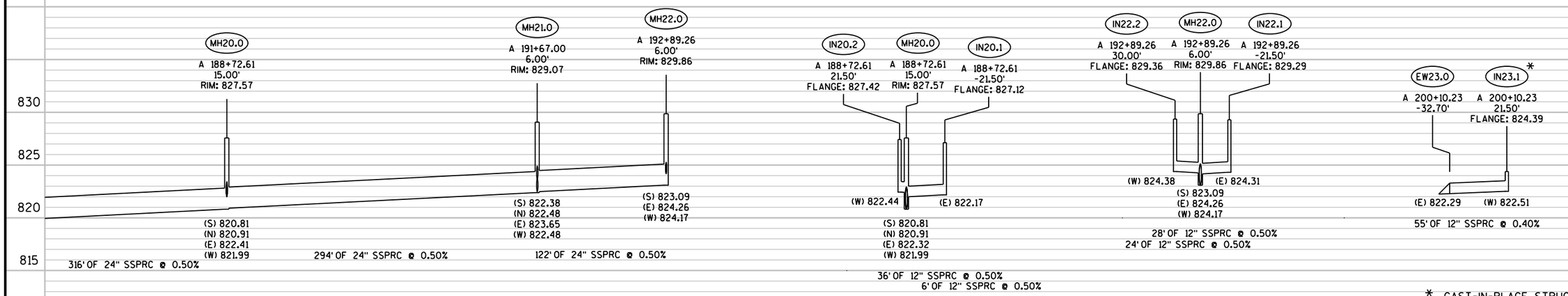
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\022503.1_SS.dgn PLOT DATE : 10/31/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 100.0000 FT / in.

WISDOT/CADDS SHEET 41

LEGEND

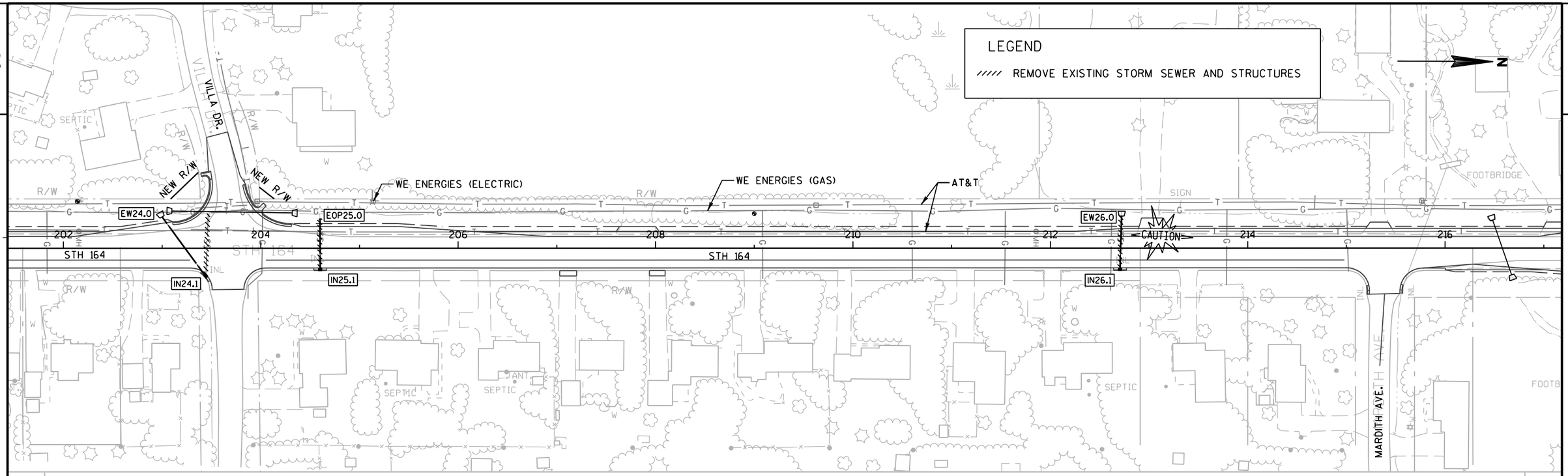
////// REMOVE EXISTING STORM SEWER AND STRUCTURES

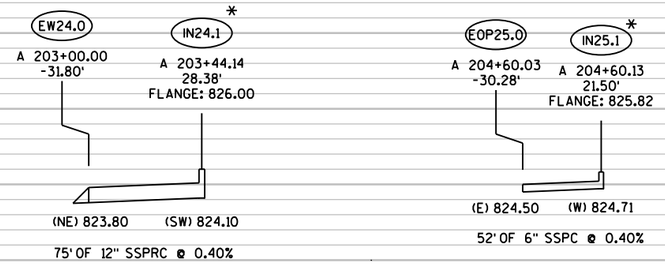


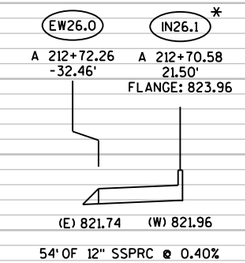


* CAST-IN-PLACE STRUCTURE

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	STORM SEWER - STH 164	SHEET 81	E

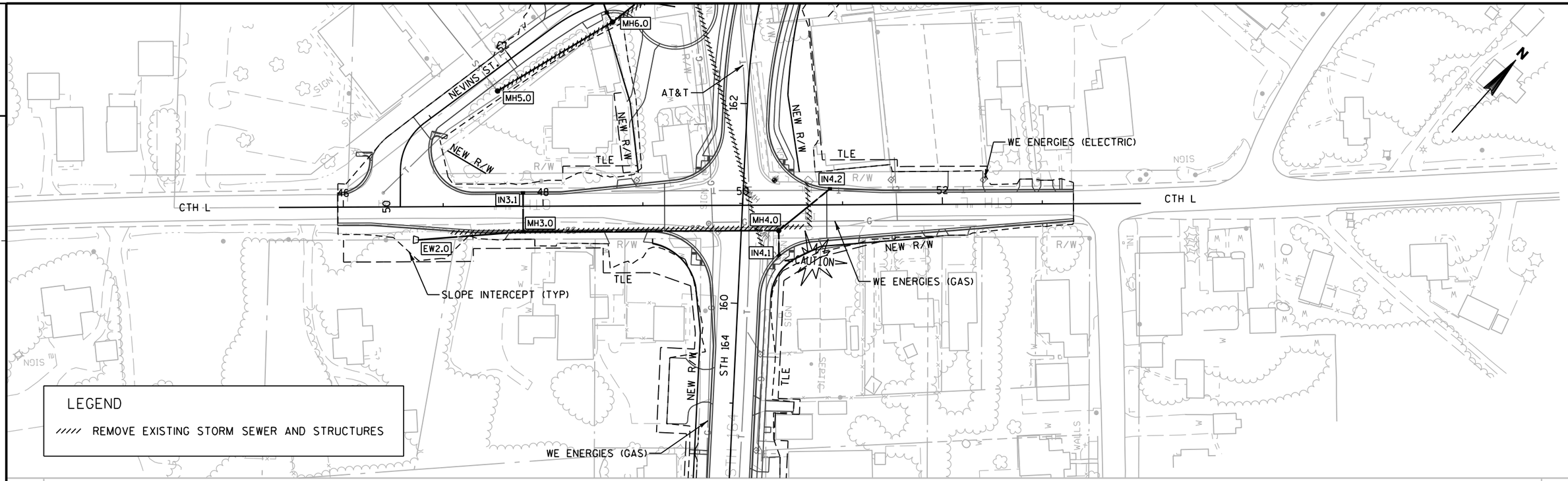




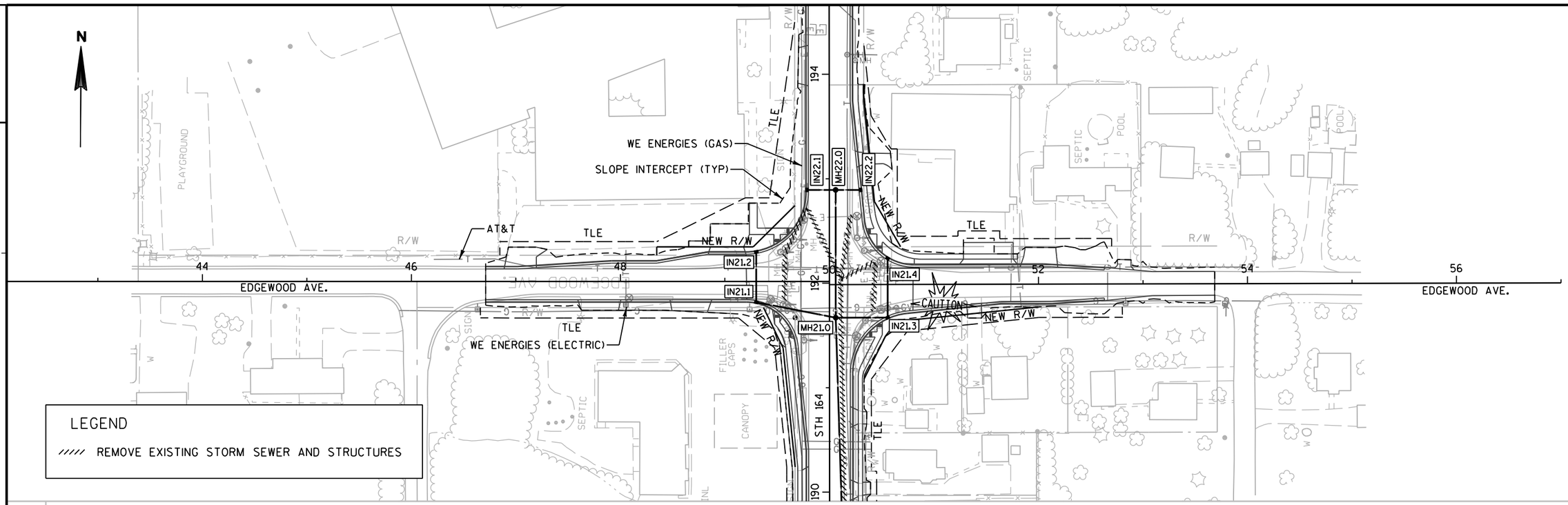


* CAST-IN-PLACE STRUCTURE

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	STORM SEWER - STH 164	SHEET 82	E

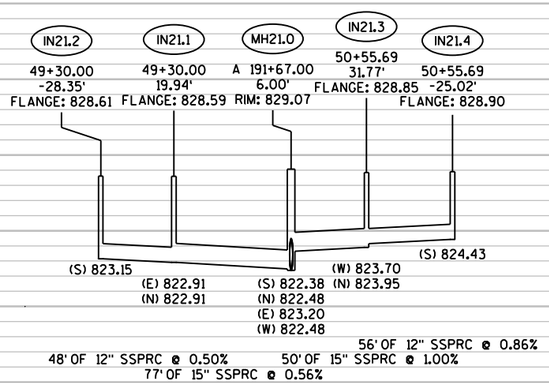


PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	STORM SEWER - CTH L	SHEET 83	E



LEGEND

///// REMOVE EXISTING STORM SEWER AND STRUCTURES



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	STORM SEWER - EDGEWOOD AVENUE	SHEET 84	E

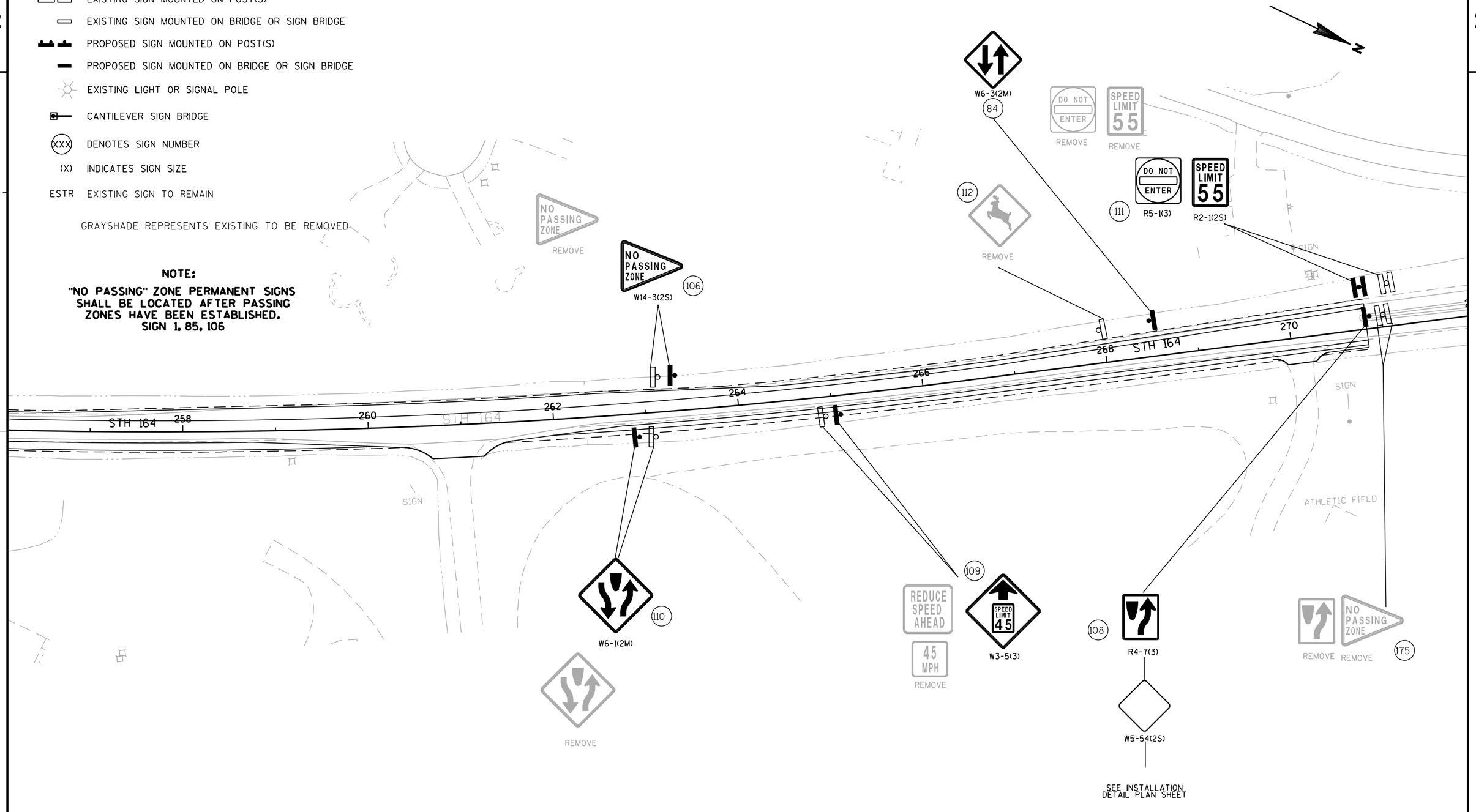
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

NOTE:

"NO PASSING" ZONE PERMANENT SIGNS SHALL BE LOCATED AFTER PASSING ZONES HAVE BEEN ESTABLISHED. SIGN 1, 85, 106



SHEET 11 OF 14

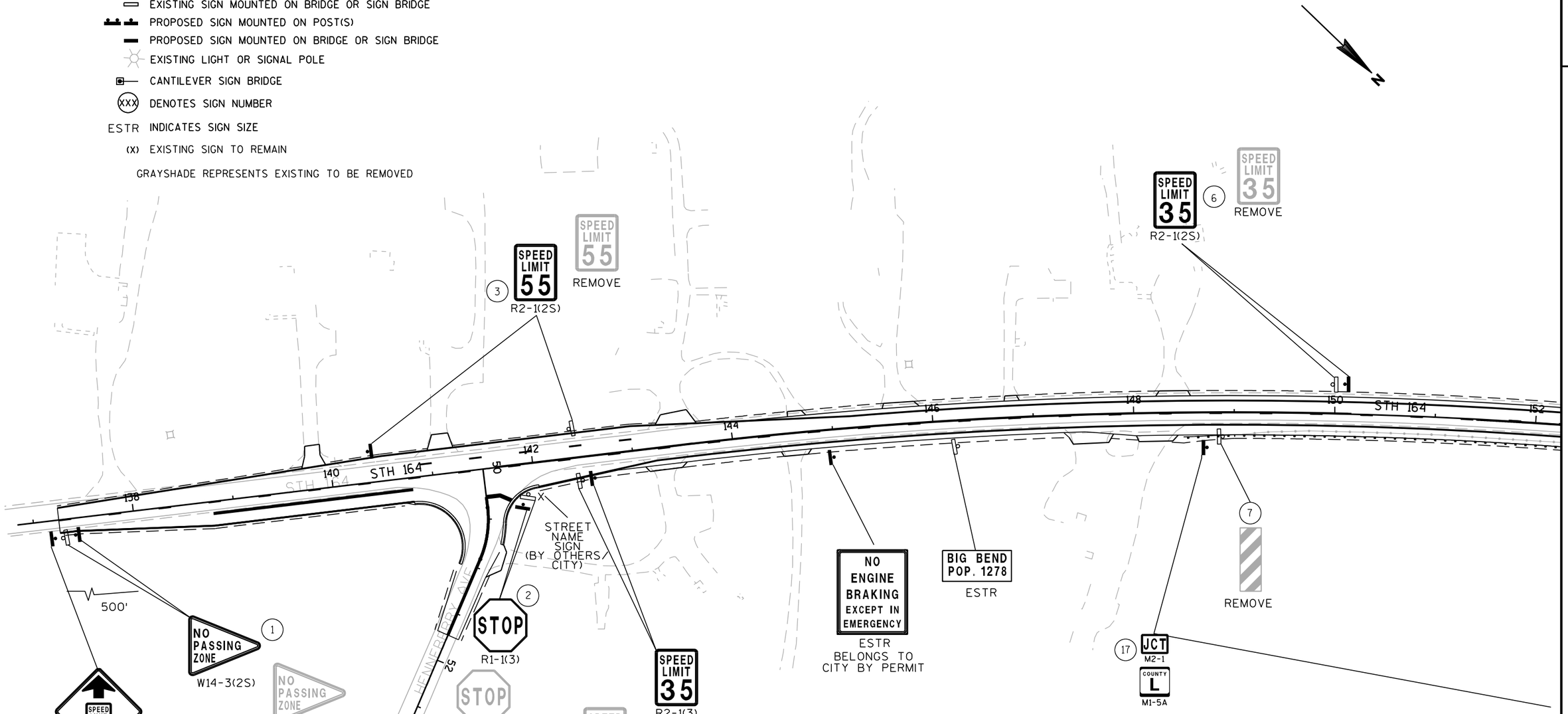
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET E

FILE NAME : j:\projects\D2_281006164\70\Sign\023209_ps.dgn PLOT DATE : 01-NOV-2012 06:20 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- ESTR INDICATES SIGN SIZE
- (X) EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED



NOTES:

1. DO NOT PLACE STREET NAME SIGN ON TOP OF STOP SIGNS. CITY RESPONSIBLE FOR STREET NAME SIGNS.
2. "NO PASSING" ZONE PERMANENT SIGNS SHALL BE LOCATED AFTER PASSING ZONES HAVE BEEN ESTABLISHED. SIGNS 1, 85, 106.

SHEET 1 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : j:\projects\D2_281006164\70\Sign\023201_ps.dgn PLOT DATE : 01-NOV-2012 06:17 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

2

2

19 SPEED LIMIT 35 R2-1(2S)
19 NO PARKING ANY TIME REMOVE

36 W3-3(2S) INCLUDE 16" X 16" ORANGE FLAGS

37 JCT M2-1 / 164 M1-6 J1-1(2S)

196 ONLY R3-8A(2S)

238 STOP R1-1(3)
STOP REMOVE

197 W1-7(2S)

198 DEAD END W14-1(2S)

38 STOP REMOVE

SPEED LIMIT 35 ESTR

COUNTY L ESTR

38a STREET NAME SIGN MOVE

195 REMOVE

ENTRANCE 252 D52-53L(2S) BACK OF SIGN 236

DO NOT ENTER 236 237 R5-1(2M)

42 25 M.P.H. REMOVE

41 STOP AHEAD REMOVE

W1-6(2M)

199 200 201 202 W5-56(2S) NOTE: SDD15C26-2 (W5-56) 4' MOUNTING HEIGHT

SEE SHEET 3 OF 14 FOR INTERSECTION SIGNING DETAIL

194 ONLY R3-8A(2S)

40 39 NO PARKING ANY TIME R7-1L(2S)

NO PARKING ANY TIME REMOVE

JCT M2-1 / 164 M1-6 J1-1(2S)

SPEED LIMIT 30 R2-1(2S) 169

SPEED LIMIT 30 REMOVE

35 W3-3(2S) INCLUDE 16" X 16" ORANGE FLAGS

STOP AHEAD REMOVE

JCT 164 REMOVE 34

12 NO PARKING ANY TIME REMOVE

W5-52R(2S) 4' MOUNTING HEIGHT

13 NO PARKING ANY TIME R7-1(2S)

JOY LN.

STOP R1-1(3)

15 STREET NAME SIGN (BY OTHERS/ CITY)

STOP REMOVE

10 NO PARKING ANY TIME R7-1D(2S)

DAM

SEPTIC

ANT.

STH 164

152 154 156 158 160 162 164 166

CTH S

9 8 NO FISHING FROM ROAD R9-98(MOD)(2S)

NO FISHING FROM ROAD REMOVE

11 W3-3(2) INCLUDE 16" X 16" ORANGE FLAGS

STOP AHEAD REMOVE

14 STOP R1-1(3)

STOP REMOVE

16 NO PARKING ANY TIME REMOVE

STREET NAME SIGN (BY OTHERS/ CITY)

192 ONLY R3-8A(2S)

193 NO PARKING ANY TIME R7-1R(2S)

NO PARKING ANY TIME R7-1(2S) 18

17 JCT M2-1

COUNTY L M1-5A J1-1(2S) MOVE TO STA. 150+00

JCT COUNTY L REMOVE

WALLS

NO PARKING ANY TIME REMOVE

SPEED LIMIT 35 ESTR

COUNTY L ESTR

CTH S

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET E

SHEET 2 OF 14

FILE NAME : j:\projects\D2_281006164\70\Sign\023202_ps.dgn PLOT DATE : 01-NOV-2012 06:18 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1 WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

32 NO PARKING ANY TIME — R7-1D(2S)

33 NORTH M3-1 / SOUTH M3-3 — 164 M1-6 / 164 M1-6 — M6-1 / M6-1 — J3-1(2S)

164 REMOVE — J4-1(2S) — SOUTH M3-3 — 20 164 M1-6

STOP REMOVE — ALL WAY REMOVE

24 STOP — R1-1F(3) MOUNT ON SIGNAL POLE

Milwaukee Ave / Janesville Rd
Forest Home Ave → — 244 — MI-94H(mod) MOUNT ON POLE UPRIGHT AT TOP BY ARM

CTH L — 49+00 — 40'

25 STOP 164 — REMOVE — ALL WAY REMOVE — REMOVE

COUNTY L — REMOVE

22 STOP — R1-1F(3) MOUNT ON SIGNAL POLE

STOP — REMOVE — ALL WAY REMOVE

NO PARKING ANY TIME — REMOVE — 31 NO PARKING ANY TIME — R7-1(2S)

J3-2(2S) — M3-2 EAST / WEST M3-4 — M1-5A COUNTY L / COUNTY L M1-5A — M6-1 / M6-1 — 30

9+00 — 160+00 — 40' — 161+00 — 50+00 — 162+00 — STH 164

LEFT TURN YIELD ON FLASHING YELLOW ARROW — 203 205 207 230 — R10-50(2S) ON ARM

Big Bend Drive — MI-94H ON ARM — 242

243 Forest Home Ave / Milwaukee Ave Janesville Rd → — MI-94H(mod) MOUNT ON POLE UPRIGHT AT TOP BY ARM

26 J3-2(2S) — M3-4 WEST EAST M3-2 — M1-5A COUNTY L / COUNTY L M1-5A — M6-1 / M6-1

21 STOP — R1-1F(3) MOUNT ON SIGNAL POLE

241 Big Bend Drive — MI-94H ON ARM

STOP — REMOVE — ALL WAY REMOVE — REMOVE

COUNTY L — REMOVE

204 NO PARKING ANY TIME — REMOVE

28 STOP — REMOVE — ALL WAY REMOVE

28 — 51+00 — 40'

23 STOP — R1-1F(3) MOUNT ON SIGNAL POLE

STOP — REMOVE — ALL WAY REMOVE

206 NO PARKING ANY TIME — REMOVE

SOUTH M3-3 / NORTH M3-1 — 27 — 164 M1-6 / 164 M1-6 — M6-1 / M6-1 — J3-1(2S)

J4-1(2S) — NORTH M3-1 — 29 — 164 M1-6

NORTH — REMOVE — 164 — REMOVE

SHEET 3 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : j:\projects\D2_281006164\70\Sign\023202A_ps.dgn — PLOT DATE : 01-NOV-2012 06:18 — PLOT BY : MSCMWB — PLOT NAME : — PLOT SCALE : 24.99995:1

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

N

209 W3-3(2S) INCLUDE 16" X 16" ORANGE FLAGS

SPEED LIMIT 30 REMOVE

44 SPEED LIMIT 30 R2-1(2S)

END SCHOOL ZONE S5-2(2M)

208 JCT M2-1 COUNTY L M1-5A J1-1(2S)

SPEED LIMIT 30 REMOVE

SPEED LIMIT 30 50 R2-1(2S)

STREET NAME SIGN (BY OTHERS/ CITY)

STOP REMOVE

STOP 49 R1-1(3)

47 48 S1-1(2S) WF16-7L(2M)

REMOVE

AHEAD REMOVE

46 S1-1(2S) AHEAD WF16-9L(2S) FINES HIGHER R2-6P(2M)

STH 164

170 172 174 176 178 180 182

ROSE AVE.

STREET NAME SIGN (BY OTHERS/ CITY)

STOP 43 R1-1(3)

STOP REMOVE

45 S1-1(2S) AHEAD WF16-9P(2S) FINES HIGHER R2-6P(2M)

REMOVE AHEAD

STOP 51 R1-1(3)

STOP REMOVE

MAPLE HILL

STREET NAME SIGN (BY OTHERS/ CITY)

52 NO PARKING DURING SCHOOL HOURS REMOVE BY OTHERS

SPEED LIMIT 30 REMOVE

SPEED LIMIT 30 54 R2-1(2S)

RAMONA AVE.

STREET NAME SIGN (BY OTHERS/ CITY)

STOP REMOVE

55 STOP R1-1(3)

SHEET 4 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET E

FILE NAME : j:\projects\D2_281006164\70\Sign\023203_ps.dgn PLOT DATE : 01-NOV-2012 06:18 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

N

WYNN DR

EDGEWOOD

STH 164

MULBERRY ST

PARK AVE

SPEED LIMIT 30 — REMOVE

56 SPEED LIMIT 30 — R2-1(2S)

57

213 ONLY — R3-8A(2S)

M3-3 SOUTH / M1-6 164 — J4-1(2S)

53

SPEED LIMIT 30 — R2-1(2S)

63

212 ONLY — R3-8A(2S)

64 — W3-3(2S)

NO PARKING HERE TO CORNER — REMOVE

67 — R7-51L(2S)

66 — W3-3(2S)

REMOVE

211 ONLY — R3-8A(2S)

210 ONLY — R3-8A(2S)

65 — W3-3(2S)

REMOVE

STREET NAME SIGN (BY OTHERS/ CITY)

58 STOP — R1-1(3)

STOP — REMOVE

59 SCHOOL SPEED LIMIT 20 WHEN CHILDREN ARE PRESENT — S4-5I(2S)

SCHOOL SPEED LIMIT 15 WHEN CHILDREN ARE PRESENT — REMOVE

60 — W3-3(2S)

REMOVE

61 NO STOPPING OR STANDING — R7-4L(2S)

NO STOPPING OR STANDING — REMOVE

62

NO PARKING ANY TIME — REMOVE

SEE SHEET 6 FOR ADDITIONAL SIGNS AT THIS INTERSECTION

SHEET 5 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET E

FILE NAME : j:\projects\D2_281006164\70\Sign\023204_ps.dgn PLOT DATE : 01-NOV-2012 06:18 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

247 164 M1-6
M6-4 J3-1(2S)

246 Edgewood Ave
M1-94H ON ARM

NO TURN ON RED WHEN CHILDREN ARE PRESENT
72 R10-11S(2S) ON SIGNAL POLE

STOP 222
R1-1F(3) ON SIGNAL POLE

NO TURN ON RED WHEN CHILDREN ARE PRESENT
71 R10-11S(2S) ON SIGNAL POLE

STOP 220
R1-1F(3) ON SIGNAL POLE

76 NO PARKING ANY TIME
R7-1(2S)

LEFT TURN YIELD ON FLASHING YELLOW ARROW
232 233 234 235
R10-50(2S)

STOP 215
R1-1F(3) ON SIGNAL POLE

NO TURN ON RED WHEN CHILDREN ARE PRESENT
240 R10-11S(2S) ON SIGNAL POLE

STOP 217
R1-1F(3) ON SIGNAL POLE

NO TURN ON RED WHEN CHILDREN ARE PRESENT
231 R10-11S(2S) ON SIGNAL POLE

I55-56(2)
TO BE REPLACED BY ADOPT A HIGHWAY PROGRAM

77 SPEED LIMIT 35
R2-1(2S)

245 Edgewood Ave
MI-94H ON ARM

248 164 M1-6
M6-4 J3-1(2S)

NO TURN ON RED WHEN CHILDREN ARE PRESENT — REMOVE
STOP — REMOVE
NO PARKING ANY TIME — REMOVE
SPEED LIMIT 35 — REMOVE

EDGEWOOD ONLY
STH 164
189+00 190+00 191+00 192+00 193+00 194+00 195+00
40' 40' 40' 40' 40' 40'
CANOPY SIGN INL MH W POOL HIA

SHEET 6 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET E

FILE NAME : j:\projects\D2_281006164\70\Sign\023204A_ps.dgn PLOT DATE : 01-NOV-2012 06:19 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 40:1

2

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

CANTILEVER SIGN BRIDGE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

N

SCHOOL SPEED LIMIT 20 WHEN CHILDREN ARE PRESENT

S4-5(2S) 78

SCHOOL SPEED LIMIT 15 WHEN CHILDREN ARE PRESENT

REMOVE

STREET NAME SIGN (BY OTHERS/ CITY)

VILLA DR.

48

STOP

REMOVE

STOP

R1-1(3) 113

AHEAD

REMOVE

81 S-1(2S)

AHEAD

WF16-9P(2S)

FINES HIGHER

R2-6P(2M)

SPEED LIMIT 35

REMOVE

SPEED LIMIT 35

R2-1(2S) 82 83

STH 164

198 200 202 204 206 208 210 212

INL

W

ANT.

NORTH M3-1 164 M1-6 J4-1(2S) 223

SPEED LIMIT 35

REMOVE

SPEED LIMIT 35

R2-1(2S) 79

MARDITH AVE.

249

END SCHOOL ZONE

S5-2(2S)

STOP

R1-1(3) 80

STOP

REMOVE

NO ENGINE BRAKING EXCEPT IN EMERGENCY

ESTR BELONGS TO CITY BY PERMIT

SHEET 7 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : j:\projects\D2_281006164\70\Sign\023205_ps.dgn PLOT DATE : 01-NOV-2012 06:19 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

ARTESIAN AVE.

STH 164

MARDITH AVE

CTH U

85 NO PASSING ZONE W14-3(2S)

86 SPEED LIMIT 35 REMOVE; NO PASSING ZONE REMOVE

87 J4-1(2S) SOUTH M3-3 164 M1-6

88 STOP REMOVE; STOP R1-1(3)

89 JCT COUNTY U J1-1(2S); SPEED LIMIT 35 REMOVE; M2-1 JCT; M1-5A COUNTY U

90 STOP R1-1(3); STOP REMOVE

91 COUNTY U REMOVE

92 SPEED LIMIT 35 REMOVE; SPEED LIMIT 35 R2-1(3)

93 J3-1(2S) COUNTY U M1-5A; M6-1; REMOVE COUNTY U

94 STOP R1-1(3); STOP REMOVE

95 164 M1-6; M6-4; J3-1(2S)

96 J4-1(2S) NORTH M3-1; 164 M1-6

97 J1-2(2S) M2-1 JCT END M4-6; M1-6 164 COUNTY U M1-5A; JCT END 164 COUNTY U REMOVE REMOVE

171 W1-7(2S)

224 REMOVE

225 BEGIN RIGHT TURN LANE R3-20R(2S)

226 RIGHT LANE MUST TURN RIGHT R3-7R(3)

227 BEGIN RIGHT TURN LANE R3-20R(2S)

250 SPEED LIMIT 45 R2-1(2S); SPEED LIMIT 45 REMOVE

NOTE:

NO PASSING ZONE PERMANENT SIGNS SHALL BE LOCATED AFTER PASSING ZONES HAVE BEEN ESTABLISHED. SIGN 1, 85, 106

SHEET 8 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET E

FILE NAME : j:\projects\D2_281006164\70\Sign\023206_ps.dgn PLOT DATE : 01-NOV-2012 06:19 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1

2

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

CANTILEVER SIGN BRIDGE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

N

M2-1

JCT

M1-5A

COUNTY U

J1-1(2S)

JCT

COUNTY U

98

RUINS

SIGN

228

STH 164

230

232

234

236

238

240

242

SIGN

SEPTIC

LS

SEPTIC

W

SPEED LIMIT 45

99

R2-1(2S)

SPEED LIMIT 45

REMOVE

100

REMOVE

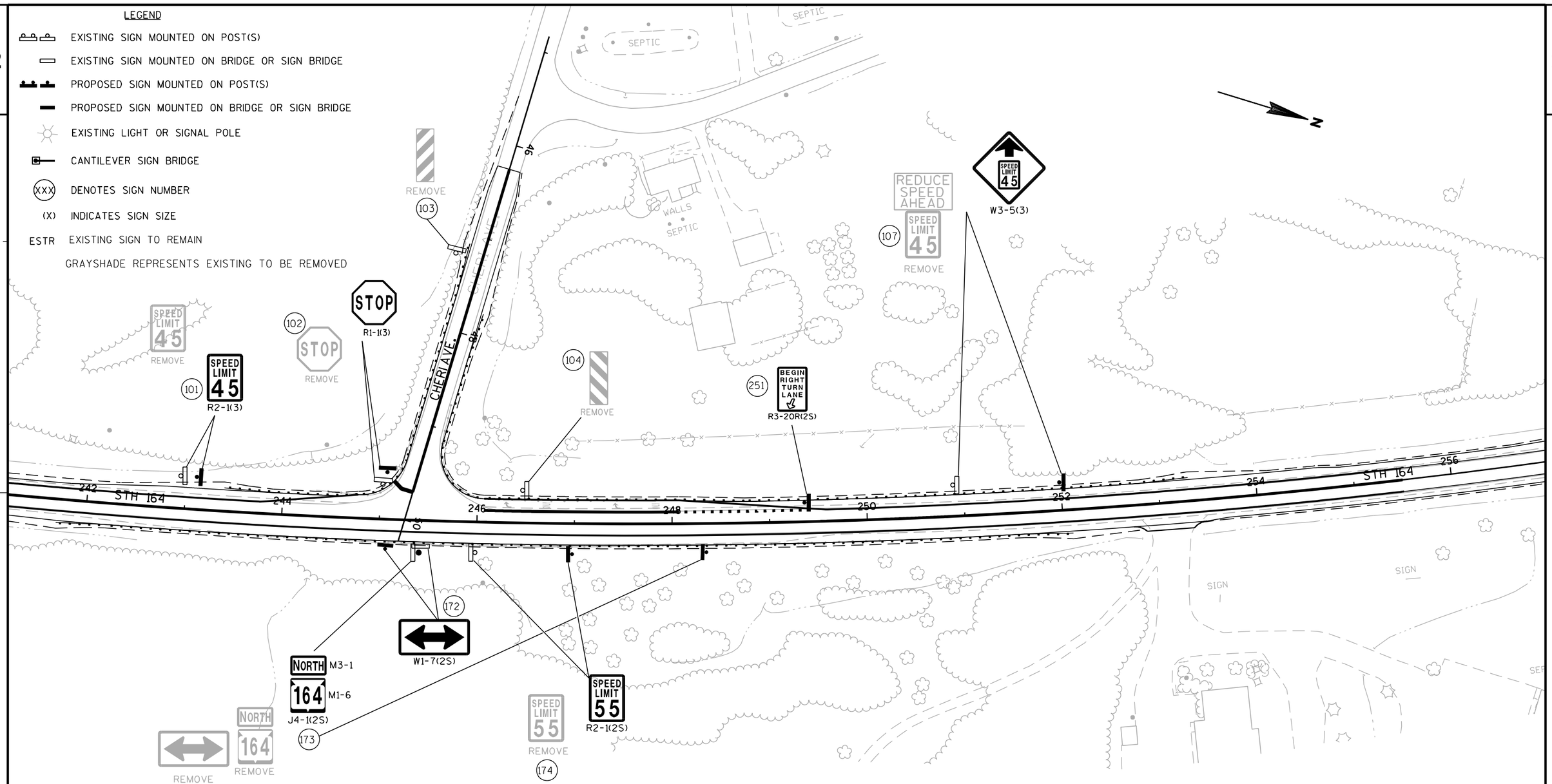
SHEET 9 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : j:\projects\D2_281006164\70\Sign\023207_ps.dgn PLOT DATE : 01-NOV-2012 06:19 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN
- GRAYSHADE REPRESENTS EXISTING TO BE REMOVED



SHEET 10 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : j:\projects\D2_281006164\70\Sign\023208_ps.dgn PLOT DATE : 01-NOV-2012 06:20 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1

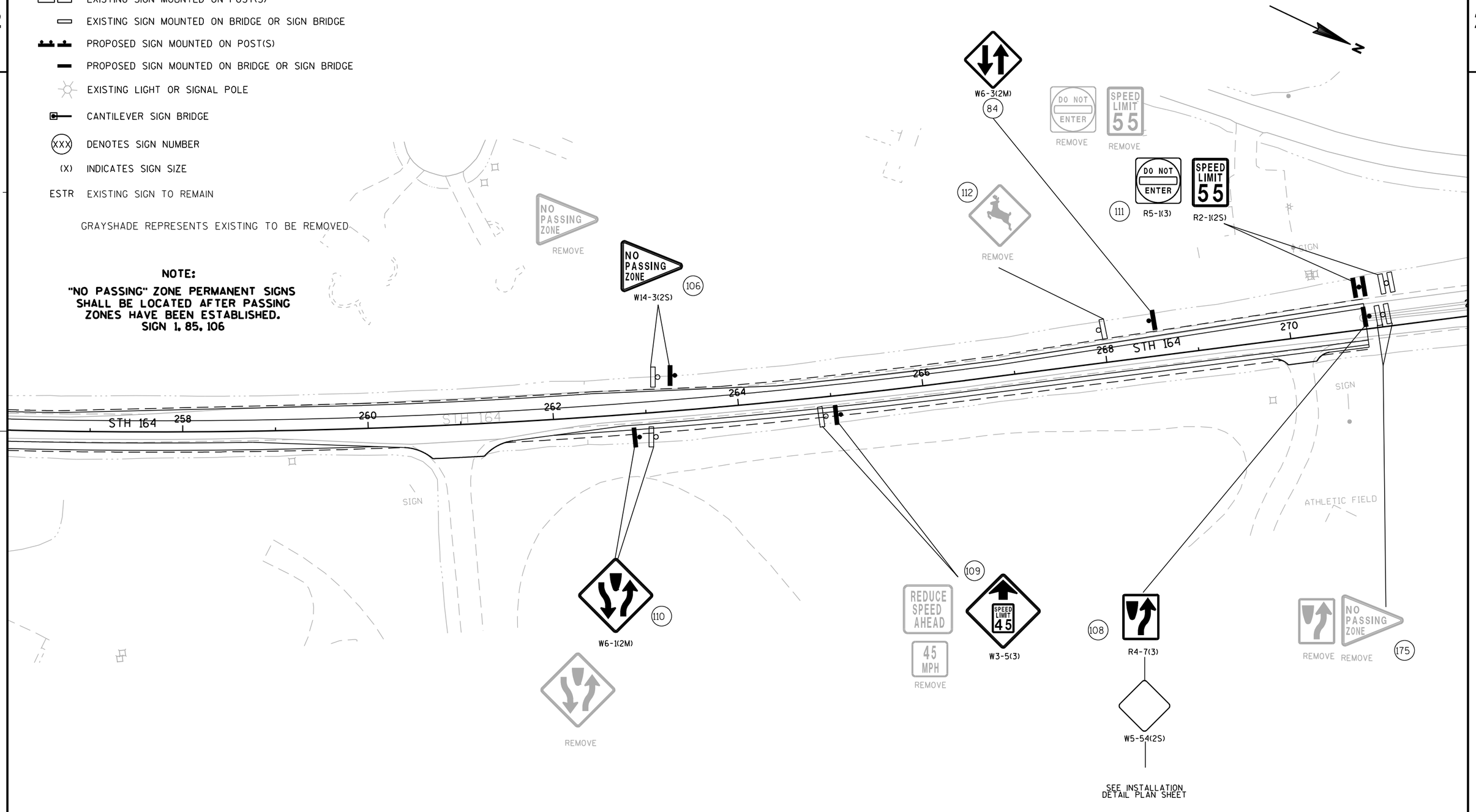
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

NOTE:

"NO PASSING" ZONE PERMANENT SIGNS SHALL BE LOCATED AFTER PASSING ZONES HAVE BEEN ESTABLISHED. SIGN 1, 85, 106



D4-2L
Park & Ride
121
MOVE

122 REMOVE

123 REMOVE

REMOVE

J3-2(2S)
M3-1 NORTH SOUTH M3-3
M1-6 164 164 M1-6
M6-1
127

NORTH SOUTH
164 164
REMOVE

W4-2R(2M)
124 186

DO NOT ENTER
R5-1(2M)
105

SOUTH 164
115
REMOVE

WRONG WAY
REMOVE

STOP
REMOVE

REMOVE 117

WRONG WAY
114
R5-1A(3)

W6-2(2M)

STOP
120
R1-1(3)

118
R4-7(2M)

SPEED LIMIT 45
REMOVE
125
126

SPEED LIMIT 45
R2-1(2S)

J4-1(2S)
SOUTH
M3-3
164
M1-6
128

D4-2R
Park & Ride
ESTR

SEPTIC

SIGN

MH

STH 164

272 274 276 278 280 282 284 286

INL

SIGN

SPEED LIMIT 45
129
130
R2-1(2S)

MB2-1 JCT
M1-1 INTERSTATE 43
J1-1(2S)

SPEED LIMIT 45
REMOVE

JCT INTERSTATE 43
131
132
REMOVE

187
P PARKING
REMOVE

PARK RIDE
D4-2R(3)

W3-3(3)

133
REMOVE

STOP
134
REMOVE

STOP
R1-1(3)

Big Bend
Park & Ride
ESTR

J2-3(2S)
MB3-3 SOUTH
M3-1 NORTH
MB3-1 NORTH
INTERSTATE 43 164 43
M1-1
135
136
MB5-1R
MB6-1
M6-1

SOUTH NORTH NORTH
INTERSTATE 43 164 43
REMOVE

Beloit
Milwaukee
D1-2
137

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

SHEET 12 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : j:\projects\D2_281006164\70\Sign\023210_ps.dgn PLOT DATE : 01-NOV-2012 06:21 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

STH 164

283+00 284+00 285+00 286+00 287+00 288+00

MH MH MH

SIGN

184 STOP REMOVE
STOP R1-1F(3)
ONE WAY R6-1L(2M) 189
W12-1D(2S) 2' MOUNTING HEIGHT 188
ONE WAY R6-1R(2M) 253
DO NOT ENTER R5-1(3) 3' MOUNTING HEIGHT
STOP R1-1F(3)
182 DO NOT ENTER REMOVE
STOP REMOVE
NO PARKING ANY TIME R7-1D(2S)
NO PARKING ANY TIME REMOVE
147 148 149
NORTH INTERSTATE 43 REMOVE
J3-1(2S) NORTH MB3-1 INTERSTATE 43 M1-1 MB6-1 146
YIELD 180 REMOVE
YIELD R1-2(2S)
RIGHT LANE ENDS W9-1R(2S)
177 178
J4-1(2S) SOUTH M3-3 164 176 M1-6
REMOVE
REMOVE
179
183 DO NOT ENTER R5-1(3)
STOP R1-1F(3)
R3-1(2S)
STOP REMOVE
DO NOT ENTER REMOVE
R4-7(2S)
181
DO NOT ENTER REMOVE
DO NOT ENTER R5-1(2S) 3' MOUNTING HEIGHT
185 STOP REMOVE
STOP R1-1F(3)
REMOVE
R3-2(2S)
138
139 STOP R1-1F(3)
STOP REMOVE
140 NORTH MB3-1 INTERSTATE 43 M1-1 MB6-1 J3-1(2S)
NORTH INTERSTATE 43 REMOVE
142 STOP R1-1F
STOP R1-1F
J2-1(2S) SOUTH MB3-3 INTERSTATE 43 M1-1 143 MB5-1L
SOUTH INTERSTATE 43 REMOVE
141 R4-7(2S)
R4-7
D1-1 BELOIT
BELOIT REMOVE
144
SOUTH INTERSTATE 43 REMOVE
145
J3-1(2S) SOUTH MB3-3 INTERSTATE 43 M1-1 MB6-1

SHEET 13 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : j:\projects\D2_281006164\70\Sign\023210A_ps.dgn PLOT DATE : 01-NOV-2012 06:21 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 40:1

2

N

I-43 ON RAMP (WB)

I-43 OFF RAMP (WB)

STH 164 (NB)

J2-1(2S)
MB3-1 NORTH INTERSTATE 43
M1-1
MB3-1L
191
150 MILWAUKEE
D1-1

NORTH INTERSTATE 43
MILWAUKEE
REMOVE

NO PARKING ANY TIME
REMOVE
152 NO PARKING ANY TIME
R7-1D(2S)

R4-7
154 R4-7(2S) ON SIGNAL
R4-7
155 R4-7(2S) ON SIGNAL

MB3-3 SOUTH INTERSTATE 43
M1-1
MB6-1
153 J3-1(2S)

SOUTH INTERSTATE 43
REMOVE

STOP
REMOVE
160 STOP R1-1F(3)
STOP
REMOVE

R3-2(2S)
STOP R1-1F(3)
161

REMOVE

MILWAUKEE
BELOIT
REMOVE
151 D2-1

NORTH INTERSTATE 43
SOUTH INTERSTATE 164
SOUTH INTERSTATE 43
REMOVE

MB3-1 NORTH INTERSTATE 43
M1-1
MB4-20L USE LEFT LANE

M3-3 SOUTH INTERSTATE 164
M1-6
M6-1
J2-2(2S)

MB3-3 SOUTH INTERSTATE 43
M1-1
MB5-1R
156

SPEED LIMIT 45
R2-1(2S)
157

JCT INTERSTATE 43
REMOVE
J1-1(2S)
JCT
MB2-1 INTERSTATE 43
M1-1
158

289+00
290+00
291+00
292+00
293+00
P1 293+51.20

MH

SIGN

159 DO NOT ENTER
162 R5-1(3) 3' MOUNTING HEIGHT
DO NOT ENTER
R5-1

STOP
REMOVE
STOP
163 R1-1F(3)

ONE WAY
255 R6-1R(2M)

R3-1(2S)
164

STOP
165 R1-1F(3)

DO NOT ENTER
R5-1(3) 3' MOUNTING HEIGHT

190 W12-1D(2S) 2' MOUNTING HEIGHT

254 ONE WAY
R6-1L(2M)

ONE WAY
REMOVE

STOP
166 R1-1F(3)
STOP
REMOVE

STOP
REMOVE

STOP
REMOVE

STOP
REMOVE

STOP
168 R1-1F(3)
STOP
REMOVE

ESTR

M3-3 SOUTH INTERSTATE 164 M1-6
M1-6 M 6-1
NORTH INTERSTATE 164 M3-1
M1-6
M 6-1
167 J3-1(2S)

NORTH INTERSTATE 164
SOUTH INTERSTATE 164
REMOVE

WEST COUNTY ES
ESTR

NORTH INTERSTATE 164
ESTR

LEFT TURN LANE
ESTR

NORTH INTERSTATE 164
ESTR

EAST COUNTY ES
ESTR

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

GRAYSHADE REPRESENTS EXISTING TO BE REMOVED

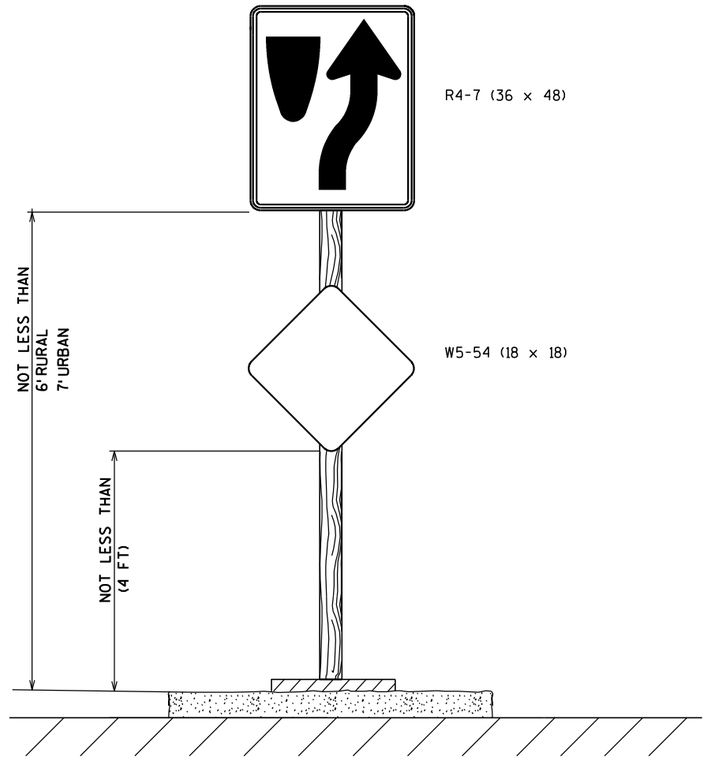
SHEET 14 OF 14

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET E

FILE NAME : j:\projects\D2_281006164\70\Sign\023212_ps.dgn PLOT DATE : 01-NOV-2012 06:21 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2



TYPICAL INSTALLATION FOR
TRANSITION TO DIVIDED HIGHWAY
OR OTHER SPECIAL NEEDS AREAS

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TYPICAL DETAIL - SIGN ON MEDIAN NOSE	SHEET	E

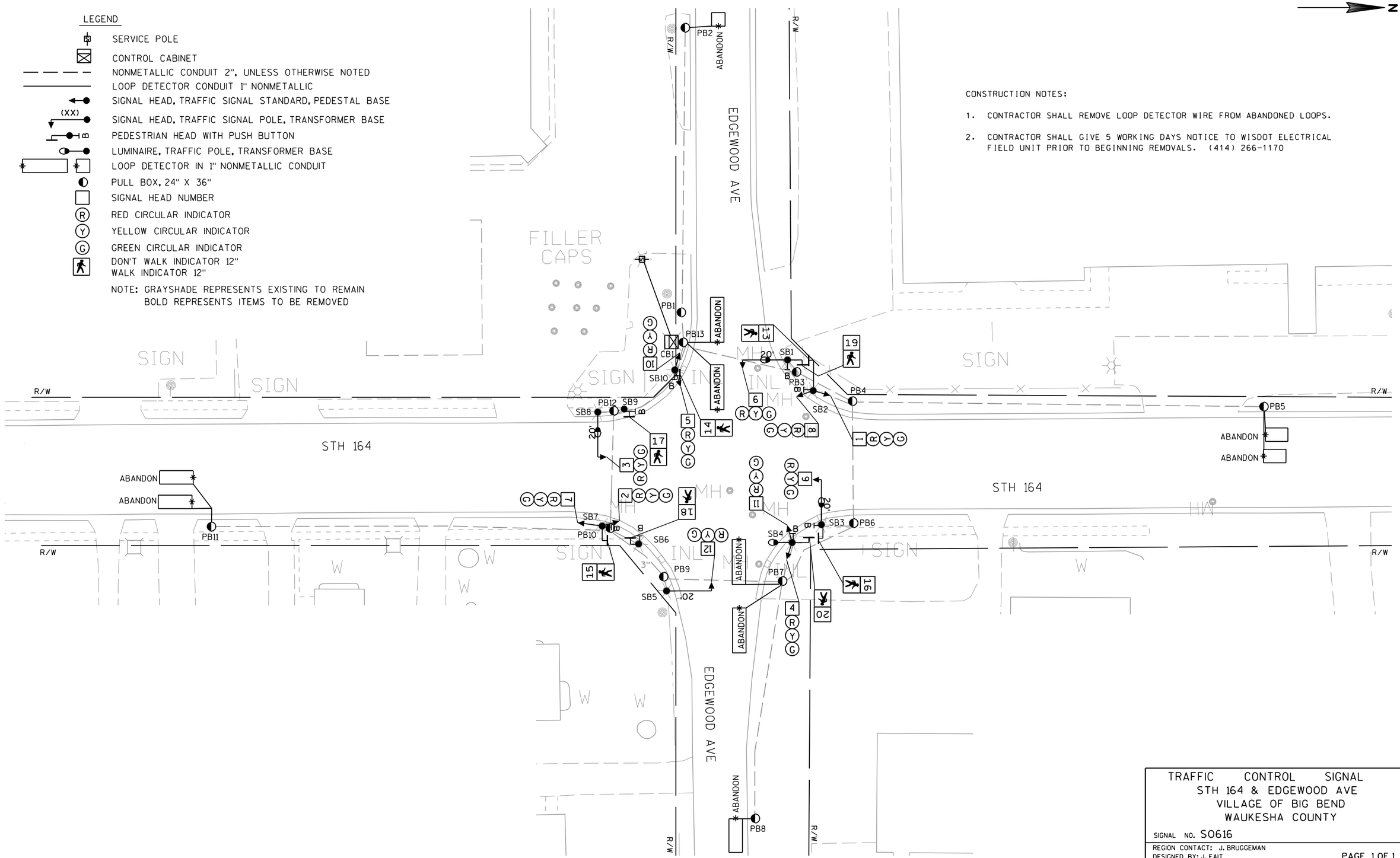
LEGEND

- SERVICE POLE
- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- PEDESTRIAN HEAD WITH PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- DON'T WALK INDICATOR 12"
  WALK INDICATOR 12"

NOTE: GRAYSHADE REPRESENTS EXISTING TO REMAIN
BOLD REPRESENTS ITEMS TO BE REMOVED

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL REMOVE LOOP DETECTOR WIRE FROM ABANDONED LOOPS.
2. CONTRACTOR SHALL GIVE 5 WORKING DAYS NOTICE TO WISDOT ELECTRICAL FIELD UNIT PRIOR TO BEGINNING REMOVALS. (414) 266-1170



TRAFFIC CONTROL SIGNAL
STH 164 & EDGEWOOD AVE
VILLAGE OF BIG BEND
WAUKESHA COUNTY

SIGNAL NO. S0616

REGION CONTACT: J. BRUGGEMAN
DESIGNED BY: J. FAIT
REVISED BY:

PAGE 1 OF 1

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 101	E

FILE NAME : S0616 STH 164 at Edgewood Signal Removals.dgn PLOT DATE : 10/23/2012 PLOT BY : JFAIT-TADI PLOT NAME : PLOT SCALE : 40.0000 FT / in.

LEGEND

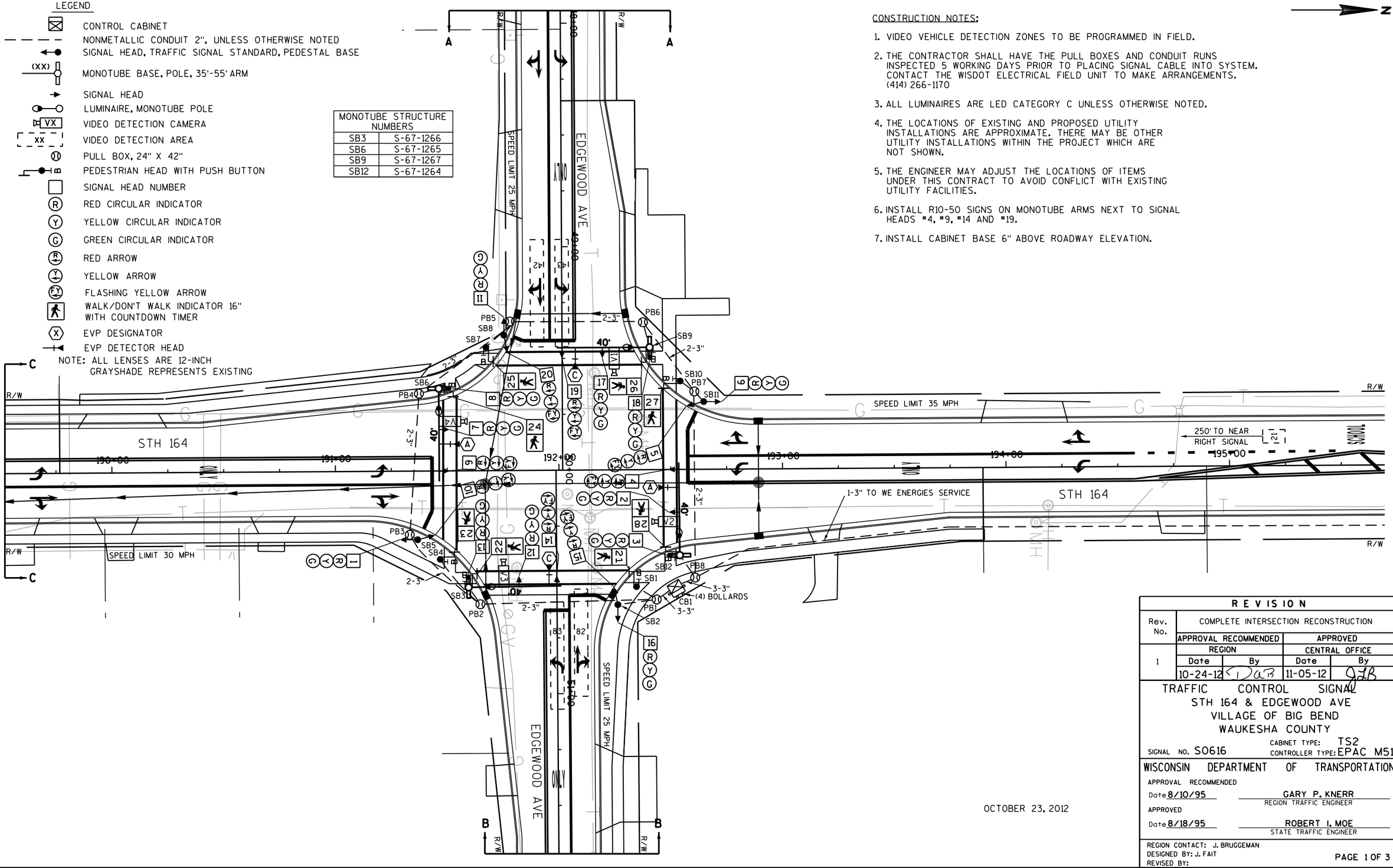
- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- SIGNAL HEAD
- LUMINAIRE, MONOTUBE POLE
- VX VIDEO DETECTION CAMERA
- XX VIDEO DETECTION AREA
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- FY FLASHING YELLOW ARROW
- WALK/DON'T WALK INDICATOR 16" WITH COUNTDOWN TIMER
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING

MONOTUBE STRUCTURE NUMBERS	
SB3	S-67-1266
SB6	S-67-1265
SB9	S-67-1267
SB12	S-67-1264

CONSTRUCTION NOTES:

1. VIDEO VEHICLE DETECTION ZONES TO BE PROGRAMMED IN FIELD.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
5. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
6. INSTALL R10-50 SIGNS ON MONOTUBE ARMS NEXT TO SIGNAL HEADS #4, #9, #14 AND #19.
7. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.



OCTOBER 23, 2012

REVISION				
Rev. No.	COMPLETE INTERSECTION RECONSTRUCTION			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
	Date	By	Date	By
1	10-24-12	DaB	11-05-12	GPK

TRAFFIC CONTROL SIGNAL
STH 164 & EDGEWOOD AVE
VILLAGE OF BIG BEND
WAUKESHA COUNTY

SIGNAL NO. S0616
CABINET TYPE: TS2
CONTROLLER TYPE: EPAC M51

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 8/10/95 — GARY P. KNERR, REGION TRAFFIC ENGINEER

APPROVED
Date 8/18/95 — ROBERT I. MOE, STATE TRAFFIC ENGINEER

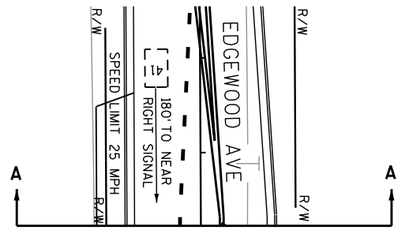
REGION CONTACT: J. BRUGGEMAN
DESIGNED BY: J. FAIT
REVISED BY:

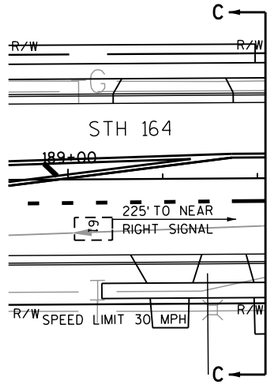
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 102 E

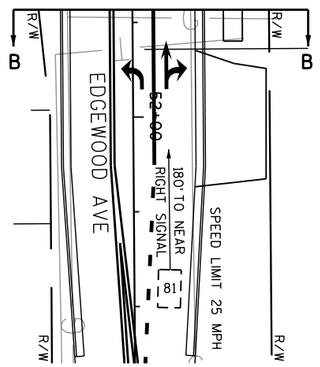
FILE NAME : J:\projects\d2_signals_com\S0616.dgn
PLOT DATE : 11-DEC-2012 06:55
PLOT BY : dotbgw
PLOT NAME :
PLOT SCALE : 40:1
WISDOT/CADDS SHEET 42

2

N







TRAFFIC CONTROL SIGNAL
STH 164 & EDGEWOOD AVE
VILLAGE OF BIG BEND
WAUKESHA COUNTY

SIGNAL NO. S0616

REGION CONTACT: J. BRUGGEMAN
DESIGNED BY: J. FAIT
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 103	E

2

SEQUENCE OF OPERATION

NOT USED | OLA | NOT USED | OLB → Z

RING 1

	HEAD NUMBERS	Ø1 R/W	Ø1 CLEAR TO **	Ø2 R/W	Ø2 CLEAR TO **	Ø3 R/W	Ø3 CLEAR TO **	Ø4 R/W	Ø4 CLEAR TO **	FLASH
Ø1										
Ø2	6,7,8			G Y R				R R R		R
Ø3										
Ø4	11,12,13			R R R				G Y R		R
Ø5										
Ø6	1,2,3			R R R				R R R		R
Ø7										
Ø8	16,17,18			R R R				R R R		R
Ø2P	25,26			* D D				D D D		
Ø4P	23,24			D D D				* D D		
Ø6P	21,22			D D D				D D D		
Ø8P	27,28			D D D				D D D		
OL'A'	4,5			FY Y R				R R R		R
OL'B'	19,20			R R R				FY Y R		R
OL'C'	9,10			R R R				R R R		R
OL'D'	14,15			R R R				R R R		R

NOT USED | OLC | NOT USED | OLD

RING 2

	HEAD NUMBERS	Ø5 R/W	Ø5 CLEAR TO **	Ø6 R/W	Ø6 CLEAR TO **	Ø7 R/W	Ø7 CLEAR TO **	Ø8 R/W	Ø8 CLEAR TO **
Ø1									
Ø2	6,7,8			R R R				R R R	
Ø3									
Ø4	11,12,13			R R R				R R R	
Ø5									
Ø6	1,2,3			G Y R				R R R	
Ø7									
Ø8	16,17,18			R R R				G Y R	
Ø2P	25,26			D D D				D D D	
Ø4P	23,24			D D D				D D D	
Ø6P	21,22			* D D				D D D	
Ø8P	27,28			D D D				* D D	
OL'A'	4,5			R R R				R R R	
OL'B'	19,20			R R R				R R R	
OL'C'	9,10			FY Y R				R R R	
OL'D'	14,15			R R R				FY Y R	

FY = FLASHING YELLOW ARROW

BARRIER

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

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

DETECTOR LOGIC

DETECTOR NUMBER	DETECTOR INPUT	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
21		X			2	2				VIDEO	
41				X		4			X	VIDEO	
42		X			4	4		X		VIDEO	
43		X			4	4				VIDEO	
61		X			6	6				VIDEO	
81				X		8			X	VIDEO	
82		X			8	8		X		VIDEO	
83		X			8	8				VIDEO	

CONTROLLER LOGIC

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

SPECIAL OVERLAPS

	PROTECTIVE	PERMISSIVE
O.L. "A" =	-	2
O.L. "B" =	-	4
O.L. "C" =	-	6
O.L. "D" =	-	8

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	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE DETECTOR	A	C
MOVEMENT	FY FY	FY FY
PHASE	2+6	4+8

AFTER PREEMPTION SEQUENCE 2+6, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+8, CONTROLLER SHALL RETURN TO PHASES 4+8.

CHART 1

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

GENERAL NOTES:

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

STH 164 & EDGEWOOD AVE
VILLAGE OF BIG BEND
WAUKESHA COUNTY

SIGNAL NO. S0616
CABINET TYPE: TS2
CONTROLLER TYPE: EPAC M51
DATE 10/12

FILE NAME : S0616 STH 164 at Edgewood Permanent Signals.dgn PLOT DATE : 10/23/2012 PLOT BY : JFAIT-TADI PLOT NAME : PLOT SCALE : 40.000 sf / in.
WISDOT/CADDS SHEET 42

PROJECT ID:	2810-06-70
INTERSECTION:	STH 164 & EDGEWOOD AVENUE

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

CB1 TO	JUMPER	# OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON	OTHER
				RED	YELLOW	GREEN	<RED	<YELLOW>	<FL YELLOW>	<GREEN>	D/WALK	WALK		
SB1		12	21								BLK	BLU		
			B										WHT/BLK	
SB2		12	15				RED/BLK	ORG/BLK	BLK/WHT					
			16	RED	ORG	GRN								
SB3		12	12	RED	ORG	GRN								
			13	RED	ORG	GRN								
			14				RED/BLK	ORG/BLK	BLK/WHT					
			22								BLK	BLU		
			B										WHT/BLK	
SB4		12	23								BLK	BLU		
			B										WHT/BLK	
SB5		12	1	RED	ORG	GRN								
			10				RED/BLK	ORG/BLK	BLK/WHT					
SB6		12	7	RED	ORG	GRN								
			8	RED	ORG	GRN								
			9				RED/BLK	ORG/BLK	BLK/WHT					
			24								BLK	BLU		
			B										WHT/BLK	
SB7		12	25								BLK	BLU		
			B										WHT/BLK	
SB8		12	11	RED	ORG	GRN								
			20				RED/BLK	ORG/BLK	BLK/WHT					
SB9		12	17	RED	ORG	GRN								
			18	RED	ORG	GRN								
			19				RED/BLK	ORG/BLK	BLK/WHT					
			26								BLK	BLU		
			B										WHT/BLK	
SB10		12	27	RED							BLK	BLU		
			B										WHT/BLK	
SB11		12	5	RED	ORG	GRN								
			6				RED/BLK	ORG/BLK	BLK/WHT					
SB12			2	RED	ORG	GRN								
			3	RED	ORG	GRN								
			4				RED/BLK	ORG/BLK	BLK/WHT					
			28								BLK	BLU		
			B										WHT/BLK	

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	SB12
SB12	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
SB2	PB1
SB3	PB2
SB5	PB3
SB6	PB4
SB8	PB5
SB9	PB6
SB11	PB7
SB12	PB8

LIGHTING UF 12 AWG W/GROUND	
FROM	TO
CB1	SB3
SB3	SB6
CB1	SB12
SB12	SB9

VIDEO DETECTION CABLE	
FROM	TO
CB1	SB3 (V3)
CB1	SB6 (V4)
CB1	SB9 (V1)
CB1	SB12 (V2)

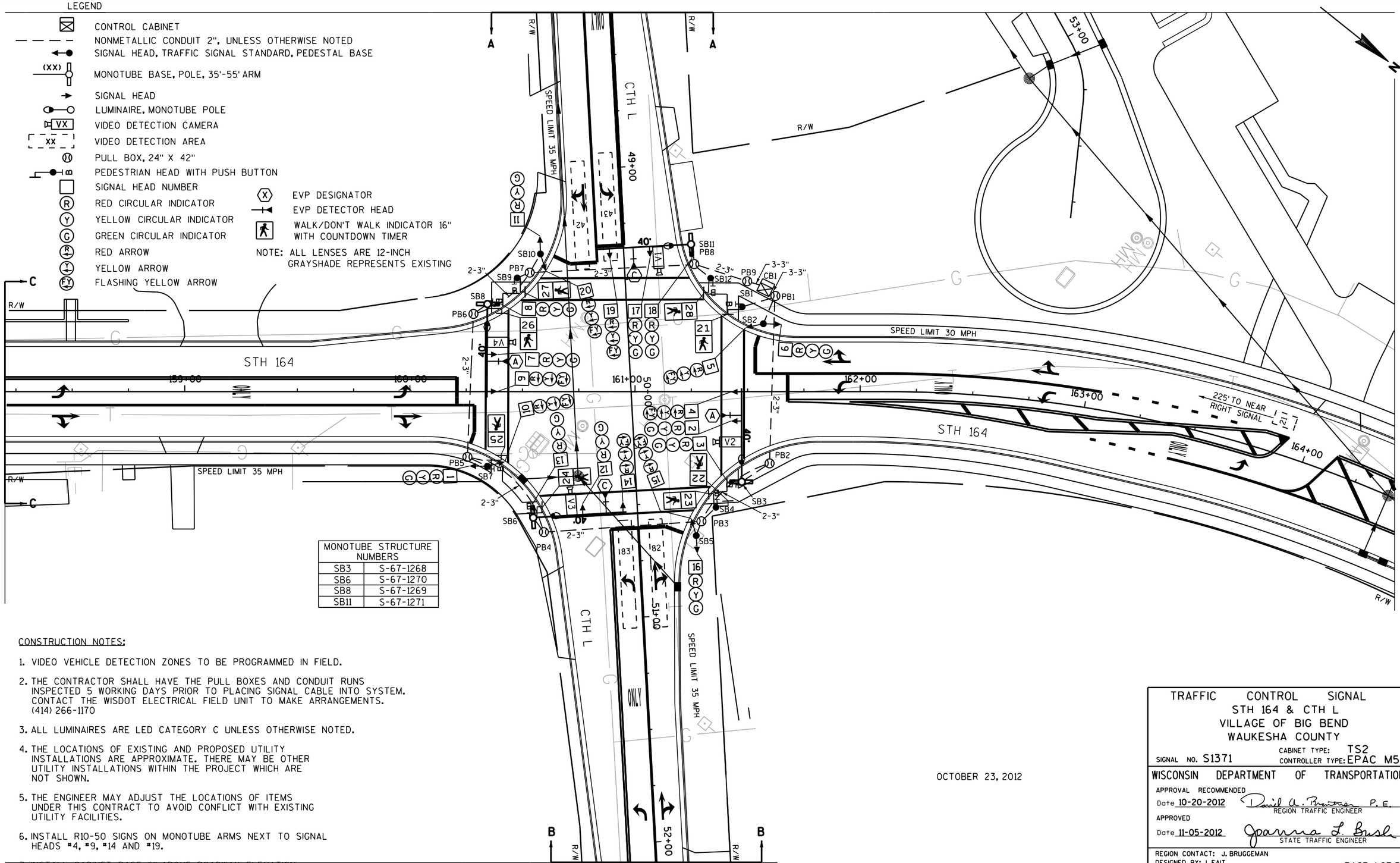
EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB3 (HEAD 'C')
CB1	SB6 (HEAD 'A')
CB1	SB9 (HEAD 'C')
CB1	SB12 (HEAD 'A')

NOTES:
1. USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
2. ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
3. AT THE SIGNAL BASES, CONNECT ONE TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- SIGNAL HEAD
- LUMINAIRE, MONOTUBE POLE
- VX VIDEO DETECTION CAMERA
- XX VIDEO DETECTION AREA
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (Y) YELLOW ARROW
- (FY) FLASHING YELLOW ARROW
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- WALK/DON'T WALK INDICATOR 16" WITH COUNTDOWN TIMER

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING



MONOTUBE STRUCTURE NUMBERS	
SB3	S-67-1268
SB6	S-67-1270
SB8	S-67-1269
SB11	S-67-1271

CONSTRUCTION NOTES:

1. VIDEO VEHICLE DETECTION ZONES TO BE PROGRAMMED IN FIELD.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
5. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
6. INSTALL R10-50 SIGNS ON MONOTUBE ARMS NEXT TO SIGNAL HEADS #4, #9, #14 AND #19.
7. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.

OCTOBER 23, 2012

TRAFFIC CONTROL SIGNAL
STH 164 & CTH L
VILLAGE OF BIG BEND
WAUKESHA COUNTY

SIGNAL NO. S1371
CABINET TYPE: TS2
CONTROLLER TYPE: EPAC M51

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 10-20-2012 David A. Bruggeman P.E.
REGION TRAFFIC ENGINEER

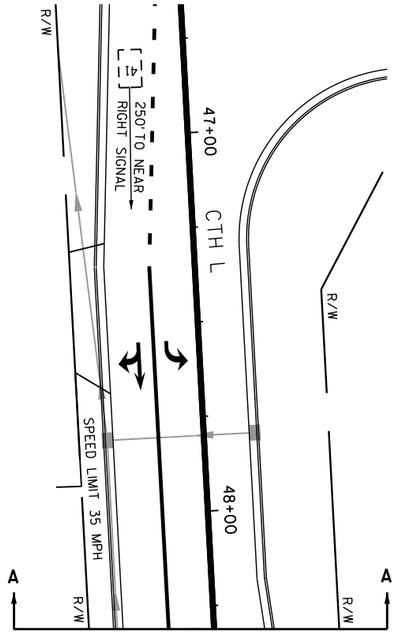
APPROVED
Date 11-05-2012 Joanna L. Bush
STATE TRAFFIC ENGINEER

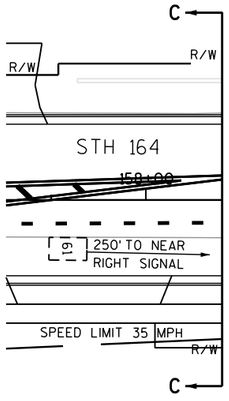
REGION CONTACT: J. BRUGGEMAN
DESIGNED BY: J. FAIT
REVISED BY:

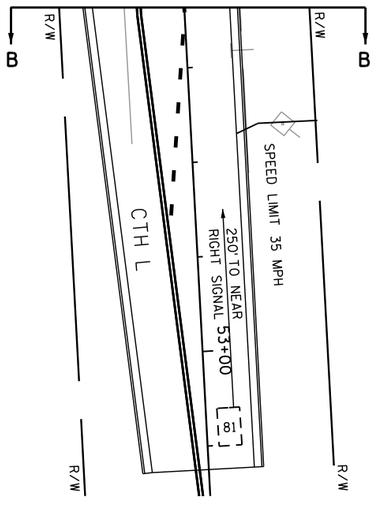
PAGE 1 OF 3

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 106	E

2







TRAFFIC CONTROL SIGNAL
STH 164 & CTH L
VILLAGE OF BIG BEND
WAUKESHA COUNTY

SIGNAL NO. S1371

REGION CONTACT: J. BRUGGEMAN
DESIGNED BY: J. FAIT
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 107	E

SEQUENCE OF OPERATION

NOT USED | OLA | NOT USED | OLB

RING 1		01							02							03							04							FLASH
			CLEAR TO							CLEAR TO							CLEAR TO							CLEAR TO						
	HEAD NUMBERS	R/W	**						R/W	**						R/W	**						R/W	**						
01																														
02	6,7,8								G	Y	R												R	R	R					R
03																														
04	11,12,13								R	R	R												G	Y	R					R
05																														
06	1,2,3								R	R	R												R	R	R					R
07																														
08	16,17,18								R	R	R												R	R	R					R
02P	27,28								*	D	D												D	D	D					
04P	25,26								D	D	D												*	D	D					
06P	23,24								D	D	D												D	D	D					
08P	21,22								D	D	D												D	D	D					
OL'A'	4,5								FY	Y	R												R	R	R					R
OL'B'	19,20								R	R	R												FY	Y	R					R
OL'C'	9,10								R	R	R												R	R	R					R
OL'D'	14,15								R	R	R												R	R	R					R

NOT USED | OLC | NOT USED | OLD

RING 2		05							06							07							08						
			CLEAR TO							CLEAR TO							CLEAR TO							CLEAR TO						
	HEAD NUMBERS	R/W	**						R/W	**						R/W	**						R/W	**						
01																														
02	6,7,8								R	R	R												R	R	R					
03																														
04	11,12,13								R	R	R												R	R	R					
05																														
06	1,2,3								G	Y	R												R	R	R					
07																														
08	16,17,18								R	R	R												G	Y	R					
02P	27,28								D	D	D												D	D	D					
04P	25,26								D	D	D												D	D	D					
06P	23,24								*	D	D												D	D	D					
08P	21,22								D	D	D												*	D	D					
OL'A'	4,5								R	R	R												R	R	R					
OL'B'	19,20								R	R	R												R	R	R					
OL'C'	9,10								FY	Y	R												R	R	R					
OL'D'	14,15								R	R	R												FY	Y	R					

FY = FLASHING YELLOW ARROW

BARRIER

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

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

CHART 1

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

DETECTOR LOGIC

DETECTOR NUMBER	DETECTOR INPUT	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
21		X			2	2				VIDEO	
41				X		4			X	VIDEO	
42		X			4	4		X		VIDEO	
43		X			4	4				VIDEO	
61		X			6	6				VIDEO	
81				X		8			X	VIDEO	
82		X			8	8		X		VIDEO	
83		X			8	8				VIDEO	

CONTROLLER LOGIC

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

SPECIAL OVERLAPS

	PROTECTIVE	PERMISSIVE
O.L. "A" =	-	2
O.L. "B" =	-	4
O.L. "C" =	-	6
O.L. "D" =	-	8

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	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE DETECTOR	A	C
MOVEMENT	FY FY	FY FY
PHASE	2+6	4+8

AFTER PREEMPTION SEQUENCE 2+6, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+8, CONTROLLER SHALL RETURN TO PHASES 4+8.

GENERAL NOTES:

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

STH 164 & CTH L
VILLAGE OF BIG BEND
WAUKESHA COUNTY

SIGNAL NO. S1371

CABINET TYPE: TS2
CONTROLLER TYPE: EPAC M51

DATE 10/12 PAGE NO. 3 OF 3

PROJECT NO: 2810-06-70 | HWY: STH 164 | COUNTY: WAUKESHA | SEQUENCE OF OPERATIONS | SHEET 108 E

PROJECT ID:	2810-06-70
INTERSECTION:	STH 164 & CTH L

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

CB1 TO	JUMPER	# OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON	OTHER
				RED	YELLOW	GREEN	<RED	<YELLOW>	<FL YELLOW>	<GREEN>	D/WALK	WALK		
SB1		12	21								BLK	BLU		
			B										WHT/BLK	
SB2		12	5				RED/BLK	ORG/BLK	BLK/WHT					
			6	RED	ORG	GRN								
SB3		12	2	RED	ORG	GRN								
			3	RED	ORG	GRN								
			4				RED/BLK	ORG/BLK	BLK/WHT					
			B										WHT/BLK	
SB4		12	22								BLK	BLU		
			23								BLU/BLK	BLK/WHT		
			B										WHT/BLK	
SB5		12	15				RED/BLK	ORG/BLK	BLK/WHT					
			16	RED	ORG	GRN								
SB6		12	12	RED	ORG	GRN								
			13	RED	ORG	GRN								
			14				RED/BLK	ORG/BLK	BLK/WHT					
			24								BLK	BLU		
			B										WHT/BLK	
SB7		12	1	RED	ORG	GRN								
			10				RED/BLK	ORG/BLK	BLK/WHT					
			25								BLK	BLU		
			B										WHT/BLK	
SB8		12	7	RED	ORG	GRN								
			8	RED	ORG	GRN								
			9				RED/BLK	ORG/BLK	BLK/WHT					
			26								BLK	BLU		
			B										WHT/BLK	
SB9		12	27								BLK	BLU		
			B										WHT/BLK	
SB10		12	11	RED	ORG	GRN								
			20				RED/BLK	ORG/BLK	BLK/WHT					
SB11		12	17	RED	ORG	GRN								
			18	RED	ORG	GRN								
			19				RED/BLK	ORG/BLK	BLK/WHT					
SB12			28								BLK	BLU		
			B										WHT/BLK	

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	SB12
SB12	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
CB1	PB1
SB3	PB2
SB5	PB3
SB6	PB4
SB7	PB5
SB8	PB6
SB10	PB7
SB11	PB8
CB1	PB9

LIGHTING UF 12 AWG W/GROUND	
FROM	TO
CB1	SB3
SB3	SB6
CB1	SB11
SB11	SB8

VIDEO DETECTION CABLE	
FROM	TO
CB1	SB3 (V2)
CB1	SB6 (V3)
CB1	SB8 (V4)
CB1	SB11 (V1)

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB3 (HEAD 'A')
CB1	SB6 (HEAD 'C')
CB1	SB8 (HEAD 'A')
CB1	SB11 (HEAD 'C')

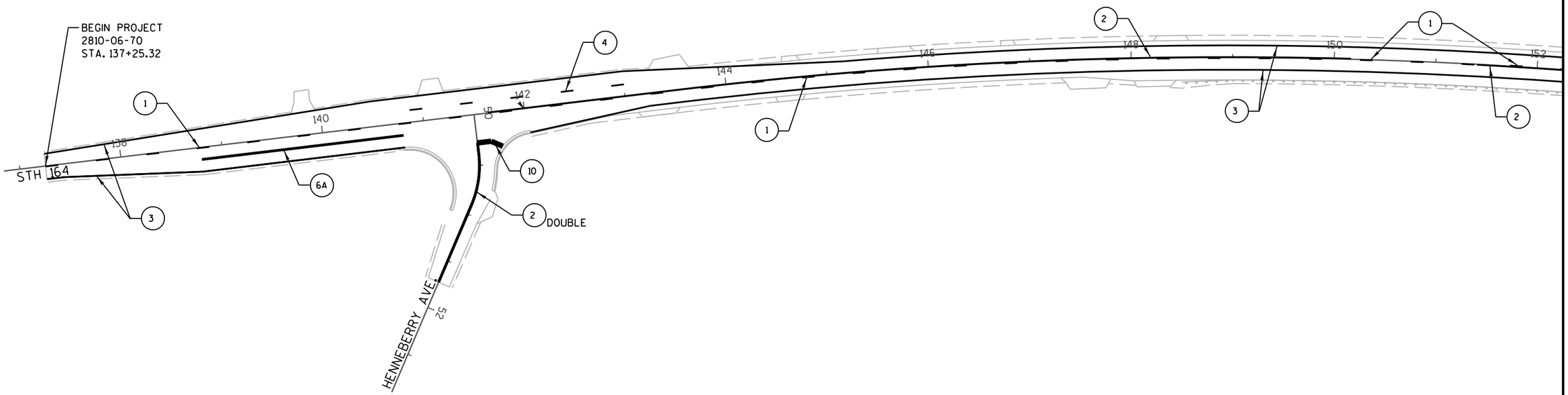
NOTES:
1. USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
2. ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
3. AT THE SIGNAL BASES, CONNECT ONE TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART.
   CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

2

LEGEND

1. PAVEMENT MARKING 4-INCH EPOXY, YELLOW (12.5' LINE, 37.5' GAP)
2. PAVEMENT MARKING 4-INCH EPOXY, YELLOW
2A. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH, YELLOW
2B. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, YELLOW
3. PAVEMENT MARKING 4-INCH EPOXY, EDGELINE WHITE
4. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, WHITE (12.5' LINE, 37.5' GAP)
5. PAVEMENT MARKING 4-INCH EPOXY, WHITE (DOTTED 3' LINE, 9' GAP)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (CHANNELIZING)
6A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (CHANNELIZING)
7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
7A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
8. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH, WHITE
9. PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH YELLOW
10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR, 18-INCH, WHITE
11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
12. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
13. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS

N



NOTE:

NO PASSING ZONES TO BE ESTABLISHED IN FIELD DURING CONSTRUCTION. PLACE RELATED SIGNS ACCORDINGLY.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 110	E

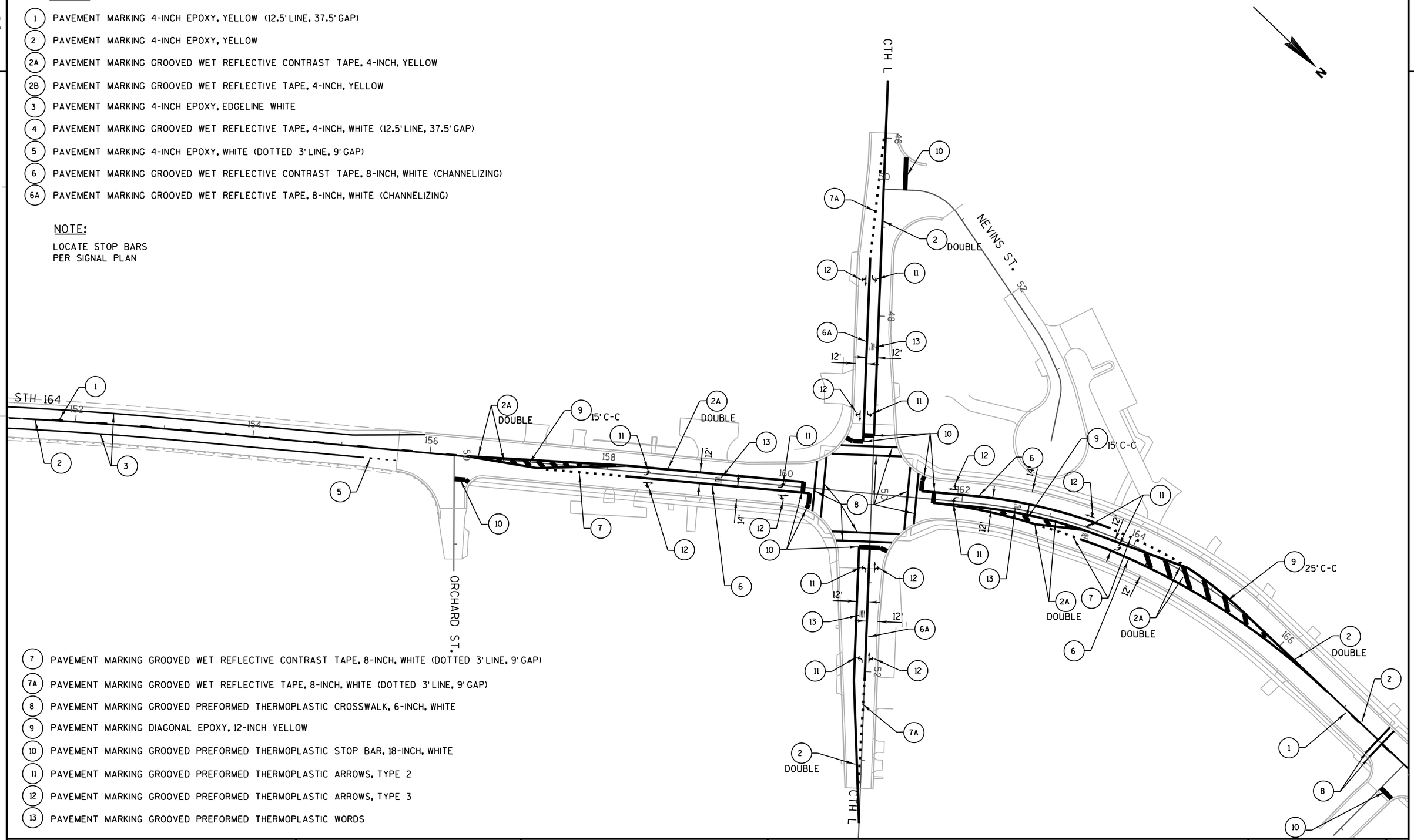
2

LEGEND

1. PAVEMENT MARKING 4-INCH EPOXY, YELLOW (12.5' LINE, 37.5' GAP)
2. PAVEMENT MARKING 4-INCH EPOXY, YELLOW
2A. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH, YELLOW
2B. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, YELLOW
3. PAVEMENT MARKING 4-INCH EPOXY, EDGELINE WHITE
4. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, WHITE (12.5' LINE, 37.5' GAP)
5. PAVEMENT MARKING 4-INCH EPOXY, WHITE (DOTTED 3' LINE, 9' GAP)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (CHANNELIZING)
6A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (CHANNELIZING)

NOTE:

LOCATE STOP BARS
PER SIGNAL PLAN



7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
7A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
8. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH, WHITE
9. PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH YELLOW
10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR, 18-INCH, WHITE
11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
12. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
13. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS

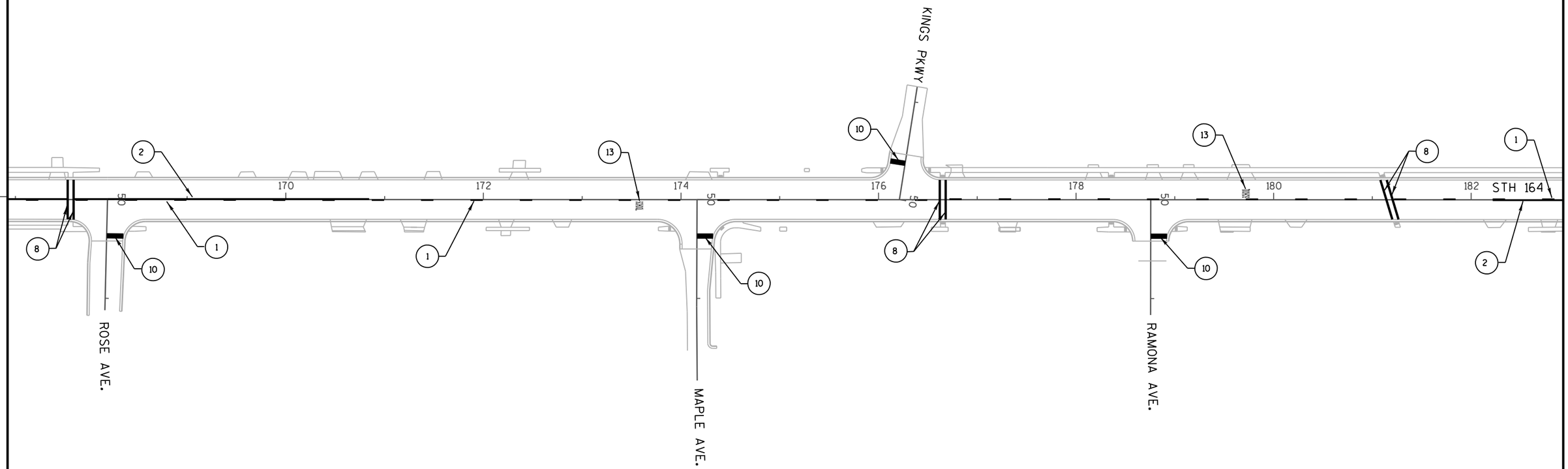
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 111	E

2

LEGEND

1. PAVEMENT MARKING 4-INCH EPOXY, YELLOW (12.5' LINE, 37.5' GAP)
2. PAVEMENT MARKING 4-INCH EPOXY, YELLOW
2A. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH, YELLOW
2B. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, YELLOW
3. PAVEMENT MARKING 4-INCH EPOXY, EDGELINE WHITE
4. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, WHITE (12.5' LINE, 37.5' GAP)
5. PAVEMENT MARKING 4-INCH EPOXY, WHITE (DOTTED 3' LINE, 9' GAP)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (CHANNELIZING)
6A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (CHANNELIZING)
7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
7A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
8. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH, WHITE
9. PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH YELLOW
10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR, 18-INCH, WHITE
11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
12. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
13. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS

N



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 112	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\024507_PM.DGN PLOT DATE : 11/16/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 100.0000 FT / in.

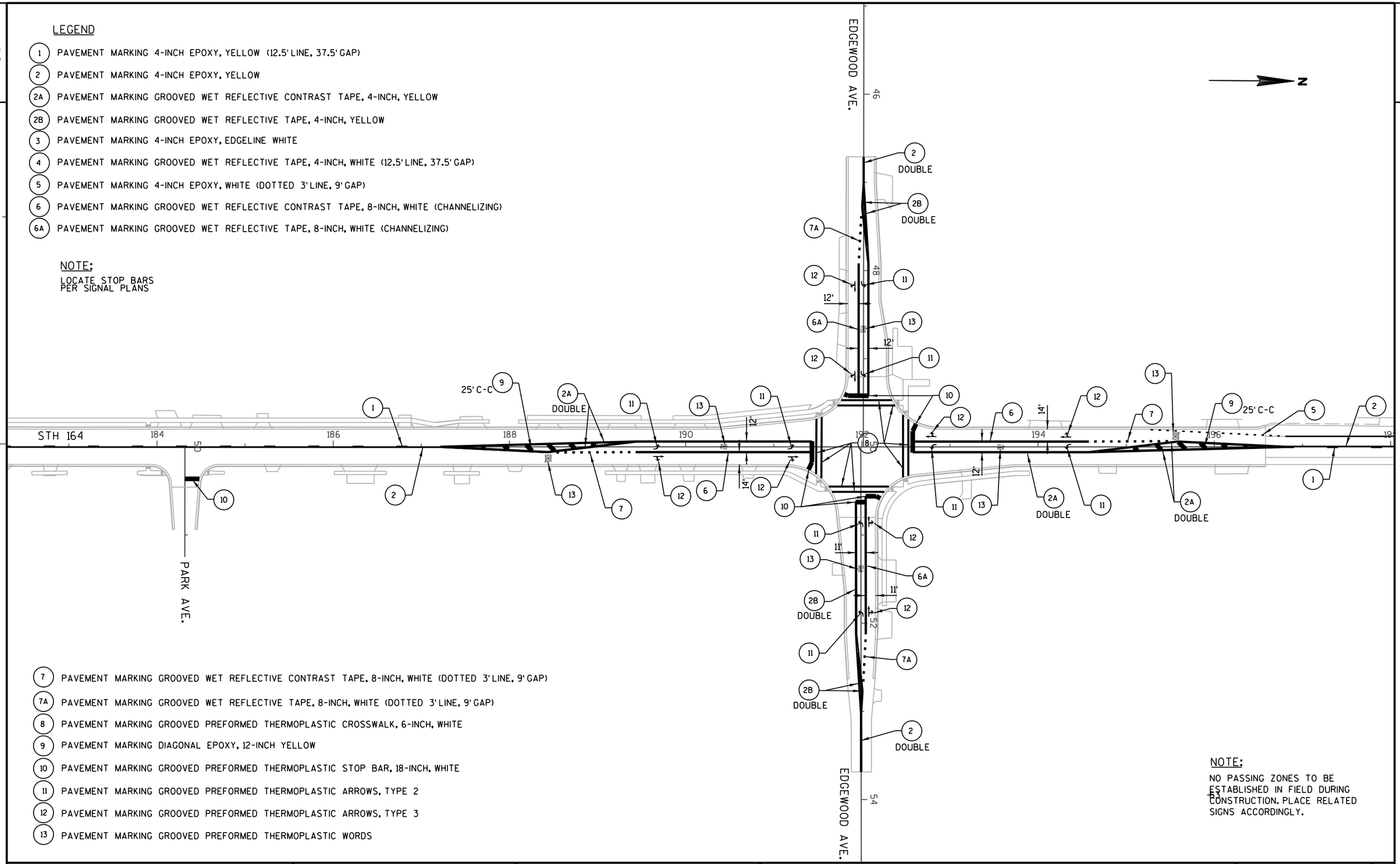
WISDOT/CADDS SHEET 42

2

LEGEND

1. PAVEMENT MARKING 4-INCH EPOXY, YELLOW (12.5' LINE, 37.5' GAP)
2. PAVEMENT MARKING 4-INCH EPOXY, YELLOW
2A. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH, YELLOW
2B. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, YELLOW
3. PAVEMENT MARKING 4-INCH EPOXY, EDGELINE WHITE
4. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, WHITE (12.5' LINE, 37.5' GAP)
5. PAVEMENT MARKING 4-INCH EPOXY, WHITE (DOTTED 3' LINE, 9' GAP)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (CHANNELIZING)
6A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (CHANNELIZING)

NOTE:
LOCATE STOP BARS
PER SIGNAL PLANS



7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
7A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
8. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH, WHITE
9. PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH YELLOW
10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR, 18-INCH, WHITE
11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
12. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
13. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS

NOTE:
NO PASSING ZONES TO BE ESTABLISHED IN FIELD DURING CONSTRUCTION. PLACE RELATED SIGNS ACCORDINGLY.

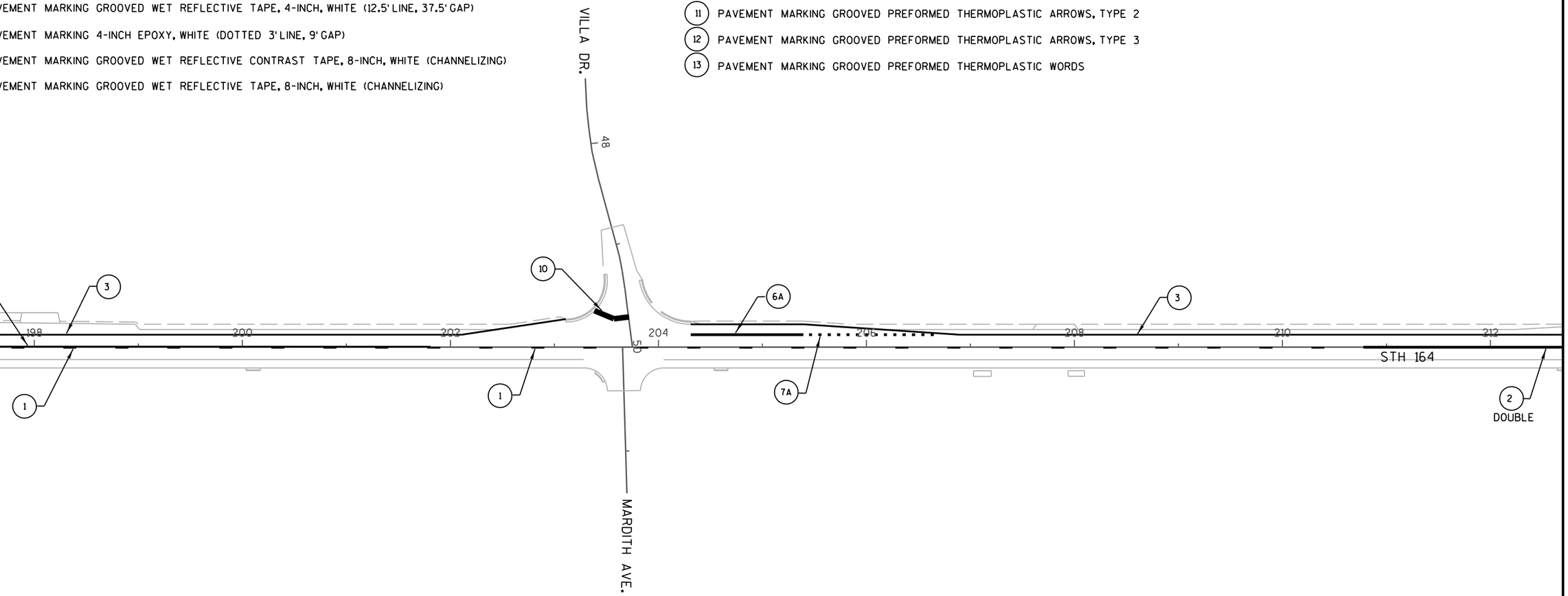
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 113	E

2

LEGEND

1. PAVEMENT MARKING 4-INCH EPOXY, YELLOW (12.5' LINE, 37.5' GAP)
2. PAVEMENT MARKING 4-INCH EPOXY, YELLOW
2A. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH, YELLOW
2B. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, YELLOW
3. PAVEMENT MARKING 4-INCH EPOXY, EDGELINE WHITE
4. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, WHITE (12.5' LINE, 37.5' GAP)
5. PAVEMENT MARKING 4-INCH EPOXY, WHITE (DOTTED 3' LINE, 9' GAP)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (CHANNELIZING)
6A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (CHANNELIZING)
7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
7A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
8. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH, WHITE
9. PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH YELLOW
10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR, 18-INCH, WHITE
11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
12. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
13. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS

N



NOTE:

NO PASSING ZONES TO BE ESTABLISHED IN FIELD DURING CONSTRUCTION. PLACE RELATED SIGNS ACCORDINGLY.

2

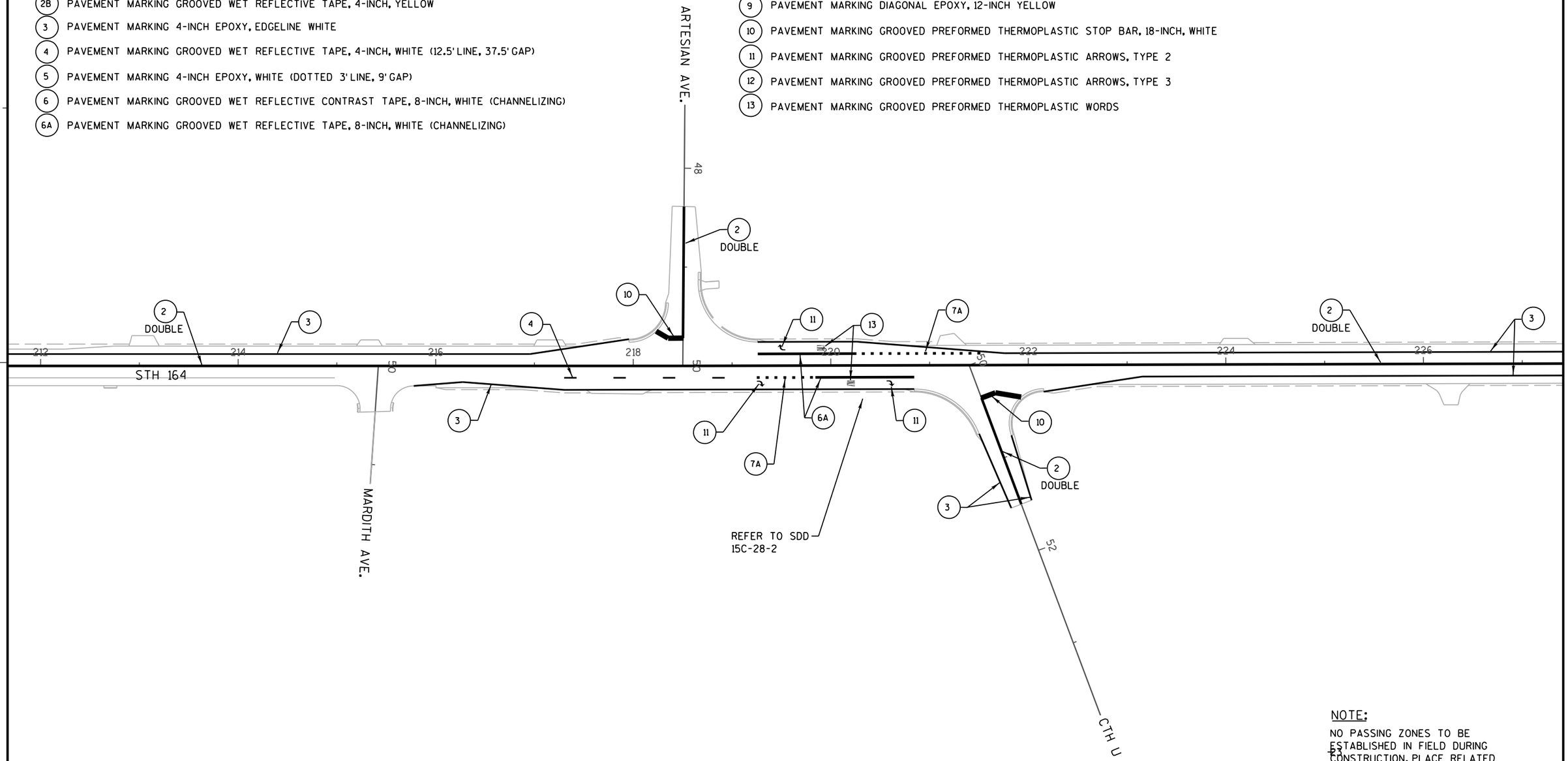
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 114	E

2

LEGEND

1. PAVEMENT MARKING 4-INCH EPOXY, YELLOW (12.5' LINE, 37.5' GAP)
2. PAVEMENT MARKING 4-INCH EPOXY, YELLOW
2A. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH, YELLOW
2B. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, YELLOW
3. PAVEMENT MARKING 4-INCH EPOXY, EDGELINE WHITE
4. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, WHITE (12.5' LINE, 37.5' GAP)
5. PAVEMENT MARKING 4-INCH EPOXY, WHITE (DOTTED 3' LINE, 9' GAP)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (CHANNELIZING)
6A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (CHANNELIZING)
7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
7A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
8. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH, WHITE
9. PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH YELLOW
10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR, 18-INCH, WHITE
11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
12. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
13. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS

N



NOTE:

NO PASSING ZONES TO BE ESTABLISHED IN FIELD DURING CONSTRUCTION. PLACE RELATED SIGNS ACCORDINGLY.

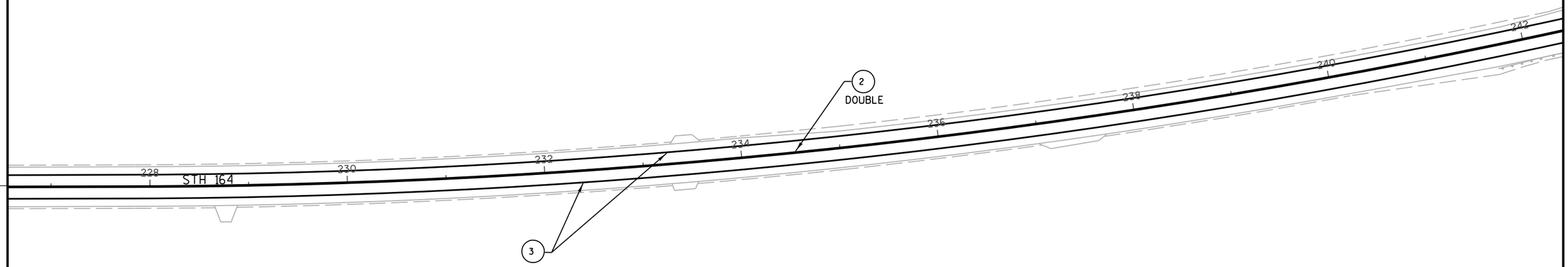
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 115	E

2

LEGEND

1. PAVEMENT MARKING 4-INCH EPOXY, YELLOW (12.5' LINE, 37.5' GAP)
2. PAVEMENT MARKING 4-INCH EPOXY, YELLOW
2A. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH, YELLOW
2B. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, YELLOW
3. PAVEMENT MARKING 4-INCH EPOXY, EDGELINE WHITE
4. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, WHITE (12.5' LINE, 37.5' GAP)
5. PAVEMENT MARKING 4-INCH EPOXY, WHITE (DOTTED 3' LINE, 9' GAP)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (CHANNELIZING)
6A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (CHANNELIZING)
7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
7A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
8. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH, WHITE
9. PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH YELLOW
10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR, 18-INCH, WHITE
11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
12. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
13. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS

N

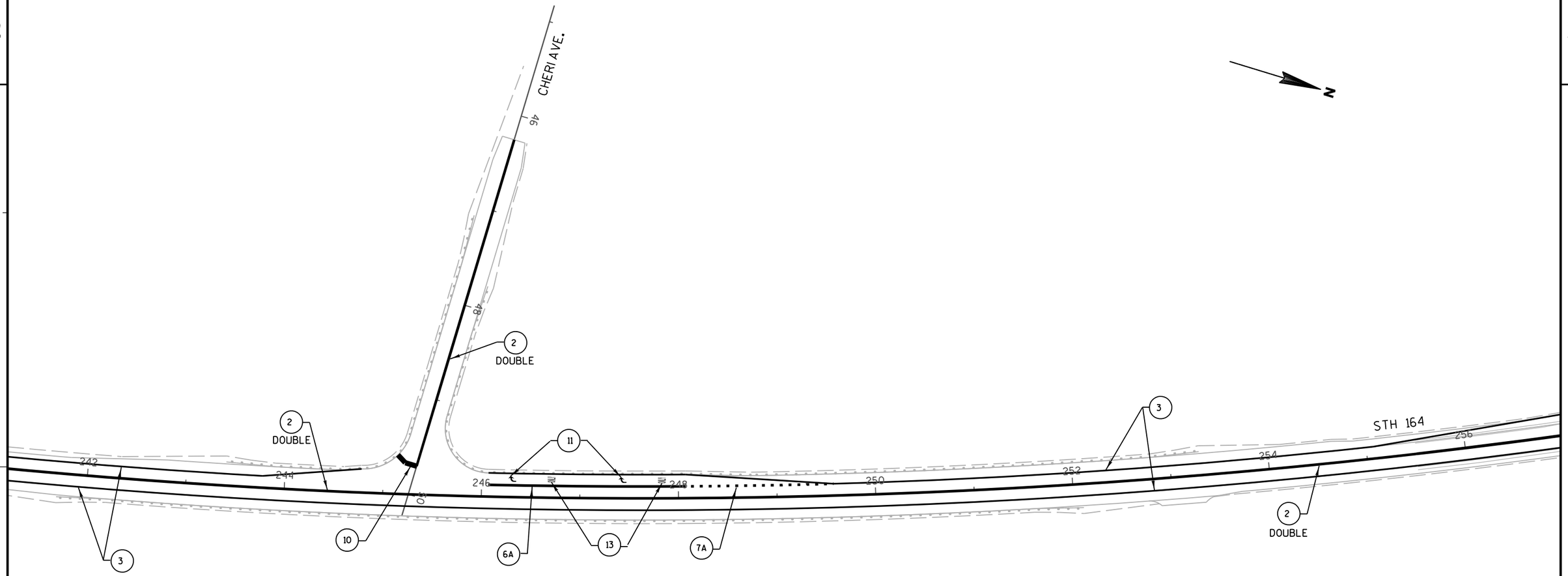


NOTE:

NO PASSING ZONES TO BE ESTABLISHED IN FIELD DURING CONSTRUCTION. PLACE RELATED SIGNS ACCORDINGLY.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 116	E

2



LEGEND

1. PAVEMENT MARKING 4-INCH EPOXY, YELLOW (12.5'LINE, 37.5'GAP)
2. PAVEMENT MARKING 4-INCH EPOXY, YELLOW
2A. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH, YELLOW
2B. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, YELLOW
3. PAVEMENT MARKING 4-INCH EPOXY, EDGELINE WHITE
4. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, WHITE (12.5'LINE, 37.5'GAP)
5. PAVEMENT MARKING 4-INCH EPOXY, WHITE (DOTTED 3'LINE, 9'GAP)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (CHANNELIZING)
6A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (CHANNELIZING)
7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (DOTTED 3'LINE, 9'GAP)
7A. PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (DOTTED 3'LINE, 9'GAP)
8. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH, WHITE
9. PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH YELLOW
10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR, 18-INCH, WHITE
11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
12. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
13. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS

NOTE:

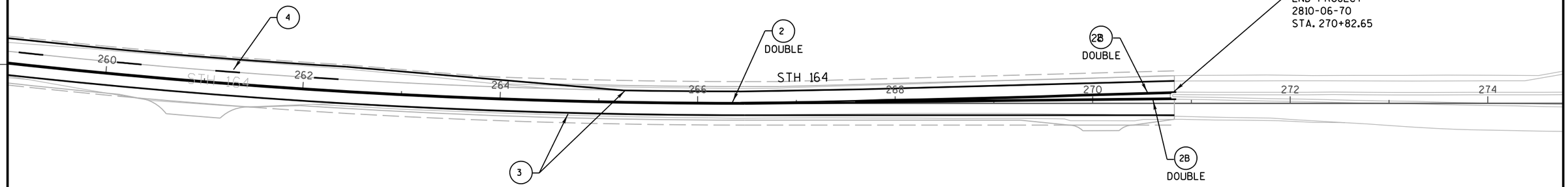
NO PASSING ZONES TO BE ESTABLISHED IN FIELD DURING CONSTRUCTION. PLACE RELATED SIGNS ACCORDINGLY.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 117	E

2

LEGEND

(1) PAVEMENT MARKING 4-INCH EPOXY, YELLOW (12.5' LINE, 37.5' GAP)
(2) PAVEMENT MARKING 4-INCH EPOXY, YELLOW
(2A) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH, YELLOW
(2B) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, YELLOW
(3) PAVEMENT MARKING 4-INCH EPOXY, EDGELINE WHITE
(4) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 4-INCH, WHITE (12.5' LINE, 37.5' GAP)
(5) PAVEMENT MARKING 4-INCH EPOXY, WHITE (DOTTED 3' LINE, 9' GAP)
(6) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (CHANNELIZING)
(6A) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (CHANNELIZING)
(7) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
(7A) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH, WHITE (DOTTED 3' LINE, 9' GAP)
(8) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH, WHITE
(9) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH YELLOW
(10) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR, 18-INCH, WHITE
(11) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
(12) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
(13) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS



NOTE:
NO PASSING ZONES TO BE ESTABLISHED IN FIELD DURING CONSTRUCTION. PLACE RELATED SIGNS ACCORDINGLY.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 118	E

OVERALL DETOUR ROUTE UNDER PROJECT ID 2810-04-70 BY OTHERS

LEGEND

1 — TO / DETOUR / NORTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-1 24" X 12", M1-6 24" X 24" — M05-1L 21" X 21"

2 — TO / DETOUR / NORTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-1 24" X 12", M1-6 24" X 24" — M05-1R 21" X 21"

3 — TO / DETOUR / NORTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-1 24" X 12", M1-6 24" X 24" — M06-1 21" X 21"

4 — TO / DETOUR / NORTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-1 24" X 12", M1-6 24" X 24" — M06-1 21" X 21"

5 — TO / DETOUR / NORTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-1 24" X 12", M1-6 24" X 24" — M06-1 21" X 21"

6 — NORTH / 164 — M03-1 24" X 12", M1-6 24" X 24"

7 — Big Bend → — FIXED MESSAGE SIGN (FMS)

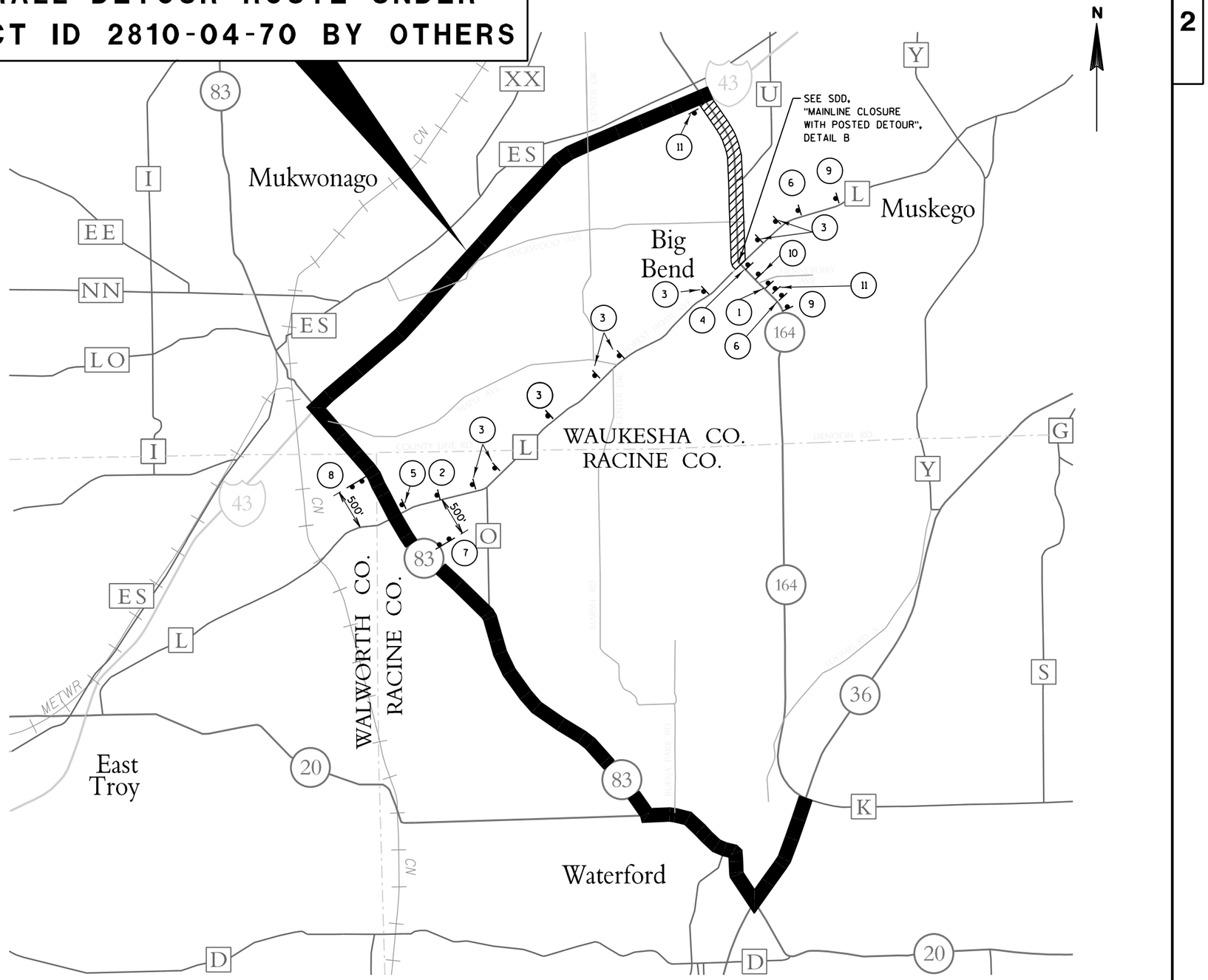
8 — ← Big Bend — FIXED MESSAGE SIGN (FMS)

9 — ROAD CLOSED AHEAD — W20-3 36" X 36"

10 — ROAD CLOSED 500 FT — W20-3

11 — ROAD OPEN TO LOCAL BUSINESSES — R10-61 (FMS) 60" X 30"

- SIGN ON SINGLE POST
- SIGN ON TWO POSTS
- ROAD CLOSED



GENERAL NOTES

DETOUR SIGNING SHALL BE COORDINATED WITH PROJECT ID 2810-04-70

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
ALL SIGNS ARE STANDARD SIZE UNLESS NOTED AS FREEWAY SIZE.
SIGNS DESIGNATED AS "MO" ARE THE SAME AS "M" EXCEPT THE BACKGROUND IS ORANGE.

EXISTING SIGNS THAT CONFLICT WITH DETOUR ROUTE SIGNING SHALL BE COVERED.

LOCATIONS OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE.
THE EXACT LOCATION OF ALL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ON THIS SHEET TO BE PAID FOR AS "TRAFFIC CONTROL, DETOUR, SIGNS" EXCEPT FOR FIXED MESSAGE SIGNS.

SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "DETOUR SIGNING FOR MAINLINE CLOSURE," DETAIL B.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	LOCAL DETOUR ROUTE - STAGE 1 & 2	SHEET 119 E

OVERALL DETOUR ROUTE UNDER PROJECT ID 2810-04-70 BY OTHERS

LEGEND

1 — TO / DETOUR / SOUTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-3 24" X 12", M1-6 24" X 24" — M05-1L 21" X 21"

2 — TO / DETOUR / SOUTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-3 24" X 12", M1-6 24" X 24" — M05-1R 21" X 21"

3 — TO / DETOUR / SOUTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-3 24" X 12", M1-6 24" X 24" — M06-1 21" X 21"

4 — TO / DETOUR / SOUTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-3 24" X 12", M1-6 24" X 24" — M06-1 21" X 21"

5 — TO / DETOUR / SOUTH / 164 — M4-5 24" X 12", M4-8 24" X 12", M03-3 24" X 12", M1-6 24" X 24" — M06-1 21" X 21"

6 — SOUTH / 164 — M03-3 24" X 12", M1-6 24" X 24"

DETOUR AHEAD — W20-2 36"x36"

7 — Big Bend — FIXED MESSAGE SIGN (FMS)

8 — Big Bend — FIXED MESSAGE SIGN (FMS)

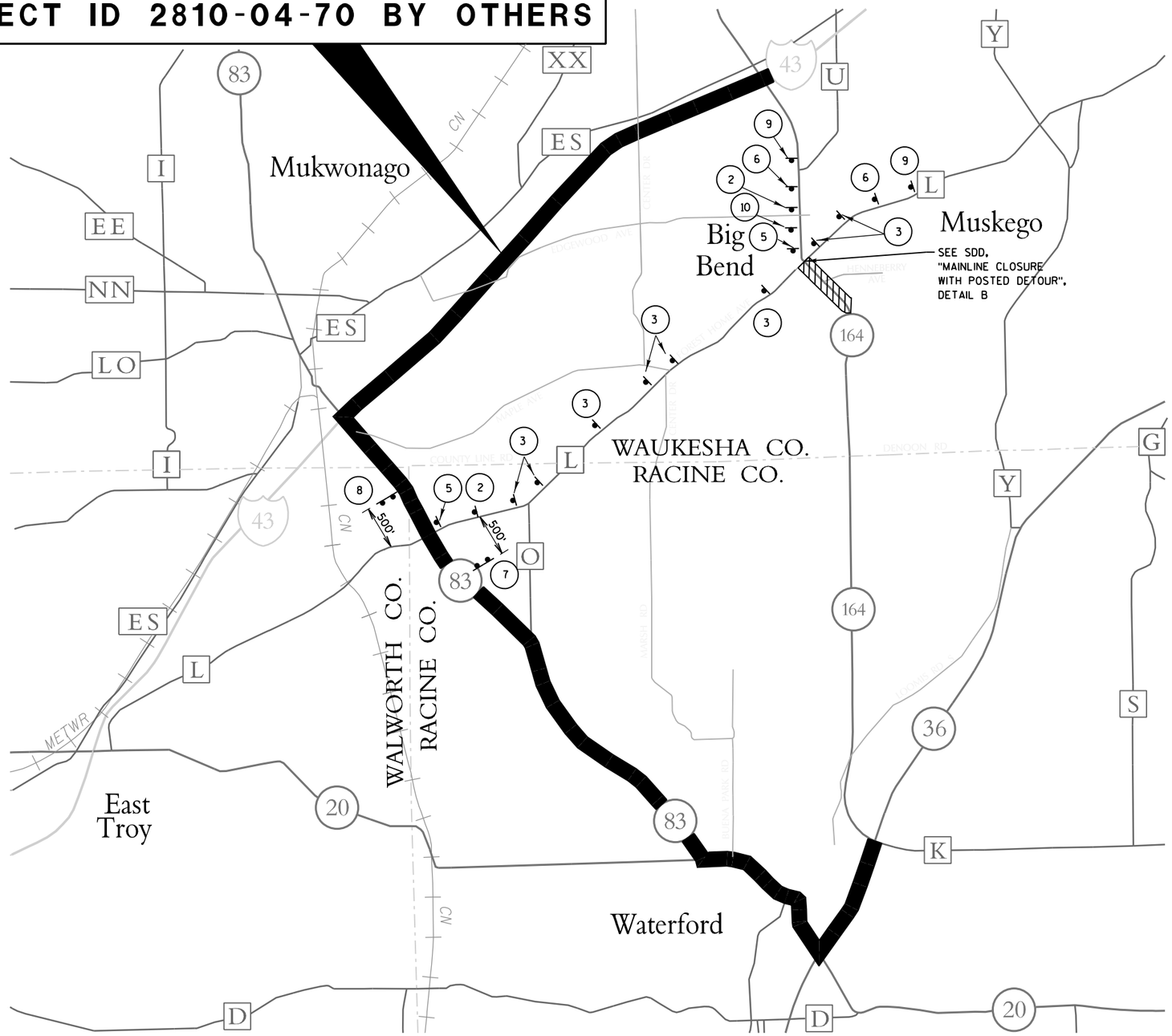
9 — ROAD CLOSED AHEAD — W20-3 36"x36"

10 — ROAD CLOSED 500 FT — W20-3

SIGN ON SINGLE POST

SIGN ON TWO POSTS

ROAD CLOSED



GENERAL NOTES

DETOUR SIGNING SHALL BE COORDINATED WITH PROJECT ID 2810-04-70

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
ALL SIGNS ARE STANDARD SIZE UNLESS NOTED AS FREEWAY SIZE.
SIGNS DESIGNATED AS "MO" ARE THE SAME AS "M" EXCEPT THE BACKGROUND IS ORANGE.

EXISTING SIGNS THAT CONFLICT WITH DETOUR ROUTE SIGNING SHALL BE COVERED.

LOCATIONS OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE. THE EXACT LOCATION OF ALL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ON THIS SHEET TO BE PAID FOR AS "TRAFFIC CONTROL, DETOUR, SIGNS" EXCEPT FOR FIXED MESSAGE SIGNS.

SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "DETOUR SIGNING FOR MAINLINE CLOSURE," DETAIL B.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	LOCAL DETOUR ROUTE - STAGE 3	SHEET 120	E

2

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.

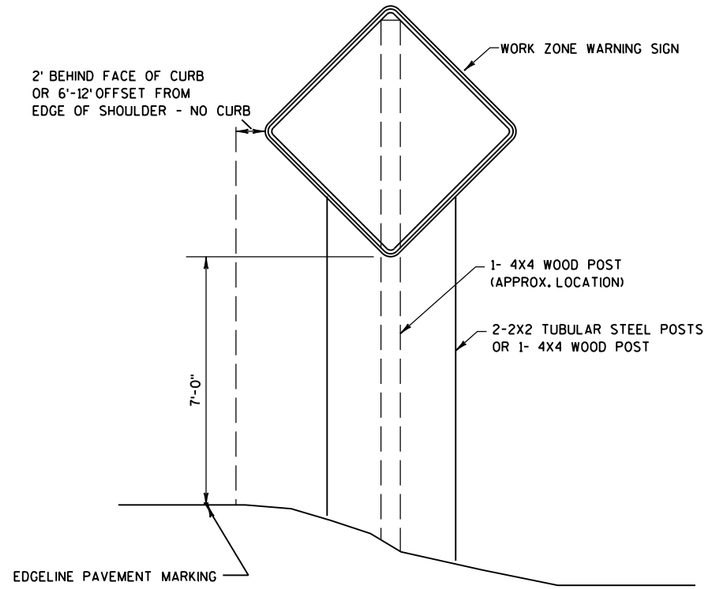
WORK ZONE TRAFFIC CONTROL SYMBOLS

- TRAFFIC CONTROL BARRICADE TYPE III
- TRAFFIC CONTROL BARRICADE TYPE III W/ SIGN
- TRAFFIC CONTROL DRUMS
- TRAFFIC CONTROL DRUMS W/ WARNING LIGHTS TYPE C
- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS/BASES

- WORK ZONE
- PERMANENT WORK COMPLETED IN PRIOR STAGE
- TEMPORARY WORK COMPLETED IN PRIOR STAGE
- DIRECTION OF TRAFFIC
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

WORK ZONE PAVEMENT MARKINGS

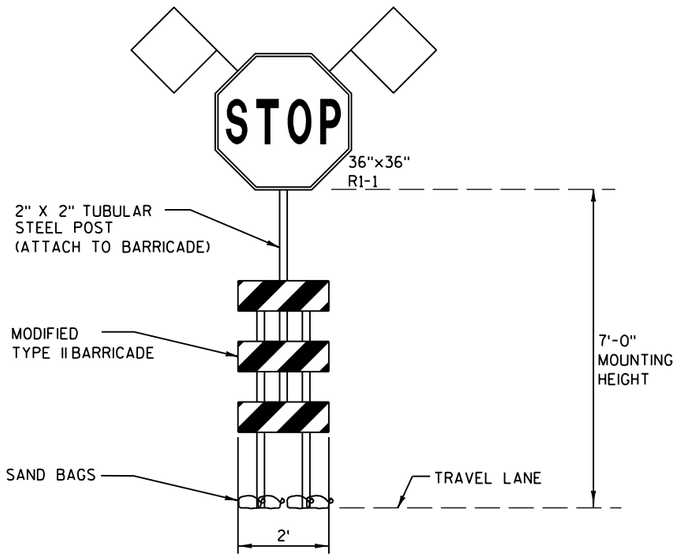
TPMY	TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (YELLOW)
TPMW	TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (WHITE)
TPMRTY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
TPMRTW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
TPMSL	TEMPORARY PAVEMENT MARKING STOP LINE 12-INCH
TPMRTSL	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH
RPM	REMOVING PAVEMENT MARKINGS



TYPICAL TEMPORARY TRAFFIC CONTROL DETAIL

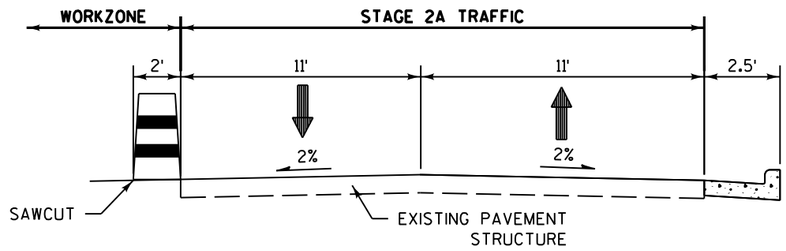
MOUNTING ON FIXED SUPPORT

LONG TERM
7 DAYS OR MORE



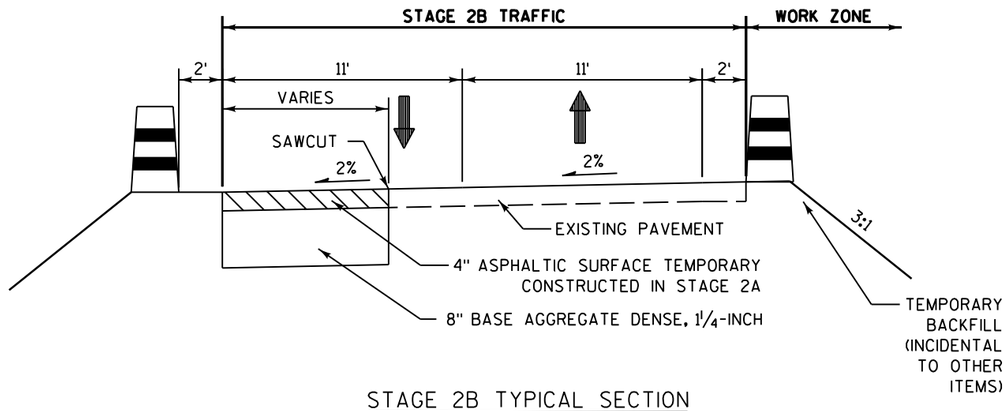
TEMPORARY STOP SIGN

PAID FOR AS:
1-TRAFFIC CONTROL BARRICADES TYPE II
1-TRAFFIC CONTROL SIGNS



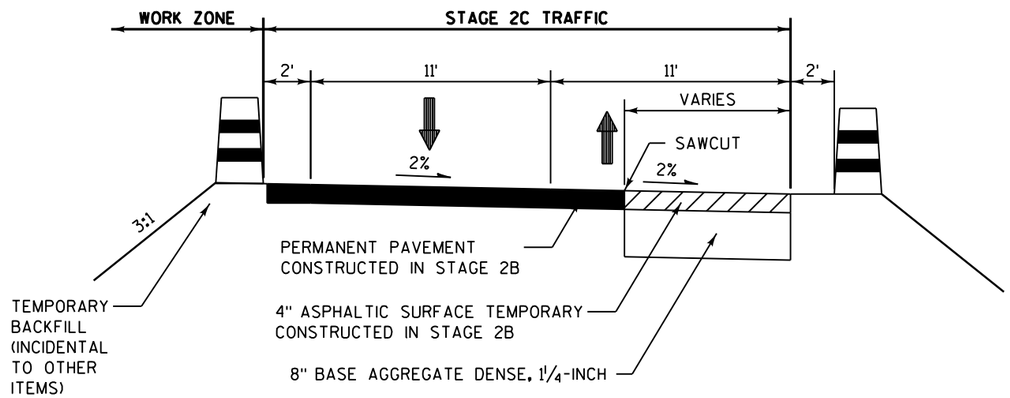
STAGE 2A TYPICAL SECTION

EDGEWOOD AVE



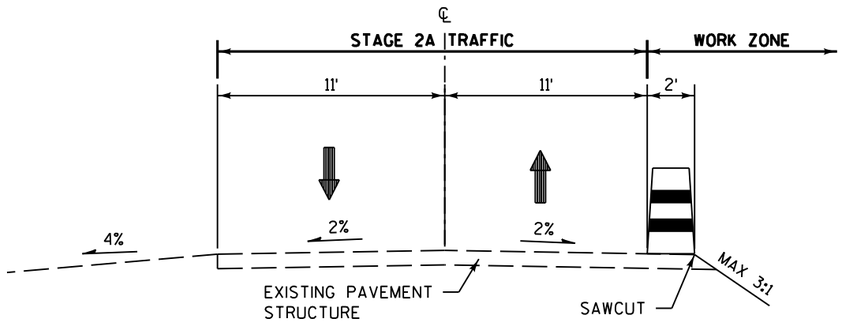
STAGE 2B TYPICAL SECTION

EDGEWOOD AVE



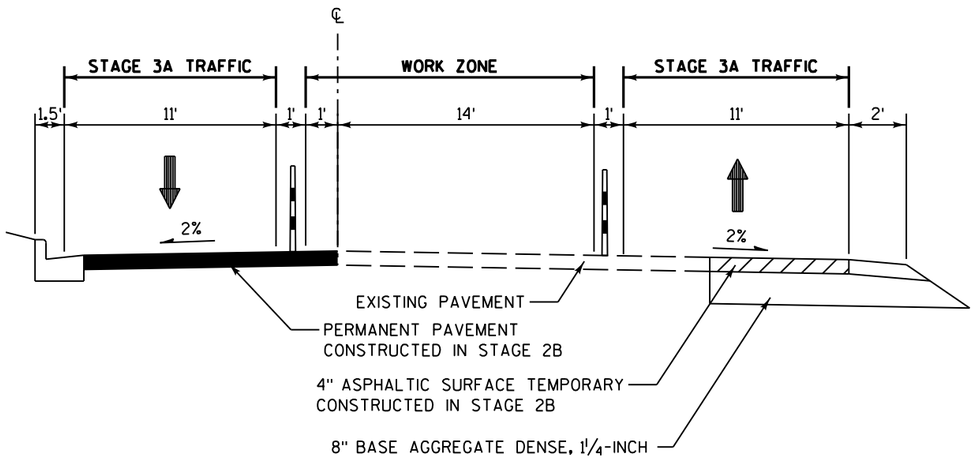
STAGE 2C TYPICAL SECTION

EDGEWOOD AVE



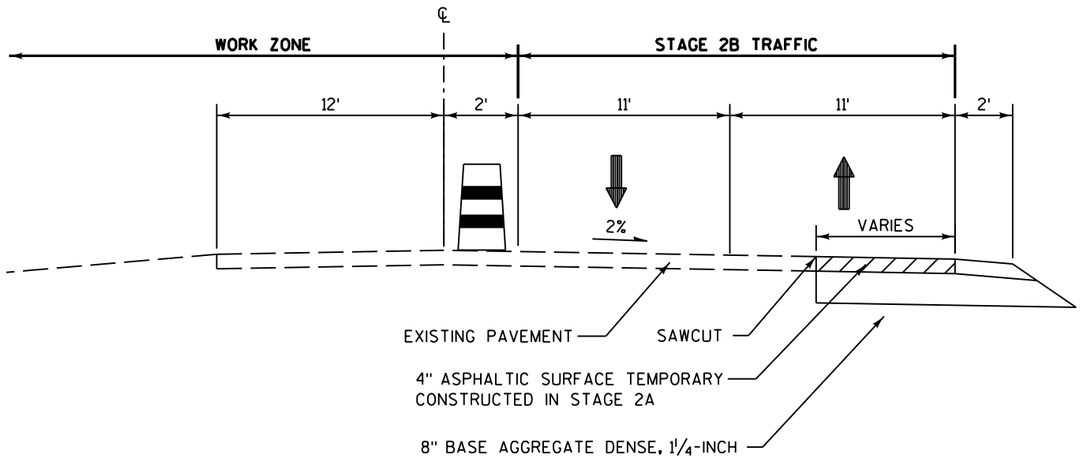
STAGE 2A TYPICAL SECTION

CTH L



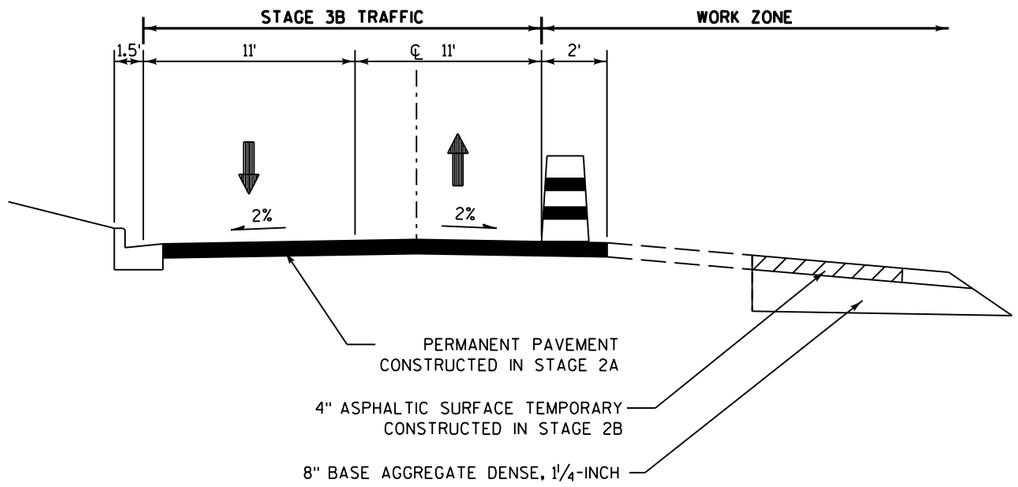
STAGE 3A TYPICAL SECTION

CTH L



STAGE 2B TYPICAL SECTION

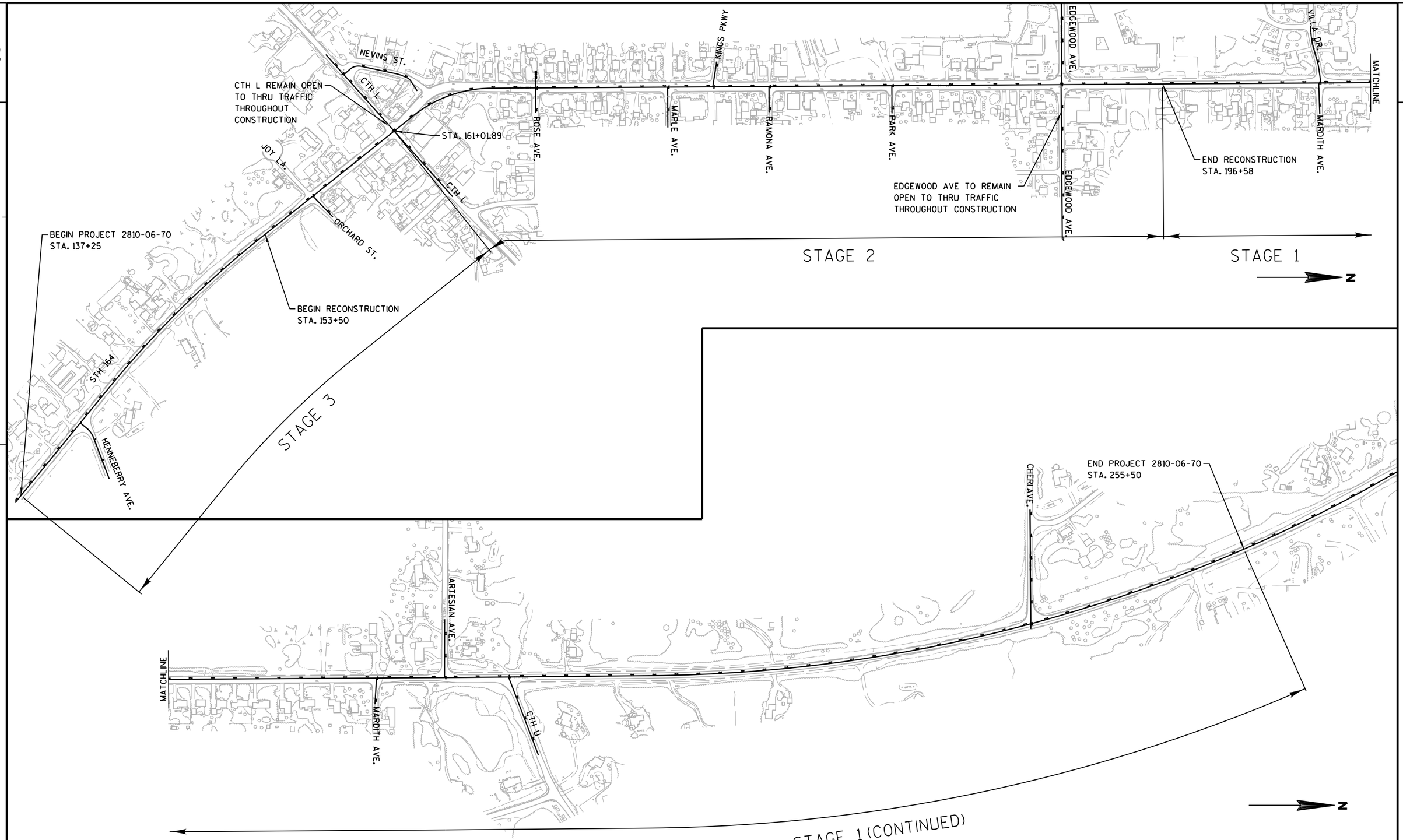
CTH L



STAGE 3B TYPICAL SECTION

CTH L

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGING TYPICAL SECTIONS	SHEET 123	E



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGING OVERVIEW	SHEET 124	E

2

N

ROAD CLOSED 500 FT W20-3

ROAD CLOSED AHEAD W20-3

AT LAST INTERSECTION PRIOR TO CLOSURE

SEE SDD, " BARRICADES AND SIGNS FOR MAINLINE CLOSURES", DETAIL C STA. 204+31

SEE SDD, "BARRICADES AND SIGNS FOR SIDEROAD CLOSEURES", DETAIL 4

STA. 218+50.13 ARTESIAN AVE.

500'

VILLA DR. STA. 203+75.02

STH 164

500' 500' 500'

STA. 203+65.64 MARDITH AVE.

STA. 215+45 MARDITH AVE.

ROAD CLOSED 1000 FT W20-3

ROAD CLOSED AHEAD W20-3

ROAD CLOSED 500 FT W20-3

ROAD CLOSED AHEAD W20-3

STA. 221+40.11 C.T.H. U

ROAD CLOSED 500 FT W20-3

ROAD CLOSED AHEAD W20-3

AT LAST INTERSECTION PRIOR TO CLOSURE

ROAD CLOSED AHEAD W20-3

CHERI AVE. STA. 245+25.86

SEE SDD, "BARRICADES AND SIGNS FOR SIDEROAD CLOSEURES", DETAIL 4

STH 164

MATCHLINE STA 262+00

ROAD CLOSED AHEAD W20-3

1000' 500' 500'

END PROJECT 2810-06-70 STA. 270+00

STH 164

MATCHLINE STA 262+00

ROAD CLOSED 1000 FT W20-3

ROAD CLOSED 500 FT W20-3

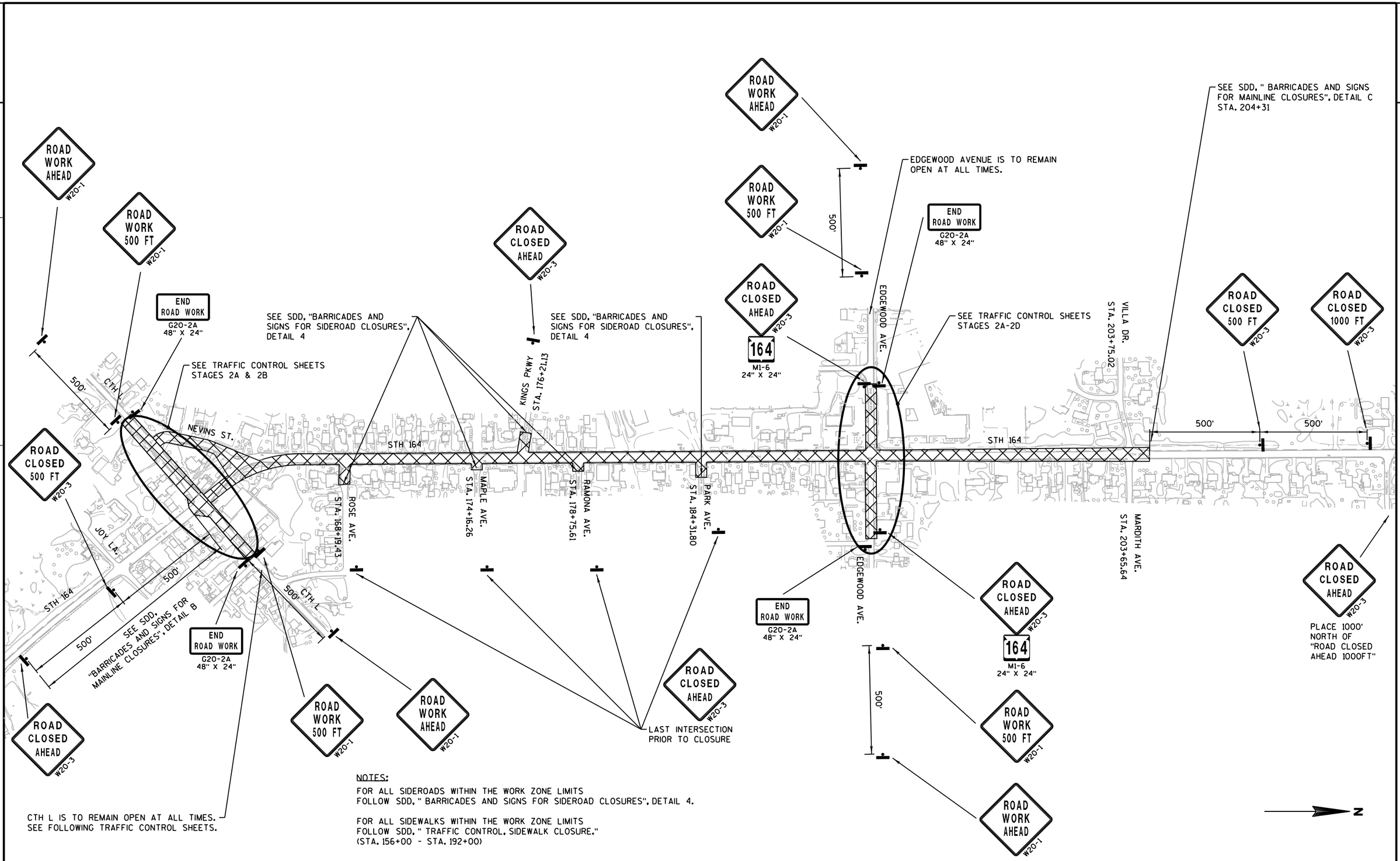
SEE SDD, " BARRICADES AND SIGNS FOR MAINLINE CLOSURES", DETAIL B (REFER TO DETOUR ROUTE)

NOTES:

FOR ALL SIDEROADS WITHIN THE WORK ZONE LIMITS FOLLOW SDD, " BARRICADES AND SIGNS FOR SIDEROAD CLOSURES", DETAIL 4.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1	SHEET 125	E

2



NOTES:

FOR ALL SIDEROADS WITHIN THE WORK ZONE LIMITS
FOLLOW SDD, " BARRICADES AND SIGNS FOR SIDEROAD CLOSURES", DETAIL 4.

FOR ALL SIDEWALKS WITHIN THE WORK ZONE LIMITS
FOLLOW SDD, " TRAFFIC CONTROL, SIDEWALK CLOSURE."
(STA. 156+00 - STA. 192+00)

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2	SHEET E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\025004_tc.dgn PLOT DATE : 10/30/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 400.0000 FT / in.
WISDOT/CADDS SHEET 42

STAGE 2A CONSTRUCTION:

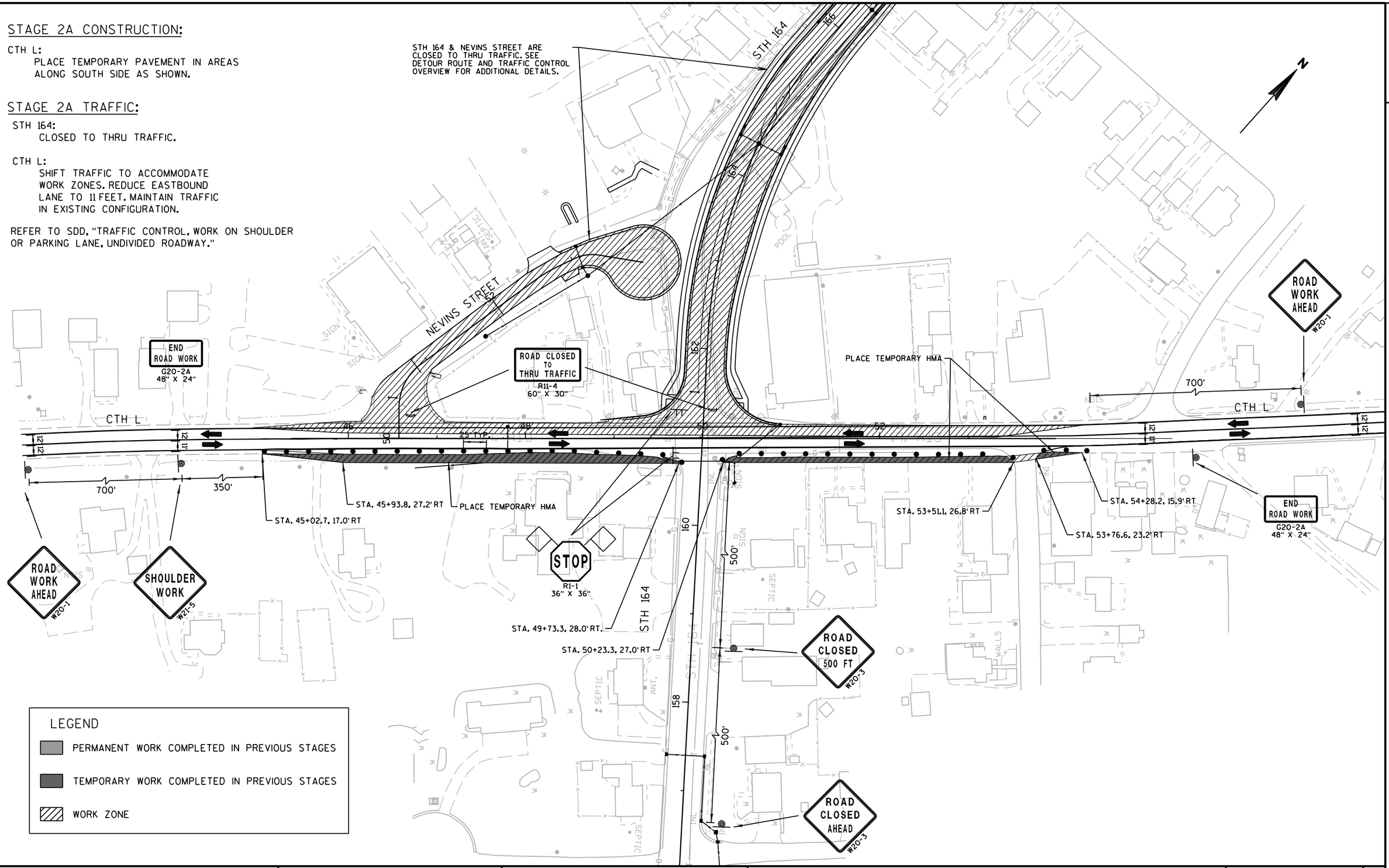
CTH L:
PLACE TEMPORARY PAVEMENT IN AREAS ALONG SOUTH SIDE AS SHOWN.

STAGE 2A TRAFFIC:

STH 164:
CLOSED TO THRU TRAFFIC.

CTH L:
SHIFT TRAFFIC TO ACCOMMODATE WORK ZONES. REDUCE EASTBOUND LANE TO 11 FEET. MAINTAIN TRAFFIC IN EXISTING CONFIGURATION.

REFER TO SDD, "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY."



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - CTH L STAGE 2A	SHEET 127 E

STAGE 2A CONSTRUCTION:

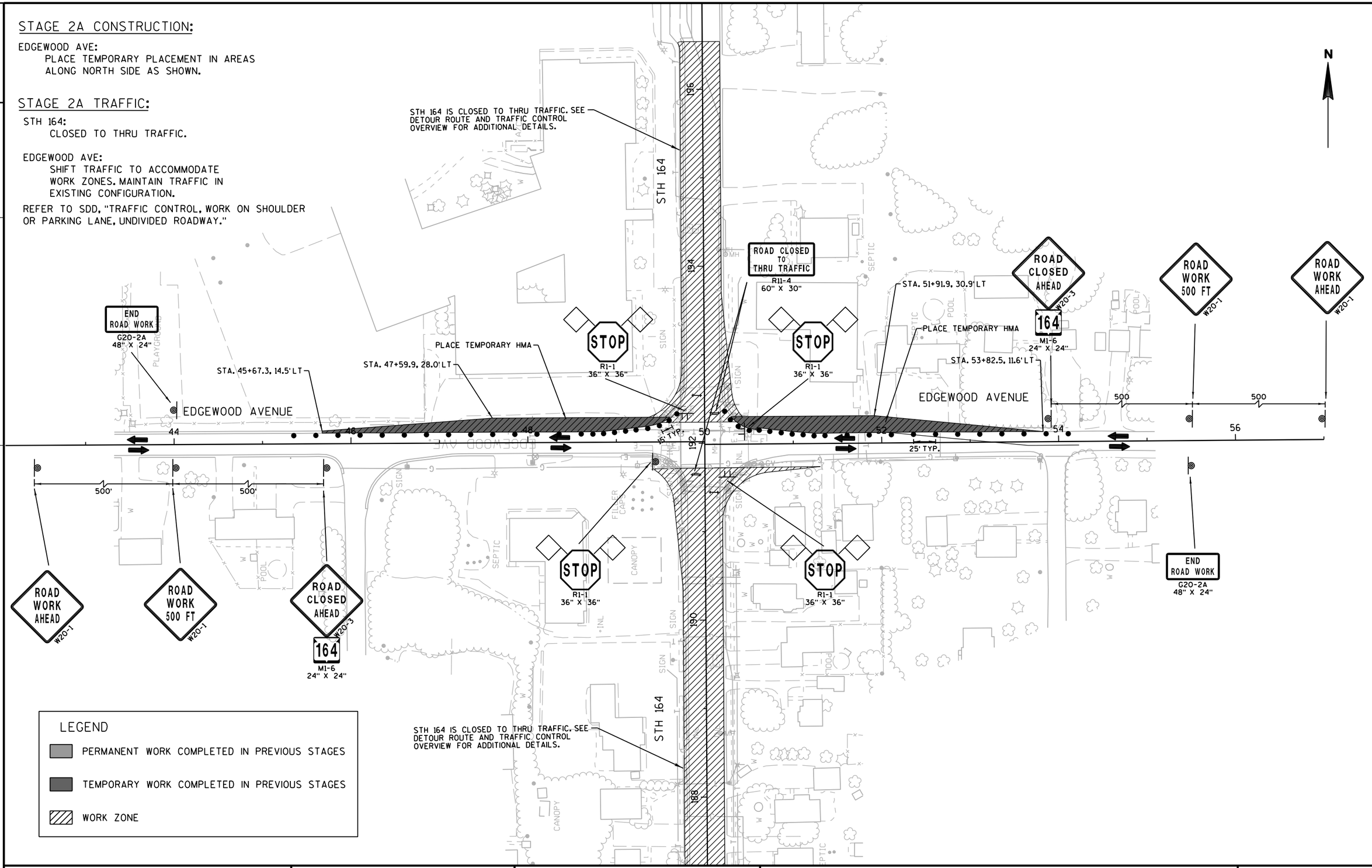
EDGEWOOD AVE:
PLACE TEMPORARY PLACEMENT IN AREAS ALONG NORTH SIDE AS SHOWN.

STAGE 2A TRAFFIC:

STH 164:
CLOSED TO THRU TRAFFIC.

EDGEWOOD AVE:
SHIFT TRAFFIC TO ACCOMMODATE WORK ZONES. MAINTAIN TRAFFIC IN EXISTING CONFIGURATION.

REFER TO SDD, "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY."



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - EDGEWOOD AVENUE STAGE 2A	SHEET 128 E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\025004b_tc.DGN PLOT DATE : 10/30/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 100.0000 FT / in.

WISDOT/CADDS SHEET 42

2

LEGEND

- PERMANENT WORK COMPLETED IN PREVIOUS STAGES
- TEMPORARY WORK COMPLETED IN PREVIOUS STAGES
- WORK ZONE

STH 164 & NEVINS STREET ARE CLOSED TO THRU TRAFFIC. SEE DETOUR ROUTE AND TRAFFIC CONTROL OVERVIEW FOR ADDITIONAL DETAILS.

STH 164

NEVINS STREET

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

ROAD CLOSED TO THRU TRAFFIC R11-4 60" X 30"

ROAD CLOSED TO THRU TRAFFIC R11-4 60" X 30"

W01-3R

25 M.P.H. W013-1 24" X 24"

STOP R1-1 36" X 36"

W03-1

W01-3L

25 M.P.H. W013-1 24" X 24"

MAX. 11' WIDTH W12-52

ROAD WORK AHEAD W20-1

REMOVE EXISTING PAVEMENT MARKINGS

TPMRTY (DBL)

REMOVABLE — TEMPORARY

TEMPORARY — REMOVABLE

TPMSL

TPMRW

TPMY (DBL)

CTH L

12' 12' 11' 11'

500' 200' 300' TAPER 125'

TAPER 125' 300' 200' 500'

ROAD WORK AHEAD W20-1

MAX. 11' WIDTH W12-52

W01-3R

25 M.P.H. W013-1 24" X 24"

W03-1

STOP R1-1 36" X 36"

ROAD CLOSED 500 FT W20-3

ROAD CLOSED AHEAD W20-3

W01-3L

25 M.P.H. W013-1 24" X 24"

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

STAGE 2B CONSTRUCTION:

CTH L:
CONSTRUCT WESTBOUND LANE. PLACE TEMPORARY PAVEMENT IN AREAS ALONG NORTH SIDE AS SHOWN.

STAGE 2B TRAFFIC:

STH 164:
CLOSED TO THRU TRAFFIC.

CTH L:
REDUCE ALL CTH L LANES TO 11 FEET WIDE.
SHIFT SOUTH TO WIDENED AREA CONSTRUCTED IN STAGE 2A.

ALL TRAFFIC CONTROL DRUMS & TRAFFIC CONTROL TUBULAR MARKERS BASES/POLES ARE SPACED 25'UNLESS OTHERWISE NOTED.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - CTH L STAGE 2B	SHEET 129	E

LEGEND

- PERMANENT WORK COMPLETED IN PREVIOUS STAGES
- TEMPORARY WORK COMPLETED IN PREVIOUS STAGES
- WORK ZONE

STH 164 IS CLOSED TO THRU TRAFFIC. SEE DETOUR ROUTE AND TRAFFIC CONTROL OVERVIEW FOR ADDITIONAL DETAILS.

STH 164

ROAD CLOSED TO THRU TRAFFIC
R11-4
60" X 30"

STOP
R1-1
36" X 36"

STOP
R1-1
36" X 36"

W01-3L

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

PLACE TEMPORARY HMA

TPMRTW

REMOVABLE — TEMPORARY

TPMRTY (DBL)

TPMY (DBL)

TEMPORARY — REMOVABLE

TPMRTY (DBL)

EDGEWOOD AVENUE

15' TYP.

44 46 48 50 52 54 56

12' 11' 11' 11' 11' 12'

TPMW
REMOVE EXISTING
PAVEMENT MARKING
TAPER 175'

REMOVE EXISTING
PAVEMENT MARKING
TAPER 225'

500' 200' 300' 300' 200' 500'

ROAD CLOSED AHEAD
W20-3

164
M1-6
24" X 24"

W01-3R

MAX. 11' WIDTH
W12-52

ROAD WORK AHEAD
W20-1

ACCESS MUST REMAIN, CONSTRUCT DRIVEWAY IN HALVES

STOP
R1-1
36" X 36"

STOP
R1-1
36" X 36"

W01-3R

ROAD WORK AHEAD
W20-1

MAX. 11' WIDTH
W12-52

W01-3L

ROAD CLOSED AHEAD
W20-3

164
M1-6
24" X 24"

STH 164 IS CLOSED TO THRU TRAFFIC. SEE DETOUR ROUTE AND TRAFFIC CONTROL OVERVIEW FOR ADDITIONAL DETAILS.

STH 164

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

STAGE 2B CONSTRUCTION:

EDGEWOOD AVE:
CONSTRUCT SOUTH SIDE. PLACE TEMPORARY PLACEMENT IN AREAS ALONG SOUTH SIDE AS SHOWN.

STAGE 2B TRAFFIC:

STH 164:
CLOSED TO THRU TRAFFIC.

EDGEWOOD AVE:
SHIFT NORTH TO WIDENED AREA CONSTRUCTED IN STAGE 2A.

ALL TRAFFIC CONTROL DRUMS & TRAFFIC CONTROL TUBULAR MARKERS BASES/POLES ARE SPACED 25'UNLESS OTHERWISE NOTED.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - EDGEWOOD AVENUE STAGE 2B	SHEET 130	E

LEGEND

- PERMANENT WORK COMPLETED IN PREVIOUS STAGES
- TEMPORARY WORK COMPLETED IN PREVIOUS STAGES
- WORK ZONE

STH 164 IS CLOSED TO THRU TRAFFIC. SEE DETOUR ROUTE AND TRAFFIC CONTROL OVERVIEW FOR ADDITIONAL DETAILS.

STH 164

EDGEWOOD AVENUE

ROAD WORK AHEAD W20-1

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

W01-3R

STOP R1-1 36" X 36"

ROAD CLOSED TO THRU TRAFFIC R11-4 60" X 30"

STOP R1-1 36" X 36"

TPMRTY (DBL)

TPMRTW

ROAD CLOSED AHEAD W20-3

164 M1-6 24" X 24"

W01-3L

MAX. 11' WIDTH W12-52

W20-7A

ROAD WORK AHEAD W20-1

200' 200' 200' 300' TAPER 225'

175' TAPER 300' 200' 200' 200'

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

STOP R1-1 36" X 36"

W01-3L

STH 164 IS CLOSED TO THRU TRAFFIC. SEE DETOUR ROUTE AND TRAFFIC CONTROL OVERVIEW FOR ADDITIONAL DETAILS.

STAGE 2C CONSTRUCTION:

STH 164:
CONSTRUCT SEGMENT BETWEEN CTH L AND APPROX. 600-FT NORTH OF EDGEWOOD AVE. CONSTRUCT ASSOCIATED SIDE STREETS, INCLUDING NEVINS ST.

EDGEWOOD AVE:
CONSTRUCT NORTH HALF.

STAGE 2C TRAFFIC:

STH 164:
CLOSED TO THRU TRAFFIC.

EDGEWOOD AVE:
SHIFT TRAFFIC TO AREA CONSTRUCTED IN STAGE 2B.
CONSTRUCT PAVEMENT TIE-IN WORK UNDER FLAGGING.

ALL TRAFFIC CONTROL DRUMS & TRAFFIC CONTROL TUBULAR MARKERS BASES/POLES ARE SPACED 25' UNLESS OTHERWISE NOTED.

SEE SDD, "TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)."

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - EDGEWOOD AVENUE STAGE 2C	SHEET 131	E

STAGE 2D CONSTRUCTION:

STH 164:
CONSTRUCT SEGMENT BETWEEN CTH L AND APPROX. 600-FT NORTH OF EDGEWOOD AVE. CONSTRUCT ASSOCIATED SIDE STREETS, INCLUDING NEVINS ST.

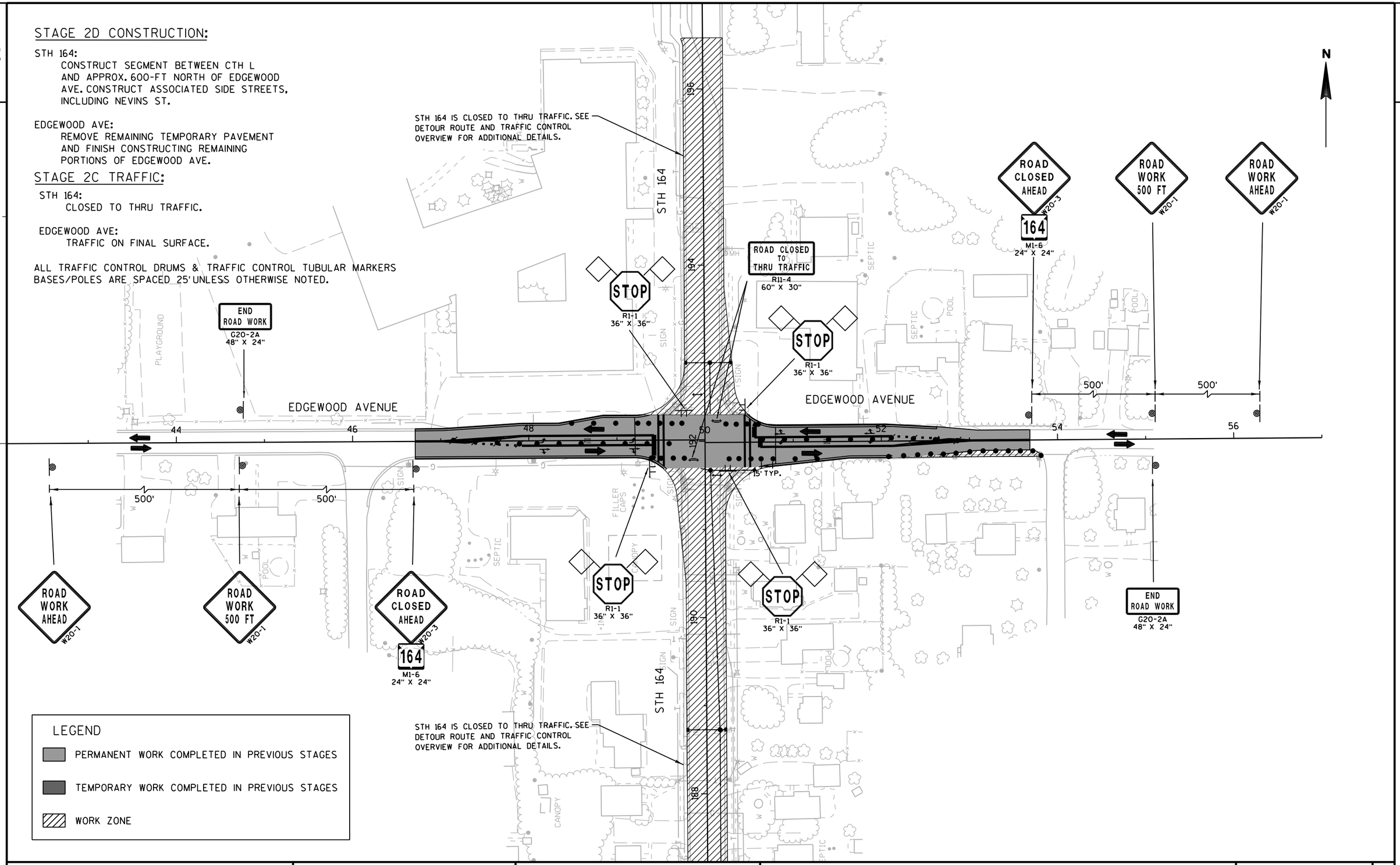
EDGEWOOD AVE:
REMOVE REMAINING TEMPORARY PAVEMENT AND FINISH CONSTRUCTING REMAINING PORTIONS OF EDGEWOOD AVE.

STAGE 2C TRAFFIC:

STH 164:
CLOSED TO THRU TRAFFIC.

EDGEWOOD AVE:
TRAFFIC ON FINAL SURFACE.

ALL TRAFFIC CONTROL DRUMS & TRAFFIC CONTROL TUBULAR MARKERS BASES/POLES ARE SPACED 25'UNLESS OTHERWISE NOTED.

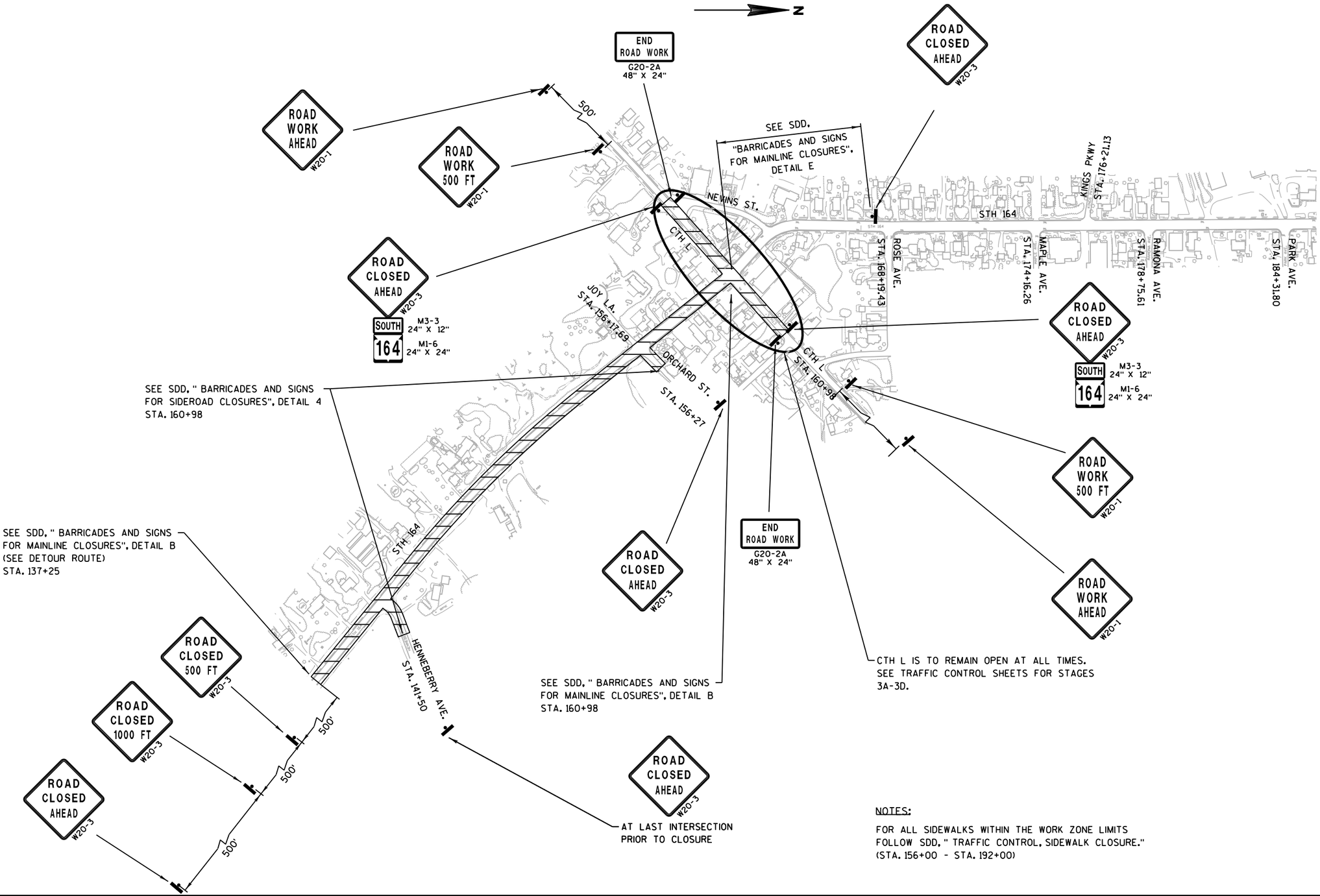


LEGEND

- PERMANENT WORK COMPLETED IN PREVIOUS STAGES
- TEMPORARY WORK COMPLETED IN PREVIOUS STAGES
- WORK ZONE

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - EDGEWOOD AVENUE STAGE 2D	SHEET 132 E

2



NOTES:

FOR ALL SIDEWALKS WITHIN THE WORK ZONE LIMITS FOLLOW SDD, " TRAFFIC CONTROL, SIDEWALK CLOSURE." (STA. 156+00 - STA. 192+00)

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 3	SHEET 133	E

LEGEND

- PERMANENT WORK COMPLETED IN PREVIOUS STAGES
- TEMPORARY WORK COMPLETED IN PREVIOUS STAGES
- WORK ZONE

ROAD CLOSED AHEAD W20-3
164 M1-6 24" X 24"
STH 164
LANE CLOSED R11-2(MOD) 48" X 30"
STOP R1-1 36" X 36"
W03-1
W01-6 48" X 24"
ROAD CLOSED AHEAD W20-3
164 M1-6 24" X 24"
MAX. 11' WIDTH W12-52
ROAD WORK AHEAD W20-1
ACCESS SHALL REMAIN, CONSTRUCT INTERSECTION IN HALVES.
END ROAD WORK G20-2A 48" X 24"
NEVINS STREET
TPMTW
TPMTY (DBL)
CTH L
133' TAPER
300'
200'
500'
500'
200'
300'
125' TAPER
ROAD WORK AHEAD W20-1
MAX. 11' WIDTH W12-52
W01-3R
25 M.P.H. W013-1 24" X 24"
ROAD CLOSED AHEAD W20-3
164 M1-6 24" X 24"
LANE CLOSED R11-2(MOD) 48" X 30"
W03-1
W01-6 48" X 24"
ACCESS SHALL REMAIN, CONSTRUCT INTERSECTION IN HALVES.
STH 164 IS CLOSED TO THRU TRAFFIC. SEE DETOUR ROUTE AND TRAFFIC CONTROL OVERVIEW FOR ADDITIONAL DETAILS.
STH 164
ROAD CLOSED TO THRU TRAFFIC R11-4 60" X 30"
LANE CLOSED R11-2(MOD) 48" X 30"
LANE CLOSED R11-2(MOD) 48" X 30"
W01-3L
25 M.P.H. W013-1 24" X 24"
TPMTW
TPMTY (DBL)
END ROAD WORK C20-2A 48" X 24"
CTH L

STAGE 3A CONSTRUCTION:

CTH L:
CONSTRUCT CENTER PORTION OF CTH L.
CONSTRUCT THE STH 164 AND NEVINS ST INTERSECTIONS WITH CTH L IN HALVES, MAINTAINING ACCESS FOR TURNING TRAFFIC.

STAGE 3A TRAFFIC:

STH 164:
CLOSED TO THRU TRAFFIC SOUTH OF CTH L.

CTH L:
EASTBOUND TRAFFIC TO REMAIN IN SAME LOCATION FROM STAGE 2.
SHIFT WESTBOUND TRAFFIC NORTH TO WIDENED AREA CONSTRUCTED IN STAGE 2B.

ALL TRAFFIC CONTROL DRUMS & TRAFFIC CONTROL TUBULAR MARKERS BASES/POLES ARE SPACED 25'UNLESS OTHERWISE NOTED.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - CTH L STAGE 3A	SHEET 134	E

2

LEGEND

- PERMANENT WORK COMPLETED IN PREVIOUS STAGES
- TEMPORARY WORK COMPLETED IN PREVIOUS STAGES
- WORK ZONE

ROAD CLOSED AHEAD W20-3
164 M1-6 24" X 24"

STOP R1-1 36" X 36"

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

W03-1

ROAD CLOSED AHEAD W20-3
164 M1-6 24" X 24"

MAX. 11' WIDTH W12-52

ROAD WORK 500 FT W20-1

ROAD WORK AHEAD W20-1

TPMTW

TPMTY (DBL)

TPMRTSL

ROAD CLOSED TO THRU TRAFFIC R11-4 60" X 30"

STH 164 IS CLOSED TO THRU TRAFFIC.
SEE DETOUR ROUTE AND TRAFFFIC CONTROL OVERVIEW FOR ADDITIONAL DETAILS.

ROAD WORK AHEAD W20-1

ROAD WORK 500 FT W20-1

MAX. 11' WIDTH W12-52

ROAD CLOSED AHEAD W20-3
164 M1-6 24" X 24"

END ROAD WORK C20-2A 48" X 24"

STAGE 3B CONSTRUCTION:

CTH L:
CONSTRUCT SOUTH PORTION OF CTH L

STAGE 3B TRAFFIC:

STH 164:
CLOSED TO THRU TRAFFIC SOUTH OF CTH L.

CTH L:
SHIFT ALL TRAFFIC NORTH TO PAVEMENT CONSTRUCTED IN STAGES 2B AND 3A. CTH L LANES REDUCED TO 11 FEET WIDE.

ALL TRAFFIC CONTROL DRUMS & TRAFFIC CONTROL TUBULAR MARKERS BASES/POLES ARE SPACED 25' UNLESS OTHERWISE NOTED.

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - CTH L STAGE 3B	SHEET 135	E

2

STAGE 3C CONSTRUCTION:

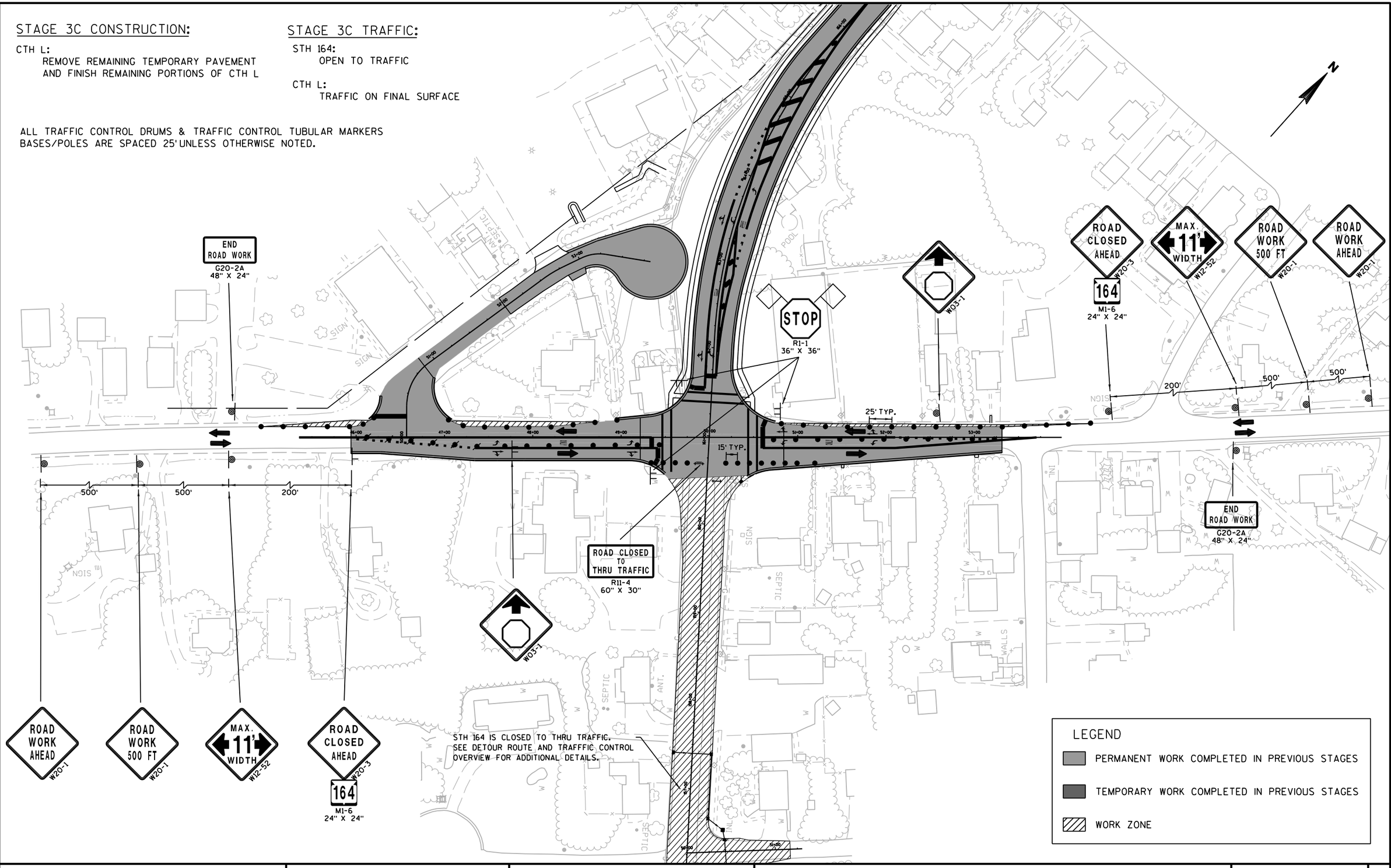
CTH L:
REMOVE REMAINING TEMPORARY PAVEMENT
AND FINISH REMAINING PORTIONS OF CTH L

STAGE 3C TRAFFIC:

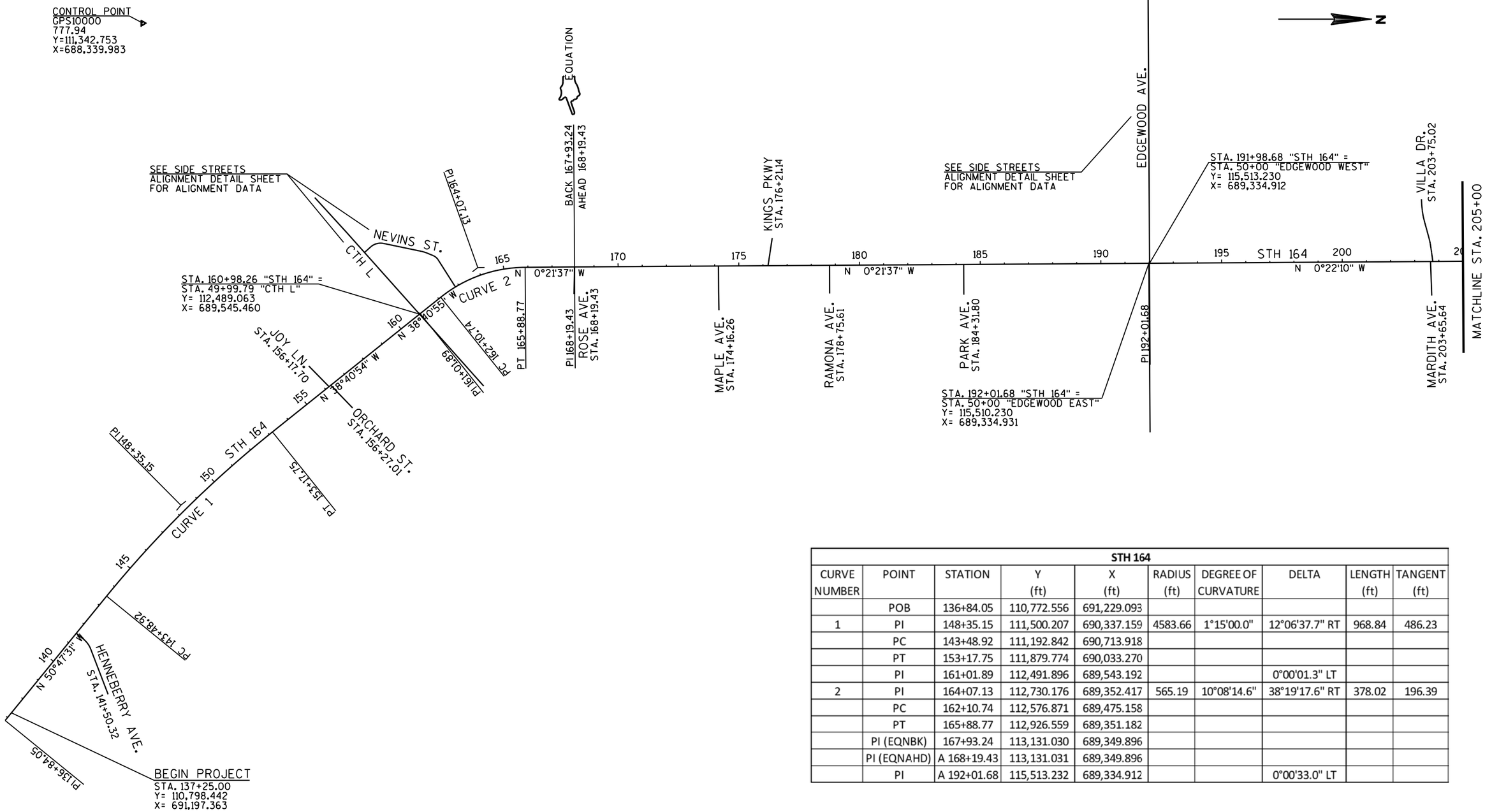
STH 164:
OPEN TO TRAFFIC

CTH L:
TRAFFIC ON FINAL SURFACE

ALL TRAFFIC CONTROL DRUMS & TRAFFIC CONTROL TUBULAR MARKERS
BASES/POLES ARE SPACED 25'UNLESS OTHERWISE NOTED.



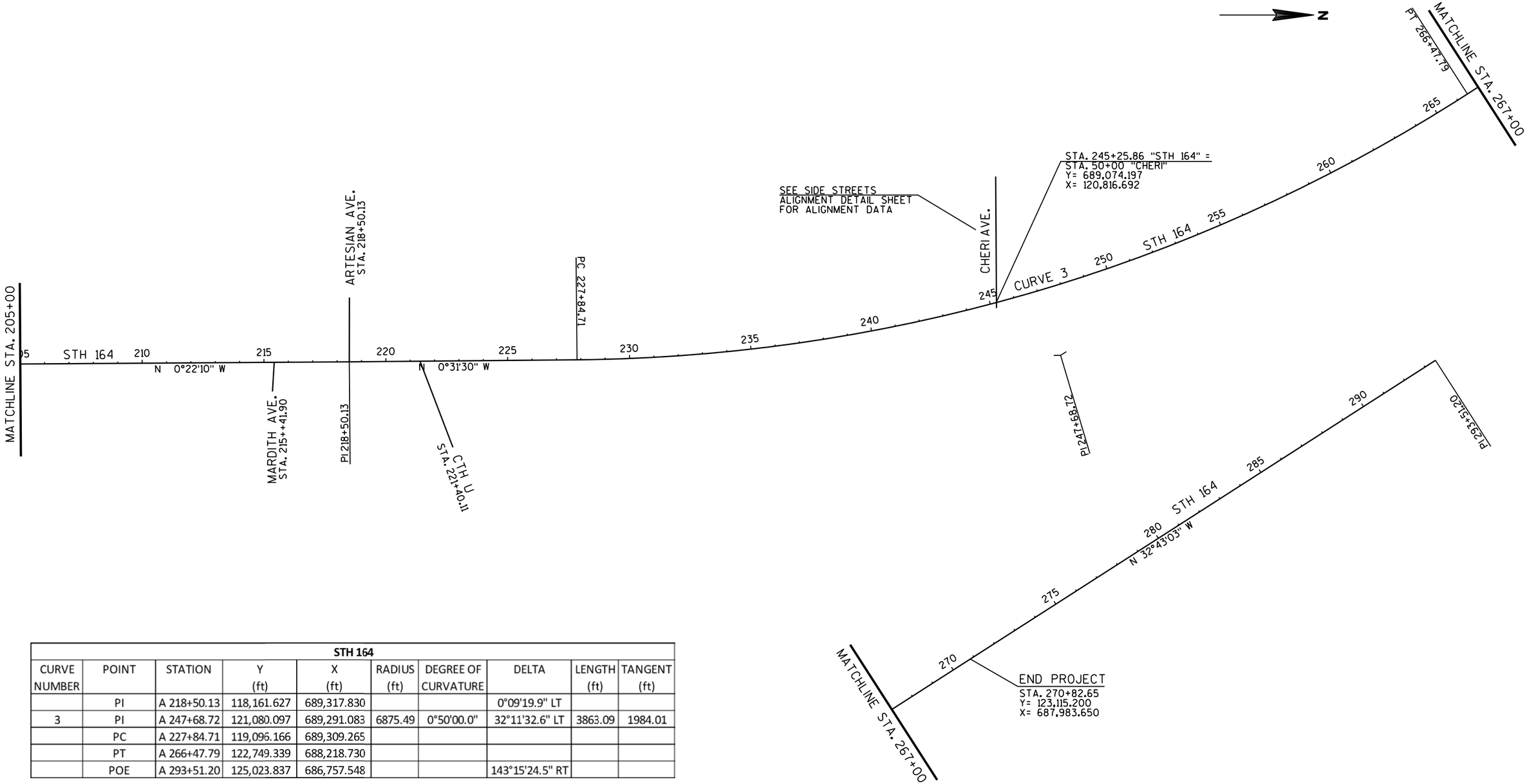
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	TRAFFIC CONTROL - CTH L STAGE 3C	SHEET 136	E



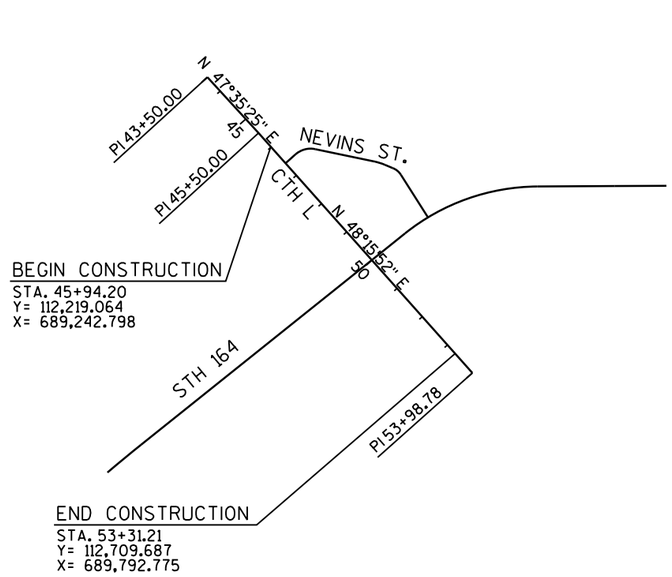
STH 164									
CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	136+84.05	110,772.556	691,229.093					
1	PI	148+35.15	111,500.207	690,337.159	4583.66	1°15'00.0"	12°06'37.7" RT	968.84	486.23
	PC	143+48.92	111,192.842	690,713.918					
	PT	153+17.75	111,879.774	690,033.270					
	PI	161+01.89	112,491.896	689,543.192			0°00'01.3" LT		
2	PI	164+07.13	112,730.176	689,352.417	565.19	10°08'14.6"	38°19'17.6" RT	378.02	196.39
	PC	162+10.74	112,576.871	689,475.158					
	PT	165+88.77	112,926.559	689,351.182					
	PI (EQNBK)	167+93.24	113,131.030	689,349.896					
	PI (EQNAHD)	A 168+19.43	113,131.031	689,349.896					
	PI	A 192+01.68	115,513.232	689,334.912			0°00'33.0" LT		

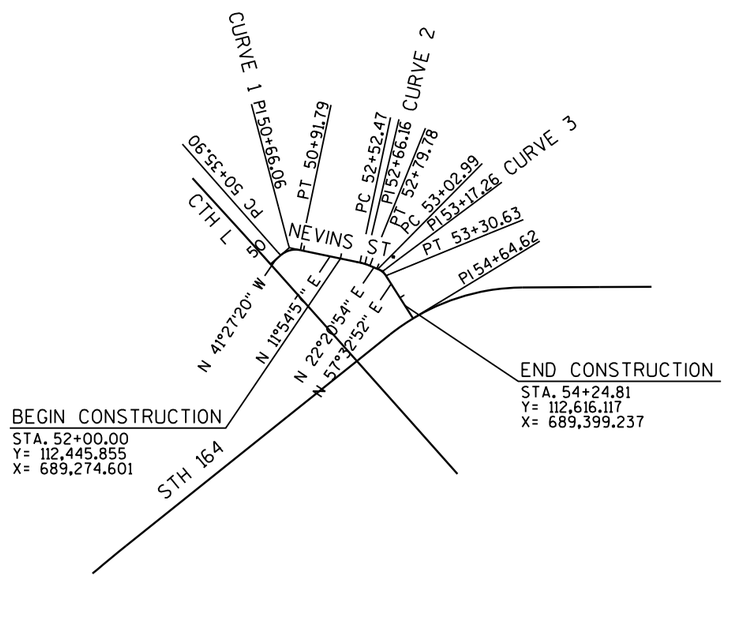
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	ALIGNMENT DETAILS - STH 164	SHEET 137	E

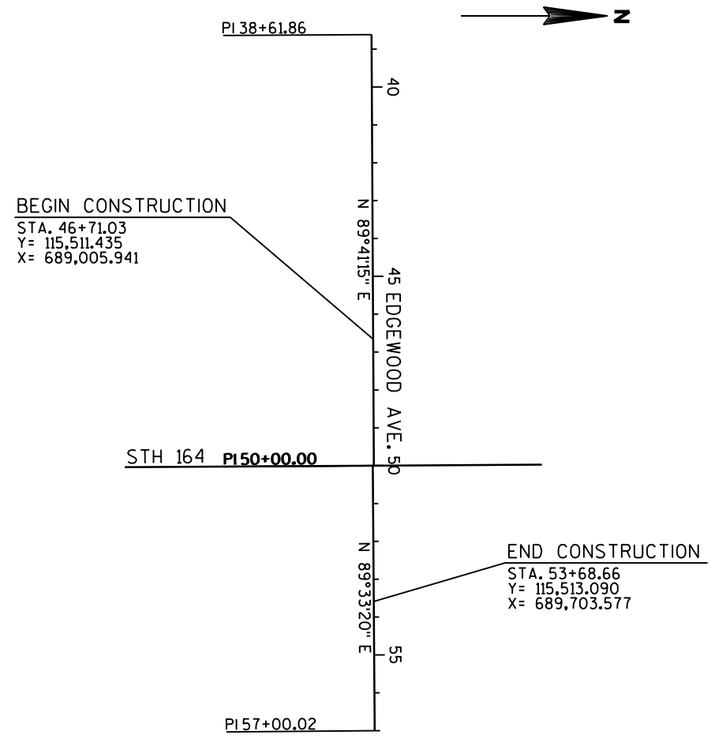
2



STH 164									
CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	PI	A 218+50.13	118,161.627	689,317.830			0°09'19.9" LT		
3	PI	A 247+68.72	121,080.097	689,291.083	6875.49	0°50'00.0"	32°11'32.6" LT	3863.09	1984.01
	PC	A 227+84.71	119,096.166	689,309.265					
	PT	A 266+47.79	122,749.339	688,218.730					
	POE	A 293+51.20	125,023.837	686,757.548			143°15'24.5" RT		







CTH L			
POINT	STATION	Y (ft)	X (ft)
POB	43+50.00	112,054.757	689,062.148
PI	45+50.00	112,189.642	689,209.817
POE	53+98.78	112,754.670	689,843.200

NEVINS STREET									
CURVE NUMBER	POINT	STATION	Y (ft)	X (ft)	RADIUS (ft)	DEGREE OF CURVATURE	DELTA	LENGTH (ft)	TANGENT (ft)
	POB	50+00.00	112,260.960	689,289.730					
1	PI	50+66.06	112,310.467	689,246.031	60	95°29'34.7"	53°22'17.4" RT	55.89	30.16
	PC	50+35.90	112,287.865	689,265.997					
	PT	50+91.79	112,339.976	689,252.258					
2	PI	52+66.16	112,510.591	689,288.262	150	38°11'49.9"	10°25'56.8" RT	27.31	13.69
	PC	52+52.47	112,497.192	689,285.434					
	PT	52+79.78	112,523.256	689,293.469					
3	PI	53+17.26	112,557.922	689,307.720	45	127°19'26.2"	35°11'58.5" RT	27.65	14.27
	PC	53+02.99	112,544.719	689,302.292					
	PT	53+30.63	112,565.581	689,319.766					
	POE	53+82.31	112,593.311	689,363.373					

EDGEWOOD AVENUE - WEST			
POINT	STATION	Y (ft)	X (ft)
POB	38+61.86	115,507.020	688,196.790
POE	50+00.00	115,513.230	689,334.910

EDGEWOOD AVENUE - EAST			
POINT	STATION	Y (ft)	X (ft)
POB	50+00.00	115,510.230	689,334.930
POE	57+00.02	115,515.660	690,034.930

DATE 13DEC12 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2810-06-70 QUANTITY
0010	201.0105	CLEARING	STA	36.000	36.000
0020	201.0205	GRUBBING	STA	36.000	36.000
0030	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	14.000	14.000
0040	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 216+58	LS	1.000	1.000
0050	203.0200	REMOVING OLD STRUCTURE (STATION) 02. 155+62	LS	1.000	1.000
0060	204.0100	REMOVING PAVEMENT	SY	2,000.000	2,000.000
0070	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	240.000	240.000
0080	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	54,050.000	54,050.000
0090	204.0150	REMOVING CURB & GUTTER **P**	LF	8,650.000	8,650.000
0100	204.0155	REMOVING CONCRETE SIDEWALK	SY	1,850.000	1,850.000
0110	204.0170	REMOVING FENCE	LF	284.000	284.000
0120	204.0185	REMOVING MASONRY	CY	700.000	700.000
0130	204.0195	REMOVING CONCRETE BASES	EACH	11.000	11.000
0140	204.0210	REMOVING MANHOLES	EACH	12.000	12.000
0150	204.0220	REMOVING INLETS	EACH	39.000	39.000
0160	204.0245	REMOVING STORM SEWER (SIZE) 01. 8-INCH	LF	480.000	480.000
0170	204.0245	REMOVING STORM SEWER (SIZE) 02. 12-INCH	LF	960.000	960.000
0180	204.0245	REMOVING STORM SEWER (SIZE) 03. 15-INCH	LF	1,250.000	1,250.000
0190	204.0245	REMOVING STORM SEWER (SIZE) 04. 18-INCH	LF	1,100.000	1,100.000
0200	204.0245	REMOVING STORM SEWER (SIZE) 05. 24-INCH	LF	470.000	470.000
0210	204.9090.S	REMOVING (ITEM DESCRIPTION) 01. PIPE RAILING	LF	59.000	59.000
0220	205.0100	EXCAVATION COMMON	CY	29,828.000	29,828.000
0230	205.0501.S	EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	TON	400.000	400.000
0240	205.9010.S	GRADING & SHAPING INTERSECTION (LOCATION) 01. MARDITH AVE	LS	1.000	1.000
0250	205.9010.S	GRADING & SHAPING INTERSECTION (LOCATION) 02. VILLA DRIVE	LS	1.000	1.000
0260	205.9010.S	GRADING & SHAPING INTERSECTION (LOCATION) 03. MARDITH AVE	LS	1.000	1.000
0270	205.9010.S	GRADING & SHAPING INTERSECTION (LOCATION) 04. ARTESIAN AVE	LS	1.000	1.000
0280	205.9010.S	GRADING & SHAPING INTERSECTION (LOCATION) 05. CTH U	LS	1.000	1.000
0290	205.9010.S	GRADING & SHAPING INTERSECTION (LOCATION) 06. HENNEBERRY AVE	LS	1.000	1.000
0300	208.0100	BORROW	CY	3,850.000	3,850.000
0310	209.0100	BACKFILL GRANULAR	CY	3,800.000	3,800.000
0320	213.0100	FINISHING ROADWAY (PROJECT) 01. 2810-06-70	EACH	1.000	1.000
0330	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	630.000	630.000
0340	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	19,600.000	19,600.000
0350	311.0110	BREAKER RUN	TON	26,400.000	26,400.000
0360	325.0100	PULVERIZE AND RELAY	SY	43,850.000	43,850.000
0370	415.0085	CONCRETE PAVEMENT 8 1/2-INCH	SY	21,300.000	21,300.000
0380	416.0160	CONCRETE DRIVEWAY 6-INCH	SY	895.000	895.000
0390	416.0610	DRILLED TIE BARS	EACH	20.000	20.000
0400	440.4410.S	INCENTIVE IRI RIDE	DOL	10,074.000	10,074.000
0410	455.0105	ASPHALTIC MATERIAL PG58-28	TON	1,000.000	1,000.000
0420	455.0605	TACK COAT	GAL	1,770.000	1,770.000
0430	460.1101	HMA PAVEMENT TYPE E-1	TON	3,110.000	3,110.000
0440	460.1103	HMA PAVEMENT TYPE E-3	TON	15,250.000	15,250.000
0450	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	10,797.000	10,797.000

3

DATE 13DEC12 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2810-06-70 QUANTITY
0460	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	690.000	690.000
0470	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	450.000	450.000
0480	465.0315	ASPHALTIC FLUMES	SY	100.000	100.000
0490	513.2050.S	RAILING PIPE	LF	30.000	30.000
0500	520.4030	CULVERT PIPE TEMPORARY 30-INCH	LF	210.000	210.000
0510	520.4036	CULVERT PIPE TEMPORARY 36-INCH	LF	60.000	60.000
0520	520.8000	CONCRETE COLLARS FOR PIPE	EACH	1.000	1.000
0530	521.0112	CULVERT PIPE CORRUGATED STEEL 12-INCH	LF	22.000	22.000
0540	521.0118	CULVERT PIPE CORRUGATED STEEL 18-INCH	LF	216.000	216.000
0550	521.1012	APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	EACH	2.000	2.000
0560	521.1018	APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH	EACH	8.000	8.000
0570	522.0324	CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH	LF	310.000	310.000
0580	522.0336	CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH	LF	134.000	134.000
0590	522.0348	CULVERT PIPE REINFORCED CONCRETE CLASS IV 48-INCH	LF	304.000	304.000
0600	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	3.000	3.000
0610	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	8.000	8.000
0620	522.1030	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	EACH	1.000	1.000
0630	522.1036	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH	2.000	2.000
0640	522.1048	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH	EACH	4.000	4.000
0650	523.0119	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 19X30-INCH	LF	130.000	130.000
0660	523.0124	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH	LF	68.000	68.000
0670	523.0129	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 29X45-INCH	LF	58.000	58.000
0680	523.0148	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 48X76-INCH	LF	138.000	138.000
0690	523.0519	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH	EACH	2.000	2.000
0700	523.0524	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH	EACH	2.000	2.000
0710	523.0529	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 29X45-INCH	EACH	2.000	2.000
0720	523.0548	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 48X76-INCH	EACH	4.000	4.000
0730	532.0300.S	WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH	SF	528.000	528.000
0740	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A **p**	LF	8,164.000	8,164.000

3

DATE 13DEC12 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2810-06-70 QUANTITY
0750	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	346.000	346.000
0760	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D **P**	LF	2,298.000	2,298.000
0770	601.0553	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D **P**	LF	142.000	142.000
0780	601.0557	CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D **P**	LF	606.000	606.000
0790	601.0600	CONCRETE CURB PEDESTRIAN **P**	LF	48.000	48.000
0800	602.0410	CONCRETE SIDEWALK 5-INCH	SF	23,255.000	23,255.000
0810	602.0515	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	SF	304.000	304.000
0820	602.1500	CONCRETE STEPS	SF	131.000	131.000
0830	606.0200	RIPRAP MEDIUM	CY	200.000	200.000
0840	606.0300	RIPRAP HEAVY	CY	280.000	280.000
0850	607.0406	STORM SEWER PIPE COMPOSITE 6-INCH	LF	52.000	52.000
0860	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	960.000	960.000
0870	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	466.000	466.000
0880	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	60.000	60.000
0890	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	2,725.000	2,725.000
0900	608.0330	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	LF	569.000	569.000
0910	611.0530	MANHOLE COVERS TYPE J	EACH	17.000	17.000
0920	611.0600	INLET COVERS TYPE A	EACH	1.000	1.000
0930	611.0624	INLET COVERS TYPE H	EACH	34.000	34.000
0940	611.0639	INLET COVERS TYPE H-S	EACH	18.000	18.000
0950	611.0642	INLET COVERS TYPE MS	EACH	1.000	1.000
0960	611.2004	MANHOLES 4-FT DIAMETER	EACH	16.000	16.000
0970	611.2005	MANHOLES 5-FT DIAMETER	EACH	2.000	2.000
0980	611.3230	INLETS 2X3-FT	EACH	52.000	52.000
0990	611.3903	INLETS MEDIAN 3 GRATE	EACH	1.000	1.000
1000	611.9800.S	PIPE GRATES	EACH	22.000	22.000
1010	612.0106	PIPE UNDERDRAIN 6-INCH	LF	140.000	140.000
1020	614.0920	SALVAGED RAIL	LF	1,748.000	1,748.000
1030	614.0925	SALVAGED GUARDRAIL END TREATMENTS	EACH	1.000	1.000
1040	614.2300	MGS GUARDRAIL 3	LF	2,748.000	2,748.000
1050	614.2320	MGS GUARDRAIL 3 QS	LF	88.000	88.000
1060	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	7.000	7.000
1070	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	1.000	1.000
1080	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 2810-06-70	EACH	1.000	1.000
1090	619.1000	MOBILIZATION	EACH	1.000	1.000
1100	623.0200	DUST CONTROL SURFACE TREATMENT	SY	72,350.000	72,350.000
1110	625.0100	TOPSOIL	SY	13,600.000	13,600.000
1120	625.0500	SALVAGED TOPSOIL	SY	26,980.000	26,980.000
1130	627.0200	MULCHING	SY	13,700.000	13,700.000
1140	628.1504	SILT FENCE	LF	4,840.000	4,840.000
1150	628.1520	SILT FENCE MAINTENANCE	LF	10,380.000	10,380.000
1160	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	11.000	11.000
1170	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	6.000	6.000
1180	628.2004	EROSION MAT CLASS I TYPE B	SY	960.000	960.000
1190	628.2027	EROSION MAT CLASS II TYPE C	SY	10,200.000	10,200.000

3

DATE 13DEC12 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2810-06-70 QUANTITY
1200	628.2037	EROSION MAT CLASS III TYPE C	SY	4,700.000	4,700.000
1210	628.6005	TURBIDITY BARRIERS	SY	200.000	200.000
1220	628.7005	INLET PROTECTION TYPE A	EACH	56.000	56.000
1230	628.7010	INLET PROTECTION TYPE B	EACH	1.000	1.000
1240	628.7015	INLET PROTECTION TYPE C	EACH	55.000	55.000
1250	628.7504	TEMPORARY DITCH CHECKS	LF	600.000	600.000
1260	628.7555	CULVERT PIPE CHECKS	EACH	325.000	325.000
1270	628.7560.S	STONE OR ROCK DITCH CHECKS	CY	20.000	20.000
1280	629.0210	FERTILIZER TYPE B	CWT	20.000	20.000
1290	630.0120	SEEDING MIXTURE NO. 20	LB	450.000	450.000
1300	630.0140	SEEDING MIXTURE NO. 40	LB	150.000	150.000
1310	630.0200	SEEDING TEMPORARY	LB	420.000	420.000
1320	630.0300	SEEDING BORROW PIT	LB	50.000	50.000
1330	631.0300	SOD WATER	MGAL	160.000	160.000
1340	631.1000	SOD LAWN	SY	7,300.000	7,300.000
1350	633.5200	MARKERS CULVERT END	EACH	24.000	24.000
1360	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	125.000	125.000
1370	634.0816	POSTS TUBULAR STEEL 2X2-INCH X 16-FT	EACH	49.000	49.000
1380	637.0202	SIGNS REFLECTIVE TYPE II	SF	1,646.880	1,646.880
1390	637.0402	SIGNS REFLECTIVE FOLDING TYPE II	SF	155.200	155.200
1400	638.2102	MOVING SIGNS TYPE II	EACH	11.000	11.000
1410	638.2602	REMOVING SIGNS TYPE II	EACH	202.000	202.000
1420	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	140.000	140.000
1430	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
1440	643.0100	TRAFFIC CONTROL (PROJECT) 01. 2810-06-70	EACH	1.000	1.000
1450	643.0300	TRAFFIC CONTROL DRUMS	DAY	8,980.000	8,980.000
1460	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	4,499.000	4,499.000
1470	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	93.000	93.000
1480	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	93.000	93.000
1490	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	7,004.000	7,004.000
1500	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	3,196.000	3,196.000
1510	643.0900	TRAFFIC CONTROL SIGNS	DAY	6,191.000	6,191.000
1520	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	64.000	64.000
1530	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	100.000	100.000
1540	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 2810-06-70	EACH	1.000	1.000
1550	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	2,240.000	2,240.000
1560	645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	20.000	20.000
1570	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	800.000	800.000
1580	645.0140	GEOTEXTILE FABRIC TYPE SAS	SY	70.000	70.000
1590	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	38,108.000	38,108.000
1600	646.0600	REMOVING PAVEMENT MARKINGS	LF	2,160.000	2,160.000
1610	646.0841.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	LF	3,721.000	3,721.000
1620	646.0843.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	LF	1,074.000	1,074.000
1630	646.0881.S	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH	LF	1,306.000	1,306.000
1640	646.0883.S	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH	LF	1,515.000	1,515.000
1650	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	303.000	303.000
1660	648.0100	LOCATING NO-PASSING ZONES	MI	2.525	2.525

3

DATE 13DEC12 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2810-06-70 QUANTITY
1670	649.0200	TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	LF	4,645.000	4,645.000
1680	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	3,257.000	3,257.000
1690	649.0900	TEMPORARY PAVEMENT MARKING STOP LINE 12-INCH	LF	23.000	23.000
1700	649.1000	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH	LF	46.000	46.000
1710	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	77.000	77.000
1720	650.4500	CONSTRUCTION STAKING SUBGRADE **P**	LF	7,093.000	7,093.000
1730	650.5000	CONSTRUCTION STAKING BASE **P**	LF	3,024.000	3,024.000
1740	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	346.000	346.000
1750	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER **P**	LF	3,046.000	3,046.000
1760	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	12.000	12.000
1770	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT **P**	LF	4,069.000	4,069.000
1780	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE **P**	LF	13,089.000	13,089.000
1790	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 2810-06-70	LS	1.000	1.000
1800	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 2810-06-70	LS	1.000	1.000
1810	650.9920	CONSTRUCTION STAKING SLOPE STAKES **P**	LF	10,776.000	10,776.000
1820	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH **P**	LF	250.000	250.000
1830	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH **P**	LF	1,780.000	1,780.000
1840	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	17.000	17.000
1850	653.0905	REMOVING PULL BOXES	EACH	13.000	13.000
1860	654.0101	CONCRETE BASES TYPE 1	EACH	16.000	16.000
1870	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	2.000	2.000
1880	655.0220	CABLE TRAFFIC SIGNAL 4-14 AWG **P**	LF	1,640.000	1,640.000
1890	655.0260	CABLE TRAFFIC SIGNAL 12-14 AWG **P**	LF	3,665.000	3,665.000
1900	655.0305	CABLE TYPE UF 2-12 AWG GROUNDED **P**	LF	1,260.000	1,260.000
1910	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG **P**	LF	2,210.000	2,210.000
1920	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG **P**	LF	960.000	960.000
1930	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. STH 164 & EDGEWOOD AVE	LS	1.000	1.000
1940	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. STH 164 & CTH L	LS	1.000	1.000
1950	657.0100	PEDESTAL BASES	EACH	16.000	16.000
1960	657.0420	TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	EACH	8.000	8.000
1970	657.0430	TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	EACH	8.000	8.000
1980	658.0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	40.000	40.000
1990	658.0215	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	EACH	40.000	40.000
2000	658.0416	PEDESTRIAN SIGNAL FACE 16-INCH	EACH	16.000	16.000
2010	658.0500	PEDESTRIAN PUSH BUTTONS	EACH	16.000	16.000
2020	658.0600	LED MODULES 12-INCH RED BALL	EACH	24.000	24.000
2030	658.0605	LED MODULES 12-INCH YELLOW BALL	EACH	24.000	24.000
2040	658.0610	LED MODULES 12-INCH GREEN BALL	EACH	24.000	24.000
2050	658.0615	LED MODULES 12-INCH RED ARROW	EACH	16.000	16.000

3

DATE 13DEC12 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2810-06-70 QUANTITY
2060	658.0620	LED MODULES 12-INCH YELLOW ARROW	EACH	32.000	32.000
2070	658.0625	LED MODULES 12-INCH GREEN ARROW	EACH	32.000	32.000
2080	658.0635	LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	EACH	16.000	16.000
2090	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 01. STH 164 & EDGEWOOD AVENUE	LS	1.000	1.000
2100	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 02. STH 164 & CTH L	LS	1.000	1.000
2110	690.0150	SAWING ASPHALT	LF	5,170.000	5,170.000
2120	690.0250	SAWING CONCRETE	LF	225.000	225.000
2130	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	6,390.000	6,390.000
2140	SPV.0060	SPECIAL 01. POLES TYPE 13	EACH	8.000	8.000
2150	SPV.0060	SPECIAL 02. CONC BASES TYPE 13 CONT SUPPLIED ANCHOR BOLTS & ANCHOR ROD TEMPLATE	EACH	8.000	8.000
2160	SPV.0060	SPECIAL 03. MONOTUBE ARMS 40-FT	EACH	8.000	8.000
2170	SPV.0060	SPECIAL 04. LUMINAIRE ARMS STEEL 15-FT	EACH	8.000	8.000
2180	SPV.0060	SPECIAL 05. LUMINAIRES UTILITY LED CATEGORY C	EACH	8.000	8.000
2190	SPV.0060	SPECIAL 06. RETAINING WALL END CAP	EACH	1.000	1.000
2200	SPV.0060	SPECIAL 07. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2	EACH	17.000	17.000
2210	SPV.0060	SPECIAL 08. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 3	EACH	16.000	16.000
2220	SPV.0060	SPECIAL 09. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS	EACH	13.000	13.000
2230	SPV.0060	SPECIAL 10. ADJUSTING SANITARY SEWER MANHOLE CASTINGS	EACH	14.000	14.000
2240	SPV.0090	SPECIAL 01. TRAFFIC SIGNAL EMERGENCY VEHICLE PRE EMPTION (EVP) DETECTOR CABLE INSTALLED	LF	1,565.000	1,565.000
2250	SPV.0090	SPECIAL 02. SPLIT RAIL FENCE	LF	88.000	88.000
2260	SPV.0090	SPECIAL 03. HEAVY DUTY SILT FENCE	LF	350.000	350.000
2270	SPV.0090	SPECIAL 04. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18-INCH	LF	540.000	540.000
2280	SPV.0090	SPECIAL 05. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH	LF	1,296.000	1,296.000
2290	SPV.0105	SPECIAL 01. INST VENDOR SUPPLIED TRAF SIG CABINET STH 164 & EDGEWOOD AVE	LS	1.000	1.000
2300	SPV.0105	SPECIAL 02. INST VENDOR SUPPLIED TRAF SIG CABINET STH 164 & CTH L	LS	1.000	1.000
2310	SPV.0105	SPECIAL 03. TRANSPT & INST STATE FURN AUTOSCOPE VIDEO DETECT SYS STH 164 & EDGEWOOD AVE	LS	1.000	1.000
2320	SPV.0105	SPECIAL 04. TRANSPT & INST STATE FURN AUTOSCOPE VIDEO DETECT SYS STH 164 &CTH L	LS	1.000	1.000
2330	SPV.0105	SPECIAL 05. EMERGENCY VEH PREEMPTION (EVP) DET HEAD INSTALLATION STH 164 & EDGEWOOD AVE	LS	1.000	1.000
2340	SPV.0105	SPECIAL 06. EMERGENCY VEH PREEMPTION (EVP) DET HEAD INSTALLATION STH 164 & CTH L	LS	1.000	1.000
2350	SPV.0105	SPECIAL 07. REMOVE TRAFFIC SIGNALS STH 164 & EDGEWOOD AVE	LS	1.000	1.000
2360	SPV.0105	SPECIAL 08. CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000	1.000

CLEARING AND GRUBBING ITEMS

STATION - STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
CATEGORY CODE 0010			
STAGE 1			
203+00.00 - 205+00.00	LT	2	2
225+00.00 - 226+00.00	RT	1	1
229+00.00 - 232+00.00	LT	3	3
230+00.00 - 233+00.00	RT	3	3
243+00.00 - 251+00.00	RT	8	8
244+00.00 - 247+00.00	LT	3	3
CHERI AVE - 46+00.00 - 48+00.00	LT	2	2
CHERI AVE - 46+00.00 - 49+00.00	RT	3	3
STAGE 1 SUBTOTALS		25	25
STAGE 2			
162+00.00 - 165+00.00	RT	3	3
CTH L - 46+00.00 -47+00.00	RT	1	1
CTH L - 48+00.00 - 49+00.00	LT & RT	1	1
NEVINS ST - 52+00.00 -54+00.00	RT	2	2
STAGE 2 SUBTOTALS		7	7
STAGE 3			
155+00.00 - 156+00.00	LT & RT	2	2
157+00.00 - 158+00.00	LT & RT	2	2
STAGE 3 SUBTOTALS		4	4
TOTALS		**36**	**36**

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 EACH
CATEGORY CODE 0010		
STAGE 1		
203+75.00	LT	1
218+47.54	LT	1
218+50.13	LT	1
221+64.00		1
224+76.00		1
226+27.00	RT	1
228+76.00	RT	1
238.01.00		1
244+28.00		1
246+32.00		1
249+47.07		1
253+85.00	LT	1
262+37.63		1
STAGE 1 SUBTOTAL		13
STAGE 3		
149+33.02		1
STAGE 3 SUBTOTAL		1
TOTAL		**14**

REMOVING OLD STRUCTURE (STATION)

STATION	203.0200.01 LS	203.0200.02 LS	COMMENTS
CATEGORY CODE 0010			
STAGE 1			
216+58.00	1	--	REMOVE 59 LF OF 43X72-INCH CMPA
STAGE 1 SUBTOTAL	**1**	**--**	
STAGE 3			
155+62.00	--	1	REMOVE 80 LF OF 45X72-INCH CMPA
STAGE 3 SUBTOTAL	**--**	**1**	
TOTAL	**1**	**1**	

REMOVING PAVEMENT

STATION - STATION	204.0100 SY
CATEGORY CODE 0010	
STAGE 2	
45+94.00 - 49+00.00'CTH L'	374
51+51.00 - 53+31.00'CTH L'	220
DRIVEWAYS	728
STAGE 2 SUBTOTALS	1,322
STAGE 3	
45+94.00 - 49+00.00'CTH L'	374
51+51.00 - 53+31.00'CTH L'	220
DRIVEWAYS	84
STAGE 3 SUBTOTALS	678
TOTALS	**2,000**

REMOVING ASPHALTIC SURFACE BUTT JOINTS

STATION - STATION	204.0115 SY
CATEGORY CODE 0010	
STAGE 1	
203+67.97 RT - MARDITH AVE	7
216+38.06 RT - MARDITH AVE	7
218+50.00 LT - ARTESIAN AVE	5
221+92.69 RT - CTH U	5
270+81.28	7
CHERI AVE - 46+25.00 - 49+50.00	5
DRIVEWAYS LT & RT	137
STAGE 1 SUBTOTALS	173
STAGE 2	
EDGEWOOD AVE - 46+71.02	7
STAGE 2 SUBTOTALS	7
STAGE 3	
137+25.00	6
140+96.25 RT - HENNEBERRY AVE	5
CTH L - 45+94.20	6
CTH L - 53+31.20	6
DRIVEWAYS LT & RT	37
STAGE 3 SUBTOTALS	60
TOTALS	**240**

REMOVING ASPHALTIC SURFACE MILLING

STATION - STATION	204.0120 SY
CATEGORY CODE 0010	
STAGE 1	
196+58.00 -204+31.00	3,800
204+31.00 - 219+06.00	5,850
219+06.00 - 221+98.00	2,540
221+98.00 - 241+70.00	8,955
241+70.00 - 255+50.00	5,185
255+50.00 - 270+81.28	6,010
CHERI AVE - 46+25.00 - 49+50.00	1,140
DRIVEWAYS	285
STAGE 1 SUBTOTALS	33,765
STAGE 3	
137+25.00 - 153+50.00	6,050
DRIVEWAYS	115
STAGE 3 SUBTOTALS	6,165
CATEGORY 0010 SUBTOTALS	**39,930**
STATION - STATION	SY
CATEGORY CODE 0020	
STAGE 2	
ORCHARD ST/PUTNAM AVE	1,570
ROSE AVE	1,080
MAPLE AVE	1,050
KINGS PKWY	2,155
RAMONA AVE	1,090
PARK AVE	1,760
VILLA DR	4,255
ABBEY COURT	890
NEVINS ST	270
CATEGORY 0020 SUBTOTALS	**14,120**
TOTALS	**54,050**

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0150 LF
CATEGORY CODE 0010		
STAGE 1		
200+03.00 - 200+17.00	RT	10
203+40.00	RT	10
204+54.00 - 204+67.00	RT	10
212+64.00 - 212+77.00	RT	10
215+23.00	RT	10
215+55.00	RT	10
	STAGE 1 SUBTOTAL	60
STAGE 2		
161+16.28 - 176+00.00	LT	1,520
161+21.10 - 174+00.00	RT	1,310
174+32.00- 191+90.00	LT & RT	3,360
192+15.00 - 196+58.00	LT & RT	930
46+71.00 - 49+35.00'EDGEWOOD'	LT & RT	540
	STAGE 2 SUBTOTAL	7,660
STAGE 3		
156+34.00 - 160+81.00	LT & RT	930
	STAGE 3 SUBTOTAL	930
	TOTAL	**8,650**

REMOVING CONCRETE SIDEWALK

STATION - STATION	LOCATION	204.0155 SY
CATEGORY CODE 0010		
STAGE 2		
161+23.00 - 167+85.00	LT & RT	600
168+40.00 - 173+95.00	LT & RT	80
174+30.00 - 176+08.00	LT & RT	100
176+47.00 - 188+11.00	LT	500
176+53.00 - 184+11.00	RT	90
184+53.00 - 187+66.00	RT	40
188+54.00 - 191+79.00	LT & RT	220
192+31.00 - 193+90.00	LT & RT	80
	STAGE 2 SUBTOTALS	**1,710**
STAGE 3		
156+51.00 - 160+75.00	LT & RT	140
	STAGE 3 SUBTOTALS	**140**
	TOTALS	**1,850**

REMOVING FENCE

STATION	LOCATION	204.0170 LF
CATEGORY CODE 0010		
STAGE 2		
CTH L - 47+00.00 - 48+25.00	LT	157
CTH L - 49+00.00	LT	127
	TOTAL 0010	**284**

REMOVING MASONRY

STATION - STATION	LOCATION	204.0185 CY	COMMENTS
CATEGORY CODE 0010			
STAGE 1			
224+00.00 - 226+13.00	RT	120	CONCRETE DITCH
226+42.00 - 228+57.00	RT	120	CONCRETE DITCH
228+92.00 - 231+00.00	RT	120	CONCRETE DITCH
224+85.00 - 231+00.00	LT	325	CONCRETE DITCH
	STAGE 2 SUBTOTALS	**685**	
STAGE 3			
157+81.00 - 158+75.00	LT	15	RETAINING WALL
	STAGE 2 SUBTOTALS	**15**	
	TOTALS	**700**	

REMOVING MANHOLES AND INLETS

STATION	REMOVING MANHOLES 204.0210 EACH	REMOVING INLETS 204.0220 EACH
CATEGORY CODE 0010		
STAGE 1	--	4
STAGE 2	11	30
STAGE 3	1	5
TOTALS	**12**	**39**

REMOVING STORM SEWER ITEMS

LOCATION	204.0245.01 8-INCH LF	204.0245.02 12-INCH LF	204.0245.03 15-INCH LF	204.0245.04 18-INCH LF	204.0245.05 24-INCH LF
CATEGORY CODE 0010					
STAGE 1	--	225	--	--	--
STAGE 2	450	665	1,200	1,100	470
STAGE 3	30	70	50	--	--
	480	**960**	**1,250**	**1,100**	**470**

REMOVING PIPE RAILING

STATION	LOCATION	204.9090.S.01 LF
CATEGORY CODE 0010		
STAGE 2		
174+30	RT	53
	STAGE 2 SUBTOTAL	53
STAGE 3		
158+50	LT	6
	STAGE 3 SUBTOTAL	6
	TOTAL 0010	**59**

EARTHWORK

STATION - STATION	ALIGNMENT	205.0100 EXCAVATION COMMON CY	FILL* CY	ADJUSTED FILL* CY	WASTE* CY	208.0100 BORROW CY	205.0501.S EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL TONS
CATEGORY CODE 0010							
STAGE 1							
222+00 - 232+50	STH 164	1373	385	481	892	0	0
238+01 - 254+50	STH 164	820	3830	4787	-3967	3967	0
46+50 - 49+50	CHERI AVE	171	757	946	-775	775	0
	STAGE 1 SUBTOTAL	2364	4972	6214	-3850	3850	0
STAGE 2							
162+00 - 196+58	STH 164	19207	231	288	18919	0	0
160+00 - 162+00	STH 165	0	0	0	0	0	400
52+00 - 54+25	NEVINS ST	488	16	20	468	0	0
47+00 - 49+90	EDGEWOOD AVE WEST	823	0	0	823	0	0
50+50 - 53+50	EDGEWOOD AVE EAST	875	10	12	863	0	0
	STAGE 2 SUBTOTAL	21393	257	320	21073	0	400
STAGE 3							
138+50 - 140+50	STH 164	111	36	45	66	0	0
148+50 - 160+00	STH 164	4110	616	770	3340	0	0
46+00 - 48+85	CTH L WEST	1164	141	177	987	0	0
51+50 - 53+00	CTH L EAST	686	12	15	671	0	0
	STAGE 3 SUBTOTAL	6071	805	1007	5064	0	0
	TOTALS	**29828**	**6034**	**7541**	**22287**	**3850**	**400**

*** NOT BID ITEMS; FOR INFORMATION ONLY. SEE EARTHWORK TABLES FOR MORE INFORMATION.**

GRADING SHAPING INTERSECTIONS

STATION	LOCATION	205.9010.S.01-06 GRADING AND SHAPING INTERSECTION LS
CATEGORY CODE 0010		
STAGE 1		
206+65.54	MARDITH AVE .01	1
203+75.02	VILLA DR .02	1
215+41.87	MARDITH AVE .03	1
218+50.13	ARTESIAN AVE .04	1
221+40.12	CTH U .05	1
	STAGE 1 SUBTOTALS	5
STAGE 3		
141+50.32	HENNEBERRY AVE .06	1
	STAGE 3 SUBTOTALS	1
	TOTALS	**6**

BACKFILL GRANULAR

STATION	209.0100 CY
CATEGORY CODE 0010	
STAGE 1	
216+58.00	50
221+63.53	285
224+75.80	30
238+01.00	20
244+28.00	655
246+32.10	930
249+47.07	1,600
262+37.62	20
STAGE 1 SUBTOTAL	**3,590**
STAGE 3	
149+33.00	45
155+62.00	165
STAGE 3 SUBTOTAL	**210**
TOTALS	**3,800**

FINISHING ROADWAY (PROJECT)

STATION - STATION	213.0100 EACH
CATEGORY CODE 0010	
PROJECT 2810-06-70	1
	1

BASE AGGREGATE DENSE AND BREAKER RUN ITEMS

STATION - STATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	311.0110 BREAKER RUN TON
CATEGORY CODE 0010			
STAGE 1			
196+58.00 - 204+31.00	20	--	--
204+31.00 - 217+96.00	53	--	--
218+12.00 - 221+09.00	15	--	--
221+35.00 - 240+18.00	126	--	--
240+18.00- 255+50.00	105	--	--
255+50.00 - 270+82.65	107	--	--
CHERI AVE - 46+25.00 - 49+41.00	24	--	--
CULVERT REPLACEMENTS	--	2,350	--
STAGE 1 SUBTOTALS	450	2,350	--
STAGE 2			
161+02.00 - 168+58.00	--	1,934	4,270
168+58.00 - 174+55.00	--	1,330	3,010
174+55.00- 176+63.00	--	453	1,100
176+63.00 - 179+14.00	--	553	1,300
179+14.00 - 184+70.00	--	1,444	2,795
184+70.00 - 192+02.00	--	1,870	4,102
192+02.00 - 196+58.00	--	1,250	2,633
CTH L TEMP WIDENING - 45+94.20 - 49+32.20	--	115	--
CTH L TEMP WIDENING - 50+70.40 - 53+31.20	--	110	--
EDGEWOOD AVE TEMP WIDENING- 46+71.00 - 49+20.40	--	227	--
EDGEWOOD AVE TEMP WIDENING - 50+73.90 - 53+69.00	--	220	--
CTH L - 45+94.20 - 49+32.20	--	231	266
CTH L - 50+70.40 - 53+31.20	--	200	240
EDGEWOOD AVE - 46+71.00 - 49+20.40	--	755	--
EDGEWOOD AVE - 50+73.90 - 53+69.00	--	800	--
NEVINS ST/CTH L INTERSECTION	--	228	--
NEVINS ST CUL-DE-SAC/PARKING LOT		955	--
STAGE 2 SUBTOTALS	--	12,675	19,716
STAGE 3			
137+25.00 - 153+50.00	100	135	--
153+50.00 - 155+63.00	80	1,110	1,135
155+63.00 - 161+02.00	--	1,605	3,359
CULVERT REPLACEMENTS	--	400	--
CTH L, 45+94.20 - 49+32.20	--	725	1,175
CTH L, 50+70.40 - 53+31.20	--	600	1,015
STAGE 3 SUBTOTALS	180	4,575	6,684
TOTALS	**630**	**19,600**	**26,400**

PULVERIZE AND RELAY

STATION - STATION	325.0100 SY
CATEGORYCODE 0010	
STAGE 1	
196+58.00 - 204+31.00	3,580
204+31.00 - 222+62.09	9,550
222+62.09 - 241+82.62	8,310
241+82.62 - 255+50.00	6,670
255+50.00 - 270+82.65	6,860
CHERI AVE - 46+25.00 - 50+00.00	1,300
STAGE 2 SUBTOTALS	**36,270**
STAGE 3	
137+25.00 - 153+50.00	7,580
STAGE 3 SUBTOTALS	**7,580**
TOTALS	**43,850**

CONCRETE PAVEMENT ITEMS

STATION - STATION	LOCATION	415.0085 CONCRETE PAVEMENT 8 1/2-INCH SY	416.0160 CONCRETE DRIVEWAY 6-INCH SY	440.4410.S* INCENTIVE IRI RIDE DOL
CATEGORYCODE 0010				
STAGE 2				
161+01.89 - 196+58.00	LT & RT	--	--	2,674
161+01.89 - 168+57.79	LT & RT	4,030	--	--
168+57.79 - 174+55.52	LT & RT	2,790	--	--
174+55.52 - 176+62.95	LT & RT	1,030	--	--
176+62.95 - 179+13.60	LT & RT	1,220	--	--
179+13.60 - 184+70.21	LT & RT	2,590	--	--
184+70.21 - 190+39.73	LT & RT	2,530	--	--
190+39.73 - 192+01.68	LT & RT	1,340	--	--
192+01.68- 196.58.00	LT & RT	2,490	--	--
DRIVEWAYS	LT & RT	--	865	--
STAGE 2 SUBTOTALS		18,020	865	2,674
STAGE 3				
155+63.00 - 159+56.36	LT & RT	1,950	--	298
159+56.36 - 161+01.89	LT & RT	1,330	--	110
DRIVEWAYS	LT & RT	--	30	--
STAGE 3 SUBTOTALS		3,280	30	408
TOTALS		**21,300**	**895**	**3,082**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ASPHALTIC ITEMS

STATION - STATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON	460.1103 HMA PAVEMENT TYPE E-3 TON	440.4410.S* INCENTIVE IRI RIDE DOL	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	465.0315 ASPHALTIC FLUMES SY
CATEGORY CODE 0010								
STAGE 1								
196+58.00 - 270+82.65	--	--	--	--	5,625	--	--	--
196+58.00 - 204+31.00	66	99	--	1,215	--	--	--	10
204+31.00 - 222+62.09	160	239	--	2,890	--	--	--	30
222+62.09 - 241+82.62	128	190	--	2,310	--	--	--	--
241+82.62 - 255+50.00	111	167	--	2,020	--	--	--	--
255+50.00 - 270+82.65	114	171	--	2,075	--	--	--	--
CHERI AVE - 46+25.00 -49+50.00	21	32	--	390	--	--	--	--
DRIVEWAYS	--	--	--	--	--	150	--	--
STAGE 1 SUBTOTALS	600	898	--	10,900	5,625	150	--	40
STAGE 2								
CTH L - 45+35.11 - 49+03	--	--	--	--	--	--	98	--
CTH L - 51+05.36 - 53+46.80	--	--	--	--	--	--	55	--
EDGEWOOD AVE - 45+67.35 - 49+60.90	--	--	--	--	--	--	110	--
EDGEWOOD AVE - 50+29.58 - 53+82.98	--	--	--	--	--	--	110	--
CTH L - 45+49.20 - 49+32.20	5	7	--	91	--	--	32	--
CTH L - 50+70.04 - 53+31.20	5	7	--	82	--	--	22	--
EDGEWOOD AVE - 46+71.00 - 49+20.40	19	28	--	340	--	--	--	--
EDGEWOOD AVE - 50+73.90 - 53+68.66	20	183	--	331	--	--	22	--
NEVINS ST INTERSECTION	6	13	--	116	--	--	--	20
NEVINS ST CUL-DE-SAC	--	17	--	230	--	--	--	--
NEVINS ST PARKING LOT	--	--	--	--	--	195	--	--
DRIVEWAYS	--	--	--	--	--	285	--	--
STAGE 2 SUBTOTALS	55	255	--	1,190	--	480	450	20
STAGE 3								
137+25.32 - 153+50.00	126	190	--	2,290	1,206	--	--	20
153+50.00 - 155+63.00	20	26	--	350	161	--	--	20
CTH L - 45+49.20 - 49+32.20	17	25	--	300	--	--	--	--
CTH L - 50+70.04 - 53+31.20	12	19	--	220	--	--	--	--
DRIVEWAYS	--	--	--	--	--	60	--	--
STAGE 3 SUBTOTALS	175	260	--	3,160	1,367	60	--	40
CATEGORY 0010 SUBTOTALS	**830**	**1,413**	**--**	**15,250**	**6,992**	**690**	**450**	**100**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONT. ON NEXT SHEET

RAILING PIPE

STATION	LOCATION	513.2050.S LF
CATEGORY CODE 0010		
STAGE 2		
174+30	RT	6
	STAGE 2 SUBTOTAL	6
STAGE 3		
158+50	LT	10
158+75	RT	14
	STAGE 3 SUBTOTAL	24
	TOTAL 0010	**30**

CULVERT PIPE TEMPORARY

STATION	LOCATION	30-INCH 520.4030 LF	36-INCH 520.4036 LF
CATEGORY CODE 0010			
STAGE 1			
216+52	--		60
221+68		130	--
STAGE 2 SUBTOTAL		130	60
STAGE 3			
155+58		80	--
STAGE 3 SUBTOTAL		80	--
TOTAL 0010		**210**	**60**

CONCRETE COLLARS FOR PIPE

STATION - STATION	LOCATION	520.8000 EACH
CATEGORY CODE 0010		
STAGE 2		
NEVINS ST - 51+69.53	LT	1
	TOTALS	**1**

ASPHALTIC ITEMS (CONT.)

STATION - STATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON	460.1103 HMA PAVEMENT TYPE E-3 TON	440.4410.S* INCENTIVE IRI RIDE DOL	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	465.0315 ASPHALTIC FLUMES SY
CATEGORY CODE 0020								
STAGE 2								
ORCHARD ST/PUTNAM AVE	18	37	347	--	--	--	--	--
ROSE AVE	13	27	237	--	--	--	--	--
MAPLE AVE	13	30	229	--	--	--	--	--
KINGS PKWY	26	54	475	--	--	--	--	--
RAMONA AVE	13	27	239	--	--	--	--	--
PARK AVE	21	44	387	--	--	--	--	--
VILLA DR	51	106	936	--	--	--	--	--
ABBEY COURT	11	22	200	--	--	--	--	--
NEVINS ST	4	10	60	--	--	--	--	--
CATEGORY 0020 SUBTOTALS	**170**	**357**	**3,110**	**--**	**--**	**--**	**--**	**--**
TOTALS	**1,000**	**1,770**	**3,110**	**15,250**	**6,992**	**690**	**450**	**100**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CULVERT PIPE ITEMS

STATION	LOCATION	521.0112 CULVERT PIPE CORRUGATED STEEL 12-INCH LF	521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH LF	522.0324 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF	522.0336 CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH LF	522.0348 CULVERT PIPE REINFORCED CONCRETE CLASS IV 48-INCH LF	523.0119 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 19X30-INCH LF	523.0124 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH LF	523.0129 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 29X45-INCH LF	523.0148 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 48X76-INCH LF
CATEGORY CODE 0010										
STAGE 1										
203+75.00	LT	--	122	--	--	--	--	--	--	--
216+58.00		--	--	--	--	--	--	--	--	58
218+50.13	LT	--	--	--	--	--	130	--	--	--
218+78.90	LT	22	--	--	--	--	--	--	--	--
221+63.53		--	--	--	--	130	--	--	--	--
224+75.80		--	--	--	--	--	--	68	--	--
226+72.00	RT	--	32	--	--	--	--	--	--	--
228+76.00	RT	--	36	--	--	--	--	--	--	--
238+01.00		--	--	72	--	--	--	--	--	--
244+28.00		--	--	--	134	--	--	--	--	--
246+32.10		--	--	134	--	--	--	--	--	--
249+47.07		--	--	--	--	174	--	--	--	--
253+85.00	LT	--	26	--	--	--	--	--	--	--
262+37.62		--	--	--	--	--	--	--	58	--
STAGE 1 SUBTOTAL		**22**	**216**	**206**	**134**	**304**	**130**	**68**	**58**	**58**
STAGE 3										
149+33.00		--	--	104	--	--	--	--	--	--
155+62.00		--	--	--	--	--	--	--	--	80
STAGE 3 SUBTOTAL		**--**	**--**	**104**	**--**		**--**	**--**	**--**	**80**
TOTALS		**22**	**216**	**310**	**134**	**304**	**130**	**68**	**58**	**138**

CULVERT PIPE APRON ENDWALL ITEMS

STATION	LOCATION	521.1012 APRON ENDWALLS FOR CULVERT PIPE CORRUGATED STEEL 12-INCH EACH	521.1018 APRON ENDWALLS FOR CULVERT PIPE CORRUGATED STEEL 18-INCH EACH	522.1024* APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	522.1048 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH EACH	523.0519 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH EACH	523.0524 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH EACH	523.0529 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 29X45-INCH EACH	523.0548 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 48X76-INCH EACH	611.9800.S PIPE GRATES EACH	633.5200 MARKERS CULVERT END EACH	650.6000 CONSTRUCTION STAKING CULVERT PIPE EACH
CATEGORY CODE 0010													
STAGE 1													
203+75.00	LT	--	2	--	--	--	--	--	--	--	--	2	1
216+58.00		--	--	--	--	--	--	--	--	2	2	2	1
218+50.13	LT	--	--	--	--	--	2	--	--	--	2	2	1
218+78.90	LT	2	--	--	--	--	--	--	--	--	--	--	--
221+63.53		--	--	--	--	2	--	--	--	--	2	2	1
224+75.80		--	--	--	--	--	--	2	--	--	2	2	1
226+27.00	RT	--	2	--	--	--	--	--	--	--	--	--	--
228+76.00	RT	--	2	--	--	--	--	--	--	--	--	--	--
238+01.00		--	--	2	--	--	--	--	--	--	2	2	1
244+28.00		--	--	--	2	--	--	--	--	--	2	2	1
246+32.10		--	--	2	--	--	--	--	--	--	2	2	1
249+47.07		--	--	--	--	2	--	--	--	--	2	2	1
254+30.00	LT	--	2	--	--	--	--	--	--	--	--	--	--
262+37.62		--	--	--	--	--	--	--	2	--	2	2	1
STAGE 1 SUBTOTAL		**2**	**8**	**4**	**2**	**4**	**2**	**2**	**2**	**2**	**18**	**20**	**10**
STAGE 3													
149+33.00		--	--	2	--	--	--	--	--	--	2	2	1
155+62.00		--	--	--	--	--	--	--	--	2	2	2	1
STAGE 3 SUBTOTAL		**--**	**--**	**2**	**--**	**--**	**--**	**--**	**--**	**2**	**4**	**4**	**2**
TOTALS		**2**	**8**	**6**	**2**	**4**	**2**	**2**	**2**	**4**	**22**	**24**	**12**

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

RETAINING WALL ITEMS

STATION - STATION	LOCATION	532.0300.S WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH SF	612.0106 PIPE UNDERDRAIN 6-INCH LF	645.0111 GEOTEXTILE FABRIC TYPE DF SCHEDULE A SY	SPV.0060.06 RETAINING WALL END CAP EACH	SPV.0090.02 SPLIT RAIL FENCE LF
CATEGORY CODE 0010						
STAGE 3						
157+80 - 158+75	LT	528	140	20	1	88
	TOTALS	**528**	**140**	**20**	**1**	**88**

CONCRETE CURB AND GUTTER ITEMS

STATION - STATION	LOCATION	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0553 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D LF	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	601.0600 CONCRETE CURB PEDESTRIAN LF	650.5500 CONSTRUCTION STAKING CURB, GUTTER AND CURB & GUTTER LF	416.0610 DRILLED TIE BARS EACH
CATEGORY CODE 0010								
STAGE 1								
196+58.00 - 204+31.00	RT	--	50	--	--	--	50	20
203+10.90 - 204+31.00	LT	--	--	--	134	--	134	--
217+95.60 - 219+26.00	LT	--	--	--	161	--	161	--
220+84.40 - 222+15.40	RT	--	--	--	146	--	146	--
	STAGE 1 SUBTOTALS	--	50	--	441	--	491	20
STAGE 2								
161+01.89 - 168+57.79	LT & RT	1,480	--	--	--	--	--	--
168+57.79 - 174+55.22	LT & RT	1,198	--	--	--	--	--	--
174+55.22 - 176+62.95	LT & RT	412	--	--	--	--	--	--
176+62.95 - 179+13.60	LT & RT	488	--	--	--	--	--	--
179+13.60 - 184+70.21	LT & RT	1,108	--	--	--	31	--	--
184+70.21 - 192+02.00	LT & RT	1,475	--	--	--	17	--	--
192+02.00- 196+58.00	LT & RT	920	--	--	--	--	--	--
								--
EDGEWOOD AVE - 46+71.23 - 49+32.00	LT & RT	--	500	--	--	--	500	--
EDGEWOOD AVE - 50+81.24 - 52+82.98	LT & RT	--	234	142	--	--	376	--
NEVINS ST CUL-DE-SAC	LT & RT	--	322	--	--	--	322	--
NEVINS ST PARKING LOT	RT	--	50	--	--	--	50	--
	STAGE 2 SUBTOTALS	7,081	1,106	142	--	48	1,248	--
STAGE 3								
140+78.90 - 142+03.50	RT	--	--	--	165	--	165	--
155+63.00 - 161+02.00	LT & RT	1,082	--	--	--	--	--	--
CTH L - 45+94.20 - 49+21.70	RT	--	649	--	--	--	649	--
CTH L - 50+84.15 - 53+31.20	RT	--	493	--	--	--	493	--
	STAGE 3 SUBTOTALS	1,082	1,142	--	165	--	1,307	--
	CATEGORY 0010 SUBTOTAL	**8,164**	**2,298**	**142**	**606**	**48**	**3,046**	**20**
CATEGORY CODE 0020								
STAGE 2								
ROSE AVE	LT & RT	--	145	--	--	--	145	--
MAPLE AVE	LT		105		--	--	105	--
PARK AVE	LT & RT	--	96	--	--	--	96	--
	CATEGORY 0020 SUBTOTALS	**--**	**346**	**--**	**--**	**--**	**346**	**--**
	TOTALS	**8,164**	**2,644**	**142**	**606**	**48**	**3,392**	**20**

CONCRETE SIDEWALK & CURB RAMP DETECTABLE WARNING FIELD ITEMS

STATION - STATION	LOCATION	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF
CATEGORY CODE 0010			
STAGE 2			
161+28.39 - 168+58.44	LT & RT	7,306	64
170+46.12 - 174+80.88	LT & RT	1,050	24
174+99.00 - 176+73.45	LT & RT	360	32
178+21.29 - 179+12.67	RT	300	32
181+09.06	LT	26	8
181+25.77	RT	28	8
183+87.71 - 184+76.53	RT	285	32
185+40.00 - 191+74.51	RT	2,165	32
192+31.10 - 193+90.15	LT & RT	1,985	32
STAGE 2 SUBTOTALS		**13,505**	**264**
STAGE 3			
156+46.91 - 160+59.18	RT	2,350	40
STAGE 3 SUBTOTALS		**2,350**	**40**
CATEGORY 0010 SUBTOTALS		**15,855**	**304**
CATEGORY CODE 0020			
STAGE 2			
170+49.16	RT	23	--
171+29.66	RT	25	--
171+90.11	RT	25	--
172+02.87 - 172+46.68	RT	150	--
172+16.00 - 172+57.93	LT	160	--
172+75.52	LT	25	--
173+47.63	LT	20	--
176+53.39-176+79.01	RT	135	--
176+73.45-185+40.00	LT	4,330	--
177+21.92 - 177+43.28	RT	82	--
177+76.62	RT	20	--
178+16.80	RT	15	--
179+45.40 - 179+76.25	RT	131	--
182+58.00 - 182+98.20	RT	165	--
186+01.24 - 186+60.32	RT	222	--
186+66.07-187+77.06	RT	465	--
187+25.48 - 187+65.94	RT	162	--
188+10.50-190+20.92	LT	841	--
189+08.76-190+09.52	RT	405	--
CATEGORY 0020 SUBTOTALS		**7,400**	**--**
TOTALS		**23,255**	**304**

*CURB RAMPS TO BE PAID FOR AS CONCRETE SIDEWALK 5-INCH

CONCRETE STEPS

STATION	LOCATION	602.1500 SF
CATEGORY CODE 0010		
STAGE 2		
174+30	RT	55
STAGE 2 SUBTOTAL		55
STAGE 3		
158+50	LT	40
158+75	RT	36
STAGE 3 SUBTOTAL		76
TOTAL 0010		**131**

RIPRAP AND GEOTEXTILE FABRIC ITEMS

STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
CATEGORY CODE 0010				
STAGE 1				
220+10.20	LT	9	--	17
49+55.20'VILLA'	RT	9	--	17
204+60.00	LT	9	--	17
212+72.30	LT	9	--	17
216+48.20	LT	13	--	25
49+61.60'ARTESIAN'	RT	10	--	20
221+19.70	RT	10	--	20
224+64.80	RT	9	--	17
238+01.00	RT	9	--	17
244+28.10	RT	8	--	17
246+32.30	RT	9	--	17
248+91.26	RT	10	--	20
253+85.00	LT	9	--	17
262+34.09	LT	9	--	17
UNDISTRIBUTED		8	--	15
STAGE 1 SUBTOTALS		140	--	270
STAGE 2				
180+63.79	RT	9	--	17
46+75.00'CTH L'	RT	9	--	17
UNDISTRIBUTED		2	--	6
STAGE 2 SUBTOTALS		20	--	40
STAGE 3				
149+70.20	LT	9	--	17
148+50.00 - 155+25.00	RT	--	253	379
155+76.80	LT	13	--	25
155+79.19	RT	9	--	17
UNDISTRIBUTED		9	27	52
STAGE 3 SUBTOTALS		40	280	490
TOTALS		**200**	**280**	**800**

STORM SEWER SUMMARY

STRUCTURE NO.	STATION	LOCATION	OFFSET		MANHOLES 611.2004 4-FT DIAMETER EACH	MANHOLES 611.2005 5-FT DIAMETER EACH	INLETS 611.3230 INLETS 2x3-FT EACH	INLETS 611.3903 INLETS MEDIAN 3 GRATE EACH	REINFORCED CONCRETE APRON ENDWALLS 522.1012 12-INCH EACH	REINFORCED CONCRETE APRON ENDWALLS 522.1024* 24-INCH EACH	REINFORCED CONCRETE APRON ENDWALLS 522.1030 30-INCH EACH	MANHOLE COVERS 611.0530 TYPE J EACH	INLET COVERS 611.0600 TYPE A EACH	INLET COVERS 611.0624 TYPE H EACH	INLET COVERS 611.0639 TYPE H-S EACH	INLET COVERS 611.0642 TYPE M S EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	RIM OR FLANGE ELEV	FLOWLINE OF STRUCTURE	STRUCTURE DEPTH FT
CATEGORY CODE 0010																				
STAGE 1																				
23.0	200+10.23	STH 164	32.70	LT					1								1	-	822.29	-
23.1**	200+10.23	STH 164	21.50	RT			1							1			1	824.39	822.51	1.38**
24.0	203+00.00	STH 164	31.80	LT					1								1	-	823.80	-
24.1**	203+44.14	STH 164	28.38	RT			1							1			1	826.00	824.10	1.40**
25.1**	204+60.13	STH 164	21.50	RT			1							1			1	825.82	824.71	0.61**
26.0	212+72.26	STH 164	32.46	LT					1								1	-	821.74	-
26.1**	212+70.58	STH 164	21.50	RT			1							1			1	823.96	821.96	1.50**
	STAGE 1 SUBTOTALS:				0	0	4	0	3	0	0	0	0	4	0	0	7			
STAGE 2																				
3.1	47+80.00	CTH L	13.50	LT			1							1			1	812.57	809.00	2.57
4.2	50+87.41	CTH L	16.08	LT			1							1			1	818.43	814.45	2.98
6.0	53+13.52	NEVINS ST	23.39	RT	1							1					1	809.91	800.31	8.35
6.1	56+08.74	NEVINS ST	12.84	RT			1							1			1	810.71	805.76	3.95
6.2	53+08.74	NEVINS ST	12.54	LT			1							1			1	810.75	806.14	3.61
7.0	164+40.80	STH 164	0.00			1						1					1	814.17	805.59	7.33
7.1	164+40.80	STH 164	23.50	LT			1								1		1	814.76	810.97	2.79
7.2	164+50.80	STH 164	23.50	LT			1								1		1	814.77	811.02	2.75
7.3	164+40.80	STH 164	28.09	RT			1								1		1	813.35	808.36	3.99
7.4	164+50.80	STH 164	27.92	RT			1								1		1	813.36	808.66	3.70
8.0	166+40.00	STH 164	15.00	RT	1							1					1	814.94	807.69	6.00
8.1	166+40.00	STH 164	21.50	LT			1								1		1	815.23	810.23	4.00
8.2	165+90.00	STH 164	21.50	LT			1								1		1	815.23	810.73	3.50
8.3	166+40.00	STH 164	21.50	RT			1							1			1	814.77	809.78	3.99
9.0	168+35.00	STH 164	15.00	RT	1							1					1	816.98	809.88	5.85
9.1	168+36.32	STH 164	42.01	RT			1							1			1	816.78	812.64	3.14
9.2	167+75.58	STH 164	41.23	RT			1							1			1	816.60	813.06	2.54
10.0	168+75.00	STH 164	15.00	RT	1							1					1	817.76	810.24	6.27
10.1	168+75.00	STH 164	21.50	LT			1							1			1	817.40	812.41	3.99
10.2	168+75.00	STH 164	21.50	RT			1							1			1	817.61	812.63	3.98
11.0	172+53.00	STH 164	15.00	RT	1							1					1	820.03	813.46	5.32
11.1	172+53.00	STH 164	21.50	LT			1								1		1	819.32	814.49	3.83
11.2	172+63.00	STH 164	21.50	LT			1								1		1	819.37	814.79	3.58
11.3	172+53.00	STH 164	21.50	RT			1								1		1	819.84	815.10	3.74
11.4	172+43.00	STH 164	21.50	RT			1								1		1	819.81	815.25	3.56
12.0	174+33.13	STH 164	15.00	RT	1							1					1	821.70	814.46	5.99
12.1	174+33.13	STH 164	41.74	RT			1							1			1	821.25	817.30	2.95
12.2	173+99.64	STH 164	48.44	RT			1							1			1	821.55	817.72	2.83
13.0	174+57.02	STH 164	15.00	RT	1							1					1	821.91	814.68	5.98
13.1	174+57.02	STH 164	21.50	LT			1							1			1	821.09	816.09	4.00
13.2	174+57.02	STH 164	21.50	RT			1							1			1	821.76	816.78	3.98
14.0	176+56.08	STH 164	15.00	RT	1							1					1	823.32	816.11	5.96
14.1	176+56.08	STH 164	22.72	LT			1							1			1	823.15	818.20	3.95
14.2	176+56.08	STH 164	21.50	RT			1							1			1	823.17	818.19	3.98
15.0	180+63.97	STH 164	95.59	LT				1									1	-	816.50	-

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE
**CAST-IN-PLACE STRUCTURE, NO ADJUSTMENT RINGS

CONT. ON NEXT SHEET

STORM SEWER SUMMARY (CONTINUED)

STRUCTURE NO.	STATION	LOCATION	OFFSET		MANHOLES 611.2004 4-FT DIAMETER EACH	MANHOLES 611.2005 5-FT DIAMETER EACH	INLETS 611.3230 INLETS 2x3-FT EACH	INLETS 611.3903 INLETS MEDIAN 3 GRATE EACH	REINFORCED CONCRETE APRON ENDWALLS 522.1012 12-INCH EACH	REINFORCED CONCRETE APRON ENDWALLS 522.1024* 24-INCH EACH	REINFORCED CONCRETE APRON ENDWALLS 522.1030 30-INCH EACH	MANHOLE COVERS 611.0530 TYPE J EACH	INLET COVERS 611.0600 TYPE A EACH	INLET COVERS 611.0624 TYPE H EACH	INLET COVERS 611.0639 TYPE H-S EACH	INLET COVERS 611.0642 TYPE MS EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	RIM OR FLANGE ELEV	FLOWLINE OF STRUCTURE	STRUCTURE DEPTH FT
CATEGORY CODE 0010																				
STAGE 2 (CONTINUED)																				
16.0	181+08.28	STH 164	15.00	RT	1							1					1	823.73	816.98	5.50
17.0	181+45.00	STH 164	15.00	RT	1							1					1	823.77	817.23	5.29
17.1	181+45.00	STH 164	21.50	LT			1								1		1	823.62	818.64	3.98
17.2	181+55.00	STH 164	21.50	LT			1								1		1	824.10	819.12	3.98
17.3	181+45.00	STH 164	21.50	RT			1								1		1	823.62	818.64	3.98
17.4	181+55.00	STH 164	21.50	RT			1								1		1	824.10	819.12	3.98
18.0	184+48.65	STH 164	15.00	RT	1							1					1	826.40	818.54	6.61
18.1	184+48.65	STH 164	42.90	RT			1							1			1	826.37	822.62	2.75
18.2	184+14.95	STH 164	42.86	RT			1							1			1	826.31	823.04	2.27
19.0	185+57.11	STH 164	15.00	RT	1							1					1	825.96	819.13	5.58
19.1	185+57.11	STH 164	21.50	LT			1								1		1	825.53	820.52	4.01
19.2	185+67.11	STH 164	21.50	LT			1								1		1	825.53	820.82	3.71
19.3	185+57.11	STH 164	21.50	RT			1								1		1	825.81	820.83	3.98
19.4	185+67.11	STH 164	21.50	RT			1								1		1	825.81	821.13	3.68
20.0	188+72.61	STH 164	15.00	RT	1							1					1	827.57	820.81	5.51
20.1	188+72.61	STH 164	21.50	LT			1							1			1	827.12	822.17	3.95
20.2	188+72.61	STH 164	21.50	RT			1							1			1	827.42	822.44	3.98
21.0	191+67.00	STH 164	6.00	RT		1						1					1	829.07	822.38	5.44
21.1	49+30.00	EDGEWOOD AVE	19.94	RT			1							1			1	828.59	822.91	4.68
21.2	49+30.00	EDGEWOOD AVE	28.35	LT			1							1			1	828.61	823.15	4.46
21.3	50+55.69	EDGEWOOD AVE	31.77	RT			1							1			1	828.85	823.70	4.15
21.4	50+55.69	EDGEWOOD AVE	25.02	LT			1							1			1	828.90	824.43	3.47
22.0	192+89.26	STH 164	6.00	RT	1							1					1	829.86	823.09	5.52
22.1	192+89.26	STH 164	21.50	LT			1							1			1	829.29	824.31	3.98
22.2	192+89.26	STH 164	30.00	RT			1							1			1	829.36	824.38	3.98
	STAGE 2 SUBTOTALS:				14	2	43	0	0	0	1	16	0	25	18	0	60			
STAGE 3																				
1.0	155+79.19	STH 164	49.65	RT						1							1	-	796.70	-
1.1	156+44.29	STH 164	41.65	RT			1							1			1	802.34	796.96	4.38
1.2	156+55.00	STH 164	38.91	RT				1								1	1	802.31	797.95	4.36
1.3	156+67.00	STH 164	21.50	RT			1							1			1	803.51	798.56	3.95
1.4	157+40.00	STH 164	21.50	RT			1							1			1	807.14	799.36	6.78
1.5*	157+40.00	STH 164	21.50	LT			1							1			1	806.39	799.83	5.56
2.0	46+75.00	CTH L	33.13	RT						1							1	-	806.00	-
3.0	47+80.00	CTH L	25.50	RT	1								1				1	812.55	806.53	4.94
4.0	50+35.98	CTH L	25.50	RT	1							1					1	818.17	810.17	6.75
4.1	50+35.98	CTH L	50.17	RT			1							1			1	817.88	811.50	5.38
	STAGE 3 SUBTOTALS:				2	0	5	1	0	2	0	1	1	5	0	1	10			
	TOTAL 0010:				16	2	52	1	3	2	1	17	1	34	18	1	77			

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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

STRUCTURE DEPTH = GRATE ELEVATION MINUS FLOWLINE ELEVATION FOR STRUCTURES WITH TYPE MS CASTINGS

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

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

OFFSET IS TO CENTER OF STRUCTURE FOR MANHOLES AND INLETS 2X3-FT

OFFSET IS TO END OF STRUCTURE FOR ENDWALLS

*PIPE UNDERDRAIN TIES INTO INLET

STORM SEWER SUMMARY

FROM STRUCTURE	TO STRUCTURE	607.0406 STORM SEWER PIPE COMPOSITE 6-INCH LF	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	609.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH LF
CATEGORY 0010							
STAGE 1							
23.0	23.1		55				
24.0	24.1		75				
25.0	25.1	52					
26.0	26.1		54				
STAGE 1 SUBTOTALS:		52	184	0	0	0	0
STAGE 2							
5.0	6.0					134	
6.0	6.1			10			
6.1	6.2		26				
6.0	7.0					244	
7.0	7.1			24			
7.1	7.2		10				
7.0	7.3				28		
7.3	7.4		10				
7.0	8.0					198	
8.0	8.1			36			
8.1	8.2		50				
8.0	8.3		6				
8.0	9.0					169	
9.0	9.1			28			
9.1	9.2		34				
9.0	10.0					40	
10.0	10.1		36				
10.0	10.2		6				
10.0	11.0					378	
11.0	11.1		36				
11.1	11.2		10				
11.0	11.3			6			
11.3	11.4		10				
11.0	12.0					180	
12.0	12.1			26			
12.1	12.2		34				
12.0	13.0					24	
13.0	13.1		36				
13.0	13.2		6				
13.0	14.0					199	
14.0	14.1		38				
14.0	14.2		6				
15.0	16.0						120
16.0	17.0						37
17.0	17.1			36			
17.1	17.2		10				
17.0	17.3			6			
17.3	17.4		10				
17.0	18.0						304
18.0	18.1			28			

CONT. IN NEXT COLUMN

STORM SEWER SUMMARY (CONTINUED)

FROM STRUCTURE	TO STRUCTURE	607.0406 STORM SEWER PIPE COMPOSITE 6-INCH LF	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	609.033 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH LF
CATEGORY 0010							
STAGE 2 (CONTINUED)							
18.1	18.2		34				
18.0	19.0						108
19.0	19.1			36			
19.1	19.2		10				
19.0	19.3			6			
19.3	19.4		10				
19.0	20.0					316	
20.0	20.1		6				
20.0	20.2		36				
20.0	21.0					294	
21.0	21.1			77			
21.1	21.2		48				
21.0	21.3			50			
21.3	21.4		56				
21.0	22.0					122	
22.0	22.1		28				
22.0	22.2		24				
STAGE 2 SUBTOTALS:		0	626	369	28	2298	569
STAGE 3							
1.0	1.1					65	
1.1	1.2				11		
1.2	1.3				21		
1.3	1.4			73			
1.4	1.5		44				
2.0	3.0					106	
3.0	3.1		40				
3.0	4.0					256	
4.0	4.1			24			
4.0	4.2		66				
STAGE 3 SUBTOTALS:		0	150	97	32	427	0
TOTAL 0010		52	960	466	60	2725	569

ADJUSTING SANITARY SEWER MANHOLE CASTINGS

STATION	SPV.0060.10 EACH
CATEGORY CODE 0020	
UNDISTRIBUTED	14
TOTALS 0020	**14**

BEAM GUARD ITEMS

STATION - STATION	LOCATION	614.0920 SALVAGED RAIL LF	614.0925 SALVAGED GUARDRAIL END TREATMENTS EACH	614.2300 MGS GUARDRAIL 3 LF	614.2320 MGS GUARDRAIL 3 QS LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
CATEGORY CODE 0010							
STAGE 1							
243+75.9 - 250+24.76	RT	600	1	--	--	--	--
244+38.85 - 245+43.43	RT	176	--	--	--	--	--
245+70.39 - 247+69.31	LT	282	--	--	--	--	--
240+70.17 - 252+09.80	RT	--	--	937	--	2	--
243+39.83 - 245+32.00	LT	--	--	84	88	1	--
245+63.20 - 253+30.20	LT	--	--	750	--	1	--
CHERI AVE - 47+10.00 - 49+18.93	RT	--	--	156	--	1	--
CHERI AVE - 47+75.00 - 49+12.53	LT	--	--	84	--	1	--
STAGE 1 SUBTOTALS		**1,058**	**1**	**2,011**	**88**	**6**	**--**
STAGE 3							
149+08.87 - 156+00.00	RT	690	--	--	--	--	--
148+50.00 - 156+16.42	RT	--	--	737	--	1	1
STAGE 2 SUBTOTALS		**690**	**--**	**737**	**--**	**1**	**1**
TOTALS		**1,748**	**1**	**2,748**	**88**	**7**	**1**

DUST CONTROL SURFACE TREATMENT

STATION - STATION	623.0200 SY
CATEGORY CODE 0010	
STAGE 1	
196+58 - 255+50	29,000
UNDISTRIBUTED	2,900
STAGE 1 SUBTOTALS	31,900
STAGE 2	
161+02 -196+58	23,130
UNDISTRIBUTED	2,320
STAGE 2 SUBTOTALS	25,450
STAGE 3	
137+25.00 - 161+02	13,650
UNDISTRIBUTED	1,350
STAGE 3 SUBTOTALS	15,000
TOTAL 0010	**72,350**

SILT FENCE ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	SPV.0090.03 HEAVY DUTY SILT FENCE LF	628.1520 MAINTENANCE LF
CATEGORY CODE 0010				
STAGE 1				
216+48.92	LT	31	--	62
216+67.63	RT	27	--	53
220+64.70-221+61.08	RT	107	--	213
221+49.00-223+39.00	LT	--	190	380
221+50.00-223+43.51	LT	194	--	388
224+84.36	LT	47	--	94
238+01.00	LT & RT	121	--	242
242+00 - 252+75	RT	1,133	--	2,266
243+00.00 - 245+76.61	LT	437	--	874
246+39.97 - 253+30.17	LT	1,045	--	2,090
UNDISTRIBUTED		359	20	758
STAGE 1 SUBTOTALS		3,500	210	7,420
STAGE 2				
180+63.42	LT	30	--	60
UNDISTRIBUTED		10	--	20
STAGE 2 SUBTOTALS		40	--	80
STAGE 3				
148+37.35-149+50.00	RT	121	--	242
149+00.00-156+00.00	LT	766	--	1,532
155+00.00-156+80.00	LT	--	126	252
155+16.00-156+29.19	RT	182	--	363
156+41.59-157+04.30	LT	64	--	127
UNDISTRIBUTED		168	14	364
STAGE 3 SUBTOTALS		1,300	140	2,880
TOTALS		**4,840**	**350**	**10,380**

EROSION CONTROL MOBILIZATIONS ITEMS

LOCATION	628.1905 EROSION CONTROL EACH	628.1910 EMERGENCY EROSION CONTROL EACH
CATEGORY CODE 0010		
STAGE 1	3	2
STAGE 2	4	2
STAGE 3	4	2
TOTALS	**11**	**6**

LANDSCAPING ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEED MIX NO. 20 LBS	630.0140 SEED MIX NO. 40 LBS	630.0200 SEED TEMPORARY LBS	630.0300 SEED BORROW PIT LBS	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY
CATEGORY CODE 0010											
STAGE 1											
220+84.40 - 233+05.09	LT & RT	1,380	5	1,380	0.9	30.0	--	40.0	--	--	--
224+25.00 - 225+00.00	RT	--	685			--					
225+00.00 - 233.05.09	LT & RT	--	12,600			30.0					
238+50.00 - 270+82.65	LT & RT	10,290	10	2,290	7.5	280	--	140	50.0	--	--
UNDISTRIBUTED		--	200	465	1.1	60	--	20	--	--	--
STAGE 1 SUBTOTALS		11,670	13,500	4,135	9.5	400	--	200	50	--	--
STAGE 2											
153+50.00 - 196+58.00	LT & RT	12,100	10	7,370	7.6	--	133	105	--	92	4,716
CTH L	LT	500		--	0.3	--	--	15	--	13	503
NEVINS ST	RT	760		--	0.5	--	--	25	--	19	758
EDGEWOOD AVE	LT	650		--	0.4	--	--	20	--	16	657
UNDISTRIBUTED		--	40	765	0.7	--	17	35	--	20	666
STAGE 2 SUBTOTALS		14,010	50	8,135	9.5	--	150	200	--	160	7,300
STAGE 3											
138+50.00 - 144+00.00	RT	1,300	10	1,300	0.8	40	--	18	--	--	--
UNDISTRIBUTED		--	40	130	0.2	10	--	2	--	--	--
STAGE 3 SUBTOTALS		1,300	50	1,430	1.0	50	--	20	--	--	--
TOTALS		**26,980**	**13,600**	**13,700**	**20.0**	**450**	**150**	**420**	**50**	**160**	**7,300**

EROSION MAT ITEMS

STATION - STATION	LOCATION	628.2004 CLASS I TYPE B SY	628.2027 CLASS II TYPE C SY	628.2037 CLASS 3 TYPE C SY
CATEGORY CODE 0010				
STAGE 1				
203+48.96	LT	5	--	--
203+97.86	LT	10	--	--
218+84.08	LT	10	--	--
220+80	RT	10	--	--
221+90	RT	10	--	--
225+00.00-233+00.00	LT	--	2,200	2,200
224+50.00-233+00.00	RT	--	2,300	2,300
231+00-232+74.22	LT	455	--	--
231+08.05-232+77.21	RT	220	--	--
242+00.00-251+60.00	RT	--	--	--
244+19.50-245+22.97	LT	--	4,600	--
245+66.54-252+80.00	LT	--	900	--
UNDISTRIBUTED		180	200	200
STAGE 1 SUBTOTALS:		900	10,200	4,700
				--
STAGE 2				
NEVINS ST-50+45.80	LT	10	--	--
NEVINS ST-50+89.26	RT	10	--	--
UNDISTRIBUTED		10	--	--
STAGE 2 SUBTOTALS:		30	--	--
				--
STAGE 3				
141+15.96	RT	10	--	--
141+57.67	RT	10	--	--
UNDISTRIBUTED		10	--	--
STAGE 3 SUBTOTALS:		30	--	--
TOTAL 0010:		**960**	**10,200**	**4,700**

TURBIDITY BARRIER

STATION	LOCATION	628.6005 SY
CATEGORY CODE 0010		
STAGE 1		
151+40 - 155+32	RT	200
	TOTAL	**200**

TEMPORARY DITCH CHECKS

STATION - STATION	LOCATION	628.7504 LF
CATEGORY CODE 0010		
STAGE 1		
202+30 - 250+60	LT & RT	530
UNDISTRIBUTED		70
	TOTAL 0010	**600**

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 EACH
CATEGORY CODE 0010		
STAGE 1		
217+27.98	LT	2
224+27.98	LT	2
233+50.63	RT	2
233+58.35	LT	2
249+96.60	LT	3
253+42.46	LT	2
233+58.38	LT	2
204+31.90	LT	2
216+67.50	RT	18
218+78.90	LT	2
219+25.33	LT	5
221+86.60	LT	10
224+85.40	LT	7
226+41.52	RT	4
228+90.71	RT	6
238+01.00	LT	12
244+27.90	LT	35
246+31.90	LT	18
249+96.60	LT	70
253+85.00	LT	14
262+37.57	LT	56
UNDISTRIBUTED		26
	STAGE 1 SUBTOTALS	300
STAGE 3		
149+07.30	RT	3
155+47.90	RT	18
UNDISTRIBUTED		4
	STAGE 3 SUBTOTALS	25
	TOTAL	**325**

INLET PROTECTION

STRUCTURE NO.	628.7005 TYPE A EA	628.7010 TYPE B EA	628.7015 TYPE C EA
CATEGORY CODE 0010			
STAGE 1			
23.1	1	--	1
24.1	1	--	1
25.1	1	--	1
26.1	1	--	1
UNDISTRIBUTED	2	--	2
STAGE 1 SUBTOTALS:	6	0	6
STAGE 2			
3.1	1	--	1
4.2	1	--	1
6.1	1	--	1
6.2	1	--	1
7.1	1	--	1
7.2	1	--	1
7.3	1	--	1
7.4	1	--	1
8.1	1	--	1
8.2	1	--	1
8.3	1	--	1
9.1	1	--	1
9.2	1	--	1
10.1	1	--	1
10.2	1	--	1
11.1	1	--	1
11.2	1	--	1
11.3	1	--	1
11.4	1	--	1
12.1	1	--	1
12.2	1	--	1
13.1	1	--	1
13.2	1	--	1
14.1	1	--	1
14.2	1	--	1
17.1	1	--	1
17.2	1	--	1
17.3	1	--	1
17.4	1	--	1
18.1	1	--	1
18.2	1	--	1
19.1	1	--	1
19.2	1	--	1
19.3	1	--	1
19.4	1	--	1
20.1	1	--	1
20.2	1	--	1
21.1	1	--	1
21.2	1	--	1
21.3	1	--	1
21.4	1	--	1
22.1	1	--	1
22.2	1	--	1
STAGE 2 SUBTOTALS:	43	0	43

CONT. IN NEXT COLUMN

INLET PROTECTION (CONT.)

STRUCTURE NO.	628.7005 TYPE A EA	628.7010 TYPE B EA	628.7015 TYPE C EA
CATEGORY CODE 0010			
STAGE 3			
1.1	1	--	1
1.2	1	1	--
1.3	1	--	1
1.4	1	--	1
1.5	1	--	1
3.0	1	--	1
4.1	1	--	1
STAGE 3 SUBTOTALS:	7	1	6
TOTAL 0010:	56	1	55

STONE OR ROCK DITCH CHECK AND GEOTEXTILE FABRIC ITEMS

STATION	LOCATION	628.7560.S CY	645.0140 GEOTEXTILE FABRIC TYPE SAS SY
CATEGORY CODE 0010			
STAGE 1			
225+00	LT	2	8
225+00	RT	5	21
227+00	LT	3	11
227+00	RT	2	8
230+00	LT	2	10
230+00	RT	2	9
	TOTAL	**20**	**70**

TRAFFIC CONTROL ITEMS

CATEGORY 0010		643.0300 DRUMS		643.0420 BARRICADES TYPE III		643.0500 FLEXIBLE TUBULAR MARKER POST EACH	643.0600 FLEXIBLE TUBULAR MARKER BASE EACH	643.0705 WARNING LIGHTS TYPE A		643.0715 WARNING LIGHTS TYPE C		643.0900 SIGNS		643.1000 SIGNS FIXED MESSAGE	643.1050 SIGNS PCMS	643.3000 DETOUR SIGNS		646.0600 REMOVING PAVEMENT MARKINGS	649.0200 TEMPORARY PAV'T MARKING REFLECTIVE PAINT, 4-INCH		649.0400 TEMPORARY PAV'T MARKING REMOVABLE TAPE, 4-INCH		649.0900 TEMPORARY PAV'T MARKING STOP LINE, 12-INCH WHITE	649.1000 TEMPORARY PAV'T MARKING STOP LINE REMOVABLE TAPE, 12-INCH WHITE
STAGE	DAYS	NO.	DAYS	NO.	DAYS	EACH	EACH	NO.	DAYS	NO.	DAYS	NO.	DAYS	SF	DAYS	NO.	DAYS	L.F.	WHITE L.F.	YELLOW L.F.	WHITE L.F.	YELLOW L.F.	L.F.	L.F.
STAGE 1																								
OVERVIEW	49	--	--	14	686	--	--	28	1,372	--	--	18	882	39	60	26	1,274	--	--	--	--	--	--	--
SUBTOTALS:	49	**0**	**0**	**14**	**686**	**0**	**0**	**28**	**1,372**	**0**	**0**	**18**	**882**	**39**	**60**	**26**	**1,274**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
																			0		**0**			
STAGE 2																								
OVERVIEW	82	--	--	24	1,968	--	--	40	3,280	--	--	29	2,378	25	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:	82	**0**	**0**	**24**	**1,968**	**0**	**0**	**40**	**3,280**	**0**	**0**	**29**	**2,378**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
																			0		**0**			
STAGE 2A																								
CTH L	7	38	266	6	42	--	--	8	56	--	--	5	35	--	--	--	--	--	--	--	--	--	--	--
EDGEWOOD AVE	5	45	225	8	40	--	--	8	40	--	--	6	30	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:	12	**83**	**491**	**14**	**82**	**0**	**0**	**16**	**96**	**0**	**0**	**11**	**65**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
																			0		**0**			
STAGE 2B																								
CTH L	75	19	1,425	7	525	31	31	8	600	15	1,125	18	1,350	--	--	--	--	1,378	1,560	1,560	690	592	23	--
EDGEWOOD AVE	35	66	2,310	8	280	--	--	8	280	35	1,225	15	525	--	--	--	--	782	862	861	777	782	--	--
SUBTOTALS:	110	**85**	**3,735**	**15**	**805**	**31**	**31**	**16**	**880**	**50**	**2,350**	**33**	**1,875**	**0**	**0**	**0**	**0**	**2,160**	**2,422**	**2,421**	**1,467**	**1,374**	**23**	**0**
																			4,843		**2,841**			
STAGE 2C																								
EDGEWOOD AVE	35	79	2,765	8	280	--	--	8	280	10	350	14	490	--	--	--	--	--	--	--	1,711	1,707	--	--
SUBTOTALS:	35	**79**	**2,765**	**8**	**280**	**0**	**0**	**8**	**280**	**10**	**350**	**14**	**490**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,711**	**1,707**	**0**	**0**
																			0		**3,418**			
STAGE 2D																								
EDGEWOOD AVE	7	57	399	8	56	--	--	8	56	8	56	6	42	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:	7	**57**	**399**	**8**	**56**	**0**	**0**	**8**	**56**	**8**	**56**	**6**	**42**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
																			0		**0**			
STAGE 3																								
OVERVIEW	42	--	--	8	336	--	--	16	672	--	--	--	22	--	40	23	966	--	--	--	--	--	--	--
SUBTOTALS:	42	**0**	**0**	**8**	**336**	**0**	**0**	**16**	**672**	**0**	**0**	**0**	**22**	**0**	**40**	**23**	**966**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
																			0		**0**			
STAGE 3A																								
CTH L	15	32	480	13	195	62	62	16	240	20	300	19	285	--	--	--	--	--	1,568	--	--	4,092	--	23
SUBTOTALS:	15	**32**	**480**	**13**	**195**	**62**	**62**	**16**	**240**	**20**	**300**	**19**	**285**	**0**	**0**	**0**	**0**	**0**	**1,568**	**0**	**0**	**4,092**	**0**	**23**
																			1,568		**4,092**			
STAGE 3B																								
CTH L	22	35	770	3	66	--	--	4	88	5	110	6	132	--	--	--	--	--	655	--	80	1,599	--	23
SUBTOTALS:	22	**35**	**770**	**3**	**66**	**0**	**0**	**4**	**88**	**5**	**110**	**6**	**132**	**0**	**0**	**0**	**0**	**0**	**655**	**0**	**80**	**1,599**	**0**	**23**
																			655		**1,679**			
STAGE 3C																								
CTH L	5	68	340	5	25	--	--	8	40	6	30	4	20	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS:	5	**68**	**340**	**5**	**25**	**0**	**0**	**8**	**40**	**6**	**30**	**4**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
																			0		**0**			
TOTALS:	**330**	**439**	**8,980**	**112**	**4,499**	**93**	**93**	**160**	**7,004**	**99**	**3,196**	**140**	**6,191**	**64**	**100**	**49**	**2,240**	**2,160**	**4,645**	**2,421**	**3,257**	**8,772**	**23**	**46**
																			4,645		**3,257**			

3

PAVEMENT MARKING

STATION	TO	STATION	LOCATION	646.0106 PAV'T MARKING EPOXY 4-INCH WHITE LF	646.0106 PAV'T MARKING EPOXY 4-INCH WHITE SKIPS LF	646.0106 PAV'T MARKING EPOXY 4-INCH YELLOW LF	646.0106 PAV'T MARKING EPOXY 4-INCH YELLOW SKIPS LF	646.0841.S PAV'T MARKING GROOVED WET REFLECT CONTRAST TAPE 4-INCH YELLOW LF	646.0881.S PAV'T MARKING GROOVED WET REFLECTIVE TAPE 4-INCH WHITE SKIPS LF	646.0881.S PAV'T MARKING GROOVED WET REFLECTIVE TAPE 4-INCH YELLOW LF	646.0843.S PAV'T MARKING GROOVED WET REFLECT CONTRAST TAPE 8-INCH WHITE LF	646.0843.S PAV'T MARKING GROOVED WET REFLECT CONTRAST TAPE 8-INCH WHITE SKIPS LF
STAGE 1												
192+00	-	NORTH LIMIT	164 MAINLINE	12,468	38	14,490	349	--	113	--	200	30
48+50	-	50+00	VILLA DR	--	--	--	--	--	--	--	--	--
48+00	-	50+00	ARTESIAN AVE	--	--	266	--	--	--	--	--	--
50+00	-	52+00	CTH U	150	--	230	--	--	--	--	--	--
46+00	-	50+00	CHERI AVE	--	--	690	--	--	--	--	--	--
STAGE 1 SUBTOTALS				12,618	38	15,677	349	0	113	0	200	30
				28,682					113		230	
STAGE 2												
160+50	-	192+00	164 MAINLINE	--	--	1,236	504	2,606	--	--	519	57
160+50	-	192+00	164 SIDEROADS	--	--	--	--	--	--	--	--	--
WEST LIMIT	-	EAST LIMIT	EDGEWOOD AVE	--	--	194	--	77	--	1,131	45	--
STAGE 2 SUBTOTALS				0	0	1,429	504	2,683	0	1,131	564	57
				1,933					1,131		621	
STAGE 3												
SOUTH LIMIT	-	160+50	164 MAINLINE	3,897	12	1,395	479	1,038	63	--	179	--
50+00	-	52+90.68	HENNEBERRY AVE	--	--	290	--	--	--	--	--	--
50+00	-	50+50	ORCHARD ST	--	--	--	--	--	--	--	--	--
WEST LIMIT	-	EAST LIMIT	CTH L	--	--	1,419	--	--	--	--	44	--
STAGE 3 SUBTOTALS				3,897	12	3,104	479	1,038	63	0	223	0
				7,492					63		223	
TOTAL 0010				16,515	50	20,210	1,332	3,721	176	1,131	987	87
				38,108					1,306		1,074	

PAVEMENT MARKING

STATION	TO	STATION	LOCATION	646.0883.S PAV'T MARKING GROOVED WET REFLECT TAPE 8-INCH WHITE LF	646.0883.S PAV'T MARKING GROOVED WET REFLECT TAPE 8-INCH WHITE SKIPS LF	647.0726 PAV'T MARKING DIAGONAL EPOXY 12-INCH YELLLOW LF	SPV.0060.07 PAV'T MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 WHITE EA	SPV.0060.08 PAV'T MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 3 WHITE EA	SPV.0060.09 PAV'T MARKING GROOVED PREFORMED THERMOPLASTIC WORDS "ONLY" WHITE EA	SPV.0060.09 PAV'T MARKING GROOVED PREFORMED THERMOPLASTIC WORDS "SCHOOL" WHITE EA	SPV.0090.04 PAV'T MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18-INCH WHITE LF	SPV.0090.05 PAV'T MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH WHITE LF
STAGE 1												
192+00	-	NORTH LIMIT	164 MAINLINE	508	118	44	2	2	1	1	33	135
48+50	-	50+00	VILLA DR	--	--	--	--	--	--	--	35	--
48+00	-	50+00	ARTESIAN AVE	--	--	--	--	--	--	--	29	--
50+00	-	52+00	CTH U	--	--	--	--	--	--	--	42	--
46+00	-	50+00	CHERI AVE	--	--	--	--	--	--	--	23	--
			STAGE 1 SUBTOTALS	508	118	44	2	2	1	1	163	135
				626					2			
STAGE 2												
160+50	-	192+00	164 MAINLINE	--	--	205	5	4	3	3	63	504
160+50	-	192+00	164 SIDEROADS	--	--	--	--	--	--	--	82	--
WEST LIMIT	-	EAST LIMIT	EDGEWOOD AVE	261	27	--	4	4	2	--	57	251
			STAGE 2 SUBTOTALS	261	27	205	9	8	5	3	201	755
				288					8			
STAGE 3												
SOUTH LIMIT	-	160+50	164 MAINLINE	200	23	54	2	2	1	--	30	125
50+00	-	52+90.68	HENNEBERRY AVE	--	--	--	--	--	--	--	27	--
50+00	-	50+50	ORCHARD ST	--	--	--	--	--	--	--	17	--
WEST LIMIT	-	EAST LIMIT	CTH L	313	65	--	4	4	2	--	103	281
			STAGE 3 SUBTOTALS	513	88	54	6	6	3	0	176	406
				601					3			
			TOTAL 0010	1,283	233	303	17	16	9	4	540	1,296
				1,515					13			

LOCATING NO-PASSING ZONE

PROJECT	648.0100 MI
2810-06-70	2.525
TOTALS	**2.525**

CONSTRUCTION STAKING ITEMS

STATION - STATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.7000 CONCRETE PAVEMENT LF	650.8000 RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF	SPV.0105.08 CONCRETE PAVEMENT JOINT LAYOUT LS
CATEGORY CODE 0010							
STAGE 1							
196+58.00 - 270+82.65	--	--	--	7,425	--	--	--
220+66.89 - 232+75.00	--	--	--	--	--	1,208	--
238+50.00 - 254+50.00	--	--	--	--	--	1,600	--
CHERI AVE - 46+25.00 - 49+50.00	--	--	--	325	--	325	--
PROJECT 2310-11-70	--	--	--	--	1	--	1
STAGE 1 SUBTOTALS	--	--	--	7,750	1	3,133	1
STAGE 2							
161+01.89 -196+58.00	3,530	--	3,530	--	--	3,530	--
CTH L - 44+92.00 - 49+34.00	442	442	--	--	--	442	--
CTH L - 51+05.00 - 53+47.00	241	241	--	--	--	241	--
EDGEWOOD AVE - 45+67.00 - 49+61.00	394	394	--	--	--	394	--
EDGEWOOD AVE - 50+74.00 - 53+82.00	353	353	--	--	--	353	--
EDGEWOOD AVE - 46+71.00 - 49+20.00	250	250	--	--	--	250	--
EDGEWOOD AVE - 50+74.00 - 53+69.00	289	289	--	--	--	289	--
NEVINS STREET	269	269	--	--	--	269	--
VILLAGE STREET RESURFACING	--	--	--	5,339	--	--	--
STAGE 2 SUBTOTALS	5,767	2,237	3,530	5,339	--	5,767	--
STAGE 3							
137+25.00 - 153+50.00	--	--	--	1,592	--	--	--
138+50 - 144+00.00	--	--	--	--	--	550	--
153+50.00 - 155+63.00	213	213	--	--	--	213	--
155+63.00 - 161+02.00	539	--	539	--	--	539	--
CTH L - 45+94.00 - 49+20.00	328	328	--	--	--	328	--
CTH L - 50+84.00 - 53+32.00	247	247	--	--	--	247	--
STAGE 3 SUBTOTALS	1,327	788	539		--	1,877	--
TOTALS	**7,093**	**3,024**	**4,069**	**13,089**	**1**	**10,776**	**1**

STAKING ITEMS FOR STORM SEWER, CURB AND GUTTER, AND PIPE CULVERTS SHOWN ELSEWHERE

SAWING PAVEMENT ITEMS

STATION - STATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF
CATEGORY CODE 0010		
STAGE 1		
196+58.00	44	--
VILLA DR	22	--
MARDITH AVE	62	--
ARTESIAN AVE	24	--
CTH U	22	--
CHERI AVE	24	--
203+25.00	132	--
249+47.00	67	--
255+50.00	30	--
DRIVEWAYS	1,178	25
STAGE 1 SUBTOTALS	1,604	25
STAGE 2		
153+50.00	30	--
ORCHARD ST	28	--
ROSE AVE	32	--
MAPLE AVE	35	--
KINGS PKWY	21	--
RAMONA AVE	32	--
PARK AVE	23	--
W CTH L	36	22
E CTH L	36	22
CTH L STAGE 1	470	--
W EDGEWOOD	34	--
E EDGEWOOD	34	--
EDGEWOOD STAGE 1	750	--
SIDE STREETS	176	--
DRIVEWAYS	1,538	144
STAGE 2 SUBTOTALS	3,275	188
STAGE 3		
137+25.00	30	--
149+33.00	76	--
HENNEBERRY AVE	23	--
DRIVEWAYS	162	12
STAGE 3 SUBTOTALS	291	12
TOTALS	**5,170**	**225**

TYPE II PERMANENT SIGNING

2810-06-70 STH 164 WAUKESHA COUNTY

SIGN NO.	SIGN CODE	DESCRIPTION	SIGN SIZE	SIGN SIZE W X H	637.0202 SIGNS TYPE II REFLEC.	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	638.2102 MOVING SIGN TYPE II	638.2602 REMOVING SIGN TYPE II	634.0816 POST TUBULAR STEEL 2" X 2" X 16'	634.0616 POST WOOD 4"X 6"X16'	638.3000 REMOVING SMALL SIGN SUPPORTS	REMARKS
1	W14-3	----	2S	48 X 36	6.0			1		1	1	LOCATION IS TO BE ESTABLISHED
2	R1-1	STOP SIGN	3	36 X 36	7.46			1		1		
3	R2-1	SPD LIM 55	2S	24 X 30	5.0			1		1	1	
4	R2-1	SPD LIM 35	3	36 X 48	12.0			1		1	1	4' MOUNTING HEIGHT
5	NOT USED	----										

6	R2-1	SPD LIM 35	2S	24 X 30	5.0			1		1	1	
7	----	CLEARANCE STRIPER DOWN						1			1	
8	R9-98 (mod)	No Fishing From Road	2S	18 X 24	3.0			1		1	1	
9	R9-98 (mod)	No Fishing From Road	2S	18 X 24	3.0			1		1	1	
10	R7-1D	----	2S	18 X 24	3.0					1		
11	W3-1	----	3	36 X 36	9.0			1		1	1	INCLUDE 16" X 16" ORANGE FLAGS
12	W5-52R	----	2S	12 X 36	3.0							REMAINING STEEL POST FROM SIGN #7
	----	NO PARKING ANYTIME						1				TO BE USED FOR NEW SUPPORT
	----	CLEARANCE STRIPER DOWN						1			1	
13	R7-1D	----	2S	18 X 24	3.0					1		
14	R1-1	----	3	36 X 36	7.46			1		1		
15	R1-1	----	3	36 X 36	7.46			1		1	1	
16	R7-1I	----						1			1	
17	J1-1	----	2S	24 X 39	6.5			1		1	1	
	M2-1	----		21X 15								
	M1-5A	CTH L		24 X 24								
18	R7-1D	----	2S	18 X 24	3.0			1	1		1	
19	R2-1	SPD LIM 35	2S	24 X 30	5.0					1	1	
	----	SPD LIM 35		----				1				
	----	NO PARKING ANYTIME		----				1				
20	J4-1	----	2S	24 X 36	6.0			1		1	1	
	M3-3	----		24 X 12								
	M1-6	----		24 X 24								
	----	STH 164						1				
21	R1-1F	----	3	36 X 36		7.46					1	MOUNT ON SIGNAL POLE
	R1-1	----						1				SEE SHEET 3 OF 14
	R1-4	----						1				
	J3-1	----						1				
		CTH L										
		<----->										
22	R1-1F	----	3	36 X 36		7.46					1	
	R1-1	----						1				
	R1-4	----						1				
	J3-1	----						1				
		CTH L										
		<----->										SEE SHEET 3 OF 14
23	R1-1F	----	3	36 X 36		7.46						MOUNT ON SIGNAL POLE
	R1-1	----						1			1	SEE SHEET 3 OF 14
	R1-4	----						1				
24	R1-1F	----	3	36 X 36		7.46						MOUNT ON SIGNAL POLE
	R1-1	----						1			1	SEE SHEET 3 OF 14
	R1-4							1				
25	R1-1	----						1			1	
	R1-4	----						1				
	J3-1	----						1				
	----	STH 164										
	----	<----->										SEE SHEET 3 OF 14
26	J3-2		2S	48 X 57	19.0					1		
	M3-2	----		24 X 12								
	M1-5A	CTH L		24 X 24								
	M6-1	----		21X 21								
	M3-4	----		24 X 12								
	M1-5A	CTH L		24 X 24								
	M6-1	----		21X 21								
27	J3-1	----	2S	48 X 57	19					1		SEE SHEET 3 OF 14
	M3-3	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-1	----		21X 21								
	M3-1	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-1	----		21X 21								

TYPE II PERMANENT SIGNING

2810-06-70 STH 164

SIGN NO.	SIGN CODE	DESCRIPTION	SIGN SIZE	SIGN SIZE W X H	637.0202 SIGNS TYPE II REFLEC.	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	638.2102 MOVING SIGN TYPE II	638.2602 REMOVING SIGN TYPE II	634.0816 POST TUBULAR STEEL 2" X 2" X 16'	634.0616 POST WOOD 4"X 6"X16'	638.3000 REMOVING SMALL SIGN SUPPORTS	REMARKS
28	R1-1	----						1			1	
	R1-4	----						1				SEE SHEET 3 OF 14
29	J4-1	----	2S	24 X 36	6.0							
	M3-1	----		24 X 12				1		1	1	
	M1-6	STH 164		24 X 24								SEE SHEET 3 OF 14
30	J3-2	----	2S	48 X 57	19					1		
	M3-2	----		24 X 12								
	M1-5A	CTH L		24 X 24								
	M6-1	----		21X 21								
	M3-4	----		24 X 12								
	M1-5A	CTH L		24 X 24								
	M6-1	----		21X 21								SEE SHEET 3 OF 14
31	R7-1D	----	2S	18 X 24	3.0			1	1		1	SEE SHEET 3 OF 14
32	R7-1D	----	2S	18 X 24	3.0				1			SEE SHEET 3 OF 14
33	J3-1	----	2S	48 x 57	19				1			SEE SHEET 3 OF 14
	M3-3	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-1	----		21X 21								
	M3-1	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-1	----		21X 21								
34	J1-1	----	2S	24 X 39	6.5			1	1		1	SEE SHEET 2 OF 14
	M2-1	----		21X 15								
	M1-6	STH 164		24 X 24								
35	W3-3	----	2S	36 X 36	9.0			1	1		1	INCLUDE 16" X 16" ORANGE FLAGS. SEE SHEET 2 OF 14
36	W3-3	----	2S	36 X 36	9.0			1	1		1	INCLUDE 16" X 16" ORANGE FLAGS. SEE SHEET 2 OF 14
37	J1-1	----	2S	24 X 39	6.5			1	1		1	SEE SHEET 2 OF 14
	M2-1	----		21X 15								
	M1-6	STH 164		24 X 24								
38	R1-1	----						1				SEE SHEET 2 OF 14
39	R7-1L	----	2S	18 X 24	3.0			1	1		1	SEE SHEET 2 OF 14
40	R7-1L	----	2S	18 X 24	3.0			1	1		1	SEE SHEET 2 OF 14
41	W3-1	----						1				SEE SHEET 2 OF 14
42	W1-6	----	2M	48 X 24	8.0			2	2		2	SEE SHEET 2 OF 14 & REMOVE THE CURVE AND ADVISORY SIGNS
43	R1-1	----	3	36 X 36	7.46			1	1		1	SEE SHEET 4 OF 14
44	R2-1	SPD LIM 30	2S	24 X 30	5.0			1	1		1	
	S5-2		2M	24 X 30	5.0							
45	S1-1	----	2S	36 X 36	6.75			1	1		1	
	WF16-9p	----	2S	30 X 18	3.75			1				
	R2-6P	----	2M	36 X 24	6							
46	S1-1	----	2S	36 X 36	6.75			1	1		1	
	WF16-9p	----	2S	30 X 18	3.75			1				
	R2-6P	----	2M	36 X 24	6							
47	S1-1	----	2S	36 X 36	6.75			1	1		1	
	WF16-9p	----	2S	30 X 18	3.75			1				
	R2-6P	----	2M	36 X 24	6							
48	S1-1	----	2S	36 X 36	6.75			1	1		1	
	WF16-9p	----	2S	30 X 18	3.75			1				
	R2-6P	----	2M	36 X 24	6							
49	R1-1	----	3	36 X 36	7.46			1	1		1	SEE SHEET 4 OF 14
50	R2-1	SPD LIM 30	2S	24 X 30	5.0			1	1		1	
51	R1-1	----	3	36 X 36	7.46			1	1		1	SEE SHEET 4 OF 14
52	----	SPD LIM 30		----				1			1	REMOVE BY OTHER/CITY
	----	NO PARKING DURING		----								
		SCHOOL HOURS		----								
53	J4-1	----	2S	24 X 36	6.0				1			SEE SHEET 5 OF 14
	M3-3	----		24 X 12								
	M1-6	STH 164		24 X 24								
54	R2-1	SPD LIM 30	2S	24 X 30	5.0				1			
55	R1-1	----	3	36 X 36	7.46			1	1		1	SEE SHEET 4 OF 14
56	R2-1	SPD LIM 30	2S	24 X 30	5.0			1	1		1	
57	R2-1	SPD LIM 30	2S	24 X 30	5.0			1	1		1	
58	R1-1	----	3	36 X 36	7.46			1	1		1	
59	S4-51	SPD LIM 20	2S	24 X 48	8.0			1	1		1	
60	W3-3	----	2S	36 X 36	9.0			1	1		1	
61	R7-1l	----	2S	18 X 24	3.0			1	1		1	
62	----	NO PARKING						1			1	
63	R2-1	SPD LIM 30	2S	24 X 30	5.0			1	1		1	

SHEET 2 OF 7

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING QUANTITIES	SHEET E

FILE NAME : j:\projects\D2_281006164\70\Sign\030201_mq.dgn PLOT DATE : 30-OCT-2012 06:34 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 300:1

TYPE II PERMANENT SIGNING

2810-06-70 STH 164

SIGN NO.	SIGN CODE	DESCRIPTION	SIGN SIZE	SIGN SIZE W X H	637.0202 SIGNS TYPE II REFLEC.	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	638.2102 MOVING SIGN TYPE II	638.2602 REMOVING SIGN TYPE II	634.0816 POST TUBULAR STEEL 2" X 2" X 16'	634.0616 POST WOOD 4"X 6"X16'	638.3000 REMOVING SMALL SIGN SUPPORTS	REMARKS
64	W3-3	----	2S	36 X 36	9.0			1	1		1	
65	W3-3	----	2S	36 X 36	9.0			1		1	1	
66	W3-3	----	2S	36 X 36	9.0			1	1		1	
67	R7-1L	----	2S	18 X 24	3.0			1	1		1	
68	NOT USED	----										
69	NOT USED	----										
70	NOT USED	----										
71	R10-11S	----	2S	24 X 36	6.0			1				MOUNT ON CATILEVER SIGNAL ARM
72	R10-11S	----	2S	24 X 36	6.0			1				MOUNT ON CATILEVER SIGNAL ARM
73	NOT USED	----										
74	NOT USED	----										
75	NOT USED	----										
76	R7-1D	----	2S	18 X 24	3.0			1				MOUNT ON SIGNAL POLE
77	R2-1	SPD LIM 35	2S	24 X 30	5.0			1	1		1	
78	S4-51	SPD LIM 20	2S	24 X 48	8.0			1	1		1	
79	R2-1	SPD LIM 35	2S	24 X 30	5.0			1		1	1	
80	R1-1	----	3	36 X 36	7.46			1		1	1	
81	S1-1	----	2S	36 X 36	6.75			1	1		1	
	WF16-9p	----	2S	30 X 18	3.75			1				
	R2-6P	----	2M	36 X 24	6							
82	R2-1	SPD LIM 35	2S	24 X 30	5.0			1		1	1	
83	R2-1	SPD LIM 35	2S	24 X 30	5.0			1		1	1	
84	W6-3	----	2M	36 X 36	9.0					1		SEE SHEET 11 OF 14
85	W14-3	----	2S	48 X 36	6.0					1		LOCATION IS TO BE ESTABLISHED
86	----	SPD LIM 35		----				1			1	
	----	NO PASSING ZONE		----				1				
87	J4-1	----	2S	24 X 36	6.0					1		
	M3-3	----		24 X 12								
	M1-6	STH 164		24 X 24								
88	R1-1	----	3	36 X 36	7.46			1		1	1	
89	J1-1	----	2S	24 X 39	6.5			1		1	1	
	M2-1	----		21 X 15								
	M1-5A	CTH U		24 X 24								
	----	SPD LIM 35		----				1				
90	R1-1	----	3	36 X 36	7.46			1		1	1	
91	J3-1	----	2S	24 X 46	7.5			1		1	1	
	M1-5A	CTH U		24 X 24								
	M6-1	----		21 X 21								
92	R2-1	SPD LIM 35	3	36 X 48	12.0			1		1	1	
93	J3-1	----	2S	24 X 45	7.5			1		1	1	
	M1-5A	CTH U		24 X 24								
	M6-1	----		21 X 21								
94	R1-1	----	3	36 X 36	7.46			1		1	1	
95	J3-1	----	2S	24 X 45	7.5			1		1	1	
	M1-6	STH 164		24 X 24								
	M6-4	----		21 X 21								
96	J4-1	----	2S	24 X 36	6.0			1		1		
	M3-1	----		24 X 12								
	M1-6	STH 164		24 X 24								
97	J1-2	----	2S	48 X 39	13.0			1		1	1	
	M2-1	----		21 X 15								
	M1-6	STH 164		24 X 24								
	M4-6	----		24 X 12								
	M1-5A	CTH U		24 X 24								
98	J1-1	----	2S	24 X 39	6.5			1		1	1	
	M2-1	----		21 X 15								
	M1-5A	CTH U		24 X 24								
99	R2-1	SPD LIM 45	2S	24 X 30	5.0			1		1	1	
100	W5-52R	----						1			1	
101	R2-1	SPD LIM 45	3	36 X 48	12.0			1		1	1	
102	R1-1	----	3	36 X 36	7.46			1		1	1	
103	----	CLEANCE STRIPER DOWN						1			1	
104	----	CLEANCE STRIPER DOWN		----				1			1	
105	R5-1	----	2M	6 X 6	9.0					1		SEE SHT 12 OF 14
106	W14-3	----	2S	48 X 36	6.0			1		1	1	LOCATION IS TO BE ESTABLISHED
107	W3-5	----	3	36 X 36	9.0					1		
		REDUCE SPEED AHEAD						1			1	
		SPEED LIM 45						1				
108	R4-7	----	3	36 X 48	12.0							SEE DETAIL FOR INSTALLATION OF SIGNS
	W5-54	----	2S	18 X 18	2.25							

TYPE II PERMANENT SIGNING

2810-06-70 STH 164

SIGN NO.	SIGN CODE	DESCRIPTION	SIGN SIZE	SIGN SIZE W X H	637.0202 SIGNS TYPE II REFLEC.	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	638.2102 MOVING SIGN TYPE II	638.2602 REMOVING SIGN TYPE II	634.0816 POST TUBULAR STEEL 2" X 2" X 16'	634.0616 POST WOOD 4"X 6"X16'	638.3000 REMOVING SMALL SIGN SUPPORTS	REMARKS
109	W3-5	----	3	36 X 36	9.0					1		
		REDUCE SPEED AHEAD						1			1	
		SPEED LIM 45						1				
110	W6-1	----	2M	36 X 36	9.0			1		1	1	
111	R5-1	----	3	36 X 36	9.0			1		1	1	
	R2-1	----	2S	24 X 30	5.0			1				
112	W11-3	----						1			1	
113	R1-1	----	3	36 X 36	7.46			1		1		SEE SHEET 7 OF 14
114	W6-2	----	2M	36 X 36	9.0					1		
	R5-1A	----	3	42 X 30	8.75							
115	J4-1	----						1			1	
		SOUTH		----								
		STH 164		----								
		WRONG WAY		----				1				
116		Not Used										
117	R4-7	----	2M	24 X 30	5			1		1	1	
118	R4-7	----	2M	24 X 30	5			1		1	1	
119		Not Used										
120	R1-1	----	3	36 X 36	7.46			1		1	1	
121	D4-2L	PARK & RIDE (ARROW)					1					MOUNT SIGN TO BACKSIDE OF #118 PER PLAN SHEET
122	----	DIV. HWY END SYMBOL		----				1			1	
123	----	DIV. HWY END SYMBOL		----				1			1	
	----	SIGNAL AHEAD SYMBOL		----				1				
124	W4-2R	----	2M	36 X 36	9.0					1		
125	R2-1	SPD LIM 45	2S	24 X 30	5.0			1		1	1	
126	R2-1	SPD LIM 45	2S	24 X 30	5.0			1		1	1	
127	J3-2	----	2S	48 X 57	19.0			1		1	1	
	M3-3	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-2	----		21X 21								
	M3-1	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-1	----		21X 21								
128	J4-1	----	2S	24 X 36	6.0					1		
	M3-3	----		24 X 12								
	M1-6	STH 164		24 X 24								
129	R2-1	SPD LIM 45	2S	24 X 30	5.0			1		1	1	
130	R2-1	SPD LIM 45	2S	24 X 30	5.0			1		1	1	
131	J1-1	----	2S	24X29	6.5			1		1	1	
	MB2-1			21X 15								
	M1-1	IH 43		24 X 24								
132	J1-1	----	2S		6.5			1		1	1	
	MB2-1	----		21X 15								
	M1-1	IH 43		24 X 24								
133	W3-3	----	3	36 X 36	9.0			1		1	1	
134	R1-1	----	3	36 X 36	7.46			1		1	1	
135	J2-3	----	2S	72 X 57	28.5			1		2	2	
	MB3-3	----		24 X 12								
	M1-1	IH 43		24 X 24								
	MB6-1	----		21X 21								
	M3-1	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-1	----		21X 21								
	MB3-1	----		24 X 12								
	M1-1	IH 43		24 X 24								
	MB5-1R	----		21X 21								
136	J2-3	----	2S	72 X 57	28.5			1		2	2	
	MB3-3	----		24 X 12	2.0							
	M1-1	IH 43		24 X 24	4.0							
	MB6-1	----		21X 21	3.06							
	M3-1	----		24 X 12	2.0							
	M1-6	STH 164		24 X 24	4.0							
	M6-1	----		21X 21	3.06							
	MB3-1	----		24 X 12	2.0							
	M1-1	IH 43		24 X 24	4.0							
	MB5-1R	----		21X 21	3.06							
137	D1-2	(ARROW) BELOIT		78 X 30	16.25					2		
		MILWAUKEE (ARROW)										
138	R3-2	----	2S	24 X 24	4.0			1		1	1	
139	R1-1F	----	3	36 X 36		7.46		1				MOUNT TO SIGNAL

TYPE II PERMANENT SIGNING

2810-06-70 STH 164

SIGN NO.	SIGN CODE	DESCRIPTION	SIGN SIZE	SIGN SIZE W X H	637.0202 SIGNS TYPE II REFLEC.	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	638.2102 MOVING SIGN TYPE II	638.2602 REMOVING SIGN TYPE II	634.0816 POST TUBULAR STEEL 2" X 2" X 16'	634.0616 POST WOOD 4"X 6"X16'	638.3000 REMOVING SMALL SIGN SUPPORTS	REMARKS
140	J3-1	----	2	24 X 57	9.5			1				MOUNT TO SIGNAL
	MB3-1	----		24 X 12								
	M1-1	IH - 43		24 X 24								
	MB6-1	----		21X 21								
141	R4-7	----	2S	24 X 30	5.0			1				MOUNT TO SIGNAL
142	R1-1F	----	3	36 X 36		7.46		1				MOUNT TO SIGNAL/ SEE SHT 13 OF 14
143	J2-1	----	2S	24 X 57	9.5			1		1	1	
	MB3-3	----		24 X 12								
	M1-1	IH - 43		24 X 24								
	MB5-1L	----		21X 21								
144	D1-1	<---- BELOIT		60 X 18	6.25			1		1	1	
145	J3-1	----	2S	24 X 57	9.5			1		1	1	
	MB3-3	----		24 X 12								
	M1-1	IH - 43		24 X 24								
	MB6-1	----		21X 21								
146	J3-1	----	2S	24 X 57	9.5			1		1	1	
	MB3-1	----		24 X 12								
	M1-1	IH - 43		24 X 24								
	MB6-1	----		21X 21								
147	R7-1-D	----	2S	18 X 24	3.0			1				MOUNT ON SIGNAL POST
148	R7-1-D	----	2S	18 X 24	3.0			1		1	1	
149	R7-1-D	----	2S	18 X 24	3.0			1		1	1	
150	J2-1	----						1		2	1	
	MB3-1	----										
	M1-1	IH - 43										
	MB3-1L	----										
	D1-1	<---- MILWAUKEE		78 X 30	16.25			1				
151	D1-2	(ARROW) MILWAUKEE BELOIT (ARROW)		78 X 30	16.25			1		2	2	
152	R7-1-D	----	2S	18 X 24	3.0			1				MOUNT ON SIGNAL POST
153	J3-1	----	2S	24 X 57	9.5			1				MOUNT ON SIGNAL POST
	MB3-3	----		24 X 12								
	M1-1	IH - 43		24 X 24								
	MB6-1	----		21X 21								
154	R4-7	----	2S	24 X 30	5.0			1				MOUNT TO SIGNAL
155	R4-7	----	2S	24 X 30	5.0			1				MOUNT TO SIGNAL
156	J2-2	----	2S	72 X 60	30			1		2	2	
	MB3-3	----		24 X 12								
	M1-1	IH - 43		24 X 24								
	MB5-1R	----		21X 21								
	M3-3	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-1	----		21X 21								
	MB3-1	----		24 X 12								
	M1-1	IH - 43		24 X 24								
	MB4-20L	----		24 X 24								
157	R2-1	SPD LIM 45	2S	24 X 30	5.0			1		1	1	
158	J1-1	----	2S	24 X 39	6.5			1		1	1	
	MB2-1	----		21X 15								
	M1-1	----		24 X 24								
159	R5-1	----	3	36 X 36	9.0			1				MOUNT TO SIGNAL
160	R1-1F	----	3	36 X 36		7.46		1				MOUNT TO SIGNAL
161	R1-1F	----	3	36 X 36		7.46		1				MOUNT TO SIGNAL
	R3-2	----	2S	24 X 24	4.0			1				
162	R5-1	----	3	36 X 36	9.0			1				MOUNT TO SIGNAL
163	R1-1F	----	3	36 X 36		7.46		1				MOUNT TO SIGNAL
164	R1-1F	----	3	36 X 36		7.46		1				MOUNT TO SIGNAL
	R3-1	----	2S	24 X 24	4.0			1				
165	R5-1	----	3	30 X 30	6.25			1		1	1	
	R1-1F	----	3	36 X 36		7.46		1				
166	R1-1F	----	3	36 X 36		7.46		1				MOUNT ON SIGNAL

SHEET 5 OF 7

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PERMANENT SIGNING QUANTITIES	SHEET	E

FILE NAME : j:\projects\D2_281006164\70\Sign\030201_mq.dgn PLOT DATE : 30-OCT-2012 06:34 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 300:1

WISDOT/CADDS SHEET 43

TYPE II PERMANENT SIGNING

2810-06-70 STH 164

SIGN NO.	SIGN CODE	DESCRIPTION	SIGN SIZE	SIGN SIZE W X H	637.0202 SIGNS TYPE II REFLEC.	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	638.2102 MOVING SIGN TYPE II	638.2602 REMOVING SIGN TYPE II	634.0816 POST TUBULAR STEEL 2" X 2" X 16'	634.0616 POST WOOD 4"X 6"X16'	638.3000 REMOVING SMALL SIGN SUPPORTS	REMARKS
167	J3-1	----	2S	48 X 57	19.0			1		1	1	
	M3-3	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-1	----		21X 21								
	M3-1	----		24 X 12								
	M1-6	STH 164		24 X 24								
	M6-1	----		21X 21								
168	R1-1F	----	3	36 X 36	7.46			1				MOUNT TO SIGNAL
169	R2-1	SPD LIM 30	2S	24 X 30	5.0			1	1		1	SEE SHEET 2 OF 14
170	NOT USED	----										
171	W1-7	----	2S	48 X 24	8.0					1		SEE SHEET 8 OF 14
172	W1-7	----	2S	48 X 24	8.0					1		SEE SHEET 10 OF 14
173	J4-1	----	2S	24 X 36	6.0			1		1	1	SEE SHEET 10 OF 14
	M3-1	----		24 X 12								
	M1-6	----		24 X 24								
	W1-7	<---->						1				
174	R2-1	SPD LIM 55	2S	24 X 30	5.0			1		1	1	SEE SHEET 10 OF 14
175		NO PASSING ZONE						1			1	SEE SHEET 11 OF 14
		KEEP LEFT RT SYMBOL						1				
176	J4-1	----	2S	24 X 36	6.0					1		SEE SHEET 13 OF 14
	M3-3	----		24 X 12								
	M1-6	----		24 X 24								
177	W9-1R	----	2S	36 X 36	9.0					1		SEE SHEET 13 OF 14
	----	RIGHT LANE ENDS						1			1	
178	W9-1R	----	2S	36 X 36	9.0					1		SEE SHEET 13 OF 14
	----	RIGHT LANE ENDS						1			1	
179	R4-7	----	2S	24 X 30	5.0			1		1	1	SEE SHEET 13 OF 14
180	R1-2	----	2S	36 X 31	3.88			1		1	1	SEE SHEET 13 OF 14
181	R5-1	----	3	36 X 36	9.0			1				MOUNT TO SIGNAL, 3' MOUNTING HEIGHT/ SEE SHT 13 OF 14
182	R5-1	----	3	36 X 36	9.0			1				MOUNT TO SIGNAL/ SEE SHT 13 OF 14
	R1-1F	----	3	36 X 36		7.46		1				
183	R5-1	----	3	36 X 36	9.0			1				MOUNT TO SIGNAL/ SEE SHT 13 OF 14
	R1-1F	----	3	36 X 36		7.46		1				
	R3-1	----	2S	24 X 24	4.0							
184	R1-1F	----	3	36 X 36		7.46		1				MOUNT TO SIGNAL/ SEE SHT 13 OF 14
185	R1-1F	----	3	36 X 36		7.46		1				MOUNT TO SIGNAL/ SEE SHT 13 OF 14
186	W4-2R	----	2M	36 X 36	9.0					1		SEE SHT 12 OF 14
187	D4-2R	PARK & RIDE (ARROW)	3	36 X 48	12.0			1		1	1	SEE SHT 12 OF 14
188	W12-1D	----	2S	24 X 24	4.0					1		SEE SHT 13 OF14/ 2' MOUNTING HT.
189	R6-1L	----	2M	54 X 18	6.75					1		SEE SHT 13 OF 14
190	W12-1D	----	2S	24 X 24	4.0					1		SEE SHT 14 / 2' MOUNTING HT.
191	J2-1	----	2S	24 X 57	9.0					1		SEE SHT 14
	MB3-1	----		24 X 12								
	M1-1	IH - 43		24 X 24								
	MB3-1L	----		21X 21								
192	R3-8A	----	2S	30 X 36	7.5				1			SEE SHEET 2 OF 14
193	R7-1R	----	2S	18 X 24	3.0				1			SEE SHEET 2 OF 14
194	R3-8A	----	2S	30 X 36	7.5				1			SEE SHEET 2 OF 14
195	W1-6	----						1			1	SEE SHEET 2 OF 14
196	R3-8A	----	2S	30 X 36	7.5					1		SEE SHEET 2 OF 14
197	W1-7	----	2S	48 X 24	8.0					1		SEE SHEET 2 OF 14
198	W14-1	----	2S	30 X 30	6.25					1		SEE SHEET 2 OF 14
199	W5-56	----	2S	18 X 18	2.25					1		SEE SHEET 2 OF 14, 4' MOUNTING HEIGHT
200	W5-56	----	2S	18 X 18	2.25					1		SEE SHEET 2 OF 14, 4' MOUNTING HEIGHT
201	W5-56	----	2S	18 X 18	2.25					1		SEE SHEET 2 OF 14, 4' MOUNTING HEIGHT
202	W5-56	----	2S	18 X 18	2.25					1		SEE SHEET 2 OF 14, 4' MOUNTING HEIGHT
203	R10-50	----	2S	30 X 36	7.5							ON ARM. SEE SHEET 3 OF 14
204	R7-1L	----						1			1	SEE SHEET 3 OF 14
205	R10-50	----	2S	30 X 36	7.5							ON ARM. SEE SHEET 3 OF 14
206	R7-1R	----						1			1	SEE SHEET 3 OF 14
207	R10-50	----	2S	30 X 36	7.5							ON ARM. SEE SHEET 3 OF 14
208	J1-1	----	2S	24 X 39	6.5					1		SEE SHEET 4 OF 14
	M2-1	----		21X 15								
	M1-5A	CTH L		24 X 24								
209	W3-3	----	2S	36 X 36	9					1		INCLUDE 16" X 16" ORANGE FLAGS. SEE SHEET 4 OF 14
210	R3-8A	----	2S	30 X 36	7.5					1		SEE SHEET 5 OF 14
211	R3-8A	----	2S	30 X 36	7.5					1		SEE SHEET 5 OF 14
212	R3-8A	----	2S	30 X 36	7.5					1		SEE SHEET 5 OF 14
213	R3-8A	----	2S	30 X 36	7.5					1		SEE SHEET 5 OF 14

TYPE II PERMANENT SIGNING

2810-06-70 STH 164

SIGN NO.	SIGN CODE	DESCRIPTION	SIGN SIZE	SIGN SIZE W X H	637.0202 SIGNS TYPE II REFLEC.	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	638.2102 MOVING SIGN TYPE II	638.2602 REMOVING SIGN TYPE II	634.0816 POST TUBULAR STEEL 2" X 2" X 16'	634.0616 POST WOOD 4"X 6"X16'	638.3000 REMOVING SMALL SIGN SUPPORTS	REMARKS
214	NOT USED	----										
215	R1-1F	----	3	36 X 36		7.46		1				SEE SHEET 6 OF 14
216	NOT USED	----										
217	R1-1F	----	3	36 X 36		7.46		1				SEE SHEET 6 OF 14
218	NOT USED	----										
219	NOT USED	----										
220	R1-1F	----	3	36 X 36		7.46		1				SEE SHEET 6 OF 14
221	NOT USED	----										
222	R1-1F	----	3	36 X 36		7.46		1				SEE SHEET 6 OF 14
223	J4-1	----	2	24 X 36		6			1			SEE SHEET 7 OF 14
	M3-1	----		24 X 12								
	M1-6	STH 164		24 X 24								
224	W11-3	----						1			1	SEE SHEET 8 OF 14
225	R3-20R	----	2S	24 X 30	5					1		SEE SHEET 8 OF 14
226	R3-7R	----	3	36 X36	9					1		SEE SHEET 8 OF 14
227	R3-20R	----	2S	24 X 30	5					1		SEE SHEET 8 OF 14
228	NOT USED	----										
229	NOT USED	----										
230	R10-50	----	2S	30 X 36	7.5							ON ARM. SEE SHEET 3 OF 14
231	R10-11S	----	2S	24 X 36	6			1				SEE SHEET 6 OF 14
232	R10-50	----	2S	30 X 36	7.5							ON ARM. SEE SHEET 6 OF 14
233	R10-50	----	2S	30 X 36	7.5							ON ARM. SEE SHEET 6 OF 14
234	R10-50	----	2S	30 X 36	7.5							ON ARM. SEE SHEET 6 OF 14
235	R10-50	----	2S	30 X 36	7.5							ON ARM. SEE SHEET 6 OF 14
236	R5-1	----	2M	36 X 36	9				1			SEE SHEET 2 OF 14
237	R5-1	----	2M	36 X 36	9				1			SEE SHEET 2 OF 14
238	R1-1	----	3	36 X 36	9			1		1	1	SEE SHEET 2 OF 14
239	NOT USED	----										
240	R10-11S	----	2S	24 X 36	6			1		1	1	ON ARM. SEE SHEET 6 OF 14
241	M1-94H	BIG BEND DRIVE		72 X 18	9							MOUNT ON ARM. SEE SHEET 3 OF 14
242	M1-94H	BIG BEND DRIVE		72 X 18	9							MOUNT ON ARM. SEE SHEET 3 OF 14
243	M1-94H(mod)	(ARROW) FOREST HOME MILWAUKEE (ARROW)		108 X 42	31.5							MOUNT ON POLE UPRIGHT AT TOP BY ARM. SEE SHEET 3 OF 14
244	M1-94H(mod)	(ARROW) MILWAUKEE JANESVILLE (ARROW)		108 X 42	31.5							MOUNT ON POLE UPRIGHT AT TOP BY ARM. SEE SHEET 3 OF 14
245	M1-94H	EDGEWOOD AVE		84 X 18	10.5							MOUNT ON ARM. SEE SHEET 6 OF 14
246	M1-94H	EDGEWOOD AVE		84 X 18	10.5							MOUNT ON ARM. SEE SHEET 6 OF 14
247	J3-1	----	2S	24 X24	7.5				1			SEE SHEET 6 OF 14
	M1-6	STH 164		24 X24								
	M6-4	----		21X 21								
248	J3-1	----	2S	24 X24	7.5				1			SEE SHEET 6 OF 14
	M1-6	STH 164		24 X24								
	M6-4	----		21X 21								
249	S5-2	----	2S	24 X 30	5				1			SEE SHEET 7 OF 14
250	R2-1	SPD LIM 45	2S	24 X 30	5			1	1		1	SEE SHEET 8 OF 14
251	R3-20R	----	2S	24 X 30	5				1			SEE SHEET 10 OF 14
252	D52-53	----	2S	24 X 24	4							BACK OF DO NOT ENTER SIGN #236 ON SHEET 2 OF 14
253	R6-1R(2M)	----	2M	54 X 18	6.75					1		SEE SHEET 13 OF 14
254	R6-1L(2M)	----	2M	54 X 18	6.75			1				SEE SHEET 14 OF 14 TOP OF STOP SIGN
255	R6-1R(2M)	----	2M	54 X 18	6.75							SEE SHEET 14 OF 14 TOP OF STOP SIGN
---	---	UNDISTRIBUTED	---	---			10	2		5	5	
		TOTALS			1646.88	155.2	11	202	49	125	140	

NOTE: INSTALLATION OF SIGNS REQUIRES
7' MIN. MOUNTING HEIGHT MEASURED
FROM RIGHT EDGE LINE STARTING AT
(JOY LANE) STA: 156+00 THRU 196+50 (EDGEWOOD)
6' MOUNTING HEIGHT EVERYWHERE ELSE

NON-METALLIC CONDUIT

LOCATION	LOCATION	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L.F.
STH 164 AT EDGEWOOD	CB1-PB1	-	15
	PB1-SB1	10	-
	PB1-SB2	20	-
	PB1-PB2	-	160
	PB2-SB3	10	-
	PB2-SB4	25	-
	PB2-PB3	-	90
	PB3-SB5	5	-
	PB3-PB4	-	130
	PB4-SB6	10	-
	PB4-PB5	-	100
	PB5-SB7	15	-
	PB5-SB8	5	-
	PB5-PB6	-	120
	PB6-SB9	10	-
	PB6-PB7	-	80
	PB7-SB10	5	-
	PB7-PB11	5	-
	PB7-PB8	-	170
	PB8-SB12	10	-
	PB8-CB1	-	15
SUBTOTAL		130	880
STH 164 AT CTH L	CB1-PB1	-	15
	PB1-SB1	15	-
	PB1-SB2	15	-
	PB1-PB2	-	150
	PB2-SB3	15	-
	PB2-PB3	-	80
	PB3-SB4	10	-
	PB3-SB5	5	-
	PB3-PB4	-	140
	PB4-SB6	10	-
	PB4-PB5	-	100
	PB5-SB7	10	-
	PB5-PB6	-	130
	PB6-SB8	5	-
	PB6-PB7	-	70
	PB7-SB9	5	-
	PB7-SB10	10	-
	PB7-PB8	-	150
	PB8-SB11	10	-
	PB8-SB12	10	-
	PB8-PB9	-	50
	PB9-CB1	-	15
SUBTOTAL		120	900
TOTAL		250	1,780

PULL BOXES

LOCATION		PB NO.	(1) STATION	(1) OFFSET	653.0140 PULLBOXES STEEL 24X42-INCH EACH	653.0905 REMOVING PULL BOXES EACH
STH 164 AT EDGEWOOD		PB1	192+43.4	58.1 RT	1	-
		PB2	191+64.5	59.8 RT	1	-
		PB3	191+33.1	28.5 RT	1	-
		PB4	191+37.6	34.7 LT	1	-
		PB5	191+78.4	66.7 LT	1	-
		PB6	192+38.0	66.0 LT	1	-
		PB7	192+60.8	34.9 LT	1	-
		PB8	192+60.7	48.4 RT	1	-
	(EXISTING)	PB1	FIELD	LOCATE	-	1
	(EXISTING)	PB2	FIELD	LOCATE	-	1
	(EXISTING)	PB3	FIELD	LOCATE	-	1
	(EXISTING)	PB4	FIELD	LOCATE	-	1
	(EXISTING)	PB5	FIELD	LOCATE	-	1
	(EXISTING)	PB6	FIELD	LOCATE	-	1
	(EXISTING)	PB7	FIELD	LOCATE	-	1
	(EXISTING)	PB8	FIELD	LOCATE	-	1
	(EXISTING)	PB9	FIELD	LOCATE	-	1
	(EXISTING)	PB10	FIELD	LOCATE	-	1
	(EXISTING)	PB11	FIELD	LOCATE	-	1
	(EXISTING)	PB12	FIELD	LOCATE	-	1
	(EXISTING)	PB13	FIELD	LOCATE	-	1
SUBTOTAL					8	13
STH 164 AT CTH L		PB1	161+62.4	42.5 LT	1	-
		PB2	161+59.8	31.9 RT	1	-
		PB3	161+29.5	57.6 RT	1	-
		PB4	160+59.5	62.4 RT	1	-
		PB5	160+25.5	29.0 RT	1	-
		PB6	160+28.2	34.5 LT	1	-
		PB7	160+53.2	52.8 LT	1	-
		PB8	161+26.3	56.6 LT	1	-
		PB9	161+49.8	49.0 LT	1	-
SUBTOTAL					9	0
TOTAL					17	13

(1) STATION/OFFSET ARE APPROXIMATE.

CONCRETE BASES

LOCATION	SB NO.	(1) STATION	(1) OFFSET	204.0195 REMOVING CONCRETE BASES EACH	654.0101 CONCRETE BASES TYPE 1 EACH	SPV.0060.02 CONCRETE BASES TYPE 13 CONTRACTOR SUPPLIED ANCHOR BOLTS & ANCHOR ROD TEMPLATE EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
STH 164 AT EDGEWOOD	CB1	192+51.6	52.4 RT	-	-	-	1
	SB1	192+34.4	52.3 RT	-	1	-	-
	SB2	192+26.0	60.3 RT	-	1	-	-
	SB3	191+59.3	52.2 RT	-	-	1	-
	SB4	191+46.6	39.5 RT	-	1	-	-
	SB5	191+36.6	30.7 RT	-	1	-	-
	SB6	191+46.4	36.8 LT	-	-	1	-
	SB7	191+67.6	55.2 LT	-	1	-	-
	SB8	191+75.9	60.8 LT	-	1	-	-
	SB9	192+40.9	54.7 LT	-	-	1	-
	SB10	192+54.5	39.6 LT	-	1	-	-
	SB11	192+64.9	30.3 LT	-	1	-	-
	SB12	192+53.9	38.4 RT	-	-	1	-
(EXISTING)	CB1	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB1	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB2	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB3	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB4	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB5	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB6	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB7	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB8	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB9	FIELD	LOCATE	1	-	-	-
(EXISTING)	SB10	FIELD	LOCATE	1	-	-	-
SUBTOTAL				11	8	4	1
STH 164 AT CTH L	CB1	161+57.6	45.2 LT	-	-	-	1
	SB1	161+47.6	37.6 LT	-	1	-	-
	SB2	161+57.0	30.1 LT	-	1	-	-
	SB3	161+47.4	40.0 RT	-	-	1	-
	SB4	161+35.9	51.4 RT	-	1	-	-
	SB5	161+27.2	64.0 RT	-	1	-	-
	SB6	160+54.8	56.0 RT	-	-	1	-
	SB7	160+34.4	33.1 RT	-	1	-	-
	SB8	160+34.4	38.9 LT	-	-	1	-
	SB9	160+47.7	50.5 LT	-	1	-	-
	SB10	160+58.0	61.1 LT	-	1	-	-
	SB11	161+25.0	65.4 LT	-	-	1	-
	SB12	161+33.6	50.3 LT	-	1	-	-
SUBTOTAL				0	8	4	1
TOTAL				11	16	8	2

(1) STATION/OFFSET ARE APPROXIMATE.

EQUIPMENT GROUNDING CONDUCTORS

LOCATION	LOCATION	655.0515 * ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG (GREEN) L.F.
STH 164 AT EDGEWOOD	CB1-SB1	30
	SB1-SB2	45
	SB2-SB3	125
	SB3-SB4	50
	SB4-SB5	90
	SB5-SB6	95
	SB6-SB7	90
	SB7-SB8	35
	SB8-SB9	90
	SB9-SB10	70
	SB10-SB11	25
	SB11-SB12	115
	SB12-CB1	30
SUBTOTAL		890
STH 164 AT CTH L	CB1-SB1	35
	SB1-SB2	45
	SB2-SB3	120
	SB3-SB4	80
	SB4-SB5	30
	SB5-SB6	100
	SB6-SB7	85
	SB7-SB8	95
	SB8-SB9	65
	SB9-SB10	35
	SB10-SB11	110
	SB11-SB12	35
	SB12-CB1	55
SUBTOTAL		890
TOTAL		1,780

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL CABLE

LOCATION	LOCATION	655.0220 CABLE TRAFFIC SIGNAL 4-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.
STH 164 AT EDGEWOOD	CB1-SB1	-	60
	CB1-SB2	-	70
	CB1-SB3	-	140
	CB1-SB4	-	155
	CB1-SB5	-	180
	CB1-SB6	-	250
	CB1-SB7	-	250
	CB1-SB8	-	240
	CB1-SB9	-	185
	CB1-SB10	-	140
	CB1-SB11	-	140
	CB1-SB12	-	60
	SB1-HEAD 21	20	-
	SB2-HEAD 15	20	-
	SB2-HEAD 16	20	-
	SB3-HEAD 13	20	-
	HEAD 13-HEAD 12	35	-
	SB3-HEAD 14	70	-
	SB3-HEAD 22	20	-
	SB4-HEAD 23	20	-
	SB5-HEAD 1	20	-
	SB5-HEAD 10	20	-
	SB6-HEAD 8	20	-
	HEAD 8-HEAD 7	35	-
	SB6-HEAD 9	70	-
	SB6-HEAD 24	20	-
	SB7-HEAD 25	20	-
	SB8-HEAD 11	20	-
	SB8-HEAD 20	20	-
	SB9-HEAD 18	20	-
	HEAD 18-HEAD 17	35	-
	SB9-HEAD 19	70	-
	SB9-HEAD 26	20	-
	SB10-HEAD 27	20	-
	SB11-HEAD 5	20	-
	SB11-HEAD 6	20	-
	SB12-HEAD 3	20	-
	HEAD 3-HEAD 2	35	-
	SB3-HEAD 4	70	-
	SB3-HEAD 28	20	-
SUBTOTAL		820	1,870

TRAFFIC SIGNAL CABLE - CONTINUED

LOCATION	LOCATION	655.0220 CABLE TRAFFIC SIGNAL 4-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.
STH 164 AT CTH L	CB1-SB1	-	65
	CB1-SB2	-	65
	CB1-SB3	-	140
	CB1-SB4	-	175
	CB1-SB5	-	170
	CB1-SB6	-	245
	CB1-SB7	-	260
	CB1-SB8	-	190
	CB1-SB9	-	155
	CB1-SB10	-	160
	CB1-SB11	-	85
	CB1-SB12	-	85
	SB1-HEAD 21	20	-
	SB2-HEAD 5	20	-
	SB2-HEAD 6	20	-
	SB3-HEAD 3	20	-
	HEAD 3- HEAD 2	35	-
	SB3-HEAD 4	70	-
	SB4-HEAD 22	20	-
	SB4-HEAD 23	20	-
	SB5-HEAD 15	20	-
	SB5-HEAD 16	20	-
	SB6-HEAD 13	20	-
	HEAD 13-HEAD 12	35	-
	SB6-HEAD 14	70	-
	SB6-HEAD 24	20	-
	SB7-HEAD 1	20	-
	SB7-HEAD 10	20	-
	SB7-HEAD 25	20	-
	SB8-HEAD 8	20	-
	HEAD 8-HEAD 7	35	-
	SB8-HEAD 9	70	-
	SB8-HEAD 26	20	-
	SB9-HEAD 27	20	-
	SB10 HEAD 11	20	-
	SB10-HEAD 20	20	-
	SB11-HEAD 18	20	-
	HEAD 18-HEAD 17	35	-
	SB11-HEAD 19	70	-
	SB12-HEAD 28	20	-
SUBTOTAL		820	1,795
TOTAL		1,640	3,665

3

SIGNAL FACES

LOCATION	SB NO.	HEAD NO.	658.0110 TRAFFIC SIGNAL FACES 3-12 INCH VERTICAL R-Y-G EACH	658.0110 TRAFFIC SIGNAL FACES 3-12 INCH VERTICAL <-R<-Y<-G EACH	658.0215 BACKPLATES SIGNAL FACE 3-SECTION 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACES 16-INCH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED ARROW EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
STH 164 AT EDGEWOOD	SB1	21	-	-	-	1	-	-	-	-	-	1
	SB2	15	-	1	1	-	-	-	-	1	2	-
		16	1	-	1	-	1	1	1	-	-	-
	SB3	12	1	-	1	-	1	1	1	-	-	-
		13	1	-	1	-	1	1	1	-	-	-
		14	-	1	1	-	-	-	-	1	2	-
		22	-	-	-	1	-	-	-	-	-	1
	SB4	23	-	-	-	1	-	-	-	-	-	1
	SB5	1	1	-	1	-	1	1	1	-	-	-
		10	-	1	1	-	-	-	-	1	2	-
	SB6	7	1	-	1	-	1	1	1	-	-	-
		8	1	-	1	-	1	1	1	-	-	-
		9	-	1	1	-	-	-	-	1	2	-
		24	-	-	-	1	-	-	-	-	-	1
	SB7	25	-	-	-	1	-	-	-	-	-	1
	SB8	11	1	-	1	-	1	1	1	-	-	-
		20	-	1	1	-	-	-	-	1	2	-
	SB9	17	1	-	1	-	1	1	1	-	-	-
		18	1	-	1	-	1	1	1	-	-	-
		19	-	1	1	-	-	-	-	1	2	-
		26	-	-	-	1	-	-	-	-	-	1
	SB10	27	-	-	-	1	-	-	-	-	-	1
	SB11	5	-	1	1	-	-	-	-	1	2	-
		6	1	-	1	-	1	1	1	-	-	-
	SB12	2	1	-	1	-	1	1	1	-	-	-
		3	1	-	1	-	1	1	1	-	-	-
		4	-	1	1	-	-	-	-	1	2	-
		28	-	-	-	1	-	-	-	-	-	1
SUBTOTAL			12	8	20	8	12	12	12	8	16	8

SIGNAL FACES - CONTINUED

LOCATION	SB NO.	HEAD NO.	658.0110 TRAFFIC SIGNAL FACES 3-12 INCH VERTICAL R-Y-G EACH	658.0110 TRAFFIC SIGNAL FACES 3-12 INCH VERTICAL <-R<-Y<-G EACH	658.0215 BACKPLATES SIGNAL FACE 3-SECTION 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACES 16-INCH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED ARROW EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
STH 164 AT CTH L	SB1	21	-	-	-	1	-	-	-	-	-	1
	SB2	5	-	1	1	-	-	-	-	1	2	-
		6	1	-	1	-	1	1	1	-	-	-
	SB3	2	1	-	1	-	1	1	1	-	-	-
		3	1	-	1	-	1	1	1	-	-	-
		4	-	1	1	-	-	-	-	1	2	-
	SB4	22	-	-	-	1	-	-	-	-	-	1
		23	-	-	-	1	-	-	-	-	-	1
	SB5	15	-	1	1	-	-	-	-	1	2	-
		16	1	-	1	-	1	1	1	-	-	-
	SB6	12	1	-	1	-	1	1	1	-	-	-
		13	1	-	1	-	1	1	1	-	-	-
		14	-	1	1	-	-	-	-	1	2	-
		24	-	-	-	1	-	-	-	-	-	1
	SB7	1	1	-	1	-	1	1	1	-	-	-
		10	-	1	1	-	-	-	-	1	2	-
		25	-	-	-	1	-	-	-	-	-	1
	SB8	7	1	-	1	-	1	1	1	-	-	-
		8	1	-	1	-	1	1	1	-	-	-
		9	-	1	1	-	-	-	-	1	2	-
		26	-	-	-	1	-	-	-	-	-	1
	SB9	27	-	-	-	1	-	-	-	-	-	1
	SB10	11	1	-	1	-	1	1	1	-	-	-
		20	-	1	1	-	-	-	-	1	2	-
	SB11	17	1	-	1	-	1	1	1	-	-	-
		18	1	-	1	-	1	1	1	-	-	-
		19	-	1	1	-	-	-	-	1	2	-
	SB12	28	-	-	-	1	-	-	-	-	-	1
SUBTOTAL			12	8	20	8	12	12	12	8	16	8
TOTAL			24	16	40	16	24	24	24	16	32	16

3

PULL BOX BONDING JUMPERS

LOCATION	LOCATION	655.0515 * ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG (GREEN) L.F.
STH 164 AT EDGEWOOD	SB2-PB1	35
	SB3-PB2	25
	SB5-PB3	20
	SB6-PB4	25
	SB8-PB5	20
	SB9-PB6	25
	SB11-PB7	20
	SB12-PB8	25
SUBTOTAL		195
STH 164 AT CTH L	CB1-PB1	35
	SB3-PB2	30
	SB5-PB3	20
	SB6-PB4	25
	SB7-PB5	25
	SB8-PB6	20
	SB10-PB7	25
	SB11-PB8	25
	CB1-PB9	30
SUBTOTAL		235
TOTAL		430

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING ELECTRICAL WIRE

LOCATION	LOCATION	655.0305 CABLE TYPE UF, 2-12 AWG GROUNDED L.F.	655.0610 ELECTRICAL WIRE, LIGHTING, 12 AWG L.F.
STH 164 AT EDGEWOOD	CB1-SB3	155	-
	SB3-LUMINAIRE 1	-	120
	SB3-SB6	190	-
	SB6-LUMINAIRE 1	-	120
	CB1-SB12	75	-
	SB12-LUMINAIRE 1	-	120
	SB12-SB9	205	-
	SB9-LUMINAIRE 1	-	120
SUBTOTAL		625	480
STH 164 AT CTH L	CB1-SB3	155	-
	SB3-LUMINAIRE 1	-	120
	SB3-SB6	195	-
	SB6-LUMINAIRE 1	-	120
	CB1-SB11	100	-
	SB11-LUMINAIRE 1	-	120
	SB11-SB8	185	-
	SB8-LUMINAIRE 1	-	120
SUBTOTAL		635	480
TOTAL		1,260	960

3

INSTALL EVP DETECTOR CABLE

LOCATION	LOCATION	SPV.0090.01 TRAFFIC SIGNAL EMERGENCY VEHICLE PREEMPTION (EVP) DETECTOR CABLE INSTALLED L.F.
STH 164 AT EDGEWOOD	CB1-SB3	160
	CB1-SB6	270
	CB1-SB9	205
	CB1-SB12	80
SUBTOTAL		715
STH 164 AT CTH L	CB1-SB3	160
	CB1-SB6	270
	CB1-SB8	260
	CB1-SB11	160
SUBTOTAL		850
TOTAL		1,565

MISCELLANEOUS ITEMS

LOCATION	ITEM NUMBER	UNIT	QUANTITY	DESCRIPTION
STH 164 AT EDGEWOOD	656.0200.01	LS	1	ELECTRICAL SERVICE METER BREAKER PEDESTAL
	658.5069.01	LS	1	SIGNAL MOUNTING HARDWARE
	SPV.0105.01	LS	1	INSTALL VENDOR SUPPLIED TRAFFIC SIGNAL CABINET
	SPV.0105.03	LS	1	TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO DETECTION SYSTEM
	SPV.0105.05	LS	1	EMERGENCY VEHICLE PREEMPTION (EVP) DETECTOR HEAD INSTALLATION
	SPV.0105.07	LS	1	REMOVE TRAFFIC SIGNALS
STH 164 AT CTH L	656.0200.02	LS	1	ELECTRICAL SERVICE METER BREAKER PEDESTAL
	658.5069.02	LS	1	SIGNAL MOUNTING HARDWARE
	SPV.0105.02	LS	1	INSTALL VENDOR SUPPLIED TRAFFIC SIGNAL CABINET
	SPV.0105.04	LS	1	TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO DETECTION SYSTEM
	SPV.0105.06	LS	1	EMERGENCY VEHICLE PREEMPTION (EVP) DETECTOR HEAD INSTALLATION

SIGNAL BASES, POLES, ARMS, AND LUMINAIRES

LOCATION	SB NO.	657.0100 PEDESTAL BASES EACH	SPV.0060.01 POLES TYPE 13 EACH	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	SPV.0060.03 MONOTUBE ARMS 40-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	SPV.0060.04 LUMINAIRE ARMS STEEL 15-FT EACH	SPV.0060.05 LUMINAIRES UTILITY LED CATEGORY C EACH
STH 164 AT EDGEWOOD	SB1	1	–	1	–	–	1	–	–
	SB2	1	–	–	1	–	–	–	–
	SB3	–	1	–	–	1	1	1	1
	SB4	1	–	1	–	–	1	–	–
	SB5	1	–	–	1	–	–	–	–
	SB6	–	1	–	–	1	1	1	1
	SB7	1	–	1	–	–	1	–	–
	SB8	1	–	–	1	–	–	–	–
	SB9	–	1	–	–	1	1	1	1
	SB10	1	–	1	–	–	1	–	–
	SB11	1	–	–	1	–	–	–	–
	SB12	–	1	–	–	1	1	1	1
SUBTOTAL		8	4	4	4	4	8	4	4
STH 164 AT CTH L	SB1	1	–	1	–	–	1	–	–
	SB2	1	–	–	1	–	–	–	–
	SB3	–	1	–	–	1	1	1	1
	SB4	1	–	1	–	–	1	–	–
	SB5	1	–	–	1	–	–	–	–
	SB6	–	1	–	–	1	1	1	1
	SB7	1	–	–	1	–	1	–	–
	SB8	–	1	–	–	1	1	1	1
	SB9	1	–	1	–	–	1	–	–
	SB10	1	–	–	1	–	–	–	–
	SB11	–	1	–	–	1	–	1	1
	SB12	1	–	1	–	–	1	–	–
SUBTOTAL		8	4	4	4	4	8	4	4
TOTAL		16	8	8	8	8	16	8	8

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
2810-06-20		
FEDERAL PROJECT NUMBER	4.1	1

PLAT OF RIGHT-OF-WAY REQUIRED FOR

STH 164

STH 164 & CTH L INTERSECTION

WAUKESHA CO.

CONSTRUCTION PROJECT NUMBER

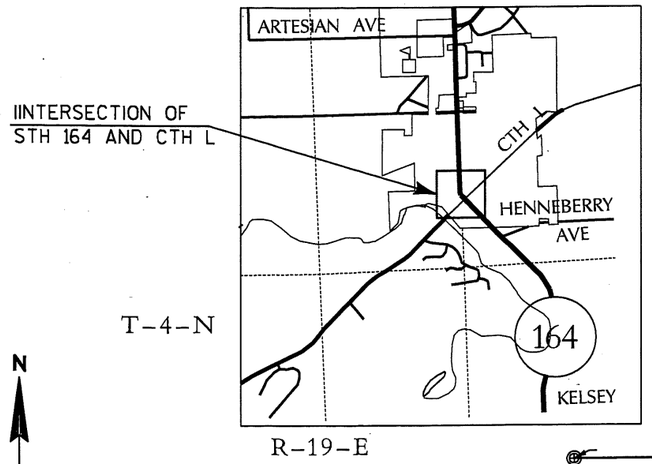
2810-06-70

SCHEDULE OF LANDS & INTERESTS REQUIRED

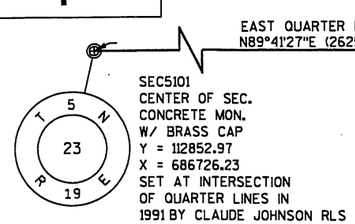
AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TOTAL ACRES	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	TOTAL REMAINING ACRES	T.L.E. TEMP. ACRES
1	WILLIAM J. & CAROL J. CRAIG	FEE	0.255	0.255	0.000	0.255	0.000	
2	GERALD J. & SYLVIA G. LUTHER	FEE	0.629	0.184	0.000	0.184	0.445	0.190
200	WE ENERGIES-ELECTRIC	RELEASE OF RIGHTS						

200 WE ENERGIES-ELECTRIC PARCEL 2 V.274, P. 18, DOC. 221092
PARCEL 2 V.320, P. 439, DOC. 248722



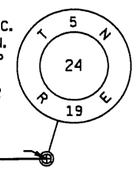
TOTAL NET LENGTH OF CENTERLINE = MI.



SEC5101
CENTER OF SEC.
CONCRETE MON.
W/ BRASS CAP
Y = 112852.97
X = 686726.23
SET AT INTERSECTION
OF QUARTER LINES IN
1991 BY CLAUDE JOHNSON RLS

EAST QUARTER LINE
N89°41'27"E (2625.37')

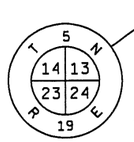
SEC5103
CENTER OF SEC.
CONCRETE MON.
W/ BRASS CAP
Y = 112887.96
X = 692024.52



WEST QUARTER LINE
N89°33'13"E (2673.04')

SEE DETAIL

DETAIL AT SCALE



SEC5089
SEC. COR.
CONCRETE MON.
W/ BRASS CAP
Y = 115513.23
X = 689334.91

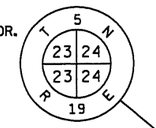
(2646.14')
S00°21'38"E
SECTION LINE

AHEAD 168+19.43
BACK 167+93.24
PI168+19.43

STH 164 ℄ & ℄ = SECTION LINE
STA 167+93.24

STH 164
PROPOSED ℄
S00°21'31"E
S01°04'14"W
STH 164 ℄
99'

PT 165+88.77



SEC5102
QUARTER SEC. COR.
CONCRETE MON.
W/ BRASS CAP
Y = 112867.14
X = 689351.56

10'
37.62'
S56°48'38"E PL

EAST QUARTER LINE
N89°41'27"E (2625.37')

WEST QUARTER LINE
N89°33'13"E (2673.04')

6.59'STH 164 ℄ TO
QUARTER SEC. CORNER
ON EAST QUARTER LINE

3.13'STH 164 ℄ TO
QUARTER SEC. CORNER
ON WEST QUARTER LINE

STH 164 PROPOSED ℄	
CUR 2	
PI	164+07.13
Y	112730.18
X	689352.42
DELTA	38°19'16"
D	10°08'15"
T	196.38'
L	378.01'
R	565.19'
LCH	371.01'
CB	N19°31'15"W

STH 164 EXISTING ℄	
CL1	
PI	
Y	112673.41
X	689341.35
DELTA	49°05'28" LT
D	28°38'52"
T	91.34'
L	171.36'
R	200.00'
LCH	166.17'
CB	N23°28'30"W

SUB1PRW1	
PARCEL 2	
L	195.23'
R	525.19'
LCH	194.11'
CB	N19°46'21"W

SUBRW1	
PARCEL 2	
L	59.81'
R	170.00'
LCH	59.50'
CB	N9°00'29"W

PI164+07.13

OLD CTH F ℄

RELOCATED
CTH F ℄ (1964)

NEVINS STREET

BLOCK A

STRATTON PLAT OF BIG BEND

LOT 7

PARCEL 2
TLE FOR SLOPES AND
REMOVAL OF HOUSE.
TLE DOES NOT INCLUDE GARAGE.

BLDG

NW-SW
23-5-19

PC 162+10.74

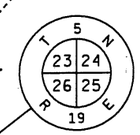
PI161+01.89

STH 164 ℄
S48°01'14"E 291'

PROPOSED STH 164 R

CTH L R-℄
N48°15'52"E (N49°00'00"E)
48'
OLD STH 24 ℄

NE-SE
23-5-19



SEC5115
SEC. COR.
CONCRETE MON.
W/ BRASS CAP
Y = 110143.82
X = 689391.84

NOTES

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, WAUKESHA COUNTY ZONE, NAD 83 (1997) 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 ¾" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY SOUTHEAST REGION SURVEY.

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.

HWY	BASIS OF EXISTING R/W	WIDTH	YEAR
STH 164 / CTH F	PROJECT S 0475(2)	VARIES	1964
NEVINS STREET	PROJECT S 0475(2)	VARIES	1964

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.	**CURVE DATA**	
HIGHWAY EASEMENT	H.E.	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
MONUMENT	MON.	RADIUS	R
PAGE	P.	DEGREE OF CURVE	D
PERMANENT LIMITED EASEMENT	PLE	CENTRAL ANGLE OR DELTA	DELTA
PROPERTY LINE	PL	LENGTH OF CURVE	L
RECORDED AS	(100')	TANGENT	TAN

CONVENTIONAL UTILITY SYMBOLS

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

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	⌀ (¾" UNLESS NOTED)	PROPOSED R/W LINE	
R/W MONUMENT	○ *(SET)	EXISTING H.E. LINE	
R/W STANDARD	▲ *(SET)	PROPERTY LINE	
SIGN	ISIGN	LOT & TIE LINES	
SECTION CORNER MONUMENT	●	SLOPE INTERCEPTS	
SECTION CORNER SYMBOL		CORPORATE LIMITS	
FEE (HATCH VARIES)		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY ACQUISITION)	
PERMANENT LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
R/W BOUNDARY POINT	RWB20	SECTION LINE	
PARCEL NUMBER	02	QUARTER LINE	
UTILITY PARCEL NUMBER	02	SIXTEENTH LINE	
SIGN NUMBER (OFF PREMISE)	21-1	EXISTING CENTERLINE	
BUILDING		PROPOSED REFERENCE LINE	
		PARALLEL OFFSET	

REVISION DATE	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
	APPROVED FOR THE DEPARTMENT
	DATE: JAN. 25, 2011 Robert L Druffel (Signature)

FILE NAME : J:\projects\d2_r_281006164\20\040401_rp.dgn PLOT DATE : 25-JAN-2011 14:20 PLOT BY : dotsls PLOT NAME : PLOT SCALE : 50.000000:1.000000 WISDOT/CADDS SHEET 50

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

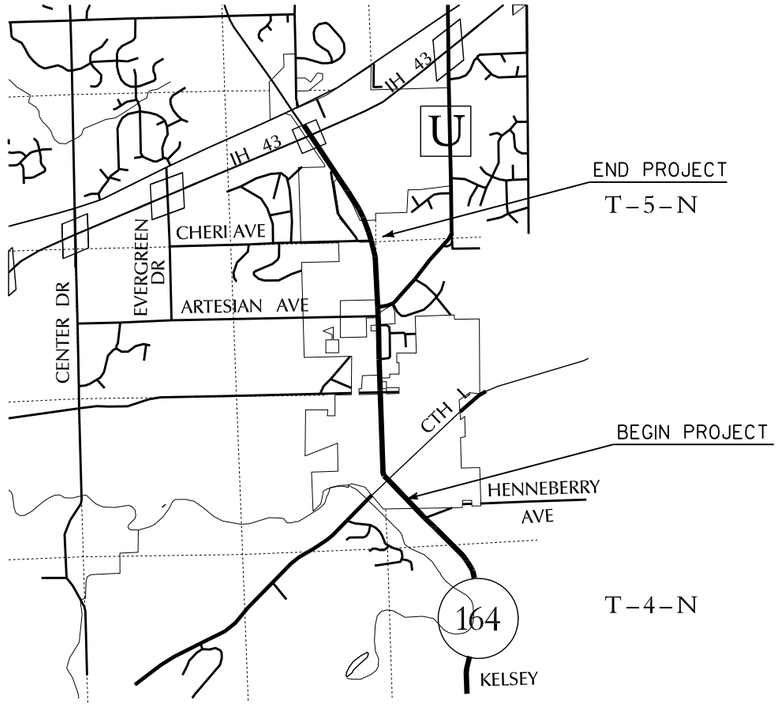
TRANSPORTATION PROJECT PLAT TITLE SHEET

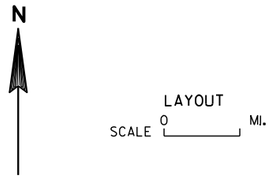
PROJECT NO. 2810-06-21

LIMITS HENNEBERRY AVE TO CHERI AVE.

ROUTE STH 164
WAUKESHA COUNTY







CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.	**CURVE DATA**	
HIGHWAY EASEMENT	H.E.	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
MONUMENT	MON.	RADIUS	R
PAGE	P.	DEGREE OF CURVE	D
PERMANENT LIMITED EASEMENT	PLE	CENTRAL ANGLE OR DELTA	DELTA
PROPERTY LINE	PL	LENGTH OF CURVE	L
RECORDED AS	(100')	TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	LØ (1" UNLESS NOTED)	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W MONUMENT	•(SET)	PROPERTY LINE	
R/W STANDARD	▲(SET)	LOT & TIE LINES	
SIGN	ISIGN	SLOPE INTERCEPTS	
SECTION CORNER MONUMENT		CORPORATE LIMITS	
SECTION CORNER SYMBOL		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
FEE (HATCH VARIES)		NO ACCESS (BY ACQUISITION)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
PERMANENT LIMITED EASEMENT		SECTION LINE	
R/W BOUNDARY POINT	RWB20	QUARTER LINE	
PARCEL NUMBER	102	SIXTEENTH LINE	
UTILITY PARCEL NUMBER	92	EXISTING CENTERLINE	
SIGN NUMBER (OFF PREMISE)	21-1	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
TRANSMISSION LINES ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS

	NON COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

NOTES:

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, WAUKESHA COUNTY ZONE, NAD83 (1997) 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 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY SOUTHEAST REGION SURVEY.

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

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

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.

A **PERMANENT LIMITED EASEMENT** (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE 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. BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

A **HIGHWAY EASEMENT** (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

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

THIS IS A COPY. ORIGINAL DOCUMENT IS AT THE WAUKESHA COUNTY REGISTER OF DEEDS.

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 2810-06-21 - 4.01
SHEET 2 OF 2
AMENDMENT NO:

FILE NAME : J:\projects\d2_r_281006164\21\040400_ts.dgn
PLOT DATE : 23-DEC-2011 16:28
PLOT BY : dotsls
PLOT NAME :
PLOT SCALE : 50.000000:1.000000
CONST. 2810-06-70 R/W 2810-06-21 4.01

TRANSPORTATION PROJECT PLAT NO: 2810-06-21 - 4.01

THAT PART OF LOTS 5 & 6, BLOCK A, LOTS 3, 4, 5, 6, 7, 10, 11, 12, BLOCK B, STRATTON PLAT OF BIG BEND, ALSO THAT PART OF LOT 1, CSM 10335, AND ALSO THE NE1/4-SE1/4, SECTION 23, TOWN 5 NORTH, RANGE 19 EAST, AND ALSO THE NW1/4-SW1/4, SECTION 24, TOWN 5 NORTH, RANGE 19 EAST IN THE VILLAGE OF BIG BEND, WAUKESHA COUNTY, WISCONSIN.

RELOCATION ORDER STH 164 (CLARK STREET) WAUKESHA 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 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED — OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY. AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE DEPARTMENT.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	T.L.E. TEMP. ACRES	P.L.E. PERM. ACRES
3	ELLEN COLE	PLE,TLE				0.037	0.011
4	ERIC L & JANET M BRODHAGEN	TLE				0.037	
5	MARK MILESKE & DEBRA HENNES	FEE,TLE	0.005		0.005	0.028	
6	THOMAS LEROY IMME REV. TRUST	HE,TLE	0.031		0.031	0.132	
7	MICHAEL CONN, ET AL	PLE,TLE				0.052	0.002
8	RONALD L & CARLINE N ZABLER	PLE,TLE				0.046	0.010
9	GENE C & DEBORAH L ZERGOSKI	PLE,TLE				0.052	0.014
10	TOSKA DOBSCHUETZ	TLE				0.014	
11	FROELICH FAMILY TRUST	TLE				0.030	
12	CRAIG A SAGER	TLE				0.024	
13	DEBORAH L MULES	TLE				0.021	
14	T.A.A. INC.	HE,TLE	0.037		0.037	0.054	
15	GREGORY P & SANDRA L PETERSON	FEE,TLE	0.004		0.004	0.001	
16	KOWALSKI PROPERTIES, LLC	TLE				0.012	
17	KOWALSKI PROPERTIES, LLC	FEE,TLE	0.139		0.139	0.102	
18	KEVIN & MARY JEAN STEIN	FEE,TLE	0.020		0.020	0.012	
19	CITIZENS BANK OF MUKWONAGO	TLE				0.107	
20	KEVIN E & JEANINE P DAUGHTERY	TLE				0.008	
21	LIVING SPIRIT	FEE,TLE	0.004		0.004	0.007	
200	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS					
201	AT&T WISCONSIN	RELEASE OF RIGHTS					

200 WE ENERGIES-ELECTRIC — PARCELS 3,4,5,6 V.274, P. 18, DOC. 221092; PARCEL 12 V.632, P. 73, DOC. 396303; PARCEL 14 V.553, P. 413, DOC. 354912; PARCEL 14 V.894, P. 513, DOC. 552141; PARCEL 17 V.274, P. 69, DOC. 224451; PARCEL 17 V.526, P. 49, DOC. 341092; PARCELS 17,19 V.850, P. 489, DOC. 524690

201 AT&T WISCONSIN — PARCEL 14 V.894, P. 513, DOC. 552141; PARCELS 17,19 V.850, P. 489, DOC. 524690

HWY	BASIS OF EXISTING R/W	WIDTH	YEAR
STH 164 / CTH F	PROJECT S 0475(2)	VARIES	1964
STH 164 / CTH F	STRATTON PLAT	33'	1917
CTH L	STRATTON PLAT	66'	1917
ORCHARD AVE.	STRATTON PLAT	50'	1917
JOY LANE	CSM 5955	30'	1989
NEVINS STREET	PROJECT S 0475(2)	VARIES	1964

STH 164 PROPOSED ℄ CUR 2	
PI	164+07.13
Y	112730.18
X	689352.42
DELTA	38°19'16"
D	10°08'15"
T	196.38'
L	378.01'
R	565.19'
LCH	371.01'
CB	N19°31'15"W

STH 164 EXISTING ℄ CL1	
PI	
Y	112673.41
X	689341.35
DELTA	49°05'28" LT
D	28°38'52"
T	91.34'
L	171.36'
R	200.00'
LCH	166.17'
CB	N23°28'30"W

PRW2	
L	64.10'
R	54.00'
LCH	60.40'
CB	N86°57'11"W

PRW3	
L	291.78'
R	525.19'
LCH	288.04'
CB	S22°45'55"E

PRW4	
L	50.35'
R	47.00'
LCH	47.98'
CB	S7°59'55"E

SEC5101 CENTER OF SEC. CONCRETE MON. W/ BRASS CAP Y = 112852.97 X = 686726.23 SET AT INTERSECTION OF QUARTER LINES IN 1991 BY CLAUDE JOHNSON RLS

SEC5102 QUARTER SEC. COR. CONCRETE MON. W/ BRASS CAP Y = 112867.14 X = 689351.56

SEC5103 CENTER OF SEC. CONCRETE MON. W/ BRASS CAP Y = 112887.96 X = 692024.52

SEC5115 SEC. COR. CONCRETE MON. W/ BRASS CAP Y = 110143.82 X = 689391.84

R-19-E

T-4-N

SHEET LOCATION

ARTESIAN AVE, CTH L, HENNEBERRY AVE, 164

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF THIS DOCUMENT.

THIS IS A COPY. ORIGINAL DOCUMENT IS AT THE WAUKESHA COUNTY REGISTER OF DEEDS.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

STEVEN L. SCHMIDT RLS — PRINTED NAME — SIGNATURE — DEC. 27, 2011 — DATE

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

ROBERT L. DUFFECK RLS — PRINTED NAME — SIGNATURE — DEC. 27, 2011 — DATE

PAGE 1 OF 2

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 2810-06-20-4.01
AMENDMENT NO:

3884036
REGISTER OF DEEDS
WAUKESHA COUNTY, WI
RECORDED ON
January 06, 2012 11:03 AM
James R Behrend
Register of Deeds
2 PGS
TOTAL FEE: $25.00
TRANS FEE: $0.00
Book 1 Page 113-114

181

FILE NAME : J:\projects\d2_r_281006164\21\040401_rp.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 23-DEC-2011 16:19 PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : 50.000000:1.000000
CONST. 2810-06-70 R/W 2810-06-21 4.01

TRANSPORTATION PROJECT PLAT NO: 2810-06-21 - 4.02 AMENDMENT NO. 1

AMENDS TRANSPORTATION PROJECT PLAT 2810-06-21-4.02 RECORDED AS DOCUMENT 3896519 BY ELIMINATING PARCEL 203.

THAT PART OF LOTS 1 & 2, F. N. JACKSON'S SUBDIVISION, AND THE SE1/4-NE1/4, SECTION 23, TOWN 5 NORTH, RANGE 19 EAST, AND ALSO THE SW1/4-NW1/4, SECTION 24, TOWN 5 NORTH, RANGE 19 EAST, VILLAGE OF BIG BEND, WAUKESHA COUNTY WISCONSIN.

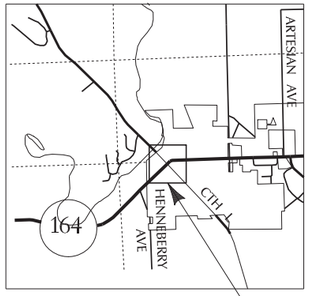
RELOCATION ORDER STH 164 WAUKESHA COUNTY

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 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED — OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE DEPARTMENT.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	T.L.E. TEMP. ACRES	P.L.E. PERM. ACRES
21	LIVING SPIRIT	FEE,TLE	0.011		0.012	0.027	
22	WENDY S RONGSTAD	FEE,TLE	0.001		0.001	0.017	
23	LIVING SPIRIT	TLE				0.018	
24	JOHN E & SADIE S SONEBERG	TLE				0.005	
25	ROBERT F & MONICA L HEINEMANN	TLE				0.013	
26	THOMAS C & DEBORAH J RANK	TLE				0.010	
27	DANIEL J WELTZIN ET AL	TLE				0.012	
28	ROBERT T & DONNA JEAN BOURDO	TLE				0.008	
29	REINHART H & DELAINE C KOM	TLE				0.007	
30	JEFFERY D BOHLMAN ET AL	TLE				0.005	
31	KEITH H & DIANA L LANGE	TLE				0.005	
32	CHRIST EVANG. LUTHERAN CHURCH	FEE,TLE	0.001		0.001	0.039	
33	CAROL A HILLMANN	TLE				0.003	
34	JOHN P & DAWN M BALTHAZOR	TLE				0.005	
35	JEFFERY & MARY SEEFELD TRUST	FEE,TLE	0.000	0.062	0.062	0.013	
36	SALLY L & SARAH ANN DULKA	FEE,TLE	0.000	0.067	0.067	0.014	
37	MICHAEL K & DAWN M ERMISCH	FEE,TLE	0.000	0.042	0.042	0.009	
200	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS					
201	AT&T WISCONSIN	RELEASE OF RIGHTS					
202	WE ENERGIES - GAS	RELEASE OF RIGHTS					



200	WE ENERGIES-ELECTRIC	PARCELS 33,34 PARCEL 32	V.274, P. 69, DOC. 224451 V.1030,P.567,DOC. 648142
201	AT&T WISCONSIN	PARCELS 25,26,27,28,29, PARCELS 30,31,33,34,35,36,37 PARCEL 32	NO RECORDED EASEMENT NO RECORDED EASEMENT V.1030,P.567,DOC. 648142
202	WE ENERGIES-GAS	PARCEL 29	DOC. 2822976

SEC5101
CENTER OF SEC.
CONCRETE MON.
W/ BRASS CAP
Y = 112852.97
X = 686726.23
SET AT INTERSECTION
OF QUARTER LINES IN
1991 BY CLAUDE JOHNSON RLS

SEC5102
QUARTER SEC. COR.
CONCRETE MON.
W/ BRASS CAP
Y = 112867.14
X = 689351.56

SEC5103
CENTER OF SEC.
CONCRETE MON.
W/ BRASS CAP
Y = 112887.96
X = 692024.52

SEC5089
SEC. COR.
CONCRETE MON.
W/ BRASS CAP
Y = 115513.23
X = 689334.91

6.59' STH 164 ℄ TO QUARTER SEC. CORNER ON EAST QUARTER LINE

N89°41'27"E (2625.37')

3.13' STH 164 R TO QUARTER SEC. CORNER ON WEST QUARTER LINE

WEST QUARTER LINE
N89°33'13"E (2673.04')
STA 165+29.23 R

STH 164 ℄ & ℄ = SECTION LINE
STA 165+88.77

PARCELS 25,26,&27
TLE FOR SLOPES
AND A D/W

PI 168+19.43
BACK/167+93.24
AHEAD/168+19.41

LOT 1
CSM 6036

LOT 1
CSM 7562

LOT 2
CSM 9147

LOT 1
CSM 9147

OUTLOT 1
CSM 3299

SE-NE
23-5-19

SW-NW
24-5-19

BIG BEND

PARCELS 35,36, &37
TLE FOR SLOPES
AND A D/W

1/16TH LINE
N89°41'39"E

RAMONA AVE.
STA 178+78.60 R
1/16TH LINE N89°32'51"E

KINGS PARKWAY
60'

MAPLE AVE.
49.5'

ROSE AVE.
N89°38'22"E

SECTION LINE
S00°21'38"E (2646.14')

N89°38'22"E

N01°04'14"E
STH 164 ℄
(1964)

N5°46'00"W
110.00'

N36°07'01"W
61.61'

N44°57'51"E
70.40'

N60°34'50"W
12.08'

N9°14'00"E
288.77'

N00°27'09"W
25.00'

EXISTING

CHURCH

SCHOOL

TLE FOR SLOPES AND A D/W

PARCELS 21,23,&24
TLE FOR SLOPES

TLE FOR SLOPES

8' R.D.E
V.475, P.416
DOC.317849

VILLAGE

F. N. JACKSON'S SUBDIVISION

HWY	BASIS OF EXISTING R/W	WIDTH	YEAR
STH 164 / CTH F	S.S. 82.31(2)	66'	
STH 164 / CTH F	PROJECT S 0475(2)	VARIES	1964
STH 164 / CTH F	CSM 3299	50'	
STH 164 / CTH F	CSM 9147	50'	
KING'S PARKWAY	CSM 3299	60'	
ROSE AVE		50'	
MAPLE AVE	DEED V.729,P.440 DOC.453247	3 RODS	1956
RAMONA AVE.	F.N. JACKSON'S SUB.	25'	1941

STH 164 PROPOSED ℄ CUR 2	
PI	164+07.13
Y	112730.18
X	689352.42
DELTA	38°19'16"
D	10°08'15"
T	196.38'
L	378.01'
R	565.19'
LCH	371.01'
CB	N19°31'15"W

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF DOCUMENT 3884036, OF TRANSPORTATION PROJECT PLATS IN THE WAUKESHA COUNTY REGISTER OF DEEDS.

THIS IS A COPY. ORIGINAL DOCUMENT IS AT THE WAUKESHA COUNTY REGISTER OF DEEDS.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

STEVEN L. SCHMIDT RLS — Steven L. Schmidt — MAY 9, 2012
PRINTED NAME — SIGNATURE — DATE

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

ROBERT L. DUFFECK RLS — Robert L. Duffeck — MAY 9, 2012
PRINTED NAME — SIGNATURE — DATE

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 2810-06-21-4.02
AMENDMENT NO: 1

3919318
REGISTER OF DEEDS
WAUKESHA COUNTY, WI
RECORDED ON
May 16, 2012 10:03 AM
James R Behrend
Register of Deeds
1 PG
TOTAL FEE: $25.00
TRANS FEE: $0.00
Book 1 Page 122-122

FILE NAME : J:\projects\d2_r_281006164\21\040402A1_rp.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 09-MAY-2012 16:20
PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : 50.000000:1.000000
CONST. 2810-06-70 R/W 2810-06-21 4.02 AMENDMENT NO. 1

TRANSPORTATION PROJECT PLAT NO: 2810-06-21 - 4.02

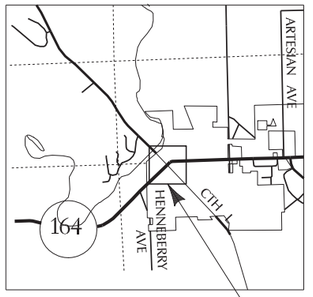
THAT PART OF LOTS 1 & 2, F. N. JACKSON'S SUBDIVISION, AND THE SE1/4-NE1/4, SECTION 23, TOWN 5 NORTH, RANGE 19 EAST, AND ALSO THE SW1/4-NW1/4, SECTION 24, TOWN 5 NORTH, RANGE 19 EAST, VILLAGE OF BIG BEND, WAUKESHA COUNTY WISCONSIN.

RELOCATION ORDER STH 164 WAUKESHA 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 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED	OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE DEPARTMENT.						
PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	T.L.E. TEMP. ACRES	P.L.E. PERM. ACRES
21	LIVING SPIRIT	FEE,TLE	0.011		0.012	0.027	
22	WENDY S RONGSTAD	FEE,TLE	0.001		0.001	0.017	
23	LIVING SPIRIT	TLE				0.018	
24	JOHN E & SADIE S SONEBERG	TLE				0.005	
25	ROBERT F & MONICA L HEINEMANN	TLE				0.013	
26	THOMAS C & DEBORAH J RANK	TLE				0.010	
27	DANIEL J WELTZIN ET AL	TLE				0.012	
28	ROBERT T & DONNA JEAN BOURDO	TLE				0.008	
29	REINHART H & DELAINE C KOM	TLE				0.007	
30	JEFFERY D BOHLMAN ET AL	TLE				0.005	
31	KEITH H & DIANA L LANGE	TLE				0.005	
32	CHRIST EVANG. LUTHERAN CHURCH	FEE,TLE	0.001		0.001	0.039	
33	CAROL A HILLMANN	TLE				0.003	
34	JOHN P & DAWN M BALTHAZOR	TLE				0.005	
35	JEFFERY & MARY SEEFELD TRUST	FEE,TLE	0.000	0.062	0.062	0.013	
36	SALLY L & SARAH ANN DULKA	FEE,TLE	0.000	0.067	0.067	0.014	
37	MICHAEL K & DAWN M ERMISCH	FEE,TLE	0.000	0.042	0.042	0.009	
200	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS					
201	AT&T WISCONSIN	RELEASE OF RIGHTS					
202	WE ENERGIES - GAS	RELEASE OF RIGHTS					
203	AMERICAN TRANSMISSION CO	RELEASE OF RIGHTS					



200	WE ENERGIES-ELECTRIC	PARCELS 33,34 PARCEL 32	V.274, P. 69, DOC. 224451 V.1030,P.567,DOC. 648142
201	AT&T WISCONSIN	PARCELS 25,26,27,28,29, PARCELS 30,31,33,34,35,36,37 PARCEL 32	NO RECORDED EASEMENT NO RECORDED EASEMENT V.1030,P.567,DOC. 648142
202	WE ENERGIES-GAS	PARCEL 29	DOC. 2822976
203	AMERICAN TRANSMISSION CO.	PARCELS 33,34	DOC. 2615804

SEC5101
CENTER OF SEC.
CONCRETE MON.
W/ BRASS CAP
Y = 112852.97
X = 686726.23
SET AT INTERSECTION
OF QUARTER LINES IN
1991 BY CLAUDE JOHNSON RLS

SEC5102
QUARTER SEC. COR.
CONCRETE MON.
W/ BRASS CAP
Y = 112867.14
X = 689351.56

SEC5103
CENTER OF SEC.
CONCRETE MON.
W/ BRASS CAP
Y = 112887.96
X = 692024.52

SEC5089
SEC. COR.
CONCRETE MON.
W/ BRASS CAP
Y = 115513.23
X = 689334.91

6.59' STH 164 ℄ TO QUARTER SEC. CORNER ON EAST QUARTER LINE

N89°41'27"E (2625.37')

PARCELS 25,26,&27
TLE FOR SLOPES
AND A D/W

STH 164 ℞ & ℄ = SECTION LINE
STA 165+88.77

PI 168+19.43
AHEAD 168+19.41
BACK 167+93.24

LOT 1
CSM 6036

LOT 1
CSM 7562

LOT 2
CSM 9147

LOT 1
CSM 9147

OUTLOT 1
CSM 3299

SE-NE
23-5-19

TLE FOR SLOPES AND A D/W

N89°38'22"E

60' KINGS PARKWAY

S81°15'38"E

BIG BEND

PARCELS 35,36, &37
TLE FOR SLOPES
AND A D/W

1/16TH LINE
N89°41'39"E

N89°38'22"E

BENT OF

SECTION LINE

S00°21'38"E (2646.14')

N01°04'14"E

EXISTING STH 164 ℄ (1964)

N5°46'00"W
110.00'

3.13' STH 164 ℞ TO QUARTER SEC. CORNER ON WEST QUARTER LINE

WEST QUARTER LINE
N89°33'13"E (2673.04')
STA 165+29.23 ℞

PI 165+88.77

N36°07'01"W
61.61'

ROSE AVE.
N89°38'22"E

N44°57'51"E
70.40'

N60°34'50"W
12.08'

N89°38'22"E PL

SW-NW
24-5-19

MAPLE AVE.
49.5'

N89°38'22"E PL

N00°27'09"W
25.00'

1/16TH LINE N89°32'51"E

STA 178+78.60 ℞

RAMONA AVE.

CHURCH

SCHOOL

TLE FOR SLOPES

8' R.D.E
V.475, P.416
DOC.317849

PARCELS 21,23,&24
TLE FOR SLOPES

TLE FOR SLOPES AND A D/W

TLE FOR SLOPES AND A D/W

TLE FOR SLOPES AND A D/W

VILLAGE

F. N. JACKSON'S SUBDIVISION

STH 164 PROPOSED ℄ CUR 2	
PI	164+07.13
Y	112730.18
X	689352.42
DELTA	38°19'16"
D	10°08'15"
T	196.38'
L	378.01'
R	565.19'
LCH	371.01'
CB	N19°31'15"W

HWY	BASIS OF EXISTING R/W	WIDTH	YEAR
STH 164 / CTH F	S.S. 82.31(2)	66'	
STH 164 / CTH F	PROJECT S 0475(2)	VARIES	1964
STH 164 / CTH F	CSM 3299	50'	
STH 164 / CTH F	CSM 9147	50'	
KING'S PARKWAY	CSM 3299	60'	
ROSE AVE		50'	
MAPLE AVE	DEED V.729,P.440 DOC.453247	3 RODS	1956
RAMONA AVE.	F.N. JACKSON'S SUB.	25'	1941

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF DOCUMENT 3884036, OF TRANSPORTATION PROJECT PLATS IN THE WAUKESHA COUNTY REGISTER OF DEEDS.

THIS IS A COPY. ORIGINAL DOCUMENT IS AT THE WAUKESHA COUNTY REGISTER OF DEEDS.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

STEVEN L. SCHMIDT RLS — PRINTED NAME — SIGNATURE — FEB. 14, 2012 — DATE

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

ROBERT L. DUFFECK RLS — PRINTED NAME — SIGNATURE — FEB. 14, 2012 — DATE

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 2810-06-21-4.02
AMENDMENT NO:

3896519
REGISTER OF DEEDS
WAUKESHA COUNTY, WI
RECORDED ON
February 22, 2012 02:18 PM
James R Behrend
Register of Deeds
1 PG
TOTAL FEE: $25.00
TRANS FEE: $0.00
Book 1 Page 115-115

FILE NAME : J:\projects\d2_r_281006164\21\040402_rp.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 13-FEB-2012 17:09 PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : 50.000000:1.000000
CONST. 2810-06-70 R/W 2810-06-21 4.02

TRANSPORTATION PROJECT PLAT NO: 2810-06-21- 4.03
AMENDMENT NO. 1

AMENDS TRANSPORTATION PROJECT PLAT 2810-06-21-4.01 RECORDED AS DOCUMENT 3896520 BY ADDING PARCEL 203.
THAT PART OF LOTS 1, 2, 3, 4, 5, 8, 9, 10, 12, & 13, BLOCK 1, OF THE NORTH ADDITION PLAT OF BIG BEND,
AND LOT 2, CSM 3894, AND ALSO THE NE1/4-NE1/4, SECTION 23, TOWN 5 NORTH, RANGE 19 EAST, VILLAGE
OF BIG BEND, WAUKESHA COUNTY, WISCONSIN.

RELOCATION ORDER STH 164 WAUKESHA 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.

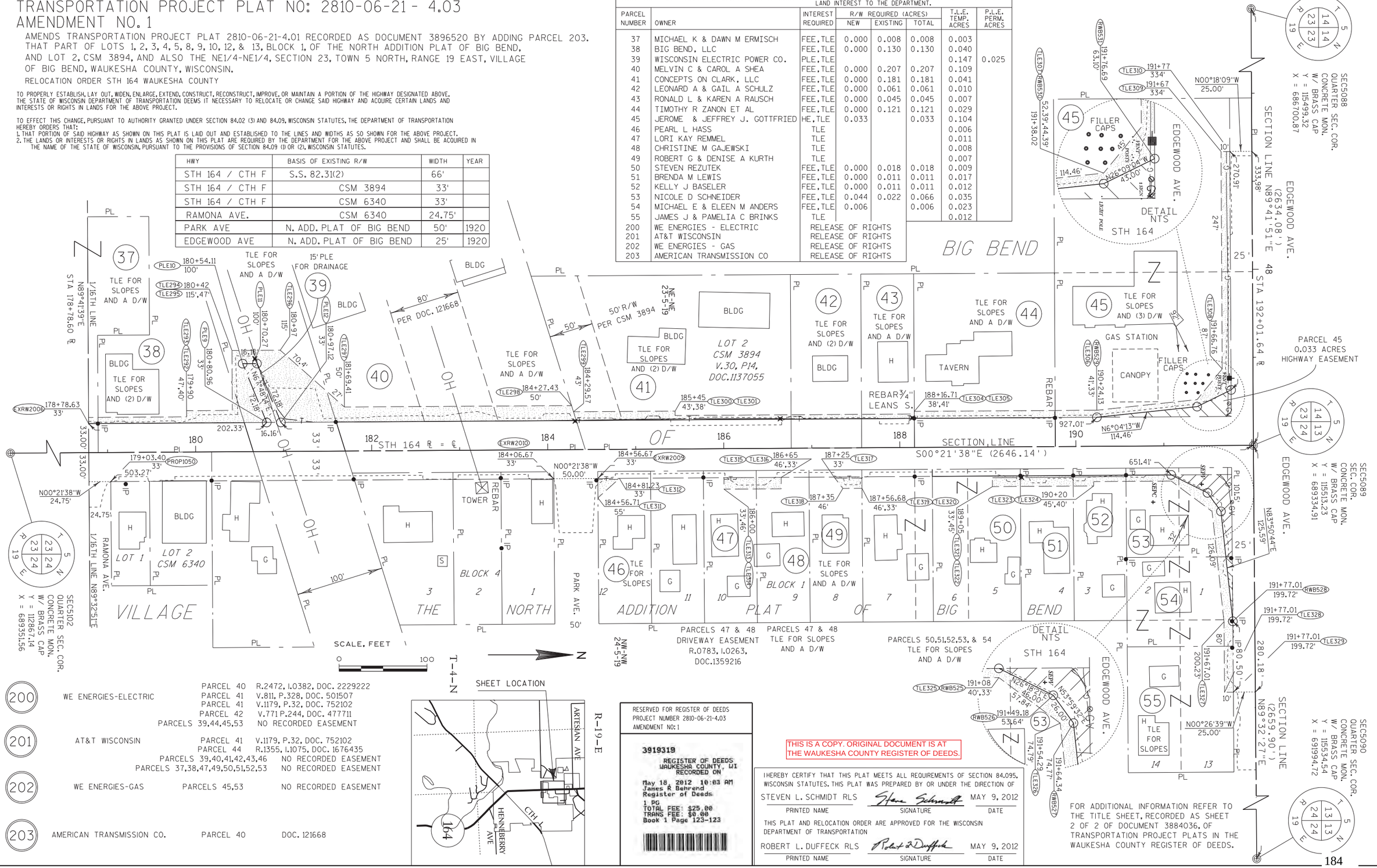
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
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 (1) OR (2), WISCONSIN STATUTES.

HWY	BASIS OF EXISTING R/W	WIDTH	YEAR
STH 164 / CTH F	S.S. 82.31(2)	66'	
STH 164 / CTH F	CSM 3894	33'	
STH 164 / CTH F	CSM 6340	33'	
RAMONA AVE.	CSM 6340	24.75'	
PARK AVE	N. ADD. PLAT OF BIG BEND	50'	1920
EDGEWOOD AVE	N. ADD. PLAT OF BIG BEND	25'	1920

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE DEPARTMENT.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	T.L.E. TEMP. ACRES	P.L.E. PERM. ACRES
37	MICHAEL K & DAWN M ERMISCH	FEE,TLE	0.000	0.008	0.008	0.003	
38	BIG BEND, LLC	FEE,TLE	0.000	0.130	0.130	0.040	
39	WISCONSIN ELECTRIC POWER CO.	PLE,TLE				0.147	0.025
40	MELVIN C & CAROL A SHEA	FEE,TLE	0.000	0.207	0.207	0.109	
41	CONCEPTS ON CLARK, LLC	FEE,TLE	0.000	0.181	0.181	0.041	
42	LEONARD A & GAIL A SCHULZ	FEE,TLE	0.000	0.061	0.061	0.010	
43	RONALD L & KAREN A RAUSCH	FEE,TLE	0.000	0.045	0.045	0.007	
44	TIMOTHY R ZANON ET AL	FEE,TLE	0.000	0.121	0.121	0.029	
45	JEROME & JEFFREY J. GOTTFRIED	HE,TLE	0.033		0.033	0.104	
46	PEARL L HASS	TLE				0.006	
47	LORI KAY REMMEL	TLE				0.011	
48	CHRISTINE M GAJEWSKI	TLE				0.008	
49	ROBERT G & DENISE A KURTH	TLE				0.007	
50	STEVEN REZUTEK	FEE,TLE	0.000	0.018	0.018	0.009	
51	BRENDA M LEWIS	FEE,TLE	0.000	0.011	0.011	0.017	
52	KELLY J BASELER	FEE,TLE	0.000	0.011	0.011	0.012	
53	NICOLE D SCHNEIDER	FEE,TLE	0.044	0.022	0.066	0.035	
54	MICHAEL E & ELEEN M ANDERS	FEE,TLE	0.006		0.006	0.023	
55	JAMES J & PAMELIA C BRINKS	TLE				0.012	
200	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS					
201	AT&T WISCONSIN	RELEASE OF RIGHTS					
202	WE ENERGIES - GAS	RELEASE OF RIGHTS					
203	AMERICAN TRANSMISSION CO	RELEASE OF RIGHTS					



SHEET LOCATION

200	WE ENERGIES-ELECTRIC	PARCEL 40	R.2472, I.0382, DOC. 2229222
		PARCEL 41	V.811, P.328, DOC. 501507
		PARCEL 41	V.1179, P.32, DOC. 752102
		PARCEL 42	V.771 P.244, DOC. 477711
		PARCELS 39,44,45,53	NO RECORDED EASEMENT
201	AT&T WISCONSIN	PARCEL 41	V.1179, P.32, DOC. 752102
		PARCEL 44	R.1355, I.1075, DOC. 1676435
		PARCELS 39,40,41,42,43,46	NO RECORDED EASEMENT
		PARCELS 37,38,47,49,50,51,52,53	NO RECORDED EASEMENT
202	WE ENERGIES-GAS	PARCELS 45,53	NO RECORDED EASEMENT
203	AMERICAN TRANSMISSION CO.	PARCEL 40	DOC. 121668

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 2810-06-21-4.03
AMENDMENT NO: 1

3919319
REGISTER OF DEEDS
WAUKESHA COUNTY, WI
RECORDED ON
May 18, 2012 10:03 AM
James R Behrend
Register of Deeds
1 PG
TOTAL FEE: $25.00
TRANS FEE: $0.00
Book 1 Page 123-123

THIS IS A COPY. ORIGINAL DOCUMENT IS AT THE WAUKESHA COUNTY REGISTER OF DEEDS.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

STEVEN L. SCHMIDT RLS — PRINTED NAME — SIGNATURE — MAY 9, 2012 — DATE

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

ROBERT L. DUFFECK RLS — PRINTED NAME — SIGNATURE — MAY 9, 2012 — DATE

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF DOCUMENT 3884036, OF TRANSPORTATION PROJECT PLATS IN THE WAUKESHA COUNTY REGISTER OF DEEDS.

FILE NAME : J:\projects\d2_r_281006164\21\040403A1_rp.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 09-MAY-2012 16:19
PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : 50.000000:1.000000
CONST. 2810-06-70 R/W 2810-06-21 4.03 AMENDMENT NO.1

TRANSPORTATION PROJECT PLAT NO: 2810-06-21 - 4.03

THAT PART OF LOTS 1, 2, 3, 4, 5, 8, 9, 10, 12, & 13, BLOCK 1, OF THE NORTH ADDITION PLAT OF BIG BEND, AND LOT 2, CSM 3894, AND ALSO THE NE1/4-NE1/4, SECTION 23, TOWN 5 NORTH, RANGE 19 EAST, VILLAGE OF BIG BEND, WAUKESHA COUNTY, WISCONSIN.

RELOCATION ORDER STH 164 WAUKESHA 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.

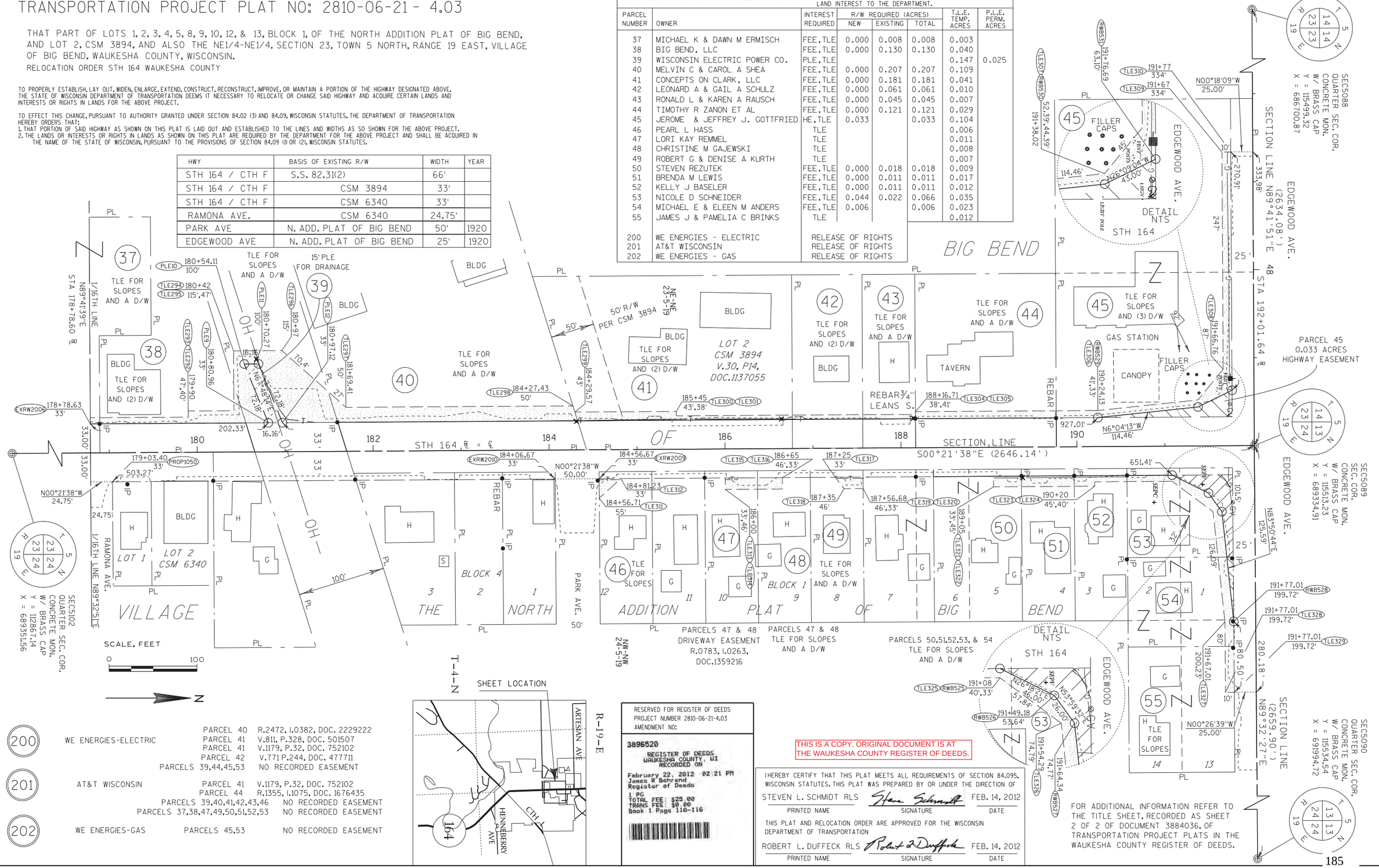
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
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 (1) OR (2), WISCONSIN STATUTES.

HWY	BASIS OF EXISTING R/W	WIDTH	YEAR
STH 164 / CTH F	S.S. 82.31(2)	66'	
STH 164 / CTH F	CSM 3894	33'	
STH 164 / CTH F	CSM 6340	33'	
RAMONA AVE.	CSM 6340	24.75'	
PARK AVE	N. ADD. PLAT OF BIG BEND	50'	1920
EDGEWOOD AVE	N. ADD. PLAT OF BIG BEND	25'	1920

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE DEPARTMENT.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	T.L.E. TEMP. ACRES	P.L.E. PERM. ACRES
37	MICHAEL K & DAWN M ERMISCH	FEE,TLE	0.000	0.008	0.008	0.003	
38	BIG BEND, LLC	FEE,TLE	0.000	0.130	0.130	0.040	
39	WISCONSIN ELECTRIC POWER CO.	PLE,TLE				0.147	0.025
40	MELVIN C & CAROL A SHEA	FEE,TLE	0.000	0.207	0.207	0.109	
41	CONCEPTS ON CLARK, LLC	FEE,TLE	0.000	0.181	0.181	0.041	
42	LEONARD A & GAIL A SCHULZ	FEE,TLE	0.000	0.061	0.061	0.010	
43	RONALD L & KAREN A RAUSCH	FEE,TLE	0.000	0.045	0.045	0.007	
44	TIMOTHY R ZANON ET AL	FEE,TLE	0.000	0.121	0.121	0.029	
45	JEROME & JEFFREY J. GOTTFRIED	HE,TLE	0.033		0.033	0.104	
46	PEARL L HASS	TLE				0.006	
47	LORI KAY REMMEL	TLE				0.011	
48	CHRISTINE M GAJEWSKI	TLE				0.008	
49	ROBERT G & DENISE A KURTH	TLE				0.007	
50	STEVEN REZUTEK	FEE,TLE	0.000	0.018	0.018	0.009	
51	BRENDA M LEWIS	FEE,TLE	0.000	0.011	0.011	0.017	
52	KELLY J BASELER	FEE,TLE	0.000	0.011	0.011	0.012	
53	NICOLE D SCHNEIDER	FEE,TLE	0.044	0.022	0.066	0.035	
54	MICHAEL E & ELEEN M ANDERS	FEE,TLE	0.006		0.006	0.023	
55	JAMES J & PAMELIA C BRINKS	TLE				0.012	
200	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS					
201	AT&T WISCONSIN	RELEASE OF RIGHTS					
202	WE ENERGIES - GAS	RELEASE OF RIGHTS					



200	WE ENERGIES-ELECTRIC	PARCEL 40	R.2472, I.0382, DOC. 2229222
		PARCEL 41	V.811, P.328, DOC. 501507
		PARCEL 41	V.1179, P.32, DOC. 752102
		PARCEL 42	V.771 P.244, DOC. 477711
		PARCELS 39,44,45,53	NO RECORDED EASEMENT
201	AT&T WISCONSIN	PARCEL 41	V.1179, P.32, DOC. 752102
		PARCEL 44	R.1355, I.1075, DOC. 1676435
		PARCELS 39,40,41,42,43,46	NO RECORDED EASEMENT
		PARCELS 37,38,47,49,50,51,52,53	NO RECORDED EASEMENT
202	WE ENERGIES-GAS	PARCELS 45,53	NO RECORDED EASEMENT

SHEET LOCATION

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 2810-06-21-4.03
AMENDMENT NO:

3896520
REGISTER OF DEEDS
WAUKESHA COUNTY, WI
RECORDED ON
February 22, 2012 02:21 PM
James R Behrend
Register of Deeds
1 PG
TOTAL FEE: $25.00
TRANS FEE: $0.00
Book 1 Page 116-116

THIS IS A COPY. ORIGINAL DOCUMENT IS AT THE WAUKESHA COUNTY REGISTER OF DEEDS.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

STEVEN L. SCHMIDT RLS — PRINTED NAME — SIGNATURE — FEB. 14, 2012 — DATE

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

ROBERT L. DUFFECK RLS — PRINTED NAME — SIGNATURE — FEB. 14, 2012 — DATE

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF DOCUMENT 3884036, OF TRANSPORTATION PROJECT PLATS IN THE WAUKESHA COUNTY REGISTER OF DEEDS.

FILE NAME : J:\projects\d2_r_281006164\21\040403_rp.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 16-FEB-2012 12:46 PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : 50.000000:1.000000
CONST. 2810-06-70 R/W 2810-06-21 4.03

TRANSPORTATION PROJECT PLAT NO: 2810-06-21 - 4.04

THAT PART OF LOT 8, BLOCK 1 AND LOT 15, BLOCK 3 OF WOODWARD SUBDIVISION, AND ALSO THAT PART OF THE SW1/4-SW1/4, SECTION 13, TOWN 5 NORTH, RANGE 19 EAST, VILLAGE OF BIG BEND AND TOWN OF VERNON, AND ALSO THE SE1/4-SE1/4, SECTION 14, TOWN 5 NORTH, RANGE 19 EAST, TOWN OF VERNON, WAUKESHA COUNTY, WISCONSIN.

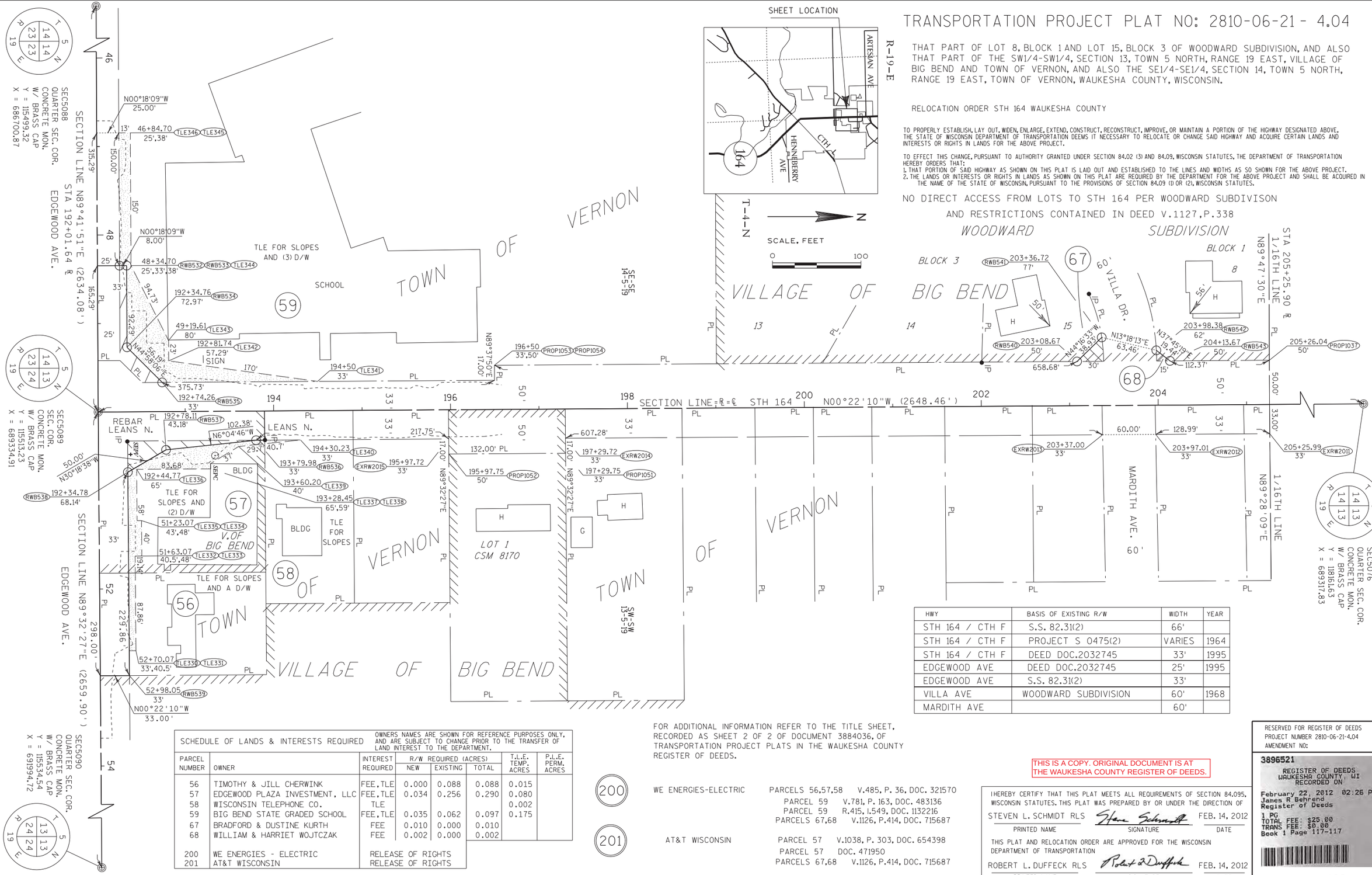
RELOCATION ORDER STH 164 WAUKESHA COUNTY

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 (1) OR (2), WISCONSIN STATUTES.

NO DIRECT ACCESS FROM LOTS TO STH 164 PER WOODWARD SUBDIVISON AND RESTRICTIONS CONTAINED IN DEED V.1127,P.338

SHEET LOCATION



HWY	BASIS OF EXISTING R/W	WIDTH	YEAR
STH 164 / CTH F	S.S. 82.31(2)	66'	
STH 164 / CTH F	PROJECT S 0475(2)	VARIES	1964
STH 164 / CTH F	DEED DOC.2032745	33'	1995
EDGEWOOD AVE	DEED DOC.2032745	25'	1995
EDGEWOOD AVE	S.S. 82.31(2)	33'	
VILLA AVE	WOODWARD SUBDIVISION	60'	1968
MARDITH AVE		60'	

SCHEDULE OF LANDS & INTERESTS REQUIRED — OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE DEPARTMENT.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	T.L.E. TEMP. ACRES	P.L.E. PERM. ACRES
56	TIMOTHY & JILL CHERWINK	FEE,TLE	0.000	0.088	0.088	0.015	
57	EDGEWOOD PLAZA INVESTMENT, LLC	FEE,TLE	0.034	0.256	0.290	0.080	
58	WISCONSIN TELEPHONE CO.	TLE				0.002	
59	BIG BEND STATE GRADED SCHOOL	FEE,TLE	0.035	0.062	0.097	0.175	
67	BRADFORD & DUSTINE KURTH	FEE	0.010	0.000	0.010		
68	WILLIAM & HARRIET WOJTCZAK	FEE	0.002	0.000	0.002		
200	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS					
201	AT&T WISCONSIN	RELEASE OF RIGHTS					

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF DOCUMENT 3884036, OF TRANSPORTATION PROJECT PLATS IN THE WAUKESHA COUNTY REGISTER OF DEEDS.

200 WE ENERGIES-ELECTRIC — PARCELS 56,57,58 V.485, P. 36, DOC. 321570; PARCEL 59 V.781, P. 163, DOC. 483136; PARCEL 59 R.415, I.549, DOC. 1132216; PARCELS 67,68 V.1126, P.414, DOC. 715687

201 AT&T WISCONSIN — PARCEL 57 V.1038, P. 303, DOC. 654398; PARCEL 57 DOC. 471950; PARCELS 67,68 V.1126, P.414, DOC. 715687

THIS IS A COPY. ORIGINAL DOCUMENT IS AT THE WAUKESHA COUNTY REGISTER OF DEEDS.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

STEVEN L. SCHMIDT RLS — PRINTED NAME — SIGNATURE — FEB. 14, 2012 — DATE

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

ROBERT L. DUFFECK RLS — PRINTED NAME — SIGNATURE — FEB. 14, 2012 — DATE

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 2810-06-21-4.04
AMENDMENT NO:

3896521
REGISTER OF DEEDS
WAUKESHA COUNTY, WI
RECORDED ON
February 22, 2012 02:26 PM
James R Behrend
Register of Deeds
1 PG
TOTAL FEE: $25.00
TRANS FEE: $0.00
Book 1 Page 117-117

FILE NAME : J:\projects\d2_r_281006164\21\040404_rp.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 13-FEB-2012 17:19 PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : 50.000000:1.000000
CONST. 2810-06-70 R/W 2810-06-21 4.04

TRANSPORTATION PROJECT PLAT NO: 2810-06-21- 4.05

THAT PART OF LOT 2, CSM 4096, LOT 1, CSM 5787, LOT 2, CSM 5848, LOT 3, CSM 6453, LOT 2, CSM 10521, AND THE NE1/4-NE1/4, SECTION 14, TOWN 5 NORTH, RANGE 19 EAST, TOWN OF VERNON, AND ALSO THAT PART OF THE SE1/4-NE1/4 AND THE NE1/4-NE1/4, SECTION 14, TOWN 5 NORTH, RANGE 19 EAST, VILLAGE OF BIG BEND, ALL IN WAUKESHA COUNTY, WISCONSIN.

RELOCATION ORDER STH 164 WAUKESHA 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 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED — OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE DEPARTMENT.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	T.L.E. TEMP. ACRES	P.L.E. PERM. ACRES
60	JAMES J & COLLEEN K CAVALLUZZI	TLE				0.07	
61	ROGER L LONGREN ET AL	TLE				0.06	
62	DAVID E TOMKA & TONI L MOSER	TLE				0.08	
63	LARRY & BRENDA SCHINDLER	TLE				0.03	
64	WAUKESHA COUNTY	TLE				0.15	0.02
65	WAUKESHA LAND CONSERVANCY	TLE				0.03	
66	JOSEPH D & ANDRIA L MILLER	TLE				0.02	
200	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS					

200 WE ENERGIES-ELECTRIC — PARCELS 60,61 V.355, P.274, DOC. 265458; PARCEL 62 DOC. 1191332; PARCELS 64,65 V.378, P.392, DOC. 276824; PARCEL 66 V.266, P.95, DOC. 212200; PARCEL 66 V.692, P.295, DOC. 379990; PARCEL 66 V.223, P.213, DOC. 179202

201 WE ENERGIES-ELECTRIC — PARCEL 62 DOC. 1191332

SHEET LOCATION

T-4-N R-19-E

ARTESIAN AVE; HENNINBERRY AVE; CTH F; 164

SCALE, FEET: 0 200

STH 164 EXISITNG ℄		RW3		RW6	
CUR 3		L	508.82'	L	56.15'
PI	247+42.53	R	6925.49'	R	6945.49'
Y	121080.10	LCH	508.71'	LCH	56.15'
X	689291.08	CB	N02°37'48"W	CB	N14°38'03"W
DELTA	32°11'32" (LT)	RW4		RW7	
D	00°50'00"	L	100.72'	L	1642.17'
T	1984.01'	R	6925.49'	R	6800.49'
L	3863.07'	LCH	100.72'	LCH	1638.18'
R	6875.49'	CB	N12°44'09"W	CB	N7°26'35"W
LCH	3812.46'	RW5		PLE1	
CB	N16°37'17"W	L	101.03'	L	50.62'
SUBCUR3		R	6945.49'	R	6960.49'
L	900.00'	LCH	101.02'	LCH	50.62'
R	6875.49'	CB	N13°34'09"W	CB	N14°12'48"W
LCH	899.36'				
CB	N8°34'09"W				

SEC5075 CENTER OF SEC. CONCRETE MON. W/ BRASS CAP Y = 118156.36 X = 686680.53

N89°53'08"E (2631.31')

ARTESIAN AVENUE QUARTER LINE

SEC5076 QUARTER SEC. COR. CONCRETE MON. W/ BRASS CAP Y = 118161.63 X = 689317.83

N89°23'50"E (2652.26')

SEC5077 CENTER OF SEC. CONCRETE MON. W/ BRASS CAP Y = 118189.53 X = 691969.94

STH 164 ℄ N00°31'31"W 934.59' 474.87'

STA 218+50.13 ℄

TOWN OF VERNON

VILLAGE OF BIG BEND

GUTHRIE ROAD

LOT 3 CSM 6453; LOT 1 CSM 5787; LOT 2 CSM 4096; LOT 1 CSM 9225; LOT 1 CSM 9125; LOT 2 CSM 5848

PC 227+84.71; SE-NE 14-5-19; SW-NW 13-5-19; NW-NW 13-5-19; NE-NE 14-5-19

TLE FOR SLOPES 65; TLE FOR SLOPES 64; 15'X50' PLE FOR DRAINAGE

SUBCUR3 STA 233+00 TO 242+00 ON ℄

SECTION LINE N89°49'02"E (2630.51')

SEC5062 QUARTER SEC. COR. CONCRETE MON. W/ BRASS CAP Y = 120807.13 X = 686659.91

STA 245+23.93 STH 164 ℄

CHERI AVENUE; WOODLAND LANE; LOT 2 CSM 10521; LOT 2 CSM 5387

SEC5083 SEC. COR. CONCRETE MON. W/ BRASS CAP Y = 120815.52 X = 689290.41

IDENTICAL POINTS

DETAIL N.T.S.

HWY	BASIS OF EXISTING R/W	WIDTH	YEAR
STH 164 / CTH F	PROJECT S 0475(2)	VARIES	1964

THIS IS A COPY. ORIGINAL DOCUMENT IS AT THE WAUKESHA COUNTY REGISTER OF DEEDS.

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF DOCUMENT 3884036, OF TRANSPORTATION PROJECT PLATS IN THE WAUKESHA COUNTY REGISTER OF DEEDS.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

STEVEN L. SCHMIDT RLS — PRINTED NAME — SIGNATURE — FEB. 14, 2012 — DATE

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

ROBERT L. DUFFECK RLS — PRINTED NAME — SIGNATURE — FEB. 14, 2012 — DATE

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 2810-06-21-4.05
AMENDMENT NO:

3896522
REGISTER OF DEEDS
WAUKESHA COUNTY, WI
RECORDED ON
February 22, 2012 02:28 PM
James R Behrend
Register of Deeds
1 PG
TOTAL FEE: $25.00
TRANS FEE: $0.00
Book 1 Page 118-118

FILE NAME : J:\projects\d2_r_281006164\21\040405_rp.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 16-FEB-2012 12:48 PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : 100.000000:1.000000
CONST. 2810-06-70 R/W 2810-06-21 4.05

BEGIN RECONSTRUCTION
STA 153+50.00

THOMAS TURNER
S92W22920-30 JOYLANE

ELLEN COLE
S92W22915-25 JOY LN.

JOY LANE

MICHAEL CONN, ET AL
S91W22975-85
MILWAUKEE AVE.

THOMAS LEROY IMME
REV. TRUST
W229S9145 CLARK ST.

MARK MILESKE
W229S9165 CLARK ST.

ERIC & JANELLE BRODHAGEN
W229S9195 CLARK ST.

WE ENERGIES (GAS)

GENE & DEBORAH ZERGOSKI

SLOPE INTERCEPT (TYP)

ORCHARD ST.

CRAIG SAGER
W229S9160 CLARK ST.

DEBORAH MULES
W229S9150 CLARK ST.

TAA INC.
S91W22945
MILWAUKEE AVE.

AT&T

RIVERBEND MEDICAL CLINIC LLC
W229S9180 CLARK ST.

TOSKA DOBSCHUETZ
W229S9190 CLARK ST.

GREGORY &
SANDRA PETERSON
S91W22935
MILWAUKEE AVE.

CTH L

NEVINS ST.

CITIZENS BANK MUKWONAGO
W230S9125 CLARK ST.

KEVIN & JEANINE DAUGHERTY
W230S9105 CLARK ST.

ROBERT & MONICA HEINEMANN
W230S9085 CLARK ST.

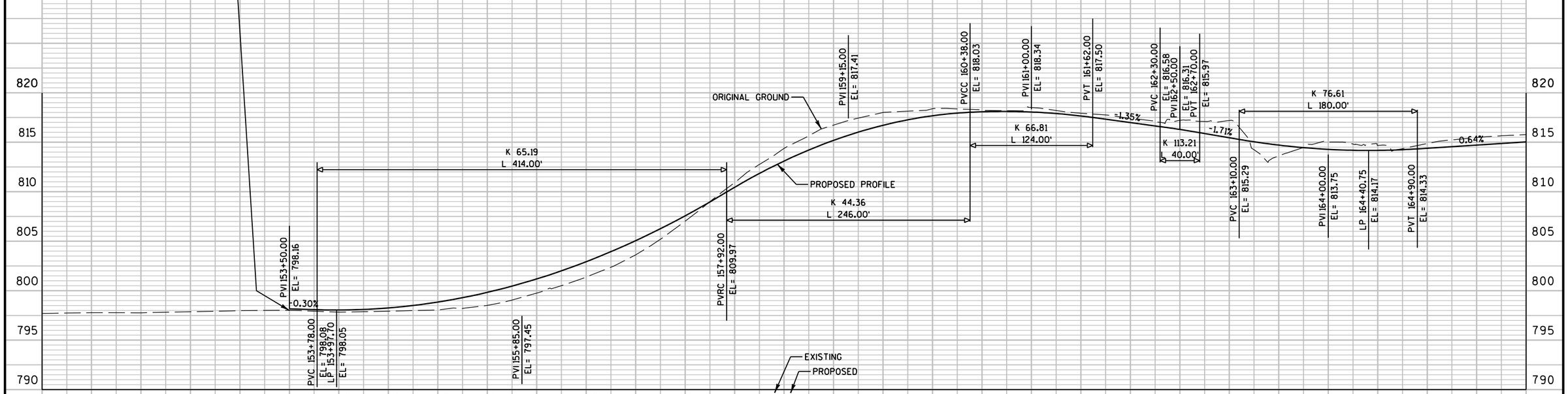
OM GROUP LLC
S91W22950 MILWAUKEE AVE.

WE ENERGIES (ELECTRIC)

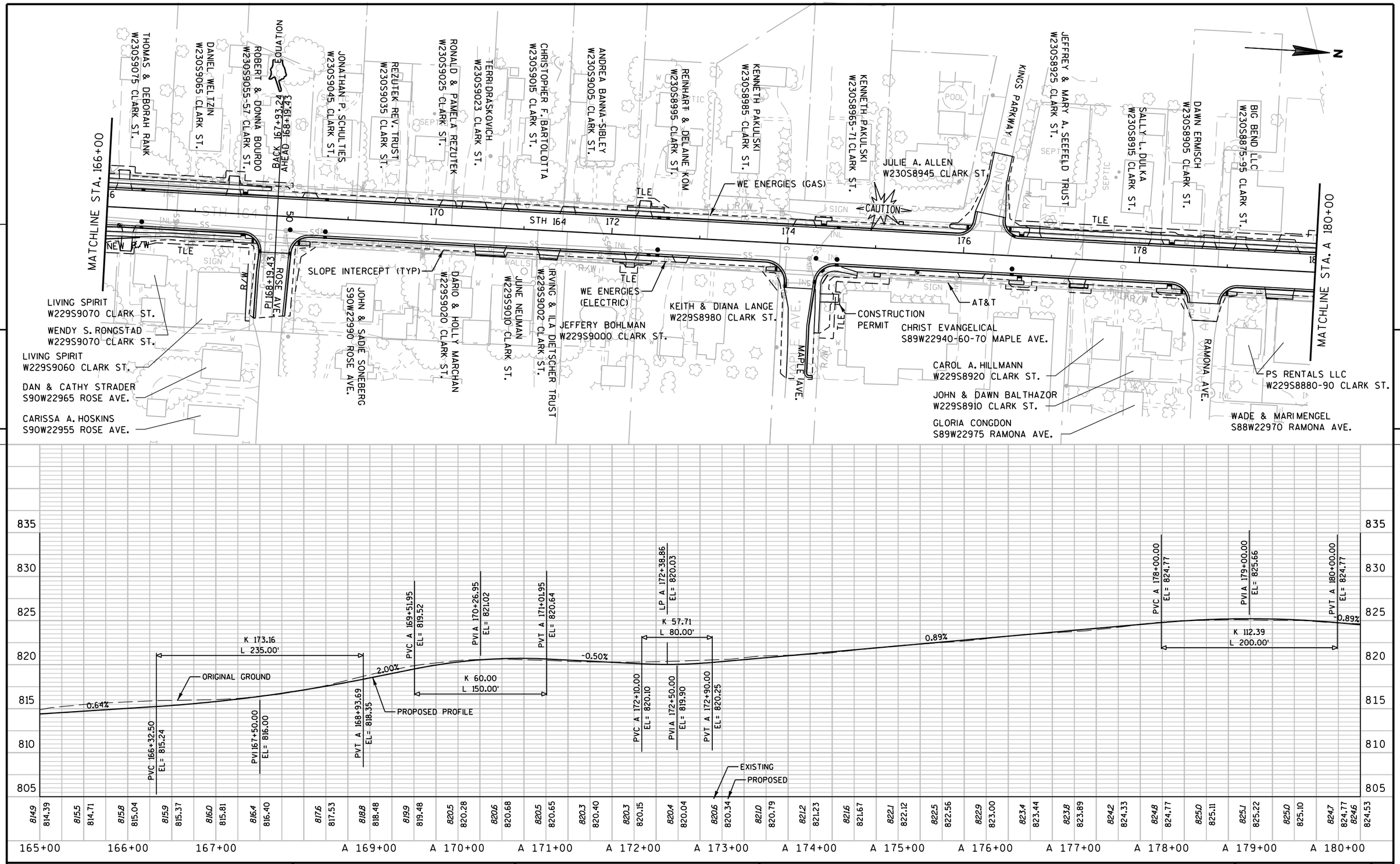
STH 164

MATCHLINE STA. 166+00

PT 153+17.75
PC 161+10.74
PI 161+01.89
PI 164+07.13
PT 165+68.77



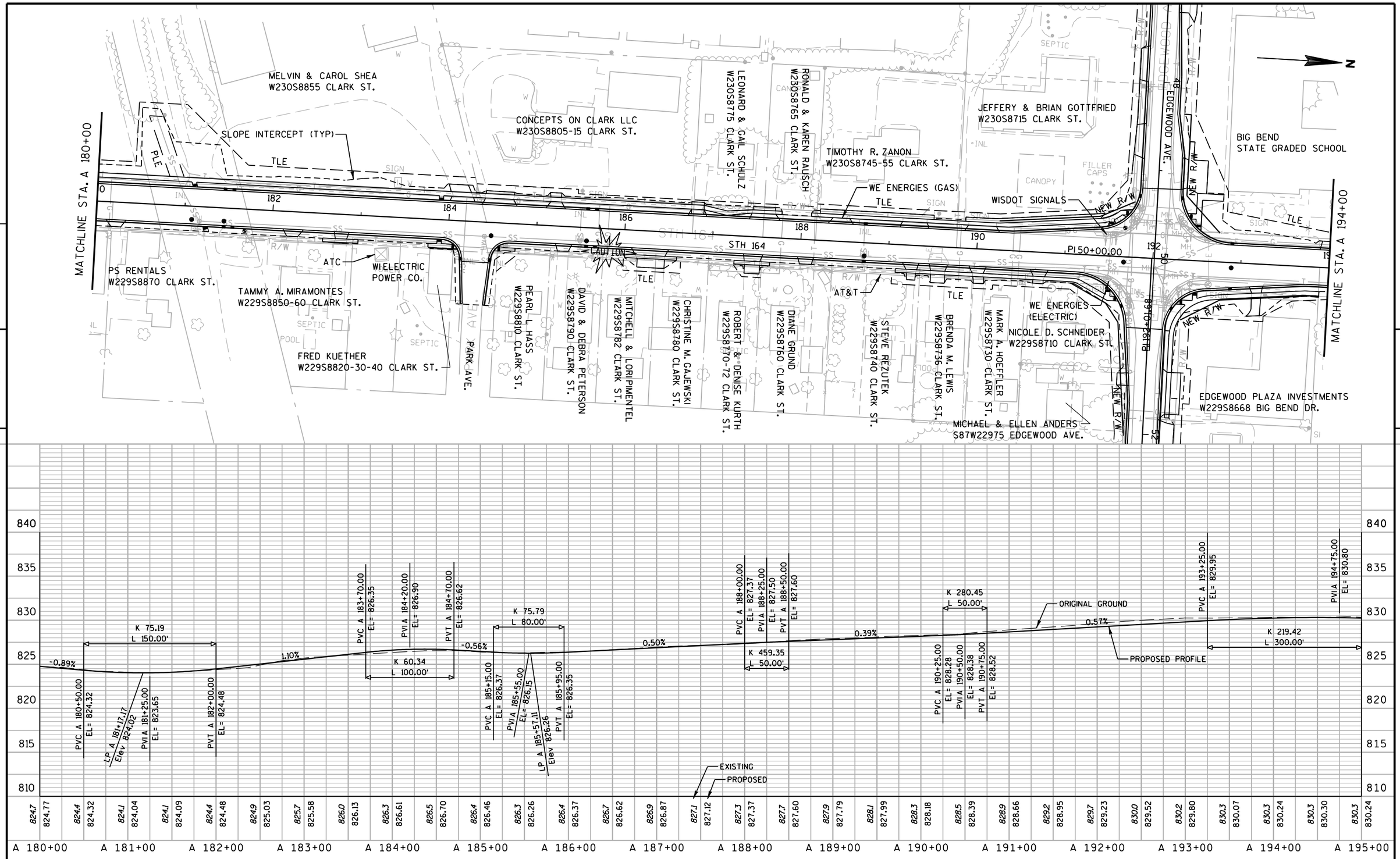
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN & PROFILE - STH 164	SHEET 188	E



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN & PROFILE - STH 164	SHEET 189	E

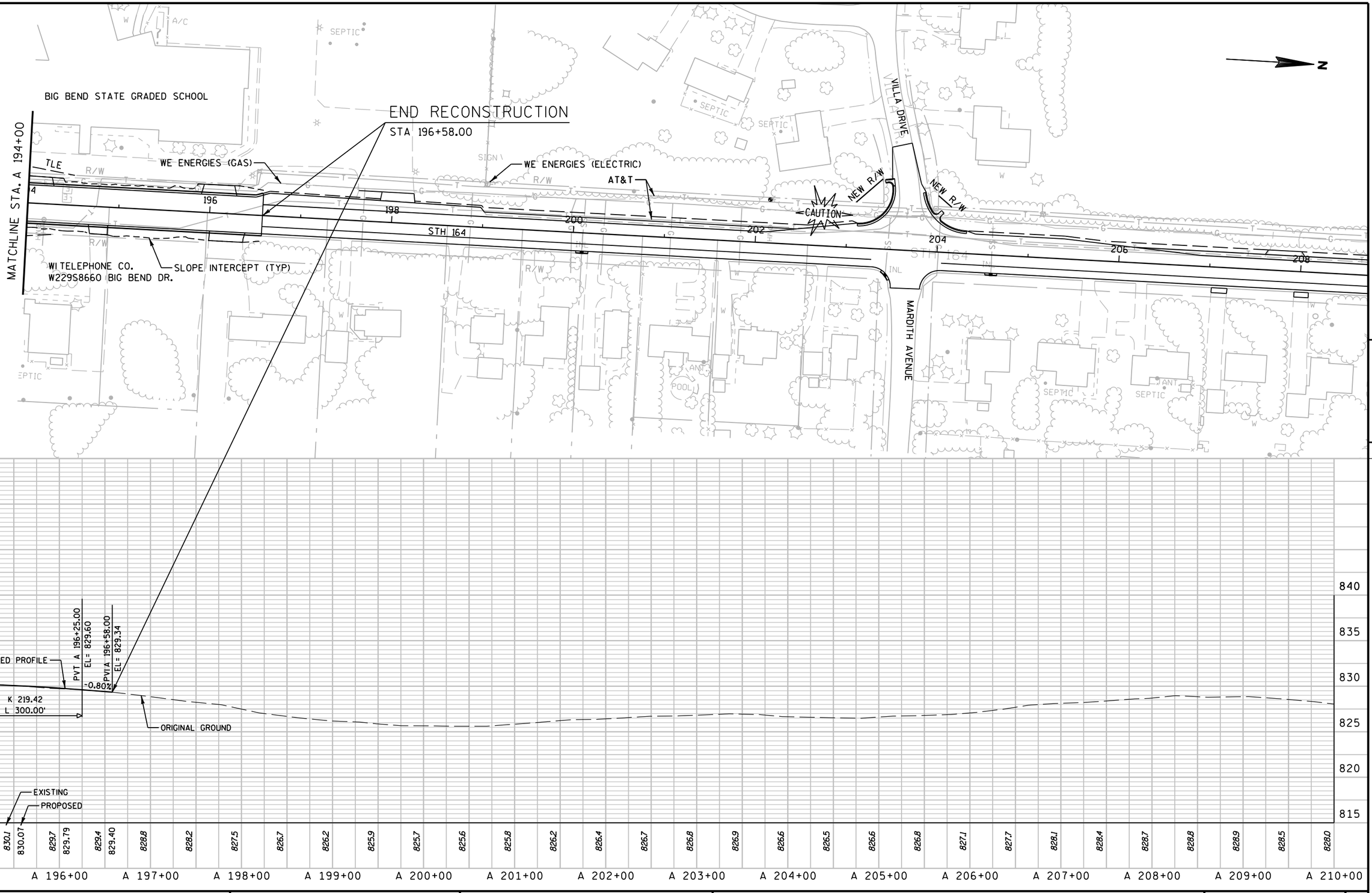
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\050102_pp.dgn PLOT DATE : 11/1/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 100.0000 FT / in.

WISDOT/CADDS SHEET 40



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN & PROFILE - STH 164	SHEET 190	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\050103_pp.dgn
PLOT DATE : 11/1/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 100.0000 FT / in.
WISDOT/CADDS SHEET 40



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN & PROFILE - STH 164	SHEET 191	E

BEGIN CONSTRUCTION
STA 45+94.20

END CONSTRUCTION
STA 53+31.21

NEVINS ST.

KEITH & MARY STEIN
S91W22990 MILWAUKEE AVE.

SLOPE INTERCEPT (TYP)

AT&T

OM GROUP LLC
S91W22950 MILWAUKEE AVE.

WE ENERGIES (ELECTRIC)

CTH L

NEW R/W

TLE

R/W

SLOPE INTERCEPT (TYP)

RONALD ZABLER
S92W23005
MILWAUKEE AVE.

MICHAEL CONN, ET AL
S91W22975-85
MILWAUKEE AVE.

THOMAS LEROY IMME
REV. TRUST
W229S9145 CLARK ST.

MARK MILESKE
W229S9165 CLARK ST.

STH 164

CAUTION

TAA INC.
S91W22945
MILWAUKEE AVE.

GREGORY &
SANDRA PETERSON
S91W22925-35
MILWAUKEE AVE.

WE ENERGIES (GAS)

DEBORAH MULES
W229S9150 CLARK ST.

CRAIG SAGER
W229S9160 BIG BEND DR.

Pl50+00.00

Pl45+35.41

Pl61+01.89

Pl53+98.78

PVI 45+94.20
EL = 804.90

4.33%

PVC 47+84.13
EL = 813.12

PVI 48+80.00
EL = 817.27

PVT 49+75.87
EL = 817.82

PVI 49+99.79
EL = 818.06

PVI 50+19.82
EL = 818.26

K 51.08
L 191.74'

1.00%

1.00%

0.69%

ORIGINAL GROUND

PROPOSED PROFILE

PVC 52+84.00
EL = 820.08

PVI 53+00.00
EL = 820.19

PVT 53+16.00
EL = 820.24

PVI 53+31.21
EL = 820.29

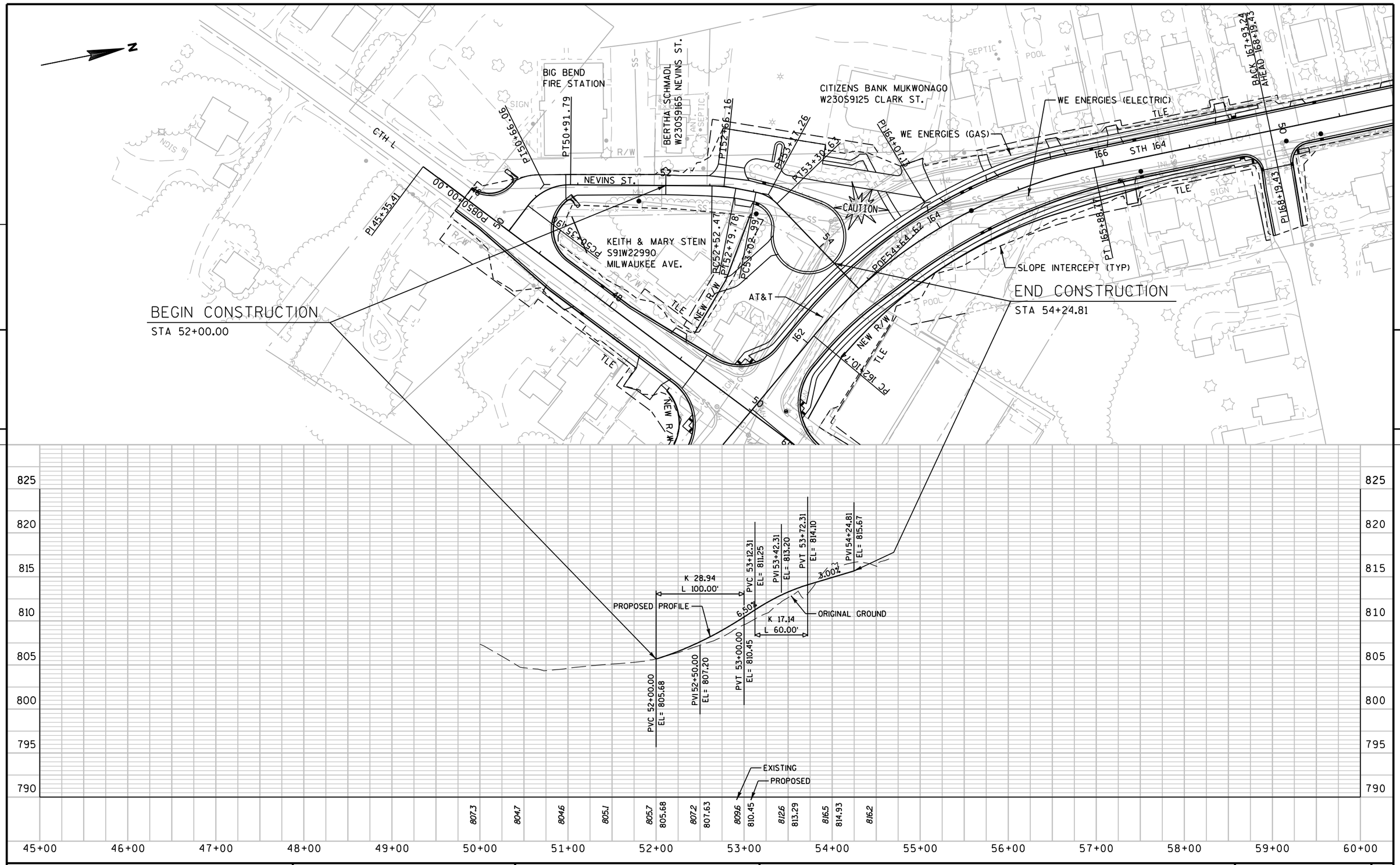
0.32%

K 86.88
L 32.00'

EXISTING

PROPOSED

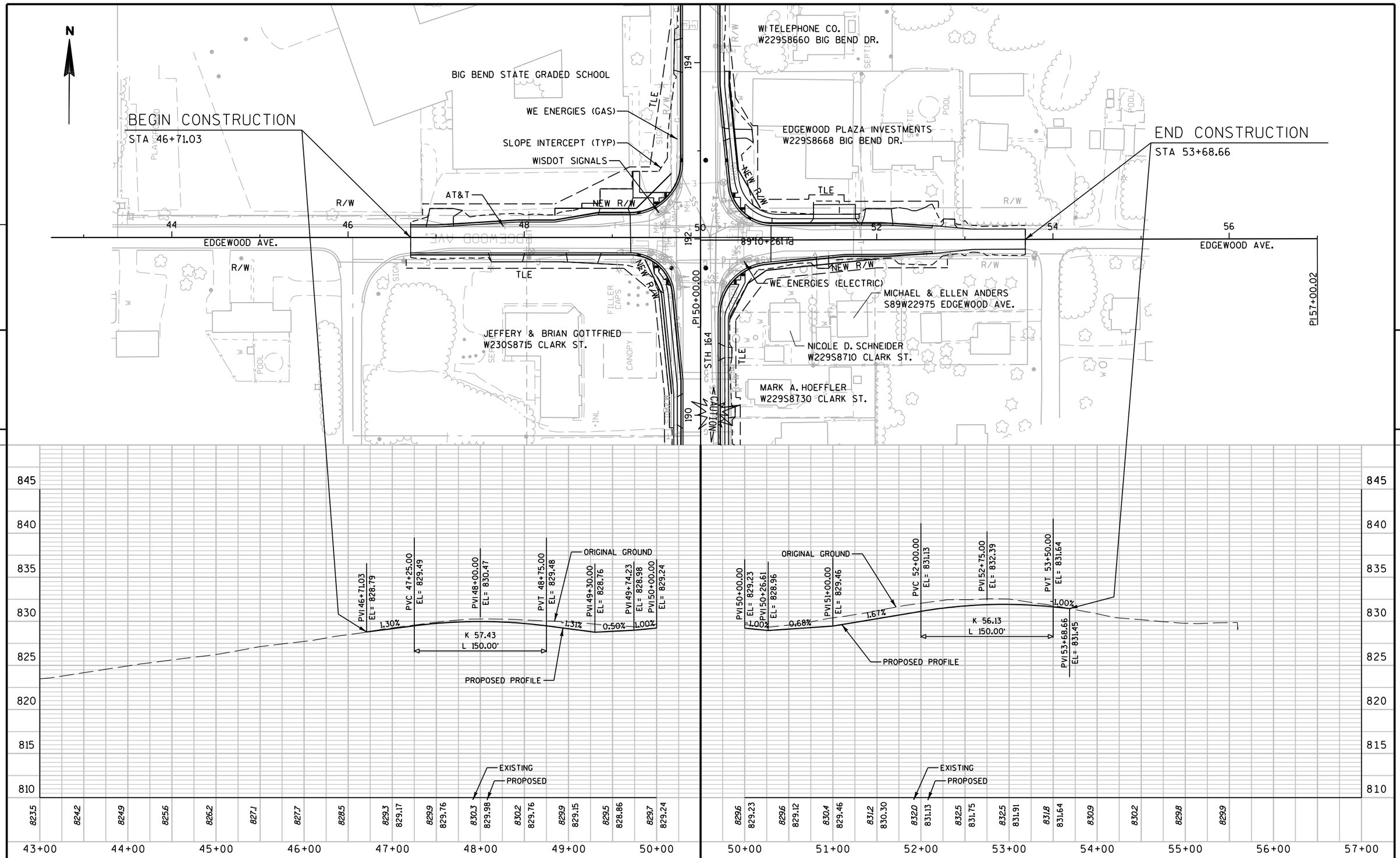
| | | |



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN & PROFILE - NEVINS ST.	SHEET 193	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\050106_pp.dgn PLOT DATE : 11/1/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 100.0000 FT / in.

WISDOT/CADDS SHEET 40

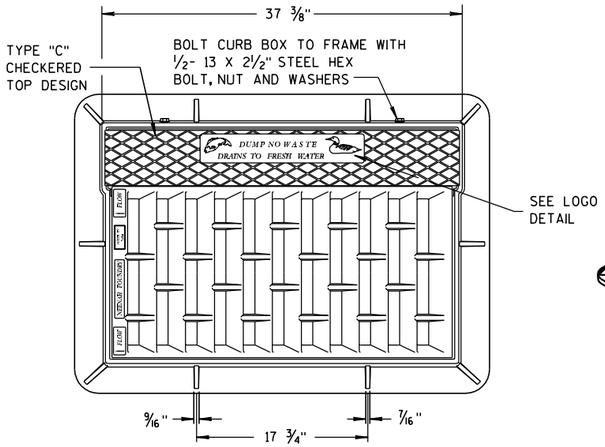


PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	PLAN & PROFILE - EDGEWOOD AVE.	SHEET 194	E

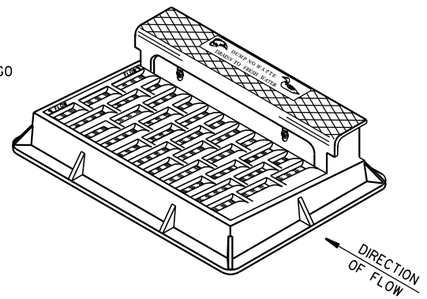
Standard Detail Drawing List

08A05-18A	INLET COVERS TYPE A, H, A-S, & H-S
08A05-18B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-18D	INLET COVER, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C09-01	INLETS MEDIAN 3 AND 4 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-14A	CURB RAMPS TYPES 1 AND 1-A
08D05-14B	CURB RAMPS TYPES 2 AND 3
08D05-14C	CURB RAMPS TYPE 4A
08D05-14D	CURB RAMPS TYPE 4B
08D05-14E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E04-02	SOD OR MASONRY AND SOD DITCH CHECKS
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
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-12A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-12B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
09B02-07	CONDUIT
09B04-09	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09C06-05	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C12-02A	CONCRETE BASE TYPE 13
09C13-01	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E01-11G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-04	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-04D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-04E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-01C	CONCRETE PAVEMENT JOINT TIES
13C18-01D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B47-01A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-01	MARKER POSTS, FLEXIBLE, FOR CULVERT END
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-01	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-01	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-14A	PAVEMENT MARKING (MAINLINE)
15C08-14B	PAVEMENT MARKING (INTERSECTIONS)
15C08-14E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-14F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C26-02	END-OF-ROADWAY SIGNING
15C28-02	SIGNING AND MARKING FOR COMBINATION RIGHT TURN AND BYPASS LANE
15D28-01	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

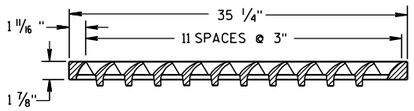
6

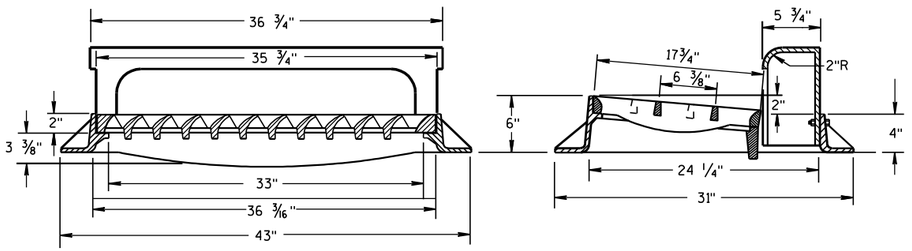


NOTE:
GRATE IS REVERSIBLE.



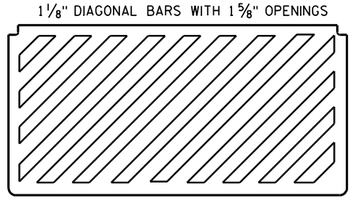
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"





TYPE "H"

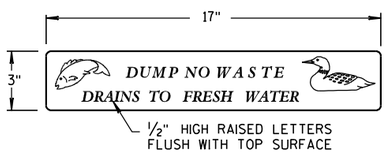
(APPROXIMATE WEIGHT 441 LBS.)
FRAME..... 181 LBS.
GRATE..... 146 LBS.
CURB BOX..... 114 LBS.



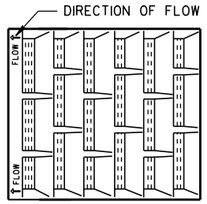
SPECIAL GRATE FOR TYPE "H" COVER

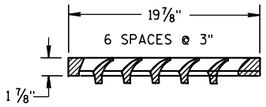
(MEASURES 35 1/4" X 17 3/4" X 2")
(APPROXIMATE WEIGHT 159 LBS.)
GRATE..... 159 LBS.

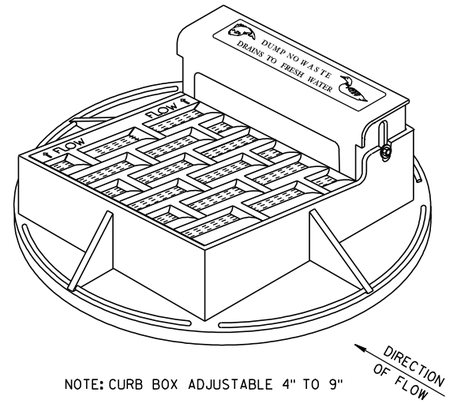
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



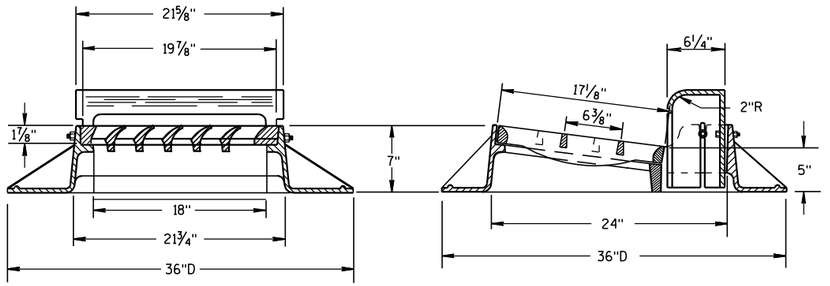
LOGO DETAIL







NOTE: CURB BOX ADJUSTABLE 4" TO 9"



TYPE "A"

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

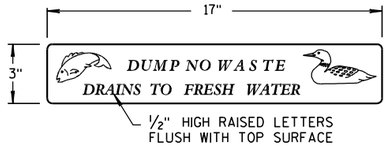
GENERAL NOTES

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.

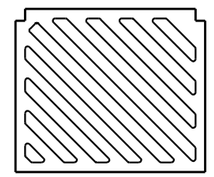
THE ACTUAL WEIGHT OF COVERS MAY VARY WITH 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



LOGO DETAIL

NOTE:
GRATE IS REVERSIBLE.

1" DIAGONAL BARS WITH 1 1/2" OPENINGS



SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 3/4" X 17" X 1 7/8"
GRATE..... 84 LBS.

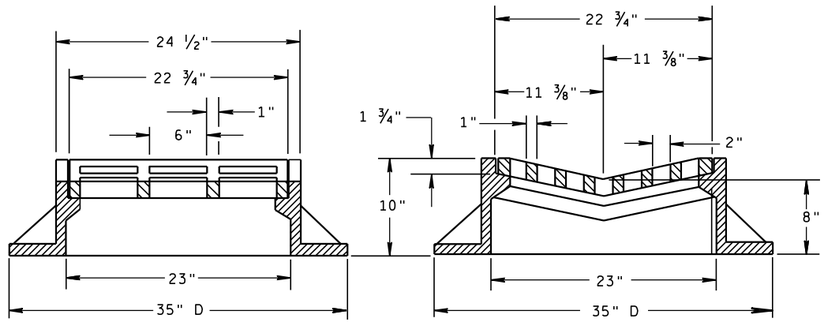
(NOTED AS TYPE A-S ON DRAINAGE TABLE)

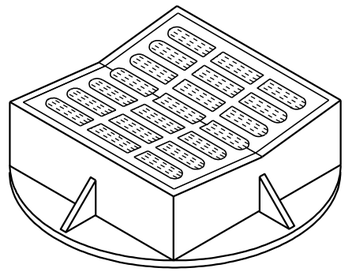
INLET COVERS TYPE A, H, A-S, & H-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE
/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 8 A 5-18a

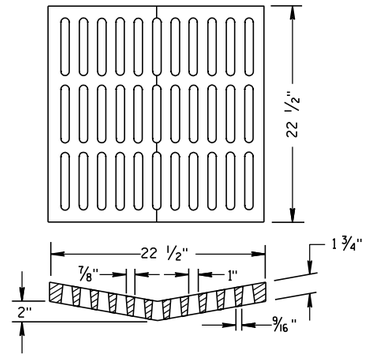




TYPE "B"

(APPROXIMATE WEIGHT 405 LBS.)

FRAME..... 294 LBS.
GRATE..... 111 LBS.

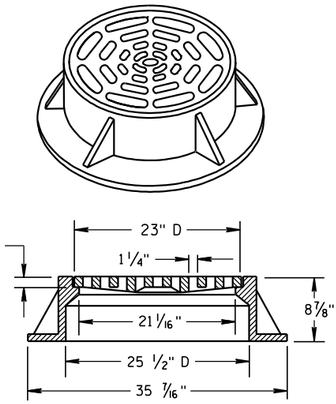


ALTERNATIVE GRATE FOR TYPE "B" COVER

(APPROXIMATE GRATE WEIGHT 134 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.

NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

(APPROXIMATE WEIGHT 259 LBS.)

FRAME..... 152 LBS.
GRATE..... 107 LBS.

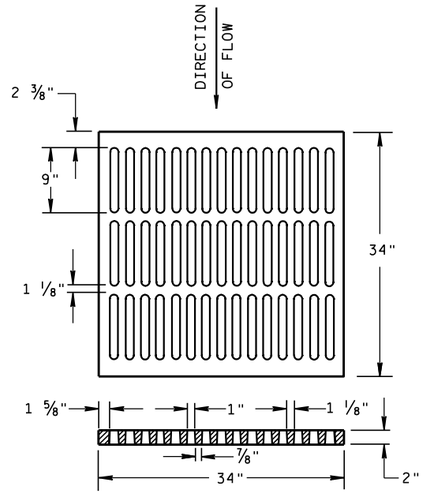
GENERAL NOTES

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.

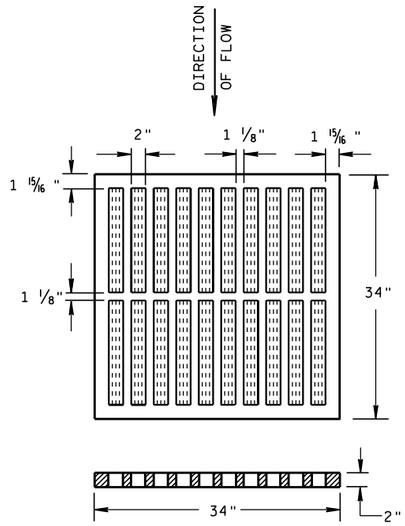


ALTERNATIVE TYPE "MS"

(APPROXIMATE GRATE WEIGHT 329 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED

NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

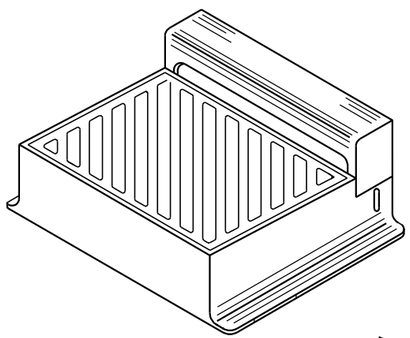


TYPE "MS"

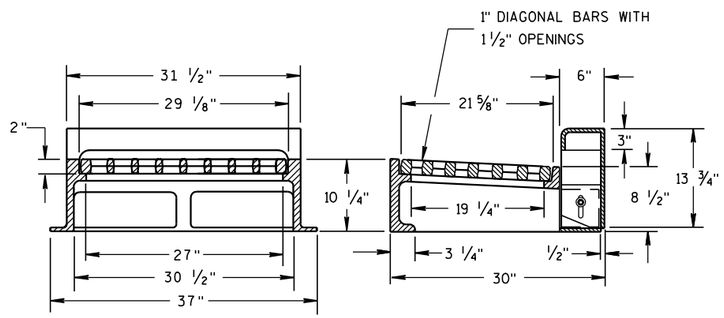
(APPROXIMATE GRATE WEIGHT 268 LBS.)

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

(APPROXIMATE WEIGHT 648 LBS.)

FRAME..... 355 LBS.
GRATE..... 156 LBS.
CURB BOX..... 137 LBS.

INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012 — DATE

/S/ Jerry H. Zaas — ROADWAY STANDARDS ENGINEER

197

ENT

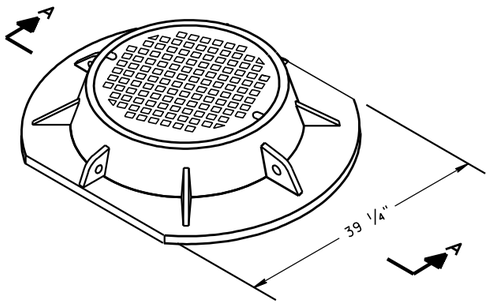
FHWA

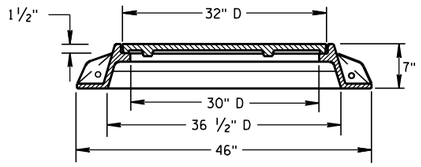
6

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

6

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



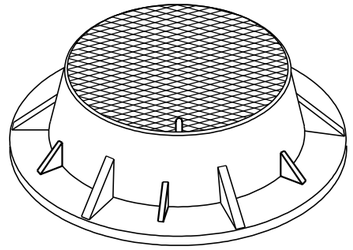


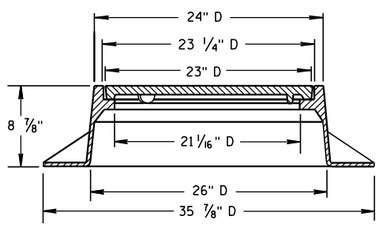
SECTION A-A

TYPE "K"

(APPROXIMATE WEIGHT 439 LBS.)

FRAME.....216 LBS.
LID.....223 LBS.

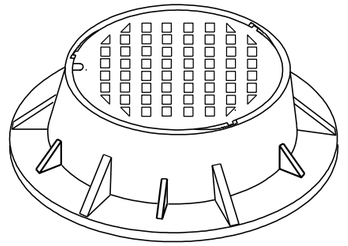


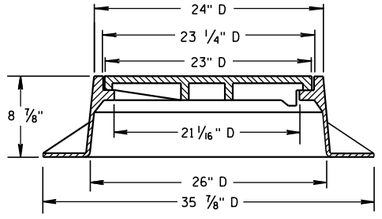


TYPE "J"

(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)

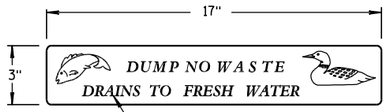
GENERAL NOTES

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.

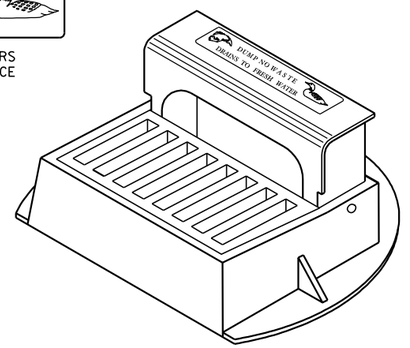
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

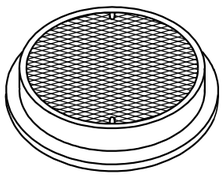
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

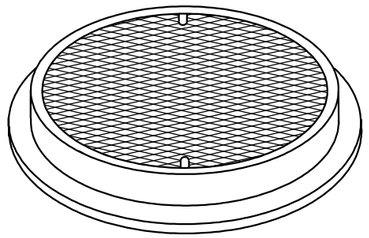
THE ACTUAL WEIGHT OF COVERS MAY VARY WITH 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

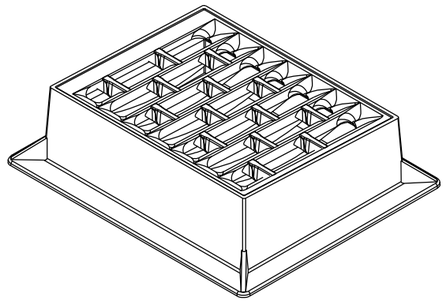


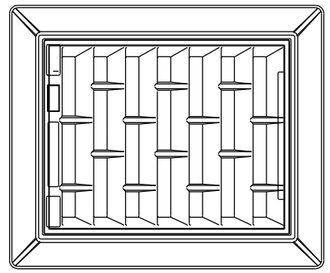
LOGO DETAIL

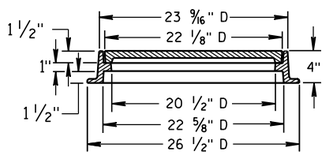








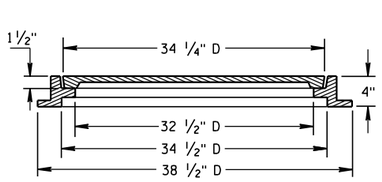




TYPE "L"

(APPROXIMATE WEIGHT 158 LBS.)

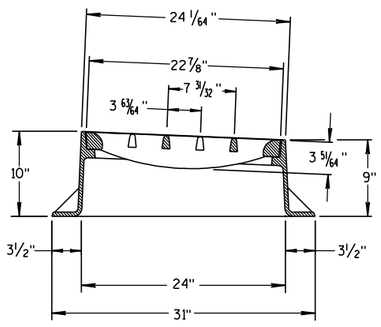
FRAME.....81 LBS.
LID.....77 LBS.

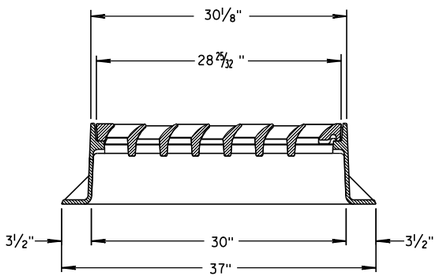


TYPE "M"

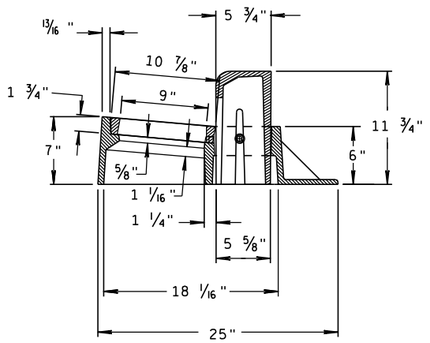
(APPROXIMATE WEIGHT 377 LBS.)

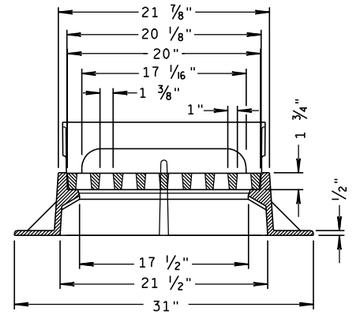
FRAME..... 125 LBS.
LID..... 252 LBS.





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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

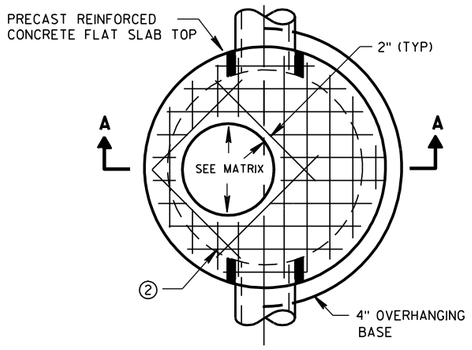
FHWA

6

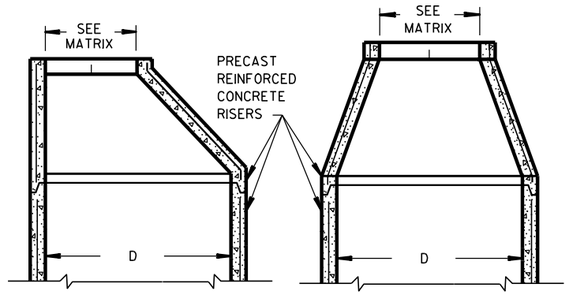
S.D.D. 8 A 5-18d

6

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

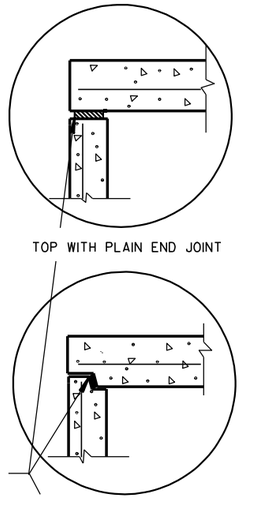


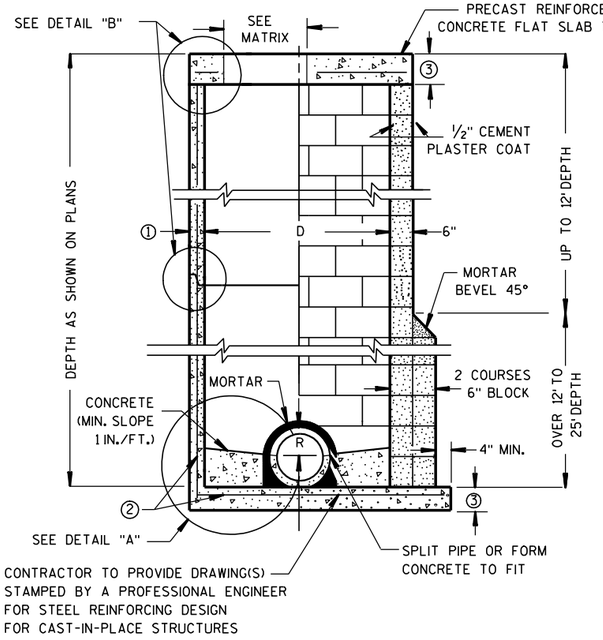
PLAN VIEW CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

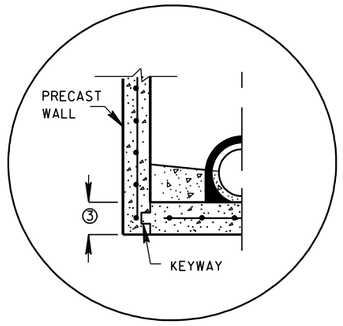
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



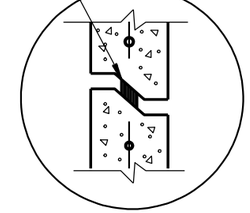


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

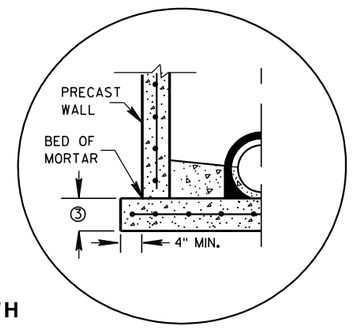
CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②



PRECAST REINFORCED
CONCRETE WITH INTEGRAL BASE OPTION

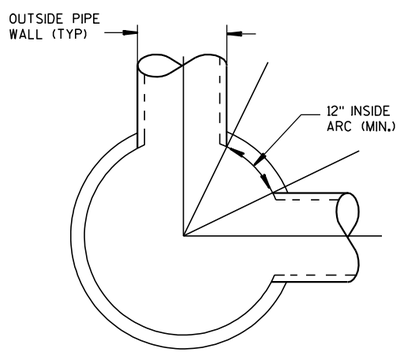


DETAIL "B"



SEPERATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

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

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

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

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

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

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

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

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

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

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

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

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

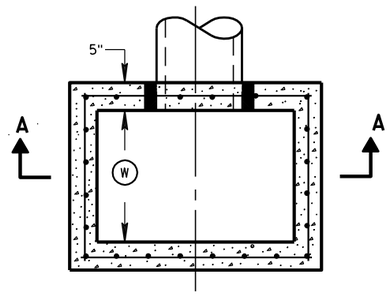
APPROVED

6/5/2012
DATE

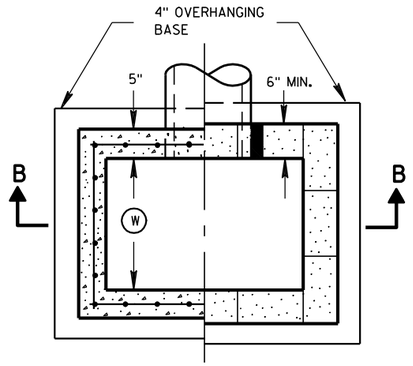
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

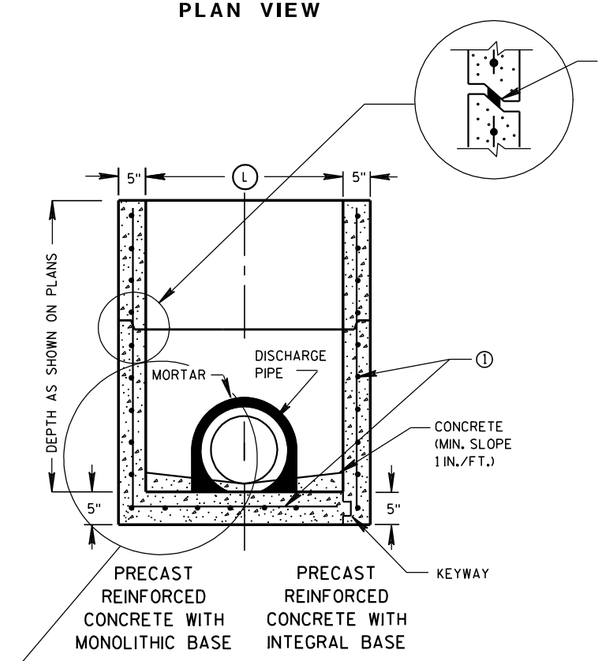
6
S.D.D. 8 B 9-1



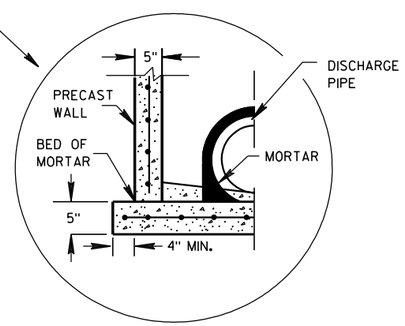
PLAN VIEW



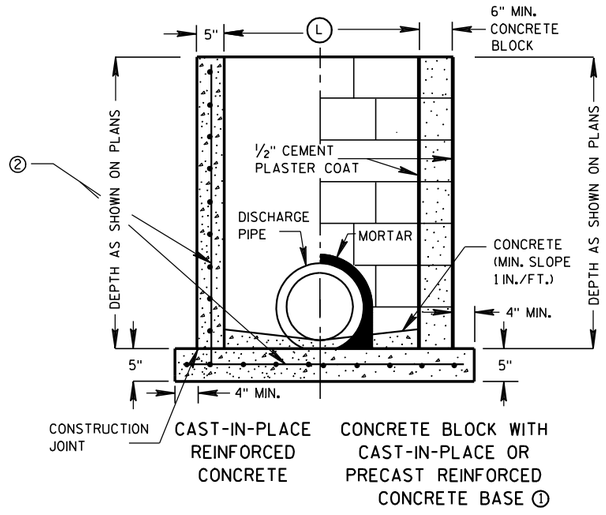
PLAN VIEW



SECTION A-A



SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

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.

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

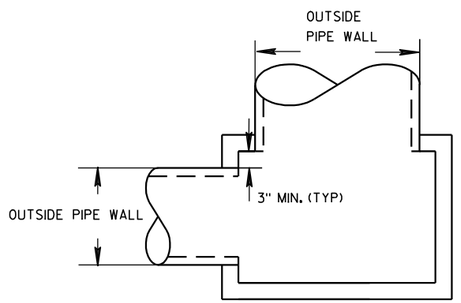
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

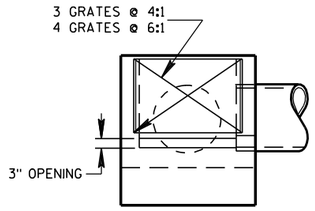
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS D 200 ENGINEER
IT
FHWA

6

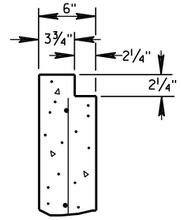
S.D.D. 8 C 7-1

6

S.D.D. 8 C 7-1



SECTION B-B



SECTION C-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.

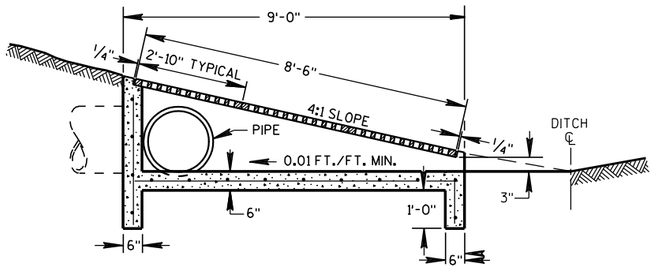
UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

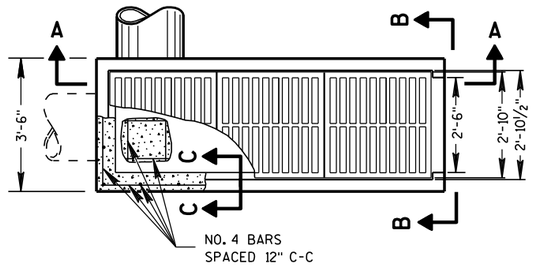
ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 3G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

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

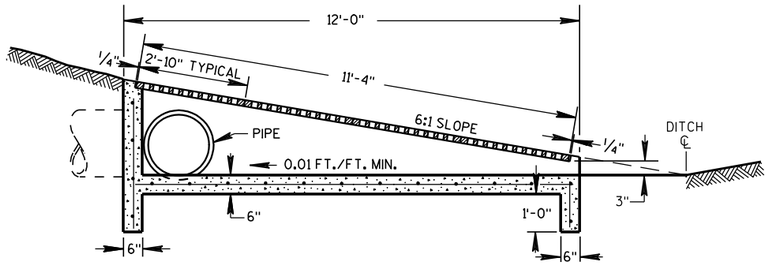


SECTION A-A

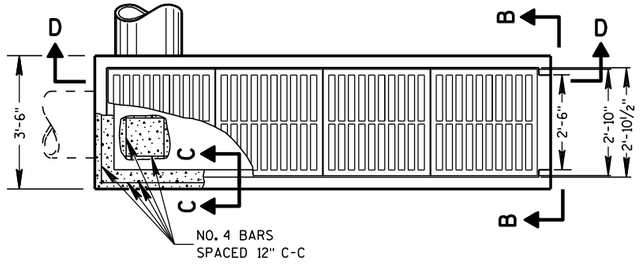


PLAN VIEW

INLETS MEDIAN 3 GRATE



SECTION D-D



PLAN VIEW

INLETS MEDIAN 4 GRATE

INLETS MEDIAN 3 AND 4 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEV ENGINEER

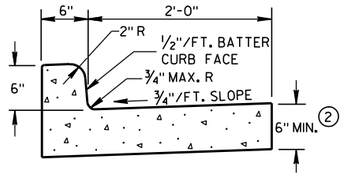
FHWA

6

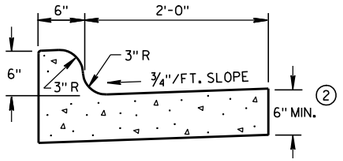
S.D.D. 8 C 9-1

6

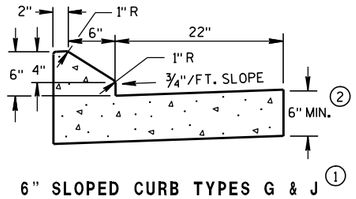
S.D.D. 8 C 9-1



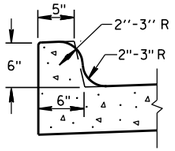
TYPES A & D (1)



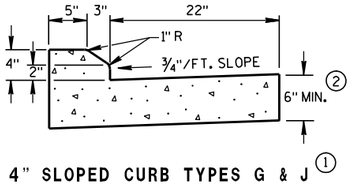
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

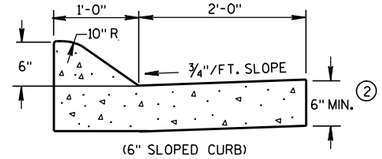


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

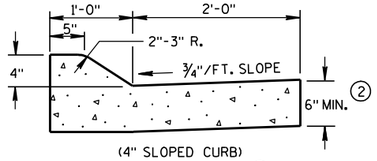


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

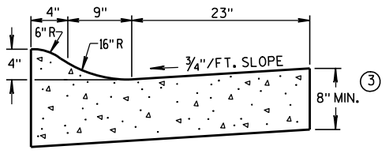


(6" SLOPED CURB)



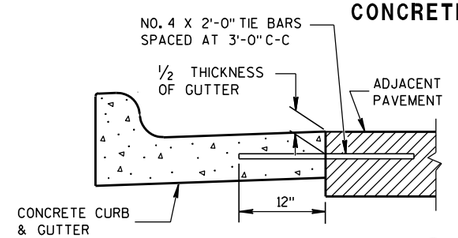
(4" SLOPED CURB)

TYPES A & D (1)

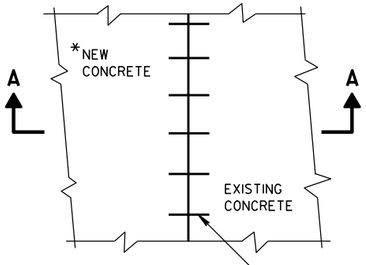


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

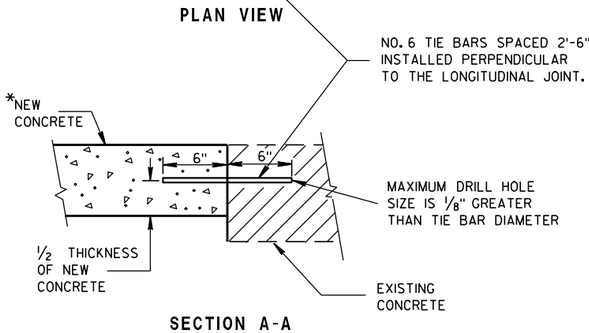


TYPICAL TIE BAR LOCATION (1)



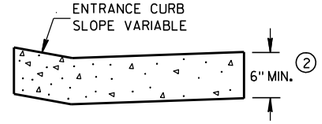
PLAN VIEW

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



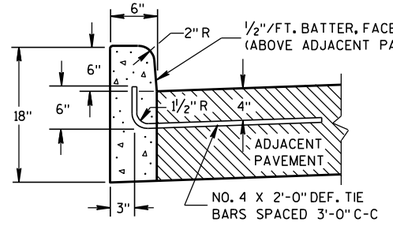
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



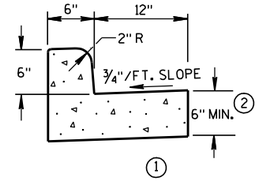
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



(1)

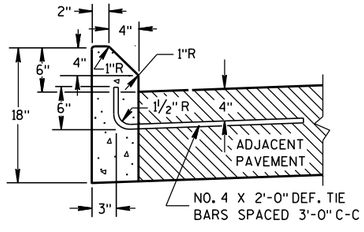
TYPES A & D



(1)

TYPES A & D

CONCRETE CURB & GUTTER 18"



(1)

TYPES G & J

CONCRETE CURB

(5)

REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

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

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

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

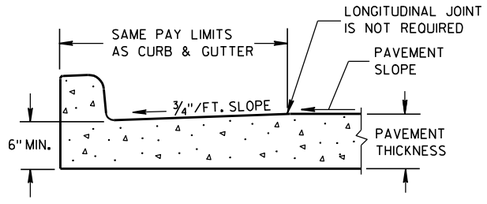
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

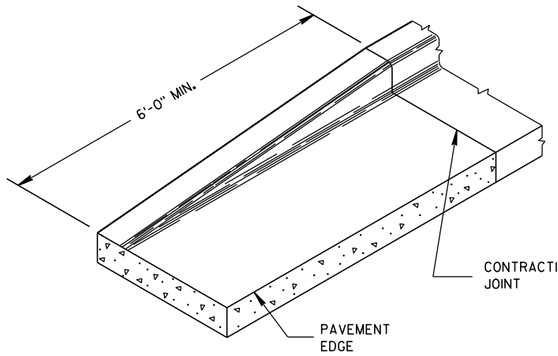
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

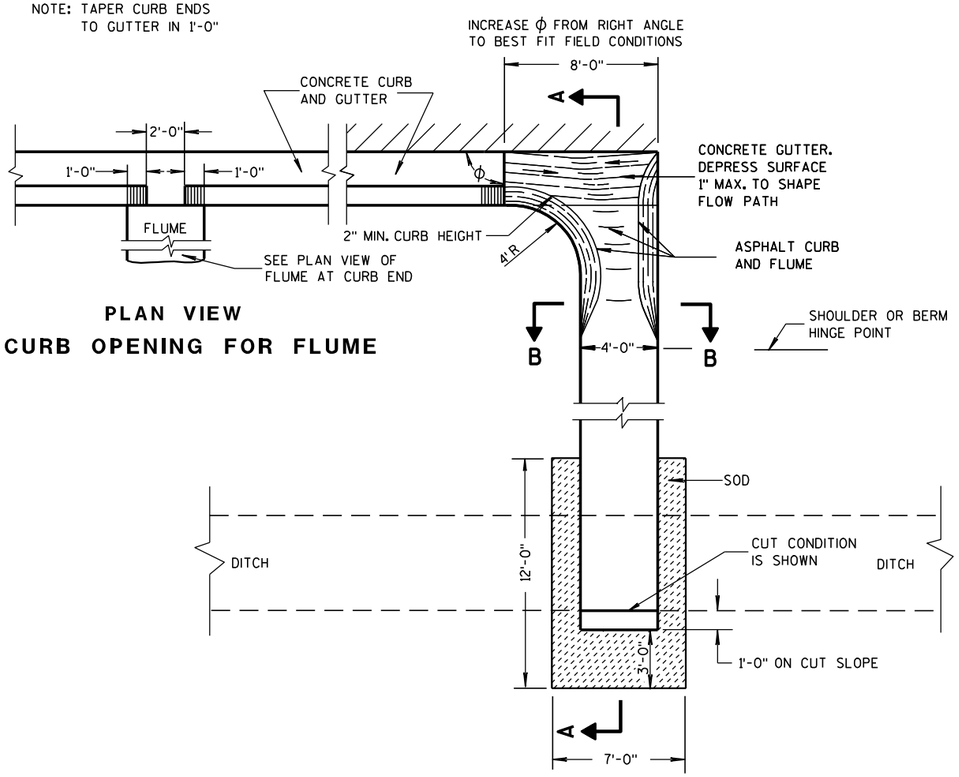
6

S.D.D. 8 D 1-17

6

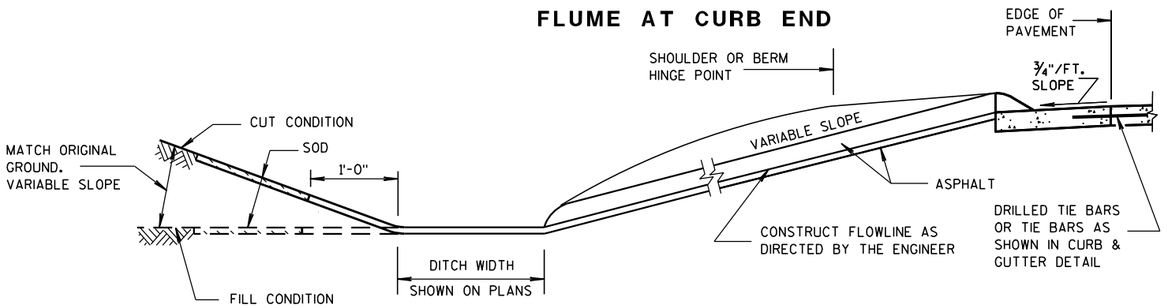
S.D.D. 8 D 1-17

ASPHALTIC FLUME

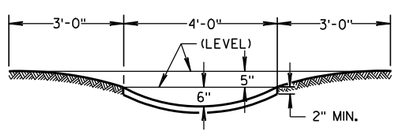


PLAN VIEW
CURB OPENING FOR FLUME

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.

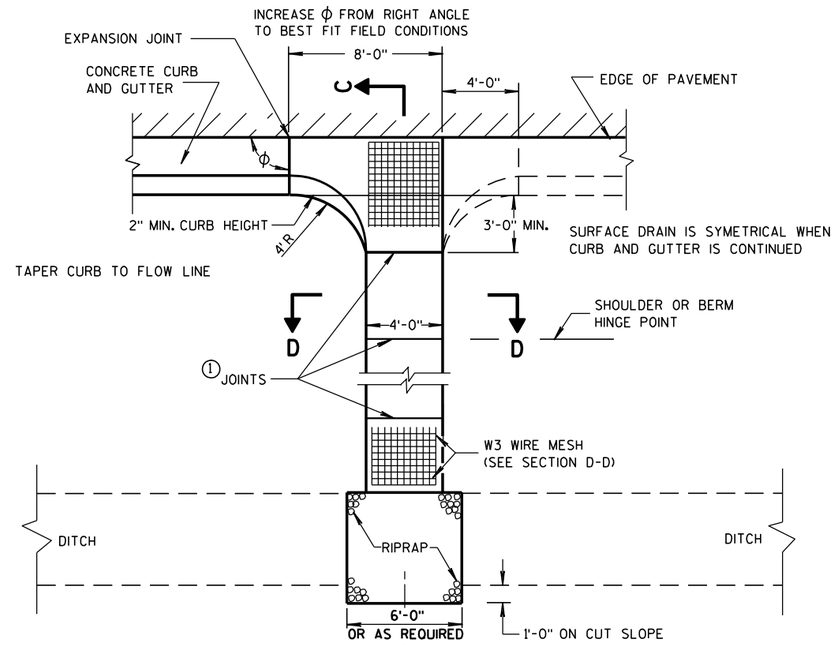
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

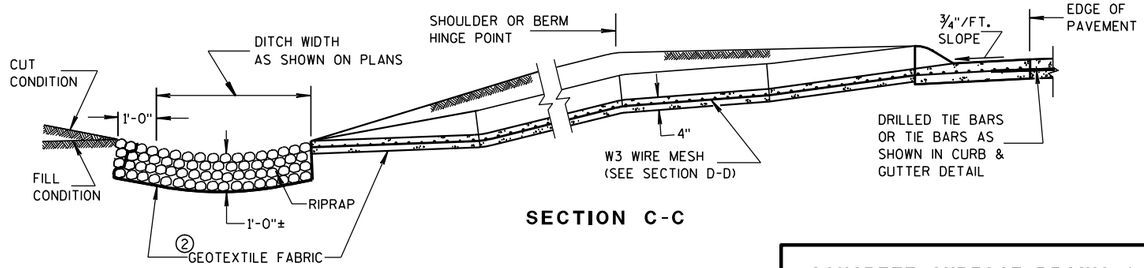
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

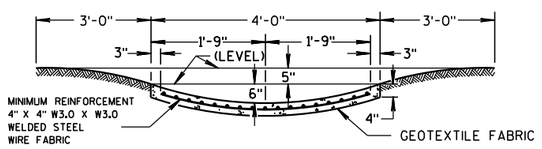
③ CONCRETE SURFACE DRAIN



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. ... ROADWAY STANDARDS ENGINEER — MENT

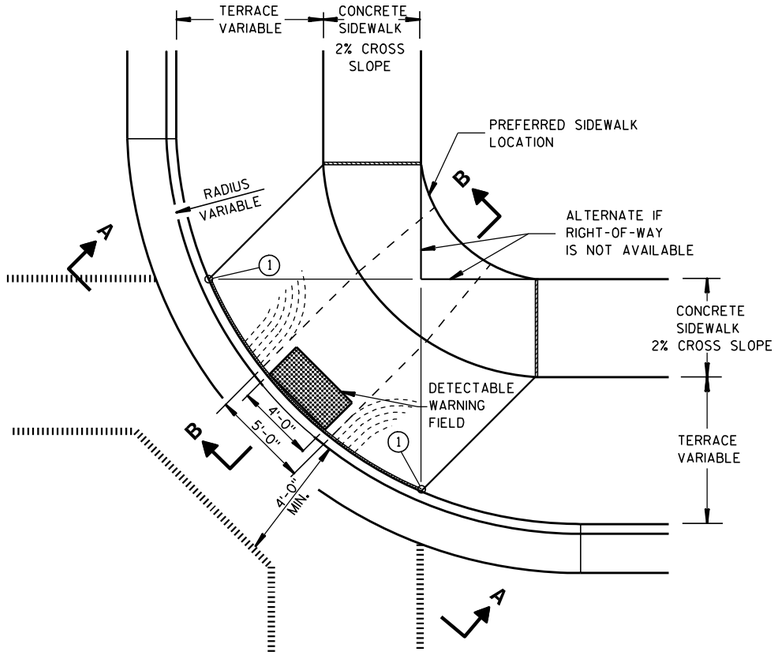
FHWA

6

S.D.D. 8 D 4-5

6

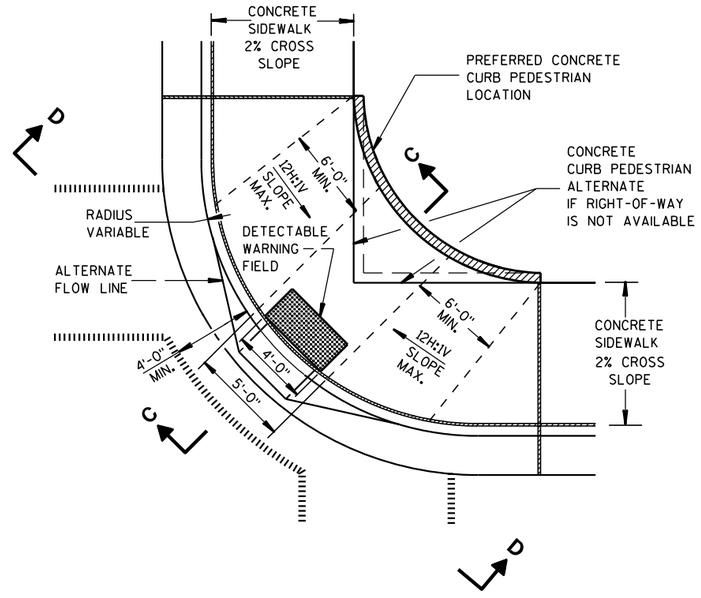
S.D.D. 8 D 4-5



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

GENERAL NOTES

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

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

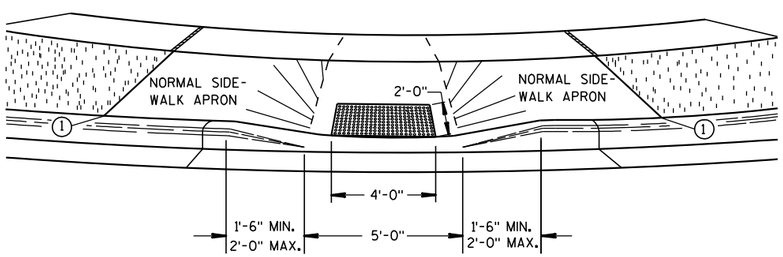
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

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

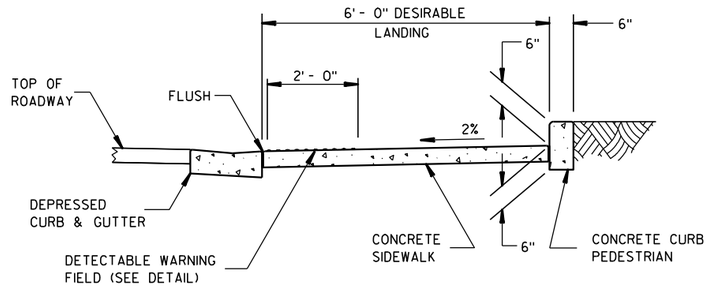
(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

LEGEND

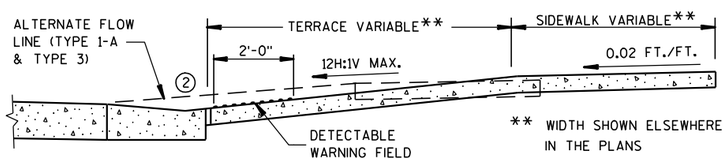
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



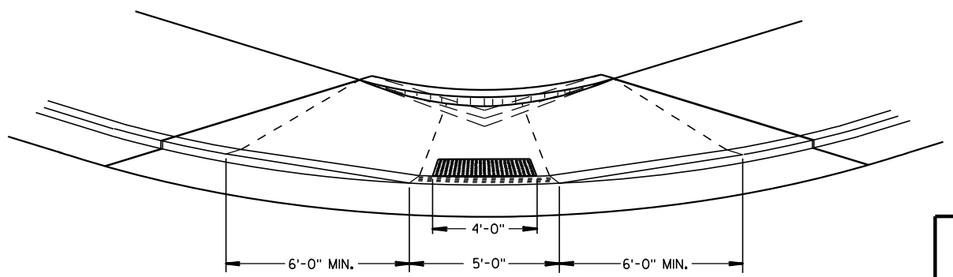
VIEW A-A



SECTION C-C



SECTION B-B



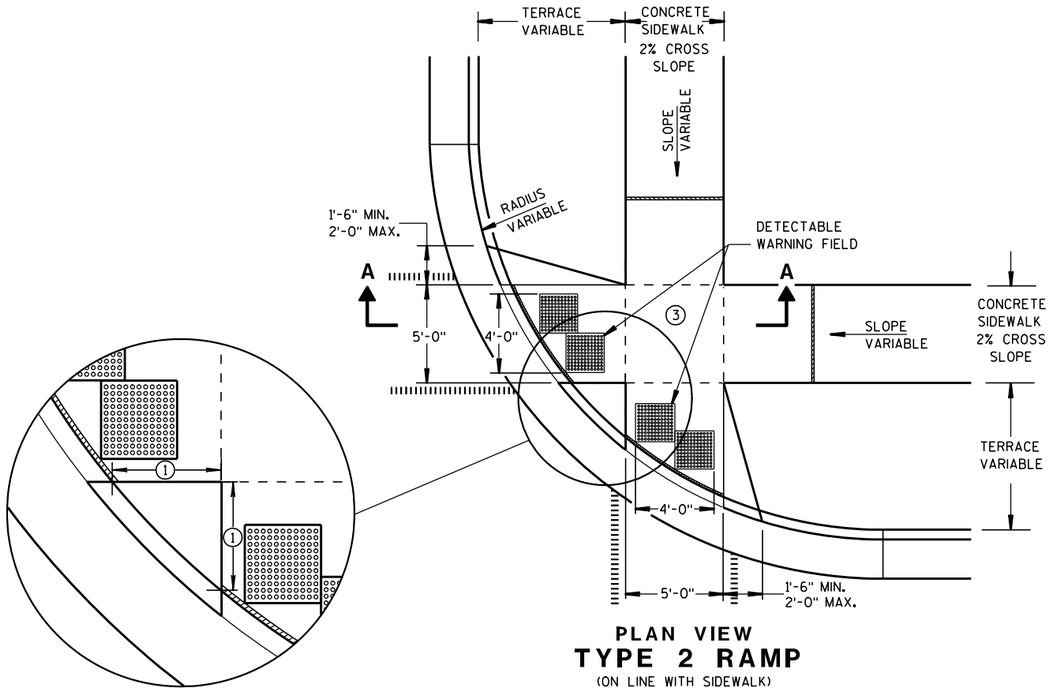
VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

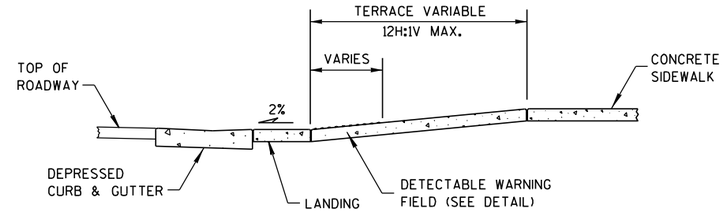
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

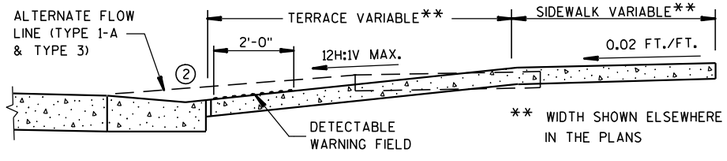
S.D.D. 8 D 5-14a



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

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

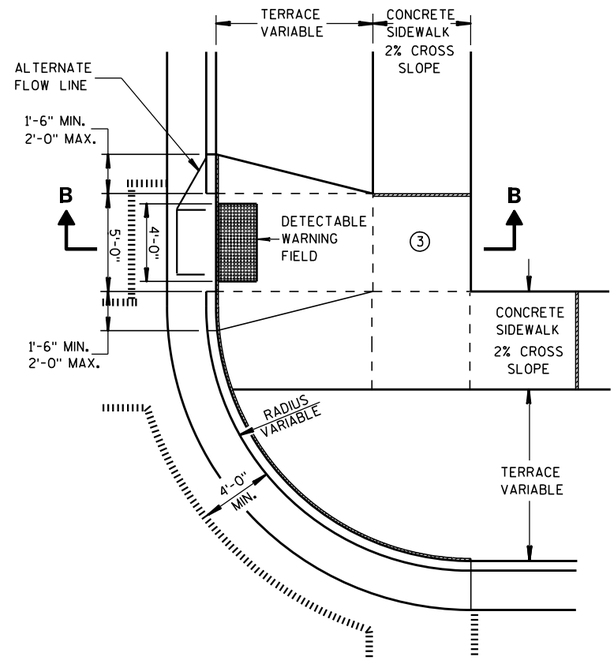
(1) WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

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

(3) PROVIDE LANDING AT TOP OF RAMP WITH NO MORE THAN 2% SLOPE IN ANY DIRECTION.

LEGEND

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

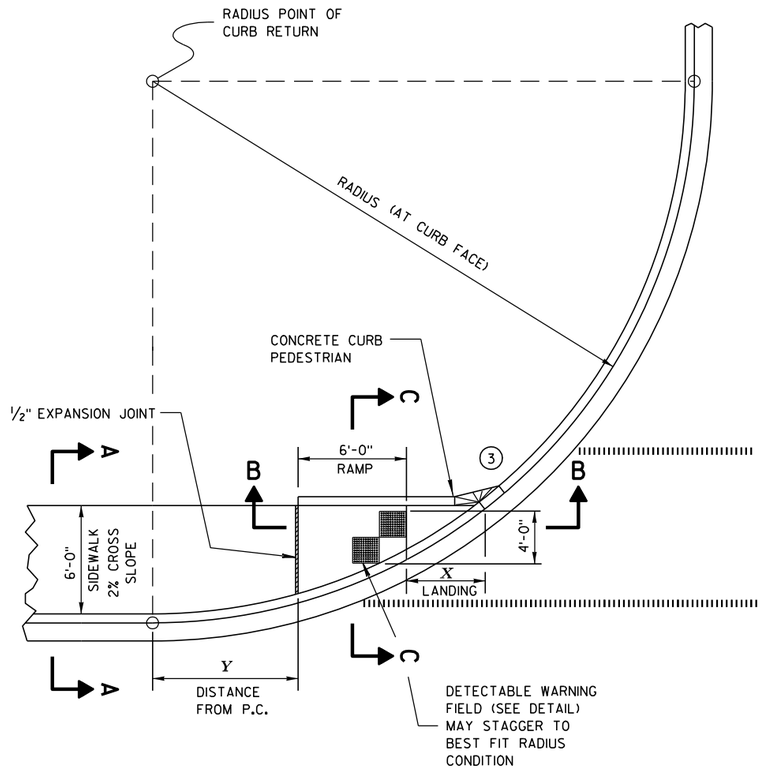


PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS
TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

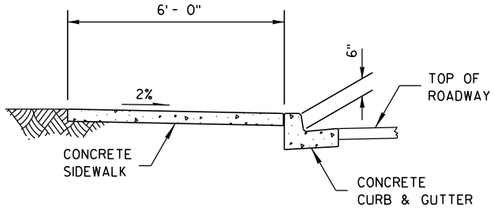
6
S.D.D. 8 D 5-14b



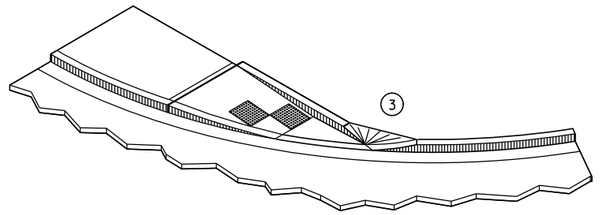
CURB RAMP TYPE 4A
PLAN VIEW

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

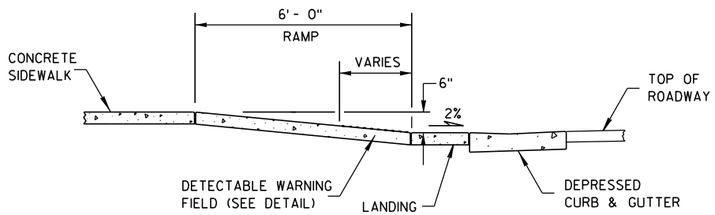
INTERMEDIATE RADII CAN BE INTERPOLATED



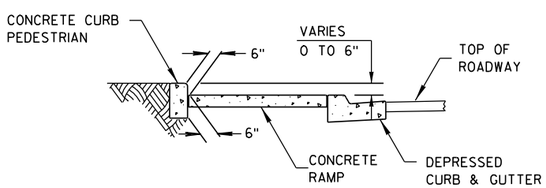
SECTION A-A



ISOMETRIC VIEW



SECTION B-B



SECTION C-C

GENERAL NOTES

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

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

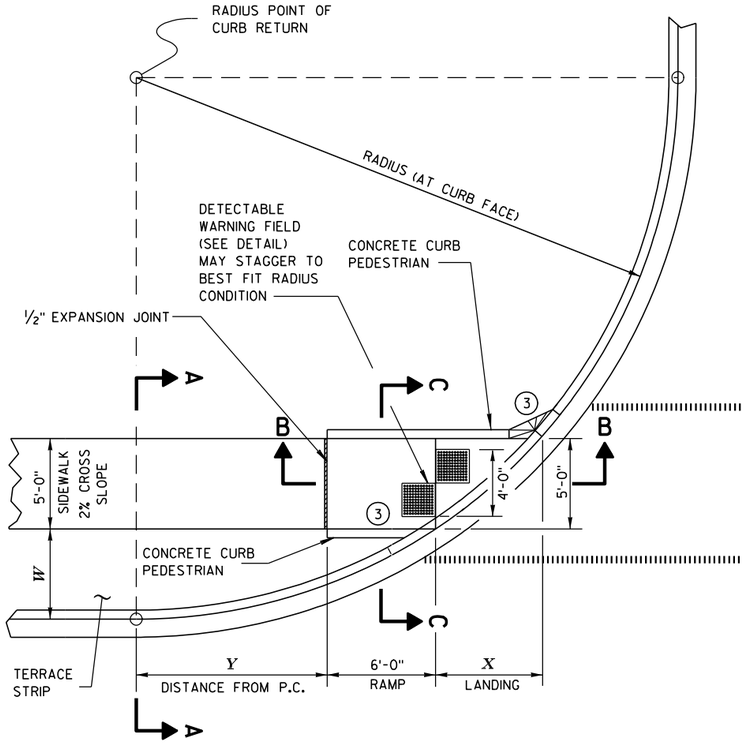
LEGEND

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

CURB RAMPS TYPE 4A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 8 D 5-14c



CURB RAMP TYPE 4B
PLAN VIEW

GENERAL NOTES

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

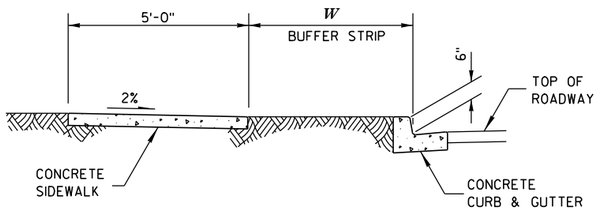
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

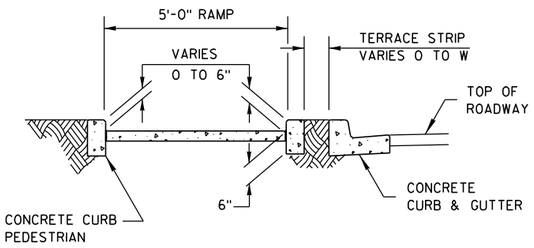
(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

RADIUS (AT CURB FACE)	W = 3'- 0"		W = 4'- 0"		W = 5'- 0"		W = 6'- 0"		W = 7'- 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"
70 FEET	12'-2¾"	14'-3¼"	11'-¼"	17'-4"	10'-1"	19'-11¾"	9'-3¾"	22'-4¼"	8'-8¼"	24'-6¼"
80 FEET	13'-2"	15'-8½"	11'-10½"	18'-11¾"	10'-10¾"	21'-10"	10'-1"	24'-4¾"	9'-5"	26'-8¾"
90 FEET	14'- ½"	17'-½"	12'-8¼"	20'-6½"	11'-7¾"	23'-7"	10'-9¾"	26'-3¾"	10'-1¼"	28'-9½"
100 FEET	14'-10½"	18'-3¾"	13'-5½"	22'-0"	12'-4¼"	25'-2¾"	11'-5¾"	28'-1½"	10'-9"	30'-9"

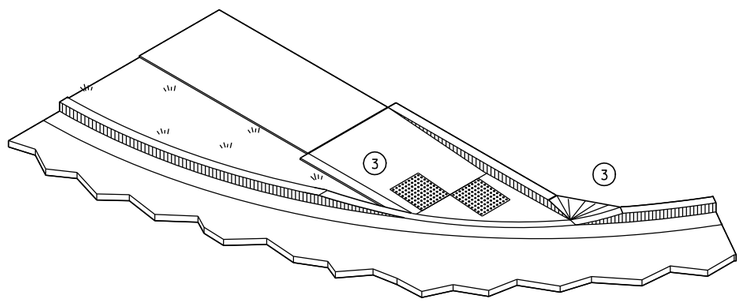
INTERMEDIATE RADII CAN BE INTERPOLATED



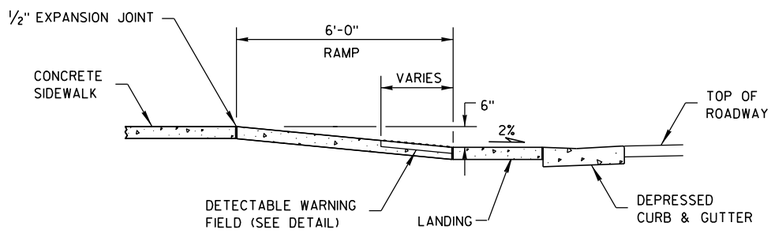
SECTION A-A



SECTION C-C



ISOMETRIC VIEW



SECTION B-B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

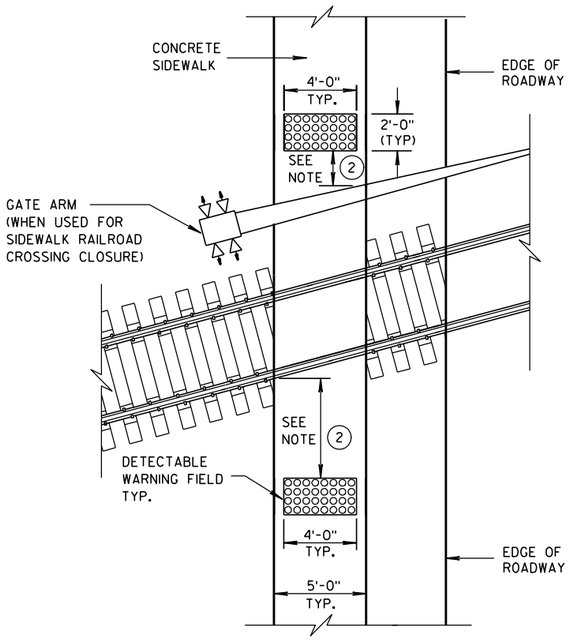
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 4B

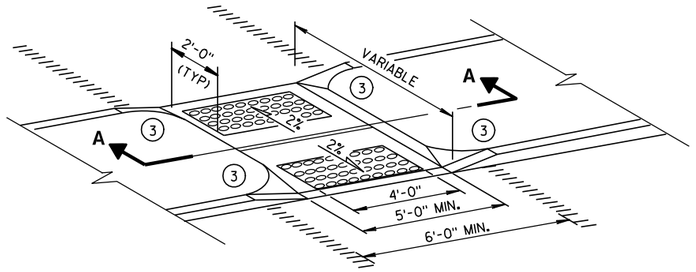
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

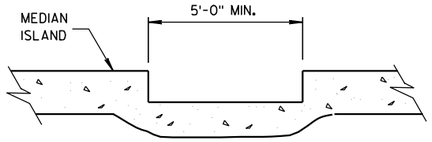
S.D.D. 8 D 5-14d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



SECTION A-A

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

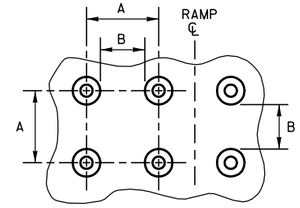
(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

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

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

LEGEND

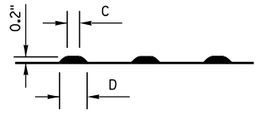
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



PLAN VIEW

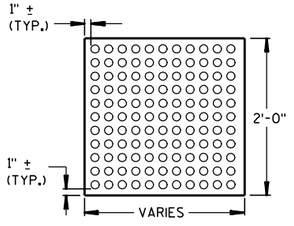
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

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



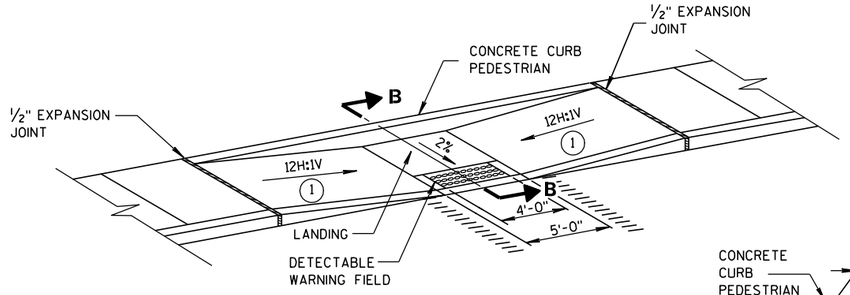
ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

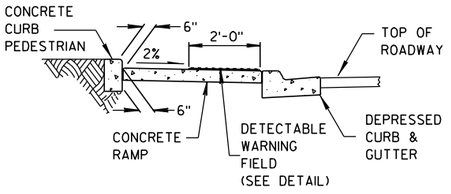


PLAN VIEW

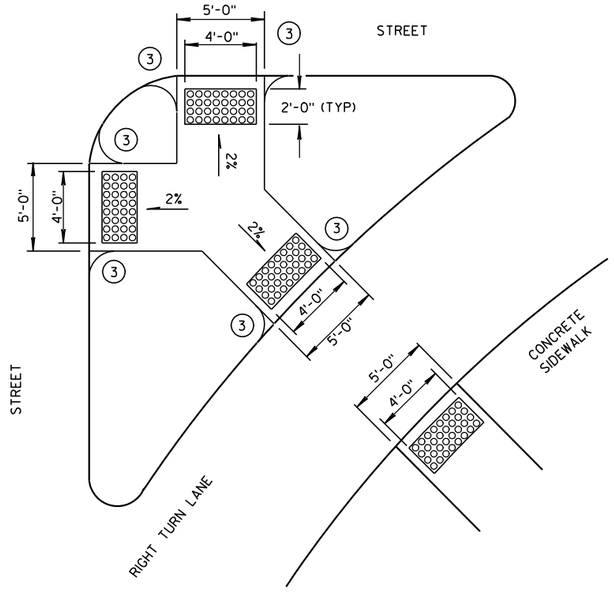
DETECTABLE WARNING FIELD (TYPICAL)



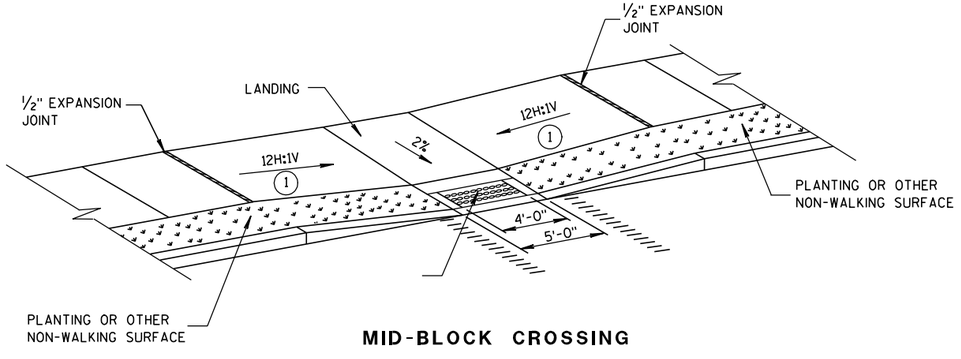
MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

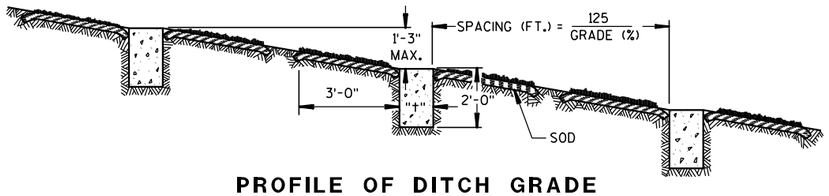
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

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

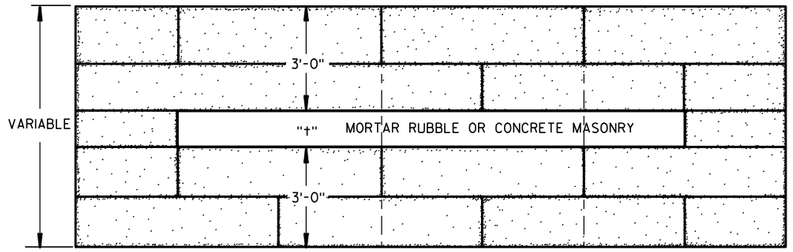
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-9-10 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
208 ENT
FHWA

6
S.D.D. 8 D 5-14e

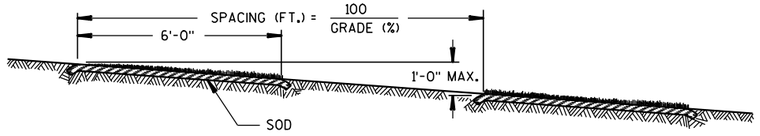


PROFILE OF DITCH GRADE

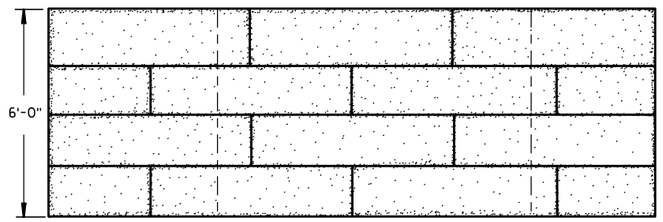


PLAN VIEW SHOWING MASONRY AND SOD

"+" - MASONRY THICKNESS SHALL BE 0'-9" FOR CONCRETE AND 1'-0" FOR MORTAR RUBBLE.



PROFILE OF DITCH GRADE



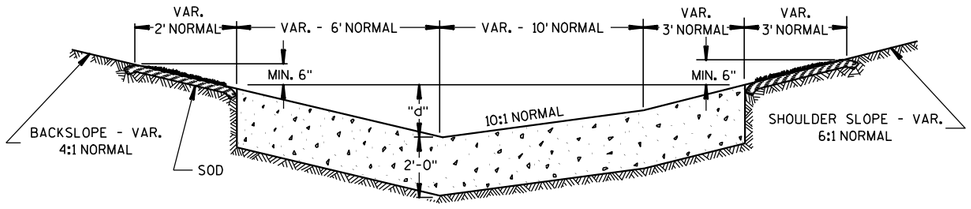
PLAN VIEW SHOWING SOD

GENERAL NOTES

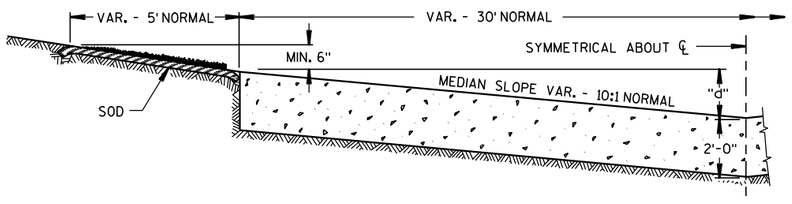
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALTERNATE DESIGNS FOR DITCH CHECKS, OF THE MATERIAL OR COMBINATION OF MATERIALS SHOWN HEREON, MAY BE USED UPON WRITTEN PERMISSION OF THE ENGINEER.

SOD STRIPS FOR DITCH CHECKS MAY BE PLACED EITHER TRANSVERSELY OR LONGITUDINALLY TO THE DIRECTION OF WATER FLOW.



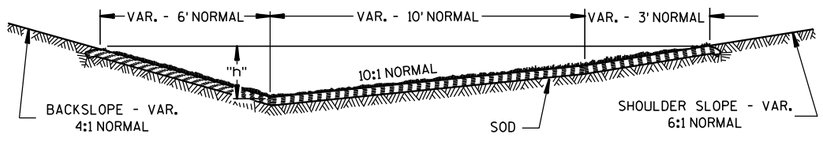
SIDE DITCH CROSS SECTION



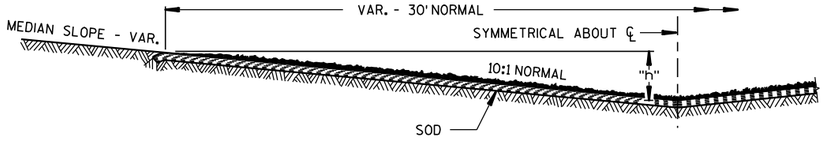
MEDIAN DITCH CROSS SECTION

"d" - THE MINIMUM DEPTH OF THE MASONRY PORTION OF THE DITCH CHECKS SHALL BE EQUAL TO THE MAXIMUM DEPTH OF FLOW. THE NORMAL "d" WILL BE 1'-6".

MASONRY AND SOD DITCH CHECKS



SIDE DITCH CROSS SECTION



MEDIAN DITCH CROSS SECTION

"h" - THE MINIMUM HEIGHT OF DITCH TO BE SODDED SHALL BE EQUAL TO THE MAXIMUM DEPTH OF FLOW PLUS 6". THE NORMAL "h" WILL BE 1'-6".

SOD DITCH CHECKS

SOD OR MASONRY AND SOD DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/7/71 — DATE

/S/ L.C. Harris — ACTING CHIEF DESIG

FHWA

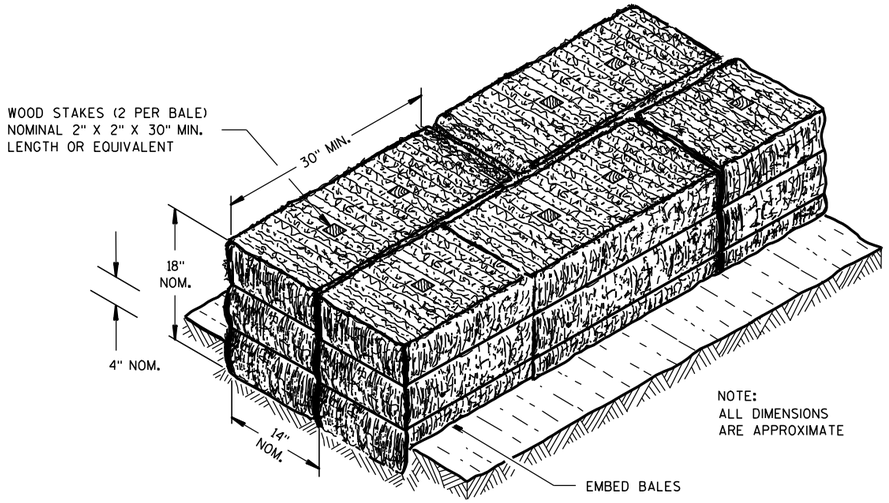
R

6

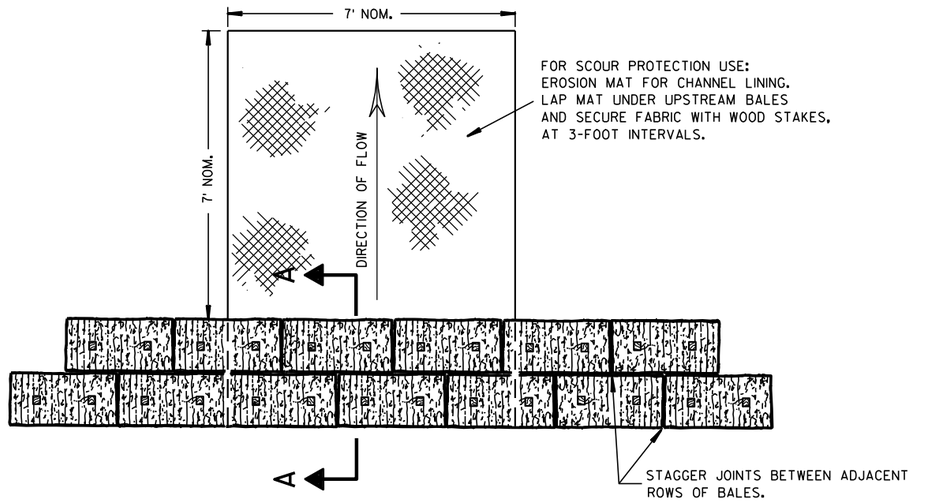
S.D.D. 8 E 4-2

6

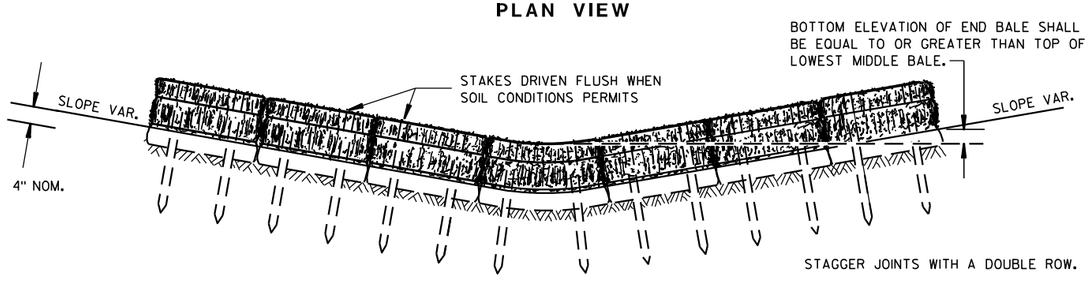
S.D.D. 8 E 4-2



SECTION A-A



PLAN VIEW



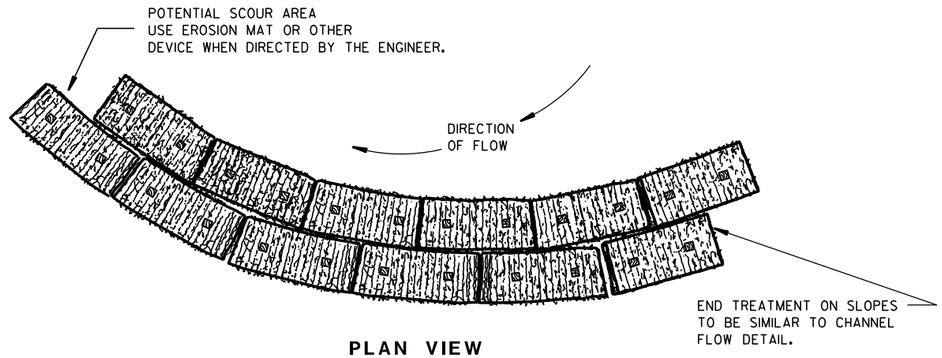
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

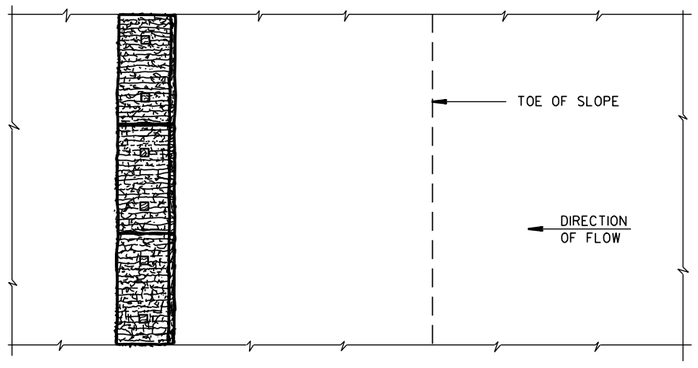
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

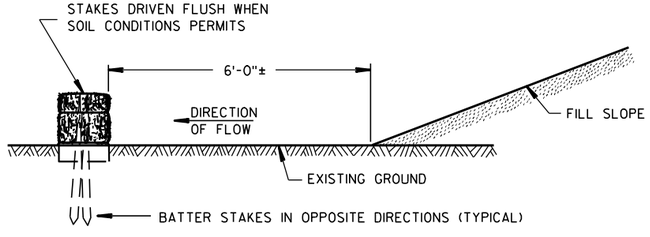


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

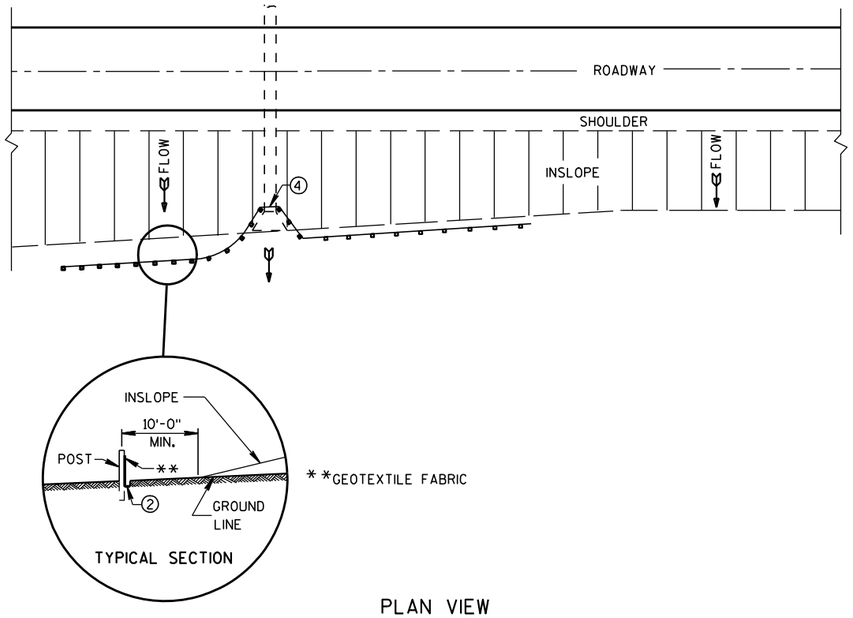
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

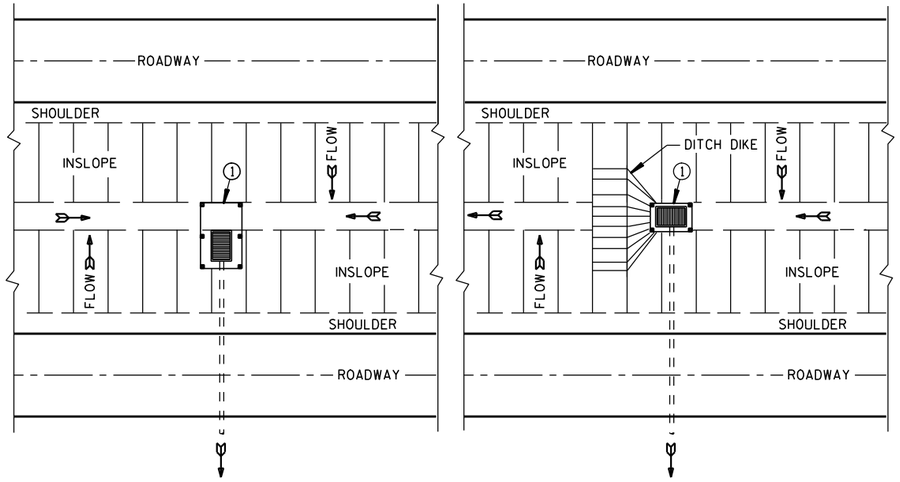
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



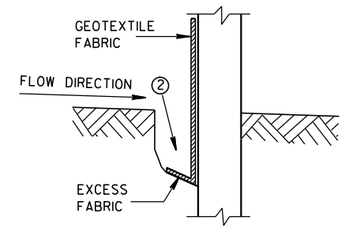
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

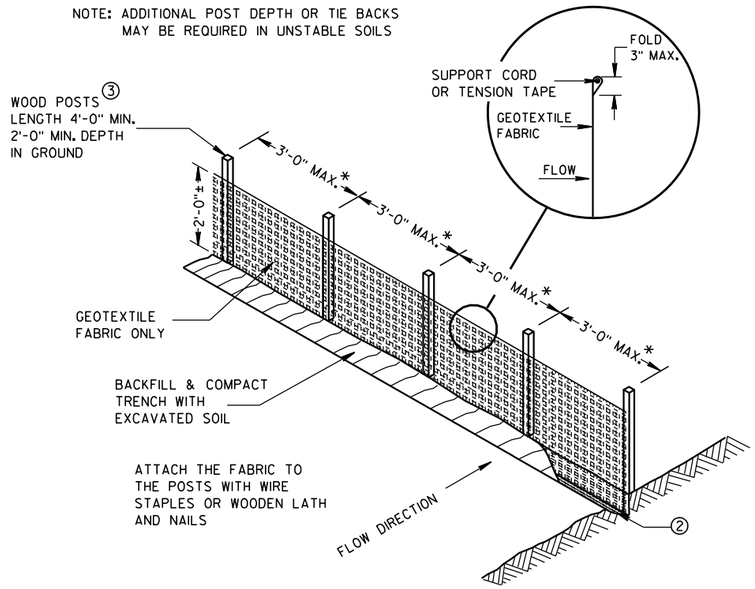
GENERAL NOTES

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

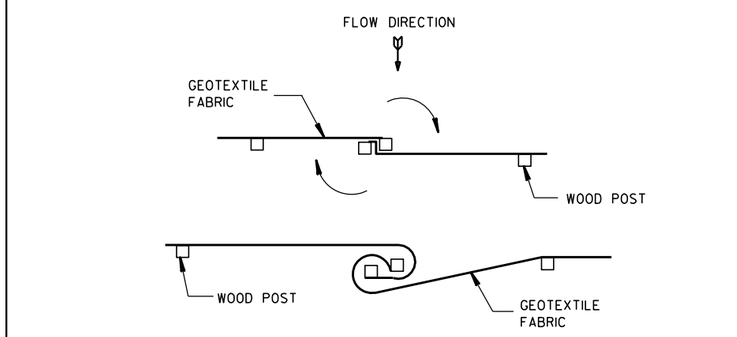
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



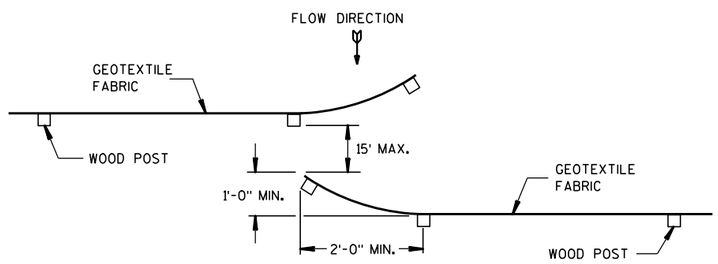
TRENCH DETAIL



SILT FENCE

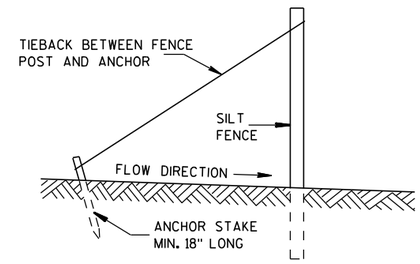


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

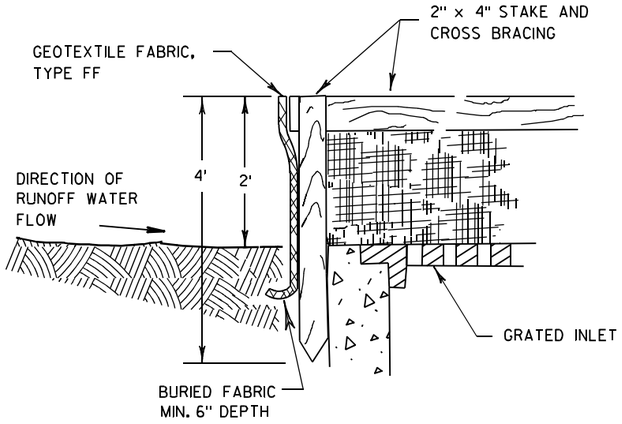
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

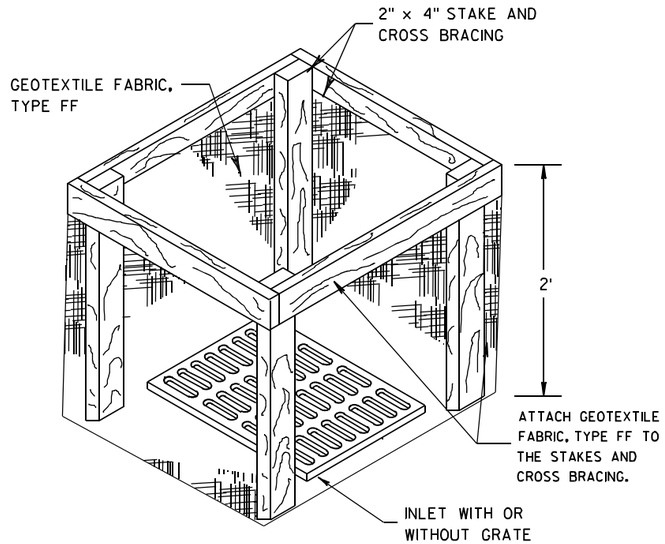
6

S.D.D. 8 E 9-6

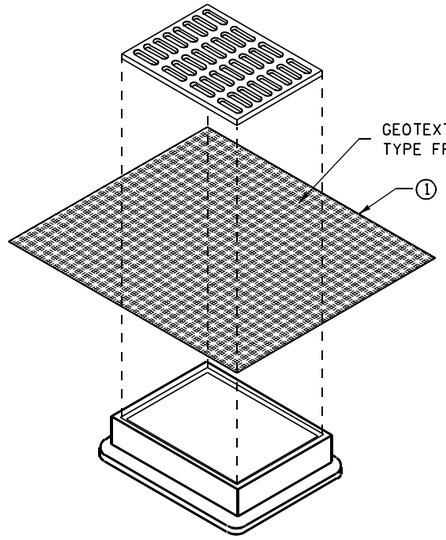
6

S.D.D. 8 E 9-6



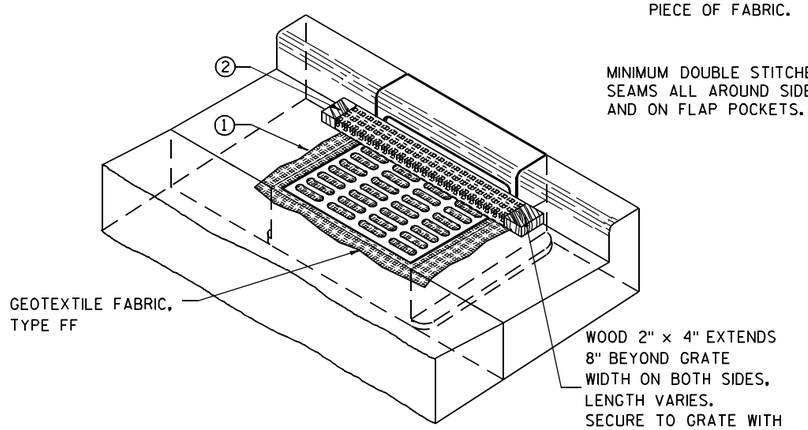


INLET PROTECTION, TYPE A

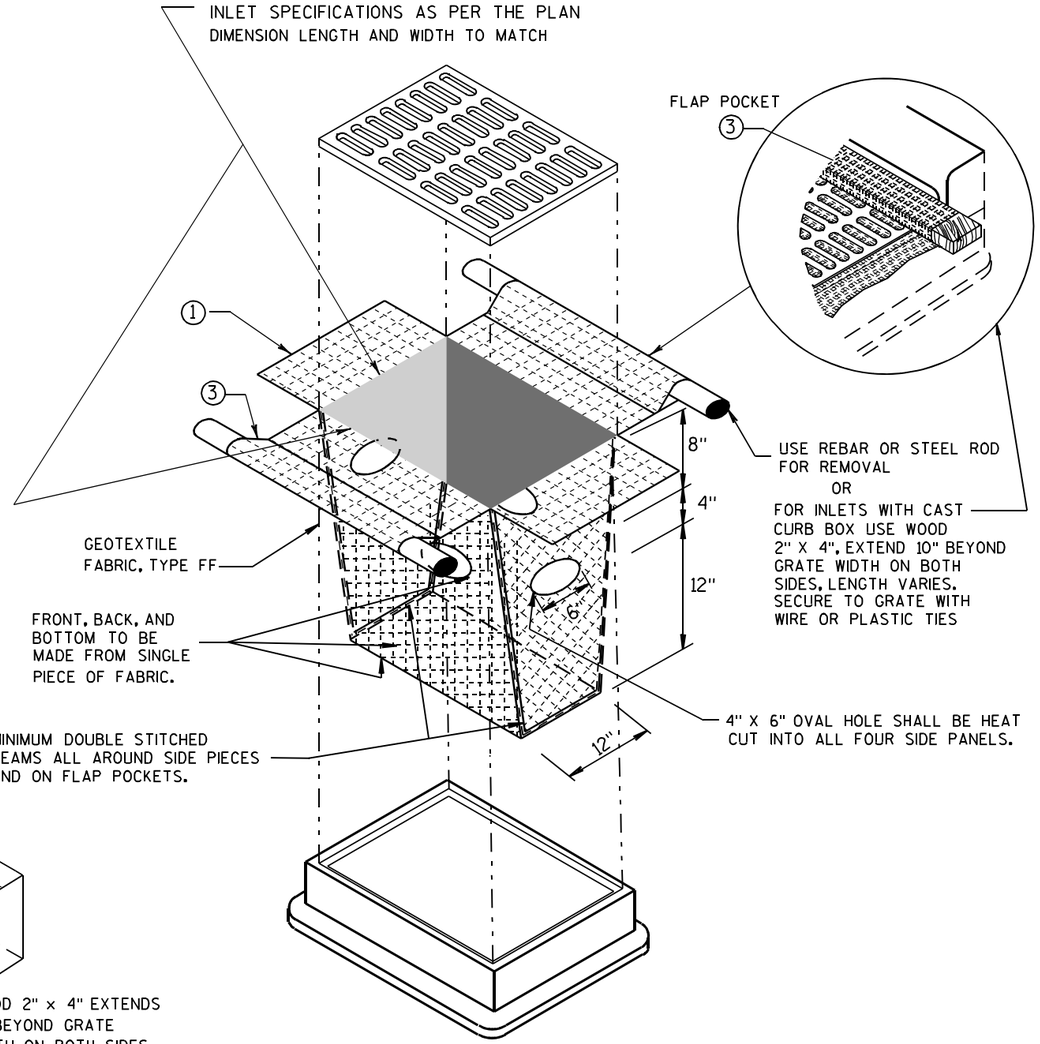


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2

METAL APRON ENDWALLS

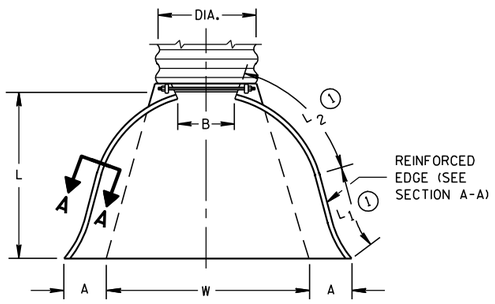
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

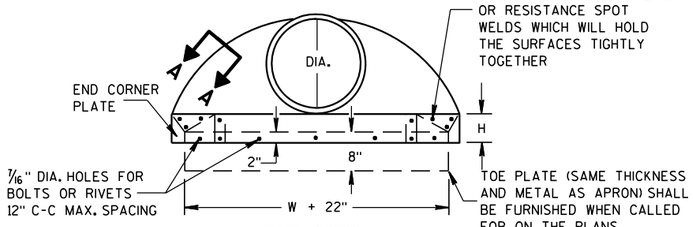
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	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 2/5 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

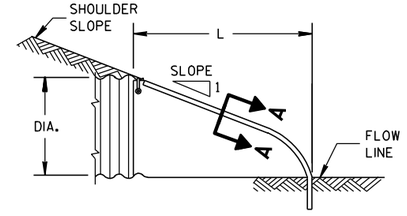
*MINIMUM
**MAXIMUM



PLAN VIEW

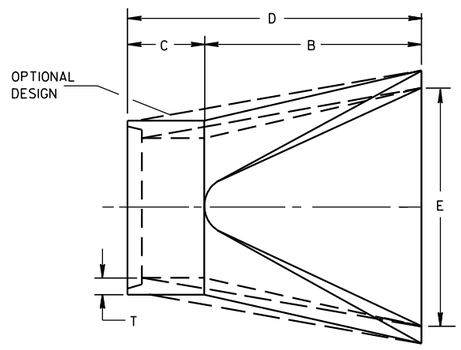


END VIEW

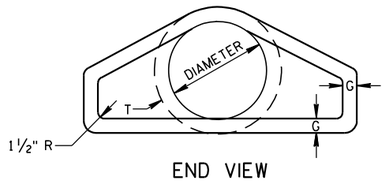


SIDE ELEVATION

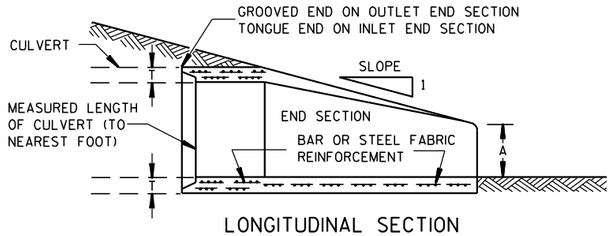
METAL ENDWALLS



PLAN

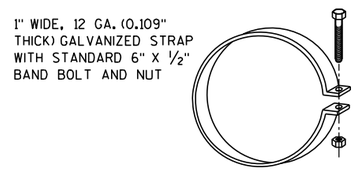


END VIEW



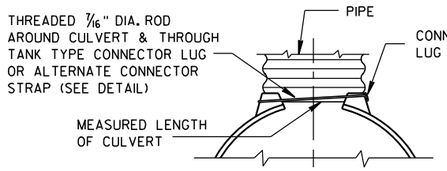
LONGITUDINAL SECTION

CONCRETE ENDWALLS

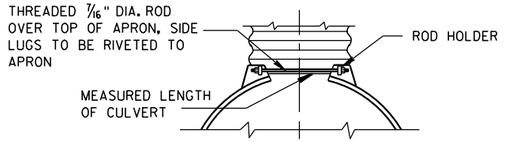


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

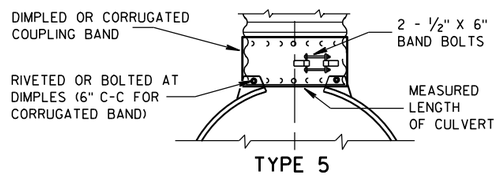


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

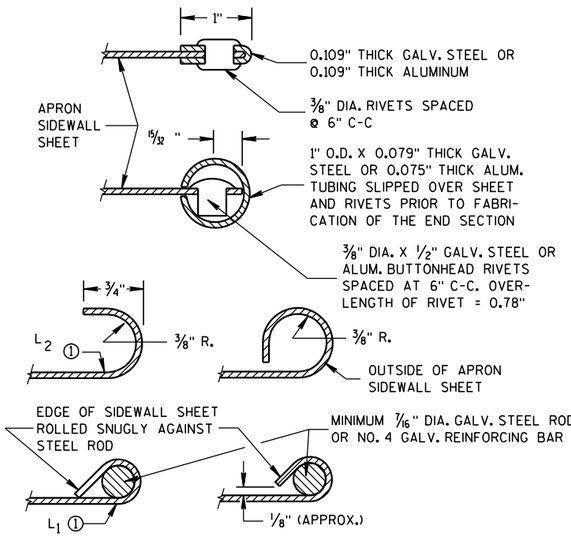
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

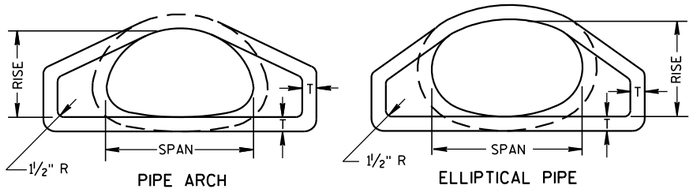
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

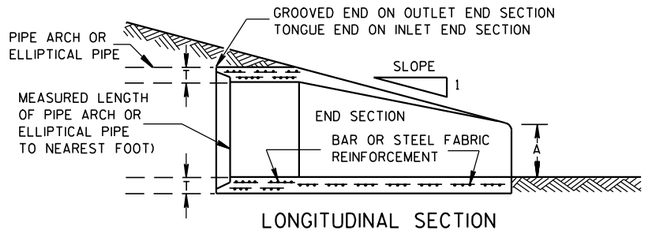
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

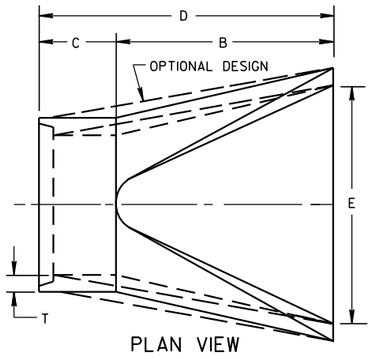
6
S.D.D. 8 F 1-11



END VIEW

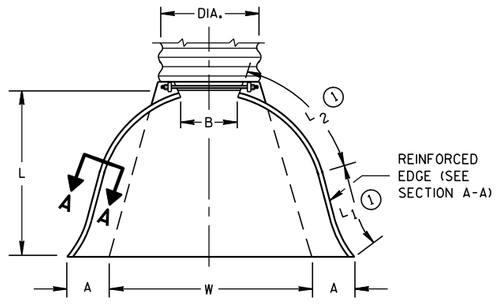


LONGITUDINAL SECTION

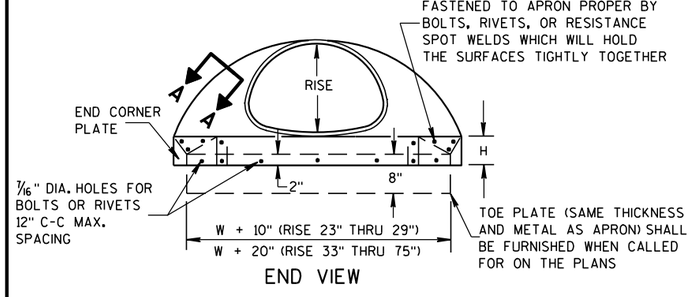


PLAN VIEW

CONCRETE ENDWALLS

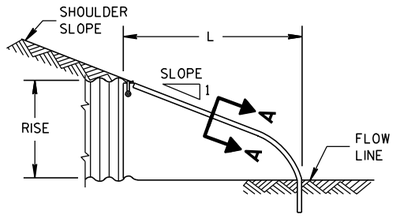


PLAN VIEW



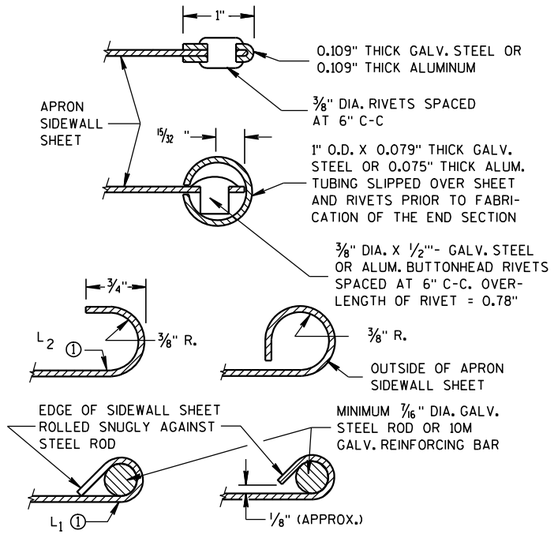
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

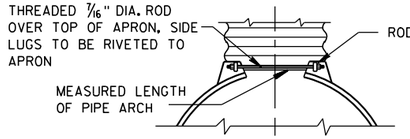
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

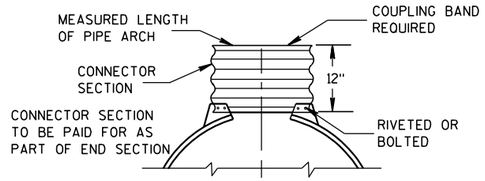
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



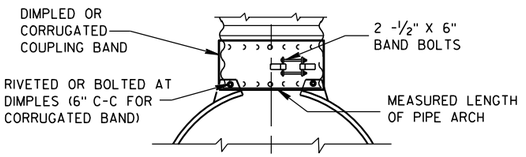
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH 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 77" X 52" THROUGH 112" X 75" 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 ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

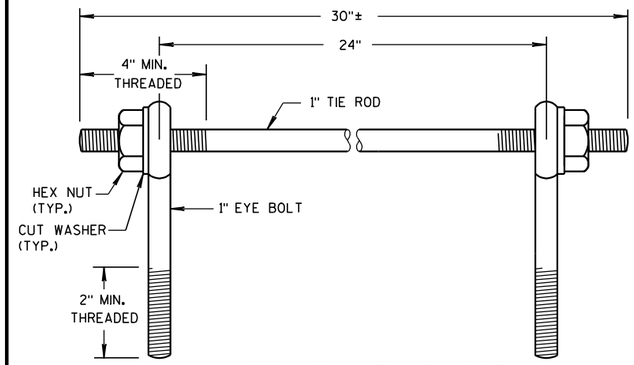
FHWA

6

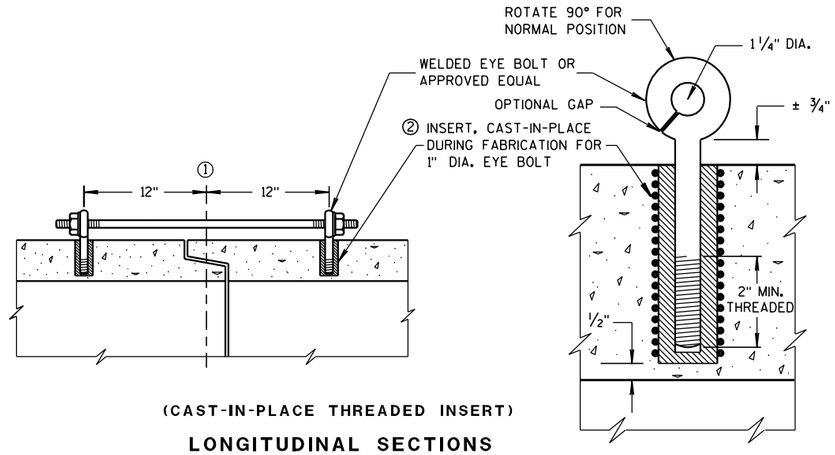
S.D.D. 8 F 2-1

6

S.D.D. 8 F 2-1



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

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

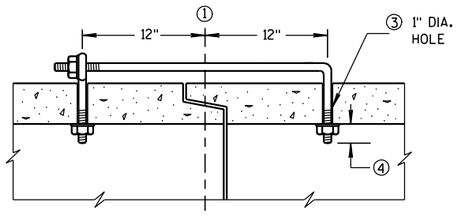
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

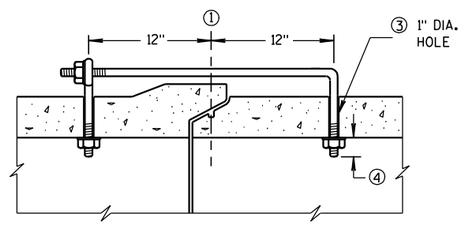
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

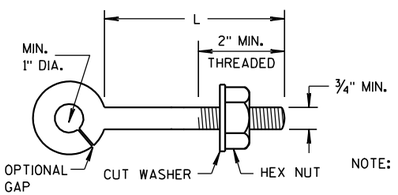


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

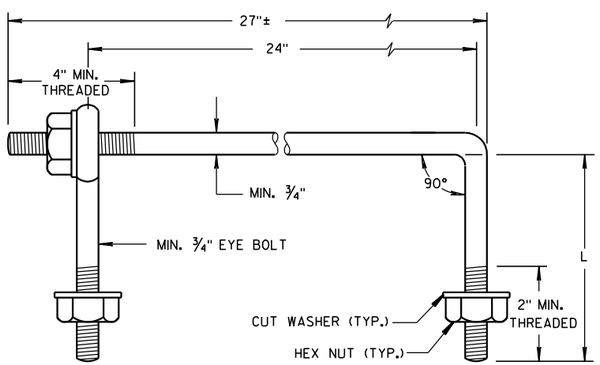
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

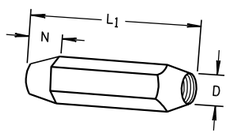
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

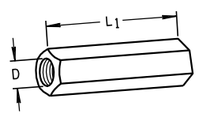
ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



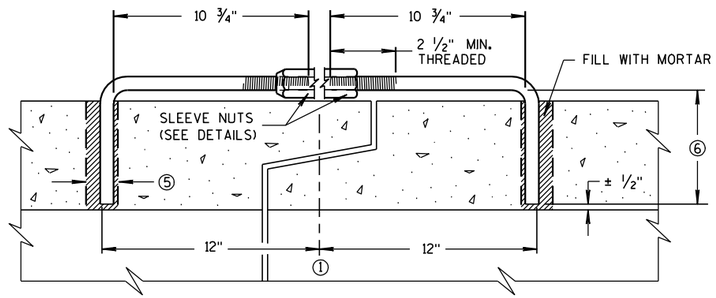
TAPERED



PLAIN

RIGHT AND LEFT THREADS

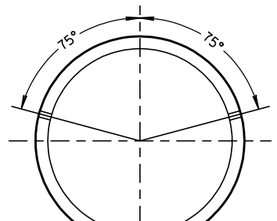
SLEEVE NUTS



LONGITUDINAL SECTION

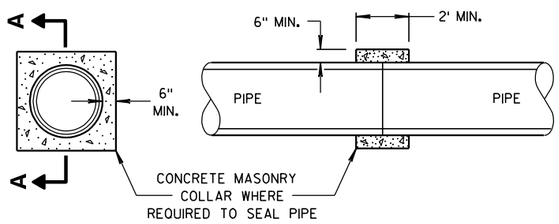
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

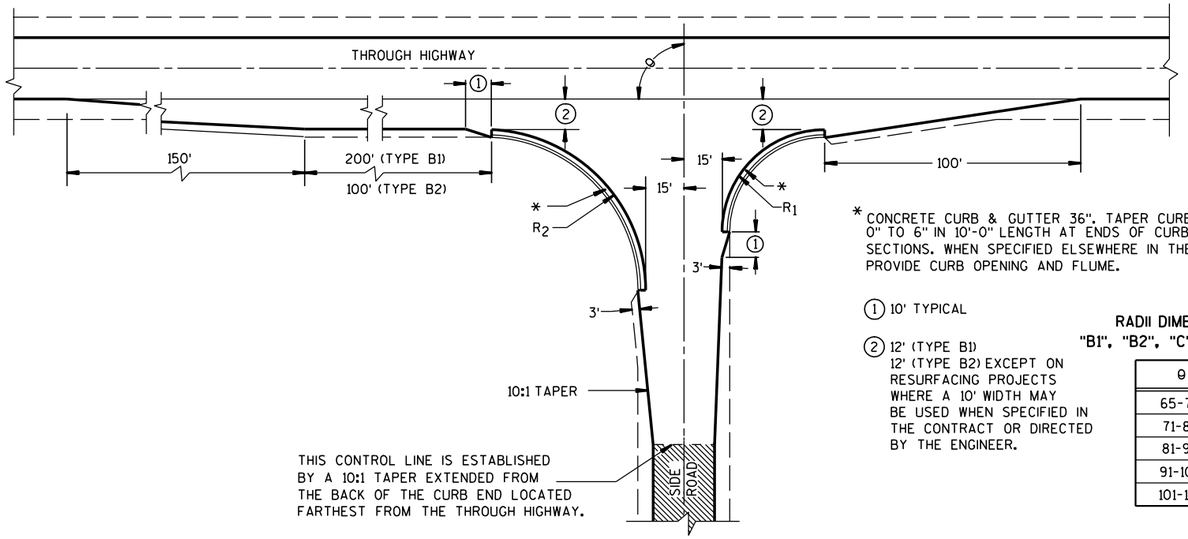
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7



TYPE "B1" AND "B2"

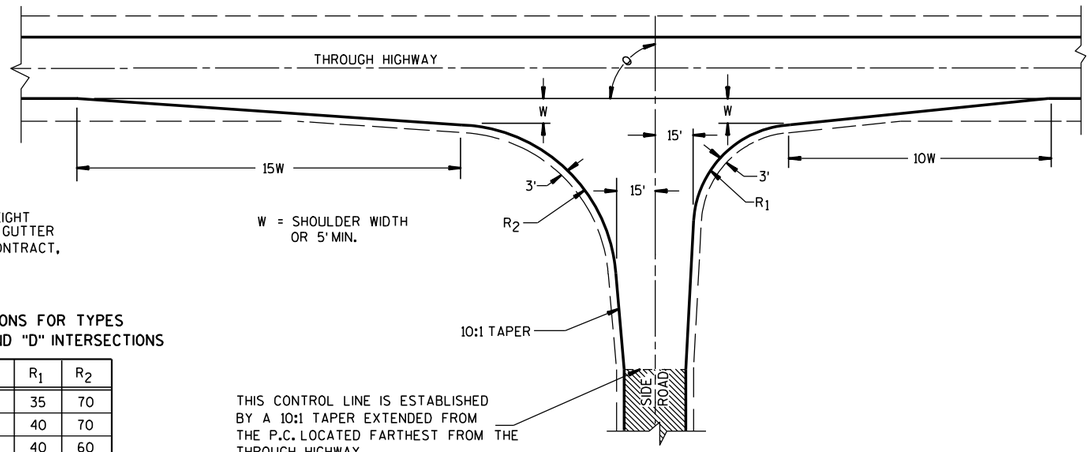
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10' TYPICAL

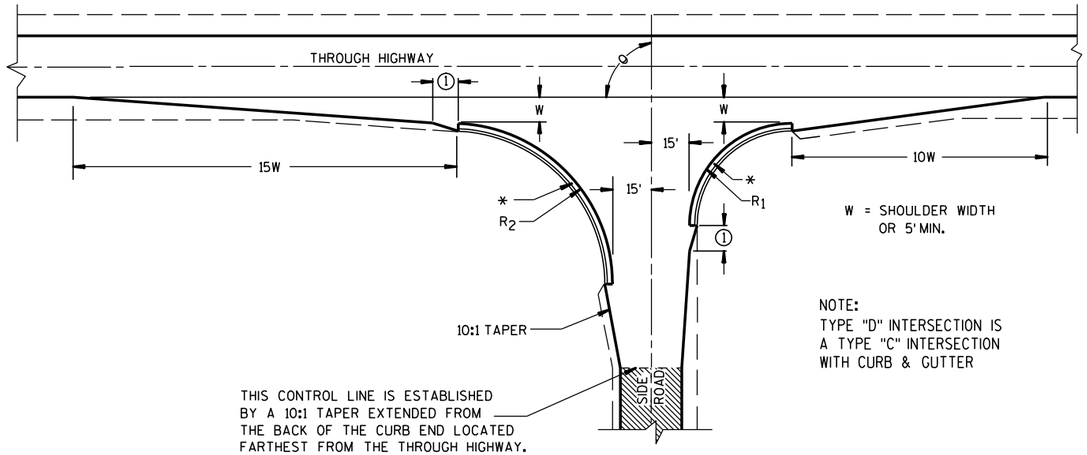
② 12' (TYPE B1)
12' (TYPE B2) EXCEPT ON RESURFACING PROJECTS WHERE A 10' WIDTH MAY BE USED WHEN SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

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

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



TYPE "C"



TYPE "D"

NOTE:
TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB & GUTTER

GENERAL NOTES

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

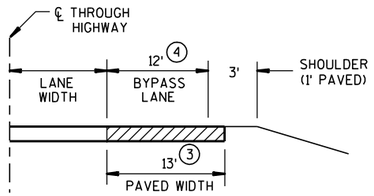
SIDE ROAD SURFACING NOTE

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

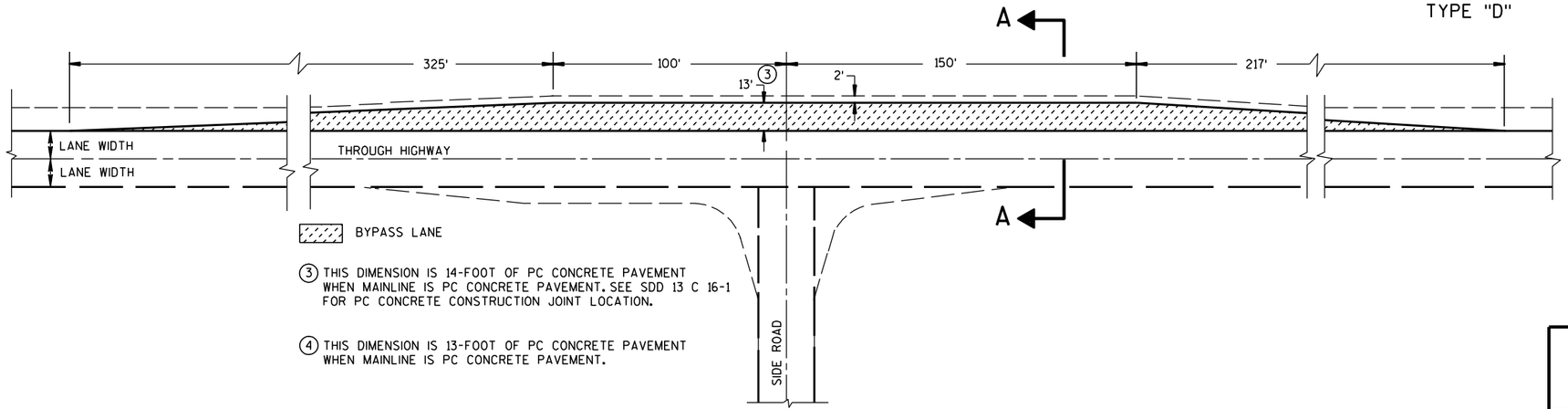
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

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

▨ EXISTING SURFACE



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



③ THIS DIMENSION IS 14-FOOT OF PC CONCRETE PAVEMENT WHEN MAINLINE IS PC CONCRETE PAVEMENT. SEE SDD 13 C 16-1 FOR PC CONCRETE CONSTRUCTION JOINT LOCATION.

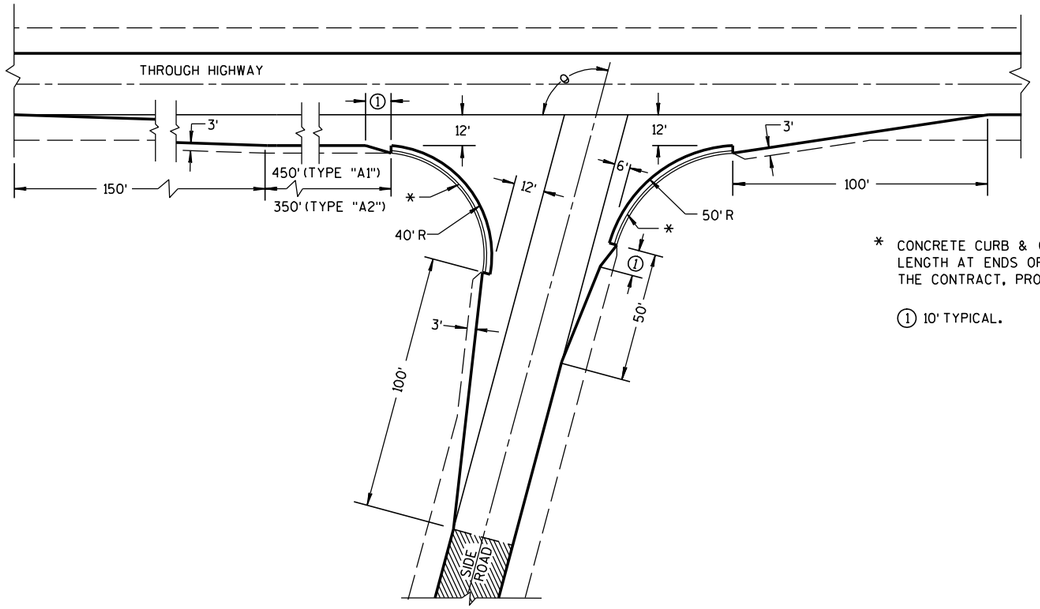
④ THIS DIMENSION IS 13-FOOT OF PC CONCRETE PAVEMENT WHEN MAINLINE IS PC CONCRETE PAVEMENT.

TEE INTERSECTION BYPASS LANE DETAIL

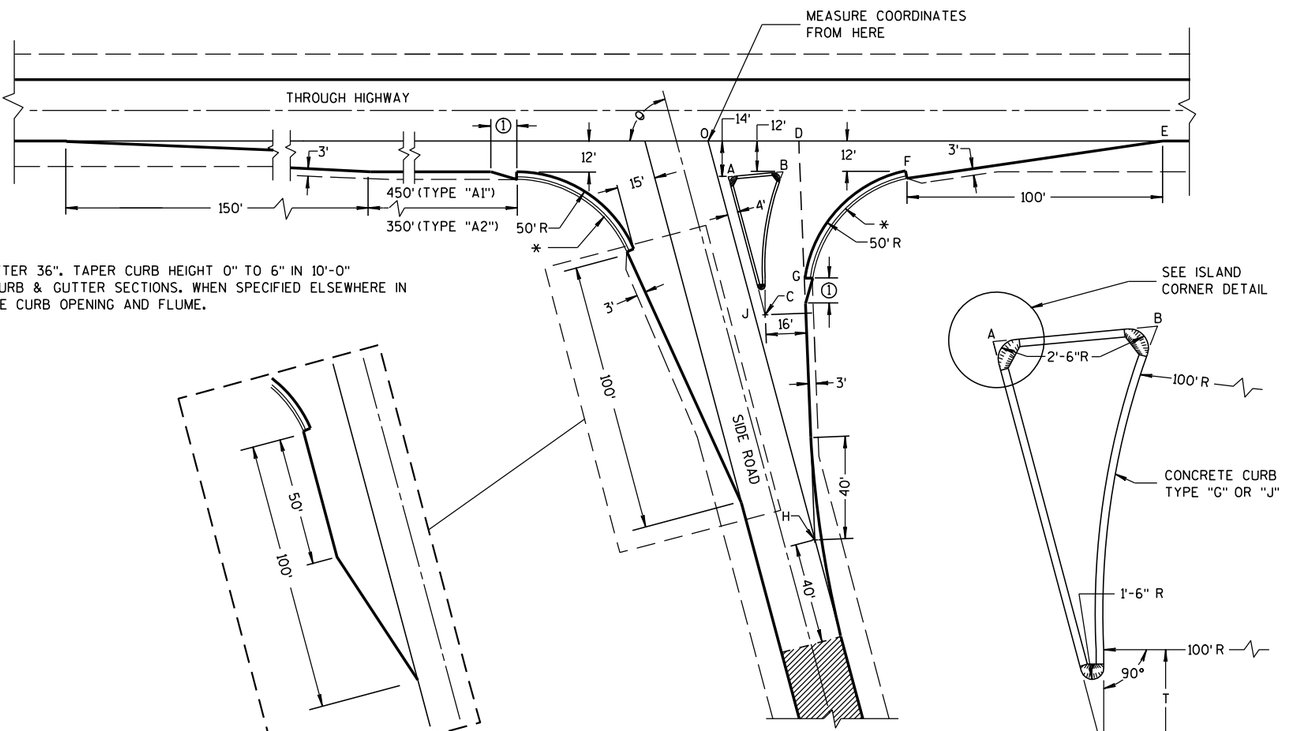
AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 9 A 1-12a

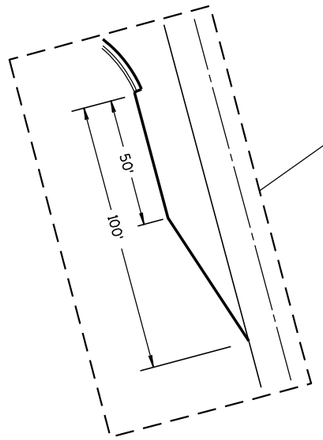


θ = MORE THAN 80°



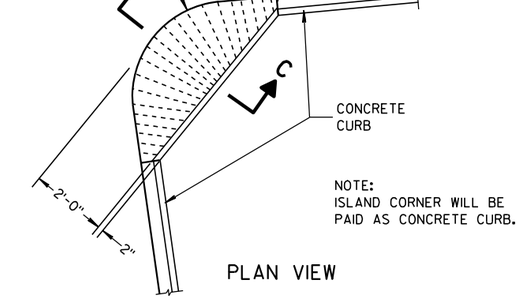
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10' TYPICAL.



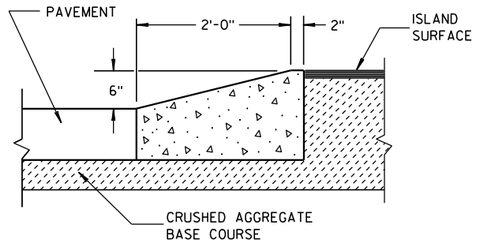
θ = ACUTE ANGLES 80° OR LESS

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



NOTE:
ISLAND CORNER WILL BE PAID AS CONCRETE CURB.

PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

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

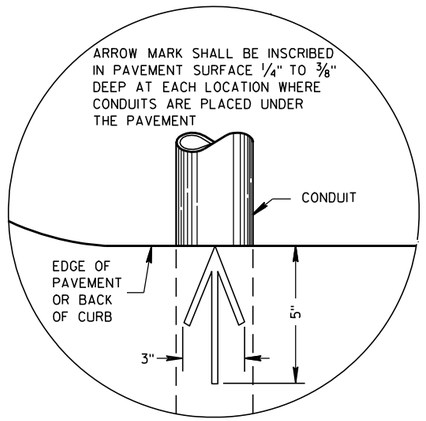
ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O") X / Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4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

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

AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
12/17/02 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

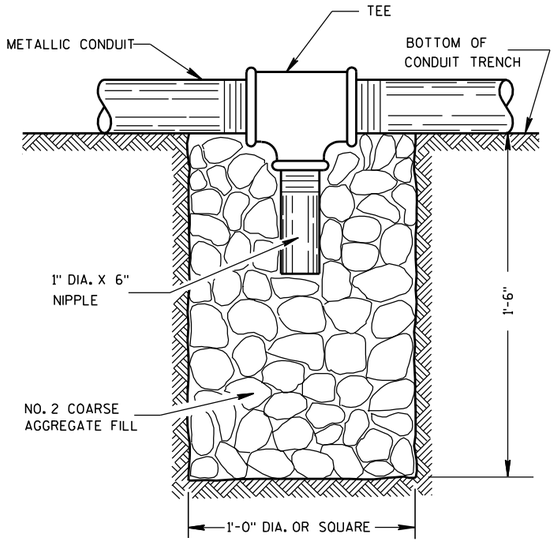
6

S.D.D. 9 A 1-12b



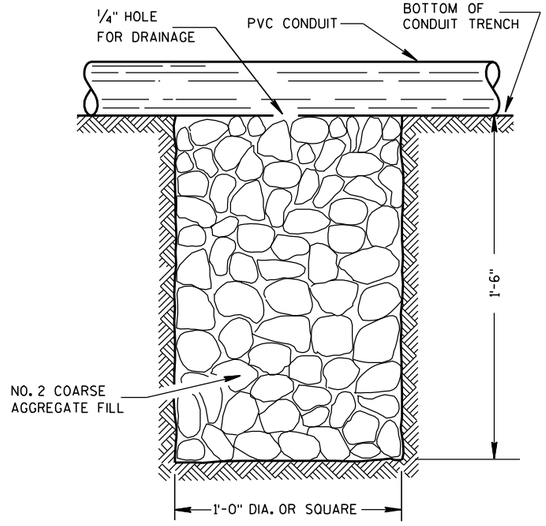
PLAN VIEW

ARROW MARK



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

DRAIN SUMP FOR METALLIC CONDUIT



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

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

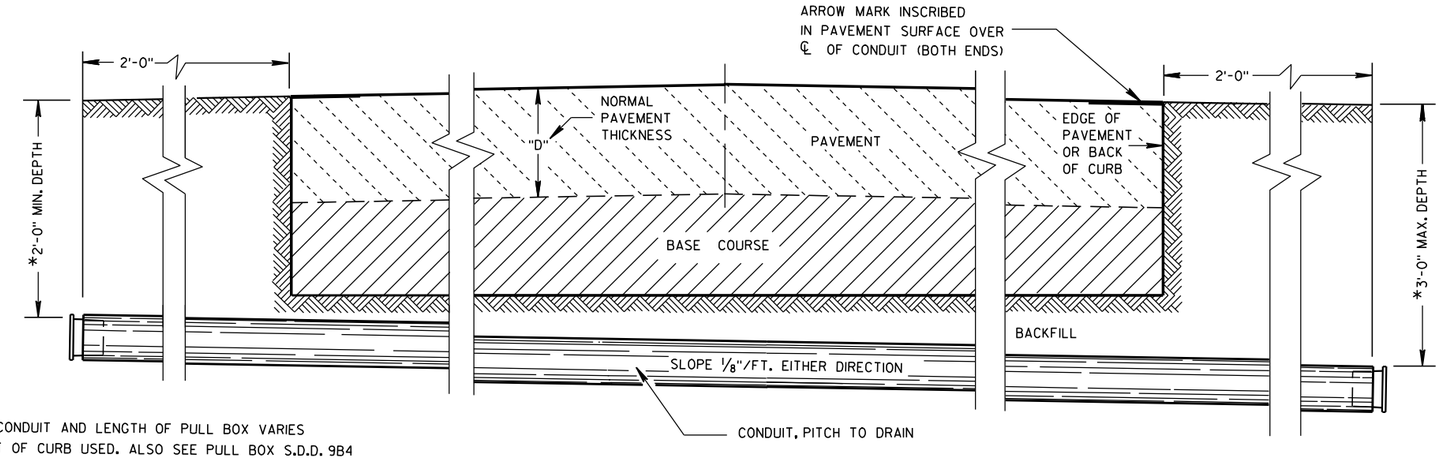
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

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

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



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI

218

HWYS

FHWA

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

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

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

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

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

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

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

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

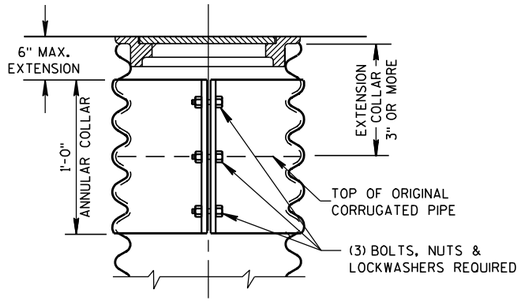
GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

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

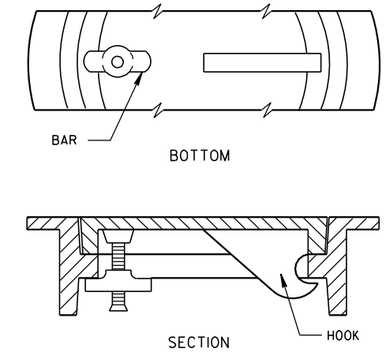
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING 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.

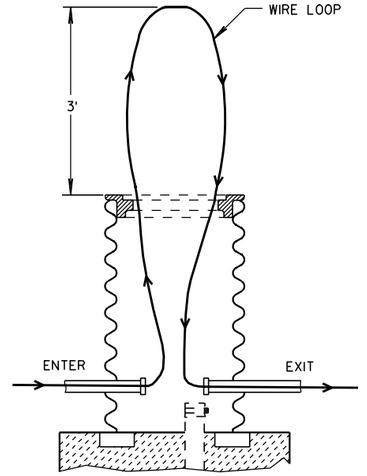


CORRUGATED PIPE EXTENDER

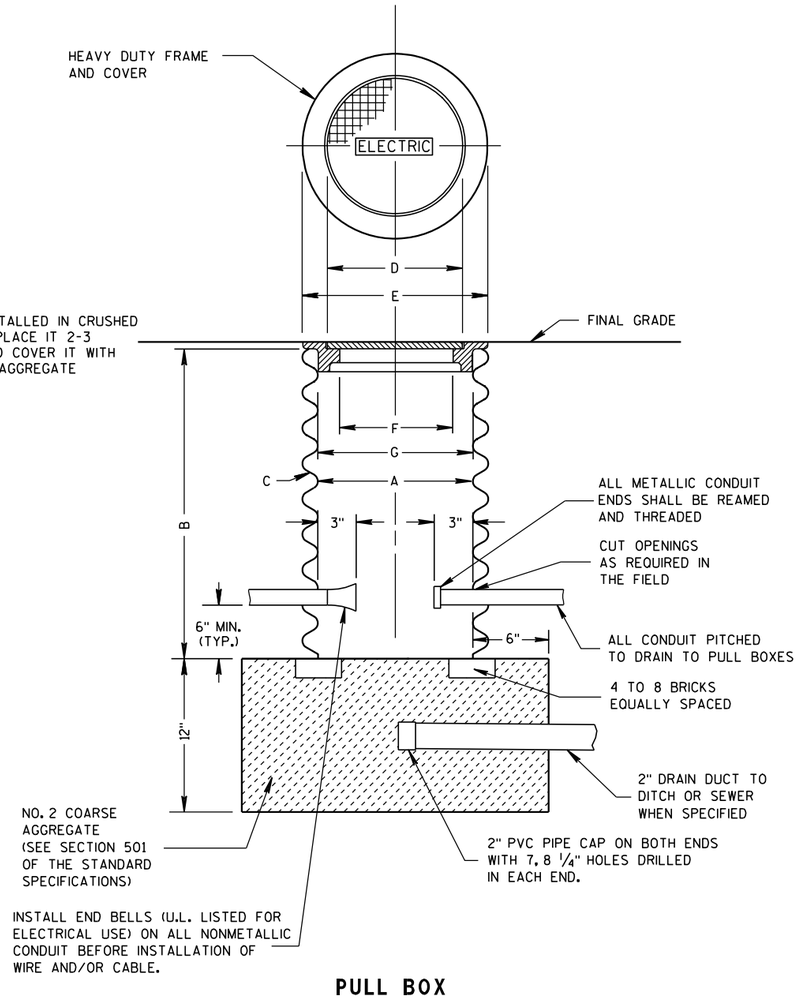


ALTERNATE COVER (LOCKING)

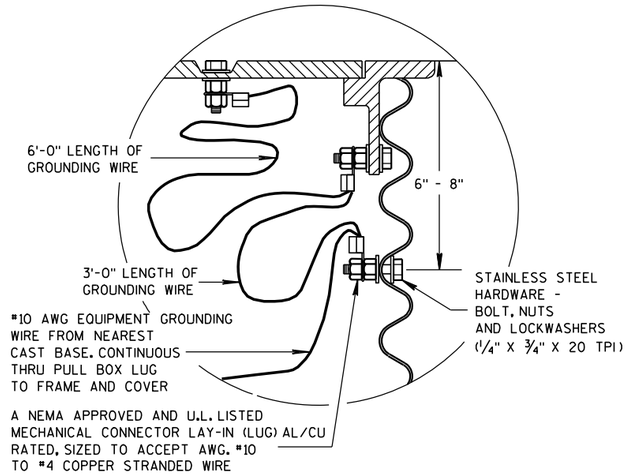
TIGHTENING BAR TYPE



MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

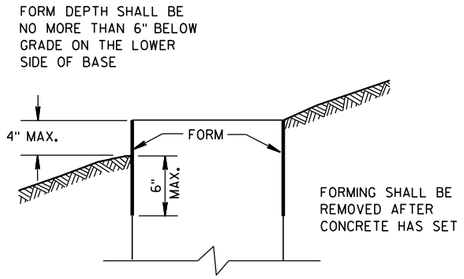
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 9 B 4-9



FORMING DETAIL

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

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

GENERAL NOTES (CONTINUED)

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

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

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

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

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

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

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

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

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

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

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

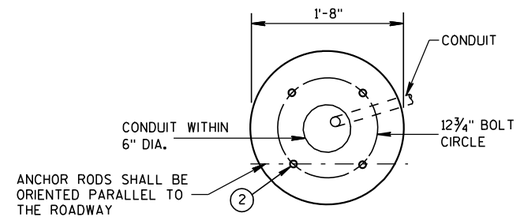
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

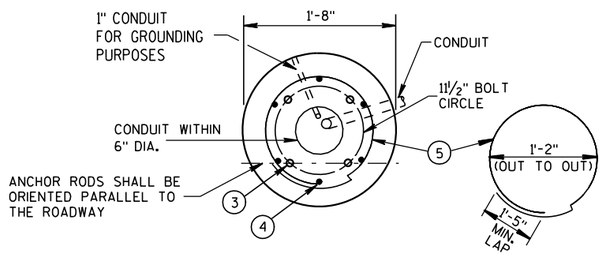
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

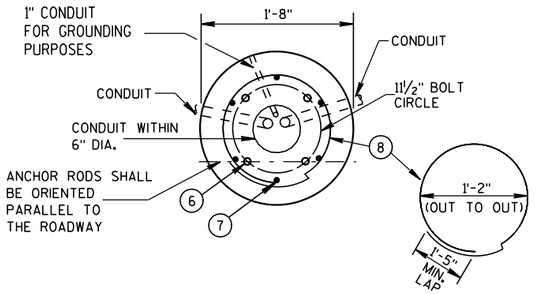
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

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

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

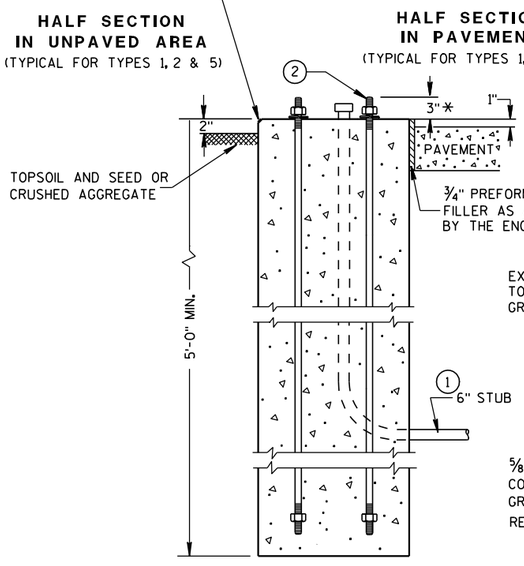






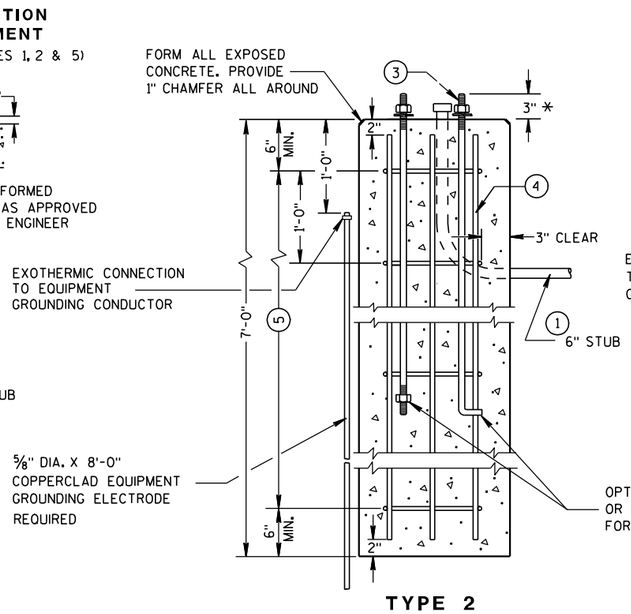
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

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

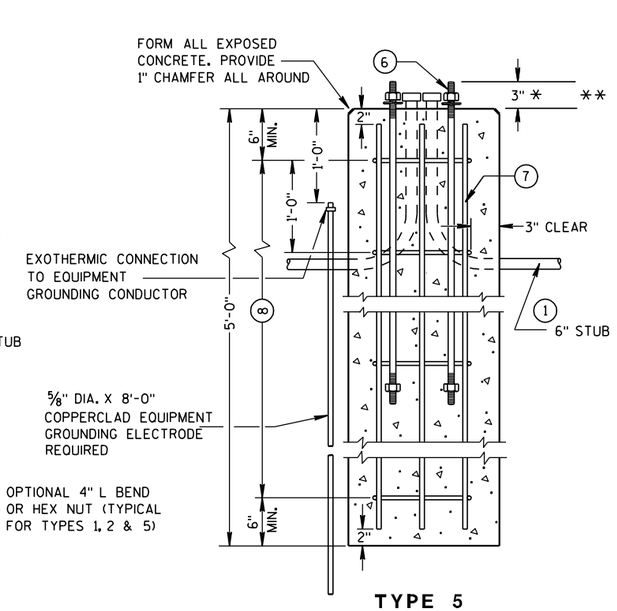


HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2 & 5)

TYPE 1



TYPE 2



TYPE 5

CONCRETE BASES

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

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

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/3/10 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI
220 — HWYS
FHWA

6
S.D.D. 9 C 2-6

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.

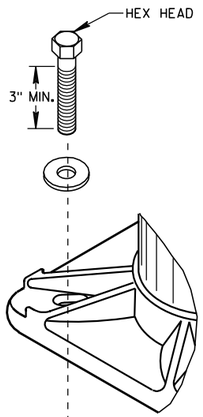
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

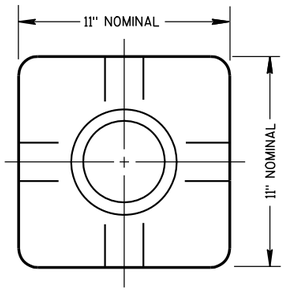
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

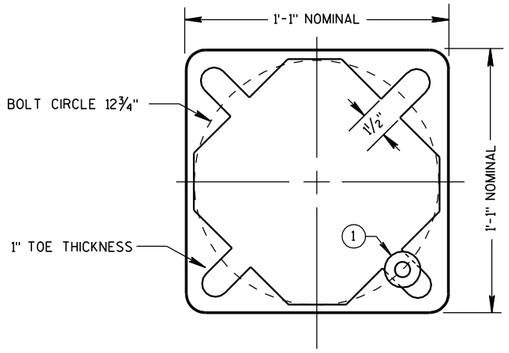
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1½", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

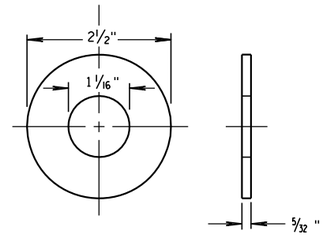




TOP VIEW
(PEDESTAL BASE)

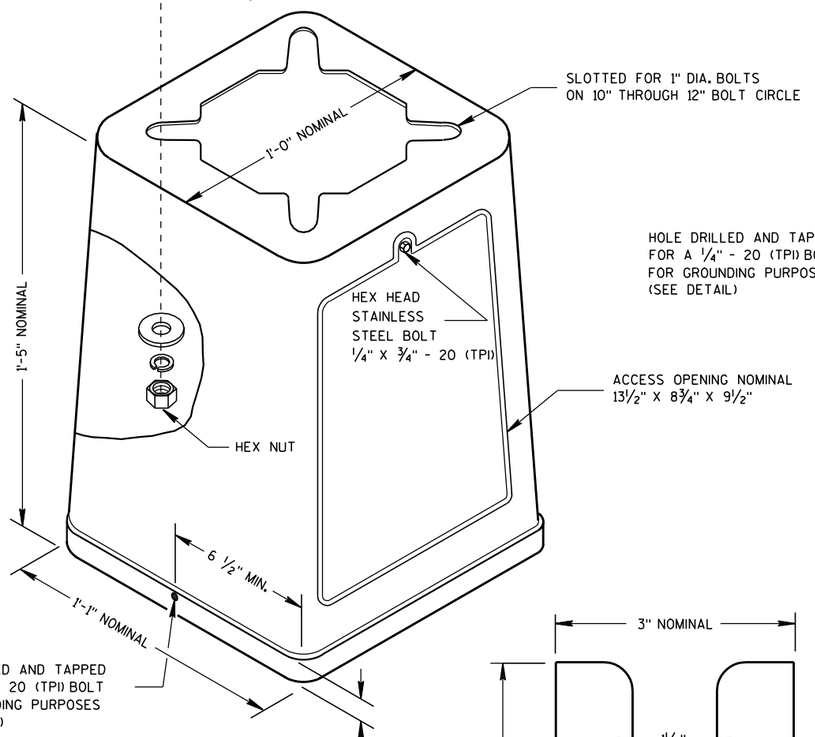


BOTTOM VIEW
(PEDESTAL BASE)

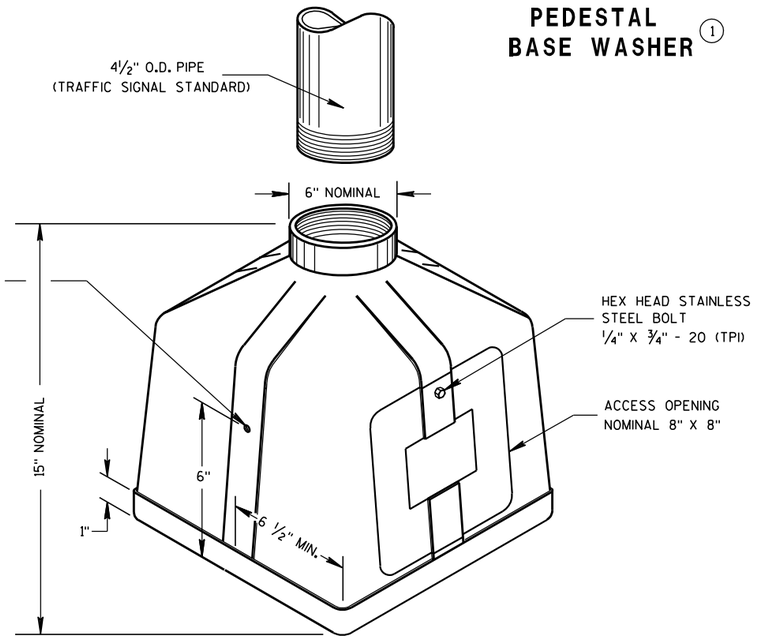


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

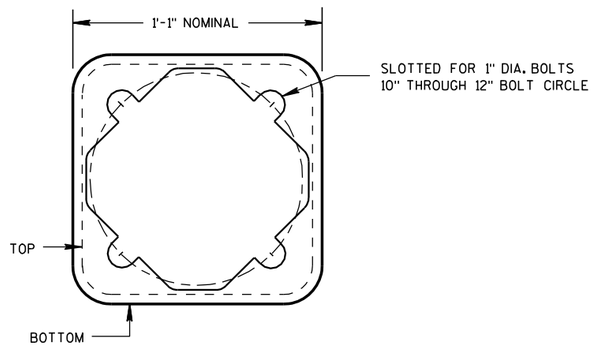


ISOMETRIC VIEW

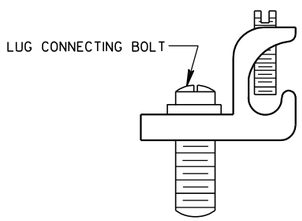


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

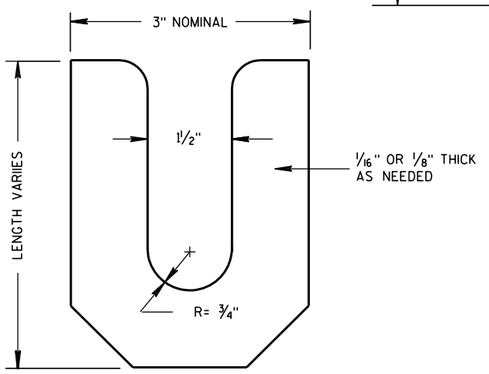


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

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



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

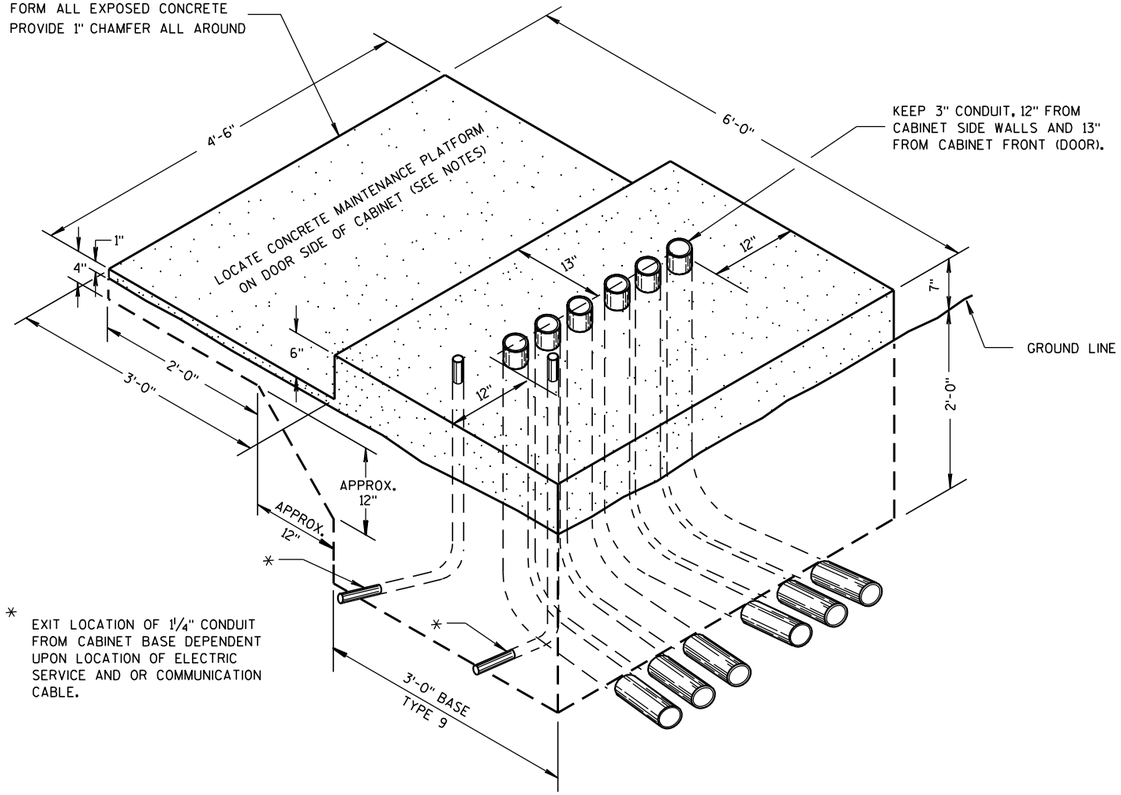
APPROVED
10/27/09 — DATE
/S/ Joanna L. Rich — STATE ELECTRICAL ENGI
221
HWYS
FHWA

6

S.D.D. 9 C 3-3

6

S.D.D. 9 C 3-3

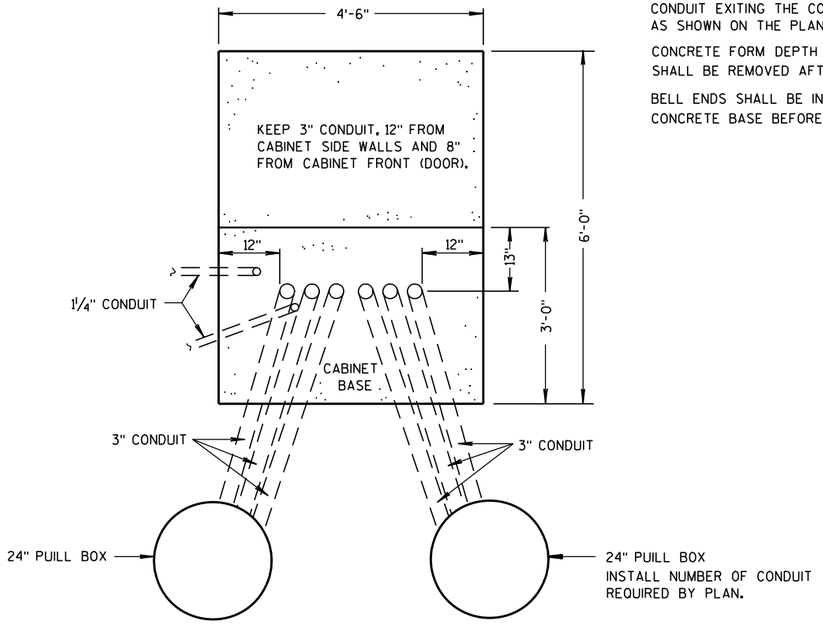


* EXIT LOCATION OF 1¼" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF ELECTRIC SERVICE AND OR COMMUNICATION CABLE.

ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

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

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

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

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

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

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/27/07 — DATE

/S/ Balu Ananthapadmanabhan — STATE ELECTRICAL ENGI 222 HWYS

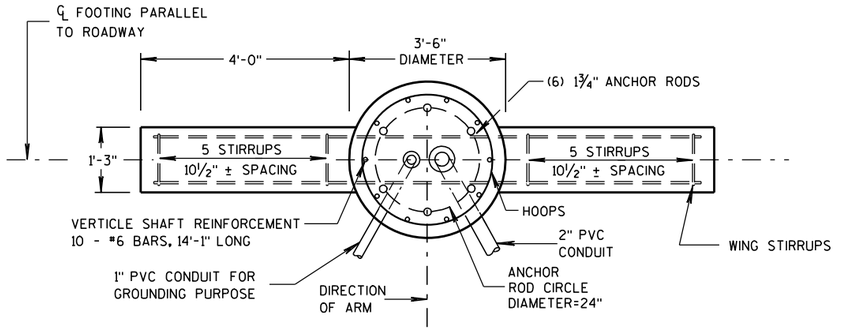
FHWA

6

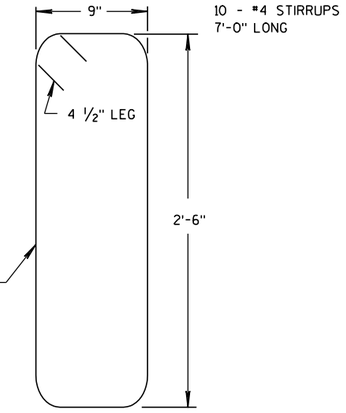
6

S.D.D. 9 C 6-5

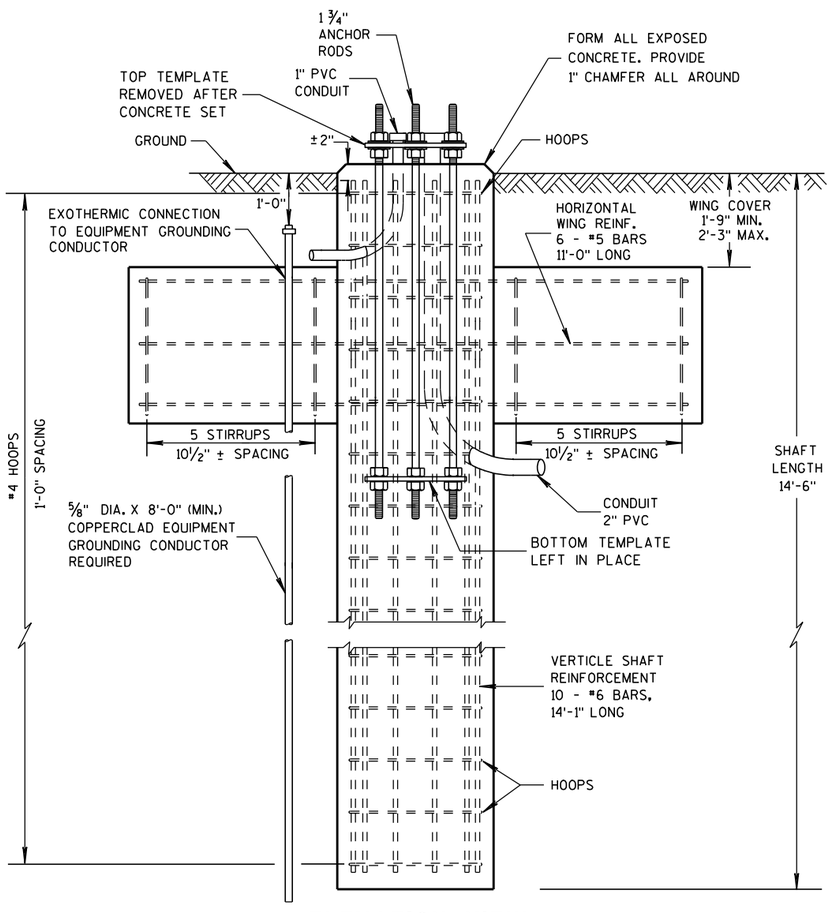
S.D.D. 9 C 6-5



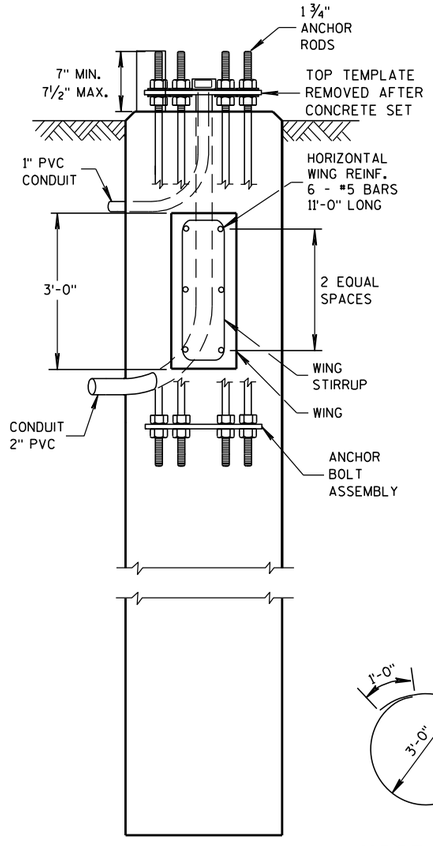
PLAN VIEW



WING STIRRUP

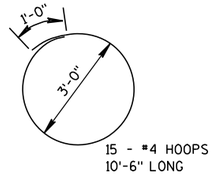


ELEVATION VIEW



SIDE VIEW

DOES NOT SHOW HOOPS OR VERTICLE SHAFT REINFORCEMENT



15 - #4 HOOPS 10'-6" LONG

HOOP DETAIL

GENERAL NOTES

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

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

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(FOR TYPE 12 & 13 POLES)

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

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-1 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

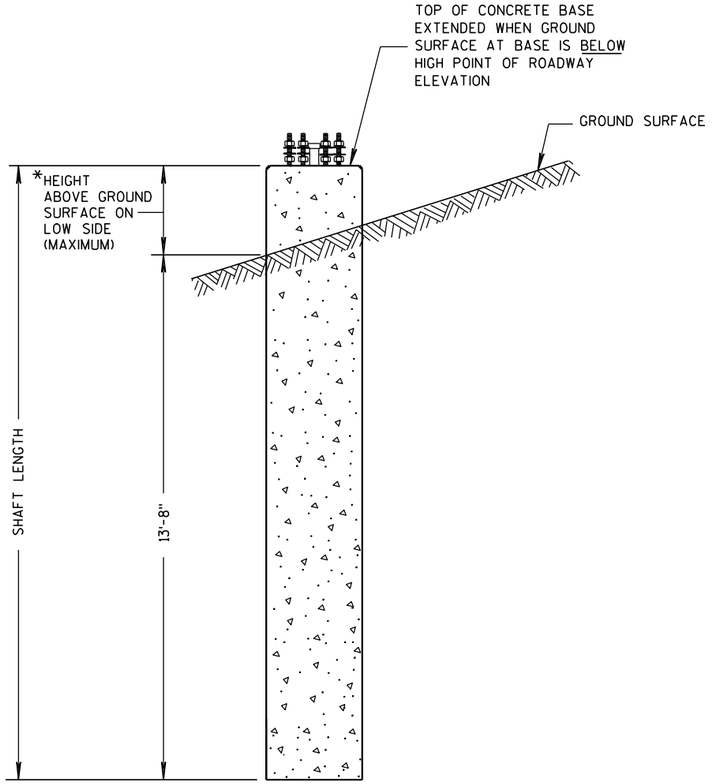
S.D.D. 9 C 12-2a
S.D.D. 9 C 12 -2a

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

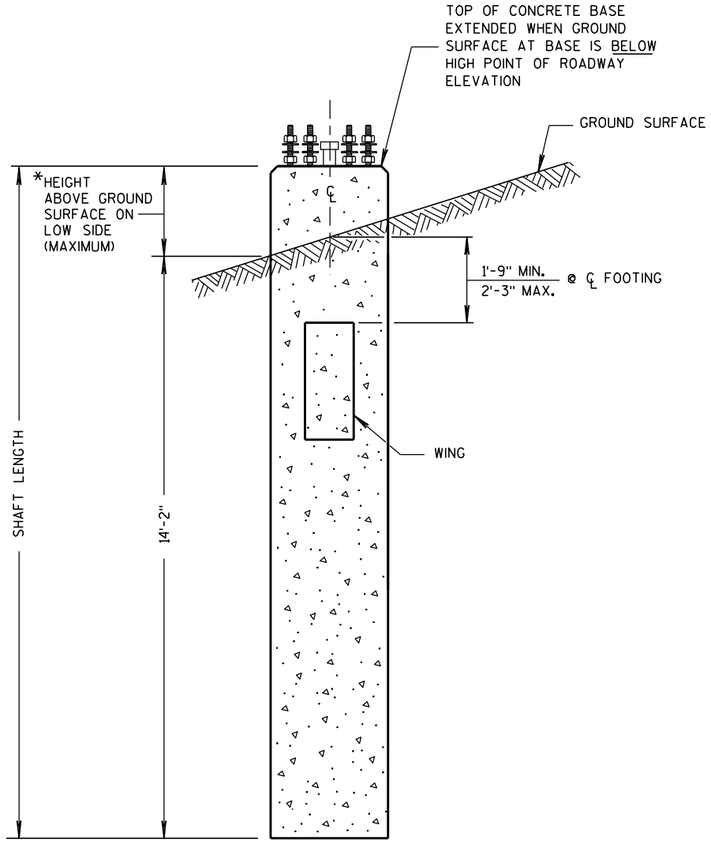
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO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

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

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



CONCRETE BASE TYPE 10 (EXTENDED)



CONCRETE BASE TYPE 13 (EXTENDED)

CONCRETE BASE
TYPE 10 & TYPE 13 EXTENSION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3-3-10 DATE — /S/ Joanna L. Rush STATE ELECTRICAL ENGI — HWYS

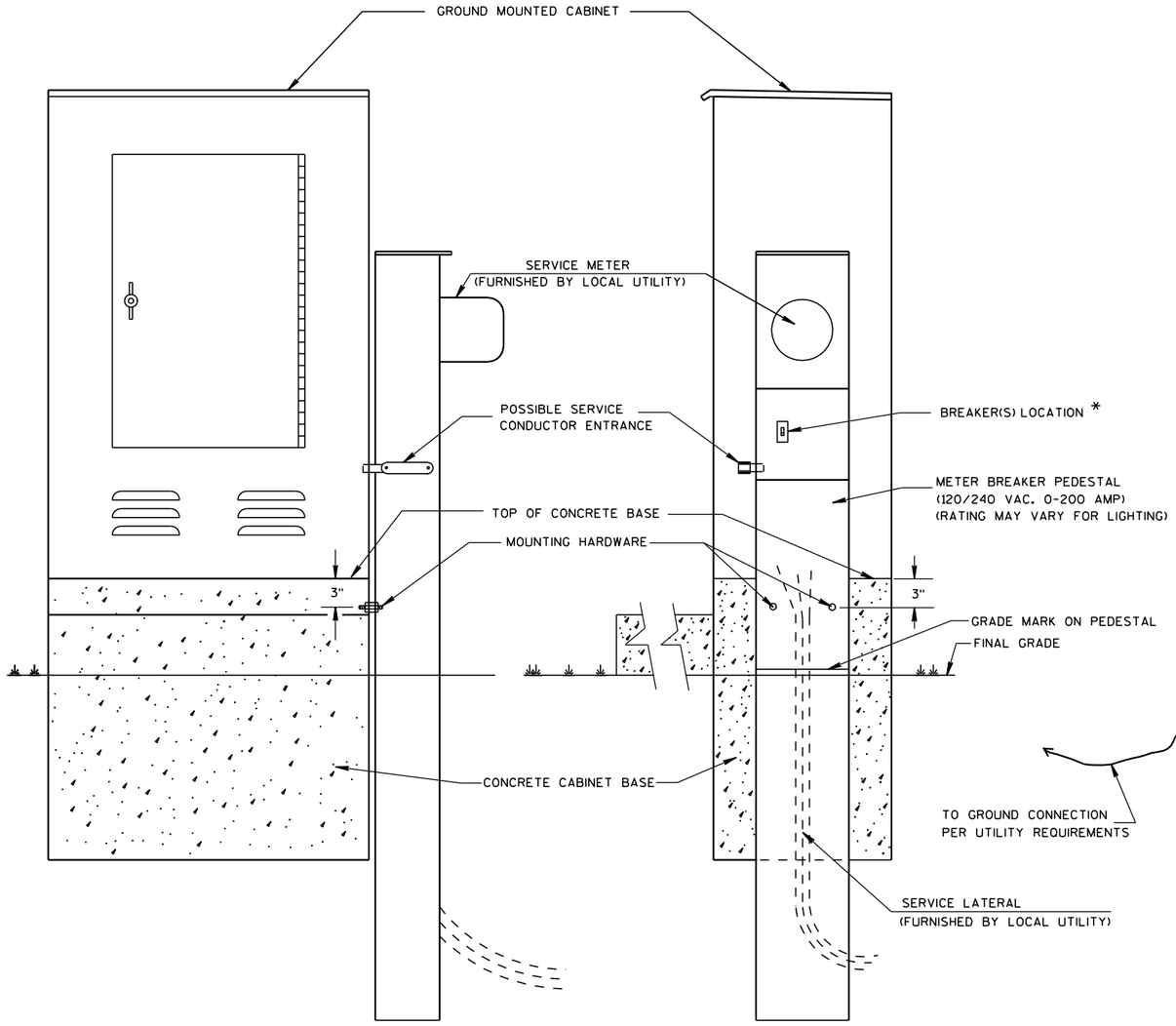
FHWA

6

S.D.D. 9 C 13-1

6

S.D.D. 9 C 13-1



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

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

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

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

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

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

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

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

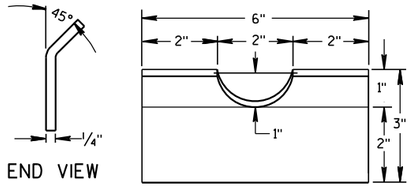
* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

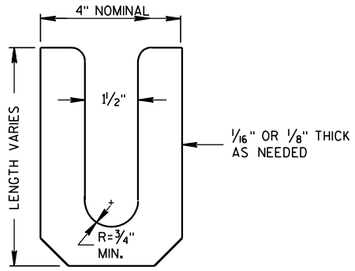
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/27/09 DATE
/S/ Joanna L. Bush STATE ELECTRICAL ENGI
225
HWYS
FHWA

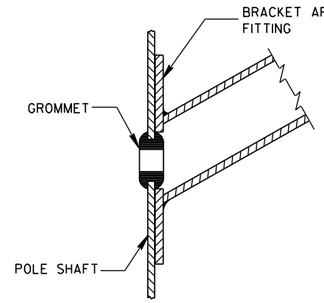
6
S.D.D. 9 D 1-4



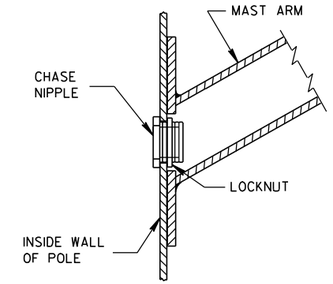
RECTANGULAR CLAMP SHIM
(4 TO A SET)



LEVELING SHIM (15)
SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

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".

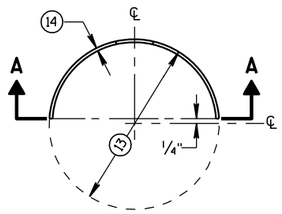
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

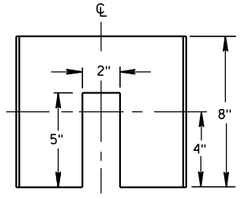
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(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.

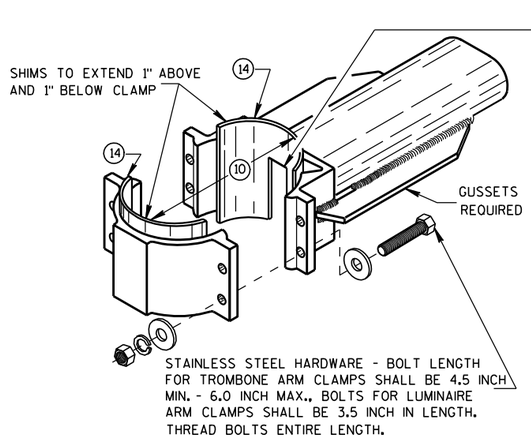
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



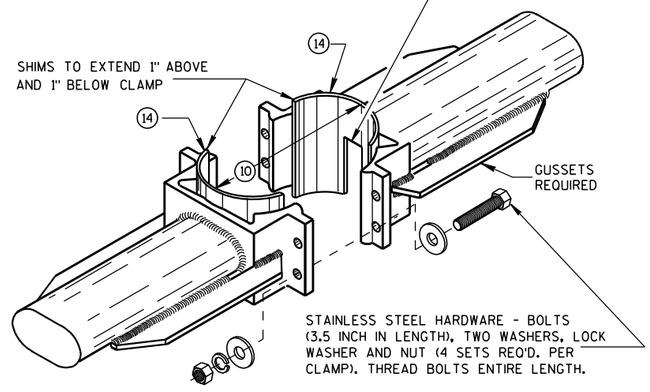
PLAN VIEW



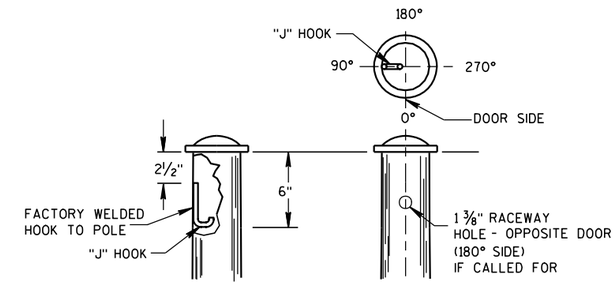
SECTION A-A
CIRCULAR CLAMP SHIM
(2 TO A SET)



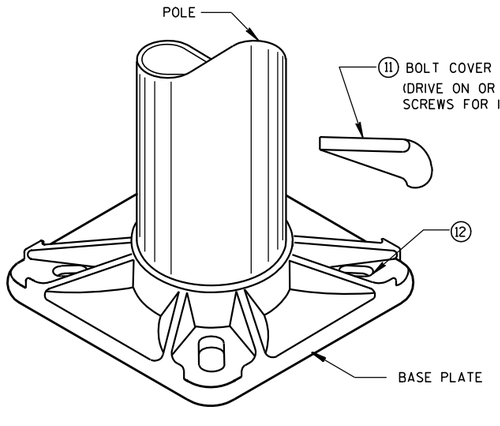
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



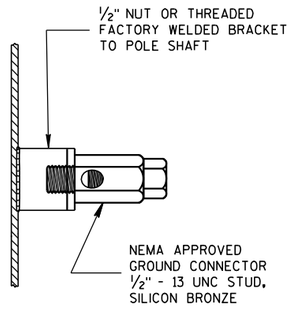
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

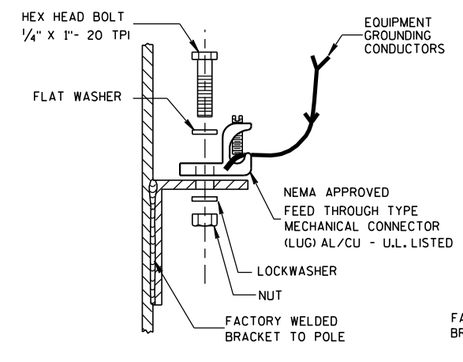


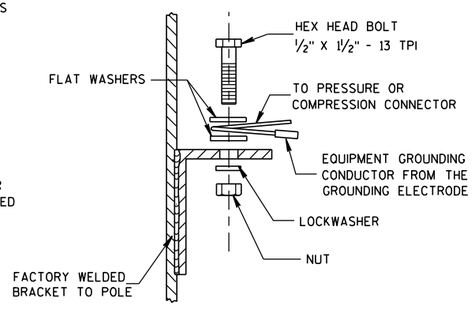
TYPICAL "J" HOOK LOCATION



BASE PLATE







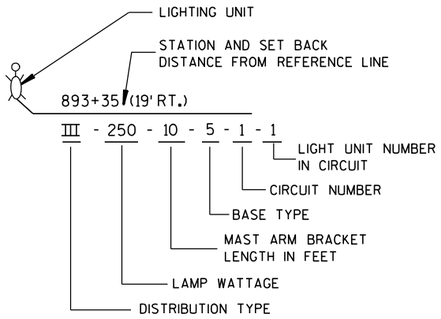
TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTINGS

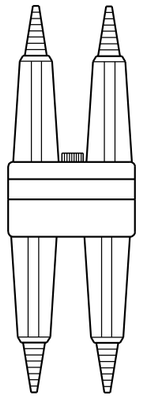
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/2/11 — DATE
/S/ Thomas J. Gosling — STATE ELECTRICAL ENGI
FHWA — HWYS

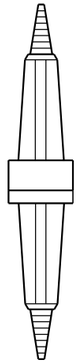
6
S.D.D. 9 E 1-11g



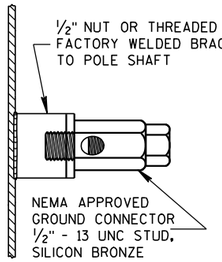
LIGHTING UNIT CODE
(TYPICAL)

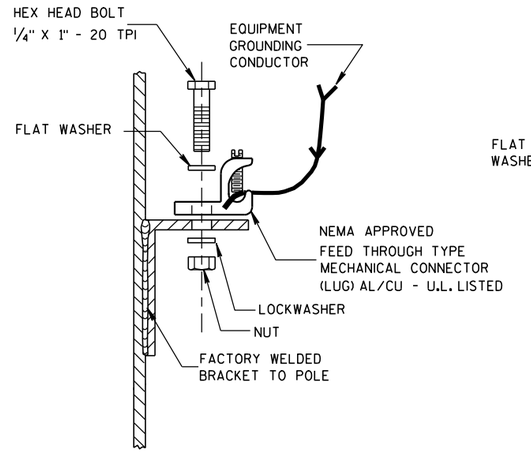


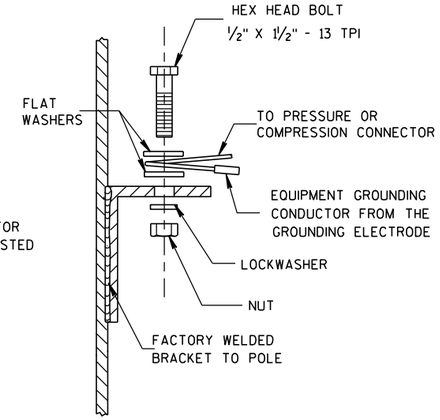
DETAIL "A"
BREAKAWAY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



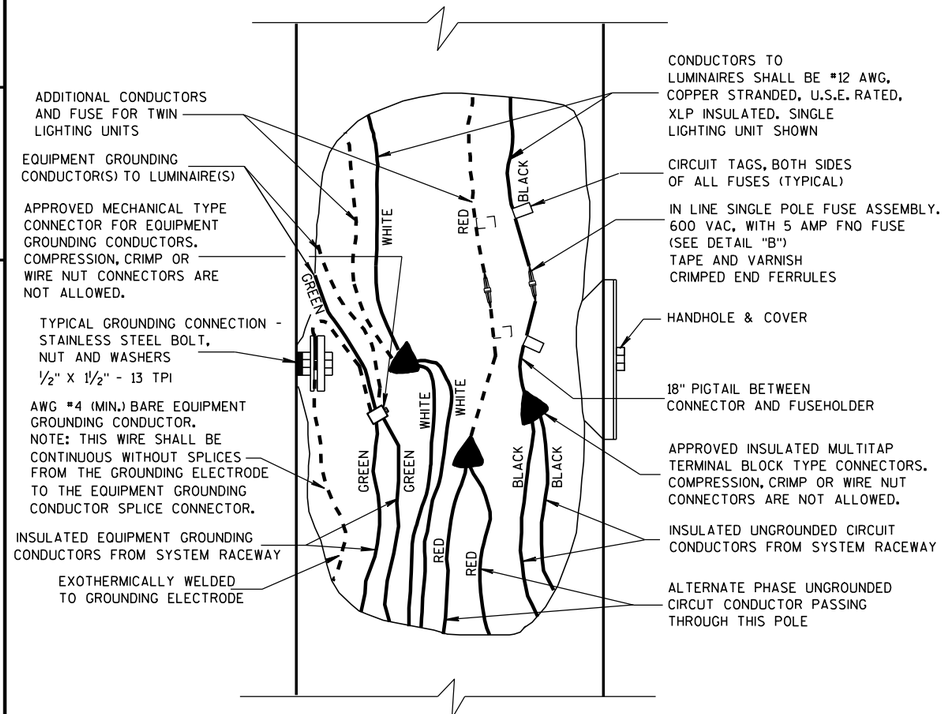
DETAIL "B"
BREAKAWAY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



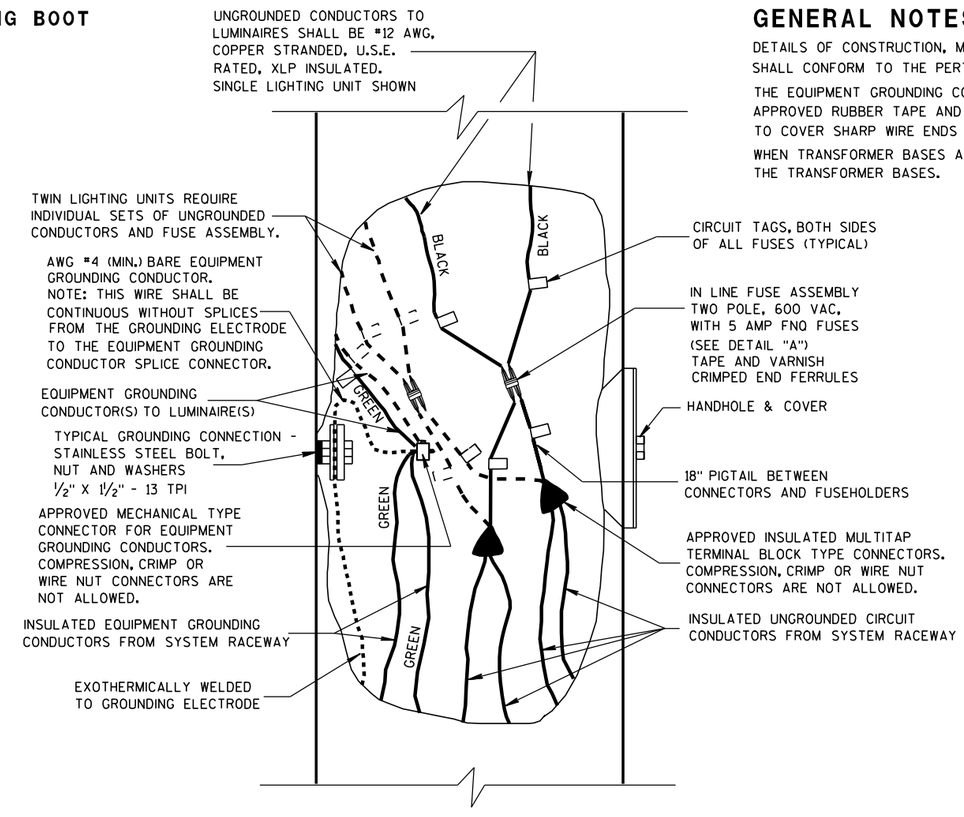




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



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



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

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.

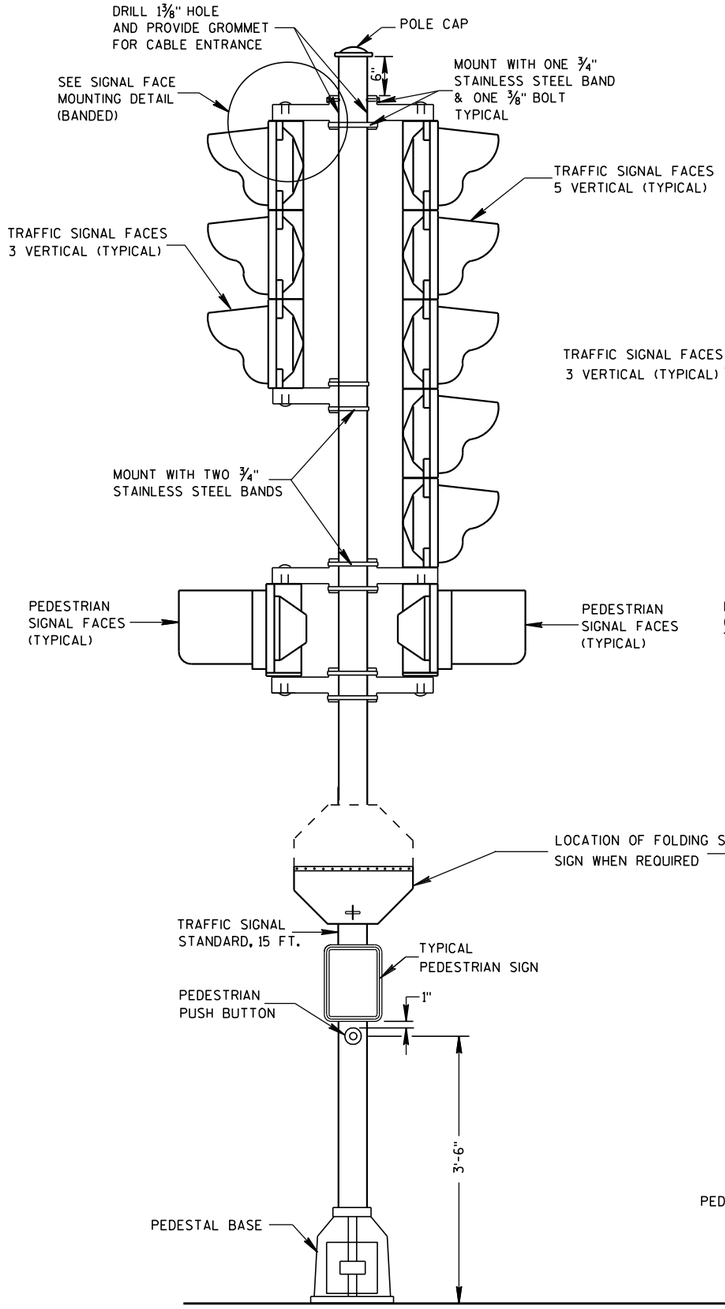
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

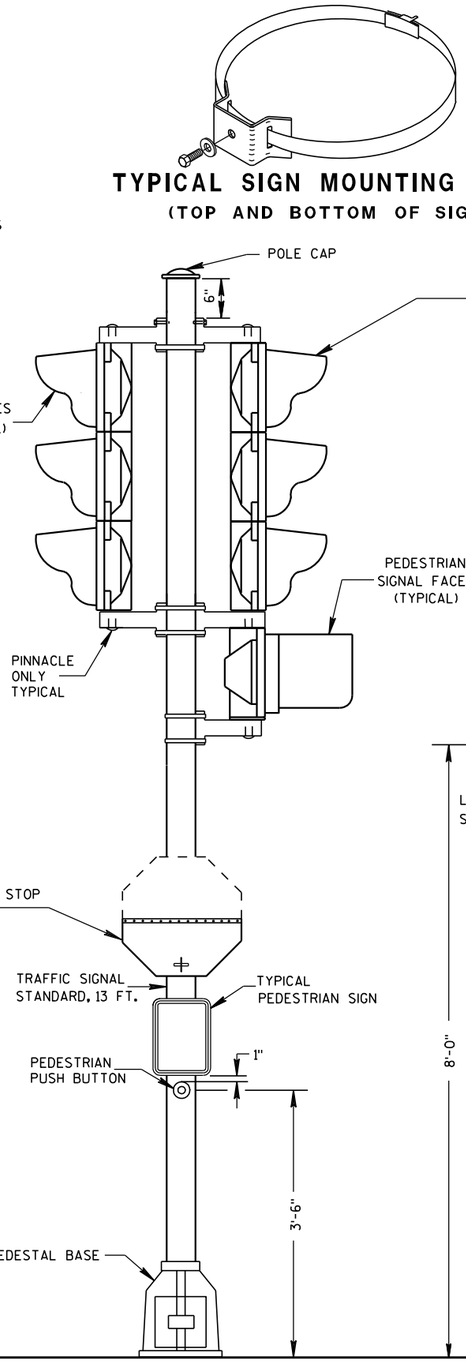
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/2/2011 DATE
/S/ Thomas J. Gosnine
STATE ELECTRICAL ENGI
227 HWYS
FHWA

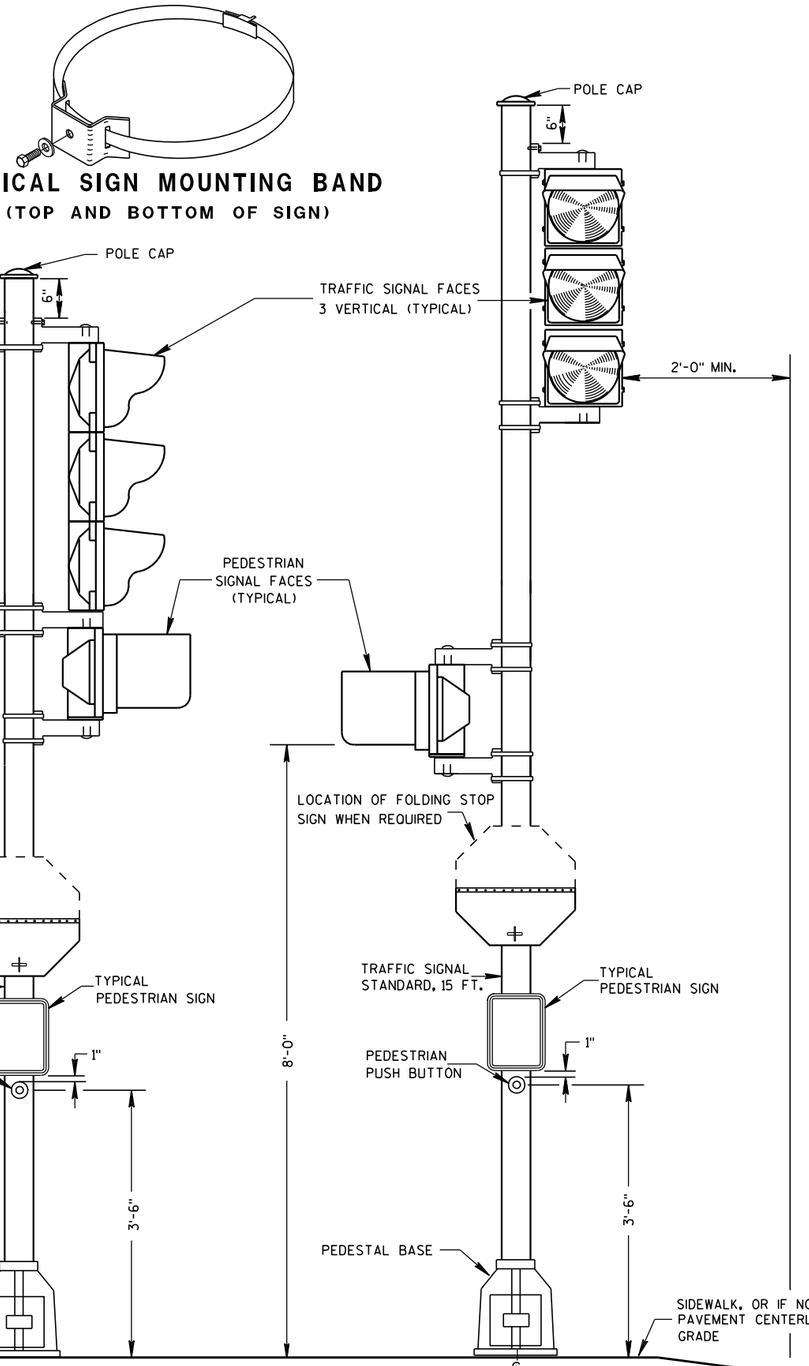
6
S.D.D. 9 E 3-4



TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.



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

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

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

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

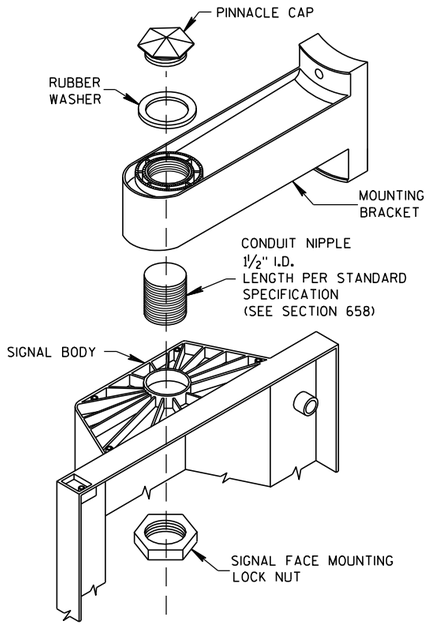
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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

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

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



SIGNAL FACE MOUNTING DETAIL
(BANDED)

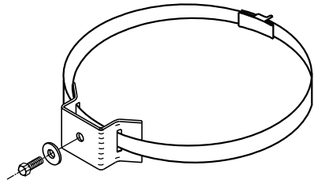
TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

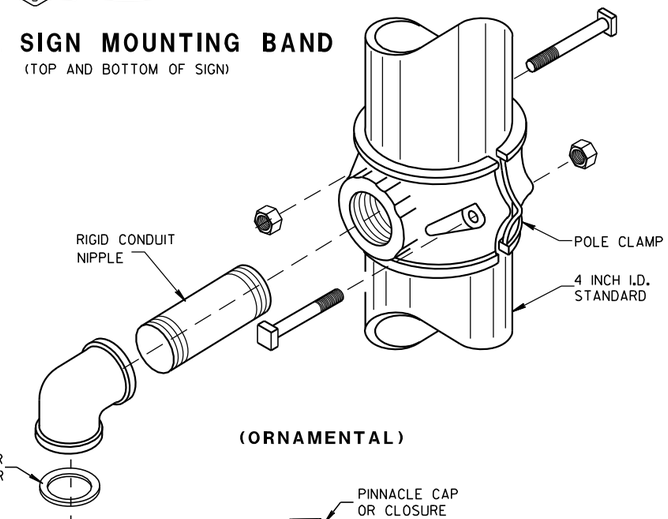
APPROVED
5/11/10 DATE
/S/ John Corbin STATE ELECTRICAL ENGI
HWYS
FHWA

6

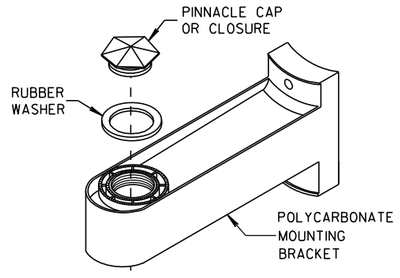
S.D.D. 9 E 6-4



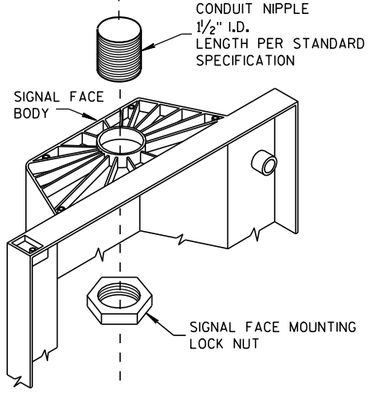
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



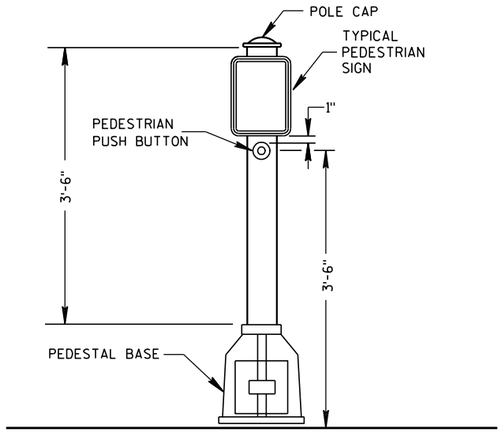
(ORNAMENTAL)



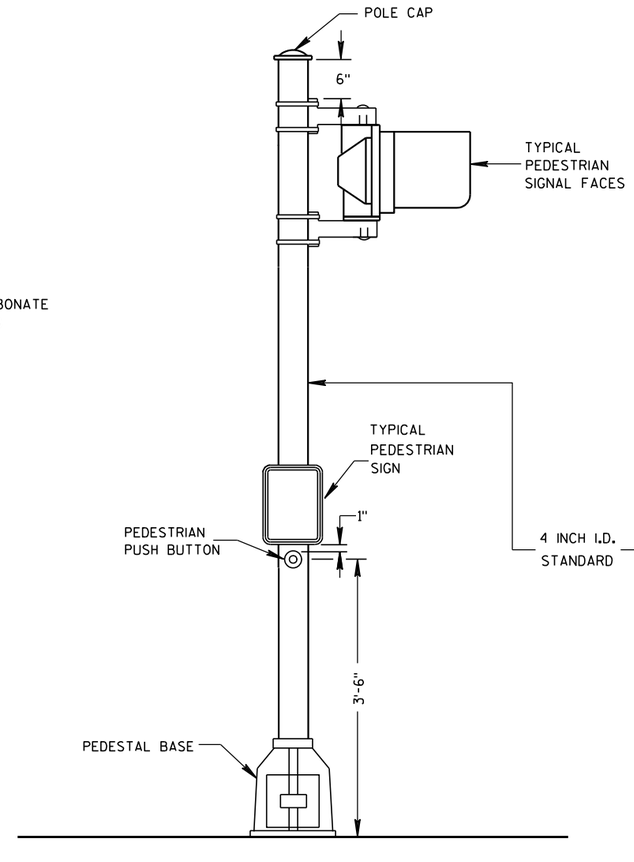
(BANDED)



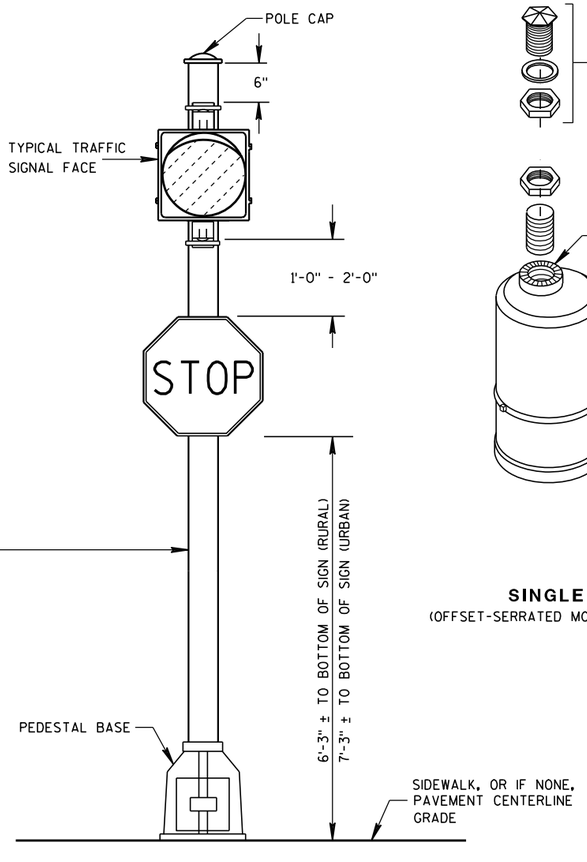
SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING



PEDESTRIAN FACE STANDARD-10 FT.
(WALK-DON'T WALK)



STANDARD FLASHER.
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

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

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

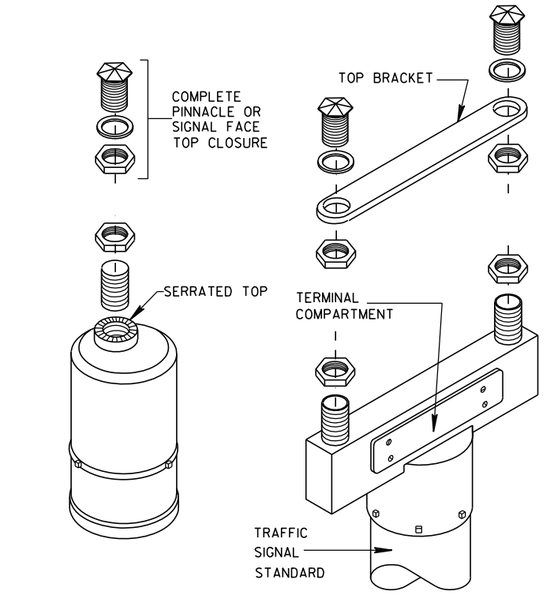
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

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

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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



SINGLE
(OFFSET-SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/11/10 DATE
/S/ John Corbin STATE ELECTRICAL ENGI
FHWA

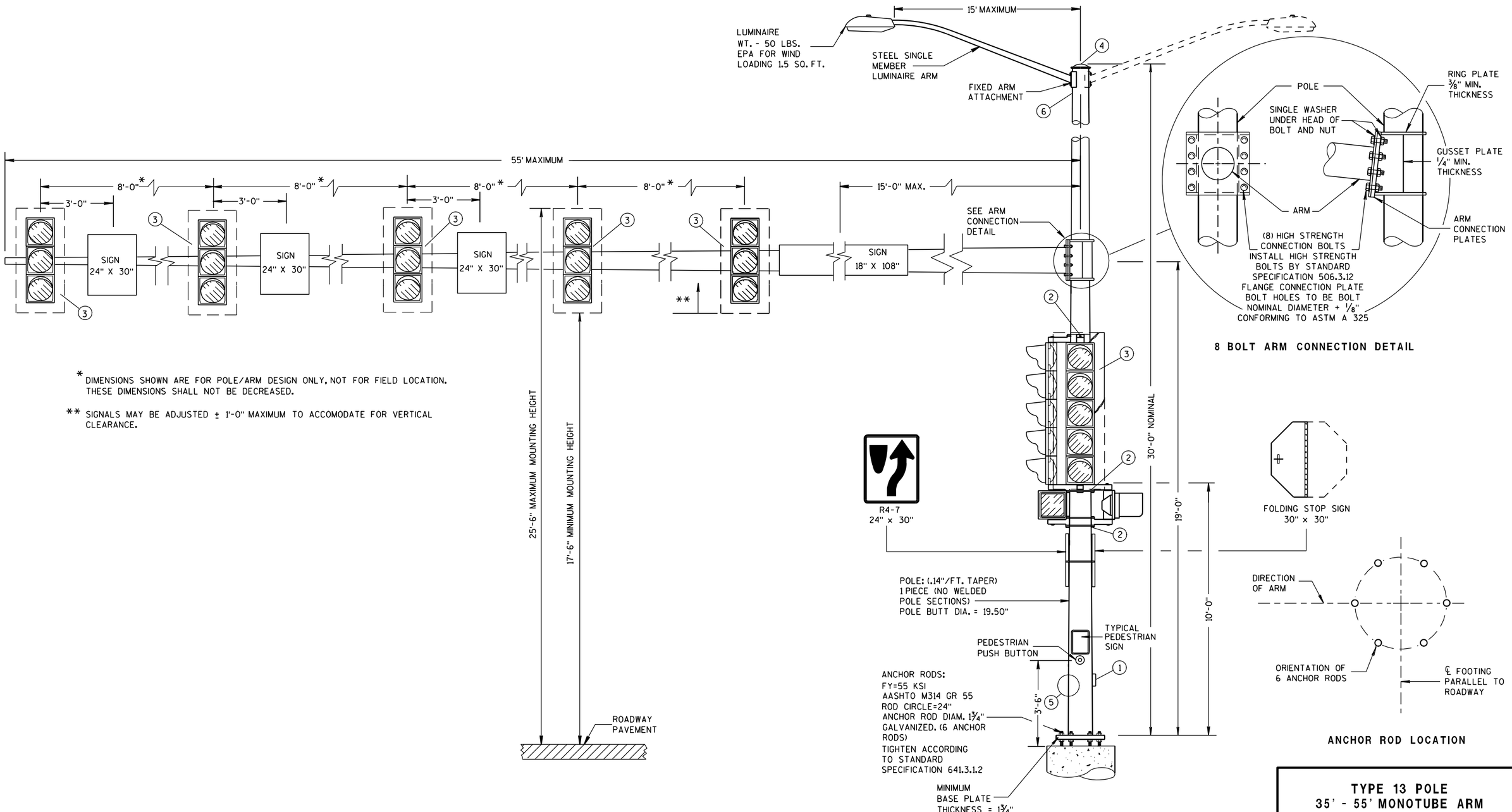
HWYS

6

S.D.D. 9 E 7-5

6

S.D.D. 9 E 7-5



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

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

(MAXIMUM LOAD)

TYPE 13 POLE 35'- 55' MONOTUBE ARM

8 BOLT ARM CONNECTION DETAIL

ANCHOR ROD LOCATION

TYPE 13 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 DATE — /S/ Thomas J. Corrigan STATE ELECTRICAL ENGI — 230 HWYS

FHWA

6

S.D.D. 9 E 8-4d

6

S.D.D. 9 E 8-4d

GENERAL NOTES

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

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

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

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

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

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

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

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

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

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

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

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

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

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

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

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

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

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

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

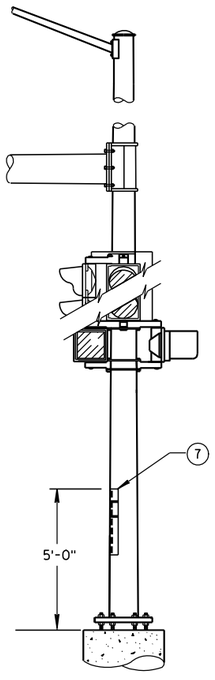
(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

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

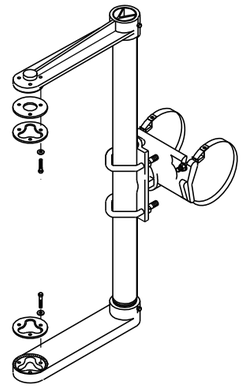
(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

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

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

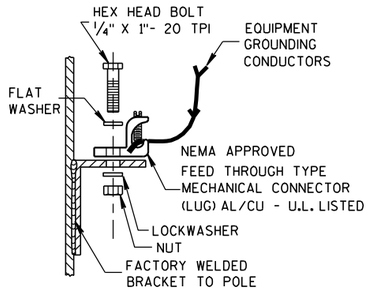


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



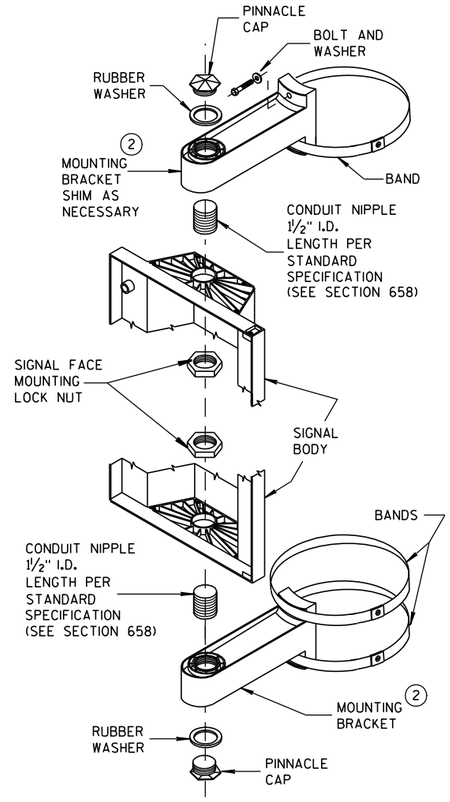
SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

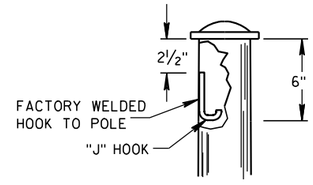


TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT (6)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 DATE

/S/ Thomas J. Corrigan STATE ELECTRICAL ENGI

231

HWYS

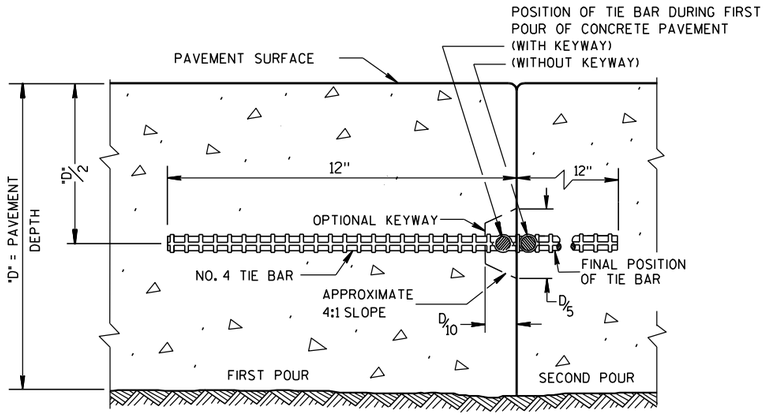
FHWA

6

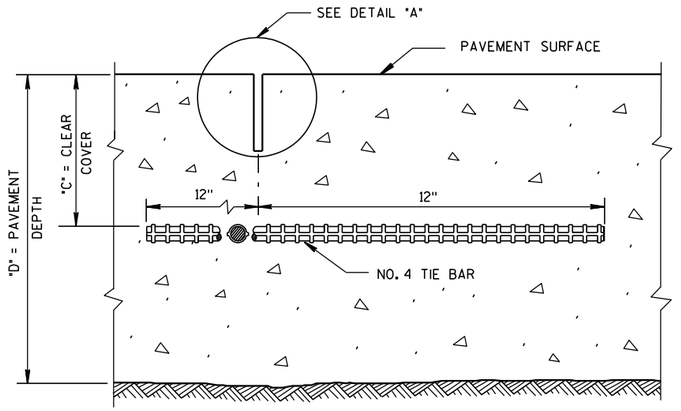
S.D.D. 9 E 8-4e

6

S.D.D. 9 E 8-4e



CONSTRUCTION JOINT



SAWED JOINT

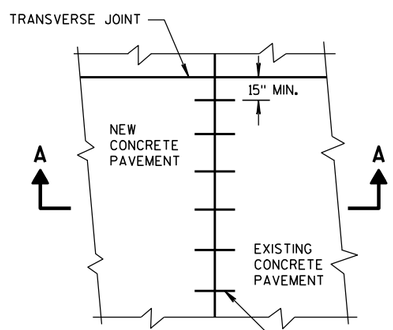
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

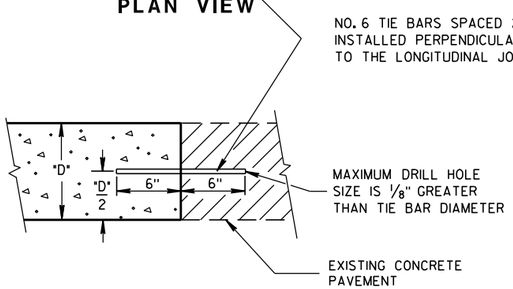
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

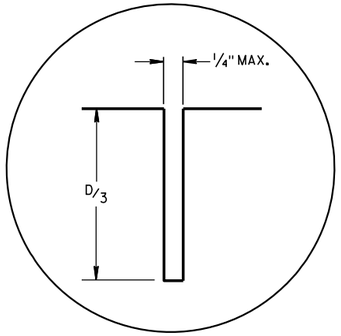
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

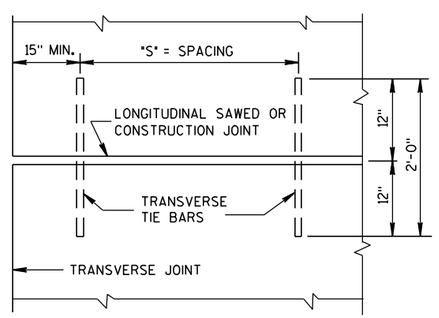


SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

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
PAVEMENT POLICY & DI232 INEER

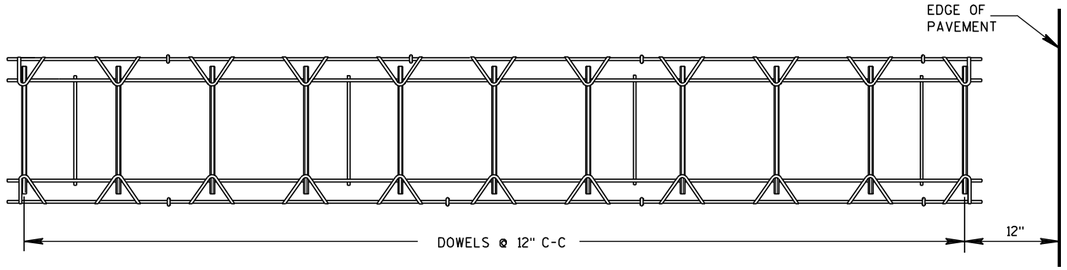
FHWA

6

S.D.D. 13 C 1-15

6

S.D.D. 13 C 1-15

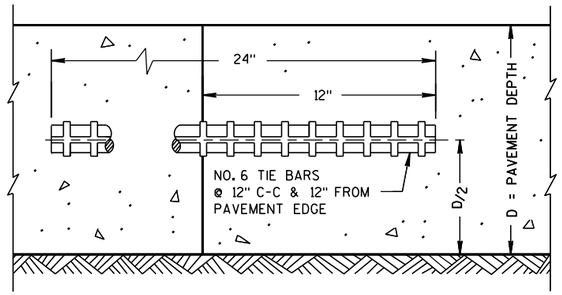


PLAN VIEW



SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



TRANSVERSE CONSTRUCTION JOINT

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.

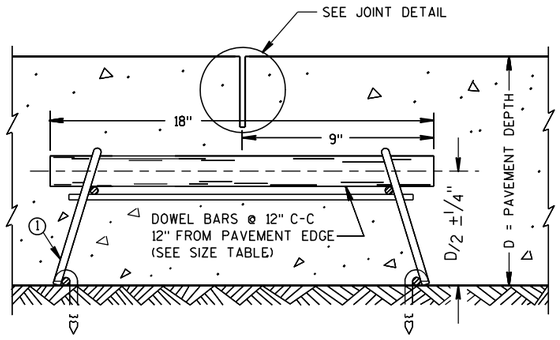
④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

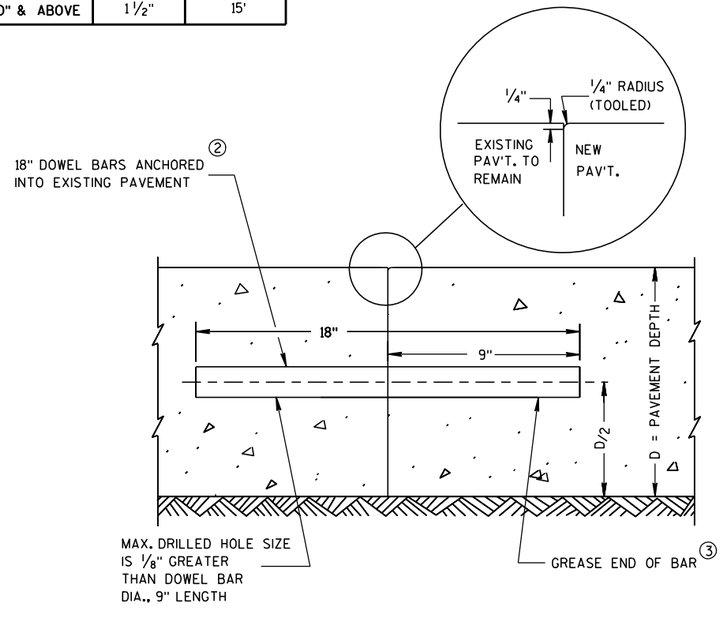
⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

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'

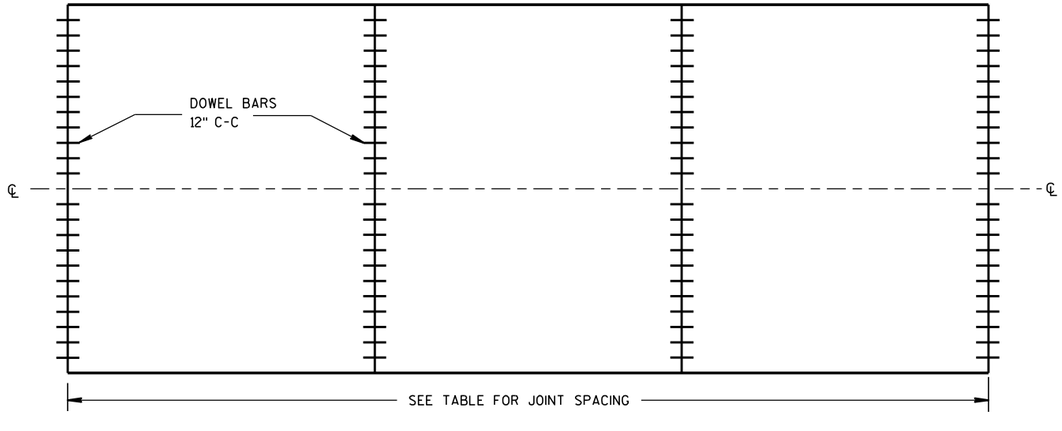


DOWELED CONTRACTION JOINT

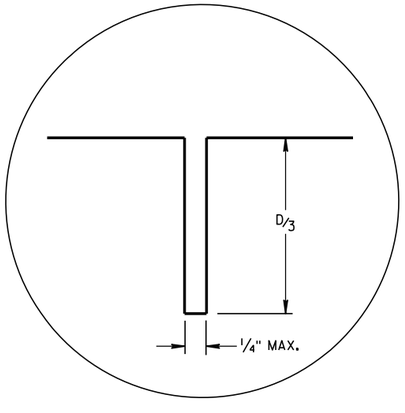


TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ DOWEL BAR DETAIL



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

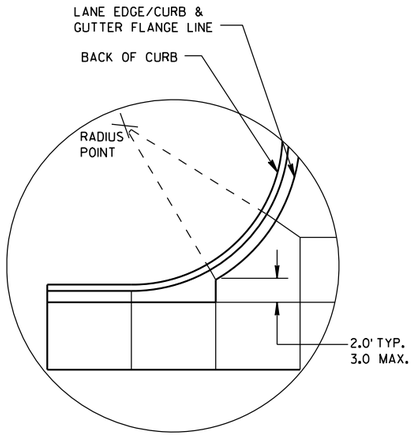
NEER

6

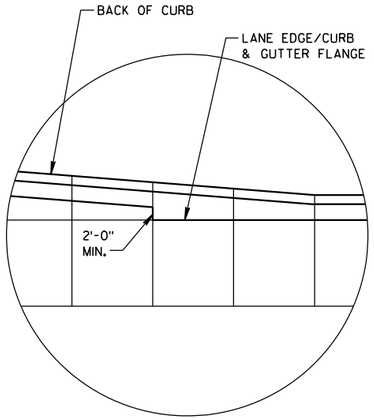
S.D.D. 13 C 13-7

6

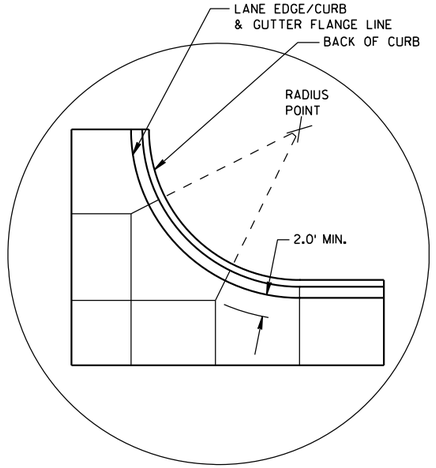
S.D.D. 13 C 13-7



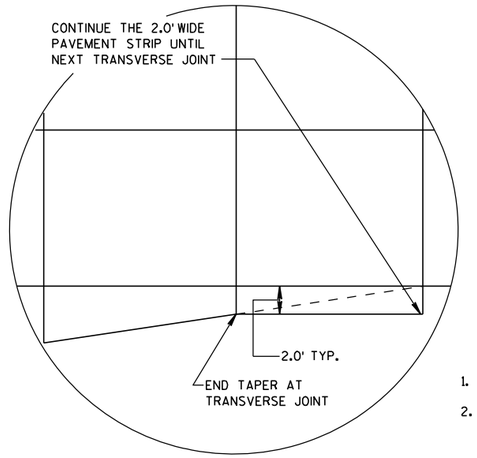
DETAIL "A"



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.

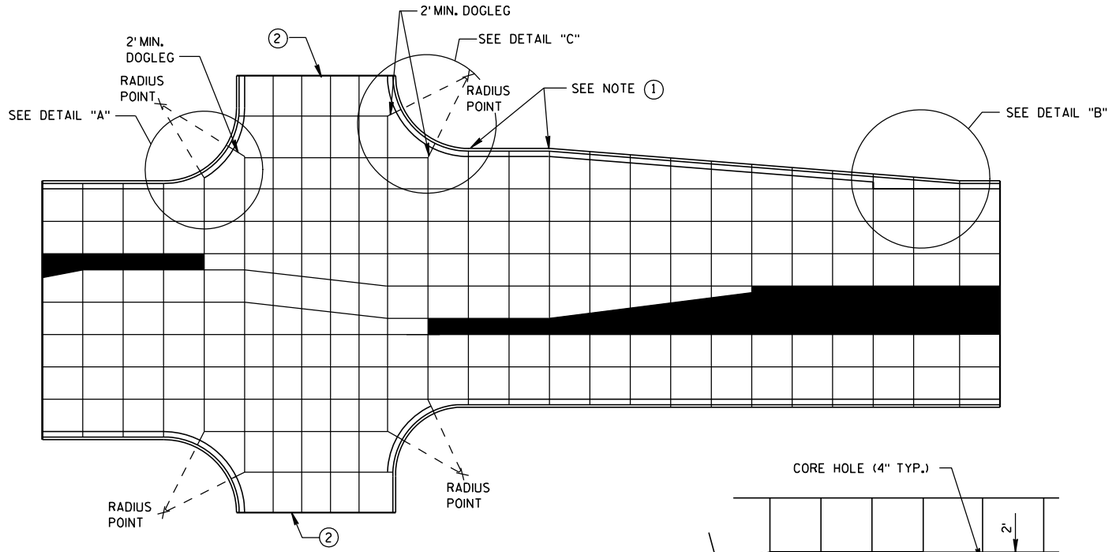
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

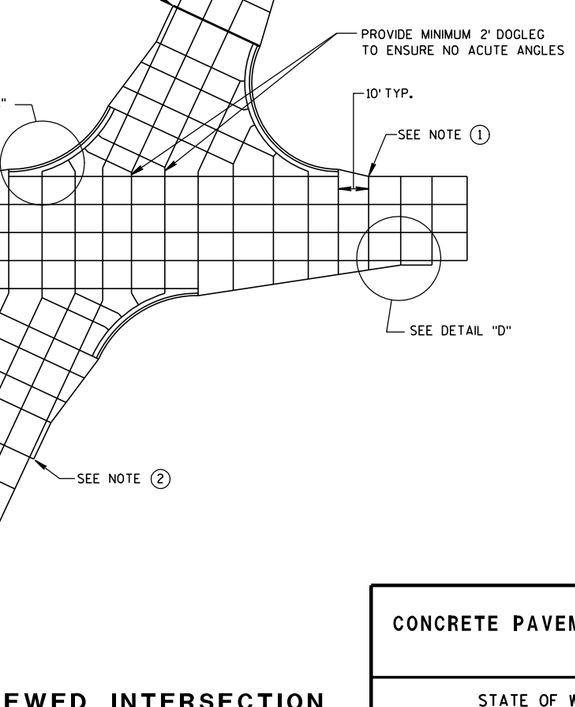
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



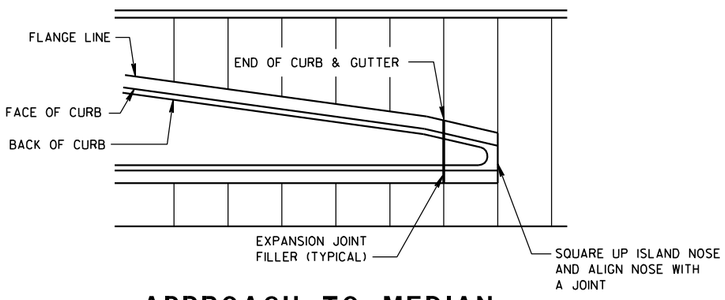
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

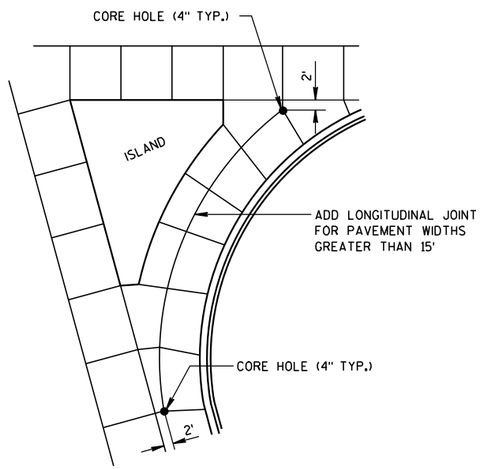
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 13 C 18-1a

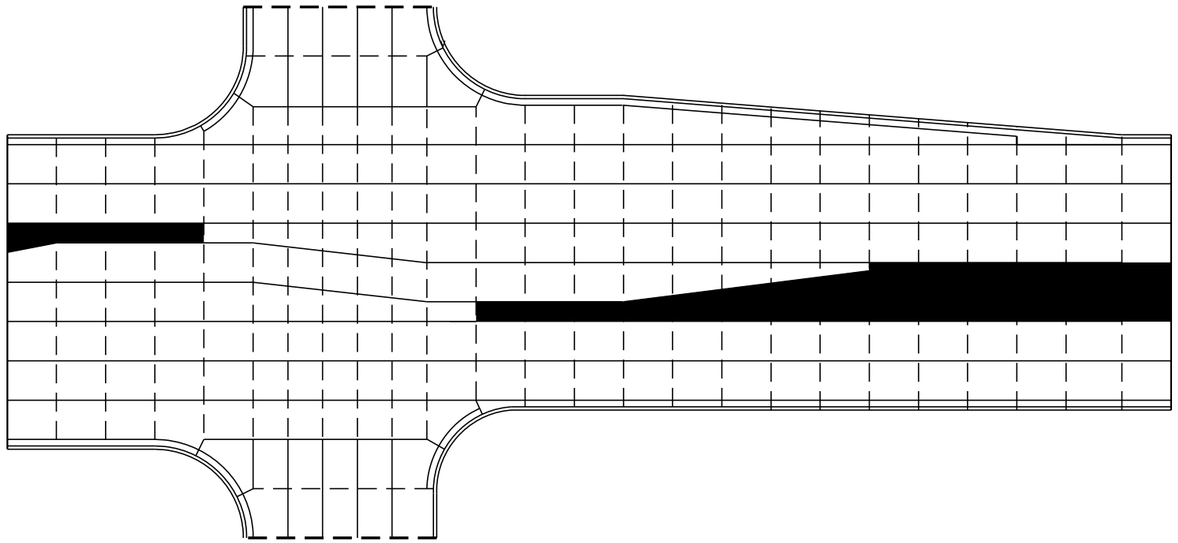
6

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

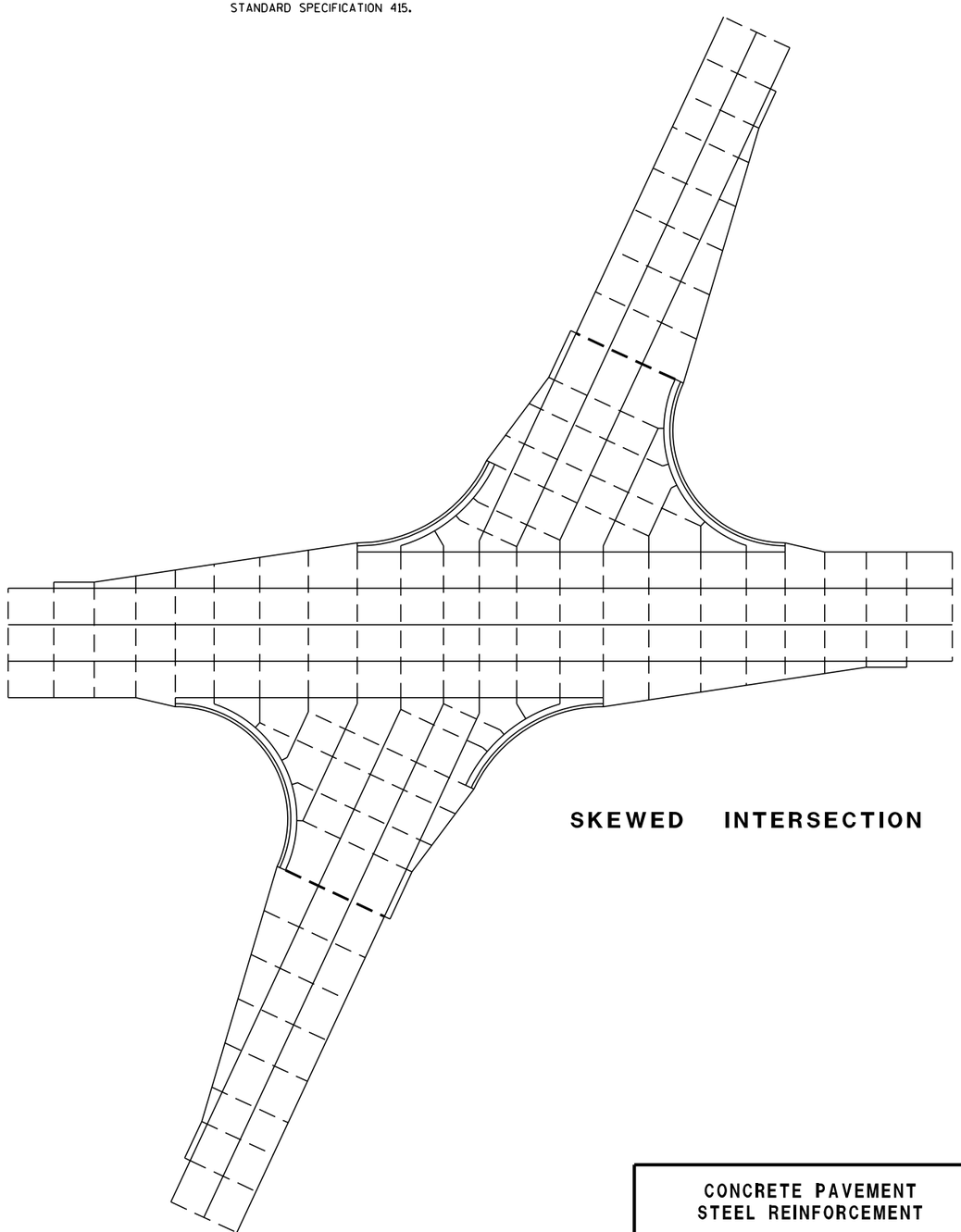
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

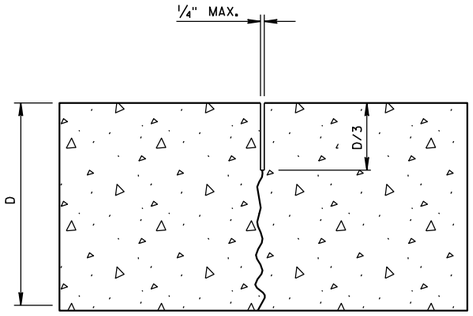
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

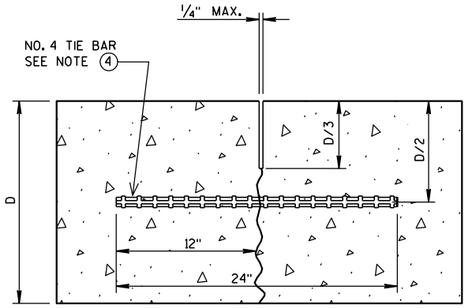
S.D.D. 13 C 18-1b

6

S.D.D. 13 C 18-1b



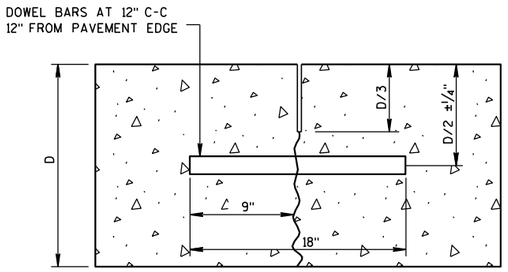
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

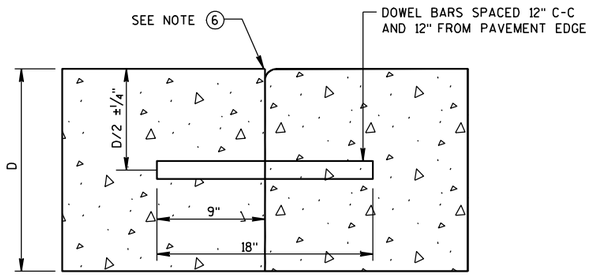
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 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.



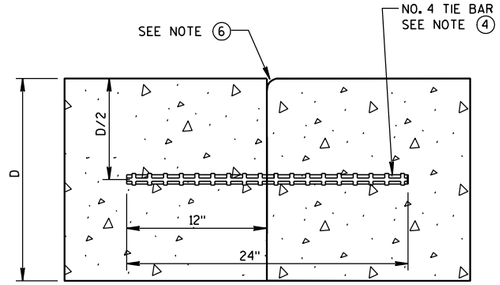
DOWELED-TRANSVERSE

CONTRACTION JOINTS

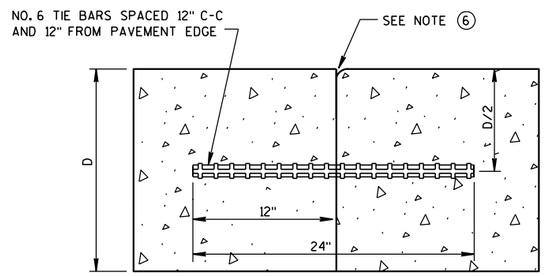
SEE NOTE (2)



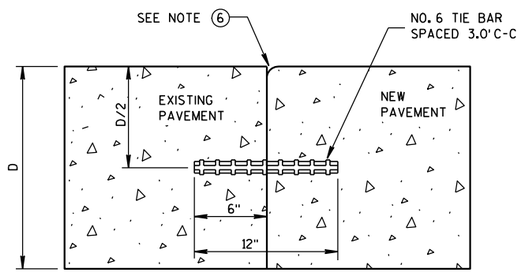
DOWELED TRANSVERSE



TIED LONGITUDINAL



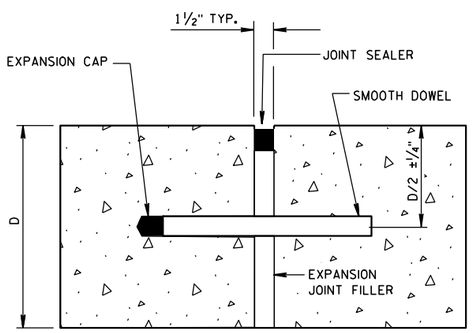
TIED TRANSVERSE
SEE NOTE (3)



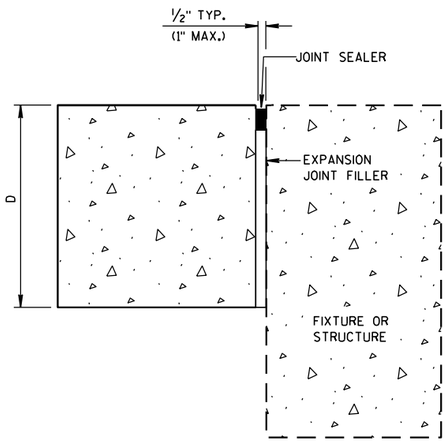
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE
SEE NOTE (1)



UNTIED-LONGITUDINAL

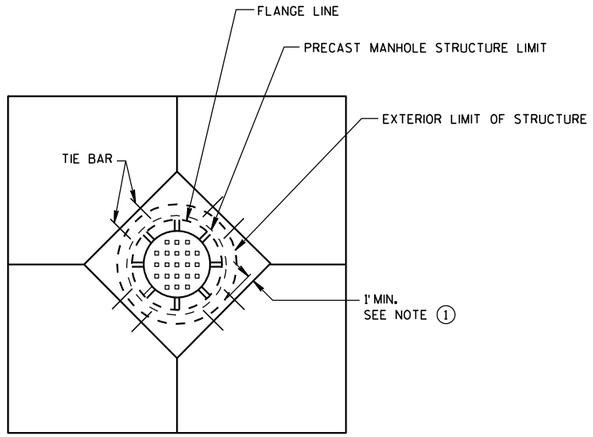
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

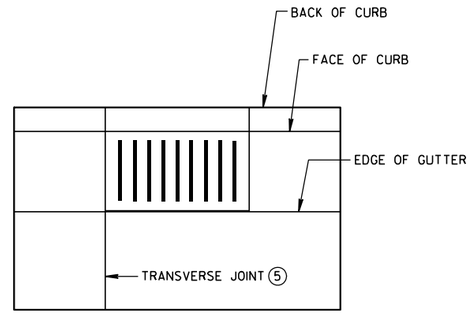
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

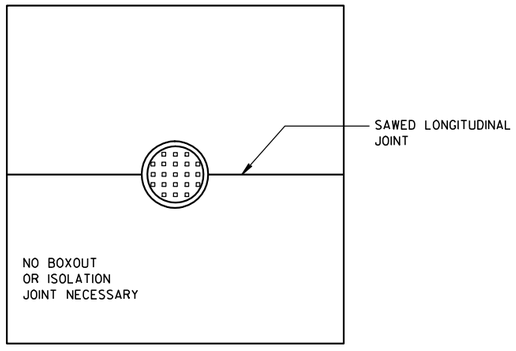
S.D.D. 13 C 18-1c



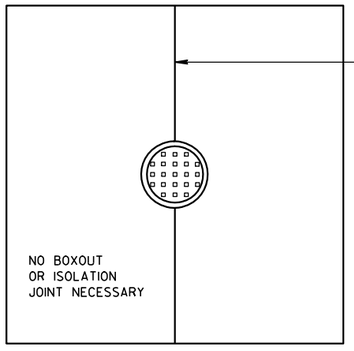
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



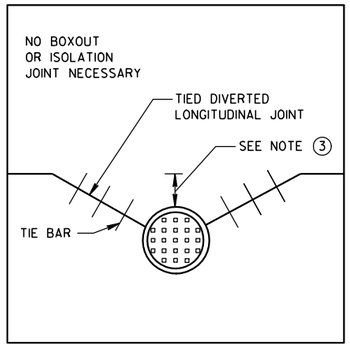
INLET WITH TRANSVERSE JOINT



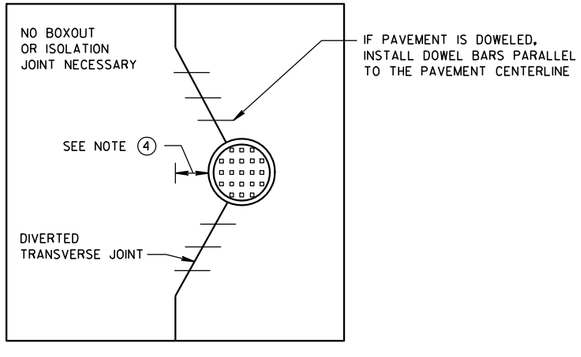
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

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

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-5-2010
DATE
/S/ Deb Bischoff
PAVEMENT POLICY & D 237 ENGINEER
FHWA

6
S.D.D. 13 C 18-1d

GENERAL NOTES

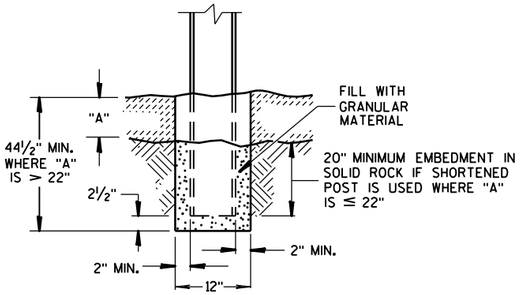
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

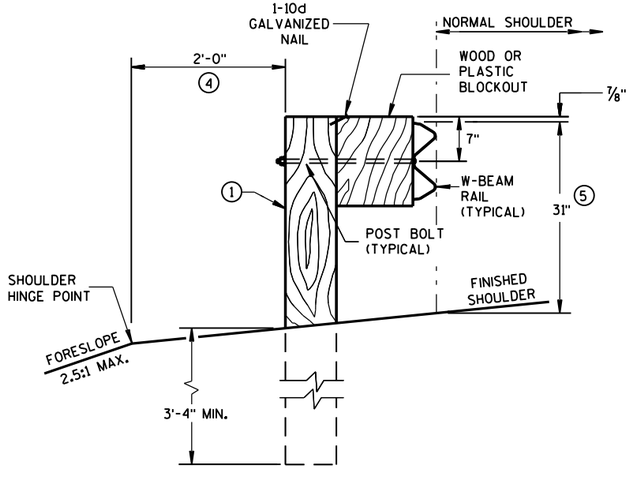
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

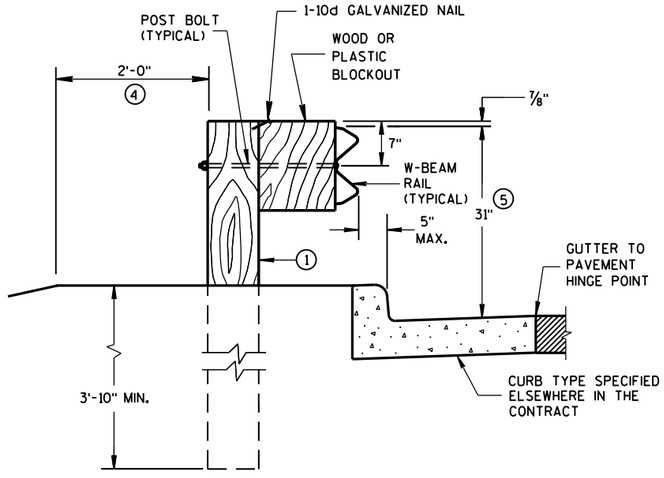
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".



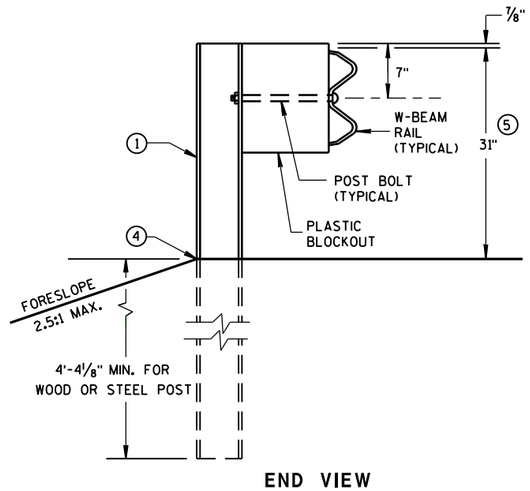
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



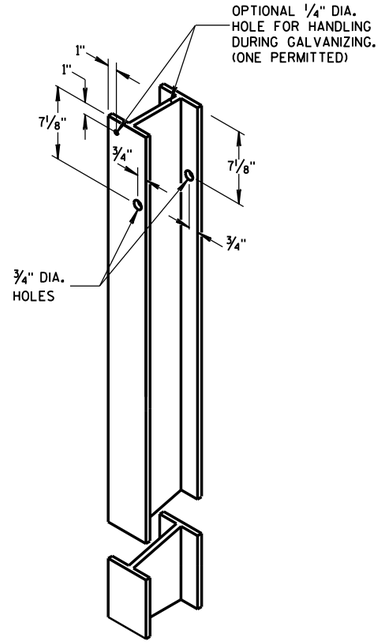
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



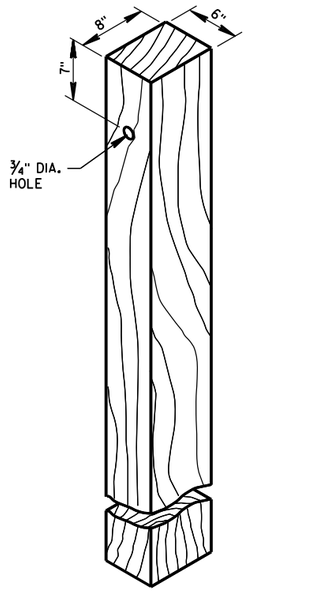
END VIEW
LOCATED ALONG A CURBED ROADWAY



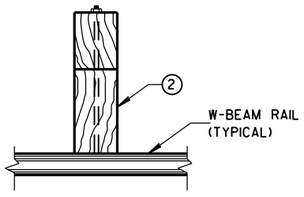
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



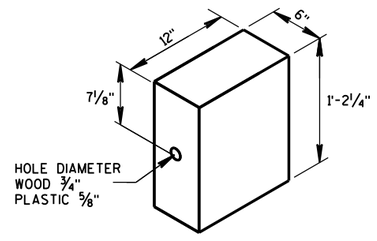
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



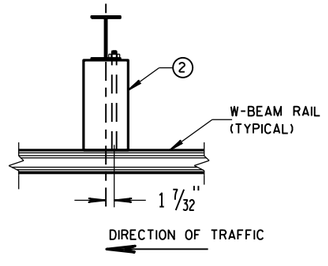
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

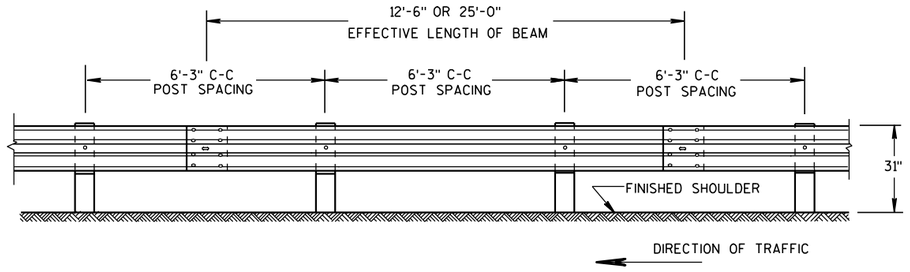


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

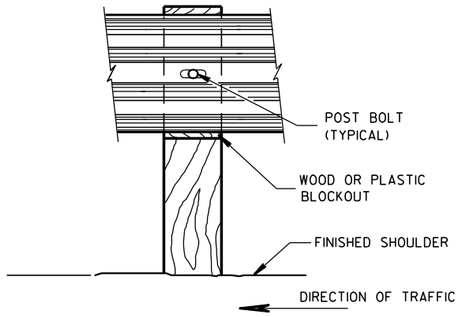
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-2a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



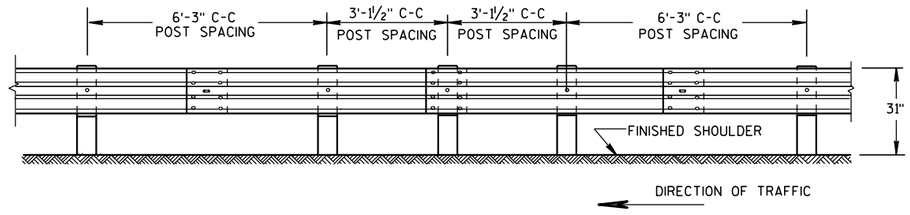
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

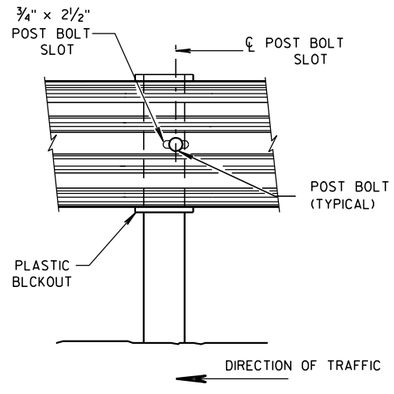
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

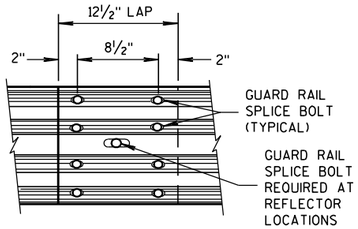


FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

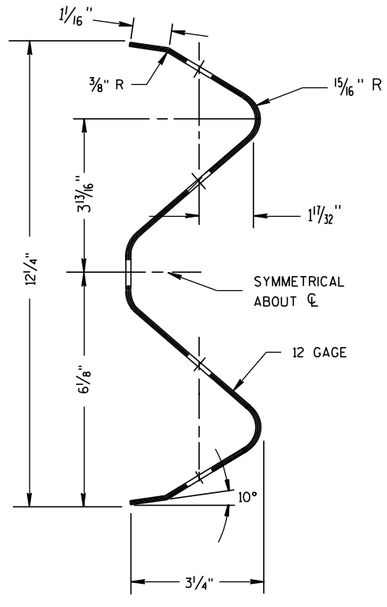


FRONT VIEW AT STEEL POST

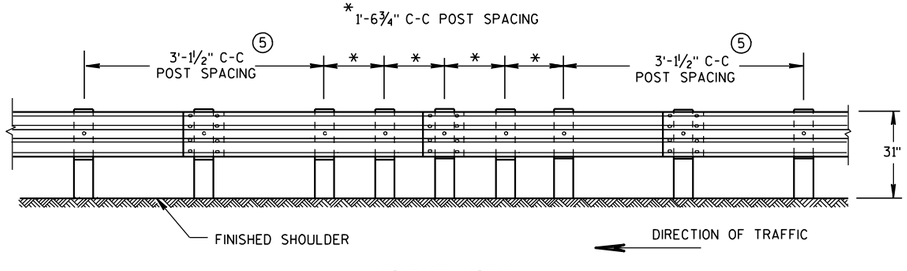


FRONT VIEW

MID-SPAN BEAM SPLICE

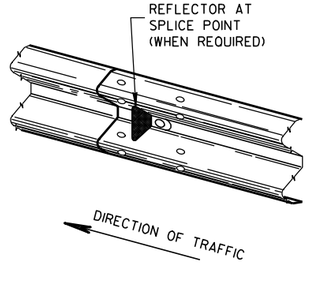


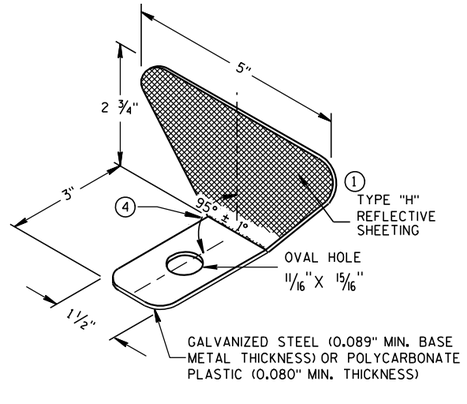
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①

REFLECTOR SPACING ②

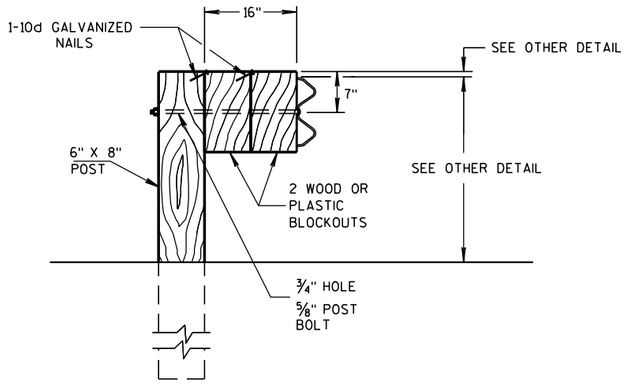
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 1 ③	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ④	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

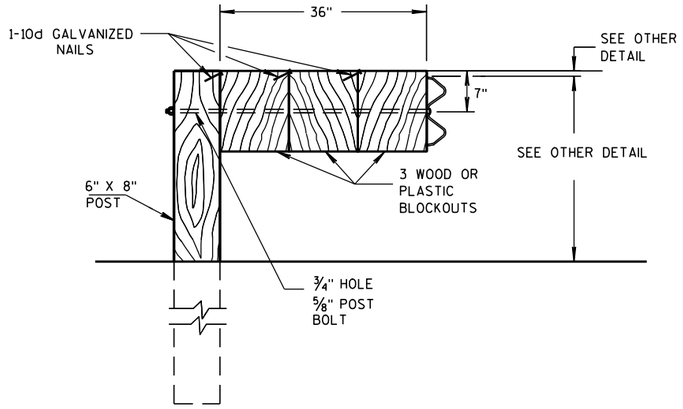
S.D.D. 14 B 42-2b

S.D.D. 14 B 42-2b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

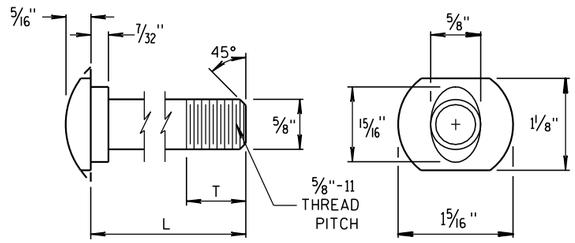


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

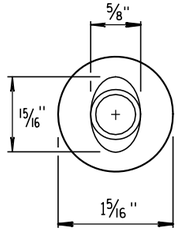
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

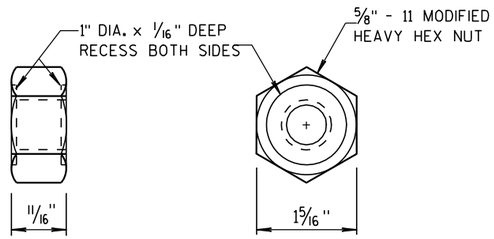


POST BOLT TABLE

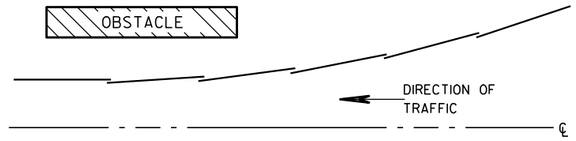
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

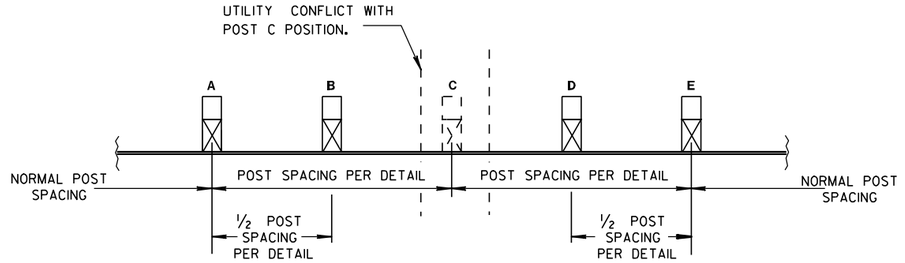


POST BOLT AND RECESS NUT

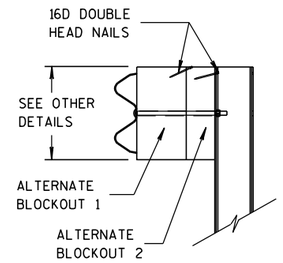


PLAN VIEW

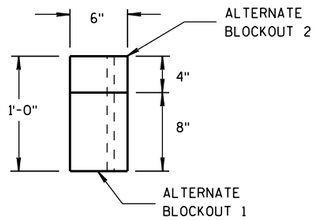
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

240

ENT

6

S.D.D. 14 B 42-2c

6

S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL),AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

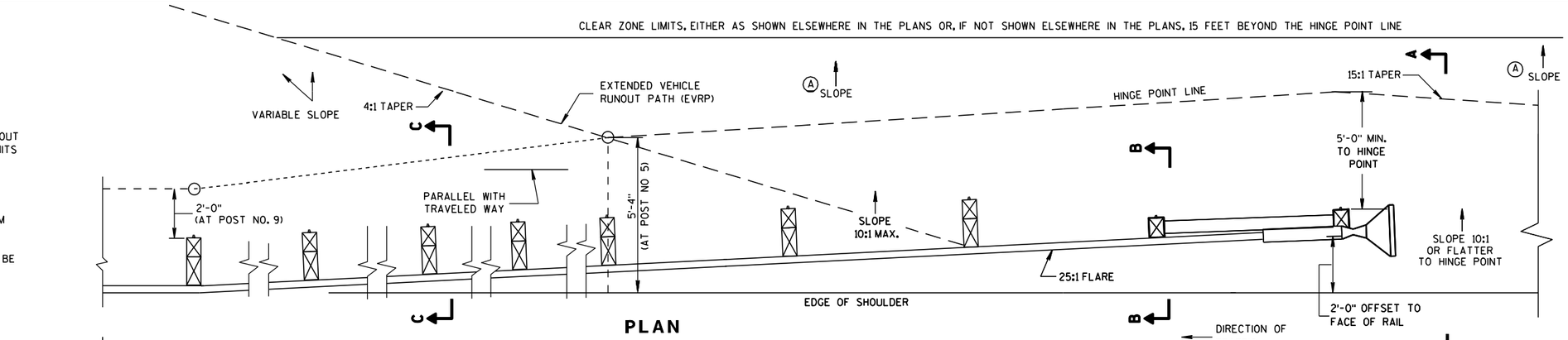
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

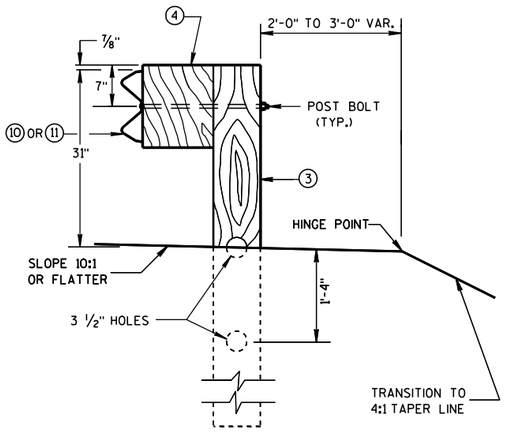
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

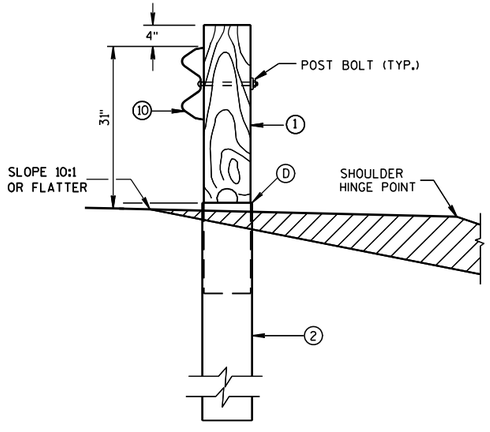
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

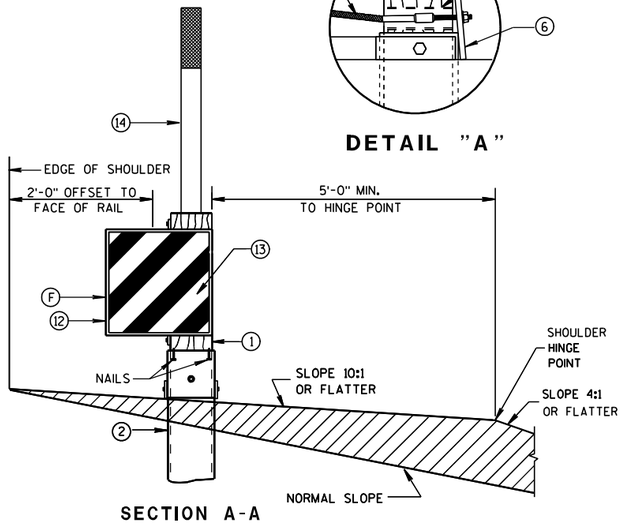




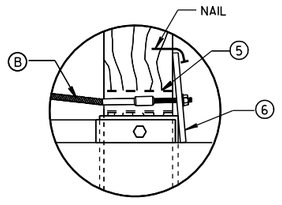
SECTION C-C
TYPICAL AT POST NOS. 3-9



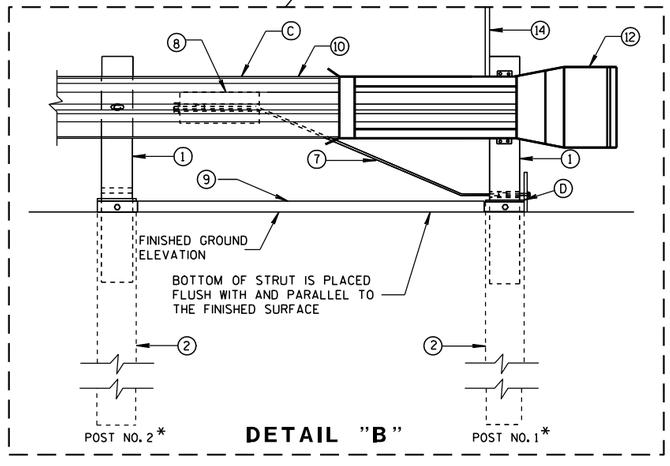
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

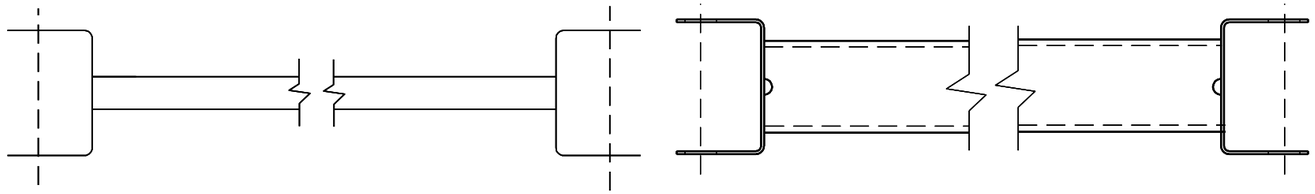
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1a

6

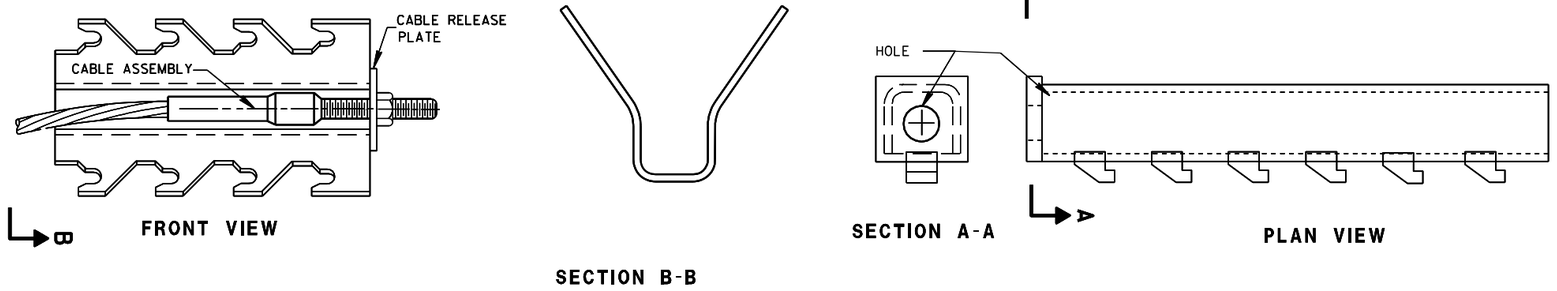
S.D.D. 14 B 44-1a



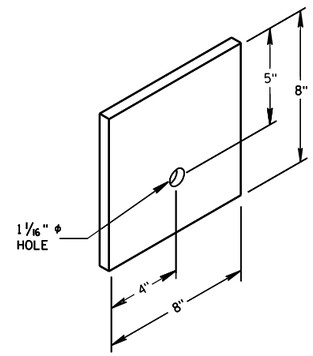
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)



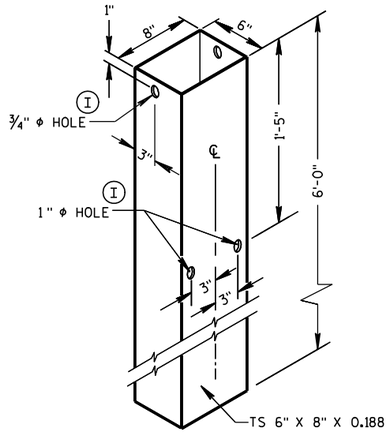
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

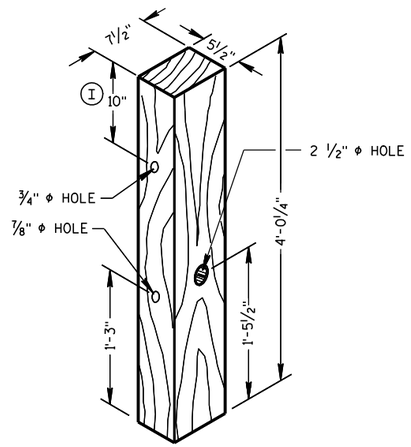
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

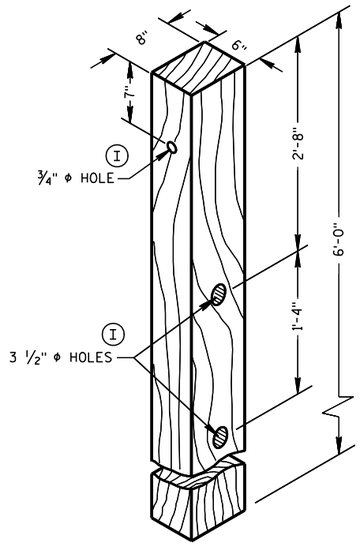


FOUNDATION TUBE (2)



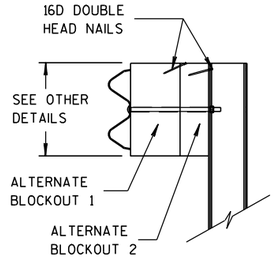
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

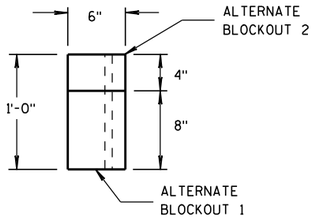


POSTS NUMBER 3-9

WOOD CRT POST (3)

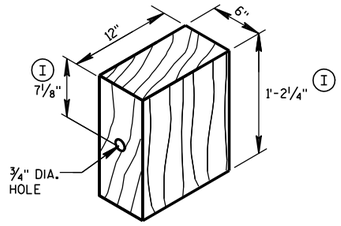


SIDE VIEW



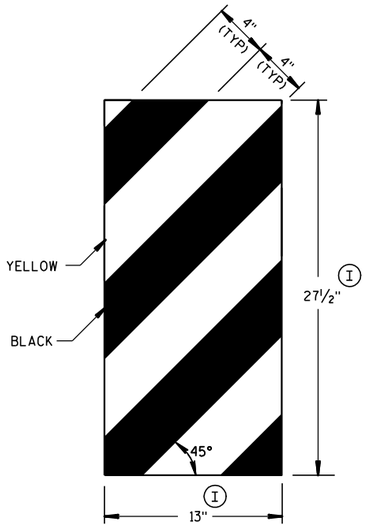
TOP VIEW

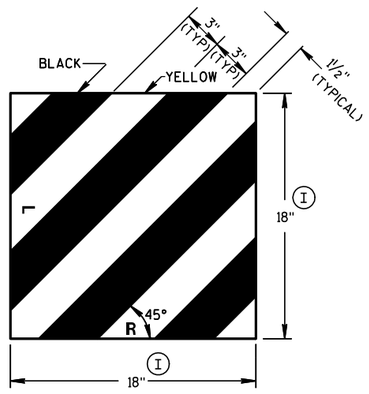
ALTERNATE WOOD BLOCKOUT DETAIL



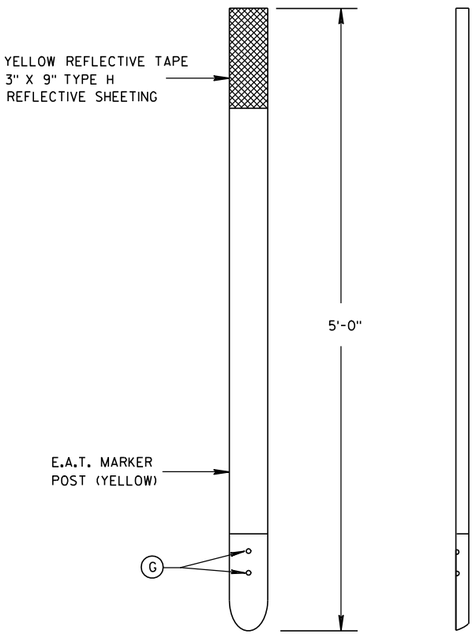
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



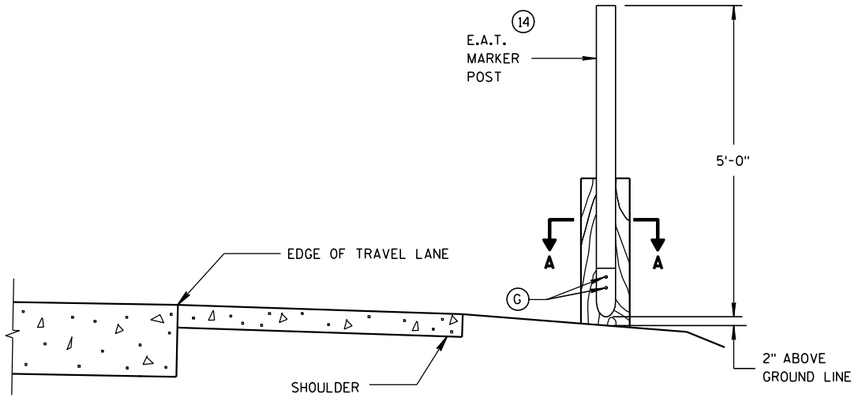


GENERIC REFLECTIVE SHEETING (13) (H)



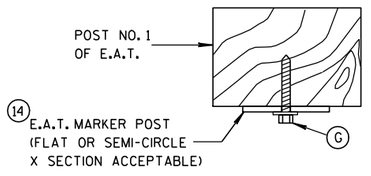
FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

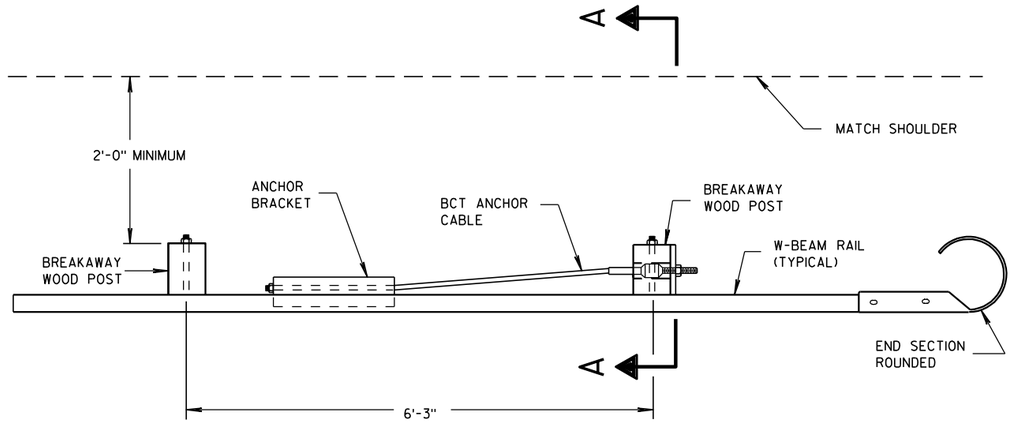
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

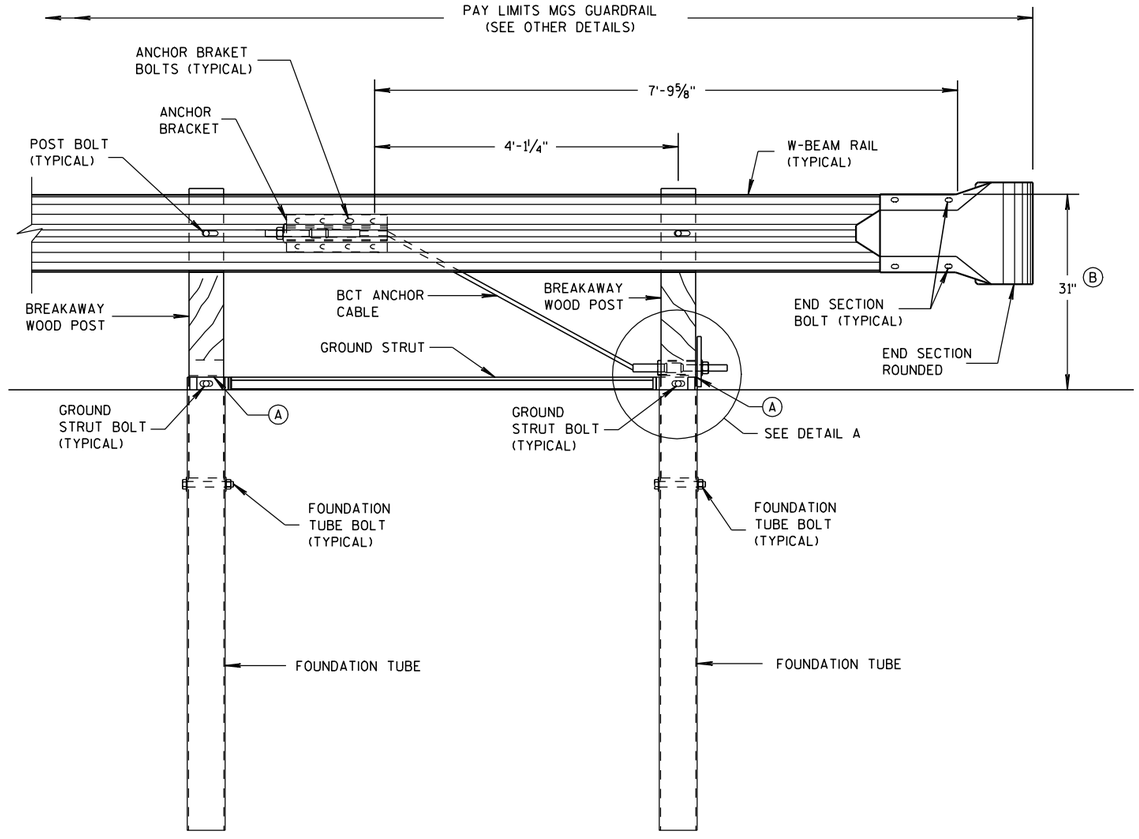
APPROVED
5/23/2011 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-1c

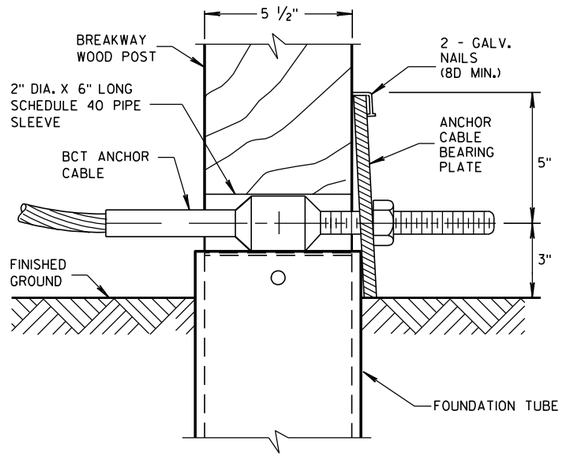


PLAN VIEW



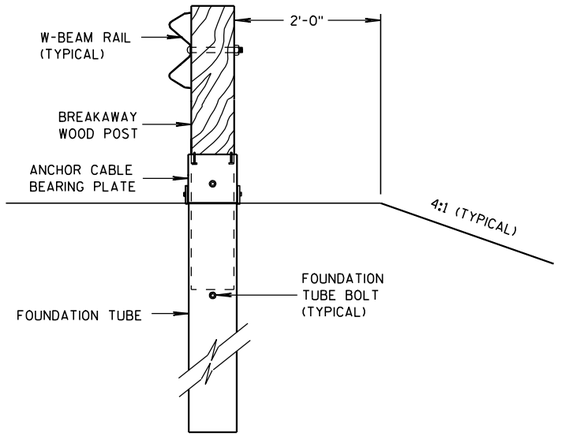
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

POST BOLTS ARE A ⅝" DIAMETER X 10" LONG GUARDRAIL BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER DH MODIFIED (RECESSED) HEAVY HEX NUT AND ⅝" DIAMETER FLAT WASHER.

FOUNDATION TUBE BOLTS ARE A ⅞" DIAMETER X 7½" LONG HEAVY HEX HEAD BOLT. A FOUNDATION TUBE BOLT REQUIRES A ⅞" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

GROUND STRUT BOLTS ARE A ⅝" DIAMETER X 10" LONG HEAVY HEX HEAD BOLT. A GROUND STRUT BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

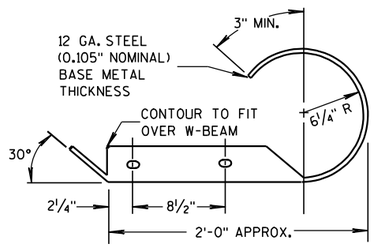
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

END SECTION BOLTS ARE A ⅝" DIAMETER X 1½" HEAVY HEX HEAD BOLT. AN END SECTION BOLT REQUIRES ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

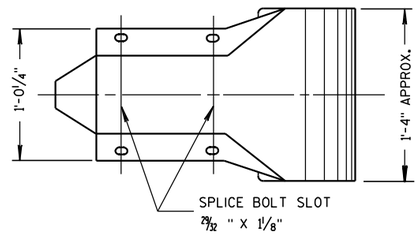
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

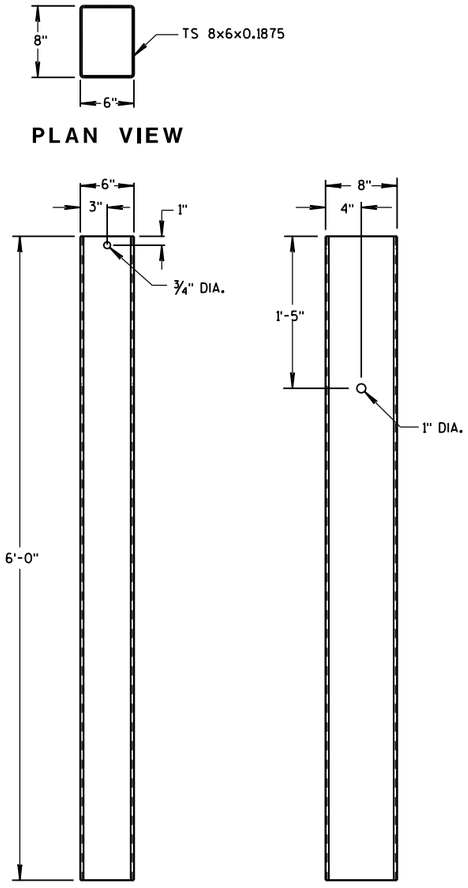
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

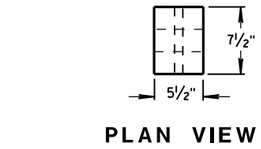
S.D.D. 14 B 47-1a

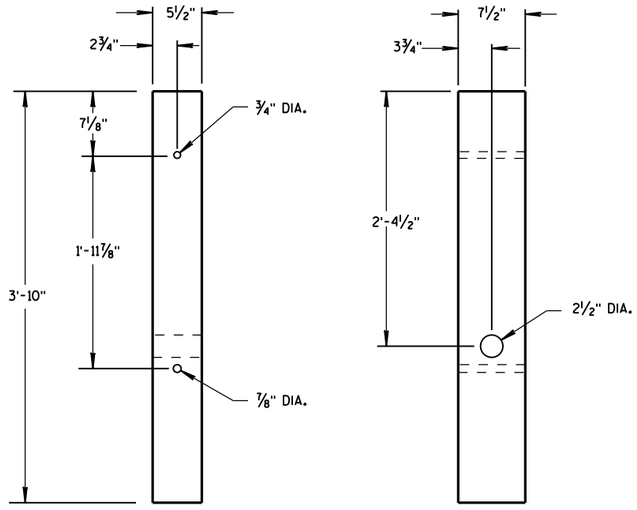
6

S.D.D. 14 B 47-1a



FOUNDATION TUBE



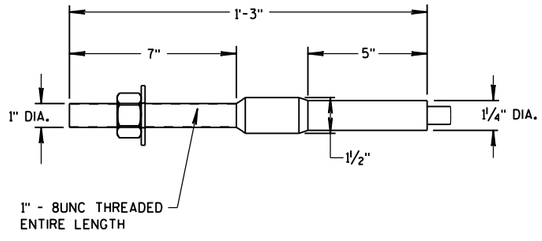


BREAKAWAY WOOD POST

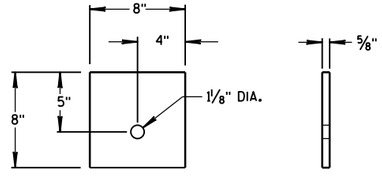
GENERAL NOTES

BCT ANCHOR CABLE IS A ⅜" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. THE END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. THE TREADED STUD SHOULD CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

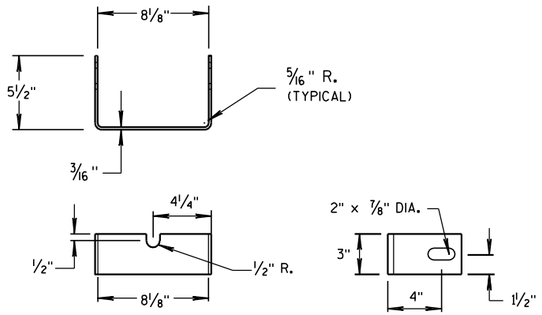
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

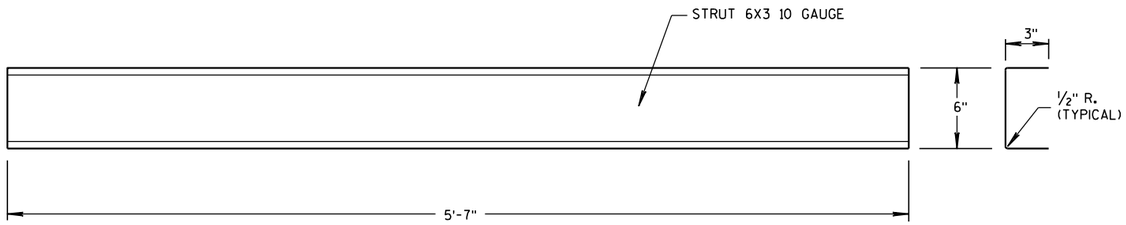
S.D.D. 14 B 47-1b

6

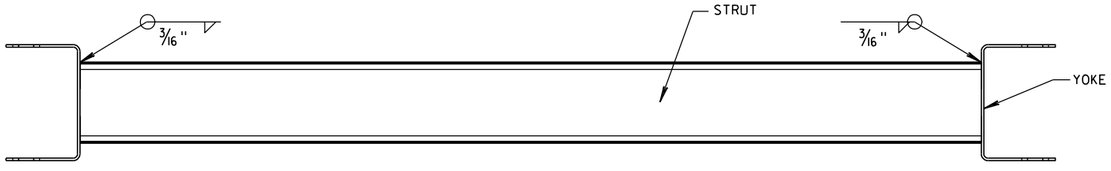
S.D.D. 14 B 47-1b



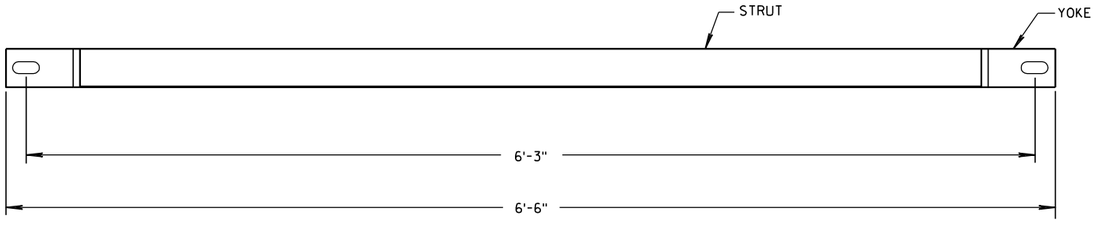
YOKE DETAIL



STRUT DETAIL

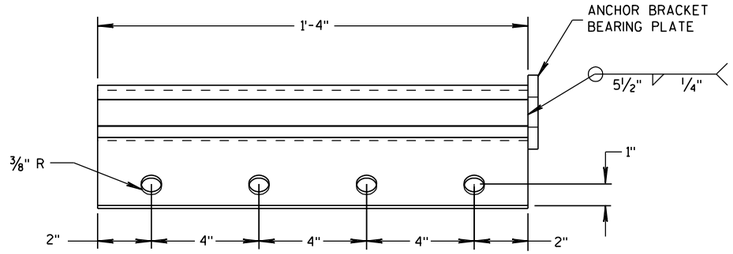


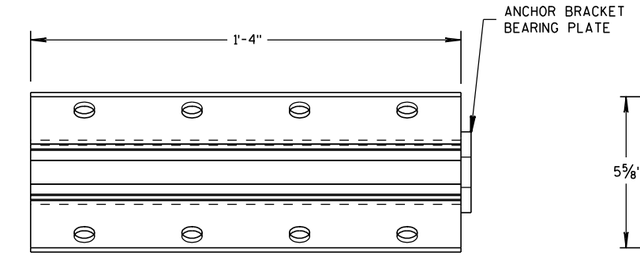
PLAN VIEW

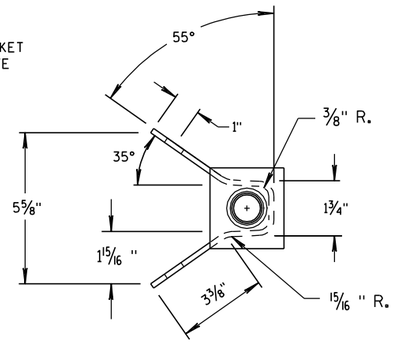


FRONT VIEW

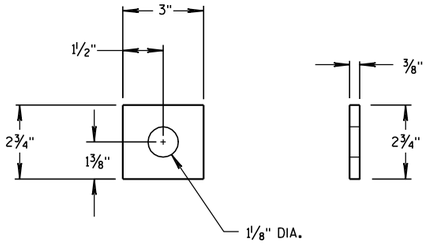
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

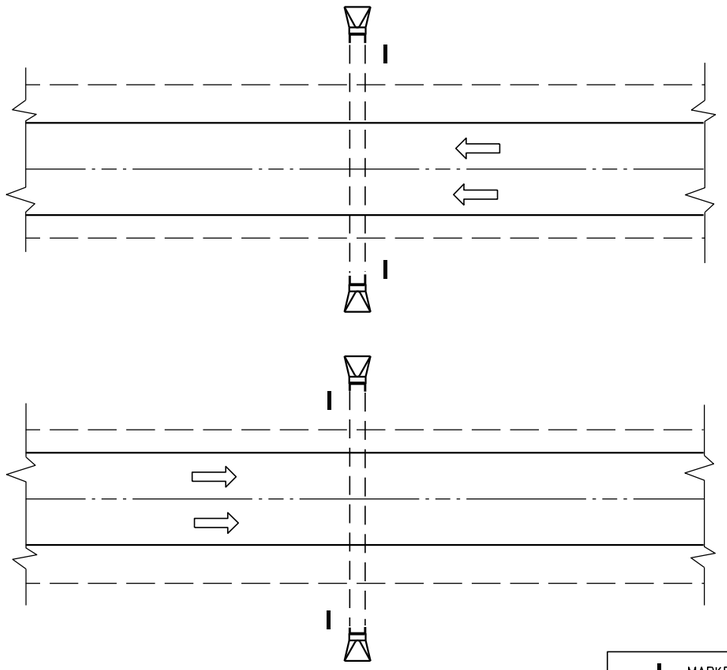
FHWA

6

S.D.D. 14 B 47-1c

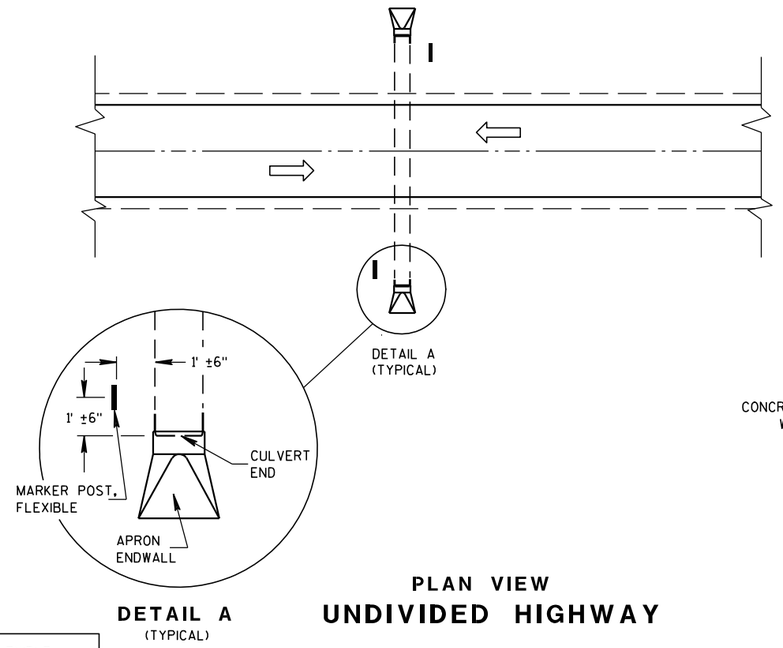
GENERAL NOTES

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

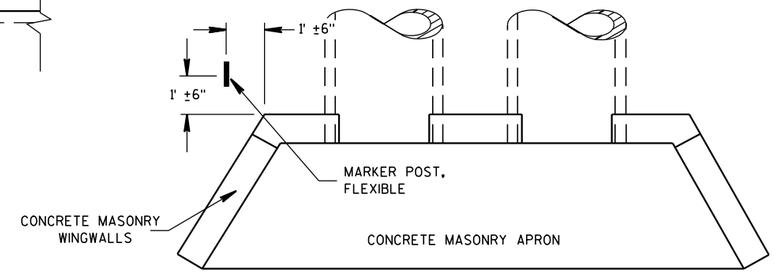
DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

UNDIVIDED HIGHWAY



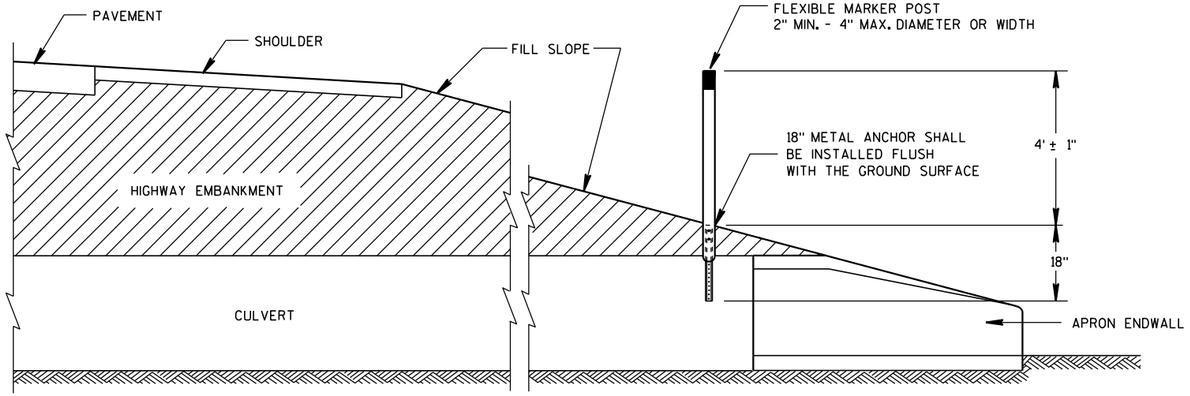
PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

MARKER POST, FLEXIBLE

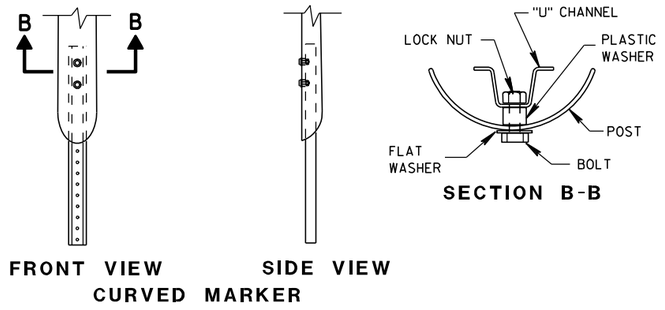
DIRECTION OF TRAFFIC FLOW

FLEXIBLE MARKER POST LOCATION

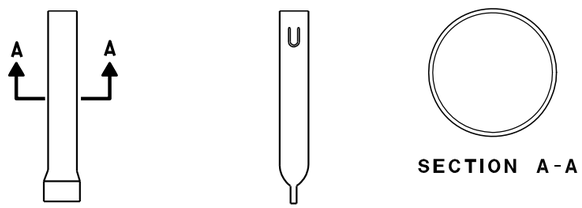


CROSS SECTION

FLEXIBLE MARKER POST

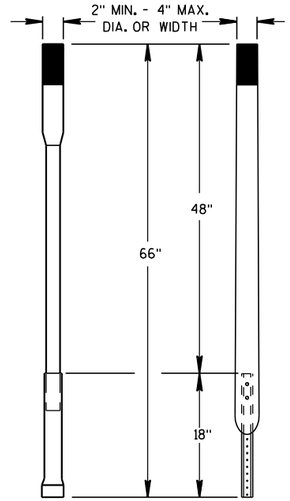


FRONT VIEW SIDE VIEW
CURVED MARKER



FRONT VIEW SIDE VIEW
ROUND MARKER

FLEXIBLE MARKER POST ANCHORS



ALTERNATE 1 ALTERNATE 2

FLEXIBLE MARKER POST

MARKER POST, FLEXIBLE, FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/1/98
DATE

/S/ Rory L. Rhinesmith
CHEIF ROADWAY DEVELOPMENT ENGINEER

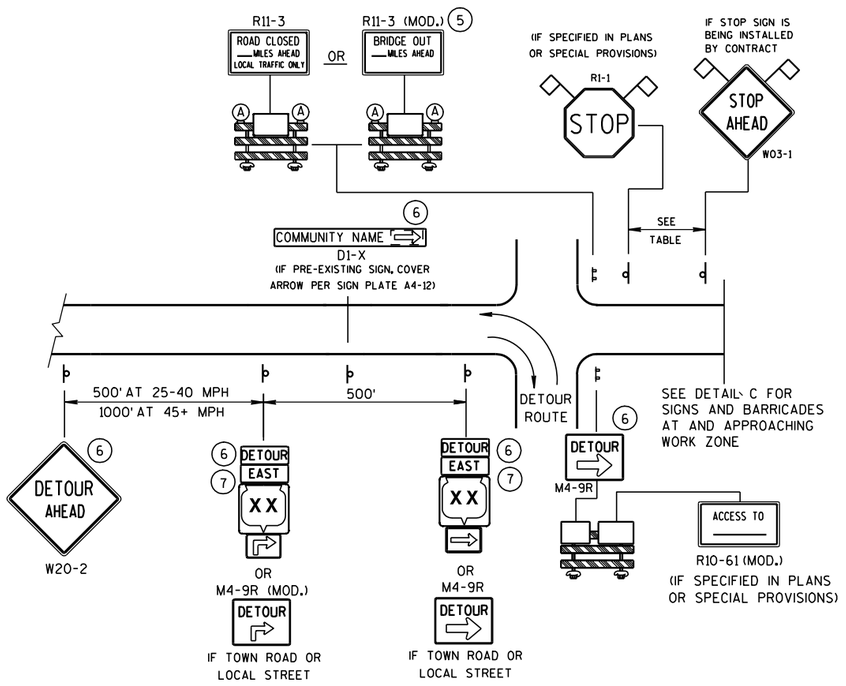
FHWA

6

S.D.D. 15 A 3-1

6

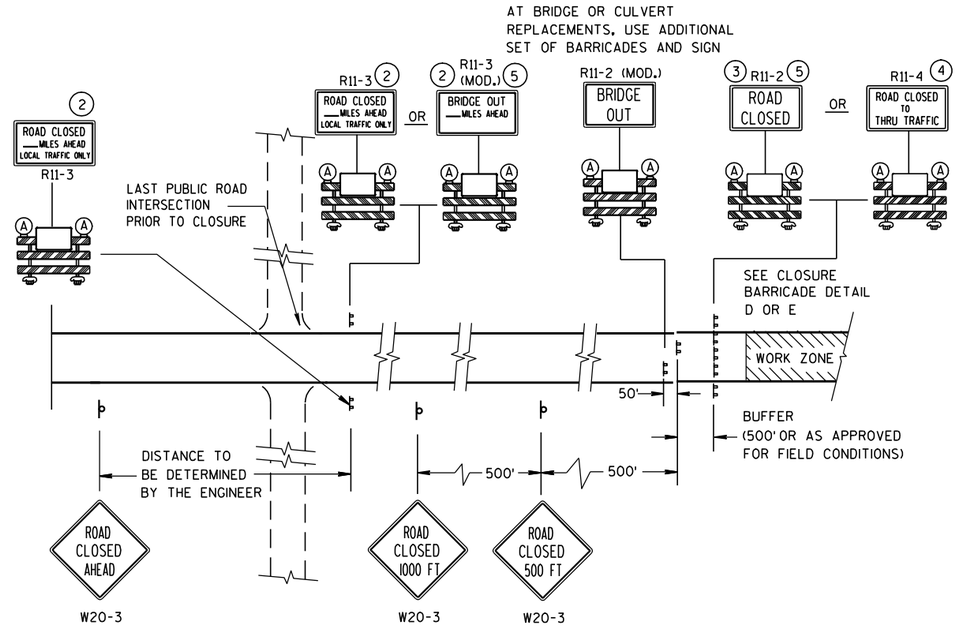
S.D.D. 15 A 3-1



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

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

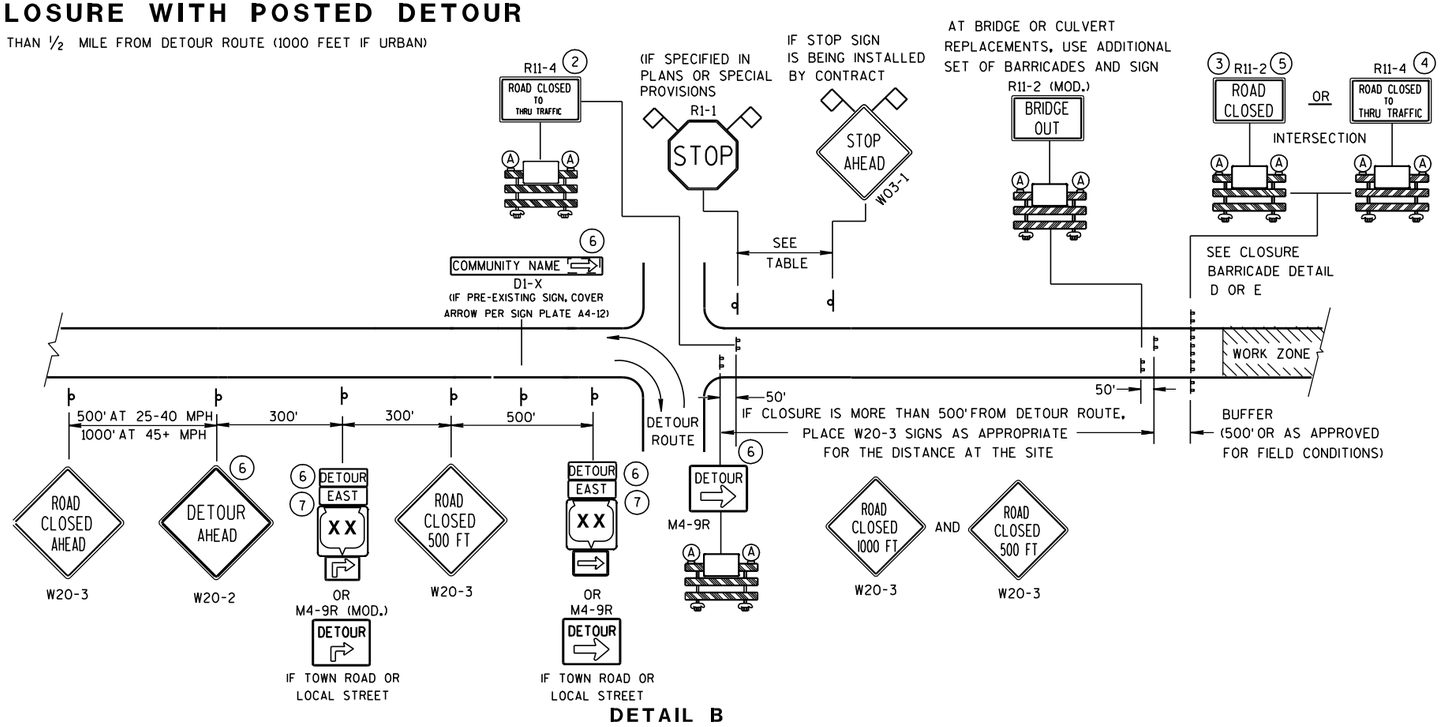


DETAIL C

MAINLINE CLOSURE, NO POSTED DETOUR

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

SEE SDD 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

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

LEGEND

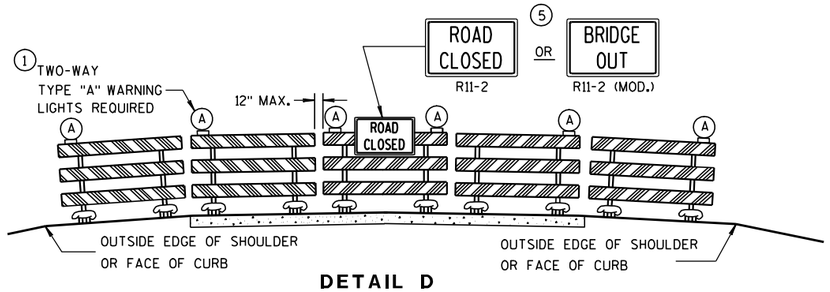
- POST MOUNTED SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1; M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

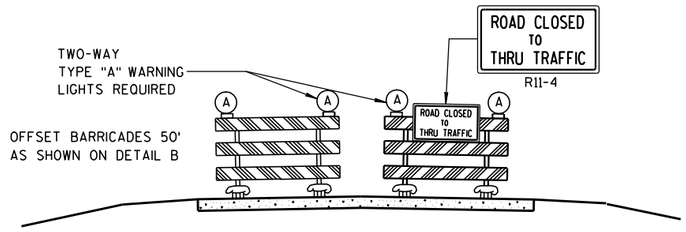
S.D.D. 15 C 2-4a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/16/03
DATE

/S/ Thomas N. N[illegible]
CHIEF SIGNS AND MARKING ENGINEER

FHWA

6

S.D.D. 15 C 2-4b

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

GENERAL NOTES

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

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

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

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

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

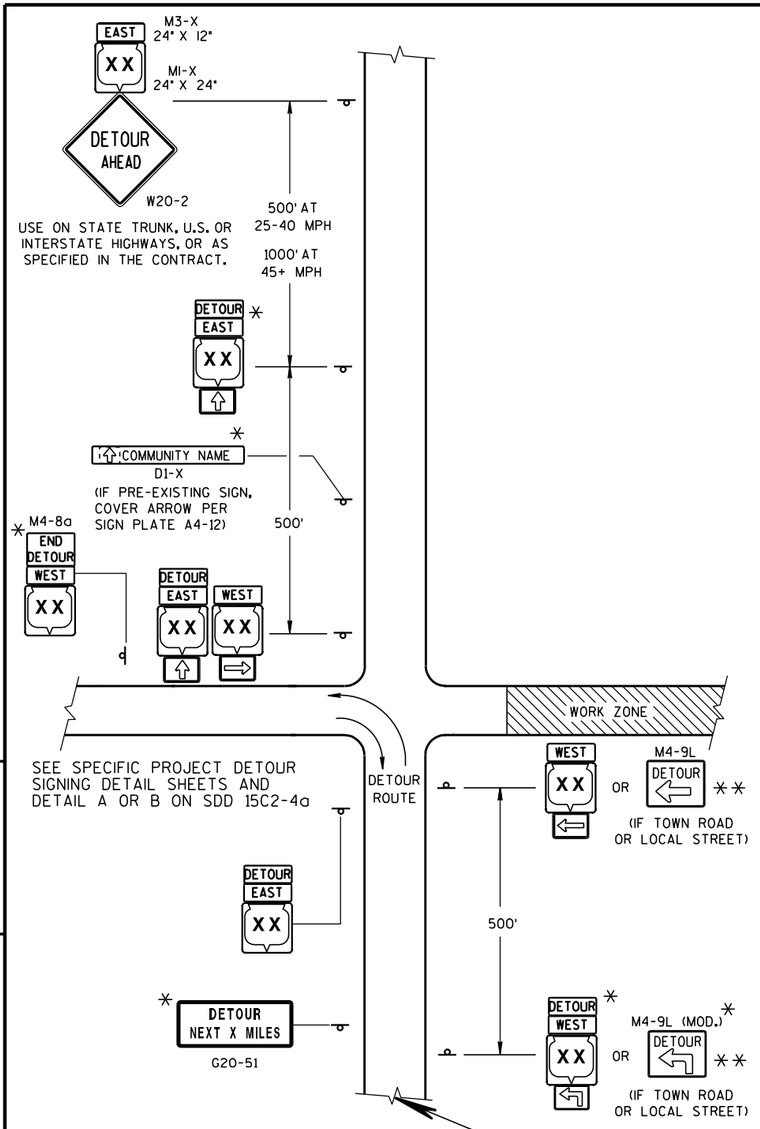
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

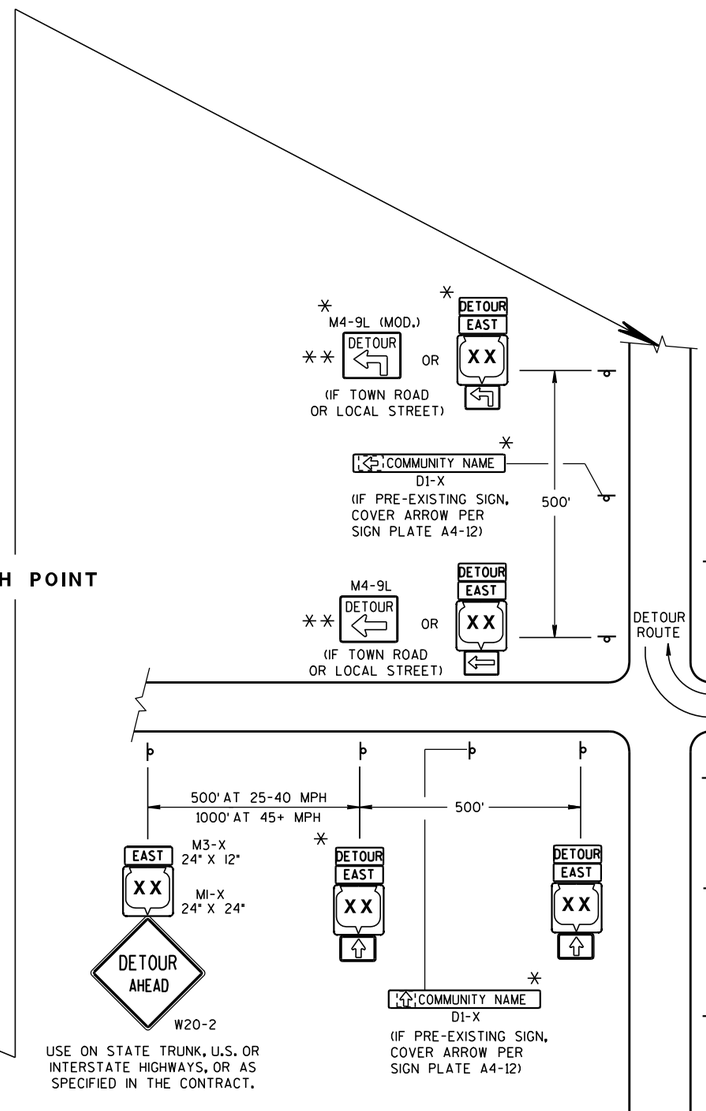
SIGN SIZES SHALL BE AS FOLLOWS:

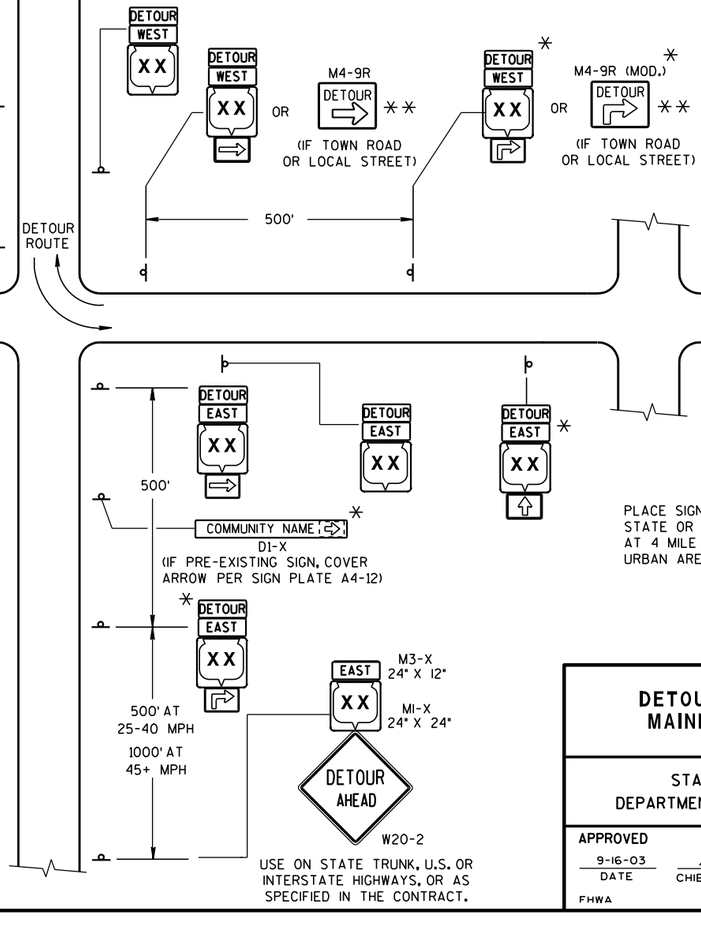
M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
M4-9 SHALL BE 30" X 24".
M4-8a SHALL BE 24" X 18".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

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

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







LEGEND

- POST MOUNTED SIGN
- WORK ZONE
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- MO5-1 OR MO6-1 OR MO6-1

DETAIL F

DETOUR SIGNING

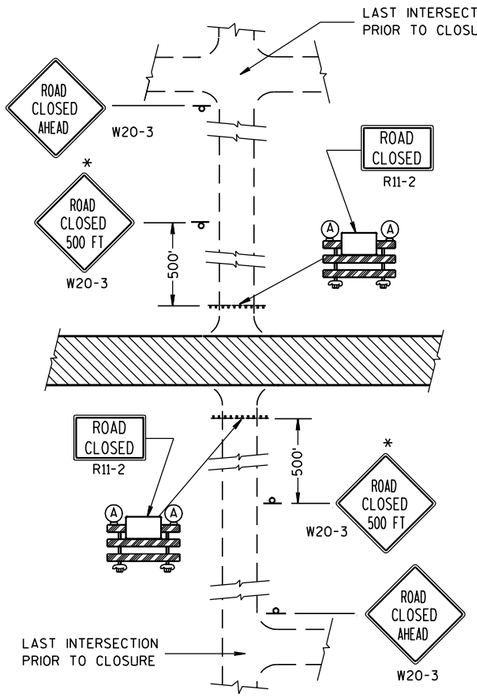
DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-16-03 DATE
/S/ Thomas N. [illegible] CHIEF SIGNS AND MAR 250 INEER
FHWA

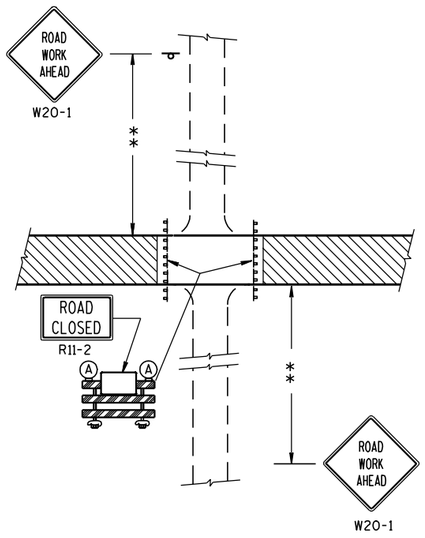
6

S.D.D. 15 C 2-4c



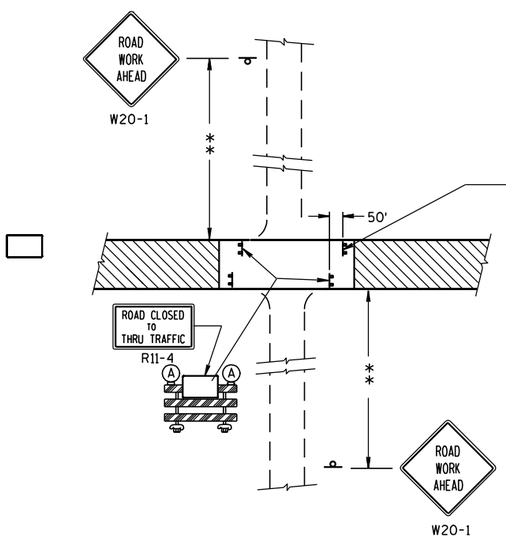
DETAIL 1

(NO ACCESS TO PROJECT)



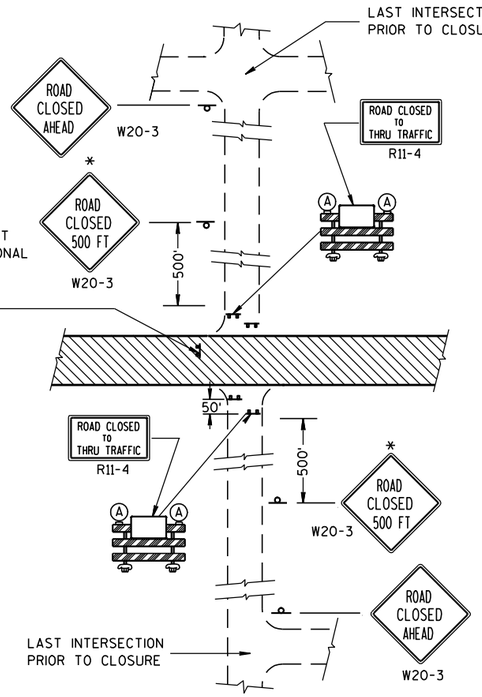
DETAIL 2

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



DETAIL 3

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



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

LEGEND

- POST MOUNTED WARNING SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

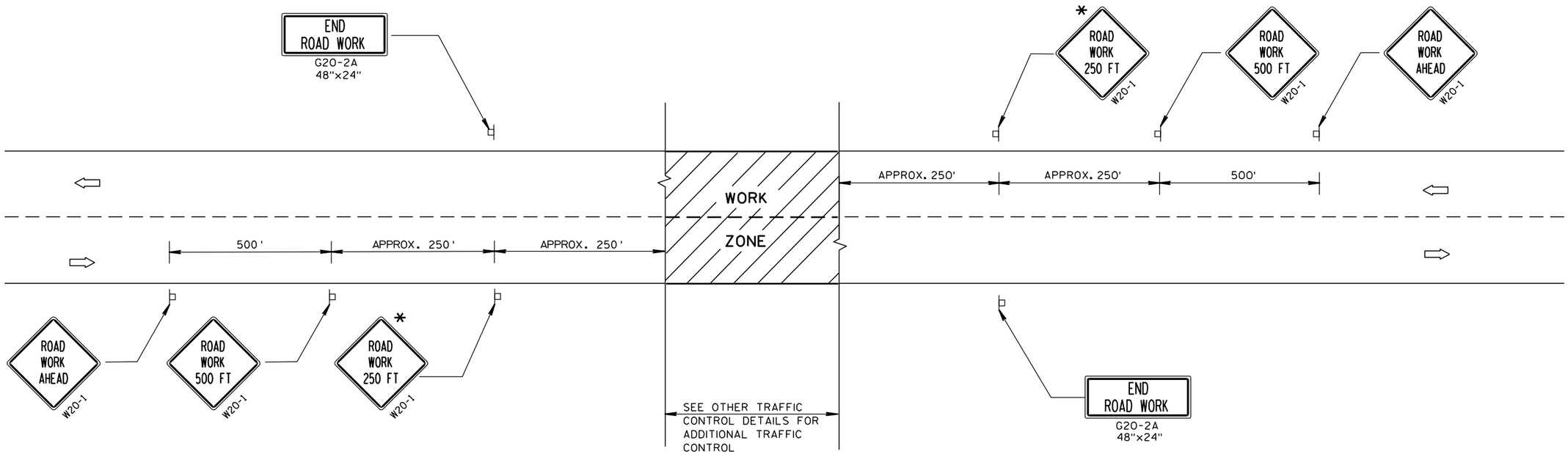
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

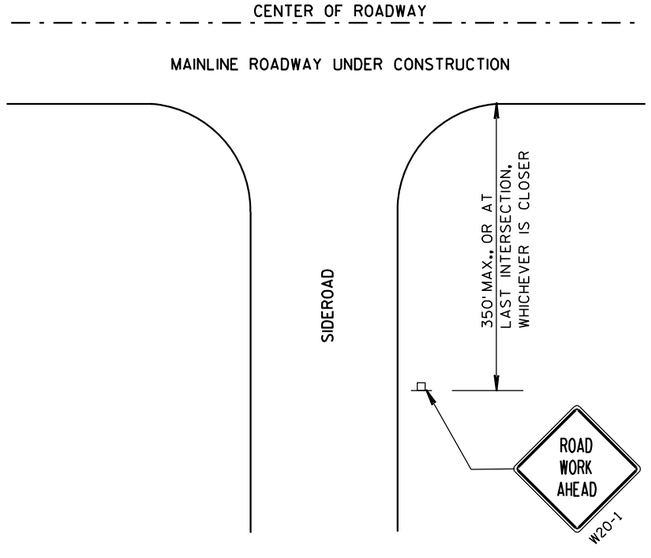
9-16-03 DATE

/S/ Thomas N. N[illegible] CHIEF SIGNS AND MAR[illegible] ENGINEER

FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

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

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

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

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

LEGEND

POST MOUNTED SIGN

DIRECTION OF TRAFFIC FLOW

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/00
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKING ENGINEER

FHWA

6

S.D.D. 15 C 5-1

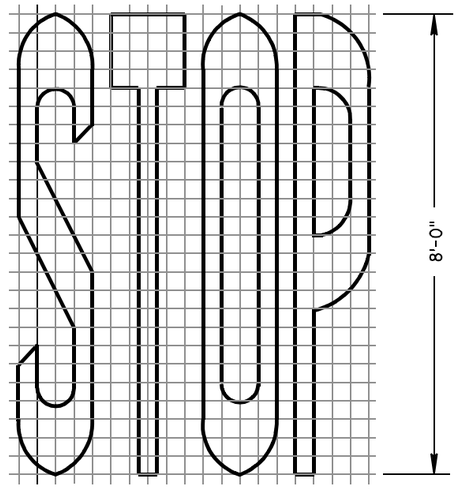
6

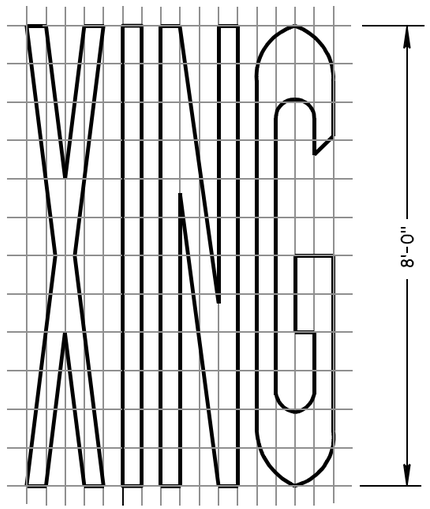
S.D.D. 15 C 5-1

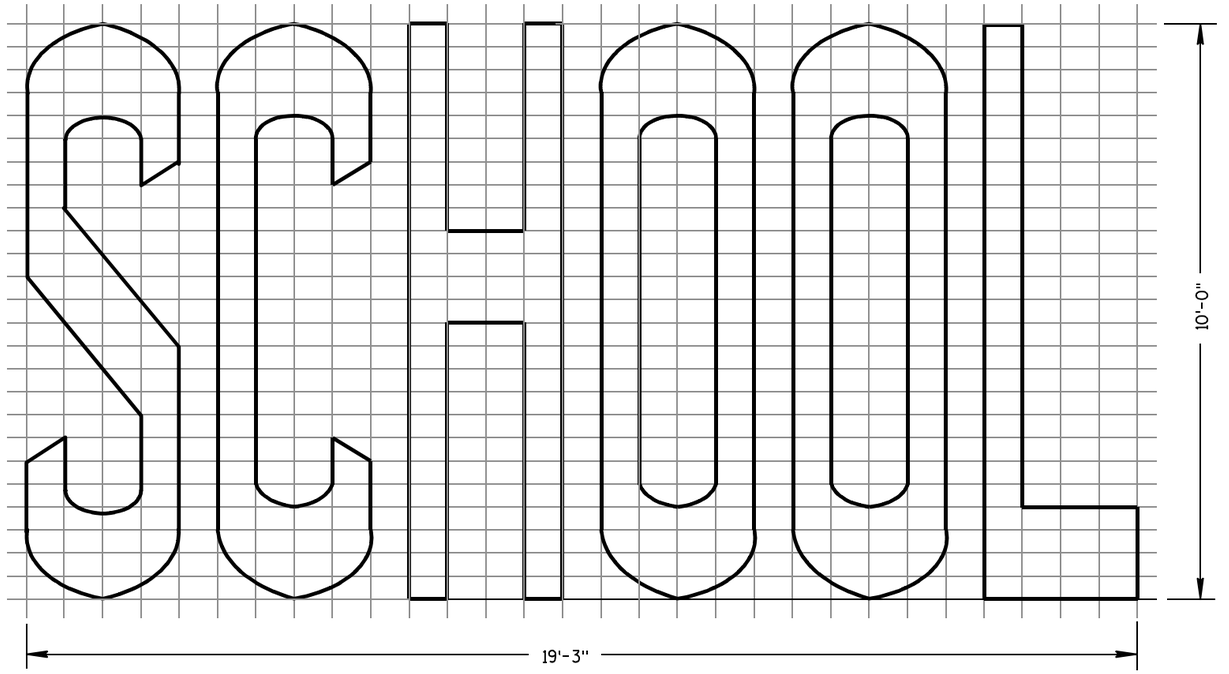
GENERAL NOTES

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

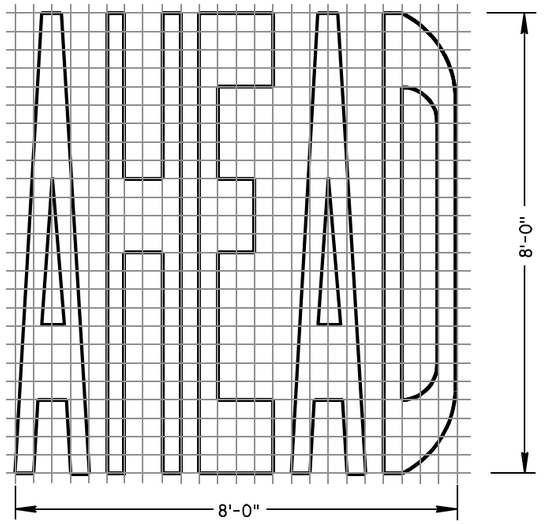
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

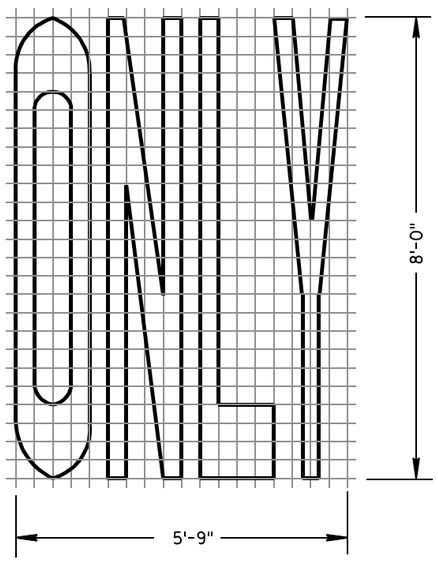


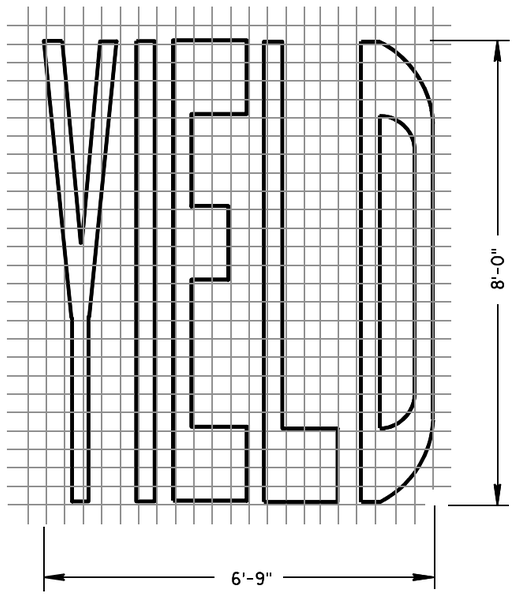


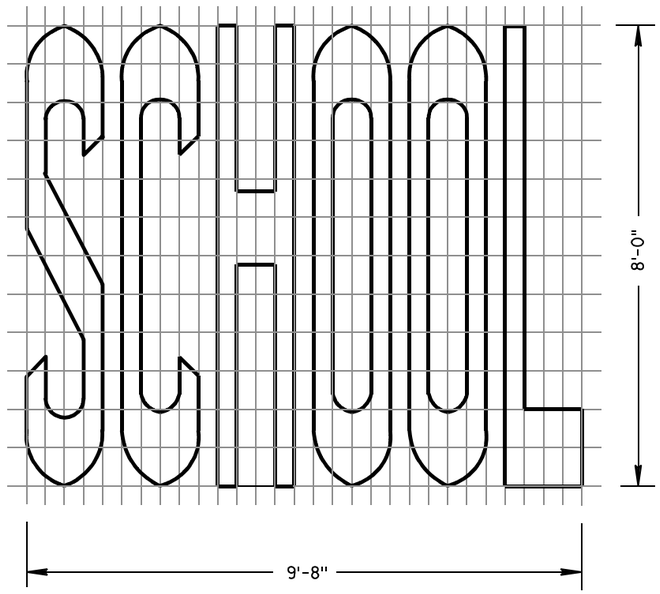


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER — IGN

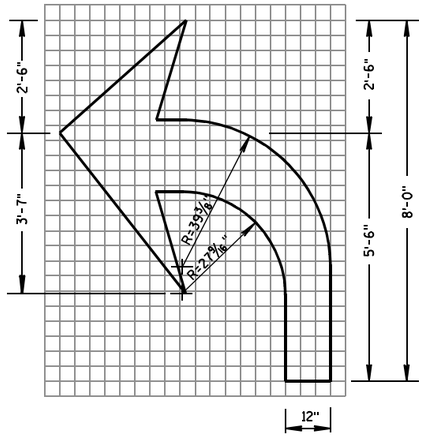
FHWA

6

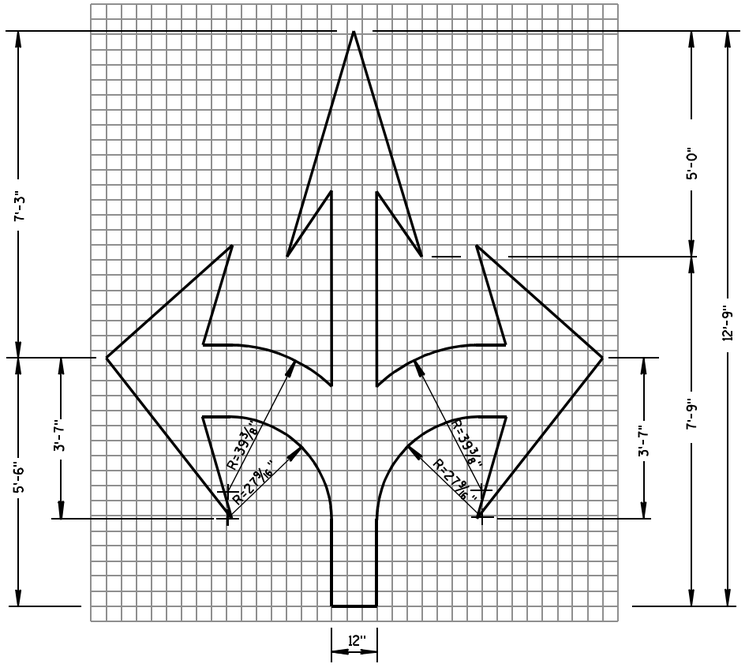
S.D.D. 15 C 7-12b

6

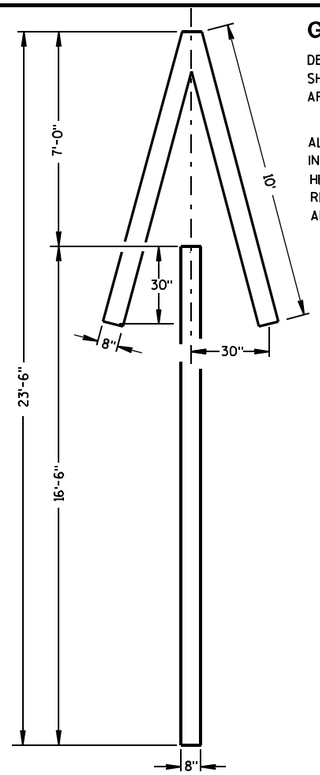
S.D.D. 15 C 7-12b



TYPE 2



TYPE 6

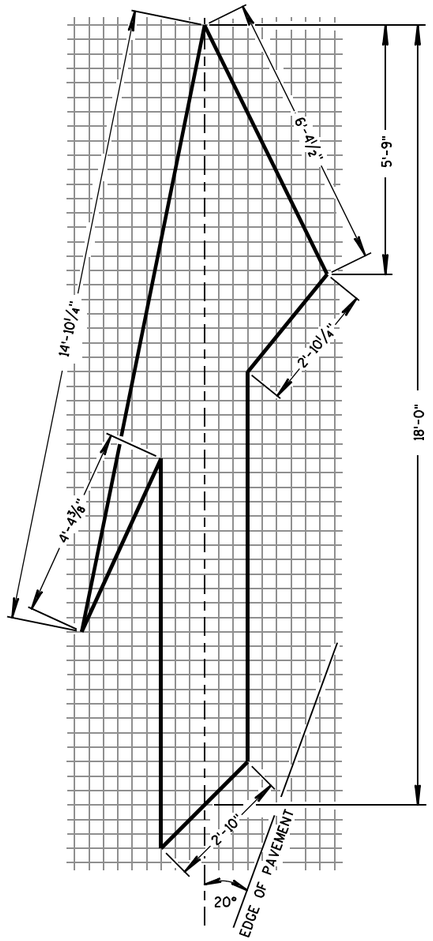


TYPE 4

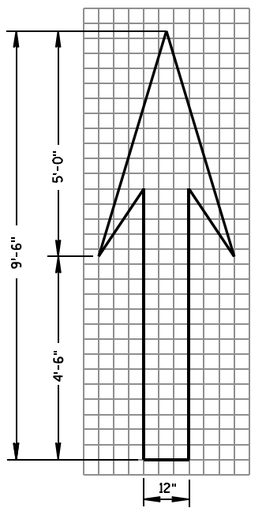
GENERAL NOTES

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

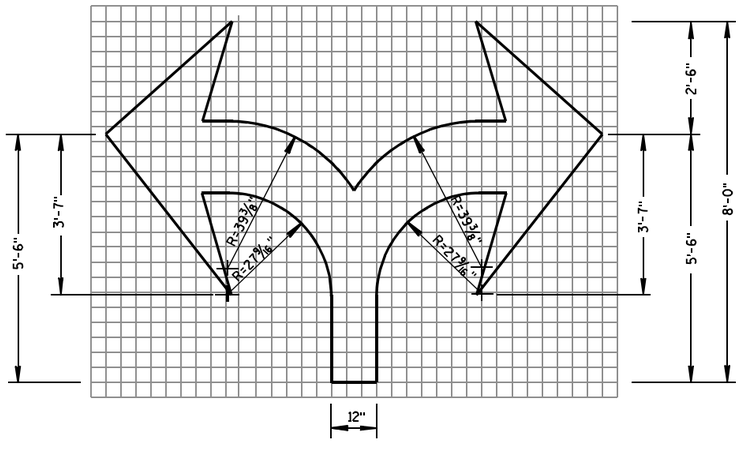
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



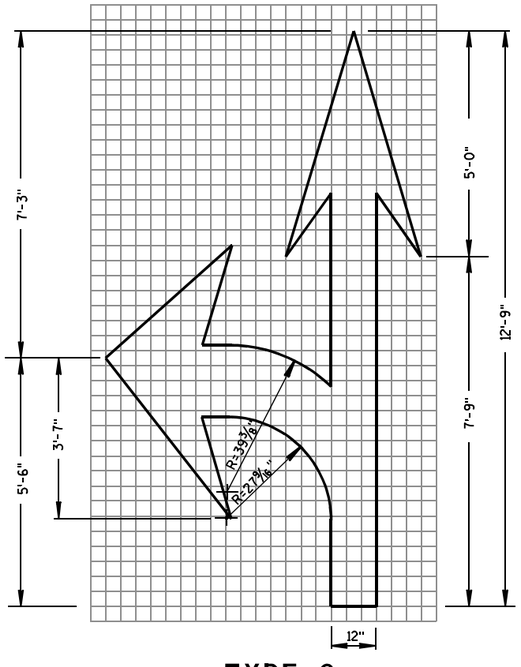
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

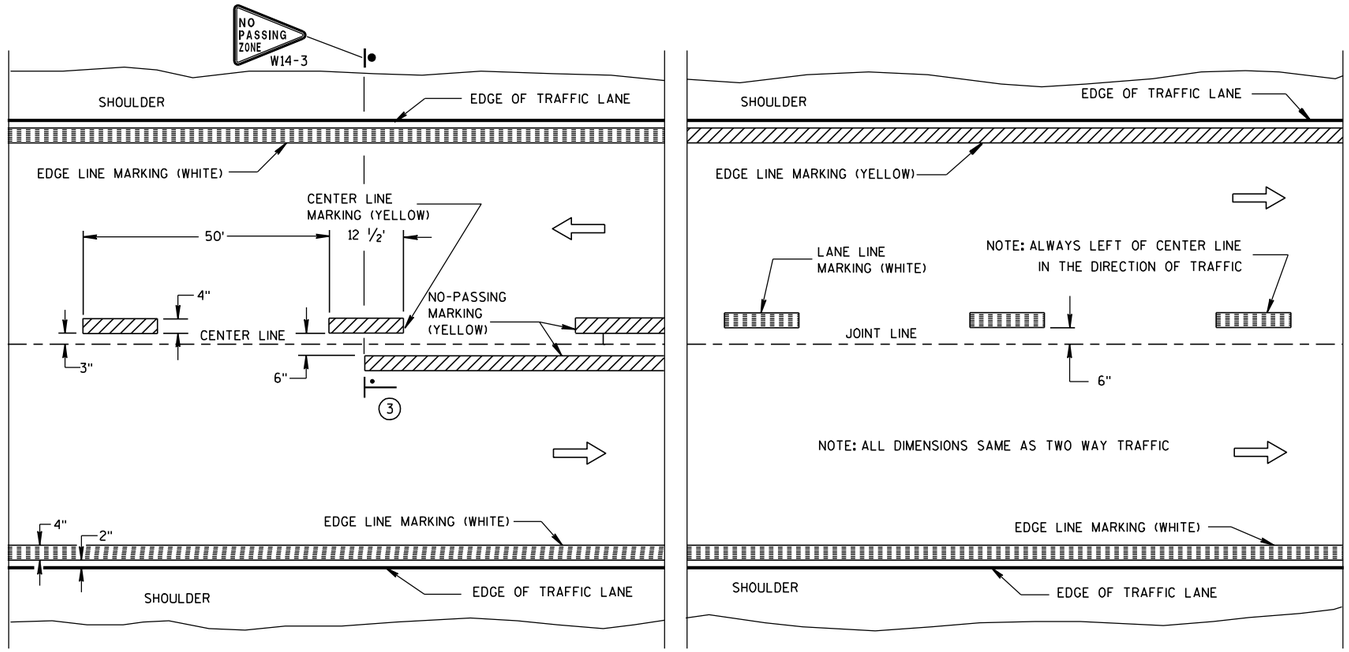
FHWA

6

S.D.D. 15 C 7-12c

6

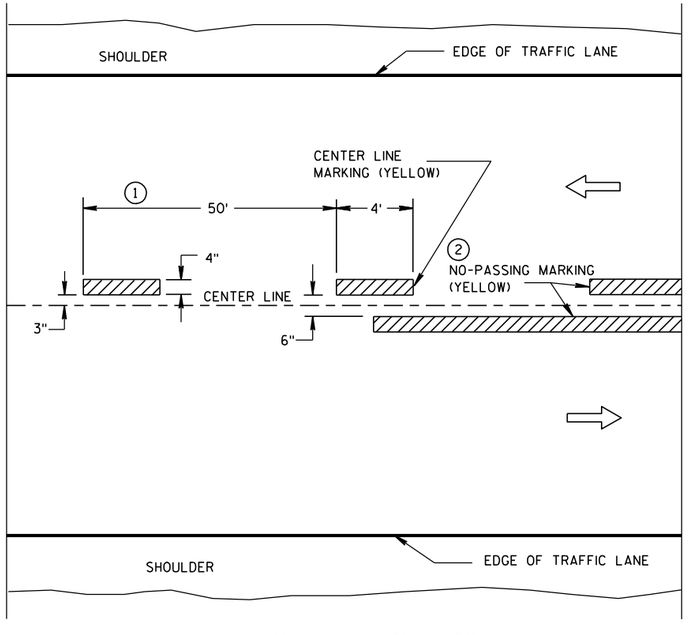
S.D.D. 15 C 7-12c



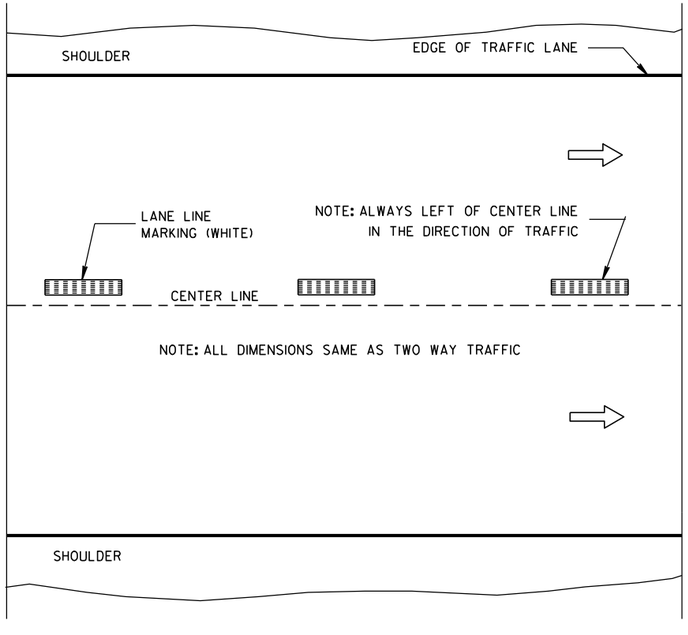
TWO WAY TRAFFIC

ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

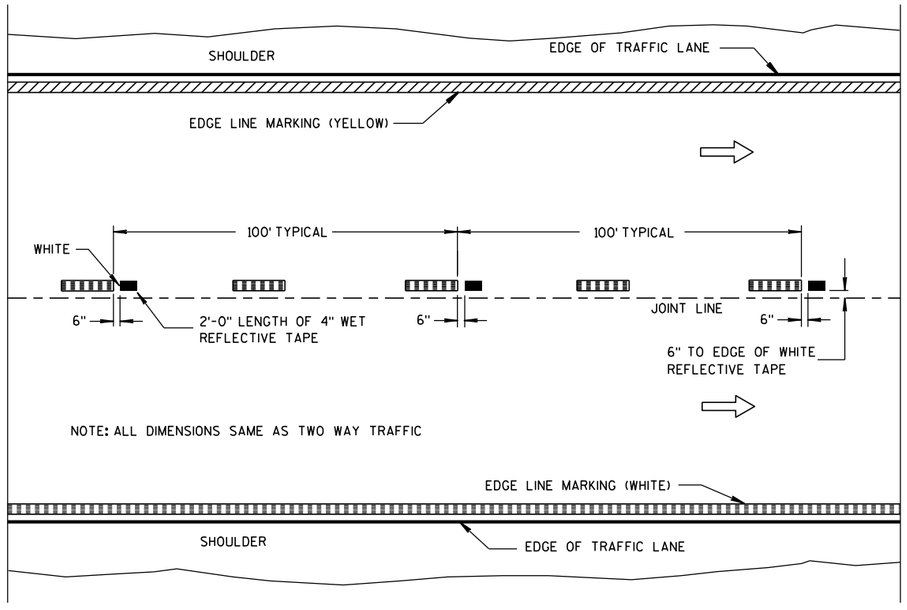
GENERAL NOTES

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

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

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

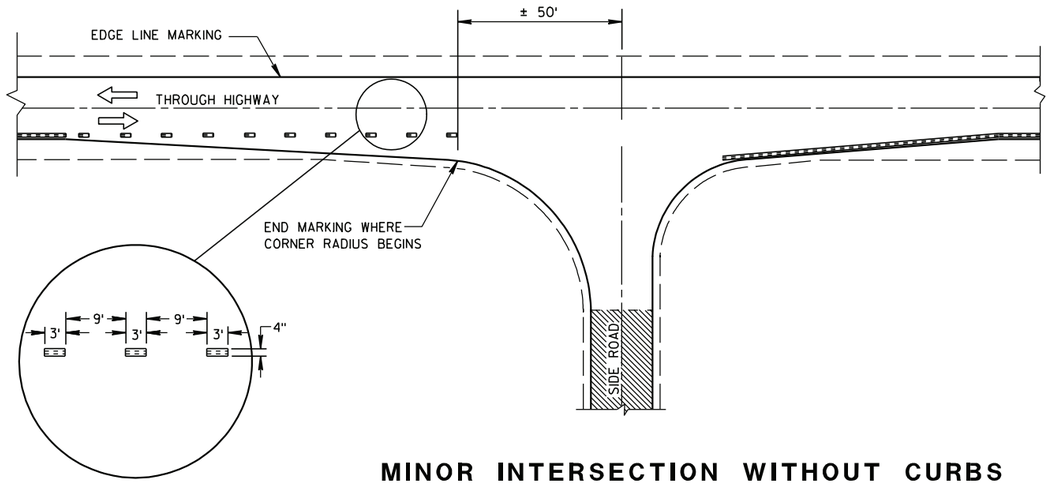
APPROVED
6-23-11 DATE
/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER 255 DESIGN
FHWA

6

S.D.D. 15 C 8-14a

6

S.D.D. 15 C 8-14a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

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

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

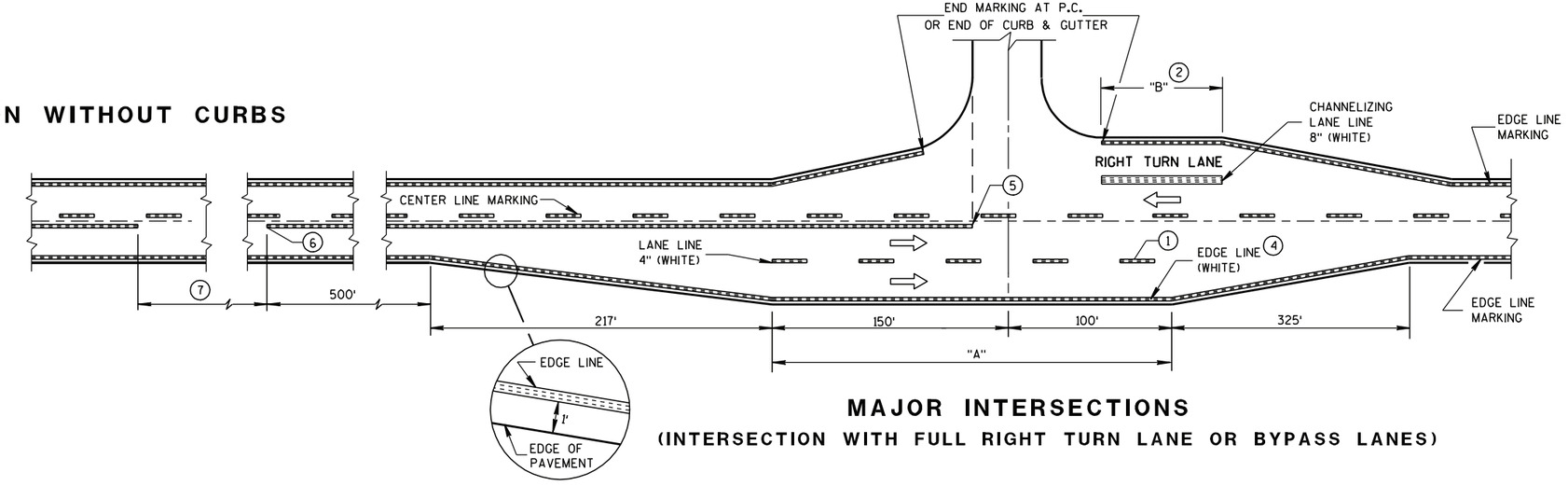
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

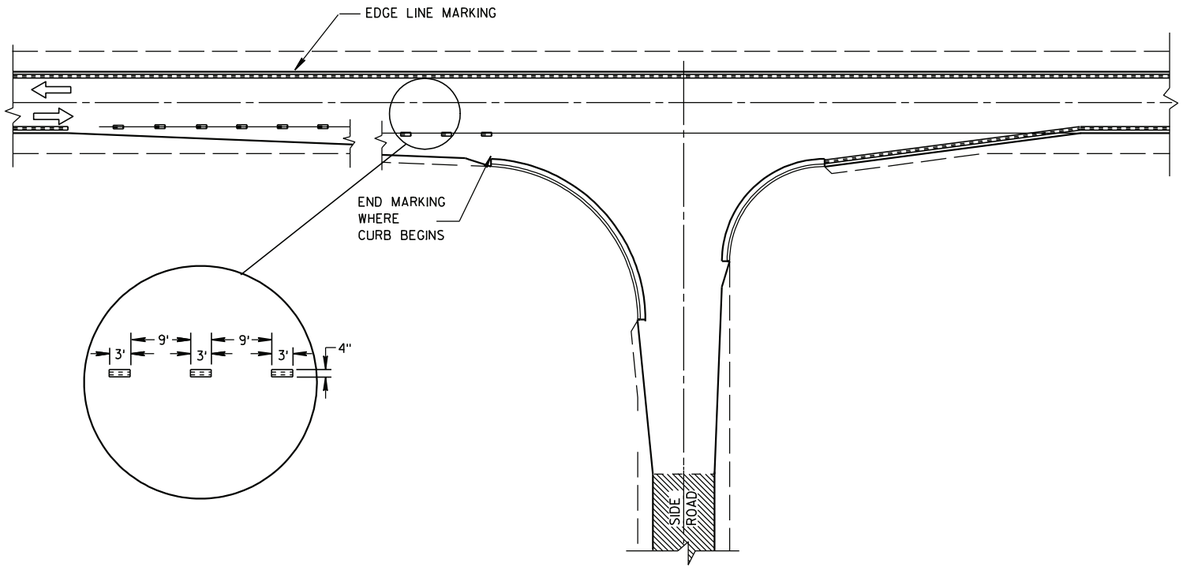
ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

(7)

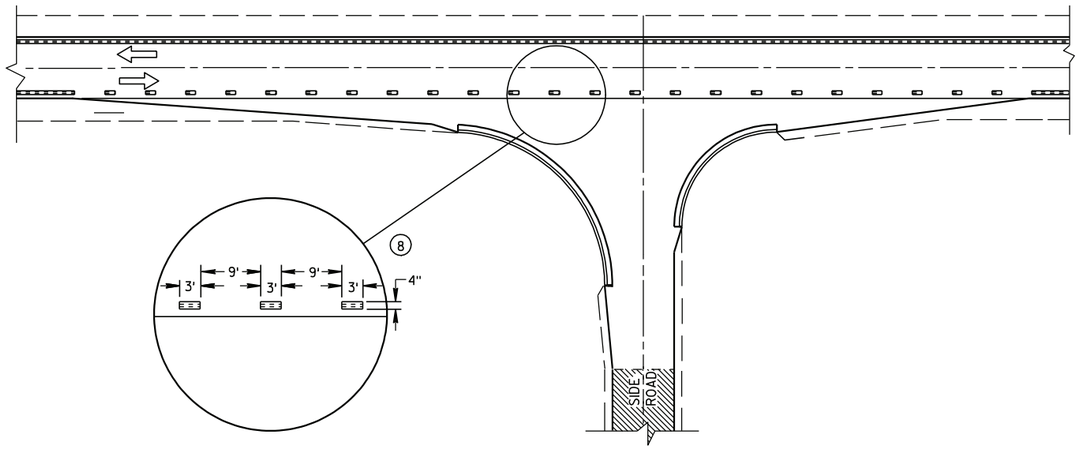
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING (INTERSECTIONS)

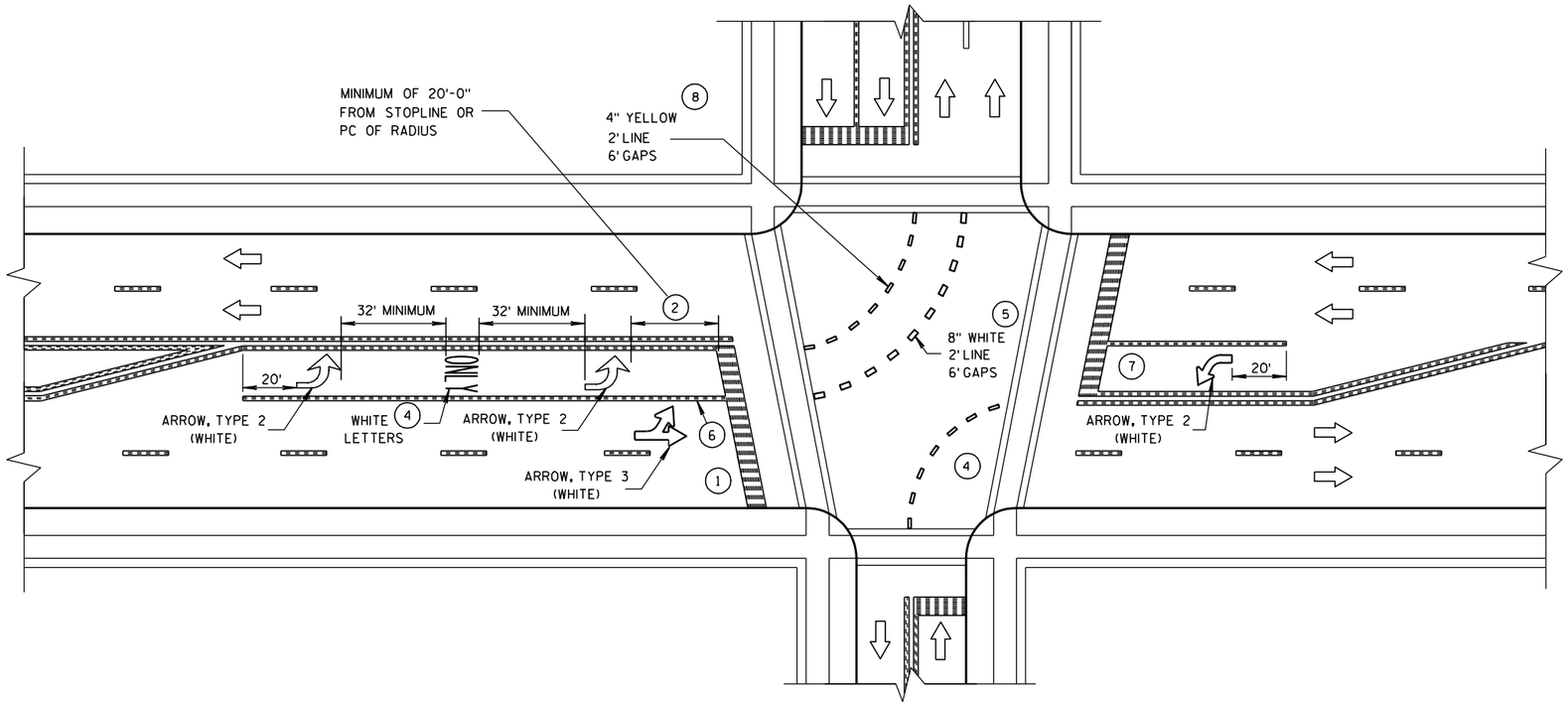
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 15 C 8-14b

6

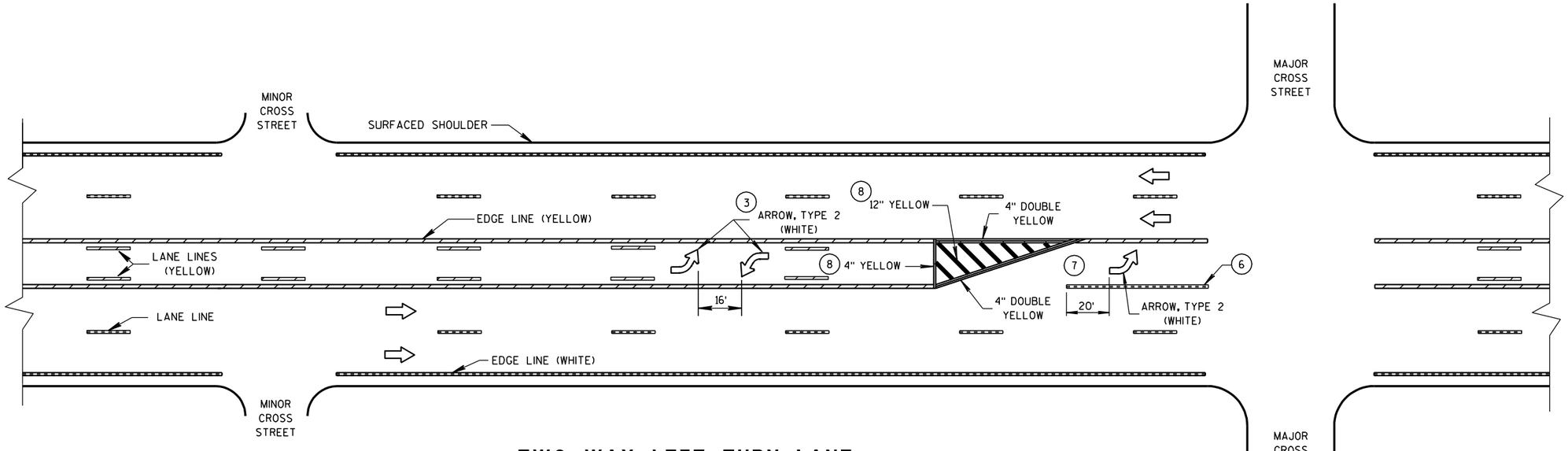
S.D.D. 15 C 8-14b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400' OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA ARROW AND ONLY PER 160' OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108'.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(LEFT TURN LANE)

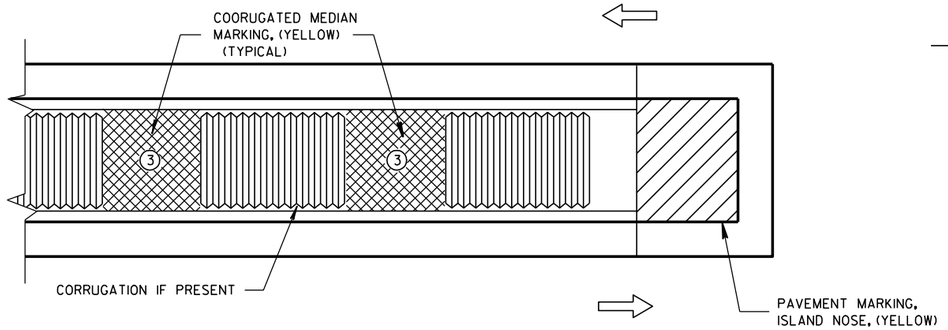
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

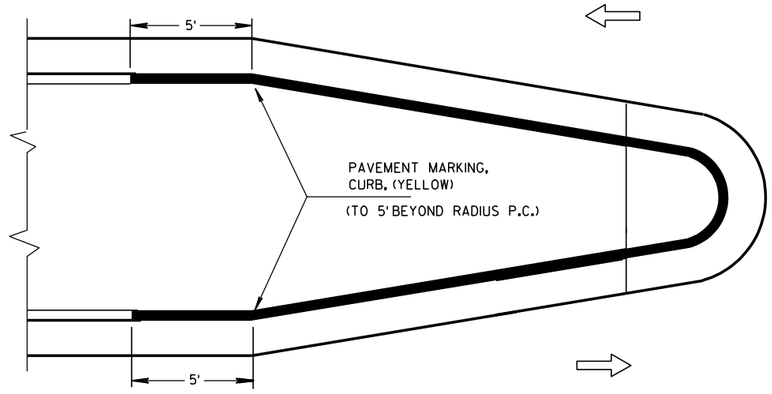
S.D.D. 15 C 8-14e

6

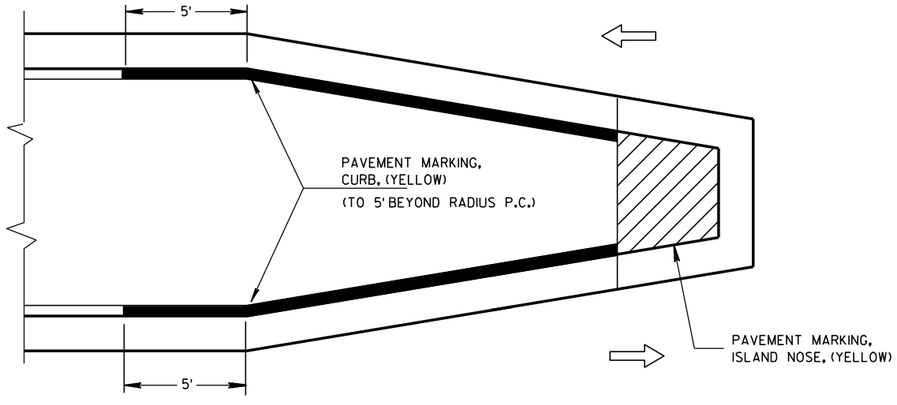
S.D.D. 15 C 8-14e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

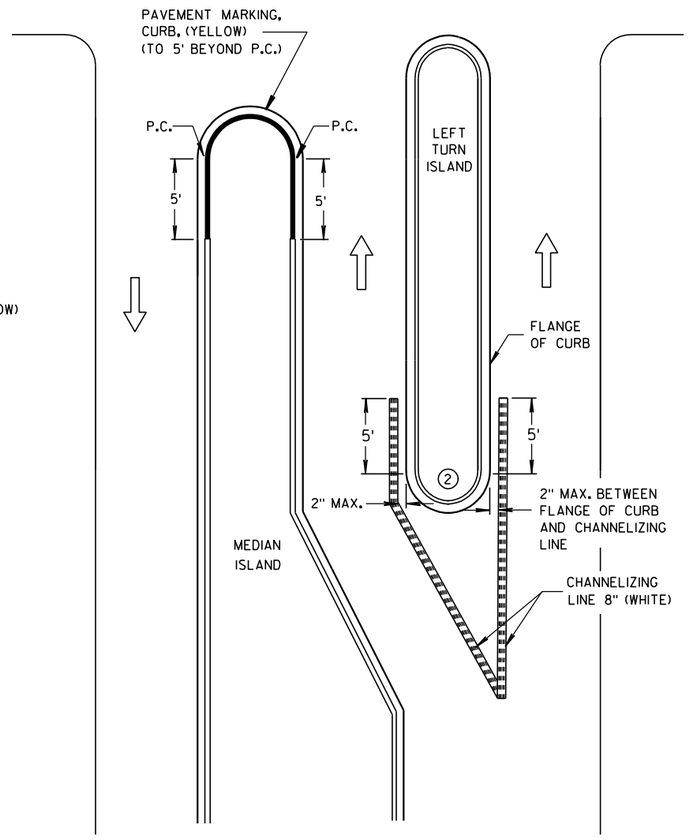


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

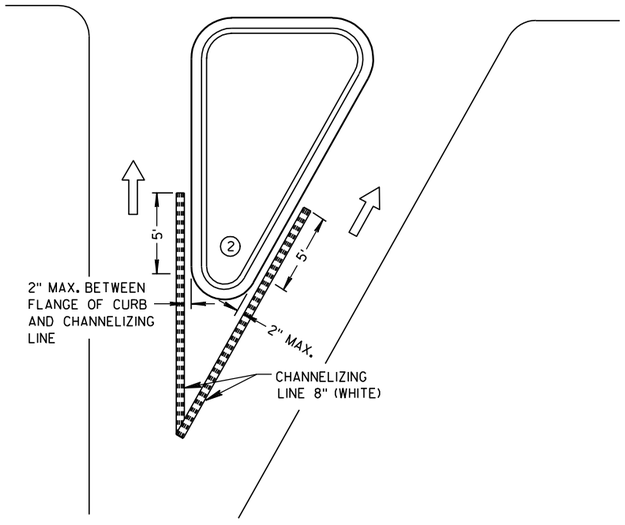
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



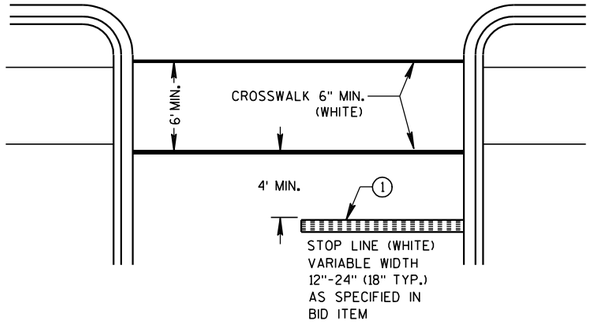
LEFT TURN & MEDIAN ISLAND

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 AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND



STOP LINE AND CROSSWALK

LEGEND

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

PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)

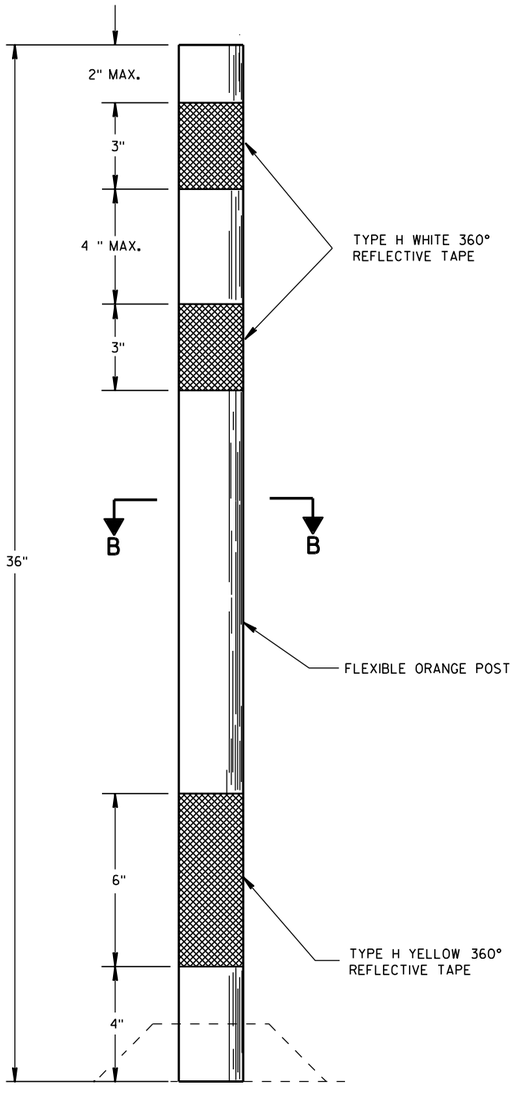
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

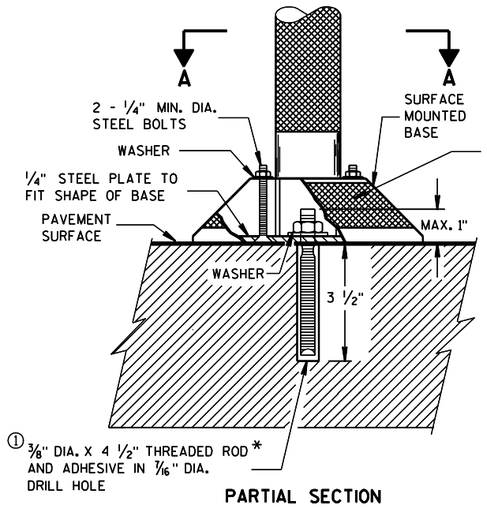
S.D.D. 15 C 8-14f

6

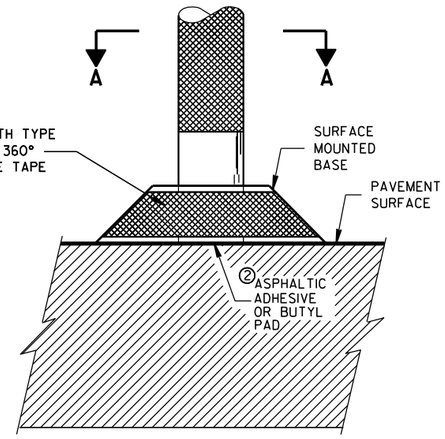
S.D.D. 15 C 8-14f



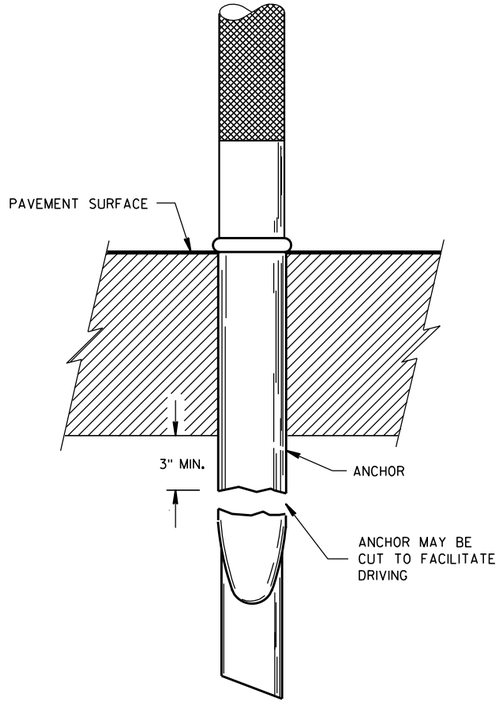
FLEXIBLE TUBULAR MARKER POST

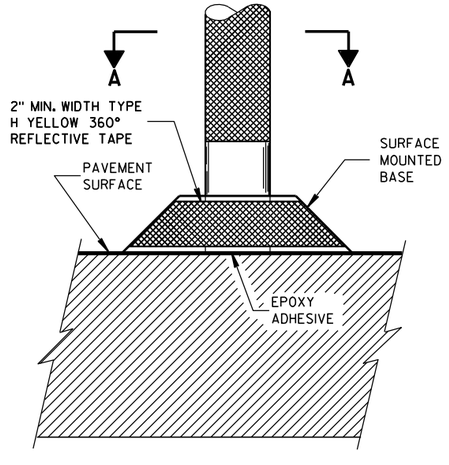


PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

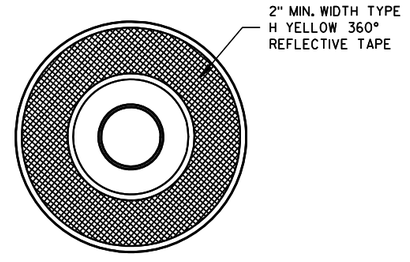
GENERAL NOTES

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.

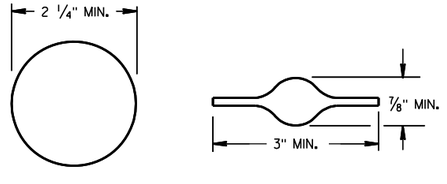
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94 DATE

/S/ Chester J. [illegible] DIRECTOR, OFFICE O

FHWA

6

S.D.D. 15 C 11-5

6

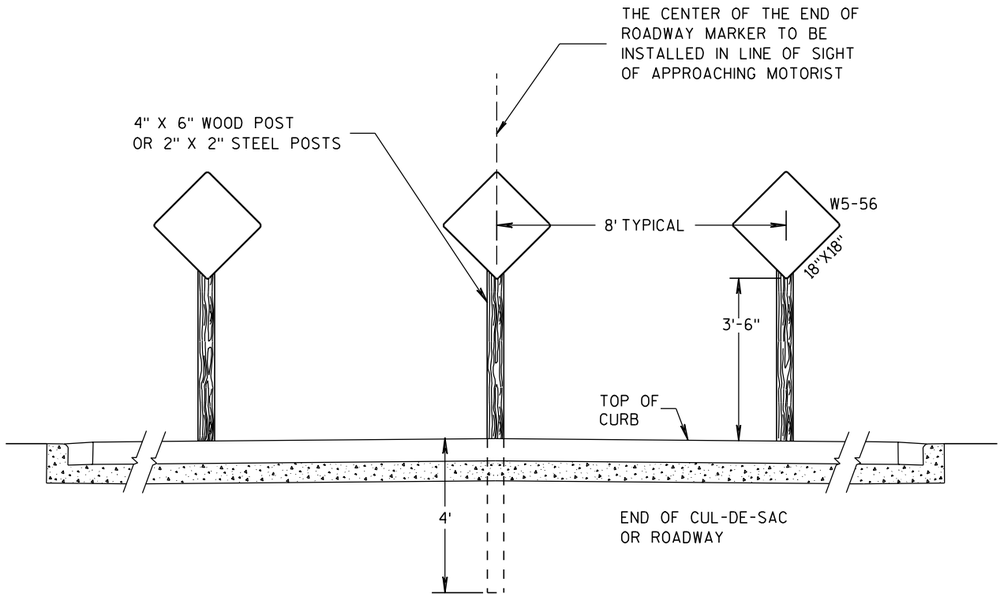
S.D.D. 15 C 11-5

GENERAL NOTES

SIGN LOCATIONS SHOWN ARE TYPICAL PLACEMENT AND MAY BE ADJUSTED BY THE ENGINEER AS FIELD CONDITIONS DICTATE.

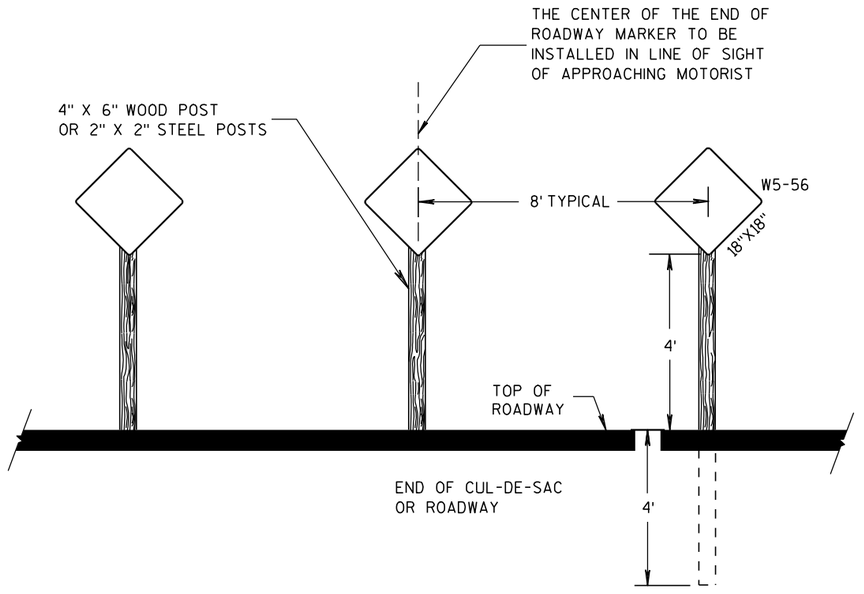
THE MINIMUM NUMBER OF END-OF-ROADWAY SIGNS ARE THREE (AS SHOWN). ADDITIONAL END-OF-ROADWAY SIGNS MAY BE INSTALLED AS FIELD CONDITIONS DICTATE. (SEE SIGNING PLAN).

WHEN BEAMGUARD IS REQUIRED, PLACE END-OF-ROADWAY SIGNING BEHIND BEAMGUARD.



TYPICAL URBAN SIGN INSTALLATION

(WITH CURB & GUTTER)



TYPICAL RURAL SIGN INSTALLATION

(WITHOUT CURB & GUTTER)

END-OF-ROADWAY SIGNING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/1/2011 DATE FHWA	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER

6

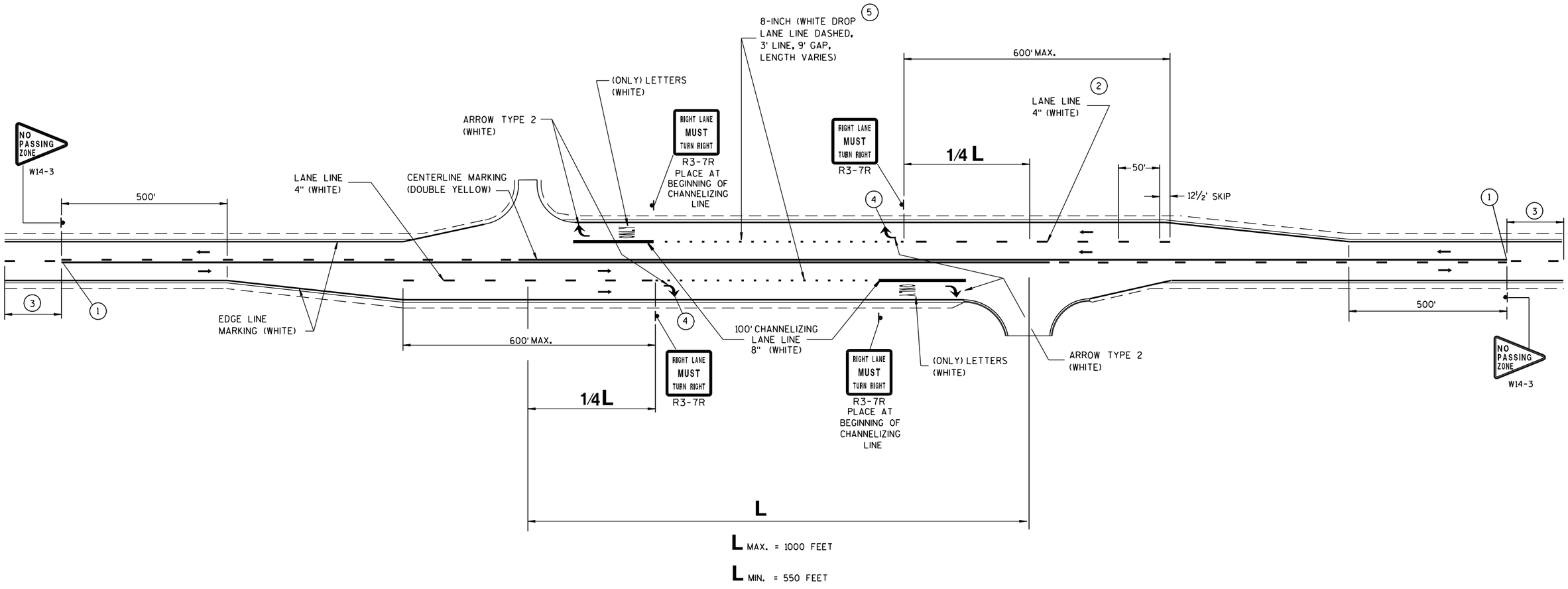
S.D.D. 15 C 26-2

6

S.D.D. 15 C 26-2

GENERAL NOTES

1. BARRIER LINE STARTS AT 500 FEET PRIOR TO THE BYPASS TAPER.
2. PLACE R3-7R SIGNS AT BEGINNING OF WHITE DROP LANE LINE DASHED AND WHITE CHANNEL LINE.
3. IF THE DISTANCE BETWEEN TWO SUCCESSIVE NO PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE TWO ZONES.
4. REQUIRED ONLY WHEN SPECIFIED IN THE PLANS.
5. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.



LEGEND

⇄ DIRECTION OF TRAFFIC

SIGNING AND MARKING FOR COMBINATION RIGHT TURN AND BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-10 DATE

/S/ Thomas N. Notham
STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 28-2

6

S.D.D. 15 C 28-2

GENERAL NOTES

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

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

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

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

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

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

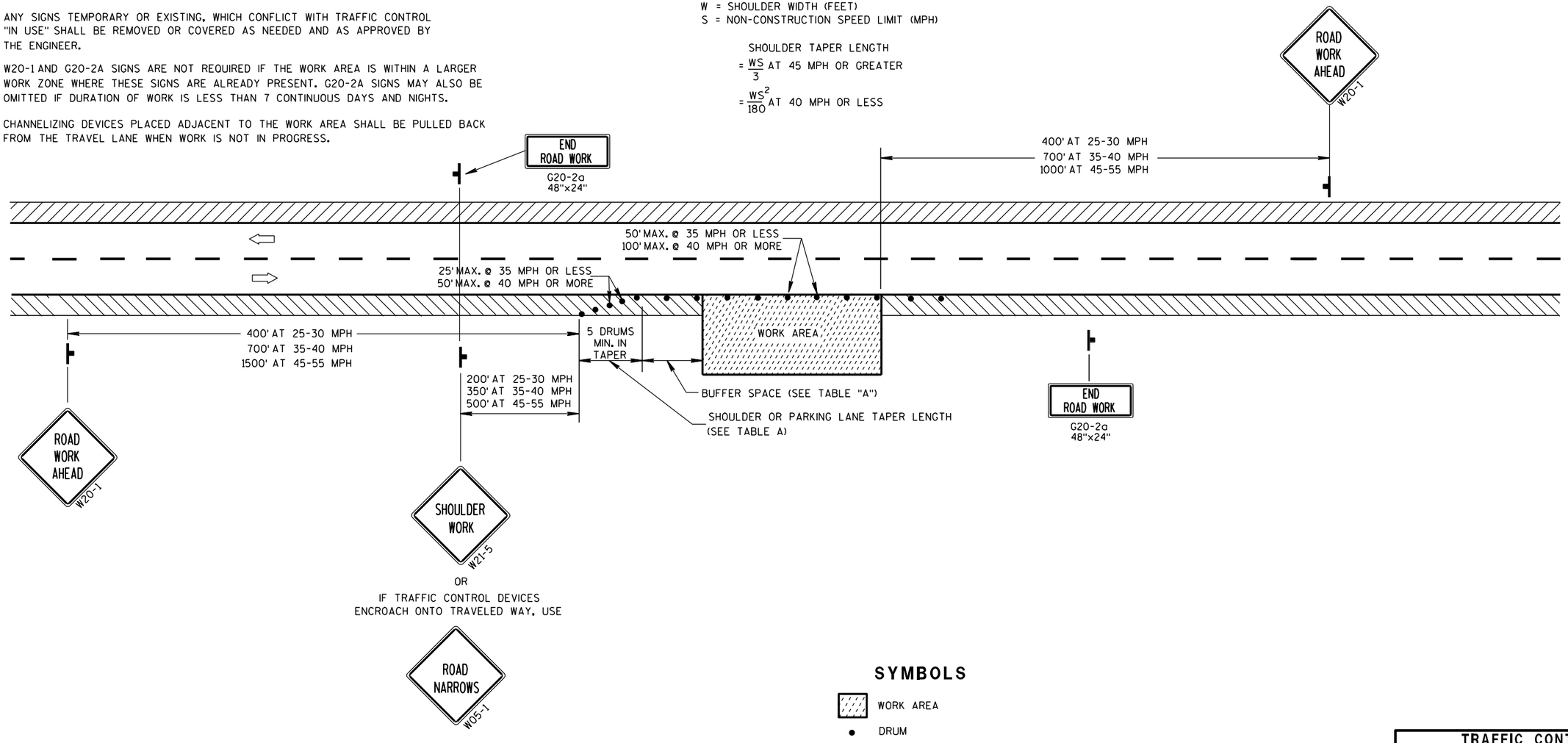
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

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

SHOULDER TAPER LENGTH
$= \frac{WS}{3}$ 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

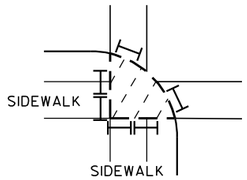
TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

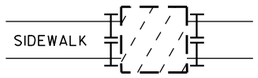
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

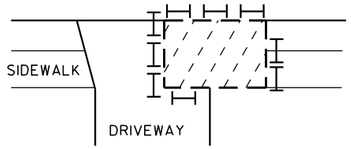
APPROVED
5/23/00 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible] ENGINEER
FHWA

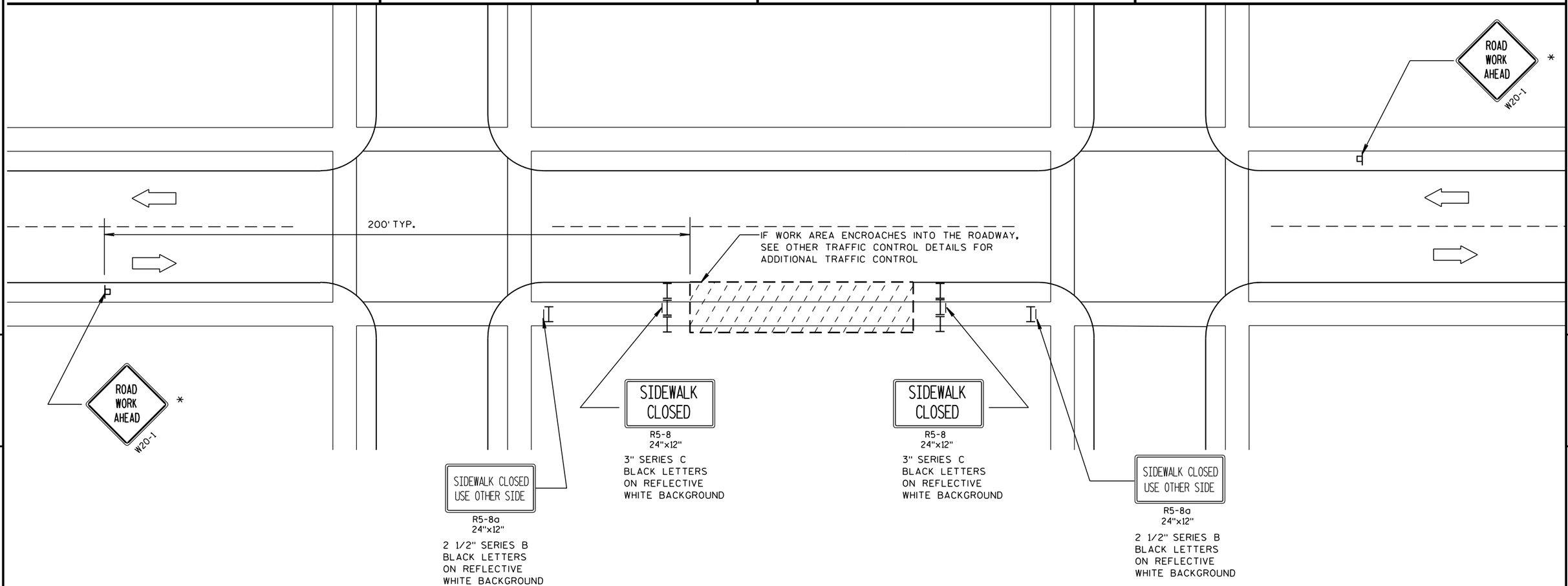
6
S.D.D. 15 D 28-1

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

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

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

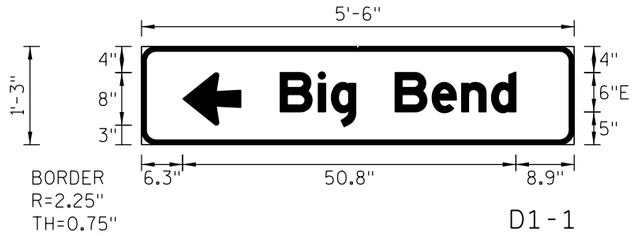
TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible] ENGINEER
FHWA

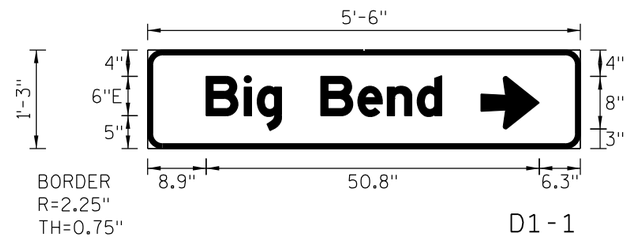
6

S.D.D. 15 D 30-1



BORDER
R=2.25"
TH=0.75"

D1-1



BORDER
R=2.25"
TH=0.75"

D1-1

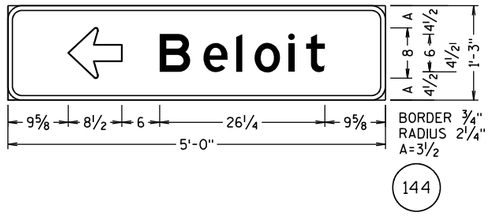


BORDER
R=1.38"
TH=0.63"
IN=0.5"

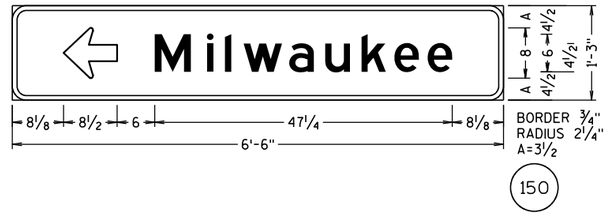
R10-61

GENERAL NOTES:

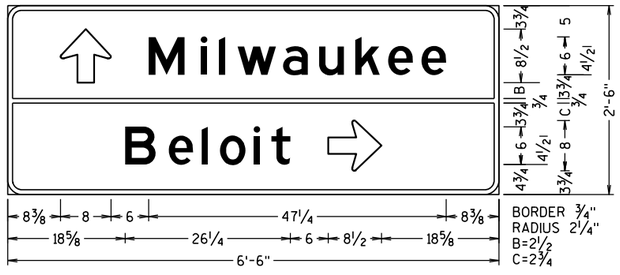
1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIRMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "TRAFFIC CONTROL SIGNS FIXED MESSAGE".
3. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A ORANGE BACKGROUND AND BLACK MESSAGE.
4. ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E".
5. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
6. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
7. DO NOT SCALE.



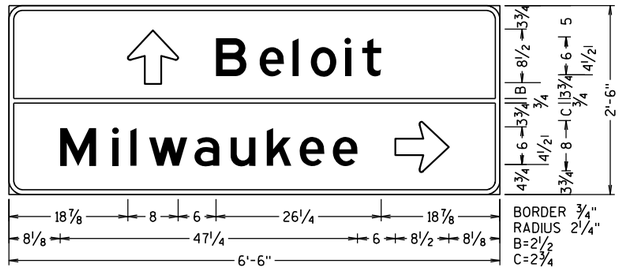
144



150



151



137

GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

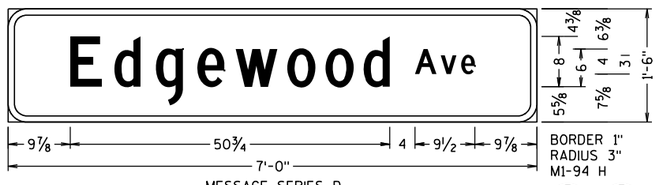
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

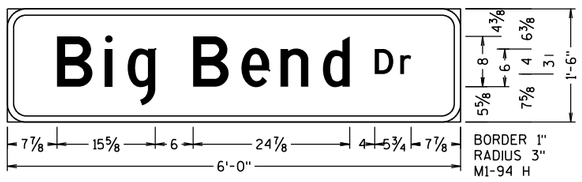
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.



MESSAGE SERIES D

245 246



MESSAGE SERIES D

241 242



MESSAGE SERIES D

244

GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

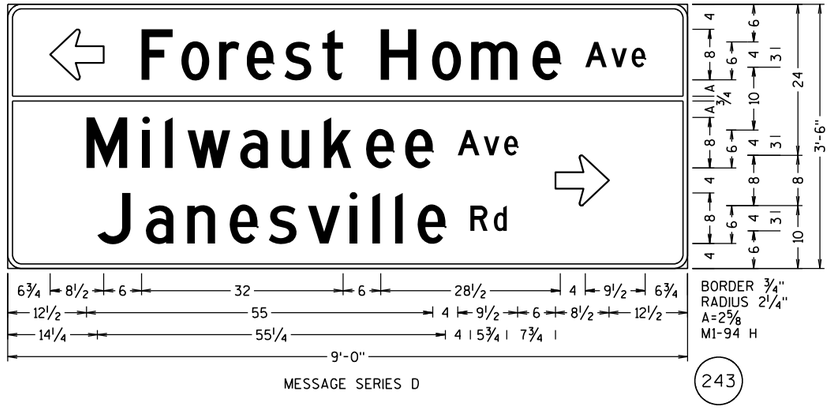
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.



MESSAGE SERIES D

243

SHEET 2 OF 2

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	SIGNING DETAIL - TYPE II SIGNS	SCALE: 0 ½" 1"	SHEET	E

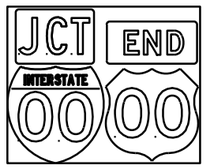
FILE NAME : j:\projects\D2_281006164\70\Sign\070101_ms.dgn PLOT DATE : 30-OCT-2012 06:52 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 48.125:1

WISDOT/CADDS SHEET 47

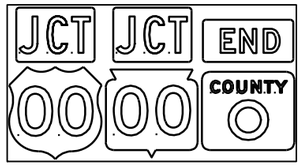
TYPICAL ASSEMBLIES



J1-1



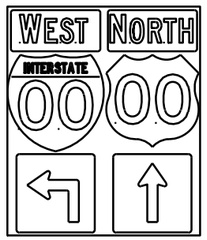
J1-2



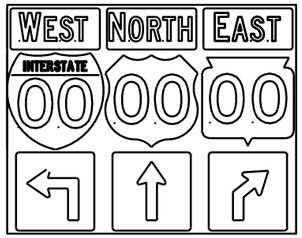
J1-3



J2-1



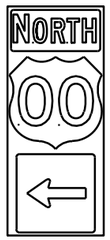
J2-2



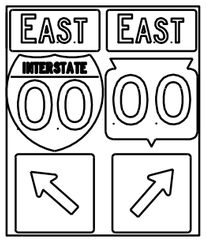
J2-3



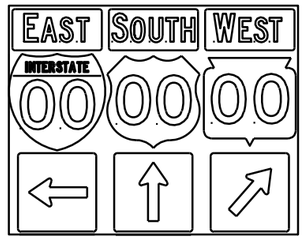
JV



J3-1



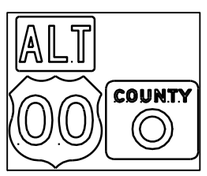
J3-2



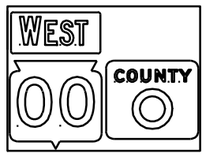
J3-3



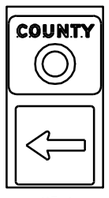
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



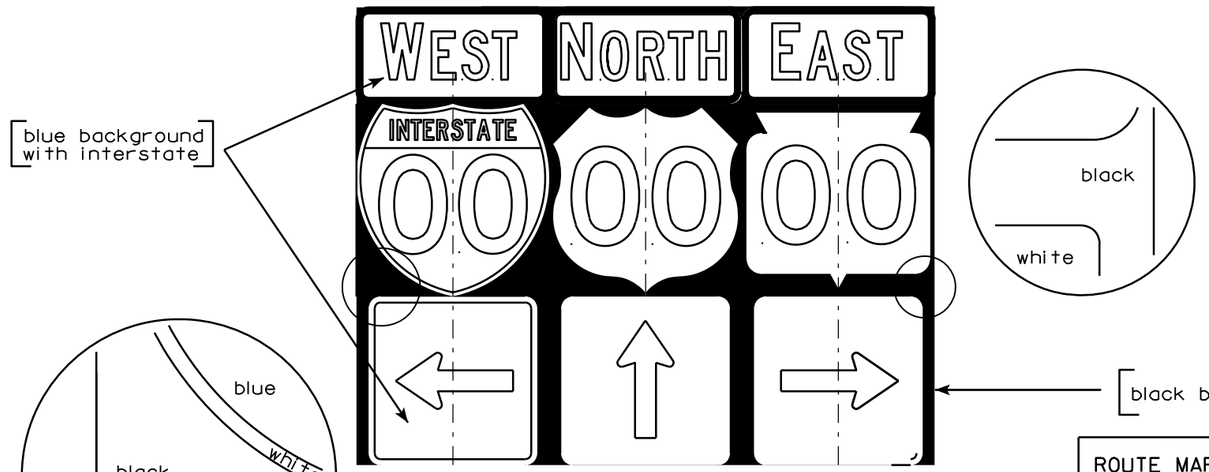
J23-1



J22-1

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 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.



ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

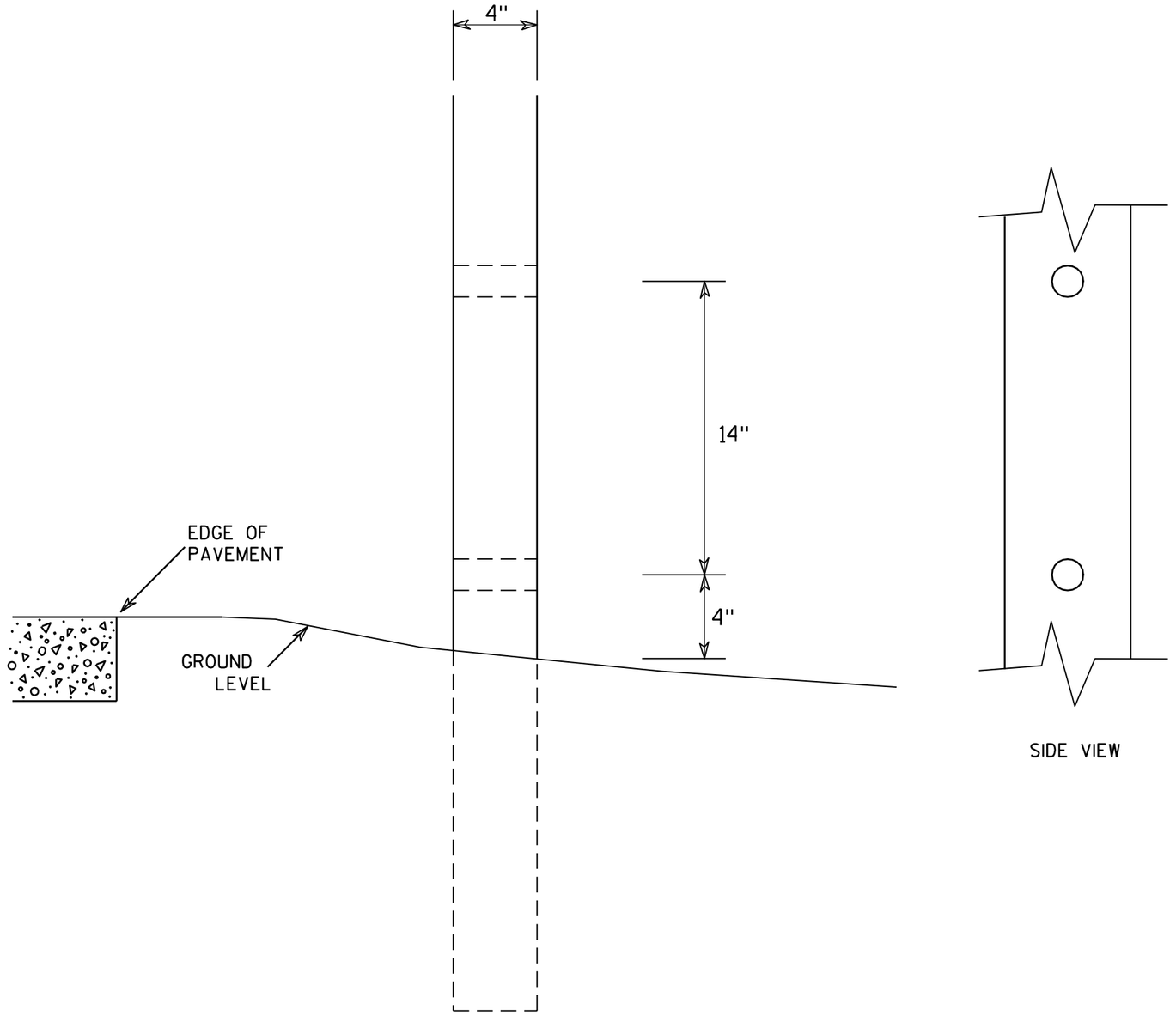
DATE 10/21/09 PLATE NO. A2-1S.6

7

7

PROJECT NO:

SHEET NO: 267 E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

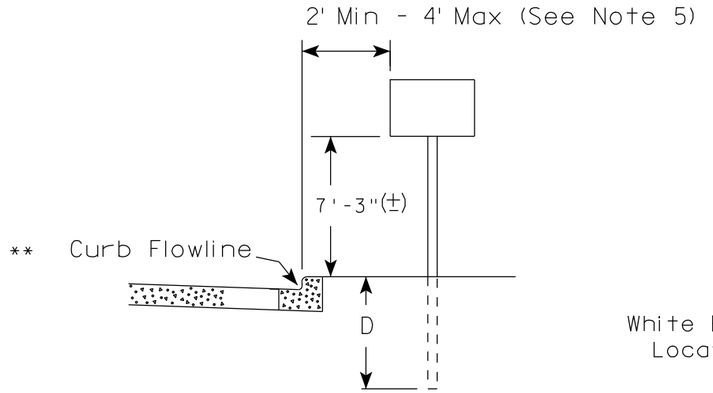
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

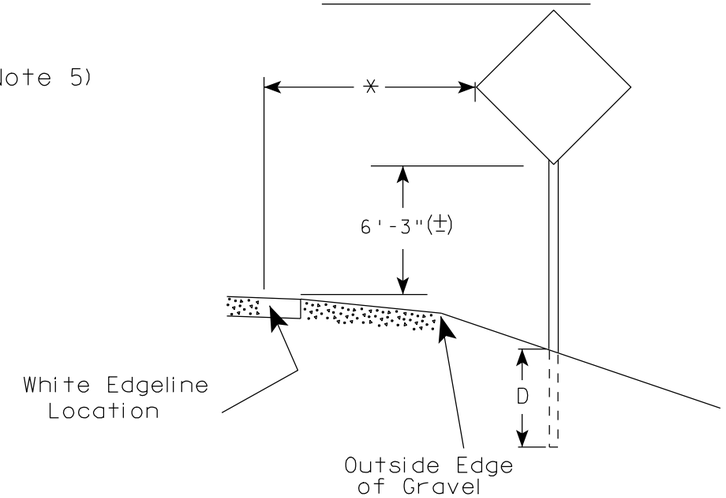
DATE 3/27/97 PLATE NO. A4-11.2

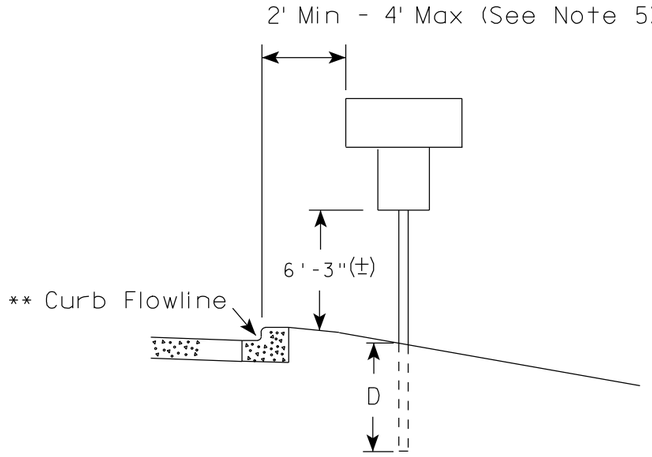
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 268	E

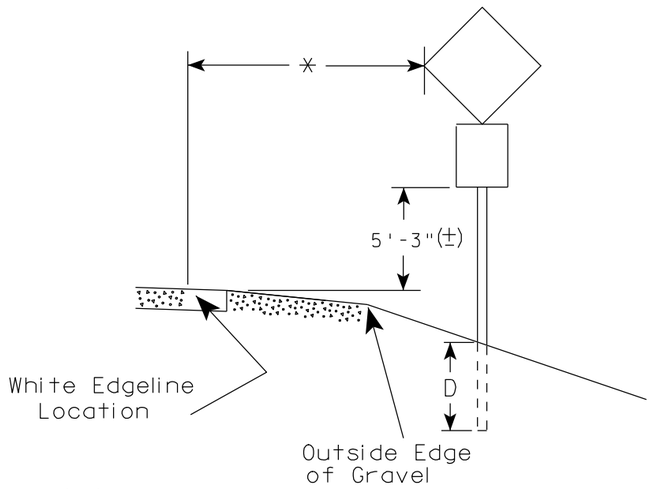
URBAN AREA



RURAL AREA (See Note 2)







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

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

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'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

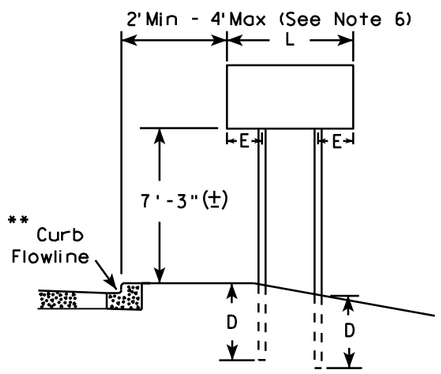
DATE 9/21/2011 PLATE NO. A4-3.16

7

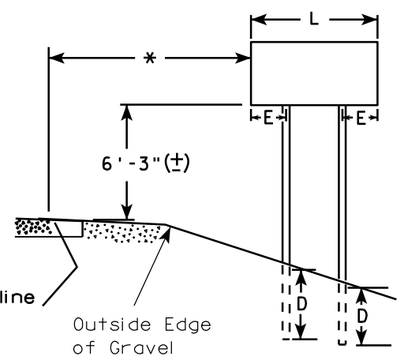
7

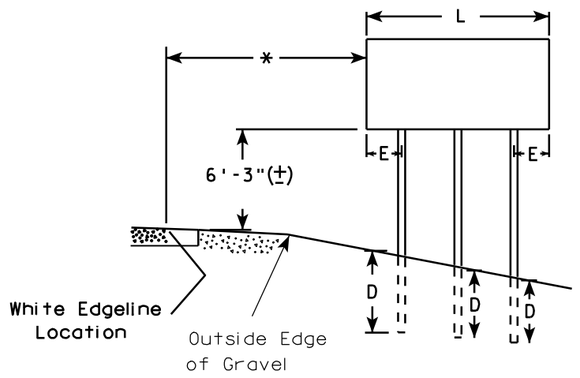
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 269 | E

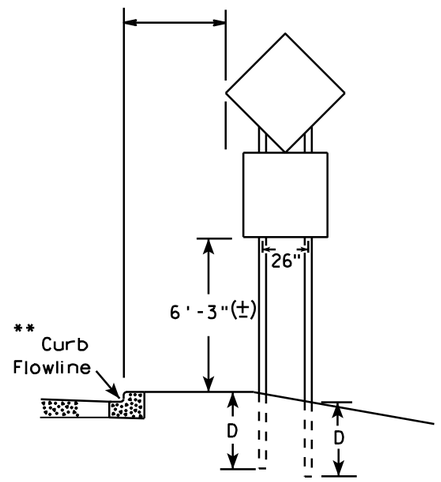
URBAN AREA



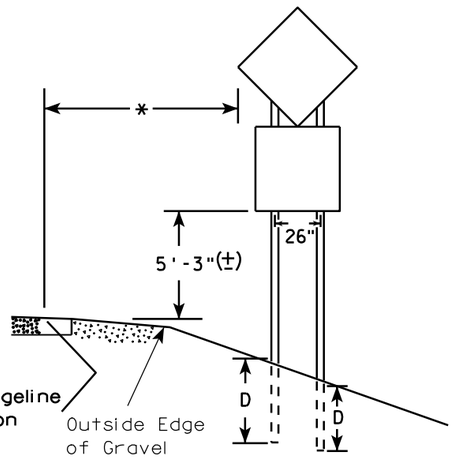
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	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'

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.

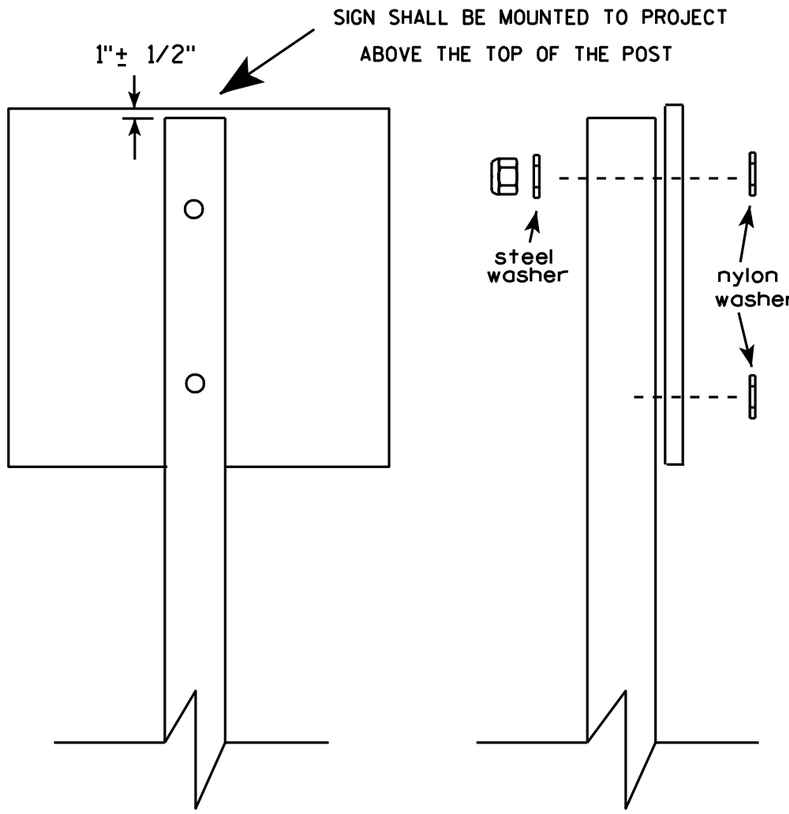
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

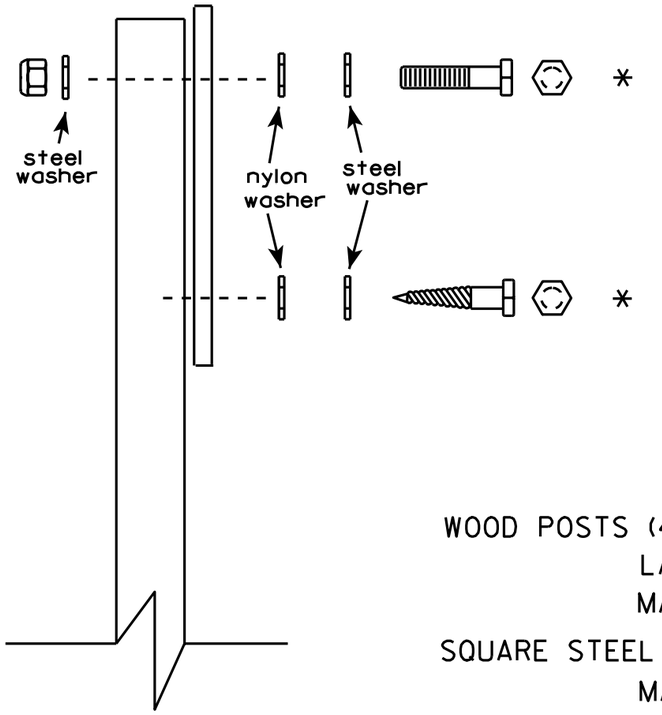
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 270	E





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

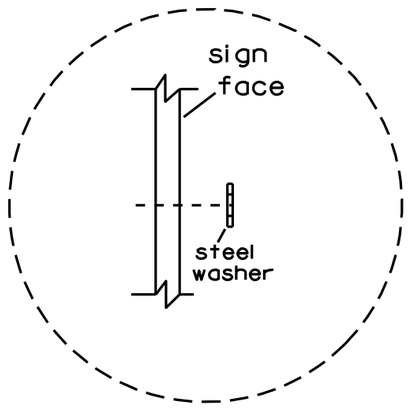
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

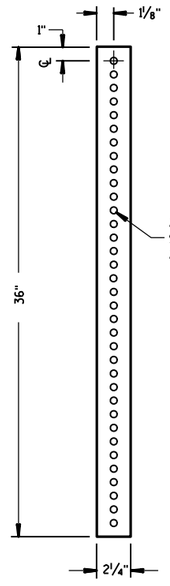
7

PROJECT NO:

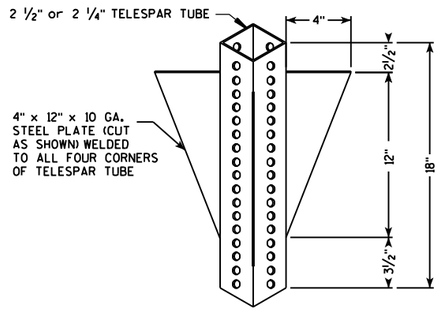
SHEET NO: 271 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

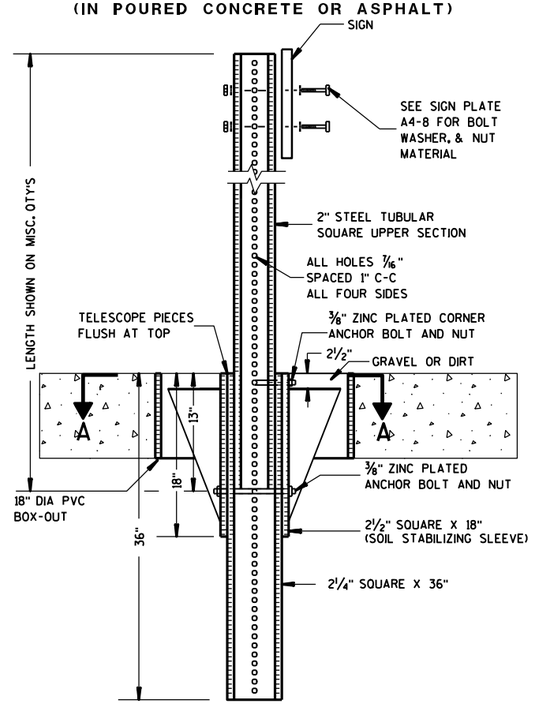
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



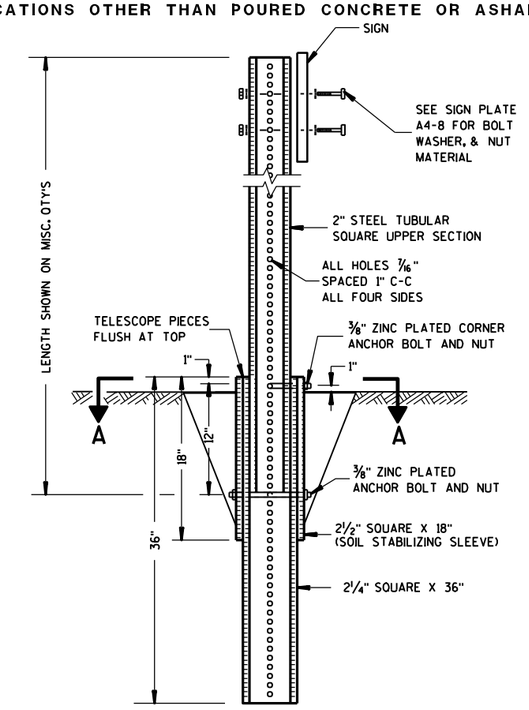
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

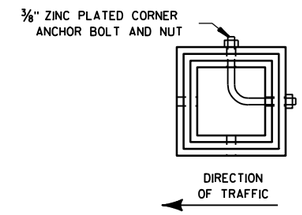


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL SIGN POST A4-9

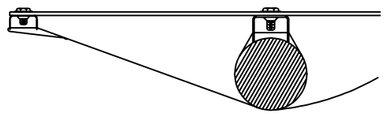
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

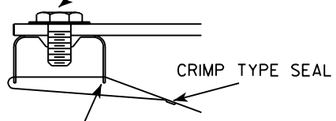
DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 272	E

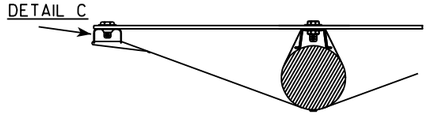
BRACE BANDING

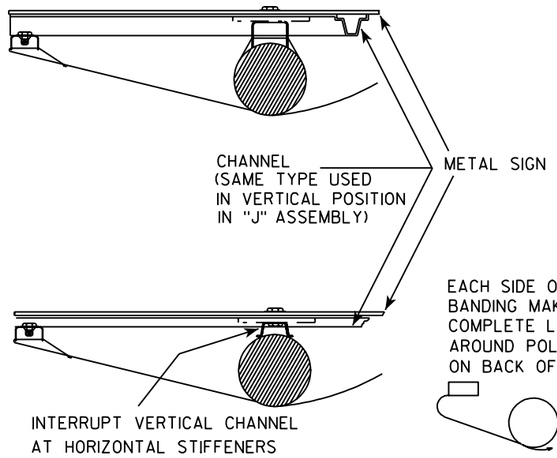


DETAIL C
CADMIUM PLATED STEEL BOLT
THROUGH BLACK BORDER



DETAIL C

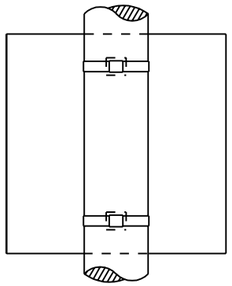


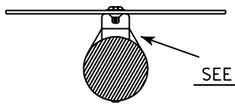


EACH SIDE OF BRACE
BANDING MAKES ONE
COMPLETE LOOP
AROUND POLE-SEAL
ON BACK OF POLE

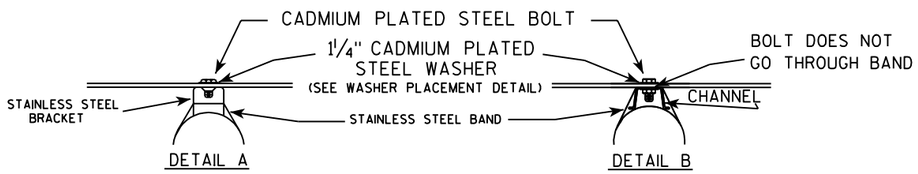
BRACKET BANDING

SINGLE SIGN





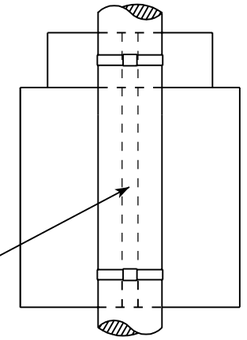
SEE DETAIL A



DETAIL A

DETAIL B

"J" ASSEMBLY

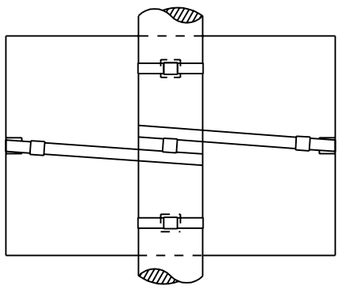


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

SEE DETAIL B

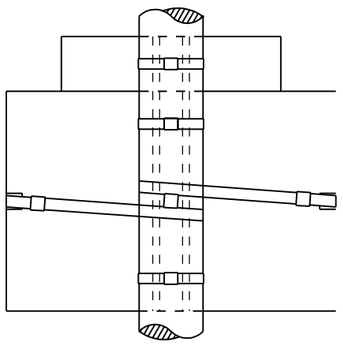
GENERAL NOTES

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 ¾" in width and 0.025" thickness.

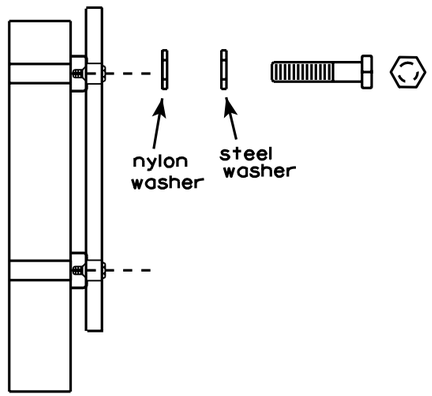


BRACE BANDING

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



WASHER PLACEMENT



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

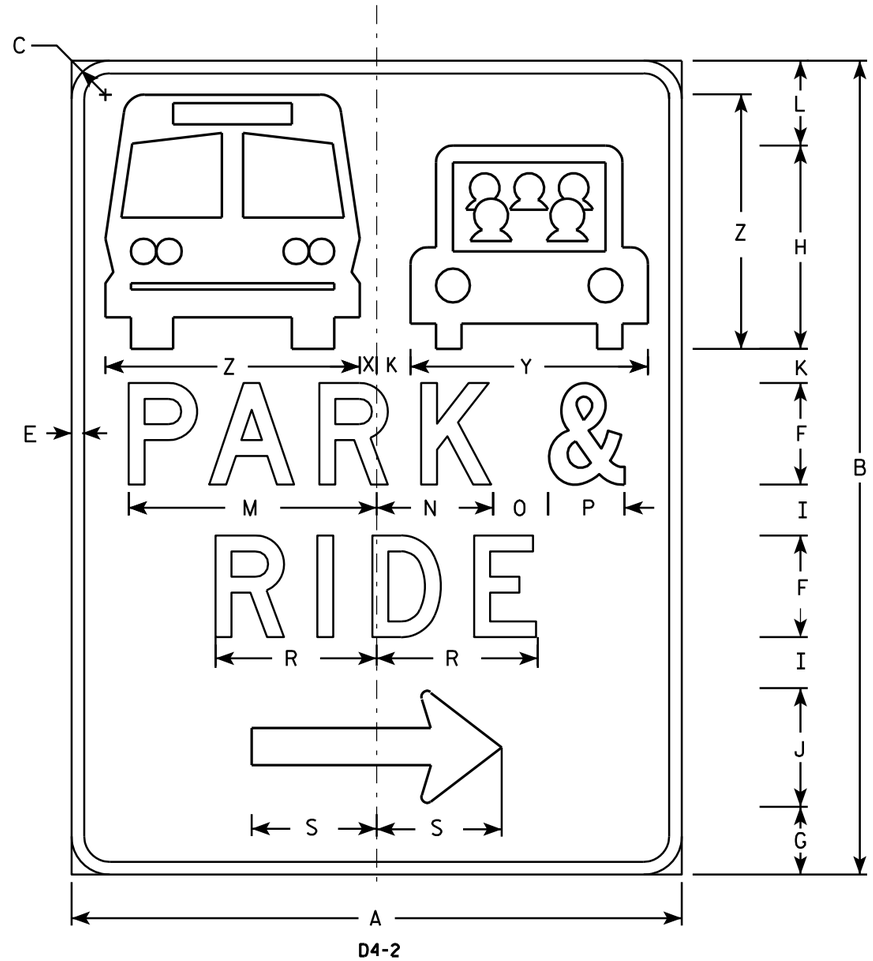
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

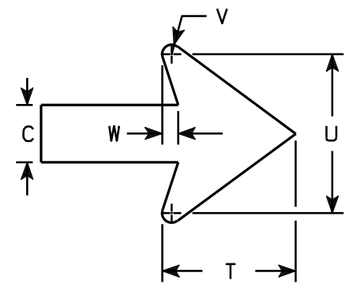
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 273	E



D4-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
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. The D4-2L is the same as a D4-2R except the arrow is reversed.
6. The D4-2 sign may have either symbol or both symbols at the same time.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	30	1 1/8		1/2	4	1 5/8	7 1/2	1 1/2	4 5/8	1 3/8	3 7/8	9 3/4	4	2 3/4	3		6 3/8	4 7/8	3 1/2	4 1/8	1/4	3/8	5/8	9 3/8	10	5.0
2	30	36	1 3/8		5/8	5	2	9	1 5/8	5 1/2	1 5/8	4 5/8	12 1/4	5 1/8	3 3/8	3 3/4		8	6 1/8	4 3/8	5 1/4	3/8	1/2	7/8	11 3/4	12 1/2	7.50
3	36	48	2 1/4		3/4	6	4	12	3	7	2	5	14 5/8	6 7/8	3 1/4	4 1/2		9 1/2	7 1/2	5 1/4	6 1/4	3/8	5/8	1	14	15	12.0
4																											
5																											

STANDARD SIGN
D4-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/10 PLATE NO. D4-2.5

PROJECT NO:

SHEET NO: 274 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\D42.dgn PLOT DATE : 10-FEB-2011 14:21 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

7

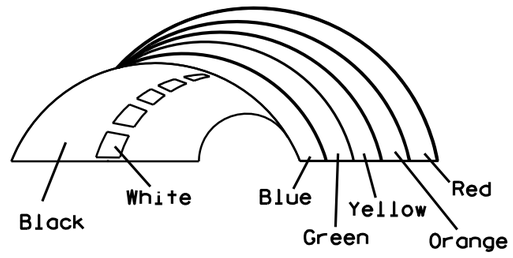


* VARIES

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.

Background Colors of Symbol*



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

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																											

STANDARD SIGN
I55-56

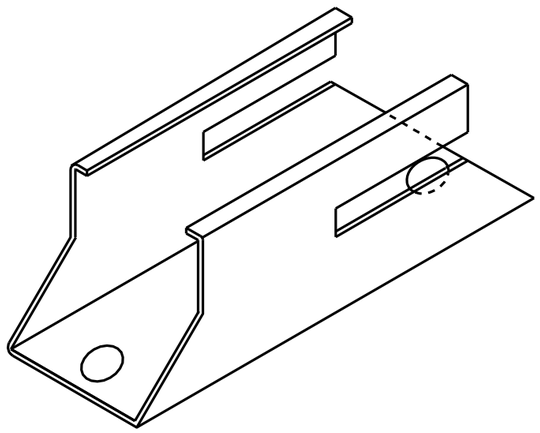
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

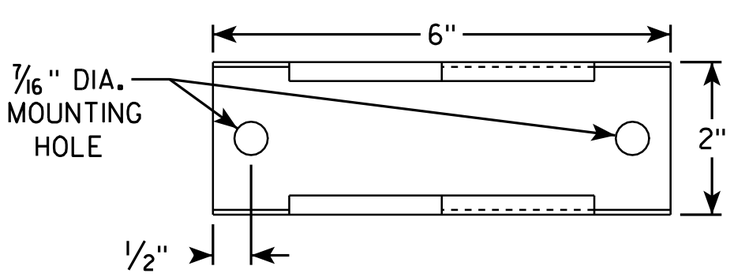
DATE 4/27/11 PLATE NO. 155-56.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 275

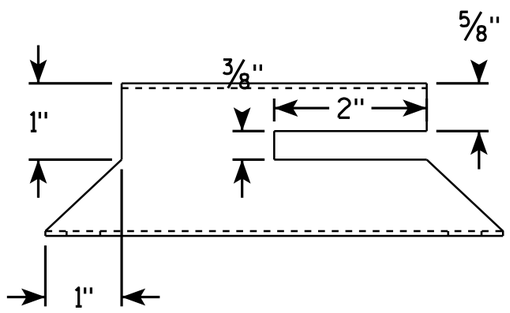
ISOMETRIC VIEW



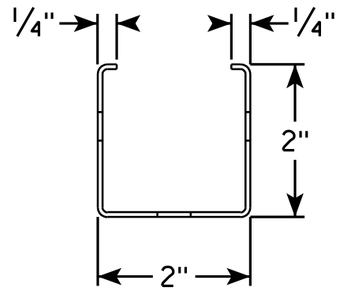
TOP VIEW



SIDE VIEW



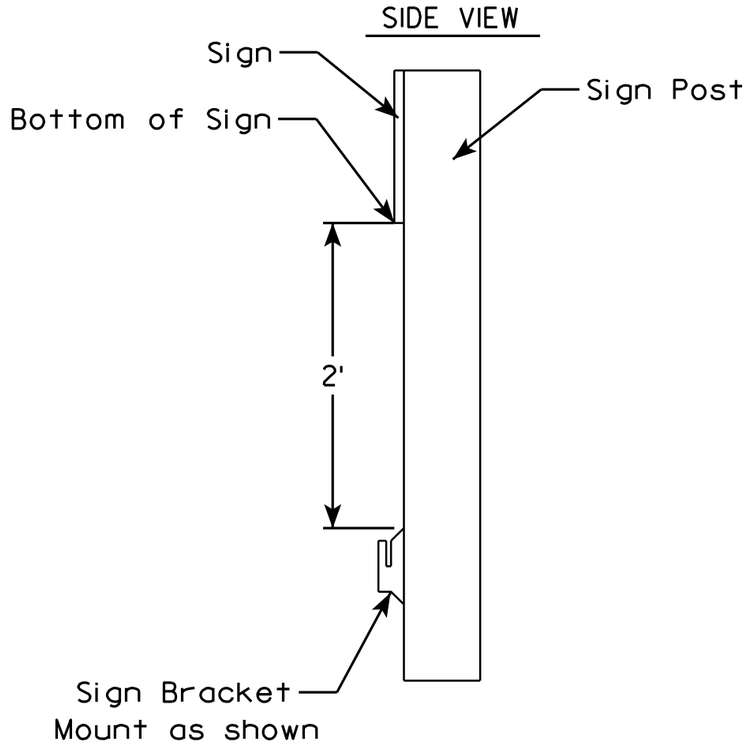
END VIEW



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

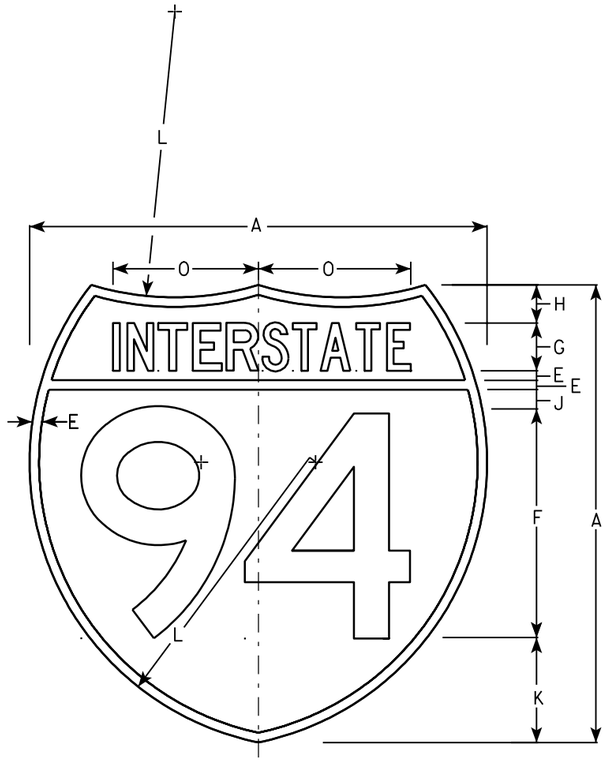
APPROVED Matthew R Rauch
for State Traffic Engineer

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

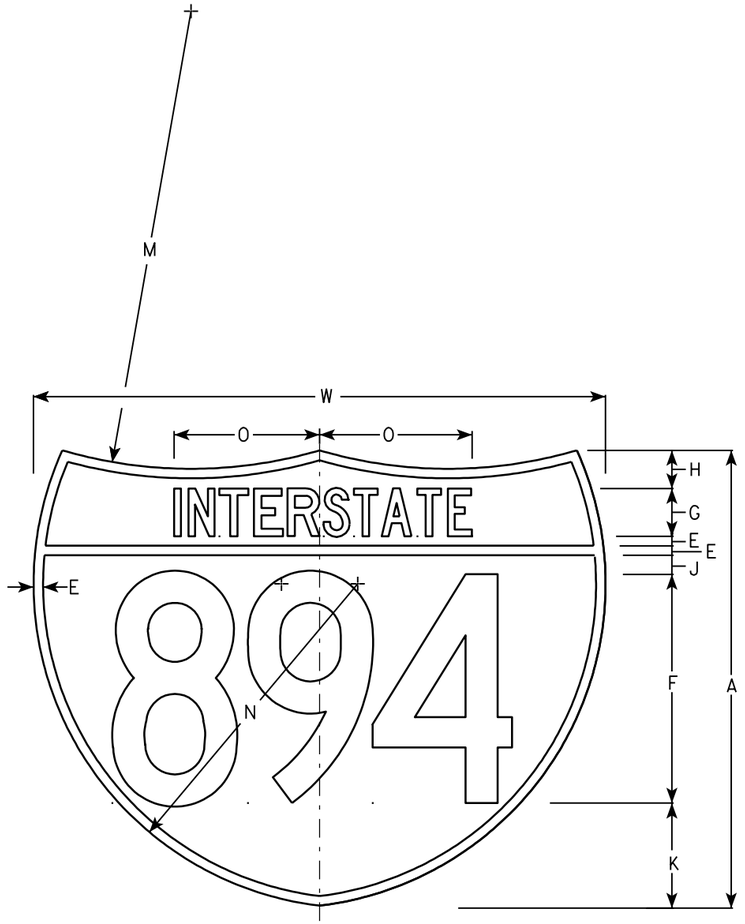
7

7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 276	E



M1-1



M1-1A

NOTES

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

Metric equivalent for these signs are:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

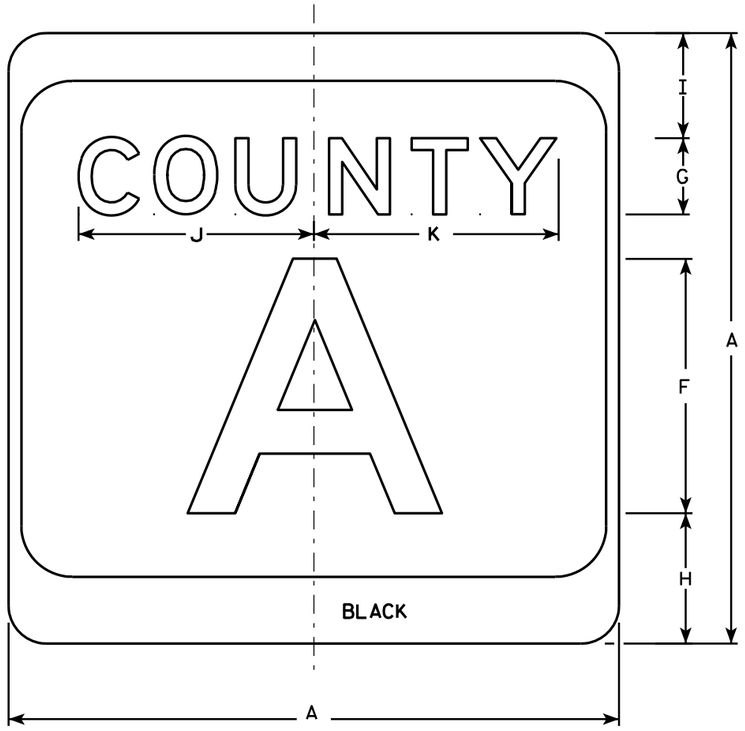
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

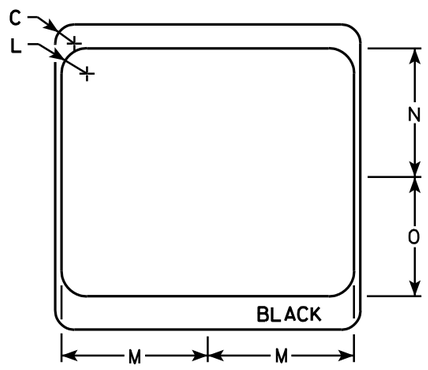
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 277	E

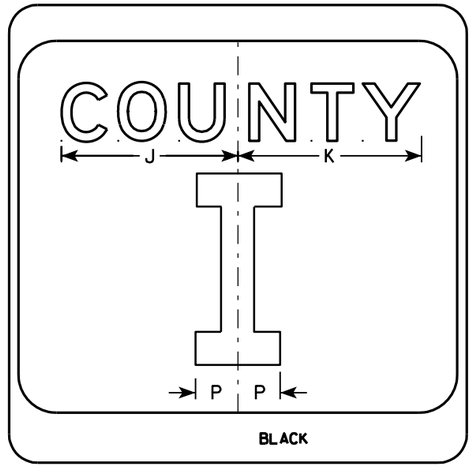


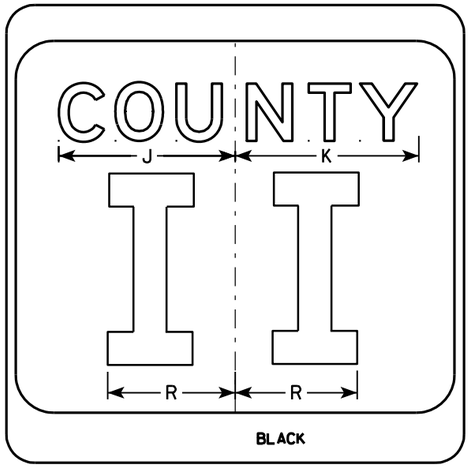
M1-5A



NOTES

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





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

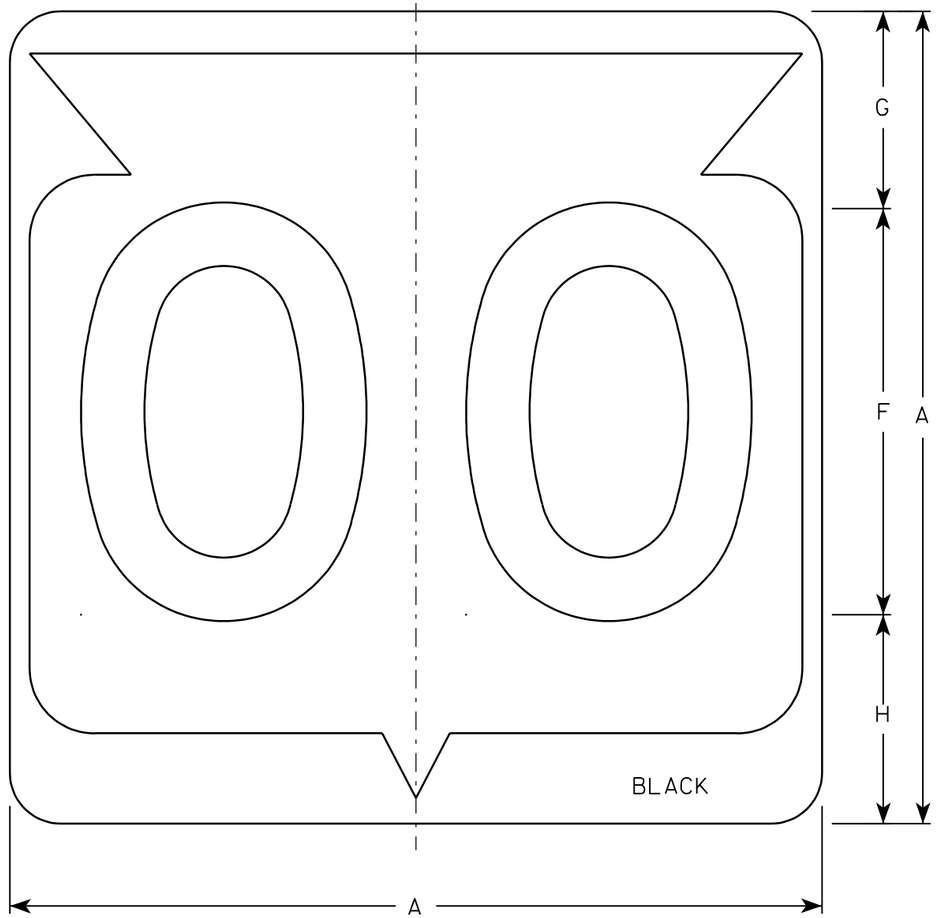
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

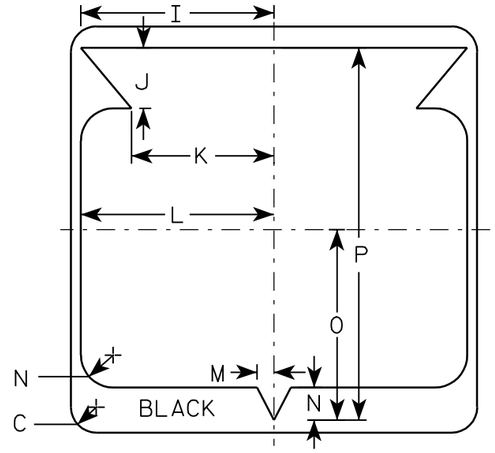
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 278	E



M1-6

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



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 m2
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

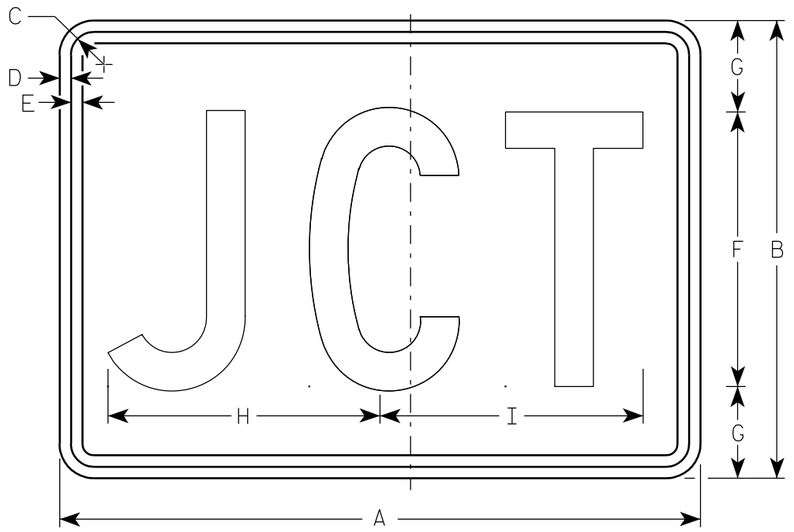
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

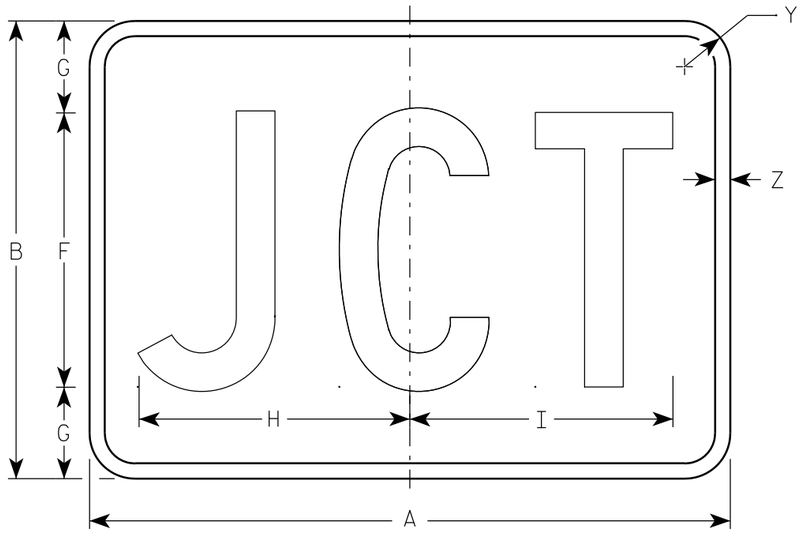
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 279	E



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



MB2-1
MG2-1
MN2-1

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

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 m2
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

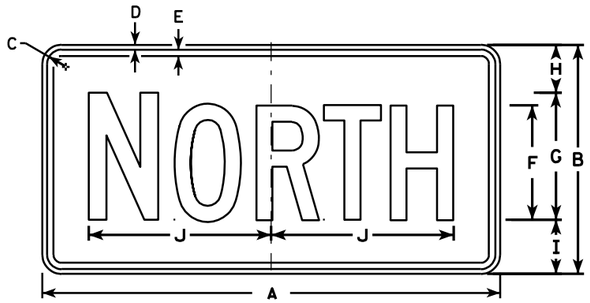
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

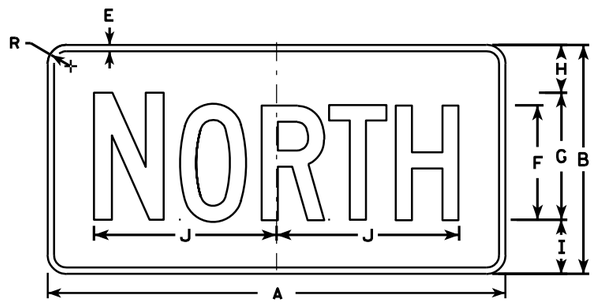
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 280	E



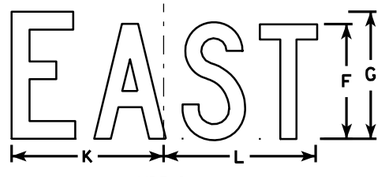
M3-1
MK3-1
MO3-1



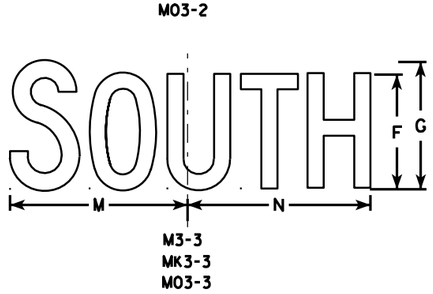
MB3-1
MG3-1
MM3-1
MN3-1



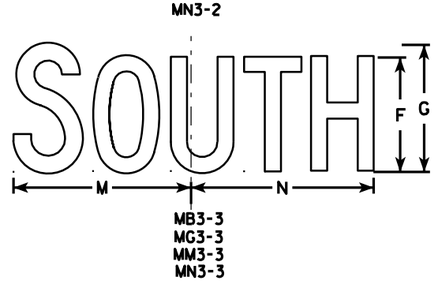
M3-2
MK3-2
MO3-2



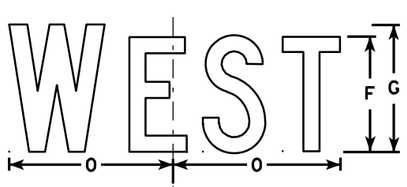
MB3-2
MG3-2
MM3-2
MN3-2



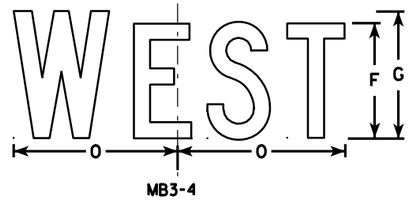
M3-3
MK3-3
MO3-3



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



M3-4
MK3-4
MO3-4



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

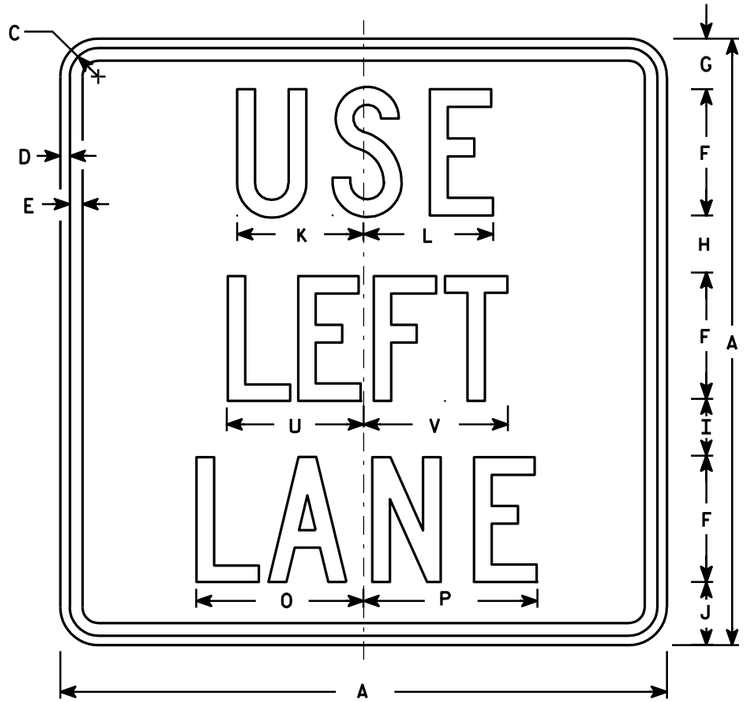
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

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

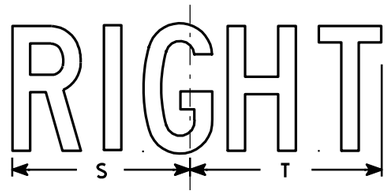
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 281	E



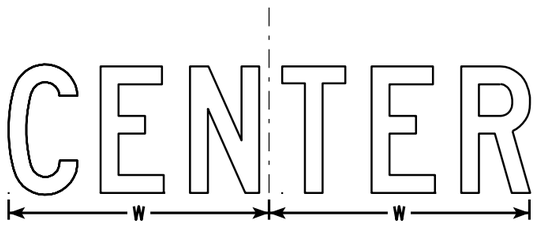
M4-20L

NOTES

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



M4-20R



M4-20C

Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/8	3/8	1/2	5	2	2 1/4	2 1/4	2 1/2	5	5 1/8			6 5/8	6 7/8			7	7 5/8	5 3/8	5 3/4	10 1/4				4.0	0.36
3	36		1 5/8	5/8	3/4	7	4	3	3 1/2	4 1/2	7 1/2	7 3/4			9 7/8	10 1/4			10 3/8	11 3/8	8	8 5/8	14 3/8				9.0	0.81
4																												
5																												

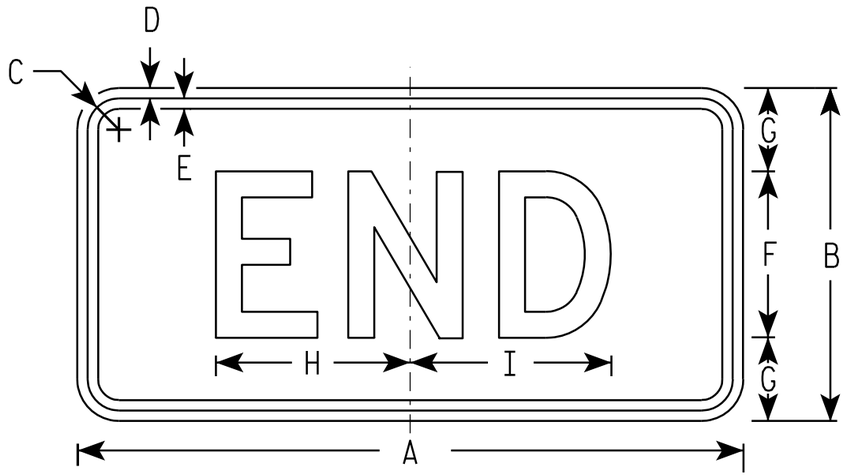
STANDARD SIGN
M4-20

WISCONSIN DEPT OF TRANSPORTATION

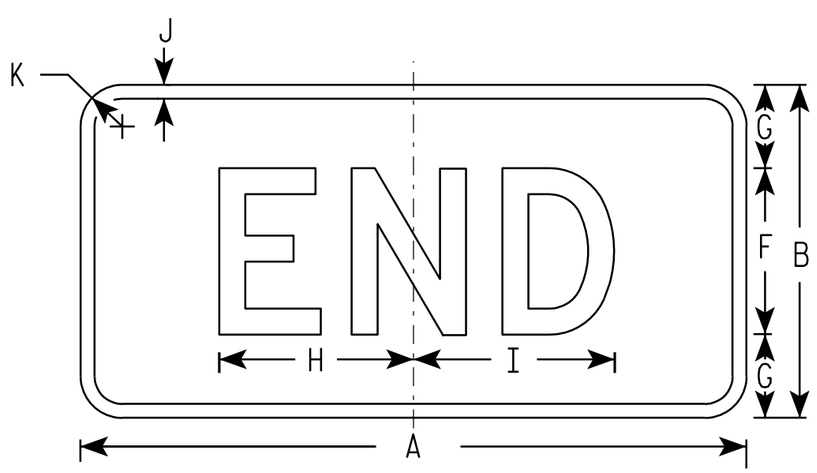
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/09 PLATE NO. M4-20.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 282	E



M4-6
MK4-6
MM4-6
MR4-6



MB4-6
MG4-6
MN4-6

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 - 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. M4-6 Background - White - Type H Reflective (Detour or temporary Signs - Reflective)
   Message - Black

   MB4-6 Background - Blue
   Message - White - Type H Reflective (Detour or temporary Signs - Reflective)

   MG4-6 Background - Green
   Message - White - Type H Reflective

   MK4-6 Background - Green
   Message - White - Type H Reflective

   MM4-6 Background - White - Type H Reflective
   Message - Green

   MN4-6 Background - Brown
   Message - White - Type H Reflective

   MR4-6 Background - Brown
   Message - Yellow - Type H Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	7	7 1/4	1/2	1 1/2																2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5

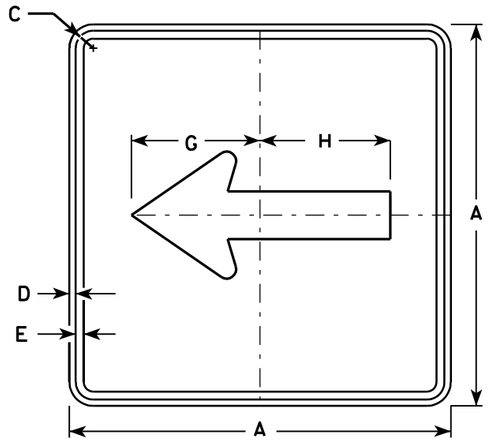
STANDARD SIGN
M4-6

WISCONSIN DEPT OF TRANSPORTATION

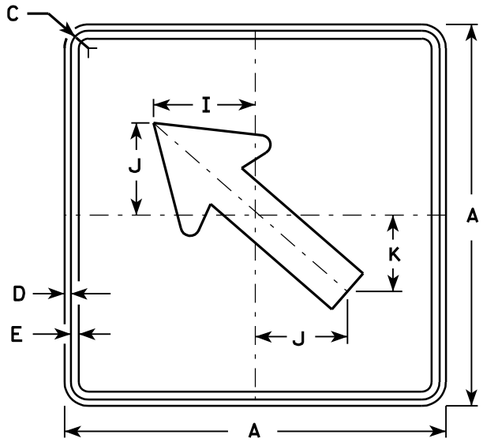
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-6.7

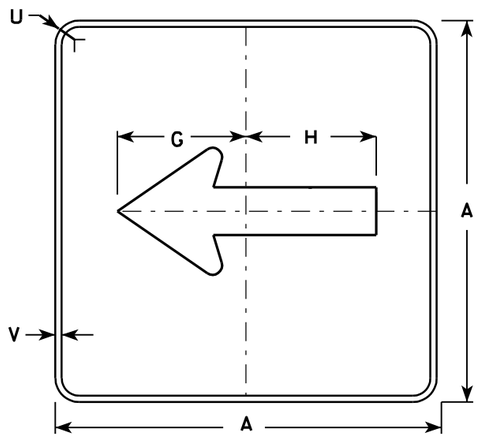
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 283 | E



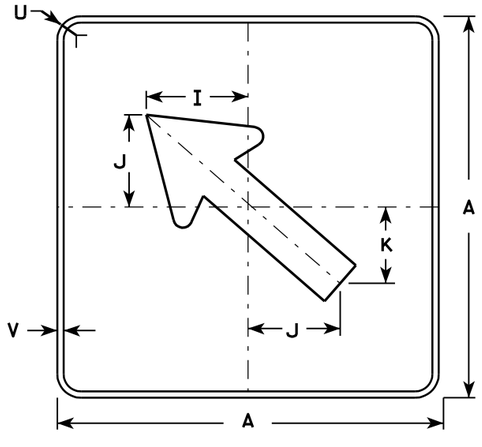
M6-1
MK6-1
MM6-1
MO6-1
MR6-1



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



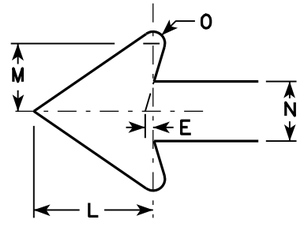
MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. 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

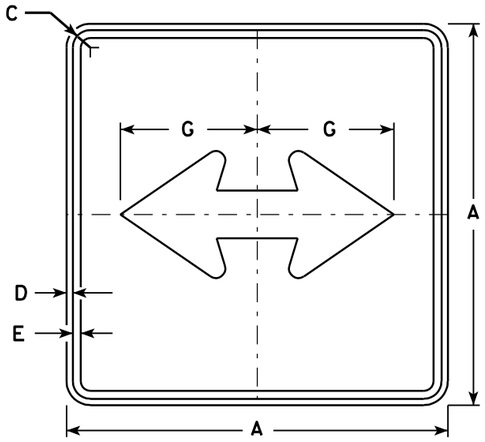
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

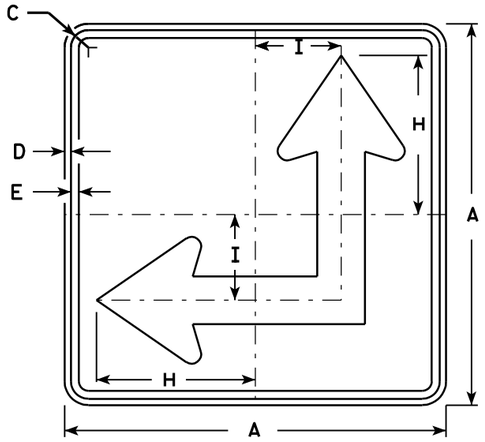
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-1.12

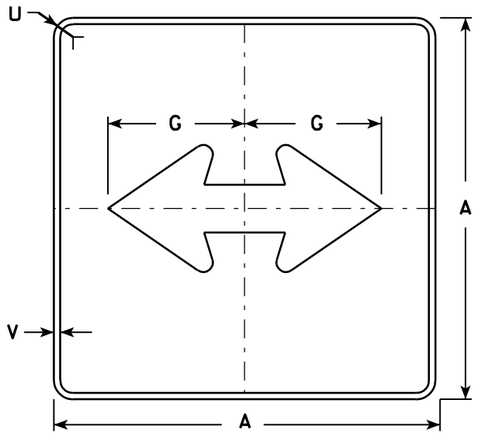
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 284	E



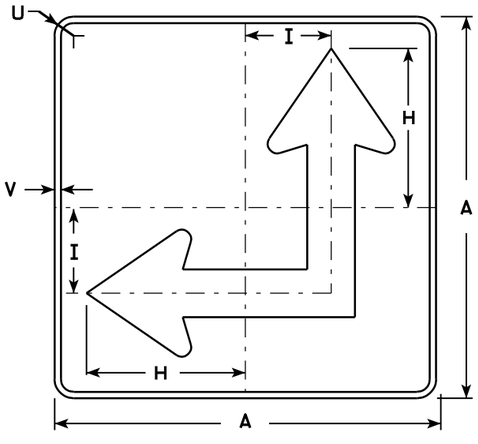
M6-4
MK6-4
MM6-4
MO6-4
MR6-4



M6-6
MK6-6
MM6-6
MO6-6
MR6-6



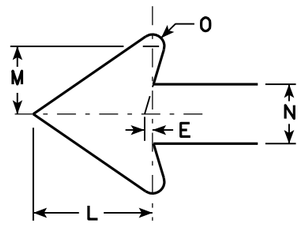
MB6-4
MG6-4
MN6-4



MB6-6
MG6-6
MN6-6

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   MG6-4 and MG6-6 Background - Green
   Message - White - Type H Reflective
   MK6-4 and MK6-6 Background - Green
   Message - White - Type H Reflective
   MM6-4 and MM6-6 Background - White - Type H Reflective
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White - Type H Reflective
   MO6-4 and MO6-6 Background - Orange - Reflective
   Message - Black
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow - Type H Reflective
5. M6-6R same as M6-6L except arrow points ahead and right.



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	8 3/4	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	12 1/2	6 3/4			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	12 1/2	6 3/4			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	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56

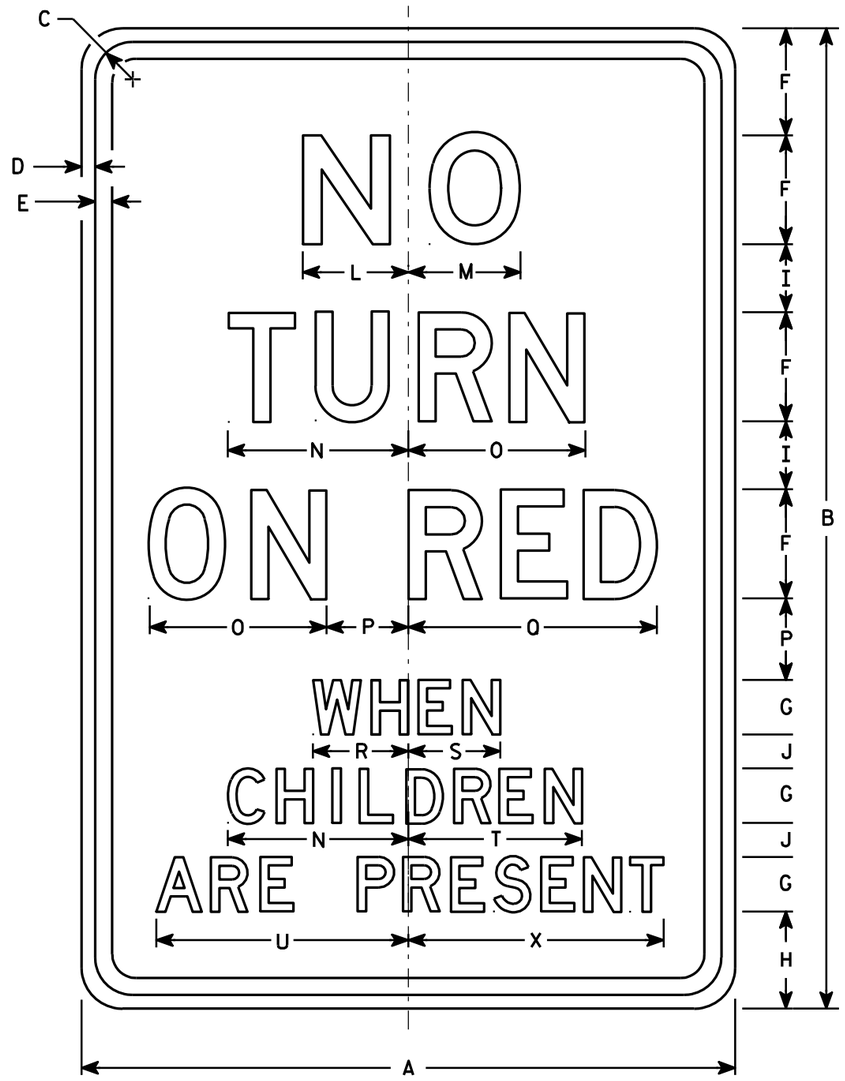
STANDARD SIGN M6-4 & M6-6 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-4.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 285	E



R10-11S

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 - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series E.
   Lines 2 thru 6 are Series D.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	2	3 1/2	2 1/2	1 1/4	4 1/2	3 7/8	4 1/8	6 5/8	6 1/2	3	9 1/8	3 1/2	3 3/8	6 3/8	9 1/4			9 3/8			6.0
2M	24	36	1 1/8	3/8	1/2	4	2	3 1/2	2 1/2	1 1/4	4 1/2	3 7/8	4 1/8	6 5/8	6 1/2	3	9 1/8	3 1/2	3 3/8	6 3/8	9 1/4			9 3/8			6.0
3																											
4																											
5																											

STANDARD SIGN
R10-11S

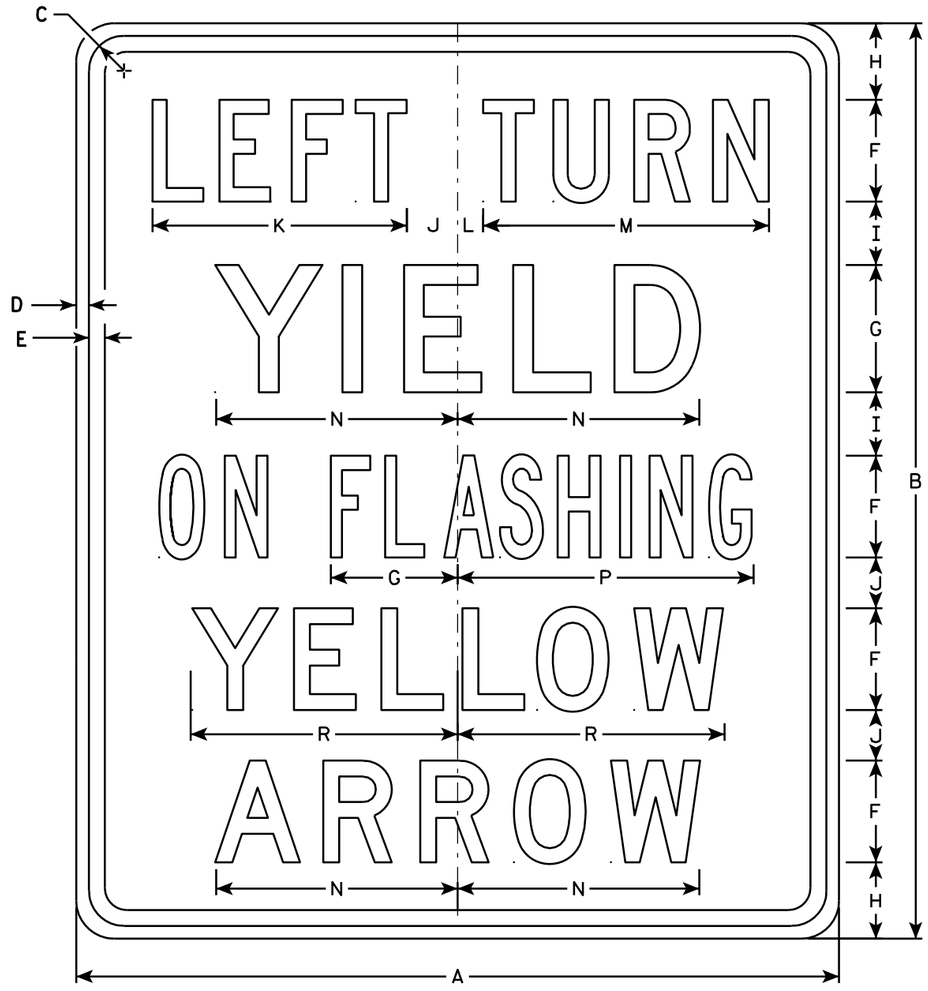
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

State Traffic Engineer

DATE 4/4/11 PLATE NO. R10-11S.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 286 | E



R10-50

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 - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C.
   Lines 2, 4 and 5 are Series D.
   Line 3 is Series B.

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	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2									7.5
2M	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2									7.5
3																											
4																											
5																											

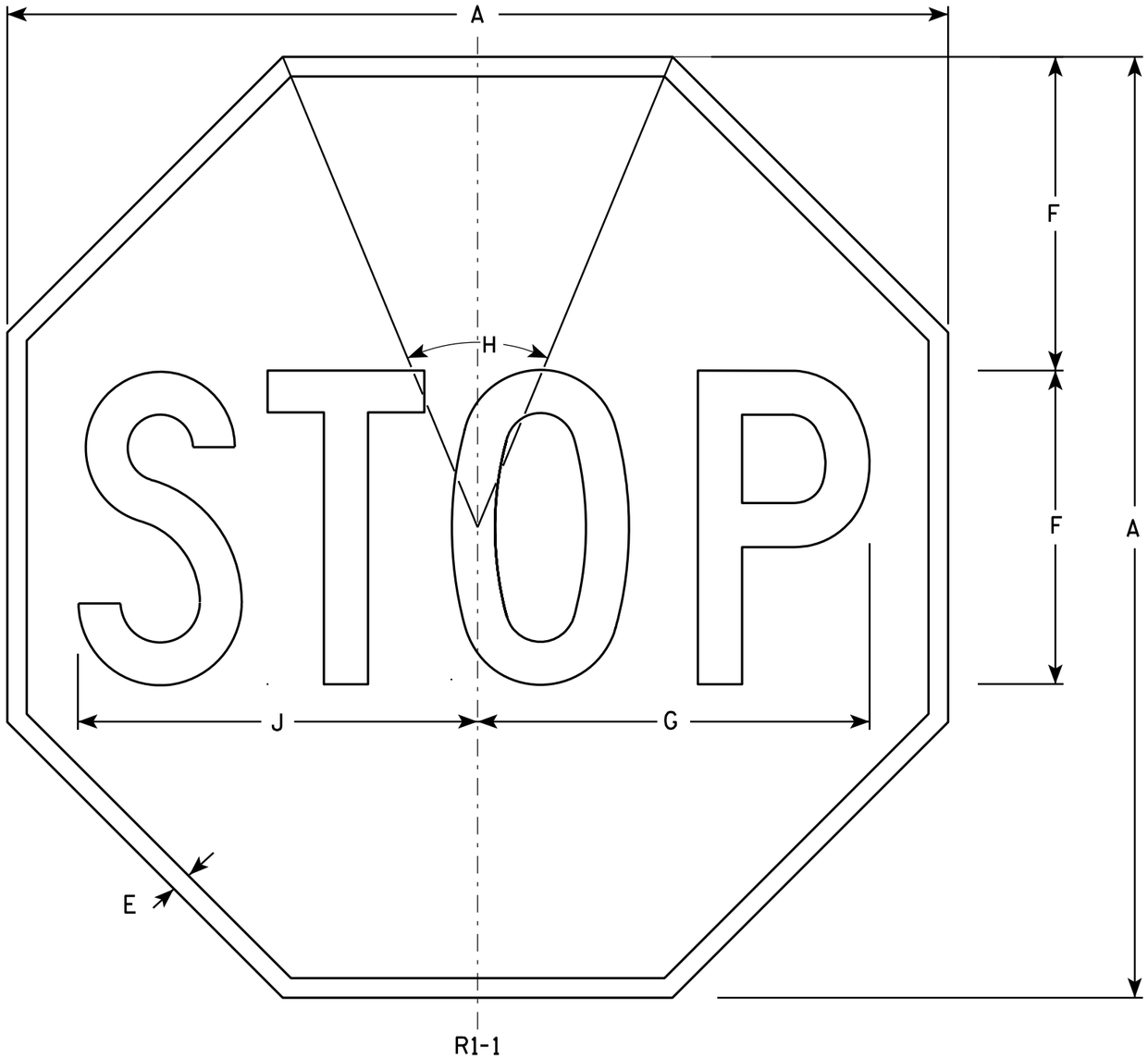
STANDARD SIGN
R10-50

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/21/10 PLATE NO. R10-50.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 287	E



NOTES

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

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

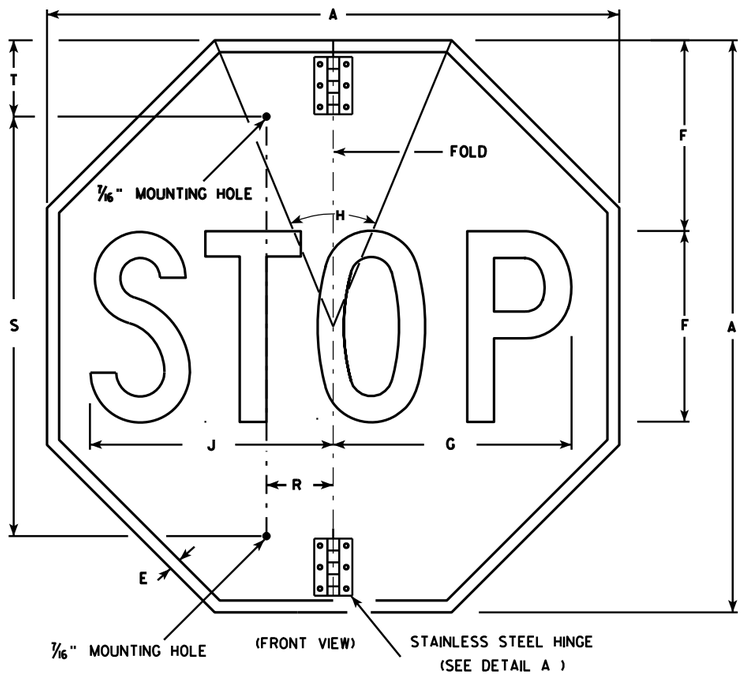
STANDARD SIGN
R1-1

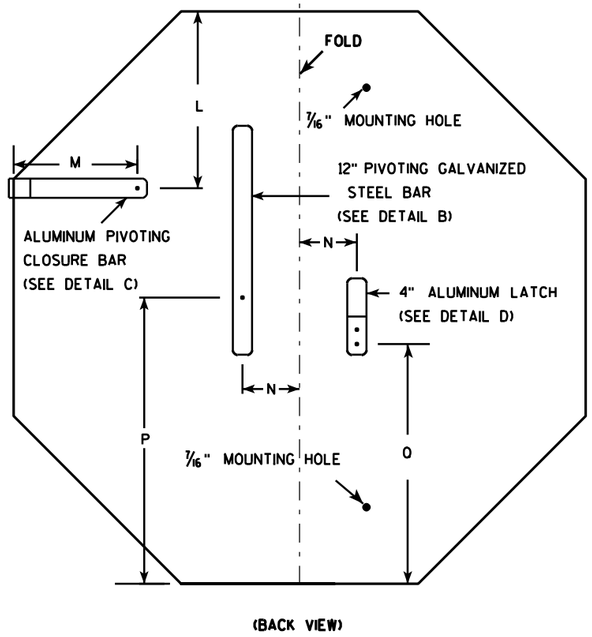
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

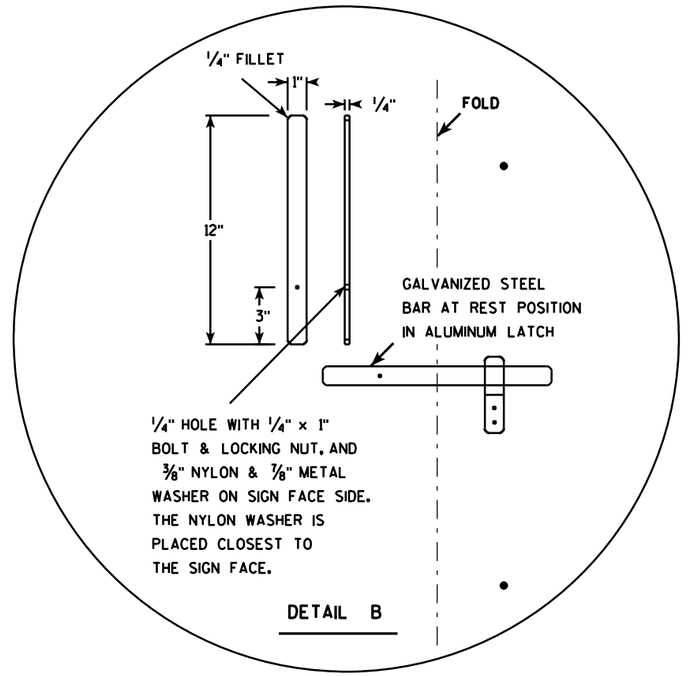
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 288	E



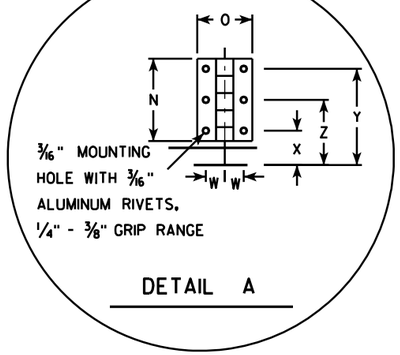


NOTES

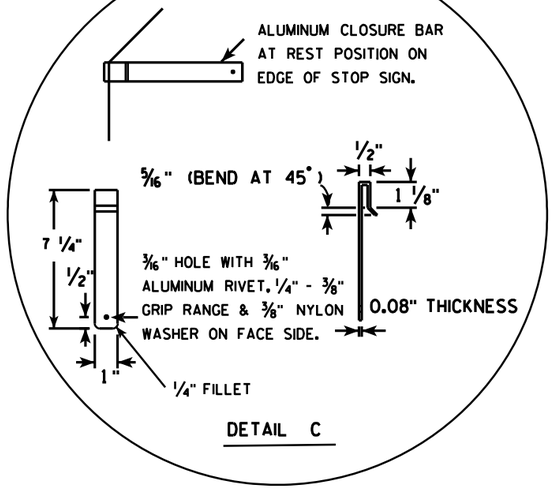
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



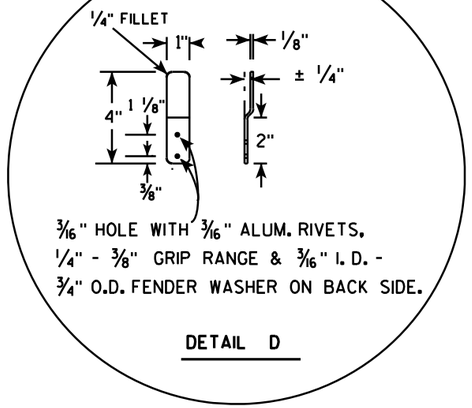
DETAIL B



DETAIL A



DETAIL C



DETAIL D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

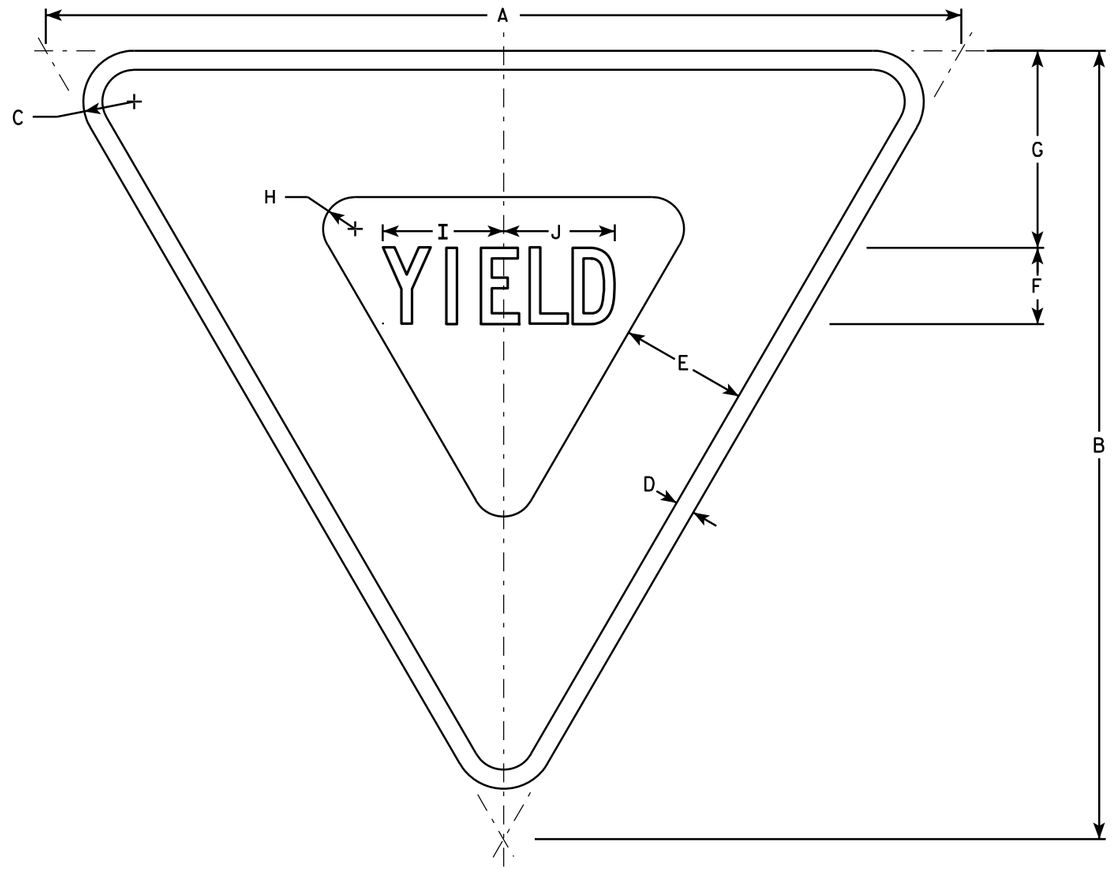
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 289	E



R1-2

NOTES

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

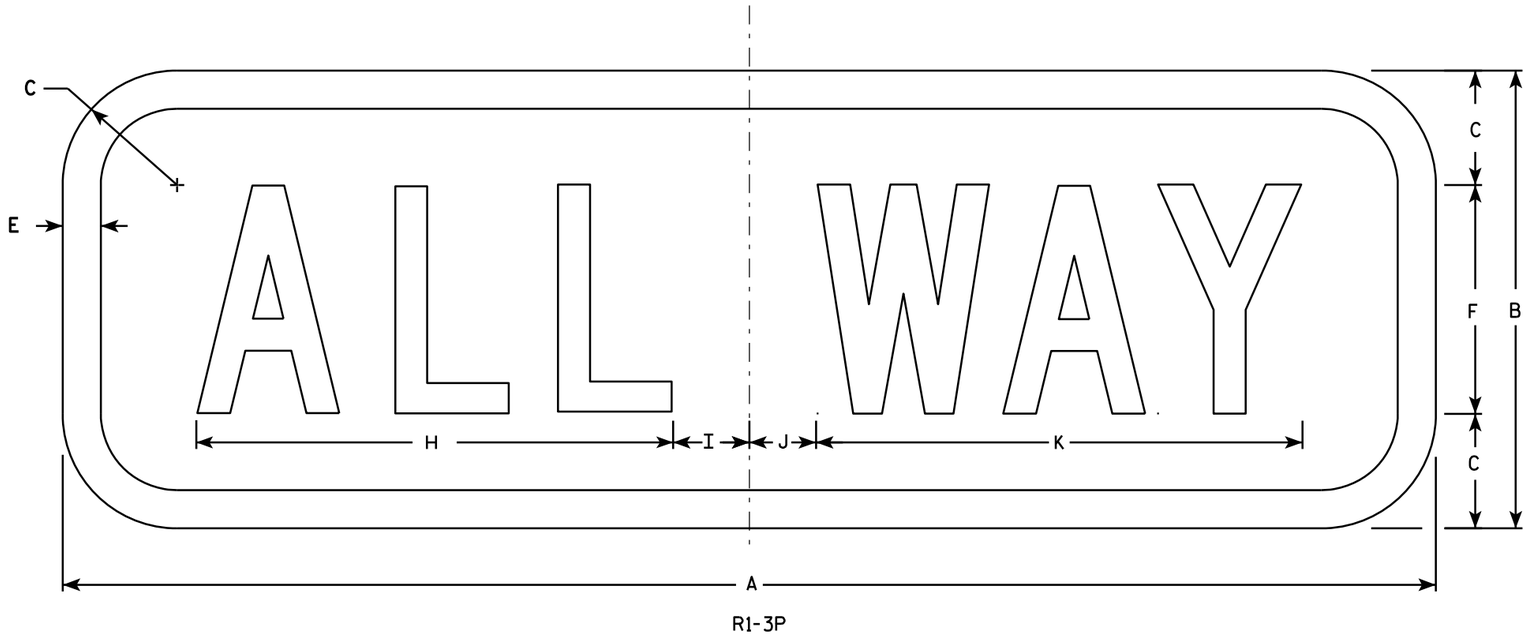
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-2.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 290 | E



R1-3P

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. 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	18	6	1 1/2		1/2	3		6 1/4	1 1/4	7/8	6 3/8																0.75
2S	18	6	1 1/2		1/2	3		6 1/4	1 1/4	7/8	6 3/8																1.5
2M	24	9	1 1/2		1/2	5		9 1/4	1 1/4	3/4	9 3/4																1.5
3	30	12	2 1/4		5/8	6		11	2 1/4	1 1/2	11 3/4																2.5
4																											
5																											

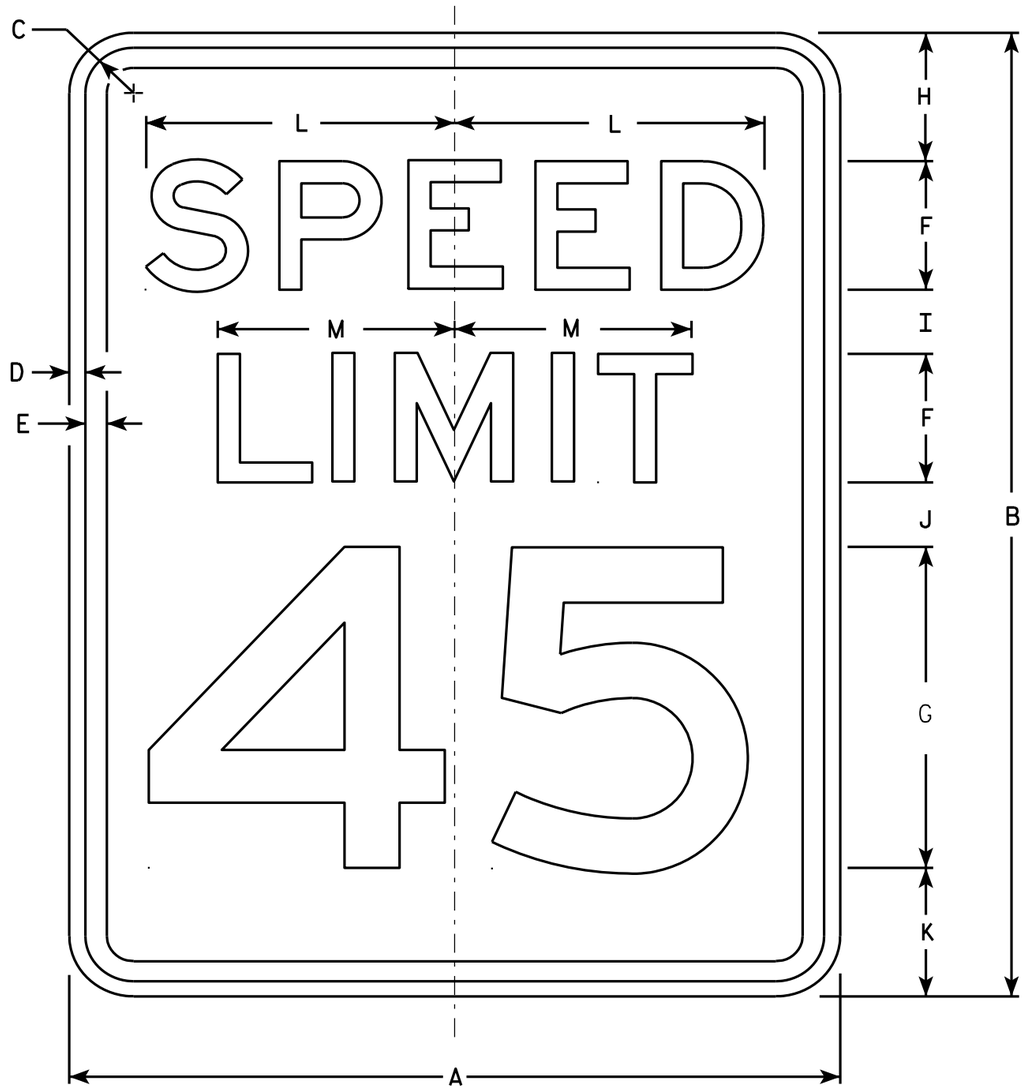
STANDARD SIGN
R1-3P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-3P.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 291	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

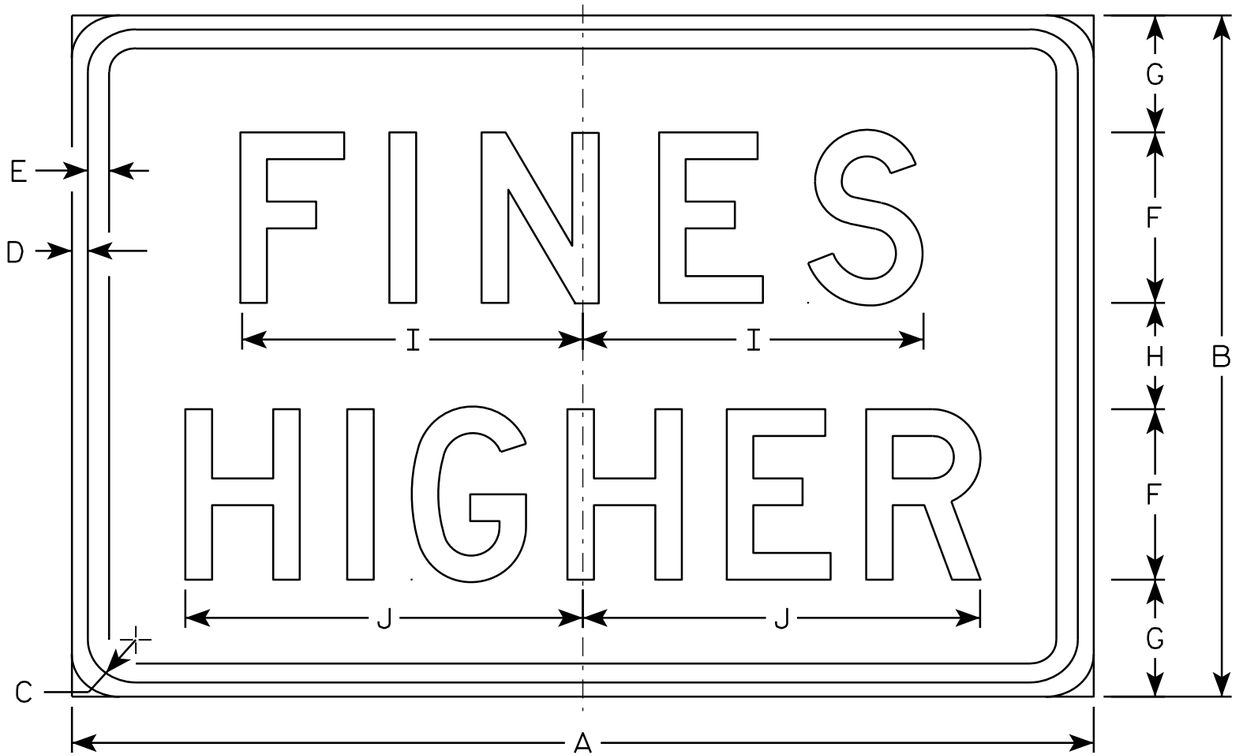
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 292 | E



R2-6P

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.

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	18	1 1/8	3/8	3/8	4	3 1/2	3	7 5/8	9 1/4																	3.0
2M	24	18	1 1/8	3/8	3/8	4	3 1/2	3	7 5/8	9 1/4																	3.0
3	36	24	1 1/8	3/8	1/2	6	4 1/8	3 3/4	12	14																	6.0
4	36	24	1 1/8	3/8	1/2	6	4 1/8	3 3/4	12	14																	6.0
5	48	36	1 3/8	1/2	5/8	8	7	6	15 1/8	19																	12.0

STANDARD SIGN
R2-6P

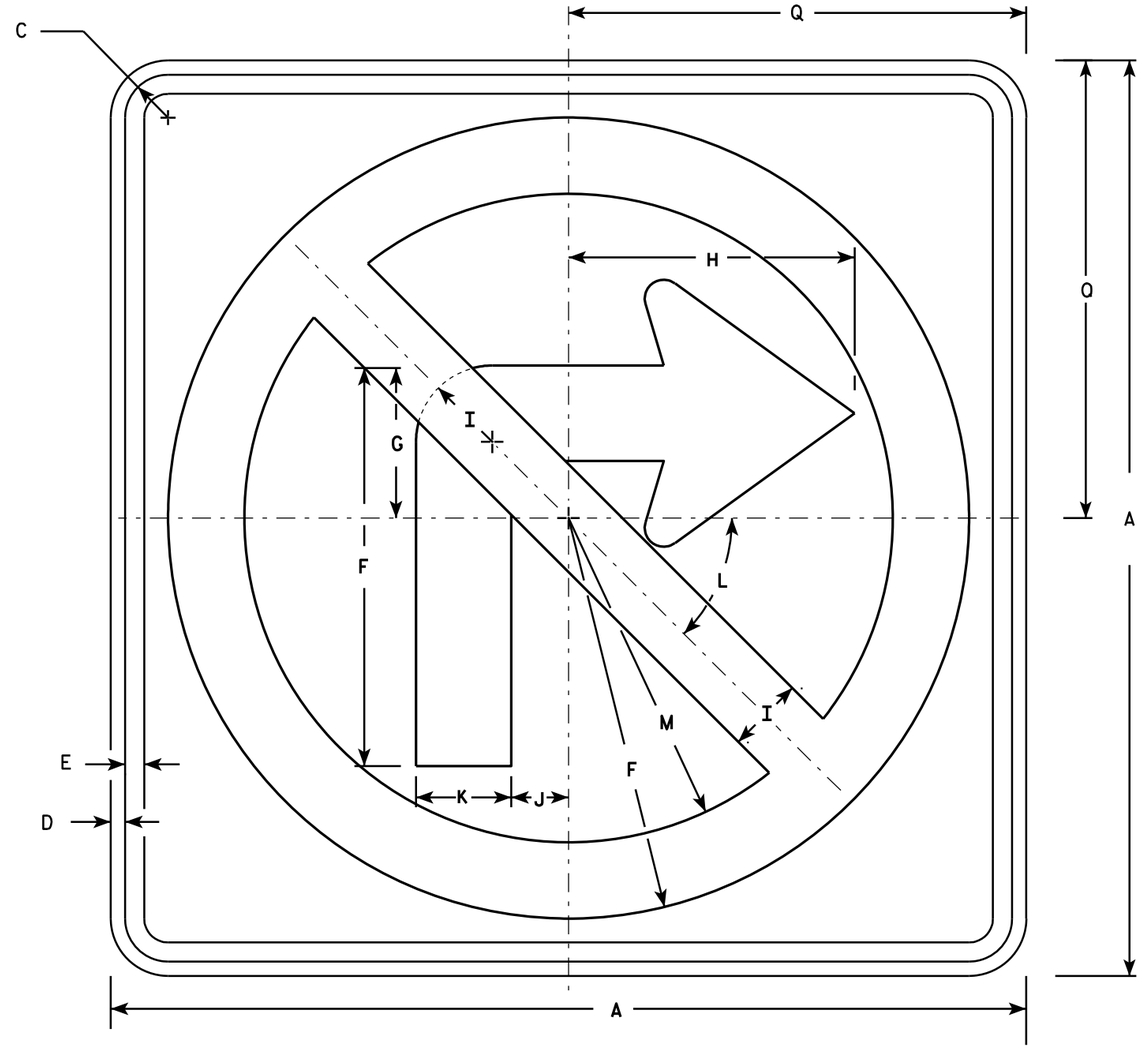
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/10 PLATE NO. R2-6P.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 293 | E

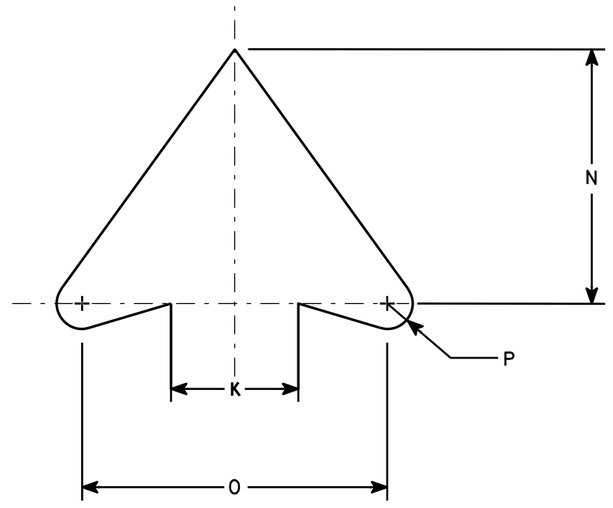
7



R3-1

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

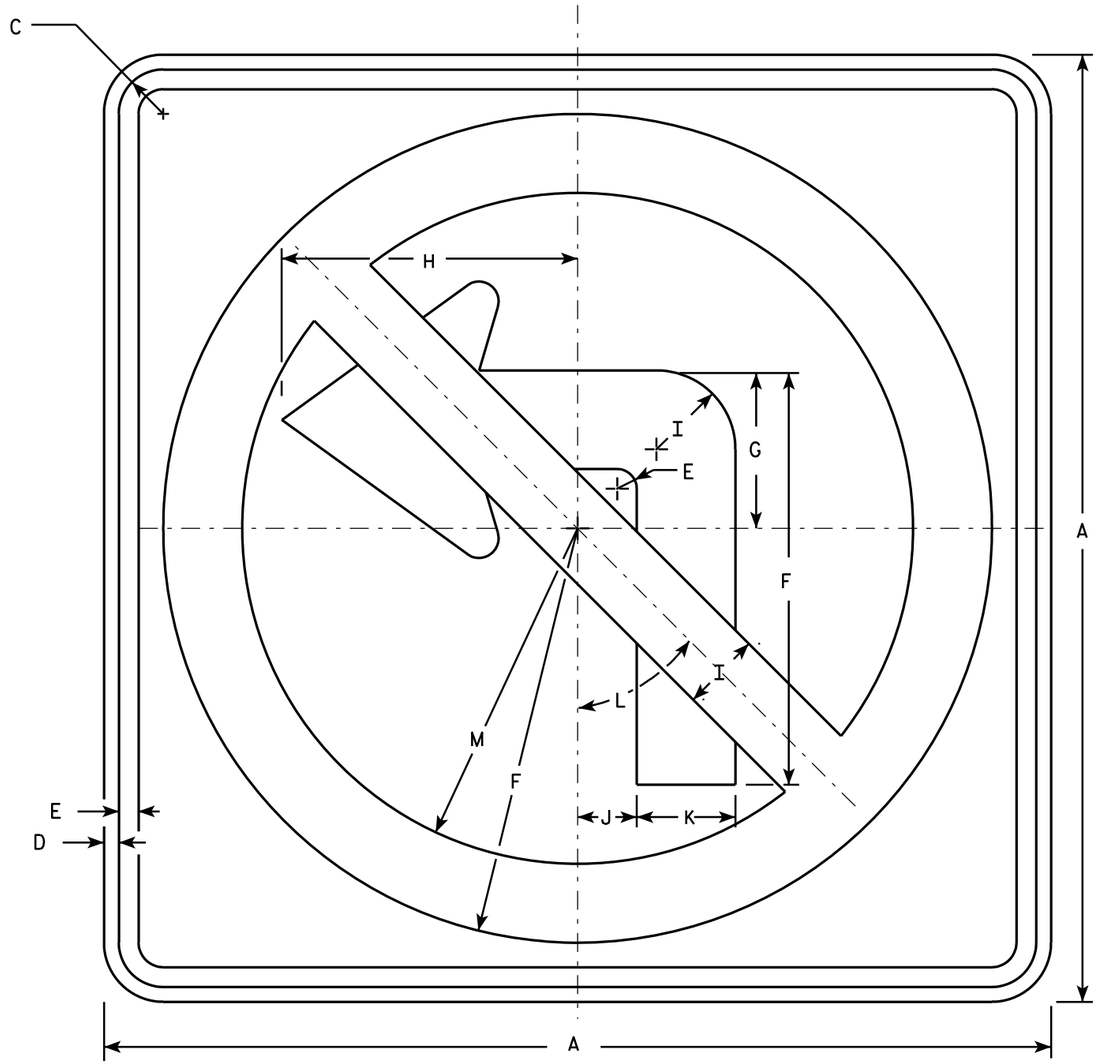
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

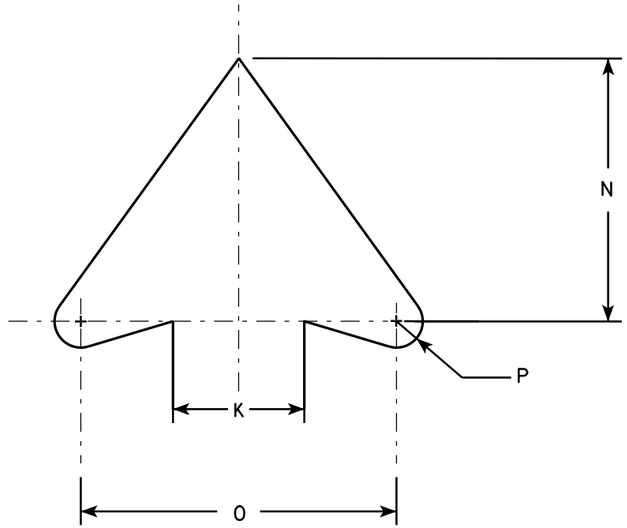
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 294	E



R3-2

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

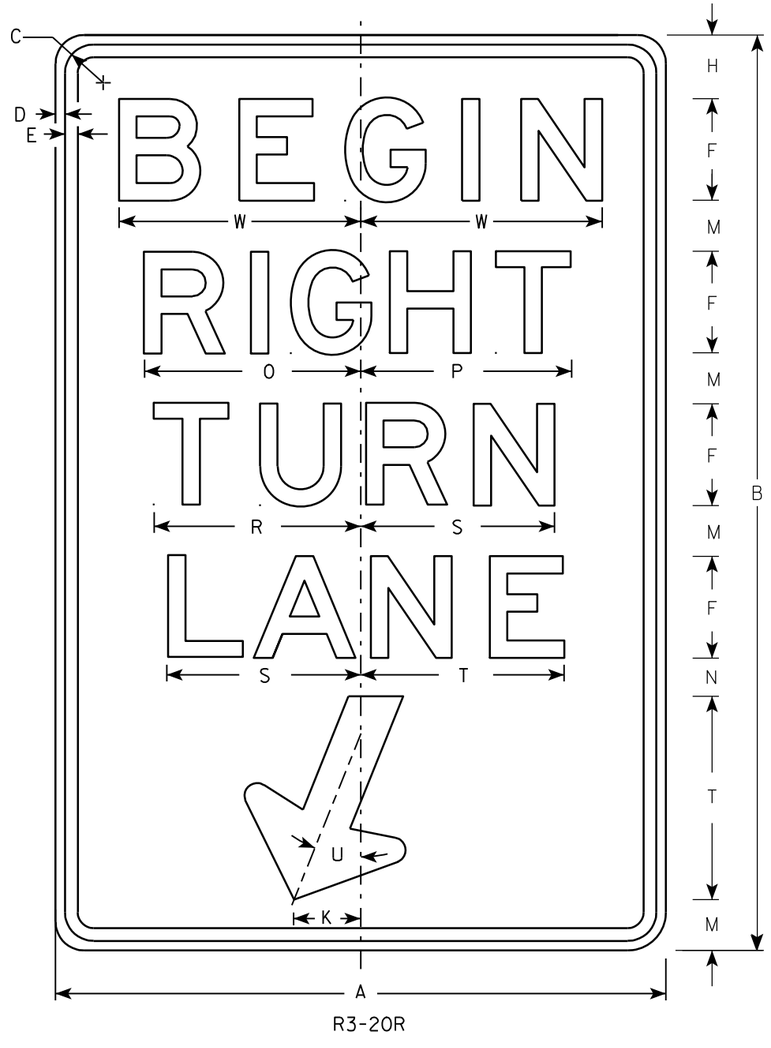
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

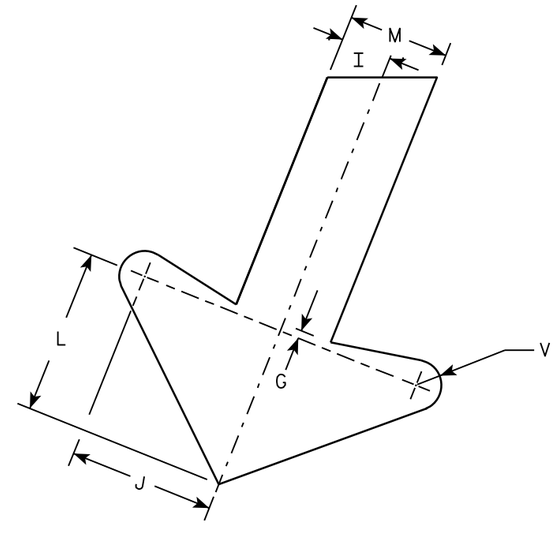
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 295 | E



R3-20R

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

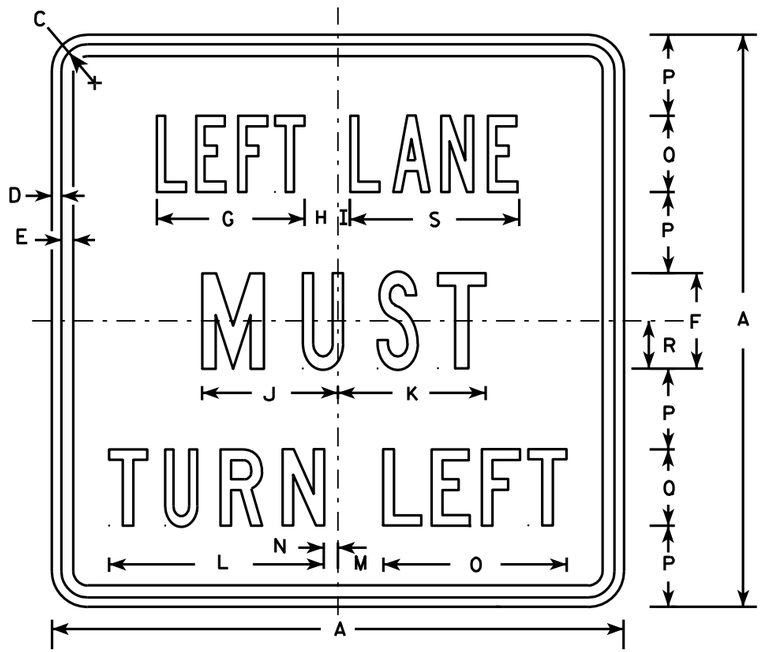
STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

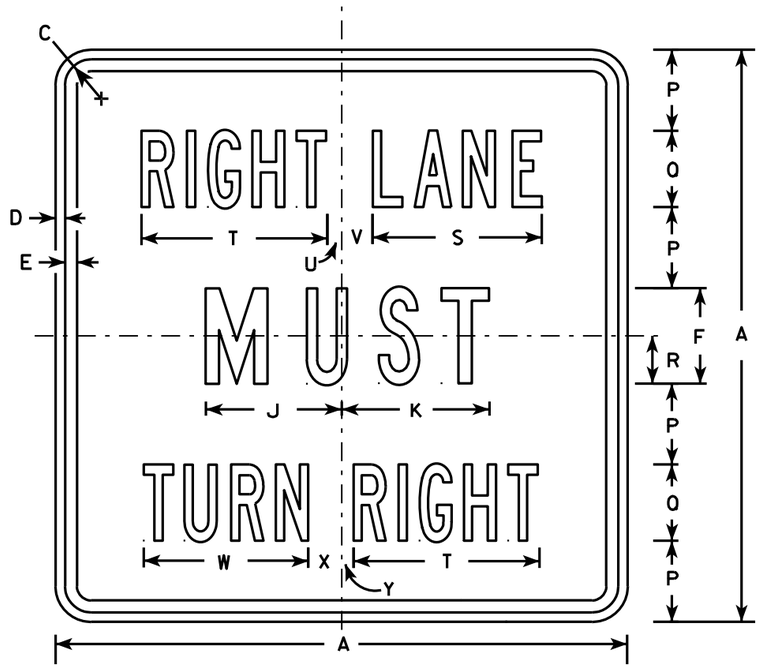
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 296 | E



R3-7L



R3-7R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

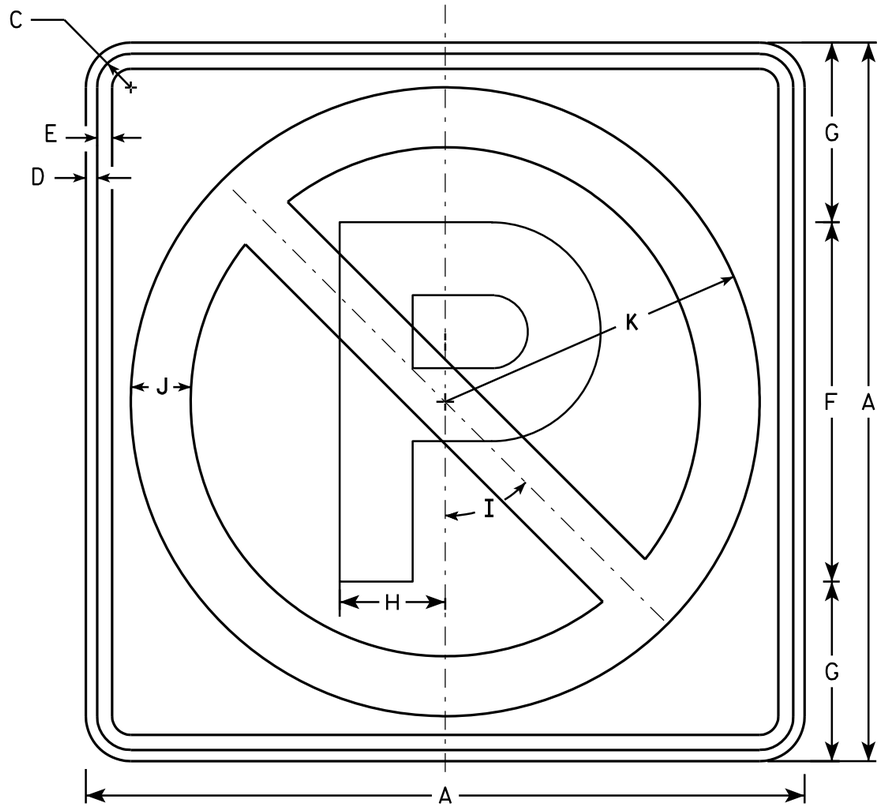
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 297 | E



R3-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2	12	6	3 1/2	45°	2	10 1/2																4.0
2M	24		1 1/8	3/8	1/2	12	6	3 1/2	45°	2	10 1/2																4.0
3																											
4																											
5																											

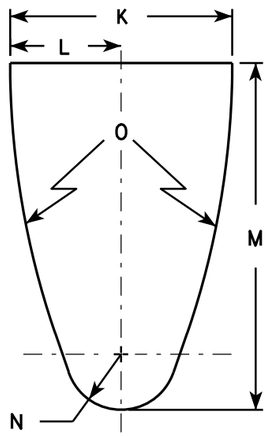
STANDARD SIGN
R3-8A

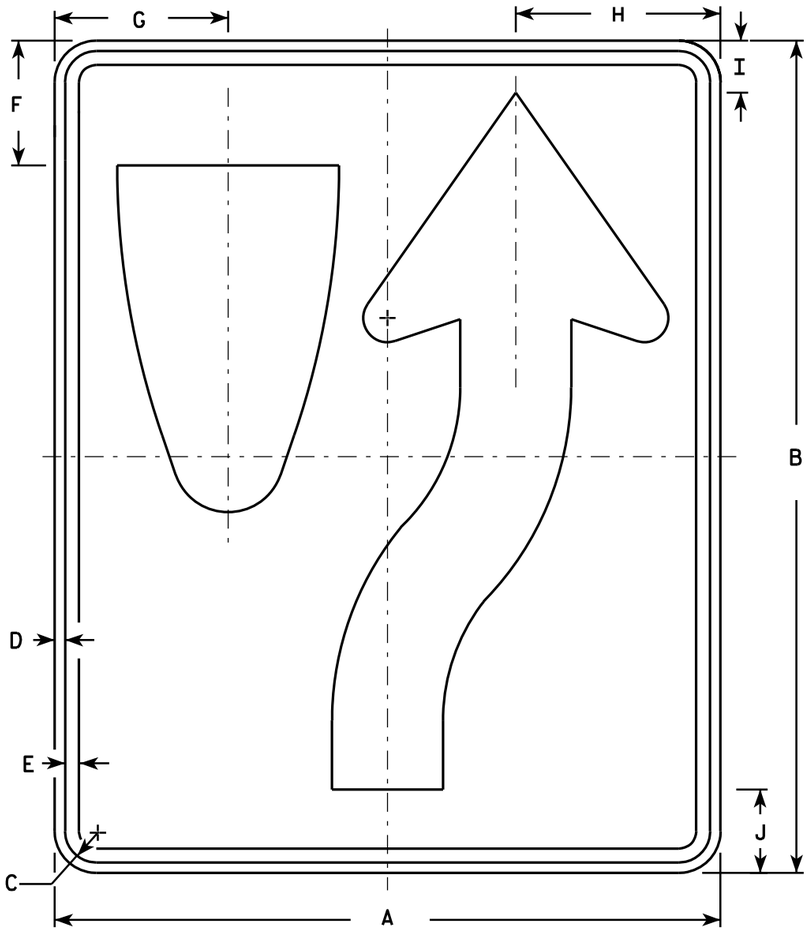
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/01/12 PLATE NO. R3-8A.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 298 | E

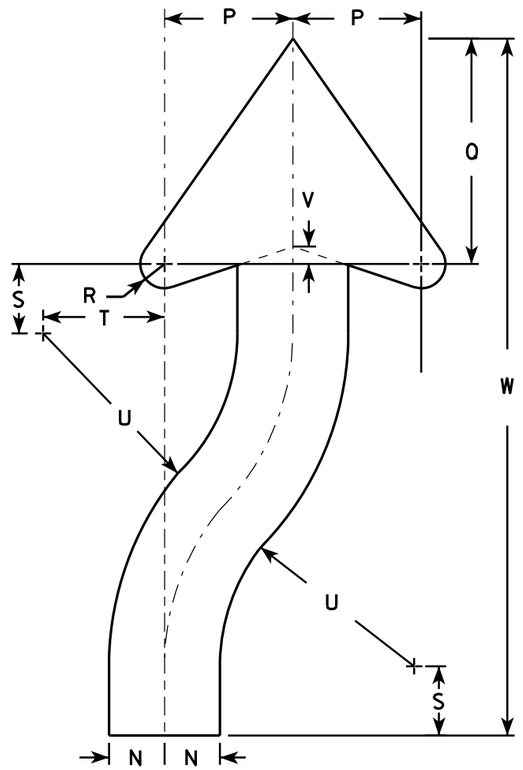




R4-7

NOTES

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



ARROW DETAIL

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

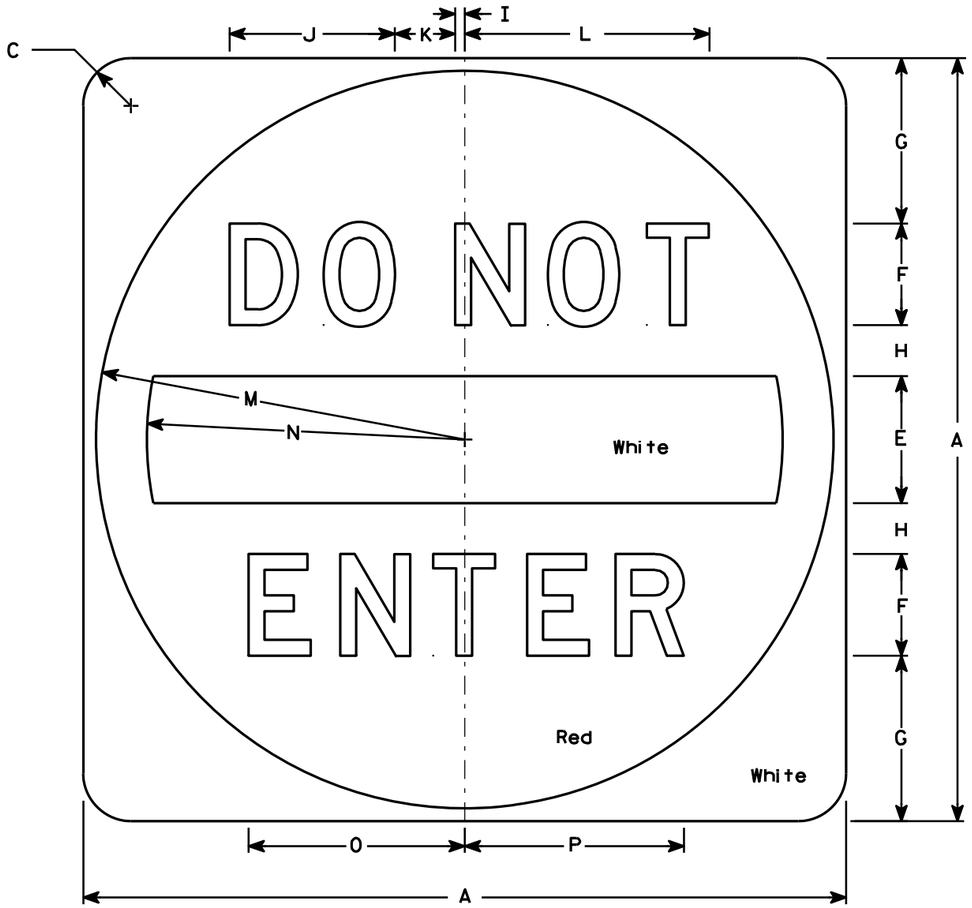
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 299	E



R5-1

NOTES

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

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

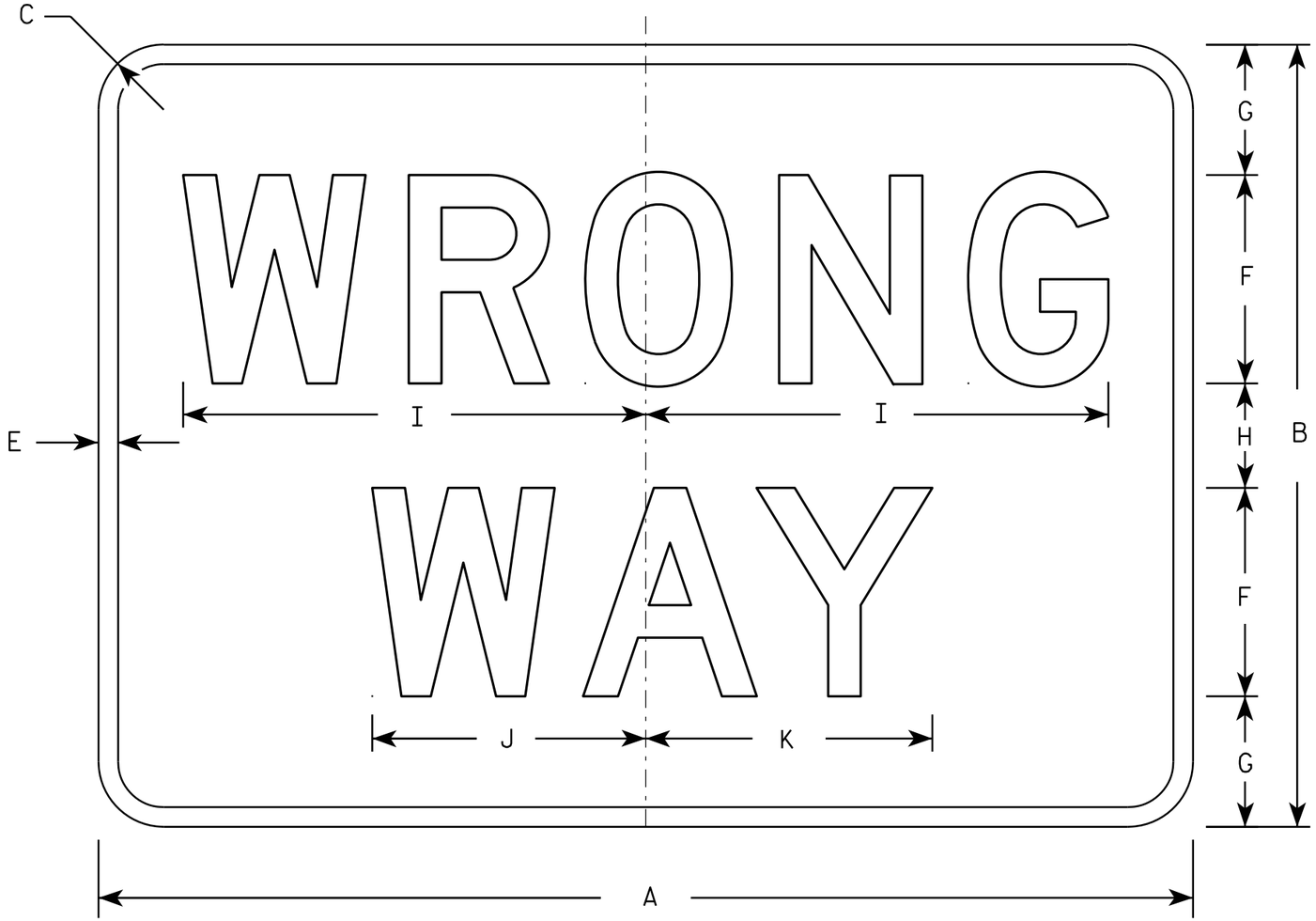
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 300 | 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

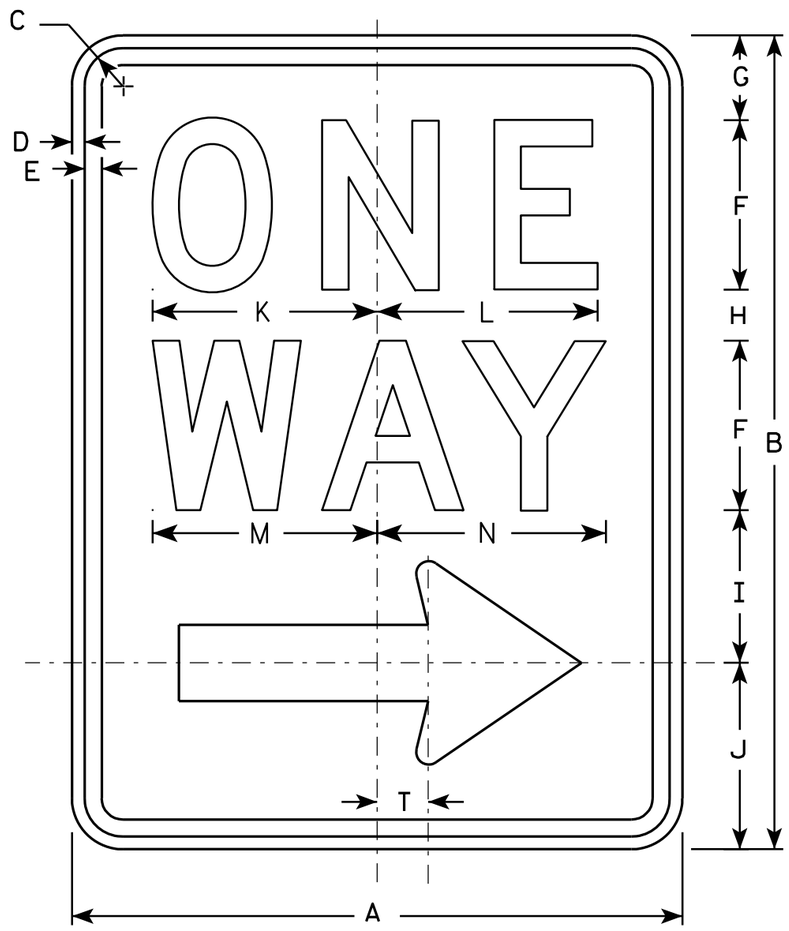
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

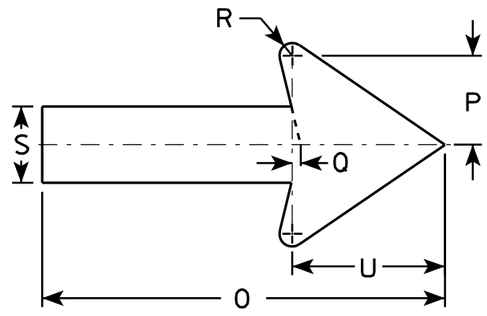
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 301 | E



R6-2R

NOTES

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



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

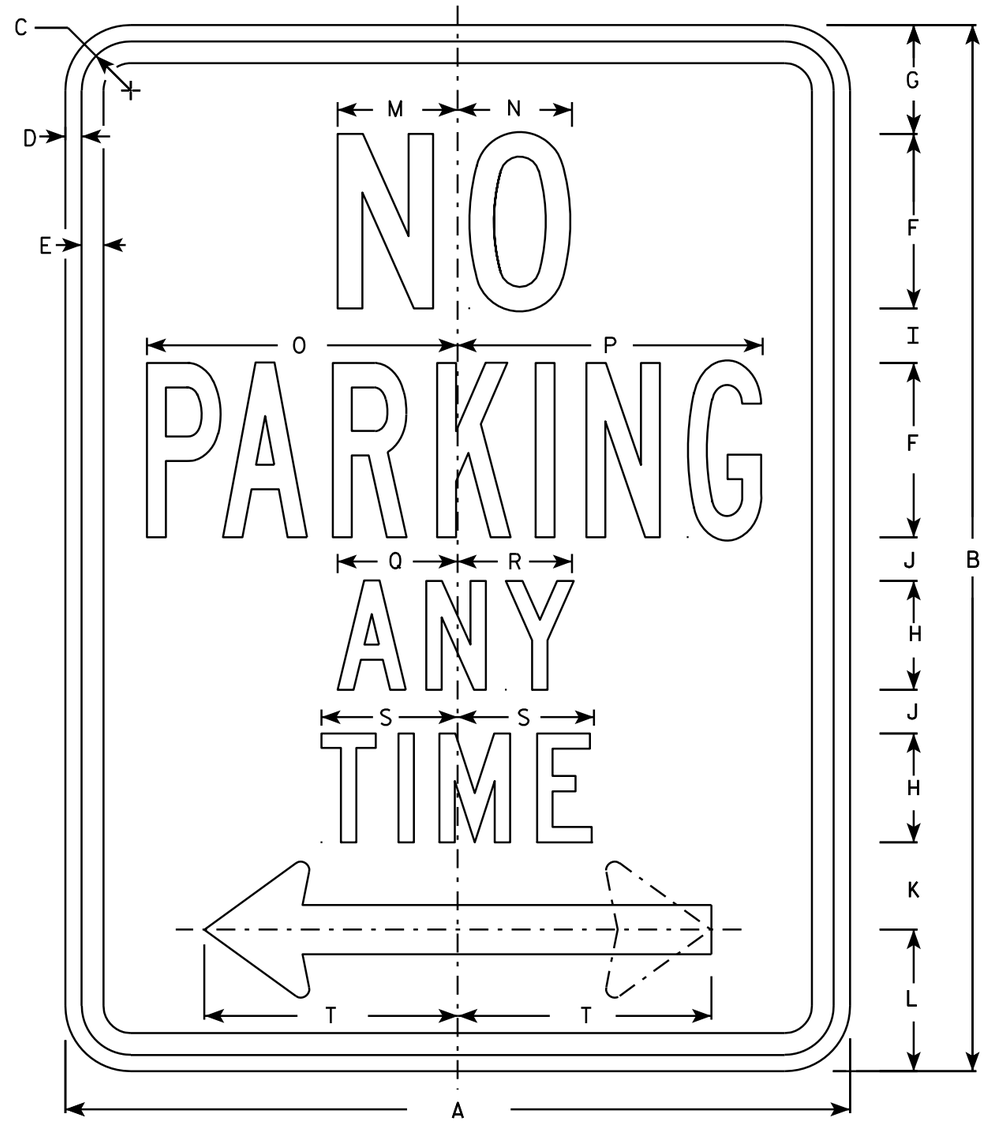
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

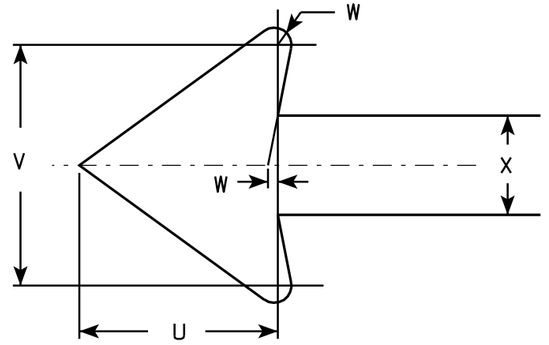
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 302	E



R7-1

NOTES

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



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

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 303	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R71.DGN PLOT DATE : 31-MAR-2011 09:20 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.476110:1.000000

WISDOT/CADDS SHEET 42



R9-98

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
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																											
2S	18	24	1 1/8	3/8	1/2	3	1 1/2	2	1	2	6 3/8	2 1/8	3 5/8	3 1/2	5 3/4												3.0
2M	18	24	1 1/8	3/8	1/2	3	1 1/2	2	1	2	6 3/8	2 1/8	3 5/8	3 1/2	5 3/4												3.0
3																											
4																											
5																											

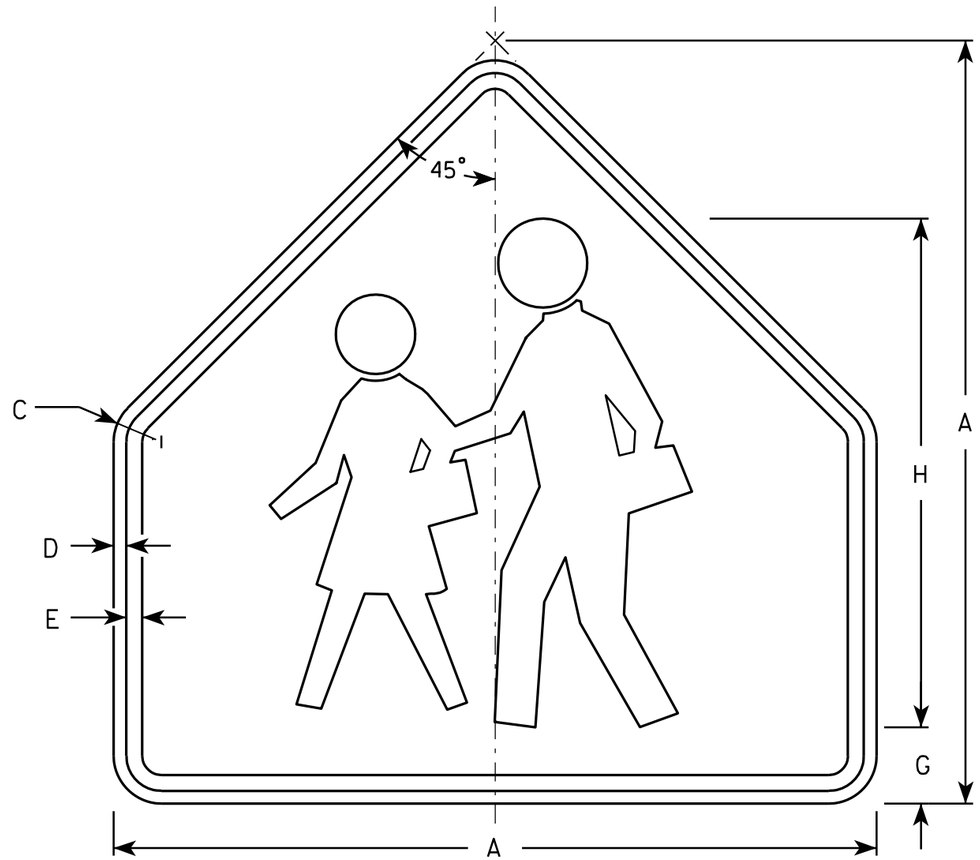
STANDARD SIGN
R9-98

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/4/2011 PLATE NO. R9-98.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 304	E



S1-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

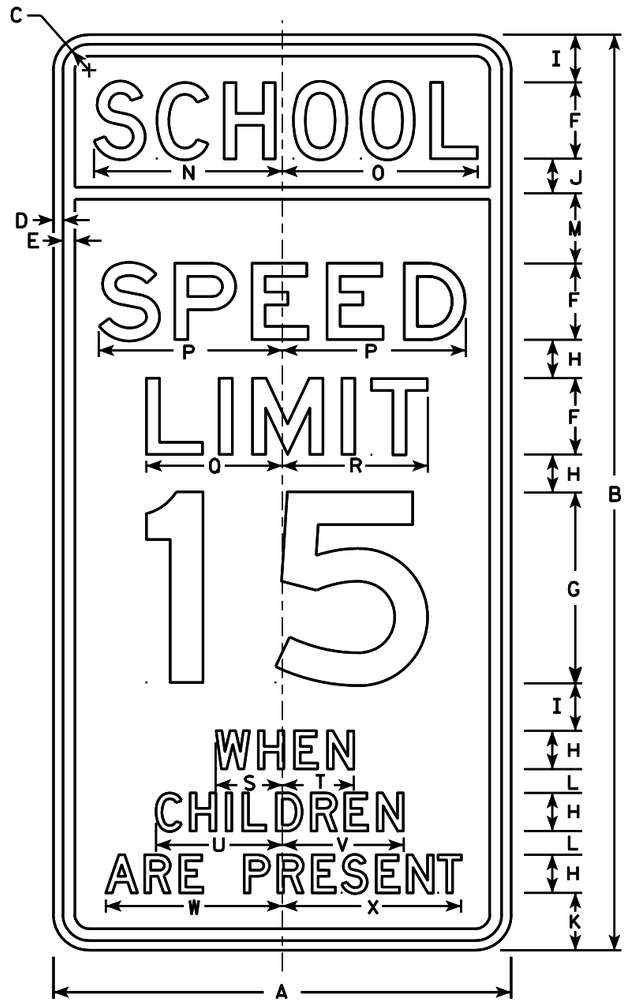
STANDARD SIGN
S1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 305	E



S4-51

NOTES

1. Sign is Type II - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. (See note 5).
2. Color:
   Background - See note 5
   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. Top panel (SCHOOL) background - Yellow Green -Type F Reflective.
   Lower panel background - White -Type H Reflective.
6. From top to bottom:
   Lines 1, 5, 6 & 7 are series D
   Lines 2, 3 & 4 are series E
7. Line 4 substitute appropriate numerals and adjust spacing to achieve proper balance.

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 1200 mm
3	900 mm X 1800 mm
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24	48	1 3/8	1/2	5/8	4	10	2	2 1/2	1 3/4	3	1 1/4	3 3/4	9 7/8	10 1/4	9 5/8	7 1/8	7 5/8	3 1/2	3 3/8	6 5/8	6 3/8	9 1/4	9 3/8			8.00	0.72
3	36	72	2 1/4	3/4	1	6	15	3	3 3/4	2 3/4	4 1/2	1 7/8	5 1/2	15	15 1/4	14 1/2	11 1/4	11 1/2	5 1/2	5 3/4	10	9 3/4	14	14 1/8			18.00	1.62
4																												
5																												

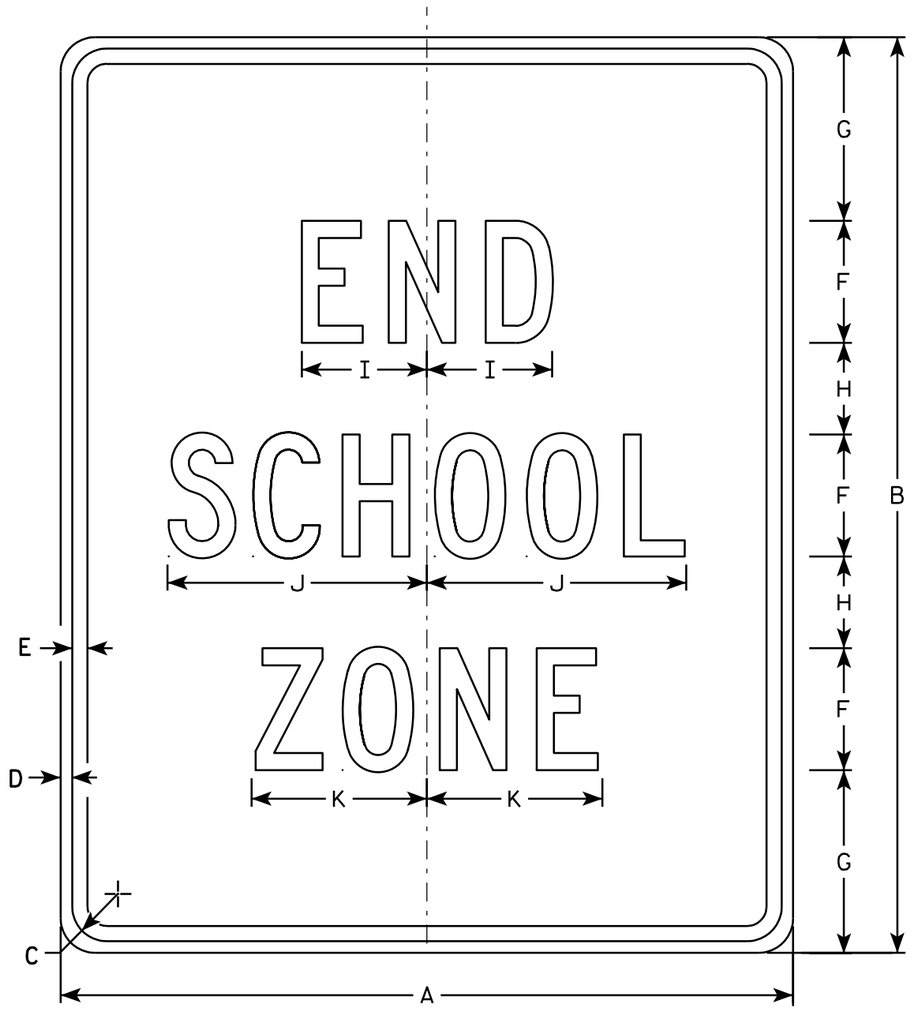
STANDARD SIGN
S4-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/26/10 PLATE NO. S4-51.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 306 | E



S5-2

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	30	1 1/8	3/8	1/2	4	6	3	4 1/8	8 1/2	5 3/4																5.0
3	36	42	1 5/8	5/8	3/4	6	7	5	6 1/8	12 5/8	8 5/8																10.5
4																											
5																											

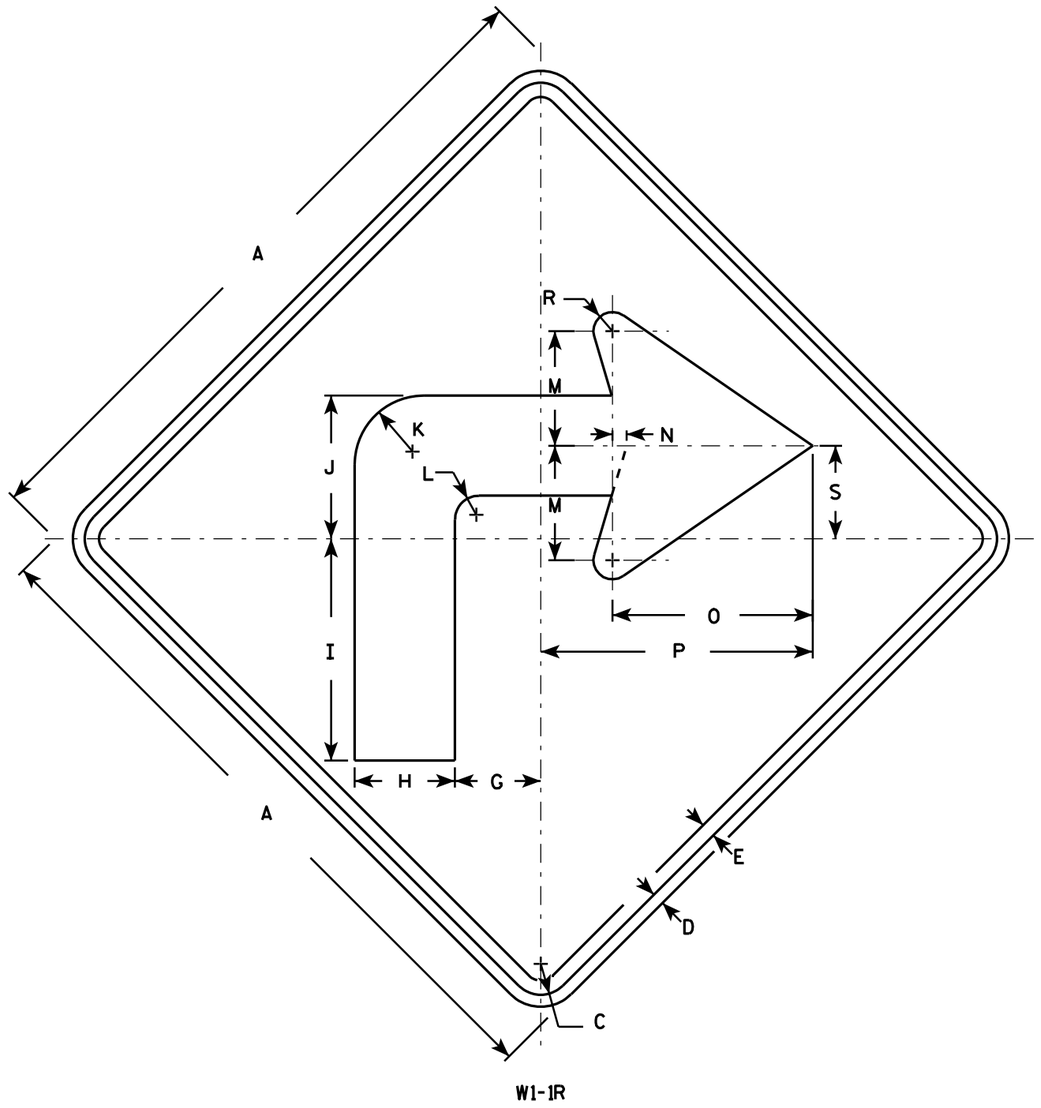
STANDARD SIGN
S5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/8/11 PLATE NO. S5-2.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 307 | E



W1-1R

NOTES

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

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

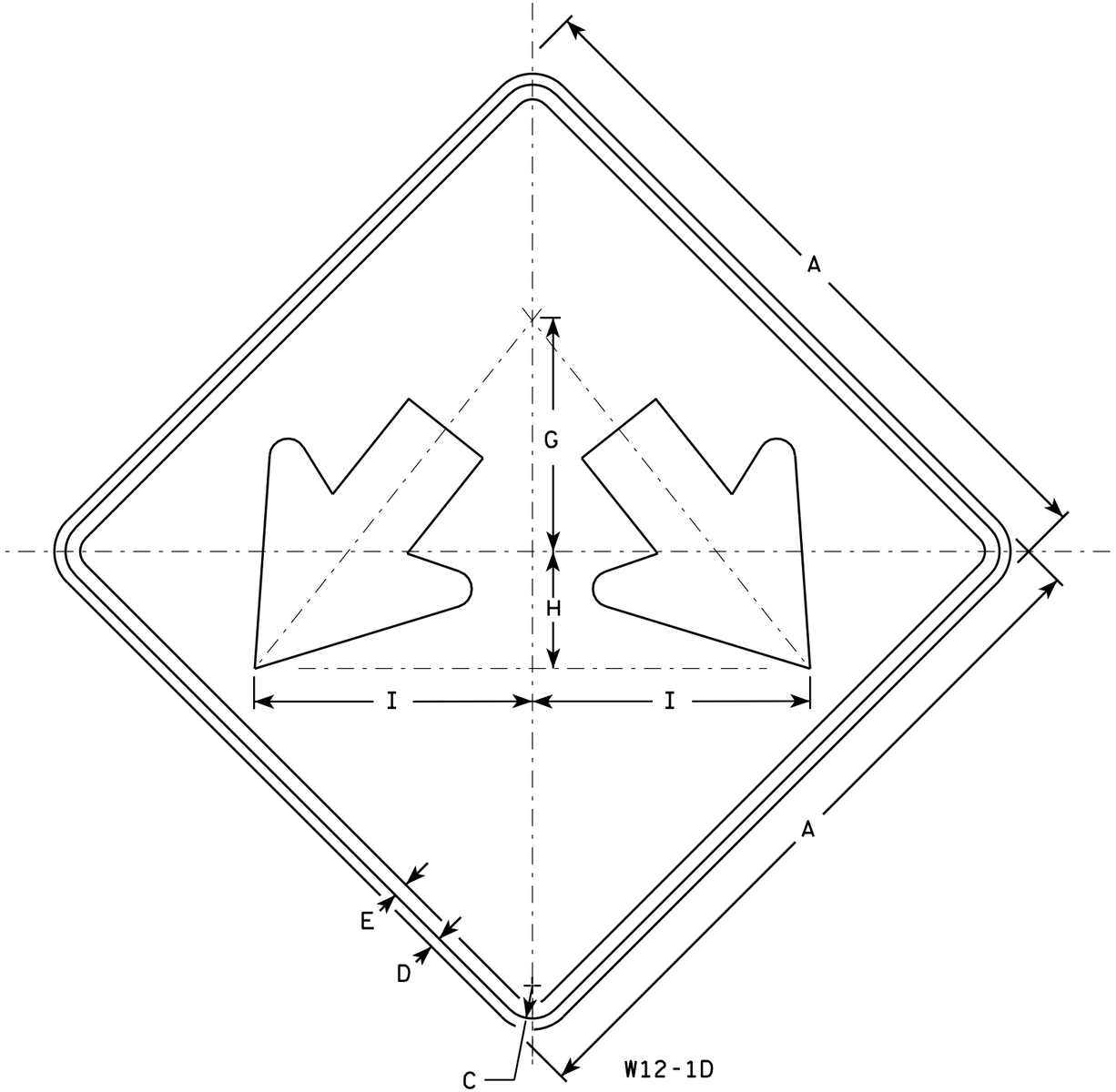
STANDARD SIGN
W1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

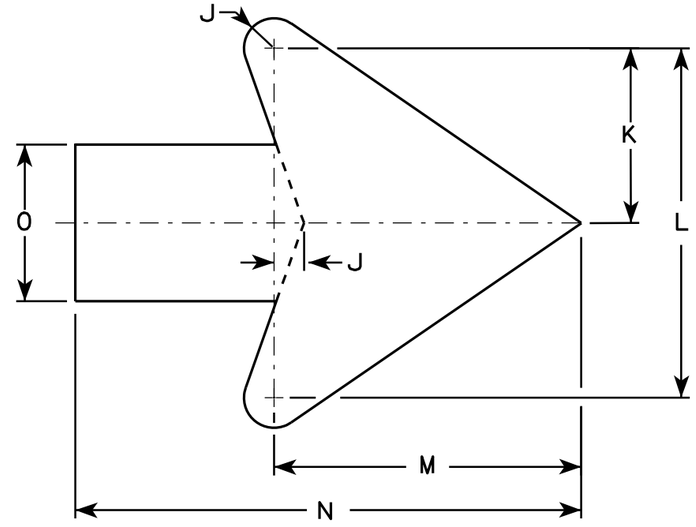
DATE 5/15/12 PLATE NO. W1-1.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 308 | 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 - 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

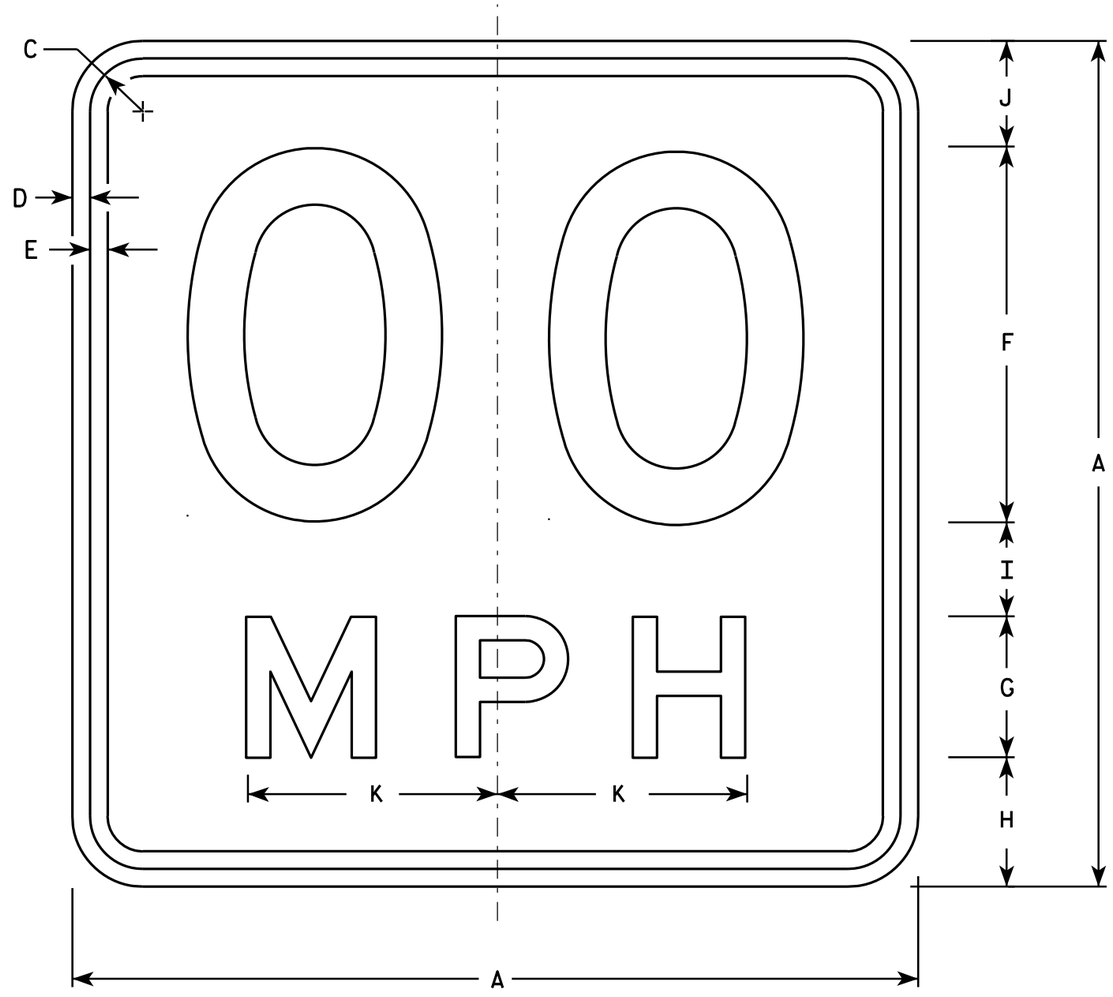
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 309	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W121D.DGN PLOT DATE : 16-MAR-2011 14:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.717577:1.000000

WISDOT/CADDS SHEET 42

7

7



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.

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

	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

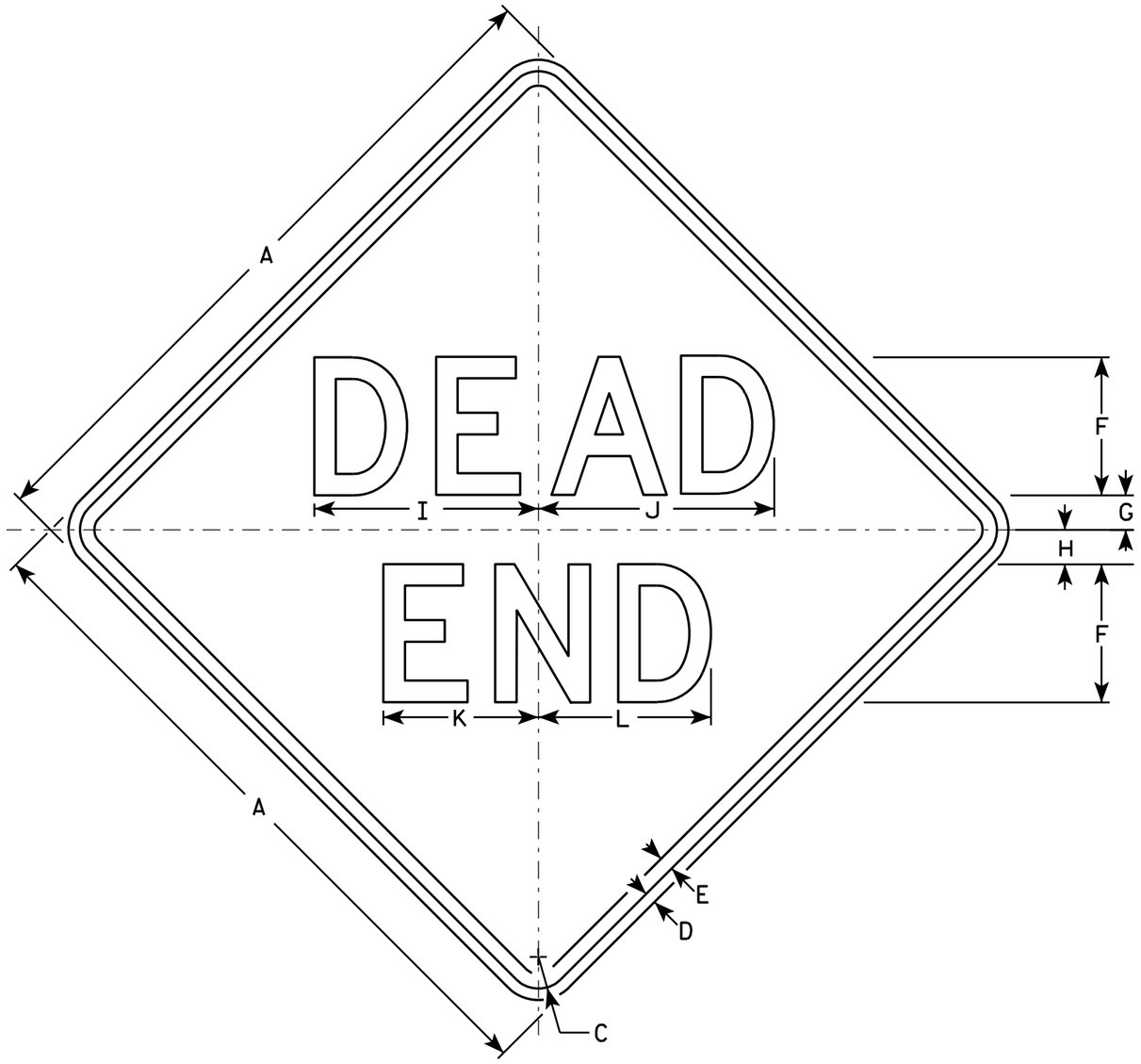
STANDARD SIGN
W13-1

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: 310 | E



W14-1

NOTES

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

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

STANDARD SIGN
W14-1

WISCONSIN DEPT OF TRANSPORTATION

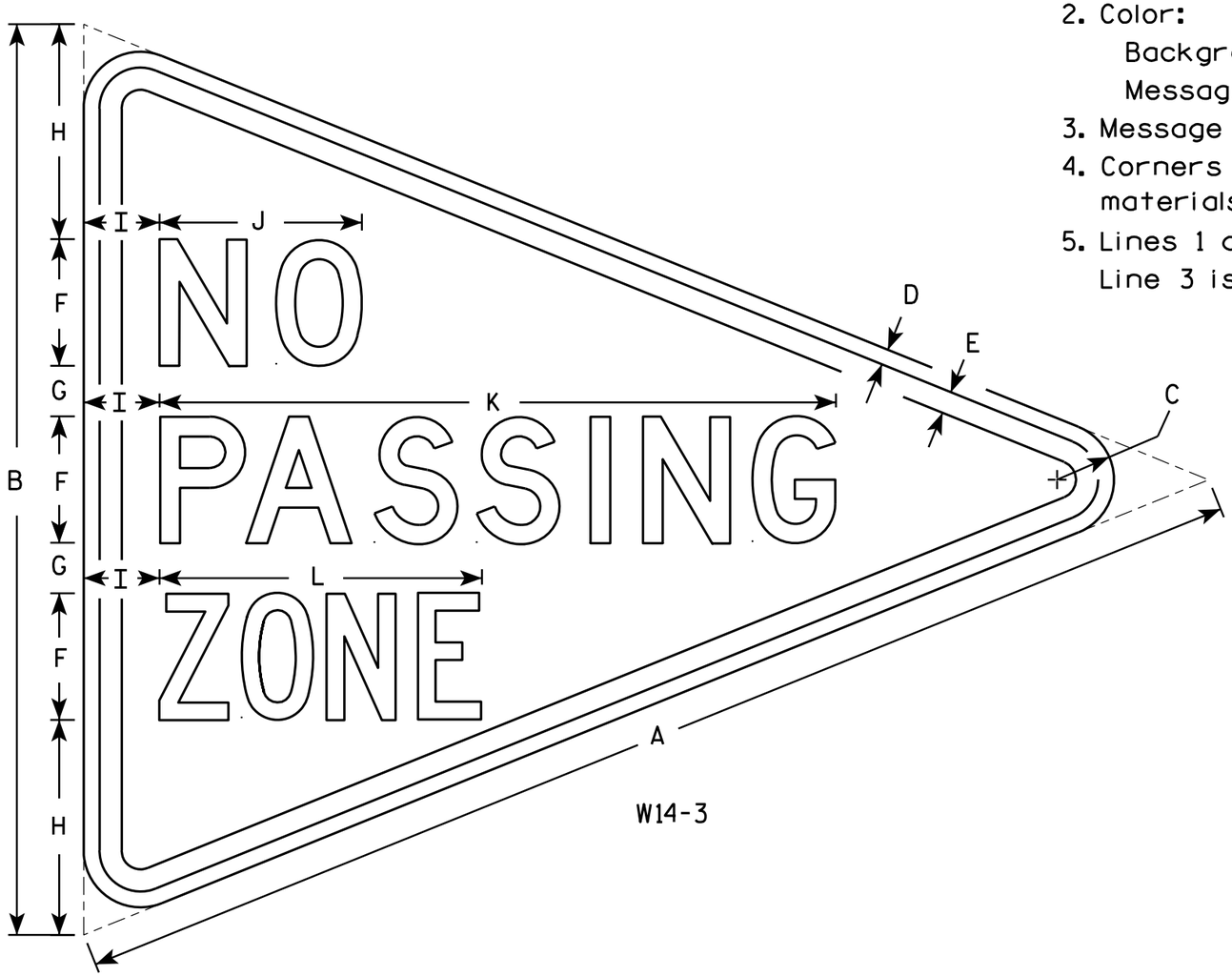
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W14-1.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 311	E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.



W14-3

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	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

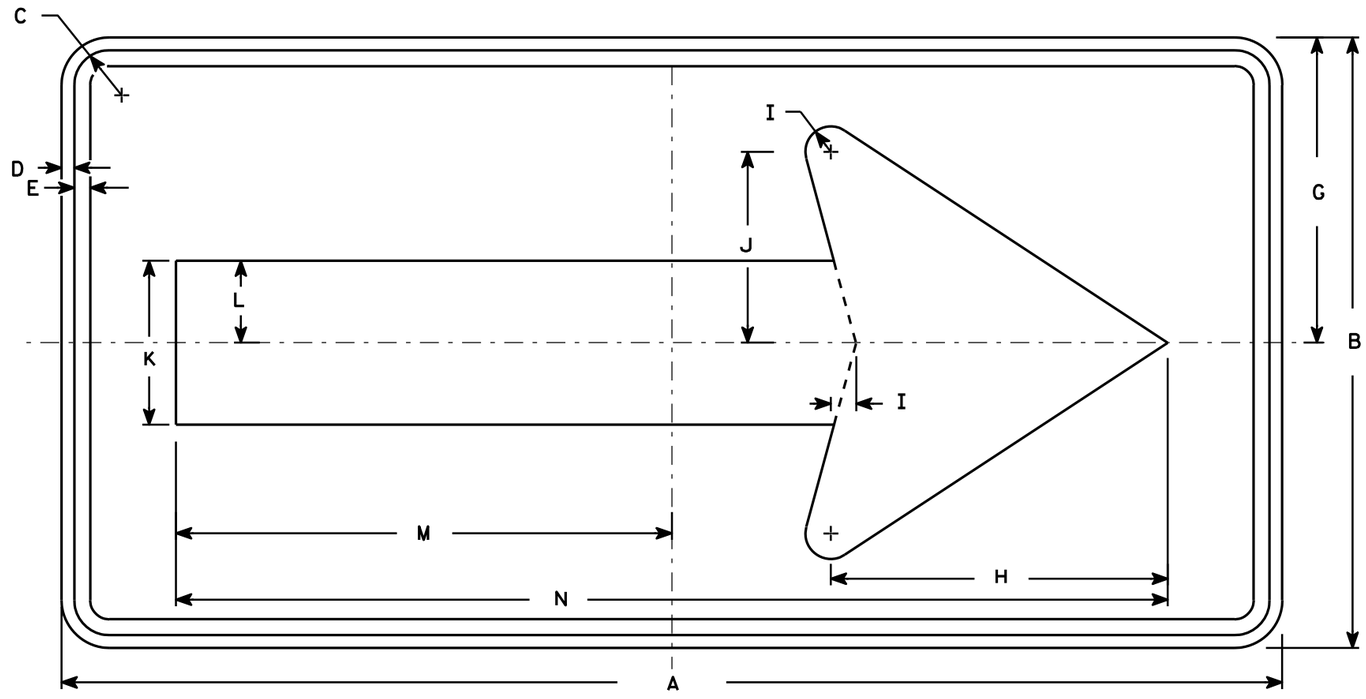
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 312	E



W1-6

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. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

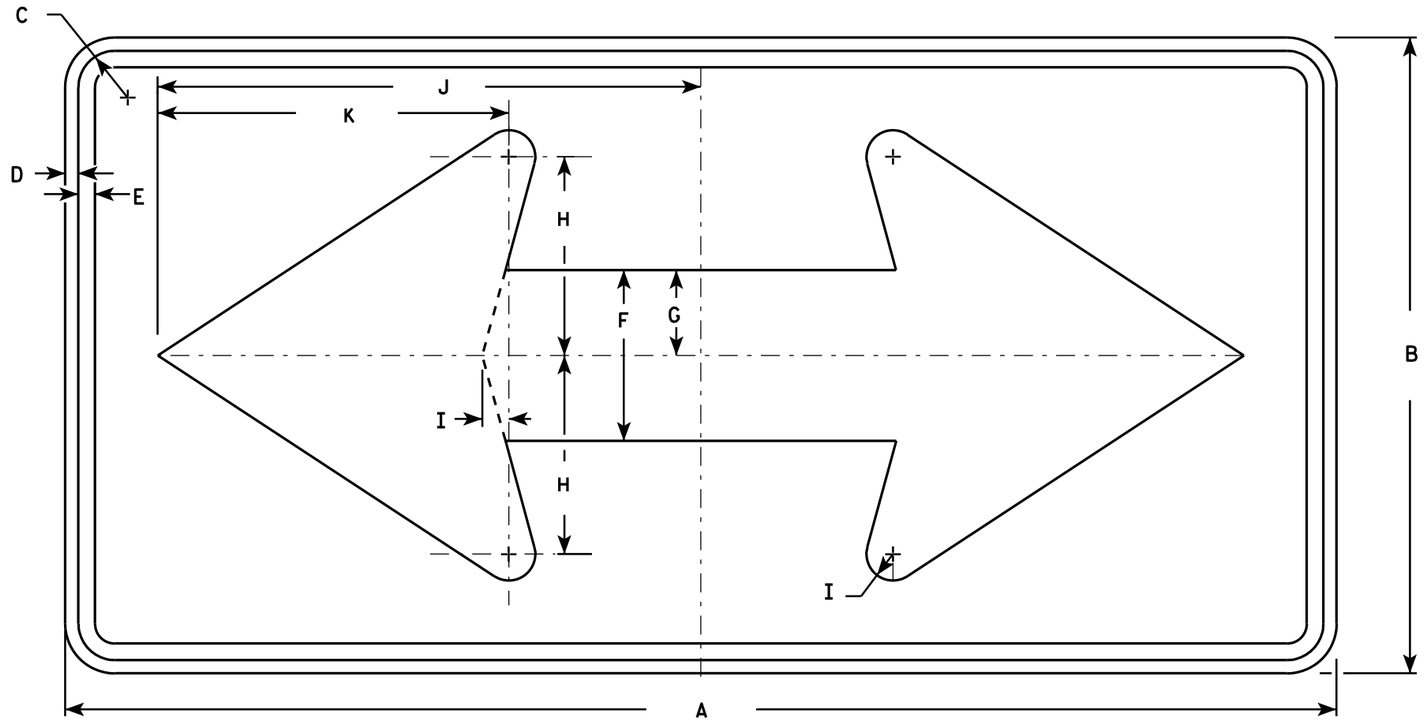
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 313



W1-7

NOTES

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

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

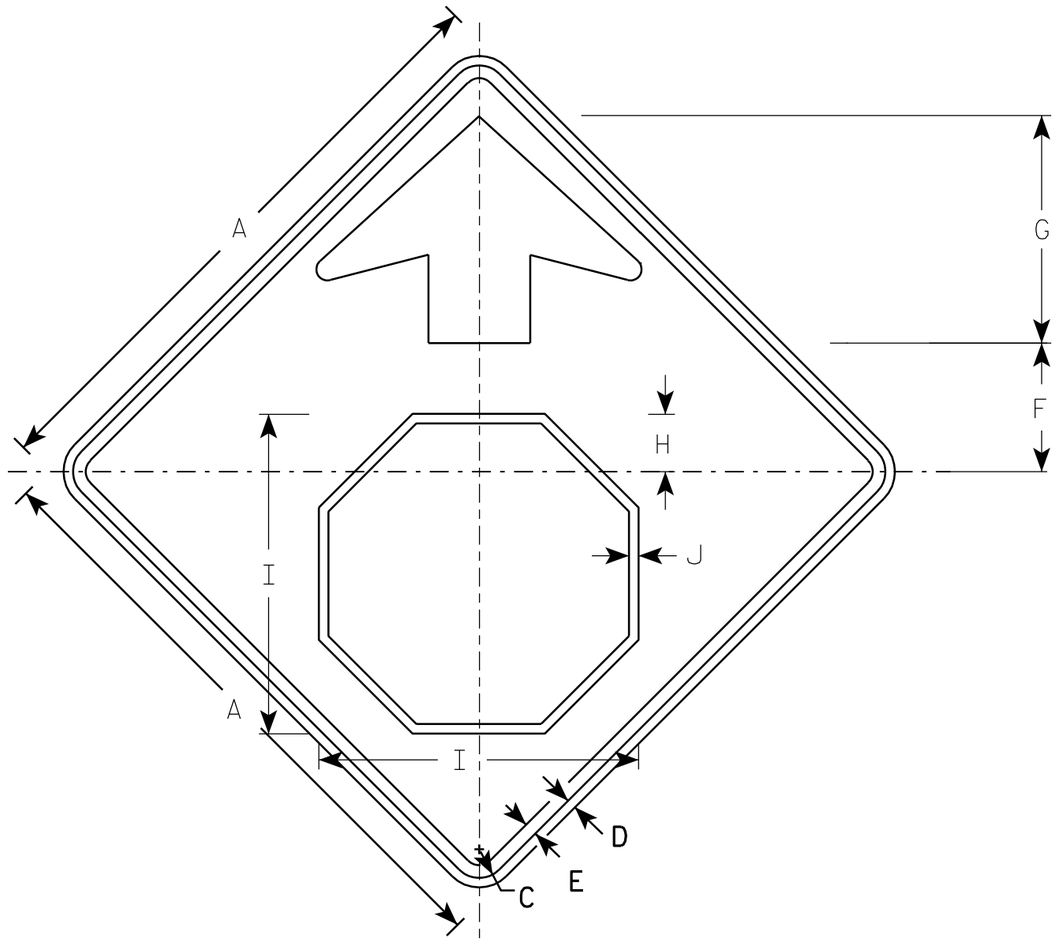
STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

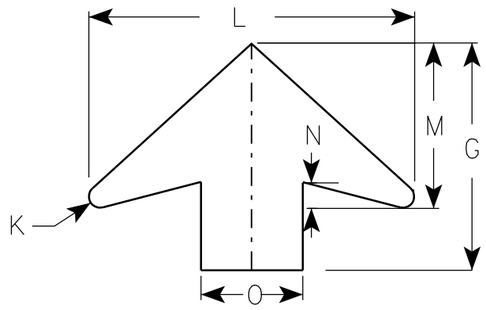
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 314 | E



W3-1

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
   Stop 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	Q	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	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

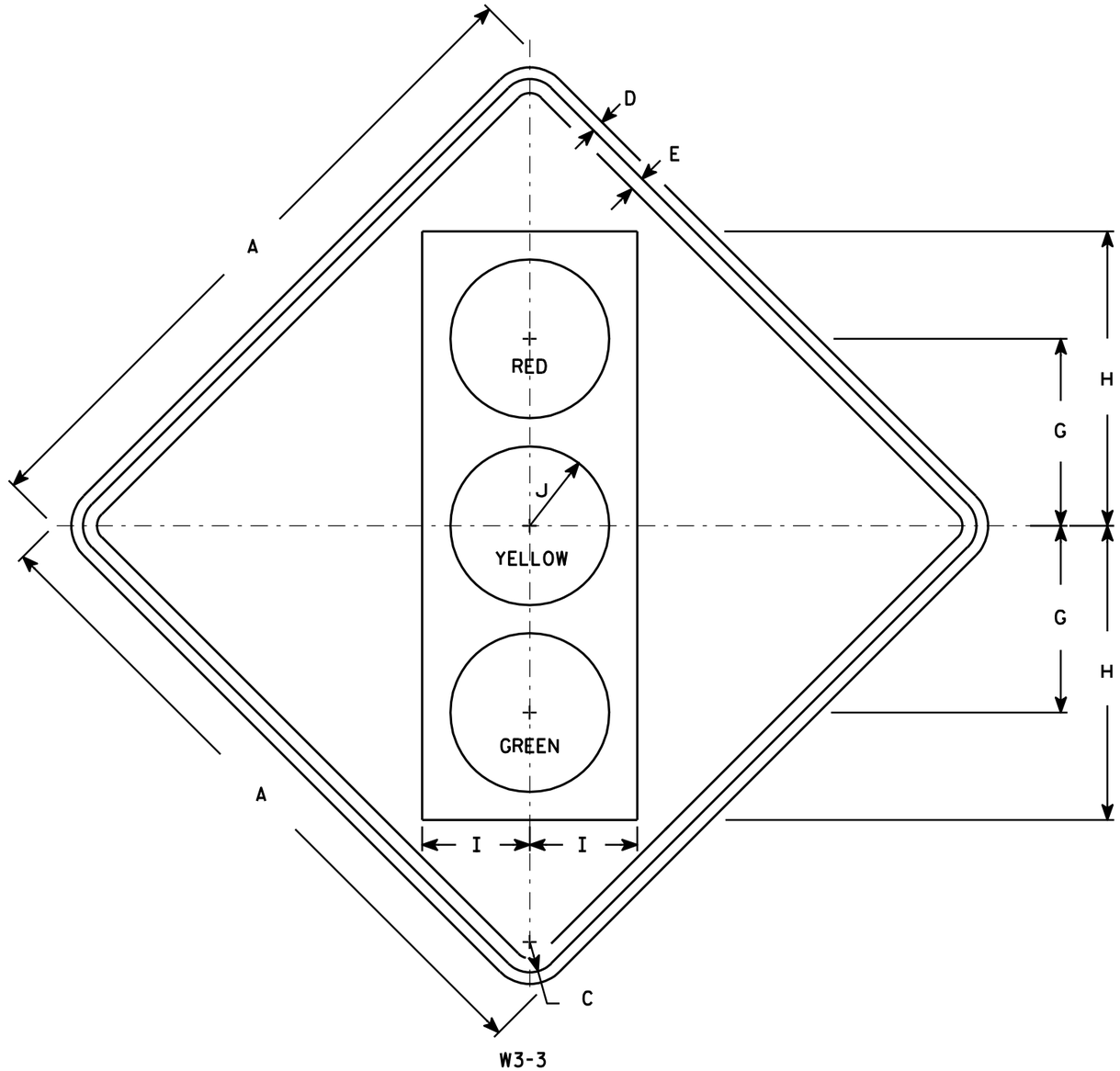
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 315 E



NOTES

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

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

STANDARD SIGN
W3-3

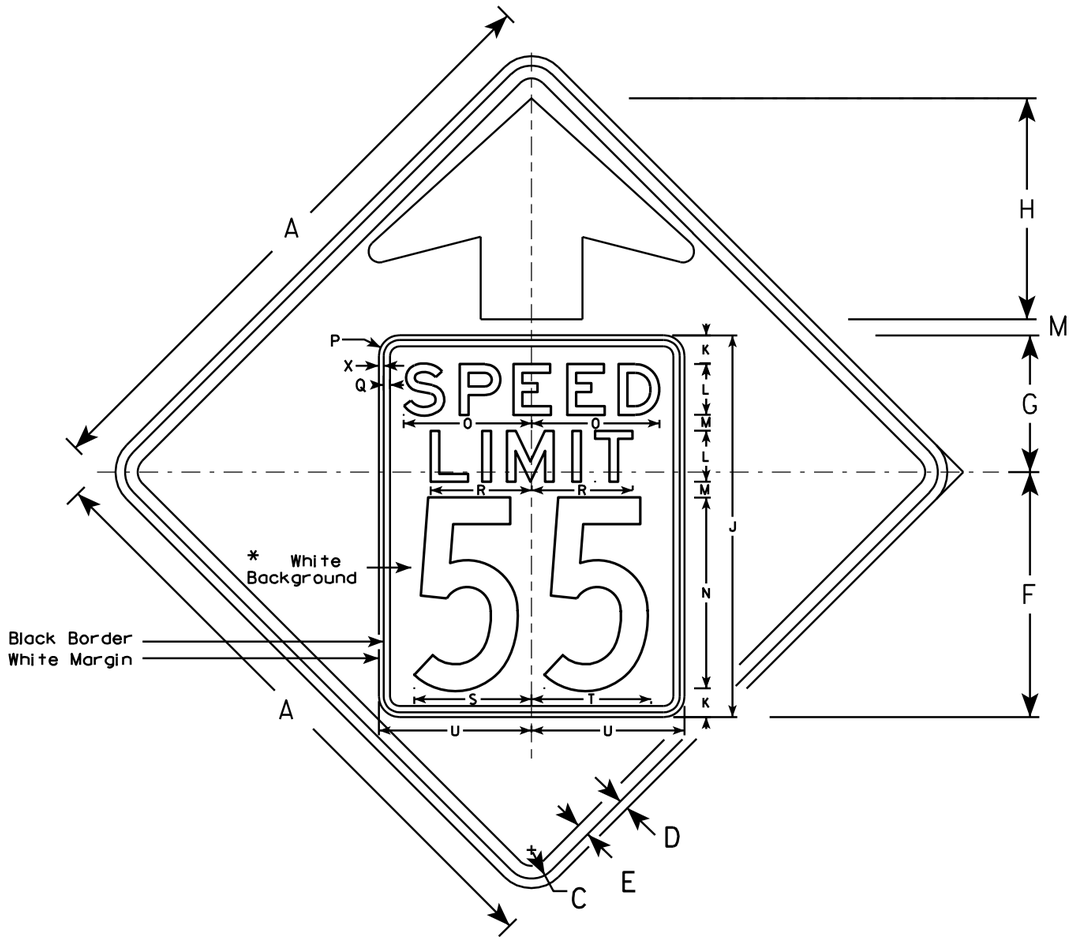
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 316 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W33.DGN PLOT DATE : 07-JUN-2010 13:07 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 7.448805:1.000000
WISDOT/CADDS SHEET 42

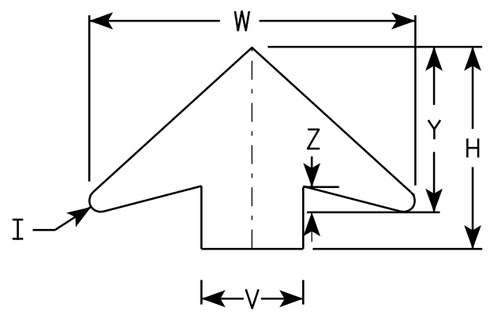


W3-5

NOTES

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

*Speed Limit Sign shall have a White Background



ARROW DETAIL

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

STANDARD SIGN
W3-5

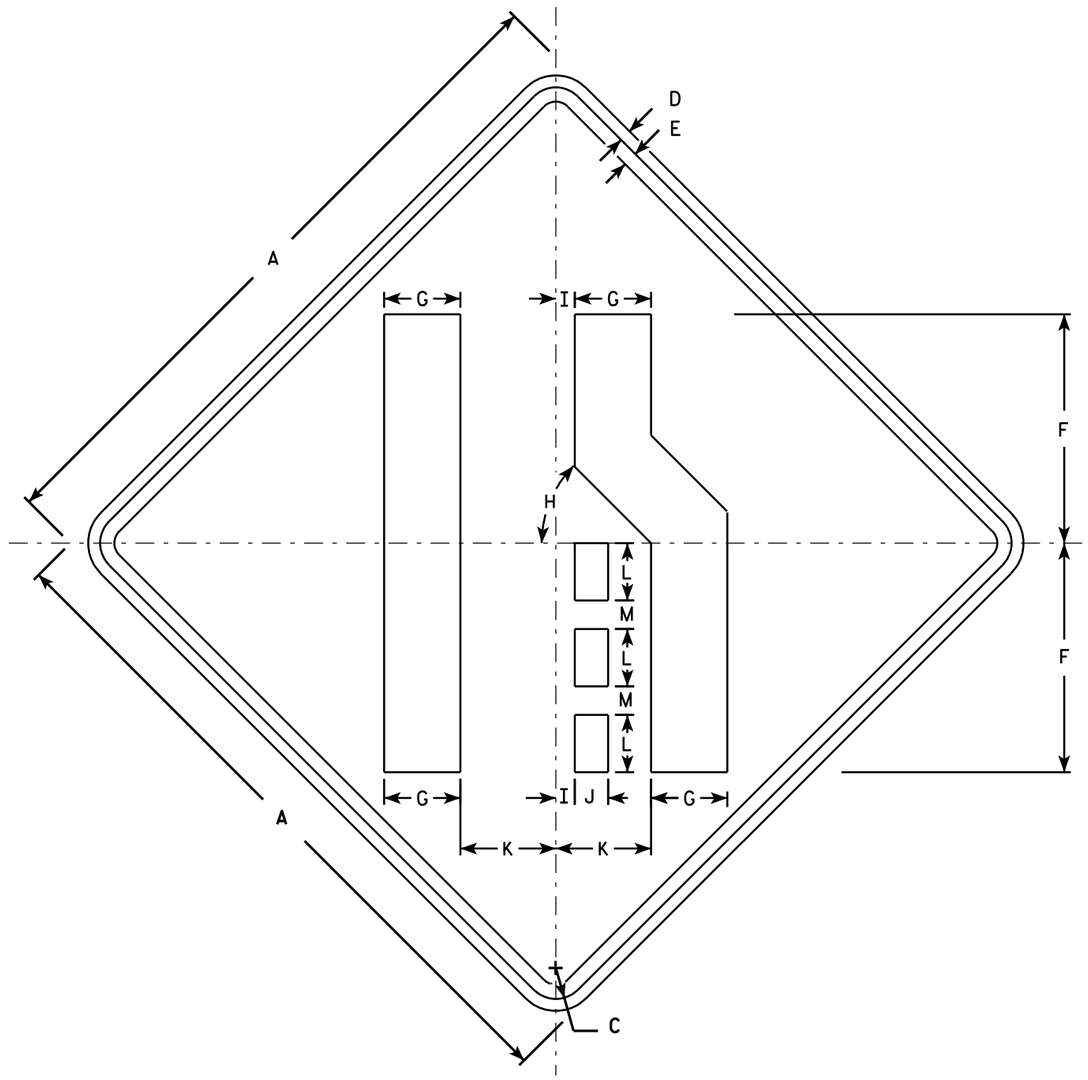
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 317 E



W4-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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. W4-2L is the same as W4-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10	3 3/8	45°	7/8	1 1/2	4 1/4	2 1/2	1 1/4														6.25
2S	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2M	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
3	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W4-2

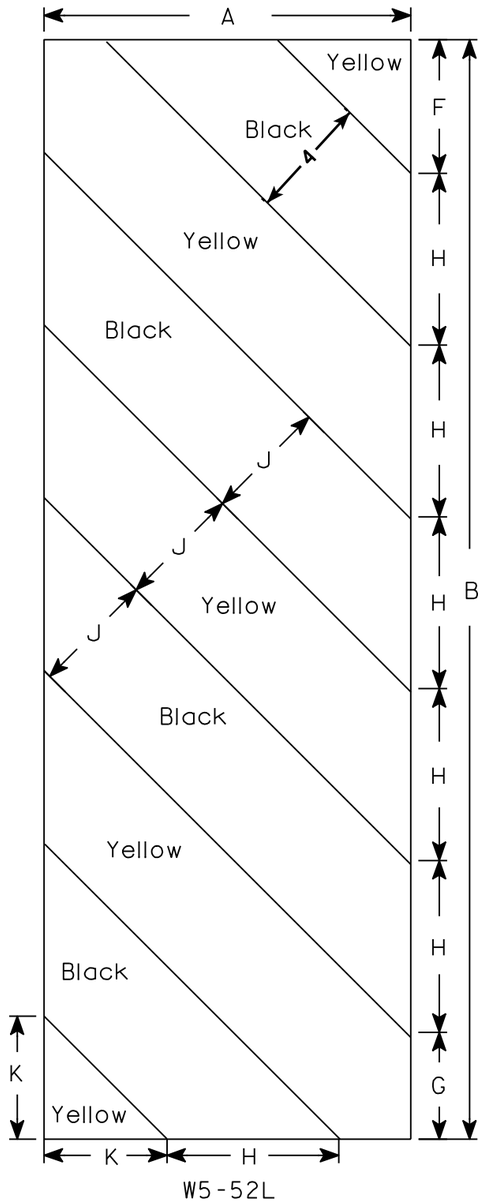
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

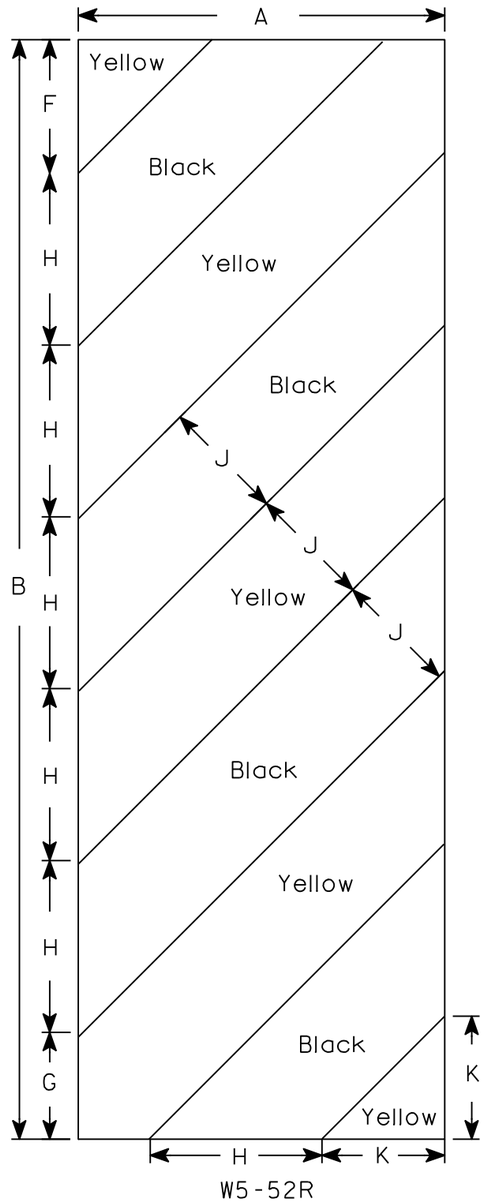
DATE 2/29/2012 PLATE NO. W4-2.13

PROJECT NO:

SHEET NO: 318 E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

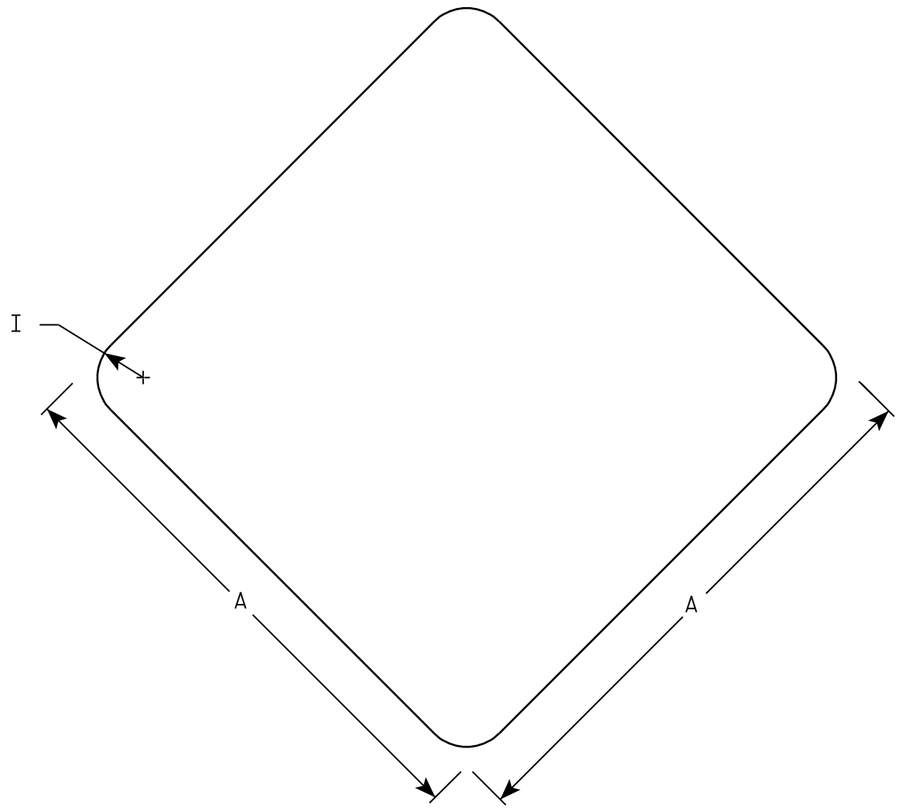
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 319	E



W5-54

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12								1																		1.0
2S	18								1 ½																		2.25
2M	18								1 ½																		2.25
3																											
4																											
5																											

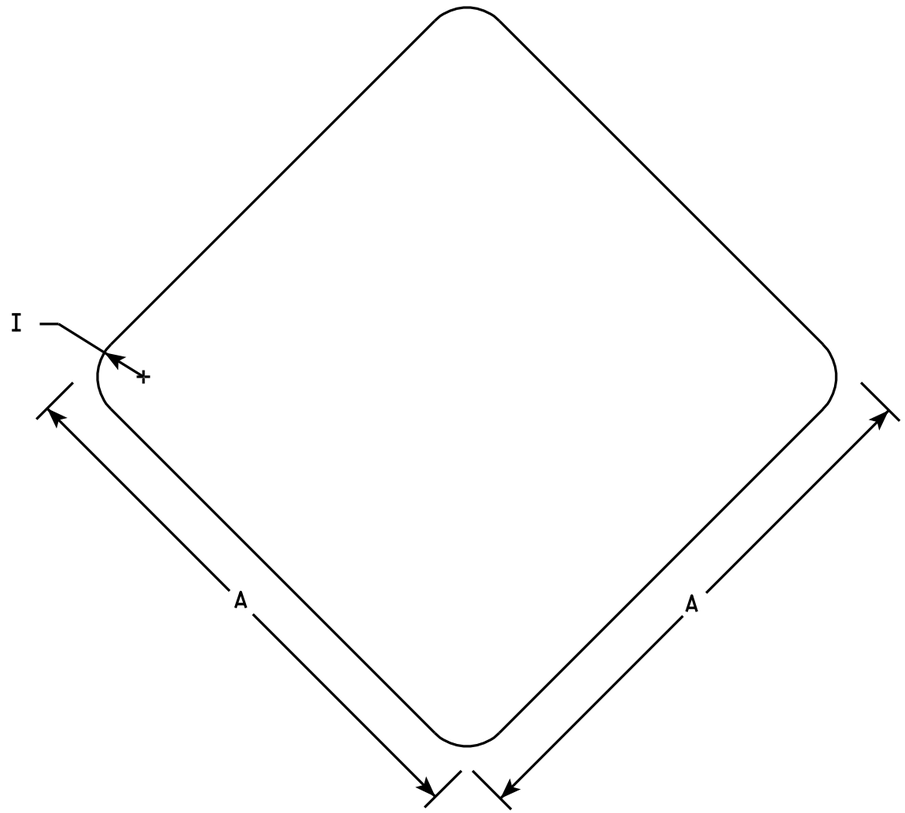
STANDARD SIGN
W5-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 320 | E



W5-56

NOTES

1. Sign is Type II - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
3. Corners may be square or rounded when base material is plywood. When base material is metal the corners shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12								1																		1.0
2S	18								1 ½																		2.25
2M	18								1 ½																		2.25
3																											
4																											
5																											

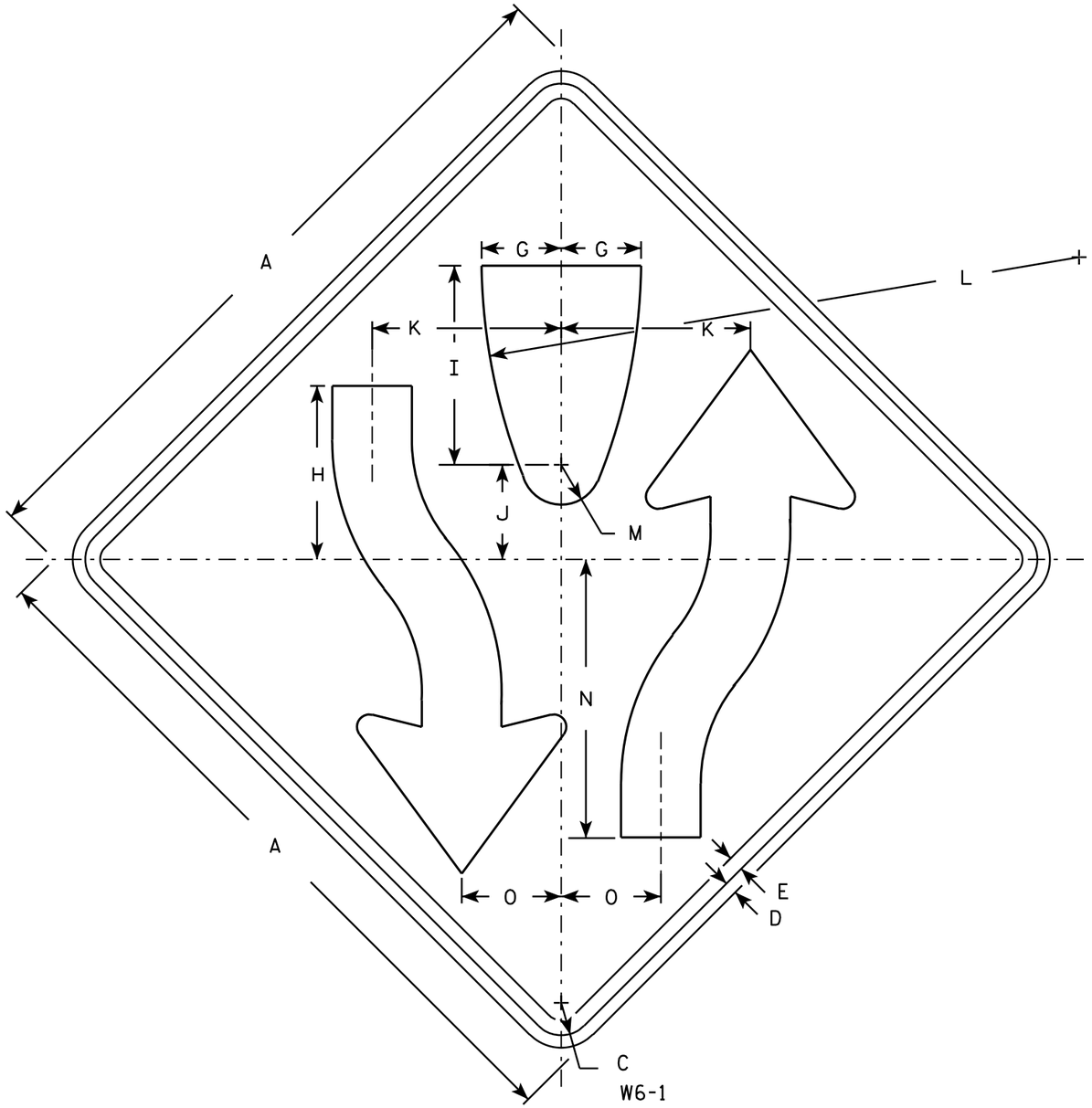
STANDARD SIGN
W5-56

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

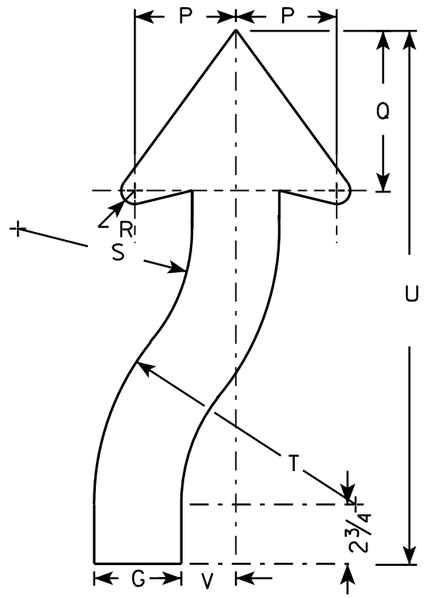
DATE 11/2/10 PLATE NO. W5-56.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 321	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 - 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. W6-2 same as W6-1 but is rotated 180° when mounted.



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	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION

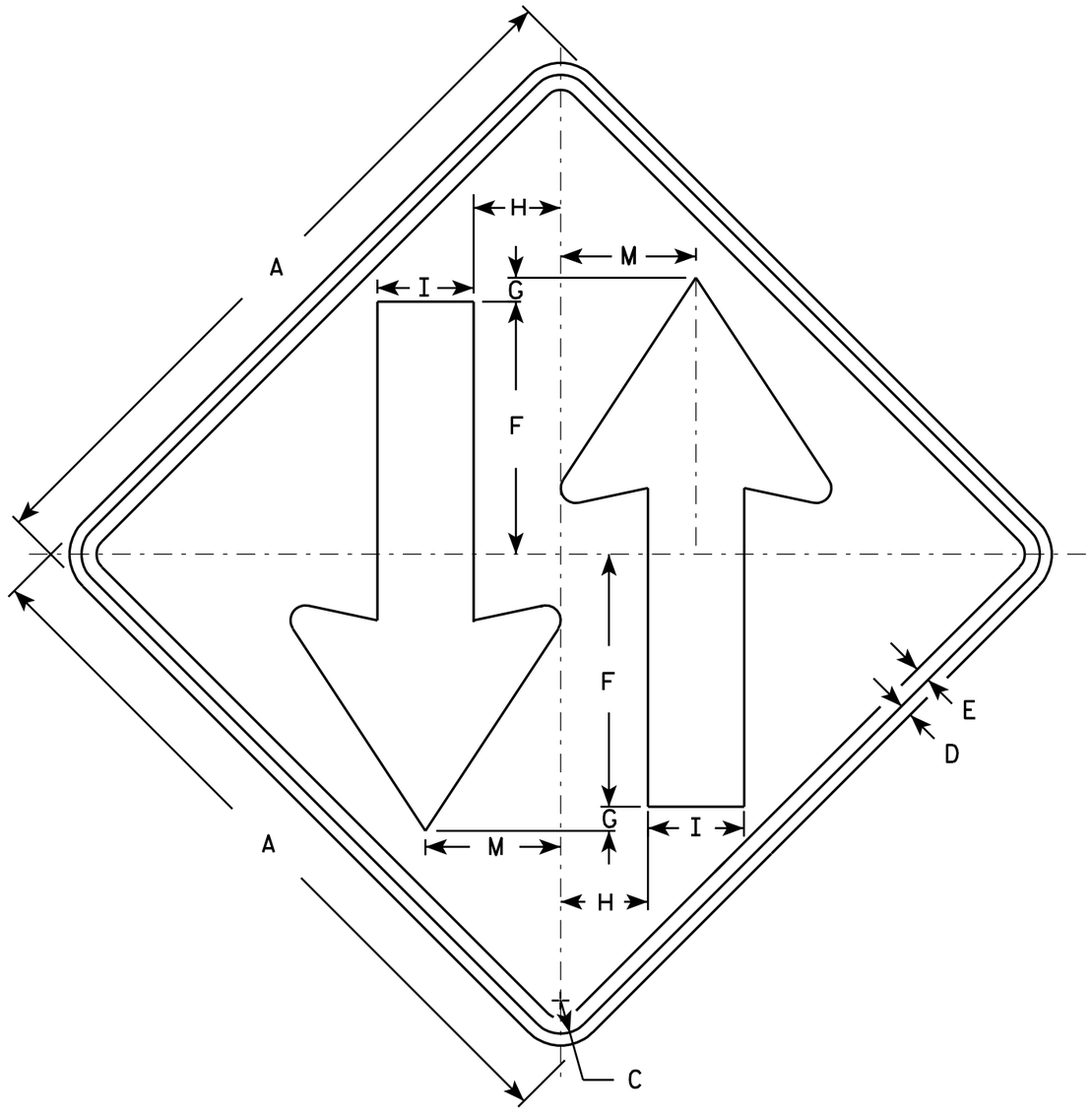
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/22/11 PLATE NO. W6-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 322	E

7

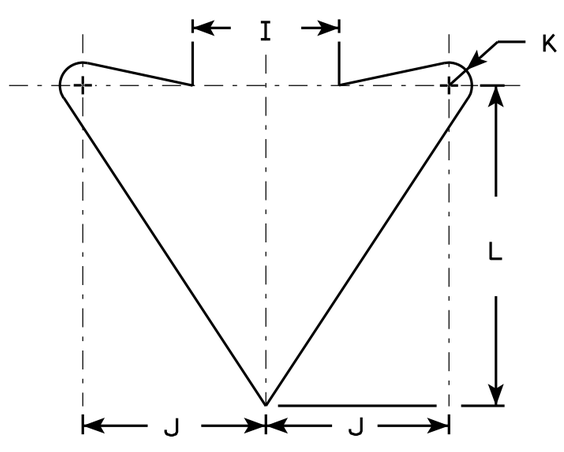
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W61.DGN PLOT DATE : 22-MAR-2011 13:21 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.952219:1.000000
WISDOT/CADDS SHEET 42



W6-3

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	30		1 3/8	1/2	5/8	10 1/2	1	3 5/8	4	5	5/8	8 3/4	5 5/8														6.25
2S	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
2M	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
3																											
4	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
5	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0

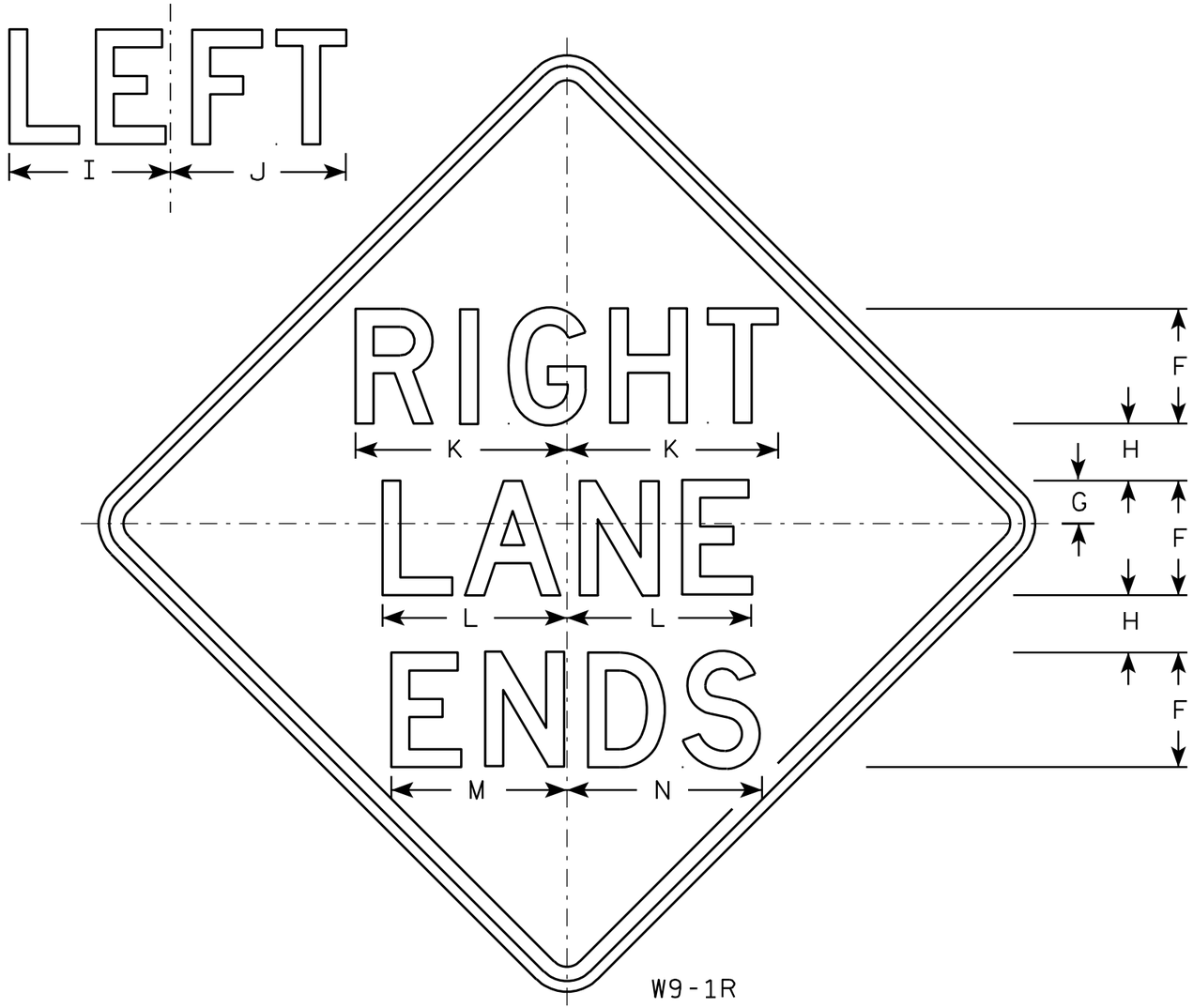
STANDARD SIGN
W6-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/22/11 PLATE NO. W6-3.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 323	E



W9-1R

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. 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. W9-1L same as W9-1R except the word Left replaces Right.

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

STANDARD SIGN
W9-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 12/20/10 PLATE NO. W9-1.7

PROJECT NO:

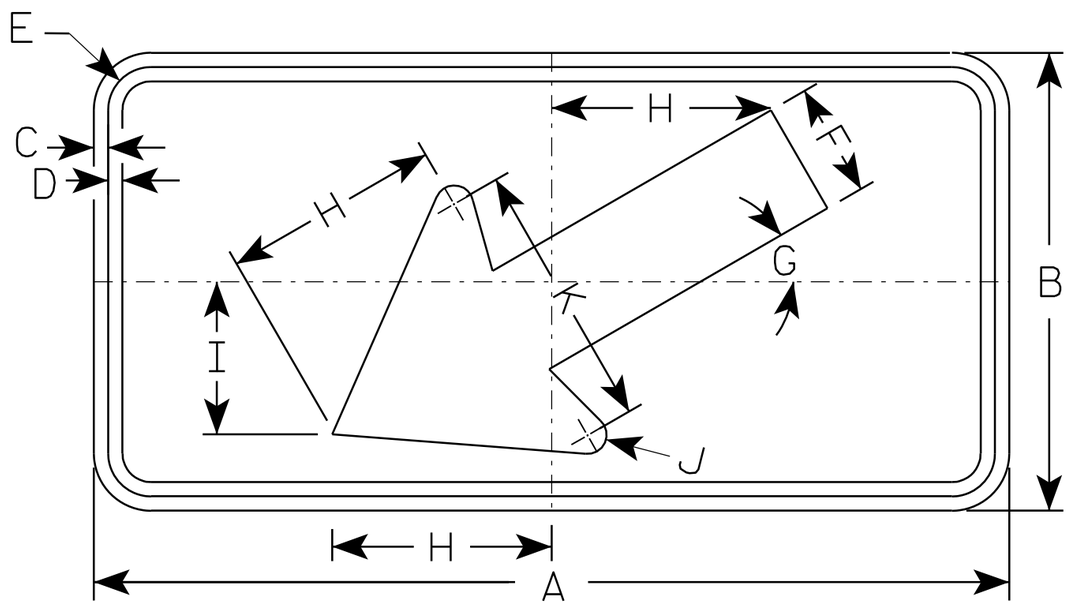
SHEET NO: 324 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W91.DGN PLOT DATE : 20-DEC-2010 08:54 PLOT BY : dotsja

WISDOT/CADDS SHEET 42

7

7



WF16-7L

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-Green
   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. WF16-7R are the same as WF-16-7L except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2S	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
5																											

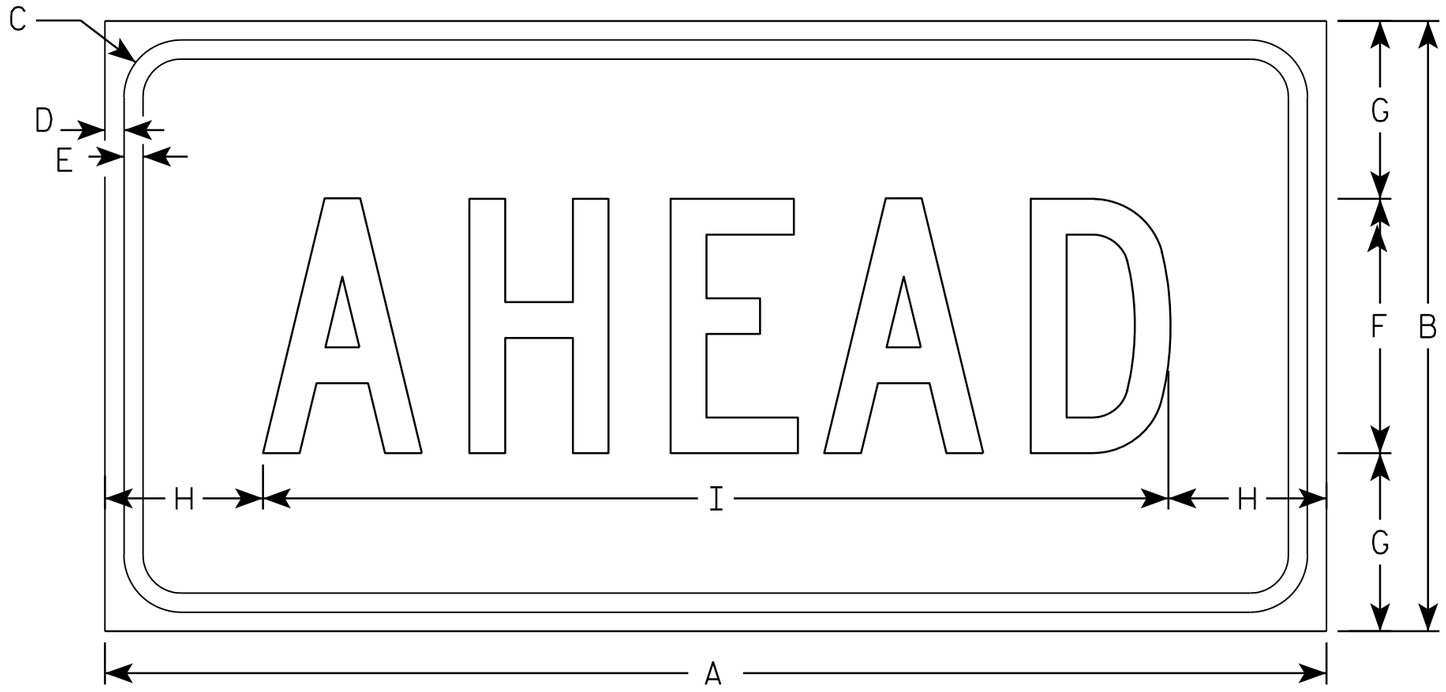
STANDARD SIGN
WF16-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/21/10 PLATE NO. WF16-7.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 325 | E



WF16-9P

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2S	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

STANDARD SIGN
WF16-9P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/29/2012 PLATE NO. WF16-9P.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 326 | E

STH 164 - Stage 1

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate
A 222+00		8	28	0	0	0	0	0
A 222+50	50	7	21	14	45	14	57	-43
A 223+00	50	7	26	13	43	27	111	-83
A 223+50	50	23	13	28	36	55	155	-100
A 224+00	50	18	12	38	23	93	184	-91
A 224+50	50	23	14	38	24	131	213	-83
A 224+65	15	13	13	10	7	140	222	-82
A 224+85	20	28	31	15	16	155	242	-87
A 225+00	15	35	19	17	14	173	260	-87
A 225+50	50	35	4	65	21	238	286	-48
A 226+00	50	40	4	70	8	308	296	12
A 226+25	25	56	4	45	3	352	300	52
A 226+50	25	42	4	46	3	398	304	94
A 227+00	50	47	4	83	7	481	313	168
A 227+50	50	39	5	79	7	560	322	238
A 228+00	50	21	10	55	13	615	339	276
A 228+50	50	20	11	38	19	652	362	290
A 228+75	25	55	6	35	8	687	372	315
A 229+00	25	21	9	35	7	723	381	342
A 229+50	50	22	8	39	16	762	400	362
A 230+00	50	21	8	40	15	802	419	383
A 230+50	50	22	6	40	13	842	436	406
A 231+00	50	88	3	102	8	944	446	498
A 231+50	50	78	5	154	8	1098	456	642
A 232+00	50	79	6	145	10	1242	468	774
A 232+50	50	62	6	130	10	1373	481	891
				1373	385			

Cheri Avenue - Stage 1

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate
46+50		19	9	0	0	0	0	0
47+00	50	16	67	32	71	32	88	-56
47+10	10	16	72	6	26	38	120	-82
47+50	40	15	90	23	120	61	270	-210
48+00	50	11	77	24	154	85	463	-378
48+25	25	10	85	10	75	95	557	-462
48+50	25	11	92	9	82	104	659	-555
49+00	50	10	73	19	154	123	851	-728
49+50	50	41	9	47	76	171	946	-776
				171	757			

STH 164 - Stage 1

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate
A 238+01		10	13	0	0	0	0	0
A 238+50	49	9	10	16	20	16	25	-9
A 239+00	50	9	10	16	18	33	48	-15
A 239+50	50	9	10	17	18	50	70	-21
A 240+00	50	8	10	16	18	66	93	-27
A 240+50	50	9	10	16	18	82	116	-34
A 241+00	50	8	14	16	22	98	143	-45
A 241+50	50	6	18	13	29	111	179	-68
A 241+70	20	7	22	5	15	116	197	-81
A 241+95	25	7	22	6	20	122	223	-100
A 242+00	5	7	16	1	3	124	227	-103
A 242+20	20	8	17	5	12	129	242	-113
A 242+50	30	8	21	8	21	137	269	-131
A 243+00	50	8	34	14	51	152	332	-180
A 243+40	40	16	76	18	81	170	433	-264
A 243+50	10	18	96	6	32	176	474	-298
A 243+65	15	14	142	9	66	185	556	-371
A 243+90	25	12	184	12	151	197	745	-548
A 244+00	10	12	201	4	71	201	834	-633
A 244+28	28	10	260	11	239	212	1133	-920
A 244+50	22	6	182	7	180	219	1358	-1139
A 245+00	50	5	124	10	282	230	1711	-1481
A 245+50	50	7	85	11	193	240	1952	-1712
A 246+00	50	19	72	23	146	264	2134	-1871
A 246+32	32	12	149	18	131	282	2298	-2016
A 246+50	18	16	113	9	87	291	2407	-2115
A 247+00	50	16	141	29	235	321	2700	-2379
A 247+50	50	16	135	30	255	350	3018	-2668
A 248+00	50	27	93	40	211	390	3282	-2892
A 248+50	50	20	57	44	139	433	3455	-3022
A 249+00	50	22	24	39	75	472	3549	-3077
A 249+50	50	23	122	41	135	513	3718	-3205
A 250+00	50	24	75	44	183	557	3947	-3390
A 250+50	50	20	57	41	123	598	4100	-3502
A 251+00	50	20	22	38	73	636	4192	-3556
A 251+50	50	23	48	40	65	676	4273	-3597
A 251+60	10	23	67	9	21	684	4300	-3616
A 251+85	25	25	49	22	53	706	4366	-3660
A 252+00	15	24	39	14	25	720	4397	-3677
A 252+10	10	24	74	9	20	729	4423	-3694
A 252+50	40	18	41	31	85	759	4529	-3770
A 252+80	30	7	64	13	58	773	4602	-3829
A 253+00	20	7	51	5	42	778	4655	-3877
A 253+05	5	7	45	1	9	779	4666	-3887
A 253+30	25	8	24	7	32	786	4706	-3920
A 253+50	20	9	17	6	15	792	4725	-3933
A 254+00	50	7	12	15	27	807	4759	-3952
A 254+50	50	6	12	13	22	820	4787	-3967
				820	3830			

STH 164 - Stage 2

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate
162+00		198	4	0	0	0	0	0
162+50	50	263	2	427	5	427	7	420
162+85	35	287	1	354	1	781	9	772
163+00	15	184	1	133	1	914	9	905
163+50	50	112	30	274	29	1188	45	1143
164+00	50	216	27	304	52	1492	110	1382
164+50	50	227	15	411	39	1903	159	1744
164+77	27	230	10	229	12	2131	175	1956
165+00	23	222	7	193	7	2324	184	2140
165+50	50	207	3	398	10	2722	196	2526
166+00	50	193	1	370	4	3092	201	2891
166+20	20	178	1	137	1	3229	202	3028
166+25	5	183	1	33	0	3263	202	3061
166+50	25	170	0	164	0	3426	202	3224
167+00	50	154	0	300	0	3726	202	3524
167+44	44	140	0	239	0	3965	202	3763
167+50	6	140	0	31	0	3996	202	3794
167+74	24	120	0	114	0	4110	202	3908
167+93	19	149	0	96	0	4206	202	4004
A 168+50	31	121	0	154	0	4360	202	4158
A 169+00	50	143	0	244	0	4604	202	4402
A 169+50	50	146	0	267	0	4871	202	4669
A 169+60	10	145	0	54	0	4925	202	4723
A 170+00	40	135	0	207	0	5132	202	4929
A 170+14	14	132	0	69	0	5201	202	4998
A 170+41	27	126	0	129	0	5330	202	5127
A 170+50	9	129	0	42	0	5372	202	5170
A 170+63	13	125	1	61	0	5433	203	5230
A 170+85	22	118	0	99	0	5532	203	5328
A 171+00	15	117	1	65	0	5597	204	5393
A 171+28	28	124	0	124	1	5721	204	5517
A 171+50	22	122	0	100	0	5821	205	5617
A 172+00	50	129	0	233	0	6054	205	5849
A 172+24	24	152	0	125	0	6178	205	5974
A 172+35	11	155	0	62	0	6241	205	6036
A 172+50	15	147	0	84	0	6325	205	6120
A 172+80	30	141	0	160	0	6484	205	6280
A 173+00	20	134	0	102	0	6586	205	6382
A 173+50	50	125	0	240	0	6826	205	6621
A 174+00	50	110	1	217	1	7044	207	6837
A 174+16	16	141	0	74	0	7118	207	6911
A 174+50	34	103	1	154	0	7271	207	7064
A 175+00	50	123	1	209	2	7481	210	7271
A 175+50	50	121	0	226	1	7707	212	7495
A 176+00	50	113	0	216	0	7923	212	7712
A 176+10	10	114	0	42	0	7965	212	7753
A 176+25	15	143	0	71	0	8036	212	7825
A 176+50	25	111	0	117	0	8154	212	7942
A 176+80	30	131	0	134	0	8288	212	8076
A 177+00	20	131	0	97	0	8385	212	8173
A 177+33	33	134	0	162	0	8546	212	8334
A 177+50	17	131	0	83	0	8629	212	8418
A 178+00	50	134	0	245	0	8874	212	8663
A 178+18	18	131	0	88	0	8963	212	8751
A 178+50	32	116	0	146	0	9109	212	8897
A 178+75	25	172	0	133	0	9243	212	9031
			Subtotal	9243	169			

STH 164 - Stage 2

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol Cut	Incremental Vol Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate
A 179+00	25	114	0	132	0	9375	212	9163
A 179+14	14	125	0	62	0	9437	212	9225
A 179+50	36	134	0	172	0	9609	212	9397
A 179+65	15	135	1	74	0	9683	212	9471
A 180+00	35	155	0	188	1	9871	213	9658
A 180+23	23	168	0	138	0	10008	213	9795
A 180+50	27	139	0	153	0	10162	213	9949
A 181+00	50	124	19	243	18	10405	236	10169
A 181+18	18	125	4	83	8	10488	245	10242
A 181+50	32	122	2	146	4	10634	250	10384
A 182+00	50	115	4	219	6	10854	257	10597
A 182+25	25	112	6	105	5	10959	263	10696
A 182+50	25	116	5	106	5	11064	269	10795
A 182+80	30	136	3	140	5	11204	275	10930
A 183+00	20	134	3	100	2	11304	277	11027
A 183+50	50	126	1	241	3	11545	281	11264
A 184+00	50	108	2	217	2	11762	284	11478
A 184+10	10	108	1	40	0	11802	284	11518
A 184+32	22	143	0	102	0	11904	285	11620
A 184+50	18	114	1	86	0	11990	285	11705
A 185+00	50	134	0	229	1	12219	286	11933
A 185+20	20	137	0	100	0	12319	286	12033
A 185+32	12	138	0	61	0	12380	286	12094
A 185+50	18	134	0	91	0	12471	286	12185
A 186+00	50	137	0	251	0	12722	286	12435
A 186+30	30	141	0	155	0	12877	287	12590
A 186+50	20	143	0	105	0	12982	287	12695
A 186+80	30	138	0	156	0	13137	287	12851
A 187+00	20	136	0	101	0	13239	287	12952
A 187+50	50	138	0	253	0	13492	287	13205
A 188+00	50	125	0	244	0	13736	288	13448
A 188+50	50	132	0	238	0	13974	288	13687
A 189+00	50	136	0	248	0	14222	288	13934
A 189+25	25	142	0	128	0	14351	288	14063
A 189+50	25	144	0	132	0	14483	288	14195
A 190+00	50	142	0	265	0	14748	288	14460
A 190+50	50	146	0	267	0	15015	288	14727
A 190+70	20	156	0	112	0	15126	288	14839
A 191+00	30	165	0	178	0	15304	288	15017
A 191+50	50	153	0	294	0	15599	288	15311
A 191+90	40	292	0	330	0	15929	288	15641
A 192+00	10	300	0	108	0	16037	288	15750
A 192+04	4	298	0	40	0	16077	288	15789
A 192+50	46	144	0	380	0	16456	288	16169
A 193+00	50	176	0	296	0	16752	288	16464
A 193+20	20	170	0	128	0	16880	288	16592
A 193+50	30	147	0	176	0	17056	288	16768
A 194+00	50	134	0	260	0	17316	288	17029
A 194+50	50	128	0	243	0	17559	288	17271
A 194+79	29	132	0	140	0	17699	288	17411
A 195+00	21	132	0	103	0	17801	288	17514
A 195+50	50	126	0	239	0	18040	288	17753
A 196+00	50	123	0	230	0	18271	288	17983
A 196+50	50	125	0	230	0	18501	288	18212
A 196+58	8	125	0	37	0	18538	288	18249
			Subtotal	9295	61			
			Grand Total	18538	231			

Nevins Street - Stage 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.25	
52+00		35	0	0	0	0	0	0
52+50	50	21	4	52	4	52	5	48
52+70	20	11	2	12	2	64	7	56
52+90	20	10	1	8	1	72	9	63
53+00	10	9	7	4	2	75	11	64
53+50	50	54	0	58	7	133	20	114
54+00	50	219	0	253	0	386	20	366
54+25	25	0	0	101	0	488	20	468
				488	16			

Edgewood Avenue West - Stage 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.25	
47+00		68	0	0	0	0	0	0
47+50	50	68	0	126	0	126	0	126
47+75	25	76	0	67	0	193	0	193
48+00	25	77	0	71	0	264	0	264
48+50	50	86	0	151	0	414	0	414
48+65	15	98	0	51	0	465	0	465
49+00	35	139	0	154	0	619	0	619
49+50	50	81	0	204	0	823	0	823
				823	0			

Edgewood Avenue East - Stage 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.25	
50+50		68	0	0	0	0	0	0
51+00	50	100	0	155	0	155	0	155
51+40	40	103	0	150	0	305	0	305
51+50	10	97	0	37	0	342	0	342
52+00	50	95	0	178	0	519	0	519
52+50	50	72	5	155	4	674	6	668
53+00	50	54	0	116	4	790	11	779
53+50	50	38	1	85	1	875	12	863
				875	10			

9

9

STH 164 - Stage 3

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate
138+50		15	2	0	0	0	0	0
139+00	50	15	5	27	7	27	9	19
139+50	50	15	5	28	9	55	20	35
140+00	50	16	4	29	8	84	30	54
140+50	50	13	9	27	12	111	45	66
				111	36			

STH 164 - Stage 3

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate
148+50		8	29	0	0	0	0	0
149+00	50	8	25	15	50	15	62	-47
149+50	50	10	10	17	32	32	103	-71
150+00	50	8	13	17	22	48	130	-81
150+50	50	8	15	15	26	63	162	-99
151+00	50	7	19	13	31	77	202	-125
151+50	50	6	19	12	35	89	246	-157
152+00	50	7	18	12	34	101	288	-187
152+50	50	6	20	12	35	113	331	-219
153+00	50	10	13	15	30	128	369	-241
153+50	50	133	1	132	13	260	385	-125
154+00	50	140	5	253	6	513	392	120
154+50	50	125	1	245	6	757	400	358
155+00	50	106	8	213	8	971	410	561
155+50	50	69	72	162	74	1133	502	631
156+00	50	46	18	107	83	1240	606	634
156+15	15	59	23	29	11	1269	620	649
156+25	10	57	26	21	9	1290	631	659
156+50	25	39	11	45	17	1335	652	683
157+00	50	46	25	79	33	1413	693	720
157+16	16	55	27	30	15	1443	712	731
157+50	34	86	14	89	26	1532	745	787
157+64	14	104	5	49	5	1581	751	831
157+80	16	124	2	67	2	1649	753	895
158+00	20	151	2	102	2	1750	756	995
158+50	50	205	7	330	9	2080	766	1313
158+75	25	211	0	193	3	2273	770	1502
158+93	18	223	0	143	0	2415	770	1645
159+00	7	256	0	64	0	2480	770	1709
159+05	5	255	0	49	0	2528	770	1758
159+20	15	244	0	137	0	2666	770	1895
159+50	30	197	0	245	0	2911	770	2140
160+00	50	177	0	346	0	3257	770	2487
160+50	50	193	0	343	0	3600	770	2829
161+00	50	270	0	429	0	4028	770	3258
161+10	10	270	0	82	0	2993	770	2222
				4110	616			

CTH L West - Stage 3

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate
46+00		96	9	0	0	0	0	0
46+50	50	161	11	238	18	238	22	215
47+00	50	71	39	215	46	453	80	373
47+50	50	92	3	152	39	604	129	475
48+00	50	99	10	177	12	781	144	637
48+50	50	121	11	203	19	984	168	816
48+85	35	158	0	180	7	1164	177	988
				1164	141			

CTH L East - Stage 3

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate
51+50		142	5	0	0	0	0	0
52+00	50	129	5	251	9	251	11	240
52+25	25	122	0	116	2	367	14	353
52+50	25	118	1	111	1	478	15	463
52+80	30	112	0	128	1	605	15	590
53+00	20	106	0	81	0	686	15	671
				686	12			

EARTHWORK SUMMARY TABLE

Construction Stage	From/To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6)	Rock Excavation (7)	Reduced Marsh in Fill (8)	Reduced EBS in Fill (9)	Expanded Marsh Backfill (10)	Expanded EBS Backfill (11)	Expanded Rock (12)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	Borrow	Comment:
			Cut (2)	EBS Excavation (3)			(item #205.0500)	(item #205.0200)	Factor 0.60	Factor 0.80	Factor 1.50	Factor 1.30	Factor 1.10		Factor 1.25			(item #208.0100)	
1	A 222+00 to A 232+50	STH 164	1373	0	0	1373	0	0	0	0	0	0	0	385	481	891			
	A 238+01 to A 254+50	STH 164	820	0	0	820	0	0	0	0	0	0	0	3830	4787	-3967			
	46+50 to 49+50	Cheri Ave	171	0	0	171	0	0	0	0	0	0	0	757	946	-776			
Stage 1 Total			2363	0	0	2363	0	0	0	0	0	0	0	4972	6214	-3852		3852	
2	161+10 to A 196+58	STH 164	18538	0	0	18538	0	0	0	0	0	0	0	231	288	18212			
	52+00 to 54+25	Nevins St	488	0	0	488	0	0	0	0	0	0	0	16	20	823			
	47+00 to 49+50	Edgewood Ave West	823	0	0	823	0	0	0	0	0	0	0	0	0	823			
	50+50 to 53+50	Edgewood Ave East	875	0	0	875	0	0	0	0	0	0	0	10	12	863			
Stage 2 Total			20723	0	0	20723	0	0	0	0	0	0	0	256	320	20722			
3	138+50 to 140+50	STH 164	111	0	0	111	0	0	0	0	0	0	0	36	45	66			
	148+50 to 161+10	STH 164	4110	0	0	4110	0	0	0	0	0	0	0	616	770	2222			
	46+00 to 48+85	CTH L West	1164	0	0	1164	0	0	0	0	0	0	0	141	177	988			
	51+50 to 53+00	CTH L East	686	0	0	686	0	0	0	0	0	0	0	12	15	671			
Stage 3 Total			6072	0	0	6072	0	0	0	0	0	0	0	806	1007	3947			
Grand Total			29158	0	0	29158	0	0	0	0	0	0	0	6034	7542	20817		3852	
		Total Common Exc	29158																

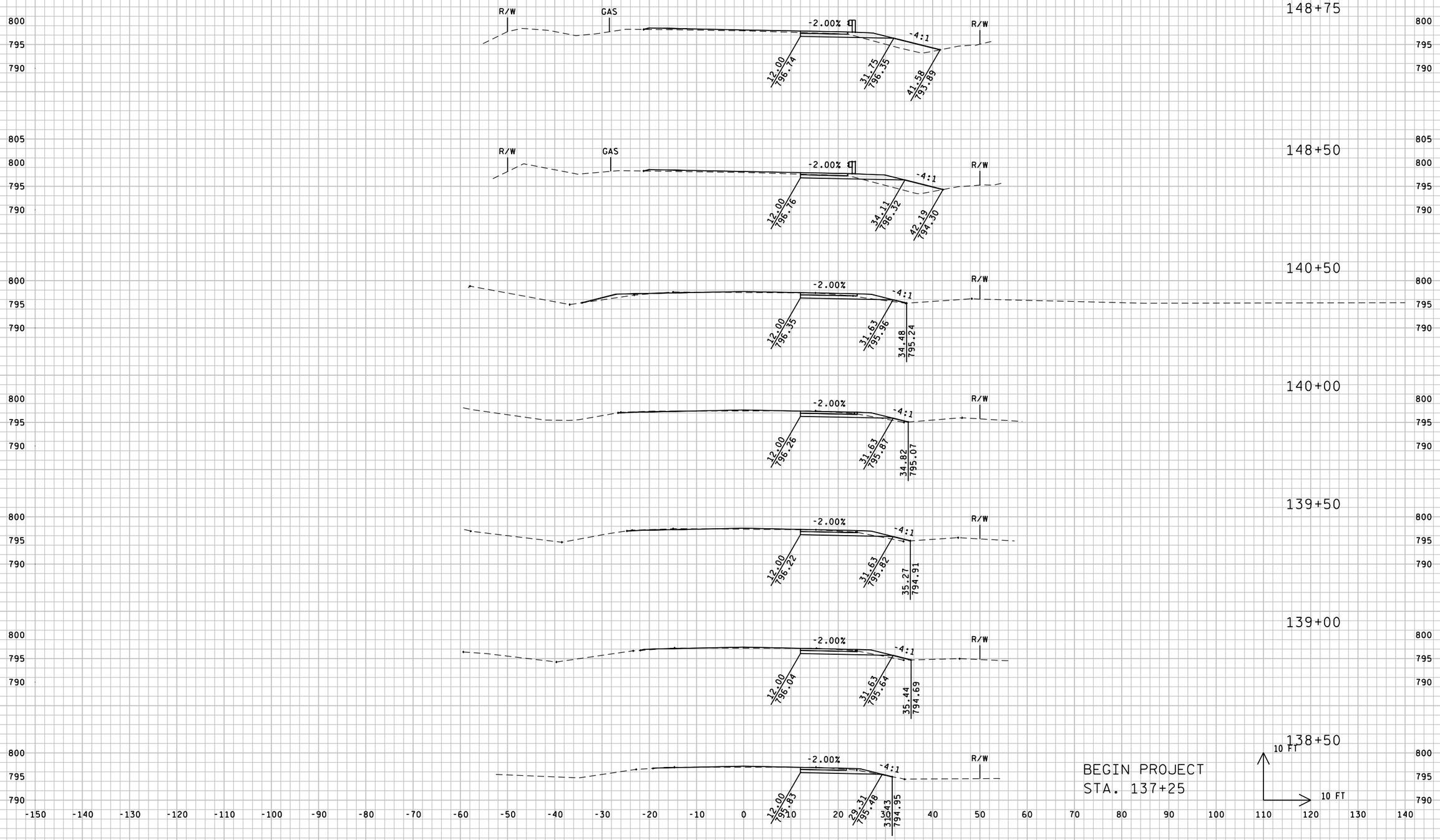
Grand Total			29158	0	0	29158	0	0	0	0	0	0	0	6034	7542	20817		3852	
		Total Common Exc	29158																

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 205.0500
7) Rock Excavation item number 205.0200
8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
9) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.11
11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.11
12) Expanded Rock - Factor = 1.1.
13) Expanded Fill. Factor = 1.25
Depending on selections:

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor

14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.



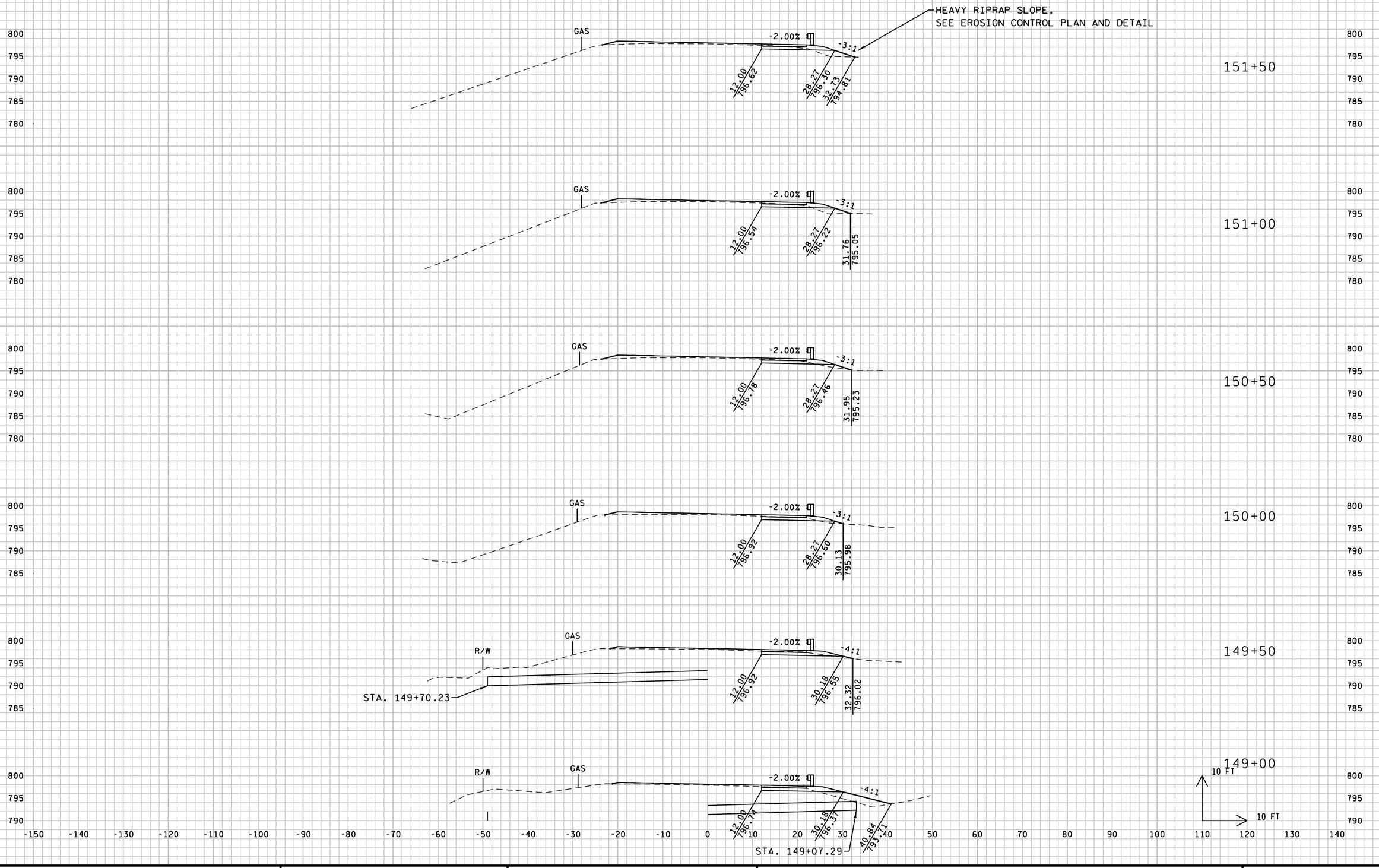
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 332	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface South Cross Sections 2D.dgn PLOT DATE : 10/24/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



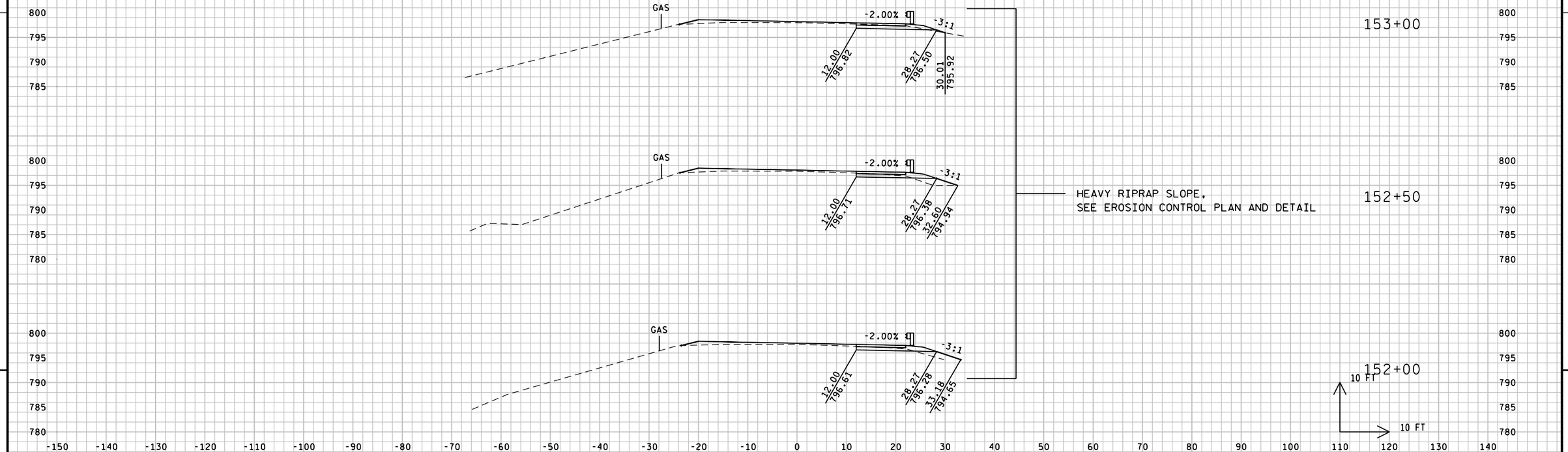
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 333	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface South Cross Sections 2D.dgn PLOT DATE : 11/1/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



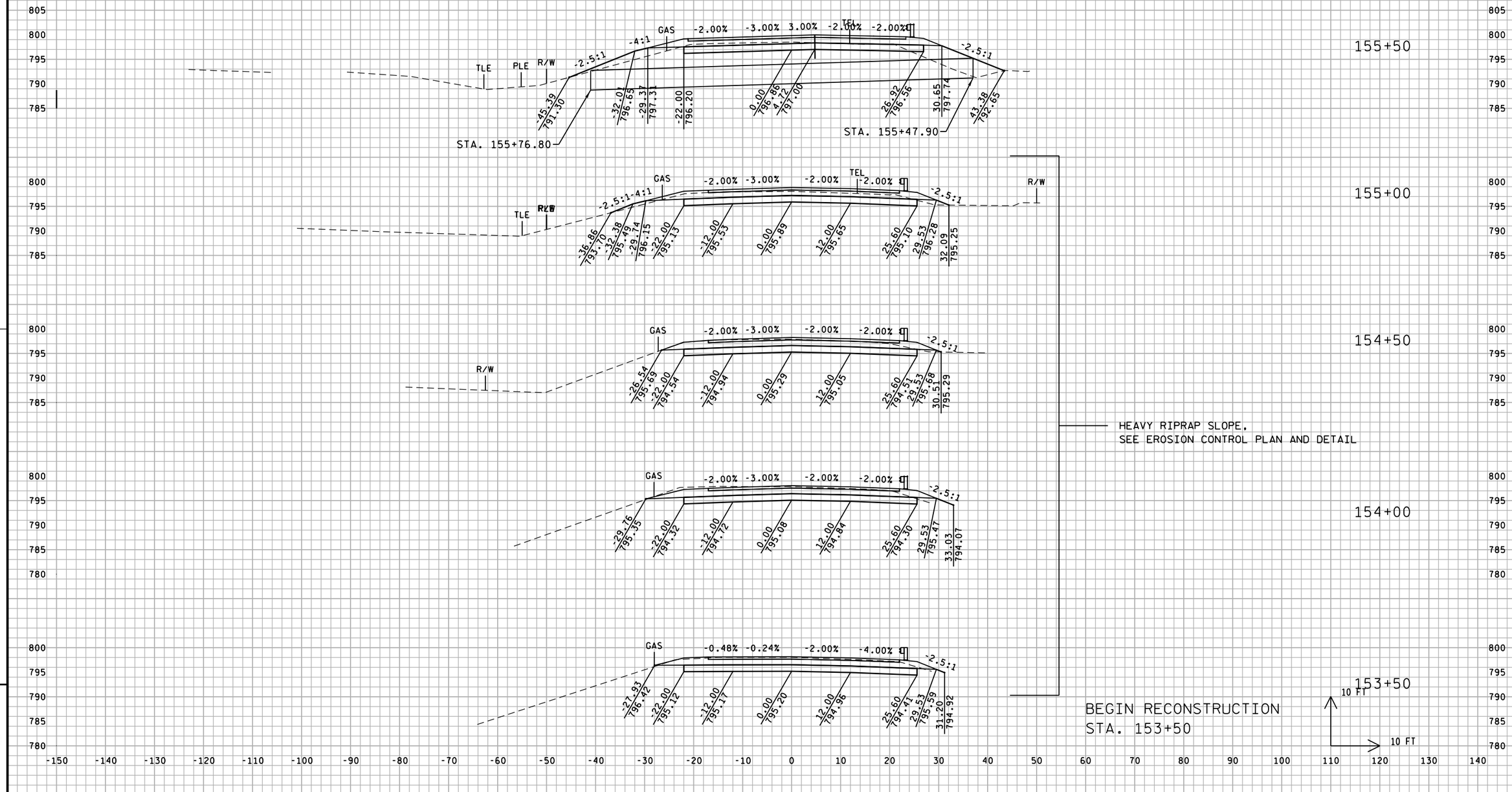
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 334	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface South Cross Sections 2D.dgn PLOT DATE : 10/24/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



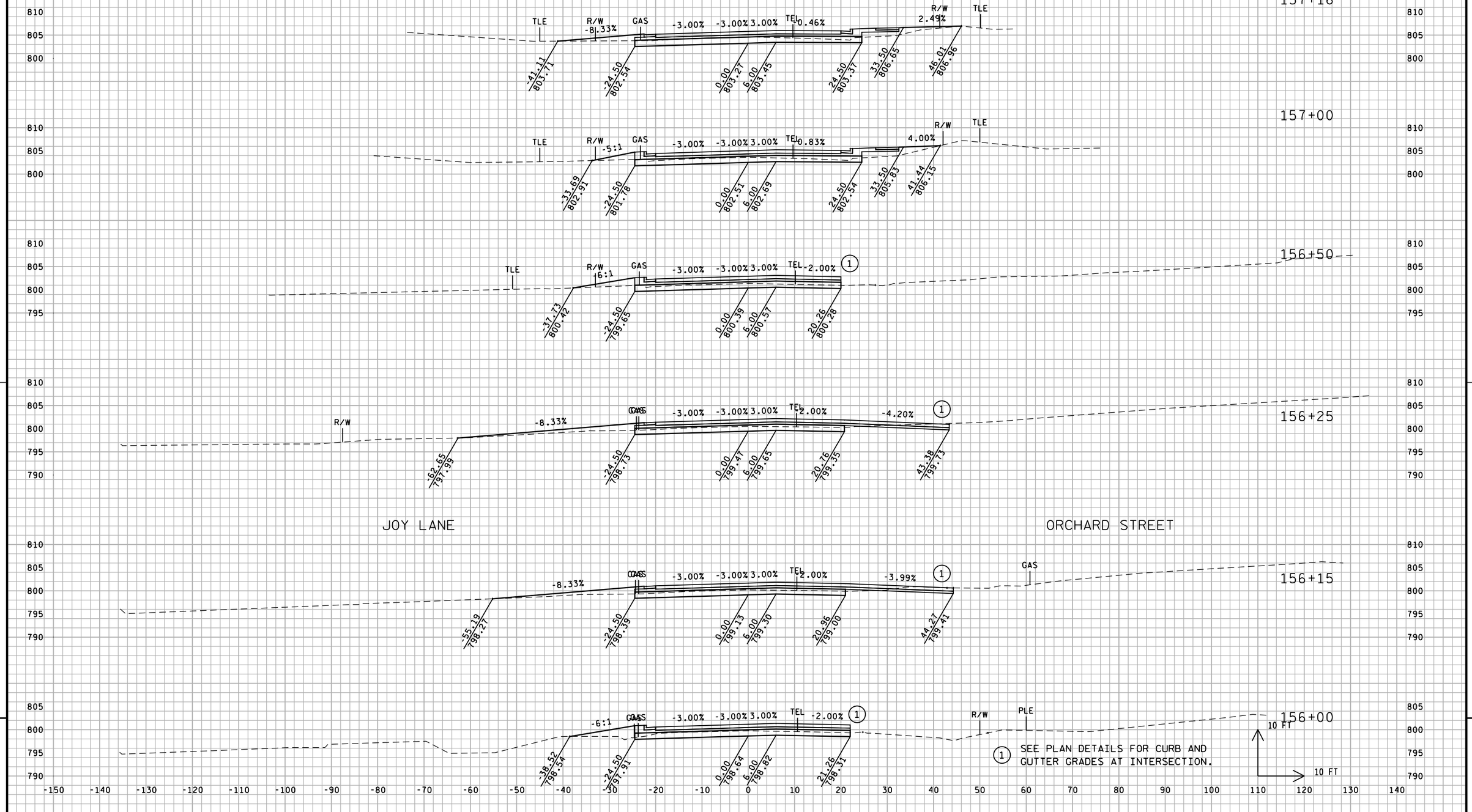
9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 335	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 11/1/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

9

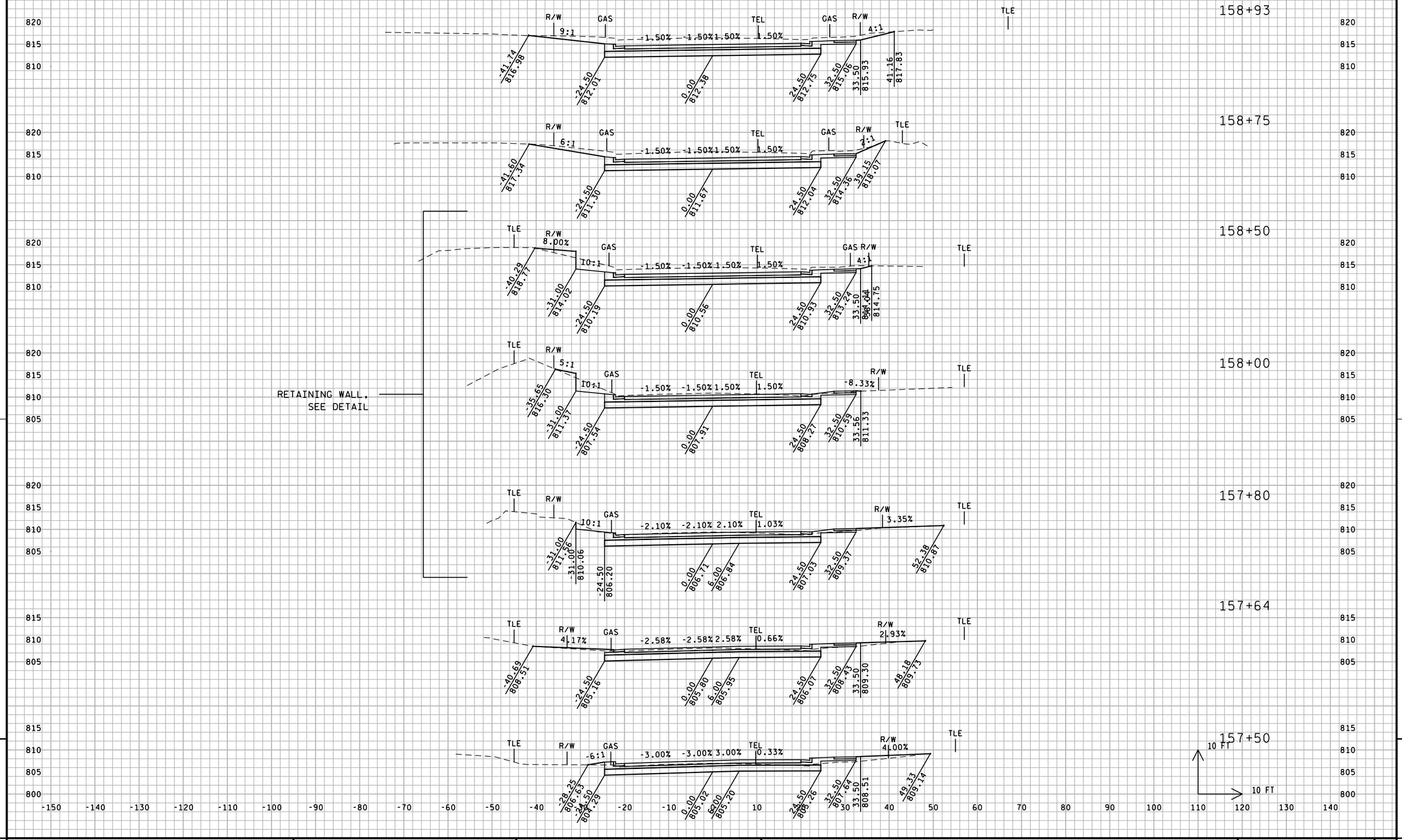


9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 336	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn
PLOT DATE : 8/22/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 20.00 ' / in.
WISDOT/CADDS SHEET 21

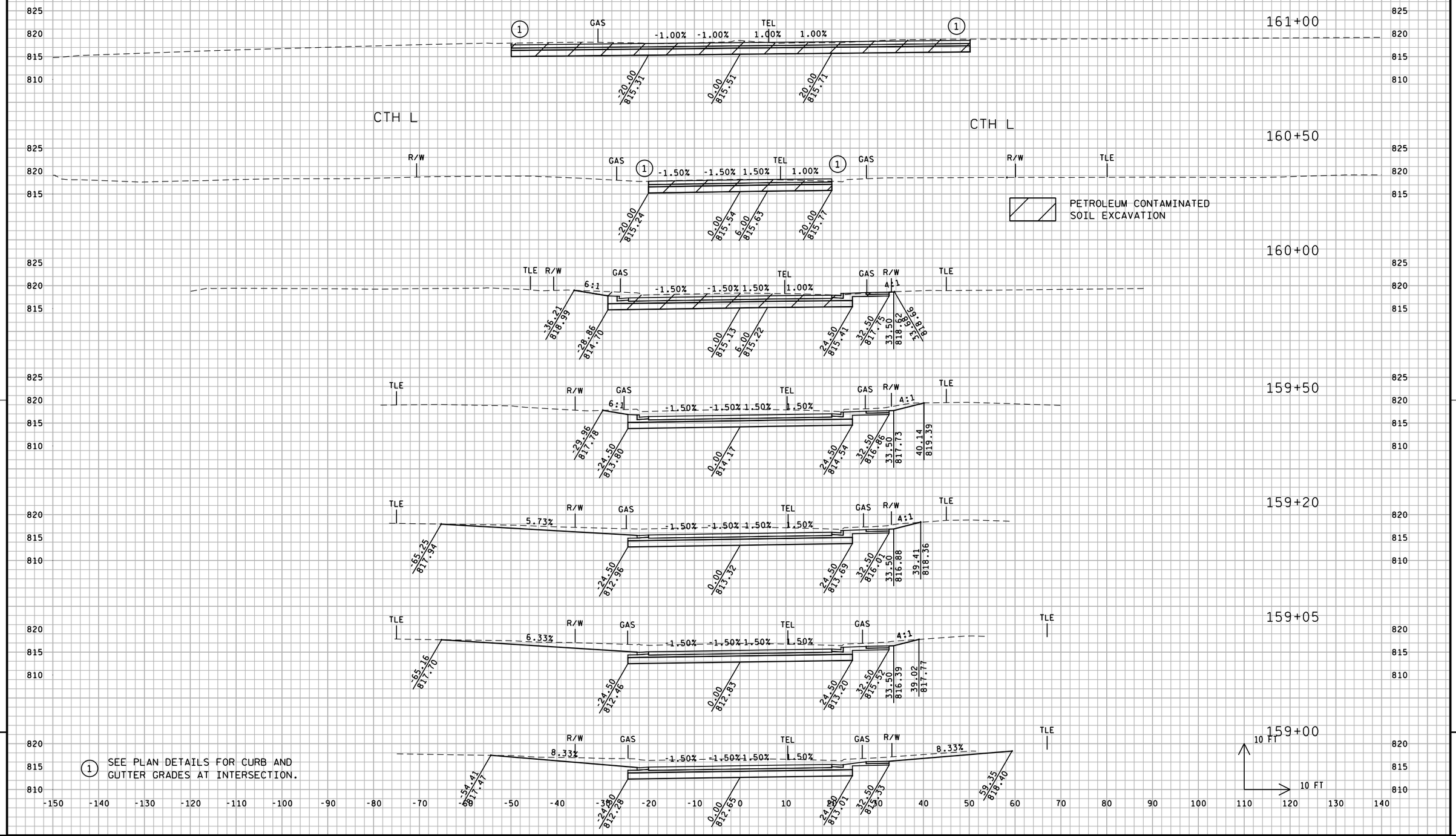


9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 337	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn
PLOT DATE : 8/31/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 20.00 ' / in.
WISDOT/CADDS SHEET 21

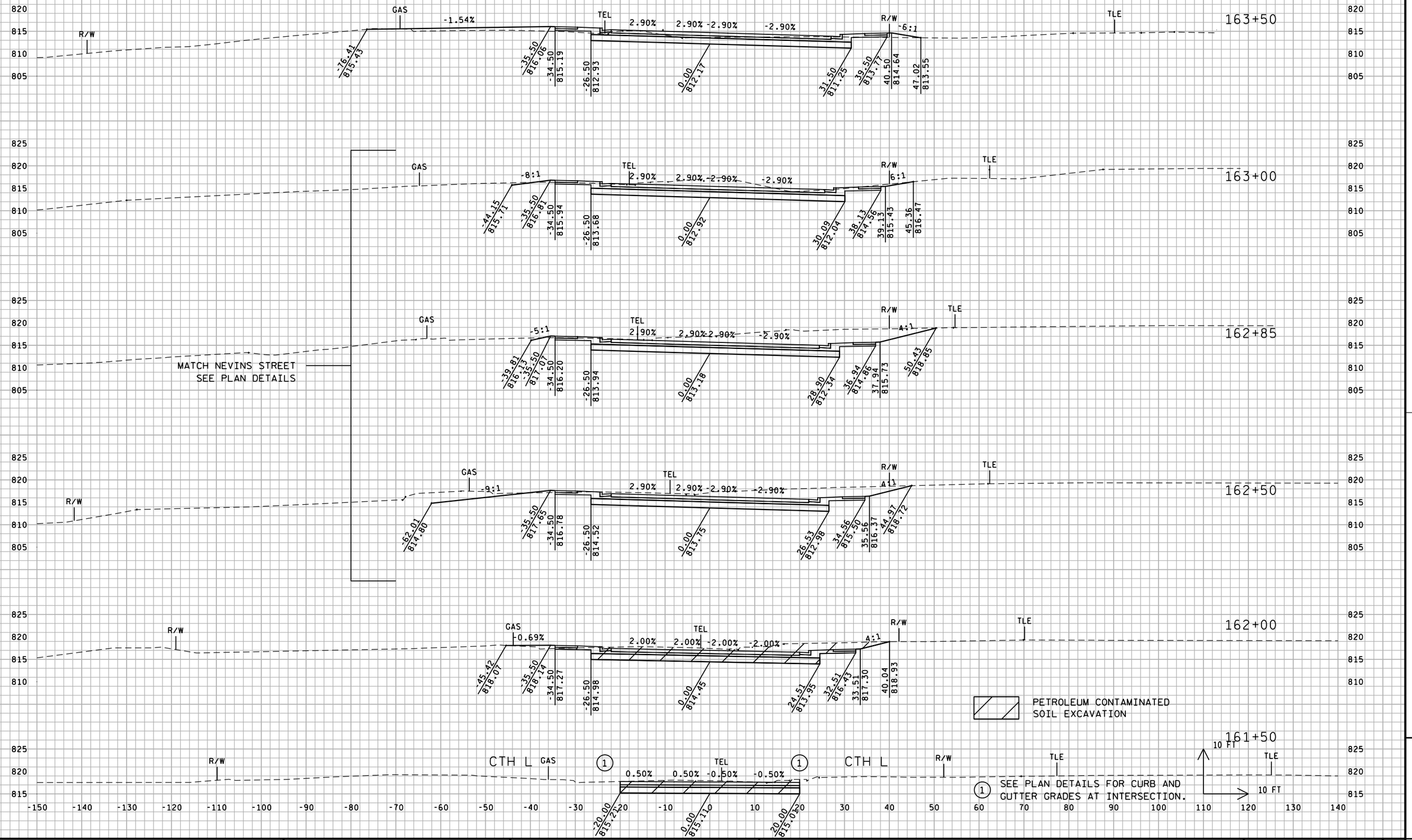


1 SEE PLAN DETAILS FOR CURB AND GUTTER GRADES AT INTERSECTION.

9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 338	E



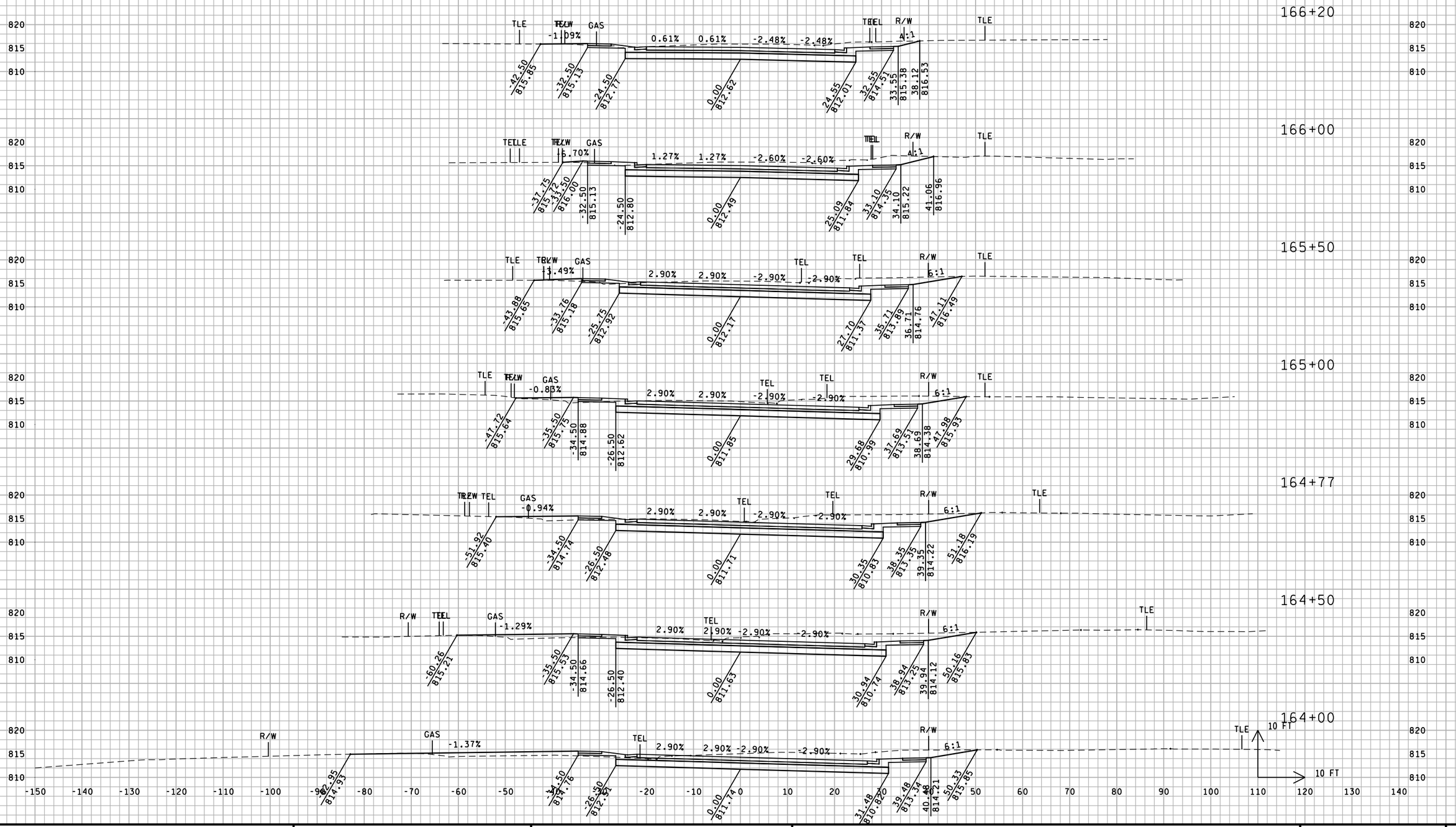
9

9

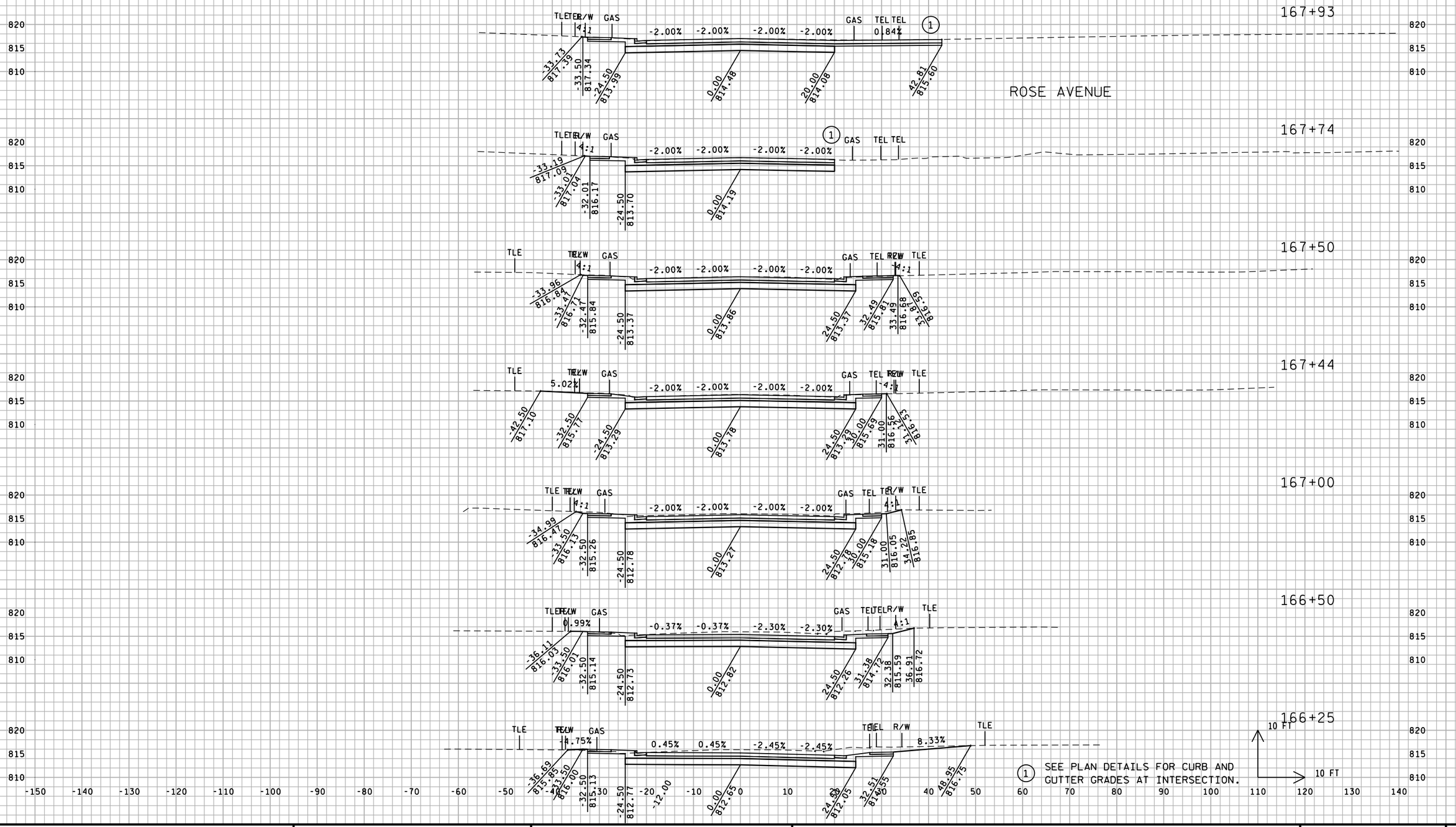
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 339	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/31/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



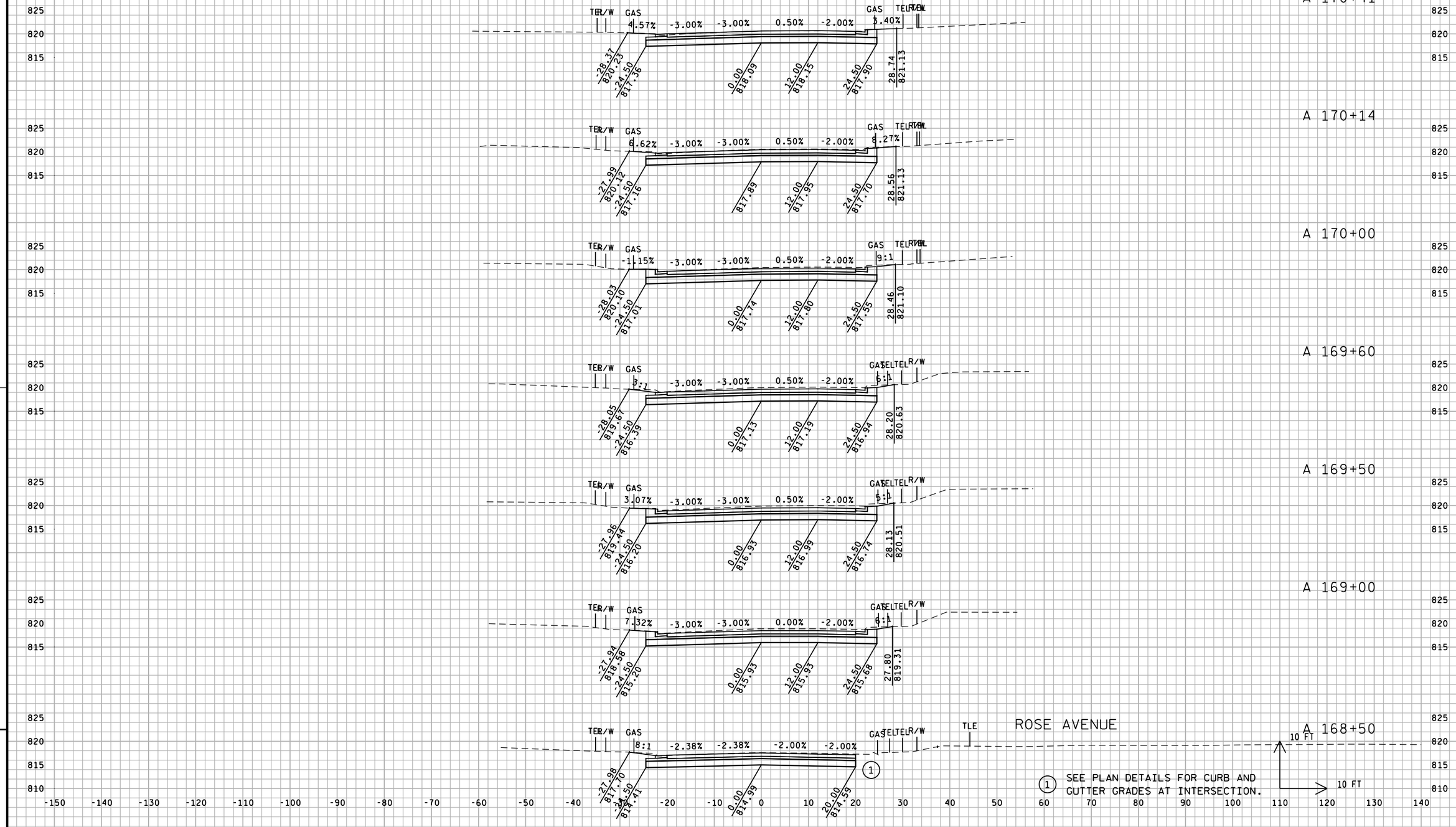
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 340	E



9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 341	E



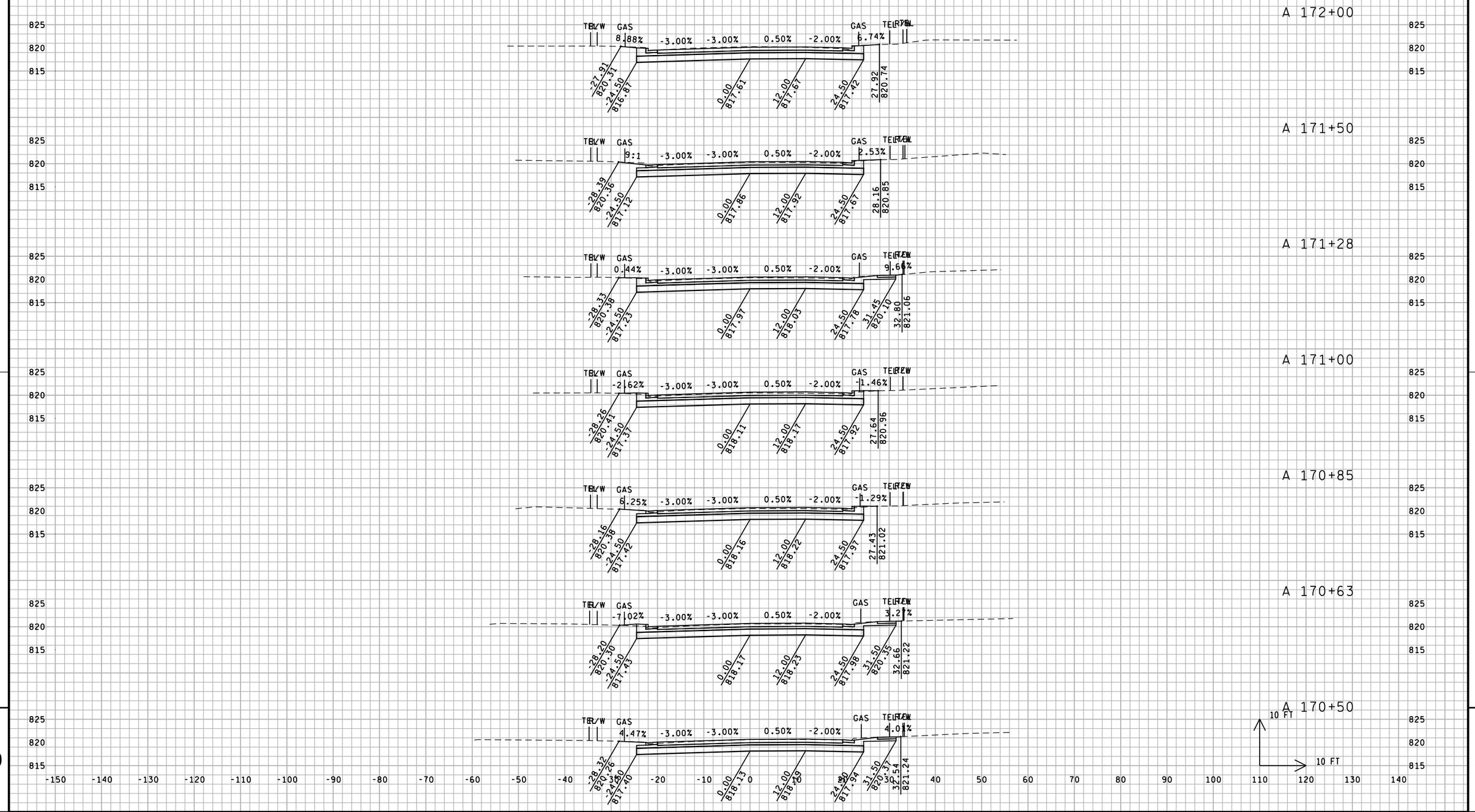
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 342	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

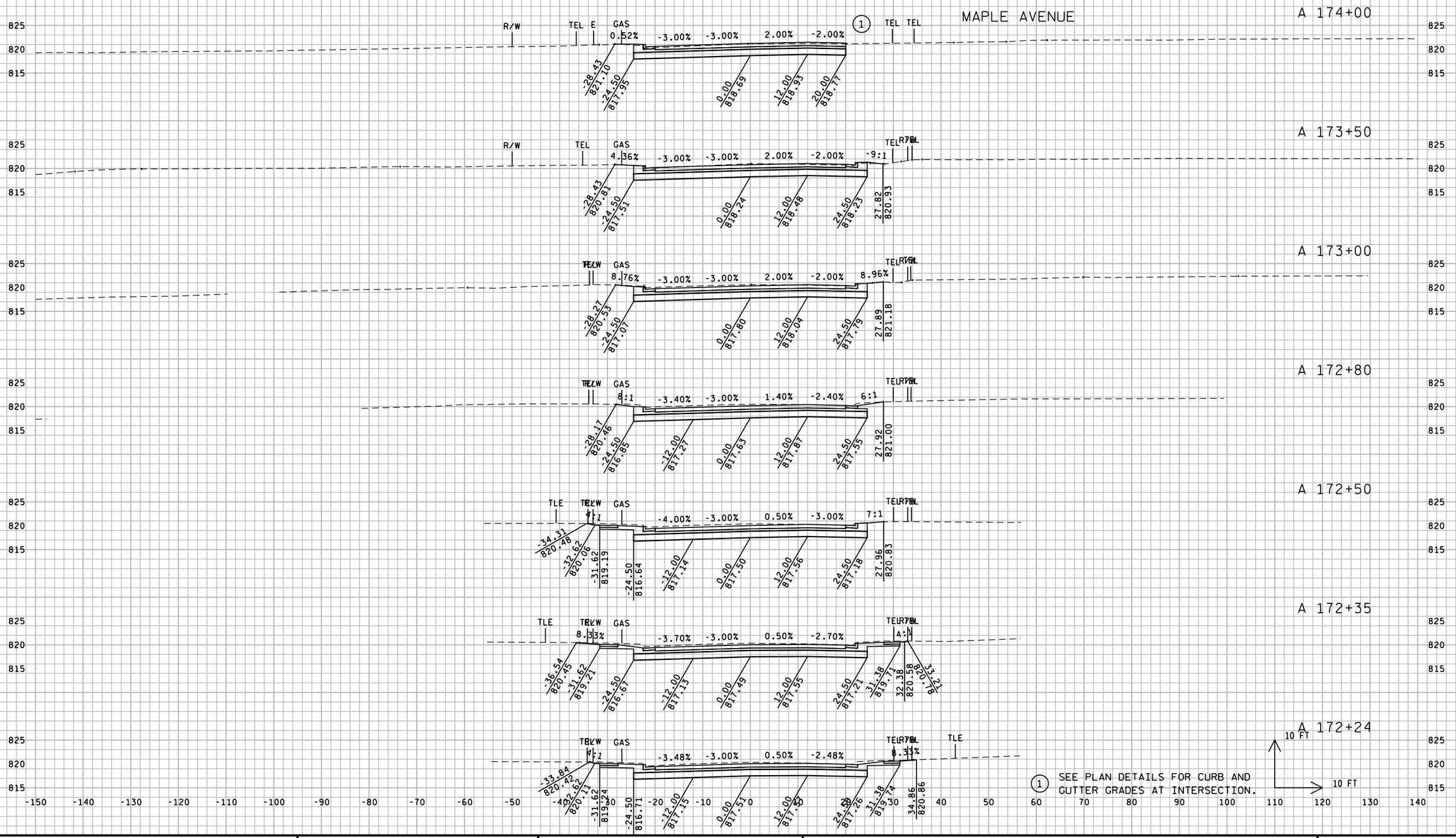
WISDOT/CADDS SHEET 21



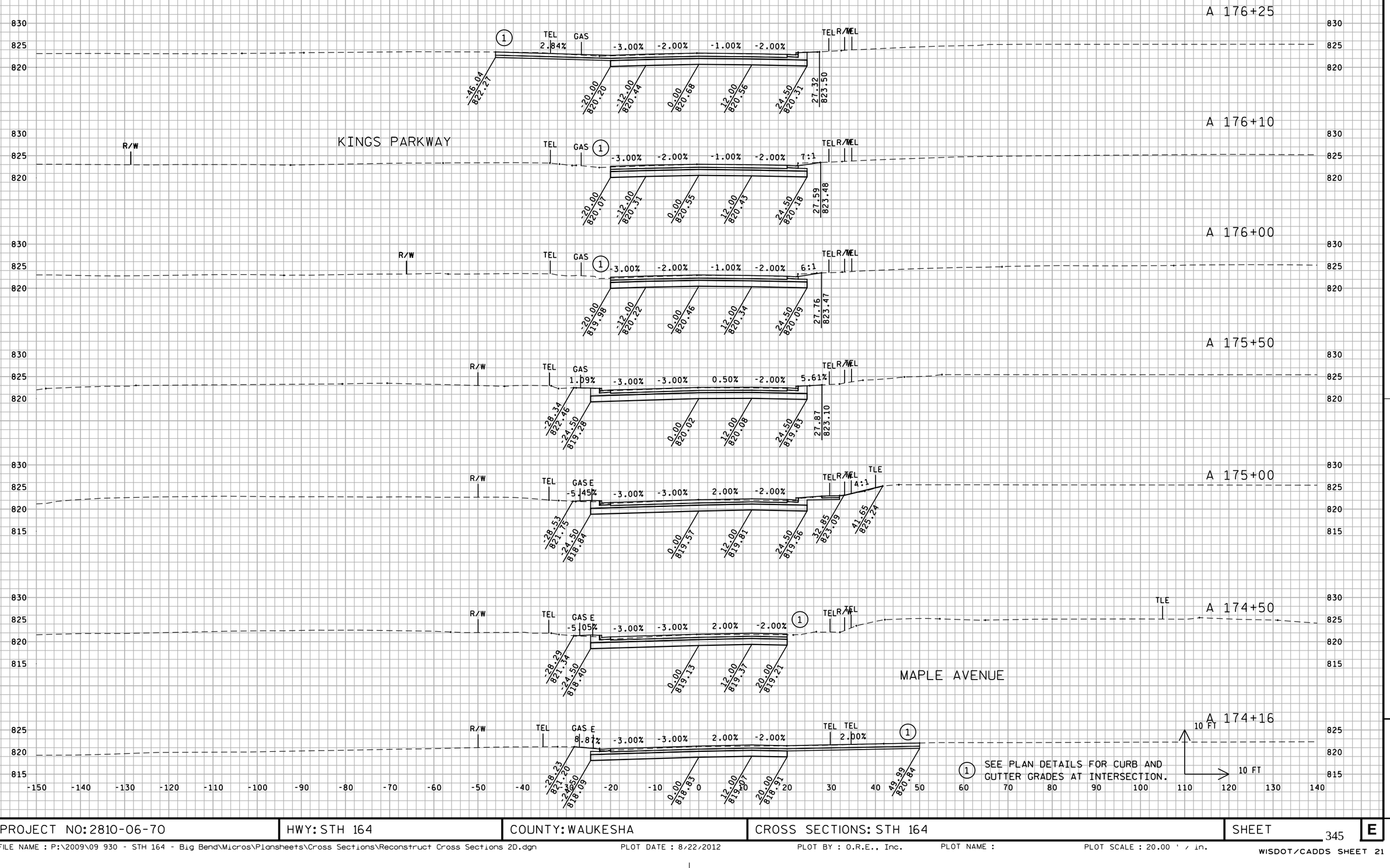
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 343	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

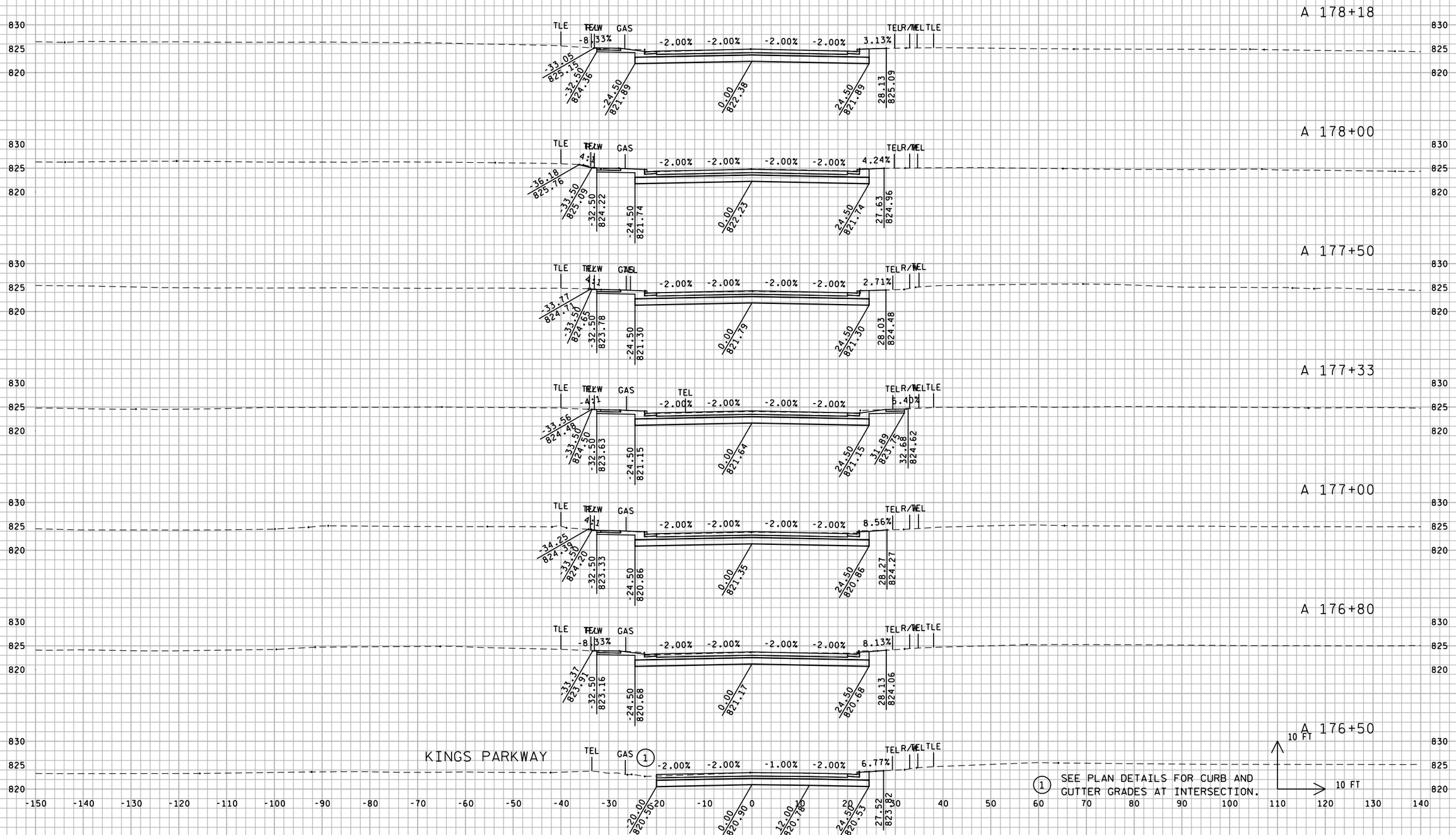


PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 344	E



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 345	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.
WISDOT/CADDS SHEET 21



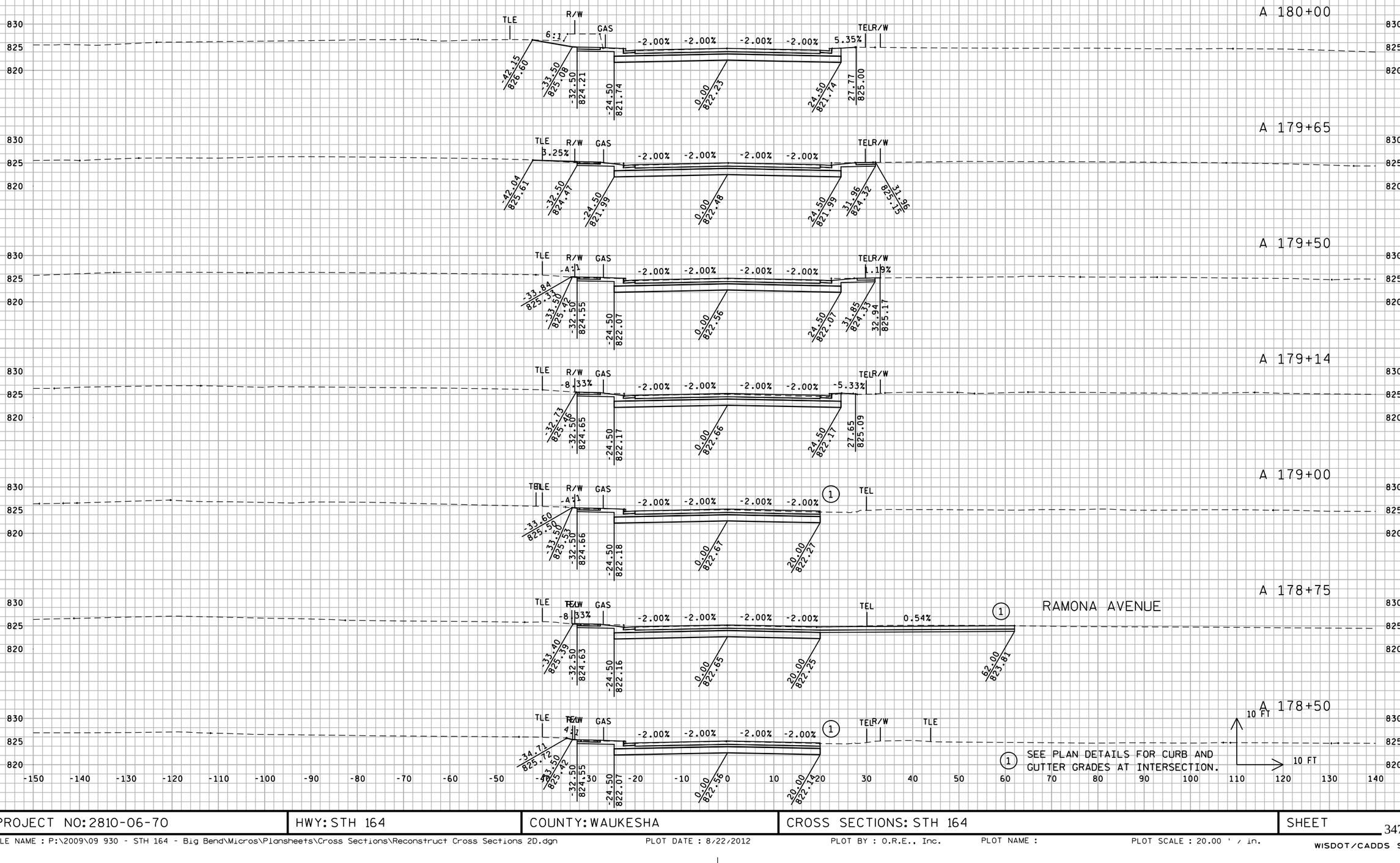
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 346	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



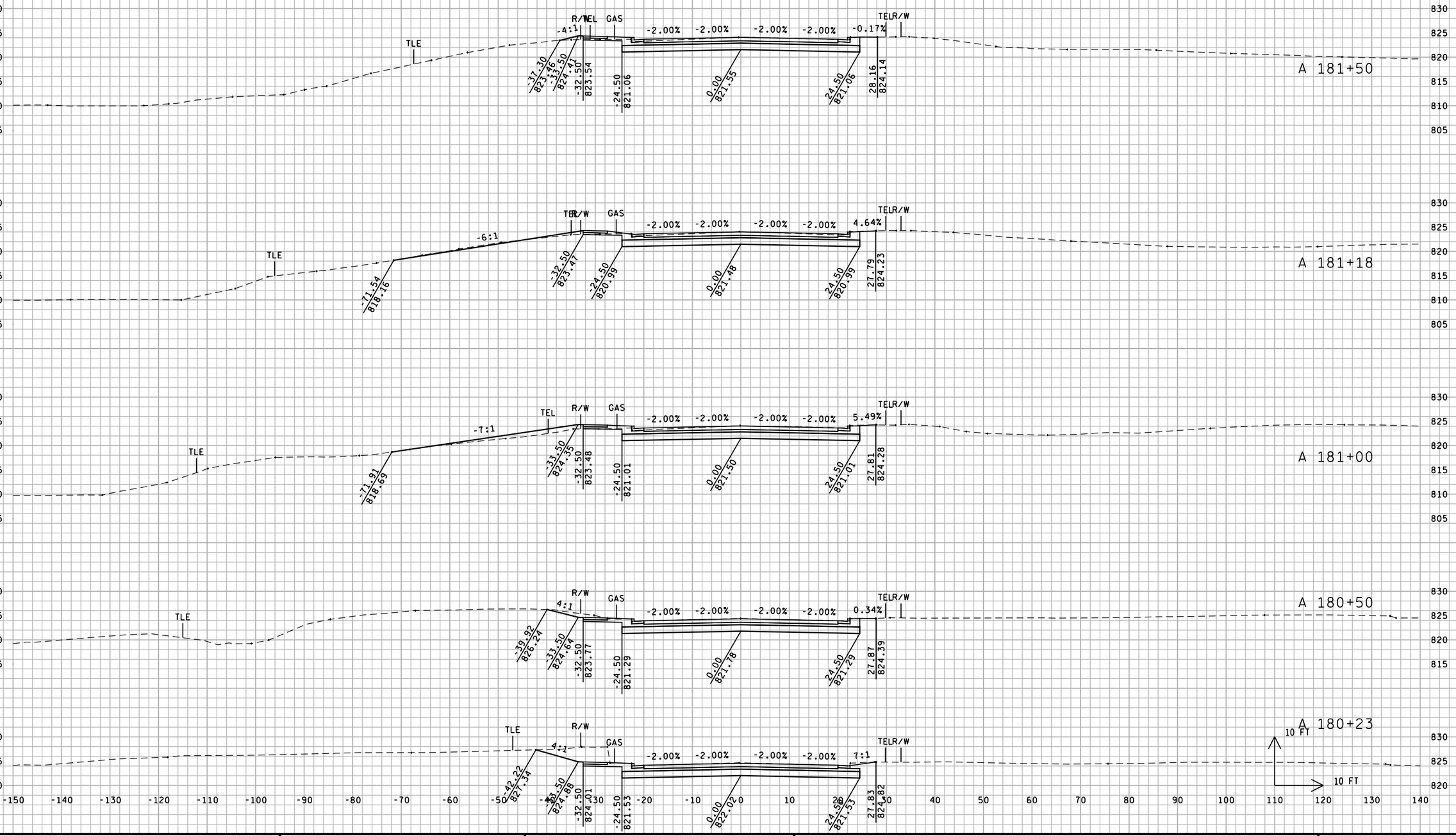
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 347	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

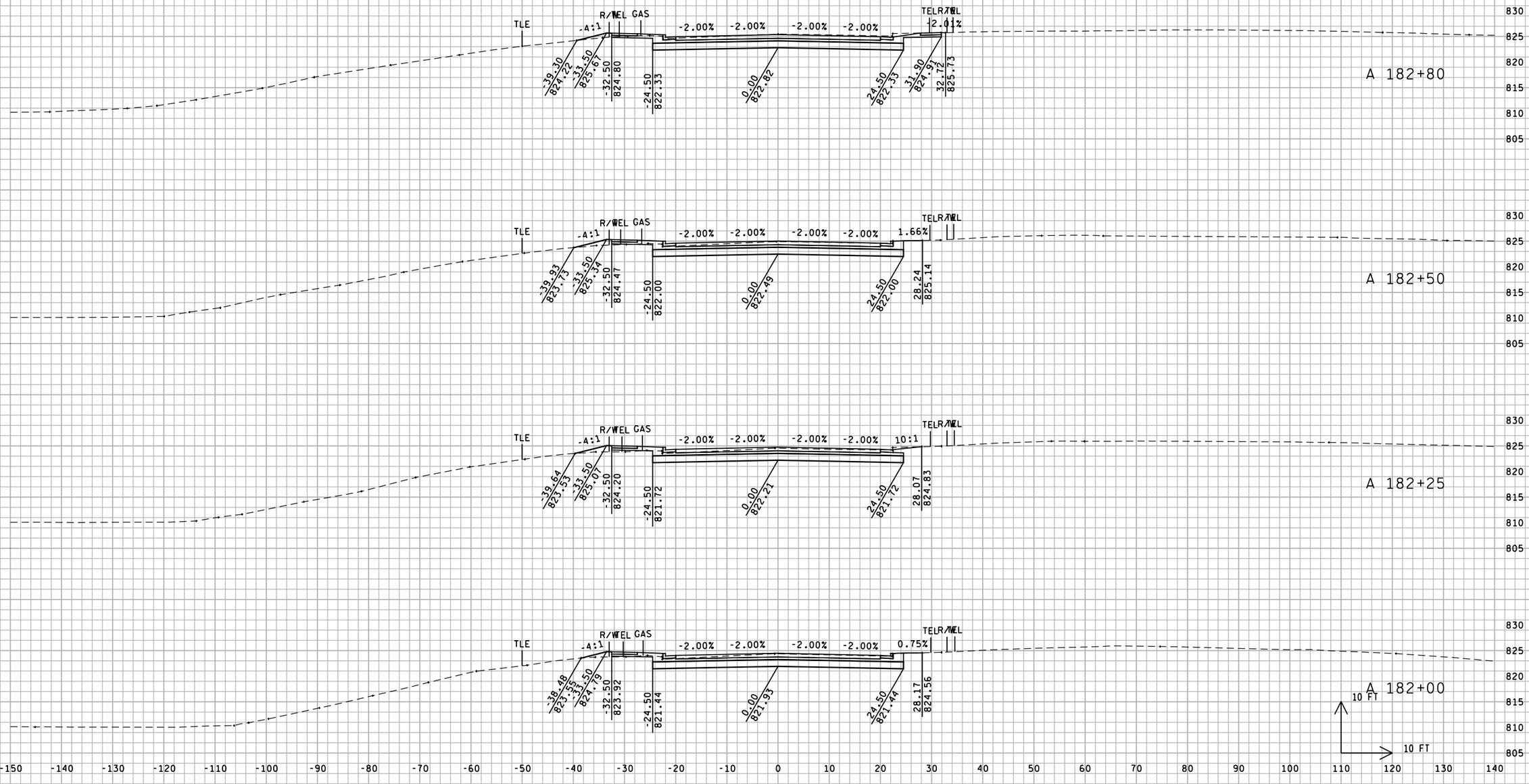
WISDOT/CADDS SHEET 21



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 348	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



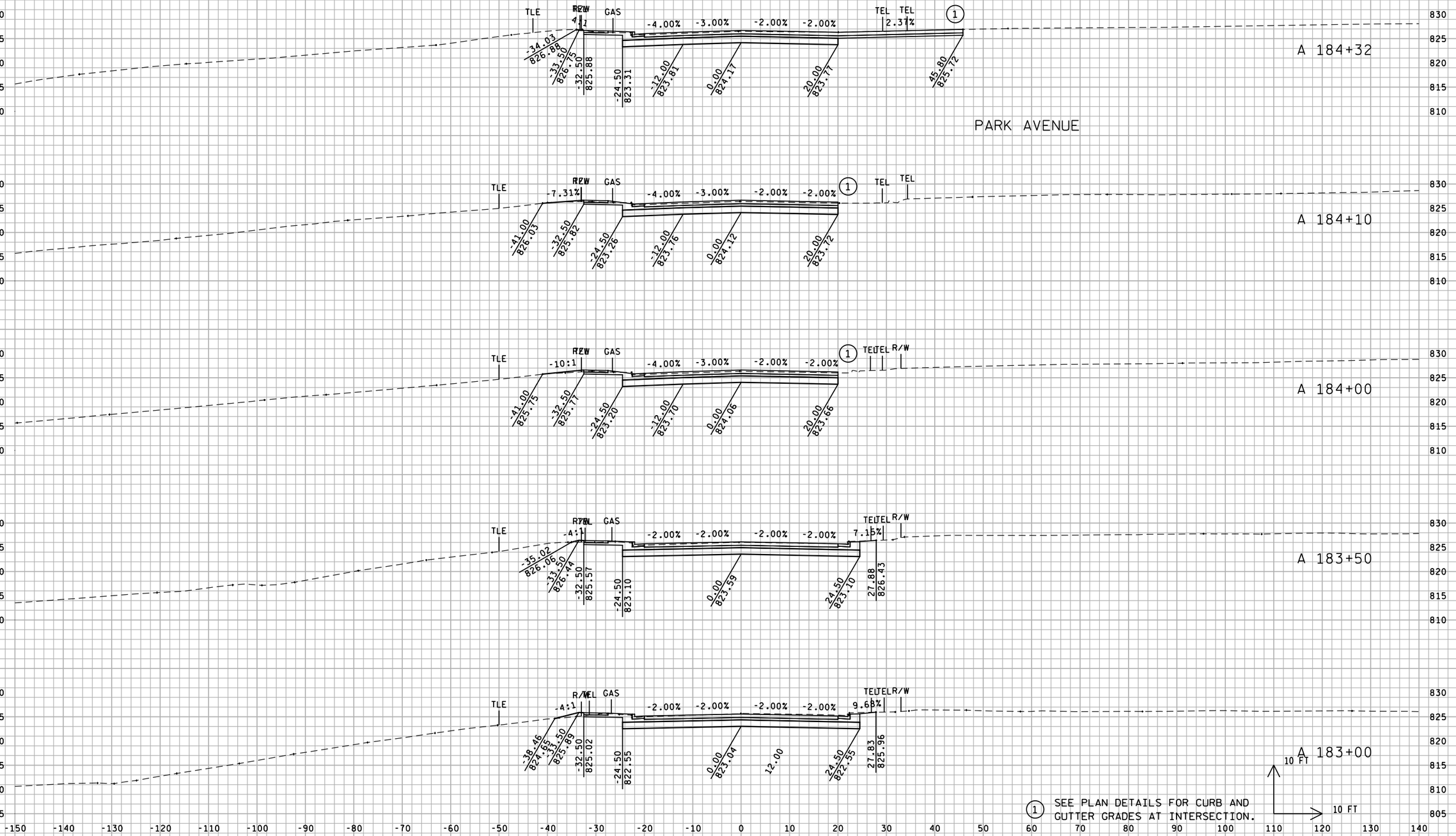
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 349	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



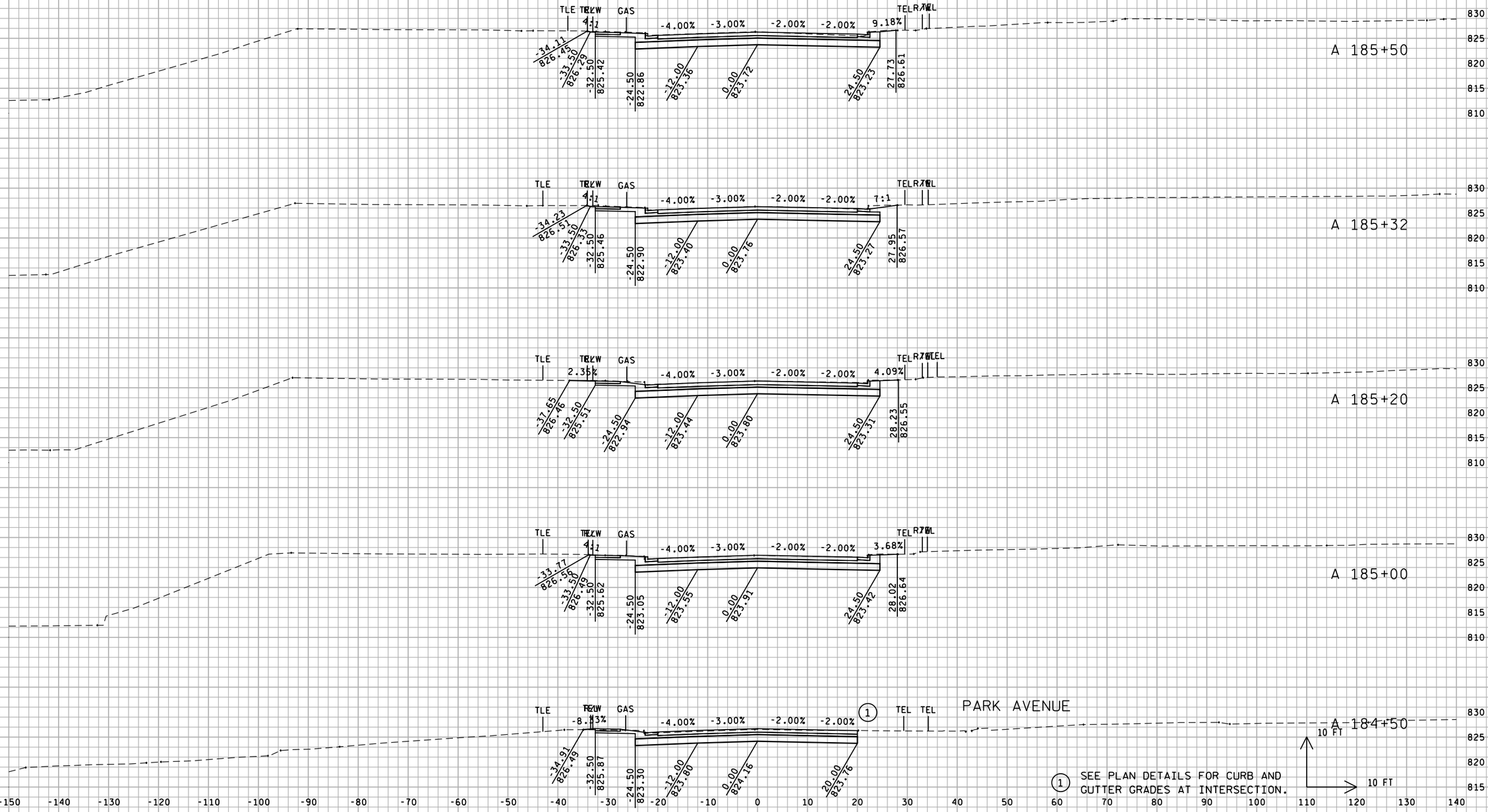
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 350	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

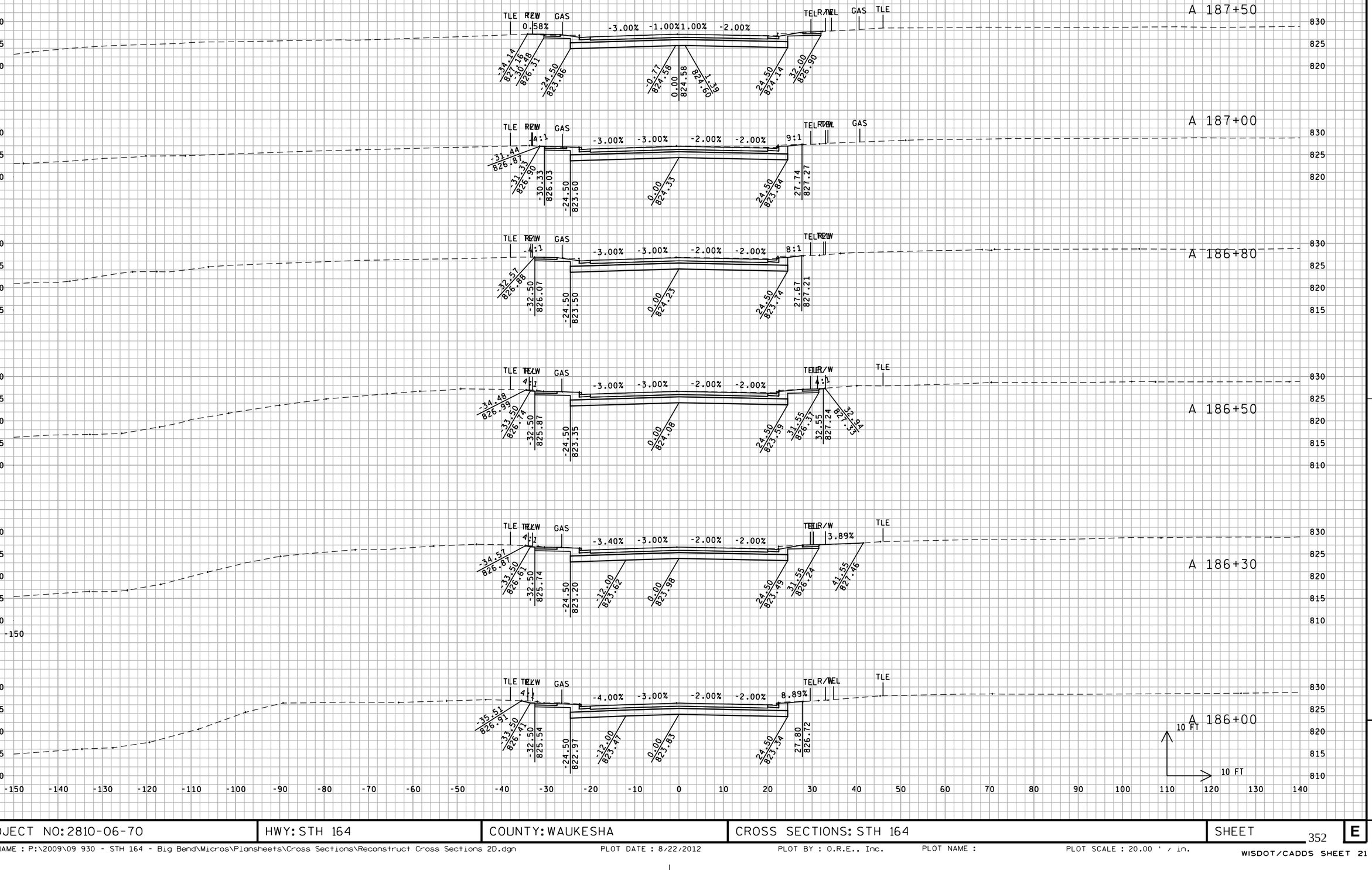


9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 351	E

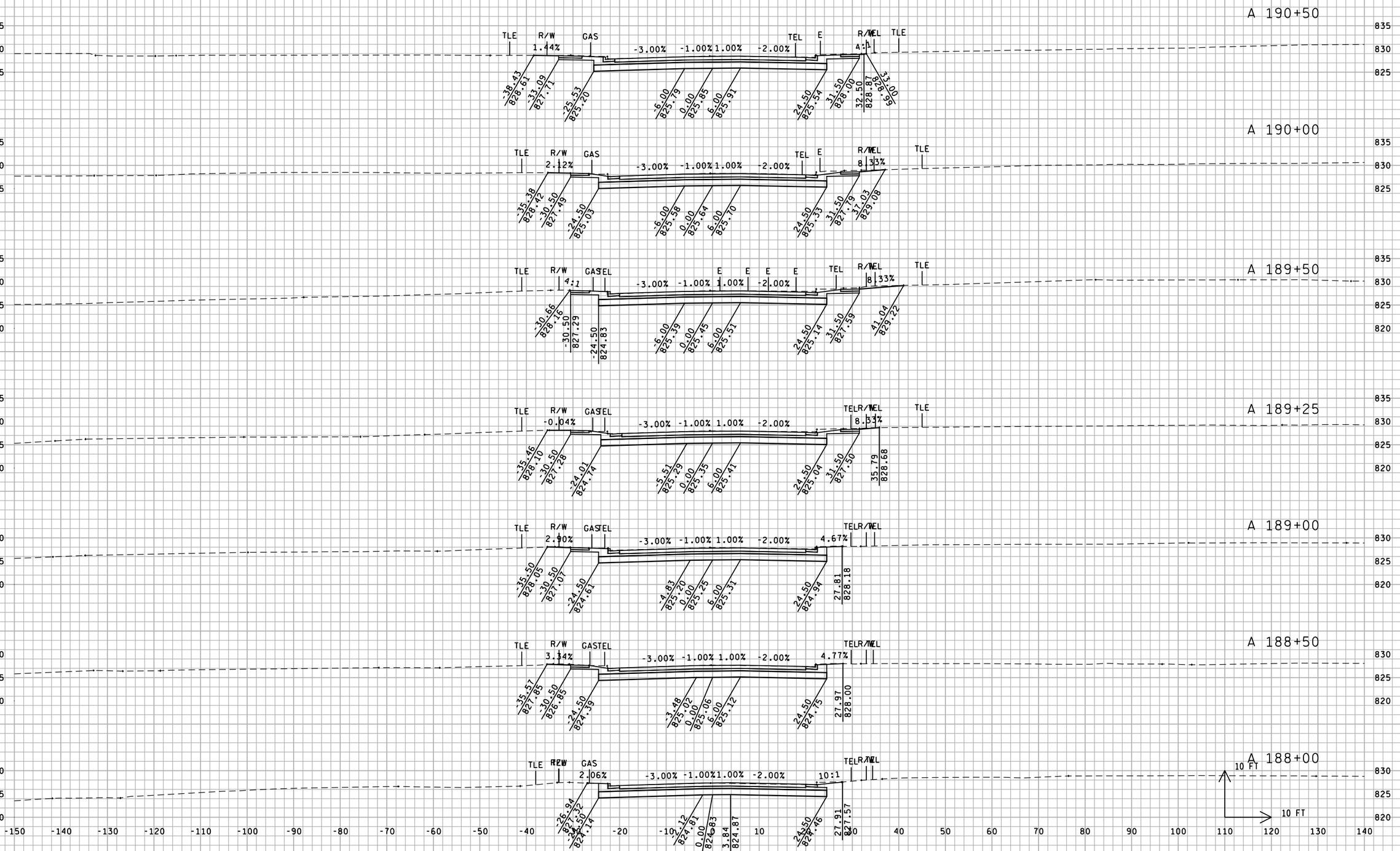
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn
PLOT DATE : 8/22/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 20.00 ' / in.
WISDOT/CADDS SHEET 21



9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 352	E



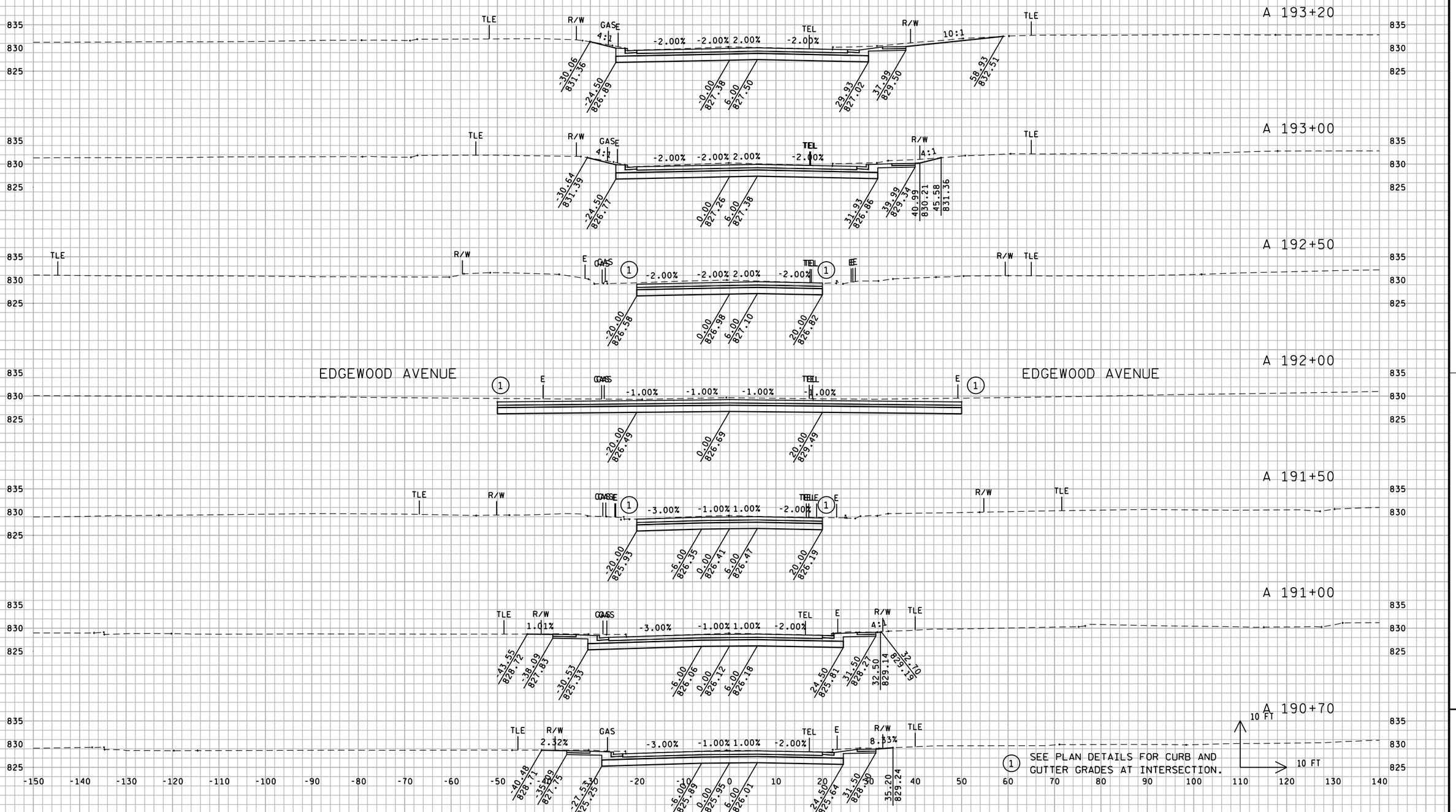
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 353	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

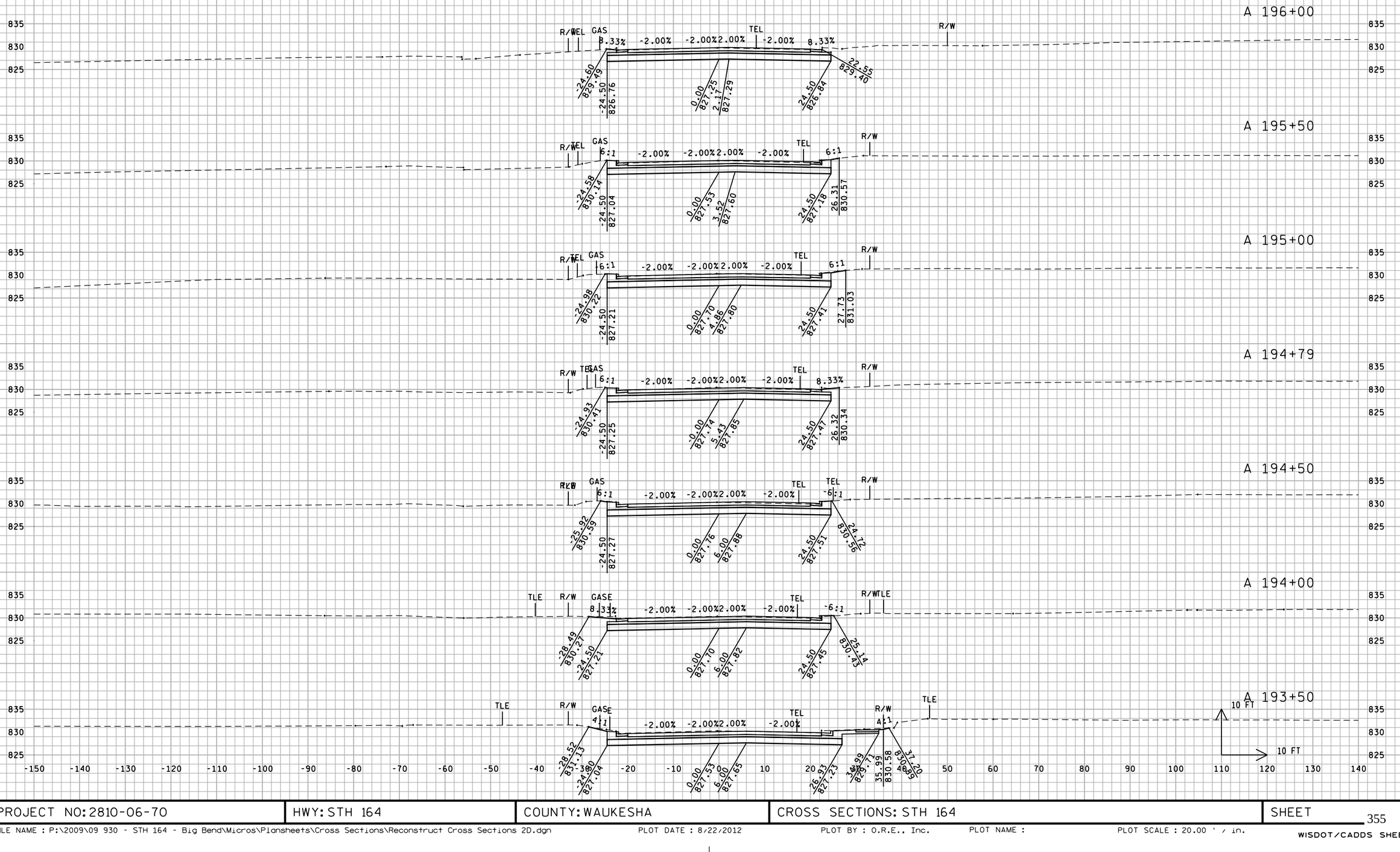


9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 354	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn
PLOT DATE : 8/22/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 20.00 ' / in.
WISDOT/CADDS SHEET 21

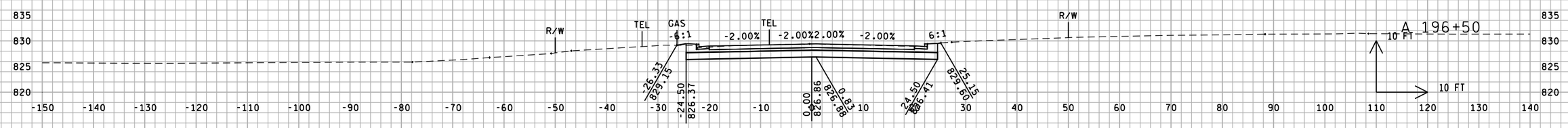


PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 355	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

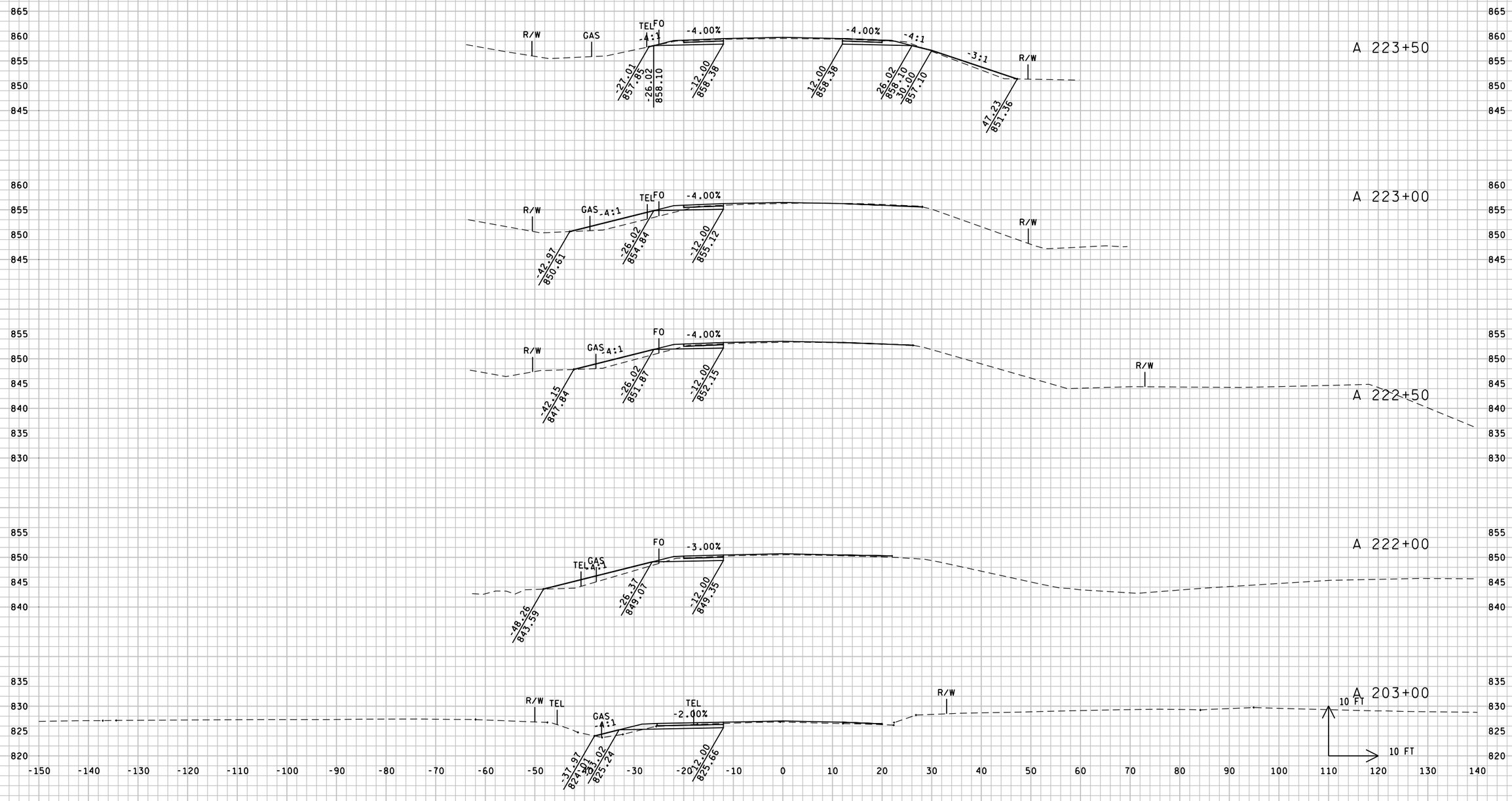
END RECONSTRUCTION
STA. 196+58



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 356	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Reconstruct Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



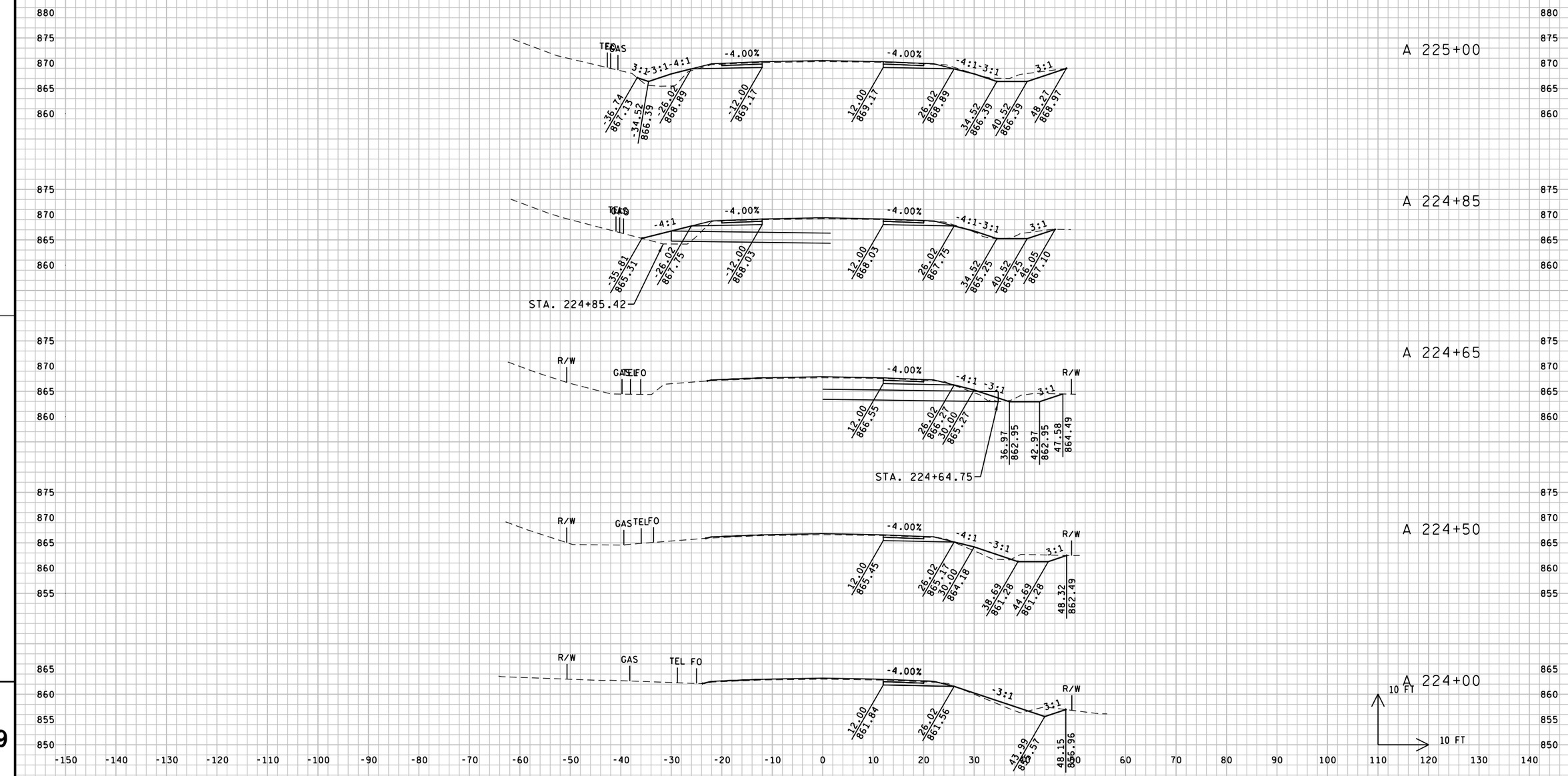
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 357	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

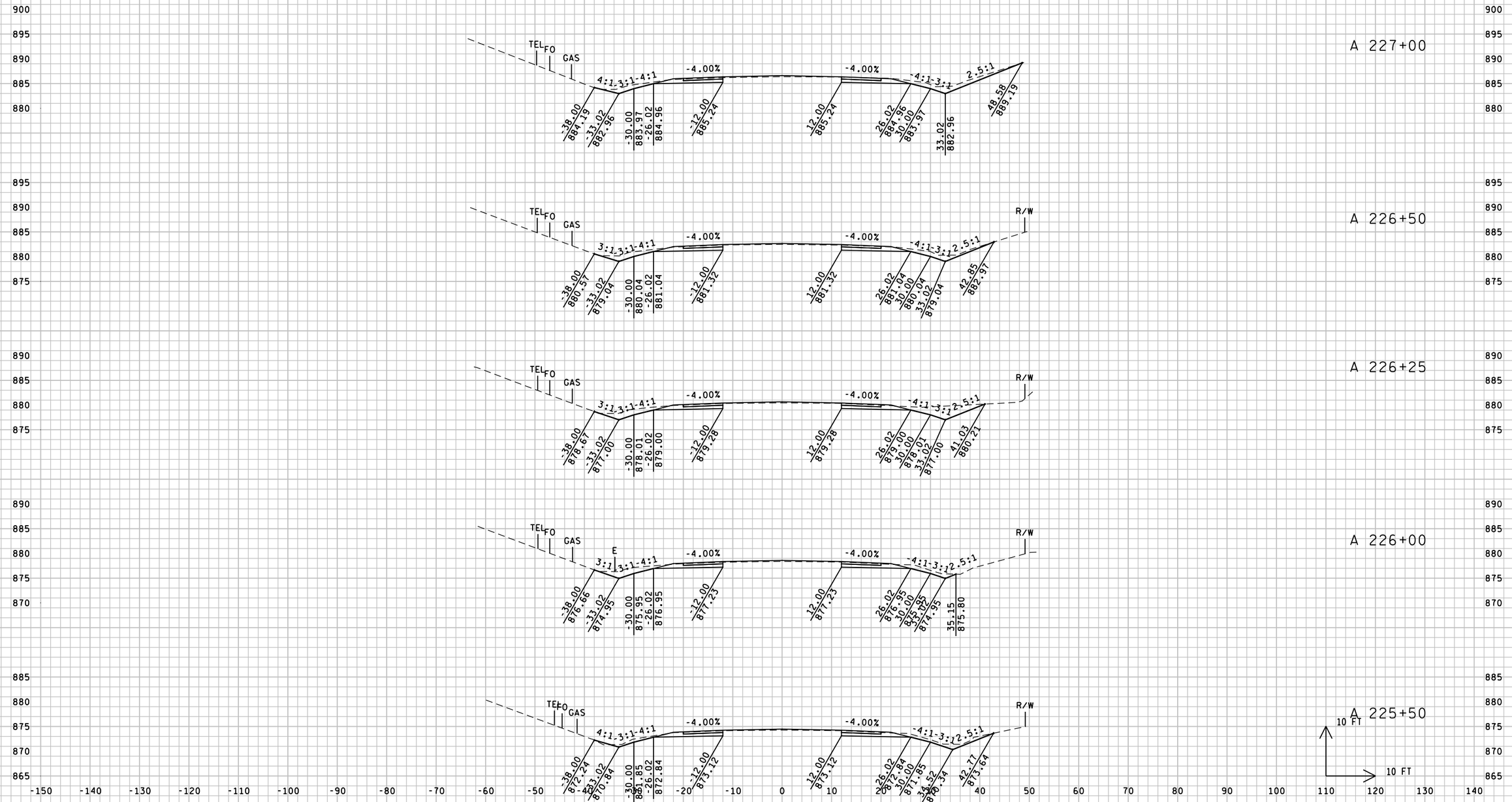


9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 358	E

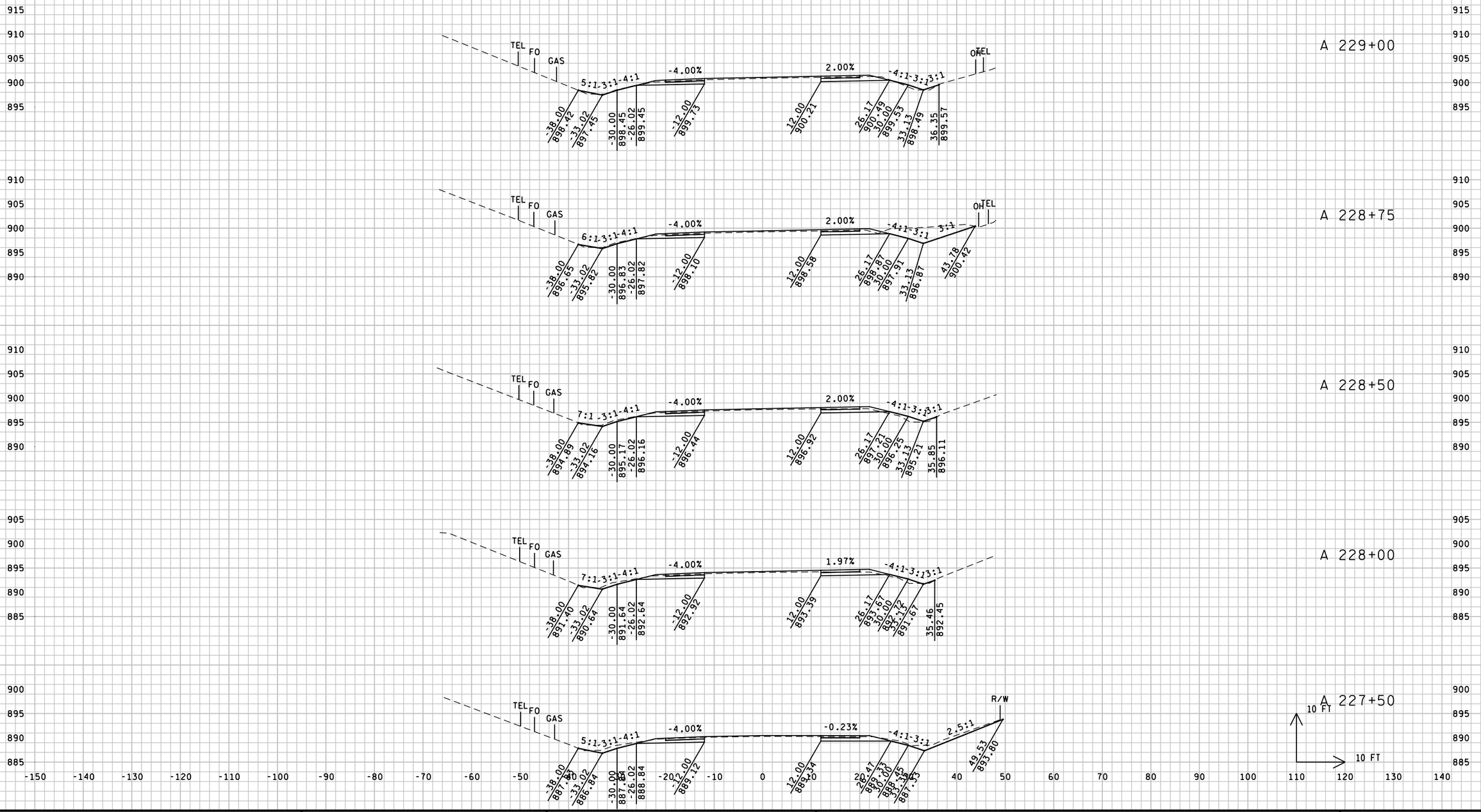
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 359	E

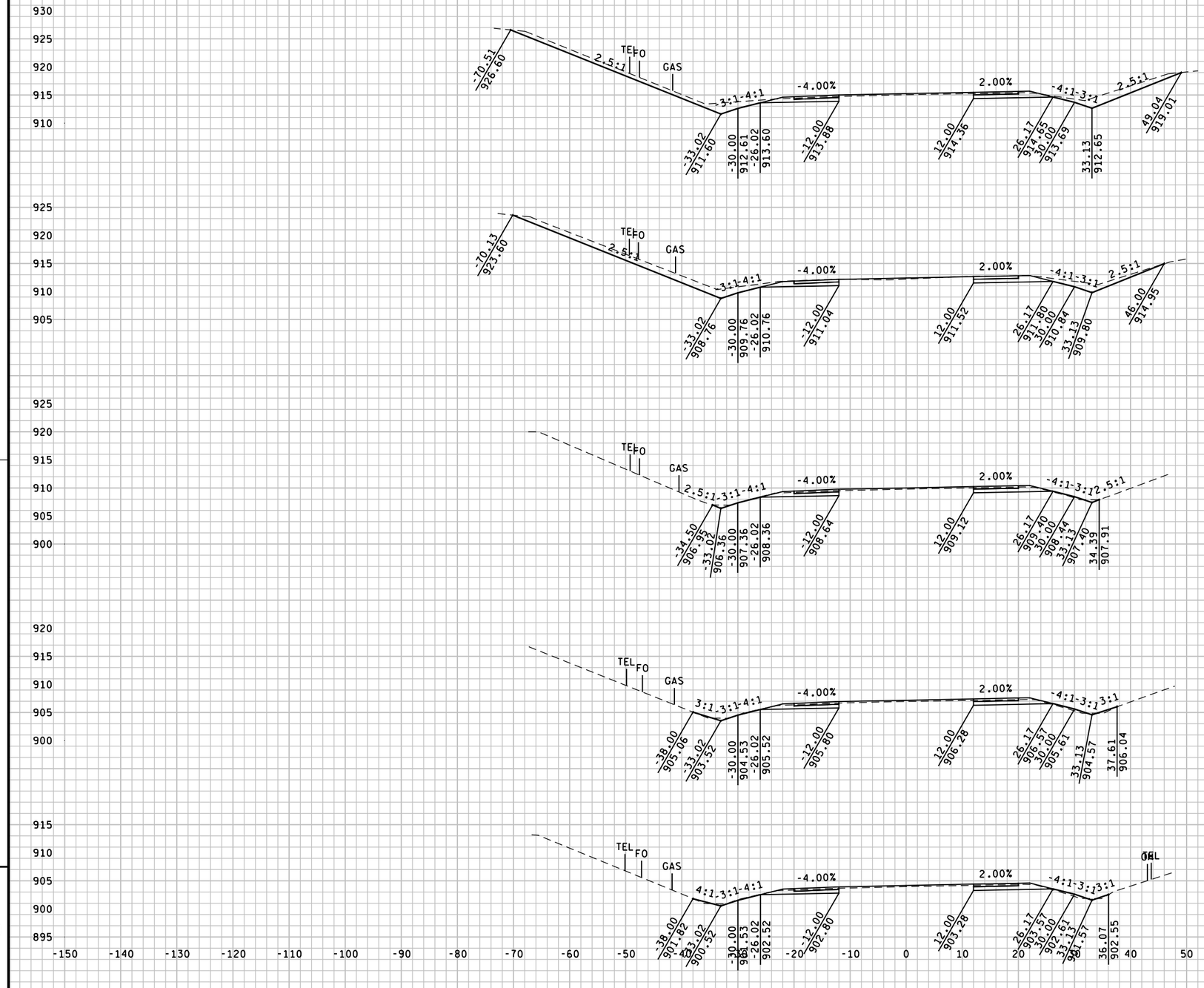
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.
WISDOT/CADDS SHEET 21



9

9

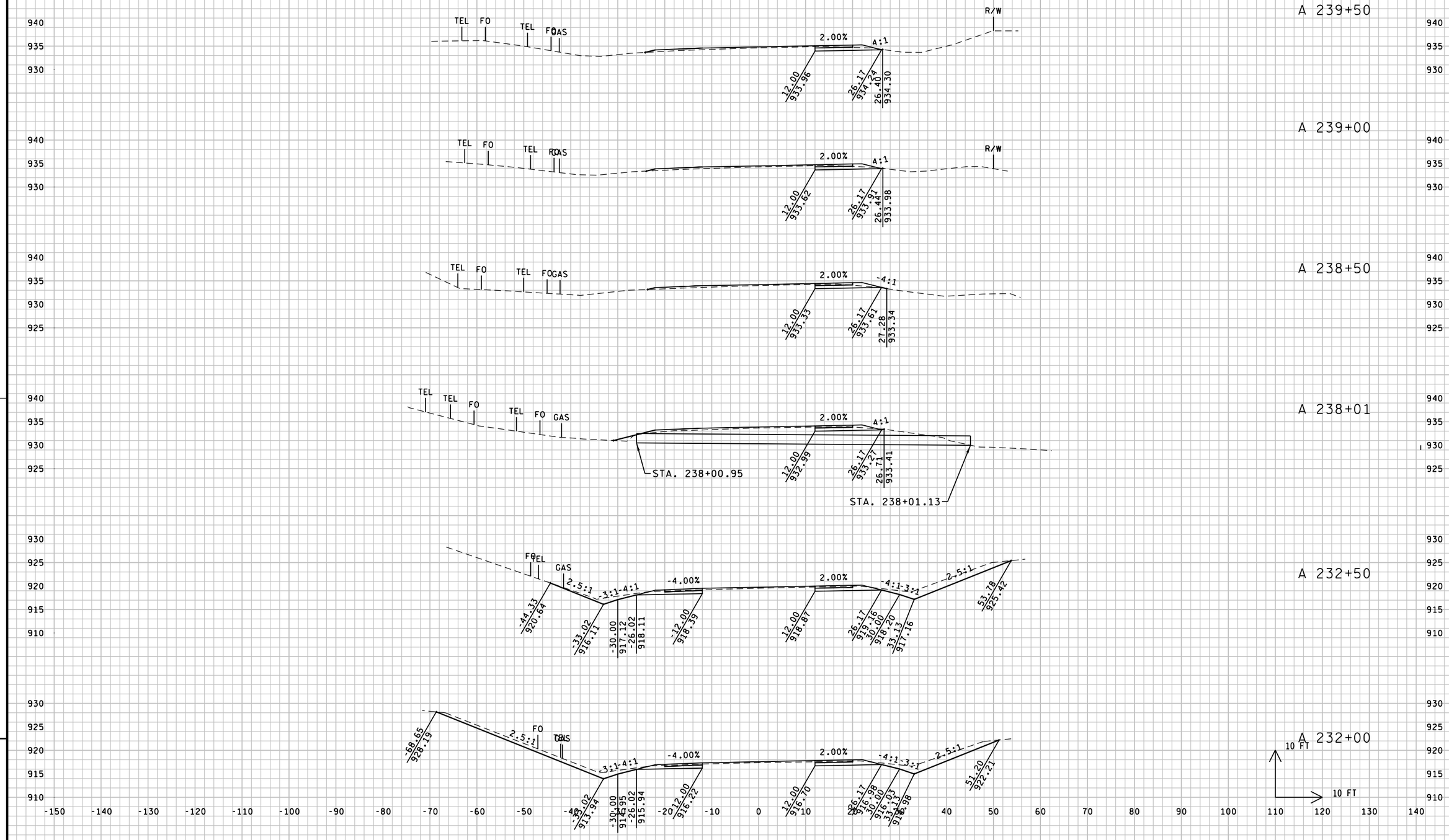
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 360	E



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 361	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



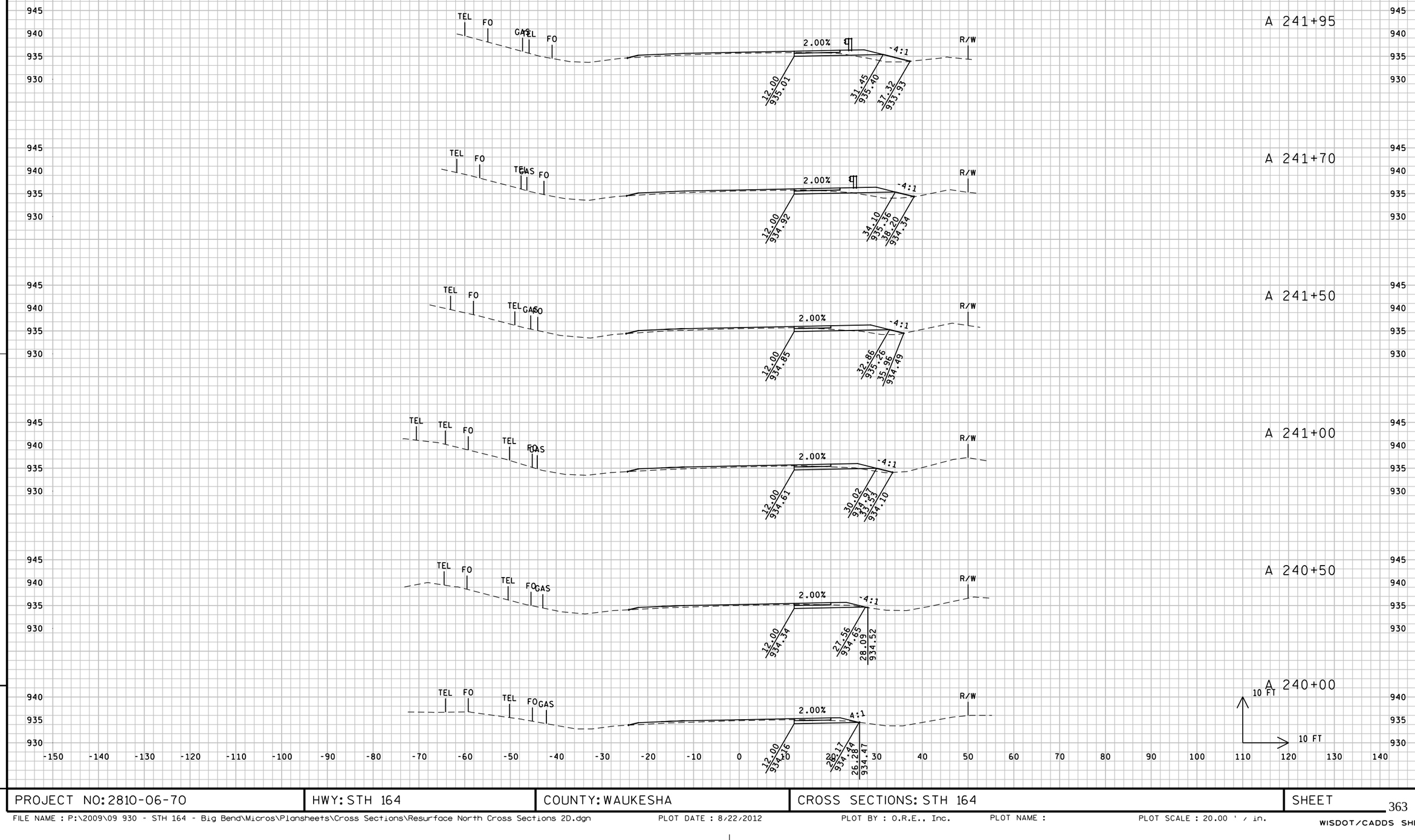
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 362	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

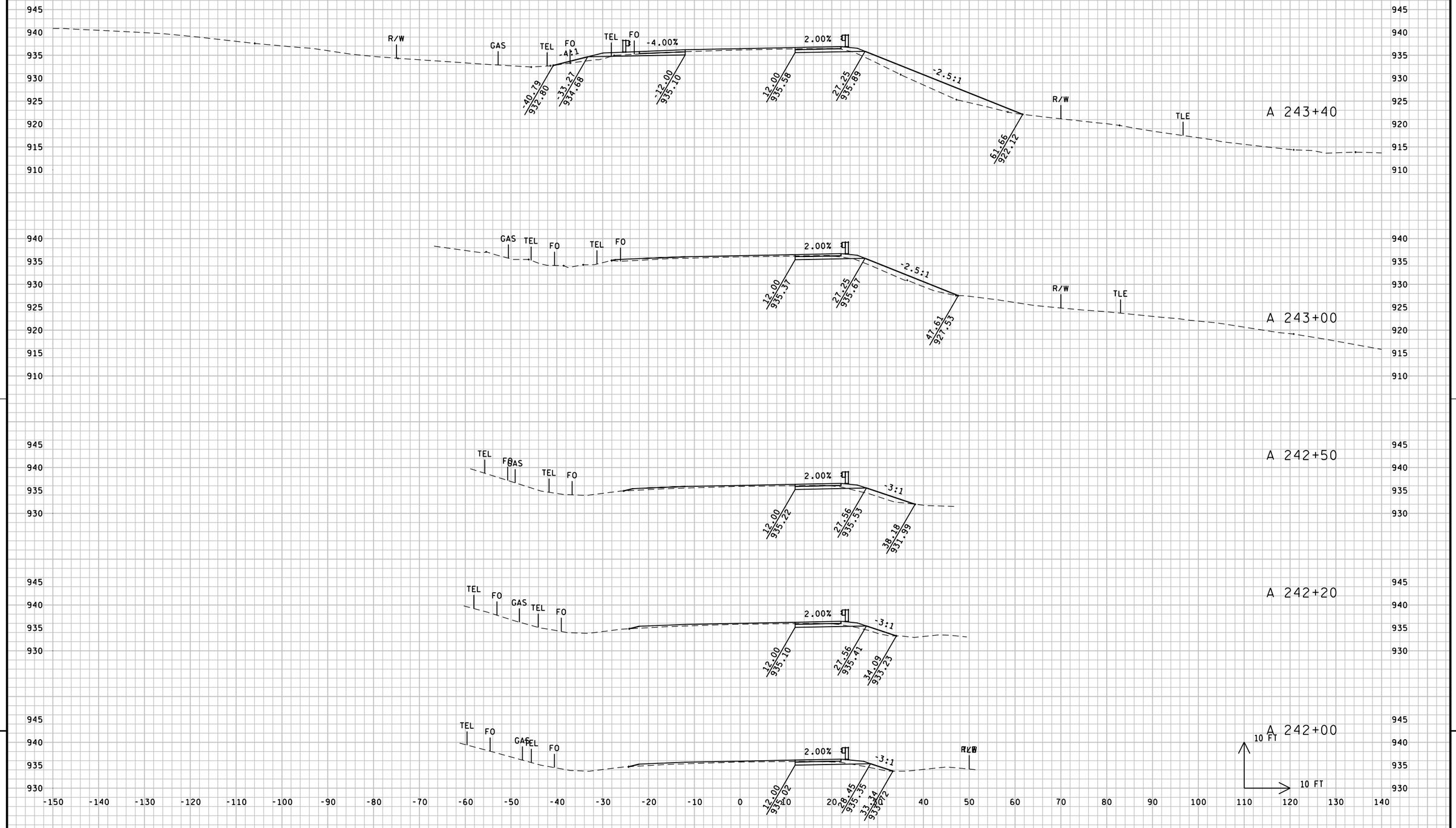


9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 363	E

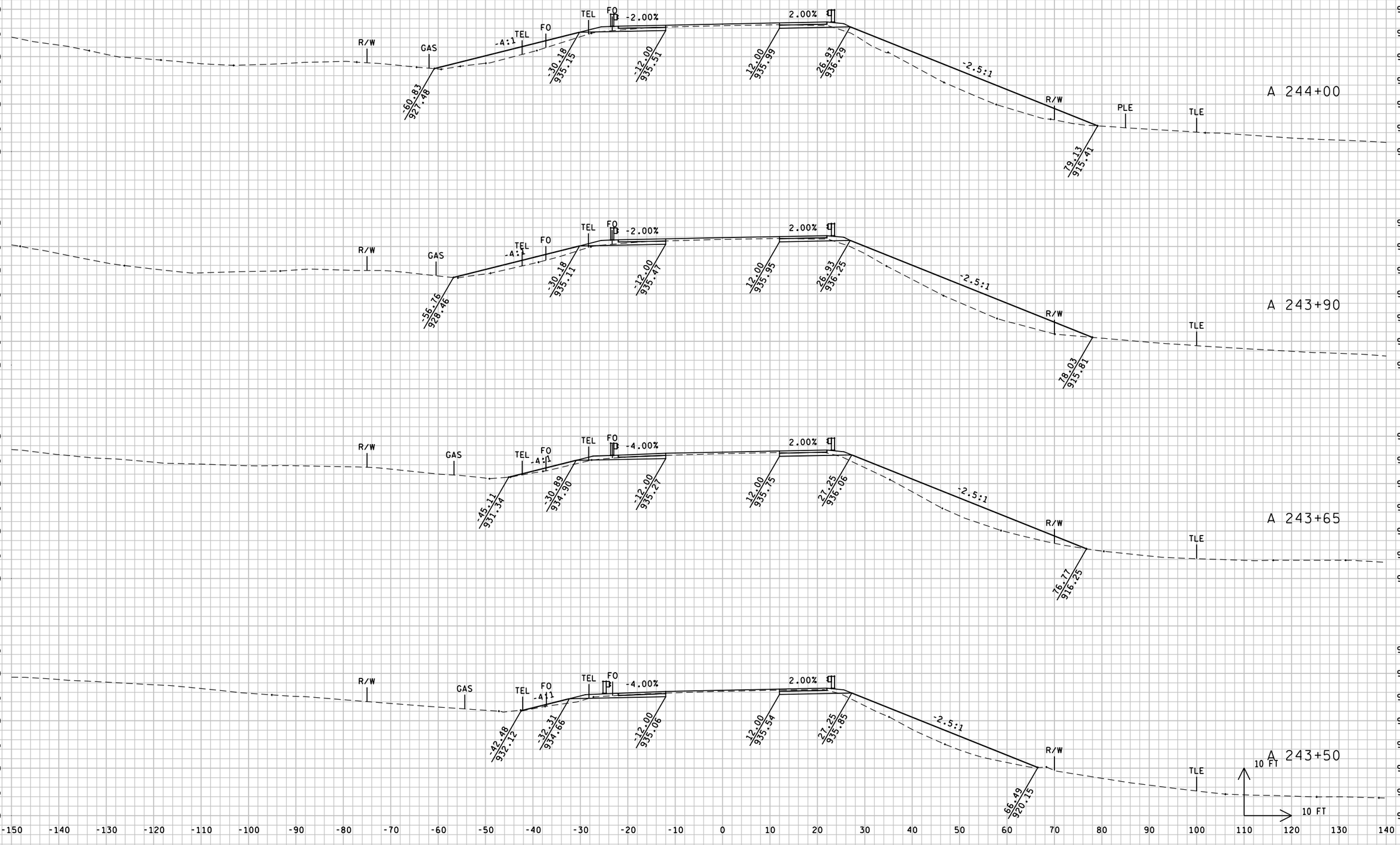
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.
WISDOT/CADDS SHEET 21



9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 364	E



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 365	E

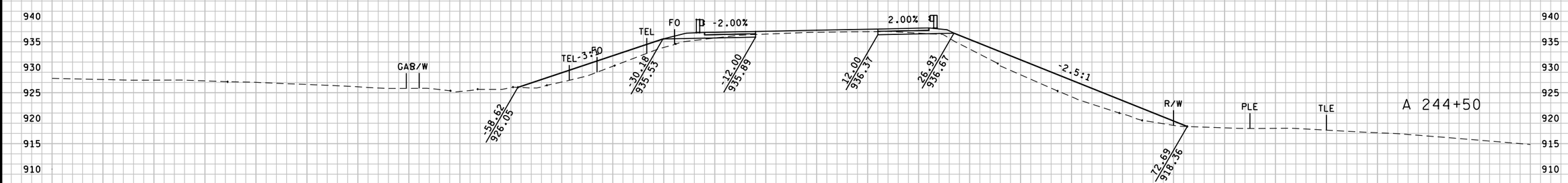
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

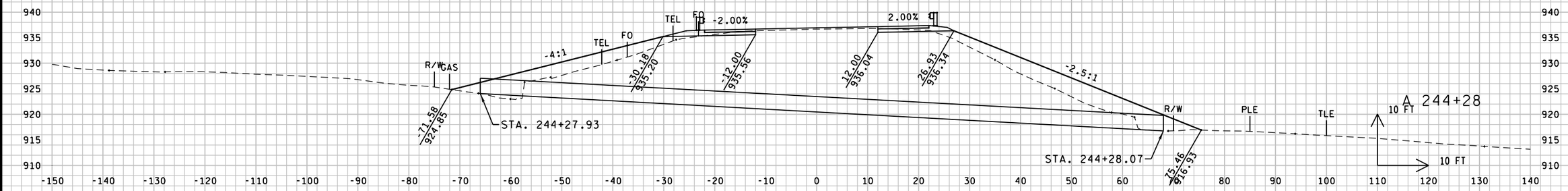
WISDOT/CADDS SHEET 21

CHERI AVENUE







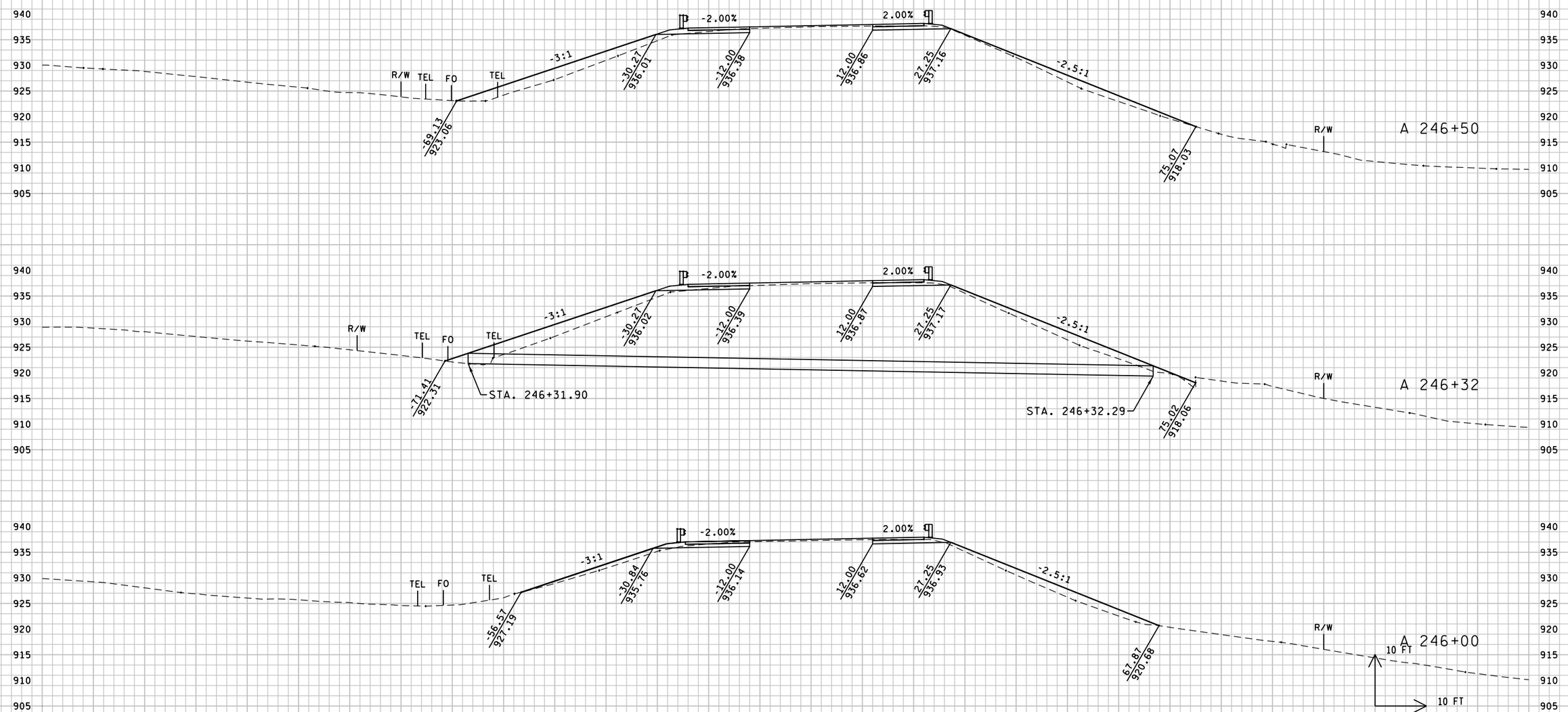


9 9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 366	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

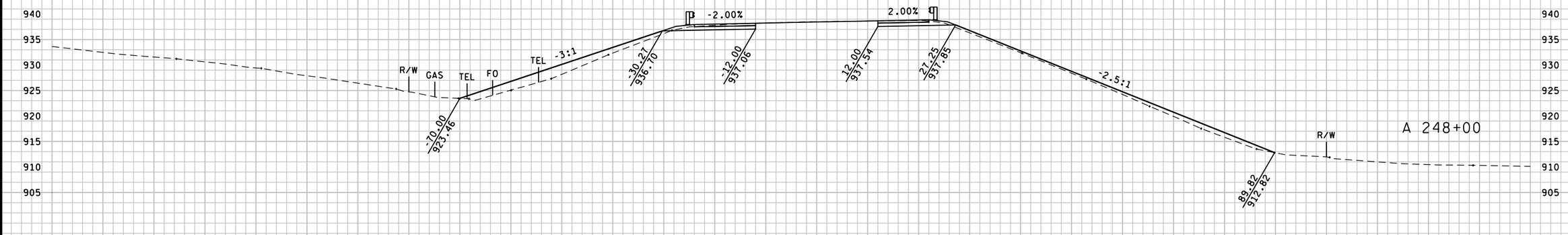
WISDOT/CADDS SHEET 21

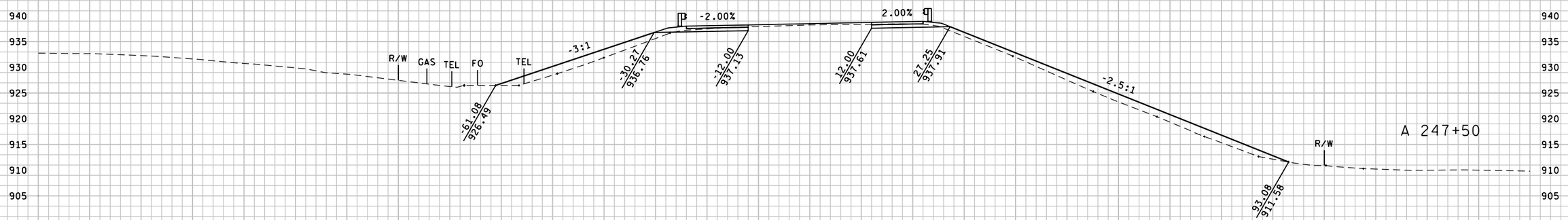


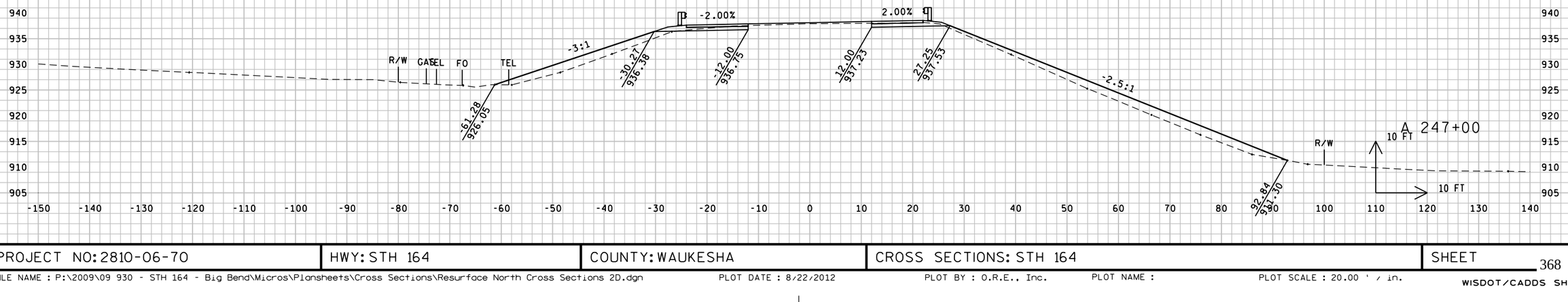
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 367	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21







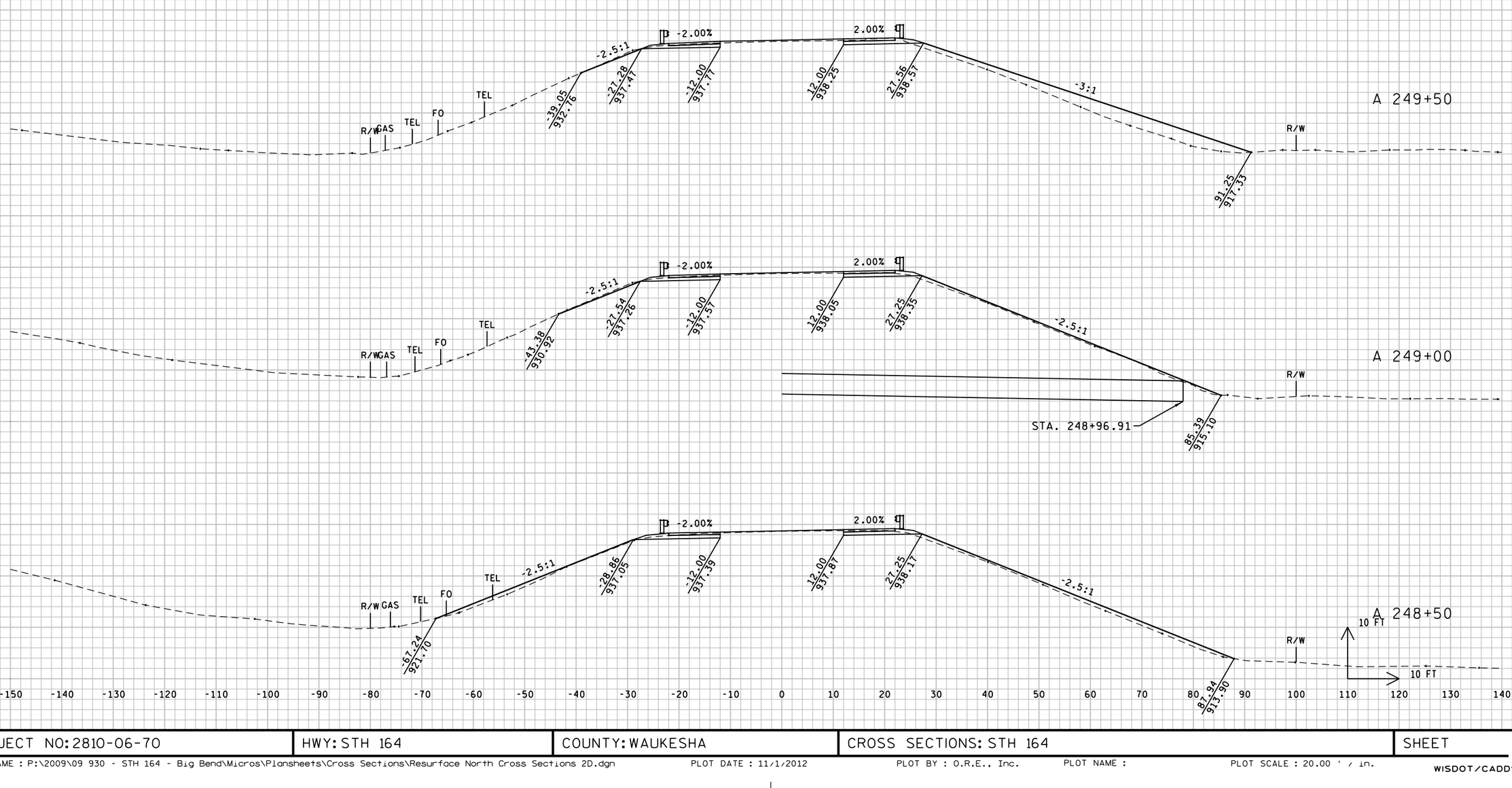
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 368	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

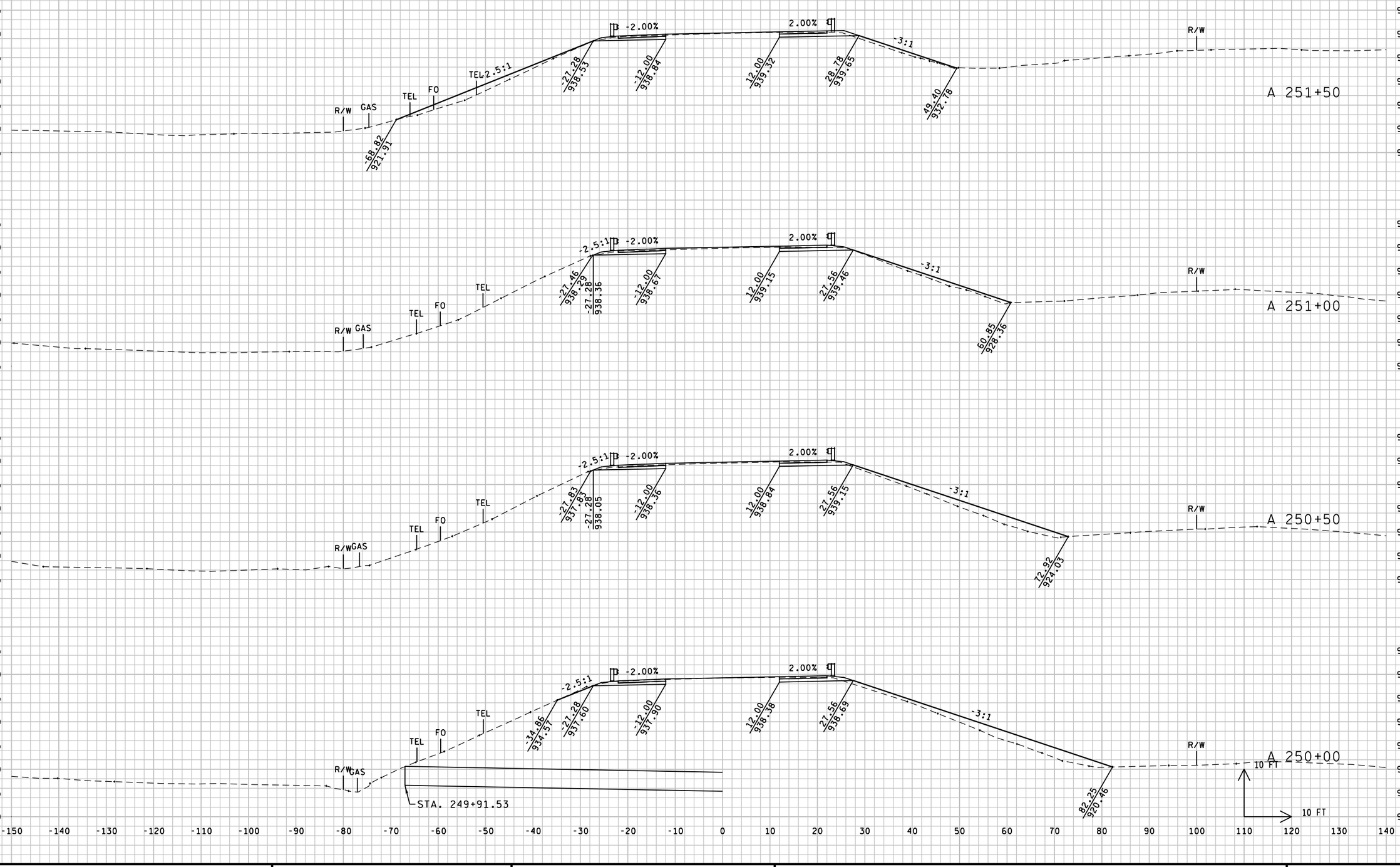
WISDOT/CADDS SHEET 21



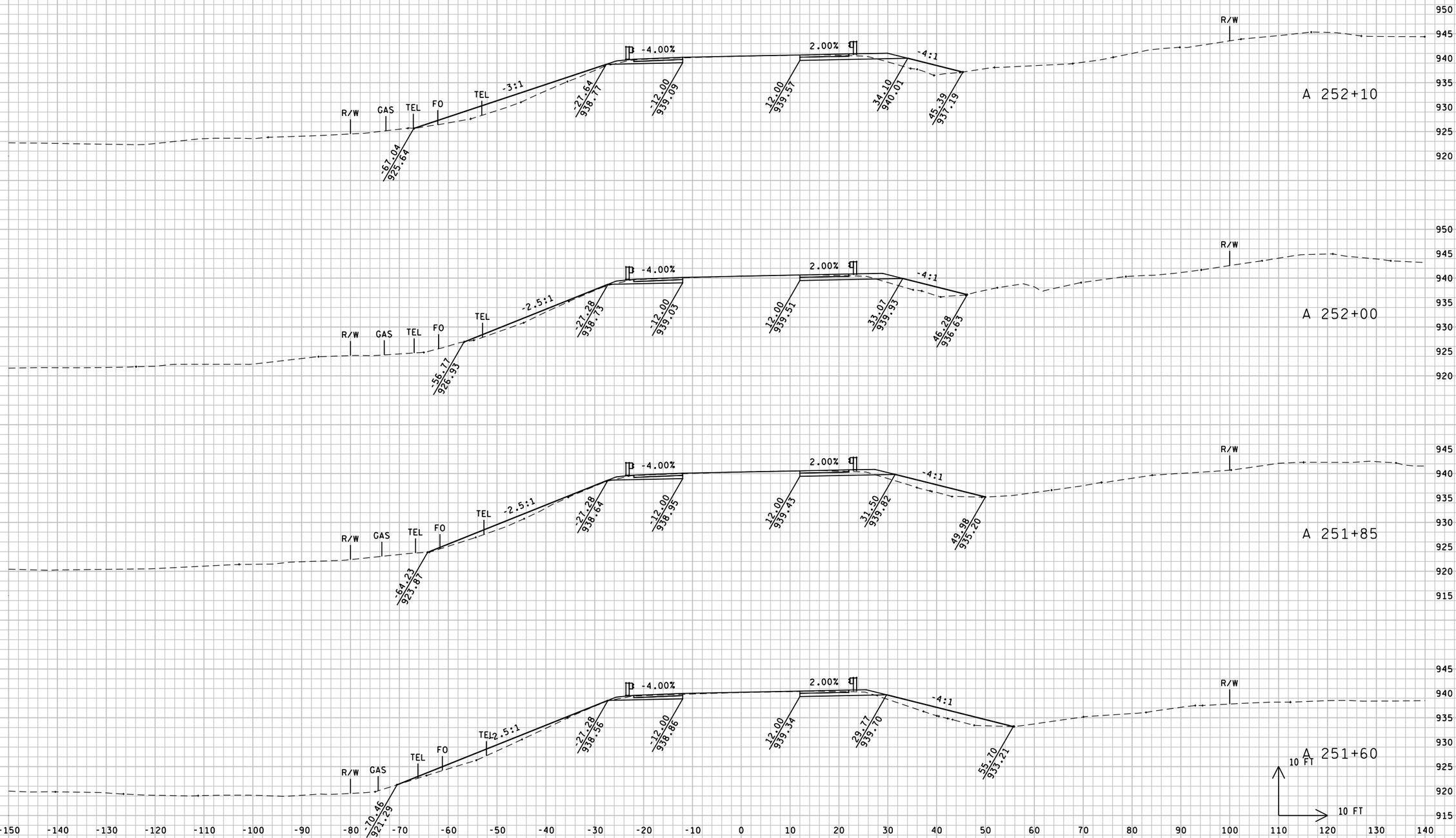
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 369	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 11/1/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21



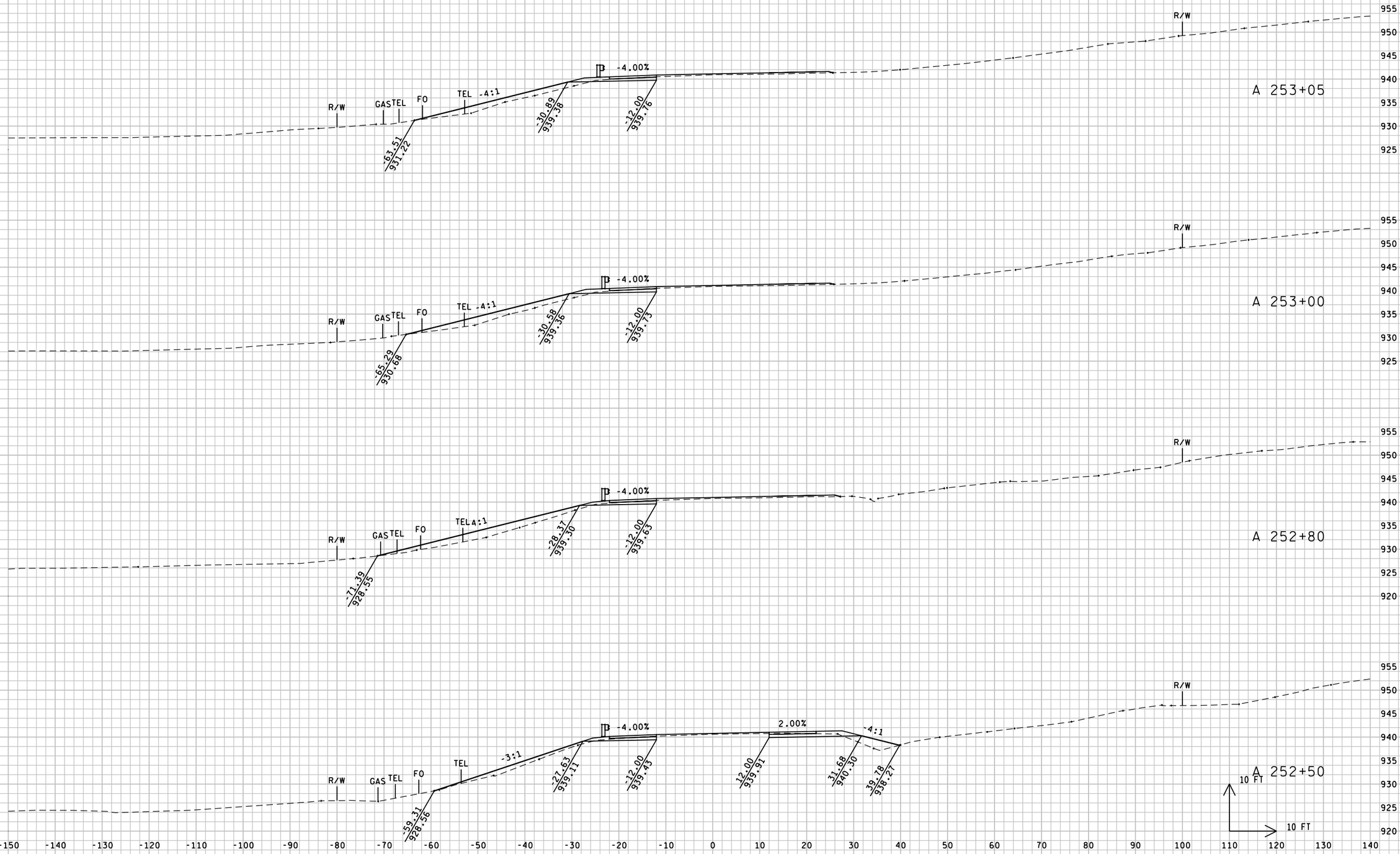
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 370	E



9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 371	E



9

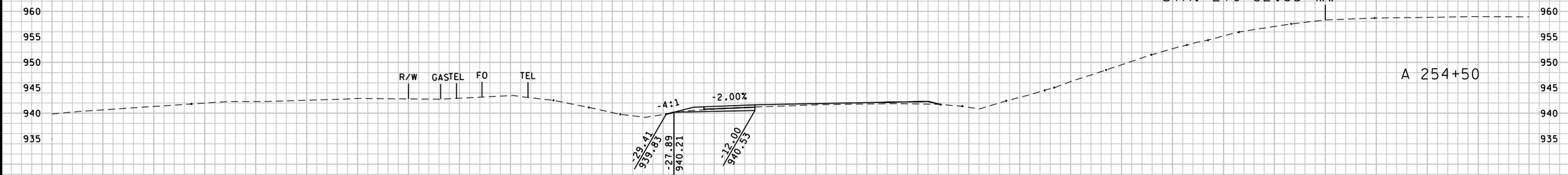
9

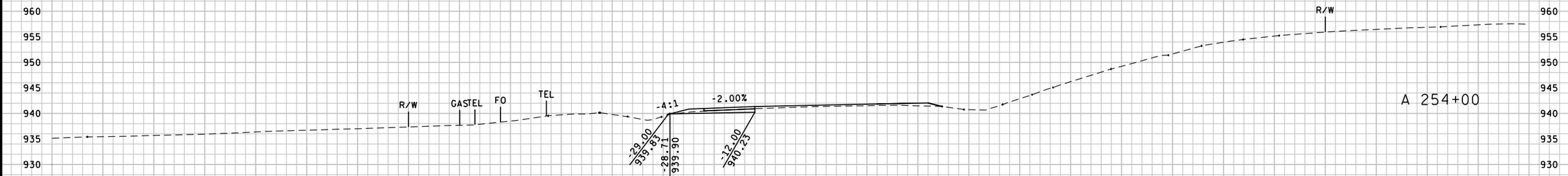
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 372	E

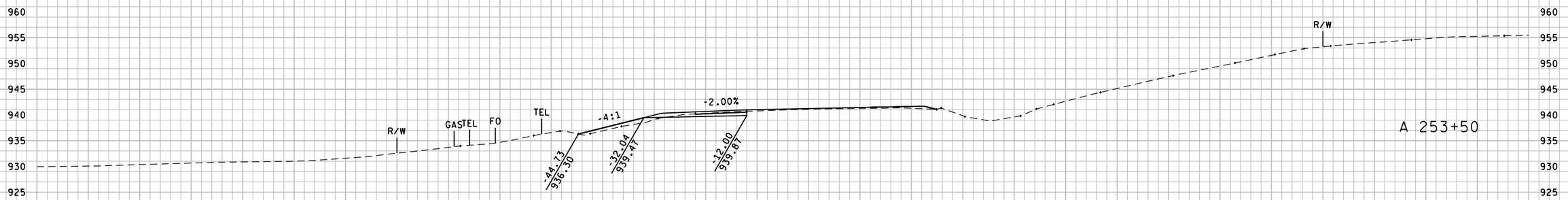
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

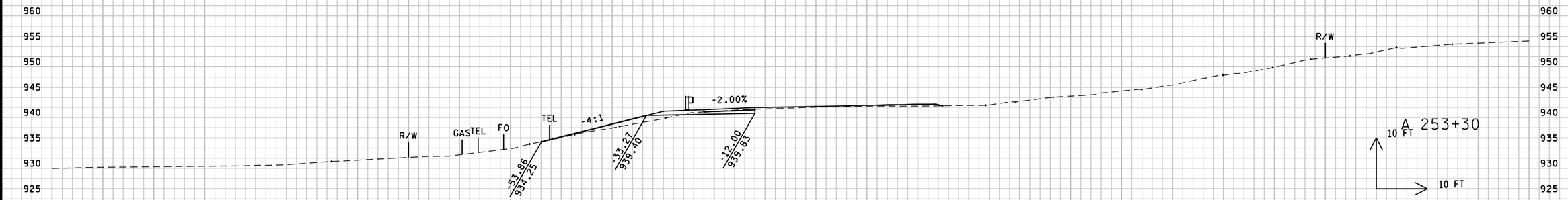
WISDOT/CADDS SHEET 21

END PROJECT
STA. 270+82.65









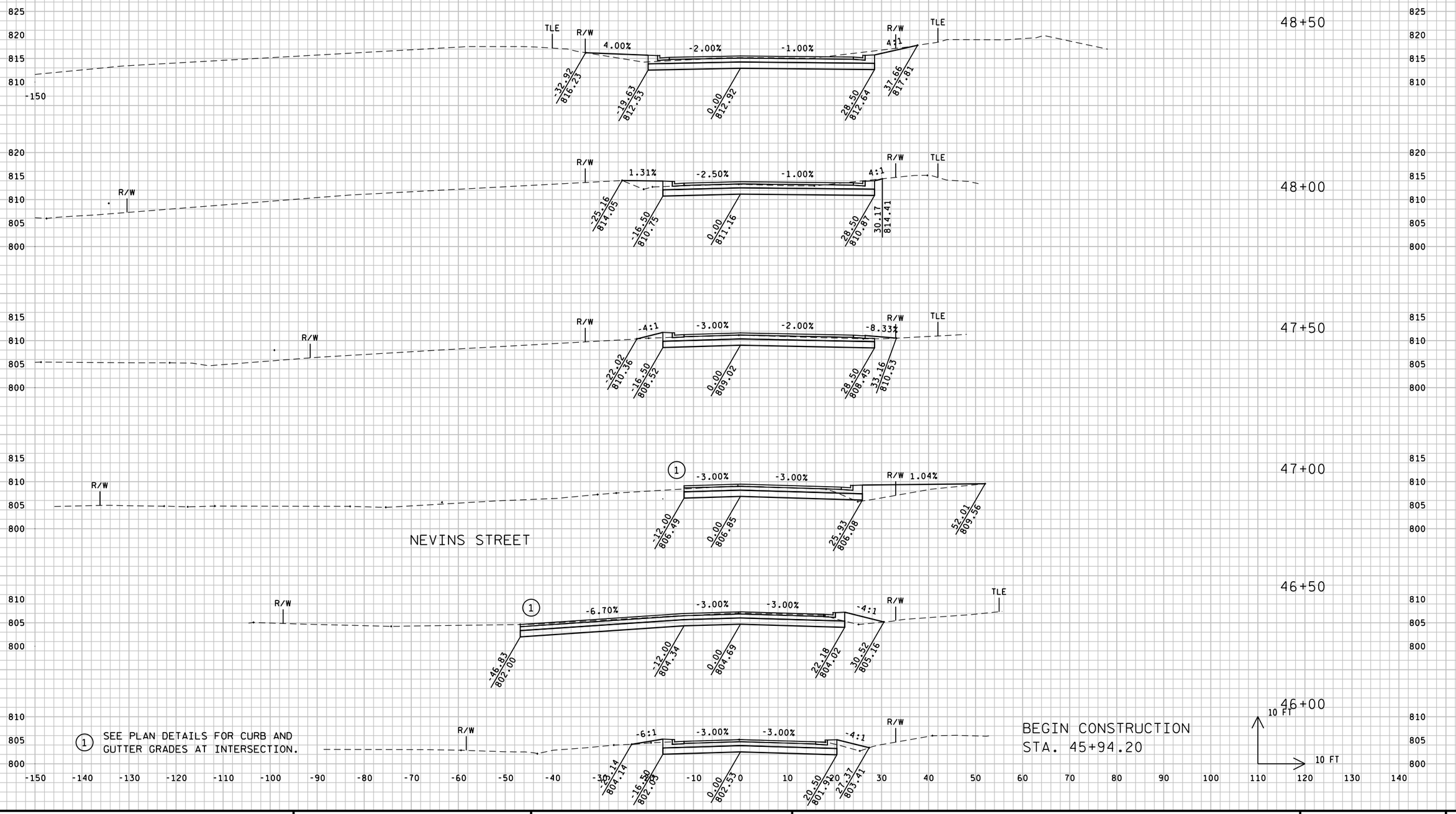
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: STH 164	SHEET 373	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Resurface North Cross Sections 2D.dgn PLOT DATE : 10/31/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

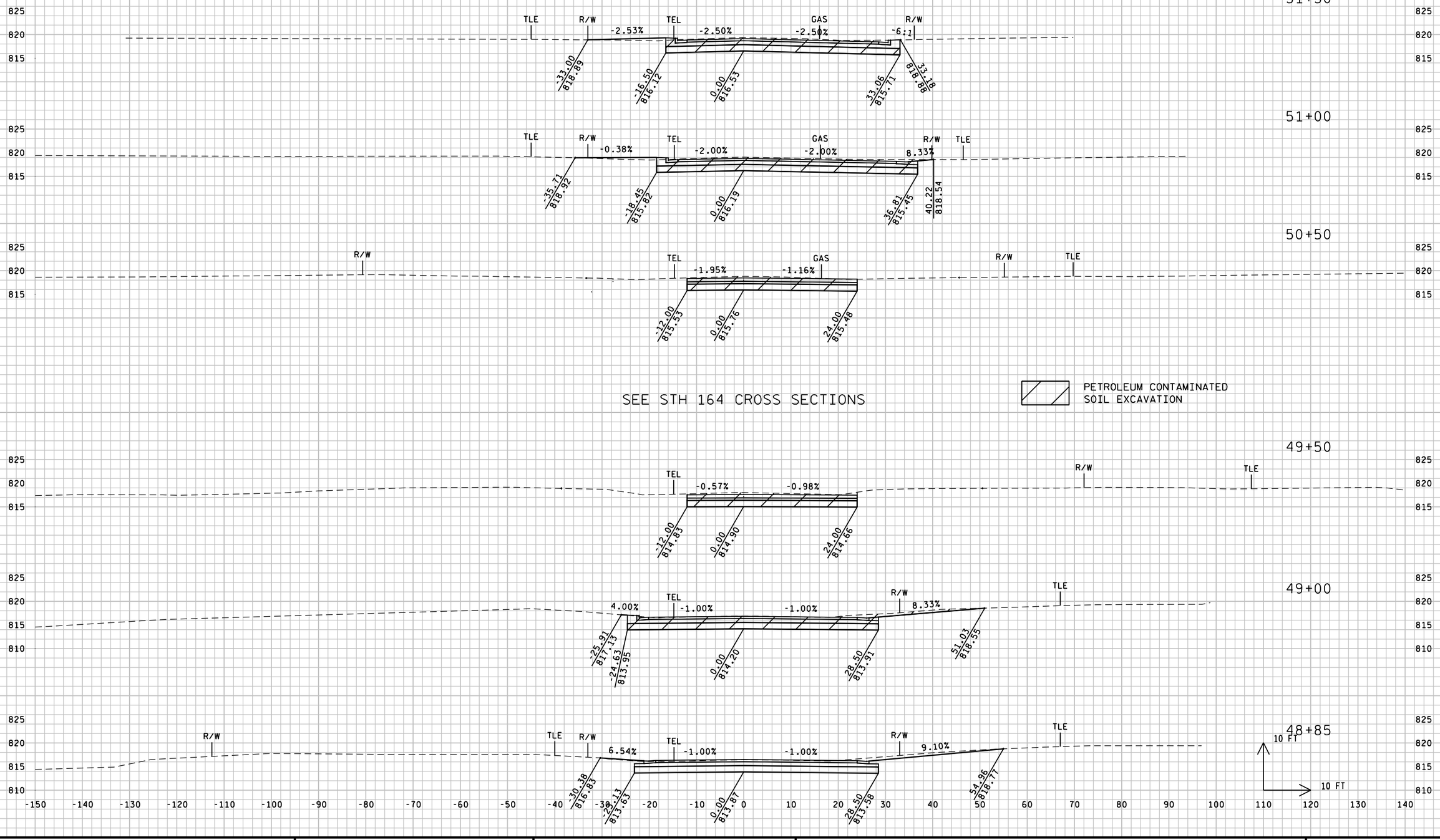


9

9

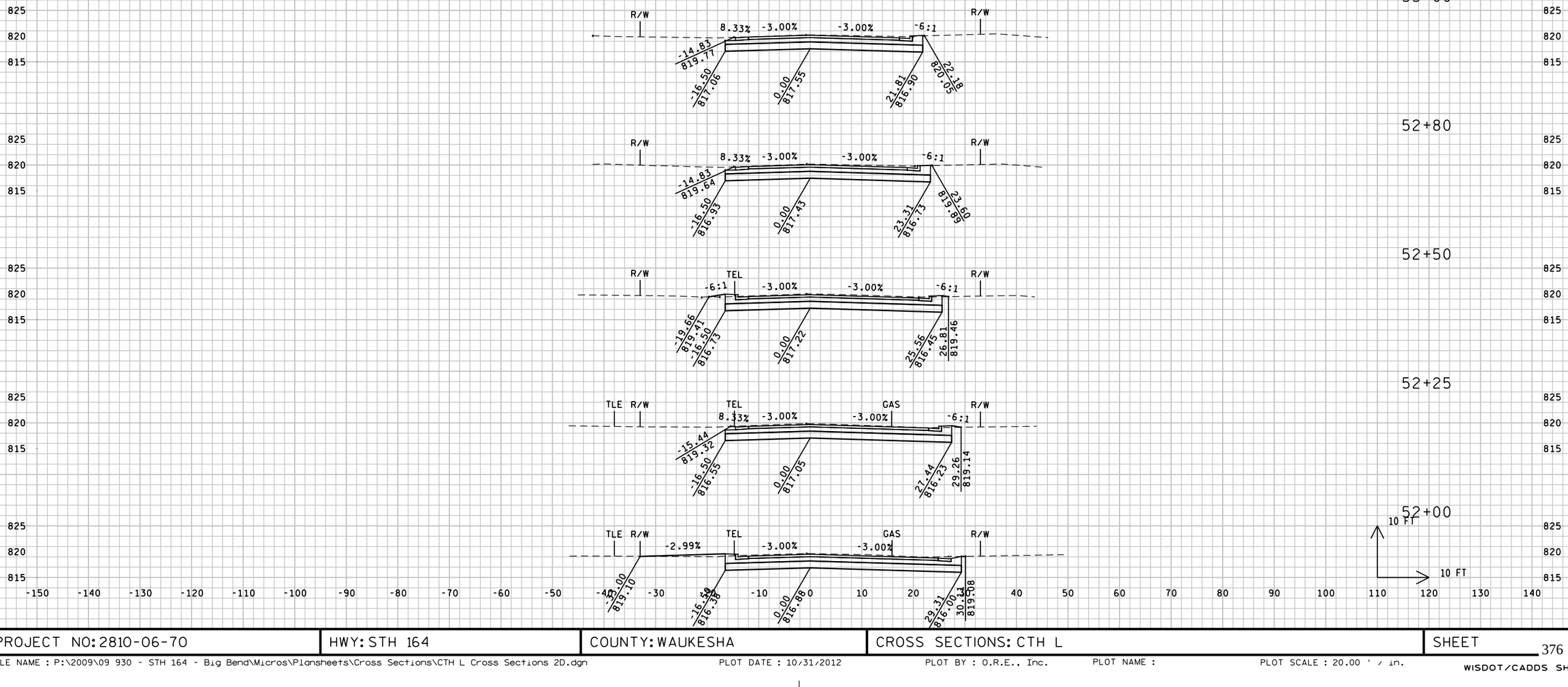
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: CTH L	SHEET 374	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\CTH L Cross Sections 2D.dgn
PLOT DATE : 8/22/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 20.00 ' / in.
WISDOT/CADDS SHEET 21



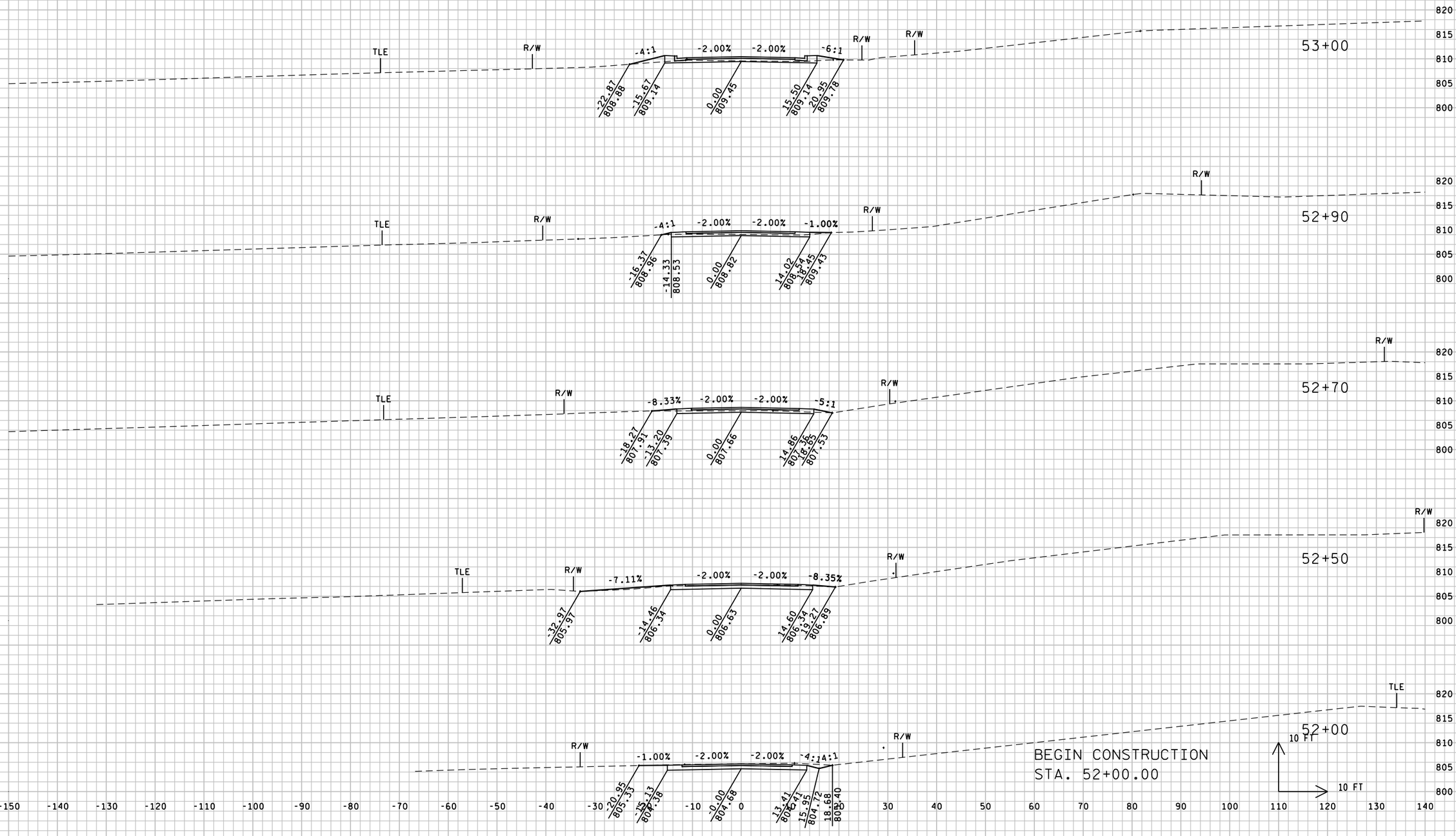
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: CTH L	SHEET 375	E

END CONSTRUCTION
STA. 53+31.21



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: CTH L	SHEET 376	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\CTH L Cross Sections 2D.dgn
PLOT DATE : 10/31/2012
PLOT BY : O.R.E., Inc.
PLOT NAME :
PLOT SCALE : 20.00 ' / in.
WISDOT/CADDS SHEET 21



9

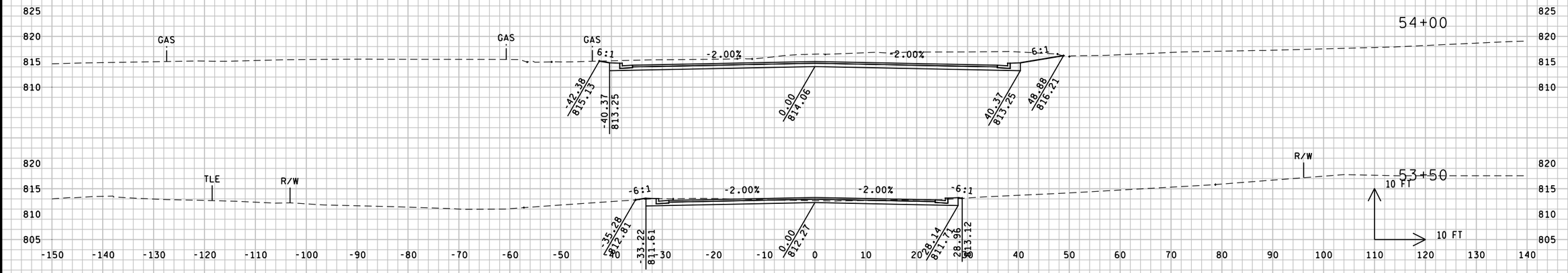
9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: NEVINS STREET	SHEET 377	E

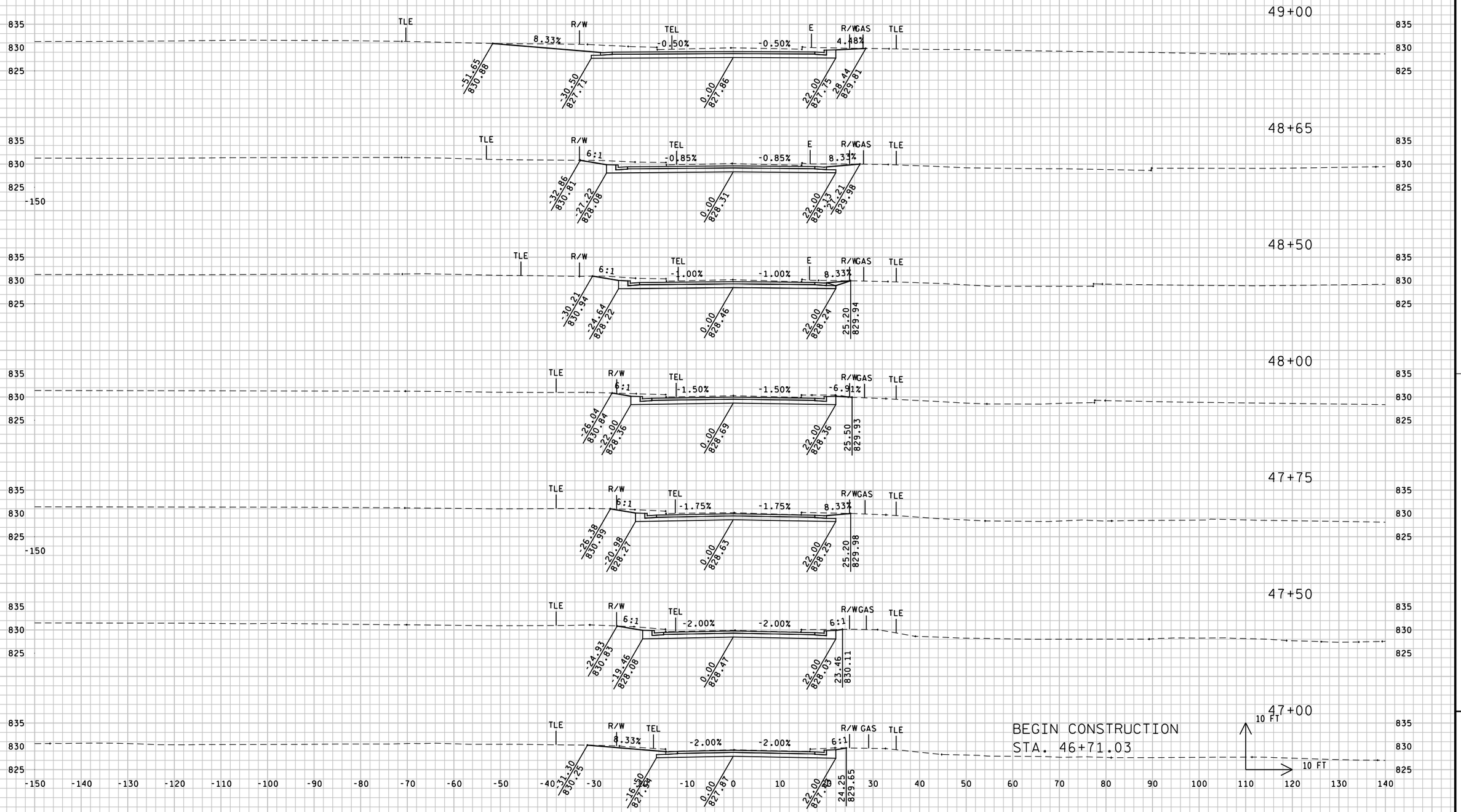
FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Nevins Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

END CONSTRUCTION
STA. 54+24.81



PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: NEVINS STREET	SHEET 378	E



9

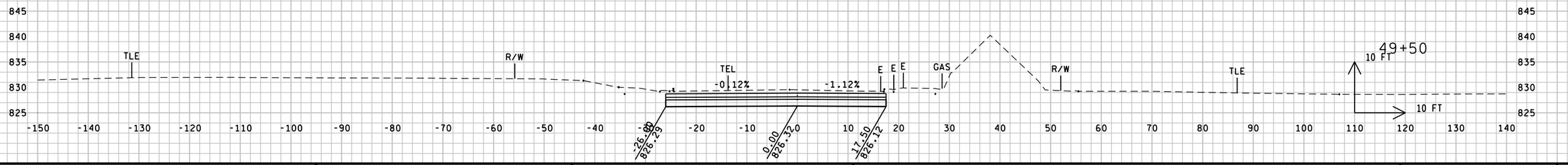
9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: EDGEWOOD AVENUE	SHEET 379	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Edgewood Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

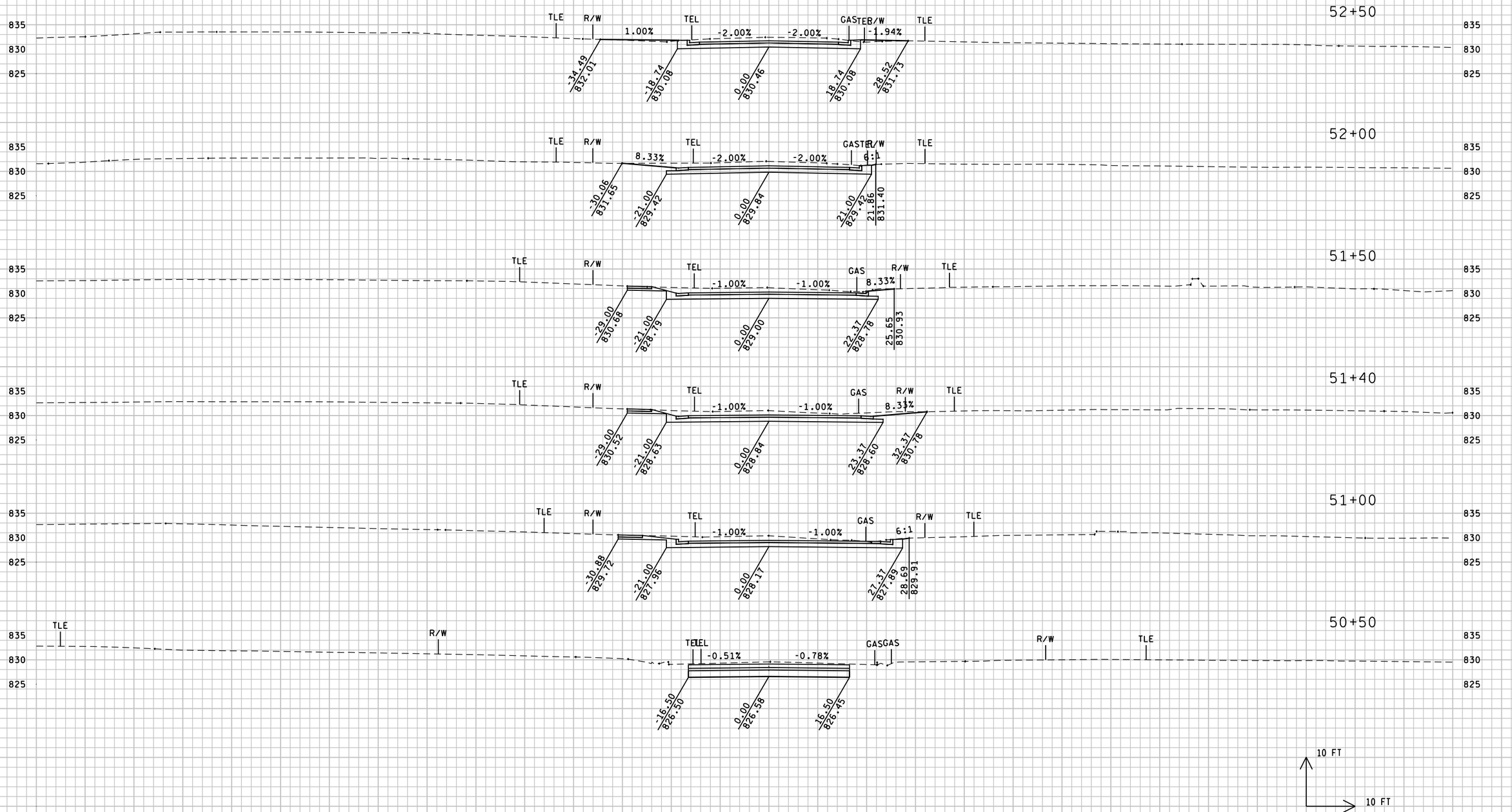
SEE STH 164 CROSS SECTIONS



9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: EDGEWOOD AVENUE	SHEET 380	E



9

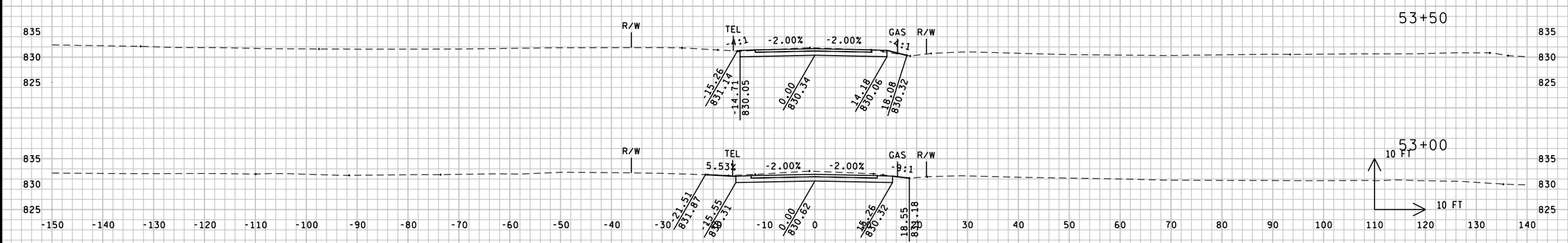
9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: EDGEWOOD AVENUE	SHEET 381	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Edgewood Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

END CONSTRUCTION
STA. 53+68.66



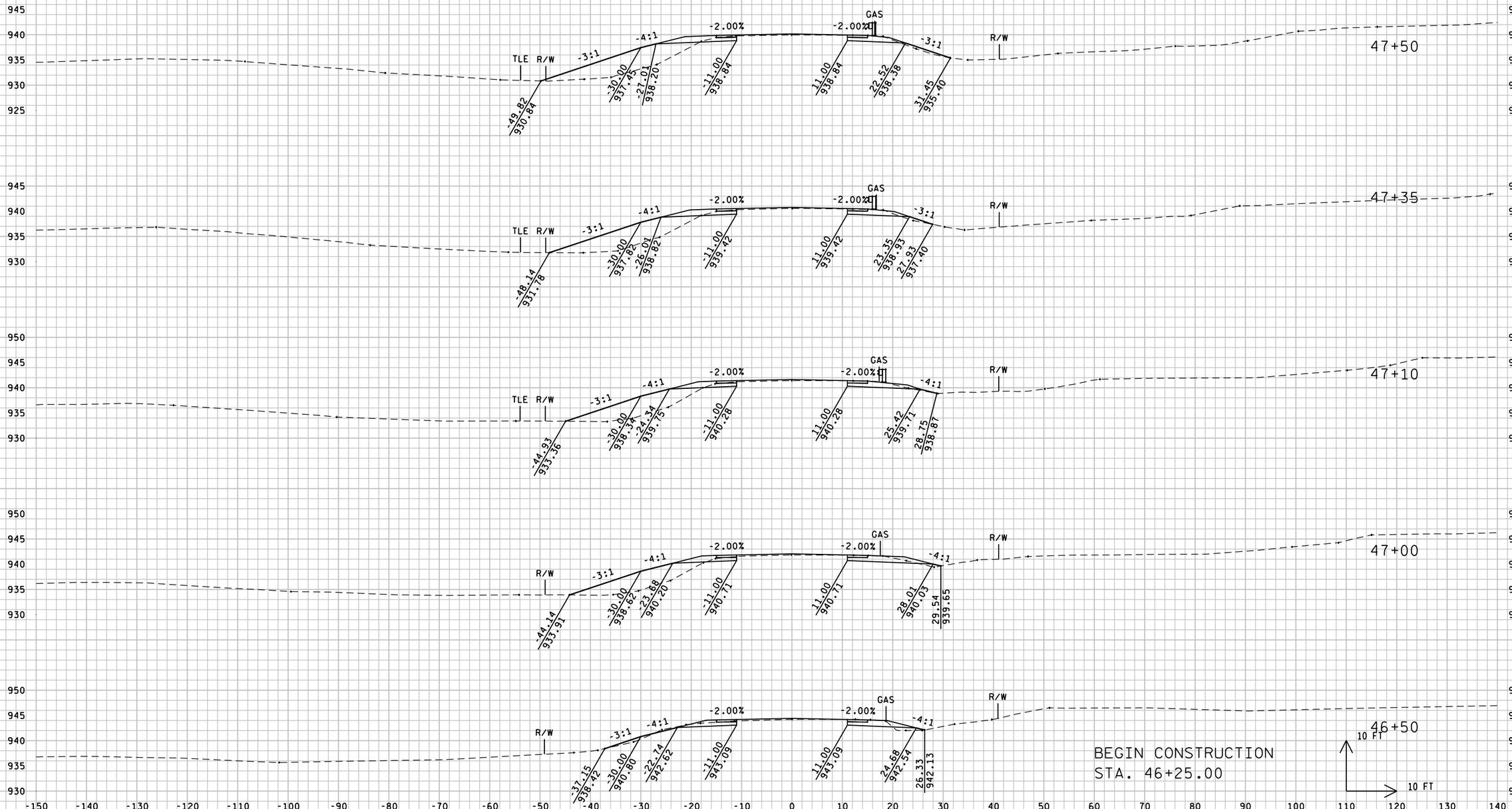
9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: EDGEWOOD AVENUE	SHEET 382	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Edgewood Cross Sections 2D.dgn PLOT DATE : 8/22/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

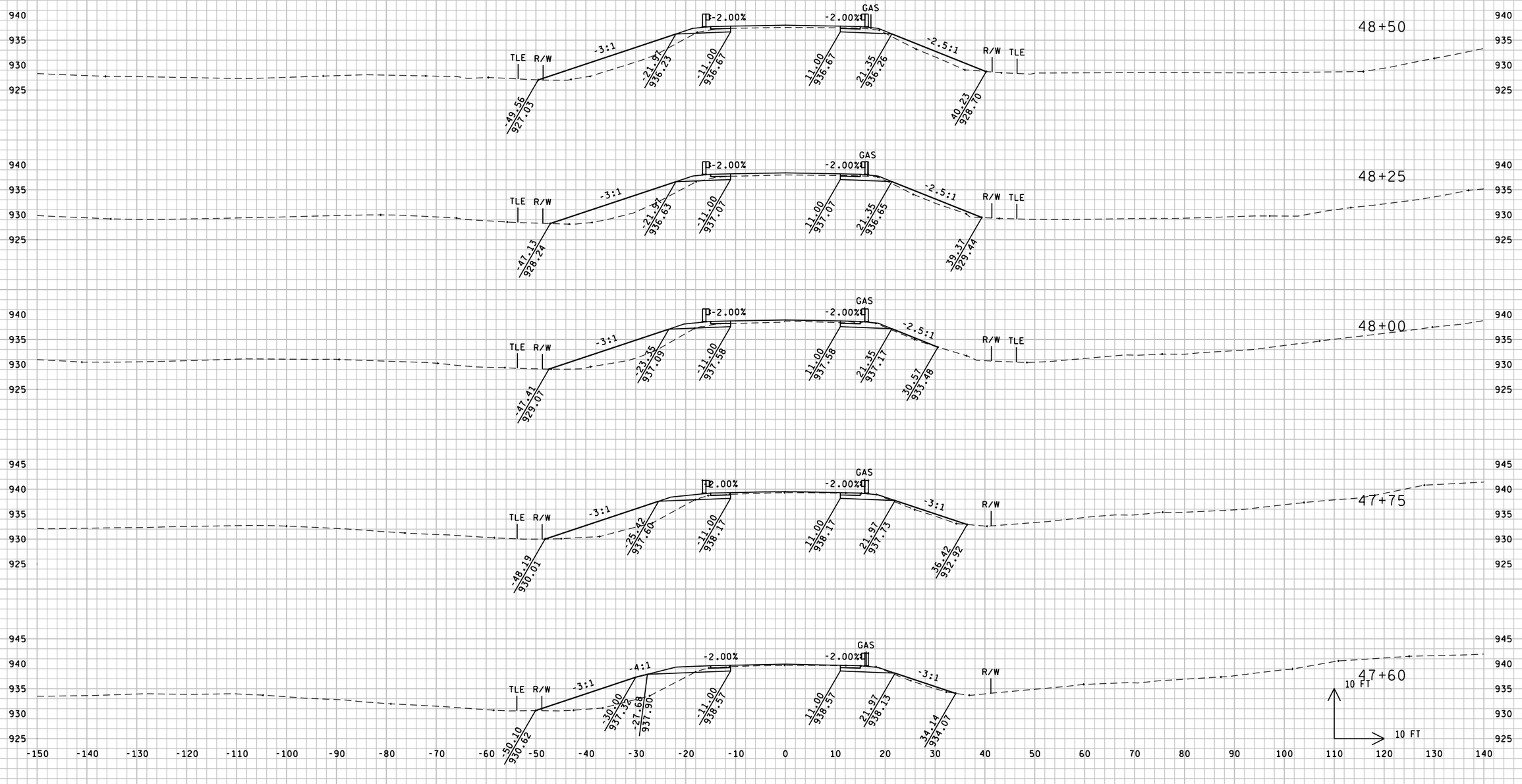
WISDOT/CADDS SHEET 21



9

9

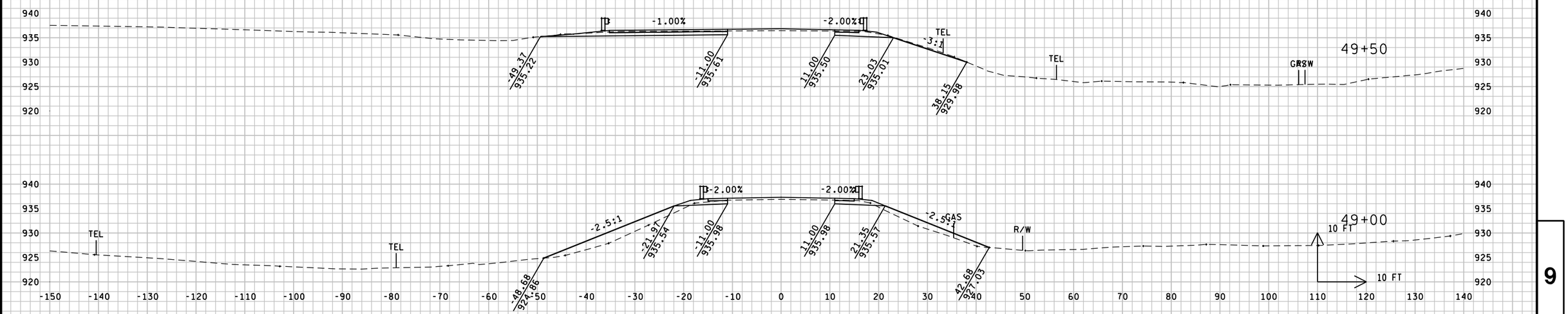
PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: CHERI AVENUE	SHEET 383	E



9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: CHERI AVENUE	SHEET 384	E



9

9

PROJECT NO: 2810-06-70	HWY: STH 164	COUNTY: WAUKESHA	CROSS SECTIONS: CHERI AVENUE	SHEET 385	E

FILE NAME : P:\2009\09 930 - STH 164 - Big Bend\Micros\Plansheets\Cross Sections\Cheri Cross Sections 2D.dgn PLOT DATE : 10/24/2012 PLOT BY : O.R.E., Inc. PLOT NAME : PLOT SCALE : 20.00 ' / in.

WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov