

RHI
PROJECT ID:
WITH: N/A

6997-03-70

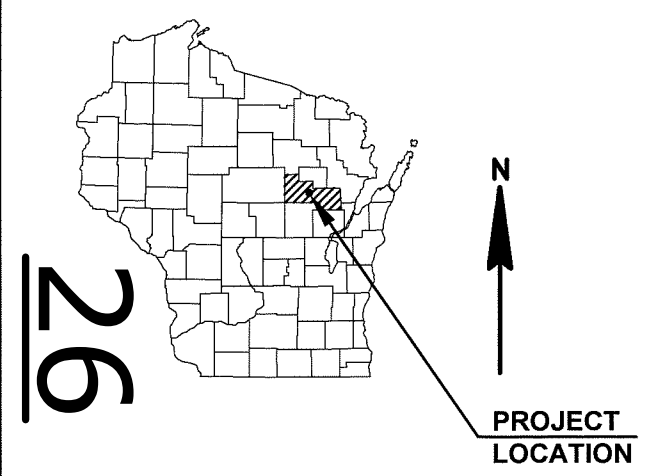
COUNTY: SHAWANO

APRIL 2019

ORDER OF SHEETS

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

TOTAL SHEETS = 92



DESIGN DESIGNATION

A.A.D.T.	2018	=	3,500
A.A.D.T.	2038	=	4,200
D.H.V.	2038	=	491
D.D.		=	59/41
T.		=	3.3%
DESIGN SPEED		=	30MPH
ESALS		=	404,712

CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C SHAWANO, EAST FIFTH STREET

WASHBURN STREET TO FAIRVIEW AVENUE

LOCAL STREET
SHAWANO COUNTY

STATE PROJECT NUMBER
6997-03-70



BEGIN PROJECT
STA. 12+00
X=862170.24
Y=272298.34

END PROJECT
STA. 22+79.65

LAYOUT
SCALE 0 1/2 MILE
TOTAL NET LENGTH OF CENTERLINE = 0.204 MI

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6997-03-70	WISC 2019231	1

ACCEPTED FOR	
CITY OF SHAWANO	
10-26-18	(Signature)
ORIGINAL PLANS PREPARED BY:	
Robert E. Lee & Associates, Inc. ENGINEERING, SURVEYING, ENVIRONMENTAL SERVICES 1250 CENTENNIAL CENTRE BOULEVARD HOBART, WI 54135 920-662-9541 www.releeinc.com	
WISCONSIN PROFESSIONAL ENGINEER RYAN H. TRZINSKI E-42371 GREEN BAY WI	
10-26-18	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	ROBERT E. LEE & ASSOCIATES
Designer	ROBERT E. LEE & ASSOCIATES
Management Consultant	CEDAR CORPORATION
APPROVED FOR THE DEPARTMENT	
DATE: 10-31-2018	(Signature)
Management Consultant Signature	
E	

DIGGERSHOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

TO OBTAIN LOCATION OF PARTICIPANTS
UNDERGROUND FACILITIES BEFORE YOU
DIG IN WISCONSIN

WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE.

UTILITIES

CONTACTS

FRONTIER COMMUNICATIONS
JAMES JASKOLSKI
26W. 12TH STREET
CLINTONVILLE, WI 54929
(715) 823-1227

ROBERT E. LEE & ASSOCIATES, INC.
MARK SCHUSTER
1250 CENTENNIAL CENTRE BOULEVARD
HOBART, WI. 54155
(920) 662-9641

CITY OF SHAWANO
EDDIE SHEPPARD
2905 E. RICHMOND STREET
SHAWANO, WI 54166
(715) 526-3512

WE ENERGIES (GAS)
KENNETH BODE
800 S. LINDALE
P.O. BOX 1699
APPLETON, WI 54912
(920) 380-3214

WDNR CONTACT
JIM DOPERALSKI
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
(920) 662-5119

CHARTER COMMUNICATIONS
RUDI RUDIGER
5024 HEFFRON STREET
STEVENS POINT, WI 54481
(715) 204-5339

SHAWANO MUNICIPAL UTILITIES (ELECTRIC)
ROB KOEPP
122 N. SAWYER STREET
SHAWANO, WI 54166
(715) 701-8903

SHAWANO MUNICIPAL UTILITIES (SEWER AND WATER)
BRIAN KNAPP
122 N. SAWYER STREET
SHAWANO, WI 54166
(715) 526-3132

WINDSTREAM
DENNIS RUESS
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
(608) 512-5587

GENERAL NOTES

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE TOPSOILED, FERTILIZED, SEEDED AND COVERED WITH EROSION MAT AS NOTED ON THE PLAN OR AS DETERMINED BY THE ENGINEER.
4. EROSION CONTROL ITEMS SHOWN ON THE PLAN ARE AT SUGGESTED LOCATIONS. THE EXACT LOCATIONS AND DIMENSIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN PLACE UNTIL SUCH TIME AS THE ENGINEER DETERMINES THAT THEY ARE NO LONGER REQUIRED.
5. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST M.U.T.C.D MANUAL.
6. PROPERTY LINES AS SHOWN ARE APPROXIMATE.
7. ALL CURB RADII DIMENSIONS ON THE PLAN ARE MEASURED TO FLANGE LINE.
8. ALL CONCRETE SIDEWALKS SHALL HAVE TRANSVERSE JOINTS SPACED AT A MAXIMUM OF 5-FOOT INTERVALS.

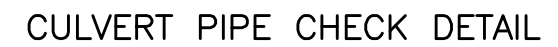
SECTION 2 ORDER OF SHEETS
GENERAL NOTES
TYPICAL SECTION
CONSTRUCTION DETAILS
PROJECT OVERVIEW
PLAN DETAIL
INTERSECTION DETAIL
EROSION CONTROL PLAN
STORM SEWER
PERMANENT SIGNING AND PAVEMENT MARKING
PEDESTRIAN DETOUR PLAN
ALIGNMENT PLAN

STANDARD ABBREVIATIONS

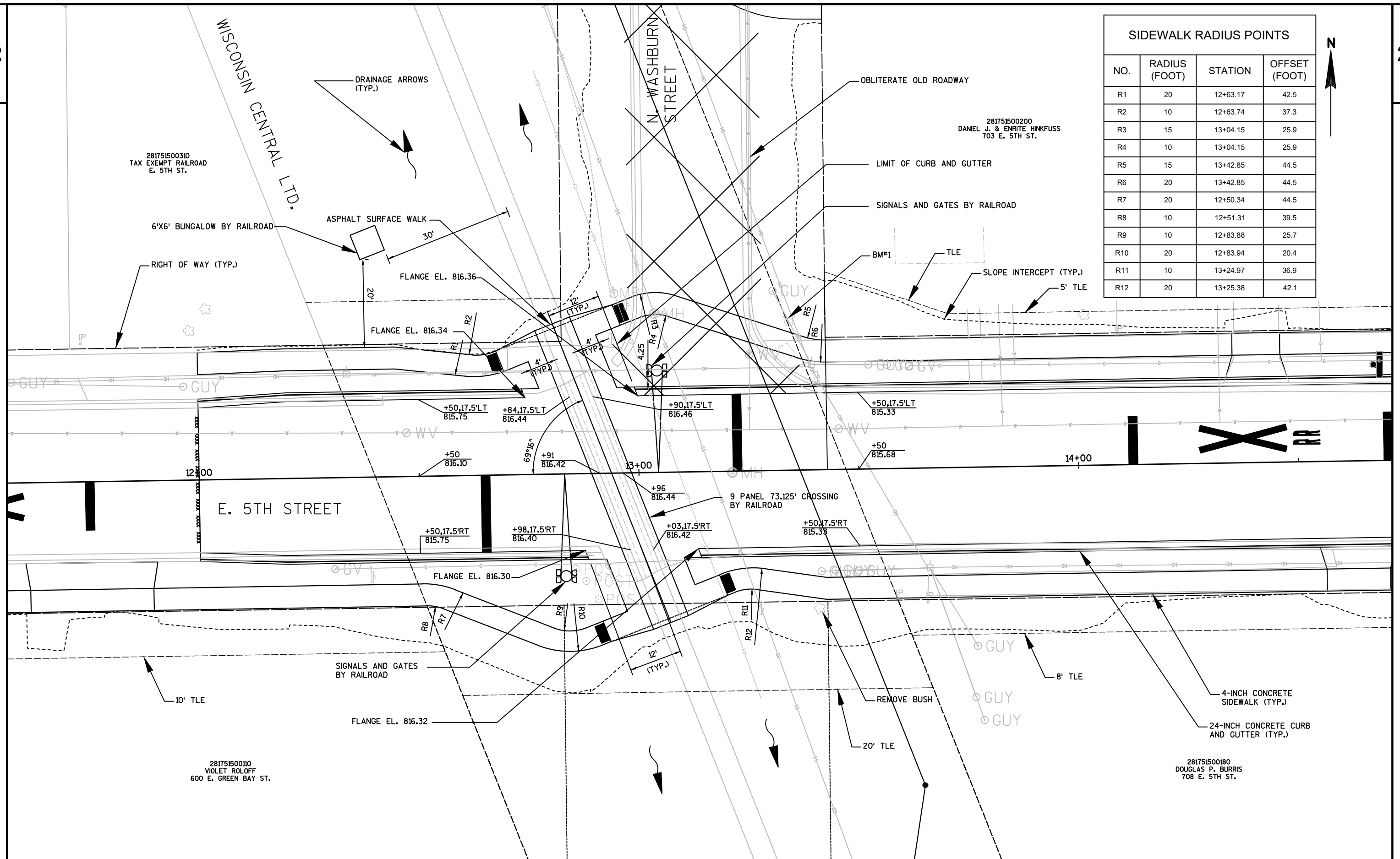
GR	GRAVEL	WM	WATERMAIN	VPC	VERTICAL POINT OF CURVATURE	R/W	RIGHT OF WAY
BIT	BITUMINOUS	HYD	HYDRANT	VPI	VERTICAL POINT OF INTERSECTION	T/C	TOP OF CURB
ASPH	ASPHALT PAVEMENT	WV	WATER VALVE	VPT	VERTICAL POINT OF TANGENCY	F/L	FLOW LINE
CONC	CONCRETE	SAN	SANITARY SEWER	PC	POINT OF CURVATURE	C/L	CENTERLINE
SW	SIDEWALK	MH	MANHOLE	PI	POINT OF INTERSECTION	P/L	PROPERTY LINE
BLDG	BUILDING	ST	STORM SEWER	PT	POINT OF TANGENCY	R/L	REFERENCE LINE
HSE	HOUSE	CB	CATCH BASIN	R	RADIUS	INV	INVERT
PED	PEDESTAL	TELE	TELEPHONE	EX	EXISTING	CMP	CORRUGATED METAL PIPE
PP	POWER POLE	ELEC	ELECTRIC	PR	PROPOSED	RCP	REINFORCED CONCRETE PIPE
LP	LIGHT POLE	TV	TELEVISION	EOR	END OF RADIUS	CULV	CULVERT
BM	BENCH MARK	STA	STATION	B-B	BACK TO BACK (OF CURB)	PE	PERSONAL ENTRANCE
CE	COMMERCIAL ENTRANCE	FE	FIELD ENTRANCE	E.O.P.	EDGE OF PAVEMENT		

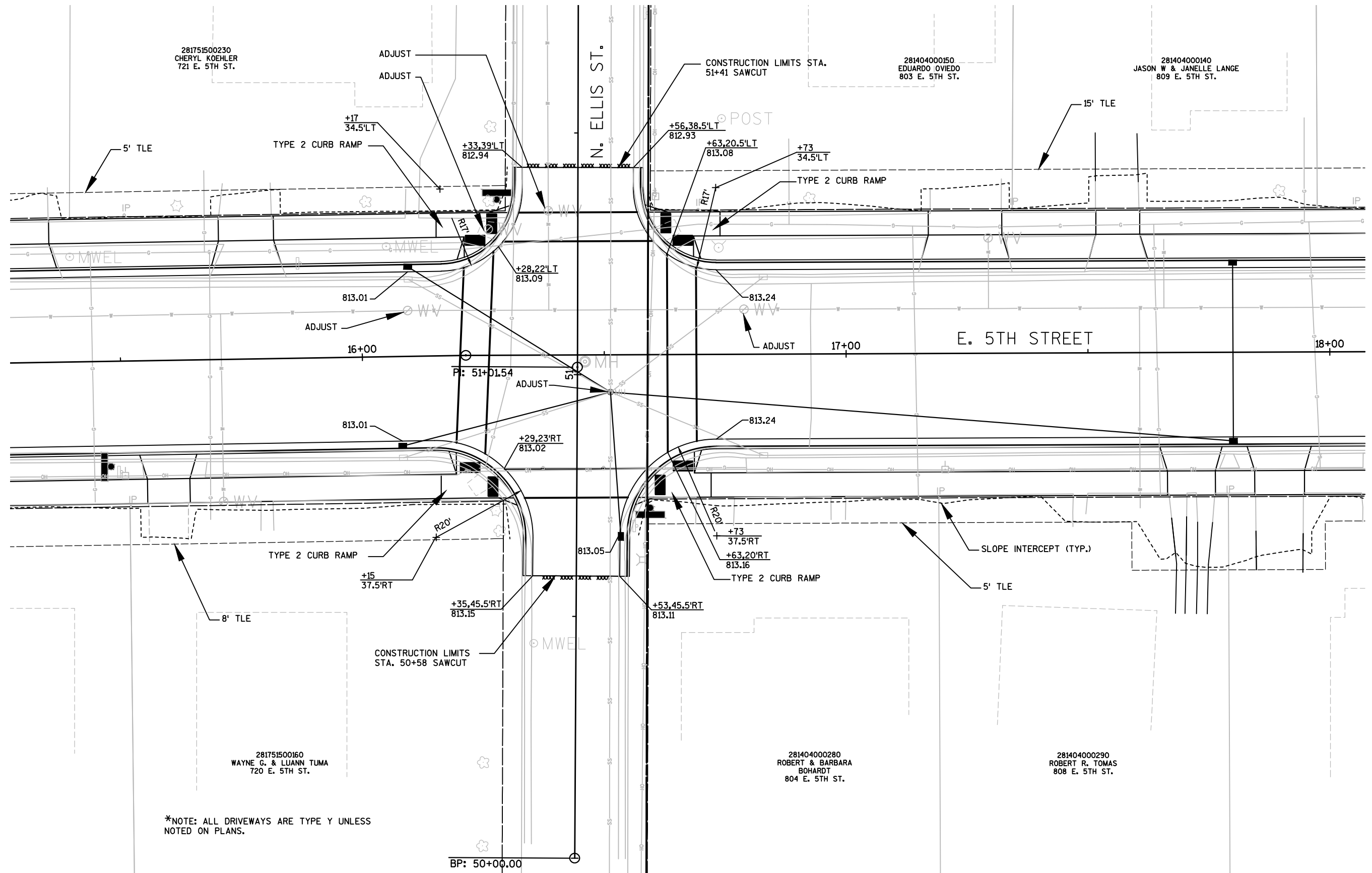


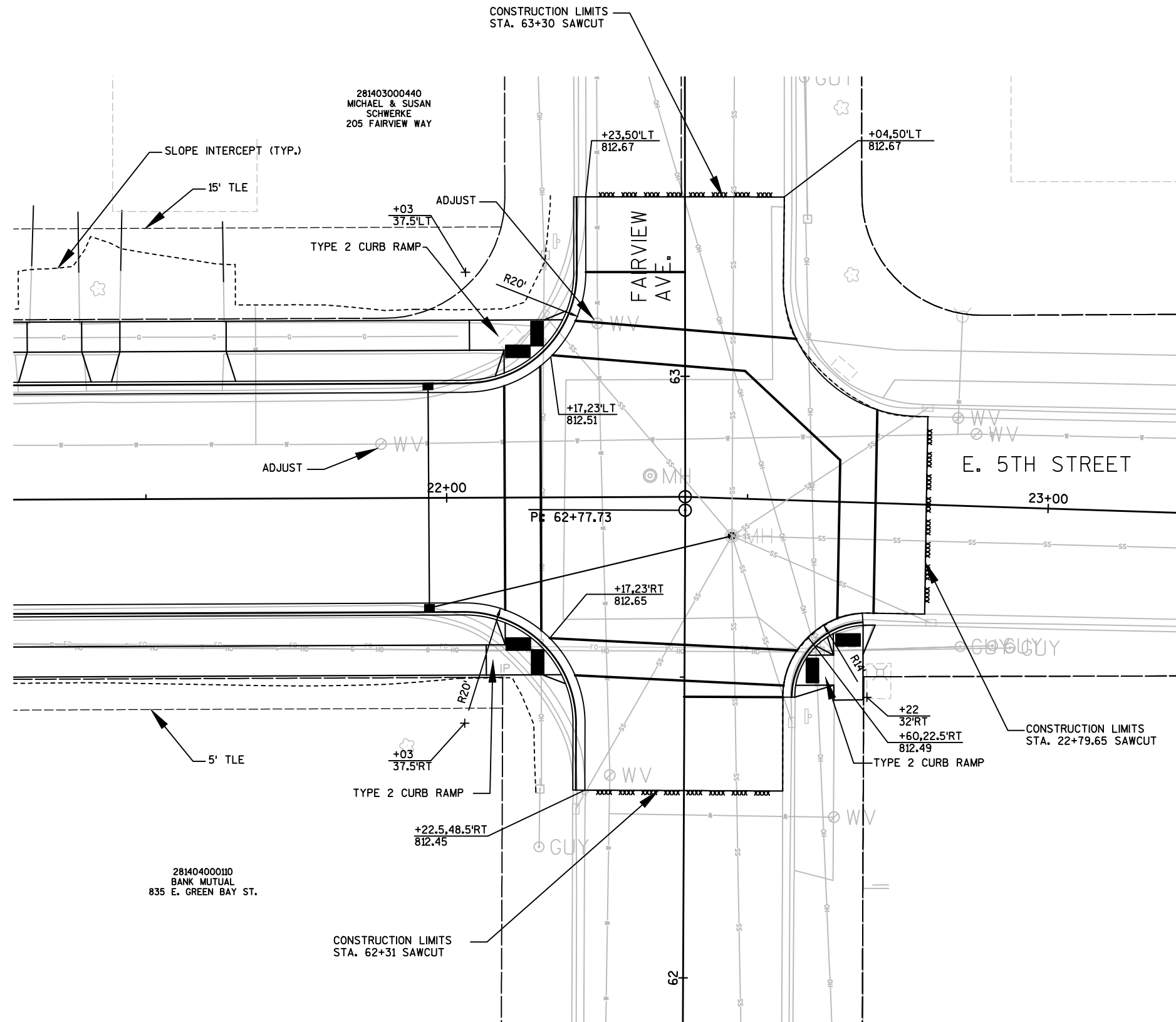
* 7.25' IS THE MINIMUM DISTANCE FROM FACE OF CURB TO EDGE OF SIDEWALK FOR RR SIGNALS WHICH ARE LOCATED 12' FROM CENTER OF TRACK

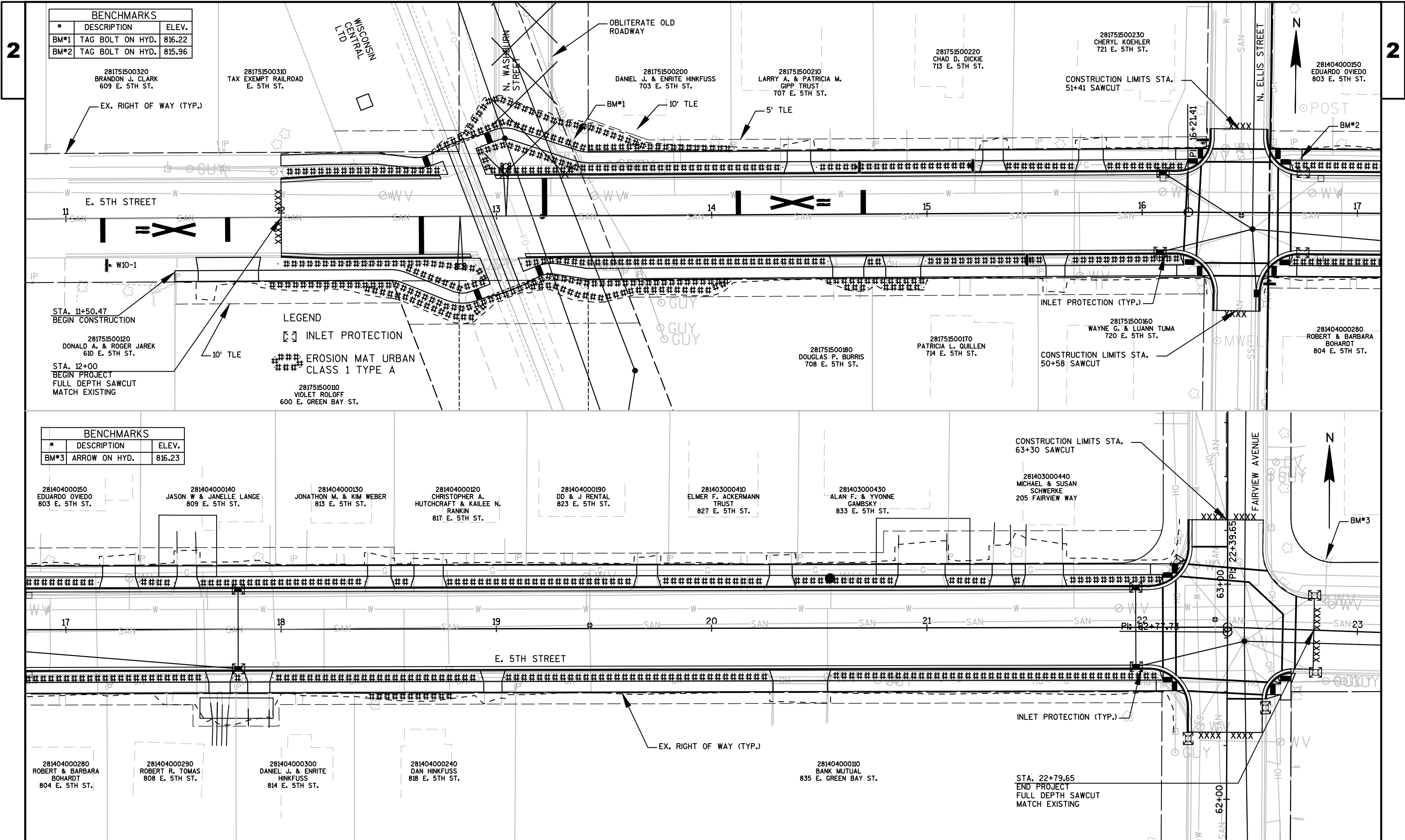


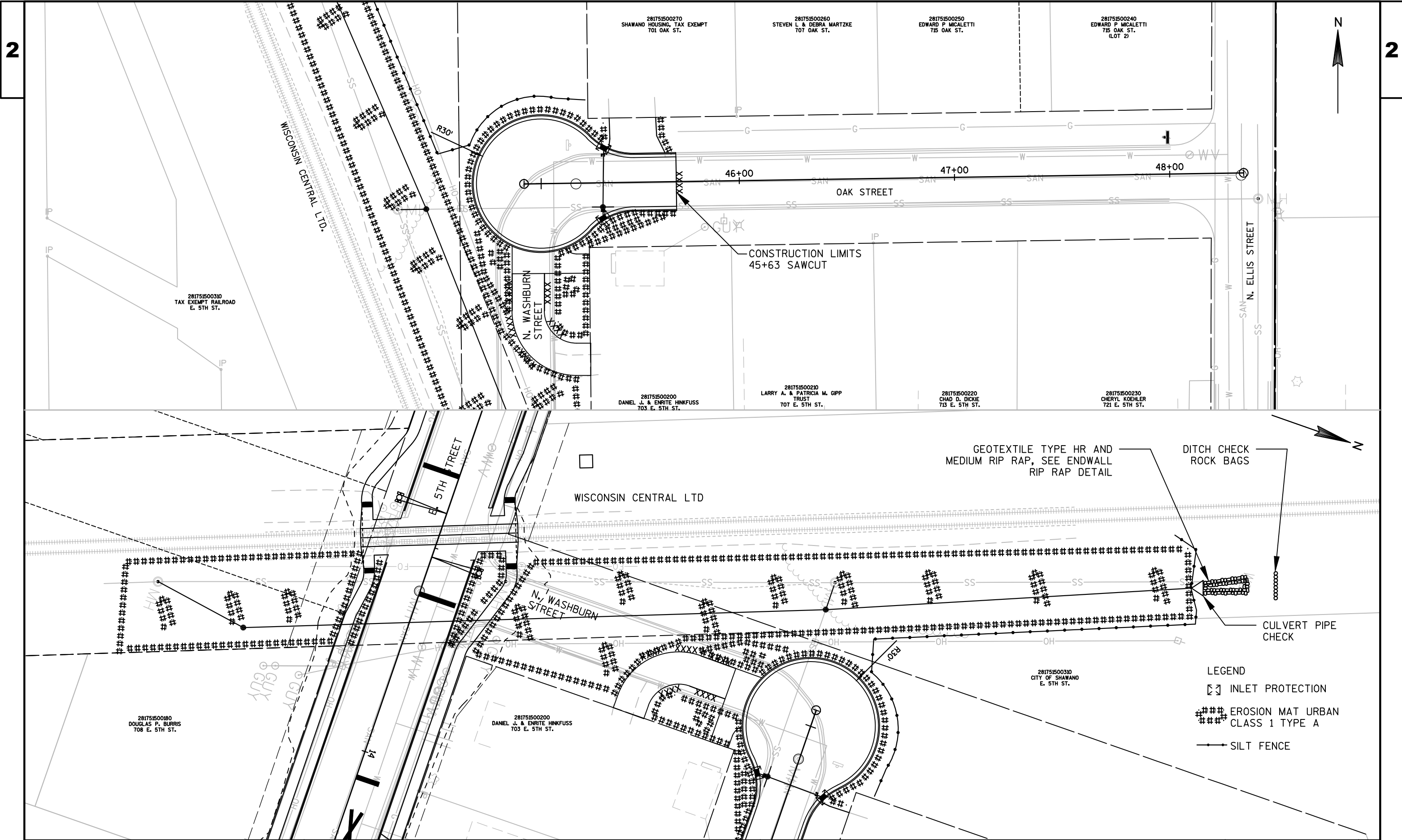




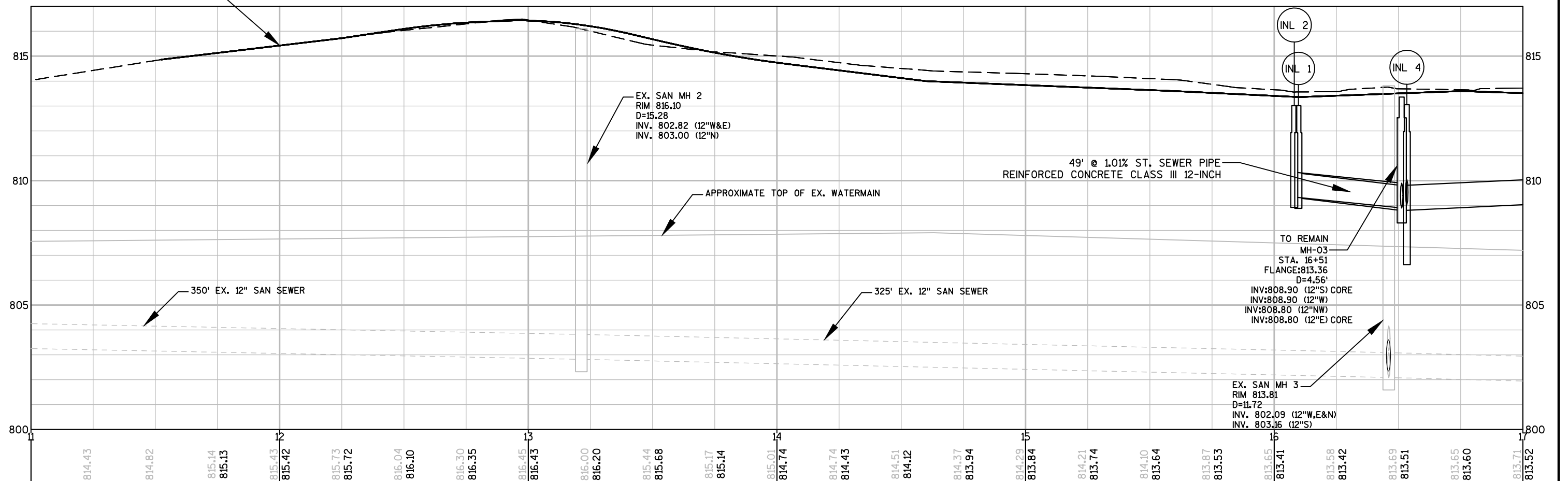
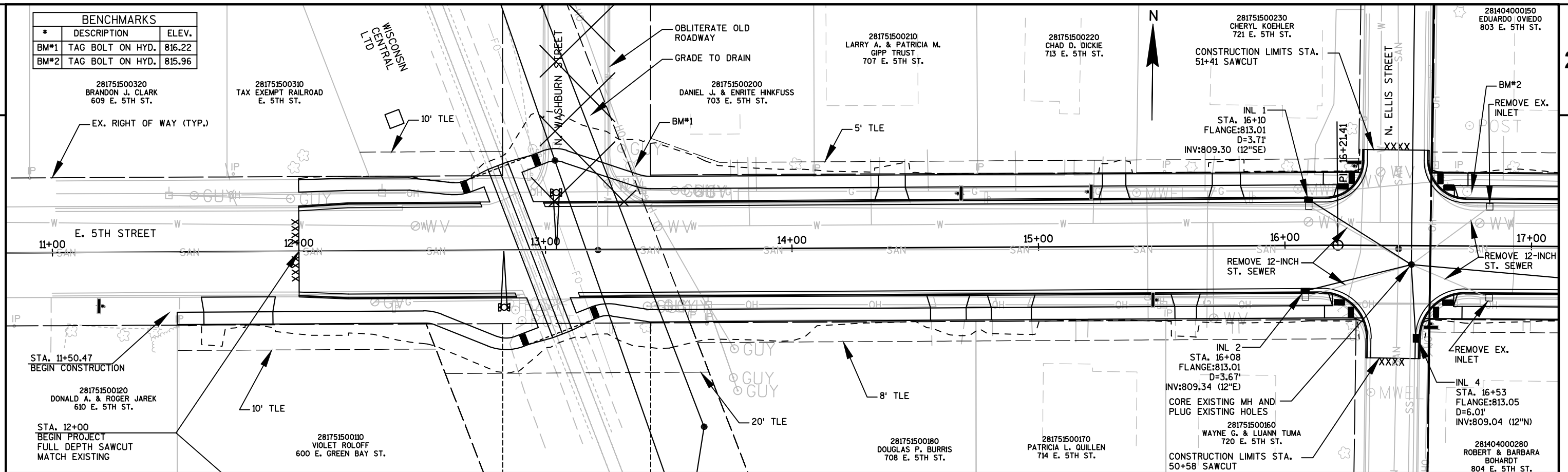








BENCHMARKS		
#	DESCRIPTION	ELEV.
BM#1	TAG BOLT ON HYD.	816.22
BM#2	TAG BOLT ON HYD.	815.96



PROJECT NO: 6997-03-70

HWY: EAST FIFTH STREET

COUNTY: SHAWANO

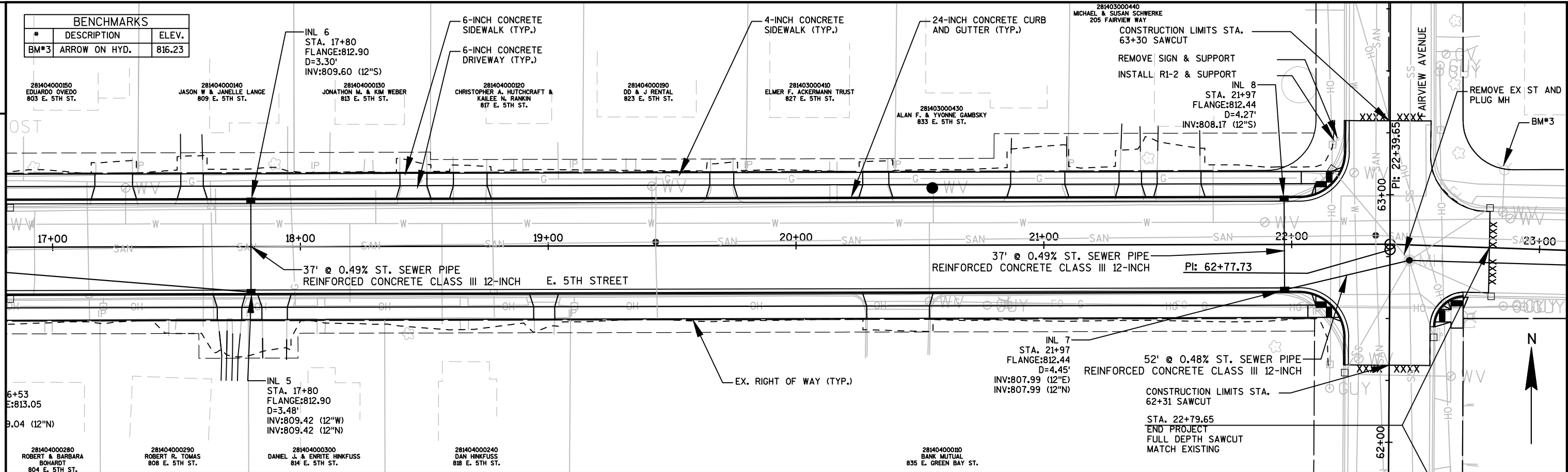
STORM SEWER EAST FIFTH STREET

SHEET 11

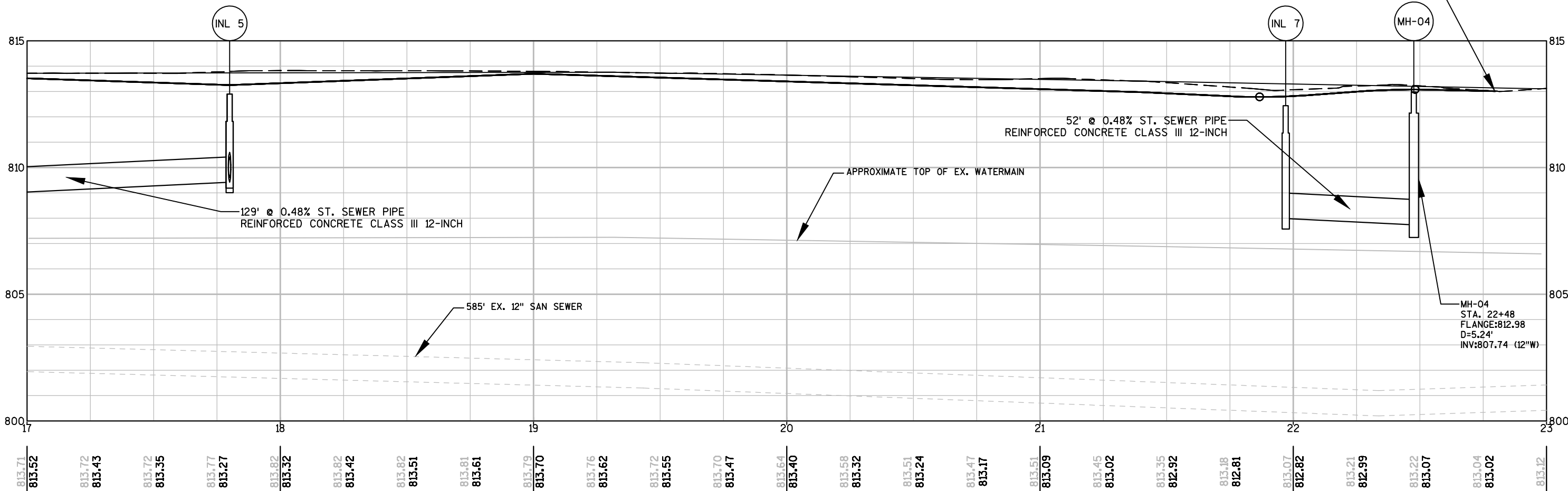
E

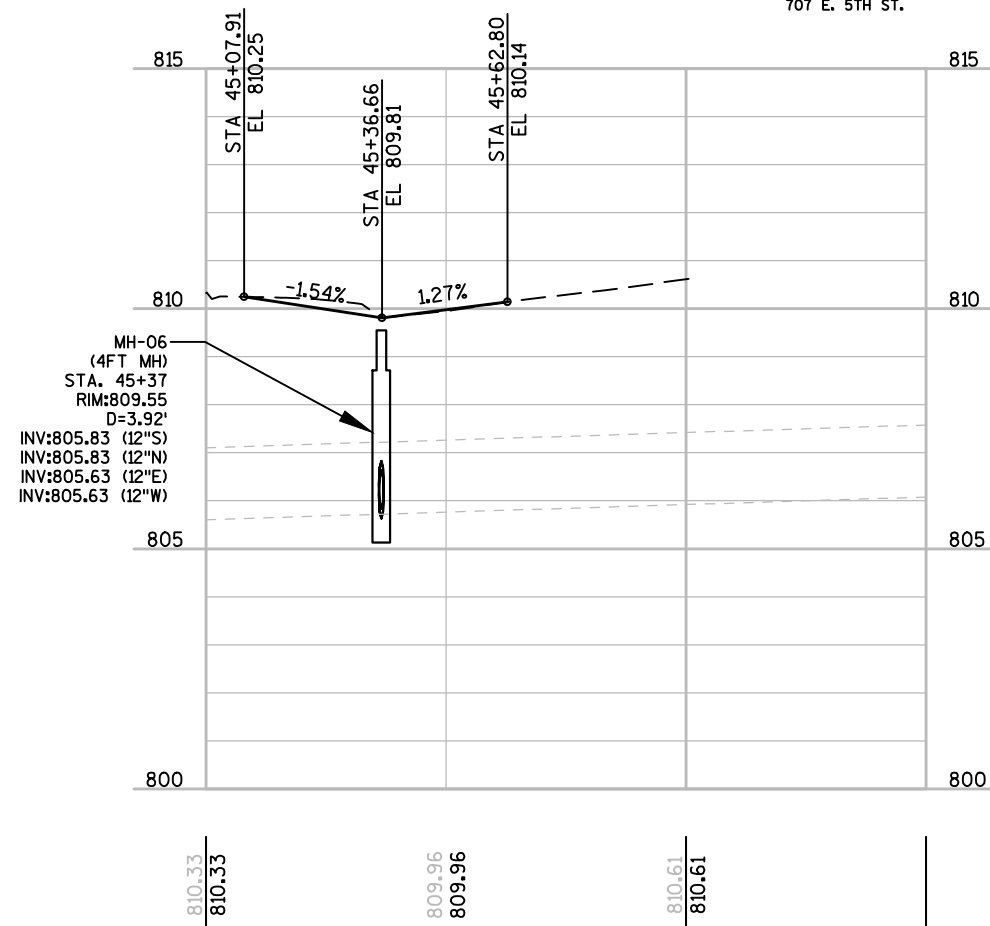
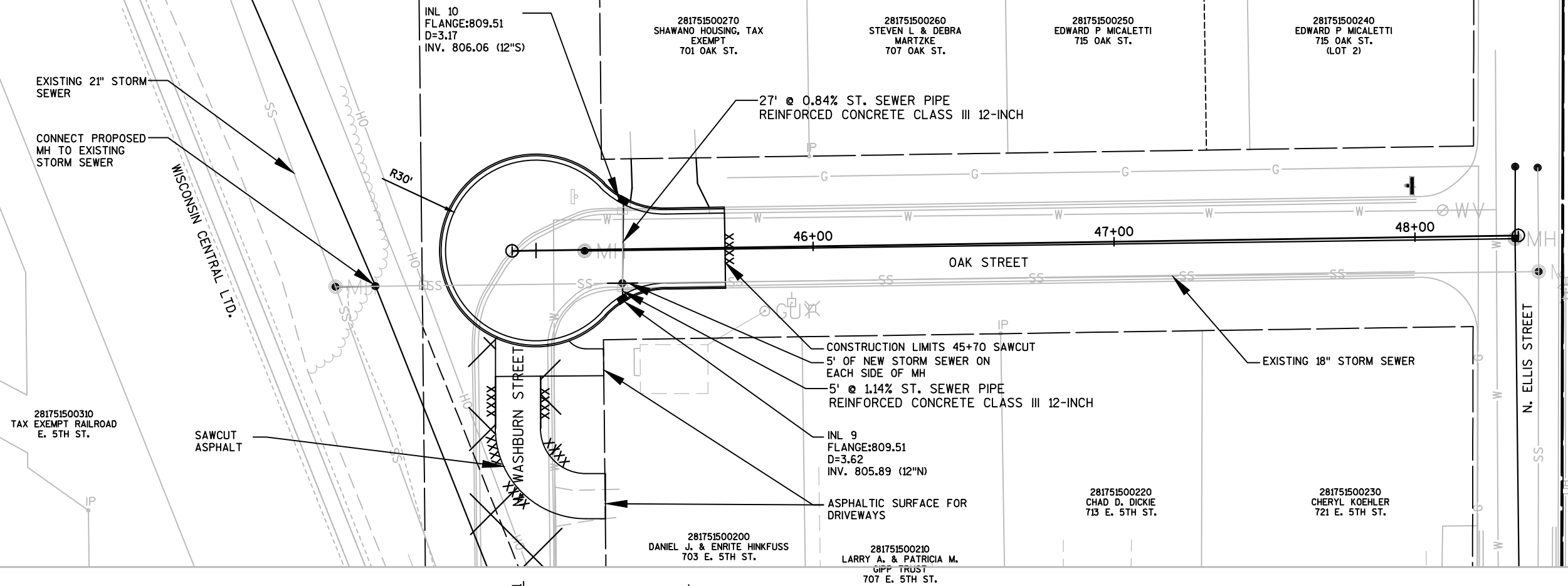
2

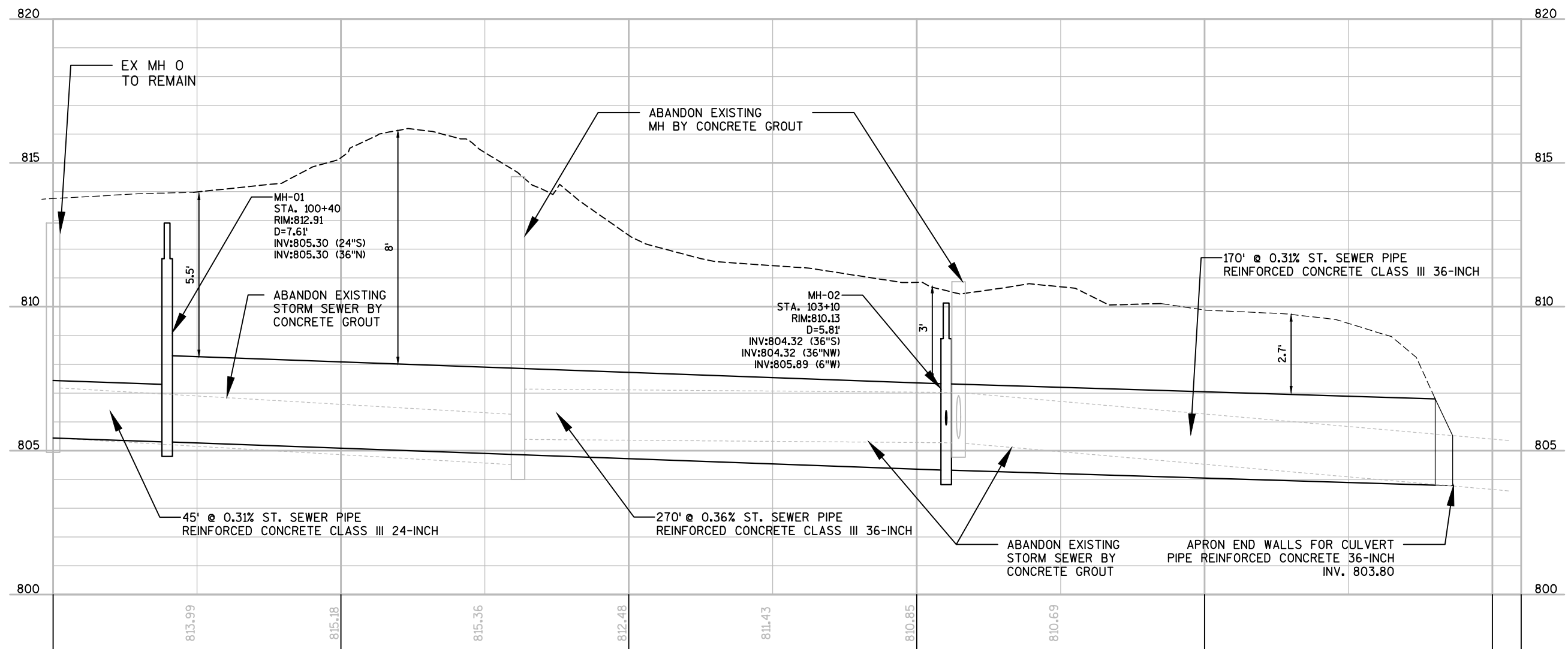
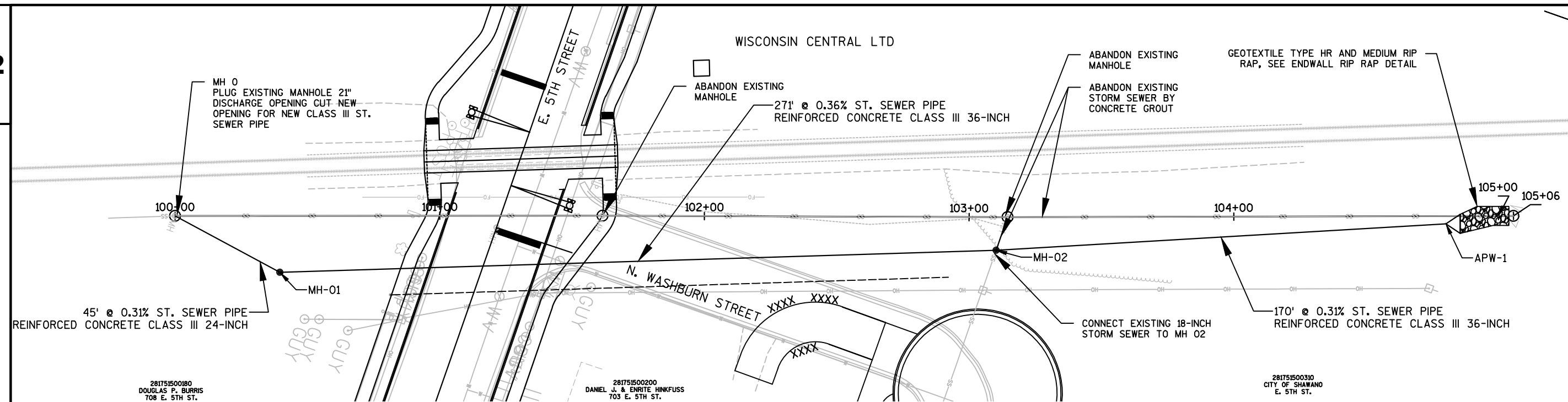
BENCHMARKS		
#	DESCRIPTION	ELEV.
BM#3	ARROW ON HYD.	816.23



2







BENCHMARKS		
#	DESCRIPTION	ELEV.
BM#3	ARROW ON HYD.	816.23

281403000440
MICHAEL & SUSAN SCHWERKE
205 FAIRVIEW WAY

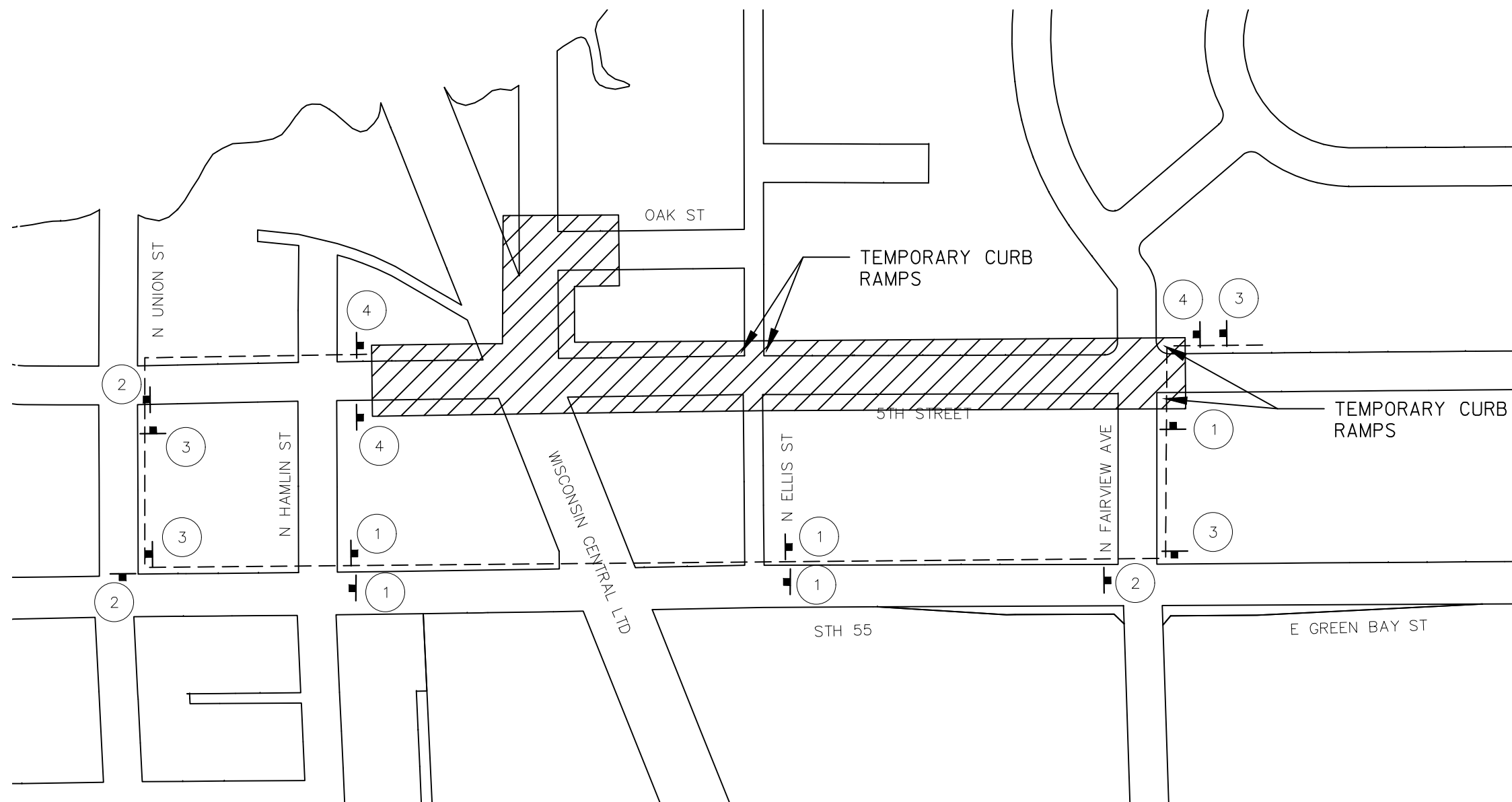
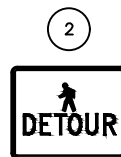
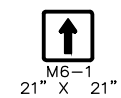
281404000110
BANK MUTUAL
835 E. GREEN BAY ST.

STA. 22+79.65
END PROJECT
FULL DEPTH SAWCUT
MATCH EXISTING

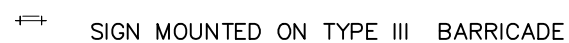
18 REMOVE SIGN & SUPPORT

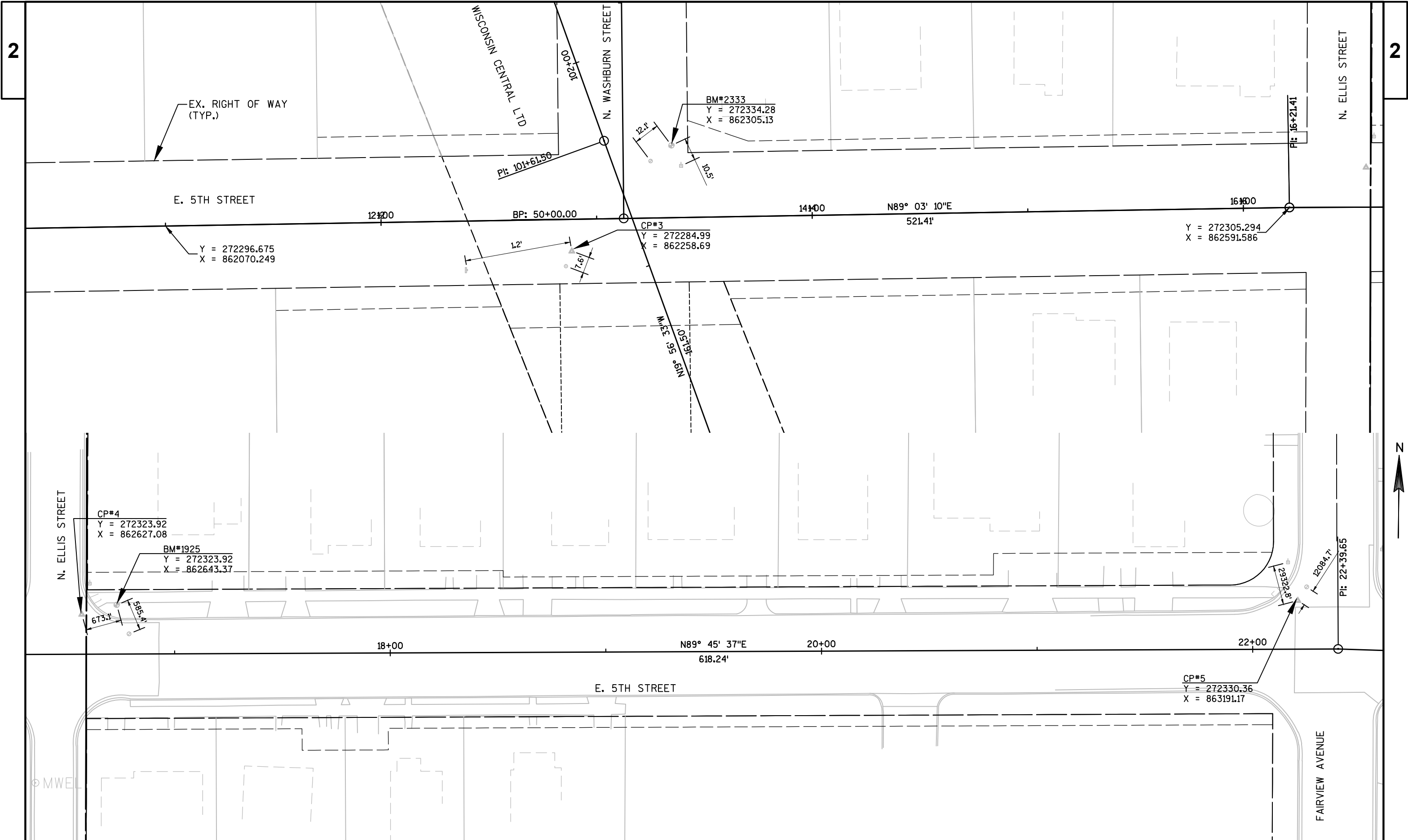
18 INSTALL R1-2 & SUPPORT

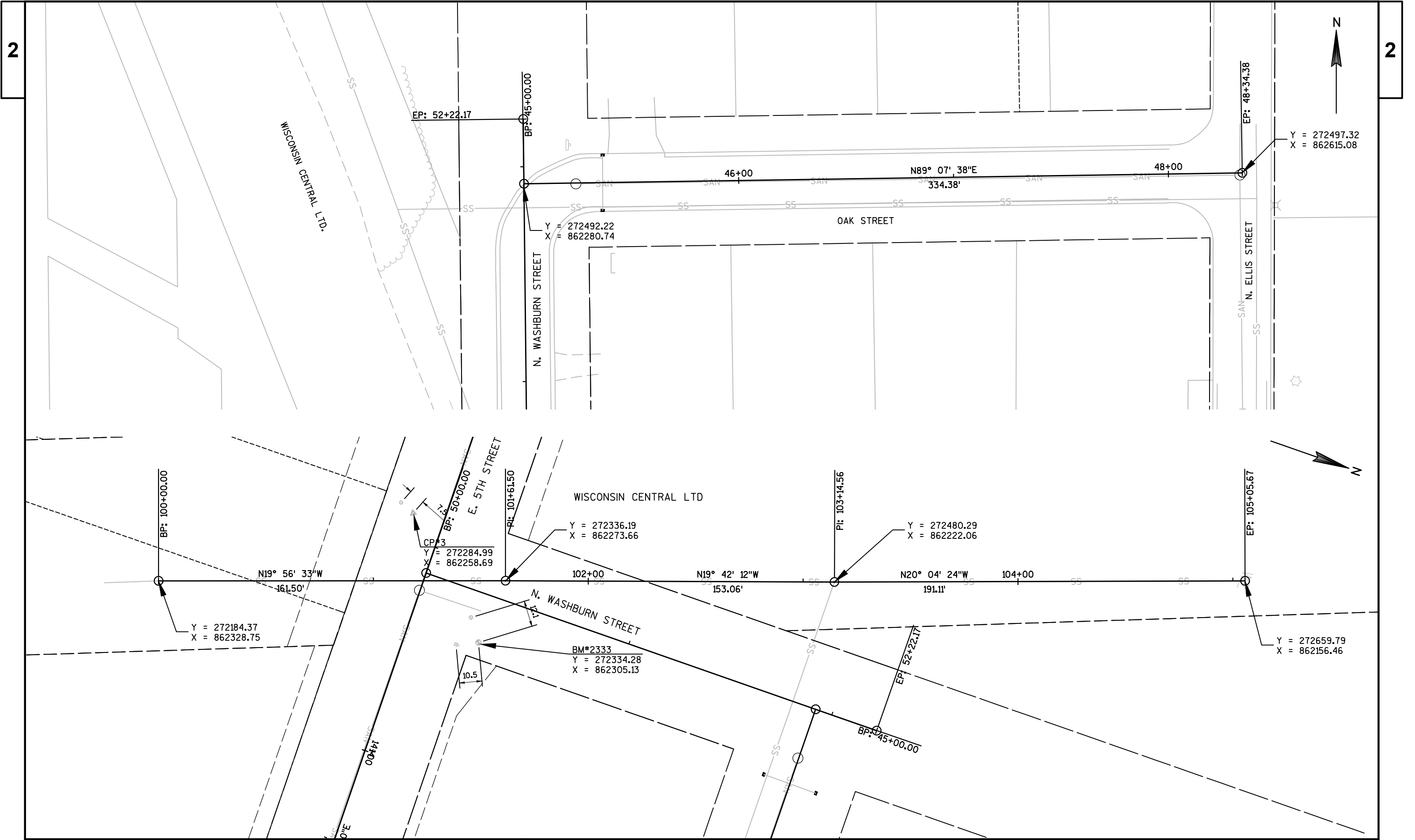
E



LEGEND







Estimate Of Quantities

6997-03-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	204.0100	Removing Pavement	SY	210.000	210.000
0008	204.0110	Removing Asphaltic Surface	SY	4,670.000	4,670.000
0010	204.0150	Removing Curb & Gutter	LF	2,350.000	2,350.000
0012	204.0155	Removing Concrete Sidewalk	SY	900.000	900.000
0014	204.0215	Removing Catch Basins	EACH	7.000	7.000
0016	204.0245	Removing Storm Sewer (size) 01. 12-inch	LF	207.000	207.000
0018	204.0245	Removing Storm Sewer (size) 02. 18-inch	LF	10.000	10.000
0020	204.0245	Removing Storm Sewer (size) 03. 21-Inch	LF	15.000	15.000
0022	204.0250	Abandoning Manholes	EACH	2.000	2.000
0024	204.0291.S	Abandoning Sewer	CY	42.000	42.000
0026	205.0100	Excavation Common	CY	3,460.000	3,460.000
0028	213.0100	Finishing Roadway (project) 01. 6997-03-70	EACH	1.000	1.000
0030	214.0100	Obliterating Old Road	STA	1.400	1.400
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	350.000	350.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	4,000.000	4,000.000
0036	416.0160	Concrete Driveway 6-Inch	SY	415.000	415.000
0038	455.0605	Tack Coat	GAL	300.000	300.000
0040	460.2000	Incentive Density HMA Pavement	DOL	770.000	770.000
0042	460.5223	HMA Pavement 3 LT 58-28 S	TON	700.000	700.000
0044	460.5225	HMA Pavement 5 LT 58-28 S	TON	500.000	500.000
0046	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	20.000	20.000
0048	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	1.000	1.000
0050	602.0405	Concrete Sidewalk 4-Inch	SF	8,920.000	8,920.000
0052	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	180.000	180.000
0054	606.0200	Riprap Medium	CY	12.000	12.000
0056	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	45.000	45.000
0058	608.0336	Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	LF	440.000	440.000
0060	608.3012	Storm Sewer Pipe Class III-A 12-Inch	LF	401.000	401.000
0062	608.3018	Storm Sewer Pipe Class III-A 18-Inch	LF	10.000	10.000
0064	611.0530	Manhole Covers Type J	EACH	3.000	3.000
0066	611.0624	Inlet Covers Type H	EACH	9.000	9.000
0068	611.1230	Catch Basins 2x3-FT	EACH	9.000	9.000
0070	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0072	611.2006	Manholes 6-FT Diameter	EACH	2.000	2.000
0074	611.8110	Adjusting Manhole Covers	EACH	2.000	2.000

Estimate Of Quantities

6997-03-70

Line	Item	Item Description	Unit	Total	Qty
0076	618.0100	Maintenance And Repair of Haul Roads (project) 01. 6997-03-70	EACH	1.000	1.000
0078	619.1000	Mobilization	EACH	1.000	1.000
0080	624.0100	Water	MGAL	50.000	50.000
0082	625.0100	Topsoil	SY	3,400.000	3,400.000
0084	628.1504	Silt Fence	LF	250.000	250.000
0086	628.1520	Silt Fence Maintenance	LF	250.000	250.000
0088	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0090	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0092	628.2002	Erosion Mat Class I Type A	SY	3,400.000	3,400.000
0094	628.7015	Inlet Protection Type C	EACH	21.000	21.000
0096	628.7555	Culvert Pipe Checks	EACH	5.000	5.000
0098	628.7570	Rock Bags	EACH	10.000	10.000
0100	629.0210	Fertilizer Type B	CWT	3.000	3.000
0102	630.0140	Seeding Mixture No. 40	LB	65.000	65.000
0104	630.0200	Seeding Temporary	LB	100.000	100.000
0106	634.0810	Posts Tubular Steel 2x2-Inch X 10-FT	EACH	3.000	3.000
0108	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	14.000	14.000
0110	637.2210	Signs Type II Reflective H	SF	44.000	44.000
0112	637.2220	Signs Type II Reflective SH	SF	7.000	7.000
0114	638.2102	Moving Signs Type II	EACH	5.000	5.000
0116	638.2602	Removing Signs Type II	EACH	15.000	15.000
0118	638.3000	Removing Small Sign Supports	EACH	12.000	12.000
0120	642.5001	Field Office Type B	EACH	1.000	1.000
0122	643.0300	Traffic Control Drums	DAY	1,200.000	1,200.000
0124	643.0410	Traffic Control Barricades Type II	DAY	720.000	720.000
0126	643.0420	Traffic Control Barricades Type III	DAY	1,240.000	1,240.000
0128	643.0705	Traffic Control Warning Lights Type A	DAY	2,790.000	2,790.000
0130	643.0900	Traffic Control Signs	DAY	2,330.000	2,330.000
0132	643.5000	Traffic Control 01. 6997-03-70	EACH	1.000	1.000
0134	644.1601.S	Temporary Curb Ramp	EACH	4.000	4.000
0136	645.0120	Geotextile Type HR	SY	24.000	24.000
0138	646.1020	Marking Line Epoxy 4-Inch	LF	870.000	870.000
0140	646.5320	Marking Railroad Crossings Epoxy	EACH	2.000	2.000
0142	646.6120	Marking Stop Line Epoxy 18-Inch	LF	32.000	32.000
0144	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	550.000	550.000
0146	650.4000	Construction Staking Storm Sewer	EACH	13.000	13.000
0148	650.4500	Construction Staking Subgrade	LF	1,080.000	1,080.000
0150	650.5000	Construction Staking Base	LF	1,080.000	1,080.000
0152	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	2,330.000	2,330.000

Estimate Of Quantities

6997-03-70

Line	Item	Item Description	Unit	Total	Qty
0154	650.9000	Construction Staking Curb Ramps	EACH	17.000	17.000
0156	650.9910	Construction Staking Supplemental Control (project) 01. 6997-03-70	LS	1.000	1.000
0158	650.9920	Construction Staking Slope Stakes	LF	1,080.000	1,080.000
0160	690.0150	Sawing Asphalt	LF	350.000	350.000
0162	690.0250	Sawing Concrete	LF	240.000	240.000
0164	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0166	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0168	SPV.0090	Special 01. Concrete Curb and Gutter 24-inch, Type D	LF	2,330.000	2,330.000
0170	SPV.0120	Special 01. Water for Seeded Areas	MGAL	76.000	76.000
0172	SPV.0195	Special 01. Asphalt Surface Sidewalk	TON	7.000	7.000

3

REMOVALS

				204.0100	204.0110	204.0150	204.0155
				REMOVING PAVEMENT	REMOVING ASPHALTIC SURFACE	REMOVING CURB & GUTTER	REMOVING CONCRETE SIDEWALK
CATEGORY	STA	STA	OFFSET	SY	SY	LF	SY
	12+00	12+90	CL	--	340	--	--
	12+97	22+80	CL	--	3712	--	--
	50+58	50+85	N ELLIS	--	60	20	--
	51+19	51+41	N ELLIS	--	61	16	--
	62+31	62+61	FAIRVIEW	--	113	40	75
	62+95	63+30	FAIRVIEW	--	132	10	--
	44+93	45+63	N	--	240	334	--
	12+00	12+90	LT	--	--	42	39
	12+00	12+90	RT	--	--	90	--
	12+97	16+40	LT	--	--	305	167
	12+97	16+40	RT	--	--	334	152
	16+40	22+80	LT	--	--	573	309
	16+40	22+80	RT	--	--	573	147
	14+40		LT	9	--	--	--
	14+65		RT	6	--	--	--
	14+90		RT	7	--	--	--
	15+30		LT	7	--	--	--
	15+60		RT	4	--	--	--
	15+75		LT	9	--	--	--
	17+25		LT	12	--	--	--
	17+55		LT	8	--	--	--
	17+72		RT	5	--	--	--
	17+90		RT	5	--	--	--
	18+45		LT	9	--	--	--
	18+70		LT	10	--	--	--
	19+00		RT	5	--	--	--
	19+70		LT	8	--	--	--
	20+35		LT	9	--	--	--
	20+50		RT	11	--	--	--
	21+00		LT	16	--	--	--
	21+35		LT	7	--	--	--
	21+50		LT	12	--	--	--
	45+50		N	43	--	--	--
0010	UNDISTRIBUTED			7	11	13	11
PROJECT TOTAL				210	4670	2350	900

CLEARING AND GRUBBING

				201.0105	201.0205
				CLEARING GRUBBING	
CATEGORY	STA	TC	STA	STA	STA
0010	103+00	-	105+00	2	2
SUBTOTAL (0010)				2	2
PROJECT TOTAL				2	2

OBLITERATING OLD ROAD

	214.0100
	OBLITERATING
	OLD ROAD
LOCATION	STA
N WASHBURN ST	1.4
TOTAL	1.4

AGGREGATE

		305.0110	305.0120	624.0100
		BASE	BASE	
		AGGREGATE	AGGREGATE	
		DENSE 3/4-	DENSE 1 1/4-	WATER
		INCH	INCH	
CATEGORY	STA TO STA	TON	TON	MGAL
0010	12+00 12+90	0	300	3.0
	12+97 16+40	0	1,143	11.4
	16+40 22+80	0	2,133	21.3
0010	N ELLIS	0	116	1.2
	FAIRVIEW	0	202	2.0
0010	N WASHBURN	0	78	0.8
	SIDEWALKS	278	0	2.8
0010	DRIVEWAYS	57	0	0.6
	UNDISTRIBUTED	15	27	7.0
SUBTOTAL (0010)		350	4,000	50
PROJECT TOTAL		350	4,000	50

Division	From/To Station	Location	Common Excavation (1)		Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	Borrow	Comment:
			Cut (2)	EBS Excavation (3)				Factor 1.25				
0010	11+50 / 22+80	5th St. Mainline	3142	0	0	3142	63	79	3063	3063	0	
0010	44+85 / 45+70	Oak Street	205	0	0	205	0	0	205	205	0	
	Undistributed		113	0	0	113	0	0	0	0	0	
Division 0010 Subtotal			3460	0	0	3460	63	79	3268			
Grand Total			3460	0	0	3460	63	79	3268	3268	0	
Total Common Exc			3460									

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unusable 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/Unusable Pavement Material
- 6) Expanded Fill. Factor = 1.25
- Depending on selections:
- | | |
|----|---|
| | <u>Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor</u> |
| 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 |
- 7) 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.
- 8) Use 281 CY of material from Division 0010. Borrow Excavation item number 208.0100

Or $\text{Expanded Fill} = (\text{Unexpanded Fill} - \text{Rock} * \text{Rock Factor} - \text{Reduced EBS}) * \text{Fill Factor}$
 Or $\text{Expanded Fill} = (\text{Unexpanded Fill} - \text{Rock} * \text{Rock Factor} - \text{Reduced Marsh}) * \text{Fill Factor}$
 Or $\text{Expanded Fill} = (\text{Unexpanded Fill} - \text{Rock} * \text{Rock Factor}) * \text{Fill Factor}$

3

3

STORM SEWER ITEMS																						
											APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36- INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	STORM SEWER PIPE CLASS III-A 12- INCH	STORM SEWER PIPE CLASS III-A 18- INCH	MANHOLE COVERS TYPE J	INLET COVERS TYPE H	CATCH BASINS 2X3 FT	MANHOLES 4- FT DIAMETER	MANHOLES 6- FT DIAMETER	CONSTRUCTION STAKING STORM SEWER	ADJUSTING MANHOLE COVERS
STRUCTURE NO.	LOCATION	RIM / FLANGE ELEVATION	TOP OF STRUCTURE ELEVATION	STRUCTURE INVERT ELEVATION	STRUCTURE DEPTH	FROM STRUCTURE NO.	TO STRUCTURE NO.	% SLOPE	INVERT IN ELEVATION	INVERT OUT ELEVATION	522.1036 EACH	608.0324 LF	608.0336 LF	608.3012 LF	608.3018 LF	611.0530 EACH	611.0624 EACH	611.123 EACH	611.2004 EACH	611.2006 EACH	650.4000 EACH	611.8110 EACH
INL 1	16+10	813.01	812.01	809.30	2.71	INL 1	MH 3	1.00	809.30	808.80	--	--	--	50	--	--	1	1	--	--	1	--
INL 2	16+10	813.01	812.01	809.34	2.67	INL 2	MH 3	1.00	809.34	808.90	--	--	--	44	--	--	1	1	--	--	1	--
--	16+80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
INL 4	16+54	813.05	812.05	809.04	3.01	INL 4	MH 3	1.00	809.04	808.80	--	--	--	24	--	--	1	1	--	--	1	--
MH 3	16+51	813.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
INL 5	17+80	812.90	811.90	809.42	2.48	INL 5	MH 3	0.40	809.42	808.90	--	--	--	129	--	--	1	1	--	--	1	--
INL 6	17+80	812.90	811.90	809.60	2.30	INL 6	INL 5	0.50	809.60	809.42	--	--	--	36	--	--	1	1	--	--	1	--
INL 7	21+97	812.44	811.44	807.99	3.45	INL 7	MH 4	0.50	807.99	807.74	--	--	--	50	--	--	1	1	--	--	1	--
INL 8	21+97	812.44	811.44	808.17	3.27	INL 8	INL 7	0.50	808.17	807.99	--	--	--	36	--	--	1	1	--	--	1	--
MH 4	22+39	812.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
MH 0	100+00	812.91	--	805.44	--	MH 0	MH 1	0.31	805.44	805.30	--	45	--	--	--	1	--	--	--	1	1	--
MH 1	100+40	814.00	812.75	805.30	7.45	MH 1	MH 2	0.31	805.30	804.46	--	--	270	--	--	1	--	--	--	1	1	--
--	101+62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MH 2	103+10	810.80	809.55	805.46	4.09	MH 2	APW 1	0.31	804.46	803.93	--	--	170	--	--	--	--	--	--	--	--	--
APW 1	104+80	--	--	803.80	--	--	--	--	803.93	803.80	1	--	--	--	--	--	--	--	--	--	1	--
INL 9	45+37	809.47	808.47	805.89	2.58	INL 9	MH 6	2.00	805.89	805.79	--	--	--	5	--	--	1	1	--	--	1	--
INL 10	45+37	809.47	808.47	806.06	2.41	INL 10	MH 6	1.00	806.06	805.79	--	--	--	27	--	--	1	1	--	--	1	--
MH 6	45+37	809.55	808.30	805.63	2.67	MH 6	MH 2	MATCH	--	--	--	--	--	--	10	1	--	1	--	--	1	--
PROJECT TOTAL											1	45	440	401	10	3	9	9	1	2	13	2

- (A) STATION AND OFFSET MEASURED TO CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
- (B) TOP OF STRUCTURE ELEVATION MEASURED AS FOLLOWS:
INLET: TYPE H COVERS = RIM - 6" CASTING - 6" ADJUSTMENT = 12" (1.00')
MANHOLE: TYPE J COVERS = RIM - 9" CASTING - 6" ADJUSTMENT = 15" (1.25')
- (C) STRUCTURE DEPTH MEASURED AS TOP OF STRUCTURE ELEVATION - STRUCTURE INVERT ELEVATION.
- (D) RIM/ FLANGE ELEVATION TAKEN FROM FLANG LINE OR CENTER OF MANHOLE COVER
- (E) ENDWALL STATION AND OFFSET MEASURED TO END OF SLOPED SECTION OF STRUCTURE UNLESS OTHERWISE NOTED.

STORM SEWER REMOVAL ITEMS

		ABANDONING MANHOLES	REMOVING CATCH BASINS	REMOVING STORM SEWER 12-INCH	REMOVING STORM SEWER 18- INCH	REMOVING STORM SEWER 21- INCH	ABANDONING SEWER
STRUCTURE NO.	LOCATION	204.0250 EACH	204.0215 EACH	204.0245 LF	204.0245 LF	204.0245 LF	204.0291.S CY
INL 1	16+10	--	1	47	--	--	--
INL 2	16+10	--	1	44	--	--	--
--	16+80	--	1	34	--	--	--
INL 4	16+54	--	1	34	--	--	--
MH 3	16+51	--	--	--	--	--	--
INL 5	17+80	--	--	--	--	--	--
INL 6	17+80	--	--	--	--	--	--
INL 7	21+97	--	--	--	--	--	--
INL 8	21+97	--	1	48	--	--	--
MH 4	22+39	--	--	--	--	--	--
MH 0	100+00	--	--	--	--	--	--
MH 1	100+40	--	--	--	--	--	--
--	101+62	1	--	--	--	--	--
MH 2	103+10	1	--	--	--	--	--
APW 1	104+80	--	--	--	--	15	42
INL 9	45+37	--	1	--	--	--	--
INL 10	45+37	--	1	--	--	--	--
MH 6	45+37	--	--	--	10	--	--
		2	7	207	10	15	42

213.0100 FINISHING ROADWAY 6997-03-70		618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS 6997-03-70		619.1000 MOBILIZATION	642.5001 FIELD OFFICE TYPE B	643.5000 TRAFFIC CONTROL
CATEGORY		EACH		EACH	EACH	EACH
0010		1		1	1	1
0020		-		-	-	-
SUBTOTAL (0010)		1		1	1	1
SUBTOTAL (0020)		0		0	0	0
PROJECT TOTAL		1		1	1	1

RIPRAP AND GEOTEXTILE FABRIC

CATEGORY		STATION	OFFSET	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
0010		105+00	CL	N WASHBURN	12	24
SUBTOTAL (0010)					12	24
PROJECT TOTAL					12	24

CONCRETE ITEMS

CATEGORY		STATION	LOCATION	CONCRETE DRIVEWAY 6- INCH SY	CONCRETE SIDEWALK 4- INCH SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF	644.1601.S TEMPORARY CURB RAMP EACH	SPV.0090.01 CONCRETE CURB & GUTTER 24-INCH, TYPE D LF
0010		12+00 - 12+74	LT	--	370	10	--	74
0010		11+47 - 12+92	RT	38	590	10	--	88
		12+95 16+30	LT	49	1505	10	--	342
		13+15 16+28	RT	54	1375	10	--	325
		16+60 22+20	LT	154	2260	--	--	593
		16+60 22+20	RT	74	2540	--	--	593
		N ELLIS	--	--	100	80	2	28
		FAIRVIEW	--	--	165	60	2	50
		N WASHBURN	--	40	--	--	--	230
		UNDISTRIBUTED	--	7	15	--	--	7
SUBTOTAL (0010)				415	8920	180	4	2330
PROJECT TOTAL				415	8920	180	4	2330

ASPHALT ITEMS

CATEGORY		STA TO STA	GAL	TON	TON	TON	TON
0010		12+00 12+90	21	48	34	--	--
0010		12+96 16+40	81	181	130	--	--
0010		16+40 22+80	150	336	240	--	--
0010		44+70 45+70	24	56	39	--	--
0010		N ELLIS	8	27	12	--	--
0010		FAIRVIEW	15	35	24	--	--
0010		DRIVEWAYS	-	--	--	15	--
0010		RR CROSSING	--	--	--	--	7
0010		UNDISTRIBUTED	1	17	21	5	--
SUBTOTAL (0010)			300	700	500	20	7
PROJECT TOTAL			300	700	500	20	7

PROJECT NO:6997-03-70

HWY:EAST FIFTH STREET

COUNTY:SHAWANO

MISCELLANEOUS QUANTITIES

SHEET 20

E

3

SAWING

		690.0150	690.0250
		SAWING ASPHALT	SAWING CONCRETE
CATEGORY	LOCATION	LF	LF
0010	E FIFTH ST	65	--
0010	N ELLIS	42	--
0010	FAIRVIEW	60	--
	N WASHBURN	130	--
	SIDEWALK	--	10
	CURB & GUTTER	--	20
	DRIVEWAYS	50	205
	UNDISTRIBUTED	3	5
SUBTOTAL (0010)		350	240
PROJECT TOTAL		350	240

			646.1020	646.5320	646.6120	646.7420
			MARKING LINE EPOXY 4-INCH	MARKING RAILROAD CROSSING EPOXY	MARKING STOP LINE EPOXY 18-INCH	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
(YELLOW)						
CATEGORY	STA TO	STA	LF	EACH	LF	LF
0010	12+00	22+80	870	2	--	--
0010		N ELLIS	--	--		250
0010		FAIRVIEW	--	--	32	300
SUBTOTAL (0010)			870	2	32	550
PROJECT TOTAL			870	2	32	550

TRAFFIC CONTROL

		643.0300		643.0410		643.0420		643.0705		643.0900	
DURATION		TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES		TRAFFIC CONTROL BARRICADES		TRAFFIC CONTROL WARNING		TRAFFIC CONTROL SIGNS	
LOCATION		TYPE II		TYPE III		LIGHTS TYPE A					
DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.
E FIFTH ST	58	4	232	0	0	12	696	18	1,044	14	812
N ELLIS ST	58	2	116	0	0	4	232	8	464	8	464
FAIRVIEW AVE	58	3	174	0	0	4	232	8	464	8	464
N WASHBURN	58	1	58	0	0	1	58	2	116	2	116
SIDEWALK	58	10	580	12	696	0	0	12	696	8	464
UNDISTRIBUTED			40		24		22		6		10
SUBTOTAL (0010)		1200		720		1240		2790		2330	
PROJECT TOTAL		1200		720		1240		2790		2330	

CONSTRUCTION STAKING

			650.4500	650.5000	650.5500	650.9000	650.9910	650.9920
			CONSTRUCTION STAKING SUBGRADE	CONSTRUCTION STAKING BASE	CONSTRUCTION STAKING CURB & GUTTER	CONSTRUCTION STAKING CURB RAMPS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (6997-03-70)	CONSTRUCTION STAKING SLOPE STAKES
CATEGORY	STA	TO STA	LF	LF	LF	EACH	LS	LF
0010	12+00	22+80	1080	1080	2330	17	1	1080
SUBTOTAL (0010)			1080	1080	2330	17	1	1080
PROJECT TOTAL			1080	1080	2330	17	1	1080

CONVENTIONAL SYMBOLS

SECTION LINE	---	SECTION CORNER SYMBOL		R/W MONUMENT (TO BE SET)	●
QUARTER LINE	---	SECTION CORNER MONUMENT		NON-MONUMENTED R/W POINT	○
SIXTEENTH LINE	---	GEODETIC SURVEY MONUMENT		FOUND IRON PIN (1-INCH UNLESS NOTED)	IP
NEW REFERENCE LINE	---	SIXTEENTH CORNER MONUMENT		OFF-PREMISE SIGN	
NEW R/W LINE	---	R/W POST	○ POST	COMPENSABLE	
EXISTING R/W OR HE LINE	---	ELECTRIC POLE		NON-COMPENSABLE	
PROPERTY LINE	---	TELEPHONE POLE			
LOT, TIE & OTHER MINOR LINES	---	PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)			
SLOPE INTERCEPT	---	ACCESS RESTRICTED BY ACQUISITION			
CORPORATE LIMITS	---	NO ACCESS (BY STATUTORY AUTHORITY)			
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC.)	---	ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)			
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)	---	NO ACCESS (NEW HIGHWAY)			
TEMPORARY LIMITED EASEMENT AREA	---	PARCEL NUMBER (25)		UTILITY NUMBER (40)	
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)	---	PARALLEL OFFSETS			
TRANSMISSION STRUCTURES	---				
BUILDING					
BRIDGE					

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTRICTIVE DEVELOPMENT	RDE
CENTERLINE	C/L	EASEMENT	
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY	CO	SECTION	SEC
COUNTY TRUNK HIGHWAY	CTH	SEPTIC VENT	SEPV
DISTANCE	DIST	SQUARE FEET	SF
CORNER	COR	STATE TRUNK HIGHWAY	STH
DOCUMENT NUMBER	DOC	STATION	STA
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED	TLE
GAS VALVE	GV	EASEMENT	
GRID NORTH	GN	TRANSPORTATION PROJECT	TPP
HIGHWAY EASEMENT	HE	PLAT	
IDENTIFICATION	ID	UNITED STATES HIGHWAY	USH
LAND CONTRACT	LC	VOLUME	V
LEFT	LT	WARRANTY DEED	WD
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), SHAWANO COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1"X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT

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

ROAD NAME	BASIS OF EXISTING R/W	YEAR
E. 5TH STREET	Shanahan's Addition to the City of Shawano	1873
E. 5TH STREET	ASSESSORS PLAT OF THE CITY OF SHAWANO	---
---	---	---

CAUTION
THIS PLAT IS FOR ILLUSTRATIVE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES.

R/W PROJECT NUMBER 6997-03-00	SHEET NUMBER	TOTAL SHEETS
R/W PROJECT NUMBER 6997-03-00	4.01	4
PLAT OF RIGHT OF WAY REQUIRED FOR C SHAWANO, EAST FIFTH STREET WASHBURN STREET TO FAIRVIEW AVENUE LOCAL STREET SHAWANO COUNTY		
CONSTRUCTION PROJECT NUMBER 6997-03-70		

RECEIVED

MAY 23 2018

PAMELA SCHMIDT
SHAWANO COUNTY CLERKBEGIN RELOCATION
ORDER STA. 11+00Y = 272296.682
X = 862070.249371.43 FEET NORTH OF AND 2056.16
FEET EAST OF THE SW CORNER
SECTION 30, T27N-R16E, CITY OF
SHAWANO, SHAWANO COUNTY, WI

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL UTILITY SYMBOLS

WATER	---
GAS	---
TELEPHONE	---
OVERHEAD	---
TRANSMISSION LINES	---
ELECTRIC	---
CABLE TELEVISION	---
FIBER OPTIC	---
SANITARY SEWER	---
STORM SEWER	---

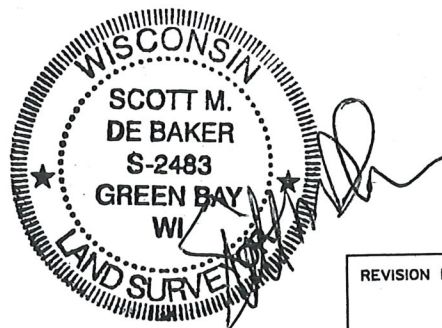
END RELOCATION
ORDER STA. 22+39.65Y = 272307.888
X = 863209.821329.11 FEET NORTH OF AND 581.53
FEET EAST OF THE SOUTH QUARTER
CORNER SECTION 30, T27N-R16E, CITY
OF SHAWANO, SHAWANO COUNTY, WIRobert E. Lee & Associates, Inc.
ENGINEERING, SURVEYING, ENVIRONMENTAL SERVICES
1200 CENTRAL DRIVE BULLING WISCONSIN 53105
920-422-6041 www.relnet.com
Celebrating 60 Years of ExcellenceI SCOTT M. DEBAKER, REGISTERED LAND
SURVEYOR, S-2483, HEREBY CERTIFY THAT I
HAVE SURVEYED THE LAND DESCRIBED
HEREON AND THAT THE MAP IS A CORRECT
REPRESENTATION OF THAT SURVEY TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

DATE: 5-20-18 (Signature)

APPROVED FOR THE CITY OF SHAWANO

DATE: 5/24/18 (Signature)

REVISION DATE

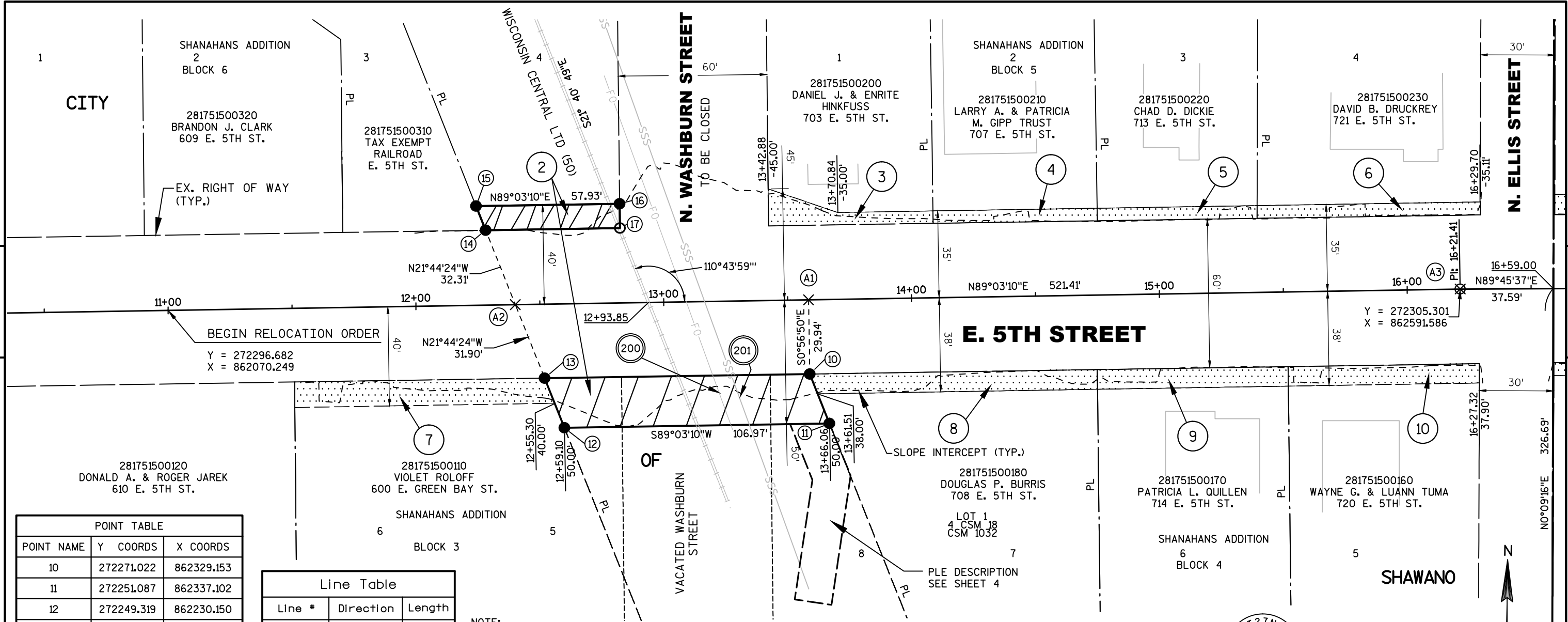
SCALE 0 1/4 MILE
TOTAL NET LENGTH OF CENTERLINE = 0.216 MI

PLOT DATE : 4/24/2018 8:41 AM

PLOT BY : SCOTT M. DEBAKER

PLOT NAME :

WISDOT/CADDs SHEET 50



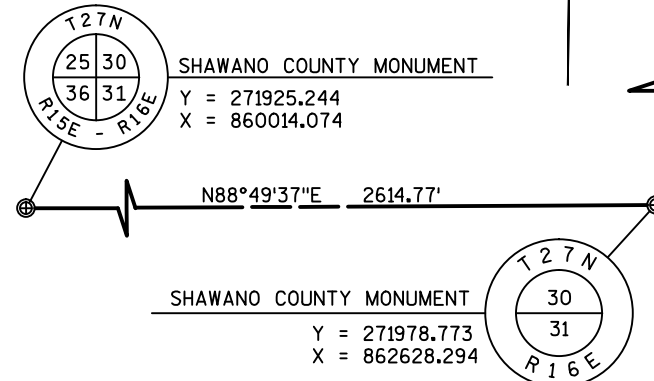
POINT TABLE		
POINT NAME	Y COORDS	X COORDS
10	272271.022	862329.153
11	272251.087	862337.102
12	272249.319	862230.150
13	272269.371	862222.154
14	272329.011	862198.372
15	272338.742	862194.492
16	272339.699	862252.416
17	272329.847	862252.524
A1	272300.954	862328.658
A2	272298.998	862210.340
A3	272305.301	862591.586

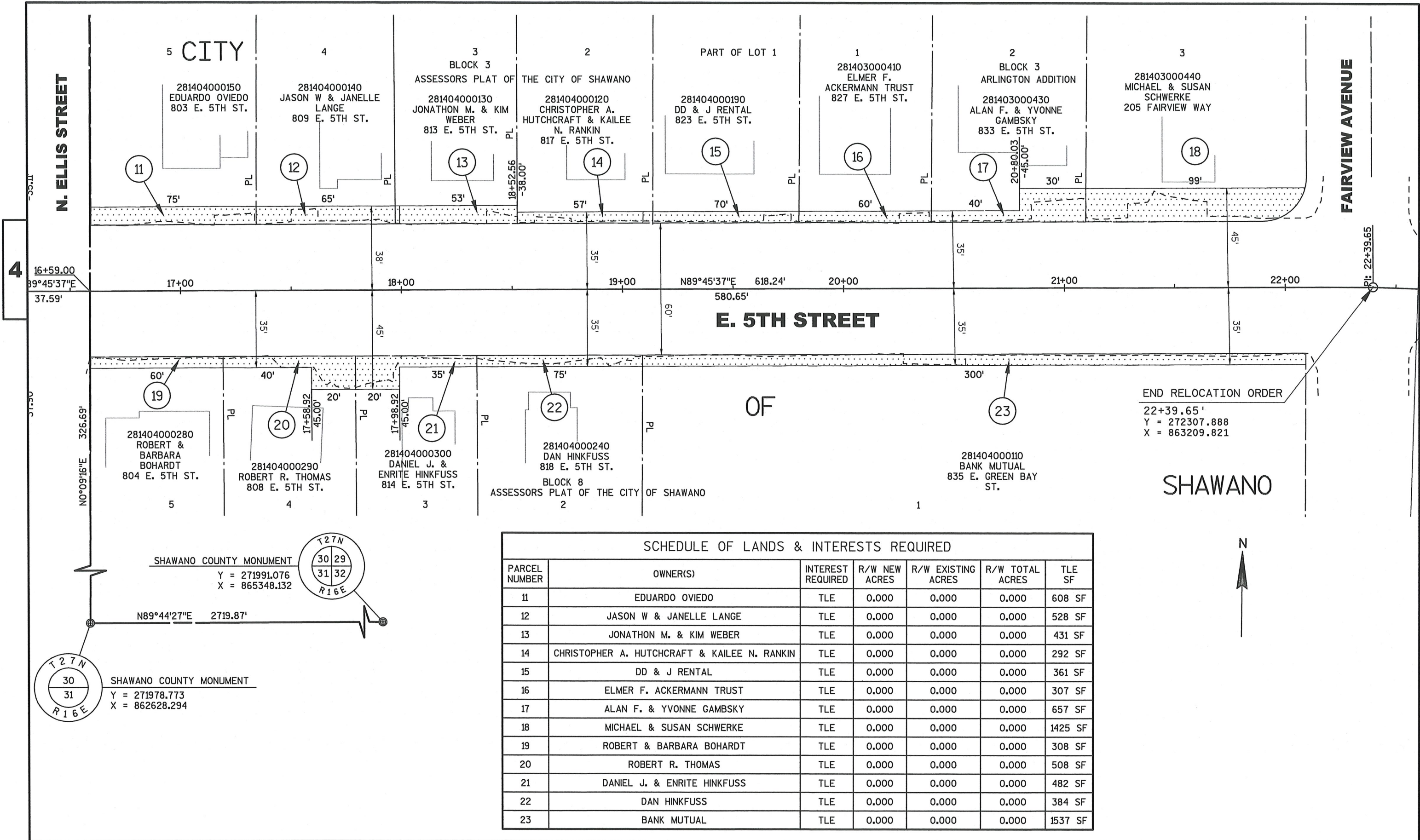
Line Table		
Line #	Direction	Length
10-11	S21°44'24"E	21.46'
12-13	N21°44'24"W	21.59'
13-10	N89°06'58"E	107.01'
14-15	N21°44'24"W	10.48'
16-17	S00°37'50"E	9.85'
17-14	S89°06'58"W	54.16'
A3-A1	S89°03'10"W	262.96'
A3-A2	S89°03'10"W	381.30'

UTILITY INTERESTS REQUIRED		
UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
200	WINDSTREAM	RELEASE OF RIGHTS
201	SHAWANO MUNICIPAL UTILITIES	RELEASE OF RIGHTS

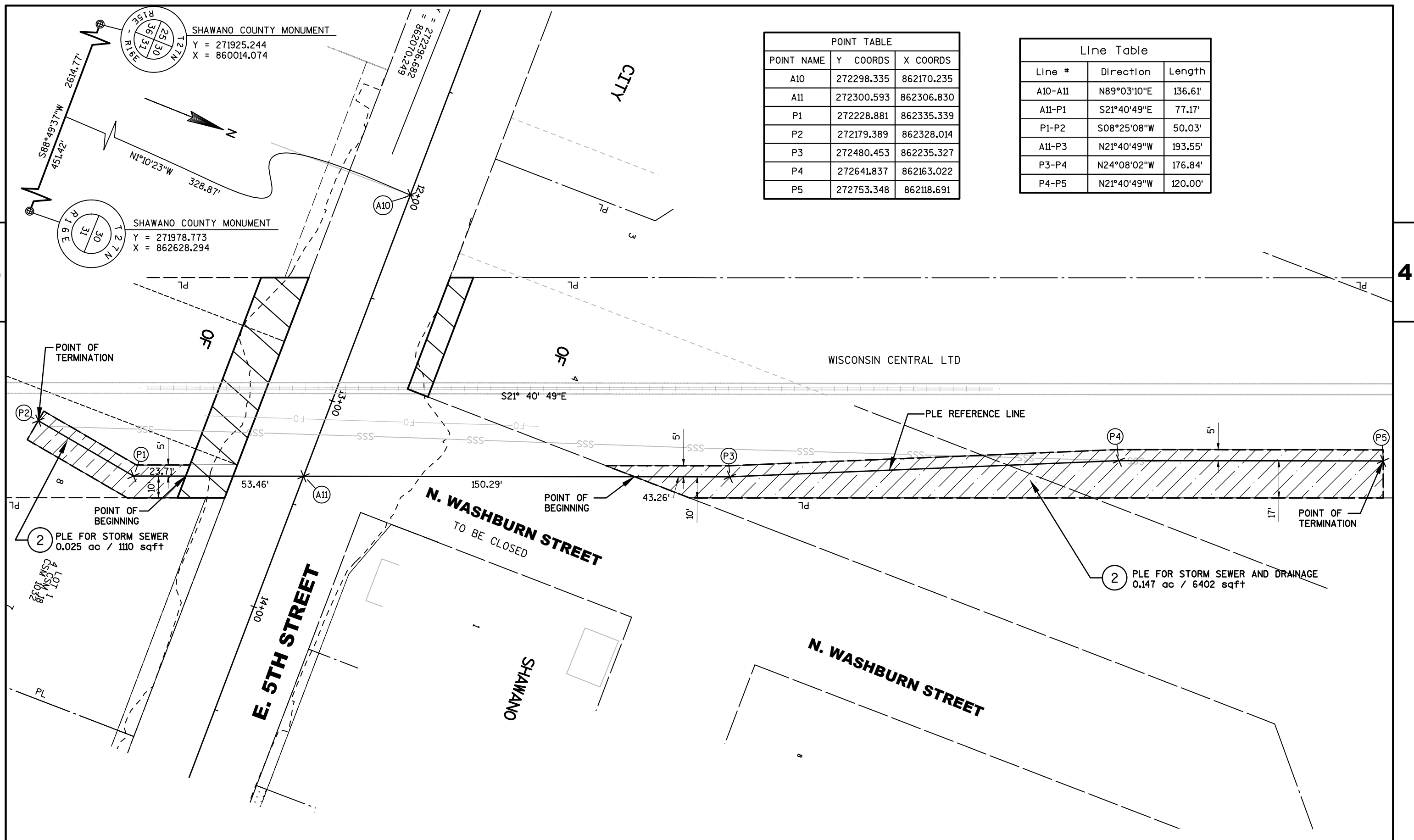
NOTE: OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE CITY OF SHAWANO

SCHEDULE OF LANDS & INTERESTS REQUIRED								
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTAL ACRES	TLE SF	H.E. SF	PLE SF
2	WISCONSIN CENTRAL LTD	H.E. & PLE	0.000	0.000	0.000	---	2702 SF	7512 SF
3	DANIEL J. & ENRITE HINKFUSS	TLE	0.000	0.000	0.000	472 SF	---	---
4	LARRY A. & PATRICIA M. GIPP TRUST	TLE	0.000	0.000	0.000	331 SF	---	---
5	CHAD D. DICKIE	TLE	0.000	0.000	0.000	322 SF	---	---
6	CHERYL KOEHLER	TLE	0.000	0.000	0.000	451 SF	---	---
7	VIOLET ROLOFF	TLE	0.000	0.000	0.000	1059 SF	---	---
8	DOUGLAS P. BURRIS	TLE	0.000	0.000	0.000	915 SF	---	---
9	PATRICIA L. QUILLEN	TLE	0.000	0.000	0.000	615 SF	---	---
10	WAYNE G. & LUANN TUMA	TLE	0.000	0.000	0.000	617 SF	---	---





SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTAL ACRES	TLE SF
11	EDUARDO OVIEDO	TLE	0.000	0.000	0.000	608 SF
12	JASON W & JANELLE LANGE	TLE	0.000	0.000	0.000	528 SF
13	JONATHON M. & KIM WEBER	TLE	0.000	0.000	0.000	431 SF
14	CHRISTOPHER A. HUTCHCRAFT & KAILEE N. RANKIN	TLE	0.000	0.000	0.000	292 SF
15	DD & J RENTAL	TLE	0.000	0.000	0.000	361 SF
16	ELMER F. ACKERMANN TRUST	TLE	0.000	0.000	0.000	307 SF
17	ALAN F. & YVONNE GAMBSKY	TLE	0.000	0.000	0.000	657 SF
18	MICHAEL & SUSAN SCHWERKE	TLE	0.000	0.000	0.000	1425 SF
19	ROBERT & BARBARA BOHARDT	TLE	0.000	0.000	0.000	308 SF
20	ROBERT R. THOMAS	TLE	0.000	0.000	0.000	508 SF
21	DANIEL J. & ENRITE HINKFUSS	TLE	0.000	0.000	0.000	482 SF
22	DAN HINKFUSS	TLE	0.000	0.000	0.000	384 SF
23	BANK MUTUAL	TLE	0.000	0.000	0.000	1537 SF



POINT TABLE		
POINT NAME	Y COORDS	X COORDS
A10	272298.335	862170.235
A11	272300.593	862306.830
P1	272228.881	862335.339
P2	272179.389	862328.014
P3	272480.453	862235.327
P4	272641.837	862163.022
P5	272753.348	862118.691

Line Table		
Line #	Direction	Length
A10-A11	N89°03'10"E	136.61'
A11-P1	S21°40'49"E	77.17'
P1-P2	S08°25'08"W	50.03'
A11-P3	N21°40'49"W	193.55'
P3-P4	N24°08'02"W	176.84'
P4-P5	N21°40'49"W	120.00'

REVISION DATE	DATE April 24, 2018	SCALE, FEET 	HWY: EAST FIFTH STREET	STATE R/W PROJECT NUMBER 6997-03-00	PLAT SHEET 4.04	E
	GRID FACTOR		COUNTY: SHAWANO	CONSTRUCTION PROJECT NUMBER 6997-03-70	PS&E SHEET 25	

BENCHMARKS		
#	DESCRIPTION	ELEV.
BM#1	TAG BOLT ON HYD.	816.22
BM#2	TAG BOLT ON HYD.	815.96

281751500320
BRANDON J. CLARK
609 E. 5TH ST.

281751500310
TAX EXEMPT RAILROAD
E. 5TH ST.

END OF CURB
STA. 12+99, 19.5' LT.

END OF CURB
STA. 12+74, 19.5' LT.

281751500200
DANIEL J. & ENRITE HINKFUSS
703 E. 5TH ST.

281751500210
LARRY A. & PATRICIA M. GIPP
TRUST
707 E. 5TH ST.

281751500220
CHAD D. DICKIE
713 E. 5TH ST.

281751500230
CHERYL KOEHLER
721 E. 5TH ST.

281404000150
EDUARDO OVIEDO
803 E. 5TH ST.

STA 16+58,
39' LT

STA 16+73,
19.5' LT

BM#2

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

EX. RIGHT OF WAY (TYP.)

ASPHALT SURFACE WALK

OBLITERATE OLD
ROADWAY

REMOVE EXISTING
SIDEWALK (TYP.)

4-INCH CONCRETE
SIDEWALK (TYP.)

6-INCH CONCRETE
SIDEWALK (TYP.)

6-INCH CONCRETE
DRIVEWAY (TYP.)

CONSTRUCTION LIMITS
STA. 51+41 SAWCUT

281751500230
CHERYL KOEHLER
721 E. 5TH ST.

STA 16+31, 39'LT

STA 16+10, 17.5'LT

STA 16+21.41

STA 16+08, 17.5'RT

STA 16+33, 45.5'RT

STA 16+55, 45.5' RT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA 16+73, 19.5' LT

STA. 11+50.47
BEGIN CONSTRUCTION

281751500120
DONALD A. & ROGER JAREK
610 E. 5TH ST.

STA. 12+00
BEGIN PROJECT
FULL DEPTH SAWCUT
MATCH EXISTING
X=862170.24
Y=272298.34

10' TLE

END OF CURB
STA. 12+88, 19.5' RT.

ASPHALT SURFACE WALK

END OF CURB
STA. 13+14, 19.5' RT.

281751500110
VIOLET ROLOFF
600 E. GREEN BAY ST.

20' TLE

CROSSING 697725D WILL BE
RECONSTRUCTED (WARNING DEVICES
WILL BE INSTALLED BY WCL)

281751500180
DOUGLAS P. BURRIS
708 E. 5TH ST.

281751500170
PATRICIA L. QUILLEN
714 E. 5TH ST.

STA 16+33, 45.5'RT

281751500160
WAYNE G. & LUANN TUMA
720 E. 5TH ST.

CONSTRUCTION LIMITS STA.
50+58 SAWCUT

TYPE 2 PEDESTRIAN
RAMPS WITH DETECTABLE
WARNING FIELDS (TYP.)

STA 16+55,
45.5' RT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

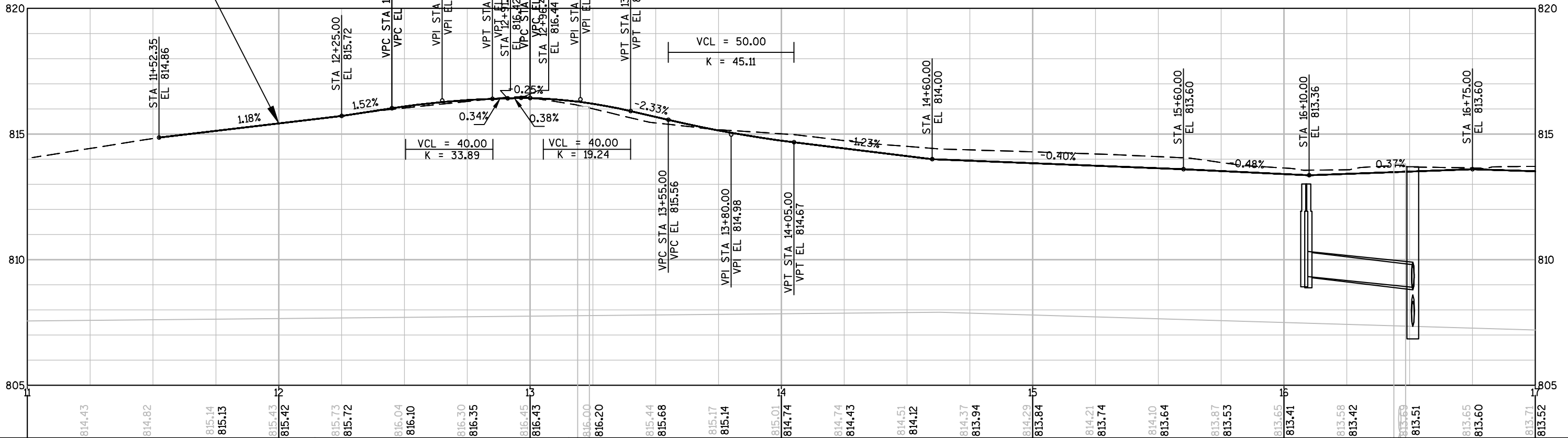
STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT

STA 16+73,
19.5' LT



PROJECT NO:6997-03-70

HWY: EAST FIFTH STREET

COUNTY: SHAWANO

PLAN AND PROFILE: EAST FIFTH STREET

SHEET 26

E

FILE NAME : R:\4200\4281\4281016\DWG (2016)\4281016PP.DWG

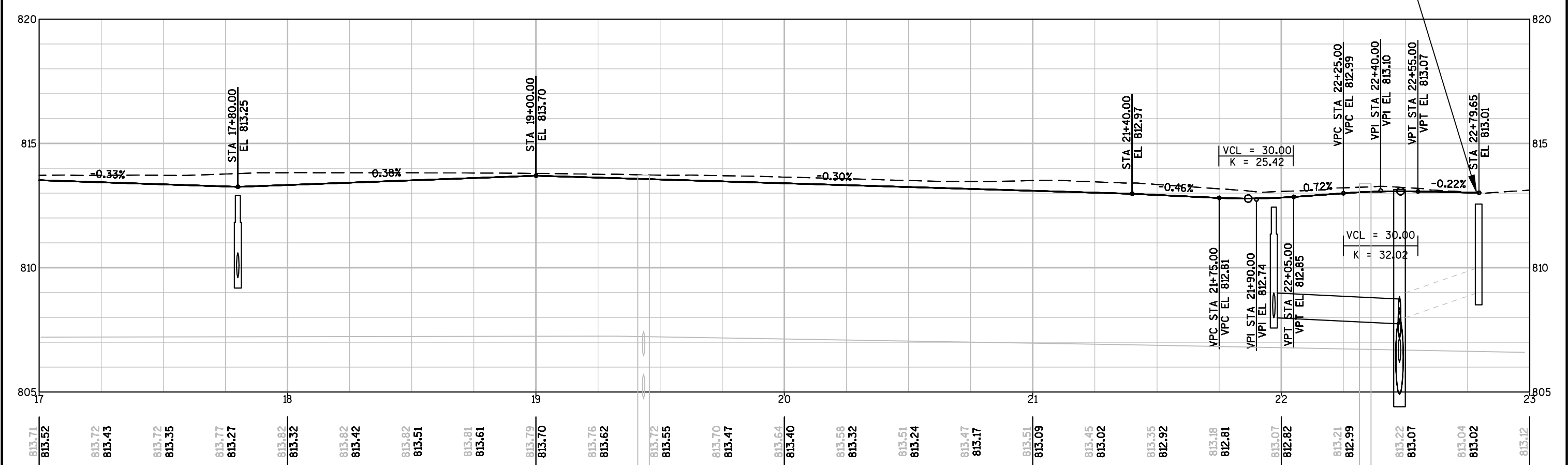
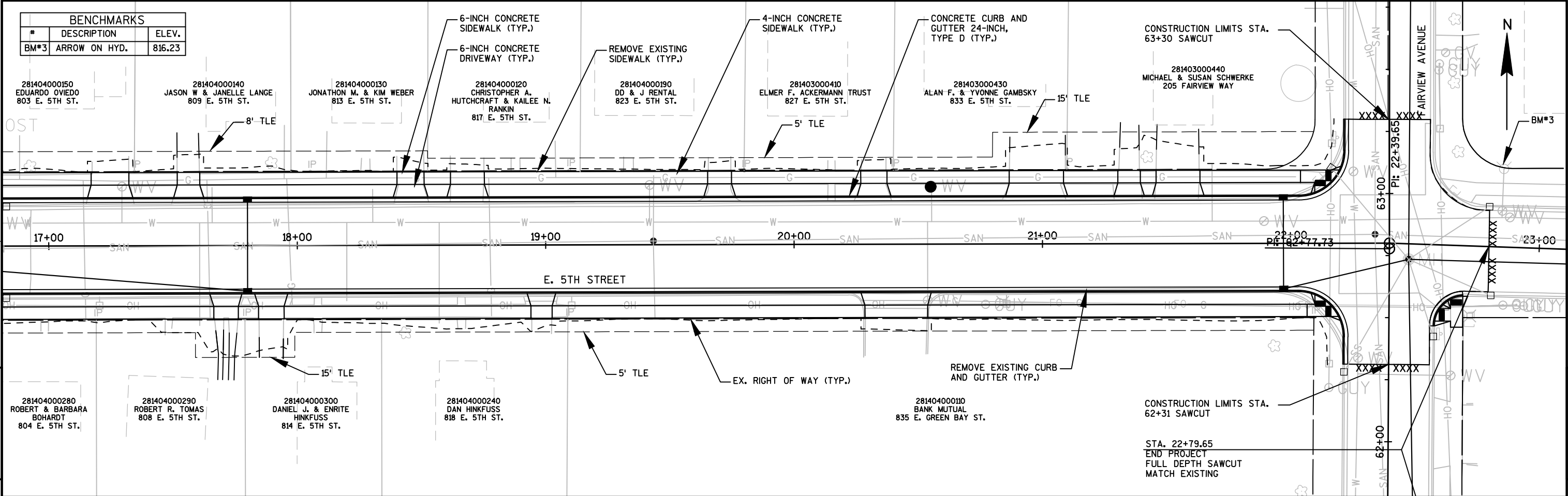
PLOT DATE : 10/31/2018 2:17 PM

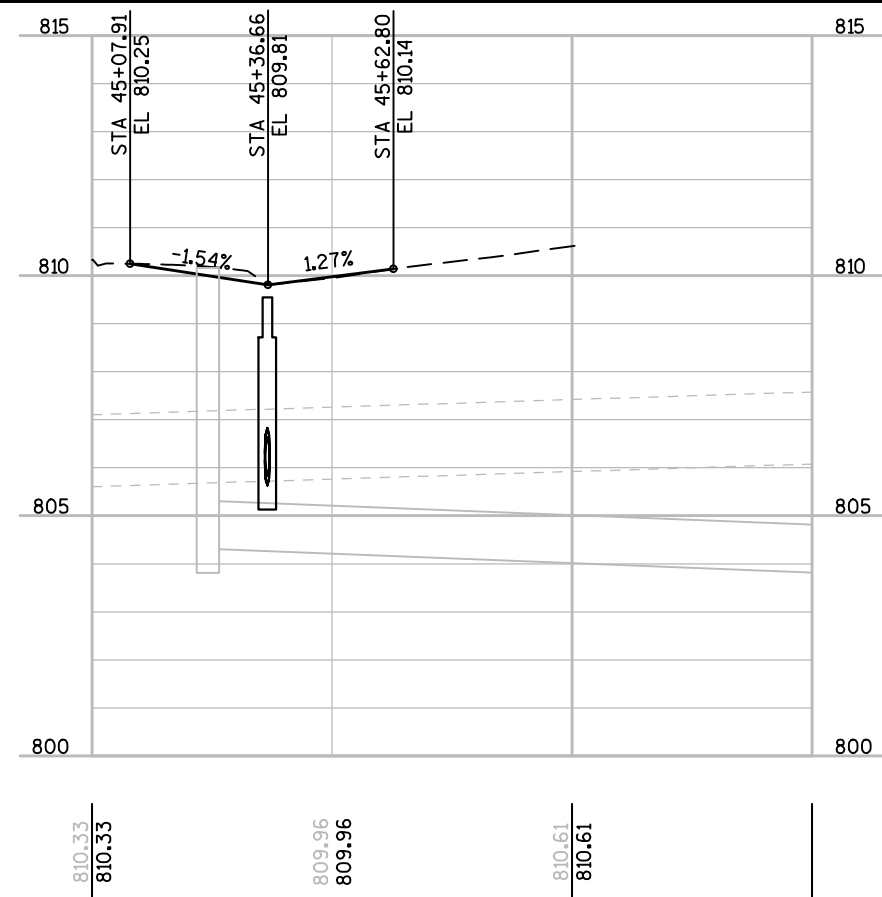
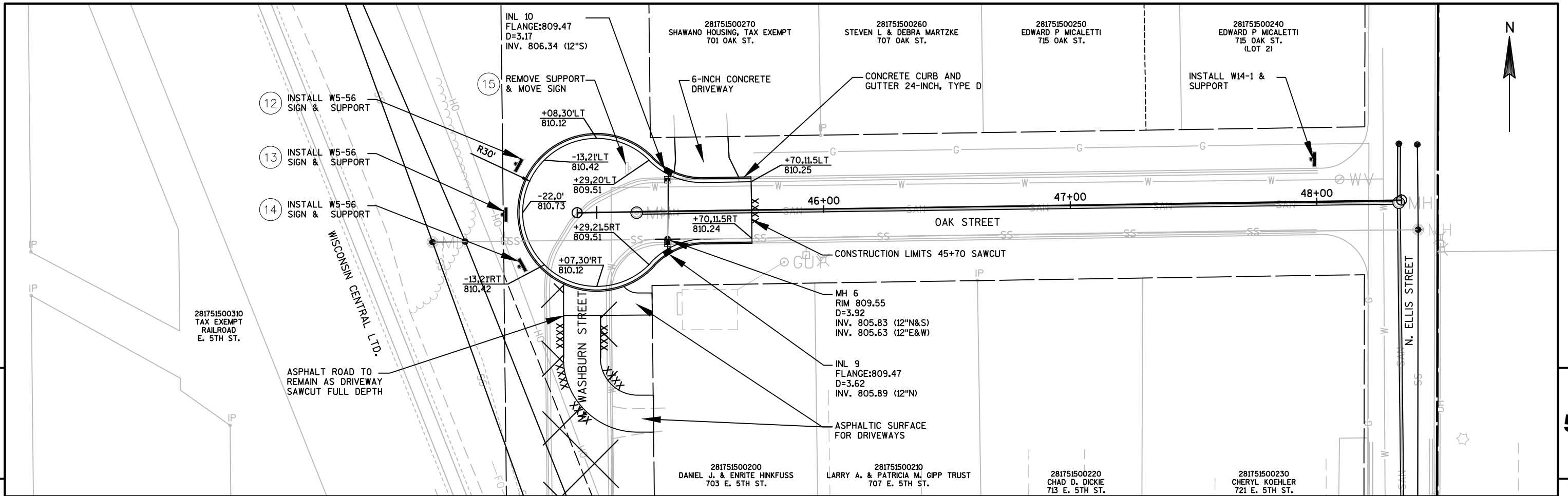
PLOT BY : ROCHELLE L. BURSA

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

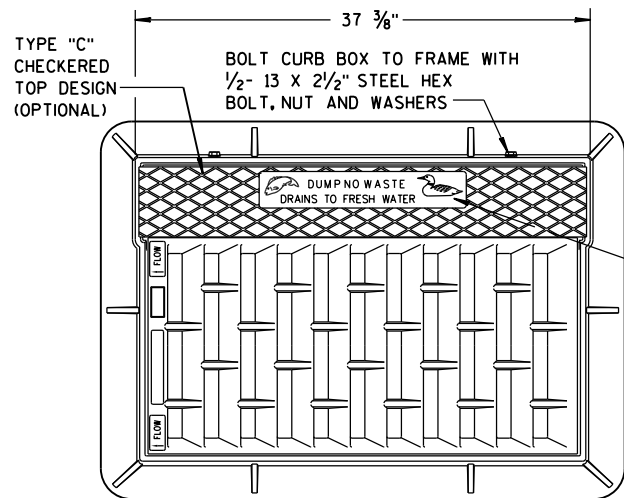
WISDOT/CADDs SHEET 44





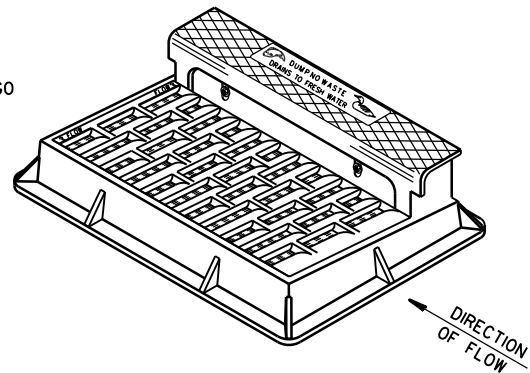
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A09-02	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-19A	CURB RAMPS TYPES 1 AND 1-A
08D05-19B	CURB RAMPS TYPES 2 AND 3
08D05-19C	CURB RAMPS TYPES 4A AND 4A1
08D05-19D	CURB RAMPS TYPE 4B AND 4B1
08D05-19E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-19F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-19G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D18-02	DRIVEWAY AND SIDEWALK RAMPS TYPES X & Y
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C09-11A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

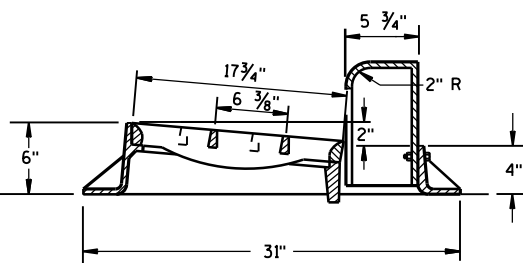
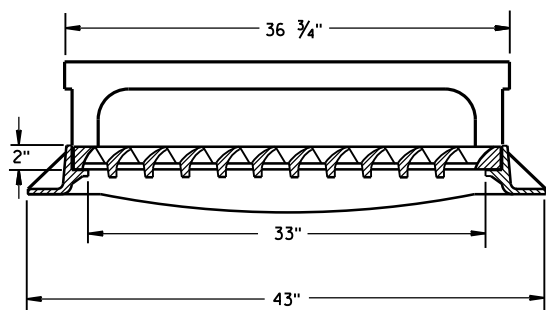
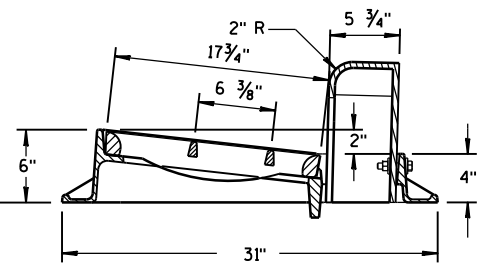
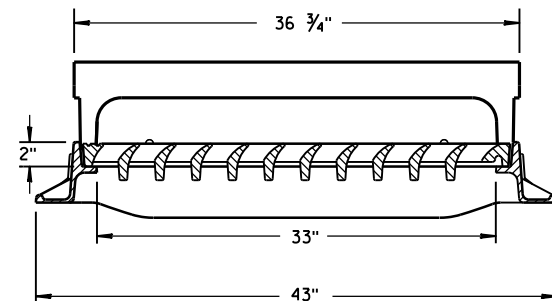
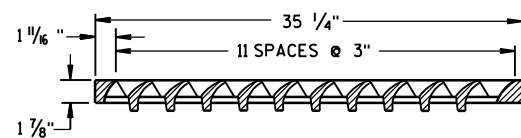


SEE LOGO
DETAIL

NOTE:
GRATE IS REVERSIBLE.

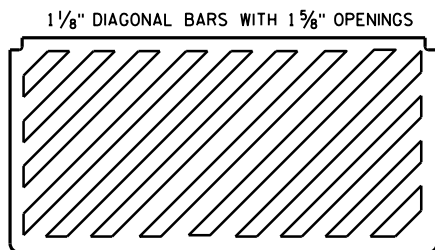


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



TYPE "H"

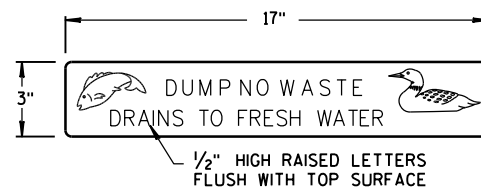
NOTE: EITHER CASTING IS ACCEPTABLE



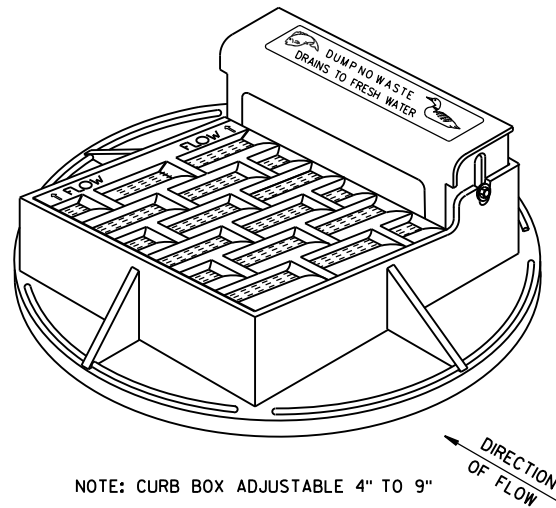
**SPECIAL GRATE FOR
TYPE "H" COVER**

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

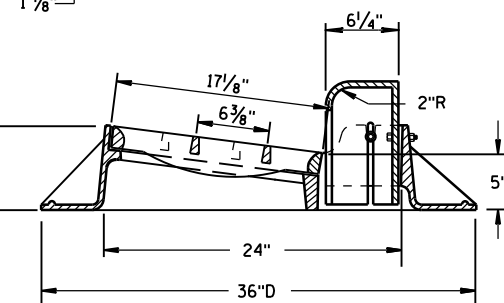
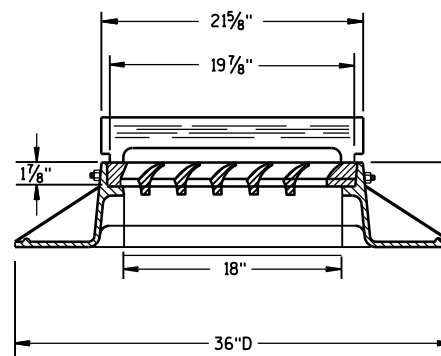
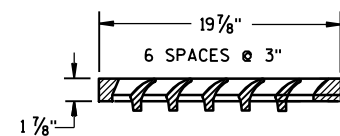
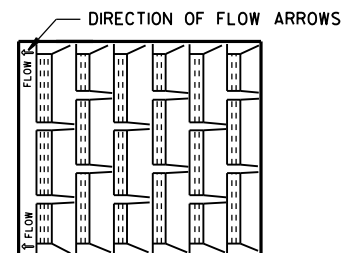


LOGO DETAIL

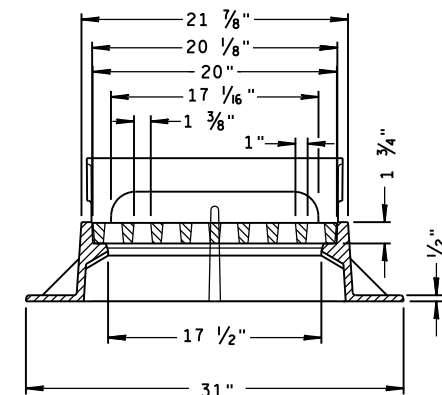
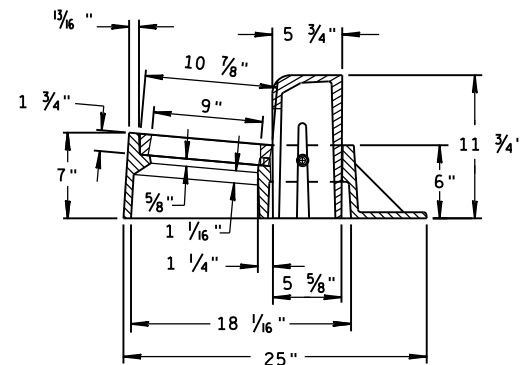


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

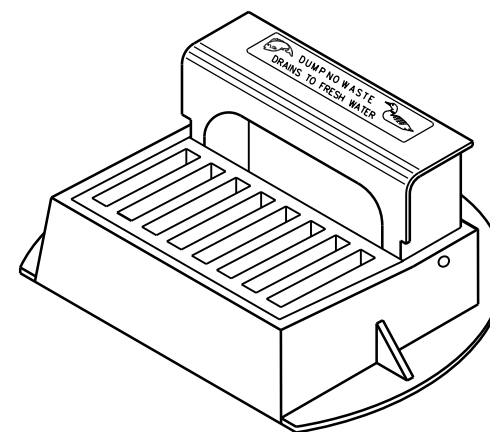
NOTE:
GRATE IS REVERSIBLE.



TYPE "A"



TYPE "Z"



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

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED

11-27-13

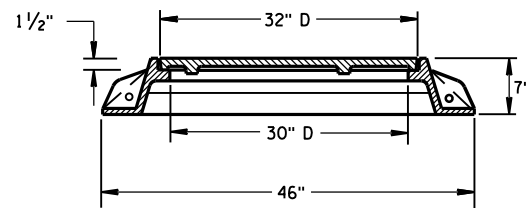
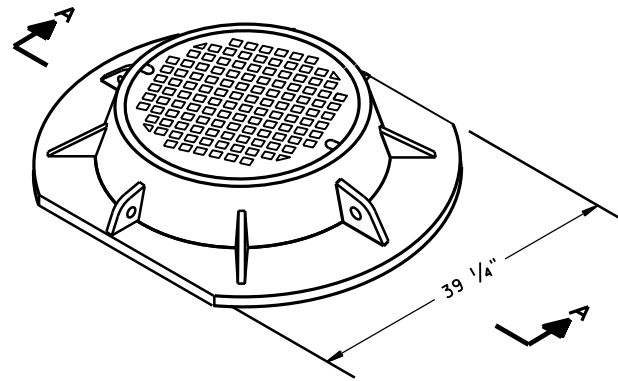
DATE

FHWA

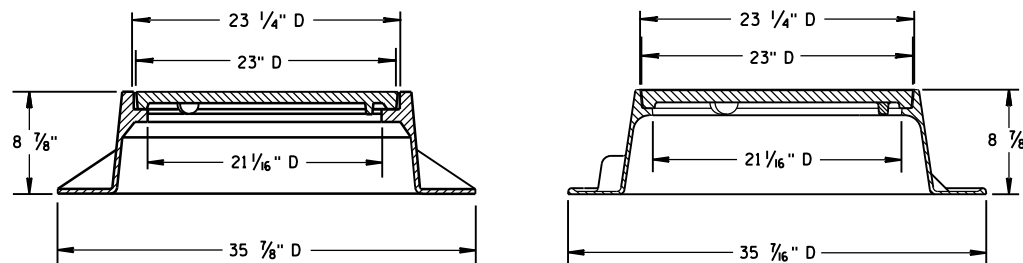
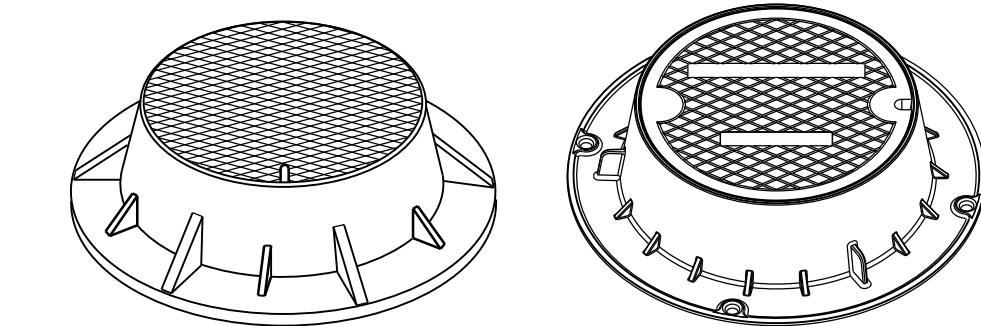
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

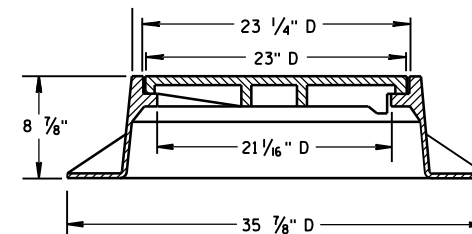
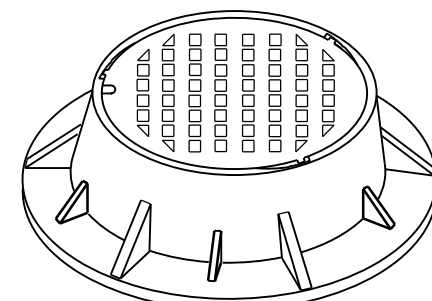
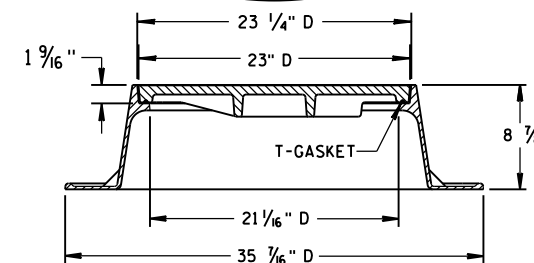
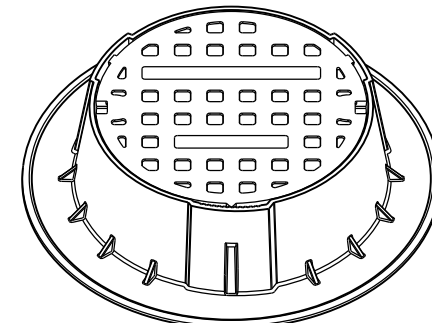


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

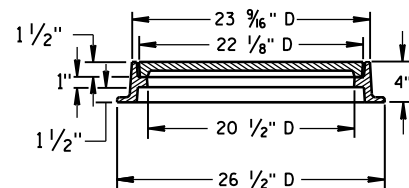
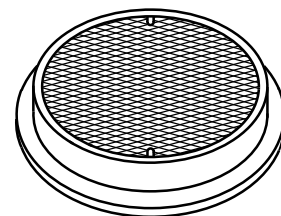


TYPE "J" SPECIAL

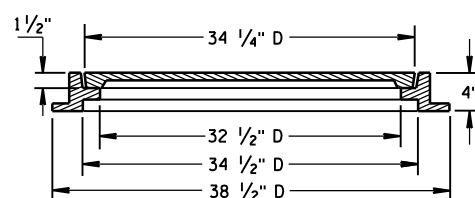
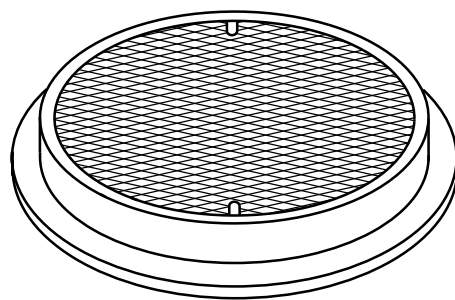
TYPE "B" NON-ROCKING SELF-SEAL LID

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

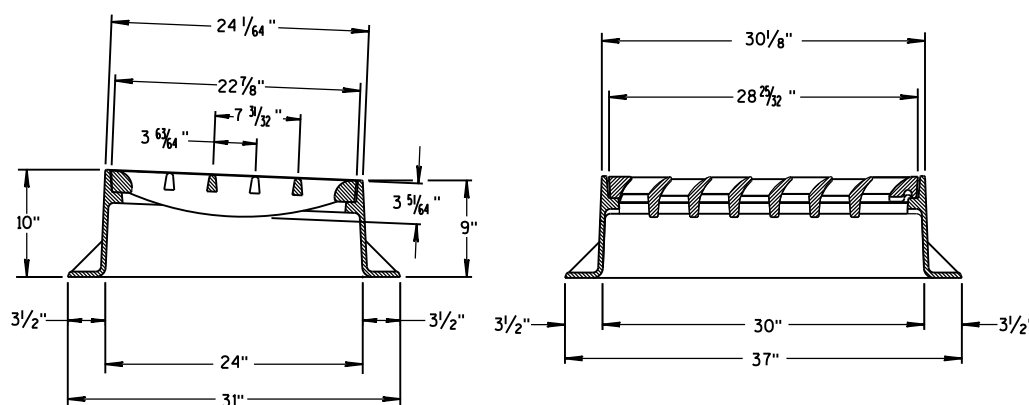
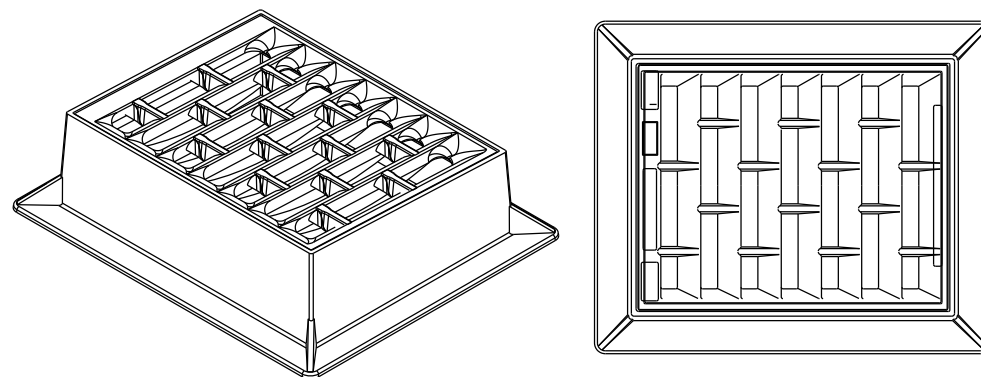
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

GENERAL NOTES

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

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

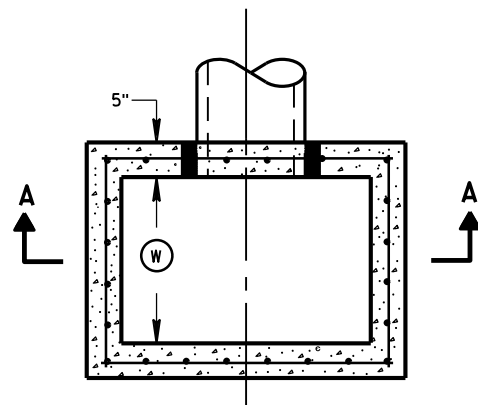
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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

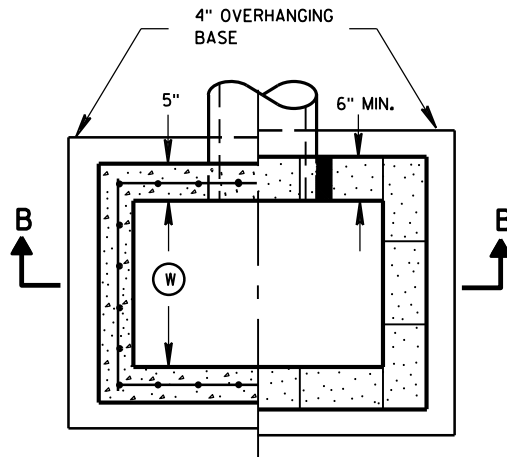
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

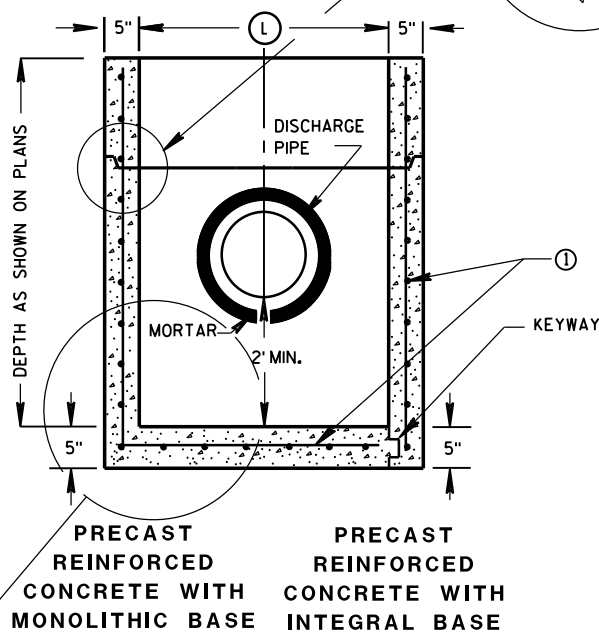
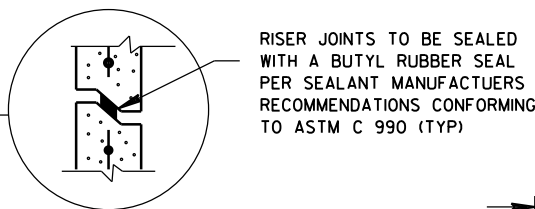
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



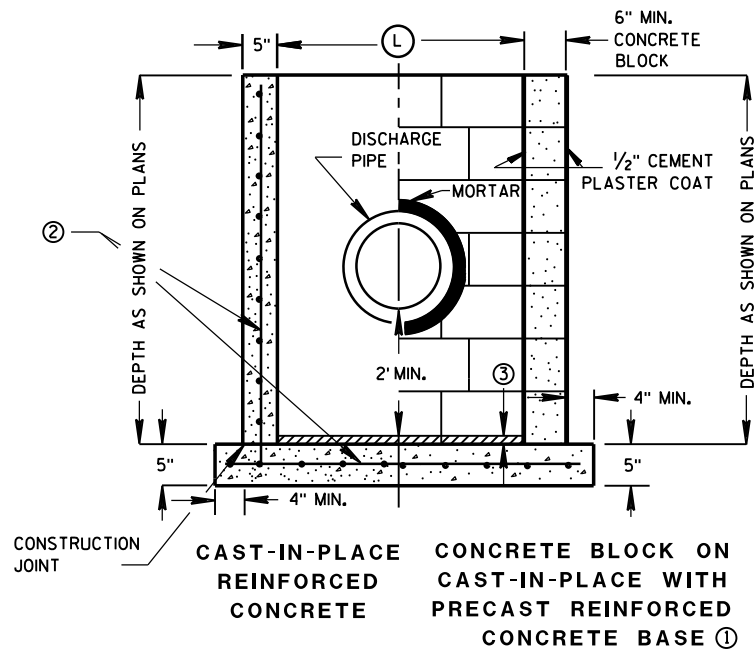
PLAN VIEW



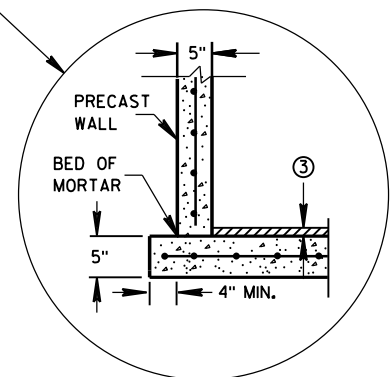
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

CATCH BASINS 2X3-FT AND 2.5X3-FT

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN 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 CATCH BASIN 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 FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

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

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

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

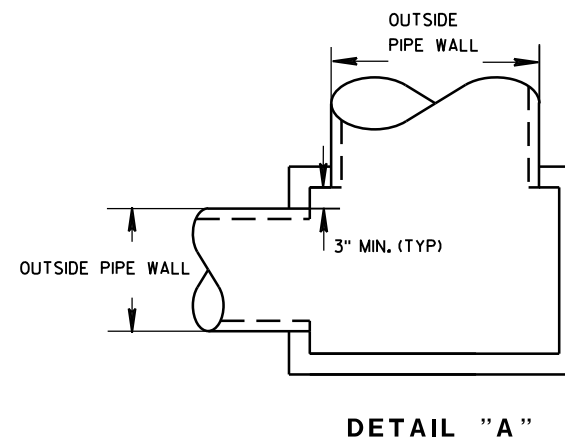
- ① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.
- ③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2" SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE	WIDTH ① (FT)	LENGTH ② (FT)	F	ALL H'S
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24

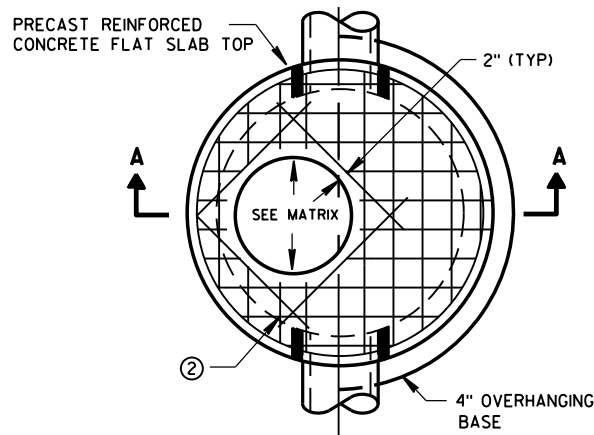


DETAIL "A"

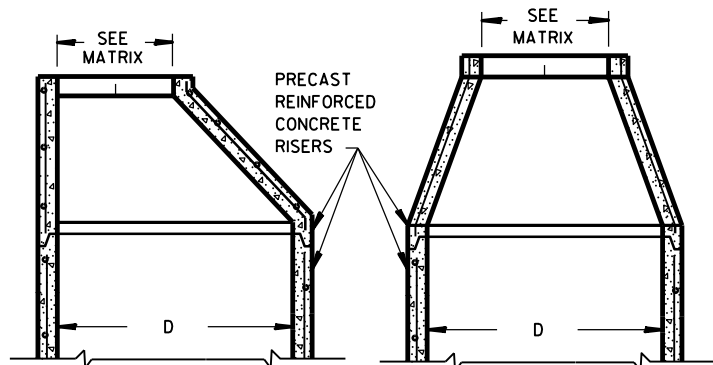
CATCH BASINS 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

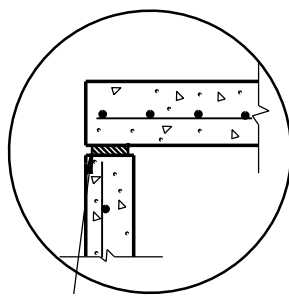


PLAN VIEW CIRCULAR OPENING

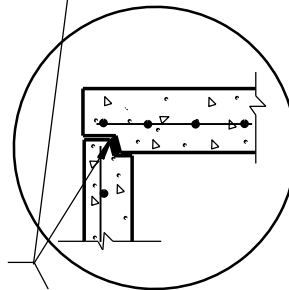


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

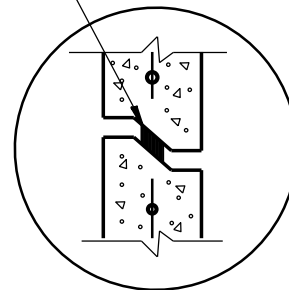
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



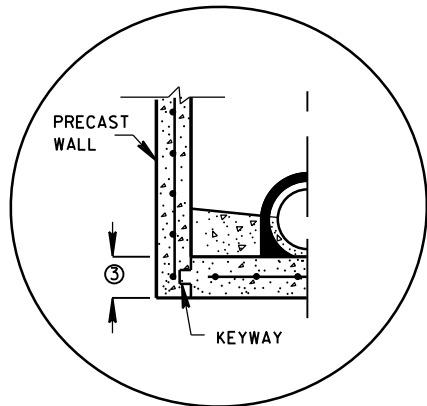
TOP WITH TONGUE AND GROOVE JOINT



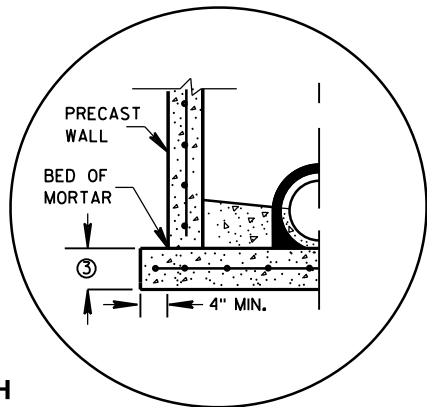
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

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

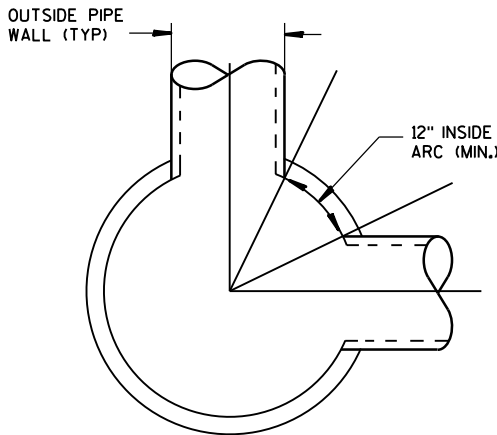


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

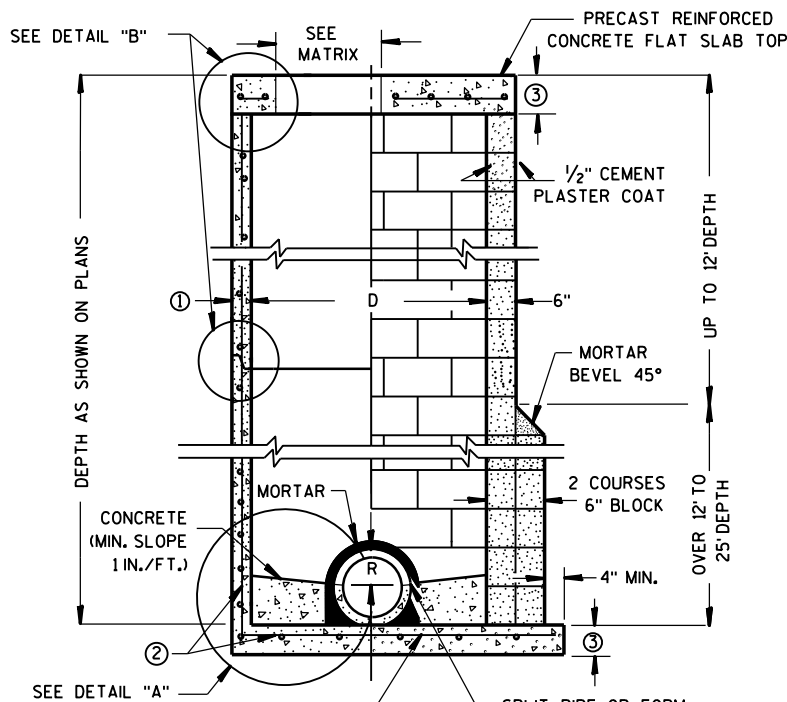


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



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

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

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

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION 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.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

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

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

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

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

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

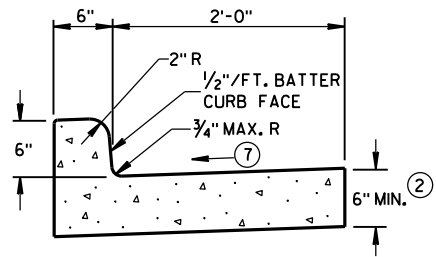
PIPE MATRIX

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

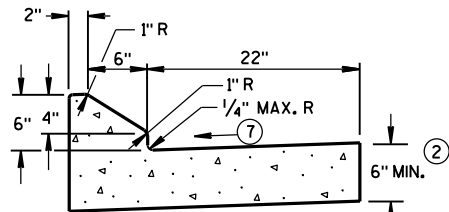
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

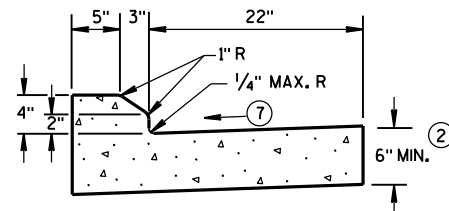
APPROVED
DATE: Sept., 2016
FOR: /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



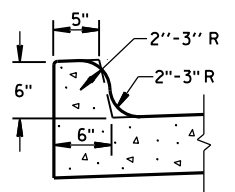
TYPES A^① & D



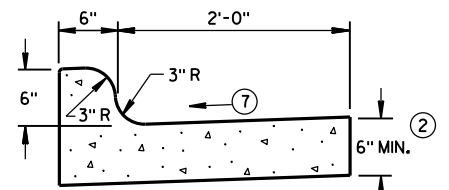
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

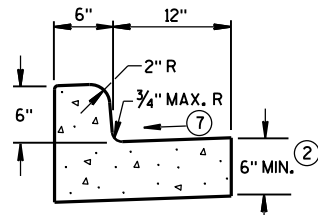


TYPES K^① & L
(OPTIONAL CURB SHAPE)



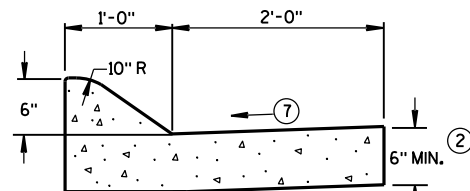
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

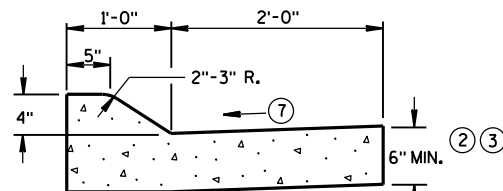


TYPES A^① & D

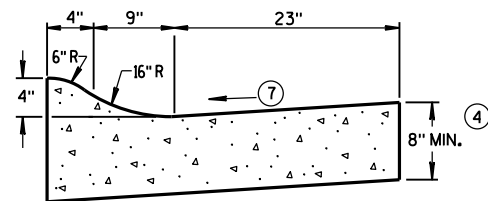
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

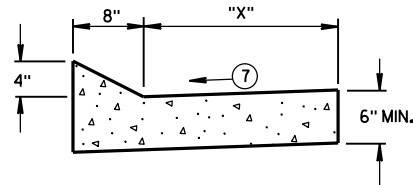


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

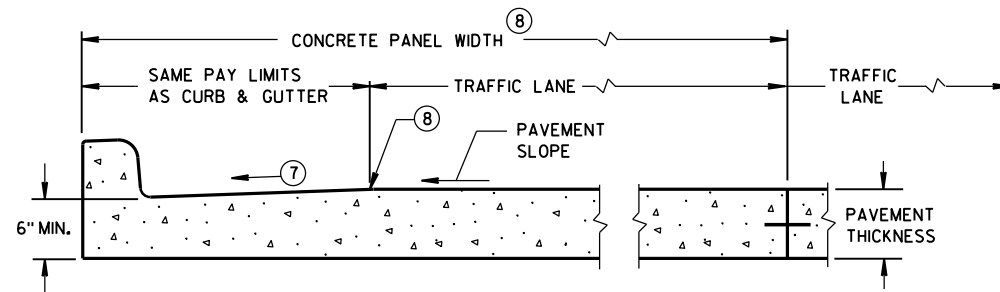
CONCRETE CURB & GUTTER 36"



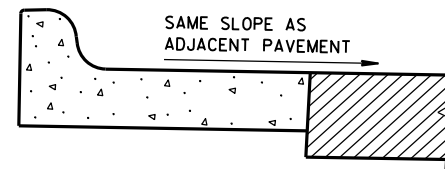
TYPES TBT & TBTT^①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER^⑥
(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.

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, R AND TBTT.
- 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 USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ 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.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

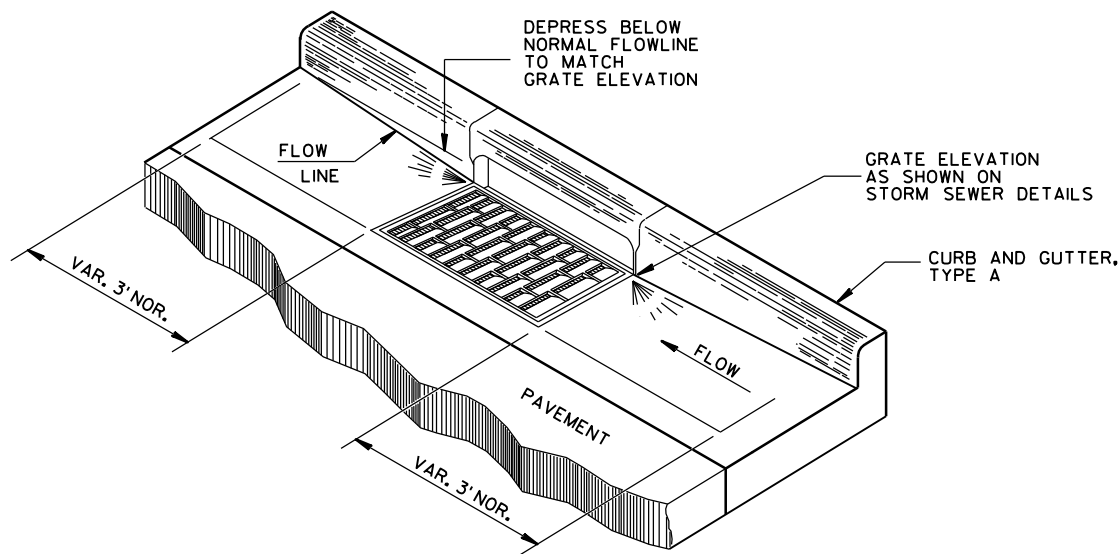
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

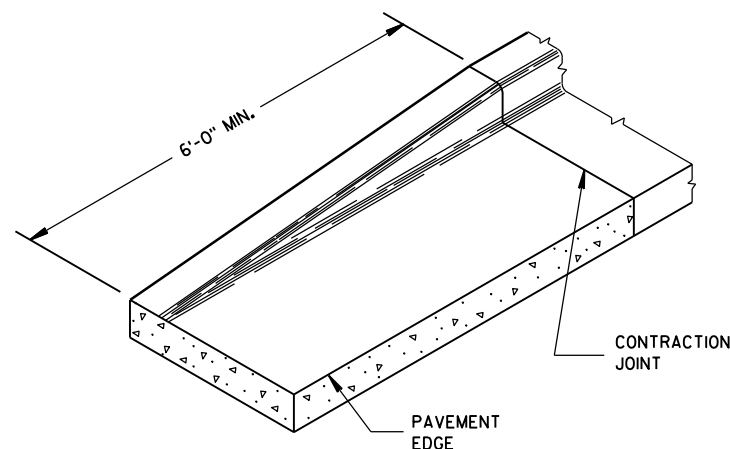
* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

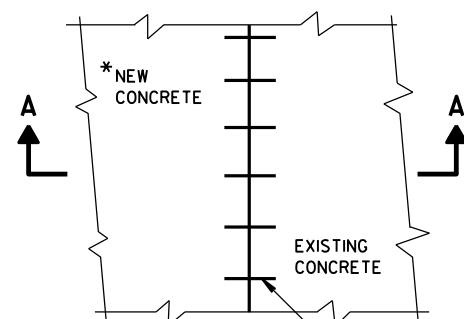
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



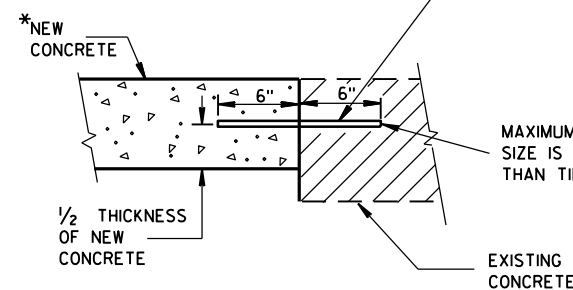
DETAIL OF CURB AND GUTTER AT INLETS
(TYPE H INLET COVER SHOWN)



END SECTION CURB & GUTTER



PLAN VIEW



TIE BARS DRILLED
INTO EXISTING PAVEMENT

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

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

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

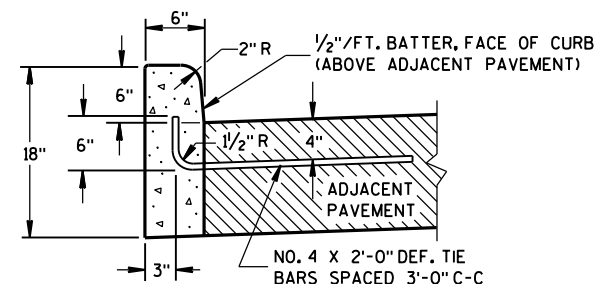
GENERAL NOTES

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

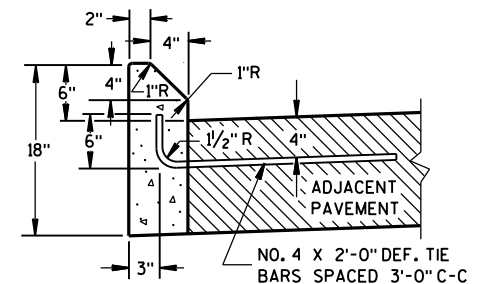
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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, R AND TBTT.
- 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.
- ⑨ REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

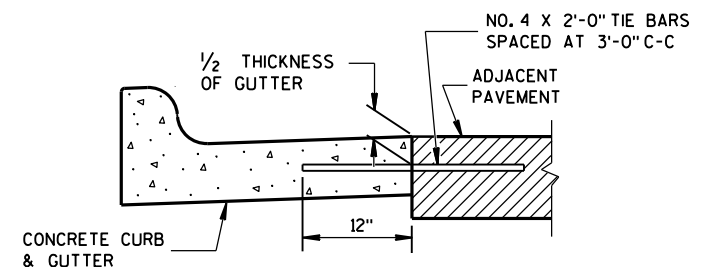


TYPES A^① & D

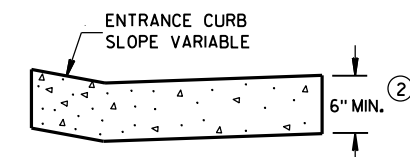


TYPES G^① & J

CONCRETE CURB

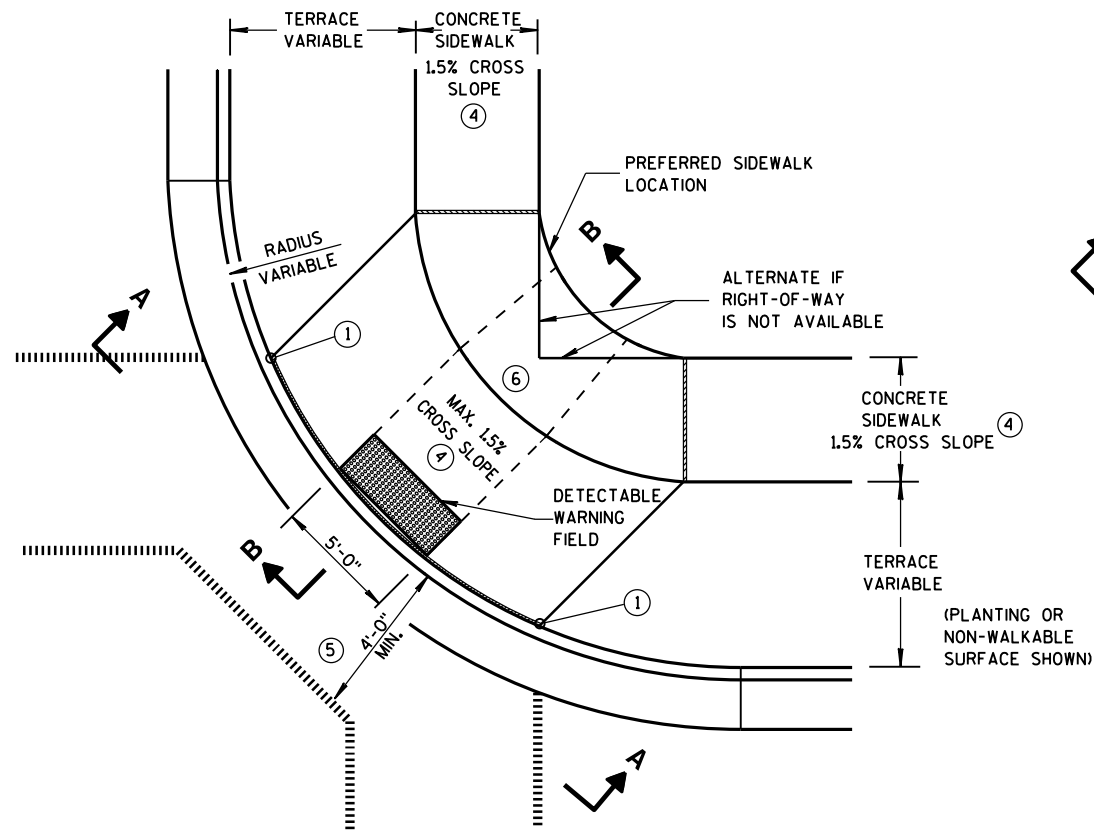


TYPICAL TIE BAR LOCATION^①

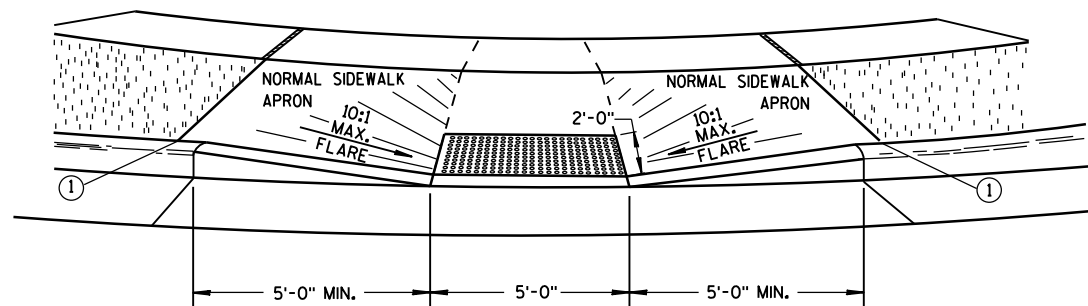


DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2017 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

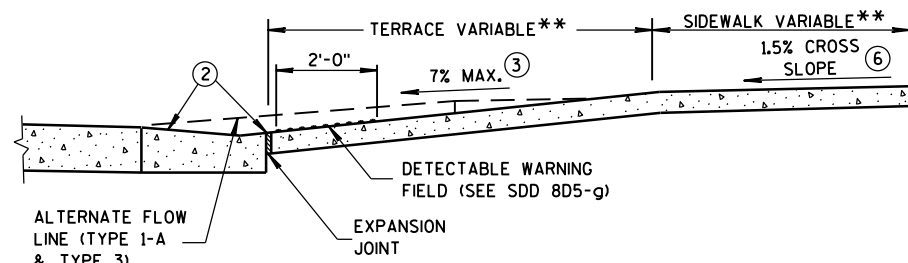


**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)

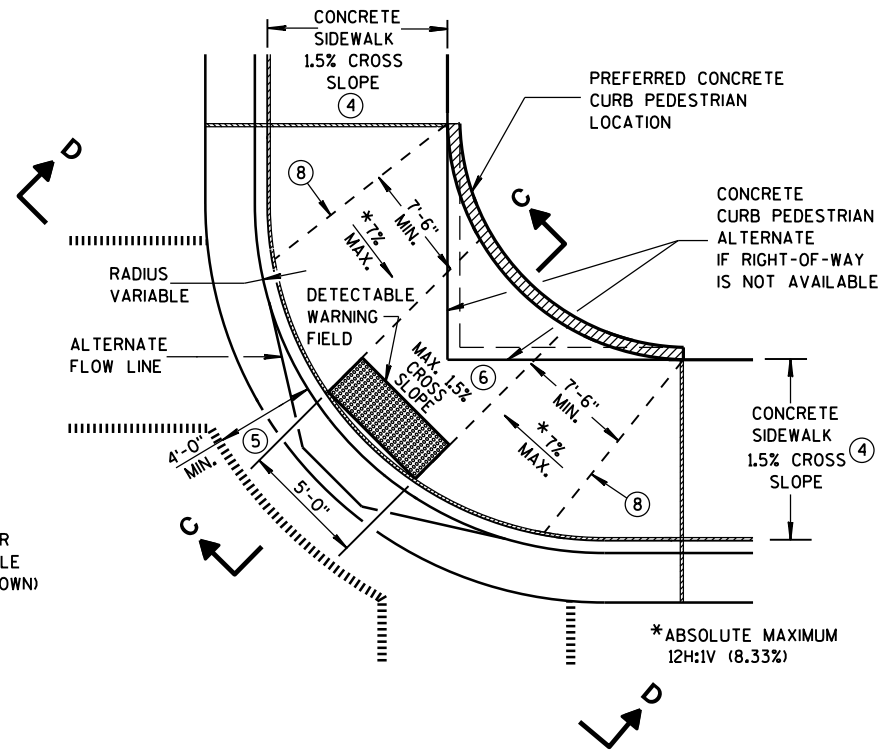


VIEW A-A

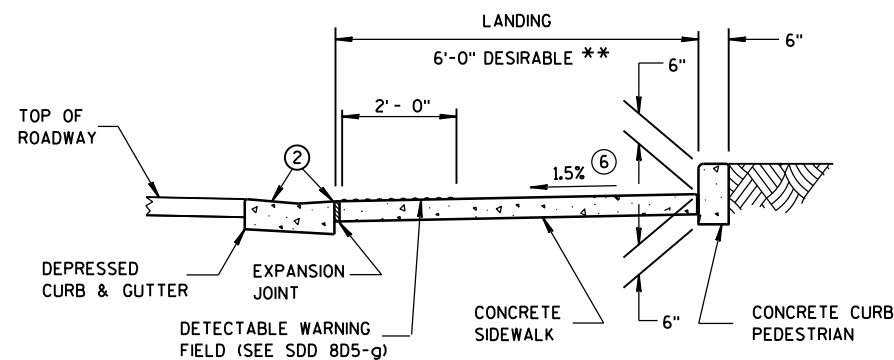
** WIDTH SHOWN ELSEWHERE
IN THE PLANS



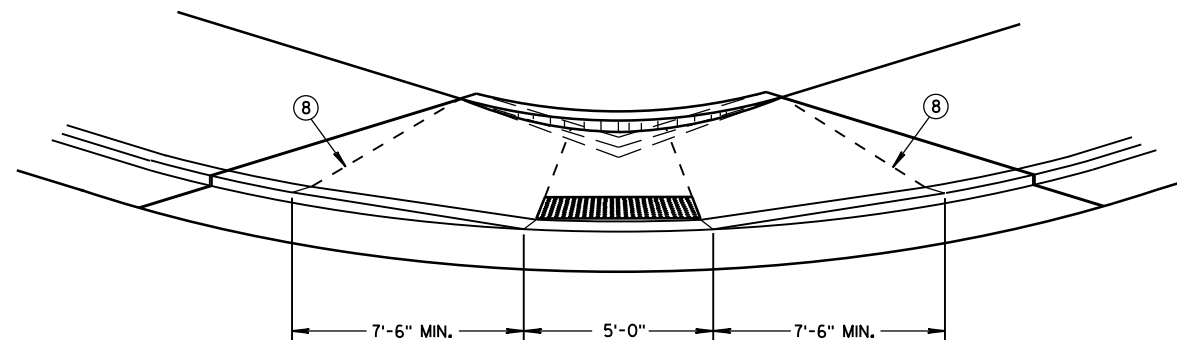
SECTION B-B



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



SECTION C-C



VIEW D-D

GENERAL NOTES

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

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

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

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

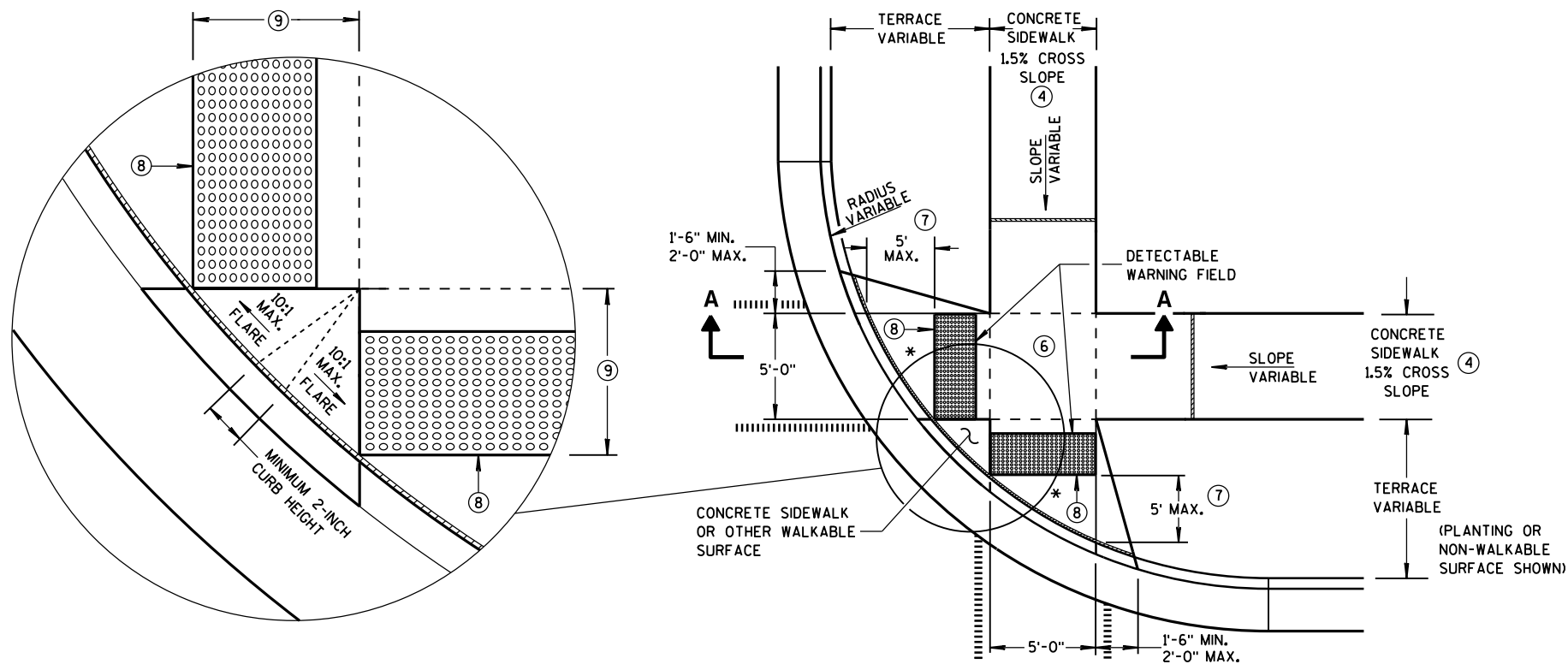
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

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

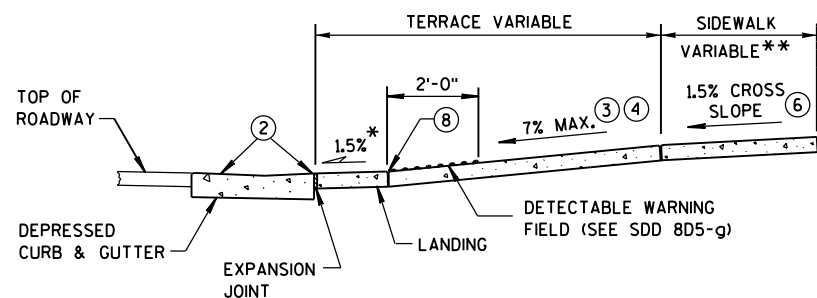
**CURB RAMPS
TYPES 1 AND 1-A**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



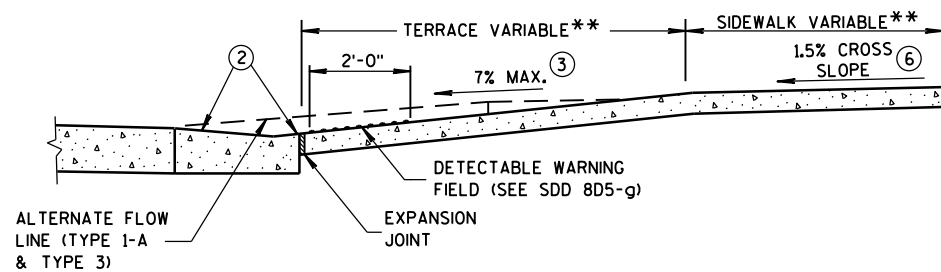
**PLAN VIEW
TYPE 2 RAMP**
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE
IN ALL DIRECTIONS IN
FRONT OF GRADE BREAK



SECTION A-A

** WIDTH SHOWN ELSEWHERE
IN THE PLANS



SECTION B-B

GENERAL NOTES

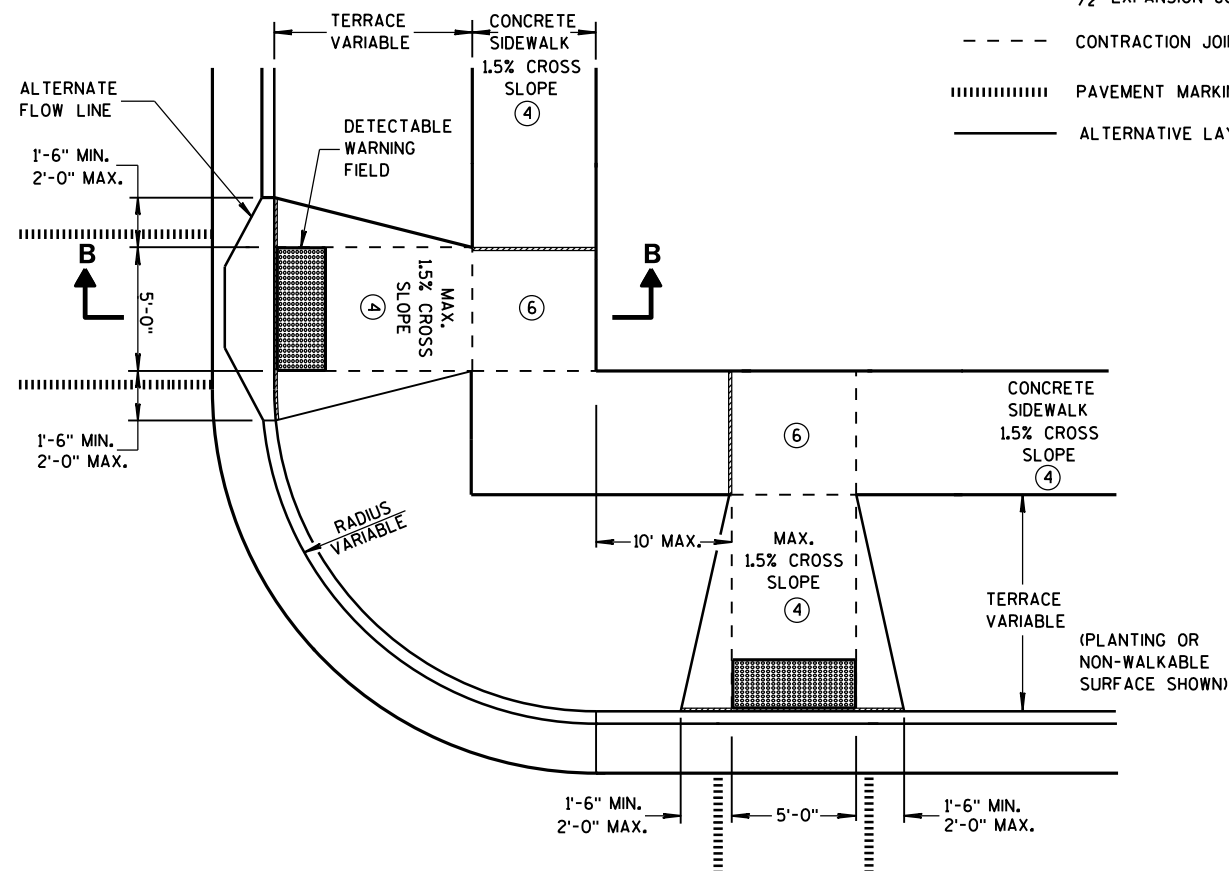
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑨ WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

LEGEND

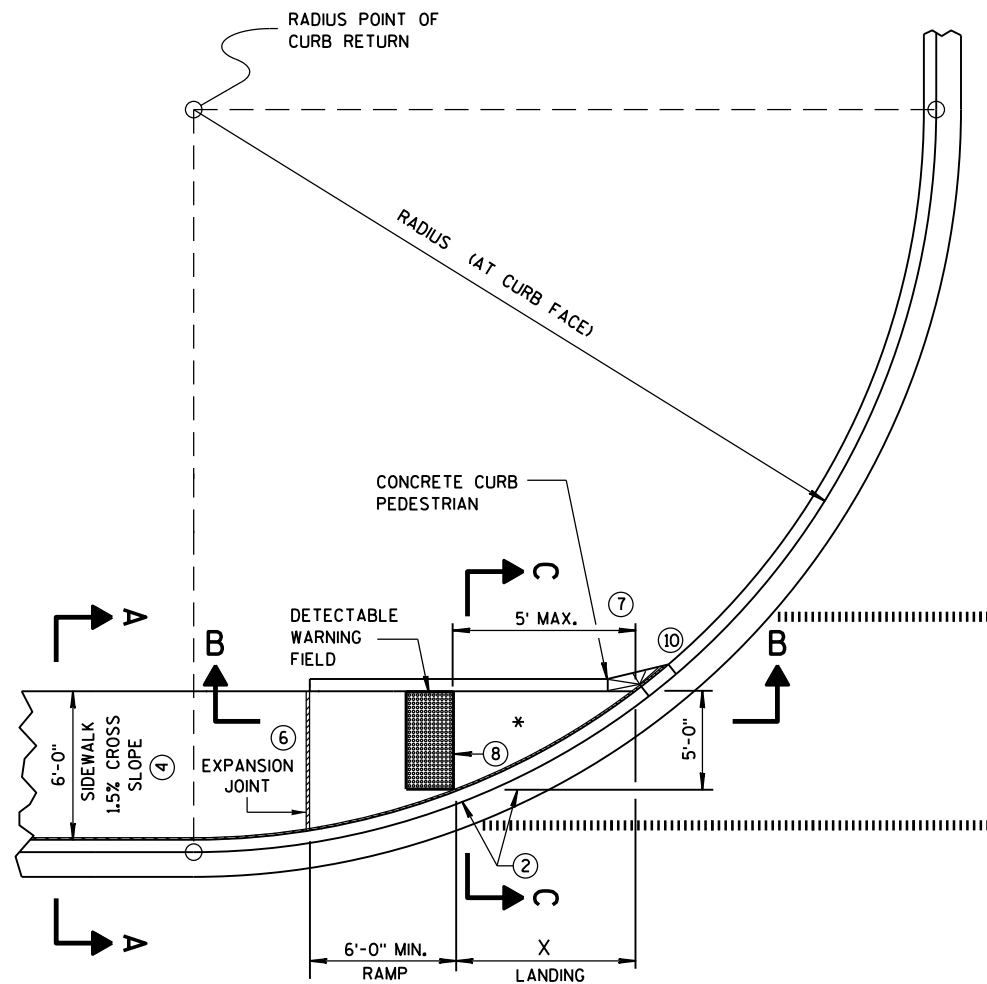
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



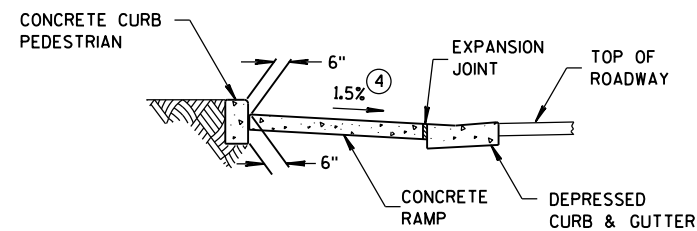
**PLAN VIEW
TYPE 3 RAMP**
(OUTSIDE OF CROSSWALK AREA)

**CURB RAMPS
TYPES 2 AND 3**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

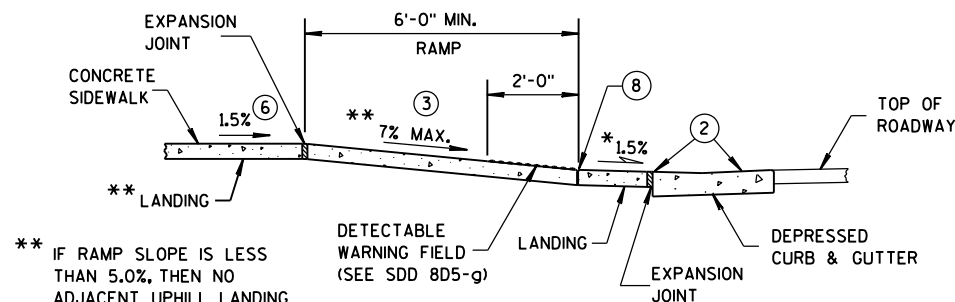


CURB RAMP TYPE 4A
PLAN VIEW



SECTION C-C FOR TYPE 4A

* MAXIMUM 2.0% SLOPE
IN ALL DIRECTIONS IN
FRONT OF GRADE BREAK

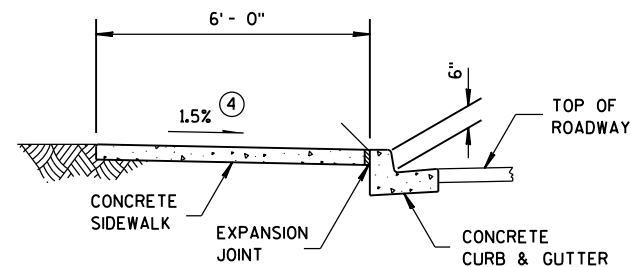


SECTION B-B FOR TYPE 4A

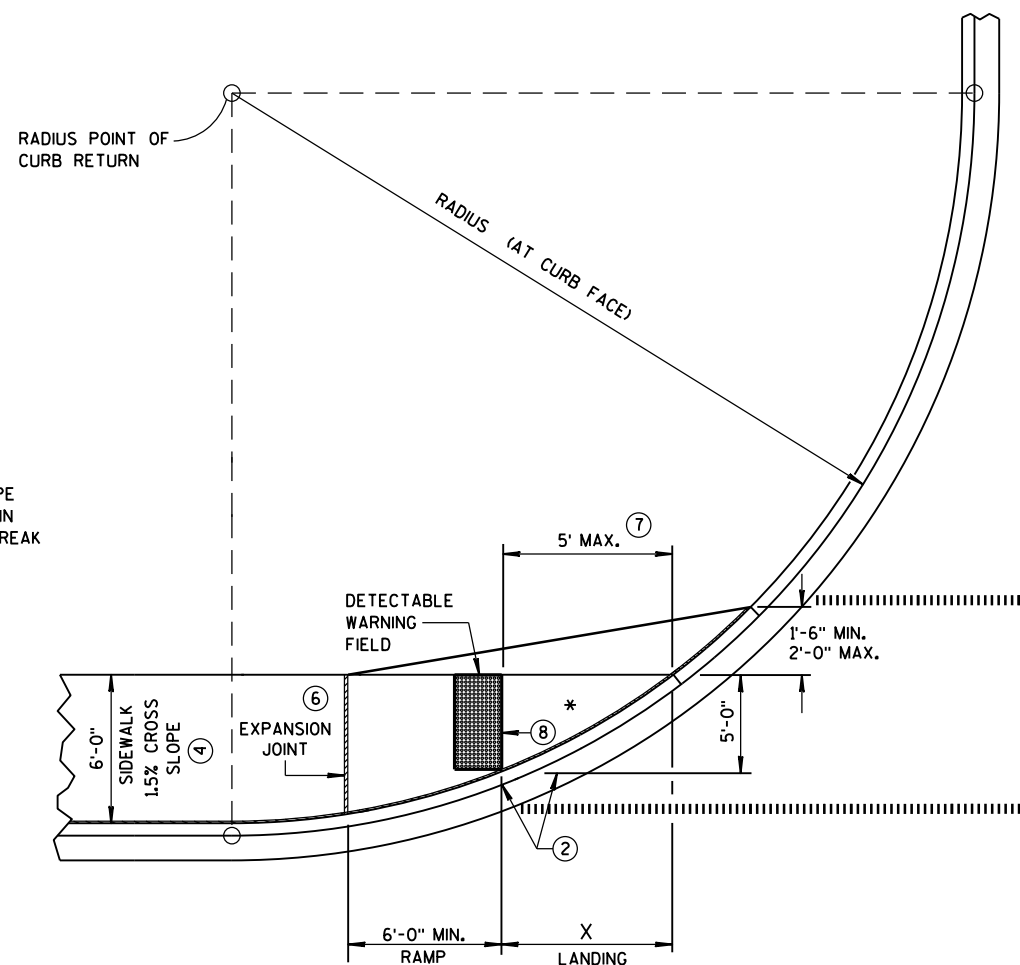
** IF RAMP SLOPE IS LESS
THAN 5.0%, THEN NO
ADJACENT UPHILL LANDING
IS REQUIRED

RADIUS (AT CURB FACE)	X
10 FEET	4'-7"
15 FEET	6'-5½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A



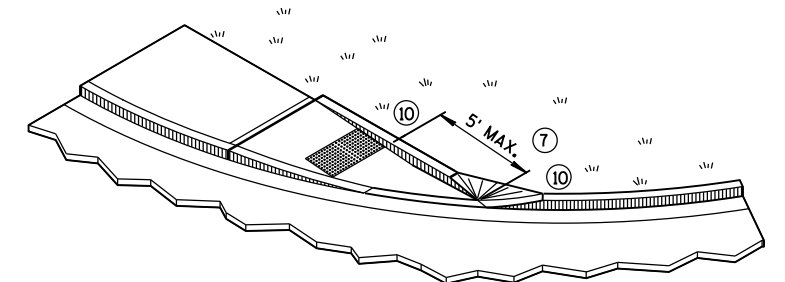
CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

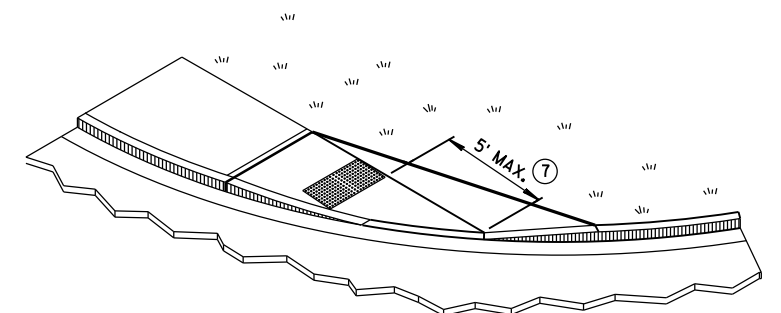
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



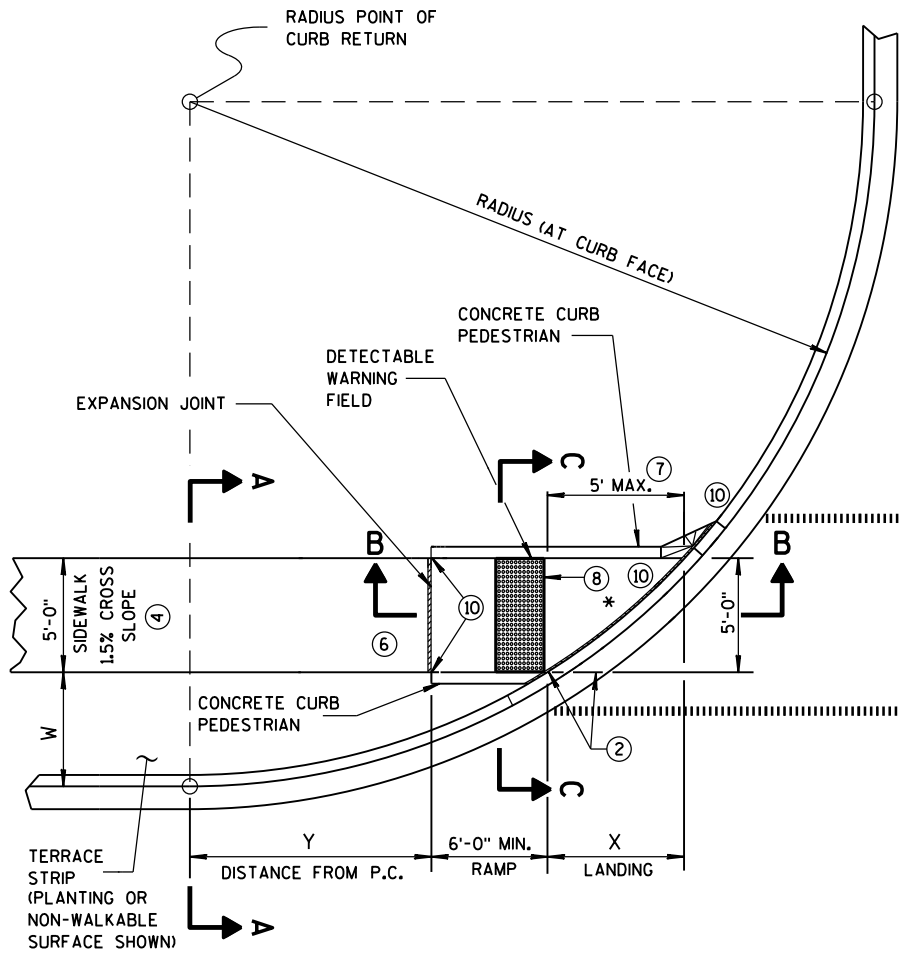
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

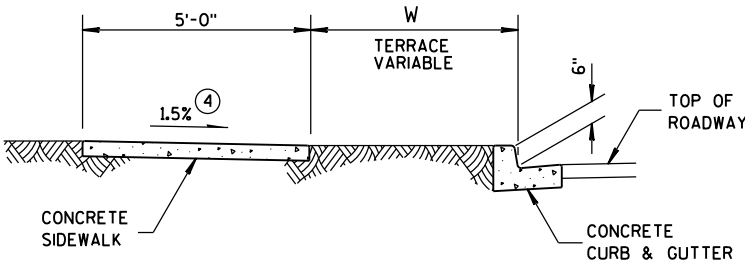
- ½" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

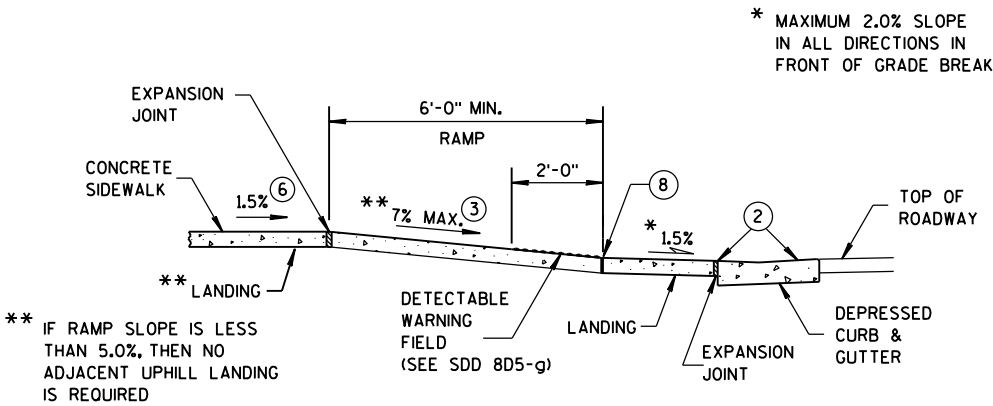
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 4B
PLAN VIEW**



SECTION A-A FOR TYPE 4B



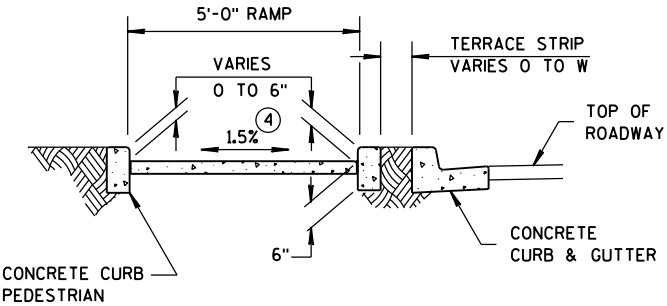
SECTION B-B FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2'-10 1/4"	0'-5"	2'-1"	1'-4 1/2"	1'-5"	2'-1"	0'-10"	2'-7 1/2"	0'-3 1/4"	3'-0 1/4"						
15 FEET	4'-6 3/4"	2'-1 3/4"	3'-9"	3'-5 1/4"	3'-1 1/4"	4'-6"	2'-6 3/4"	5'-4 1/2"	2'-1"	6'-1"	1'-8"	6'-8 1/2"	1'-3 1/4"	7'-2 1/2"	0'-10 3/4"	7'-7 1/4"
20 FEET	5'-9 3/4"	3'-6 1/2"	4'-11 1/2"	5'-1 3/4"	4'-3 1/4"	6'-5 1/2"	3'-8 3/4"	7'-7"	3'-3"	8'-6 1/2"	2'-10"	9'-4 1/2"	2'-5 1/2"	10'-1 1/4"	2'-1 1/4"	10'-9"
30 FEET			6'-9 1/4"	7'-11 1/4"	6'-0 1/4"	9'-8"	5'-5"	11'-1 3/4"	4'-10 3/4"	12'-5 3/4"	4'-5 1/2"	13'-7 3/4"	4'-0 3/4"	14'-8 1/2"	3'-8 1/2"	15'-8 1/4"
40 FEET									6'-1 3/4"	15'-8 1/2"	5'-8"	17'-2"	5'-3"	18'-5 3/4"	4'-10 3/4"	19'-8 1/4"
50 FEET															5'-10 1/4"	23'-2"

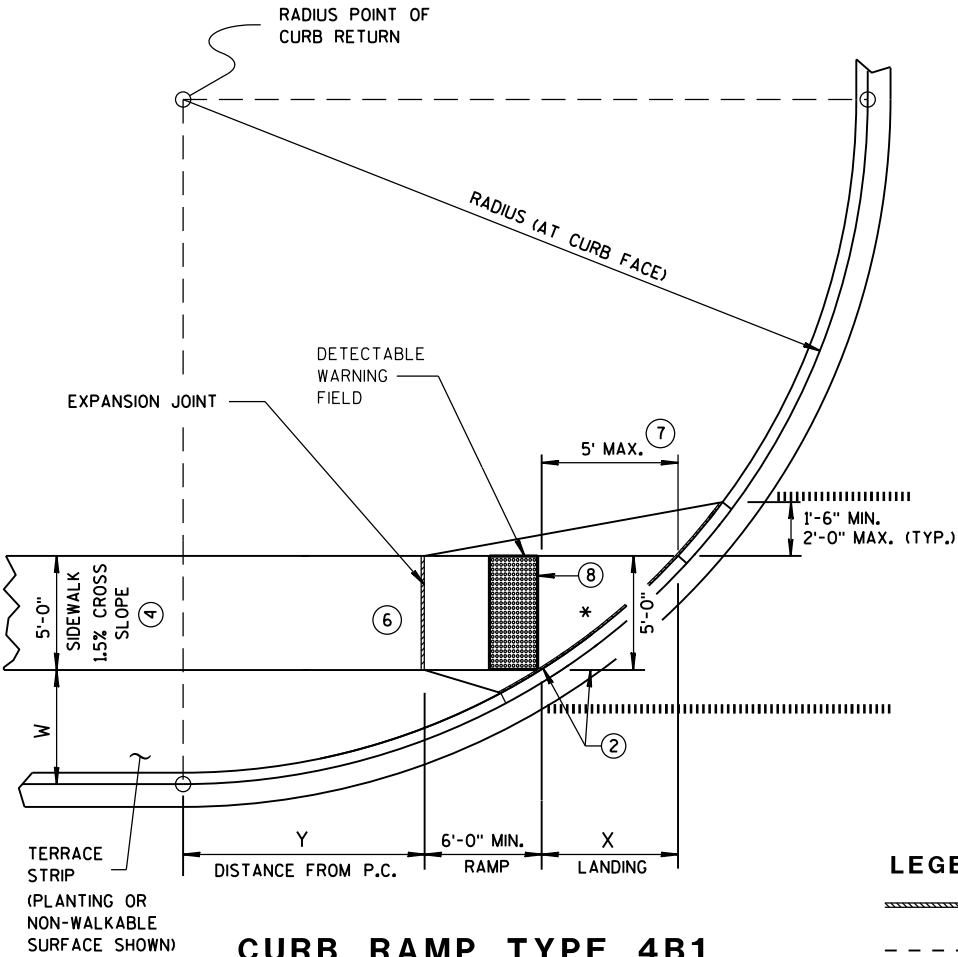
INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

GENERAL NOTES

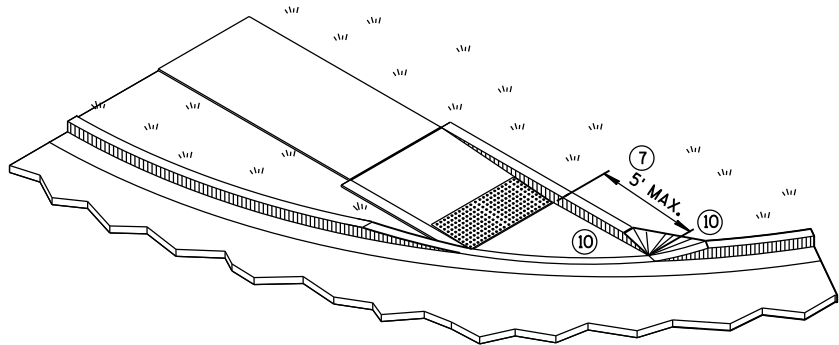
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



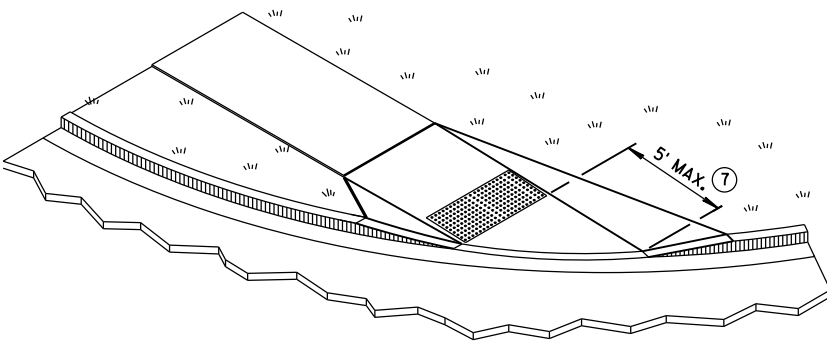
SECTION C-C FOR TYPE 4B



**CURB RAMP TYPE 4B1
PLAN VIEW**



ISOMETRIC VIEW FOR TYPE 4B



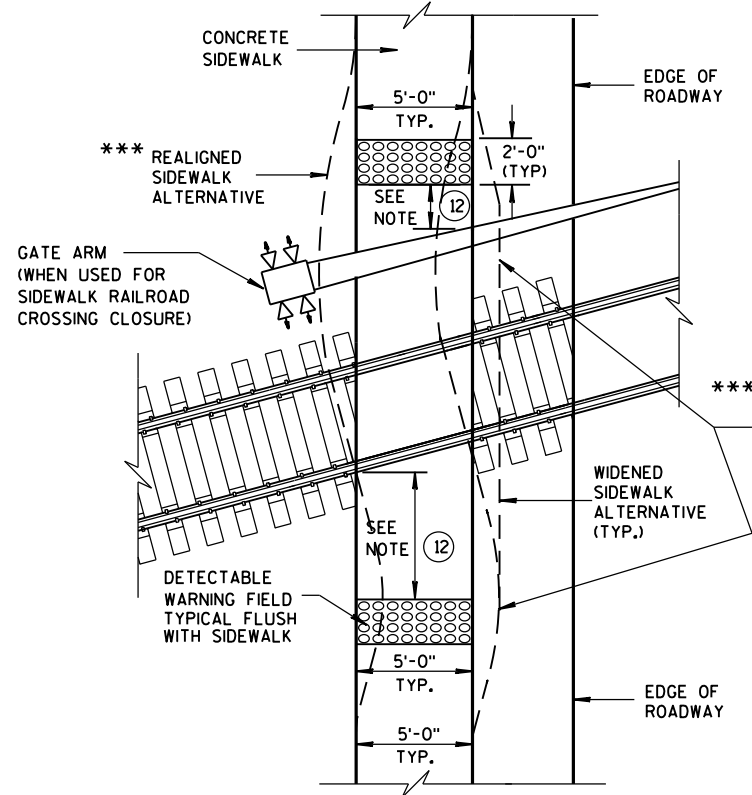
ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

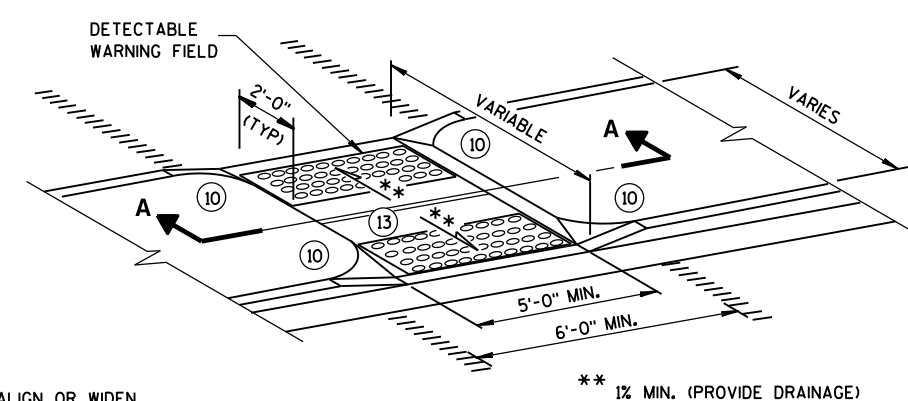
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



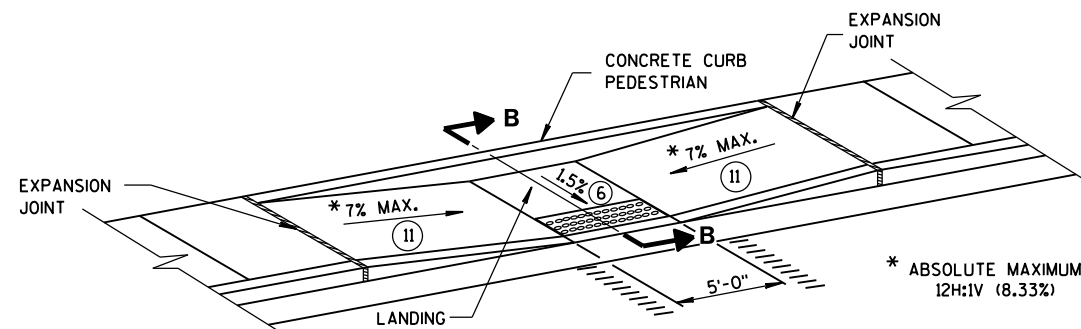
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



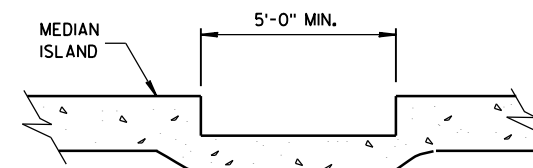
MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING
TYPE 5

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑩ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- ⑪ SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ⑫ THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 15 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.
- ⑬ DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2-FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

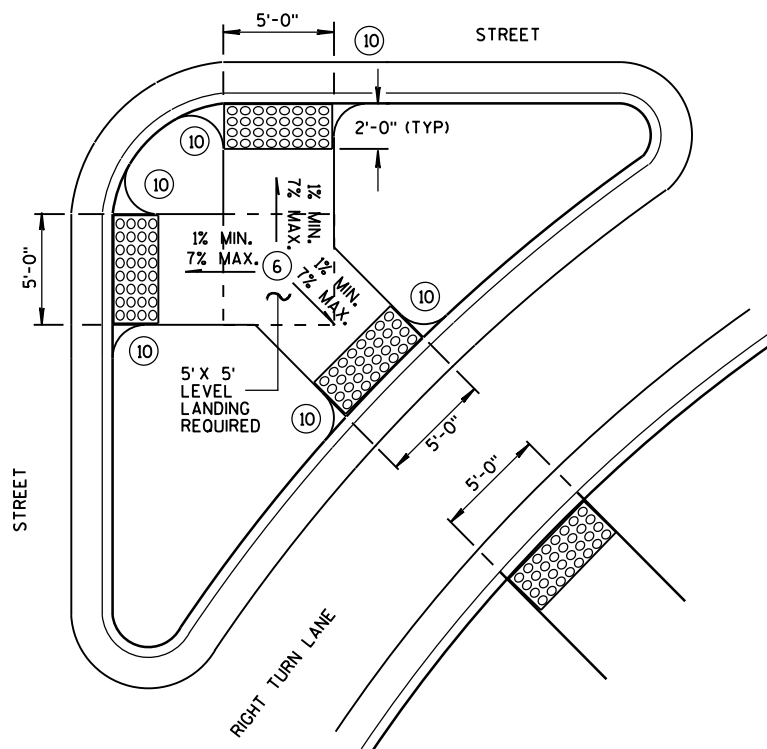


MID-BLOCK CROSSING
TYPE 7A

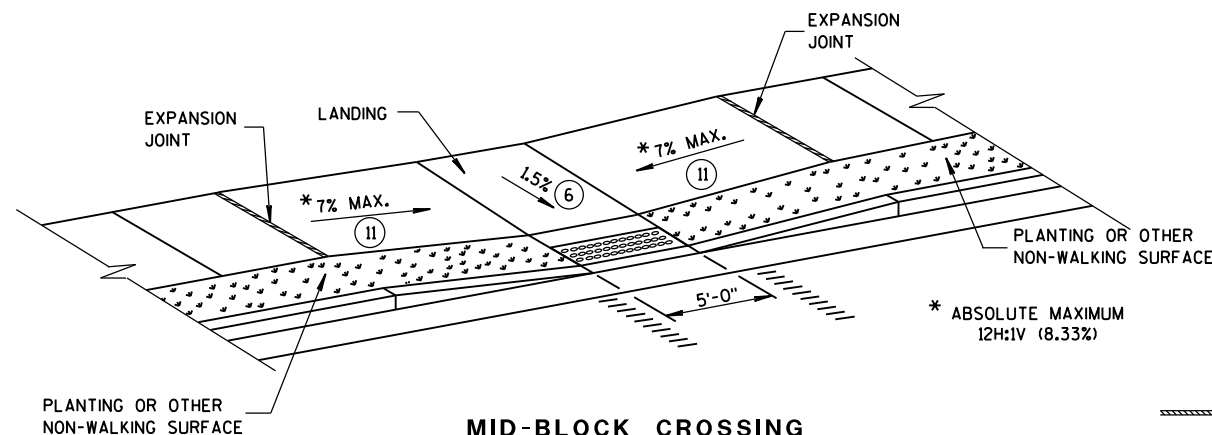


SECTION A-A

REFER TO GENERAL NOTES ② AND ③
FOR ALL ISLAND CURB RAMP

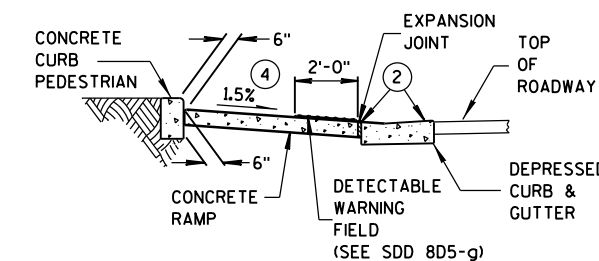


TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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



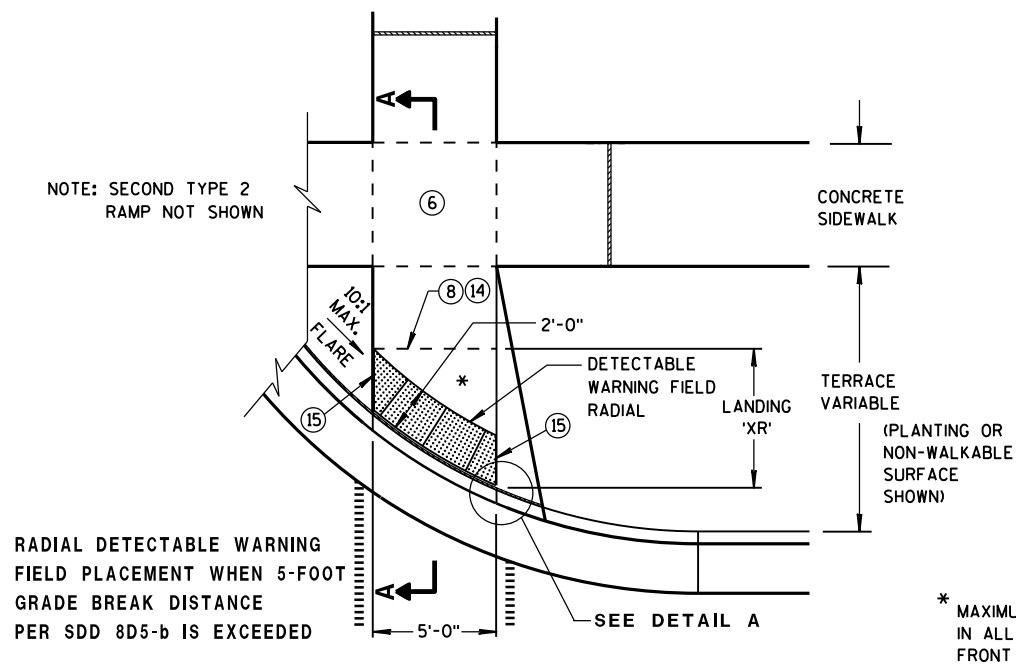
SECTION B-B

LEGEND

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

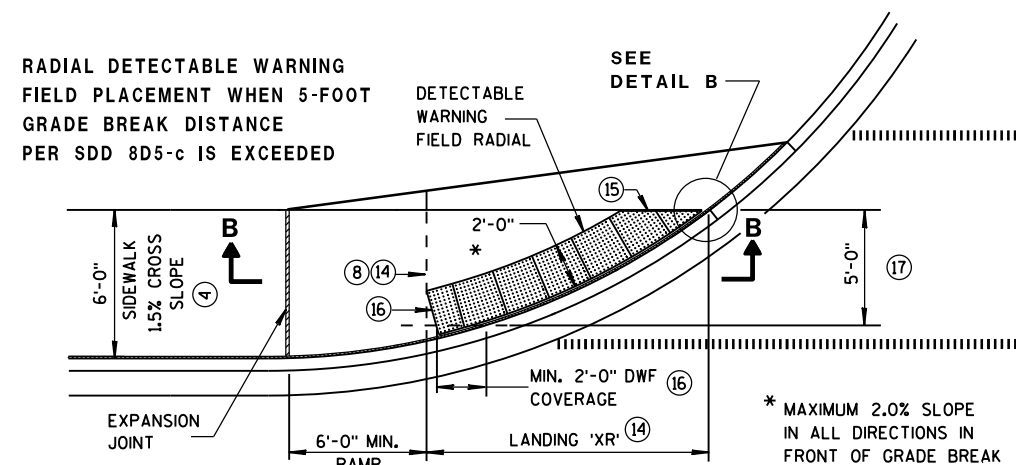
CURB RAMP
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



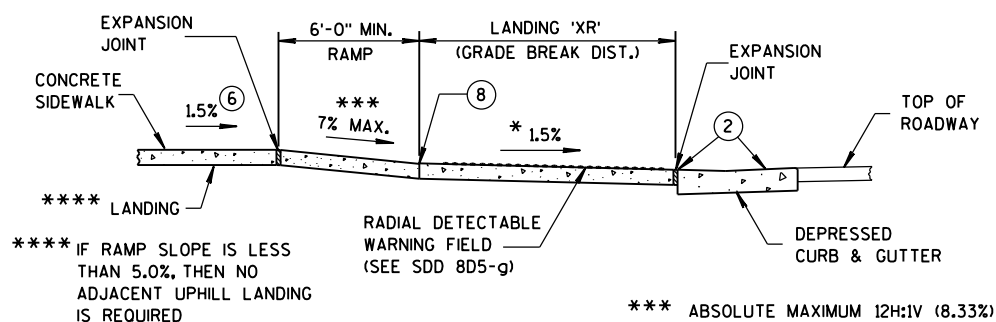
TYPE 2 RAMP PLAN VIEW

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)

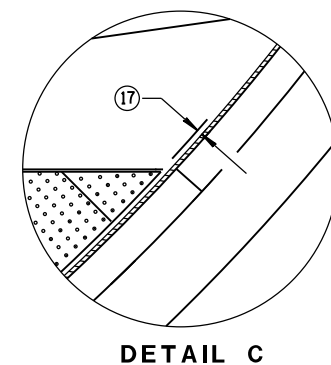
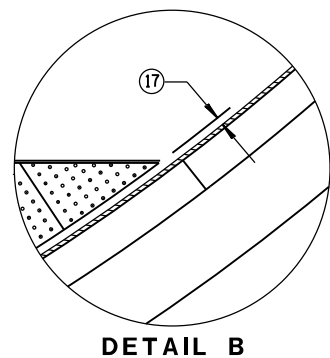
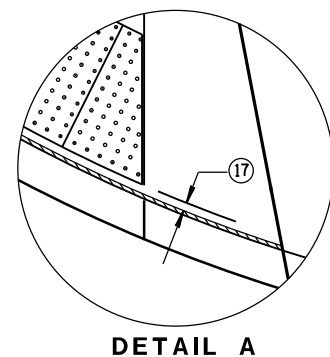
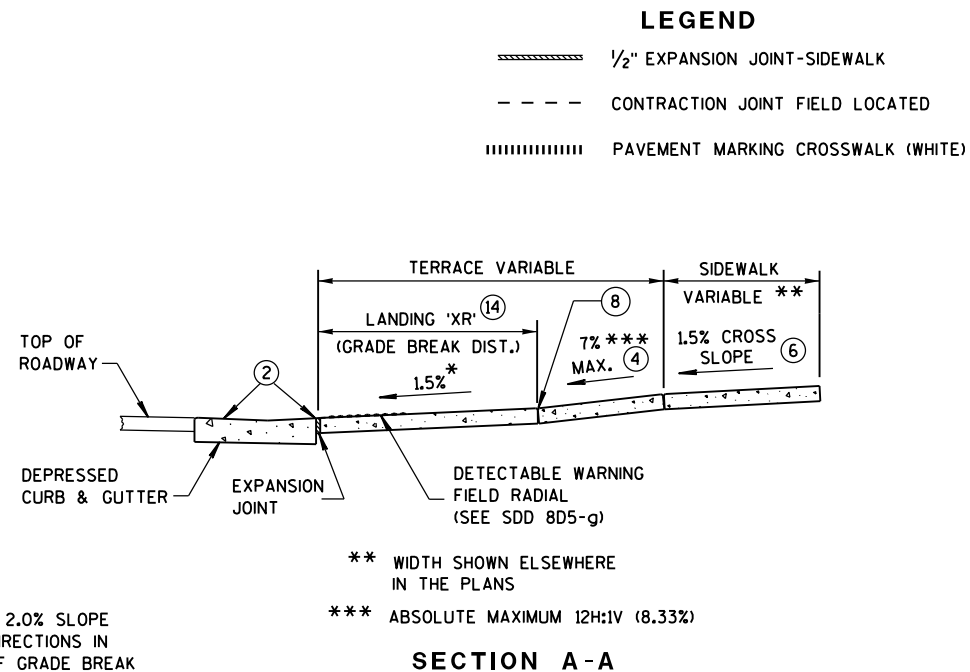


CURB RAMP TYPE 4A1 PLAN VIEW

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



SECTION B-B FOR TYPE 4A1



GENERAL NOTES

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

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

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

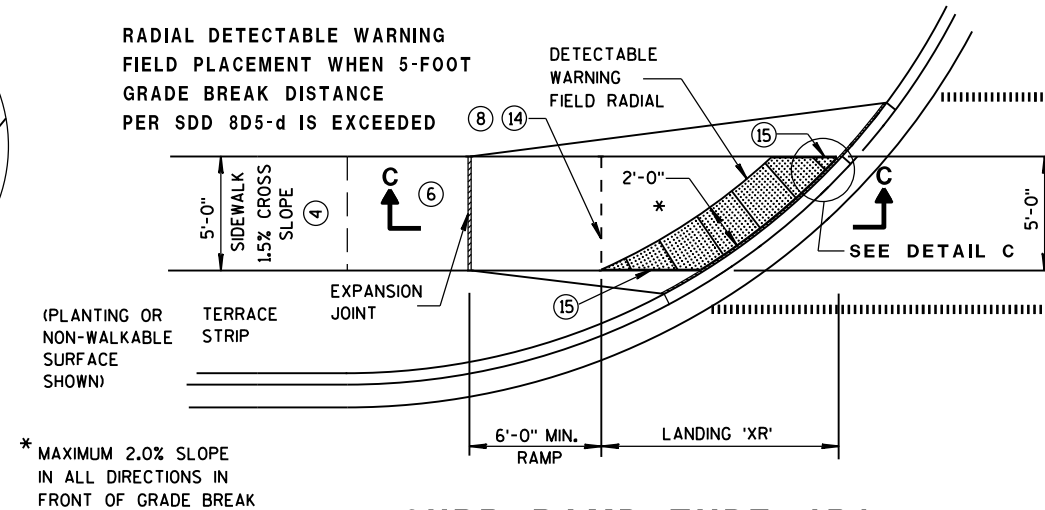
REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

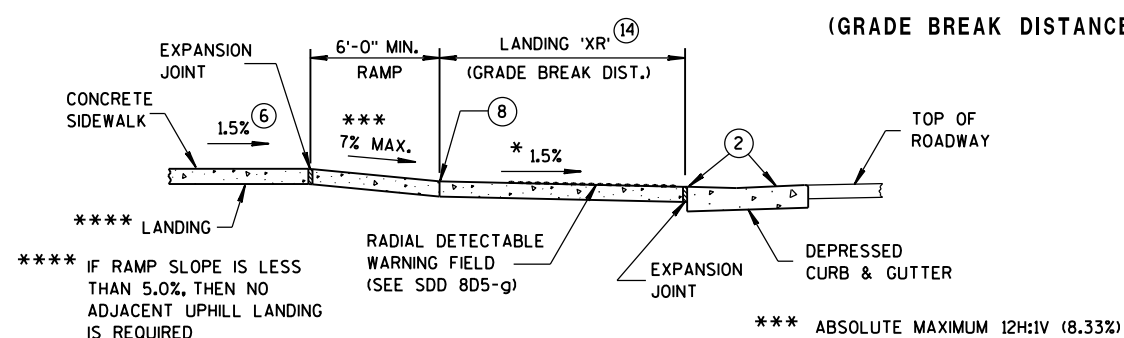
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION 'XR') REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
- FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
- USE 1'X 2' RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2'-0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
- A MAXIMUM 3-INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5-FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED



CURB RAMP TYPE 4B1 PLAN VIEW

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



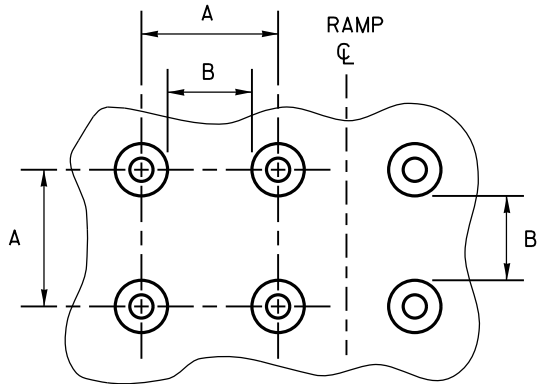
SECTION C-C FOR TYPE 4B1

**CURB RAMPS
RADIAL DETECTABLE WARNING
FIELD APPLICATIONS**

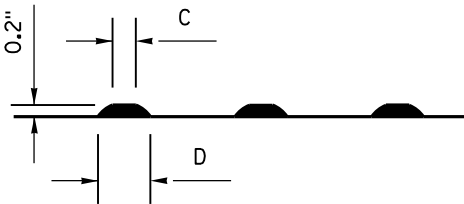
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

	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.

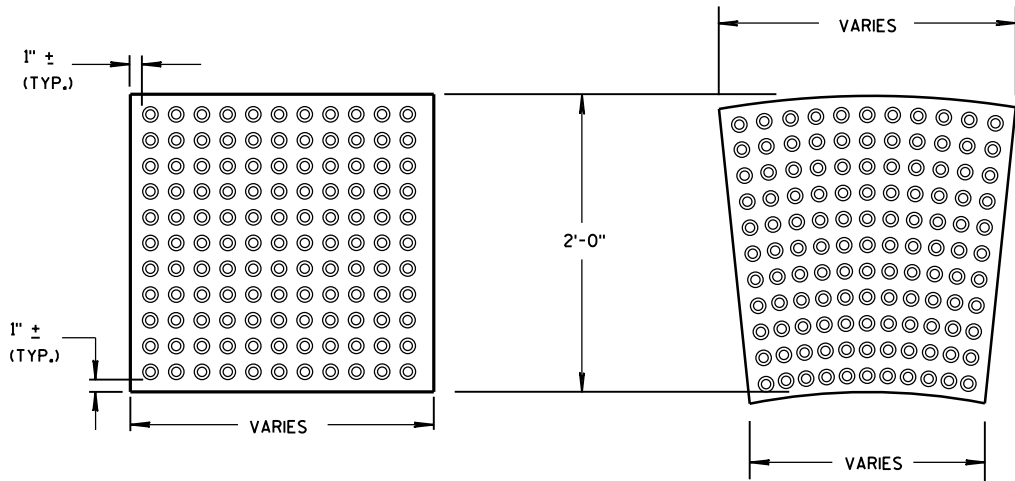


PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



RECTANGULAR PLATES
RADIAL PLATES
DETECTABLE WARNING FIELDS (TYPICAL)

PLAN VIEW

GENERAL NOTES

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

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

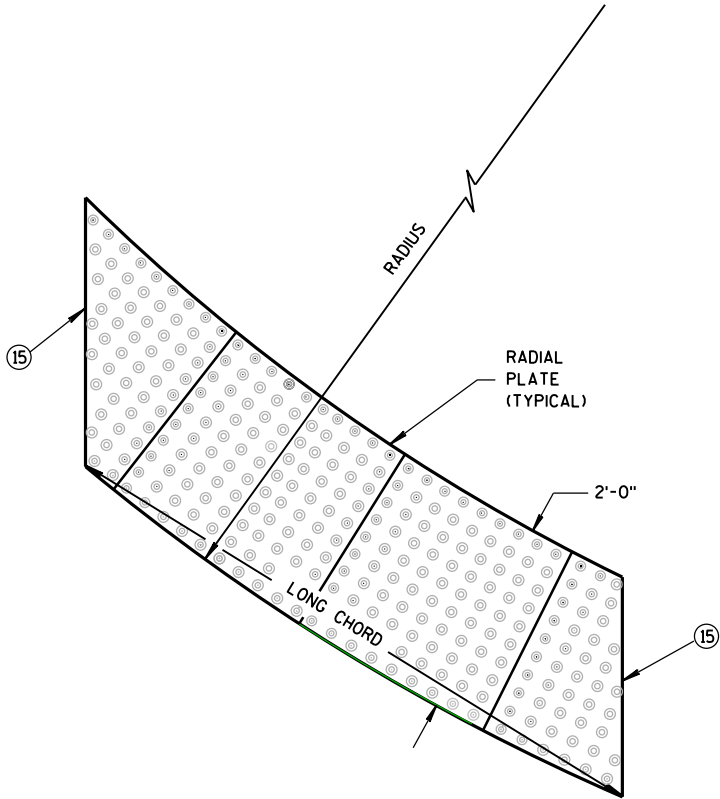
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGES IN COMBINATION WITH SQUARE PANELS ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

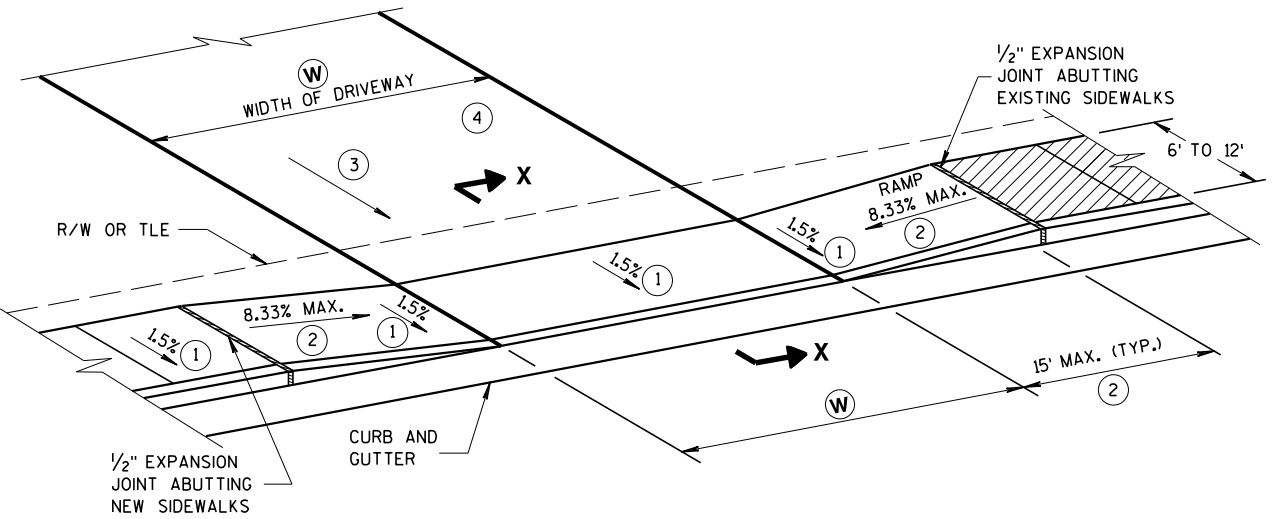


RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES

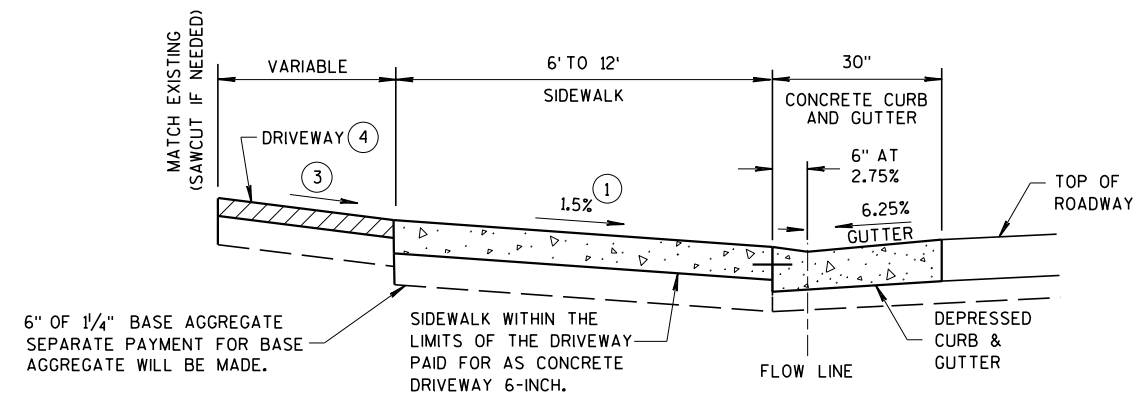
CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

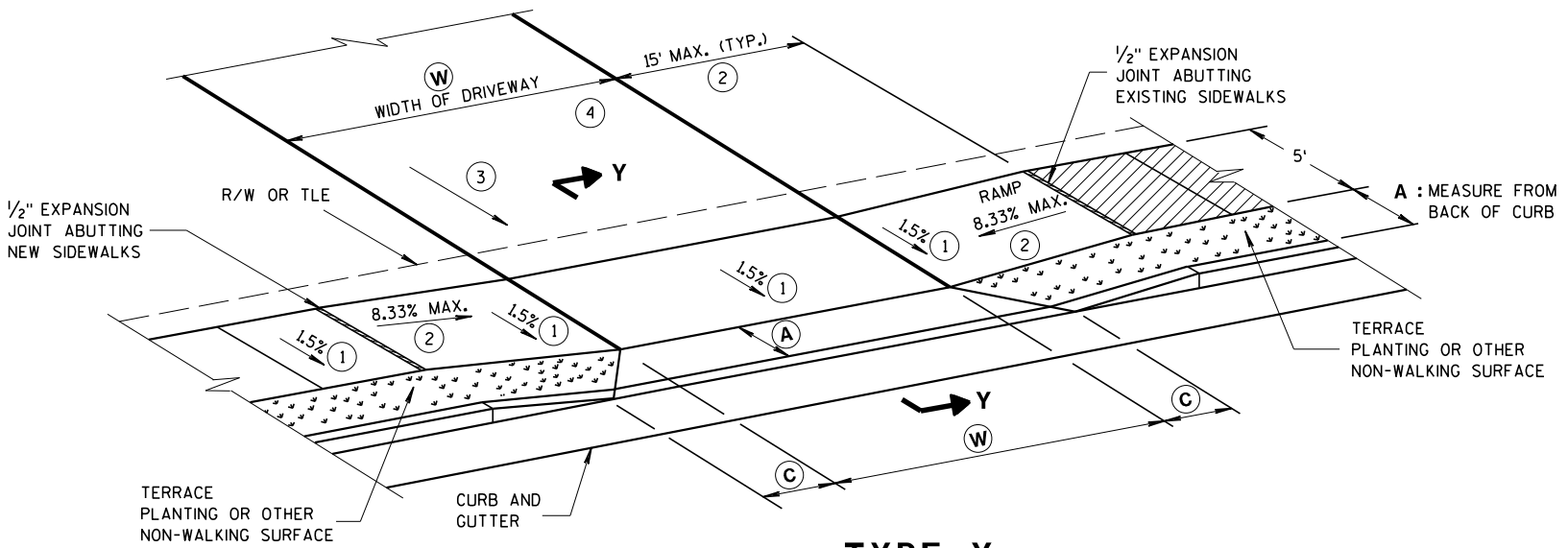
APPROVED
June, 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



TYPE X
SIDEWALK ABUTS CURB & GUTTER
TERRACE VARIES 0 TO 3 FEET



SECTION X-X



TYPE Y
SIDEWALK WITH NARROWER TERRACE
TERRACE VARIES 4 TO 6 FEET

W: 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)
16' MIN. - 35' MAX. COMMERCIAL (CE)

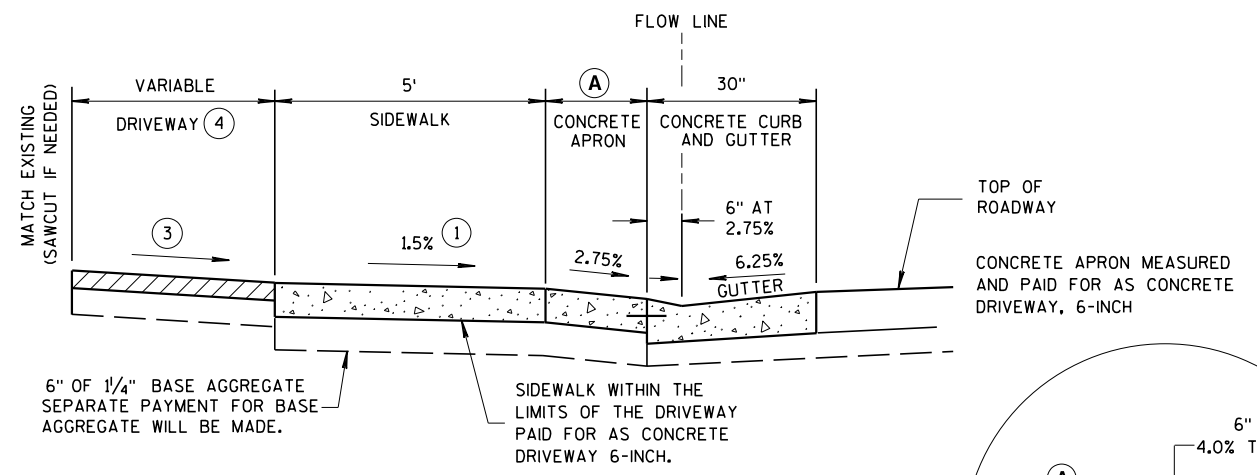
GENERAL NOTES

PROVIDE CONSTRUCTION JOINTS ALONG THE CENTER OF THE CONCRETE FOR DRIVEWAYS UNDER 20 FEET IN WIDTH AND AT THE THIRD POINTS OVER 20 FEET IN WIDTH.

W IS SHOWN ON PLAN AND PROFILE SHEETS.

OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN ON THE CROSS SECTIONS.

- 1 CONSTRUCTION TOLERANCE OF 0.5% ± FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- 2 THE SIDEWALK RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE SIDEWALK SHALL BE AS FLAT AS FEASIBLE AND NOT EXCEED THE LONGITUDINAL GRADE OF THE ROADWAY. SLOPE SIDEWALK RAMP TOWARD APRON AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- 3 DRIVEWAY SLOPES: DESIRABLE MAXIMUM
10.5% UP AWAY FROM SIDEWALK (SAG)
8.5% DOWN AWAY FROM SIDEWALK (CREST)
ABSOLUTE MAXIMUM 15% FOR BOTH CREST AND SAG
- 4 DRIVEWAY TYPES
 - 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6-INCH BASE AGGREGATE
 - 2-INCH TO 3-INCH ASPHALTIC SURFACE OVER 6-INCH BASE AGGREGATE
 - 6-INCH BASE AGGREGATE (MAY BE INCREASED FOR CLAY SUBGRADES)

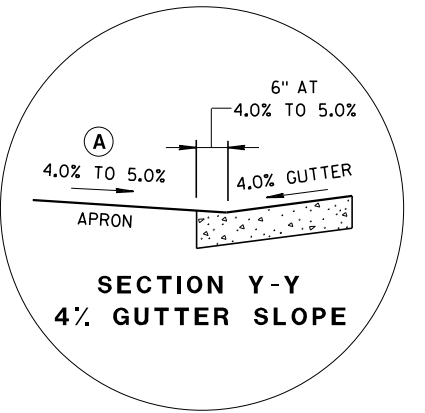


NOTE: SIDEWALK MAY BE DEPRESSED IN DRIVEWAY AREAS

SECTION Y-Y
DRIVEWAY DETAIL
WITH CONCRETE CURB & GUTTER
(URBAN AND SUBURBAN)

TABLE Y

A FEET	C FEET
3.5'	2.0'
4.5'	3.0'
5.5'	3.5'



SECTION Y-Y
4% GUTTER SLOPE

DRIVEWAY AND SIDEWALK RAMP
TYPES X & Y

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

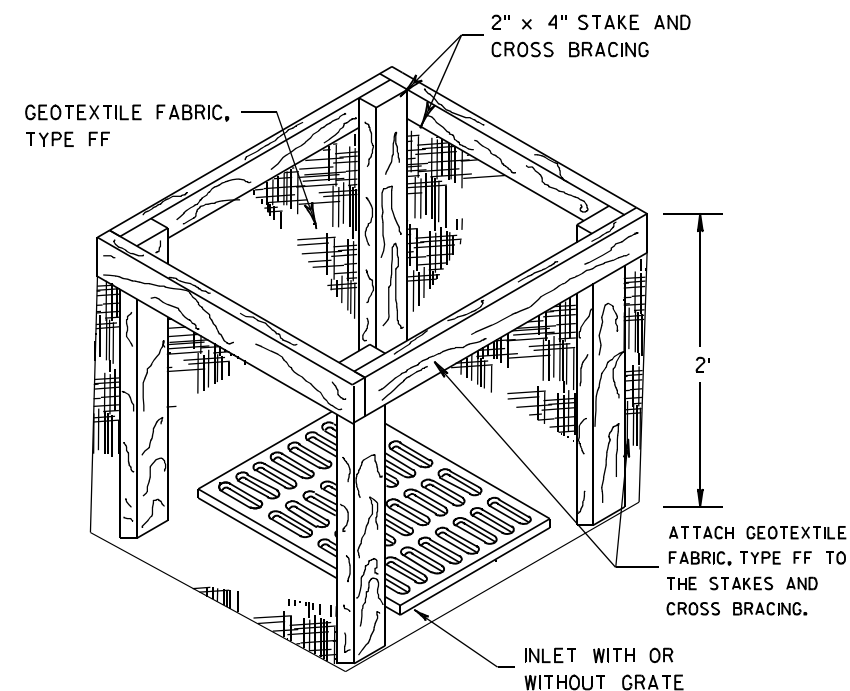
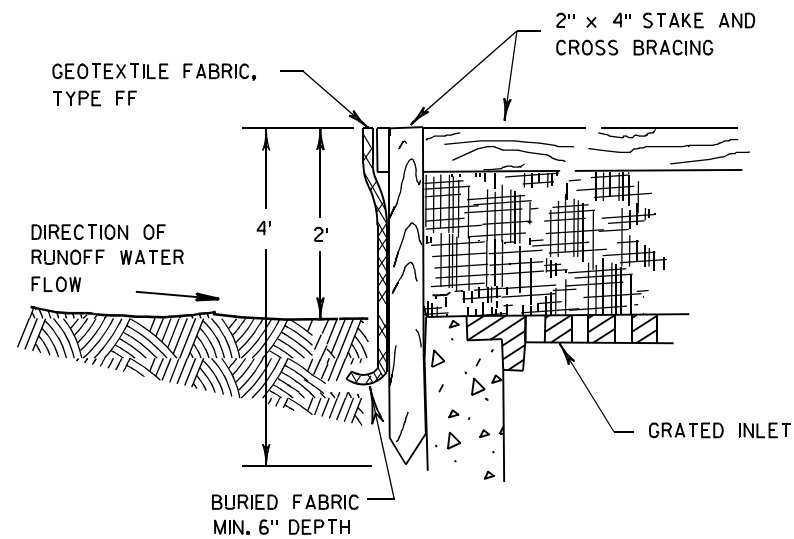
NOT TO SCALE



- 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 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



INLET PROTECTION, TYPE A

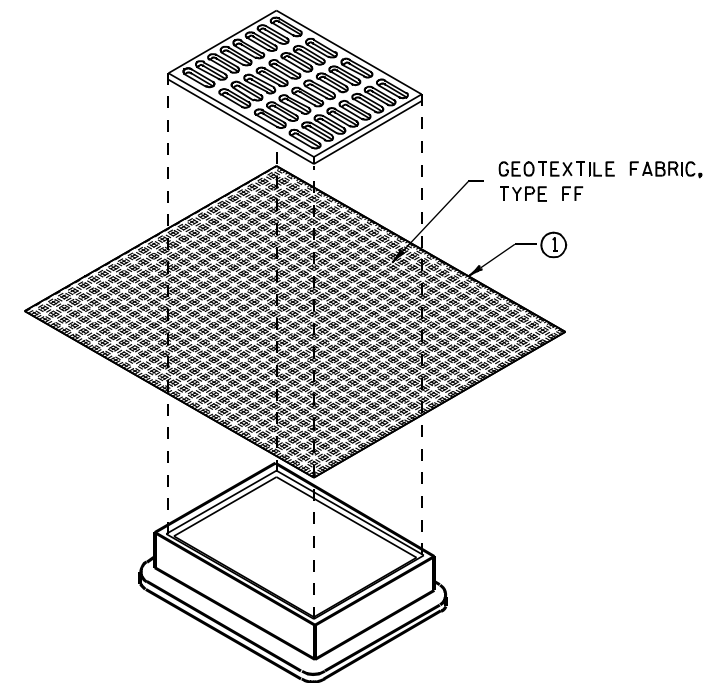
GENERAL NOTES

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

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

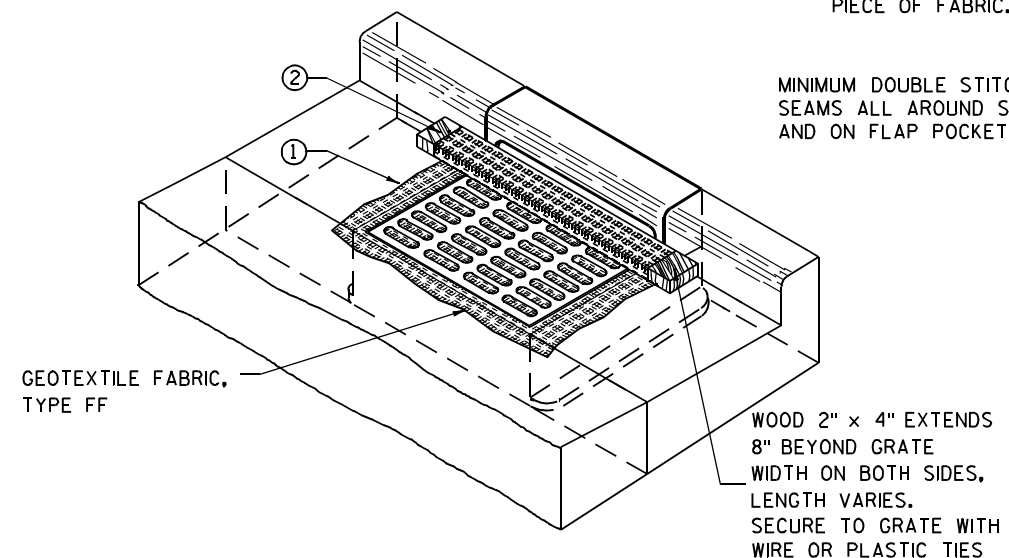
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

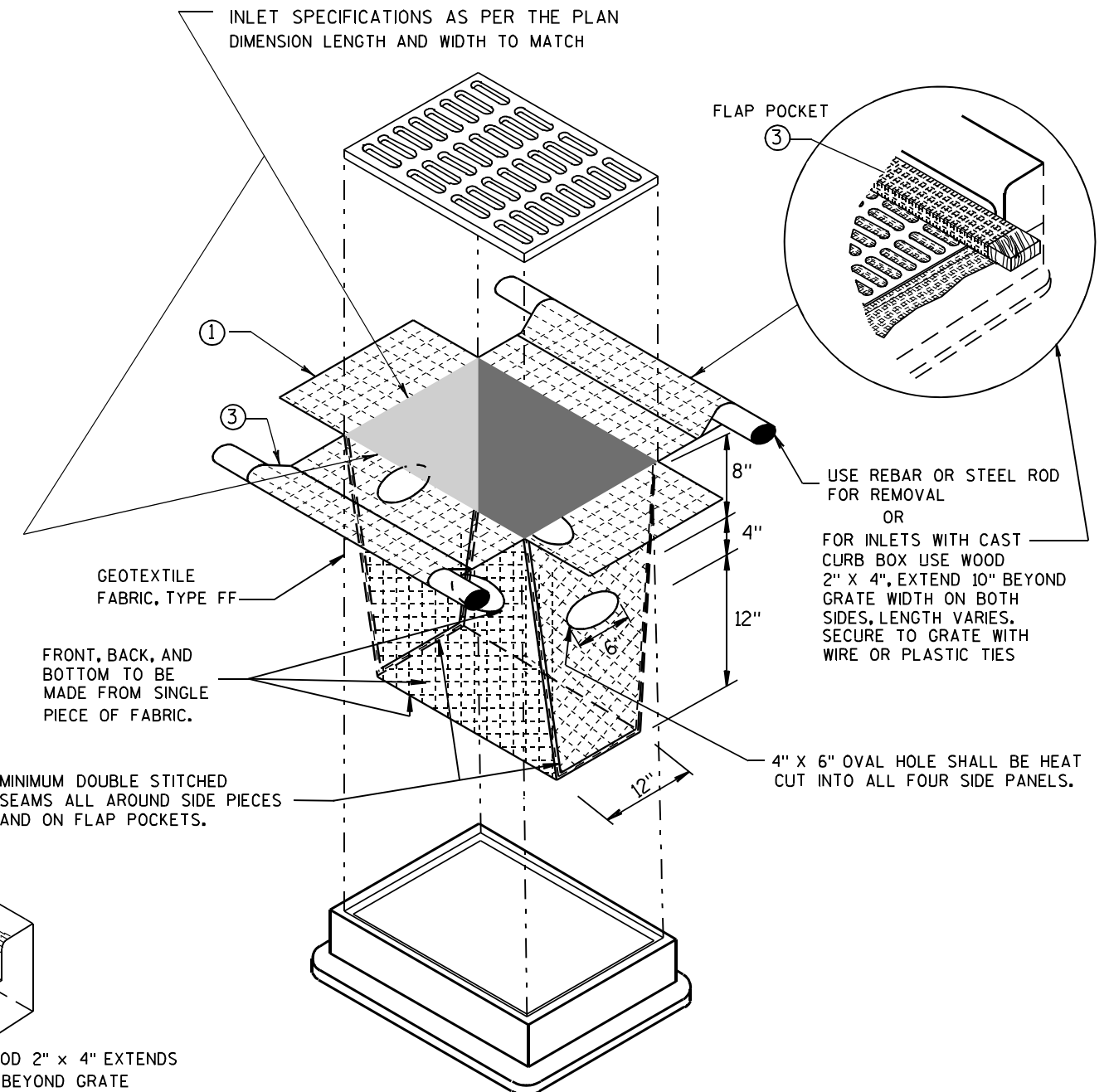
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



INLET PROTECTION, TYPE D

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

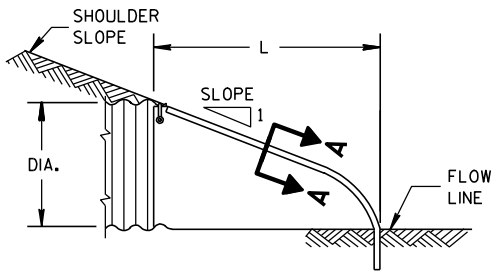
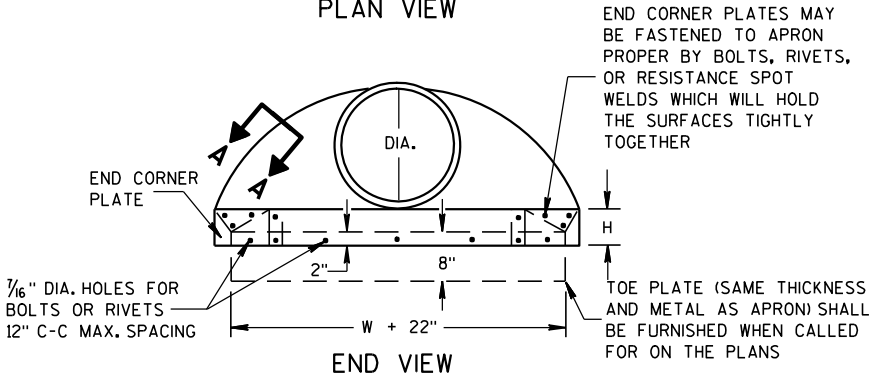
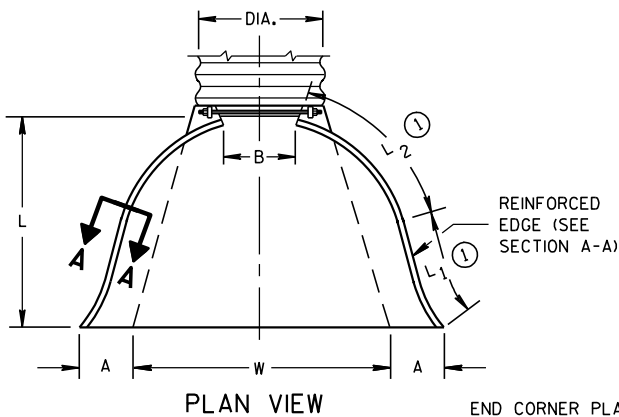
INLET PROTECTION TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Cannestra
DATE
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

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

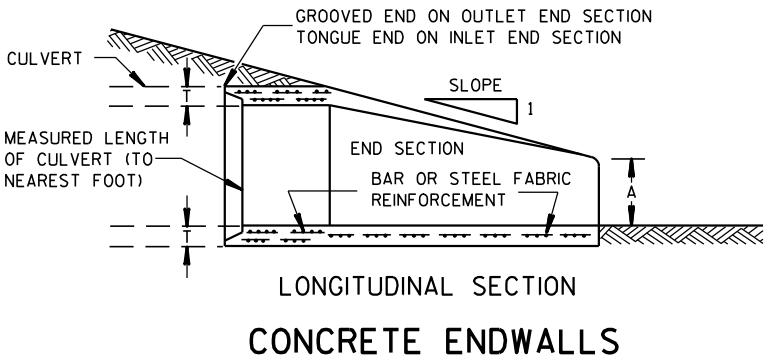
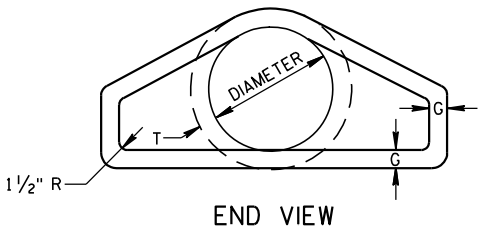
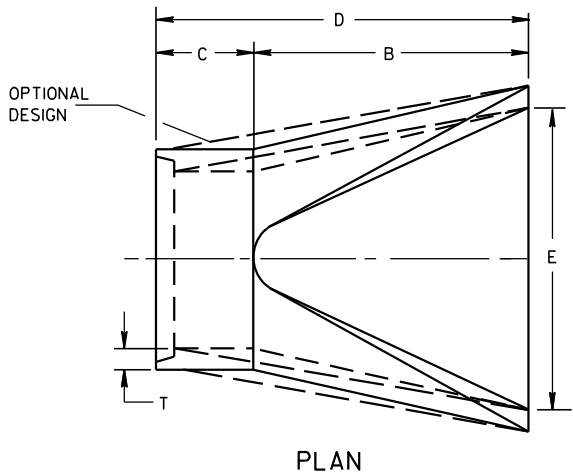
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

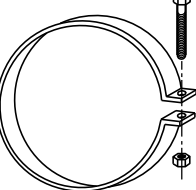
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

* MINIMUM
** MAXIMUM

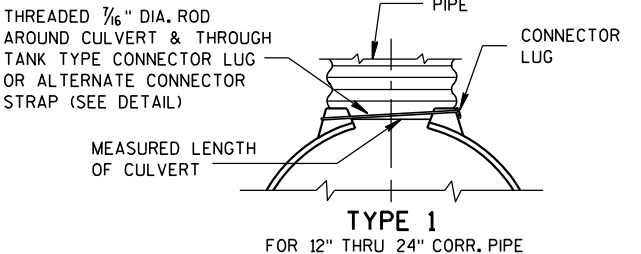


CONCRETE ENDWALLS

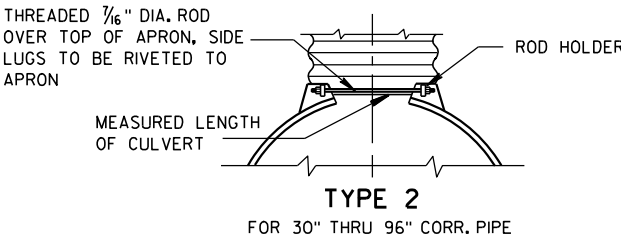
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



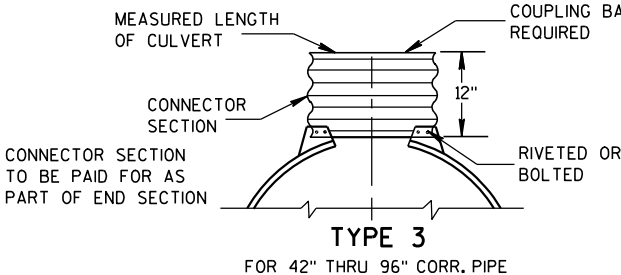
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



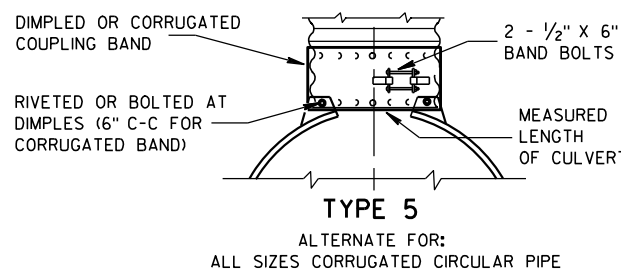
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

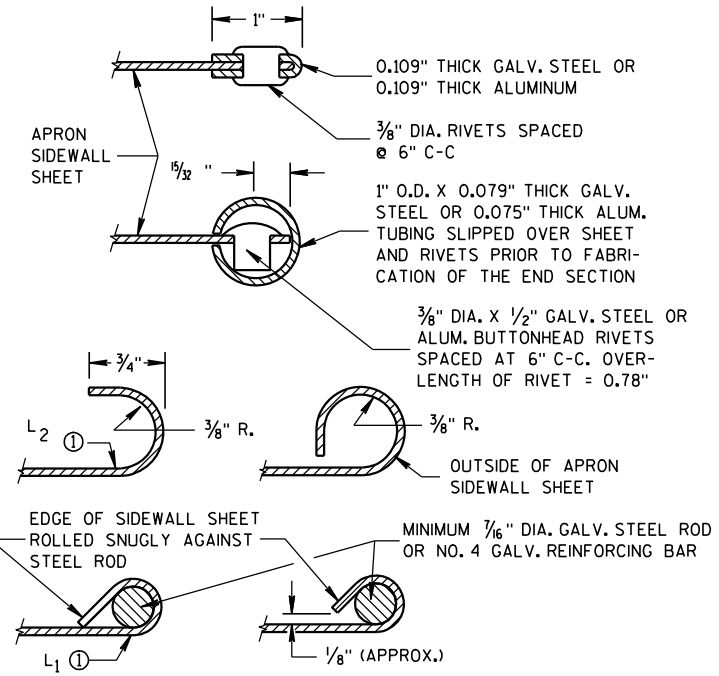
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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 VICE 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.

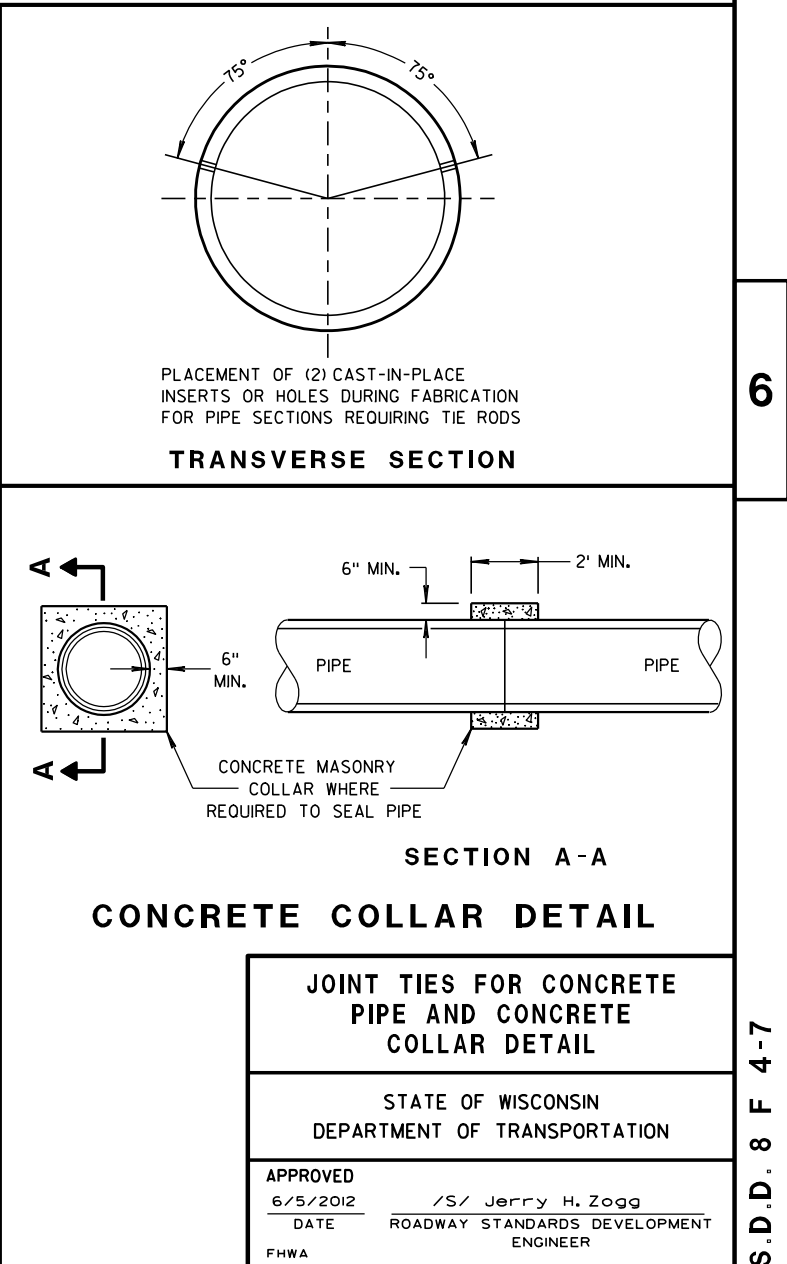
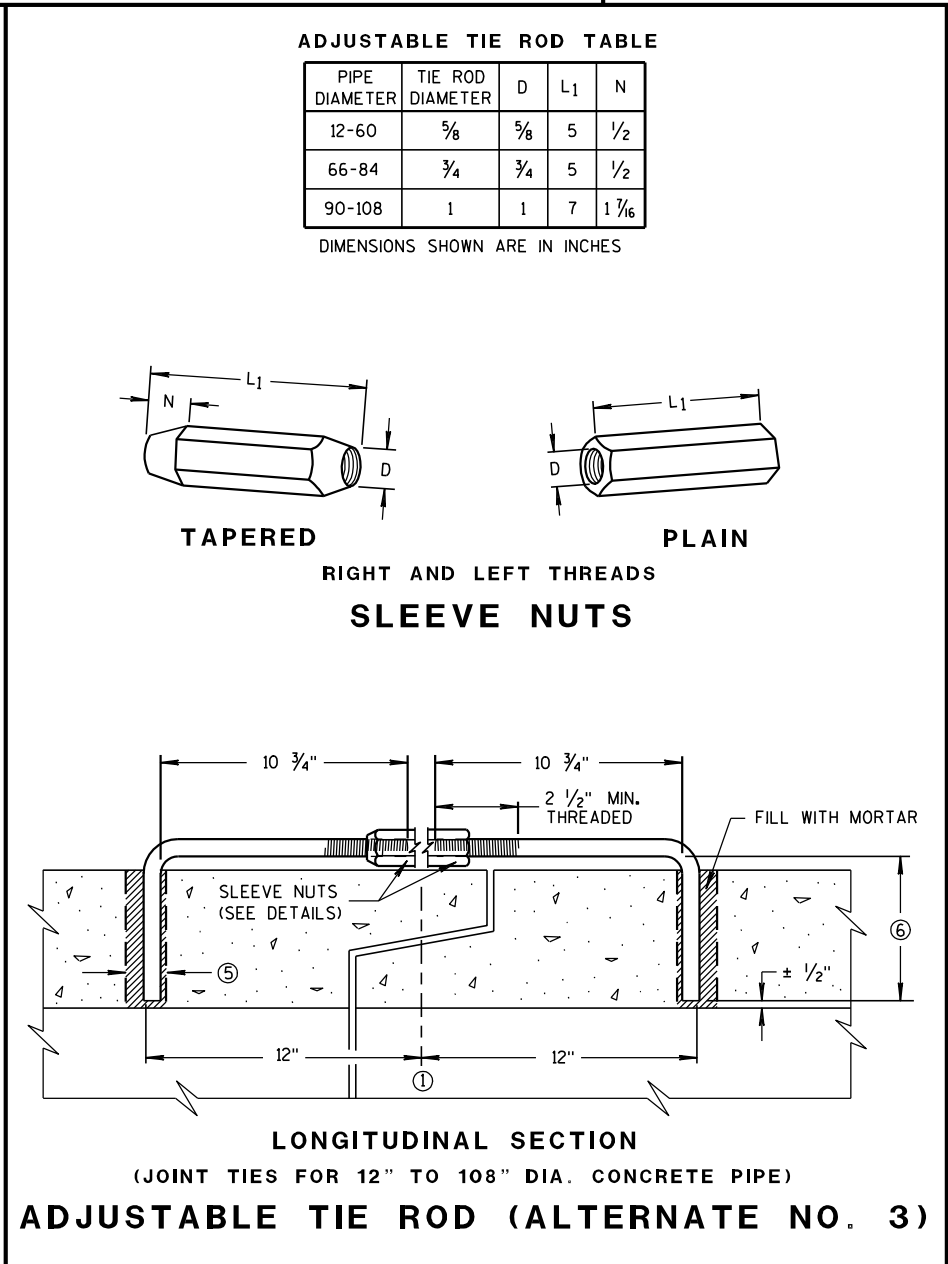
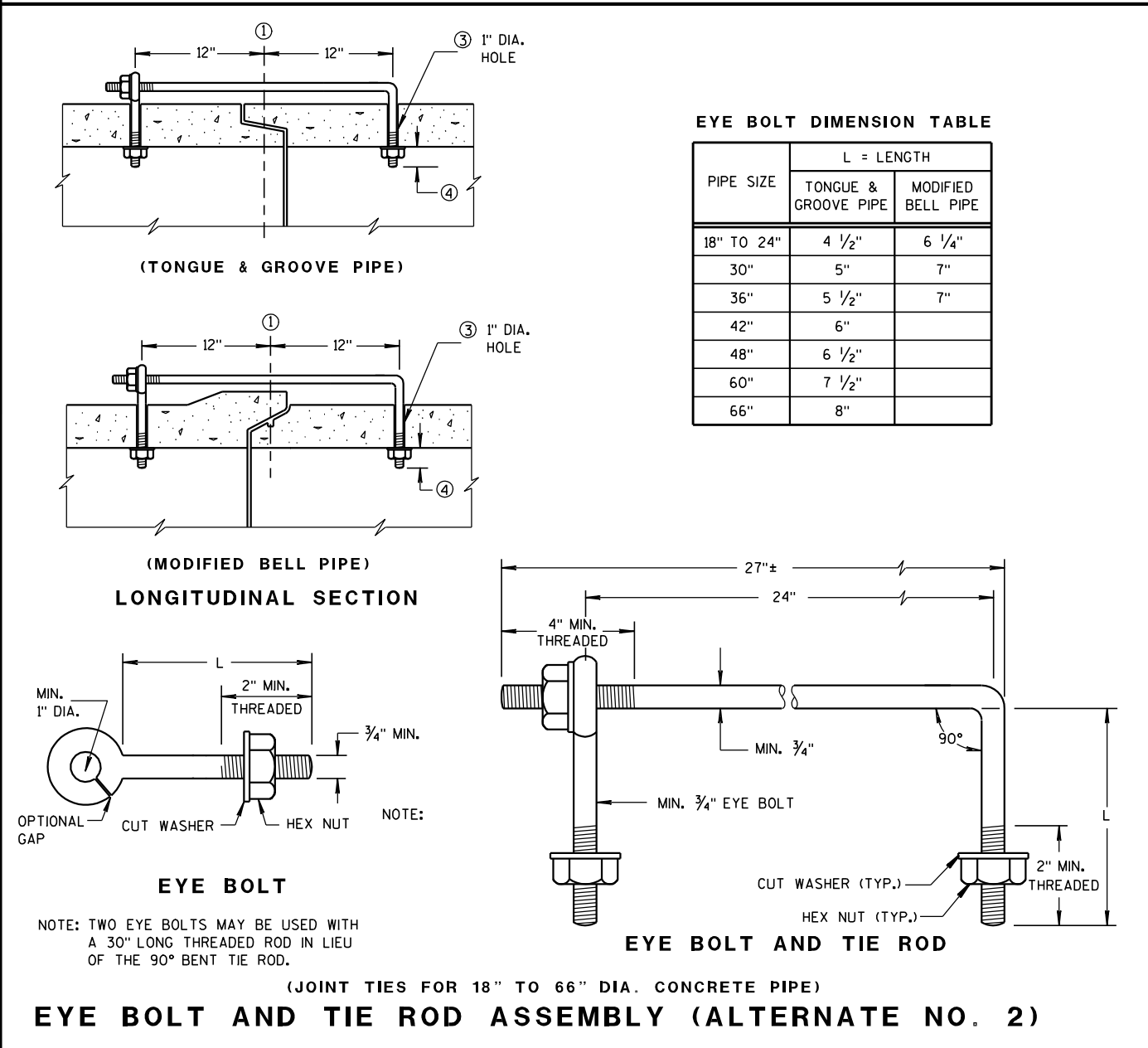
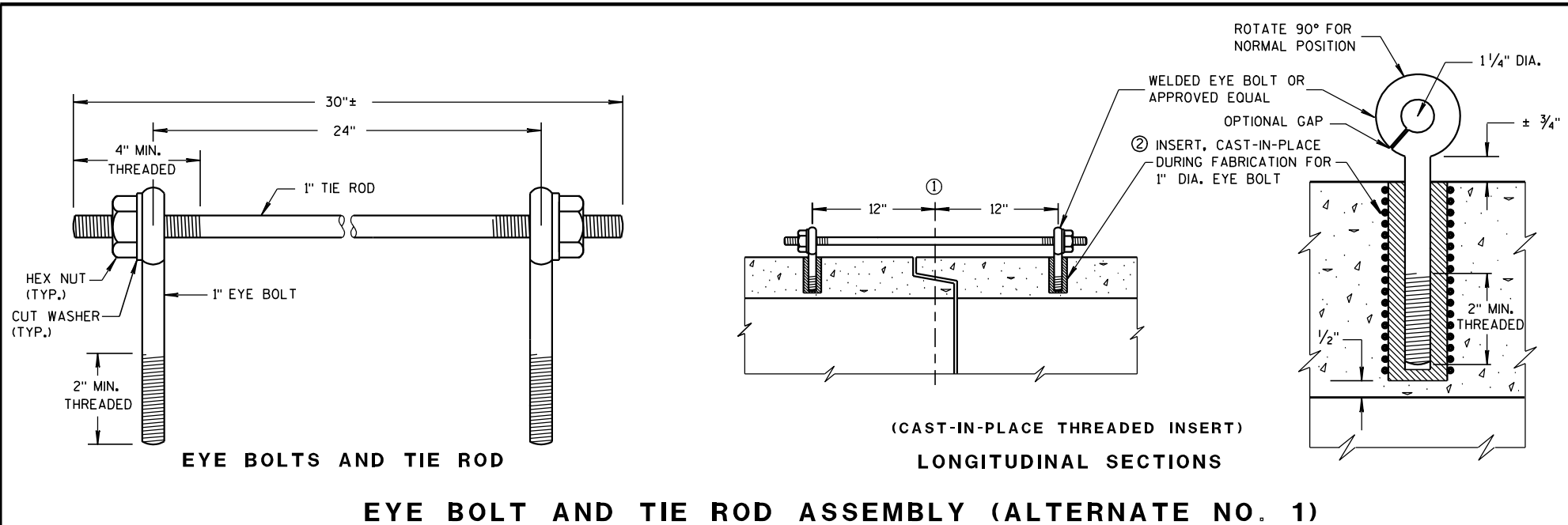
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

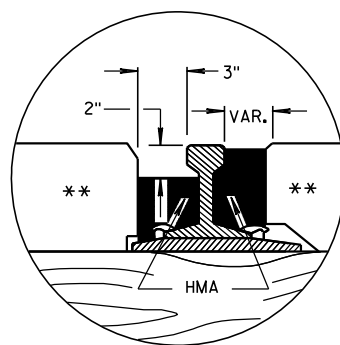
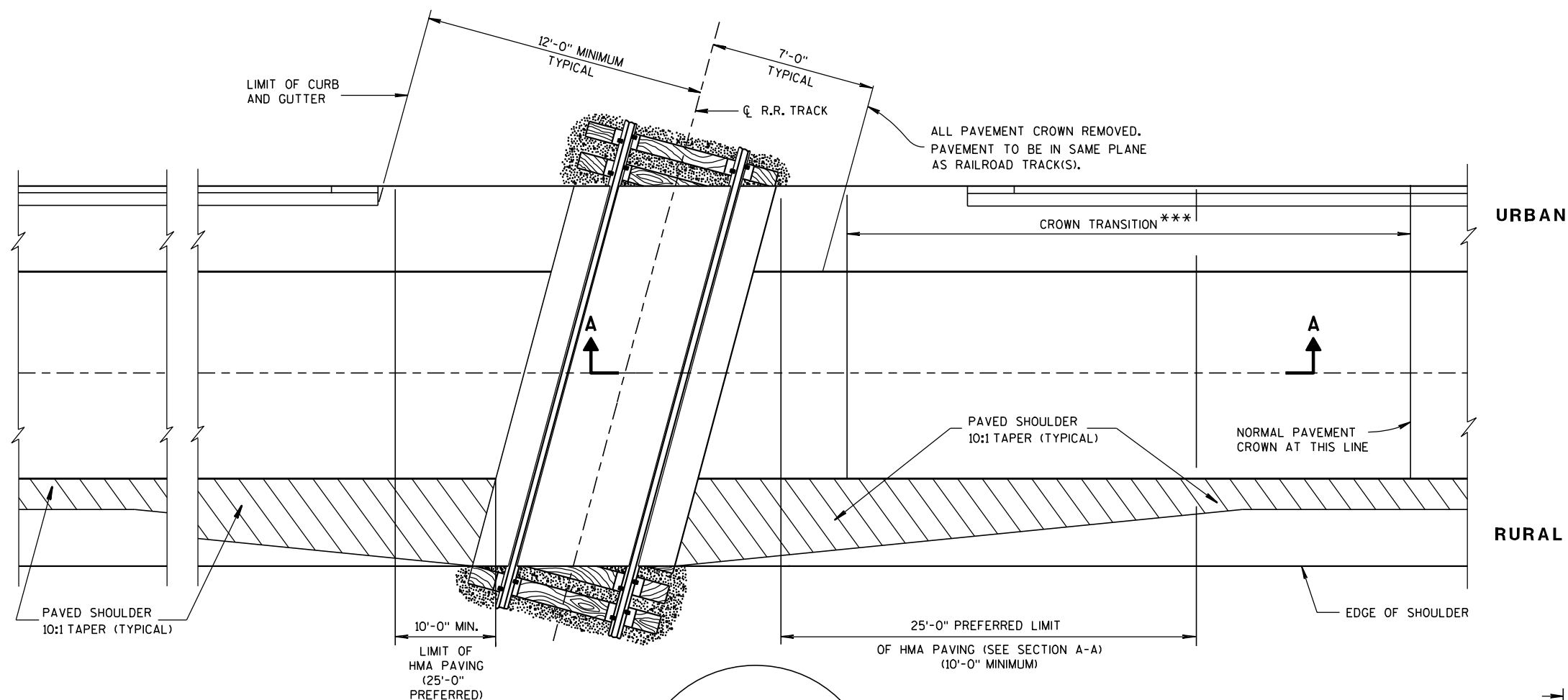
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
CULVERT PIPE

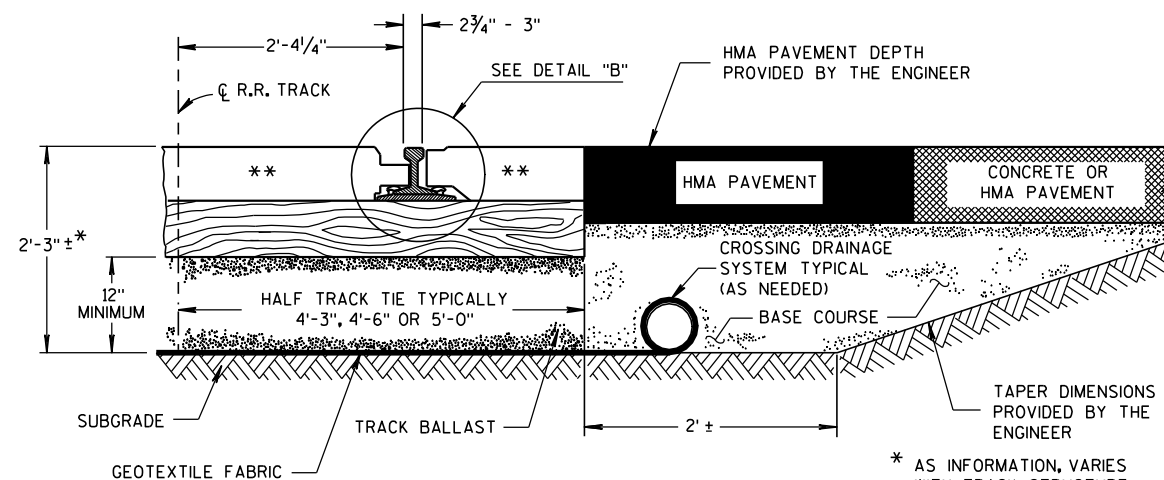
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



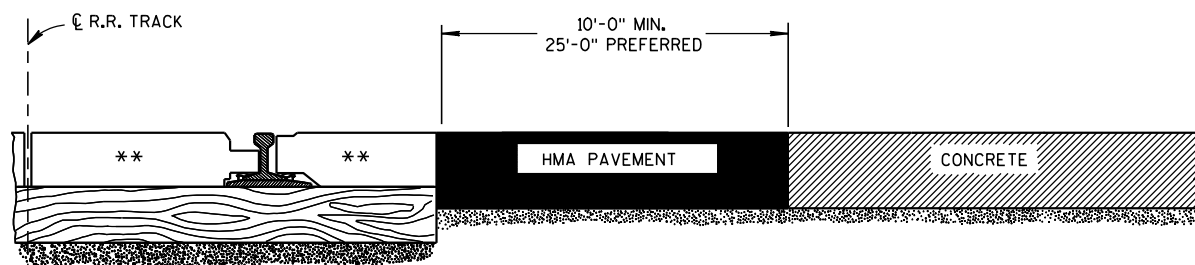


DETAIL B
HMA FLANGEWAY
AND FIELD FILLERS



TYPICAL HALF SECTION

* AS INFORMATION, VARIES WITH TRACK STRUCTURE AND SOIL CONDITIONS



SECTION A-A
CONCRETE PAVEMENT APPROACH



SECTION A-A
HMA PAVEMENT APPROACH

EXAMPLES OF PAVEMENT APPROACHES

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.

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

HMA PAVEMENT APPROACHES AND HMA PAVEMENT CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

** CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

*** CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

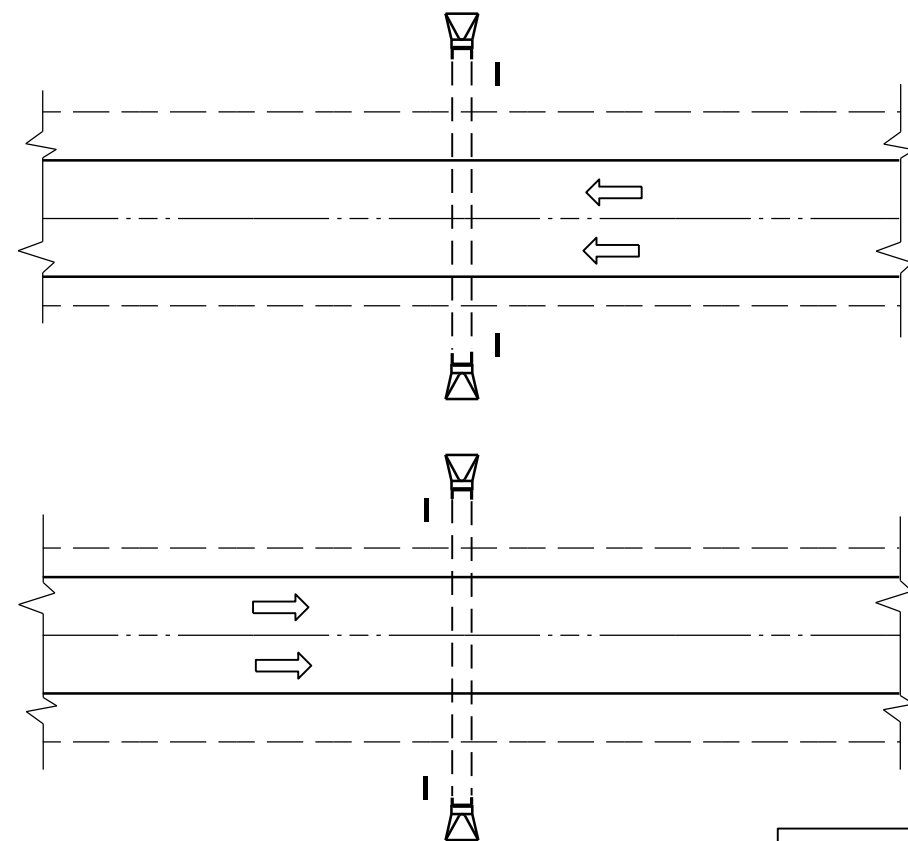
8-28-09

DATE

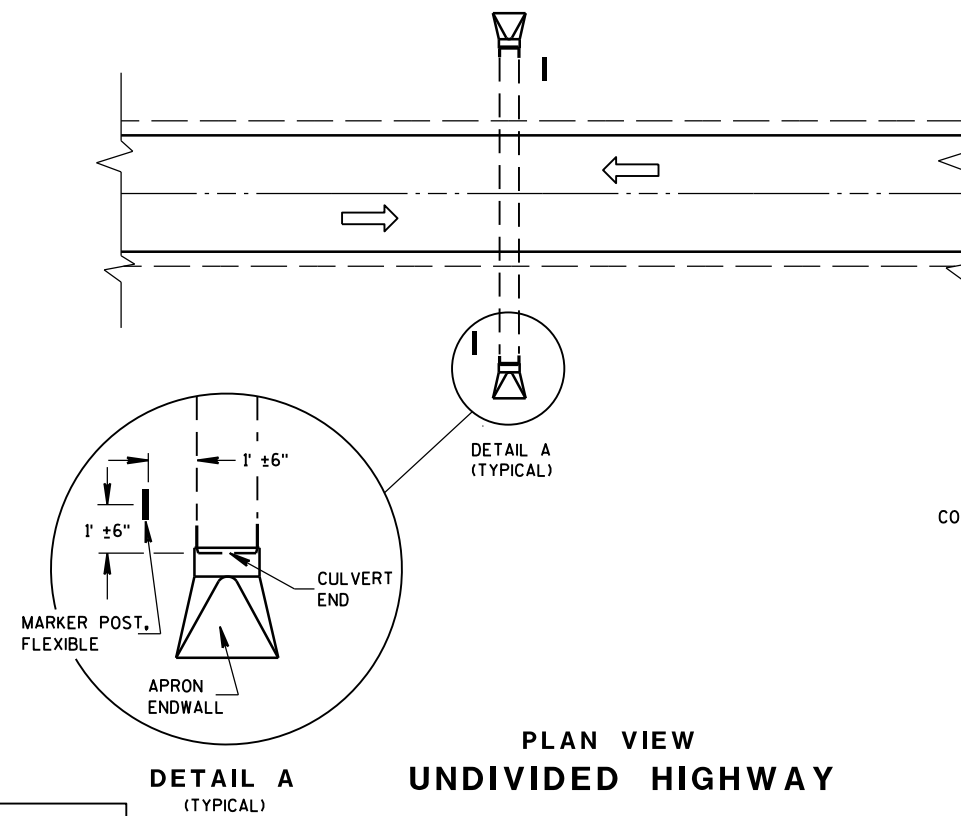
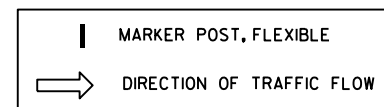
FHWA

/S/ Ronald E. Adams

CHIEF, RAILROADS & HARBORS SECTION



PLAN VIEW
DIVIDED HIGHWAY

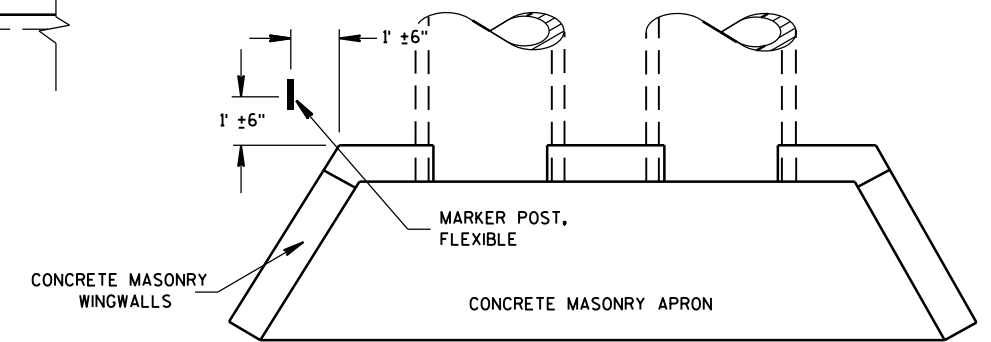


PLAN VIEW
UNDIVIDED HIGHWAY

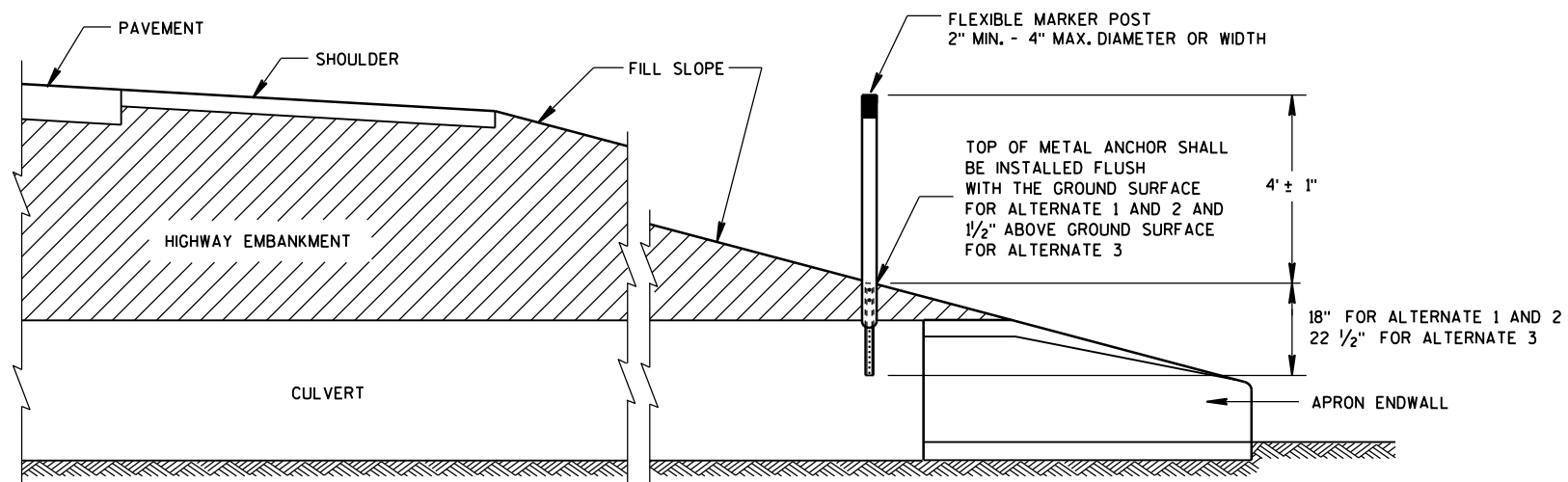
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



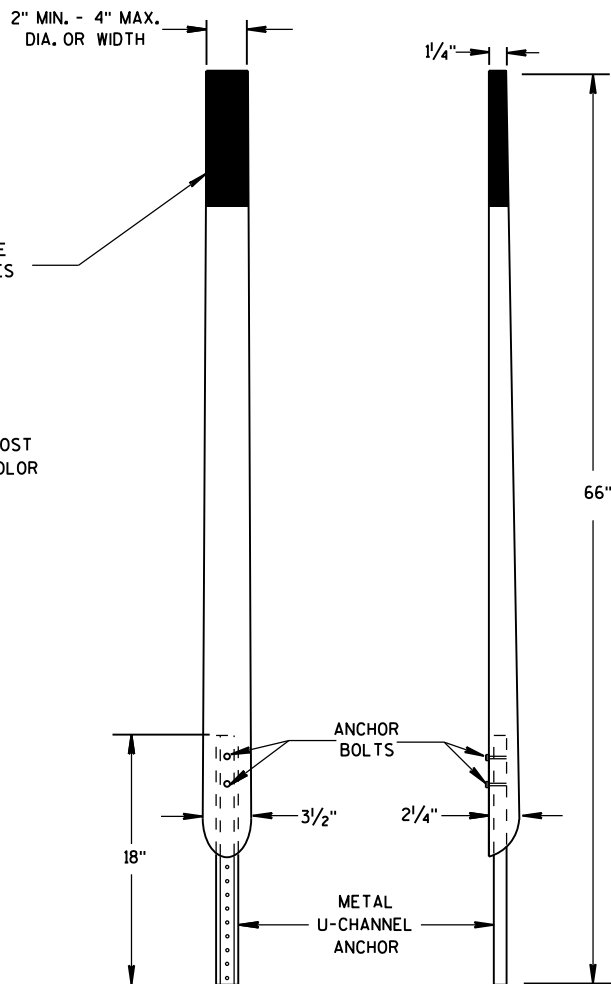
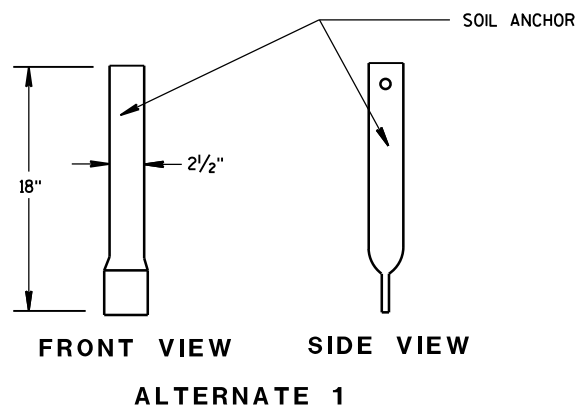
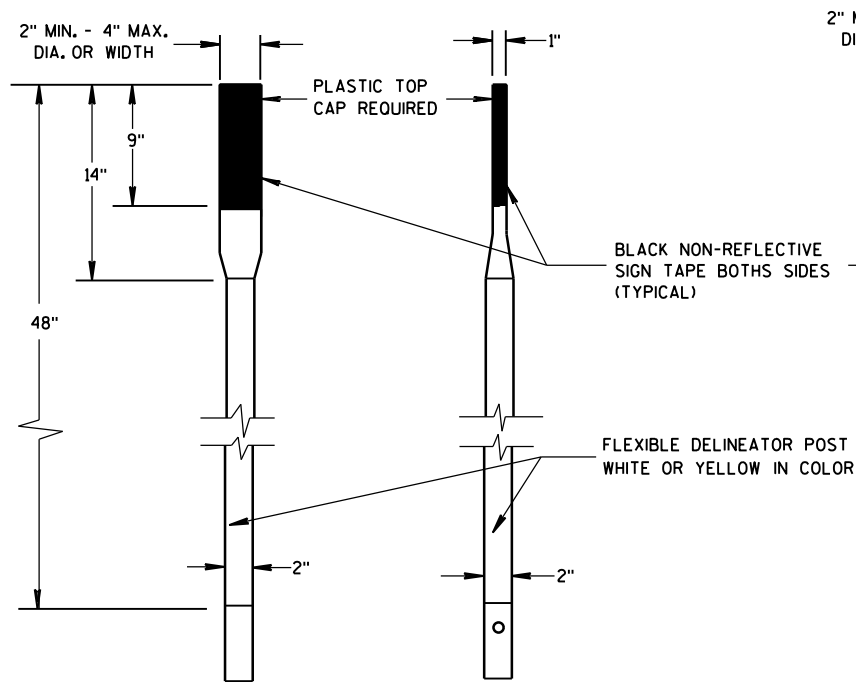
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

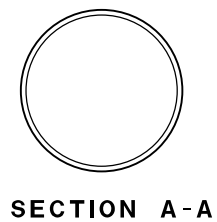
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

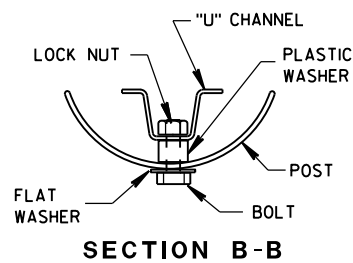
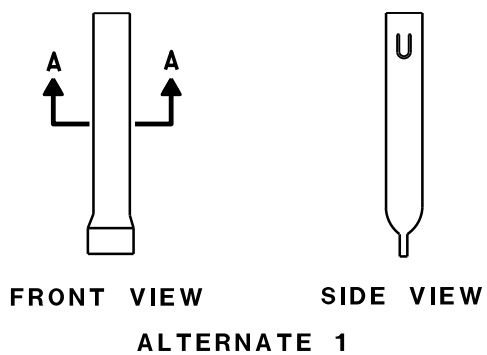


FRONT VIEW SIDE VIEW
ALTERNATE 2

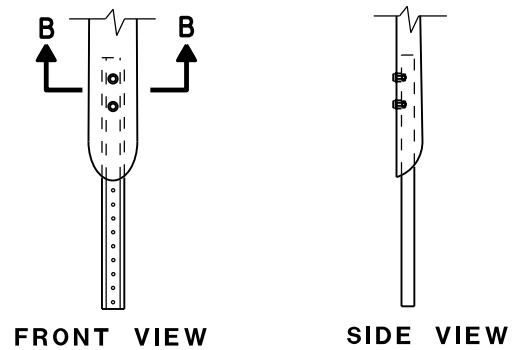
FLEXIBLE MARKER POSTS



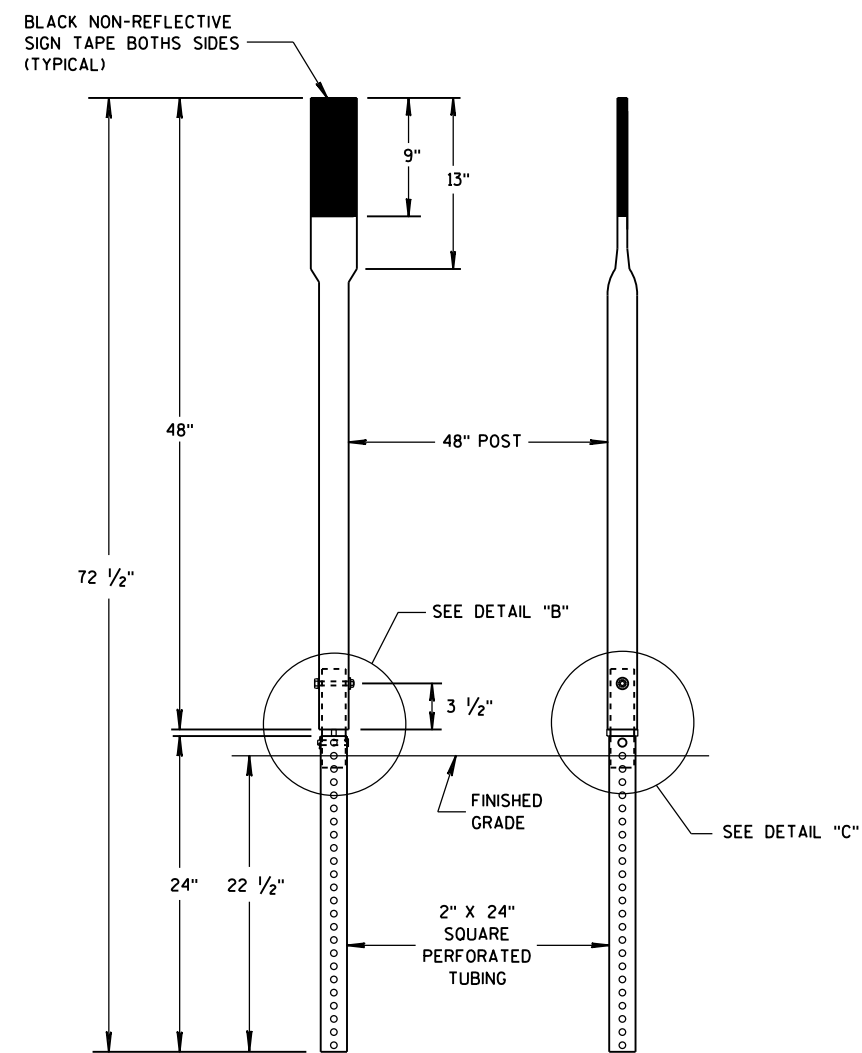
SECTION A-A



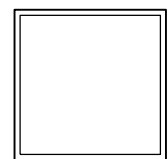
SECTION B-B



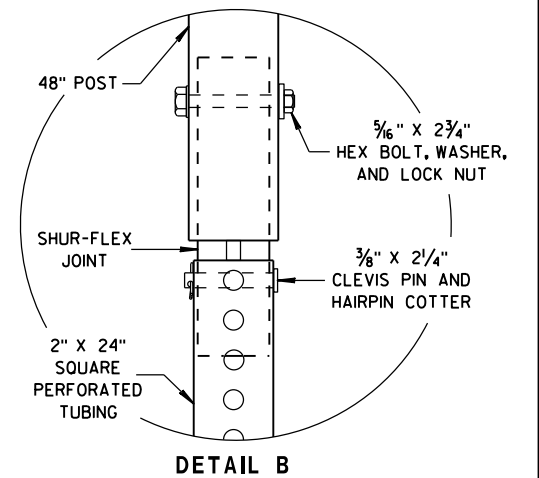
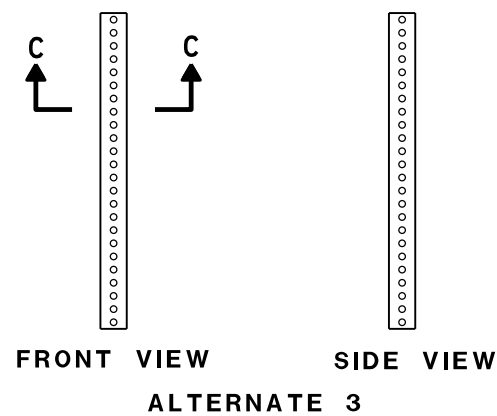
FRONT VIEW SIDE VIEW
ALTERNATE 2
FLEXIBLE MARKER POST ANCHORS



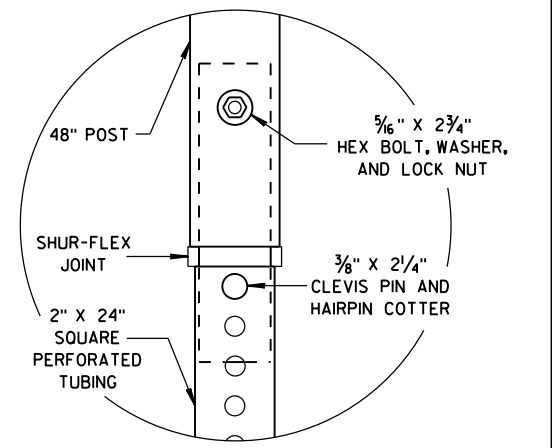
FRONT VIEW SIDE VIEW
ALTERNATE 3



SECTION C-C



DETAIL B



DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

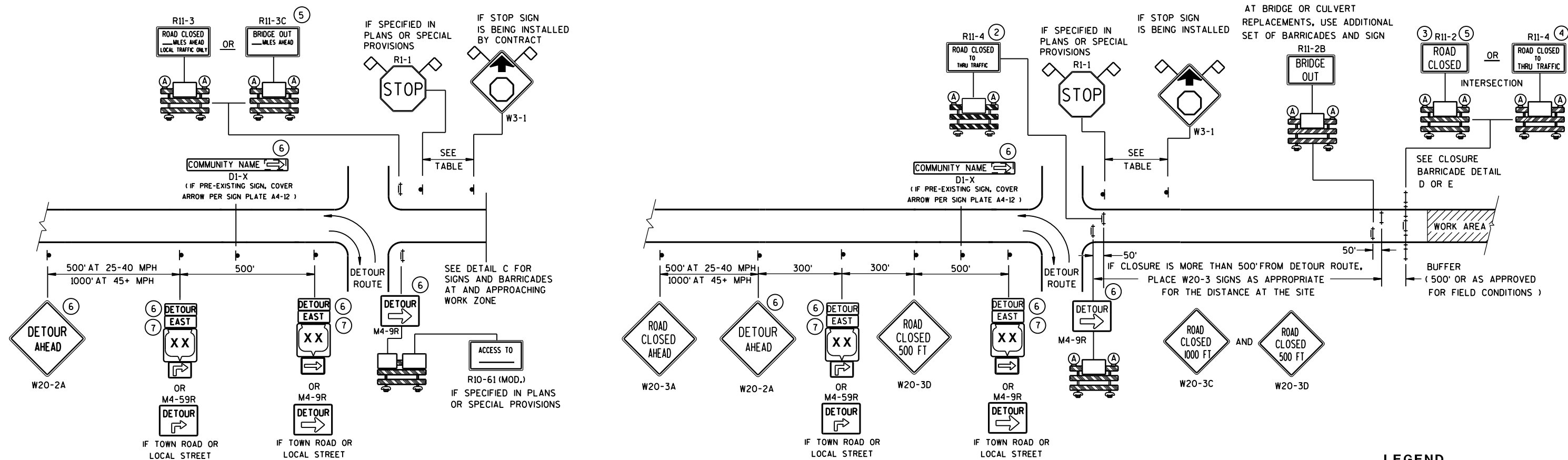
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/1/2012
DATE

FHWA

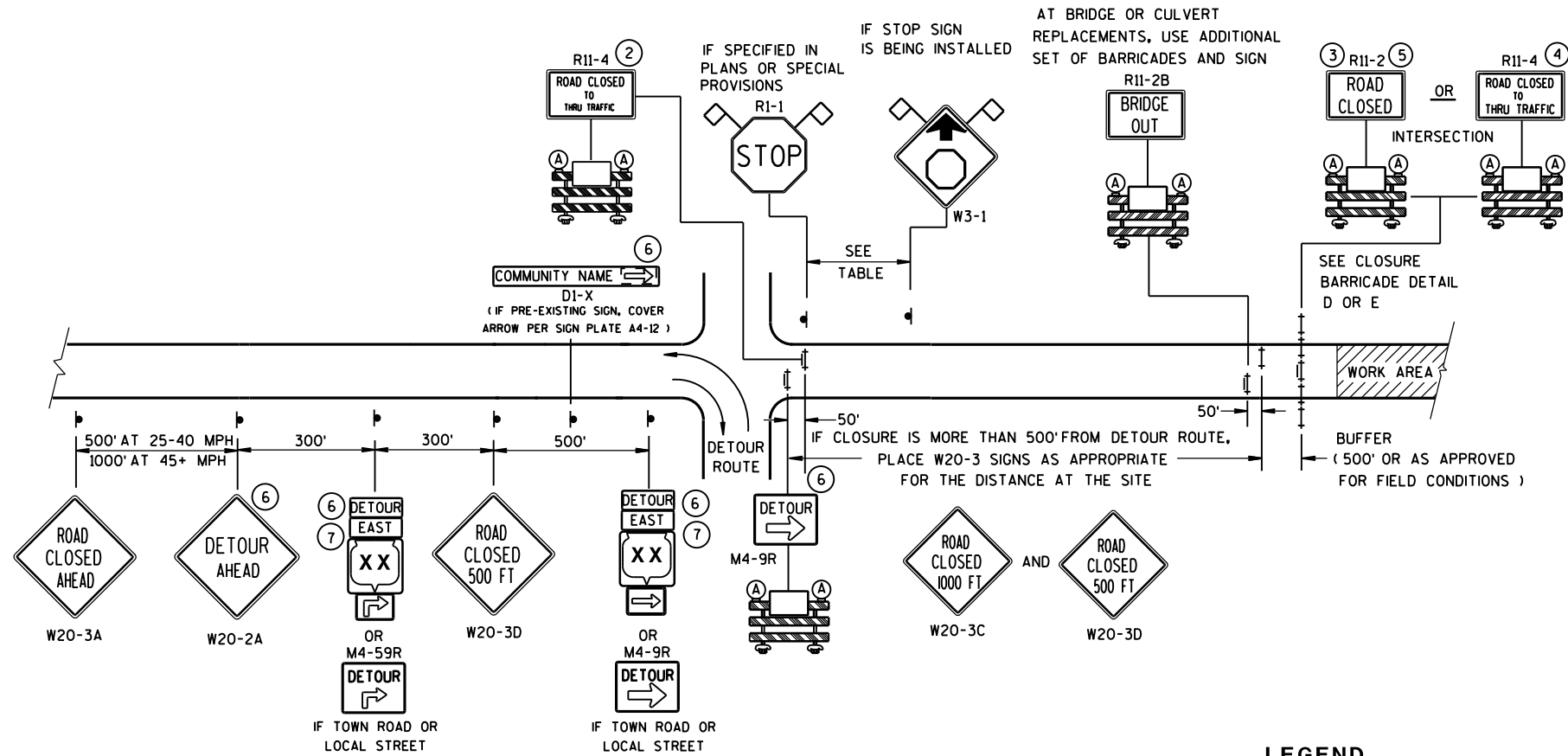
/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

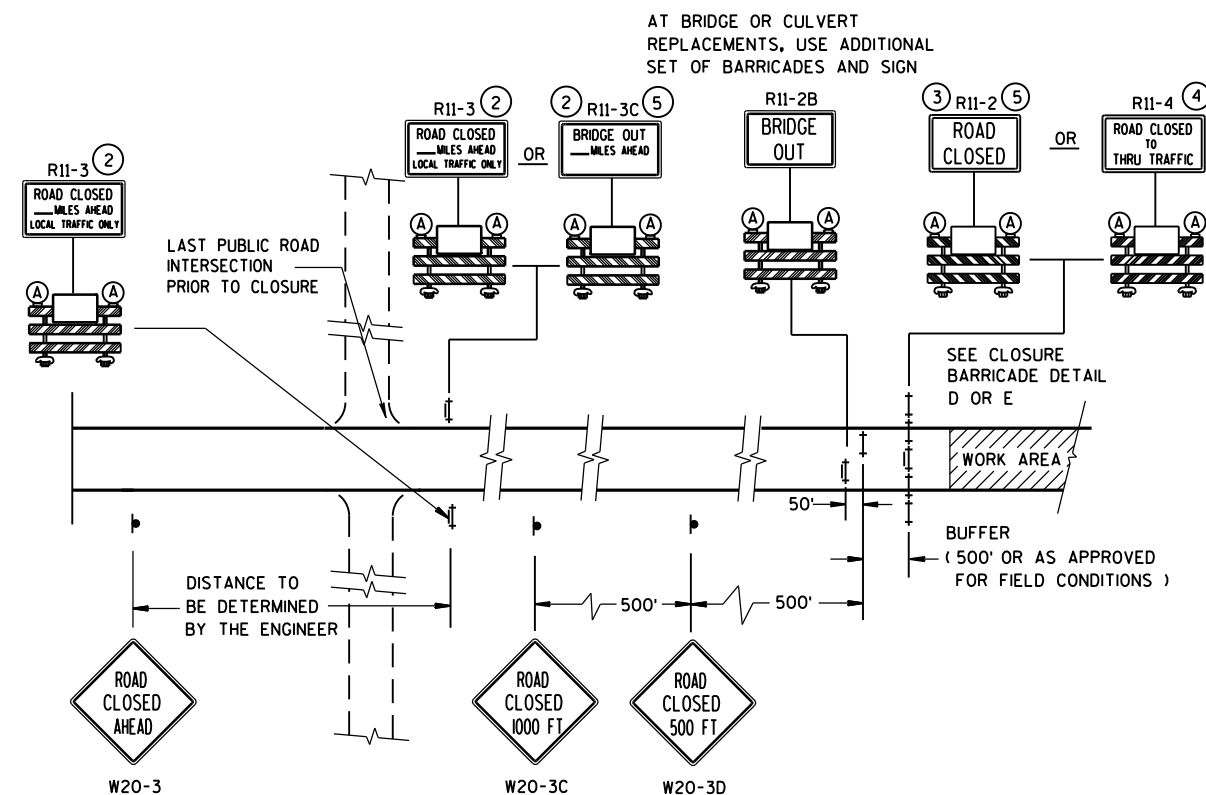
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B













MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

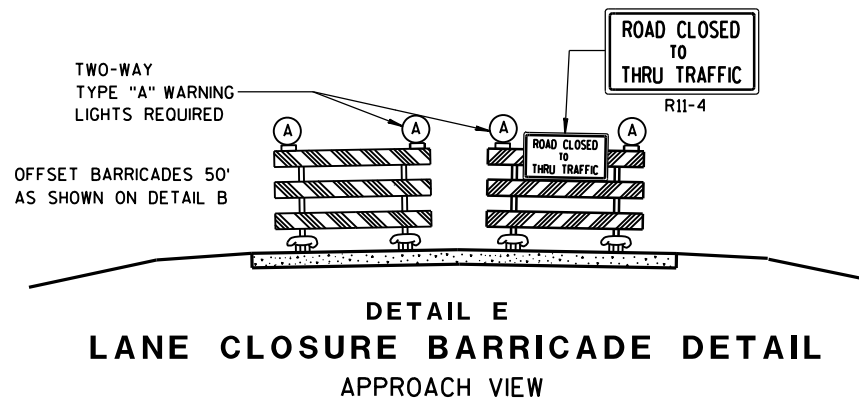
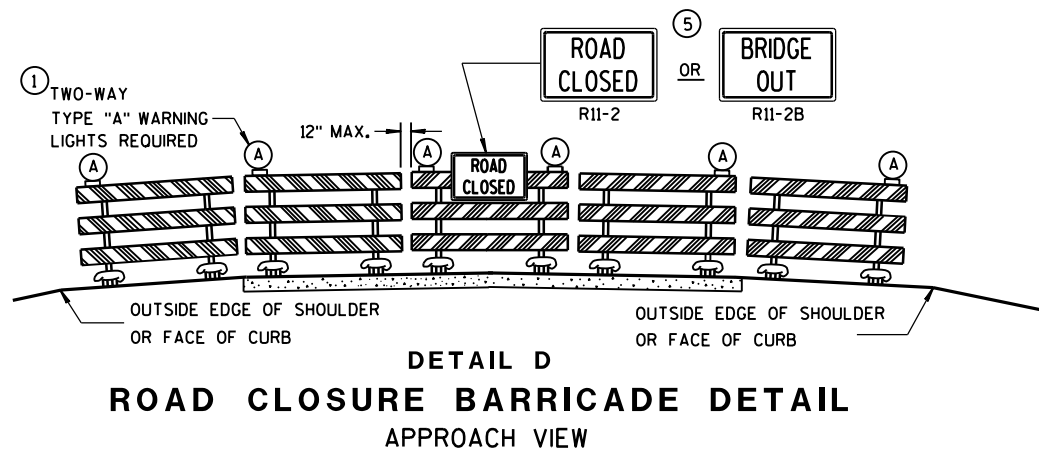
- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8
M3-X
-  OR  OR 
M1-4 M1-5A M1-6
-  OR 
MO5-1 MO6-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015	/S/ Peter Amakobe Atepe
DATE	STATEWIDE WORK ZONE TRAFFIC
FHWA	SAFETY ENGINEER



SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

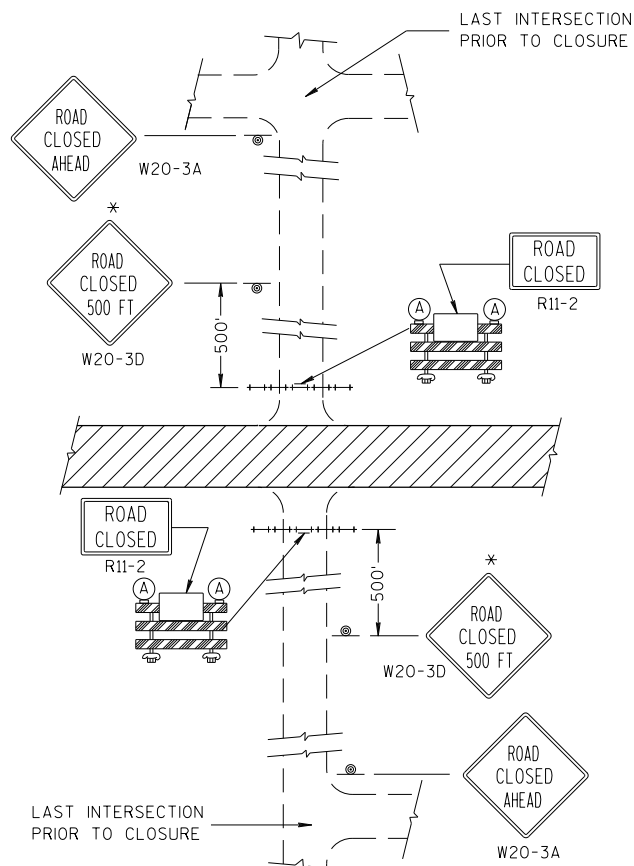
M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

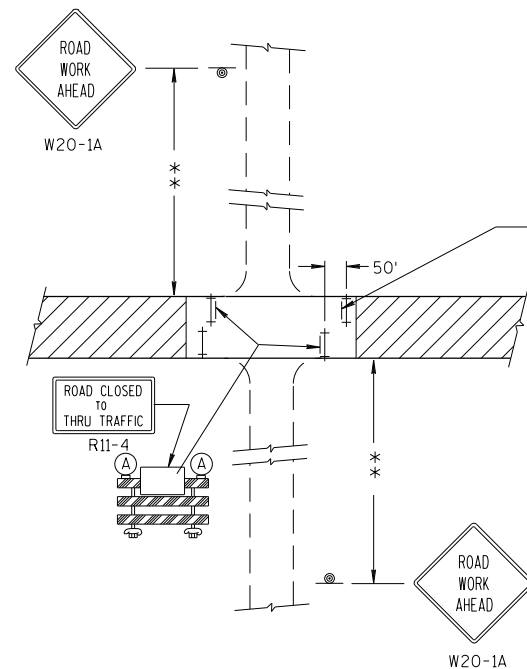
R1-1 SHALL BE 36" X 36".

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

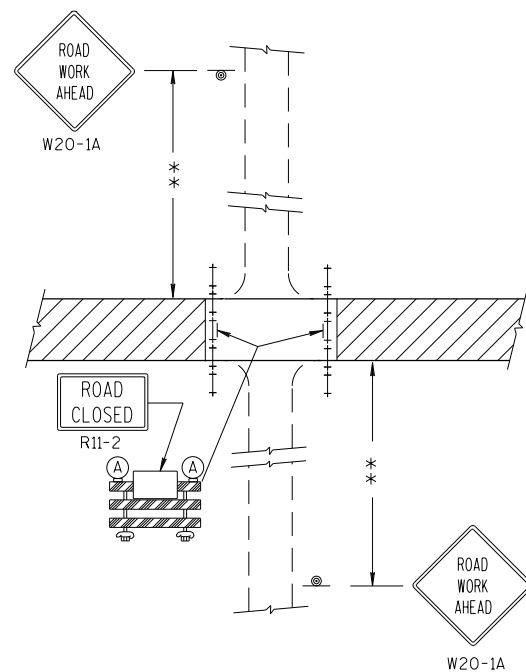
BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Sept. 2015 DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



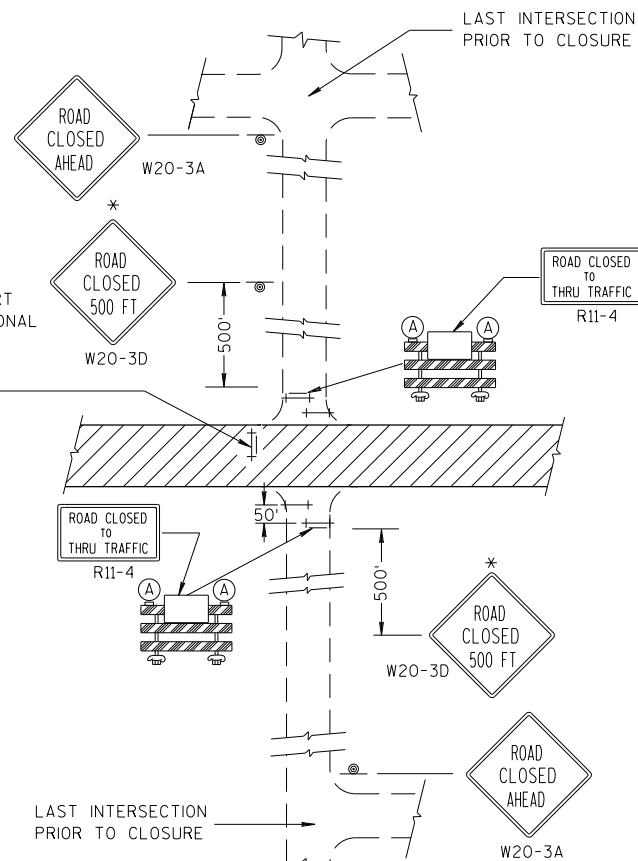
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

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

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

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

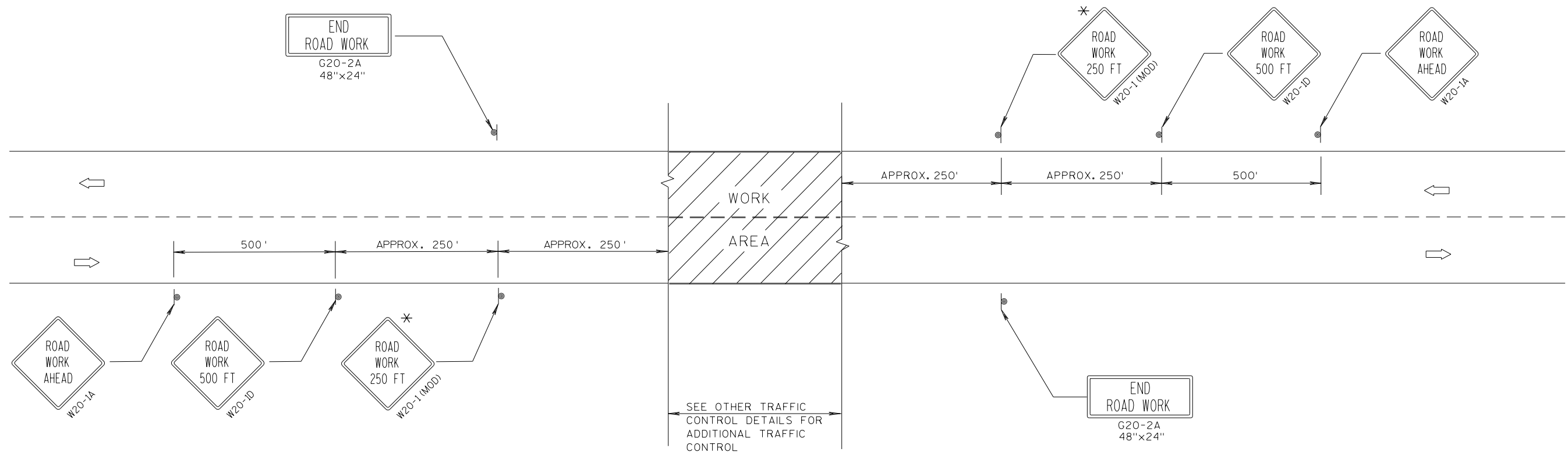
LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Andrew Heidtke
WORK ZONE 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.

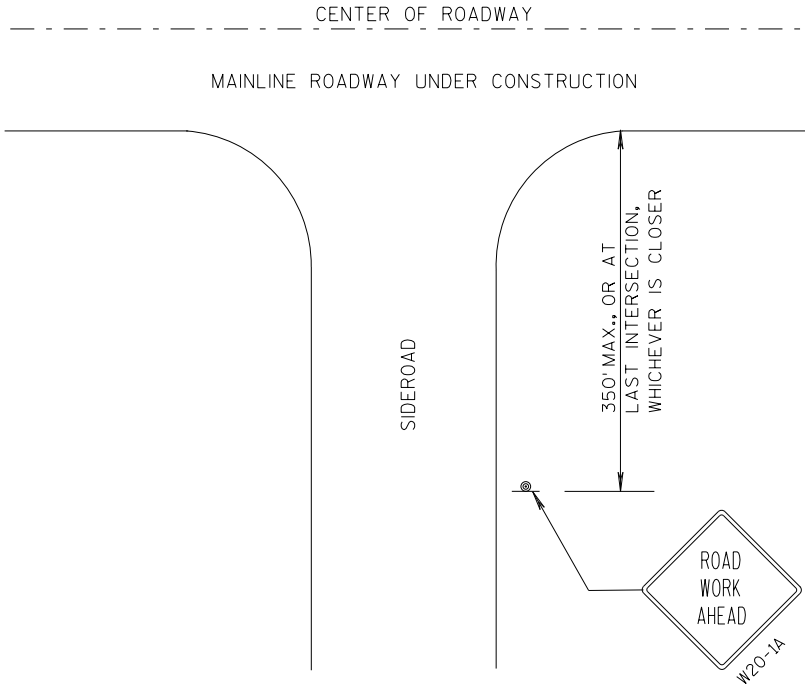
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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.

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

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

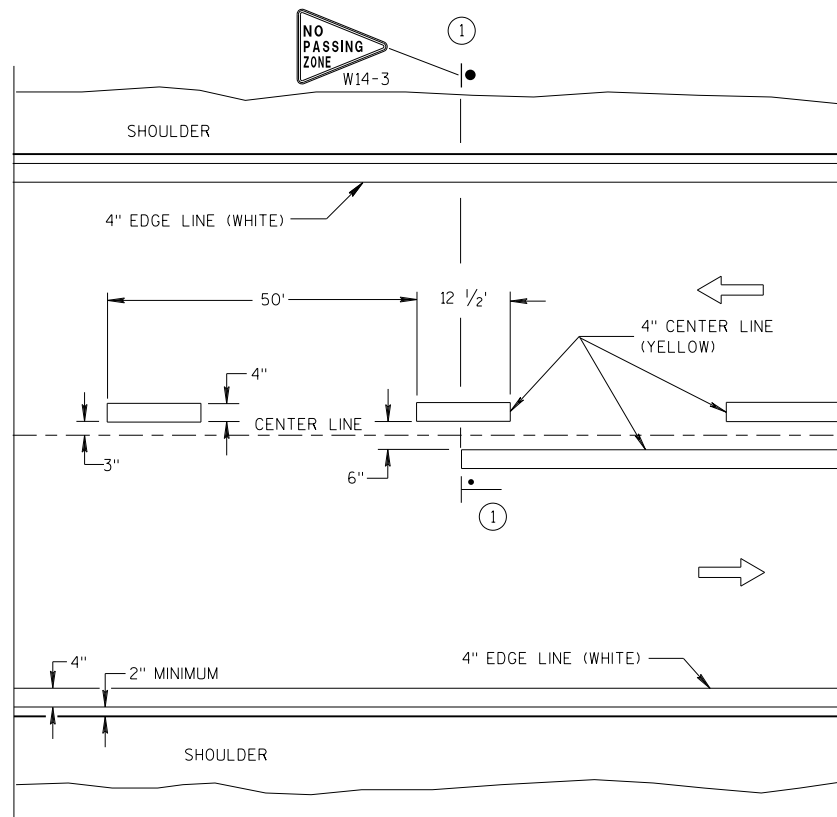
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



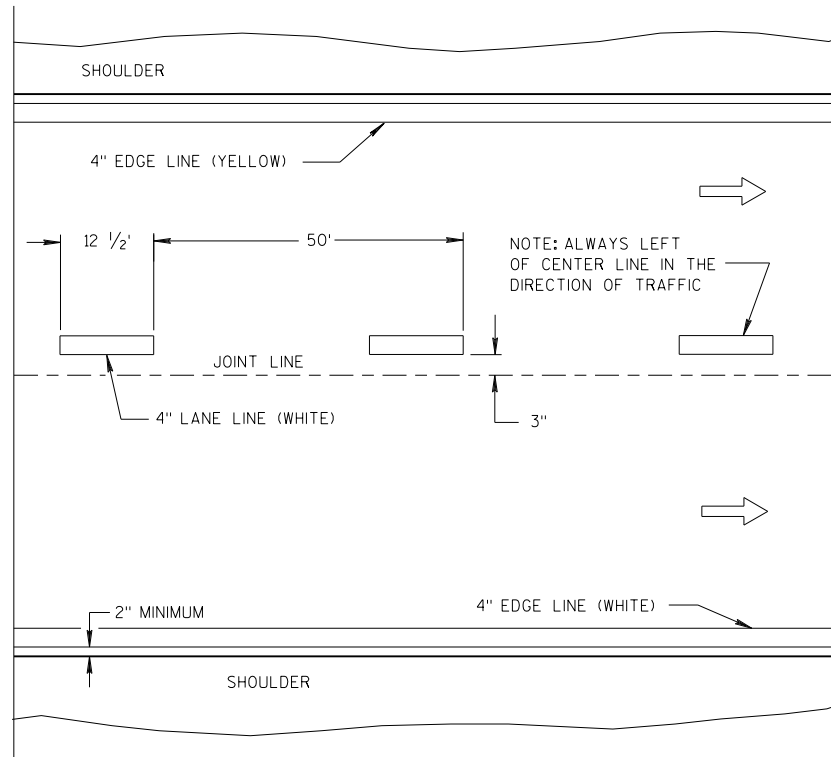
LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

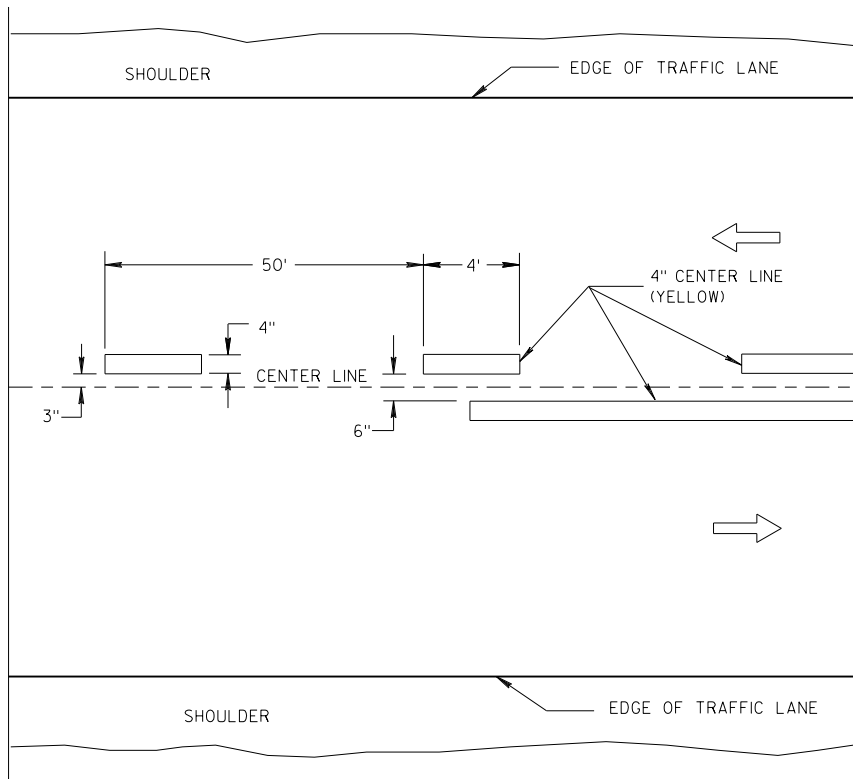


TWO WAY TRAFFIC

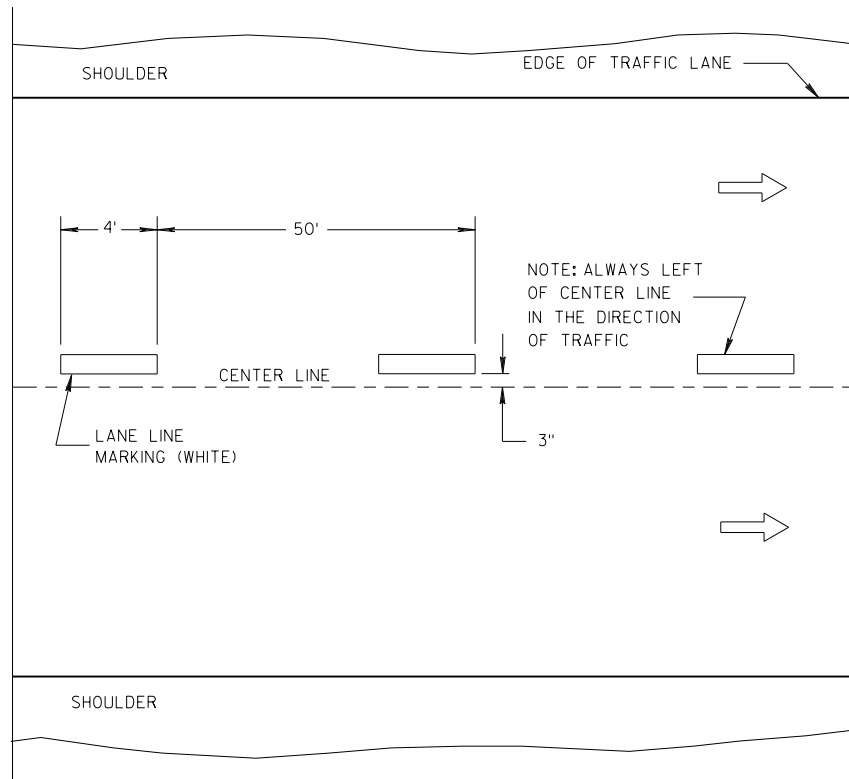


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

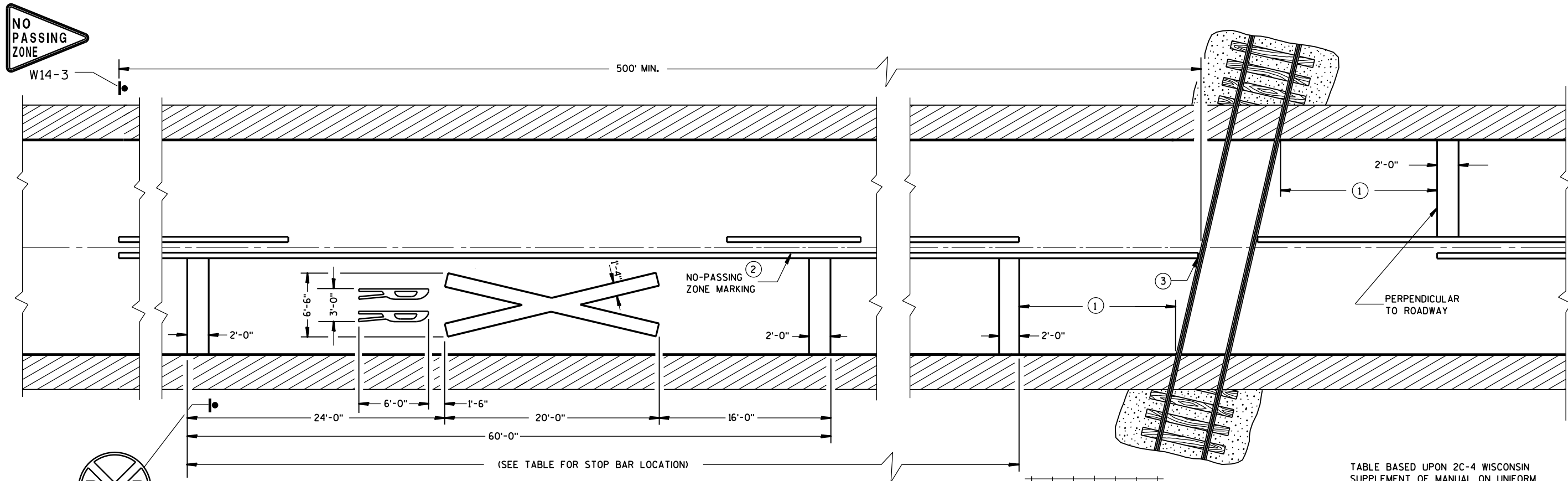
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



PAVEMENT MARKING

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.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

RETRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

- ① MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
- ② 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- ③ FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

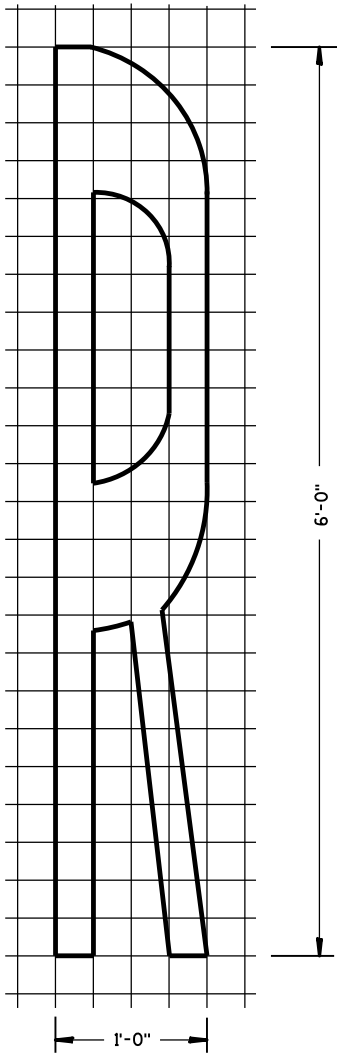


TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

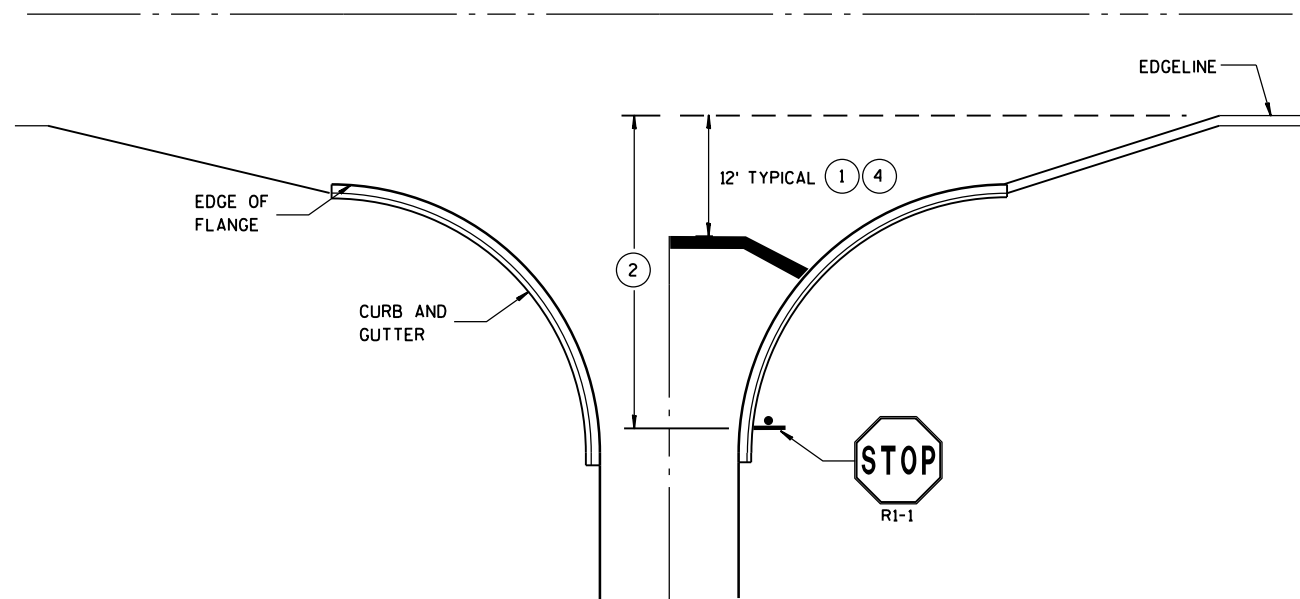
Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150*- 250
30	200*- 300
35	250*- 450
40	300*- 500
45	400*- 650
50	550*- 800
55	750*- 1000
60	1000*- 1250
65	1000*- 1250

* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.

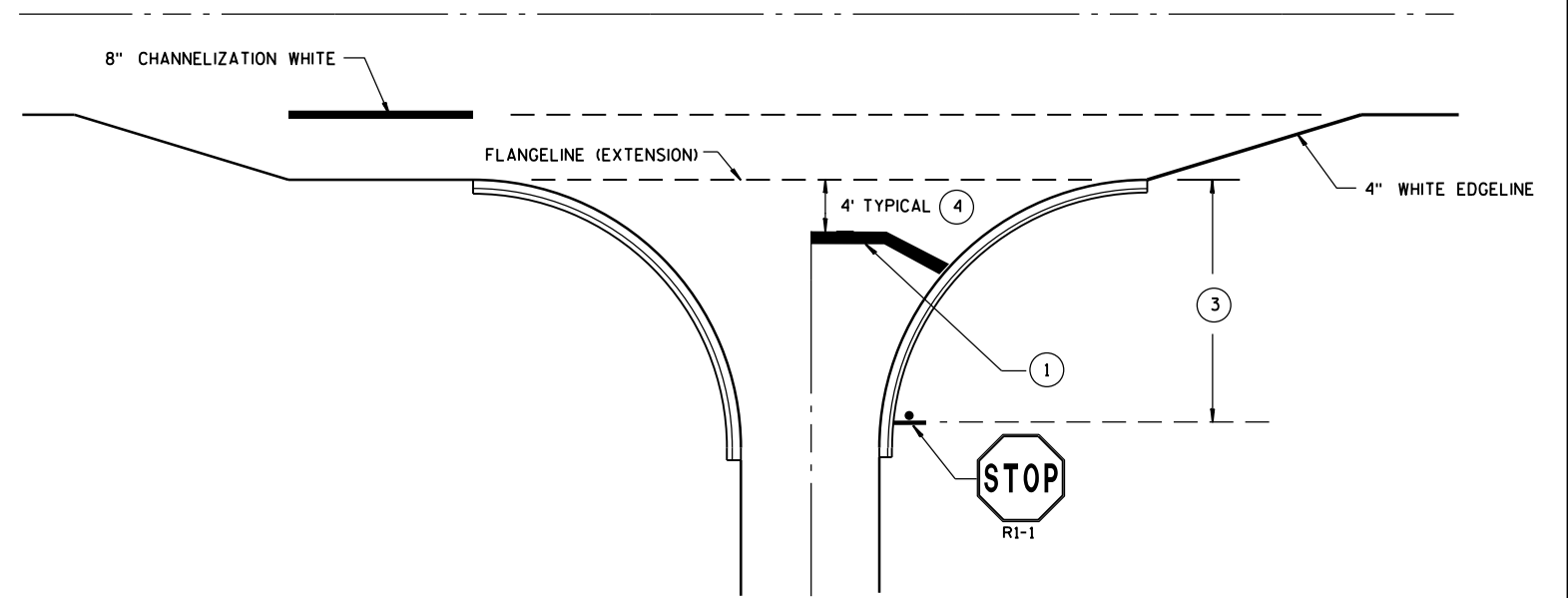
SIGNING AND PAVEMENT MARKING
DETAILS FOR RAILROAD-HIGHWAY
GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

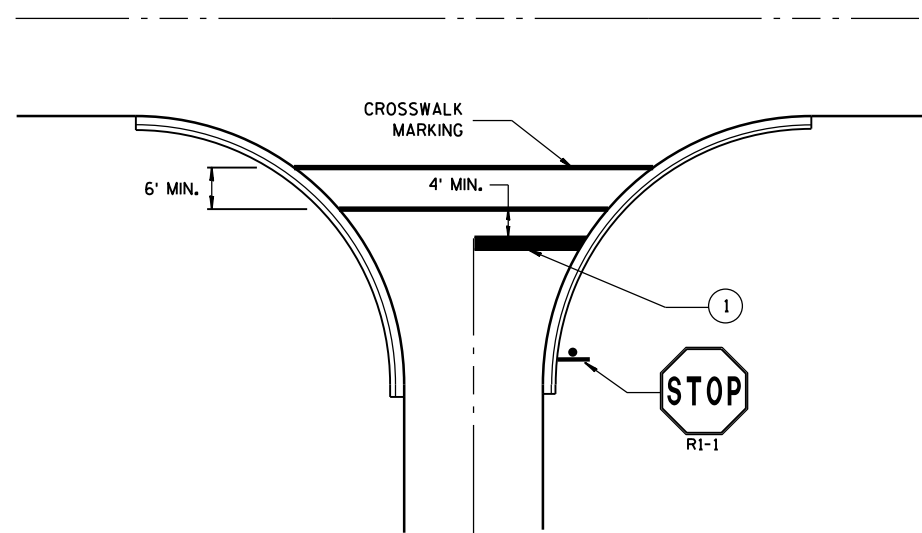
APPROVED
Sept., 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



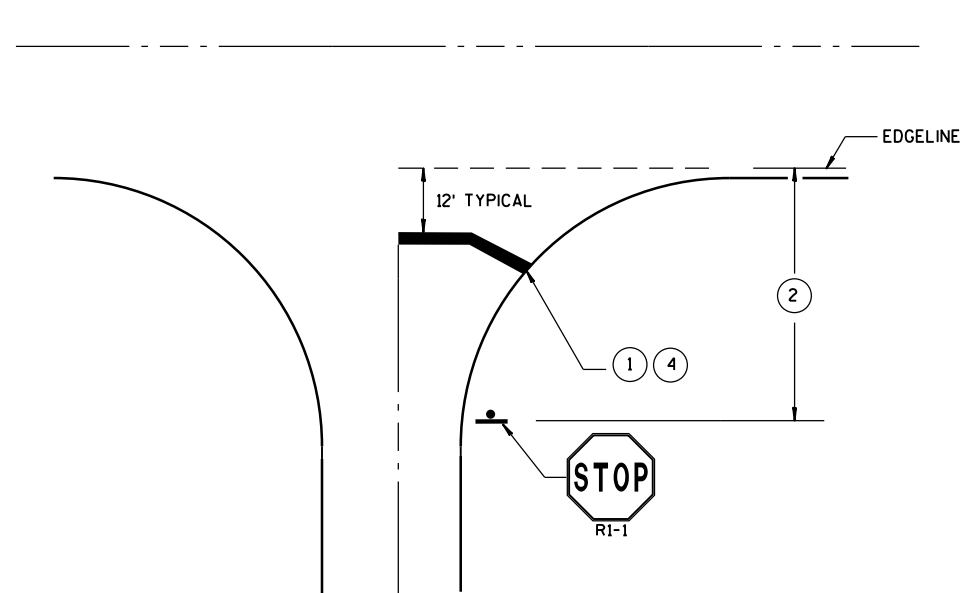
**TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER**



**TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE**



**TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING**



**TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER**

GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

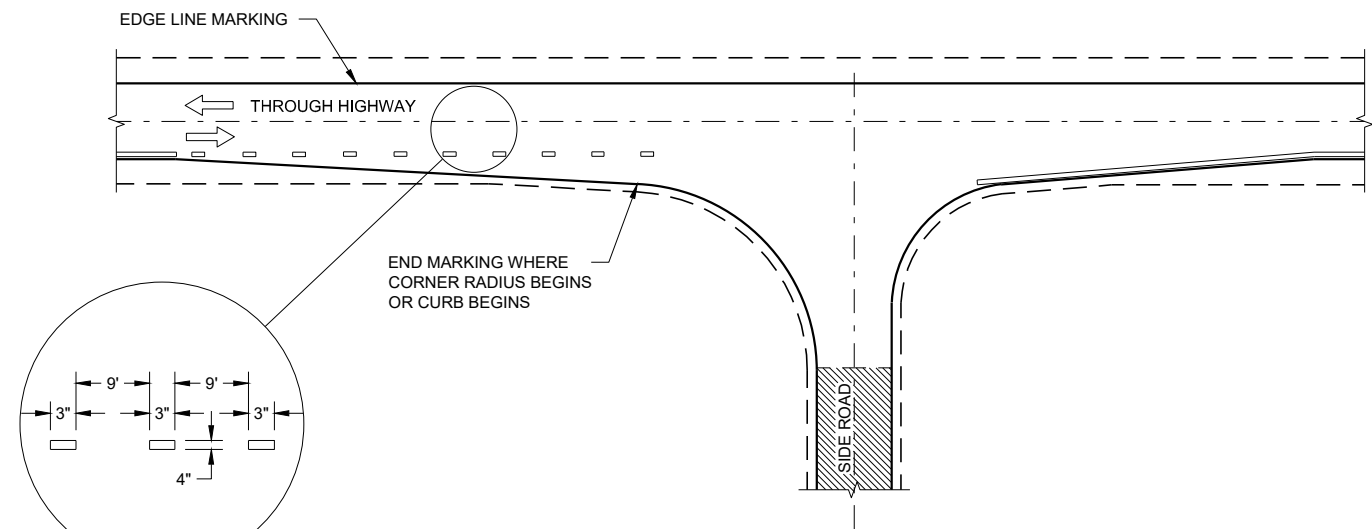
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

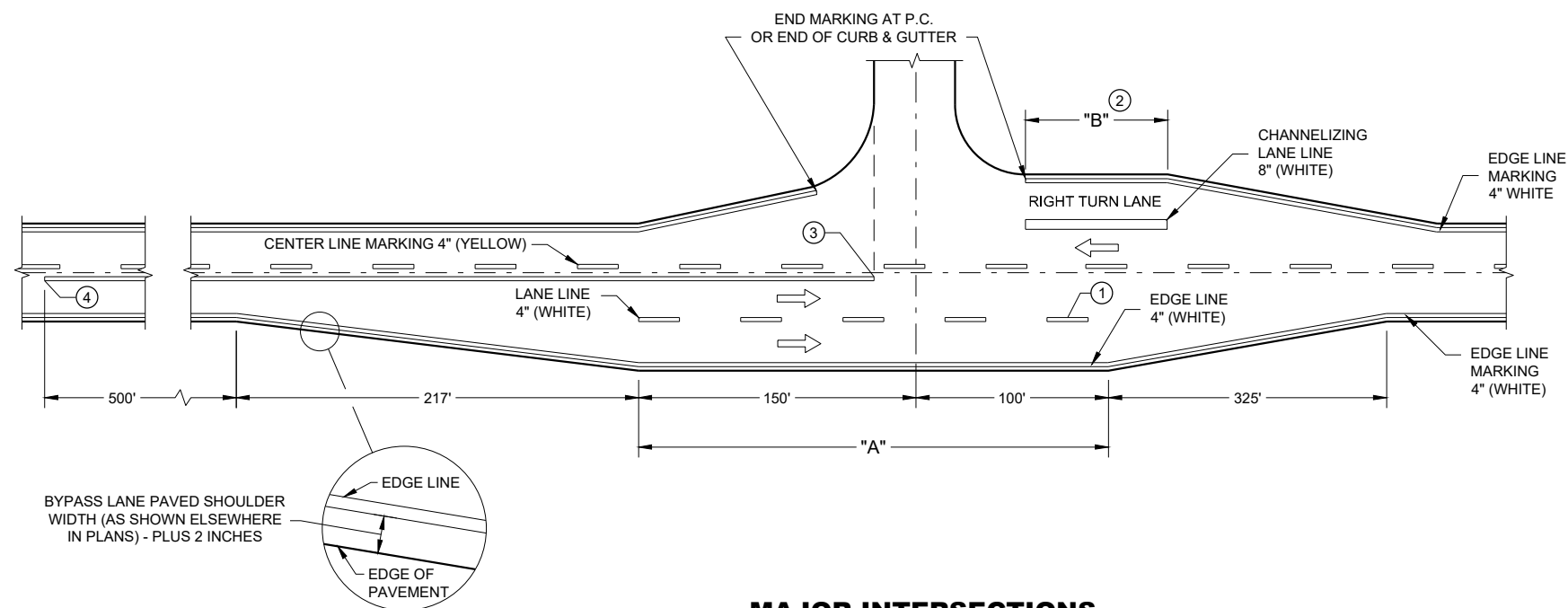
Sept., 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA



MINOR INTERSECTION



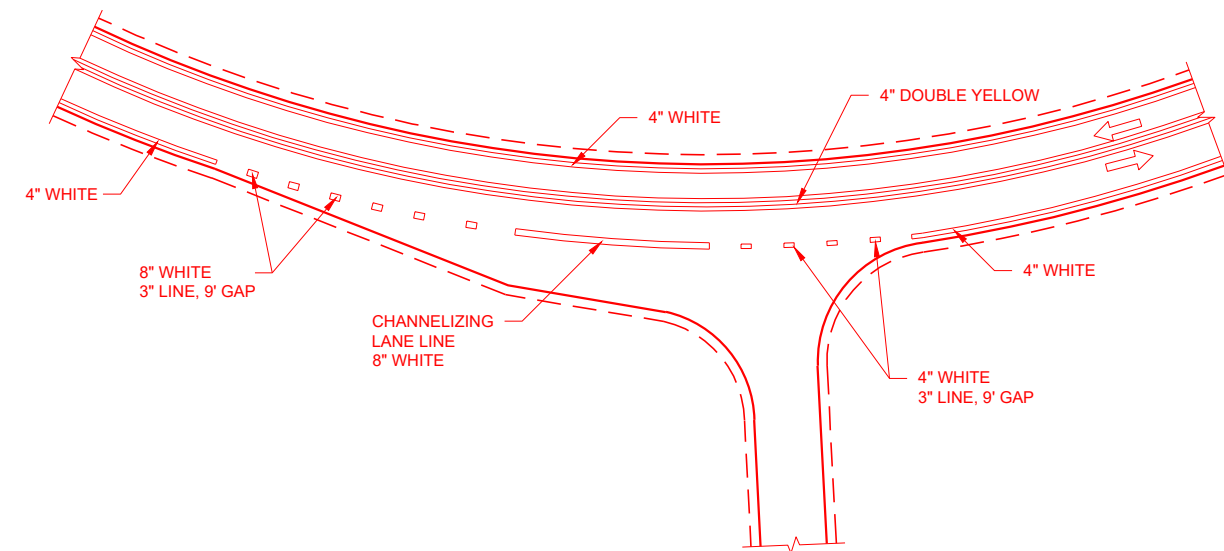
MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES 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 BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



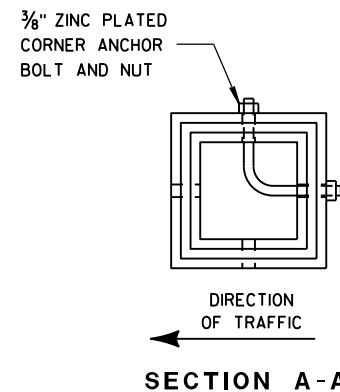
DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

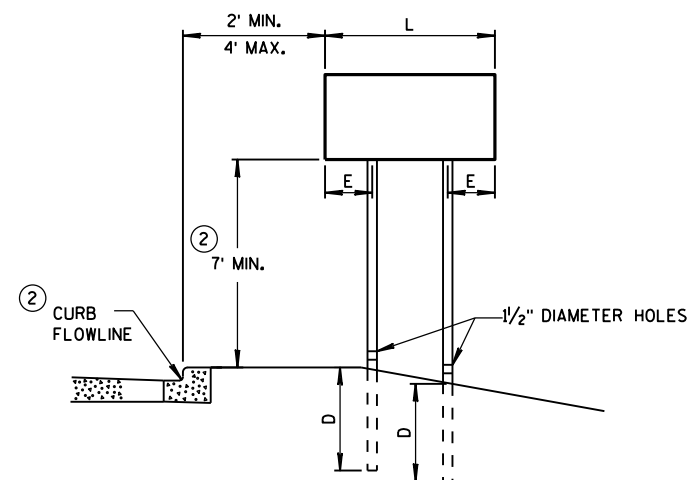
AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



SECTION A-A

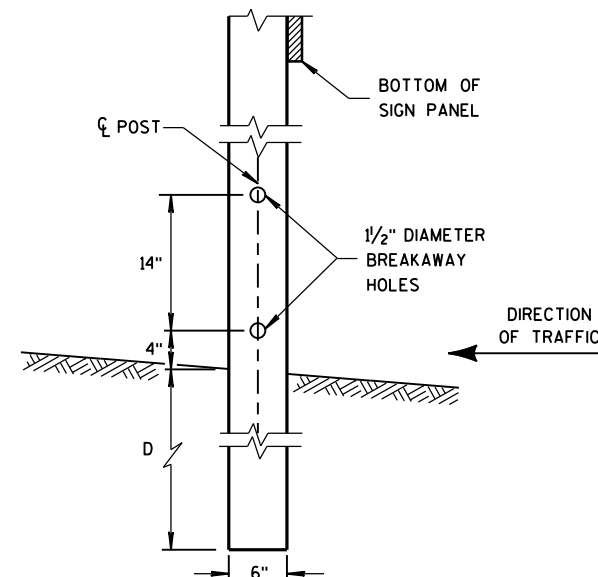


URBAN AREA

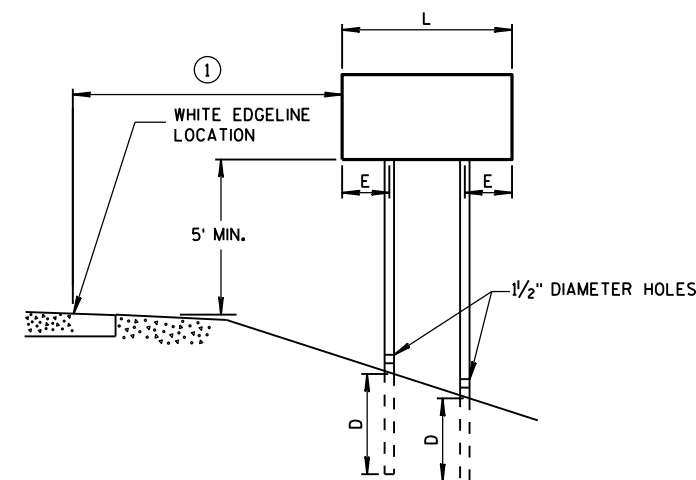
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4" X 6" WOOD POST
MODIFICATION



RURAL AREA

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- 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. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



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.

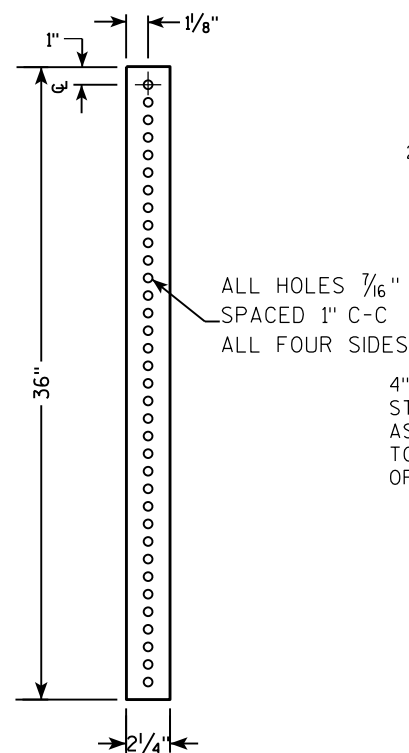
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE <u>8/11/16</u>	PLATE NO. <u>A4-8.8</u>

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



2 1/2" TELES PAR TUBE

4" x 10" x 10 GA. STEEL PLATE (CUT AS SHOWN) WELDED TO ALL FOUR CORNERS OF TELES PAR TUBE

4"

2 1/2"

10"

3 1/2"

18"

TECHNICAL DRAWING OF A VERTICAL SIGN POST ASSEMBLY.

Labels and Dimensions:

- 18" DIA SCHEDULE 40 PVC BOX-OUT**: The base container for the post.
- 36"**: Total height of the post assembly.
- 18"**: Height of the upper section.
- 13"**: Height of the lower section.
- 2 1/2" GRAVEL OR DIRT**: Material filling the base of the post.
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)**: Sleeve around the post base.
- 2 1/4" SQUARE X 36"**: The main vertical post.
- 2" STEEL TUBULAR SQUARE UPPER SECTION**: The upper part of the post.
- ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES**: Specification for the post's ventilation holes.
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT**: Hardware securing the post to the sleeve.
- 3/16" ZINC PLATED ANCHOR BOLT AND NUT**: Hardware securing the sleeve to the box-out.
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**: Reference to a sign plate for hardware details.
- SIGN**: The sign plate at the top of the post.
- TELESCOPE PIECES FLUSH AT TOP**: Note about the top of the post sections.
- LONGITUDINAL SECTION ON MISC. QTY'S**: Note about the post's construction.

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

- Overall height: LENGTH SHOWN ON MISC. QTYS
- Top section height: 81"
- Section below top: 18"
- Section below that: 12"
- Section below that: 36"

End View Dimensions:

- Top section width: 2"
- Section below top: 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- Section below that: 2 1/4" SQUARE X 36"

Labels and Notes:

- SIGN
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES 7/16" SPACED 1" C-C
- ALL FOUR SIDES
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- TELESCOPE PIECES FLUSH AT TOP
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT

A schematic diagram of a square microfluidic chip. It features a central square channel with rounded corners. Four inlet/outlet ports are located at the midpoints of the outer edges of the chip. A central vertical channel runs from the top port, turns 90 degrees to the right, and then continues horizontally to the right port. The chip is represented by a square frame with small rectangular features at the corners and midpoints of the sides.

DIRECTION
OF TRAFFIC

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 2/05/15 PLATE NO. A4-9.9

PROJECT NO:

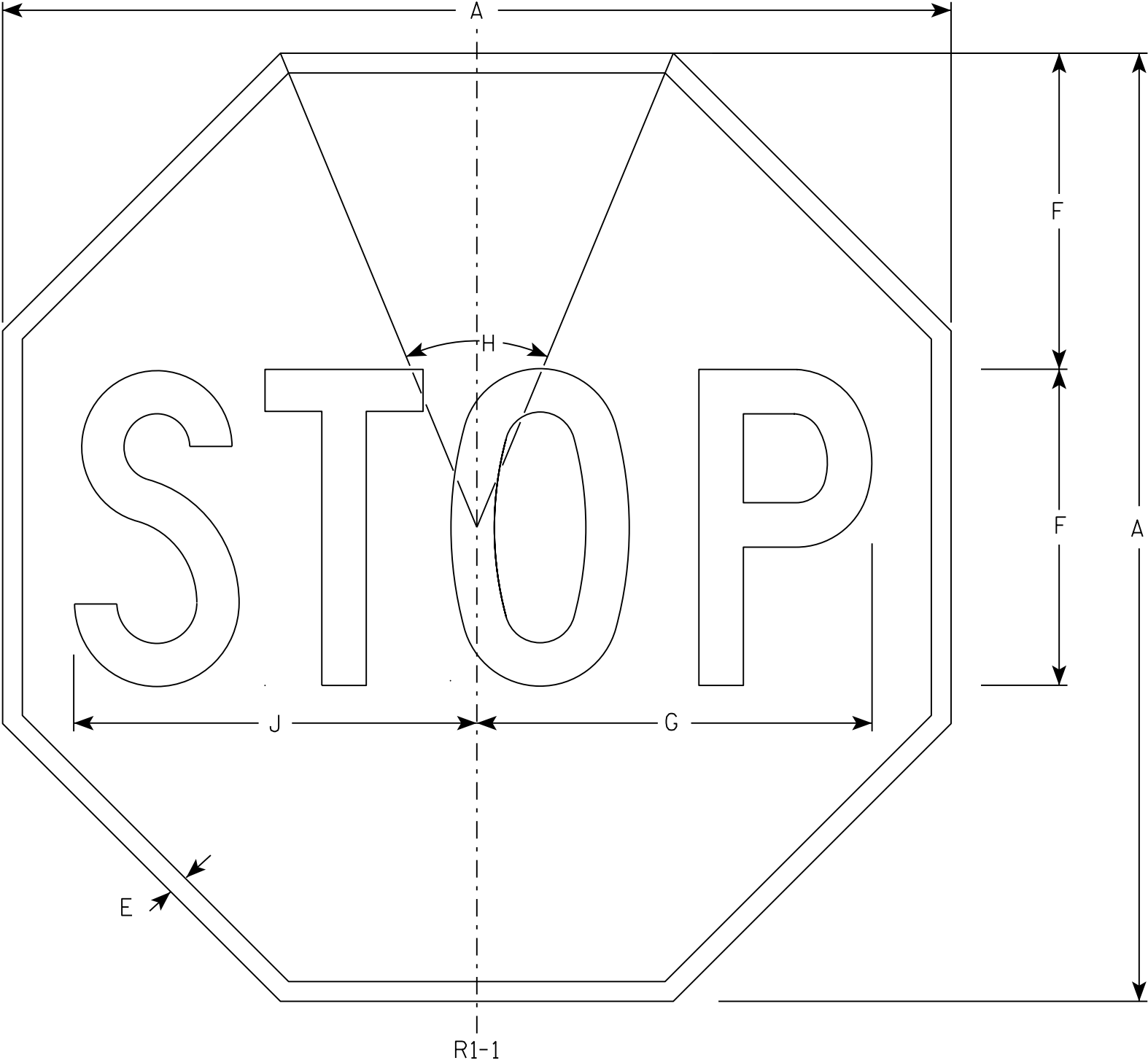
HWY:

COUNTY:

SHEET NO: 30

T

7



NOTES

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

7

R1-1

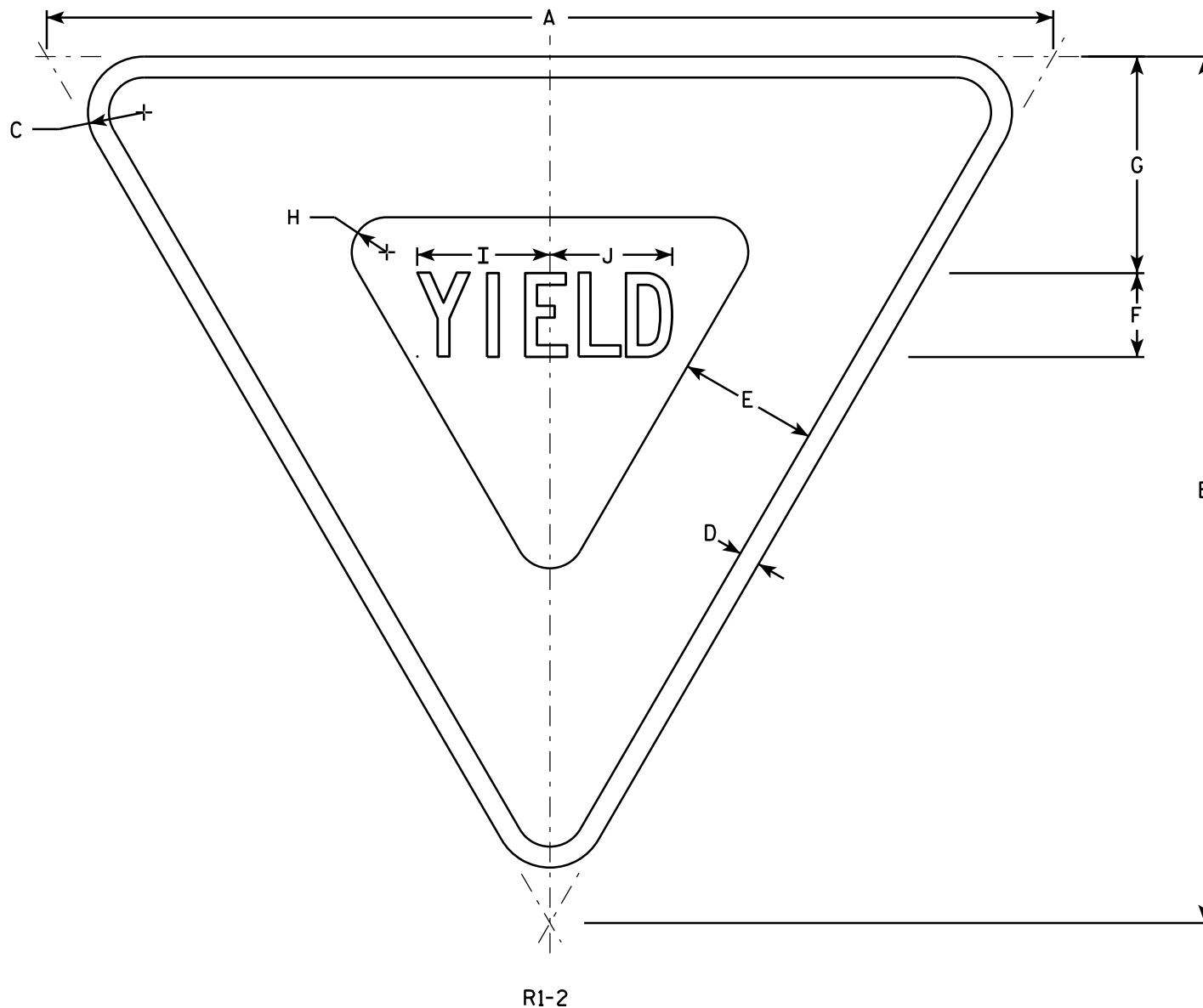
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		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 11/12/15 PLATE NO. R1-1.13



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.

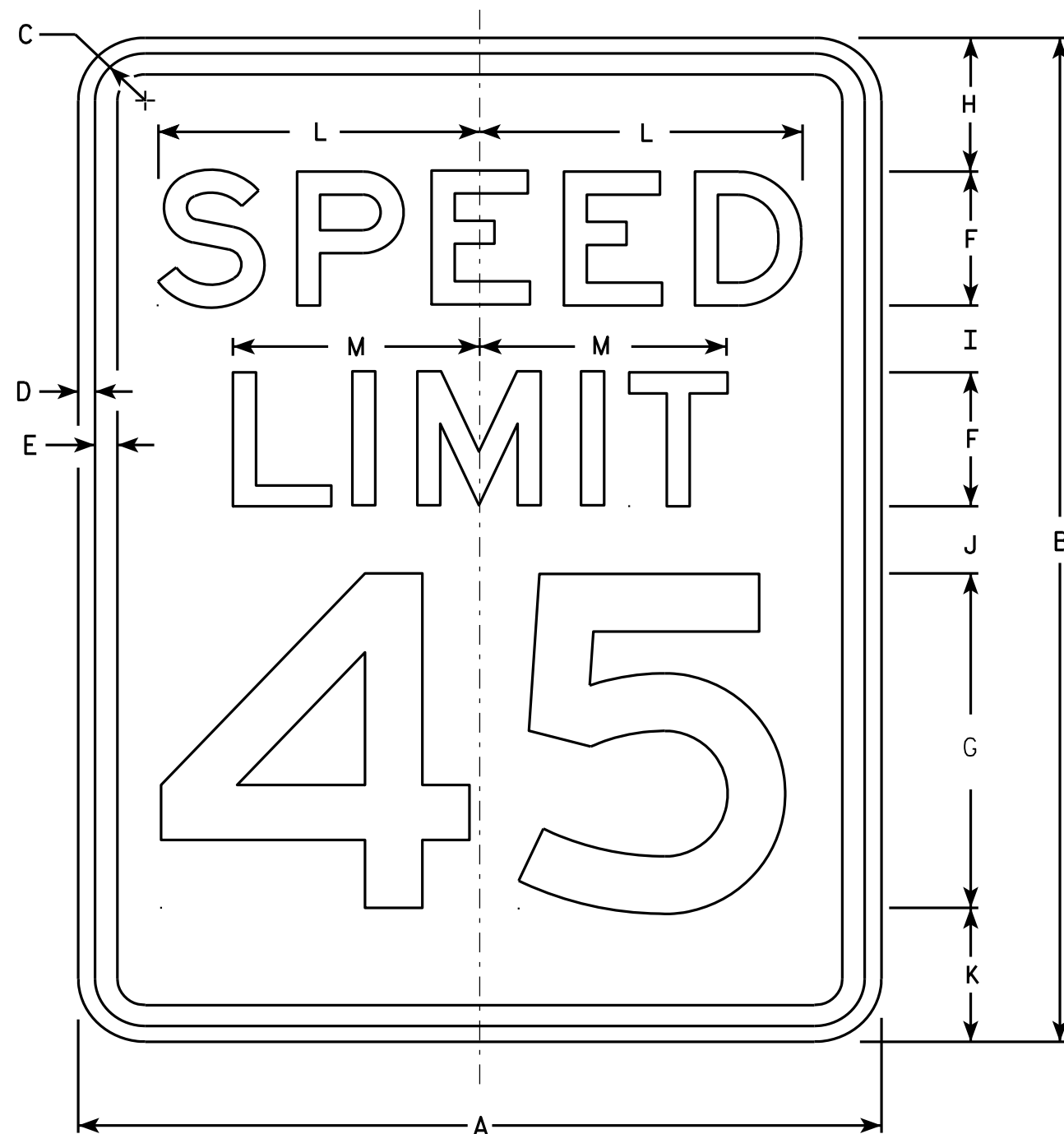
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	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																											
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 10/13/14 PLATE NO. R1-2.12



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.

R2-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	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:

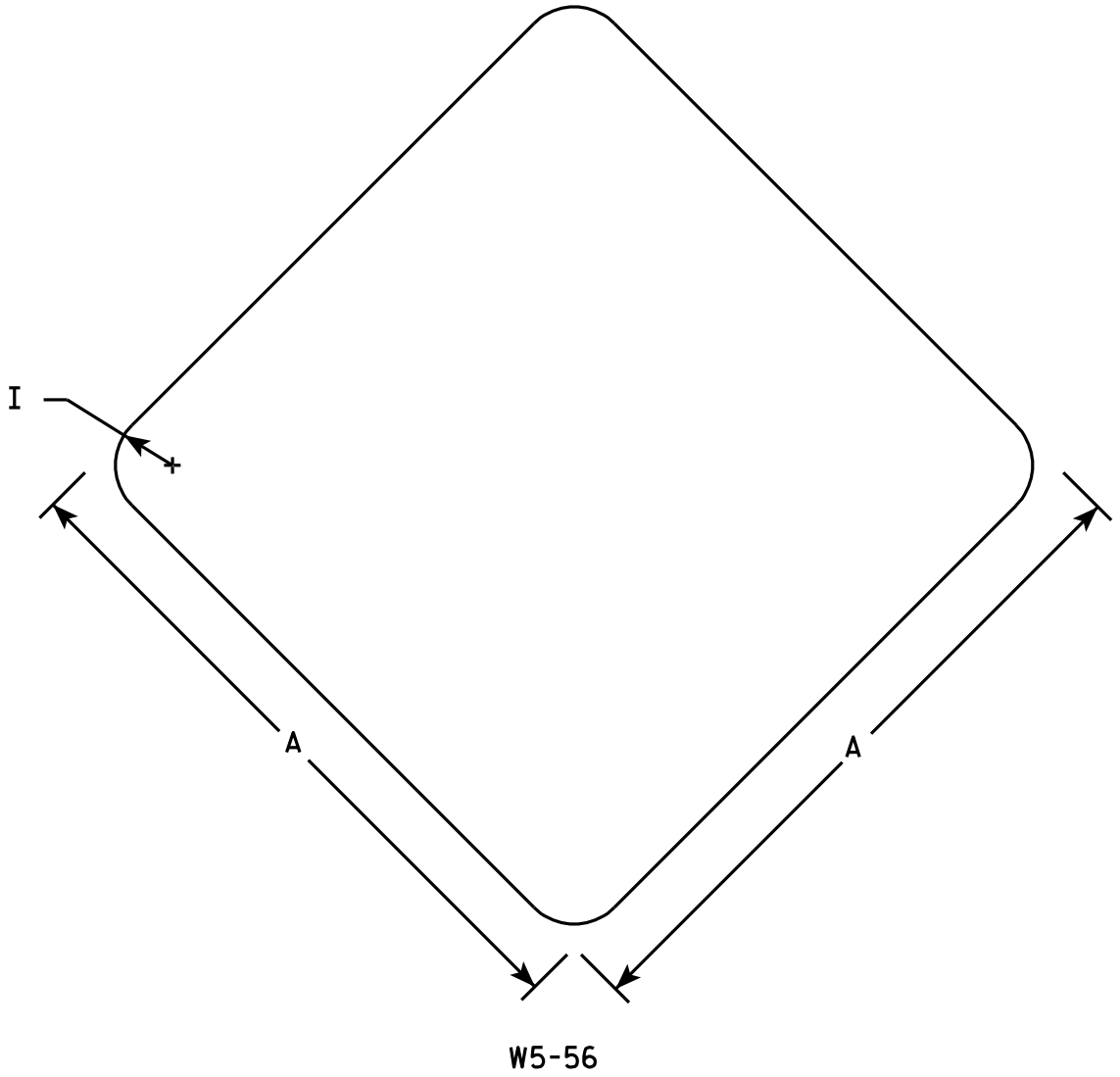
COUNTY:

SHEET NO: 33

E

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.



7

7

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

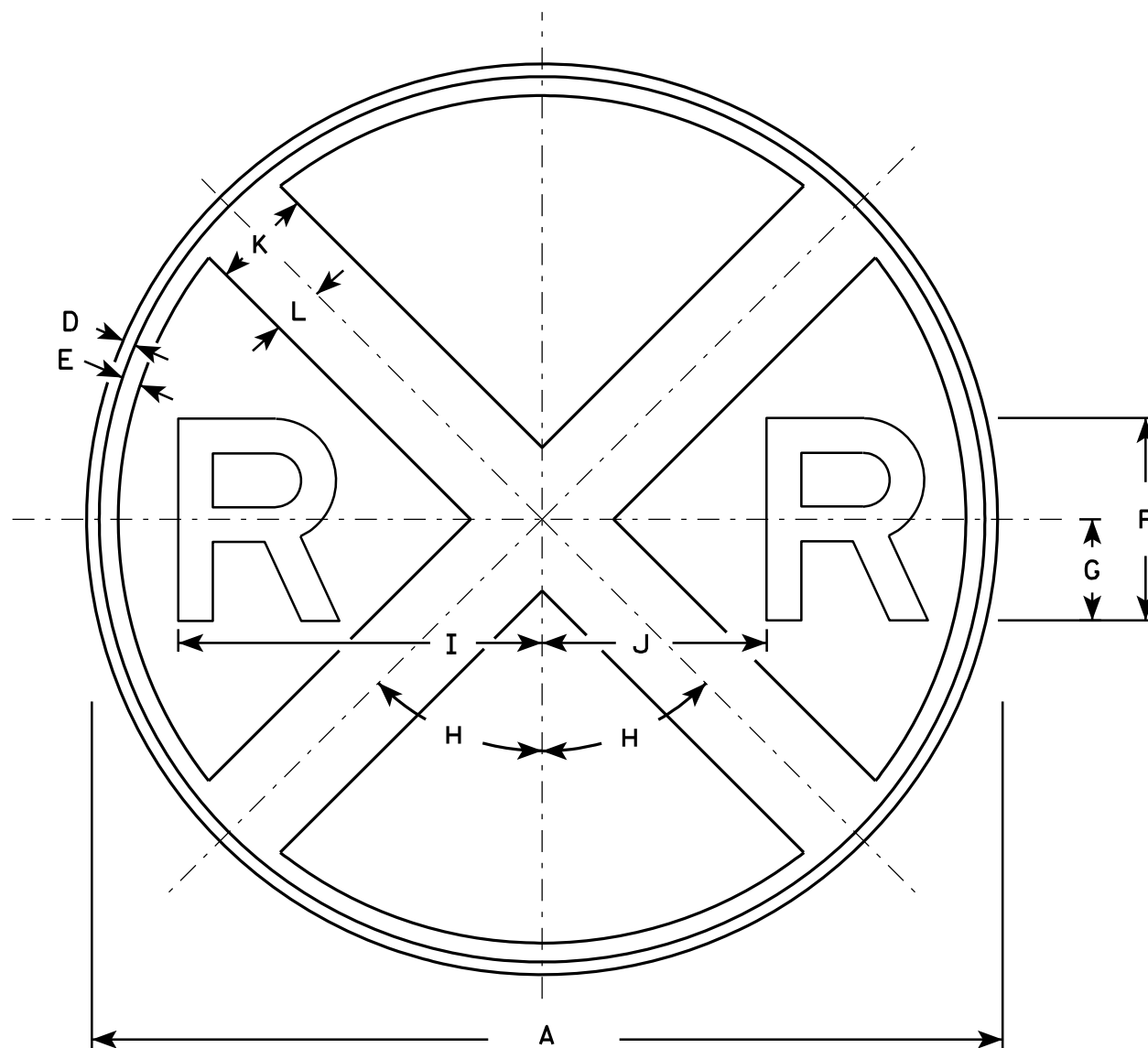
STANDARD SIGN

W5 - 56

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/2/10 PLATE NO. W5-56.6



W10-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Message Series - 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	30			3/8	5/8	7	3 1/2	45°	12 3/8	7 1/8	3	1 1/2															4.91
2S	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
2M	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
3																											
4	48			3/4	1 1/4	10	5	45°	18 3/8	11 5/8	5	2 1/2															12.57
5																											

STANDARD SIGN
W10-1

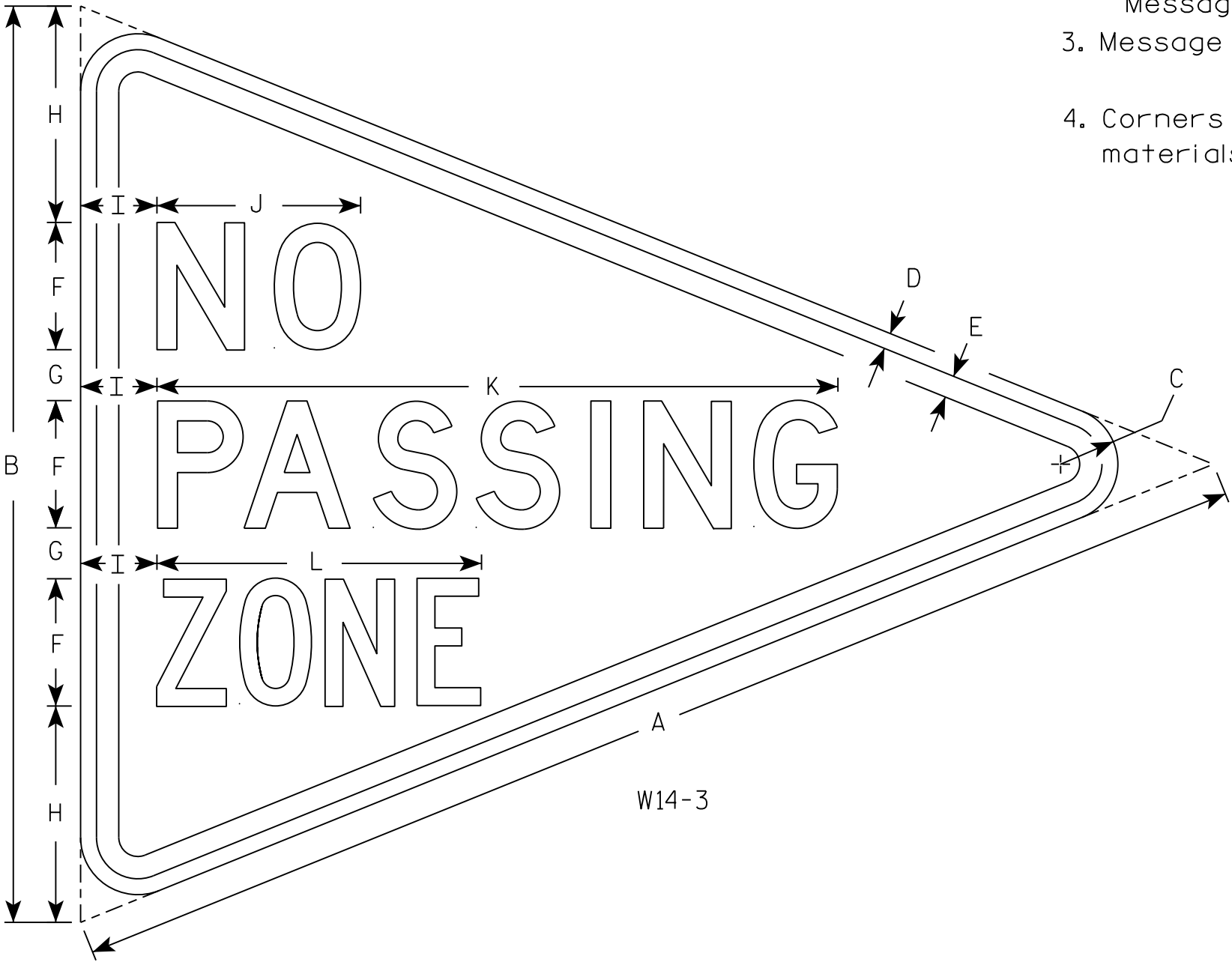
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/13/13 PLATE NO. W10-1.8

PROJECT NO: HWY: COUNTY: SHEET NO: 35 E

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - Lines 1 and 2 are Series D.
Line 3 is series C.
- 4. Corners and borders shall be rounded on all base materials for this sign.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

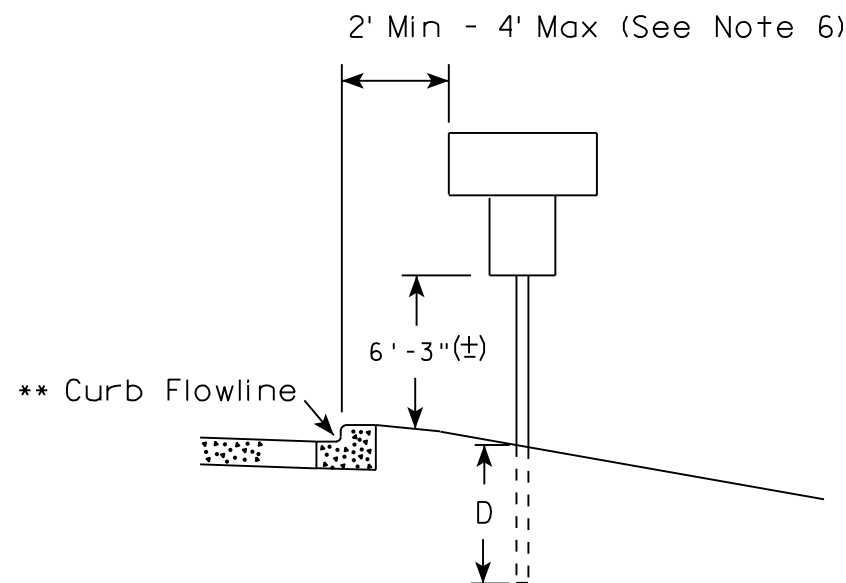
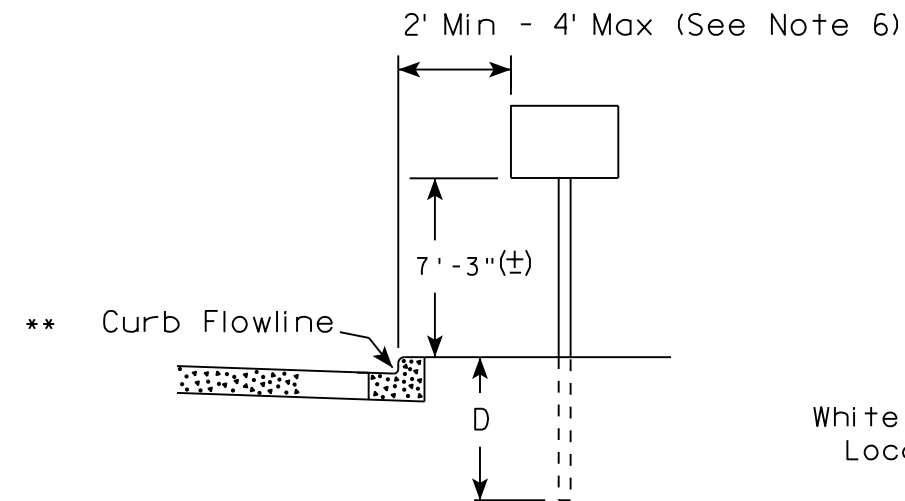
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

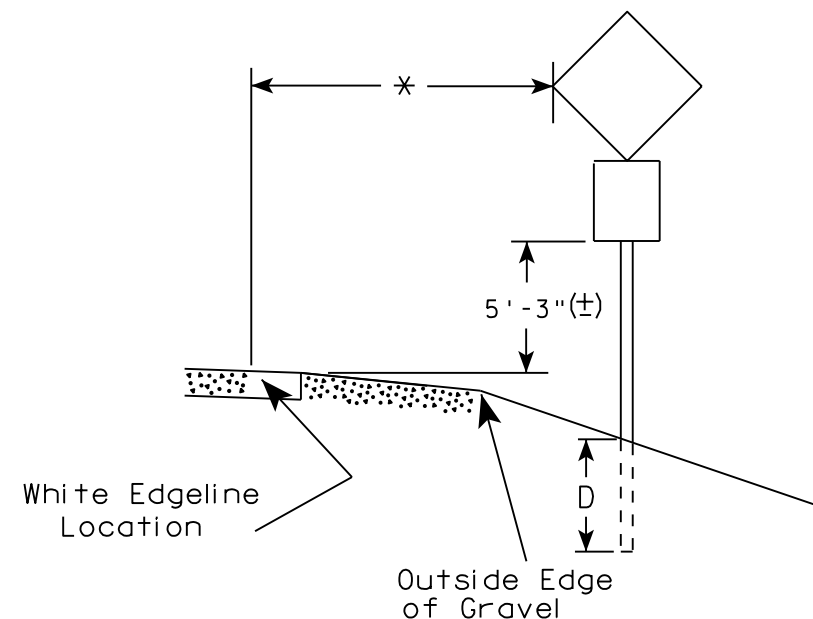
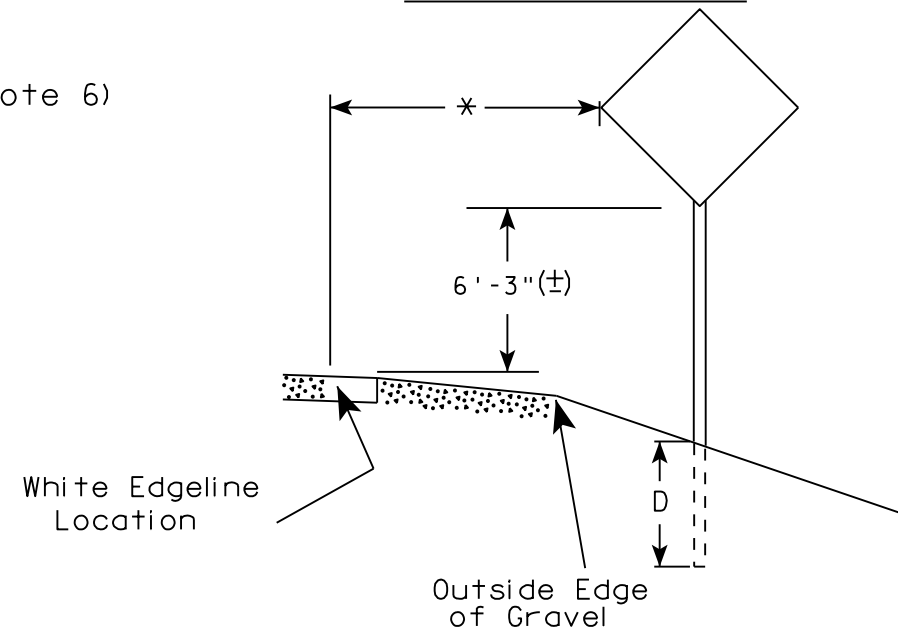
DATE 3/21/17 PLATE NO. W14-3.10

URBAN AREA



✱✱ 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.

RURAL AREA (See Note 2)



* 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

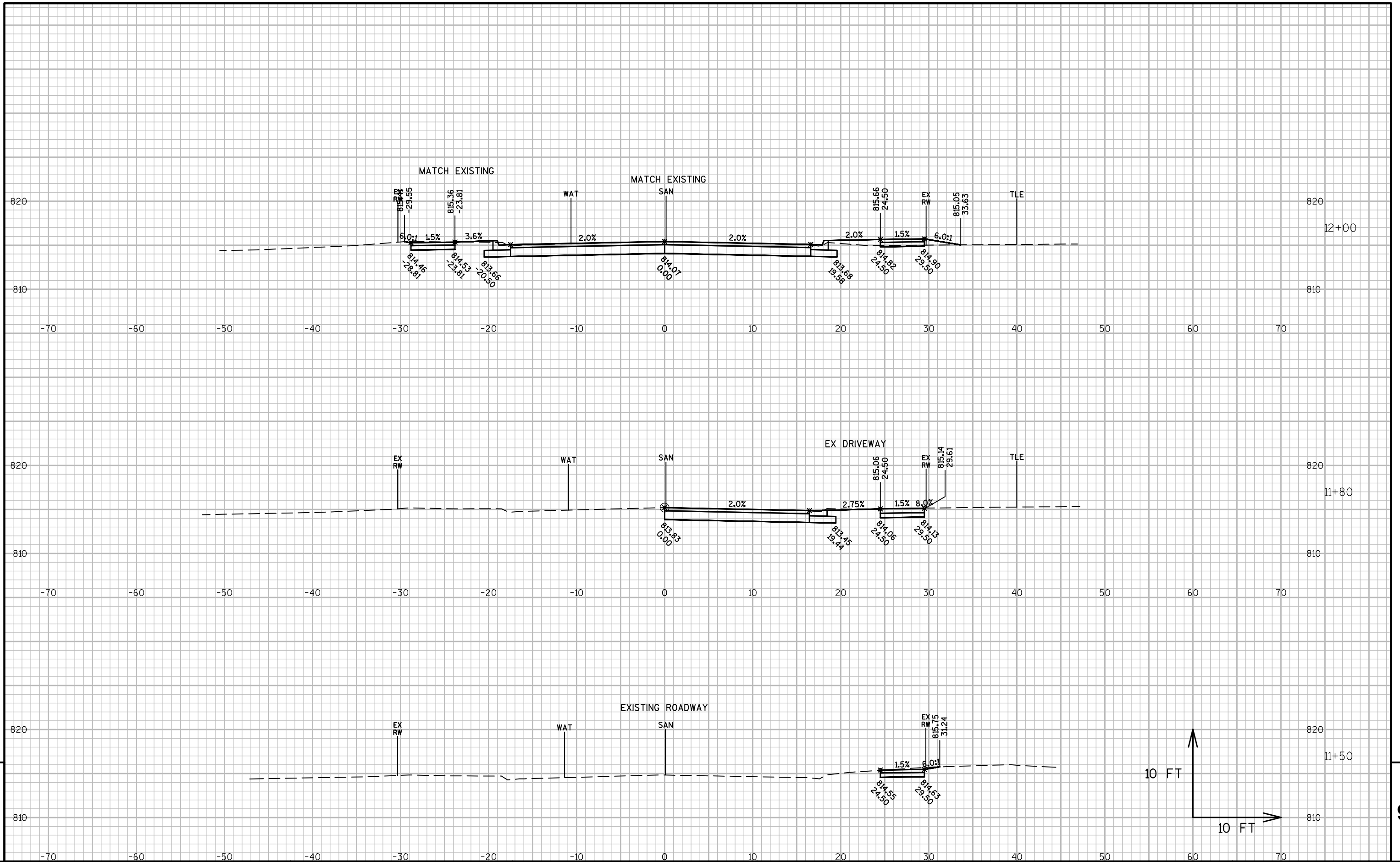
WISCONSIN DEPT OF TRANSPORTATION

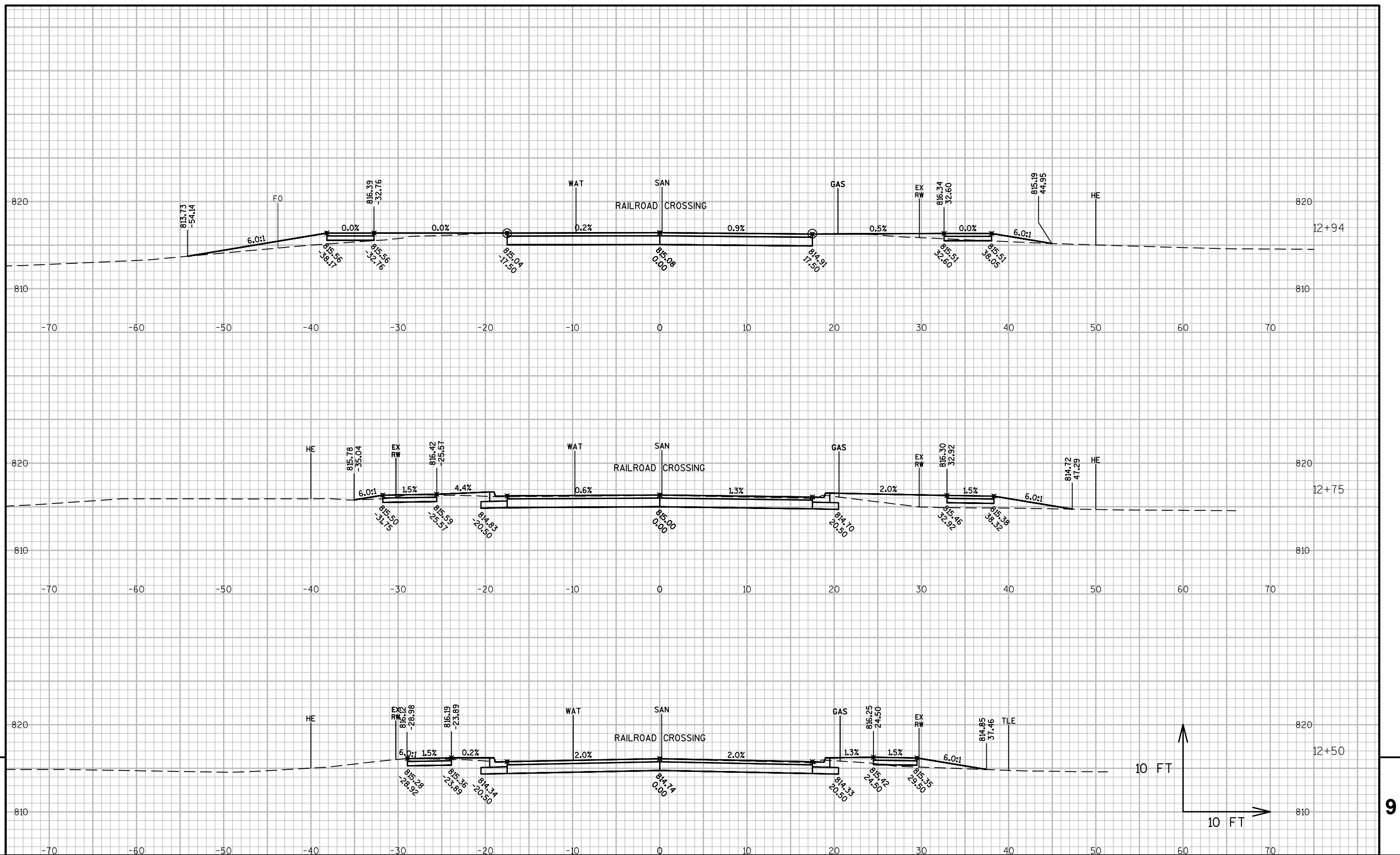
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

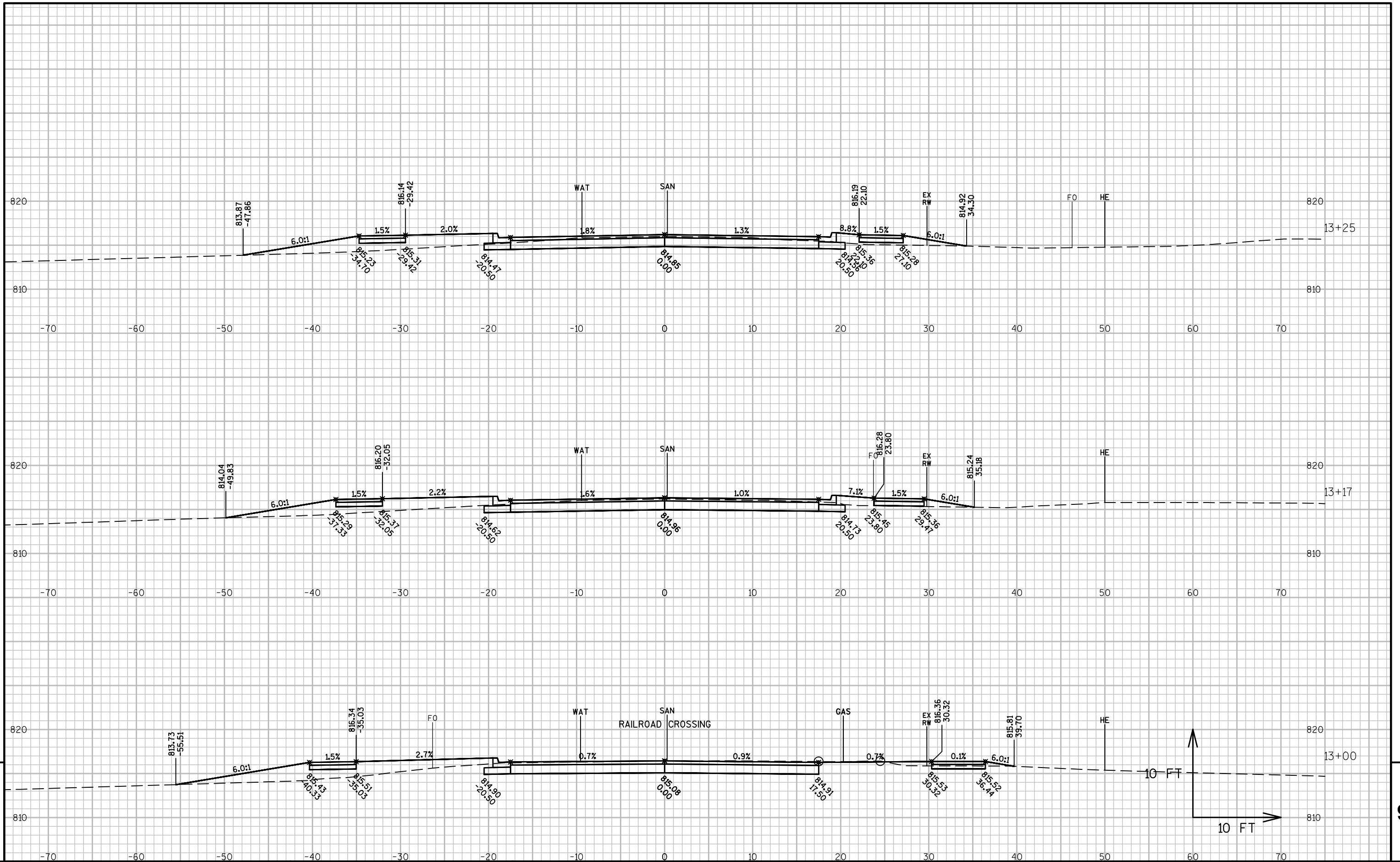
DATE 8/21/17 PLATE NO. A4-3.21

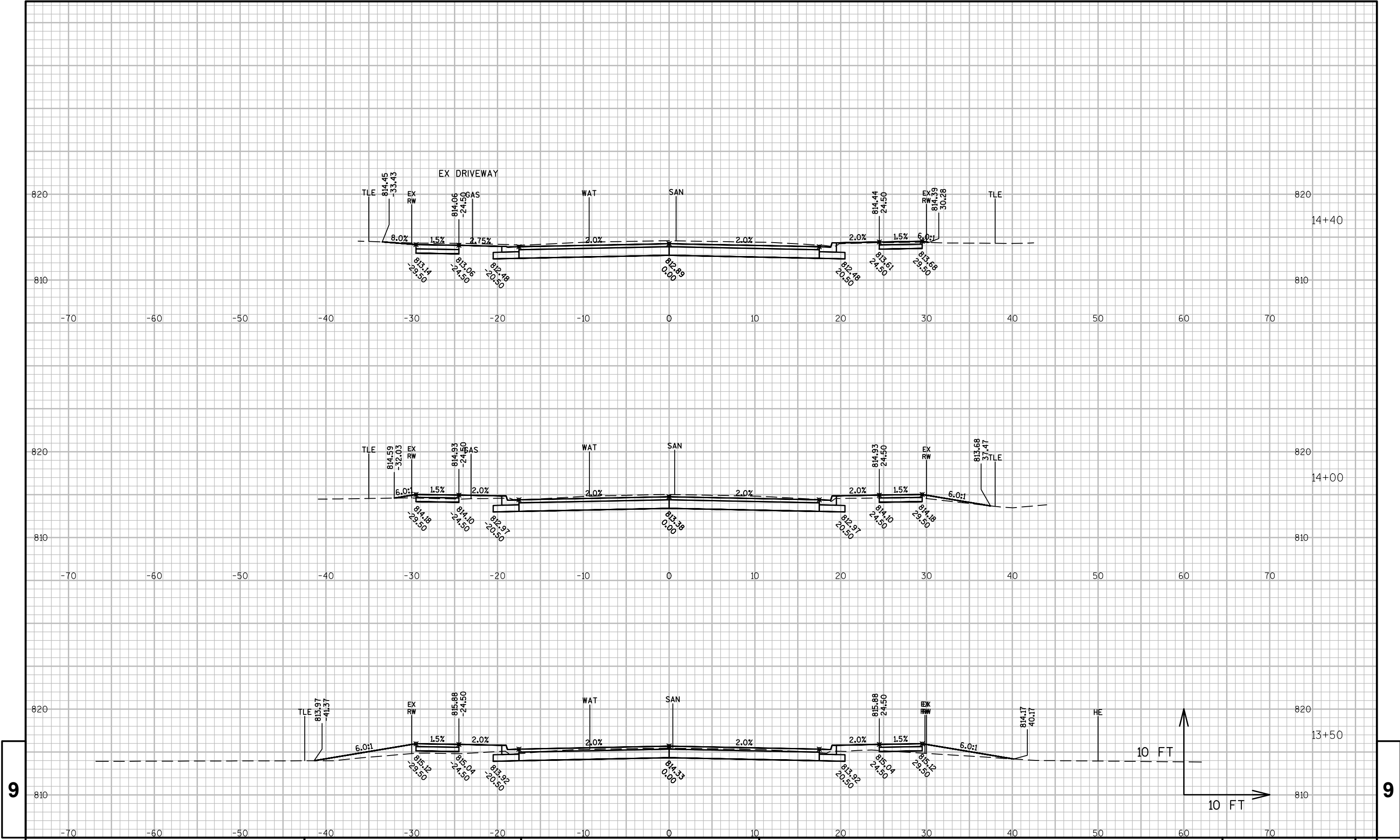
STATION	Real Station	Distance	AREA (SF)							Incremental Vol (CY) (Unadjusted)							Cumulative Vol (CY)								Mass Ordinate
			Cut	Salvaged/ Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut	Salvaged/ Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Expanded Marsh		Expanded EBS		Reduced Marsh	Reduced EBS					
															1.00 Note 1	1.25 Note 2	1.50 Note 4	1.10 Note 5	1.30 Note 6	0.80 Note 7					
																					Backfill	Expanded d Rock	Backfill	in Fill	
11+50.000	1150		2.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11+80.000	1180	30	33.56	0	0	0	0	0	20	0	0	0	0	0	20	0	0	0	0	0	0	20			
12+00.000	1200	20	59.24	0	2.19	0	0	0	34	0	1	0	0	0	55	1	0	0	0	0	0	54			
12+50.000	1250	50	57.79	0	1.88	0	0	0	108	0	4	0	0	0	163	6	0	0	0	0	0	157			
12+75.000	1275	25	61.55	0	11.49	0	0	0	55	0	6	0	0	0	218	13	0	0	0	0	0	205			
12+94.000	1294	19	32.94	0	2.54	0	0	0	33	0	5	0	0	0	251	20	0	0	0	0	0	232			
13+00.000	1300	6	68.17	0	8.32	0	0	0	11	0	1	0	0	0	263	21	0	0	0	0	0	241			
13+17.230	1317	17	47.16	0	13.07	0	0	0	37	0	7	0	0	0	299	30	0	0	0	0	0	270			
13+25.000	1325	8	39.71	0	20.68	0	0	0	12	0	5	0	0	0	312	36	0	0	0	0	0	276			
13+50.000	1350	25	43.49	0	8.83	0	0	0	39	0	14	0	0	0	350	53	0	0	0	0	0	298			
14+00.000	1400	50	68.92	0	3.06	0	0	0	104	0	11	0	0	0	455	67	0	0	0	0	0	388			
14+40.000	1440	40	77.93	0	0.11	0	0	0	109	0	2	0	0	0	563	70	0	0	0	0	0	494			
14+50.000	1450	10	76.39	0	0.76	0	0	0	29	0	0	0	0	0	592	70	0	0	0	0	0	522			
14+65.000	1465	15	84.43	0	0.15	0	0	0	45	0	0	0	0	0	637	70	0	0	0	0	0	567			
14+90.000	1490	25	86.89	0	0	0	0	0	79	0	0	0	0	0	716	70	0	0	0	0	0	646			
15+00.000	1500	10	82.10	0	0	0	0	0	31	0	0	0	0	0	747	70	0	0	0	0	0	677			
15+30.000	1530	30	87.21	0	0.04	0	0	0	94	0	0	0	0	0	841	70	0	0	0	0	0	771			
15+50.000	1550	20	87.68	0	0.07	0	0	0	65	0	0	0	0	0	906	70	0	0	0	0	0	836			
15+60.000	1560	10	81.96	0	0	0	0	0	31	0	0	0	0	0	937	70	0	0	0	0	0	867			
15+75.000	1575	15	80.42	0	0.14	0	0	0	45	0	0	0	0	0	983	70	0	0	0	0	0	912			
16+00.000	1600	25	68.53	0	0.23	0	0	0	69	0	0	0	0	0	1051	70	0	0	0	0	0	981			
16+50.000	1650	50	107.52	0	0	0	0	0	163	0	0	0	0	0	1214	71	0	0	0	0	0	1144			
17+00.000	1700	50	70.00	0	0.47	0	0	0	164	0	0	0	0	0	1379	71	0	0	0	0	0	1308			
17+25.000	1725	25	79.31	0	1.1	0	0	0	69	0	1	0	0	0	1448	72	0	0	0	0	0	1376			
17+50.000	1750	25	79.87	0	0.08	0	0	0	74	0	1	0	0	0	1522	73	0	0	0	0	0	1449			
17+55.000	1755	5	84.01	0	0.55	0	0	0	15	0	0	0	0	0	1537	73	0	0	0	0	0	1464			
17+72.000	1775	20	92.42	0	0	0	0	0	65	0	0	0	0	0	1602	73	0	0	0	0	0	1529			
17+90.000	1790	15	102.25	0	0	0	0	0	54	0	0	0	0	0	1656	73	0	0	0	0	0	1583			
18+00.000	1800	10	84.48	0	0.08	0	0	0	35	0	0	0	0	0	1691	73	0	0	0	0	0	1618			
18+45.000	1845	45	72.33	0	0.25	0	0	0	131	0	0	0	0	0	1822	74	0	0	0	0	0	1748			
18+50.000	1850	5	77.06	0	1.14	0	0	0	14	0	0	0	0	0	1835	74	0	0	0	0	0	1762			
18+70.000	1870	20	72.96	0	1.33	0	0	0	56	0	1	0	0	0	1891	75	0	0	0	0	0	1816			
19+00.000	1900	30	60.90	0	0.45	0	0	0	74	0	1	0	0	0	1965	76	0	0	0	0	0	1889			
19+50.000	1950	50	70.69	0	0.37	0	0	0	122	0	1	0	0	0	2087	77	0	0	0	0	0	2010			
19+70.000	1970	20	76.02	0	0.31	0	0	0	54	0	0	0	0	0	2141	77	0	0	0	0	0	2064			
20+00.000	2000	30	73.30	0	0.71	0	0	0	83	0	1	0	0	0	2224	78	0	0	0	0	0	2146			
20+35.000	2035	35	75.83	0	0.16	0	0	0	97	0	1	0	0	0	2321	79	0	0	0	0	0	2242			
20+50.000	2050	15	75.16	0	0	0	0	0	42	0	0	0	0	0	2363	79	0	0	0	0	0	2284			
21+00.000	2100	50	87.04	0	0.08	0	0	0	150	0	0	0	0	0	2513	79	0	0	0	0	0	2434			
21+50.000	2150	50	90.17	0	0.06	0	0	0	164	0	0	0	0	0	2677	79	0	0	0	0	0	2598			
22+00.000	2200	50	76.24	0	0.06	0	0	0	154	0	0	0	0	0	2831	79	0	0	0	0	0	2752			
22+50.000	2250	50	145.68	0	0	0	0	0	205	0	0	0	0	0	3037	79	0	0	0	0	0	2958			
22+79.650	2280	30	45.17	0	0	0	0	0	105	0	0	0	0	0	3142	79	0	0	0	0	0	3062			
Column totals									3142	0	63	0	0	0											

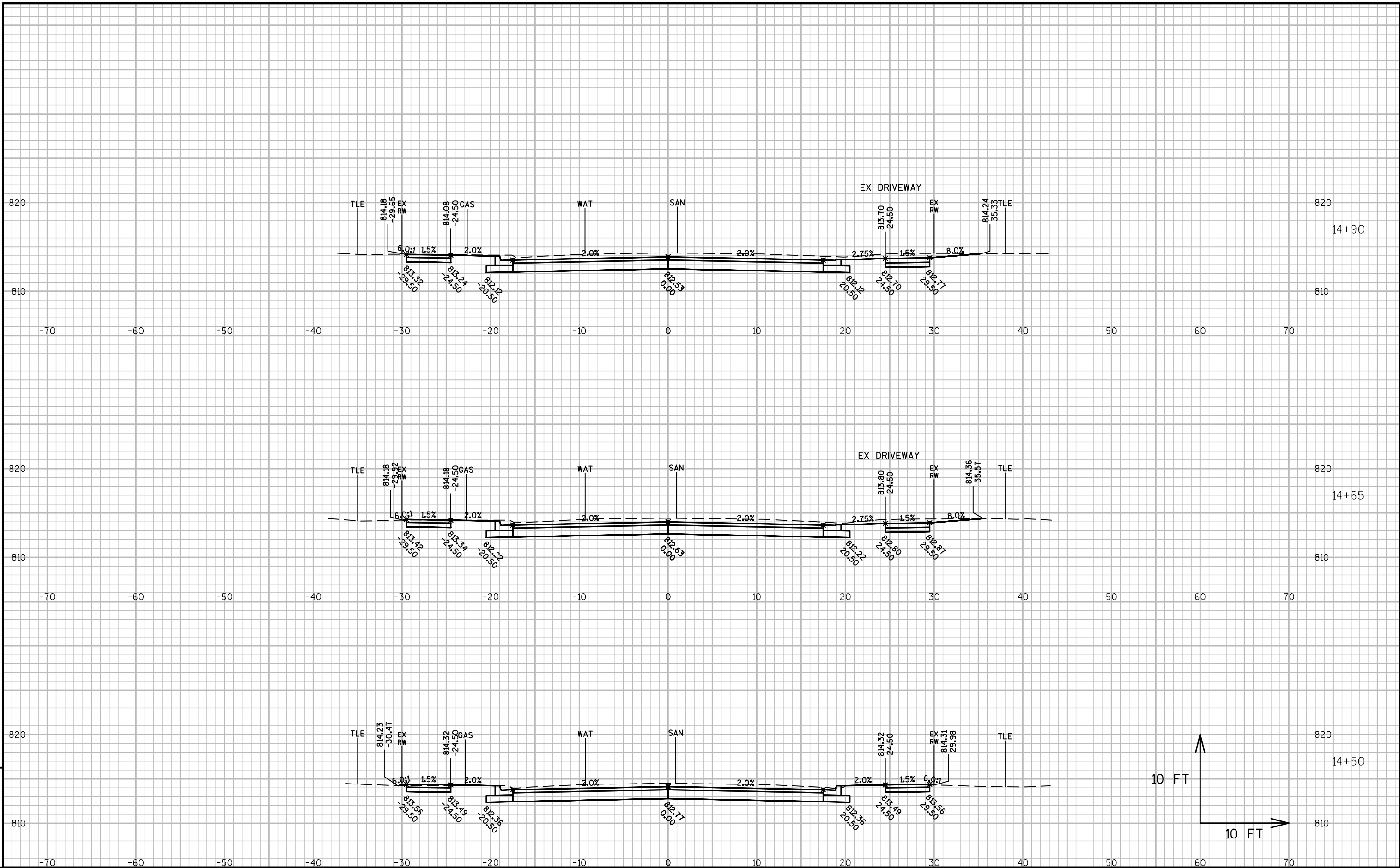
1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable 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 usable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
9) Reduced EBS in Fill - Excavated EBS material is usable 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.
15) Use 113,641 CY of material from Division 1. Borrow Excavation item number 208.0100

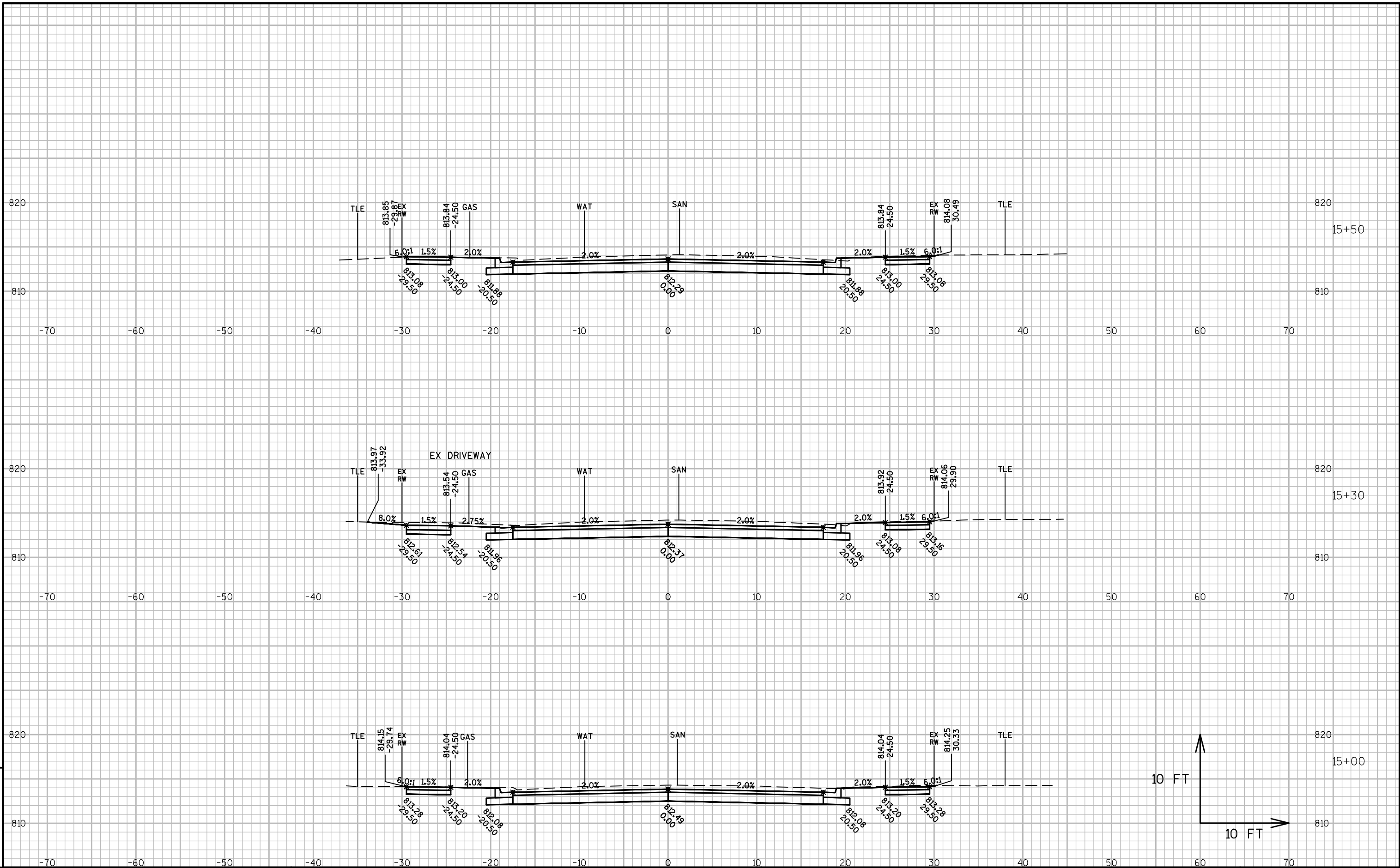


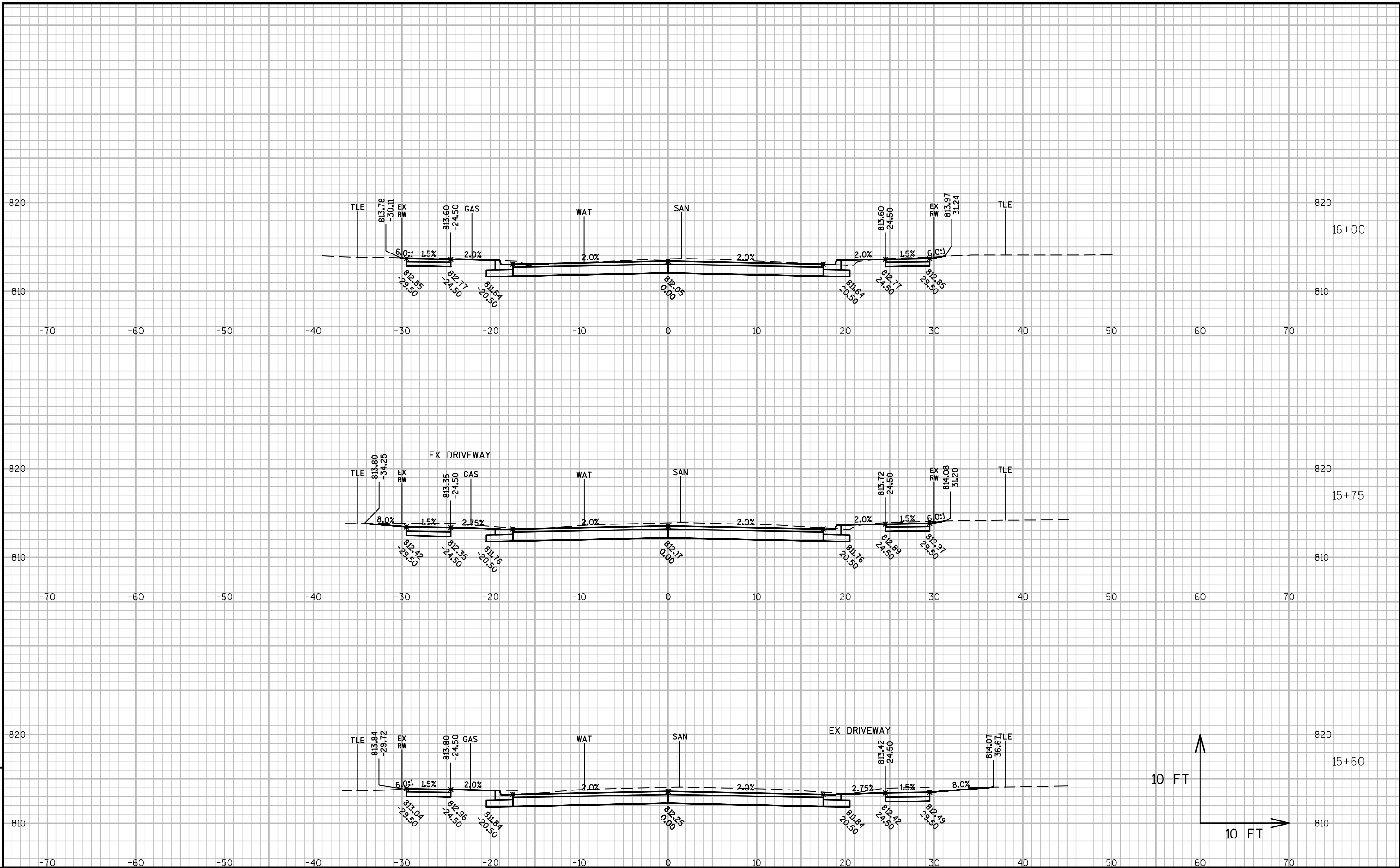


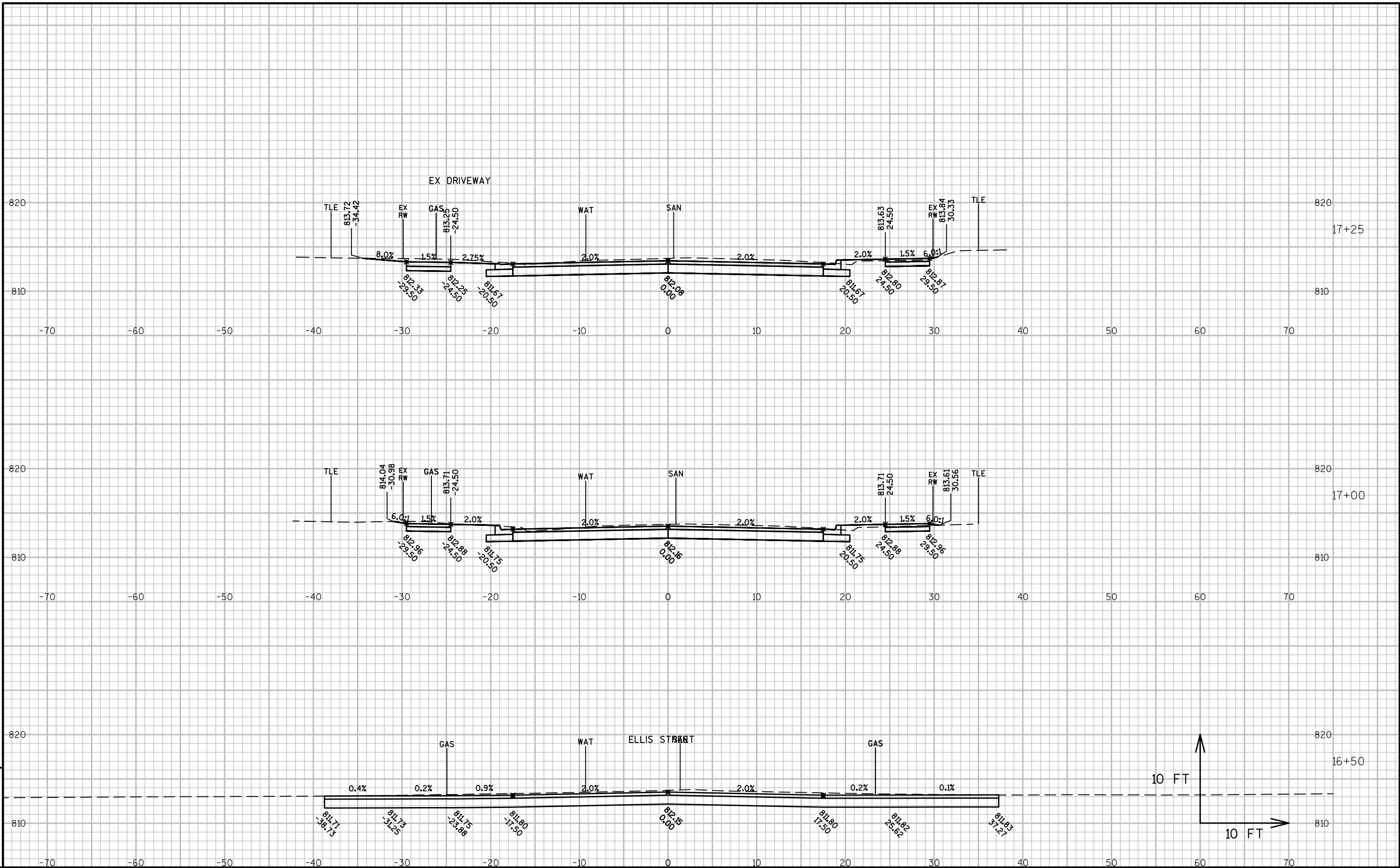


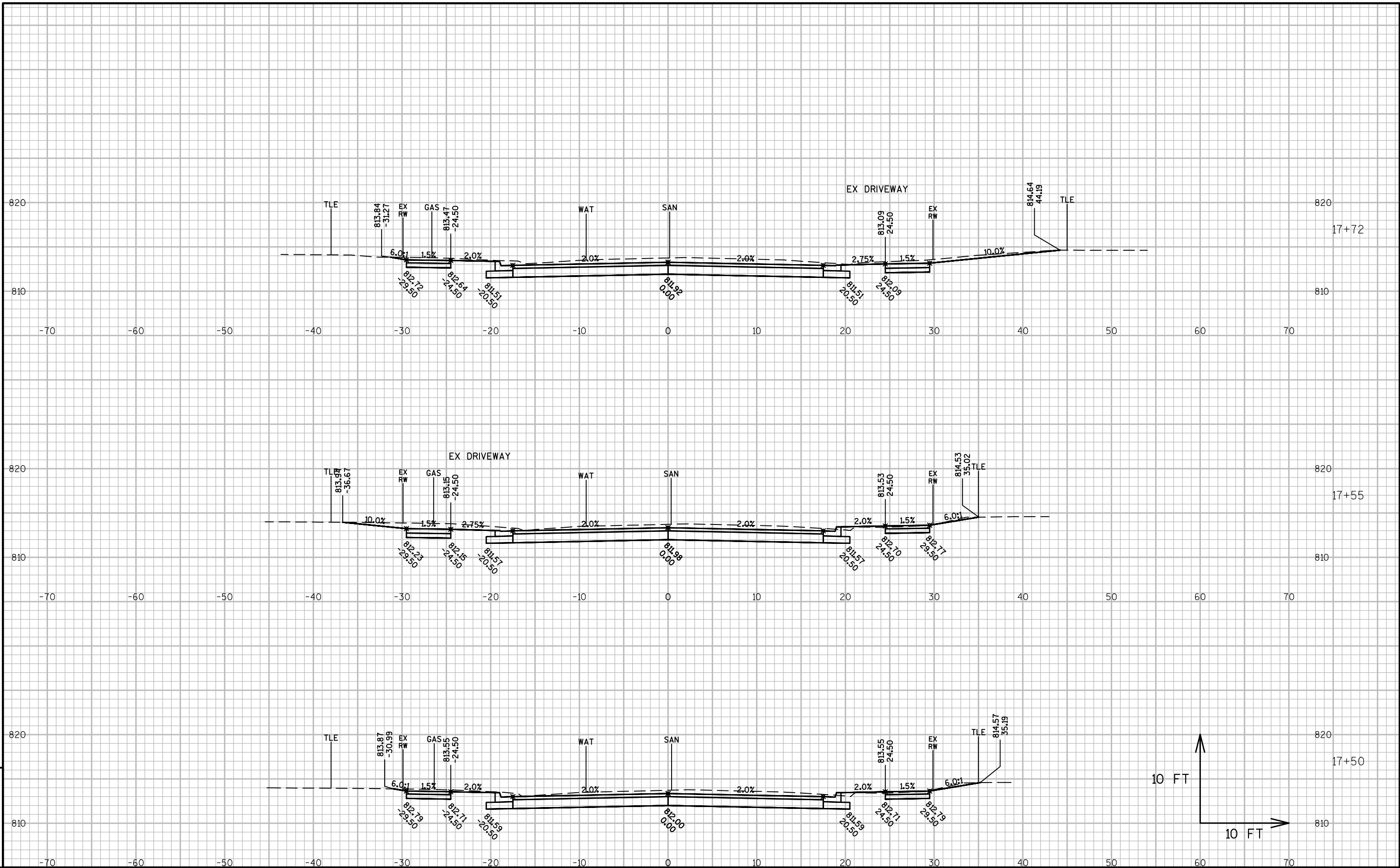


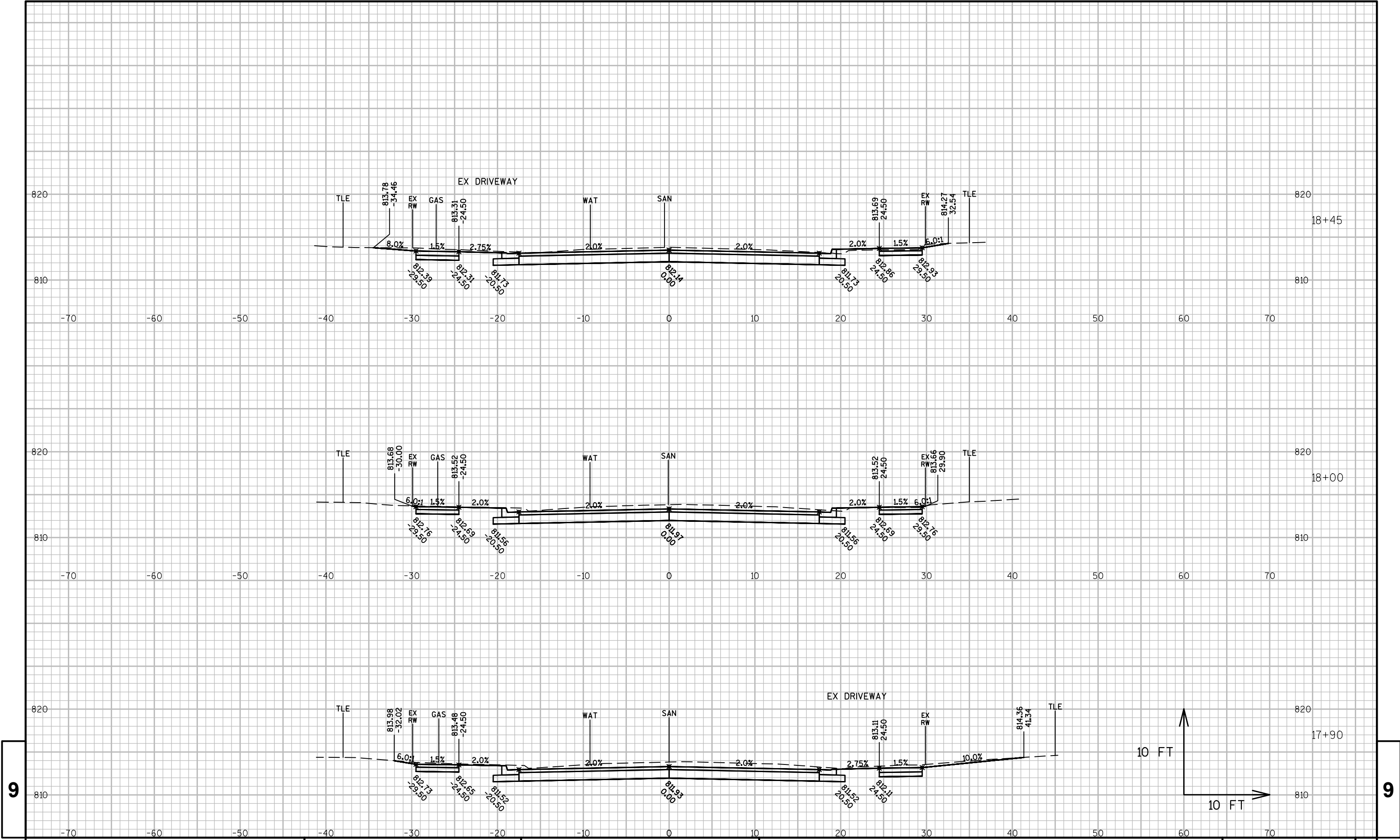


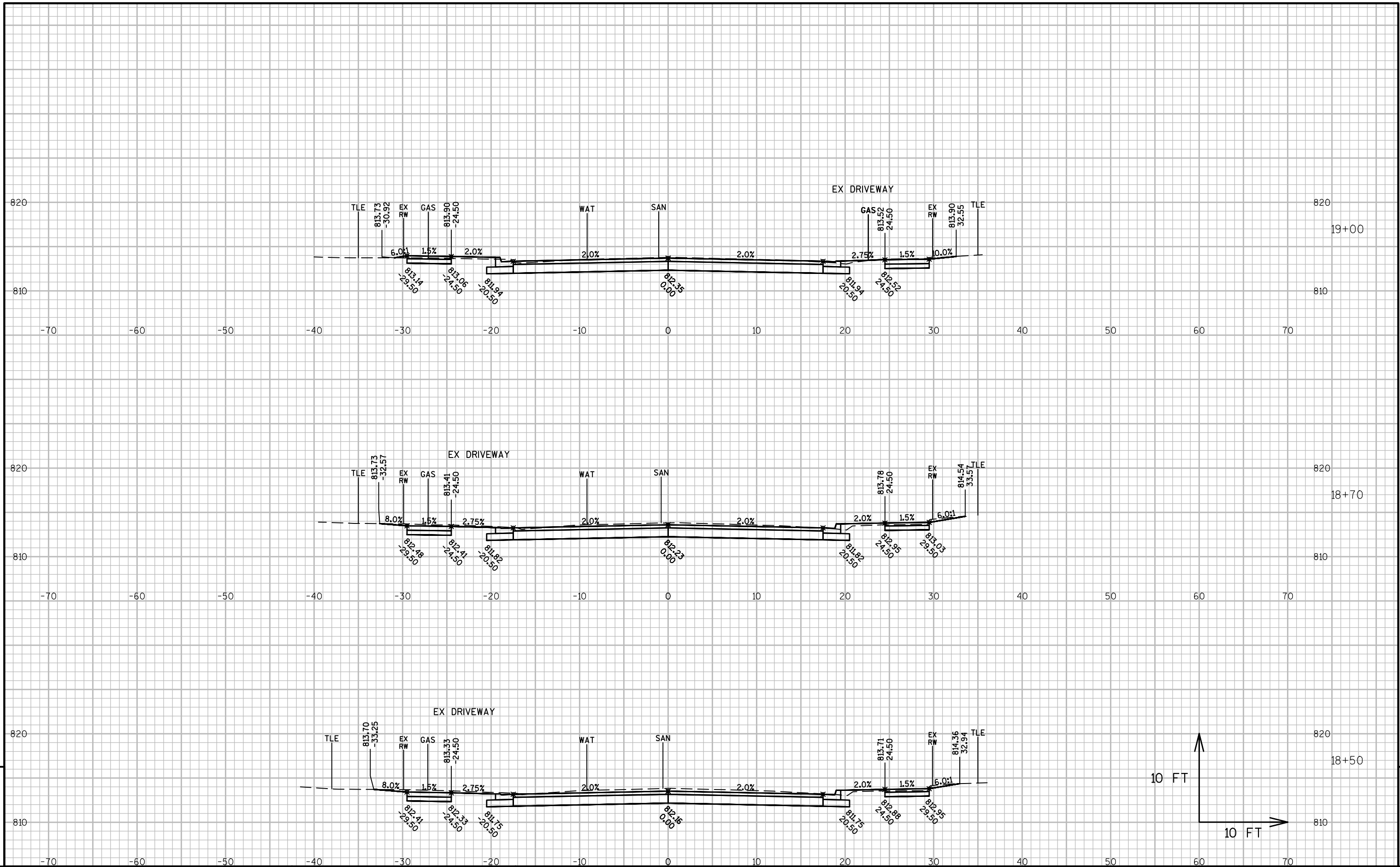


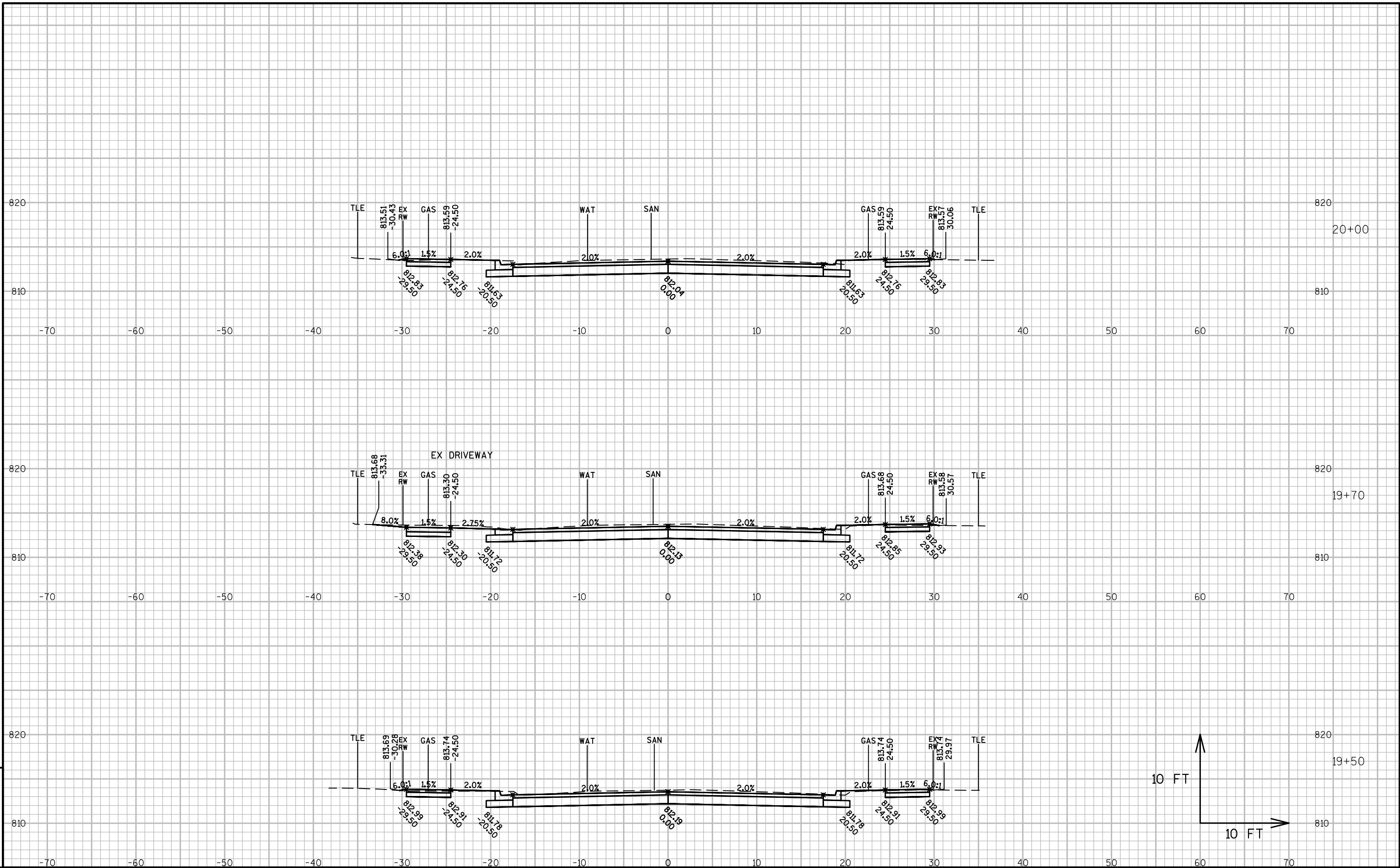




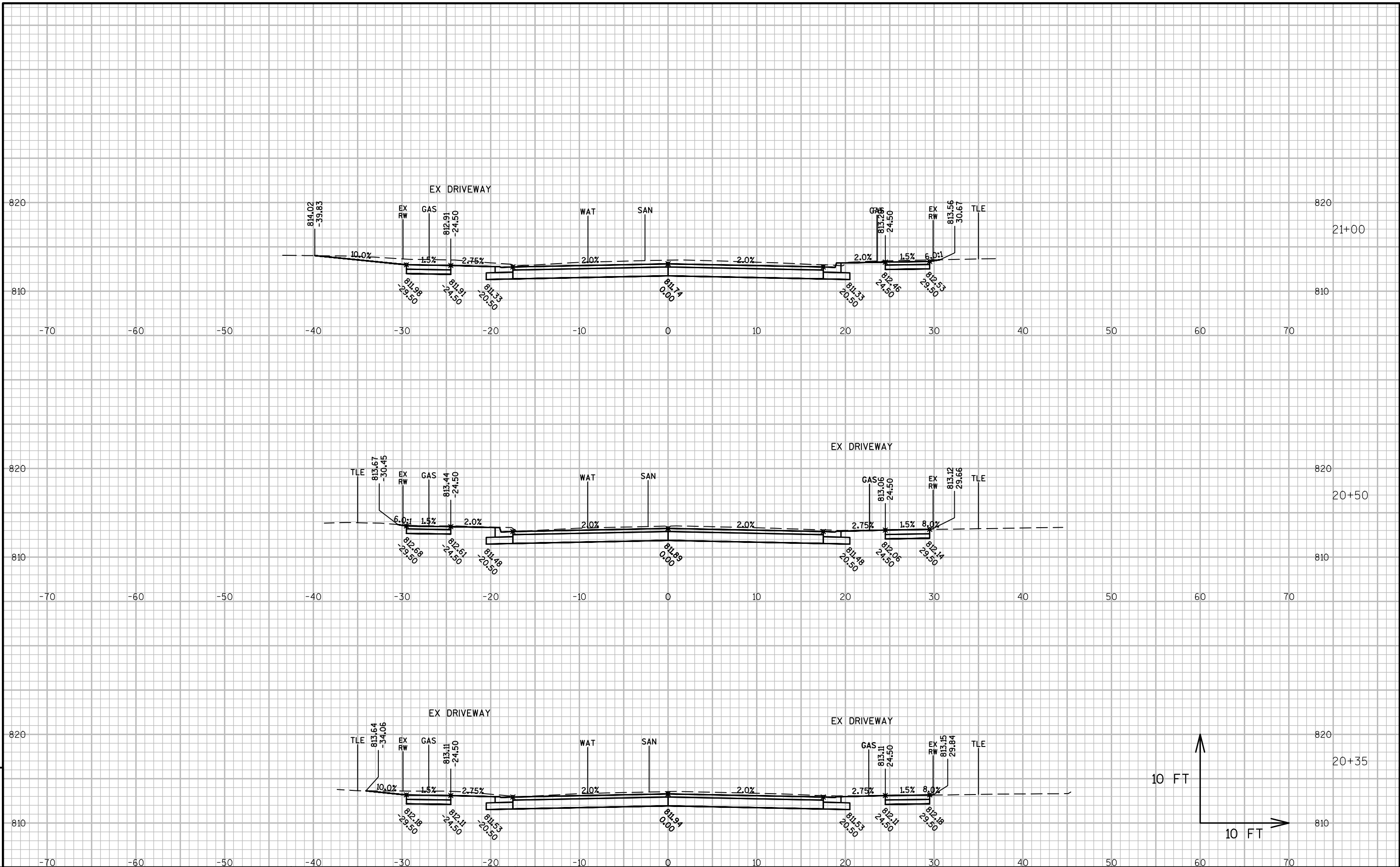




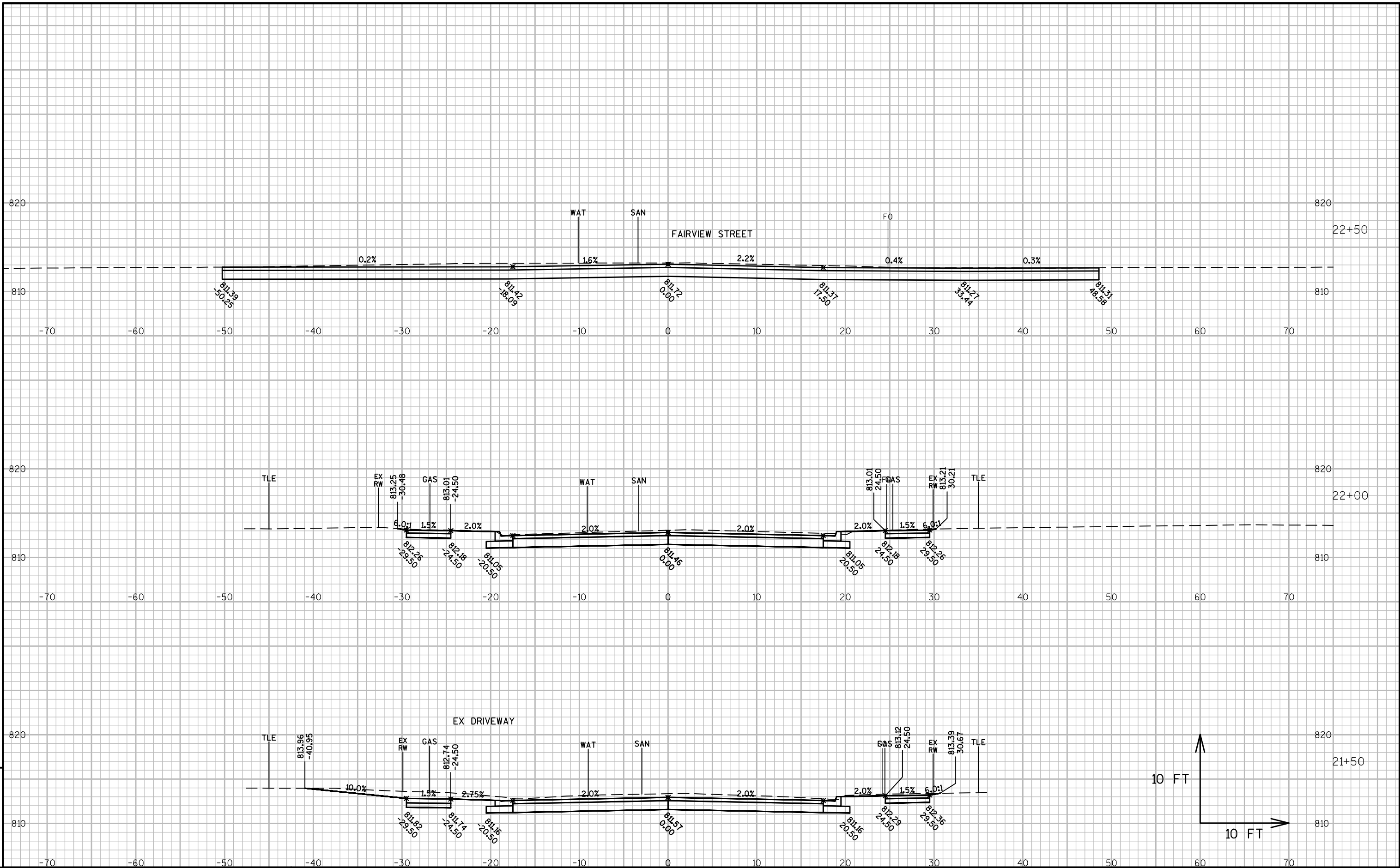




9



9



PROJECT NO:6997-03-70

HWY:EAST FIFTH STREET

COUNTY:SHAWANO

CROSS SECTIONS: EAST FIFTH STREET

SHEET 52

E

FILE NAME : R:\4200\4281\4281016\DWG (2014)\CORRIDOR.DWG
LAYOUT NAME - XS-12

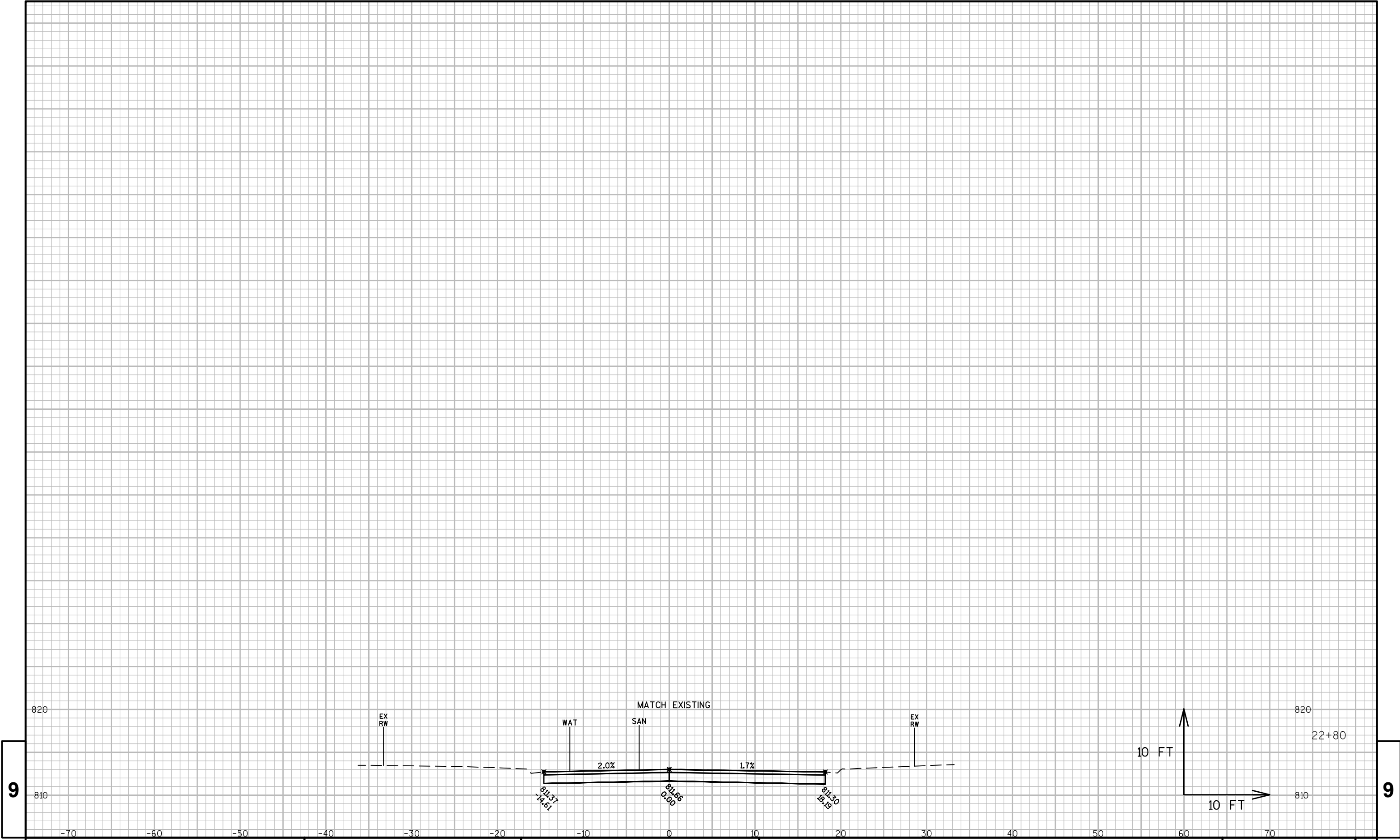
PLOT DATE : 2/9/2018 3:50 PM

PLOT BY : SCOTT M. DEBAKER

PLOT NAME :

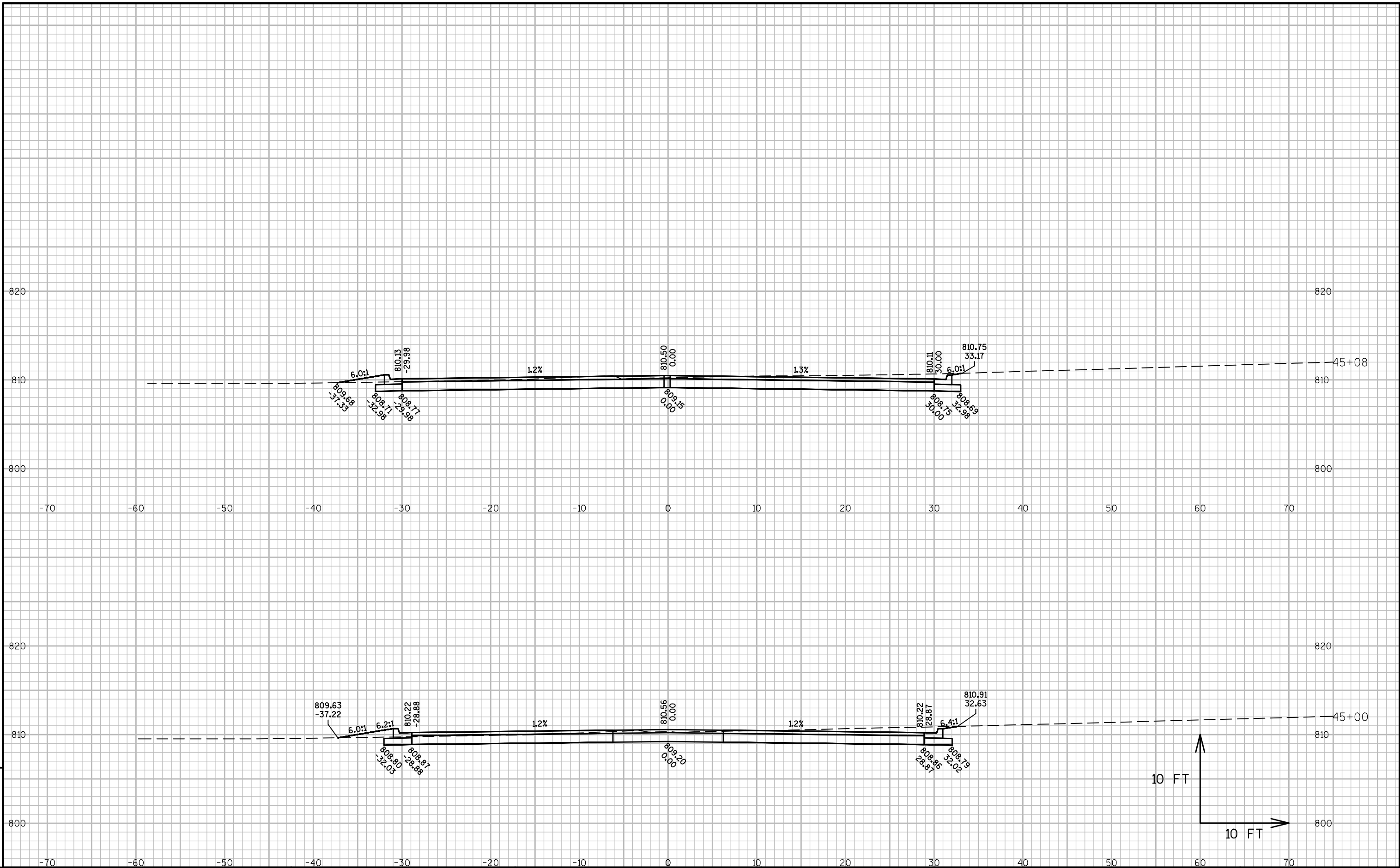
PLOT SCALE : 1 IN:10 FT

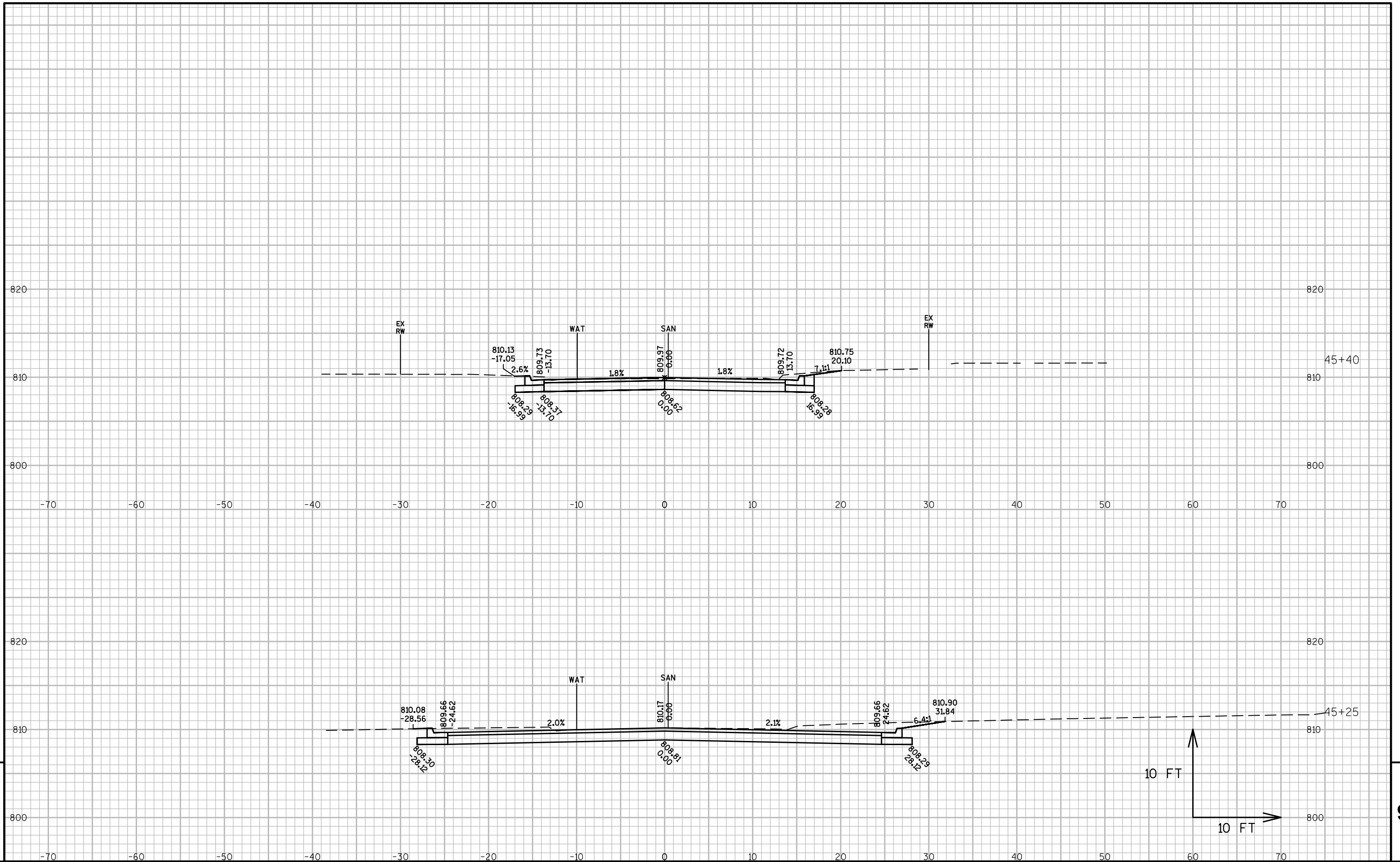
WISDOT/CADDs SHEET 49



9

9







Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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