NWL MAY 2015

PROJECT ID: 7824-01-72/73/74

WITH:

COUNTY: EAU CLAIRE

48

ORDER OF SHEETS

TOTAL SHEETS = 100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C ALTOONA HIGHLAND/SPOONER AVENUE

BUS 53 - USH 53

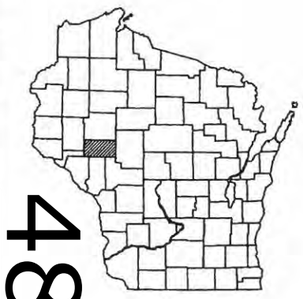
LOCAL STREET

EAU CLAIRE

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7824-01-72	WISC 2015302	1
7824-01-73	———	–
7824-01-74	———	–

STATE PROJECT NUMBER

7824-01-72, 7824-01-73, 7824-01-74



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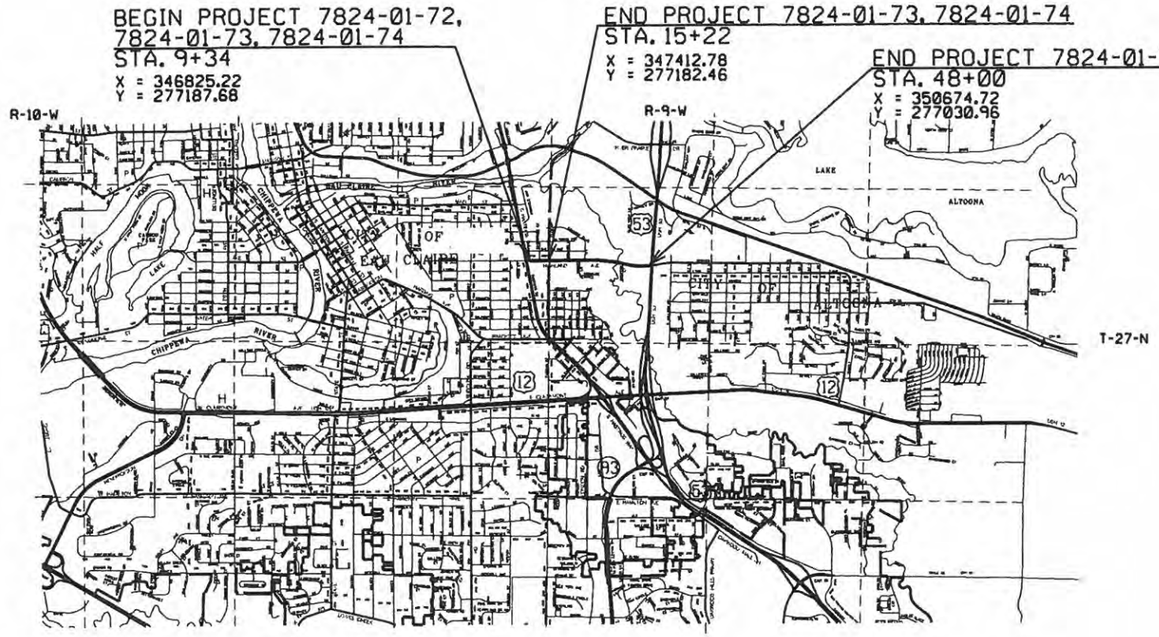
BEGIN PROJECT 7824-01-72, 7824-01-73, 7824-01-74
STA. 9+34
X = 346825.22
Y = 277187.68

END PROJECT 7824-01-73, 7824-01-74
STA. 15+22
X = 347412.78
Y = 277182.46

END PROJECT 7824-01-72
STA. 48+00
X = 350674.72
Y = 277030.96



DESIGN DESIGNATION
HIGHLAND AVE/SPOONER AVE

A.D.T.	(2015)	= 7100
A.D.T.	(2035)	= 8400
D.H.V.		= 755
D. (%)		= 59%
T. (%)		= 3.30%
V.		= 35 MPH
ESALS		= 670000

CONVENTIONAL SYMBOLS

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

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

LAYOUT
SCALE 0 1/2 1 MILE

7824-01-72 TOTAL NET LENGTH OF CENTERLINE = 0.732 MI
7824-01-73 TOTAL NET LENGTH OF CENTERLINE = 0.111 MI
7824-01-74 TOTAL NET LENGTH OF CENTERLINE = 0.111 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM, EAU CLAIRE COUNTY, NAD 1983 IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID DISTANCES AND GRID BEARINGS. DISTANCES MAY BE USED AS GROUND DISTANCES.

ACCEPTED FOR CITY OF EAU CLAIRE
3/16/15 DATE

ORIGINAL PLANS PREPARED BY CITY OF EAU CLAIRE

WISCONSIN TIMOTHY A. PLUTH E-35928 EAU CLAIRE WI PROFESSIONAL ENGINEER
3/13/15 DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY:
Surveyor City of Eau Claire
Designer City of Eau Claire

Management Consultant Knight E/A Inc.
C.O. Examiner

APPROVED FOR REGION OFFICE
3/16/15 DATE

Management Consultant Signature

WISDOT/CADDS SHEET 10

GENERAL NOTES

WHEN THE QUANTITY OF ITEMS OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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.

INLET PROTECTION, SILT FENCE AND OTHER EROSION CONTROL MEASURES INCLUDED IN THE PLANS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER.

CURVE DATA IS BASED ON ARC DEFINITION.

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

THE EXACT LOCATION OF PRIVATE AND COMMERCIAL ENTRANCES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. DRIVEWAYS SHALL BE RECONSTRUCTED WITH SUCH MATERIAL AND TO SUCH DIMENSIONS AS TO MATCH THE EXISTING AS DIRECTED BY THE ENGINEER.

SAWED JOINTS WILL BE REQUIRED WHERE NEW SURFACING JOINS EXISTING PAVEMENT AT SIDE STREETS AND ENDS OF PROJECT.

THE AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, ARE TO BE FILLED WITH TOPSOIL & SODDED, OR SEEDED AS DIRECTED BY THE ENGINEER.

ALL CURB AND GUTTER RADII ARE SHOWN TO FRONT FACE OF CURB.

THE EXACT LOCATION OF ALL BUTT JOINTS ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL HMA PAVEMENT SHALL BE TYPE E-1.

HMA PAVEMENT, 2" SURFACE LIFT OVER TWO (2) - 2" LOWER LIFTS, FOR A TOTAL THICKNESS OF 6-INCHES

NOMINAL AGGREGATE SIZES FOR HMA PAVEMENT:

UPPER LAYER = 9.5 mm
LOWER LAYER = 12.5 mm

RADIUS DIMENSIONS ARE TO FACE OF CURB

VERTICAL DATUM BASED OFF NAVD88 (NORTH AMERICAN VERTICAL DATUM OF 1988)

UTILITIES

CITY OF EAU CLAIRE
203 SOUTH FARWELL STREET
EAU CLAIRE, WI 54701

LANE BERG (STORM, SANITARY & WATER): 715-839-5045
e-mail: Lane.Berg@ci.eau-claire.wi.us

GAS AND ELECTRIC:
XCEL ENERGY
1400 WESTERN AVE
EAU CLAIRE, WI 54702
JEFF LARSON: 715-839-1406 e-mail: jeffrey.a.larson@xcelenergy.com

TELEPHONE:
AT& T - SBC
304 SOUTH DEWEY STREET
EAU CLAIRE, WI 54701
JO WAMPOLE: 715-839-5820 e-mail: jw1637@att.com

CABLE TV:
CHARTER COMMUNICATIONS
2207 HEIMSTAD ROAD
EAU CLAIRE, WI 54703
SHANE YODER: 715-831-8940 e-mail: Shane.Yoder@chartercom.com

** DENOTES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE.

FOR LOCATES:

DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

Toll Free (800) 242-8511
Milwaukee Area (414) 259 -1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

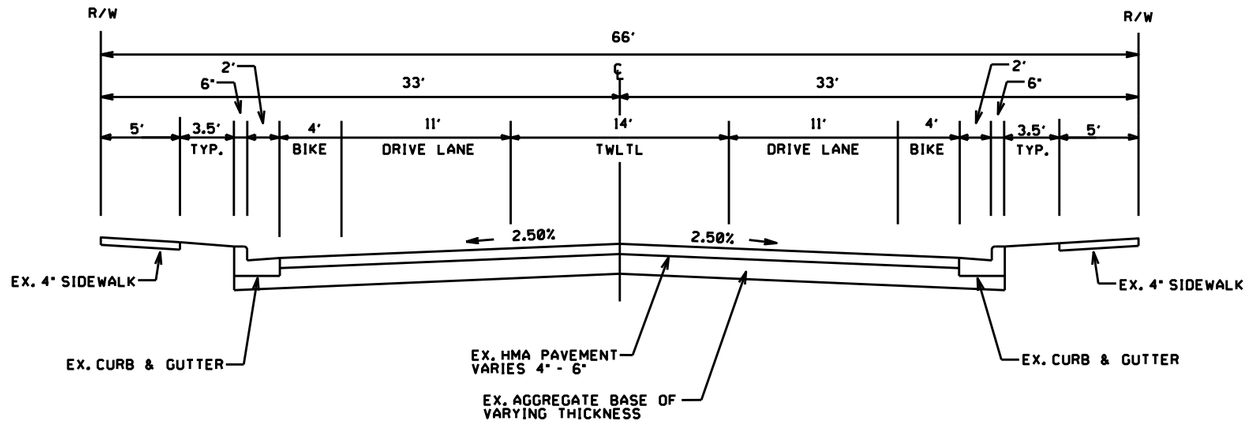
DESIGN CONTACT: TIM PLUTH
CITY OF EAU CLAIRE
715-839-4934
e-mail: Tim.Pluth@eauclairewi.gov

DEPARTMENT OF NATURAL RESOURCES
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
715-839-3700
CONTACT: CHRIS WILLGER e-mail: ChristopherJ.Willger@Wisconsin.gov

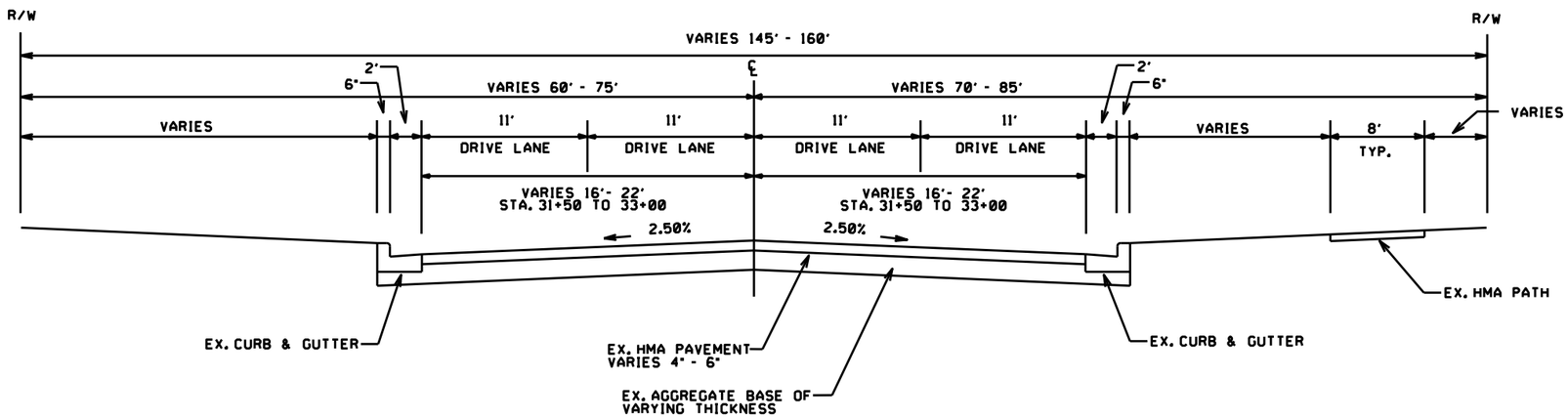
PROJECT NO: 7824-01-72/73/74	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	GENERAL NOTES	SHEET 2	E

LIST OF STANDARD ABBREVIATIONS

ABUT.	ABUTMENT
AGG.	AGGREGATE
AH.	AHEAD
APPROX.	APPROXIMATE
A.E.W.	APRON ENDWALL
ASPH.	ASPHALTIC
A.D.T.	AVERAGE DAILY TRAFFIC
AZ.	AZIMUTH
BK.	BACK
BEG.	BEGIN
B.M.	BENCH MARK
BW	OF BACK OF SIDEWALK
C.E.	COMMERCIAL ENTRANCE
C.E.C.	CITY OF EAU CLAIRE
C/L	CENTER LINE
CONC.	CONCRETE
CONST.	CONSTRUCTION
CO.	COUNTY
C.T.H.	COUNTY TRUNK HIGHWAY
X-SEC.	CROSS SECTION
CR.	CRUSHED
CFS	CUBIC FEET/SECOND
C.Y., CU. YD.	CUBIC YARD
CULV.	CULVERT
C.P.	CULVERT PIPE
D.O.T.	DEPARTMENT OF TRANSPORTATION
D.H.V.	DESIGN HOUR VOLUME
DIA.	DIAMETER
D.	DIRECTIONAL DISTRIBUTION
DISCH. OR DIS.	DISCHARGE
EA.	EACH
ELECT.	ELECTRIC
EL. OR ELEV.	ELEVATION
EMB.	EMBANKMENT
E.B.S.	EXCAVATION BELOW SUBGRADE
EXIST.	EXISTING
FERT.	FERTILIZE
F.E.	FIELD ENTRANCE
FF	FACE TO FACE
FIN.	FINISHED
FT.	FOOT
F.L.	FLOW LINE
GA.	GAUGE
HORIZ.	HORIZONTAL
CWT.	HUNDREDWEIGHT
INL.	INLET
I.E.	INVERT ELEVATION
LT.	LEFT
L.H.F.	LEFT-HAND FORWARD
LIN.	LINEAR
LIN. FT.	LINEAR FOOT
L.P.	LIGHT POLE
L.S.	LUMP SUM
MAX.	MAXIMUM
MI.	MILE
MISC.	MISCELLANEOUS
N.E.	NORTH EAST
N.W.	NORTH WEST
PAV'T	PAVEMENT
P.C.	POINT OF CURVATURE
P.E.	PRIVATE ENTRANCE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
P.O.T.	POINT ON TANGENT
LB.	POUND
P.P.	POWER POLE
P.E.	PRIVATE ENTRANCE
PROJ.	PROJECT
R.	RANGE
REQ'D	REQUIRED
RT.	RIGHT
R.H.F.	RIGHT-HAND FORWARD
R/W	RIGHT OF WAY
RD.	ROAD
SHR.	SHRINKAGE
SL.	SLOPE
STD.	STANDARD
S.D.D.	STANDARD DETAIL DRAWINGS
S.T.H.	STATE TRUNK HIGHWAY
STA.	STATION
S.P.P.A.	STRUCTURAL PLATE PIPE ARCH
STRUCT.	STRUCTURE
SURF.	SURFACE
T.C.	TOP OF CURB
TEL.	TELEPHONE
TN.	TOWN
T.	TRUCKS (PERCENT OF)
UNCL.	UNCLASSIFIED
U.G.	UNDERGROUND
V.	VELOCITY OR DESIGN SPEED
V.C.	VERTICAL CURVE



TYPICAL EXISTING SECTION
HIGHLAND AVENUE
STA. 10+00 TO 15+25

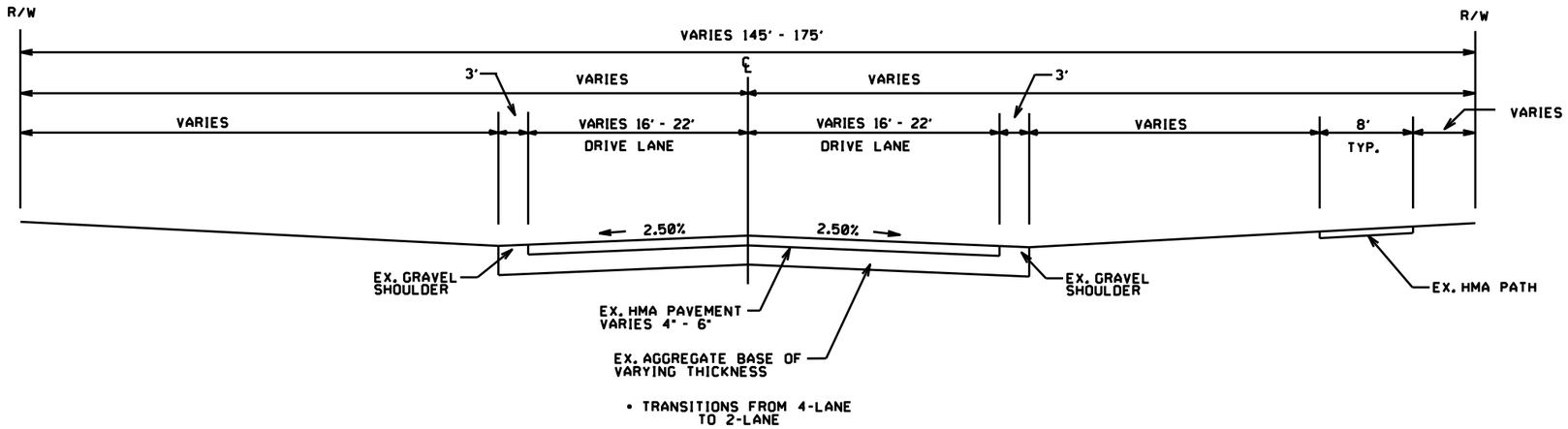


TYPICAL EXISTING SECTION
SPOONER AVENUE
STA. 15+25 TO 33+00

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	TYPICAL EXISTING SECTIONS	SHEET 4	E

FILE NAME :J:CIP•3 Projects\Highland_Spooner\Drawings\Typicals PLOT DATE :12/29/2014 PLOT BY : PLOT SCALE :2000:1

WISDOT/CADDS SHEET 42

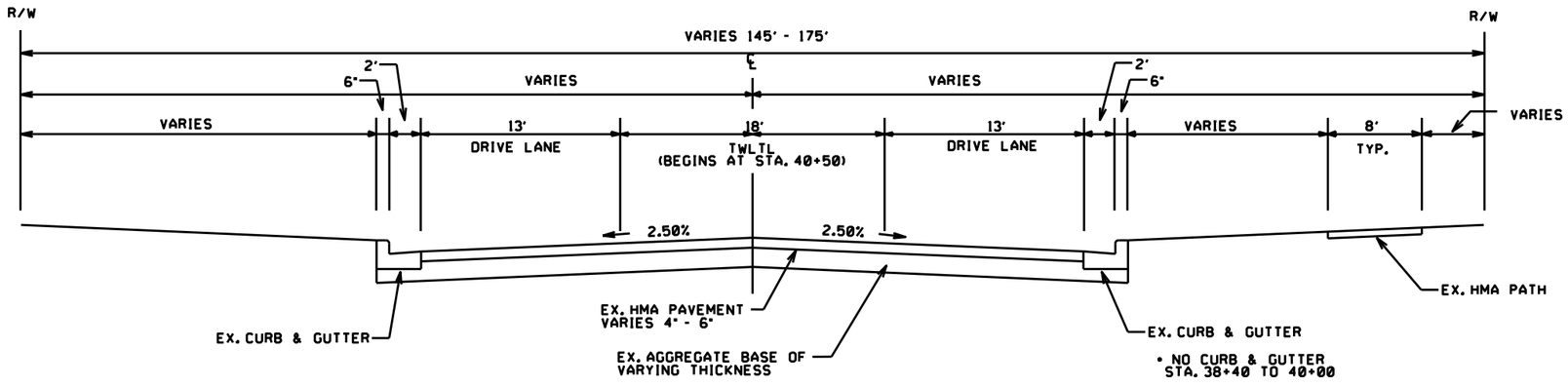


TYPICAL EXISTING SECTION

SPOONER AVENUE

STA. 33+00 TO 37+20 (EX. BRIDGE DECK)

NOTE: NO WORK WILL BE DONE ON BRIDGE DECK



TYPICAL EXISTING SECTION

SPOONER AVENUE

STA. 38+40 (EX. BRIDGE DECK) TO 48+00

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	TYPICAL EXISTING SECTIONS	SHEET 5	E

FILE NAME :J:CIP•3 Projects\Highland_Spooner\Drawings\Typicals PLOT DATE :12/29/2014 PLOT BY : PLOT SCALE :2000:1

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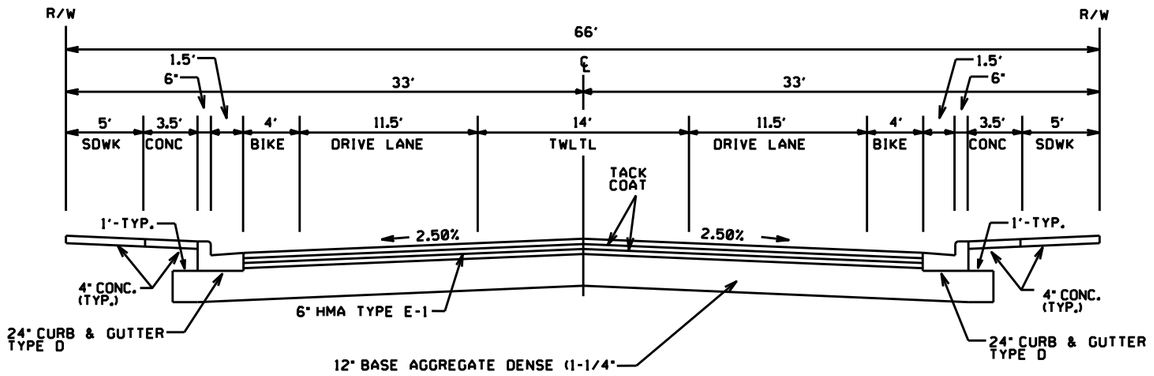
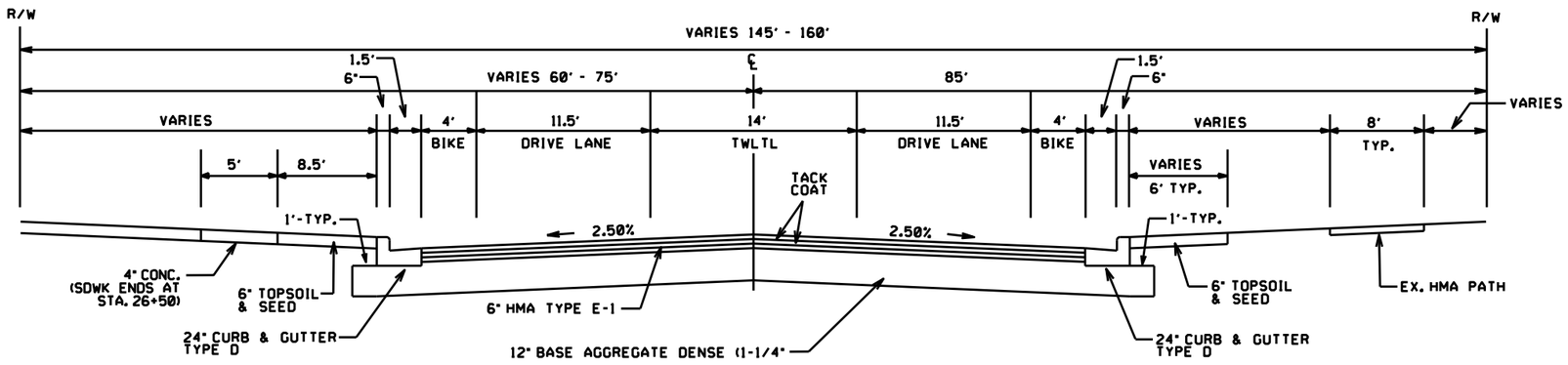


TYPICAL PROPOSED SECTION
HIGHLAND AVENUE
STA. 10+00 TO 15+00



TYPICAL PROPOSED SECTION
SPOONER AVENUE
STA. 15+00 TO 31+00

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	TYPICAL PROPOSED SECTIONS	SHEET 6	E

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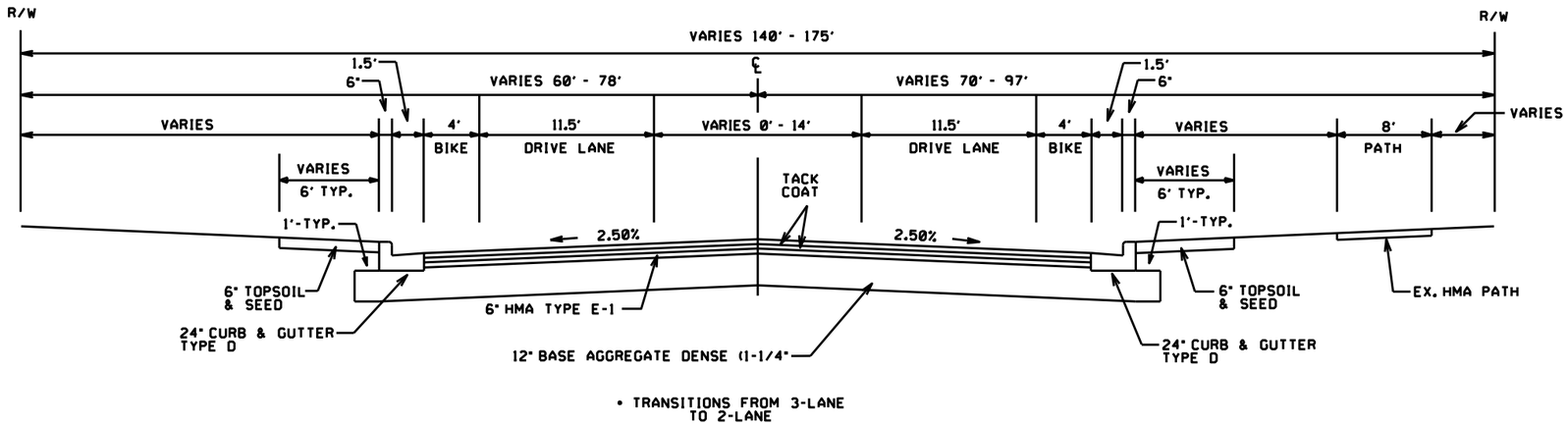
WISDOT/CADDS SHEET 42

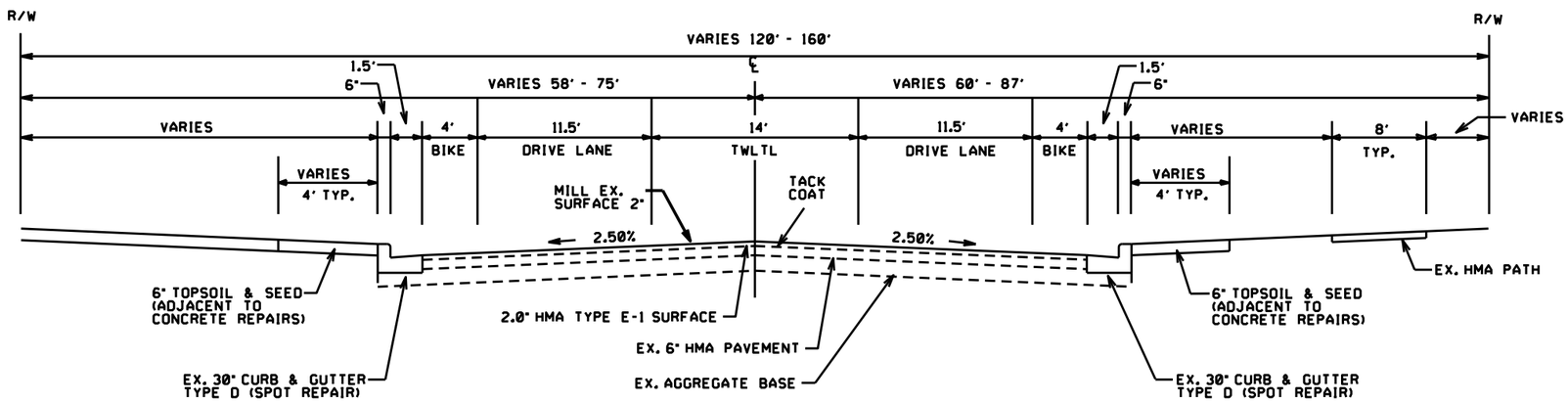


• TRANSITIONS FROM 3-LANE TO 2-LANE

TYPICAL PROPOSED SECTION

SPOONER AVENUE
STA. 31+00 TO 41+00

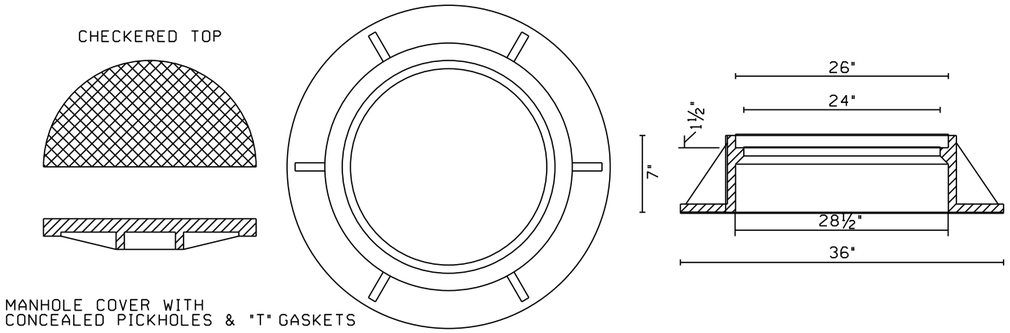
NOTE: NO WORK IS PROPOSED ON EX. BRIDGE DECK (STA. 37+20 TO STA. 38+40). PAVEMENT WILL TIE INTO BRIDGE DECK AT BOTH ENDS.



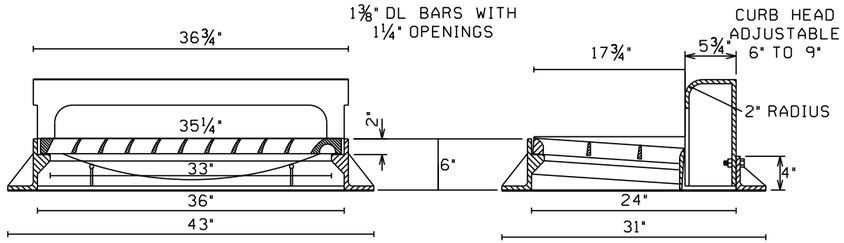
TYPICAL PROPOSED SECTION

SPOONER AVENUE
STA. 41+00 TO 48+00

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	TYPICAL PROPOSED SECTIONS	SHEET 7	E

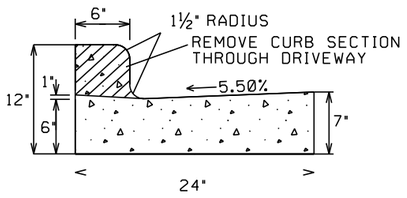


MANHOLE CASTING AND LIDS

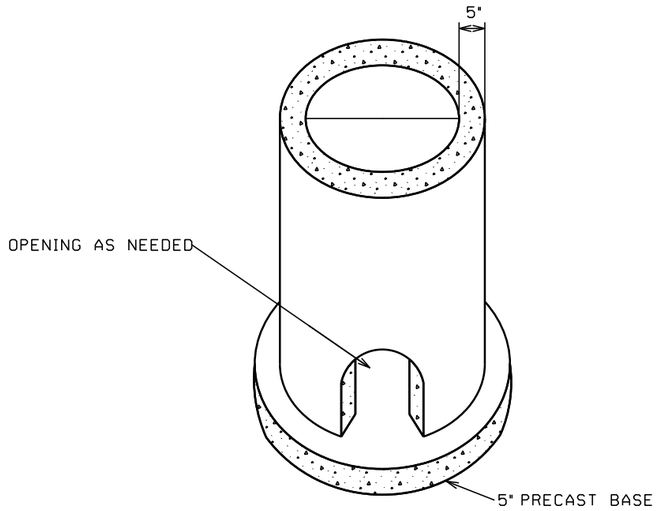


INLET CASTING WITH VANE STYLE GRATE
WEIGHT=510 LBS.

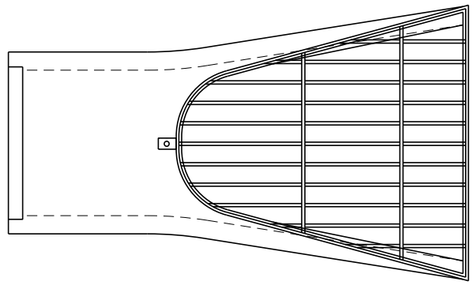
INLET CASTINGS



24" CURB AND GUTTER TYPE "D"

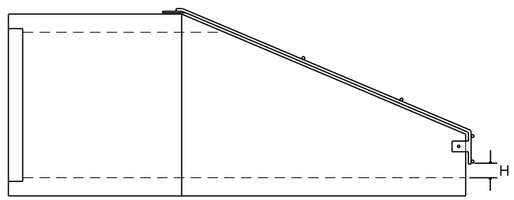


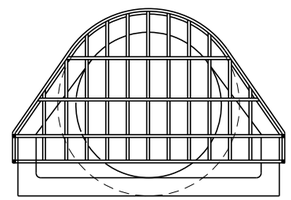
INLET SPECIAL 30-INCH



- 6" SPACING MAX.
- HINGED CONNECTOR PLATE W/ANCHOR ATTACHED AT THREE POINTS TO ENDWALL

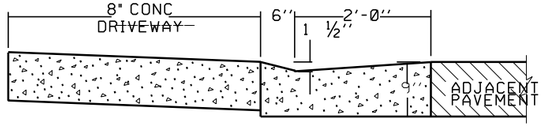
ENDWALL SIZE	BAR DIAMETER	ANCHOR DIAMETER	H HEIGHT
15"	3/4"	5/8"	3"
24"	3/4"	5/8"	4"



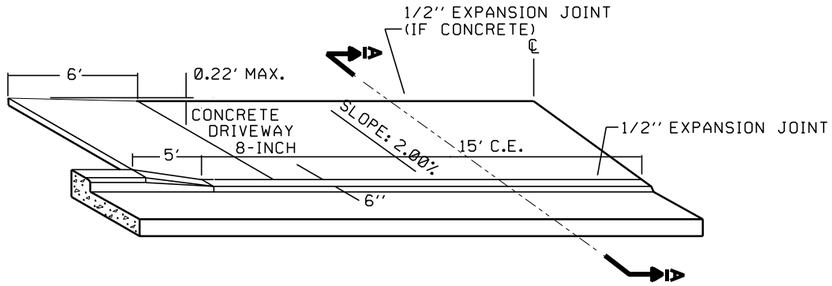


CONC. APRON ENDWALL W/ TRASH GUARD

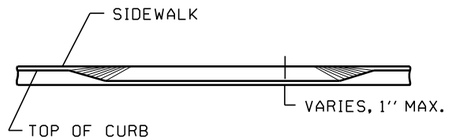
PROJECT NO: 7824-01-72/73/74	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	DETAILS	SHEET 8	E



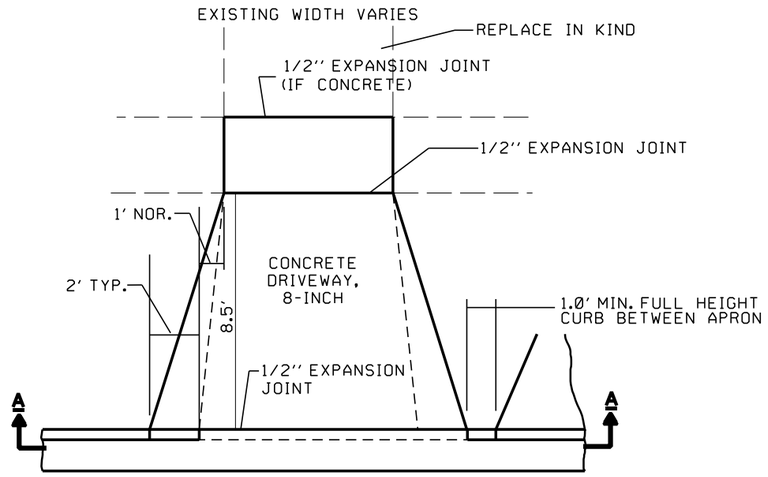
SECTION A-A



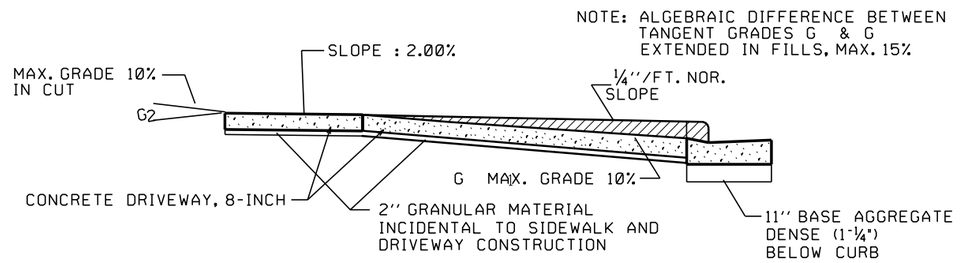
COMMERCIAL ENTRANCE (HALF SECTION)



SECTION A-A

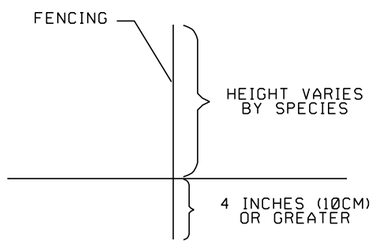


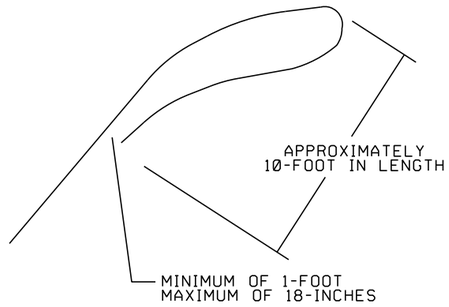
PLAN



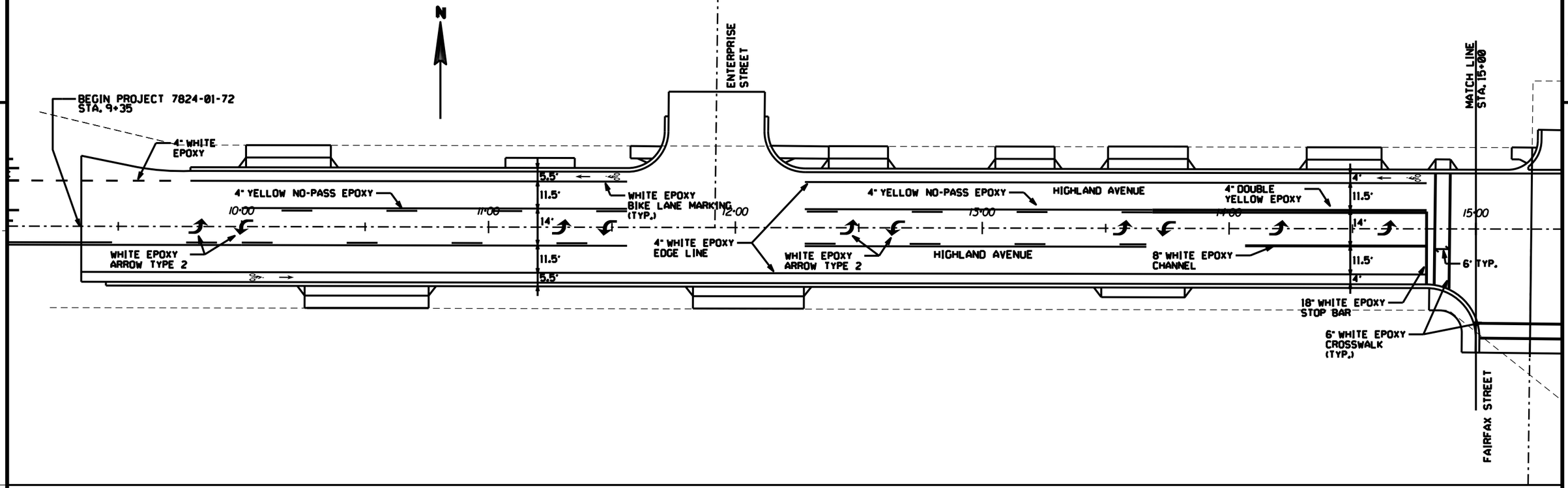
PROFILE

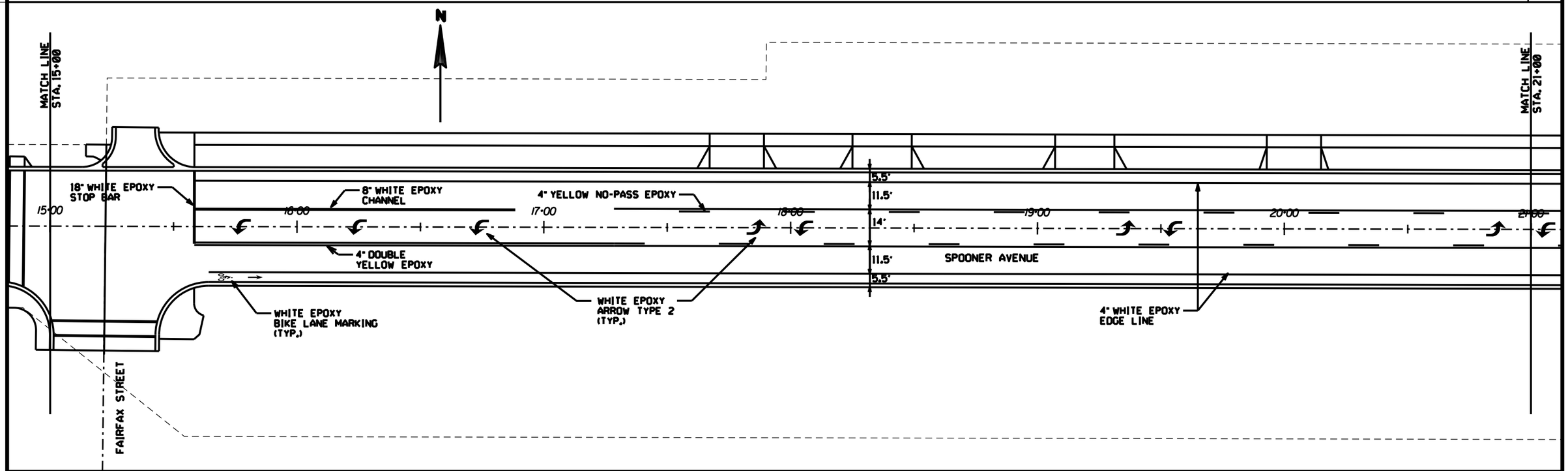
URBAN DRIVEWAY DETAIL





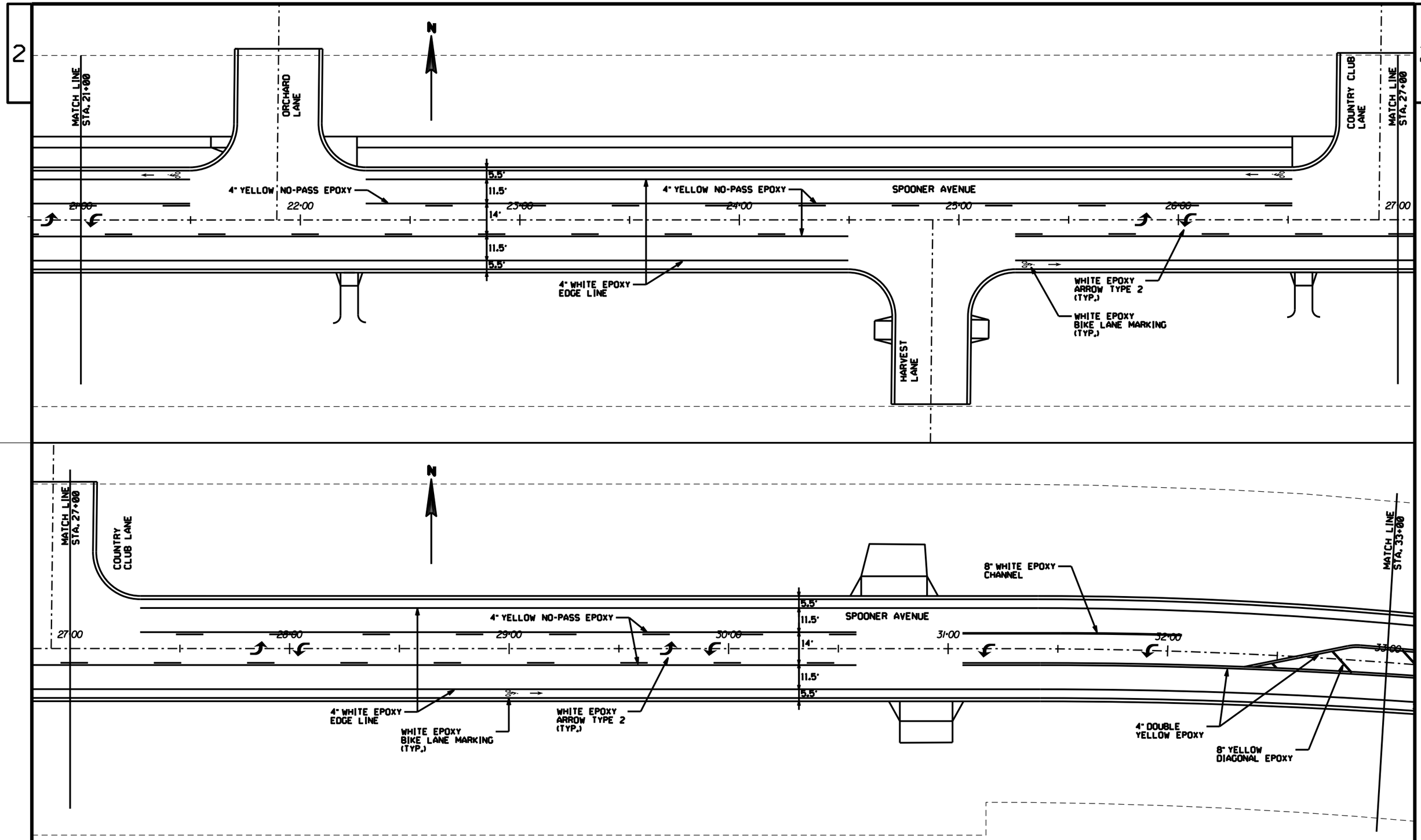
SILT FENCE TURN AROUND DETAIL





PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	MARKING PLAN	SHEET	E

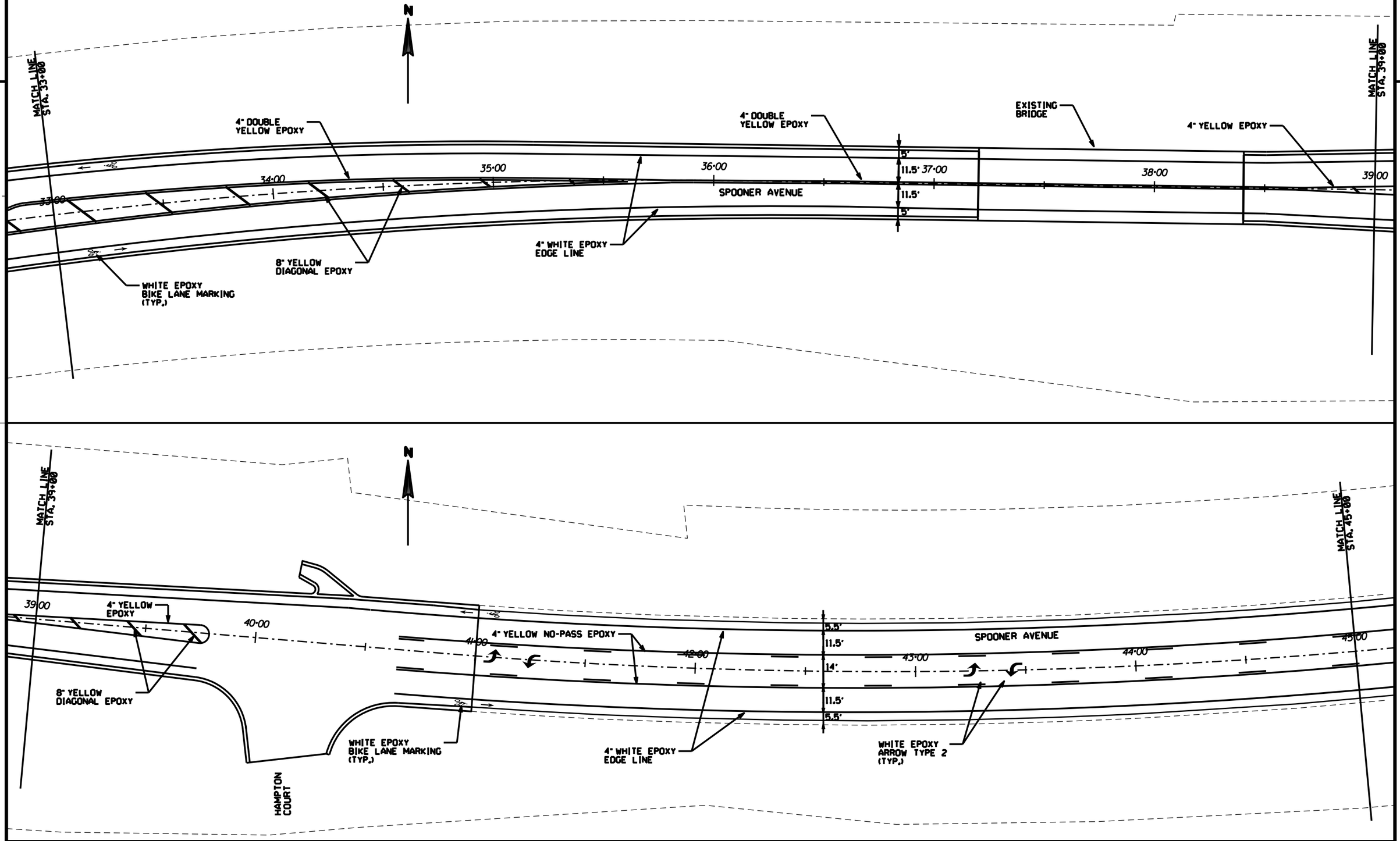
FILE NAME :$$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	MARKING PLAN	SHEET	E

FILE NAME :$$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

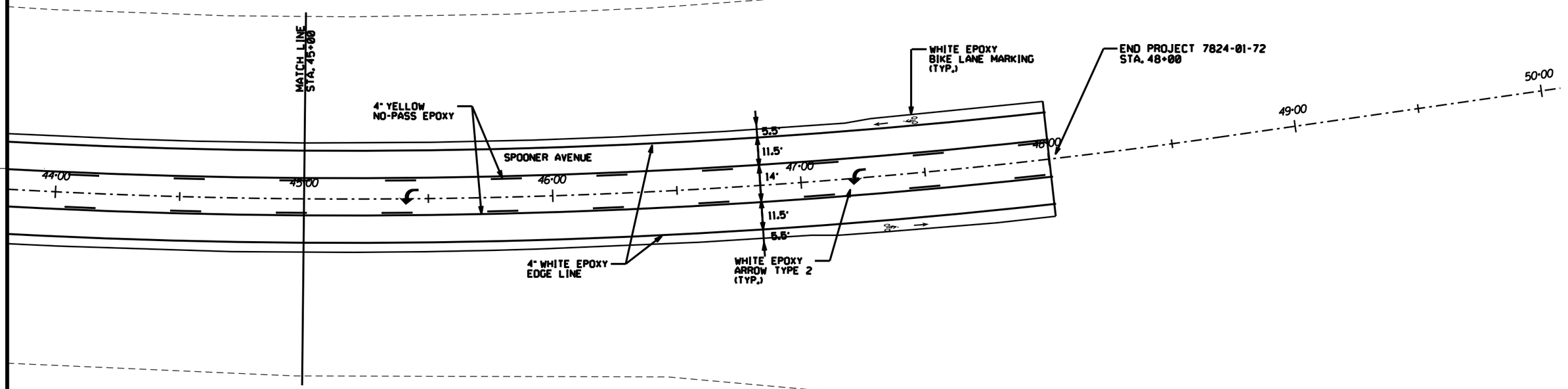


PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	MARKING PLAN	SHEET	E

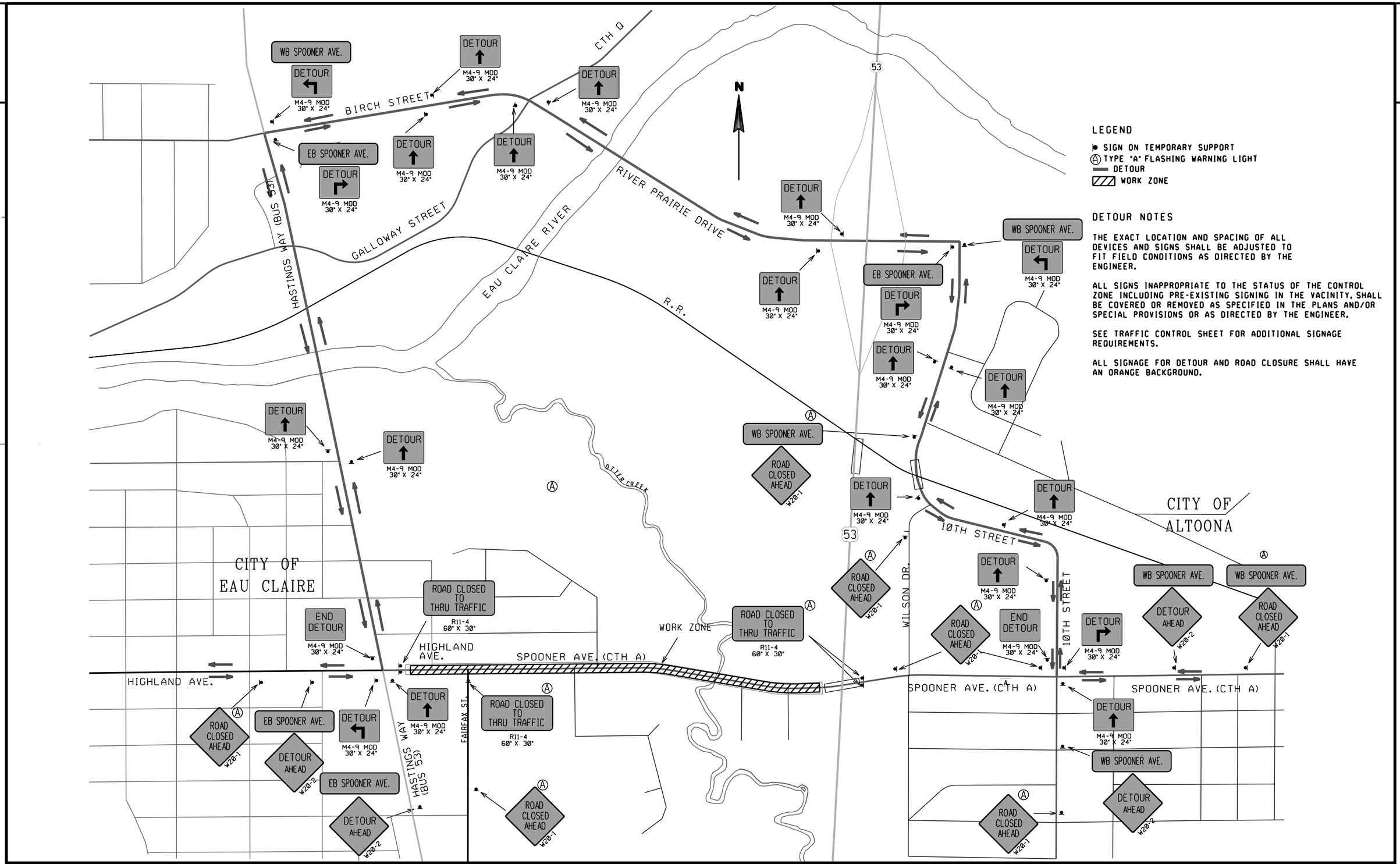
FILE NAME :$$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

2

N



PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE	COUNTY: EAU CLAIRE	MARKING PLAN	SHEET 13	E



LEGEND

- SIGN ON TEMPORARY SUPPORT
- (A) TYPE "A" FLASHING WARNING LIGHT
- DETOUR
- WORK ZONE

DETOUR NOTES

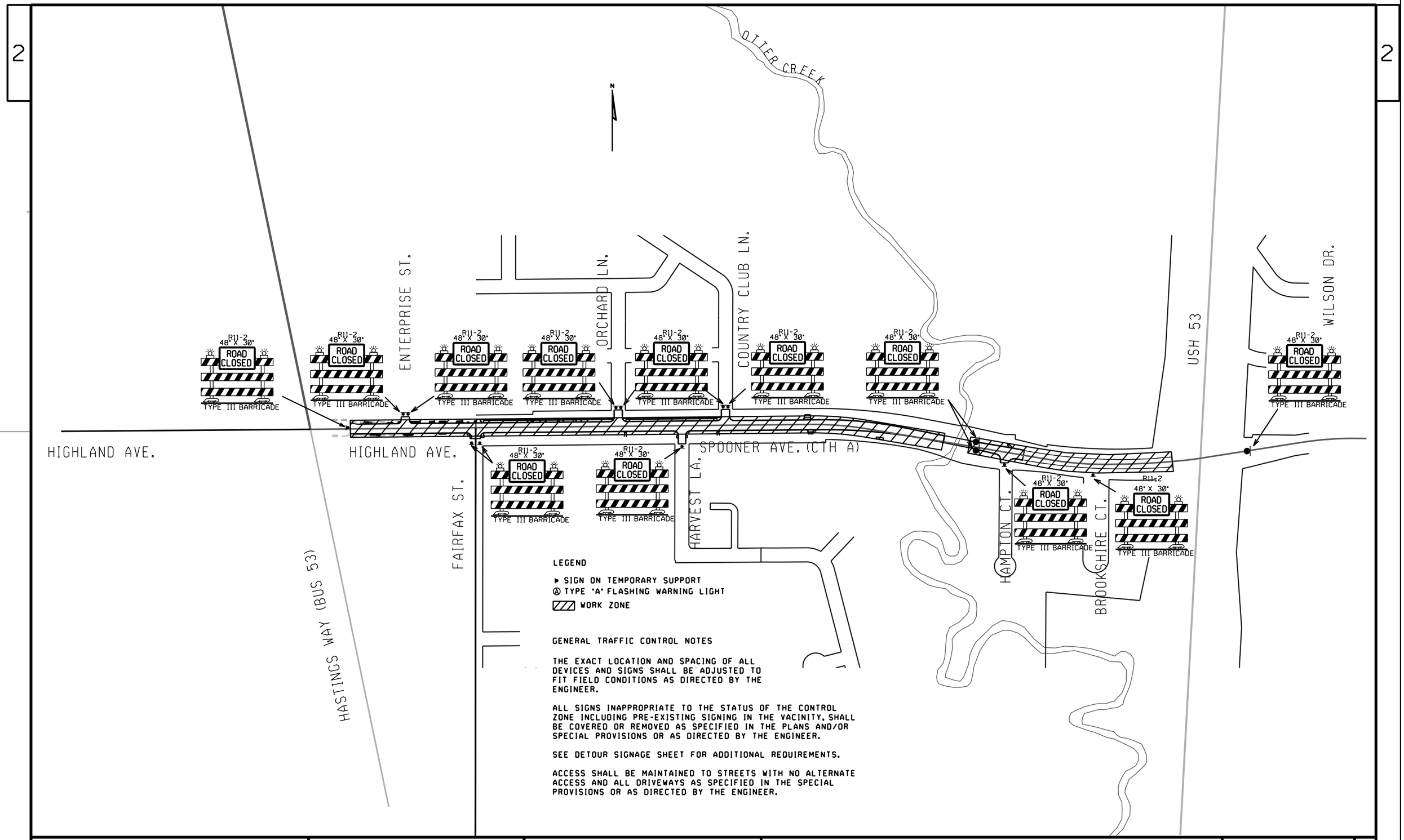
THE EXACT LOCATION AND SPACING OF ALL DEVICES AND SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE INCLUDING PRE-EXISTING SIGNING IN THE VACINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

SEE TRAFFIC CONTROL SHEET FOR ADDITIONAL SIGNAGE REQUIREMENTS.

ALL SIGNAGE FOR DETOUR AND ROAD CLOSURE SHALL HAVE AN ORANGE BACKGROUND.

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	DETOUR SIGNING	SHEET 14	E



PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	TRAFFIC CONTROL	SHEET 15	E

FILE NAME :J:CIP•3 Projects\Highland_Spooner\Drawings\Traffic PLOT DATE :12/29/2014 PLOT BY : PLOT SCALE :400:1

WISDOT/CADDS SHEET 42

SCALE
0 20 40 80

N

SAN MH 18
STA. 11+92 46'- LT.
RIM = 880.75 D = 13.35'
INV. N. = 867.50
INV. S. = 867.40

BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEV
1	12+17	HYD. @ NE X ENTERPRISE ST.	883.65
		Ⓜ	

BEGIN PROJECT 7824-01-73, 7824-01-74
STA. 9+35

40 LF 6" HYDRANT LEAD CONNECT TO EX.

CONNECT TO EX. 10" PVC

CONNECT TO EX. 8" WM

CHARTER CABLE

AT&T FIBER

CITY OF E.C. WATER

EX 6" WM

CITY OF E.C. STORM SEWER

CITY OF E.C. SANITARY SEWER

EX 24" STM

EX 10" SAN

246 LF 8" D.I. WM CL 52

250 LF 10" SAN @ 0.40%

48" I.F.F.

66' R/W

ENTERPRISE ST.

EX 21" STM

EX 8" CONC. SAN

EX 6" WM

18

17

16

L.P.

P.P.

CAUTION XCEL GAS

8"X8" TEE

CONNECT TO EX. 6" WM 8"X6" REDUCER 6" SLEEVE

INSTALL HYDRANT STA. 12+18 46' LT. 14.5 LF 6" HYD. LEAD 8"X6" TEE 6" V&B

REM HYD

54 LF 8" SAN @ 0.40%

8" V&B

ABANDON EX. 6" WM

HIGHLAND AVENUE

62 LF 8" D.I. WM CL 52

24 LF 6" SANITARY SERVICE

8"X6" TEE

6"V&B

17 LF 6" D.I. WATER SERVICE

49 LF 6" D.I. WATER SERVICE

6" V&B

R/W

41 LF 6" SANITARY SERVICE

VERIFY WATER SERVICE IN USE

321 LF 8" SAN @ 0.48%

262 LF 8" D.I. WM CL 52

24 LF 6" SANITARY SERVICE

8"X6" TEE

6" V&B

17 LF 6" D.I. WATER SERVICE

NOTE: NEW SANITARY SERVICE LATERALS MUST MATCH EX. SIZES, 4" MIN.
1" WATER (TYP.)
4" SAN. (TYP.)

49 LF 6" D.I. WATER SERVICE

6" V&B

REM HYD

6" V&B

49 LF 6" D.I. WATER SERVICE

MATCH LINE STA. 15+00

T.S.

36'-12" RCPSS @ 1.00%

48 LF 8" D.I. WM CL 52

8"X6" TEE

INSTALL HYDRANT STA. 14+66 26.50' RT. 10.5 LF 6" HYD. LEAD 8"X6" TEE 6" V&B

EX 8" SAN
SAN
WTR

EX 24" STM
EX 8" WM
SAN
WTR

10.00 11.00 12.00 13.00 14.00 15.00

EX. SAN MH 16 STA. 9+28 4.5' RT.
RIM = 879.12

EX. 866.02 E.
EX. 865.97 W.

SAN MH 17 STA. 11+92 8' RT.
RIM = 880.45 D = 13.38'
INV. N. = 867.17
INV. E. = 867.17
INV. W. = 867.07

PROPOSED T.C. PROFILE

EX. CL PROFILE

CONNECT TO EX. 10" PVC

250 LF 10" SAN @ 0.40%

321 LF 8" SAN @ 0.48%

890 885 880 875 870 865 860

879.89	880.19	880.49	880.79	880.60	880.54	880.71	880.88	881.05	880.94	880.66
879.94	880.24	880.54	880.62	880.47	880.46	880.68	880.90	881.11	881.03	880.74
10+00		11+00		12+00		13+00		14+00		15+00

PROJECT NO: 7824-01-73/74	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	UTILITIES	SHEET 16	E

FILE NAME :J:CIP•3 Projects\Highland_Spooner\Drawings\HighlandUtil_1 PLOT DATE : 12/30/2014 PLOT BY : PLOT SCALE : 40.00:1.00

WISDOT/CADDS SHEET 41

BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEV
2	15+65	HYD. @ NE X FAIRFAX STREET	883.56

SCALE 0 20 40 80

N

END PROJECT 7824-01-73, 7824-01-74 STA. 15+22

MATCH LINE STA. 15+00

MATCH LINE STA. 20+00

EX 8" SAN

CITY OF ALTOONA SANITARY SEWER

CITY OF ALTOONA WATER

EX 6" WM

AT&T FIBER

XCEL GAS

SPOONER AVENUE

R/W

P.P.

L.P.

T.S.

TYPE 2 RAMP

REM MH

8" V&B

8" 90° BEND

24LF 8" D.I. WM CL. 52

CONNECT TO EX. 8" WM W/8" SLEEVE

CONST. LIMITS 50' LT

EX. BIT. TRAIL

FAIRFAX ST.

EX 24" STM

EX 8" WM

48' FF

145' R/W

160' R/W

15+00 16+00 17+00 18+00 19+00 20+00

SAN MH 19 STA. 15+13 8' RT. RIM = 880.64 D = 11.93'

EX. SAN MH STA. 15+22 7.5' RT. RIM = 880.52'

EX. SAN MH STA. 15+28 54' LT. RIM = 880.43

EX. SAN MH STA. 18+62 52' LT. RIM = 873.09

PROP T.C. PROFILE

EX. CL PROFILE

EX 8" SAN

868.82 W.

870.93 S.
870.83 E.

868.71 W

863.49 E.W

880.66	880.39	879.95	879.22	878.21	876.90	875.31	873.42	871.25	868.79	866.03
880.74	880.45	879.99	879.26	878.23	876.91					

890 885 880 875 870 865 860

15+00 16+00 17+00 18+00 19+00 20+00

PROJECT NO: 7824-01-73/74	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	UTILITIES	SHEET 17	E

FILE NAME :J:CIP•3 Projects\Highland_Spooner\Drawings\Highland_Util2 PLOT DATE : 12/30/2014 PLOT BY : PLOT SCALE : 40.00:1.00

WISDOT/CADDS SHEET 41

DATE 06APR15 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	7824-01-72 QUANTITY	7824-01-73 QUANTITY	7824-01-74 QUANTITY
0010	201.0105	Clearing	STA	10.000	10.000		
0020	201.0205	Grubbing	STA	10.000	10.000		
0030	204.0100	Removing Pavement	SY	265.000	265.000		
0040	204.0120	Removing Asphaltic Surface Milling	SY	3,450.000	3,450.000		
0050	204.0150	Removing Curb & Gutter	LF	1,184.000	1,184.000		
0060	204.0155	Removing Concrete Sidewalk	SY	709.000	709.000		
0070	204.0210	Removing Manholes	EACH	7.000	7.000		
0080	204.0220	Removing Inlets	EACH	8.000	8.000		
0090	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	286.000	286.000		
0100	204.0245	Removing Storm Sewer (size) 02. 24-Inch	LF	617.000	617.000		
0110	205.0100	Excavation Common **P**	CY	12,089.000	12,089.000		
0120	208.0100	Borrow	CY	3,191.000	3,191.000		
0130	213.0100	Finishing Roadway (project) 01. 7824-01-72	EACH	1.000	1.000		
0140	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	8,675.000	8,675.000		
0150	416.0180	Concrete Driveway 8-Inch	SY	560.000	560.000		
0160	455.0105	Asphaltic Material PG58-28	TON	360.000	360.000		
0170	455.0605	Tack Coat	GAL	2,400.000	2,400.000		
0180	460.1101	HMA Pavement Type E-1	TON	6,530.000	6,530.000		
0190	460.2000	Incentive Density HMA Pavement	DOL	4,180.000	4,180.000		
0200	465.0315	Asphaltic Flumes	SY	15.000	15.000		
0210	520.1015	Apron Endwalls for Culvert Pipe 15-Inch	EACH	1.000	1.000		
0220	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	1.000	1.000		
0230	521.0115	Culvert Pipe Corrugated Steel 15-Inch	LF	154.000	154.000		
0240	521.1015	Apron Endwalls for Culvert Pipe Steel 15-Inch	EACH	10.000	10.000		
0250	602.0405	Concrete Sidewalk 4-Inch	SF	10,422.000	10,422.000		
0260	602.0415	Concrete Sidewalk 6-Inch	SF	1,685.000	1,685.000		
0270	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	176.000	176.000		
0280	606.0100	Riprap Light	CY	37.000	37.000		
0290	606.0200	Riprap Medium	CY	10.000	10.000		
0300	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	509.000	509.000		
0310	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	1,041.000	1,041.000		
0320	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	255.000	255.000		
0330	608.0321	Storm Sewer Pipe Reinforced Concrete Class III 21-Inch	LF	554.000	554.000		
0340	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	305.000	305.000		
0350	608.0330	Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	LF	574.000	574.000		
0360	611.0530	Manhole Covers Type J	EACH	16.000	16.000		
0370	611.0612	Inlet Covers Type C	EACH	3.000	3.000		
0380	611.0624	Inlet Covers Type H	EACH	28.000	28.000		
0390	611.2004	Manholes 4-FT Diameter	EACH	13.000	13.000		
0400	611.3230	Inlets 2x3-FT	EACH	28.000	28.000		
0410	611.8110	Adjusting Manhole Covers	EACH	19.000	19.000		
0420	611.8115	Adjusting Inlet Covers	EACH	28.000	28.000		
0430	611.9800.S	Pipe Grates	EACH	2.000	2.000		
0440	619.1000	Mobilization	EACH	1.000	1.000		
0450	625.0100	Topsoil	SY	7,500.000	7,500.000		
0460	627.0200	Mulching	SY	7,500.000	7,500.000		

3

DATE 06APR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	7824-01-72 QUANTITY	7824-01-73 QUANTITY	7824-01-74 QUANTITY
0470	628.1104	Erosion Bales	EACH	35.000	35.000		
0480	628.1504	Silt Fence	LF	2,851.000	2,851.000		
0490	628.1520	Silt Fence Maintenance	LF	2,851.000	2,851.000		
0500	628.2008	Erosion Mat Urban Class I Type B	SY	4,600.000	4,600.000		
0510	628.7005	Inlet Protection Type A	EACH	3.000	3.000		
0520	628.7020	Inlet Protection Type D	EACH	28.000	28.000		
0530	629.0210	Fertilizer Type B	CWT	4.700	4.700		
0540	630.0140	Seeding Mixture No. 40	LB	135.000	135.000		
0550	643.0100	Traffic Control (project) 01. 7824-01-72	EACH	1.000	1.000		
0560	643.0420	Traffic Control Barricades Type III	DAY	920.000	920.000		
0570	643.0705	Traffic Control Warning Lights Type A	DAY	1,702.000	1,702.000		
0580	643.0900	Traffic Control Signs	DAY	1,380.000	1,380.000		
0590	643.1000	Traffic Control Signs Fixed Message	SF	59.000	59.000		
0600	643.2000	Traffic Control Detour (project) 01. 7824-01-72	EACH	1.000	1.000		
0610	643.3000	Traffic Control Detour Signs	DAY	1,610.000	1,610.000		
0620	645.0120	Geotextile Fabric Type HR	SY	134.000	134.000		
0630	646.0106	Pavement Marking Epoxy 4-Inch	LF	15,521.000	15,521.000		
0640	646.0126	Pavement Marking Epoxy 8-Inch	LF	124.000	124.000		
0650	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	33.000	33.000		
0660	647.0206	Pavement Marking Arrows Bike Lane Epoxy	EACH	12.000	12.000		
0670	647.0306	Pavement Marking Symbols Bike Lane Epoxy	EACH	12.000	12.000		
0680	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	60.000	60.000		
0690	647.0716	Pavement Marking Diagonal Epoxy 8-Inch	LF	124.000	124.000		
0700	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	175.000	175.000		
0710	690.0150	Sawing Asphalt	LF	334.000	334.000		
0720	690.0250	Sawing Concrete	LF	22.500	22.500		
0730	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000		
0740	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000		
0750	SPV.0060	Special 01. Sanitary Sewer Wye, 8-Inch X 6-Inch	EACH	5.000		5.000	
0760	SPV.0060	Special 02. Remove Hydrant	EACH	2.000			2.000
0770	SPV.0060	Special 03. Fire Hydrant	EACH	2.000			2.000
0780	SPV.0060	Special 04. Valve And Box, 6-Inch	EACH	9.000			9.000
0790	SPV.0060	Special 05. Valve And Box, 8-Inch	EACH	2.000			2.000
0800	SPV.0060	Special 06. Adjusting Valve Boxes	EACH	6.000			6.000
0810	SPV.0060	Special 07. Inlet 30-Inch Round	EACH	3.000	3.000		
0820	SPV.0085	Special 01. Fittings	LB	1,055.000			1,055.000
0830	SPV.0090	Special 01. 8-Inch Sanitary Sewer	LF	375.000		375.000	
0840	SPV.0090	Special 02. 10-Inch Sanitary Sewer	LF	250.000		250.000	
0850	SPV.0090	Special 03. 6-Inch Sanitary Sewer Service	LF	171.000		171.000	
0860	SPV.0090	Special 04. 6-Inch D.I. Hydrant Lead	LF	65.000			65.000
0870	SPV.0090	Special 05. 6-Inch D.I. Water Service	LF	230.000			230.000
0880	SPV.0090	Special 06. 8-Inch D.I. Water Main CL 52	LF	642.000			642.000
0890	SPV.0090	Special 07. Concrete Curb And Gutter 24-Inch Type D	LF	6,242.000	6,242.000		
0900	SPV.0200	Special 01. Manhole Masonry Sanitary Sewer	VF	36.920		36.920	

CLEARING

CAT.	STATION	TO	STATION	LOCATION	201.0105 STA	REMARKS
0010	27+00	-	36+00	LT	9.00	
0010	34+00	-	35+00	RT	1.00	
				TOTAL 0010	10	

GRUBBING

CAT.	STATION	TO	STATION	LOCATION	201.0205 STA	REMARKS
0010	27+00	-	36+00	LT	9.00	
0010	34+00	-	35+00	RT	1.00	
				TOTAL 0010	10	

REMOVING PAVEMENT

CAT.	STATION	TO	STATION	LOCATION	204.0100 SY	REMARKS
0010	9+99	-	10+39	LT	36	DRIVEWAY
0010	10+23	-	10+79	RT	51	DRIVEWAY
0010	11+80	-	12+31	RT	45	DRIVEWAY
0010	12+35	-	12+65	LT	26	DRIVEWAY
0010	13+02	-	13+32	LT	25	DRIVEWAY
0010	13+45	-	13+85	RT	16	DRIVEWAY
0010	13+48	-	13+86	LT	34	DRIVEWAY
0010	14+28	-	14+65	LT	32	DRIVEWAY
				TOTAL 0010	265	

REMOVING ASPHALT SURFACE MILLING

CAT.	STATION	TO	STATION	LOCATION	204.0120 SY	REMARKS
0010	41+00	-	48+00		3450	MAINLINE
				TOTAL 0010	3450	

REMOVING CURB AND GUTTER

CAT.	STATION	TO	STATION	LOCATION	204.0150 LF	REMARKS
0010	9+75	-	15+60	LT	571	
0010	9+45	-	15+60	RT	613	
				TOTAL 0010	1184	

REMOVING CONCRETE SIDEWALK

CAT.	STATION	TO	STATION	LOCATION	204.0155 SY	REMARKS
0010	9+45	-	10+25	RT	71	
0010	9+79	-	10+00	LT	11	
0010	10+36	-	11+68	LT	115	
0010	10+76	-	11+83	RT	95	
0010	12+14	-	12+37	LT	19	
0010	12+28	-	15+00	RT	233	
0010	12+61	-	13+05	LT	39	
0010	13+29	-	13+51	LT	20	
0010	13+83	-	14+31	LT	42	
0010	14+62	-	15+23	LT	54	
0010	15+44	-	15+56	RT	10	
				TOTAL 0010	709.0	

REMOVING MANHOLES

CAT.	STATION	TO	STATION	LOCATION	204.0210 EACH	REMARKS
0010	9+58			4' RT	1	STM
0010	11+80			4' RT	1	STM
0010	11+92			8' RT	1	SAN
0010	11+97			2.5' RT	1	STM
0010	15+08			1' RT	1	STM
0010	15+22			7' RT	1	SAN
				TOTAL 0010	7	

3

REMOVING INLETS

CAT.	STATION	TO	STATION	LOCATION	204.0220 EACH	REMARKS
0010	11+71			40' LT	1	ENTERPRISE ST.
0010	12+13			37' LT	1	ENTERPRISE ST.
0010	12+30			24' LT	1	MAINLINE
0010	12+32			24' RT	1	MAINLINE
0010	14+70			24' RT	1	MAINLINE
0010	24+61			37.5' RT	1	MAINLINE
0010	26+76			36' RT	1	MAINLINE
0010	29+84			35' RT	1	MAINLINE
				TOTAL 0010	8	

REMOVING STORM SEWER (01. 12-INCH)

CAT.	STATION	TO	STATION	LOCATION	204.0245 LF	REMARKS
0010	11+72	-	11+80	MAINLINE	45	
0010	11+80	-	12+14	MAINLINE	51	
0010	11+97	-	12+31	MAINLINE	51	
0010	11+97	-	12+33	MAINLINE	36	
0010	14+71	-	15+09	MAINLINE	45	
0010	15+09	-	15+44	MAINLINE	58	
					286	

REMOVING STORM SEWER (02. 24-INCH)

CAT.	STATION	TO	STATION	LOCATION	204.0245 LF	REMARKS
0010	9+59	-	15+09	MAINLINE	550	
0010	11+80	-		ENTERPRISE ST.	44	
0010	15+09	-		FAIRFAX ST.	23	
				TOTAL 0010	617	

EXCAVATION COMMON **P**

CAT.	STATION	TO	STATION	LOCATION	205.0110 CY	REMARKS
0010	9+35	-	41+00	MAINLINE	12089	
				TOTAL 0010	12089	

BORROW

CAT.	STATION	TO	STATION	LOCATION	208.0100 CY	REMARKS
0010	9+35	-	41+00	MAINLINE	3191	
				TOTAL 0010	3191	

FINISHING ROADWAY (PROJECT 7824-01-72)

CAT.	STATION	TO	STATION	LOCATION	213.0100 EA	REMARKS
0010	9+35	-	41+00	MAINLINE	1	
				TOTAL 0010	1	

BASE AGGREGATE DENSE 1 1/4-INCH

CAT.	STATION	TO	STATION	LOCATION	305.0120 TON	REMARKS
0010	9+35	-	41+00	MAINLINE	8675	
				TOTAL 0010	8675	

3

3

CONCRETE DRIVEWAY 8-INCH

CAT.	STATION	TO	STATION	LOCATION	416.0180 SY	REMARKS
0010	9+99	-	10+39	LT	36	
0010	10+23	-	10+79	RT	51	
0010	11+80	-	12+31	RT	45	
0010	12+35	-	12+65	LT	26	
0010	13+02	-	13+32	LT	25	
0010	13+45	-	13+85	RT	16	
0010	13+48	-	13+86	LT	34	
0010	14+28	-	14+65	LT	32	
0010	17+62	-	17+94	LT	39	
0010	18+20	-	18+54	LT	42	
0010	19+02	-	19+36	LT	42	
0010	19+90	-	20+18	LT	37	
0010	30+59	-	30+95	LT	80	
0010	30+73	-	31+07	RT	55	
				TOTAL 0010	560	

ASPHALTIC MATERIAL PG58-28

CAT.	STATION		LOCATION	455.0105 TON	REMARKS
0010	9+35	-	48+00	360	MAINLINE
			TOTAL 0010	360	

TACK COAT

CAT.	STATION	TO	STATION	LOCATION	455.0605 GAL	REMARKS
0010	9+35	-	48+00		2400	MAINLINE
				TOTAL 0010	2400	

HMA PAVEMENT TYPE E-1

CAT.	STATION	TO	STATION	LOCATION	460.1101 TON	REMARKS
0010	9+35	-	48+00		6530	MAINLINE
				TOTAL 0010	6530	

ASPHALTIC FLUMES

CAT.	STATION	TO	STATION	LOCATION	465.0315 SY	REMARKS
0010	40+25			LT	15	
				TOTAL 0010	15	

APRON ENDWALLS FOR CULVERT PIPE 15-INCH

CAT.	STATION	TO	STATION	LOCATION	520.1015 EA	REMARKS
0010	34+22			60' RT	1	
				TOTAL 0010	1	

APRON ENDWALLS FOR CULVERT PIPE 24-INCH

CAT.	STATION	TO	STATION	LOCATION	520.1024 EA	REMARKS
0010	34+17			61' RT	1	
				TOTAL 0010	1	

CULVERT PIPE CORRUGATED STEEL 15-INCH (01. MINIMUM WALL THICKNESS: 0.064 INCHES)

CAT.	STATION	TO	STATION	LOCATION	521.0115 LF	REMARKS
0010	22+13	-	22+31	33' RT	18	
0010	24+58	-	25+17	38' RT	38	
0010	26+48	-	26+66	38' RT	18	
0010	30+55	-	30+96	40' LT	40	
0010	30+70	-	31+10	30' RT	40	
				TOTAL 0010	154	

APRON ENDWALLS FOR CULVERT PIPE STEEL 15-INCH

CAT.	STATION	TO	STATION	LOCATION	521.1015 EA	REMARKS
0010	22+13	-		RT	1	
0010	22+31	-		RT	1	
0010	24+58	-		RT	1	
0010	25+17	-		RT	1	
0010	26+48	-		RT	1	
0010	26+66	-		RT	1	
0010	30+56	-		LT	1	
0010	30+70	-		RT	1	
0010	30+96	-		LT	1	
0010	31+10	-		RT	1	
				TOTAL 0010	10	

CONCRETE SIDEWALK 4-INCH

CAT.	STATION	TO	STATION	LOCATION	602.0405 SF	REMARKS
0010	9+45	-	10+25	RT	639	
0010	9+79	-	10+00	LT	100	
0010	10+36	-	11+57	LT	920	
0010	10+76	-	11+83	RT	855	
0010	12+26	-	12+37	LT	102	
0010	12+28	-	14+80	RT	1965	
0010	12+61	-	13+05	LT	351	
0010	13+29	-	13+51	LT	180	
0010	13+83	-	14+31	LT	378	
0010	14+62	-	15+14	LT	420	
0010	15+58	-	17+68	RT	1043	
0010	17+89	-	18+25	RT	179	
0010	18+49	-	19+07	RT	290	
0010	19+31	-	19+92	RT	308	
0010	20+15	-	21+59	RT	722	
0010	22+26	-	26+15	RT	2130	
				TOTAL 0010	10422	

CONCRETE SIDEWALK 6-INCH

CAT.	STATION	TO	STATION	LOCATION	602.0415 SF	REMARKS
0010	11+57	-	11+69	LT	60	
0010	11+06	-	11+35	LT	100	
0010	12+15	-	12+25	LT	50	
0010	14+80	-	14+92	LT	36	
0010	14+81	-	14+99	RT	160	
0010	15+14	-	15+24	LT	45	
0010	15+44	-	15+58	LT	154	
0010	15+44	-	15+62	RT	250	
0010	21+59	-	21+68	LT	50	
0010	22+11	-	22+26	LT	141	
0010	22+16	-	22+28	RT	60	
0010	24+61	-	24+69	RT	82	
0010	25+06	-	25+14	RT	82	
0010	26+51	-	26+63	RT	60	
0010	26+51	-	26+70	LT	195	
0010	40+17	-	40+42	LT	160	
				TOTAL 0010	1685	

CURB RAMP DETECTABLE WARNING FIELD YELLOW

602.0505

CAT.	STATION	TO	STATION	LOCATION	SF	REMARKS
0010	11+65	-		LT	8	
0010	12+19	-		LT	8	
0010	14+86	-		LT	8	
0010	14+86	-		RT	8	
0010	14+97	-		RT	8	
0010	15+20	-		LT	8	
0010	15+47	-		RT	8	
0010	15+47	-		RT	8	
0010	15+54	-		RT	8	
0010	15+54	-		LT	8	
0010	21+64	-		LT	8	
0010	22+15	-		LT	8	
0010	22+20	-		RT	6	
0010	22+24	-		RT	6	
0010	22+22	-		LT	8	
0010	24+67	-		RT	16	
0010	25+07	-		RT	16	
0010	26+55	-		RT	6	
0010	26+59	-		RT	6	
0010	26+57	-		LT	8	
0010	26+67	-		LT	8	
				TOTAL 0010	176	

RIPRAP LIGHT

606.0100

CAT.	STATION	TO	STATION	LOCATION	CY	REMARKS
0010	22+42			RT	3	
0010	22+65			RT	3	
0010	24+81			RT	10	
0010	25+51			RT	3	
0010	26+75			RT	3	
0010	26+99			RT	3	
0010	30+52			LT	3	
0010	30+66			RT	3	
0010	31+00			LT	3	
0010	31+13			RT	3	
				TOTAL 0010	37	

RIPRAP MEDIUM

606.0200

CAT.	STATION	TO	STATION	LOCATION	CY	REMARKS
0010	34+19			RT	10	
				TOTAL 0010	10	

STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH

608.0312

CAT.	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	INL 3A	-	STM MH 3		9	
0010	INL 3B	-	STM MH 3		33	
0010	INL 2A	-	STM MH 2		52	
0010	INL 4A	-	STM MH 4		39	
0010	INL 5A	-	STM MH 5		32	
0010	INL 5B	-	STM MH 5		36	
0010	INL 6A	-	STM MH 6		36	
0010	INL 8B	-	INL 8A		10	
0010	INL 8D	-	INL 8C		10	
0010	INL 9A	-	STM MH 9		24	
0010	INL 9B	-	STM MH 9		24	
0010	INL 10B	-	INL 10A		10	
0010	INL 10D	-	INL 10C		10	
0010	INL 10E	-	INL 10C		12	
0010	INL 11A	-	STM MH 11		24	
0010	INL 11B	-	STM MH 11		24	
0010	INL 12B	-	INL 12A		10	
0010	INL 12D	-	INL 12C		10	
0010	INL 13A	-	STM MH 13		24	
0010	INL 13B	-	STM MH 13		24	
0010	INL 14A	-	STM MH 14		24	
0010	INL 15A	-	STM MH 15		16	
0010	INL 15B	-	STM MH 15		16	
				TOTAL 0010	509	

3

STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH

CAT.	STATION	TO	STATION	LOCATION	608.0315 LF	REMARKS
0010	STM MH 4	-	STM MH 2		31	
0010	31+22	-	31+27		24	
0010	INL 8A	-	STM MH 8		21	
0010	INL 10A	-	STM MH 10		24	
0010	INL 10C	-	STM MH 10		24	
0010	INL 12A	-	STM MH 12		24	
0010	INL 12C	-	STM MH 12		24	
0010	INL 12E	-	INL 12C		12	
0010	STM MH 13	-	STM MH 12		300	
0010	STM MH 14	-	STM MH 13		330	
0010	INL 14C	-	INL 14B		12	
0010	STM MH 15	-	STM MH 8		215	
				TOTAL 0010	1041	

STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH

CAT.	STATION	TO	STATION	LOCATION	608.0318 LF	REMARKS
0010	STM MH 12	-	STM MH 11		200	
0010	INL 14B	-	STM MH 14		24	
0010	STM MH 4	-	STM MH 2		31	
				TOTAL 0010	255	

STORM SEWER PIPE REINFORCED CONCRETE CLASS III 21-INCH

CAT.	STATION	TO	STATION	LOCATION	608.0321 LF	REMARKS
0010	STM MH 10	-	STM MH 9		254	
0010	STM MH 11	-	STM MH 10		300	
				TOTAL 0010	554	

STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH

CAT.	STATION	TO	STATION	LOCATION	608.0324 LF	REMARKS
0010	STM MH 3	-	STM MH 2		32	
0010	INL 8C	-	OUTFALL		42	
0010	STM MH 8	-	INL 8C		21	
0010	STM MH 9	-	STM MH 8		210	
				TOTAL 0010	305	

STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH

CAT.	STATION	TO	STATION	LOCATION	608.0330 LF	REMARKS
0010	STM MH 6	-	STM MH 5		45	
0010	STM MH 5	-	STM MH 2		295	
0010	STM MH 2	-	STM MH 1		234	
				TOTAL 0010	574	

3

MMANHOLE COVERS TYPE J

611.0530

CAT.	STATION	TO	STATION	LOCATION	EA	REMARKS
0010	11+80	-		8.0' LT	1	STORM
0010	11+80	-		40.0' LT	1	STORM
0010	11+92	-		8.0' RT	1	SANITARY
0010	11+92	-		46.0' LT	1	SANITARY
0010	11+94	-		20.0' RT	1	STORM
0010	14+75	-		8.0' LT	1	STORM
0010	15+08	-		24.0' RT	1	STORM
0010	15+13	-		8.0' RT	1	SANITARY
0010	18+16	-		CL	1	STORM
0010	21+46	-		CL	1	STORM
0010	24+89	-		53' RT	1	STORM
0010	26+46	-		CL	1	STORM
0010	29+46	-		CL	1	STORM
0010	32+00	-		CL	1	STORM
0010	34+10	-		CL	1	STORM
0010	36+25	-		CL	1	STORM

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MANHOLE 4-FT DIAMETER

611.2004

CAT.	STATION	TO	STATION	LOCATION	EA	REMARKS
0010	11+80	-		8.0' LT	1	STORM
0010	11+80	-		40.0' LT	1	STORM
0010	11+94	-		20.0' RT	1	STORM
0010	14+75	-		8.0' LT	1	STORM
0010	15+08	-		24.0' RT	1	STORM
0010	18+16	-		CL	1	STORM
0010	21+46	-		CL	1	STORM
0010	24+89	-		53' RT	1	STORM
0010	26+46	-		CL	1	STORM
0010	29+46	-		CL	1	STORM
0010	32+00	-		CL	1	STORM
0010	34+10	-		CL	1	STORM
0010	36+25	-		CL	1	STORM

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3

INLET COVERS TYPE C

611.0612

CAT.	STATION	TO	STATION	LOCATION	EA	REMARKS
0010	29+46	-		35.25' RT	1	INL 10E
0010	24+46	-		36' RT	1	INL 12E
0010	18+15	-		35' RT	1	INL 14C
				TOTAL 0010	3	

INLET COVERS TYPE H

611.0624

CAT.	STATION	TO	STATION	LOCATION	EA	REMARKS
0010	12+30	-		24' LT	1	INL 2A
0010	11+71.32	-		41.50' LT	1	INL 3A
0010	11+80	-		40' LT	1	INL 3B
0010	12+34	-		24' RT	1	INL 4A
0010	14+75	-		24' RT	1	INL 5A
0010	15+08	-		24' LT	1	INL 5B
0010	34+10	-		21.28' LT	1	INL 8A
0010	34+00	-		21.52' LT	1	INL 8B
0010	34+10	-		21.14' RT	1	INL 8C
0010	34+00	-		21.30' RT	1	INL 8D
0010	32+00	-		24.09' LT	1	INL 9A
0010	32+00	-		23.63' RT	1	INL 9B
0010	29+46	-		24' LT	1	INL 10A
0010	29+36	-		24' LT	1	INL 10B
0010	29+46	-		24' RT	1	INL 10C
0010	29+36	-		24' RT	1	INL 10D
0010	26+46	-		24' LT	1	INL 11A
0010	26+46	-		24' RT	1	INL 11B
0010	24+46	-		24' LT	1	INL 12A
0010	24+36	-		24' LT	1	INL 12B
0010	24+46	-		24' RT	1	INL 12C
0010	24+36	-		24' RT	1	INL 12D
0010	21+46	-		24' LT	1	INL 13A
0010	21+46	-		24' RT	1	INL 13B
0010	18+16	-		24' LT	1	INL 14A
0010	18+16	-		24' RT	1	INL 14B
0010	36+25	-		16.50' LT	1	INL 15A
0010	36+25	-		16.70' RT	1	INL 15B
				TOTAL 0010	28	

3

INLETS 2X3-FT

CAT.	STATION	TO	STATION	LOCATION	611.3230 EA	REMARKS
0010	12+30	-		24' LT	1	INL 2A
0010	11+71.32	-		41.50' LT	1	INL 3A
0010	11+80	-		40' LT	1	INL 3B
0010	12+34	-		24' RT	1	INL 4A
0010	14+75	-		24' RT	1	INL 5A
0010	15+08	-		24' LT	1	INL 5B
0010	34+10	-		21.28' LT	1	INL 8A
0010	34+00	-		21.52' LT	1	INL 8B
0010	34+10	-		21.14' RT	1	INL 8C
0010	34+00	-		21.30' RT	1	INL 8D
0010	32+00	-		24.09' LT	1	INL 9A
0010	32+00	-		23.63' RT	1	INL 9B
0010	29+46	-		24' LT	1	INL 10A
0010	29+36	-		24' LT	1	INL 10B
0010	29+46	-		24' RT	1	INL 10C
0010	29+36	-		24' RT	1	INL 10D
0010	26+46	-		24' LT	1	INL 11A
0010	26+46	-		24' RT	1	INL 11B
0010	24+46	-		24' LT	1	INL 12A
0010	24+36	-		24' LT	1	INL 12B
0010	24+46	-		24' RT	1	INL 12C
0010	24+36	-		24' RT	1	INL 12D
0010	21+46	-		24' LT	1	INL 13A
0010	21+46	-		24' RT	1	INL 13B
0010	18+16	-		24' LT	1	INL 14A
0010	18+16	-		24' RT	1	INL 14B
0010	36+25	-		16.50' LT	1	INL 15A
0010	36+25	-		16.70' RT	1	INL 15B
				TOTAL 0010	28	

3

ADJUSTING MANHOLE COVERS

CAT.	STATION	TO	STATION	LOCATION	611.8110 EA	REMARKS
0010	9+46	-		8.0' LT	1	EX STORM
0010	11+80	-		8.0' LT	1	STORM
0010	11+80	-		40.0' LT	1	STORM
0010	11+92	-		8.0' RT	1	SANITARY
0010	11+92	-		46.0' LT	1	SANITARY
0010	11+94	-		20.0' RT	1	STORM
0010	14+75	-		8.0' LT	1	STORM
0010	15+08	-		24.0' RT	1	STORM
0010	15+13	-		8.0' RT	1	SANITARY
0010	18+16	-		CL	1	STORM
0010	21+46	-		CL	1	STORM
0010	21+90	-		50' LT	1	EX. SAN
0010	24+89	-		53' RT	1	STORM
0010	24+47	-		CL	1	EX. SAN
0010	26+46	-		CL	1	STORM
0010	29+46	-		CL	1	STORM
0010	32+00	-		CL	1	STORM
0010	34+10	-		CL	1	STORM
0010	36+25	-		CL	1	STORM
					19	

3

ADJUSTING INLET COVERS

CAT.	STATION	TO	STATION	LOCATION	611.8115 EA	REMARKS
0010	12+30	-		24' LT	1	INL 2A
0010	11+71.32	-		41.50' LT	1	INL 3A
0010	11+80	-		40' LT	1	INL 3B
0010	12+34	-		24' RT	1	INL 4A
0010	14+75	-		24' RT	1	INL 5A
0010	15+08	-		24' LT	1	INL 5B
0010	34+10	-		21.28' LT	1	INL 8A
0010	34+00	-		21.52' LT	1	INL 8B
0010	34+10	-		21.14' RT	1	INL 8C
0010	34+00	-		21.30' RT	1	INL 8D
0010	32+00	-		24.09' LT	1	INL 9A
0010	32+00	-		23.63' RT	1	INL 9B
0010	29+46	-		24' LT	1	INL 10A
0010	29+36	-		24' LT	1	INL 10B
0010	29+46	-		24' RT	1	INL 10C
0010	29+36	-		24' RT	1	INL 10D
0010	26+46	-		24' LT	1	INL 11A
0010	26+46	-		24' RT	1	INL 11B
0010	24+46	-		24' LT	1	INL 12A
0010	24+36	-		24' LT	1	INL 12B
0010	24+46	-		24' RT	1	INL 12C
0010	24+36	-		24' RT	1	INL 12D
0010	21+46	-		24' LT	1	INL 13A
0010	21+46	-		24' RT	1	INL 13B
0010	18+16	-		24' LT	1	INL 14A
0010	18+16	-		24' RT	1	INL 14B
0010	36+25	-		16.50' LT	1	INL 15A
0010	36+25	-		16.70' RT	1	INL 15B
				TOTAL 0010	28	

PIPE GRATES

CAT.	STATION	TO	STATION	LOCATION	611.9800.S EA	REMARKS
0010	34+17			61' RT	1	24-inch
0010	34+22			60' RT	1	15-inch
				TOTAL 0010	2	

TOPSOIL

CAT.	STATION	TO	STATION	LOCATION	625.0100 SY	REMARKS
0010	15+15	-	41+00	LT & RT	7500	
				TOTAL 0010	7500	

MULCHING

CAT.	STATION	TO	STATION	LOCATION	627.0200 SY	REMARKS
0010	15+15	-	41+00	LT & RT	7500	
				TOTAL 0010	7500	

3

EROSION BALES

CAT.	STATION	TO	STATION	LOCATION	628.1104 EA	REMARKS
0010	17+67	-		RT	3	
0010	19+74	-		RT	3	
0010	20+97	-		RT	3	
0010	22+96	-		LT	3	
0010	23+18	-		RT	2	
0010	24+80	-		LT	3	
0010	25+88	-		RT	2	
0010	27+83	-		RT	2	
0010	27+83	-		LT	3	
0010	29+25	-		RT	2	
0010	29+38	-		LT	3	
0010	31+47	-		RT	2	
0010	32+63	-		RT	2	
0010	38+72	-		RT	2	
				TOTAL 0010	35	

SILT FENCE

CAT.	STATION	TO	STATION	LOCATION	628.1504 LF	REMARKS
0010	22+40	-	41+00	LT	1970	
0010	34+28	-	41+00	RT	881	
				TOTAL 0010	2851	

SILT FENCE MAINTENANCE

CAT.	STATION	TO	STATION	LOCATION	628.1520 LF	REMARKS
0010	22+40	-	41+00	LT	1970	
0010	34+28	-	41+00	RT	881	
				TOTAL 0010	2851	

EROSION MAT URBAN CLASS ITYPE B

CAT.	STATION	TO	STATION	LOCATION	628.2008 SY	REMARKS
0010	15+60	-	40+00	RT	2000	UNDISTRIBUTED
0010	22+25	-	40+50	LT	2600	UNDISTRIBUTED
				TOTAL 0010	4600	

INLET PROTECTION TYPE A

CAT.	STATION	TO	STATION	LOCATION	628.7005 EA	REMARKS
0010	24+46	-		24' LT	1	INL 12A
0010	29+46	-		35.25' RT	1	INL 10E
0010	18+15	-		35' RT	1	INL 14C
				TOTAL 0010	3	

3

INLET PROTECTION TYPE D

CAT.	STATION	TO	STATION	LOCATION	628.7020 EA	REMARKS
0010	12+30	-		24' LT	1	INL 2A
0010	11+71.32	-		41.50' LT	1	INL 3A
0010	11+80	-		40' LT	1	INL 3B
0010	12+34	-		24' RT	1	INL 4A
0010	14+75	-		24' RT	1	INL 5A
0010	15+08	-		24' LT	1	INL 5B
0010	34+10	-		21.28' LT	1	INL 8A
0010	34+00	-		21.52' LT	1	INL 8B
0010	34+10	-		21.14' RT	1	INL 8C
0010	34+00	-		21.30' RT	1	INL 8D
0010	32+00	-		24.09' LT	1	INL 9A
0010	32+00	-		23.63' RT	1	INL 9B
0010	29+46	-		24' LT	1	INL 10A
0010	29+36	-		24' LT	1	INL 10B
0010	29+46	-		24' RT	1	INL 10C
0010	29+36	-		24' RT	1	INL 10D
0010	26+46	-		24' LT	1	INL 11A
0010	26+46	-		24' RT	1	INL 11B
0010	24+46	-		24' LT	1	INL 12A
0010	24+36	-		24' LT	1	INL 12B
0010	24+46	-		24' RT	1	INL 12C
0010	24+36	-		24' RT	1	INL 12D
0010	21+46	-		24' LT	1	INL 13A
0010	21+46	-		24' RT	1	INL 13B
0010	18+16	-		24' LT	1	INL 14A
0010	18+16	-		24' RT	1	INL 14B
0010	36+25	-		16.50' LT	1	INL 15A
0010	36+25	-		16.70' RT	1	INL 15B
				TOTAL 0010	28	

FERTILIZER, TYPE B

CAT.	STATION	TO	STATION	LOCATION	629.0210 CWT	REMARKS
0010	15+15	-	41+00	LT & RT	4.70	
				TOTAL 0010	4.70	

SEEDING MIXTURE No. 40

CAT.	STATION	TO	STATION	LOCATION	630.0140 LB	REMARKS
0010	15+15	-	41+00	LT & RT	135	
				TOTAL 0010	135	

TRAFFIC CONTROL (PROJECT 7824-01-72)

CAT.	STATION	TO	STATION	LOCATION	643.0100 EACH	REMARKS
0010				HIGHLAND/SPOONER AVE	1	
				TOTAL 0010	1	

3

TRAFFIC CONTROL BARRICADES TYPE III

CAT.	STATION	TO	STATION	LOCATION	643.0420 DAYS	REMARKS
0010	UNDISTRIBUTED				920	
				TOTAL 0010	920	

TRAFFIC CONTROL WARNING LIGHTS TYPE A

CAT.	STATION	TO	STATION	LOCATION	643.0705 DAYS	REMARKS
0010	UNDISTRIBUTED				1702	
				TOTAL 0010	1702	

TRAFFIC CONTROL SIGNS

CAT.	STATION	TO	STATION	LOCATION	643.0900 DAYS	REMARKS
0010	UNDISTRIBUTED				1380	
				TOTAL 0010	1380	

TRAFFIC CONTROL SIGNS FIXED MESSAGE

CAT.	STATION	TO	STATION	LOCATION	643.1000 SF	REMARKS
0010					59	
				TOTAL 0010	59	

TRAFFIC CONTROL DETOUR (PROJECT 7824-01-72)

CAT.	STATION	TO	STATION	LOCATION	643.2000 EA	REMARKS
0010				HIGHLAND/SPOONER AVENUE	1	
				TOTAL 0010	1	

TRAFFIC CONTROL DETOUR SIGNS

CAT.	STATION	TO	STATION	LOCATION	643.3000 DAYS	REMARKS
0010	UNDISTRIBUTED				1610	
				TOTAL 0010	1610	

GEOTEXTILE FABRIC TYPE HR

CAT.	STATION	TO	STATION	LOCATION	645.0120 SY	REMARKS
0010	22+42			RT	11	
0010	22+65			RT	11	
0010	24+81			RT	35	
0010	25+51			RT	11	
0010	26+75			RT	11	
0010	26+99			RT	11	
0010	30+52			LT	11	
0010	30+66			RT	11	
0010	31+00			LT	11	
0010	31+13			RT	11	
				TOTAL 0010	134	

PAVEMENT MARKING EPOXY 4-INCH

CAT.	STATION	TO	STATION	LOCATION	646.0106 LF	REMARKS
0010	9+35		48+00	MAINLINE	15521	
				TOTAL 0010	15521	

3

PAVEMENT MARKING EPOXY 8-INCH

CAT.	STATION	TO	STATION	LOCATION	646.0126 LF	REMARKS
0010	8+00		22+17	MAINLINE	124	
				TOTAL 0010	124	

PAVEMENT MARKING ARROWS EPOXY TYPE 2

CAT.	STATION	TO	STATION	LOCATION	647.0166 EA	REMARKS
0010	9+35		48+00	MAINLINE	33	
				TOTAL 0010	33	

PAVEMENT MARKING ARROWS BIKE LANE EPOXY

CAT.	STATION	TO	STATION	LOCATION	647.0206 EA	REMARKS
0010	9+35		48+00	MAINLINE	12	
				TOTAL 0010	12	

PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY

CAT.	STATION	TO	STATION	LOCATION	647.0306 EA	REMARKS
0010	9+35		48+00	MAINLINE	12	
				TOTAL 0010	12	

PAVEMENT MARKING STOPLINE EPOXY 18-INCH

CAT.	STATION	TO	STATION	LOCATION	647.0566 LF	REMARKS
0010	14+80				30	
0010	15+58				30	
				TOTAL 0010	60	

PAVEMENT MARKING DIAGONAL EPOXY 8-INCH

CAT.	STATION	TO	STATION	LOCATION	647.0716 LF	REMARKS
0010	32+48	-	35+37		124	
				TOTAL 0010	124	

PAVEMENT MARKING CROSSWALK EPOXY 6-INCH

CAT.	STATION	TO	STATION	LOCATION	647.0766 LF	REMARKS
0010	14+83		15+43	MAINLINE	175	
				TOTAL 0010	175	

3

SAWING ASPHALT (PROJECT 7824-01-72)

CAT.	STATION	TO	STATION	LOCATION	690.0150 LF	REMARKS
0010	9+35	-		MAINLINE	51	
0010	11+73	-	12+11	LT	39	ENTERPRISE STREET
0010	15+01	-	15+43	RT	41	FAIRFAX STREET
0010	15+26	-	15+42	LT	16	ENTRANCE
0010	21+72	-	22+09	LT	37	ORCHARD PLACE
0010	24+71	-	25+03	RT	33	HARVEST LANE
0010	26+74	-	27+10	LT	37	COUNTRY CLUB LANE
0010	30+64	-	30+89	LT	25	DRIVEWAY
0010	30+78	-		RT	10	TRAIL
0010	31+02	-		RT	10	TRAIL
0010	40+02	-	40+36	RT	35	HAMPTON COURT
				TOTAL 0010	334	

SAWING CONCRETE (PROJECT 7824-01-72)

CAT.	STATION	TO	STATION	LOCATION	690.0250 LF	REMARKS
0010	9+45			RT	2.5	CURB MAINLINE
0010	9+79			LT	2.5	CURB MAINLINE
0010	11+71			LT	2.5	CURB ENTERPRISE STREET
0010	12+12			LT	2.5	CURB ENTERPRISE STREET
0010	15+00			RT	2.5	CURB FAIRFAX STREET
0010	15+43			RT	2.5	CURB FAIRFAX STREET
0010	40+36			RT	2.5	CURB HAMPTON COURT
0010	41+00			RT	2.5	CURB HAMPTON COURT
0010	41+00			LT	2.5	CURB MAINLINE
				TOTAL 0010	22.5	

SPECIAL 01. SANITARY SEWER WYE, 8-INCH X 6-INCH (PROJECT 7824-01-73)

CAT.	STATION	TO	STATION	LOCATION	SPV.0060.01 EACH	REMARKS
0010	12+75	-		8' RT	1	
0010	13+18.5	-		8' RT	1	
0010	13+48.5	-		8' RT	1	
0010	13+93	-		8' RT	1	
0010	15+07	-		8' RT	1	
				TOTAL 0010	5	

SPECIAL 02. REMOVE HYDRANT (PROJECT 7824-01-74)

CAT.	STATION	TO	STATION	LOCATION	SPV.0060.02 EACH	REMARKS
0010	12+17	-		41' LT	1	
0010	14+74	-		26' LT	1	
				TOTAL 0010	2	

SPECIAL 03. FIRE HYDRANT (PROJECT 7824-01-74)

CAT.	STATION	TO	STATION	LOCATION	SPV.0060.03 EACH	REMARKS
0010	12+18	-		46' LT	1	
0010	14+66	-		26.5' RT	1	
				TOTAL 0010	2	

3

SPECIAL 04. VALVE AND BOX, 6-INCH (PROJECT 7824-01-74)

CAT.	STATION	TO	STATION	LOCATION	SPV.0060.04 EACH	REMARKS
0010	9+90			12' RT	1	HYDRANT VALVE
0010	12+06	-		46' LT	1	HYDRANT VALVE
0010	12+93	-		26' RT	1	SERVICE
0010	13+16	-		30' LT	1	SERVICE
0010	13+96	-		26.5' LT	1	SERVICE
0010	14+20	-		26.5' LT	1	SERVICE
0010	14+42	-		26' RT	1	SERVICE
0010	14+66	-		18' RT	1	HYDRANT VALVE
0010	14+69	-		26.5' LT	1	SERVICE
				TOTAL 0010	9	

SPECIAL 05. VALVE AND BOX, 8-INCH (PROJECT 7824-01-74)

CAT.	STATION	TO	STATION	LOCATION	SPV.0060.05 EACH	REMARKS
0010	12+04			33' LT	1	
0010	15+10			16' RT	1	
				TOTAL 0010	2	

SPECIAL 06. ADJUSTING VALVE BOXES (PROJECT 7824-01-74)

CAT.	STATION	TO	STATION	LOCATION	SPV.0060.06 EACH	REMARKS
0010	9+40	-		16.4' RT	1	EXISTING
0010	9+90			12' RT	1	
0010	12+04			33' LT	1	
0010	12+06	-		46' LT	1	
0010	14+66	-		18' RT	1	
0010	15+10			16' RT	1	
				TOTAL 0010	6	

SPECIAL 07. INLET 30-INCH ROUND (PROJECT 7824-01-72)

CAT.	STATION	TO	STATION	LOCATION	SPV.0060.07 EA	REMARKS
0010	24+46	-		36' RT	1	INL 12E
0010	29+46	-		35.25' RT	1	INL 10E
0010	18+15	-		35' RT	1	INL 14C
				TOTAL 0010	3	

SPECIAL 01. FITTINGS (PROJECT 7824-01-74)

CAT.	STATION	TO	STATION	LOCATION	SPV.0085.01 LBS	REMARKS
0010	UNDISTRIBUTED	-			1055	
				TOTAL 0010	1055	

SPECIAL 01. 8-INCH SANITARY SEWER (PROJECT 7824-01-73)

CAT.	STATION	TO	STATION	LOCATION	SPV.0090.01 LF	REMARKS
0010	SAN MH 18	-	SAN MH 17		54	ENTERPRISE STREET
0010	SAN MH 19	-	SAN MH 17		321	MAINLINE
				TOTAL 0010	375	

SPECIAL 02. 10-INCH SANITARY SEWER (PROJECT 7824-01-73)

CAT.	STATION	TO	STATION	LOCATION	SPV.0090.02 LF	REMARKS
0010	SAN MH 17	-	SAN MH 16	MAINLINE	250	
				TOTAL 0010	250	

3

SPECIAL 03. 6-INCH SANITARY SEWER SERVICE (PROJECT 7824-01-73)

SPV.0090.03

CAT.	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	12+75	-		RT	24	
0010	13+18.5	-		LT	41	
0010	13+48.5	-		LT	41	
0010	13+93	-		RT	24	
0010	15+07	-		LT	41	
				TOTAL 0010	171	

SPECIAL 04. 6-INCH D.I. HYDRANT LEAD (PROJECT 7824-01-74)

SPV.0090.04

CAT.	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	9+90	-		LT	40	
0010	12+04	-		LT	14	
0010	14+66	-		RT	11	
				TOTAL 0010	65	

SPECIAL 05. 6-INCH D.I. WATER SERVICE (PROJECT 7824-01-74)

SPV.0090.05

CAT.	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	12+93	-		RT	17	
0010	13+16	-		LT	49	
0010	13+96	-		LT	49	
0010	14+20	-		LT	49	
0010	14+42	-		RT	17	
0010	14+69	-		LT	49	
				TOTAL 0010	230	

SPECIAL 06. 8-INCH D.I. WATER MAIN CL52 (PROJECT 7824-01-74)

SPV.0090.06

CAT.	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	9+58	-	15+14		556	MAINLINE
0010	12+04	-			62	ENTERPRISE STREET
0010	15+14	-			24	FAIRFAX STREET
				TOTAL 0010	642	

SPECIAL 07. CONCRETE CURB AND GUTTER, 24-INCH, TYPE D (PROJECT 7824-01-72)

SPV.0090.07

CAT.	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	9+35	-	41+00	LT	3142	
0010	9+35	-	41+00	RT	3100	
				TOTAL 0010	6242	

SPECIAL 01. MANHOLE MASONRY SANITARY SEWER (PROJECT 7824-01-73)

SPV.0200.01

CAT.	STATION	TO	STATION	LOCATION	VF	REMARKS
0010	SAN MH 17	-			12.80	
0010	SAN MH 18	-			12.77	
0010	SAN MH 19	-			11.35	
				TOTAL 0010	36.92	

3

SCALE 0 20 40 80

N

BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEV
1	12+17	HYD. @ NE X ENTERPRISE ST.	883.65
	Ⓜ		

STM MH 3
STA. 11+80 40' LT.
RIM = 880.70
INV. E = 875.09
INV. W = 875.83
INV. N = 873.70
INV. S = 872.48

INLET 3A
TYPE 3-H
STA. 11+71.32 41.50' LT.
T.C. = 881.00
INV. E = 875.92

INLET 3B
TYPE 3-H
STA. 11+80 40' LT.
T.C. = 880.50
INV. W = 875.42

INLET 2A
TYPE 3-H
STA. 12+30 24'- LT.
T.C. = 880.50
INV. SW = 875.42

BEGIN PROJECT 7824-01-72
STA. 9+35
X=346825.22
Y=277187.68

ENTERPRISE ST.
EX 21" STM
EX 8" CONC. SAN
EX 6" WM
CONST. LIMITS 55' LT.
9'-12" RCPSS @ 1.00%
33'-12" RCPSS @ 1.00%
REM INLET & LEAD
15' R 11+56.30 39' LT
15' R 12+28.21 39' LT
SLOPE INTERCEPT
TYPE 3 RAMP
MATCH LINE STA. 15+00
P.P.
T.S.
8" CONC.
6" CONC.
AT&T FIBER
CITY OF E.C. WATER
EX 6" WM
EX. 30" STM
32'-24" RCPSS @ 1.50%
52'-12" RCPSS @ 1.00%
36'-12" RCPSS @ 1.00%
45'-30" RCPSS @ 0.80%
234'-30" RCPSS @ 0.80%
295'-30" RCPSS @ 0.80%
CITY OF E.C. STORM SEWER
CITY OF E.C. SANITARY SEWER
EX 24" STM
EX 10" SAN
HIGHLAND AVENUE
66' R/W
48' F-F
REM MH
REM STORM SEWER
31'-15" RCPSS @ 1.00%
39'-12" RCPSS @ 1.00%
32'-12" RCPSS @ 1.00%
XCEL GAS
CAUTION
CHARTER CABLE
L.P.
R/W
10.00
11.00
12.00
13.00
14.00
15.00
1
2
3
3A
3B
4
4A
4B
5
5A
5B

881.00
880.50
880.88
880.65
880.77
880.50

STM MH 4
STA. 11+94 20' RT.
RIM = 880.11
INV. SE = 875.62
INV. E = 874.93
INV. NW = 873.52

INLET 4A
TYPE 3-H
STA. 12+34 24' RT.
T.C. = 880.40
INV. NW = 875.32

NOTE: INSTALL TYPE D INLET PROTECTION FOR ALL TYPE 3-H INLETS

880.85
880.48
880.10

INLET 5A
TYPE 3-H
STA. 14+75 24' RT.
T.C. = 880.85
INV. N = 875.77

20' R 14+80 44' RT
TYPE 2 RAMP

EX. STM MH 1 STA. 9+45 5.6' LT.
RIM = 879.258
EX. 30" STM
EX. STM MH 2 STA. 11+80 6.4' RT.
RIM = 879.28
LT. PVI 9+50.00
Elev 879.59 0' VC
LT. PVI 11+50.00
Elev 880.79 0' VC
EX. STM MH 3 STA. 11+80 8' LT.
RIM = 880.70
LT. PVI 12+32.00
Elev 880.48 0' VC
LT. PVI 14+18.00
Elev 881.11 0' VC
STM MH 5 STA. 14+75 8' LT.
RIM = 880.78
EX. STM MH STA. 15+08 1' RT.
RIM = 880.70
D = 9.28
D = 7.70

LT. T.C.= 0.60%
RT. T.C.= 0.60%
LT. T.C.= 0.38%
RT. T.C.= 0.30%
LT. T.C.= 0.34%
RT. T.C.= 0.30%
LT. TC.= -0.55%
RT. TC.= -0.58%
PROPOSED T.C. PROFILE
EX. CL PROFILE
RT. PVI 9+50.00
Elev 879.65
RT. PVI 11+25.00
Elev 880.69 0' VC
RT. PVI 12+30.00
Elev 880.38 0' VC
RT. PVI 14+20.00
Elev 881.20 0' VC
EX. 24" STM
234'-30" RCPSS @ 0.80%
295'-30" RCPSS @ 0.80%
EX. 30" STM

868.08 SE
867.98 W
868.75 E
871.05 E
870.95 NW
870.62 W.E.
870.72 E.
872.00 N.
873.21 SE.
874.90 NE
873.08 W.
873.18 SE.
875.25 NE.
875.45 S.
875.60 SE
874.10 W.S

879.89 879.94
880.19 880.24
880.49 880.54
880.79 880.62
880.60 880.47
880.54 880.46
880.71 880.68
880.88 880.90
881.05 881.11
880.94 881.03
880.66 880.74

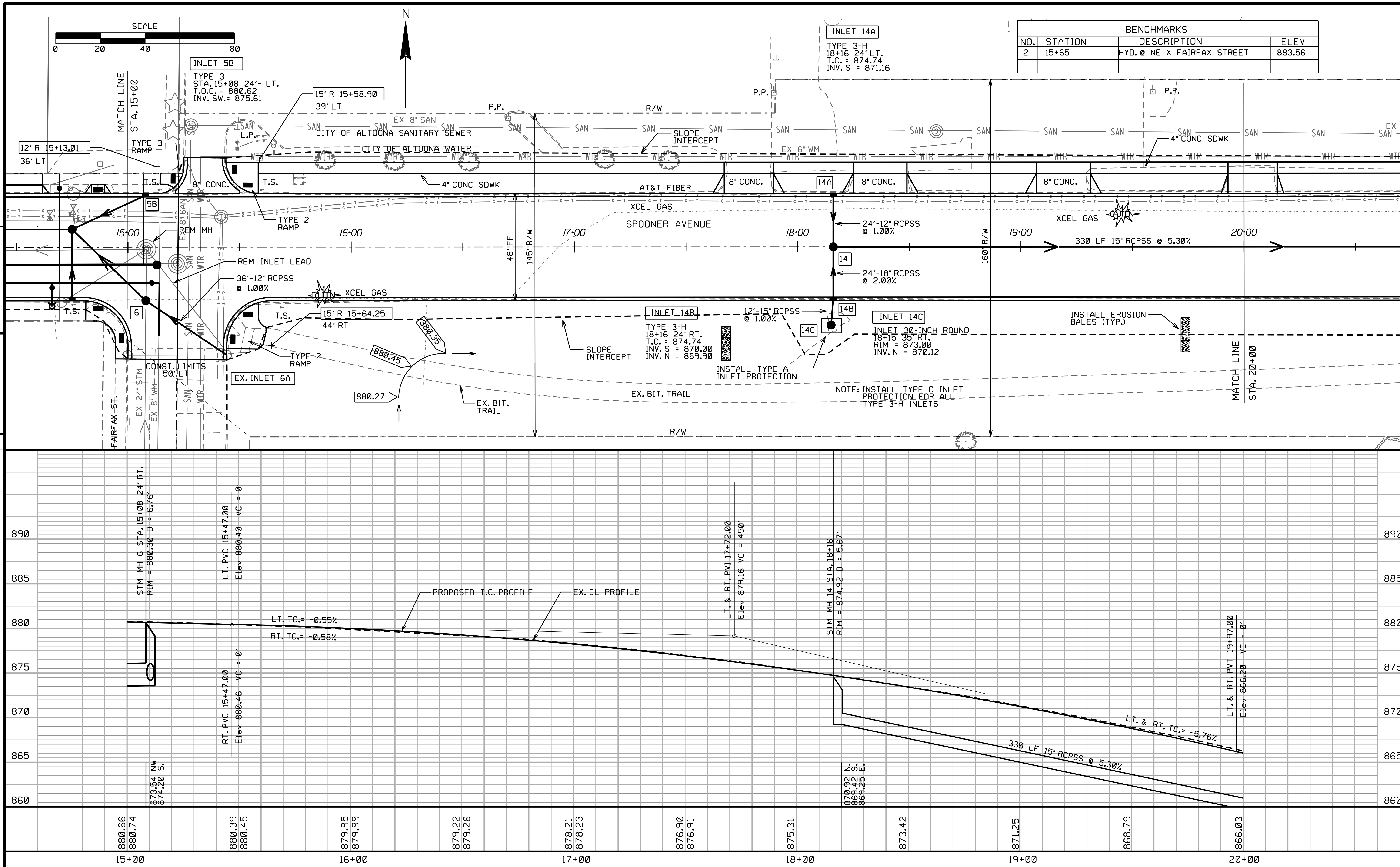
890 885 880 875 870 865 860

10+00 11+00 12+00 13+00 14+00 15+00

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	PLAN AND PROFILE	SHEET 36 E

FILE NAME :J:\cip*3 Projects\Highland Spooner - FAUS\Drawings\Highland Ave and Spooner Ave\Highland_PP1 PLOT DATE :12/29/2013 PLOT BY : PLOT NAME : PLOT SCALE :40.00:1.00

WISDOT/CADDS SHEET 40


SCALE
0 20 40 80
N
MATCH LINE STA. 15+00
MATCH LINE STA. 20+00
INLET 5B
TYPE 3
STA. 15+08 24'- LT.
T.O.C. = 880.62
INV. SW. = 875.61
15' R 15+58.90
39' LT
12' R 15+13.01
36' LT
TYPE 3 RAMP
INLET 14A
TYPE 3-H
18+16 24' LT.
T.C. = 874.74
INV. S = 871.16
P.P.
R/W
EX 8" SAN
CITY OF ALTOONA SANITARY SEWER
CITY OF ALTOONA WATER
L.P.
SLOPE INTERCEPT
EX 6" WM
4" CONC SDWK
8" CONC.
T.S.
AT&T FIBER
XCEL GAS
SPOONER AVENUE
TYPE 2 RAMP
REM MH
REM INLET LEAD
36'-12" RCPSS @ 1.00%
48' FF
145' R/W
160' R/W
24'-12" RCPSS @ 1.00%
24'-18" RCPSS @ 2.00%
330 LF 15" RCPSS @ 5.30%
15+00
16+00
17+00
18+00
19+00
20+00
XCEL GAS
15' R 15+64.25
44' RT
880.35
880.45
880.27
INLET 14B
TYPE 3-H
18+16 24' RT.
T.C. = 874.74
INV. S = 870.00
INV. N = 869.90
12'-15" RCPSS @ 1.00%
INLET 14C
INLET 30-INCH ROUND
18+15 35' RT.
RIM = 873.00
INV. N = 870.12
INSTALL EROSION BALES (TYP.)
INSTALL TYPE A INLET PROTECTION
NOTE: INSTALL TYPE D INLET PROTECTION FOR ALL TYPE 3-H INLETS
CONST. LIMITS 50' LT
EX. INLET 6A
EX. BIT. TRAIL
FAIRFAX ST.
EX 24" STM
EX 8" WM
5
5B
6
14
14A
14B
14C
STM MH 6 STA. 15+08 24' RT.
RIM = 880.30 D = 6.76'
LT. PVC 15+47.00 Elev 880.40 VC = 0'
RT. PVC 15+47.00 Elev 880.46 VC = 0'
PROPOSED T.C. PROFILE
EX. CL PROFILE
LT. TC. = -0.55%
RT. TC. = -0.58%
LT. & RT. PVI 17+72.00 Elev 879.16 VC = 450'
STM MH 14 STA. 18+16 RIM = 874.92 D = 5.67'
LT. & RT. PVT 19+97.00 Elev 866.20 VC = 0'
LT. & RT. TC. = -5.76%
330 LF 15" RCPSS @ 5.30%
873.54 NW
874.20 S.
870.92 N.
869.42 S.
869.25 E.
890 885 880 875 870 865 860
880.66 880.74
880.39 880.45
879.95 879.99
879.22 879.26
878.21 878.23
876.90 876.91
875.31
873.42
871.25
868.79
866.03
15+00 16+00 17+00 18+00 19+00 20+00

BENCHMARKS

NO.	STATION	DESCRIPTION	ELEV
2	15+65	HYD. @ NE X FAIRFAX STREET	883.56

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	PLAN AND PROFILE	SHEET 37	E

FILE NAME : J:\cip*3 Projects\Highland Spooner - FAUS\Drawings\Highland Ave and Spooner Ave\Highland_PP2 PLOT DATE : 12/29/2014 PLOT BY : PLOT NAME : PLOT SCALE : 40.00:1.00

N

SCALE
0 20 40 80

BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEV
3	22+15	HYD. @ ORCHARD LANE	885.41

853.30 (MATCH)
CONST. LIMITS 78' LT.
852.80 (MATCH)
SILT FENCE
INSTALL EROSION BALES (TYP.)
INSTALL EROSION BALES (TYP.)
SLOPE INTERCEPT
CITY OF ALTOONA SANITARY SEWER
CITY OF ALTOONA WATER
4" CONC. SDWK
20' R 21+49.76
44' LT
20' R 22+29.76
44' LT
ORCHARD LANE
P.P.
P.P.
P.P.
INLET 12B
TYPE 3-H
24+36 24' LT.
T.C. = 840.91
INV. E = 837.26
INLET 12A
TYPE 3-H
24+46 24' LT.
T.C. = 840.34
INV. W = 836.86
INV. S = 836.76
MATCH LINE STA. 25+00
TYPE 3 RAMP
TYPE 2 RAMP
8" CONC.
13A
REM INLET & LEAD
AT&T FIBER
12B
12A
XCEL GAS
XCEL GAS
CUTIN
SPOONER AVENUE
24 LF 12" RCPSS @ 1.00%
10 LF 12" RCPSS @ 4.00%
24 LF 15" RCPSS @ 1.50%
20+00
21+00
22+00
23+00
24+00
25+00
330 LF 15" RCPSS @ 5.30%
13
300 LF 15" RCPSS @ 5.80%
160' R/W
48' FF
12
200 LF 18" RCPSS @ 4.60%
24 LF 12" RCPSS @ 1.00%
INSTALL EROSION BALES (TYP.)
LIGHT RIP RAP (TYP.)
INSTALL EROSION BALES (TYP.)
10 LF 12" RCPSS @ 4.00%
24 LF 15" RCPSS @ 2.00%
12 LF 15" RCPSS @ 2.00%
12D
12C
I.E. = 834.25
SLOPE INTERCEPT
INLET 13A
TYPE 3-H
21+46 24' LT.
T.C. = 857.62
INV. S = 854.04
INLET 13B
TYPE 3-H
21+46 24' RT.
T.C. = 857.62
INV. N = 852.54
13B
REM EX. BIT. RAMP
TYPE 3 RAMP
L.P.
18 LF CORRUGATED STEEL 15" CULVERT PIPE W/ENDWALLS
I.E. = 851.60
8'
I.E. = 850.52
EX. BIT. TRAIL
SLOPE INTERCEPT
INLET 12C
TYPE 3-H
24+46 24' RT.
T.C. = 840.34
INV. W = 835.43
INV. S = 833.01
INV. N = 832.91
INLET PROTECTION TYPE A
LIGHT RIP RAP
TYPE 3 RAMP
REM INLET
LIGHT RIP RAP
INLET 12E
INLET 30-INCH ROUND
24+46 36' RT.
RIM = 836.00
INV. N = 833.25
12E
MATCH LINE STA. 20+00
855.00
853.50
856.20
853.14
852.79
857.40
NOTE: INSTALL TYPE D INLET PROTECTION FOR ALL TYPE 3-H INLETS
840.13
838.15
836.60
INLET 12D
TYPE 3-H
24+36 24' RT.
T.C. = 840.91
INV. E = 835.83
20' R 24+49.63
44' RT
58 LF 15" CORRUGATED STEEL CULVERT PIPE W/ENDWALLS
CONST. LIMITS 84' RT.
HARVEST LANE
P.P.
R/W
R/W

STM MH 13 STA. 21+46
RIM = 857.79 D = 6.13'
330 LF 15" RCPSS @ 5.30%
LT. TC. = -5.76%
RT. TC. = -5.76%
EX. CL PROFILE
PROPOSED T.C. PROFILE
300 LF 15" RCPSS @ 5.80%
STM MH 12 STA. 24+46
RIM = 840.51 D = 8.46'
200 LF 18" RCPSS @ 4.60%
853.80 N
852.30 S
851.76 W
851.66 E
836.40 N
834.26 W
832.43 S
832.05 E
860
855
850
845
840
835
830
866.03
863.15
860.27
857.39
854.51
851.63
848.75
845.87
842.99
840.11
837.23
20+00
21+00
22+00
23+00
24+00
25+00

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	PLAN AND PROFILE	SHEET 38	E

FILE NAME :J:\cip*3 Projects\Highland Spooner - FAUS\Drawings\Highland Ave and Spooner Ave\Highland_PP3 PLOT DATE :12/29/2014 PLOT BY : PLOT NAME : PLOT SCALE :40.00:1.00

WISDOT/CADDS SHEET 40

SCALE 0 20 40 80

BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEV
4	27+22	HYD.@ NE X COUNTRY CLUB LN	827.90

825.47 (MATCH)

825.42 (MATCH)

CONST. LIMITS 26' LT

N

MATCH LINE STA. 25+00

MATCH LINE STA. 30+00

P.P.

SLOPE INTERCEPT

INLET 11A
TYPE 3-H
26+46 24' LT
T.C. = 828.82
INV. S = 825.24

20' R 26+51.90
44' LT

4" CONC. SDWK

TYPE 3 RAMP

COUNTY CLUB LANE

20' R 27+31.90
44' LT

SILT FENCE

R/W

INLET 10B
TYPE 3-H
29+36 24' LT
T.C. = 812.97
INV. E = 808.16

INLET 10A
TYPE 3-H
29+46 24' LT
T.C. = 812.52
INV. W = 808.06
INV. S = 807.96

MOVE L.P. (BY OTHERS)

INSTALL EROSION BALES (TYP.)

XCEL GAS

AT&T FIBER

CAUTION

24 LF 12" RCPSS @ 1.00%

11A

10B

10A

10 LF 12" RCPSS @ 1.00%

24 LF 15" RCPSS @ 1.50%

25+00 26+00 27+00 28+00 29+00 30+00

200 LF 18" RCPSS @ 4.60%

11

SPOONER AVENUE

48' FF

160' R/W

300 LF 21" RCPSS @ 5.00%

254 LF 21" RCPSS @ 3.00%

10

24 LF 12" RCPSS @ 1.00%

REM INLET

10 LF 12" RCPSS @ 1.00%

24 LF 15" RCPSS @ 1.50%

11B

TYPE 3 RAMP

REM INLET

MOVE L.P. (BY OTHERS)

I.E. = 832.80

LIGHT RIP RAP (TYP.)

INSTALL EROSION BALES (TYP.)

INSTALL EROSION BALES (TYP.)

10D

10C

12 LF 12" RCPSS @ 1.00%

REM INLET

10E

TYPE A INLET PROTECTION

CITY OF ALTOONA WATER

CITY OF ALTOONA SANITARY SEWER

EX. BIT. TRAIL

INLET 10D
TYPE 3-H
29+36 24' RT
T.C. = 812.97
INV. E = 808.16

INLET 10C
TYPE 3-H
29+46 24' RT
T.C. = 812.52
INV. W,S = 808.06
INV. N = 807.96

20' R 25+25.63
44' RT

TYPE 2 RAMP

18 LF CORRUGATED STEEL 15" CULVERT PIPE W/ENDWALLS

6" BASE AGGREGATE
2" BIT. SURFACE

835.75
836.00
835.50

825.80
825.80
827.14
824.80
828.48
823.87

INLET 11B
TYPE 3-H
26+46 24' RT
T.C. = 828.82
INV. N = 823.74

SLOPE INTERCEPT

NOTE: INSTALL TYPE D INLET PROTECTION FOR ALL TYPE 3-H INLETS

INLET 10E
INLET 30-INCH ROUND
29+46 35.25' RT
RIM = 811.40
INV. N = 808.18

833.68 (MATCH)

HARVEST LANE

5

5

840 835 830 825 820 815 810 805

STM MH 11 STA. 26+46
RIM = 829.00 D = 6.40'

LT. & RT. TC.= -5.76%

200 LF 18" RCPSS @ 4.60%

PROPOSED T.C. PROFILE

LT. & RT. PVC 28+03.00
Elev 819.78 VC = 0'

LT. & RT. TC.= -5.76%

EX. CL PROFILE

STM MH 10 STA. 29+46
RIM = 812.70 D = 5.20'

825.00 N,S
823.50 W
822.85 W
822.60 E

807.60 N,S
807.60 W
807.50 E

300 LF 21" RCPSS @ 5.00%

254 LF 21" RCPSS @ 3.00%

837.23 834.35 831.47 828.59 825.71 822.83 819.95 817.18 814.64 812.35 810.29 810.30

25+00 26+00 27+00 28+00 29+00 30+00

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	PLAN AND PROFILE	SHEET 39	E

BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEV
4	27+22	HYD.@ NE X COUNTRY CLUB LN	827.90

N

SCALE 0 20 40 80

MATCH LINE STA. 30+00

REMOVE CULVERT

LIGHT RIP RAP

40 LF CORRUGATED STEEL 15" CULVERT PIPE W/ENDWALLS

P.P.

INLET 9A
TYPE 3-H
32+00 24.09' LT
T.C. = 804.48
INV. S = 800.90

SLOPE INTERCEPT

EROSION MAT AS DIRECTED ON SLOPES (TYP.)

SILT FENCE

INLET 8B
TYPE 3-H
34+00 21.52' LT
T.C. = 802.52
INV. E = 799.04

INLET 8A
TYPE 3-H
34+10 21.28' LT
T.C. = 802.52
INV. W = 797.54
INV. S = 798.94

MATCH LINE STA. 35+00

XCEL GAS

AT&T FIBER

8" CONC.

SPOONER AVENUE

30+00

31+00

48' F-F

160' R/W

254 LF 21" RCPSS @ 3.00%

24 LF 12" RCPSS @ 1.00%

32+00

9A

9

24 LF 12" RCPSS @ 1.00%

145' R/W

33+00

210 LF 24" RCPSS @ 1.50%

34+00

10 LF 12" RCPSS @ 1.00%

8B

8A

21 LF 15" RCPSS @ 1.50%

INSTALL EROSION BALES (TYP.)

21 LF 24" RCPSS @ 1.50%

8

215 LF 15" RCPSS @ 1.50%

35+00

REMOVE CULVERT

8" CONC.

INLET 9B
TYPE 3-H
32+00 23.63' RT
T.C. = 804.52
INV. N = 800.79

9B

LIGHT RIP RAP

L.P.

INLET 8D
TYPE 3-H
34+00 21.30' RT
T.C. = 802.60
INV. E = 797.52

INLET 8C
TYPE 3-C
34+10 21.14' RT
T.C. = 802.60
INV. W = 797.42
INV. N,S = 796.09

8D

8C

GRADE DITCH TO DRAIN TOWARD PIPE (INV.=798.25)

LIGHT RIP RAP

REMOVE CULVERT

40 LF CORRUGATED STEEL 15" CULVERT PIPE W/ENDWALLS

EX. BIT. TRAIL

SLOPE INTERCEPT

CITY OF ALTOONA SANITARY SEWER

10 LF 12" RCPSS @ 1.00%

42 LF 24" RCPSS @ 2.00%

24 LF 15" RCPSS @ 12.50%

15" CONCRETE APRON ENDWALL W/TRASH GAURD I.E. = 795.25

NOTE: INSTALL TYPE D INLET PROTECTION FOR ALL TYPE 3-H INLETS

R/W

REMOVE & REPLACE EX. TRAIL (2" HMA OVER 6" BASE AGGREGATE)

MEDIUM RIP RAP

*NOTE: ALL EROSION MAT URBAN CLASS 1 TYPE B, UNLESS OTHERWISE NOTED

24" CONCRETE APRON ENDWALL W/TRASH GAURD I.E. = 795.25

FABRIC TYPE HR

SILT FENCE AND OR EXCLUSION FENCING AS DIRECTED

5

5

820 815 810 805 800 795 790 785

STM MH 9 STA. 32+00
RIM = 804.70 D = 5.15'

STM MH 8 STA. 34+10
RIM = 802.63 D = 6.23'

EX. CL PROFILE

PROPOSED T.C. PROFILE

LT. & RT. TC.= -5.76%

254 LF 21" RCPSS @ 3.00%

210 LF 24" RCPSS @ 1.50%

LT. TC.= 6.64%

RT. TC.= 6.70%

215 LF 15" RCPSS @ 1.50%

LT. PVI 34+48.00
Elev 782.62 VC = 1290'

RT. PVI 34+48.00
Elev 782.62 VC = 1285'

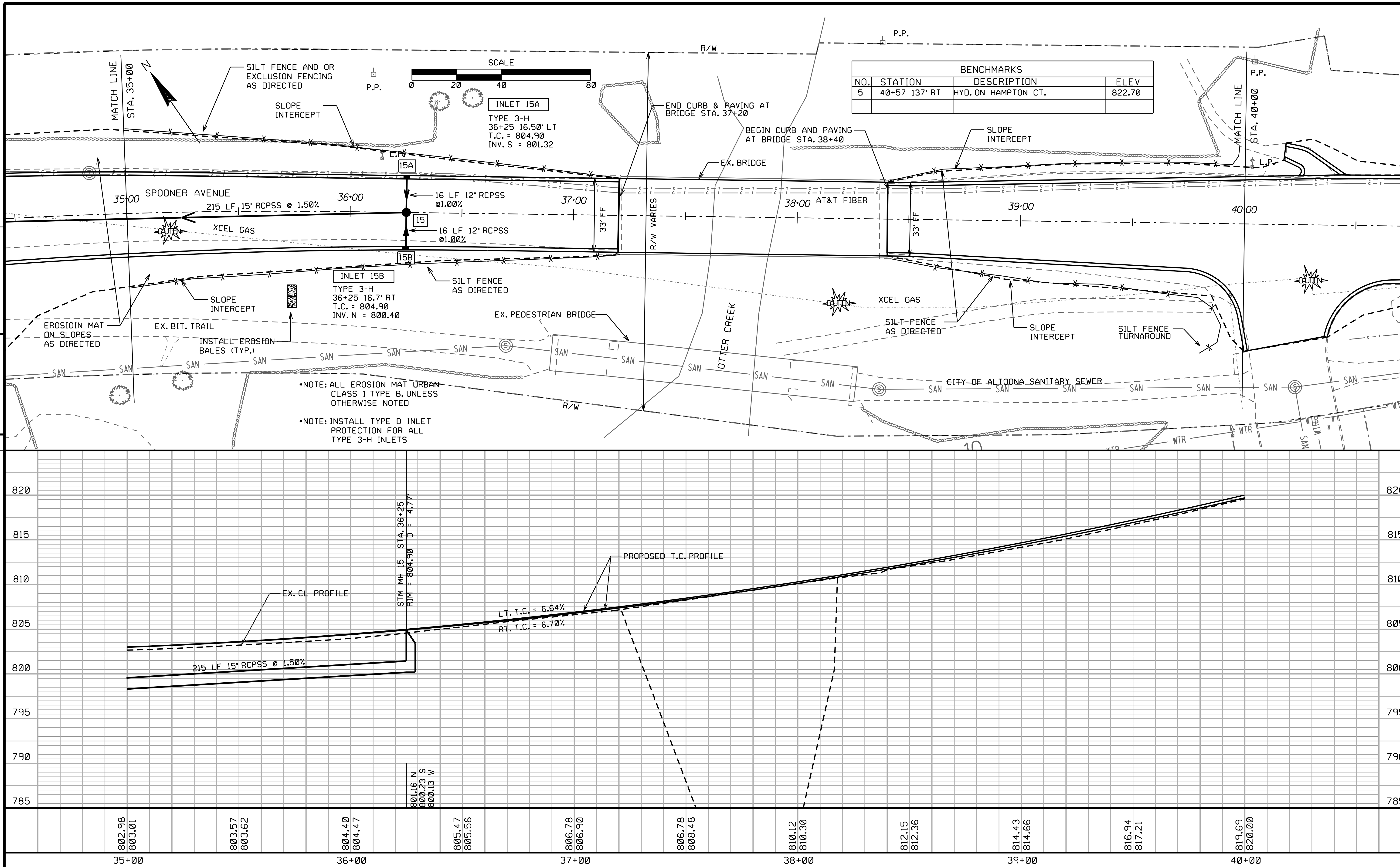
800.66 N
800.55 S
799.88 W
799.55 E

798.62 N
796.90 E
796.40 S,W

810.29	808.48	806.91	805.58	804.48	803.63	803.02	802.65	802.52	802.63	802.98
810.30	808.49	806.93	805.60	804.52	803.68	803.07	802.72	802.60	802.64	803.01

30+00 31+00 32+00 33+00 34+00 35+00

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	PLAN AND PROFILE	SHEET 40	E



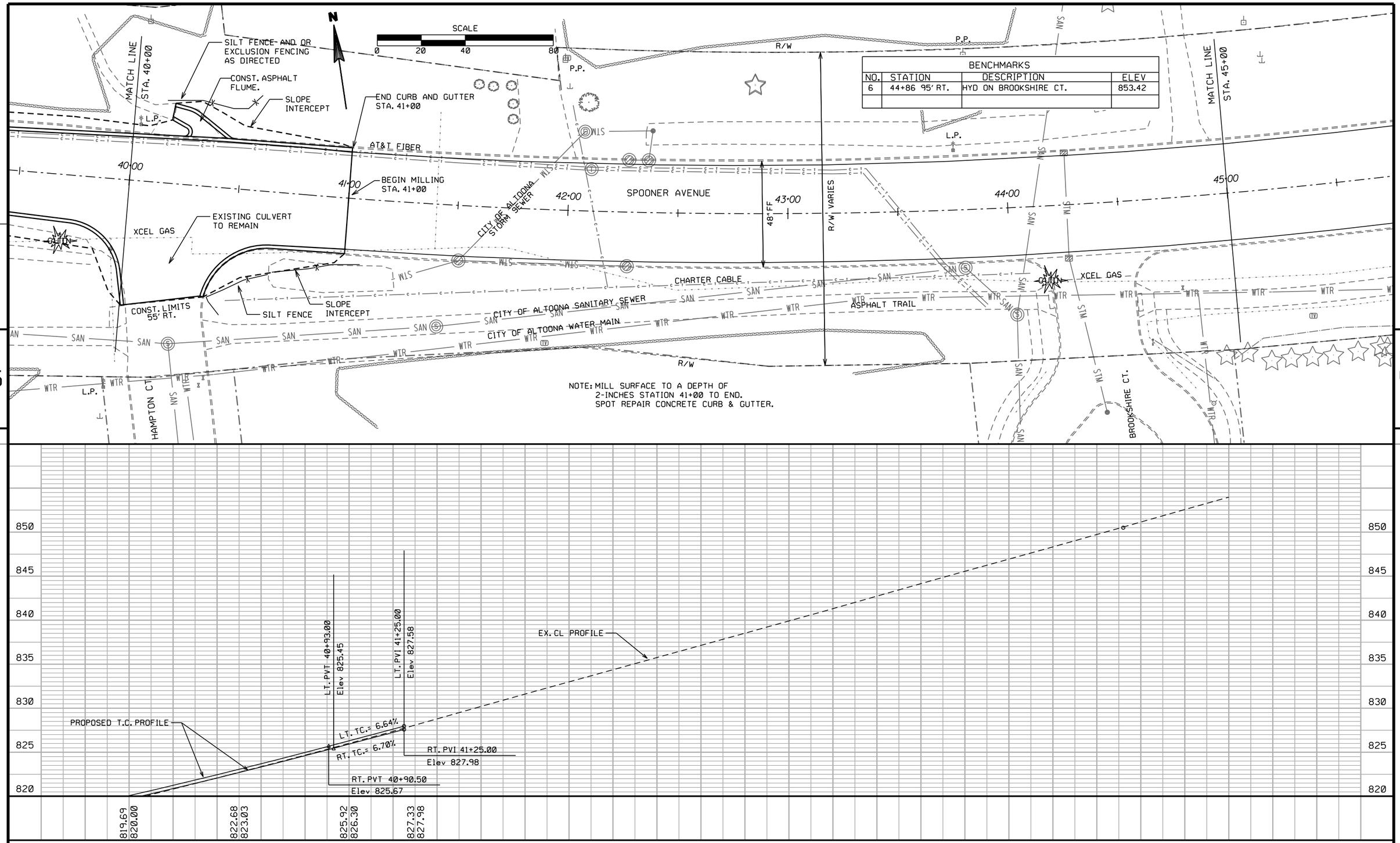
BENCHMARKS

NO.	STATION	DESCRIPTION	ELEV
5	40+57 137' RT	HYD. ON HAMPTON CT.	822.70

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	PLAN AND PROFILE	SHEET 41	E

FILE NAME :J:\cip*3 Projects\Highland Spooner - FAUS\Drawings\Highland Ave and Spooner Ave\Highland_PP6 PLOT DATE : 12/29/2014 PLOT BY : PLOT NAME : PLOT SCALE : 40.00:1.00

WISDOT/CADDS SHEET 40



BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEV
6	44+86 95' RT.	HYD ON BROOKSHIRE CT.	853.42

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	PLAN AND PROFILE	SHEET 42	E

N

SCALE
0 20 40 80

BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEV
6	44+86 95' RT.	HYD ON BROOKSHIRE CT.	853.42

MATCH LINE
STA. 45+00

P.P.

R/W

SPOONER AVENUE

45+00 46+00 47+00 48+00 49+00 50+00

48' FF

R/W VARIES

END PROJECT 7824-01-72
STA. 48+00
X=350674.72
Y=277030.96

XCEL GAS

CITY OF ALTOONA WATER MAIN

EX. BIT. TRAIL

P.P.

R/W

NOTE: MILL SURFACE TO A DEPTH OF
2-INCHES STATION 41+00 TO END.
SPOT REPAIR CONCRETE CURB & GUTTER.

U.S.H. 53

5

5

880
875
870
865
860
855
850
845

EX. CL PROFILE

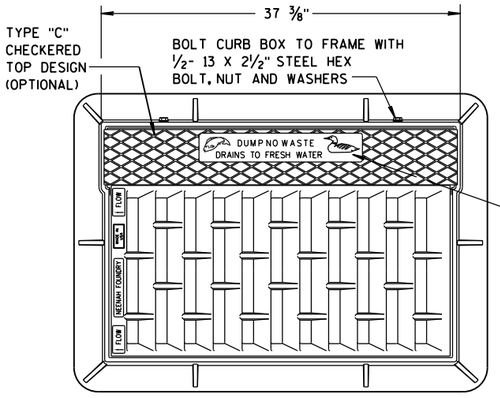
EX. CL PROFILE

45+00 46+00 47+00 48+00 49+00 50+00

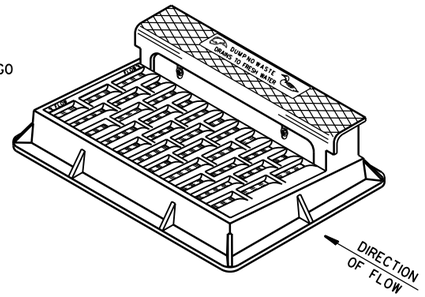
PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	PLAN AND PROFILE	SHEET 43	E

Standard Detail Drawing List

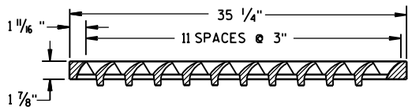
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C18-03	MEDIAN ISLAND MARKING
15C29-03A	BICYCLE LANE MARKING
15C29-03B	BICYCLE LANE MARKING
15C29-03C	URBAN BICYCLE LANE MARKING
15C29-03D	URBAN BICYCLE LANE MARKING
15C29-03E	PAVEMENT MARKING FOR BIKE LANES
15C29-03F	PAVEMENT MARKING FOR SHARED LANE 35 MPH OR LESS
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING

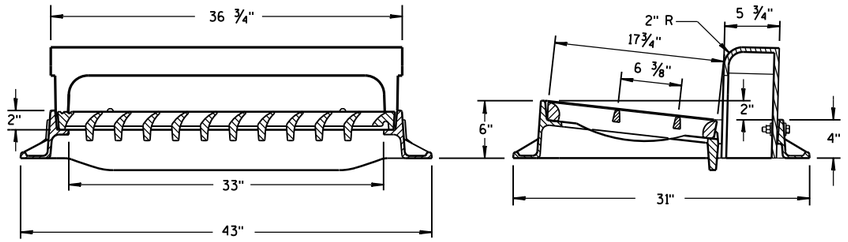


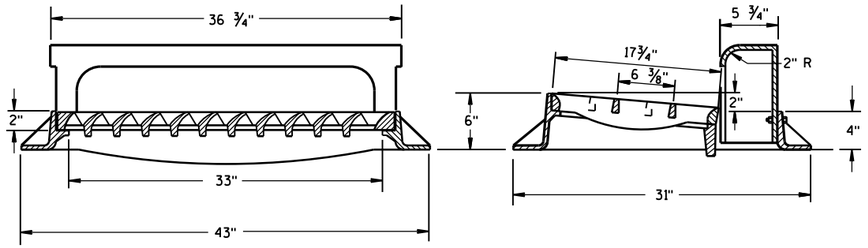
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

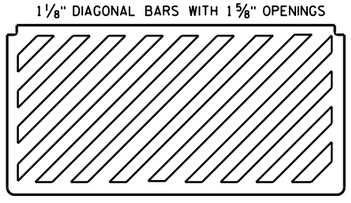






TYPE "H"

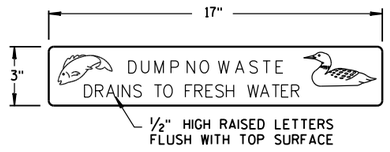
NOTE: EITHER CASTING IS ACCEPTABLE



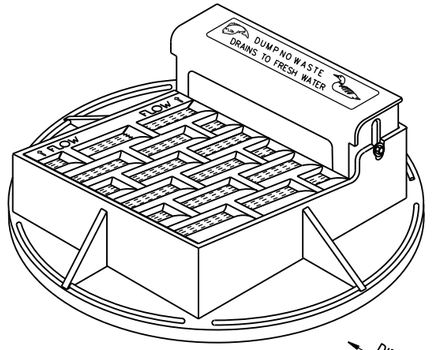
SPECIAL GRATE FOR TYPE "H" COVER

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

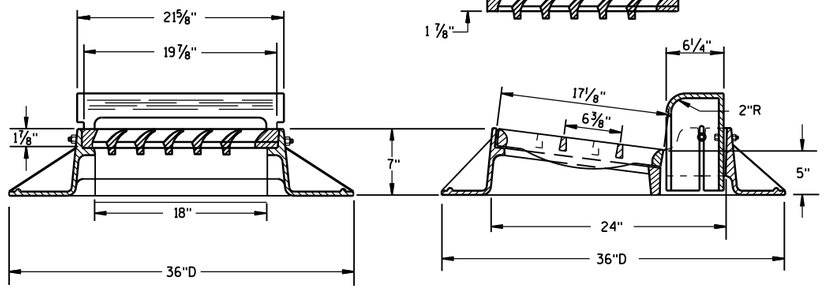


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



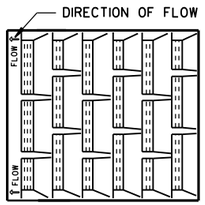
TYPE "A"

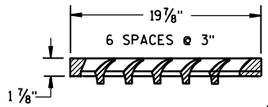
GENERAL NOTES

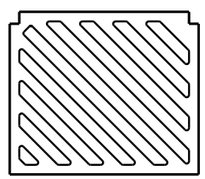
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



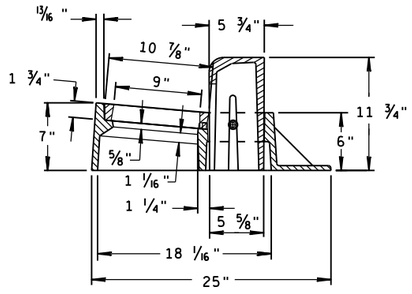


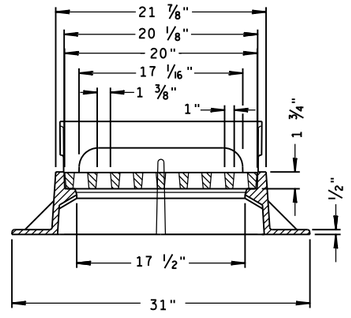


SPECIAL GRATE FOR TYPE "A" COVER

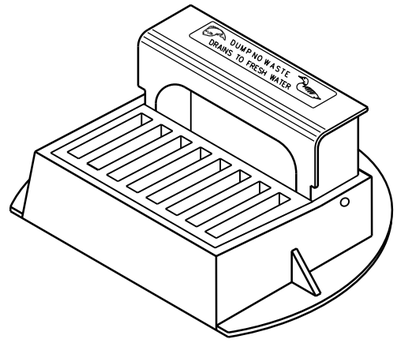
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"



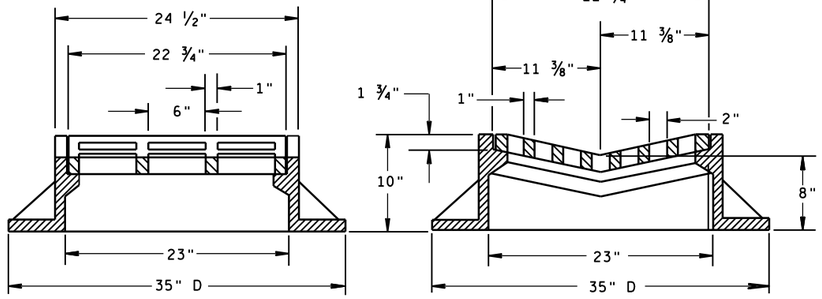
INLET COVERS
TYPE A, H, A-S, H-S & Z

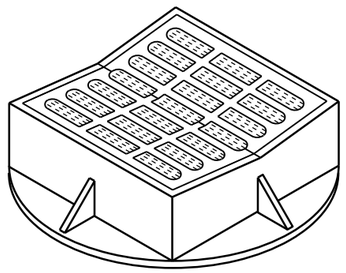
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

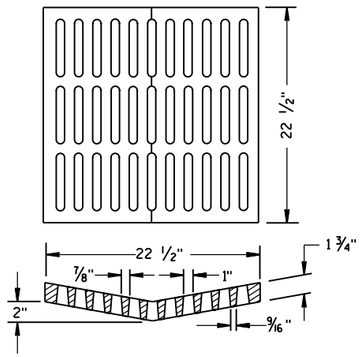
6

S.D.D. 8 A 5-19a



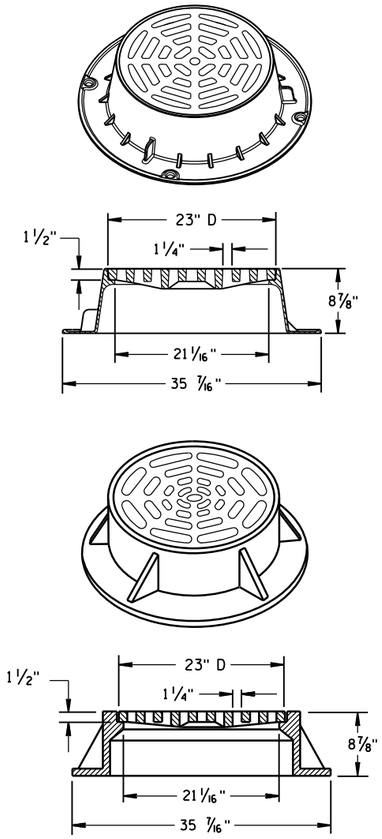


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

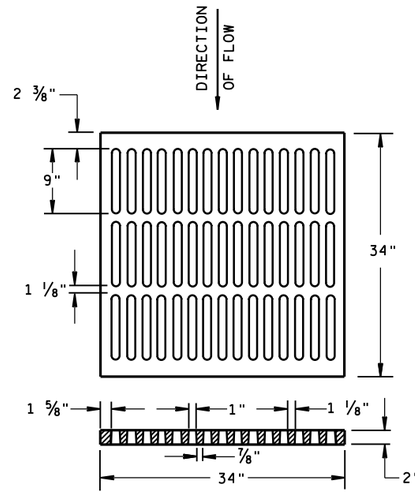
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

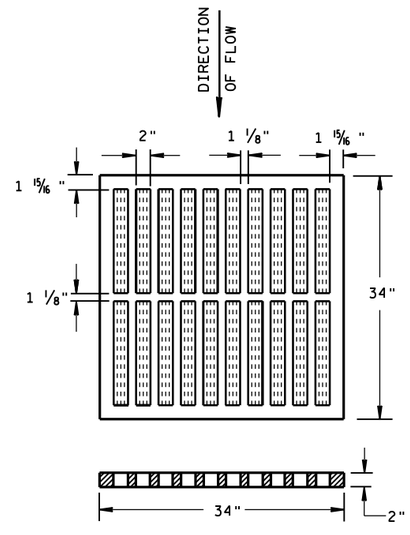
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



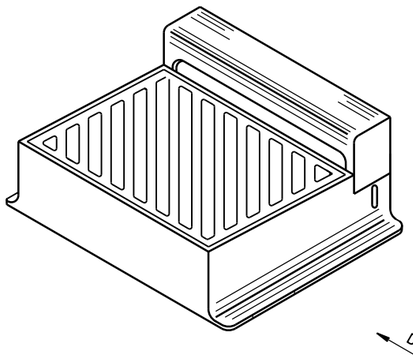
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



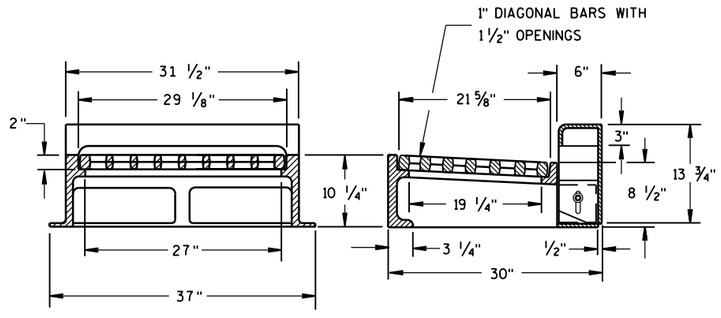
TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIRECTION OF FLOW

DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

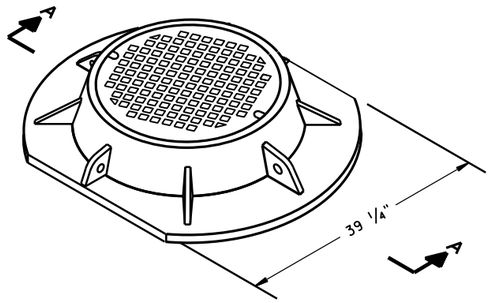
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

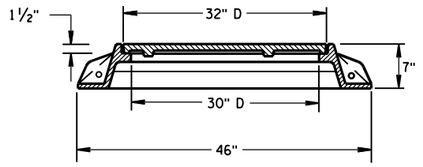
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

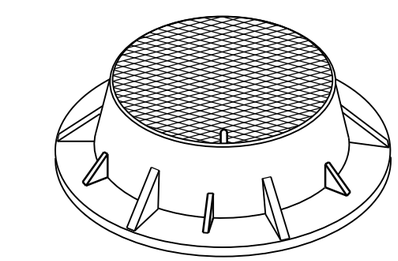
6

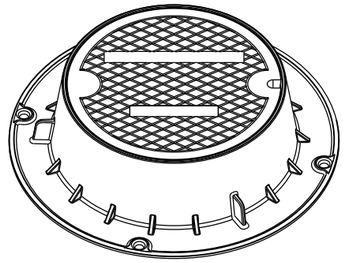
S.D.D. 8 A 5-19b

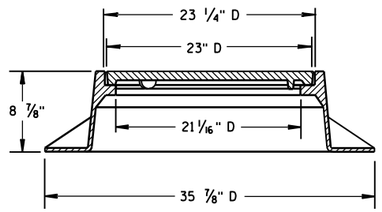


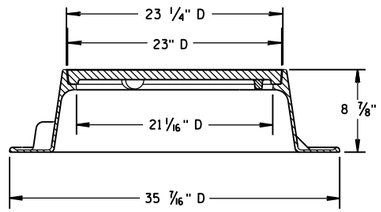


SECTION A-A
TYPE "K"









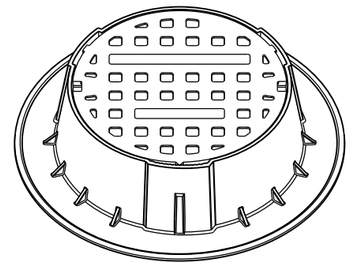
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

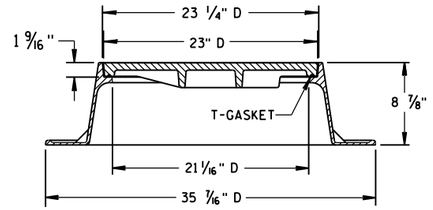
GENERAL NOTES

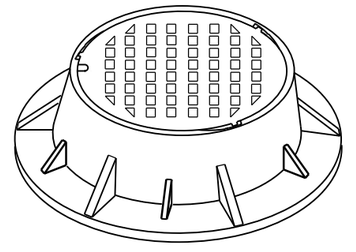
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

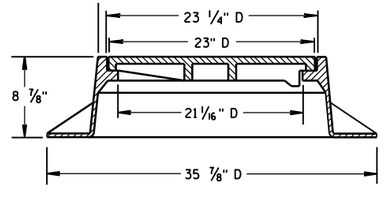
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

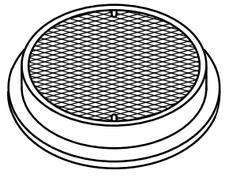


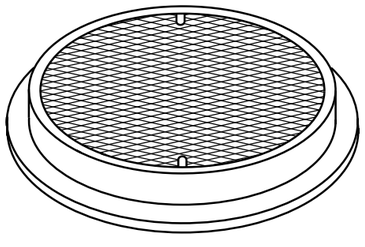


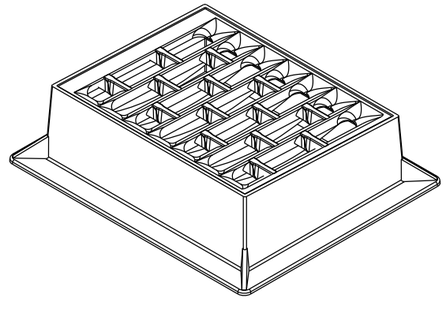


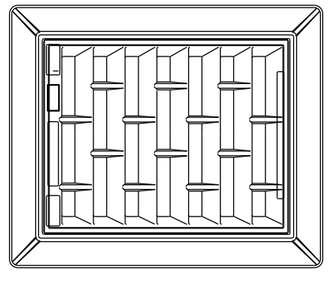


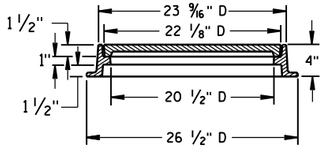
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE











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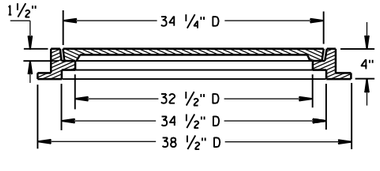
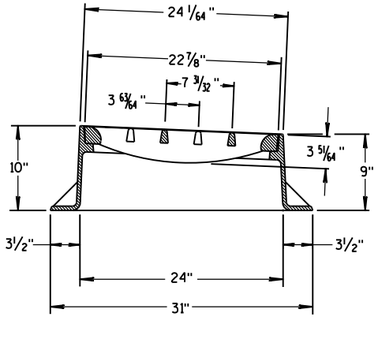
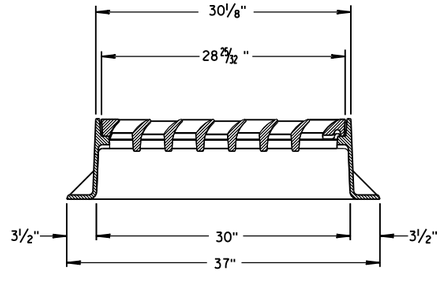


TYPE "M"





INLET COVER TYPE "BW"

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

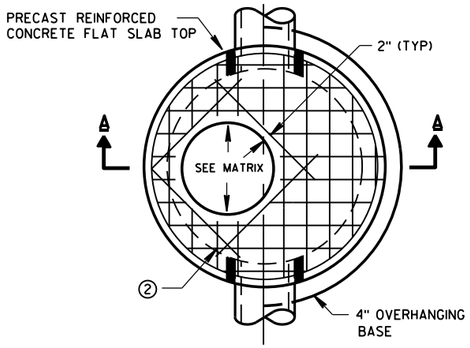
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

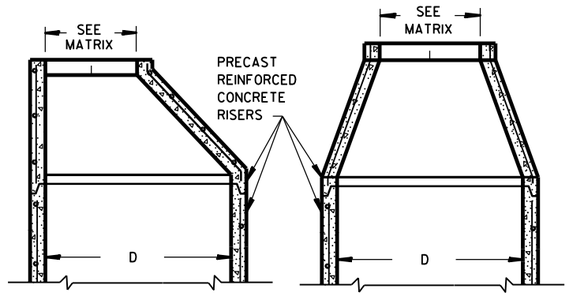
S.D.D. 8 A 5-19d

6

S.D.D. 8 A 5-19d

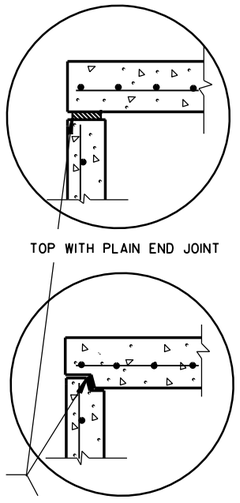


PLAN VIEW CIRCULAR OPENING

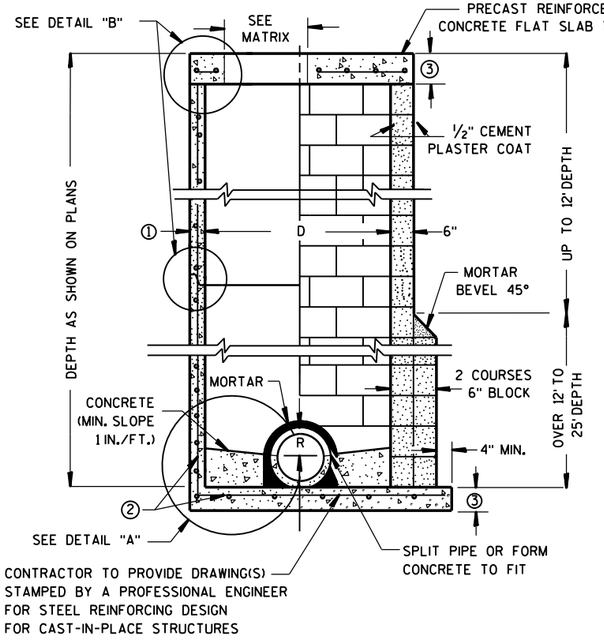


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

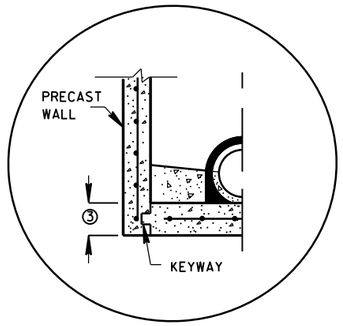


JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

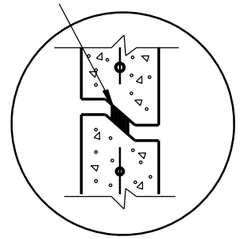


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

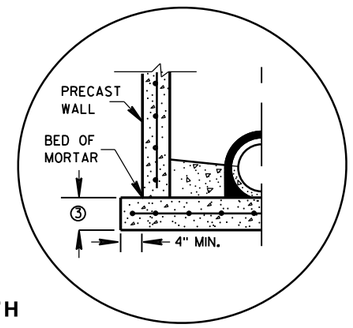
CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②



PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

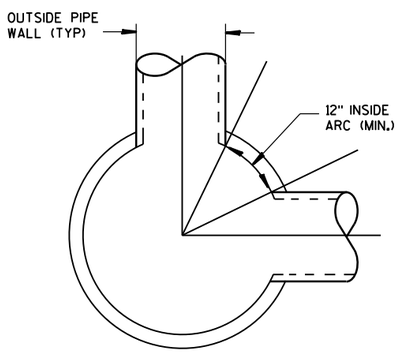


DETAIL "B"



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

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

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

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

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

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

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

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

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

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

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

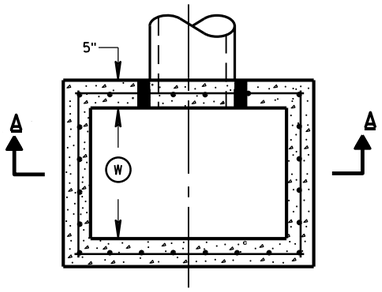
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

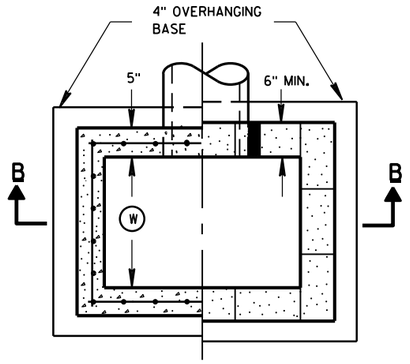
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

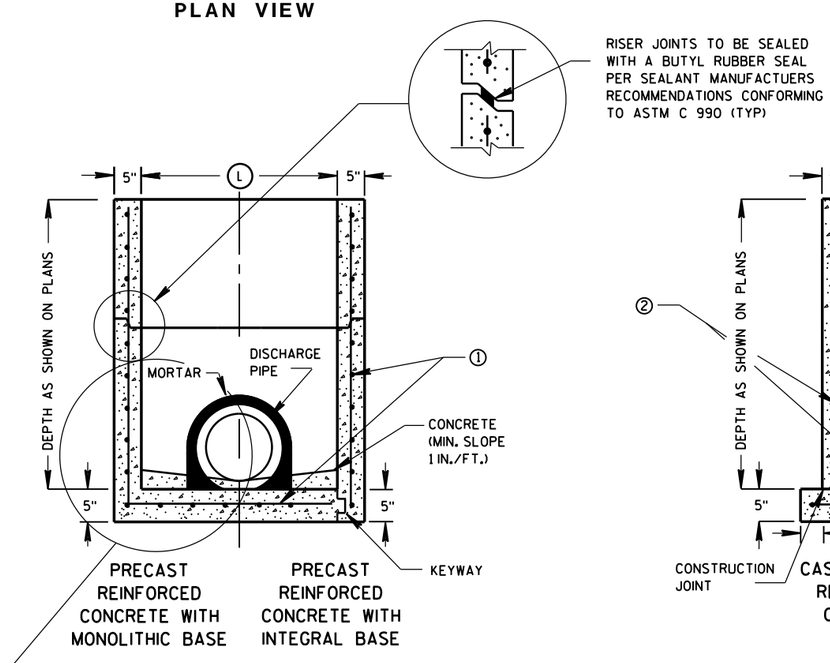
6
S.D.D. 8 B 9-1



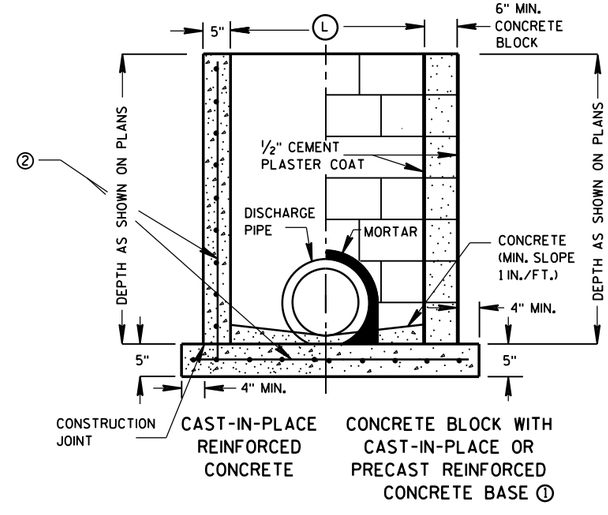
PLAN VIEW



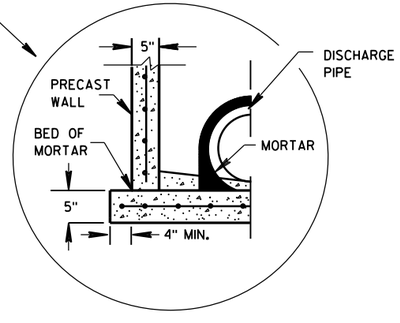
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

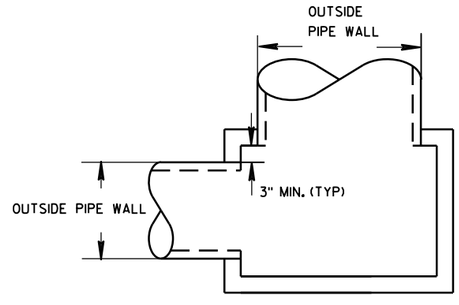
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

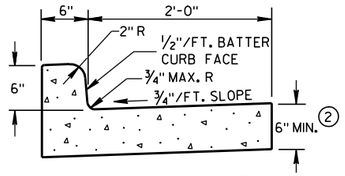
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

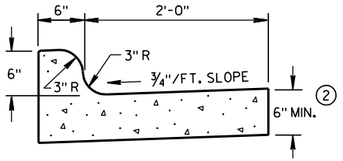
APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE ENGINEER
FHWA

6

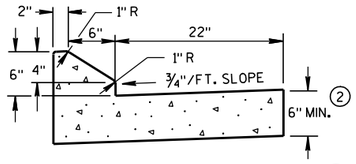
S.D.D. 8 C 7-1



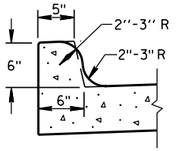
TYPES A & D (1)



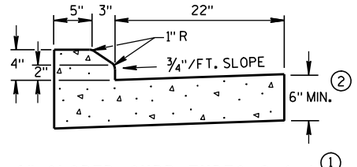
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

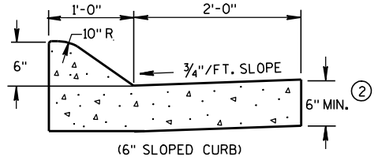


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

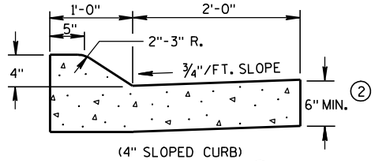


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

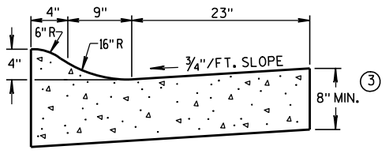


(6" SLOPED CURB)



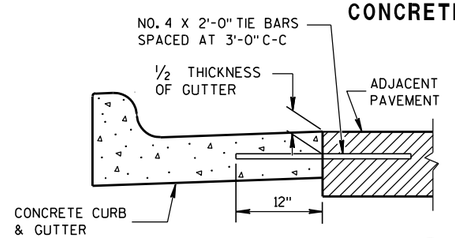
(4" SLOPED CURB)

TYPES A & D (1)

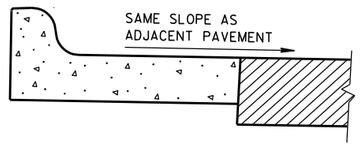


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



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

GENERAL NOTES

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

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

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

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

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

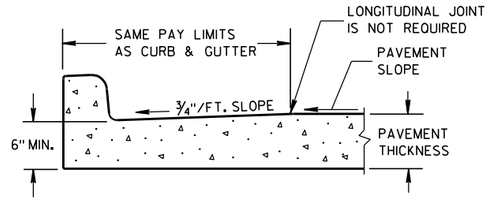
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

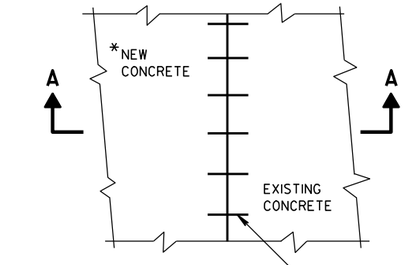
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

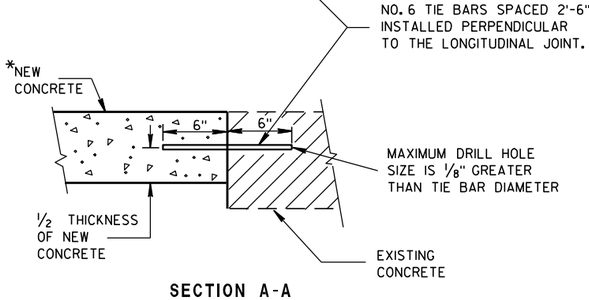


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



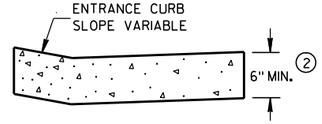
PLAN VIEW

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

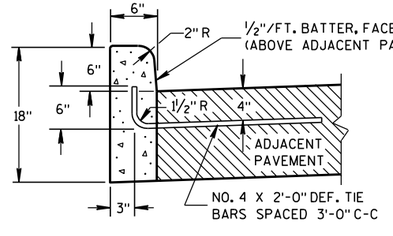


SECTION A-A

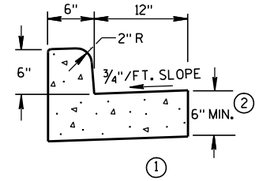
TIE BARS DRILLED INTO EXISTING PAVEMENT



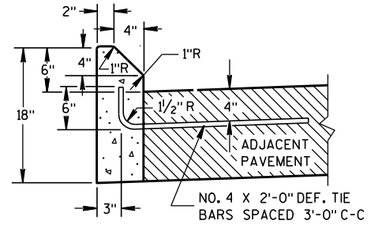
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



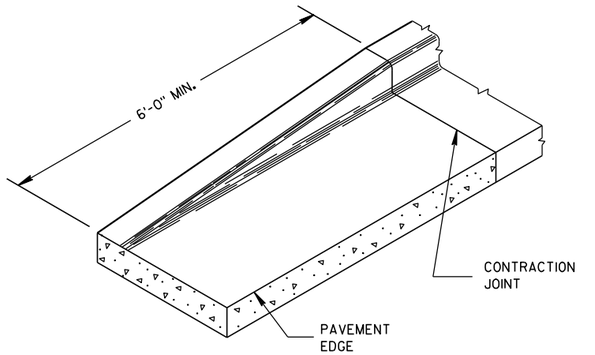
(1)
TYPES A & D



(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
9/4/08 DATE	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA	50 ENT

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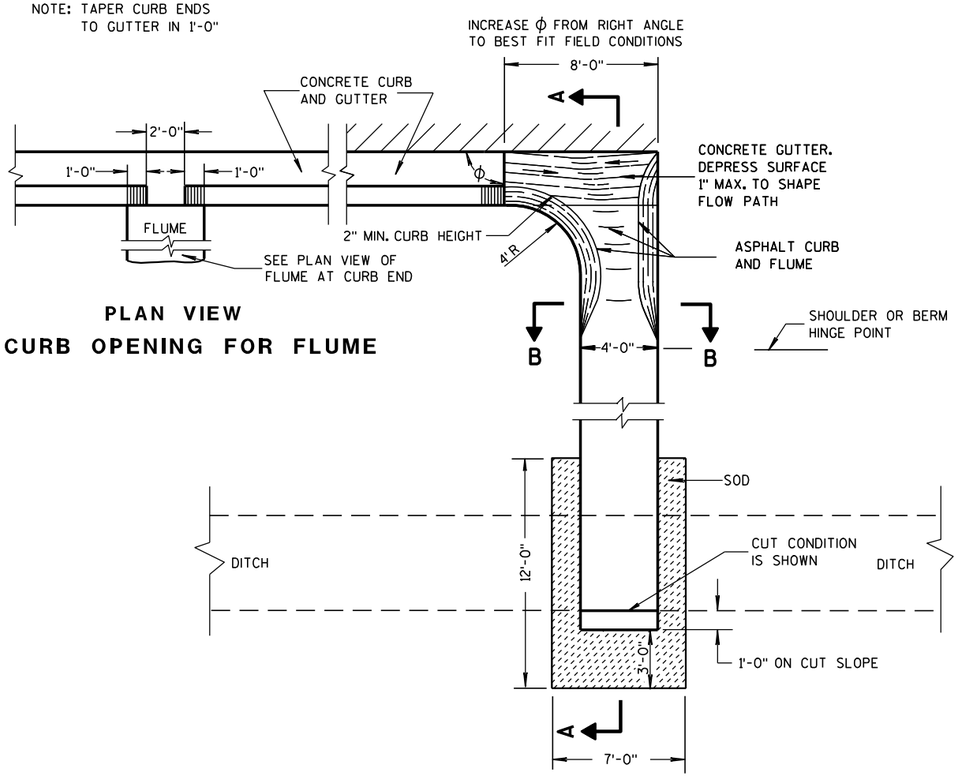
S.D.D. 8 D 1-17

6

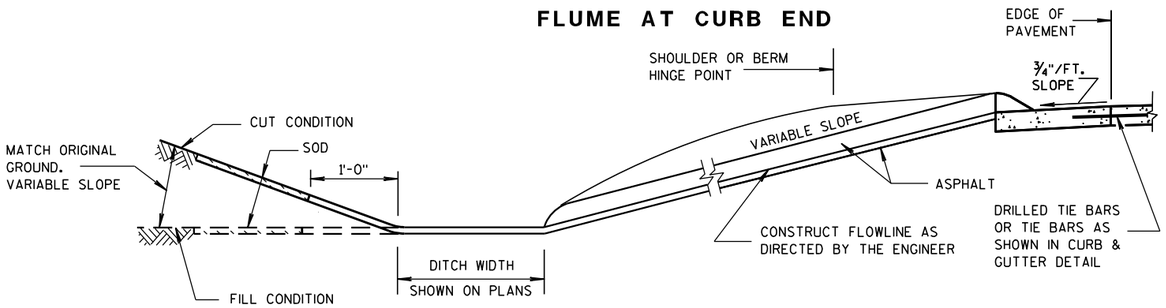
S.D.D. 8 D 1-17

ASPHALTIC FLUME

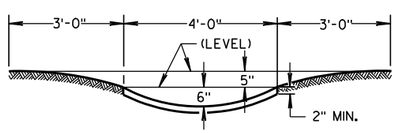


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

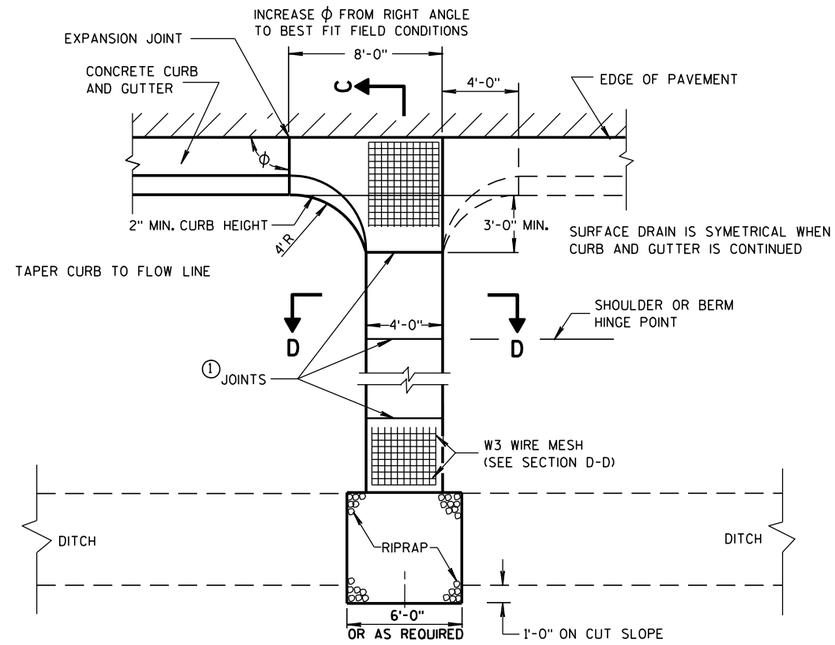
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛ TO ¼ INCH WIDE BY 1½ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

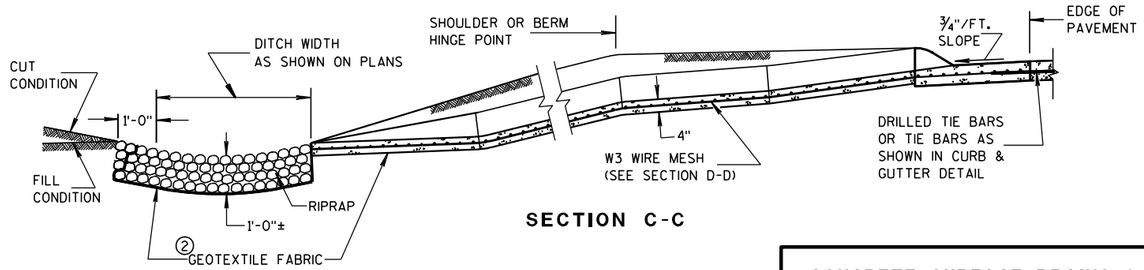
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

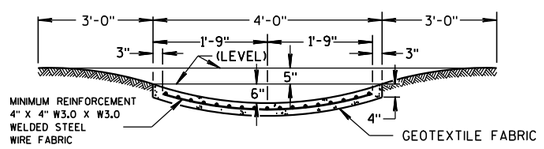
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT

FHWA

6

S.D.D. 8 D 4-5

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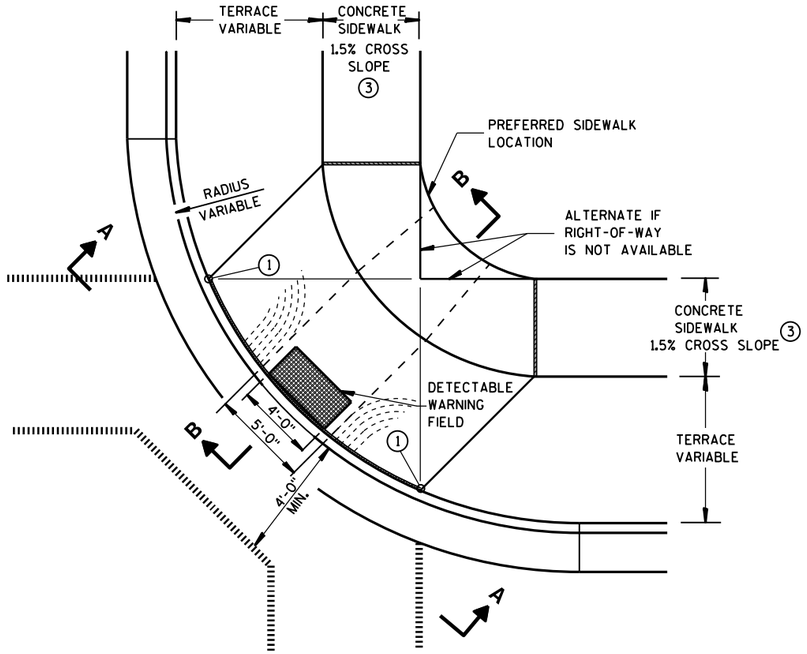
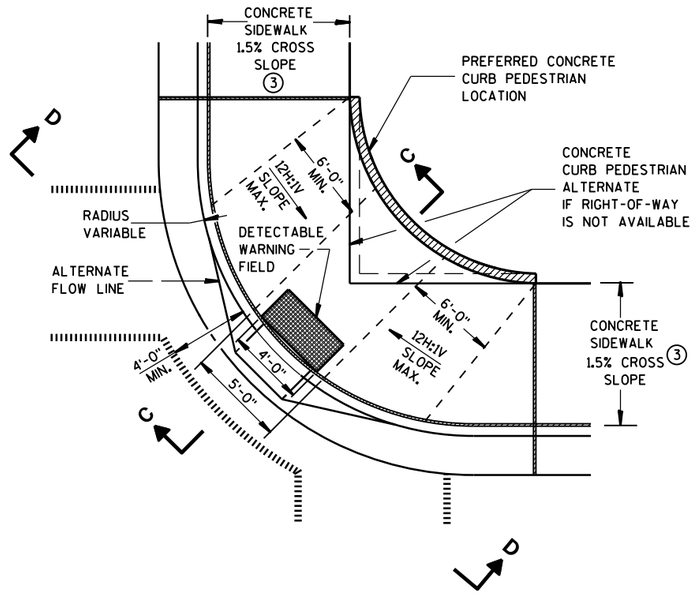
S.D.D. 8 D 4-5



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

GENERAL NOTES

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

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

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

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

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

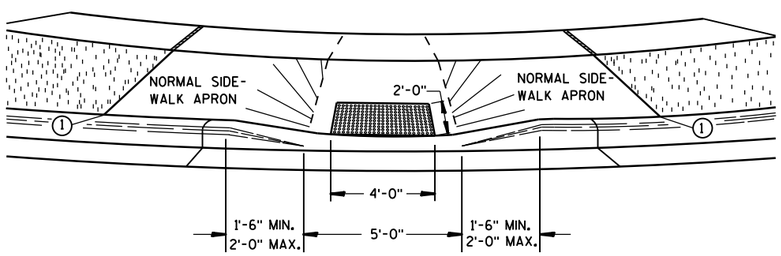
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

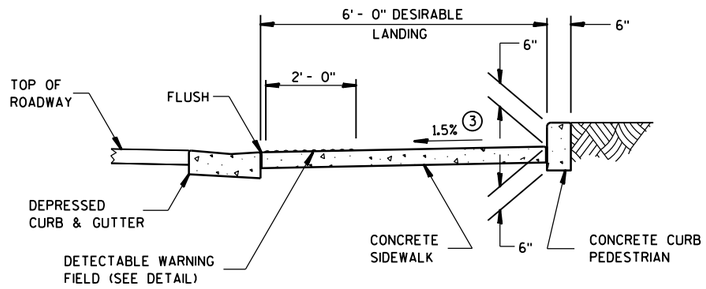
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

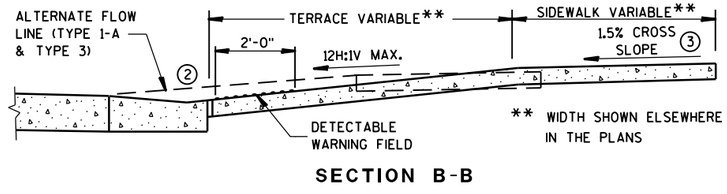
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



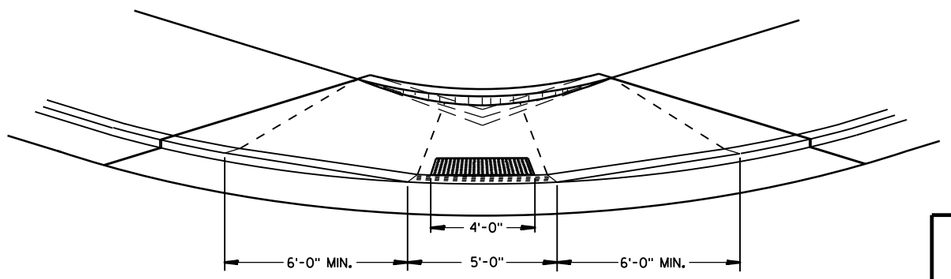
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

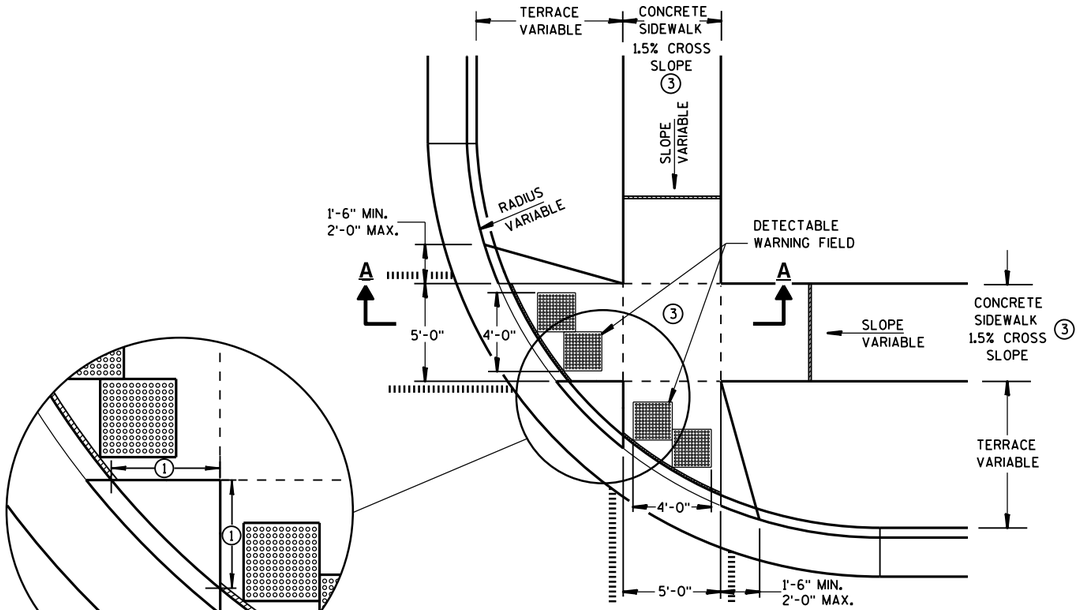
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

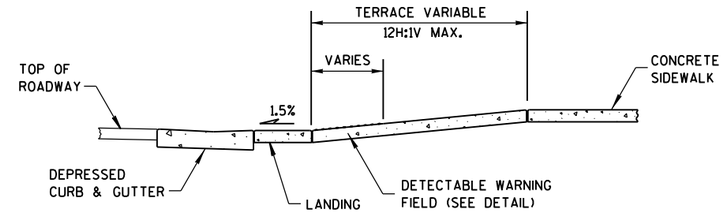
S.D.D. 8 D 5-15a

6

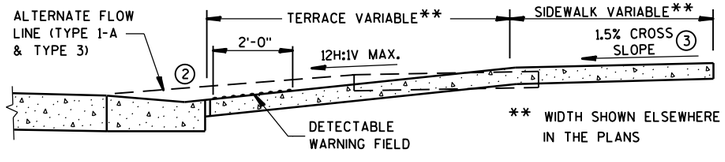
S.D.D. 8 D 5-15a



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

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

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

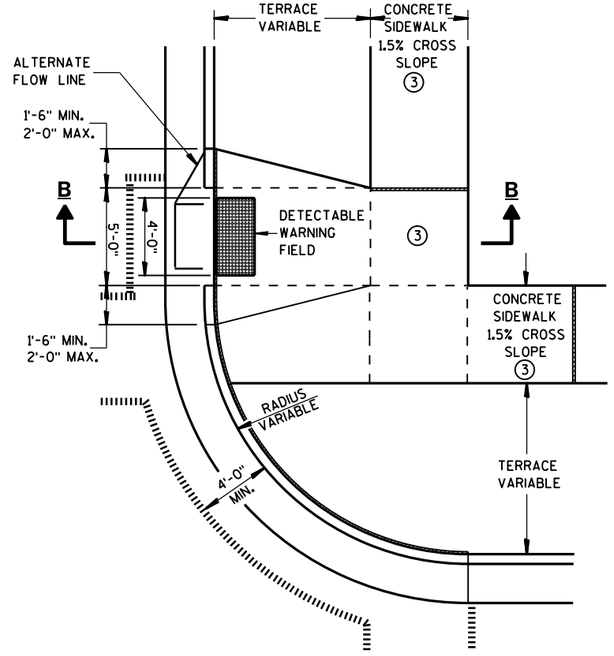
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

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



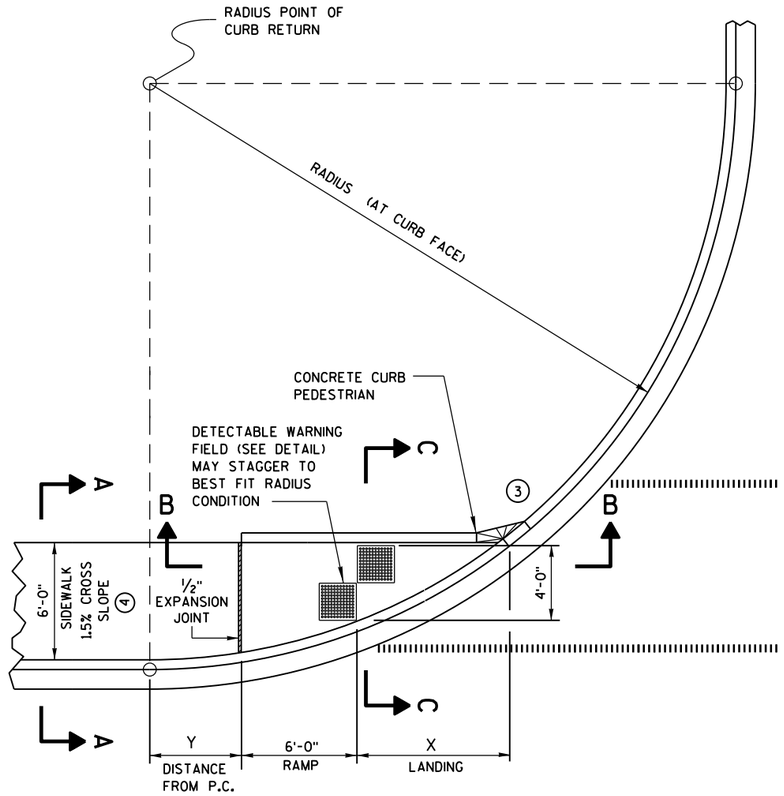
PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

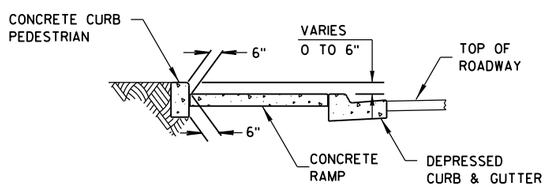
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

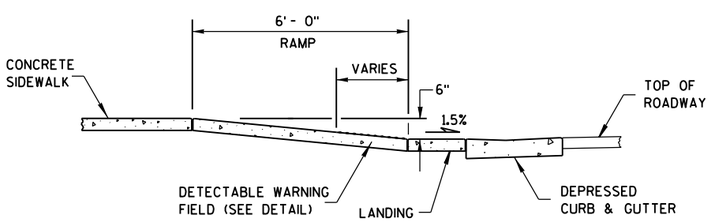
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



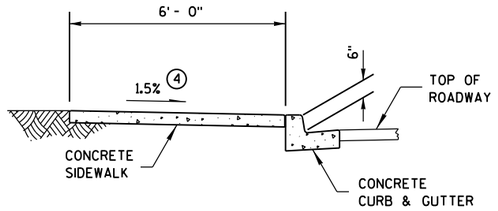
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

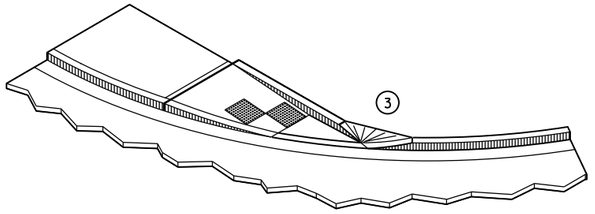
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

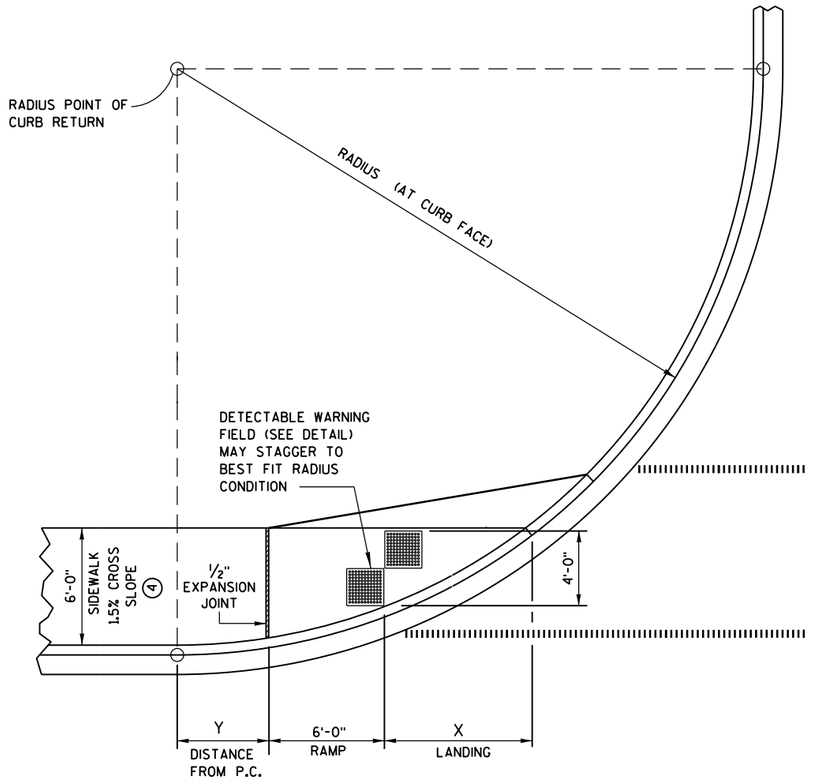
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

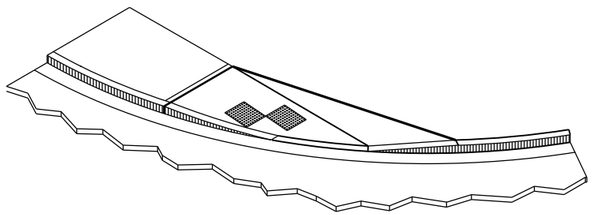
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

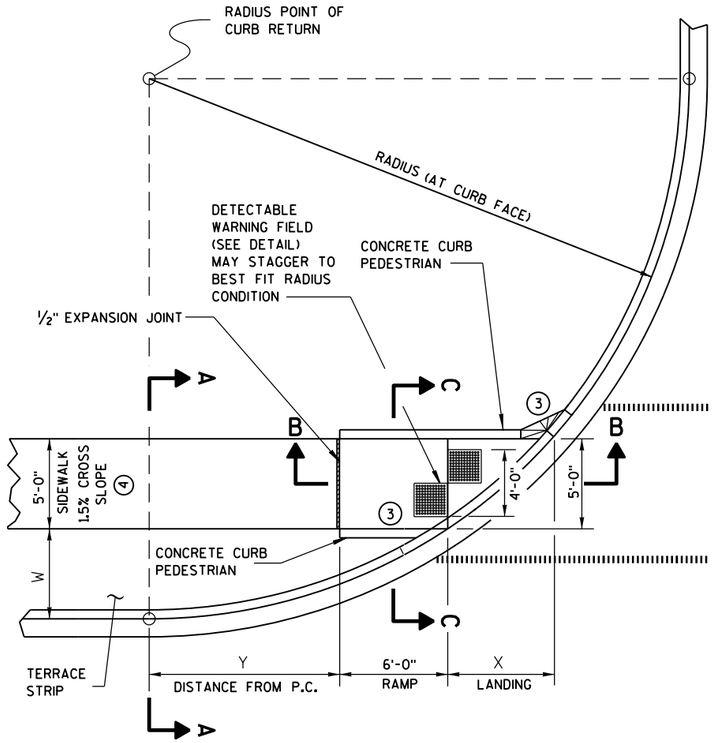
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15c



CURB RAMP TYPE 4B
PLAN VIEW

LEGEND

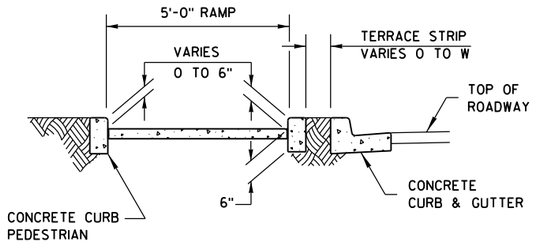
½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B

GENERAL NOTES

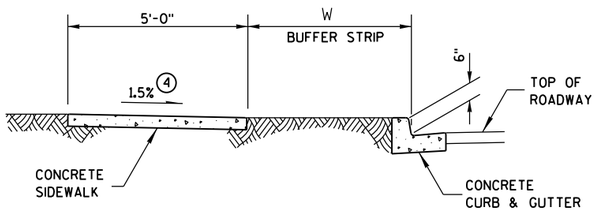
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

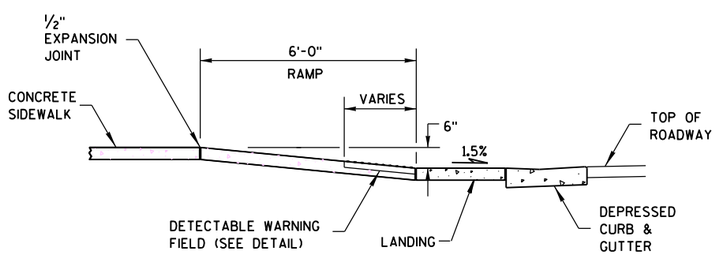
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

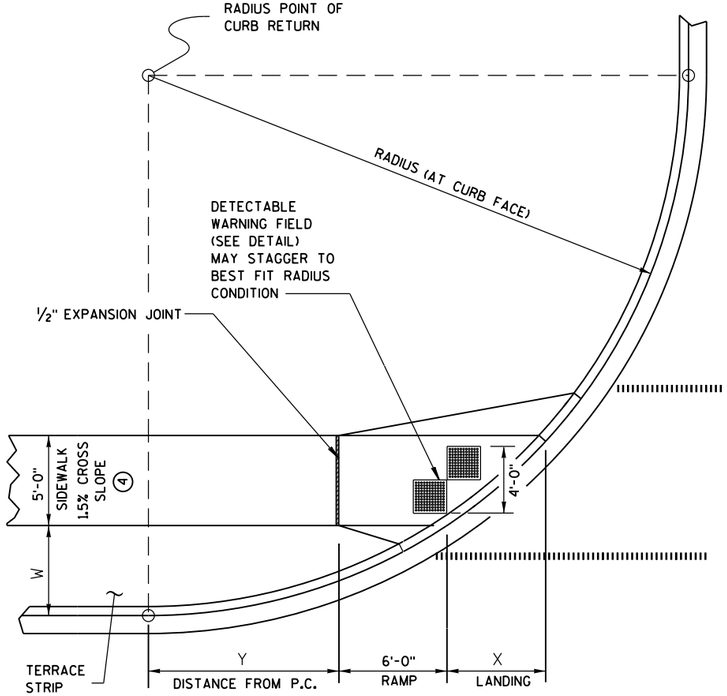
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



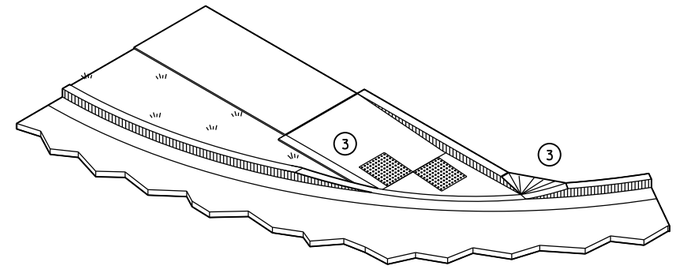
SECTION A-A FOR TYPE 4B



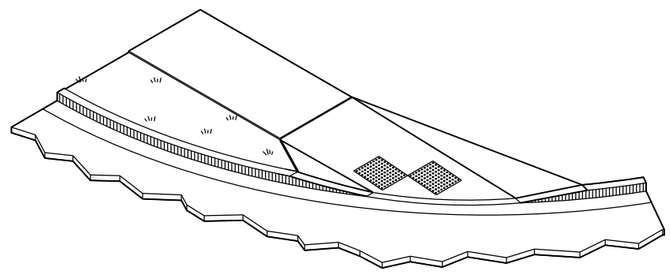
SECTION B-B FOR TYPE 4B



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



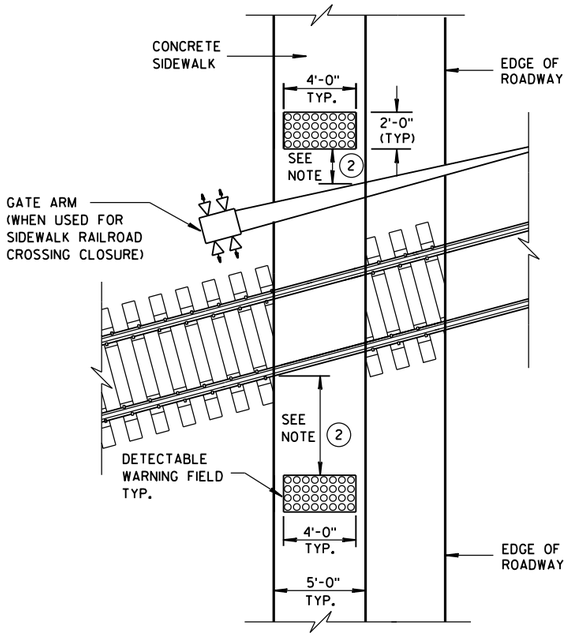
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

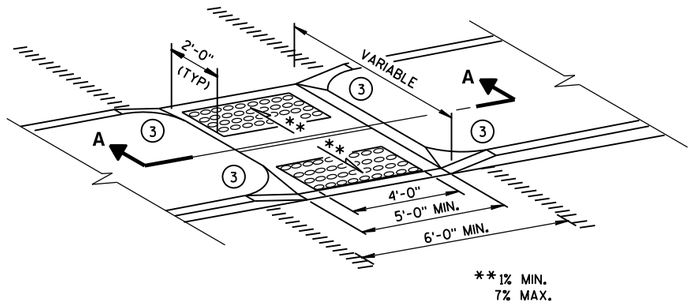
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

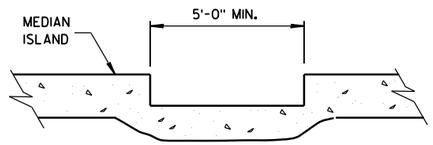
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

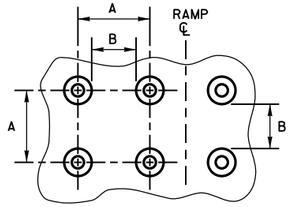
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



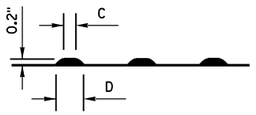
SECTION A-A



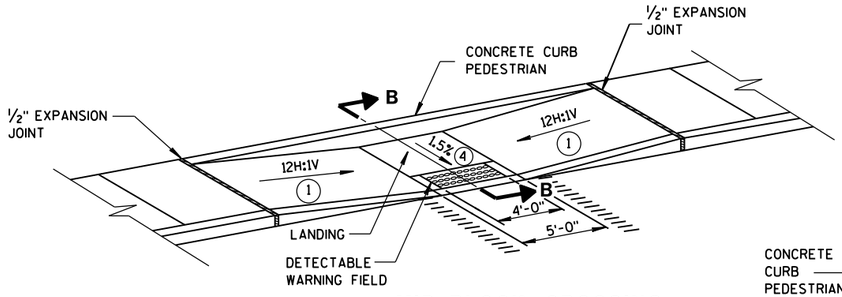
PLAN VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

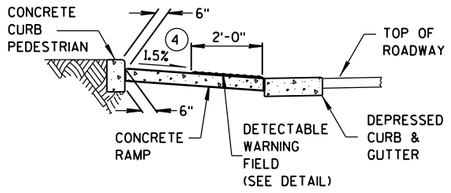
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

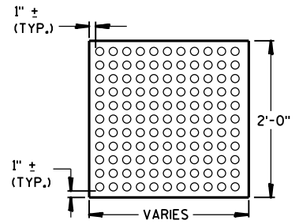


MID-BLOCK CROSSING
TYPE 7A



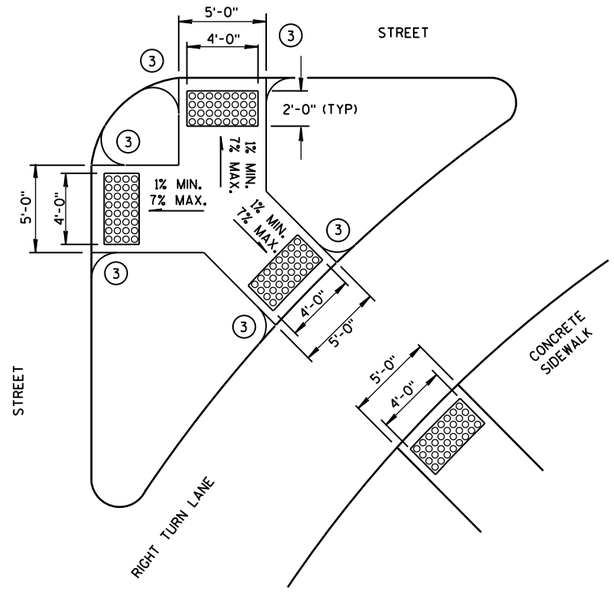
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

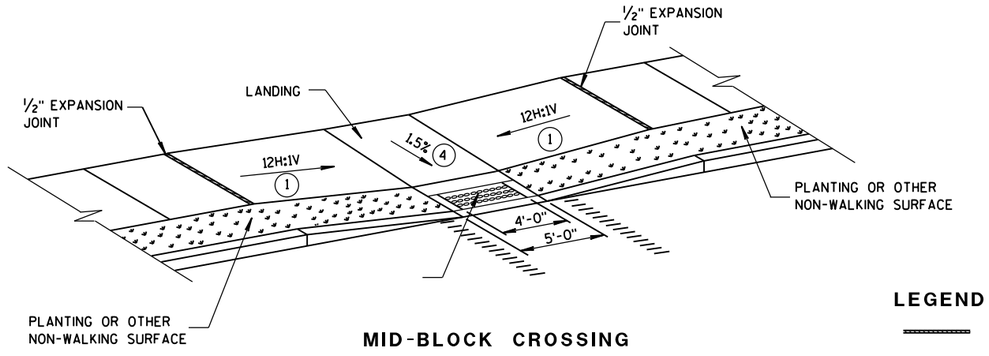


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

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

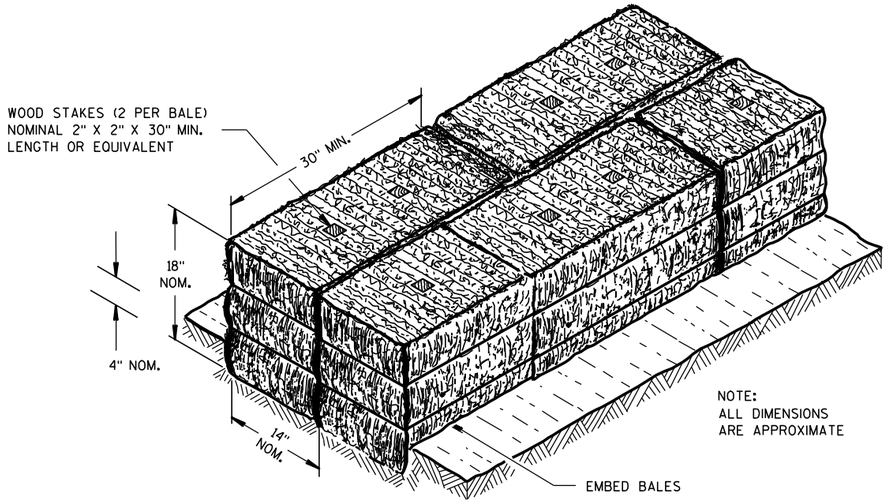
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

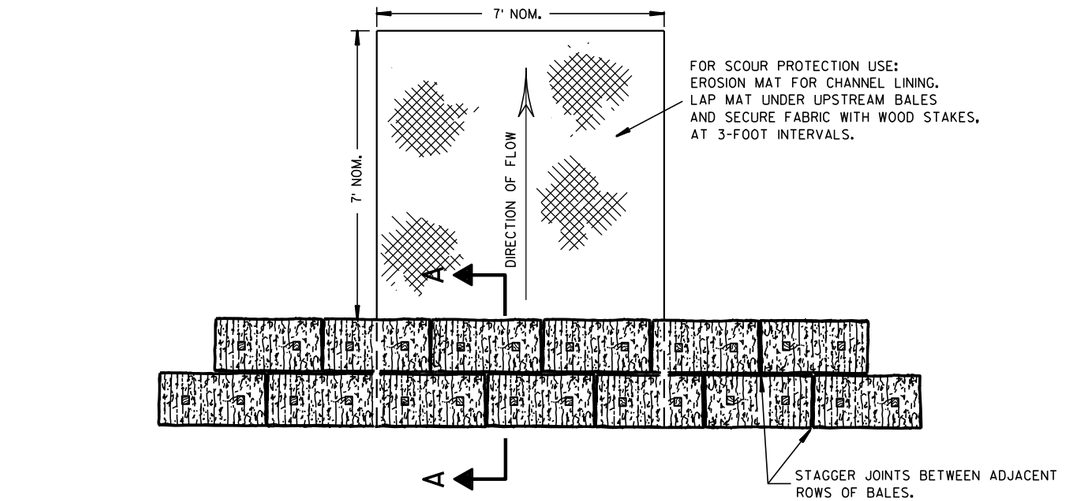
APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

6

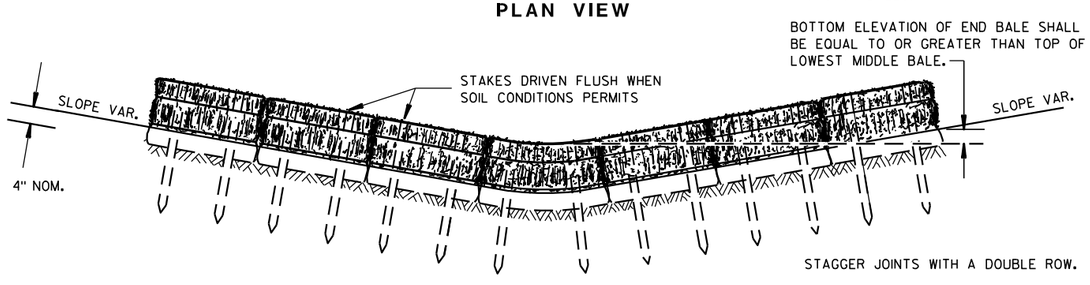
S.D.D. 8 D 5-15e



SECTION A-A



PLAN VIEW



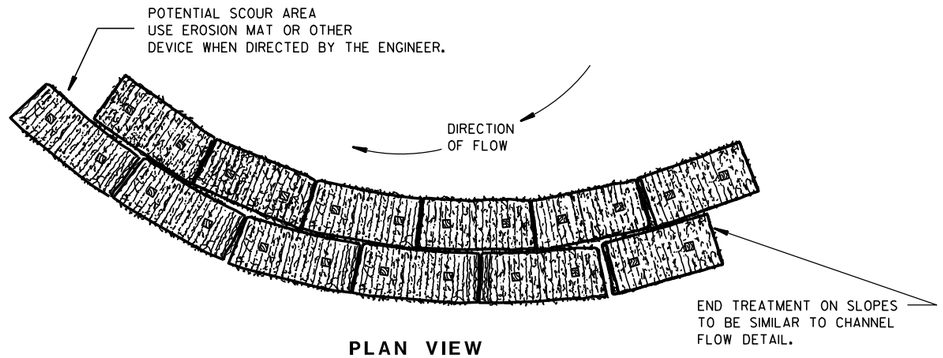
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

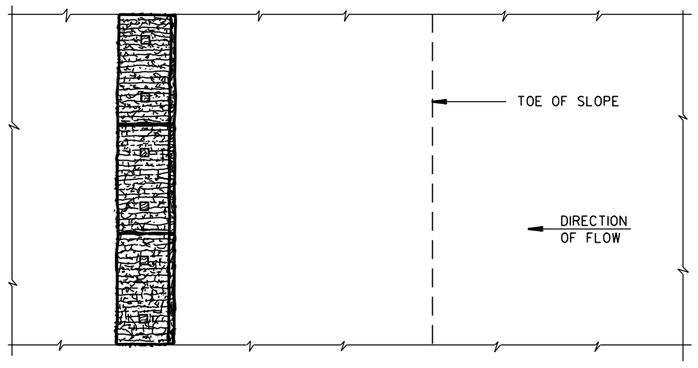
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

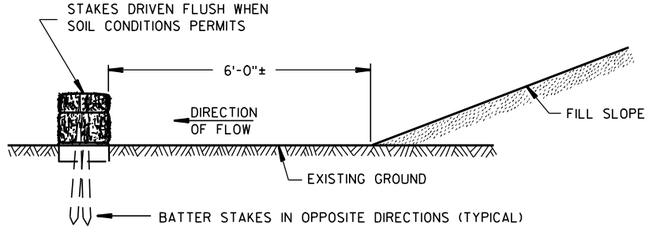


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

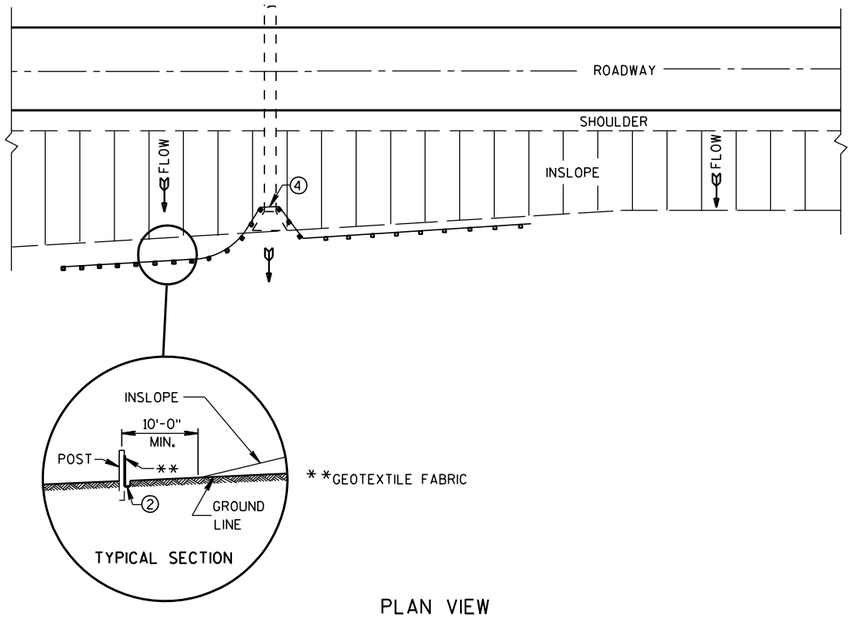
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

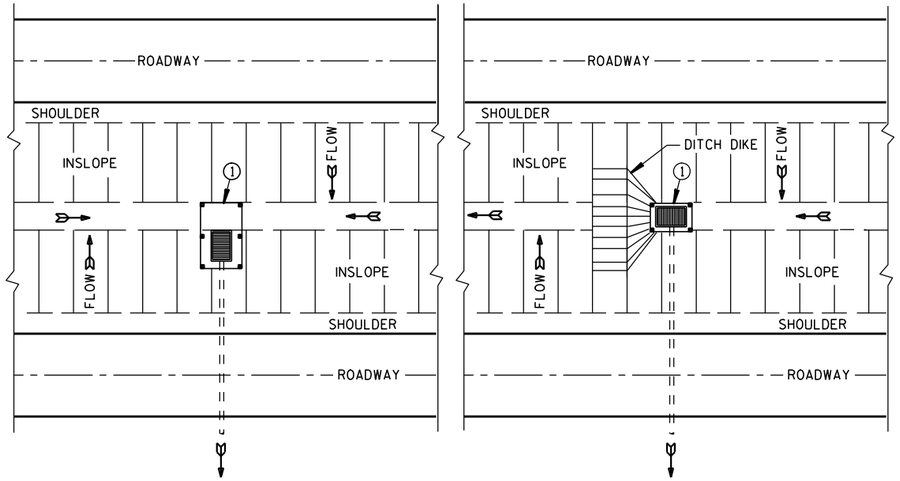
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



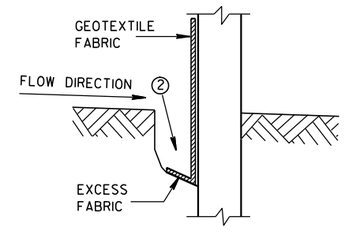
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

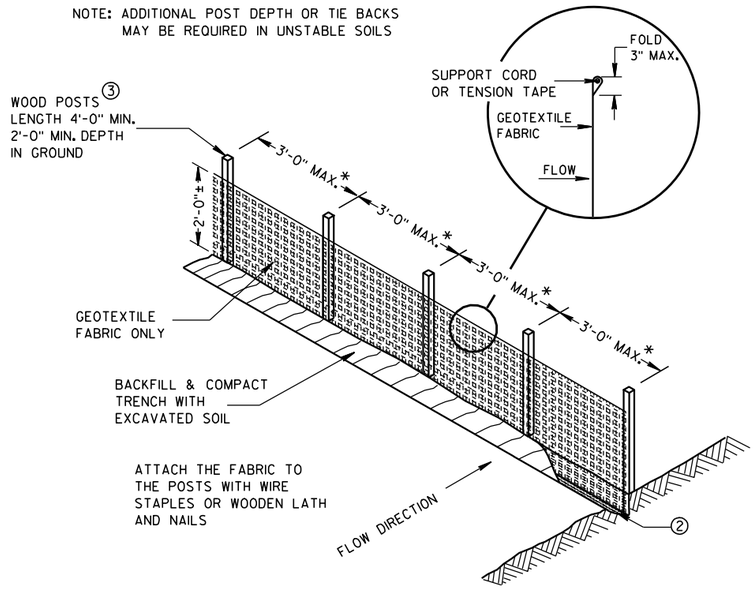
GENERAL NOTES

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

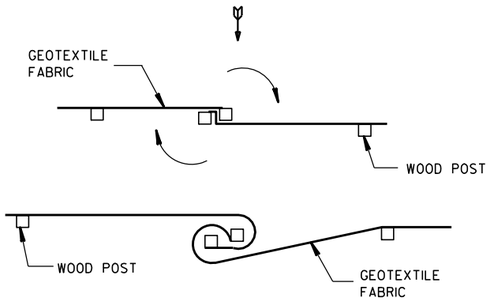
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



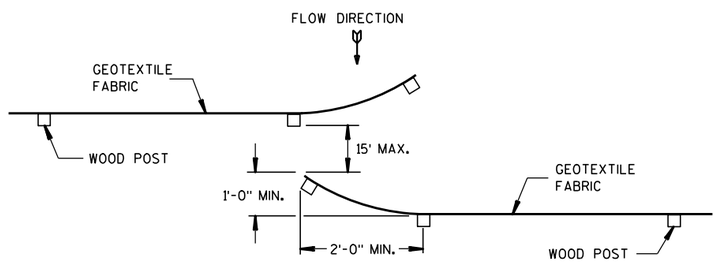
TRENCH DETAIL



SILT FENCE

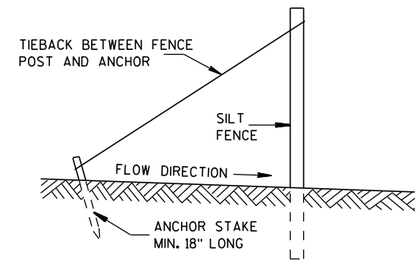


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

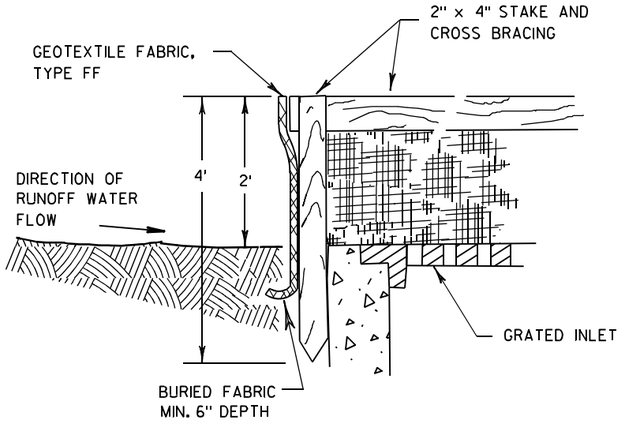
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

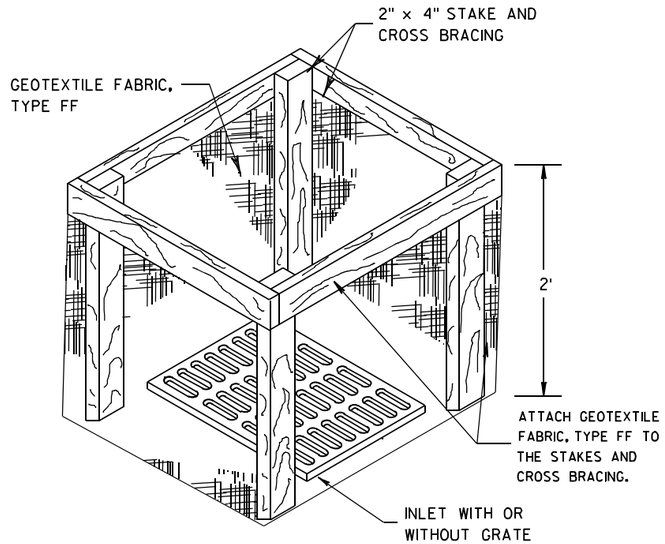
6

S.D.D. 8 E 9-6

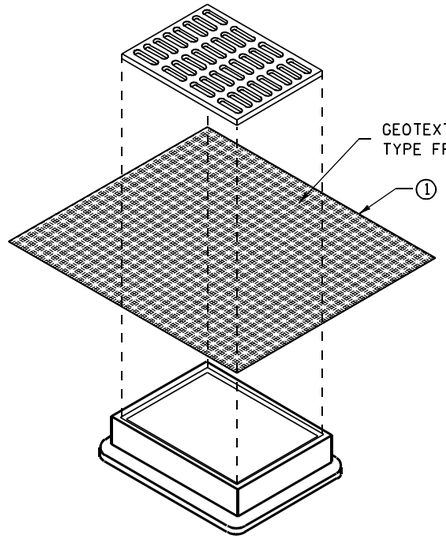
6

S.D.D. 8 E 9-6



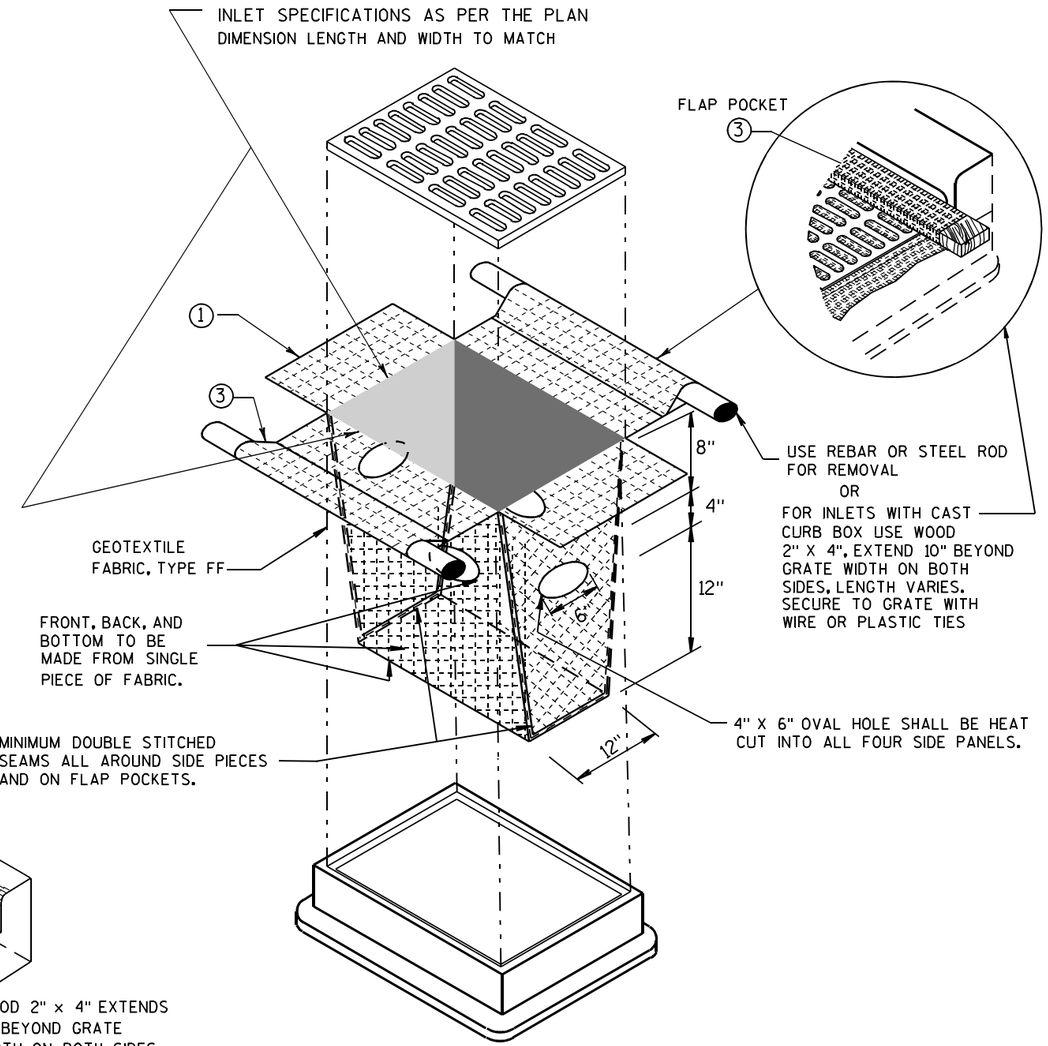


INLET PROTECTION, TYPE A



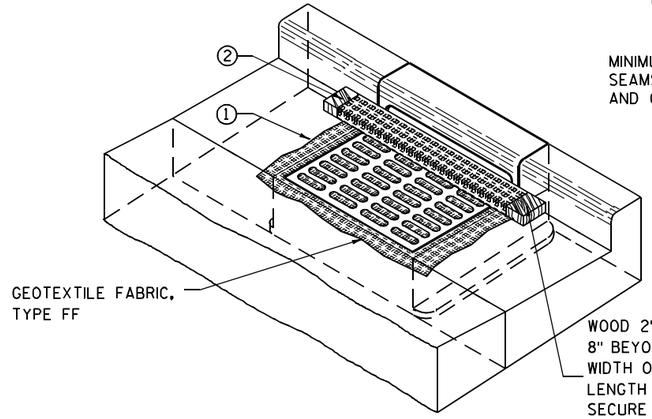
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 E 10-2

METAL APRON ENDWALLS

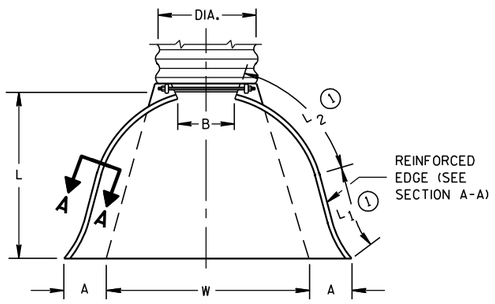
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

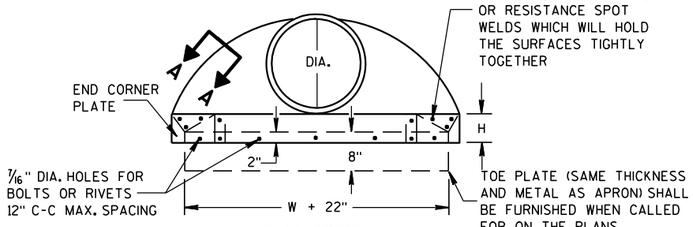
REINFORCED CONCRETE APRON ENDWALLS

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

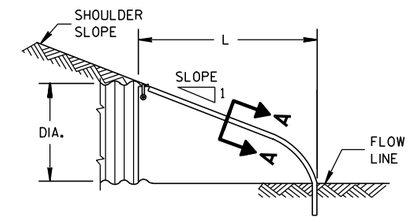
*MINIMUM
**MAXIMUM



PLAN VIEW

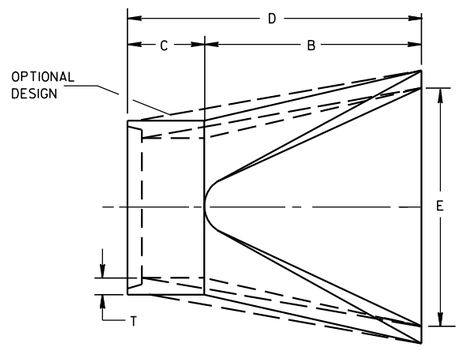


END VIEW

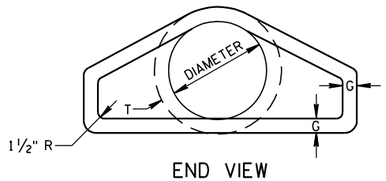


SIDE ELEVATION

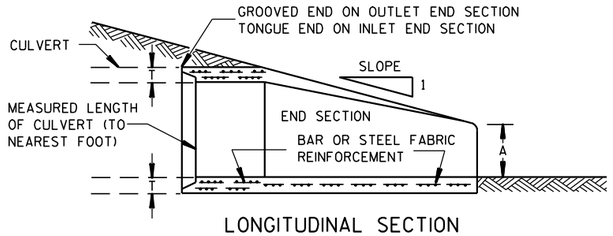
METAL ENDWALLS



PLAN

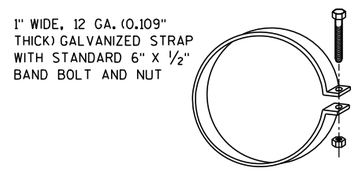


END VIEW



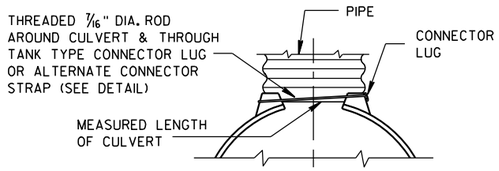
LONGITUDINAL SECTION

CONCRETE ENDWALLS

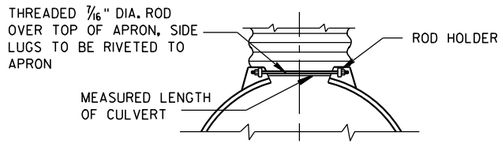


ALTERNATE FOR TYPE 1 CONNECTION

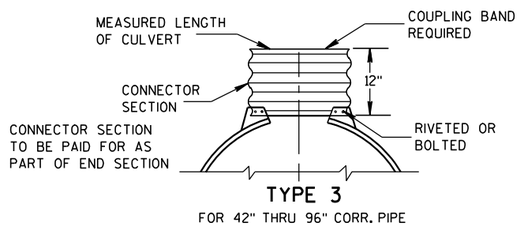
END SECTION CONNECTOR STRAP



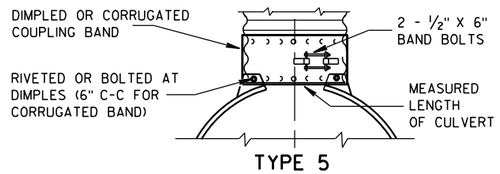
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

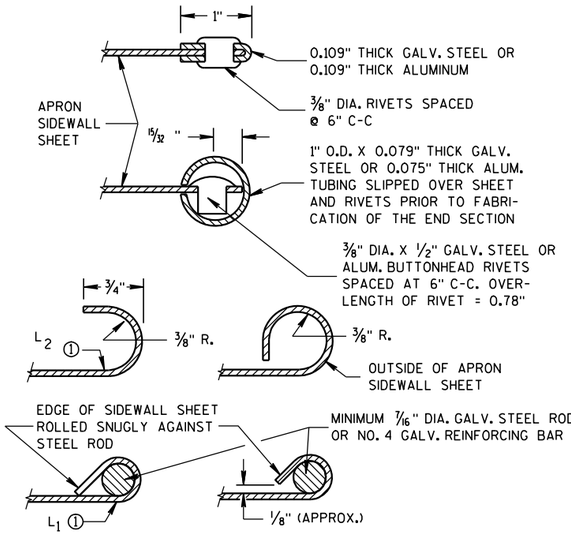
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

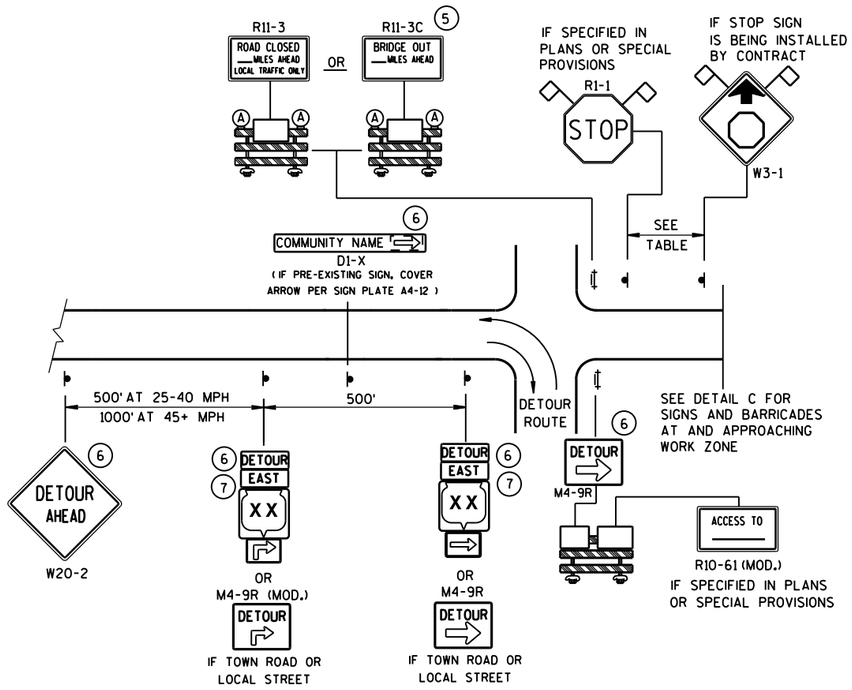
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

APRON ENDWALLS FOR CULVERT PIPE

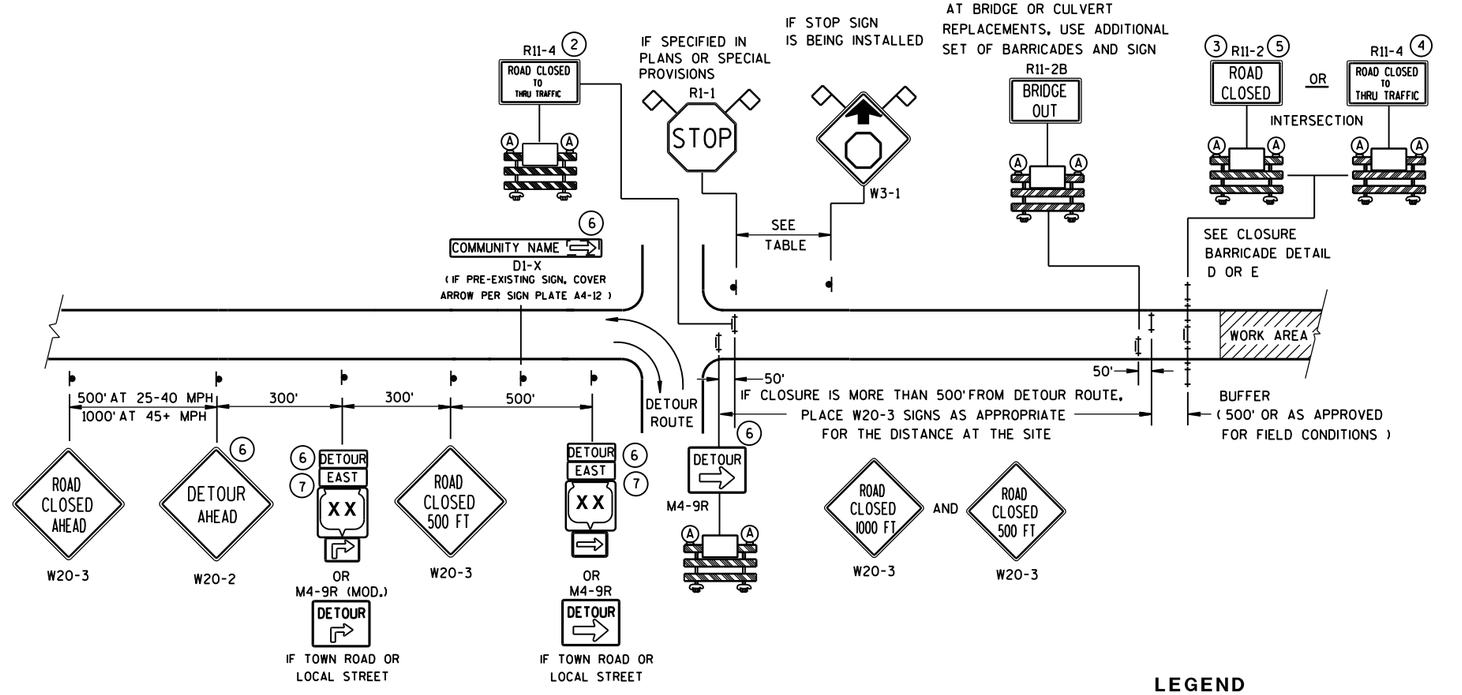
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOP 60 NEER
FHWA



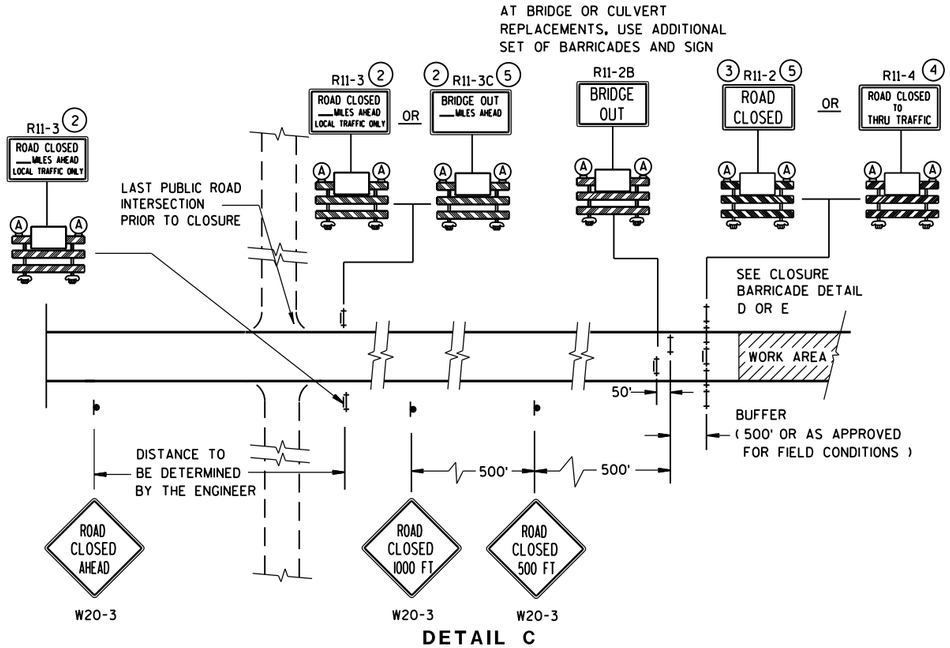
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

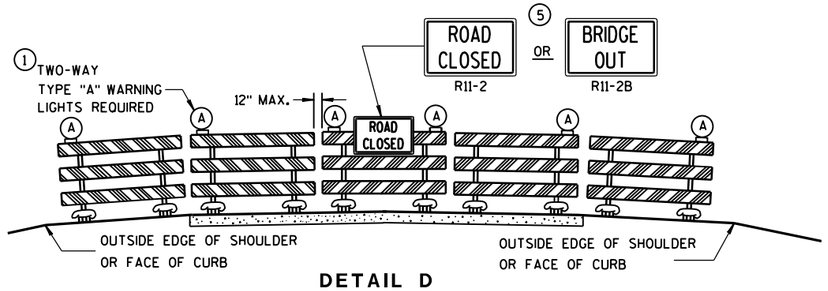
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — DESIGN

FHWA

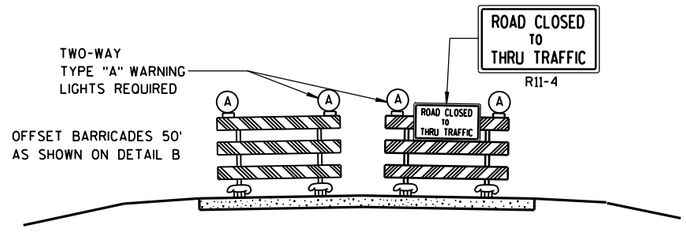
6
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 2-5b

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

GENERAL NOTES

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

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

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

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

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

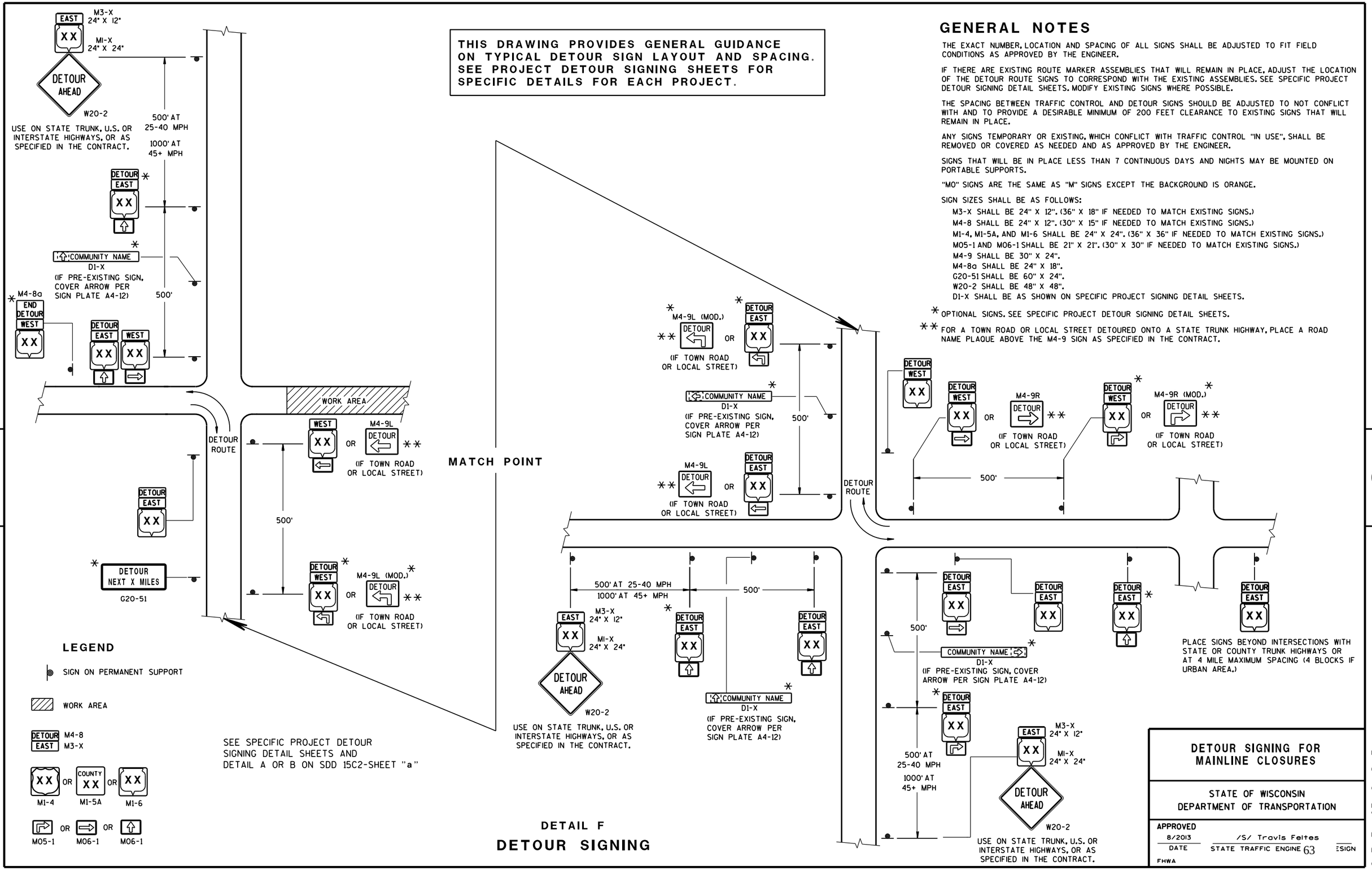
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

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

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

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



LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- M05-1 OR M06-1 OR M06-1

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

DETAIL F

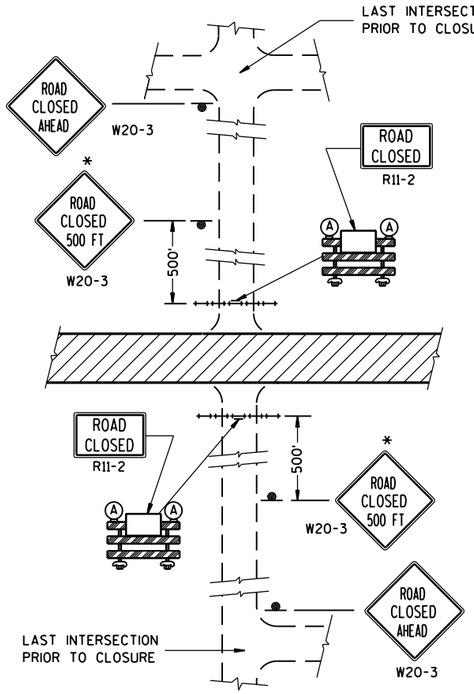
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

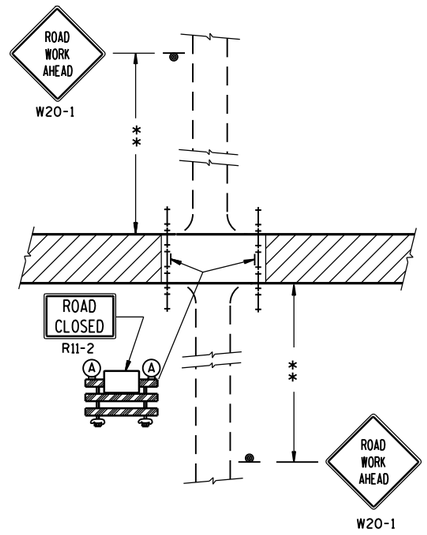
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

S.D.D. 15 C 2-5c



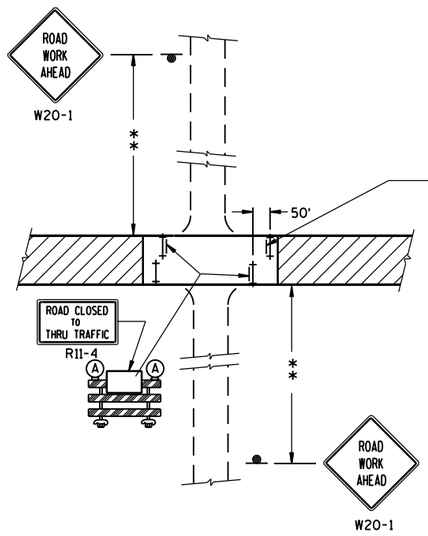
DETAIL 1

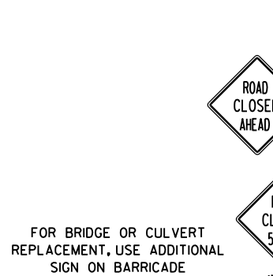
(NO ACCESS TO PROJECT)



DETAIL 2

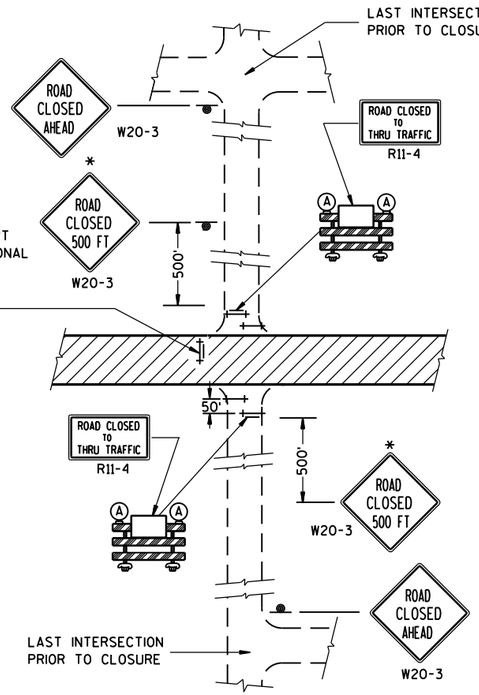
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





DETAIL 3

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



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

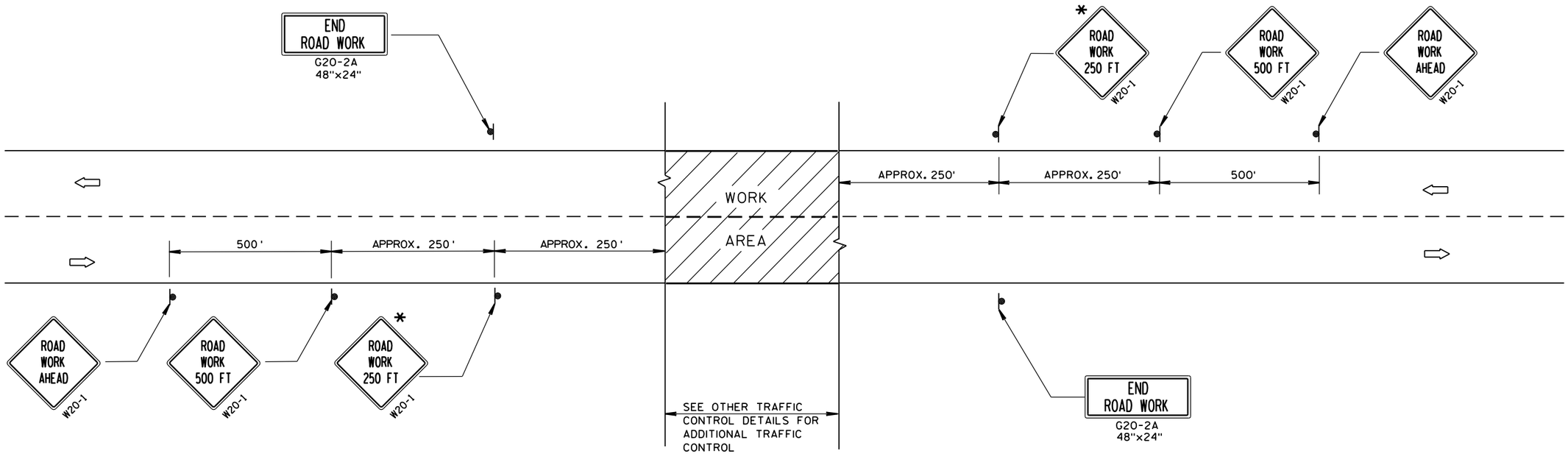
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

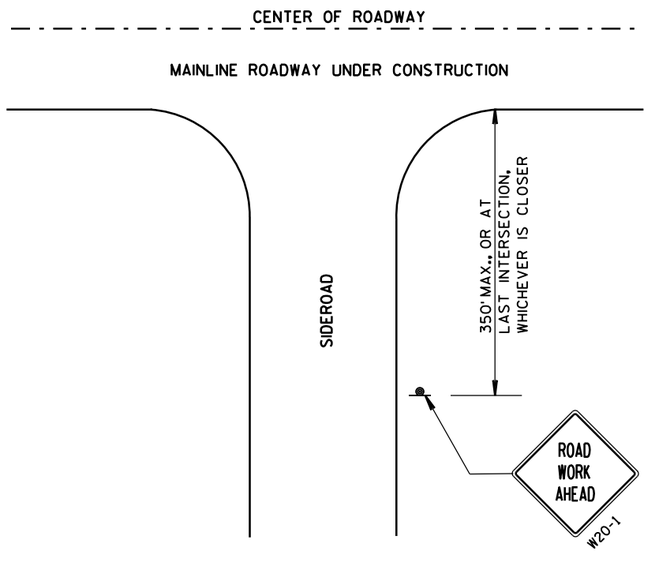
S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

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

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

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

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

LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

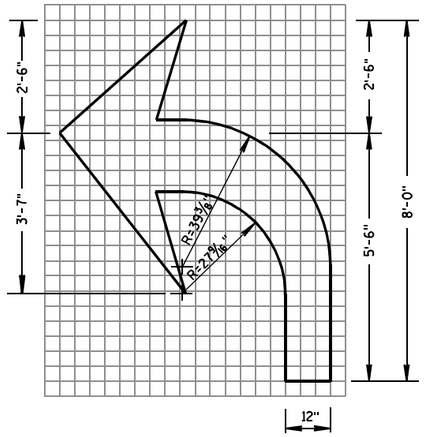
6

S.D.D. 15 C 5-2

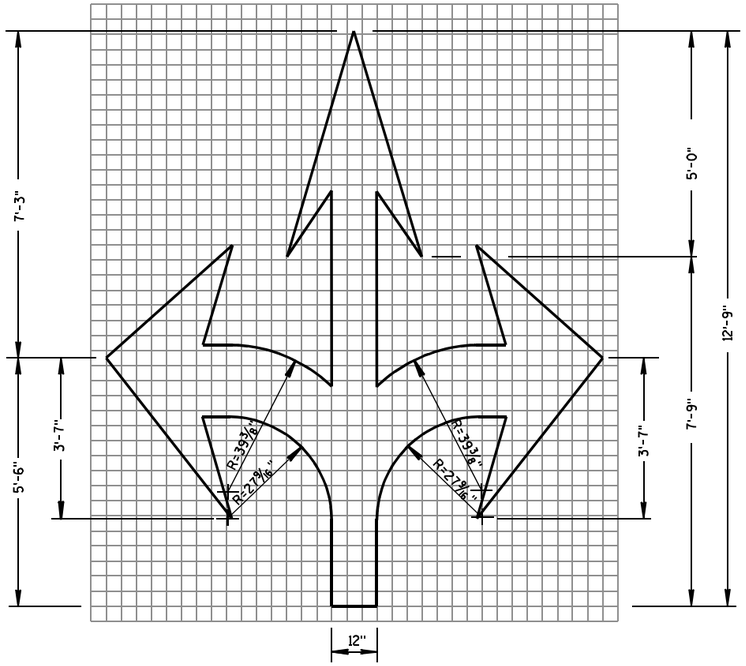
GENERAL NOTES

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

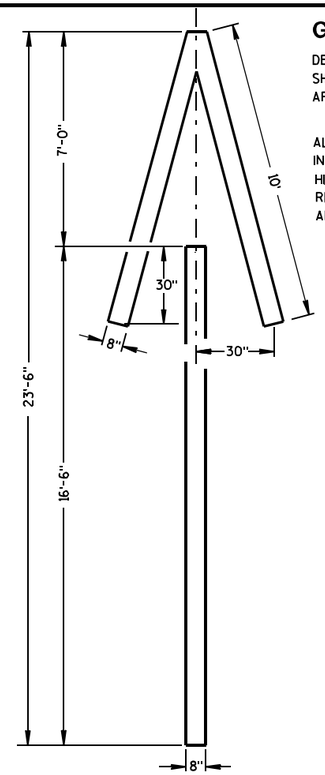
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



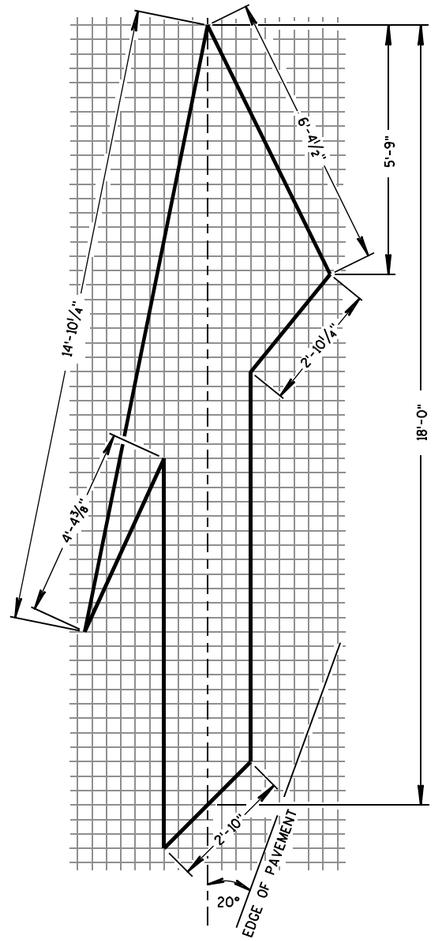
TYPE 2



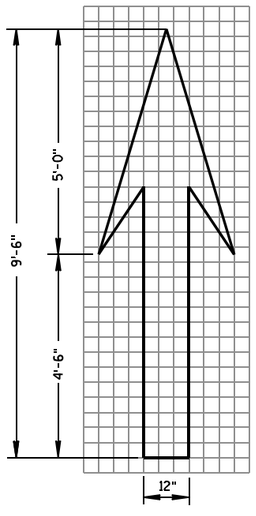
TYPE 6



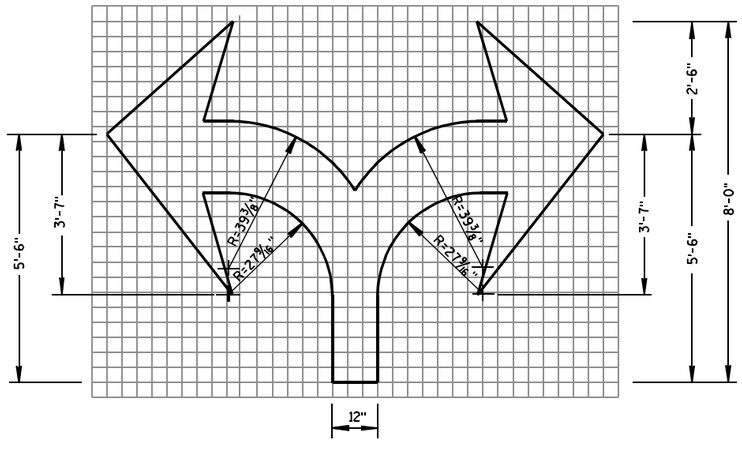
TYPE 4



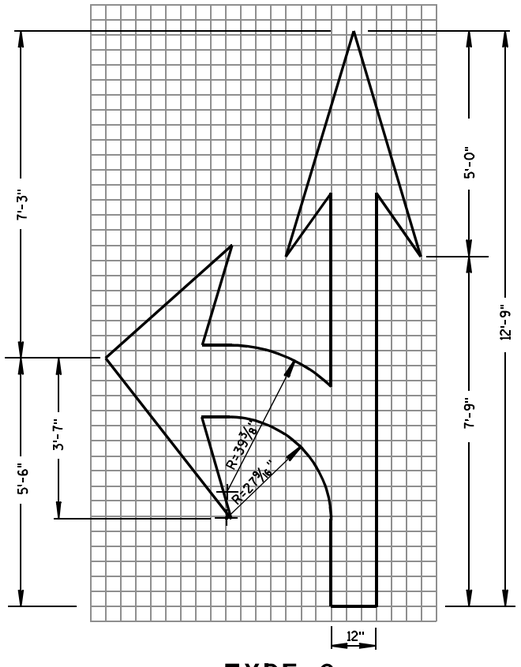
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

FHWA

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S.D.D. 15 C 7-12c

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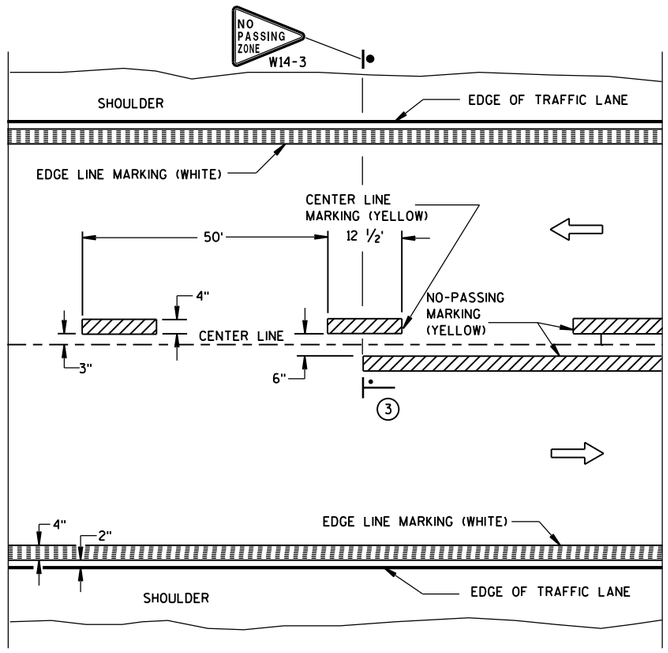
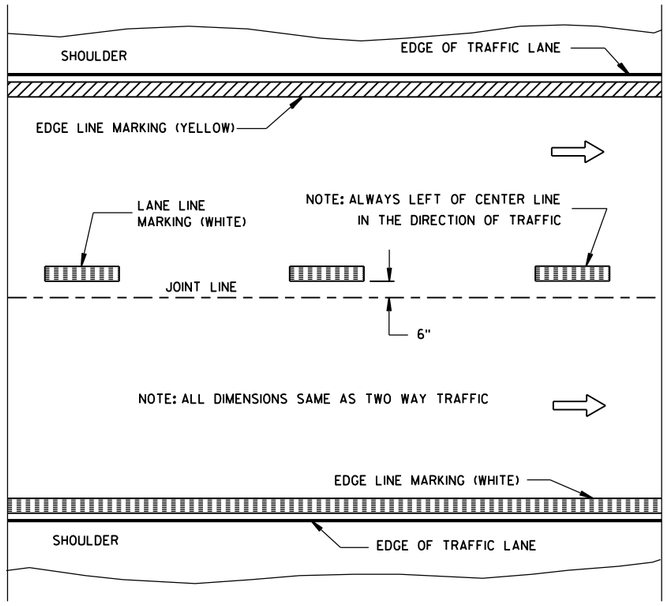
S.D.D. 15 C 7-12c

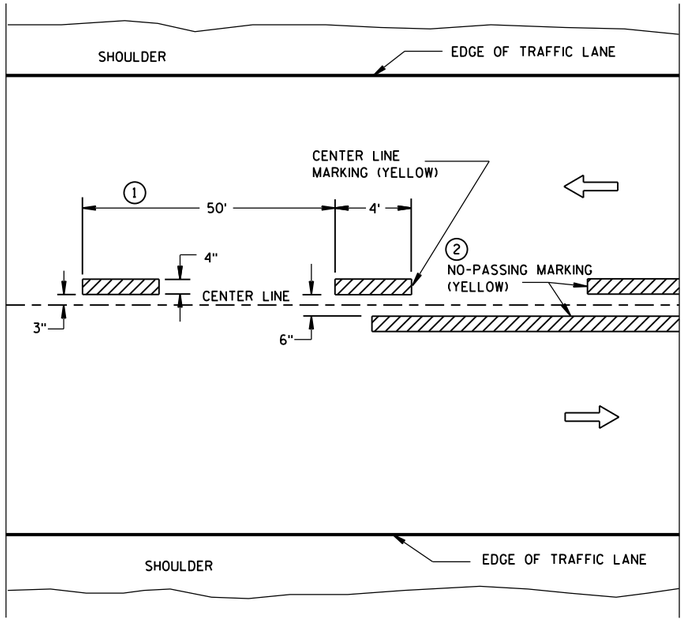


TWO WAY TRAFFIC

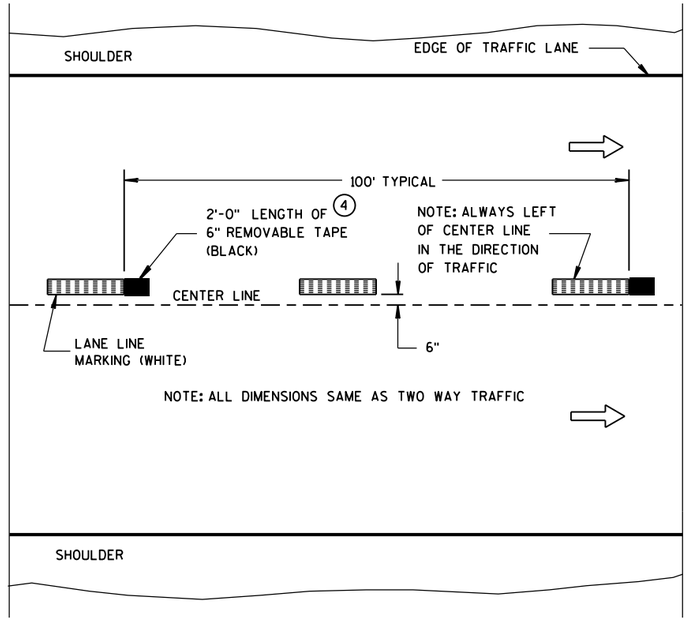


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

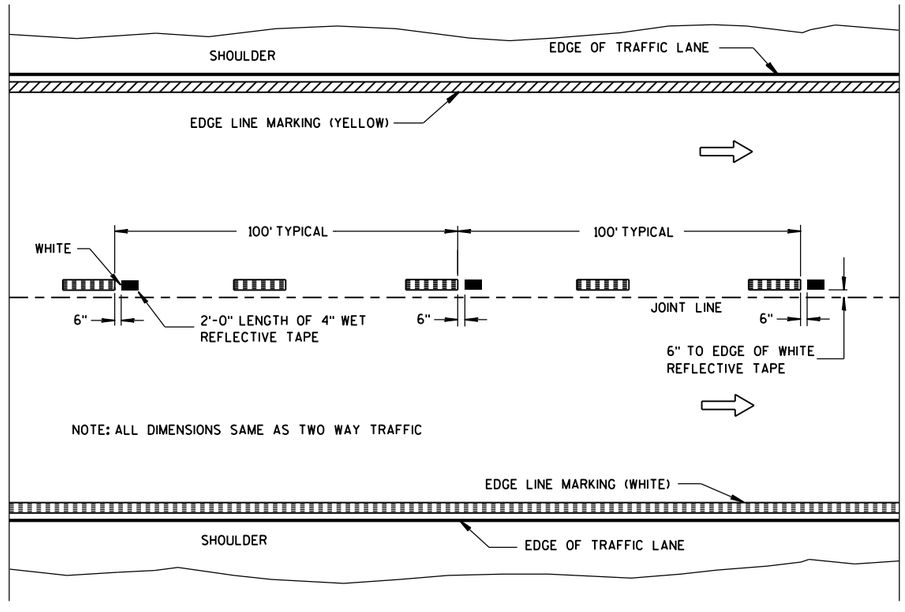
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

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S.D.D. 15 C 8-16a

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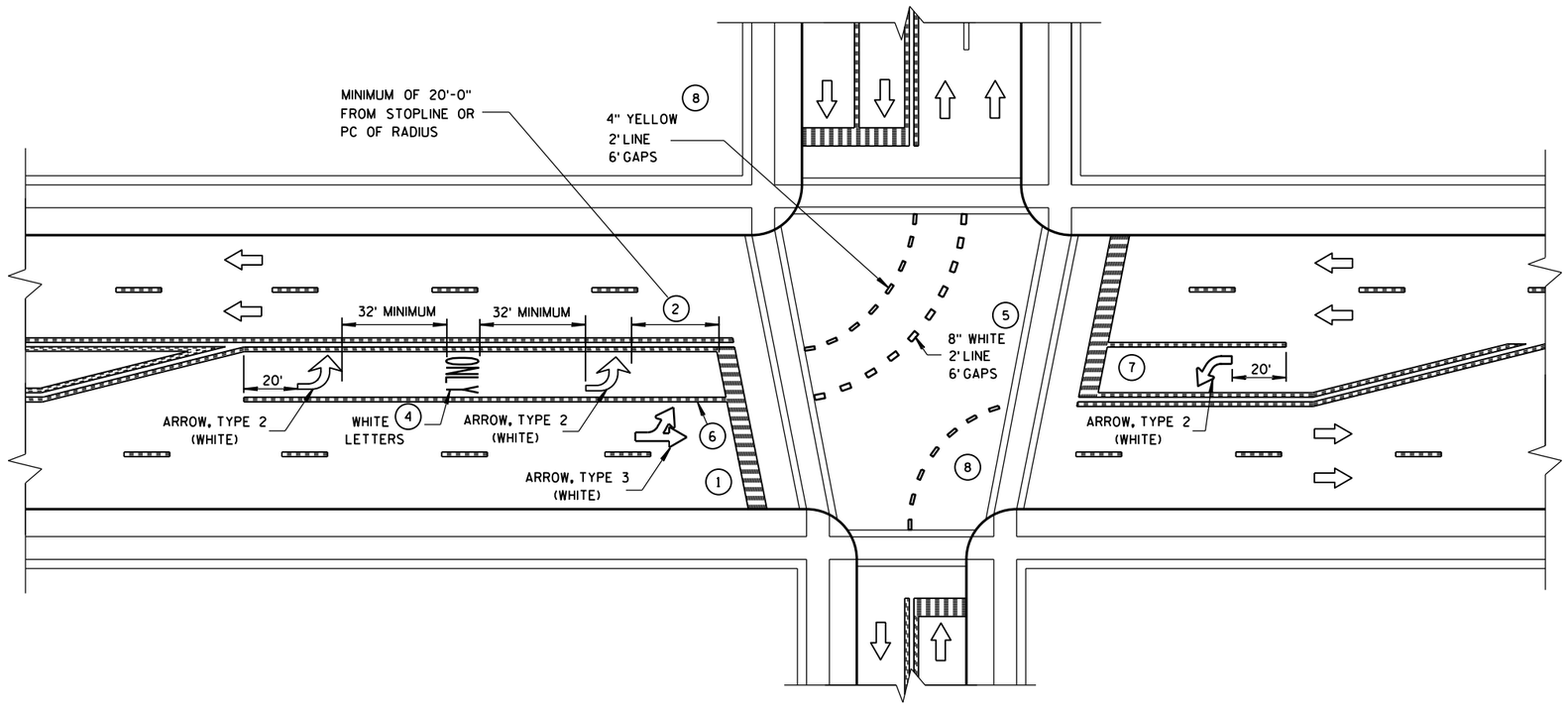
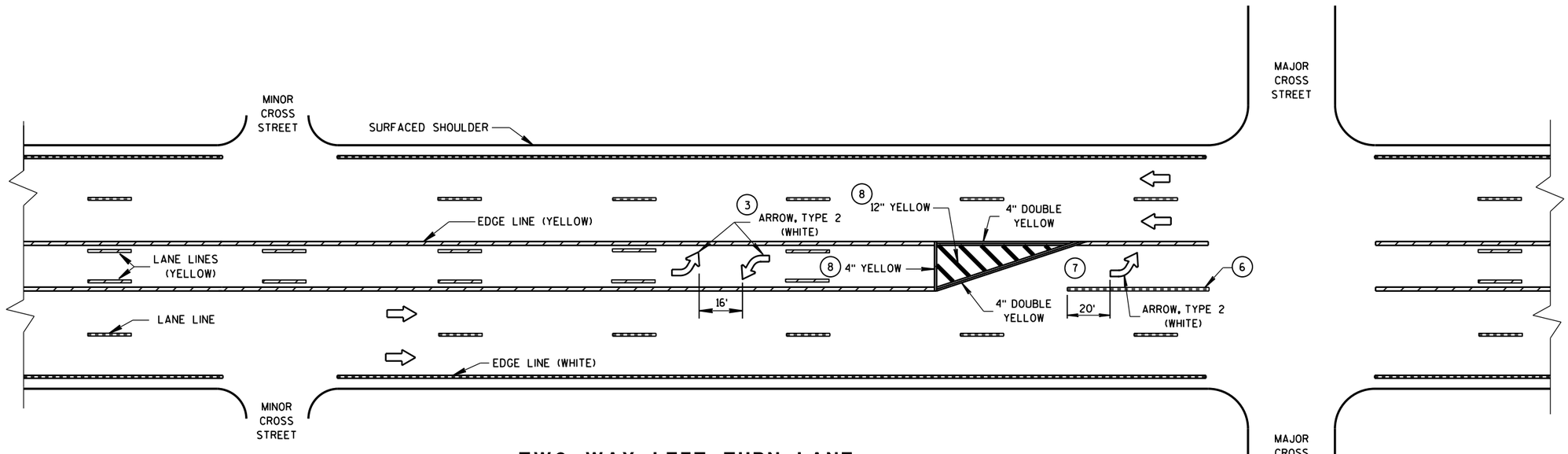
S.D.D. 15 C 8-16a



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



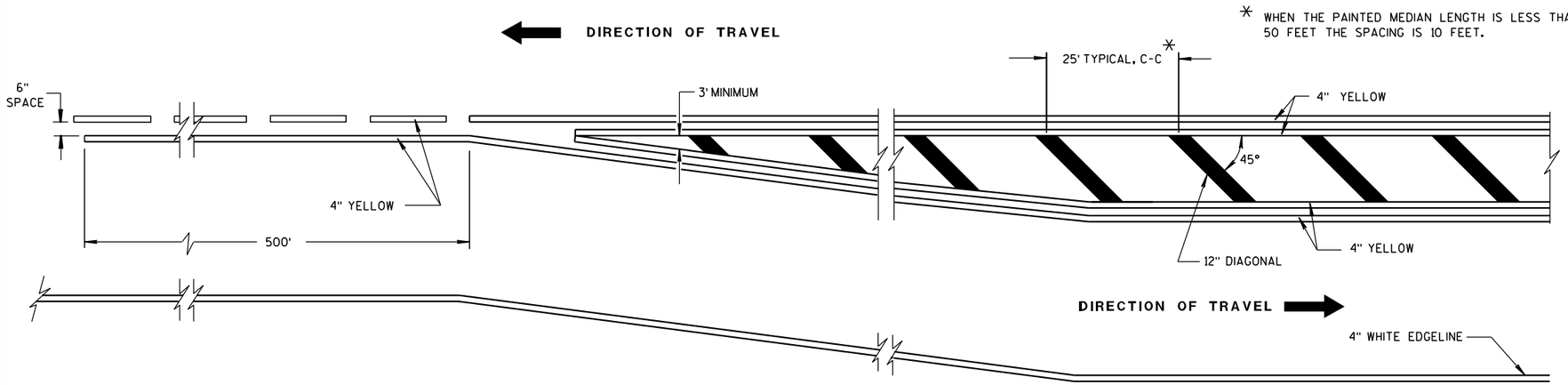
TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

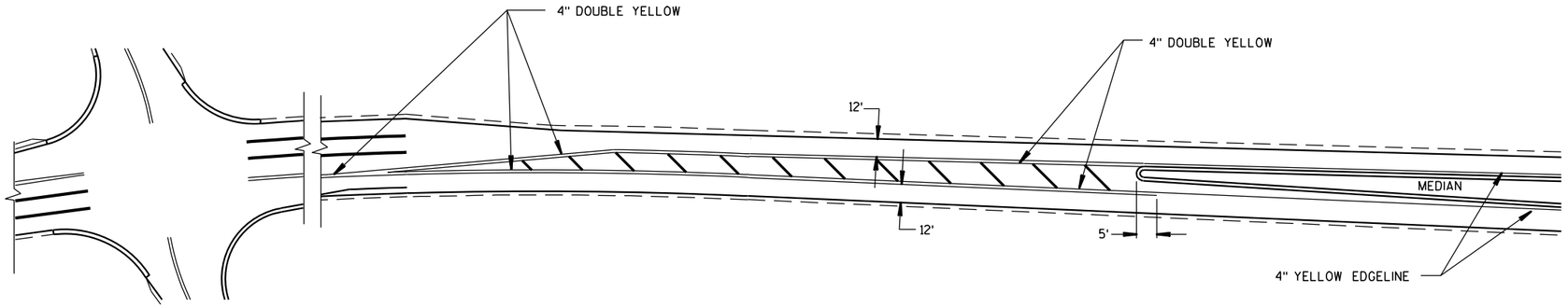
S.D.D. 15 C 8-16e



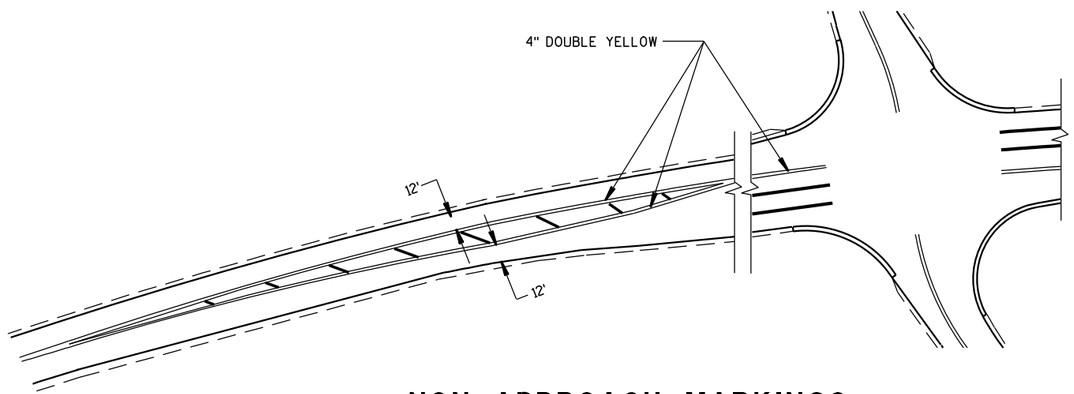
MEDIAN ISLAND DETAIL

GENERAL NOTE

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



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

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

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S.D.D. 15 C 18-3

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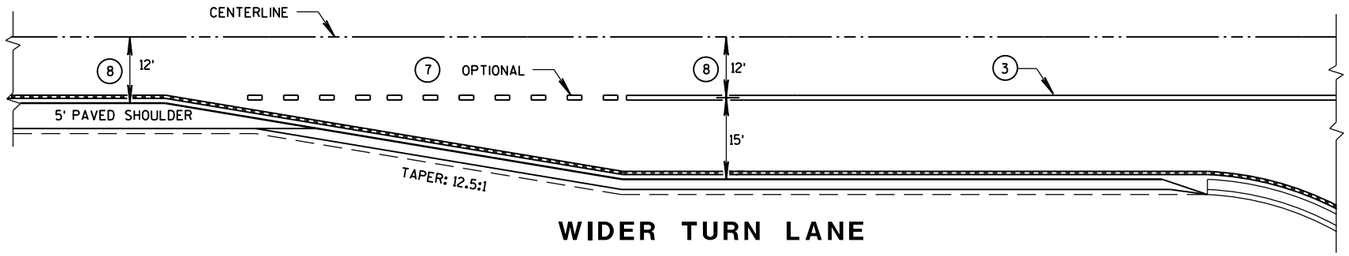
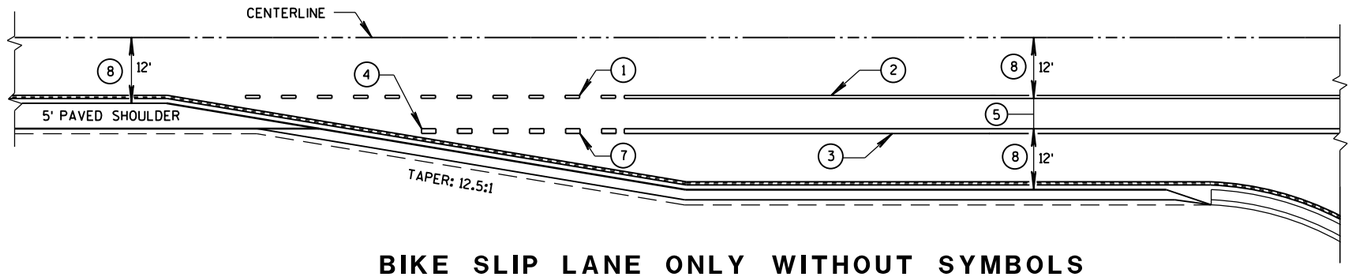
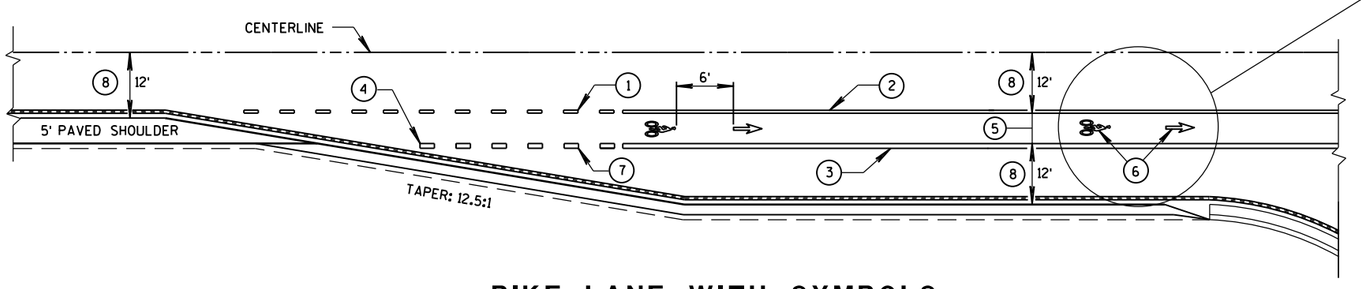
S.D.D. 15 C 18-3



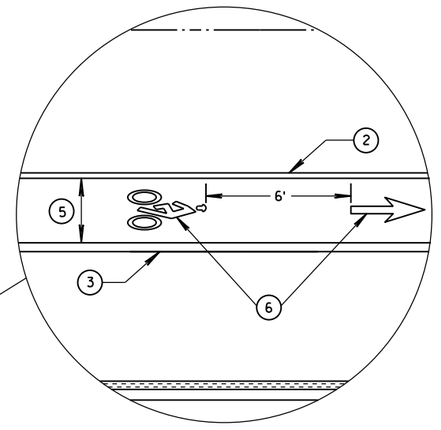
WIDER TURN LANE



BIKE SLIP LANE ONLY WITHOUT SYMBOLS



BIKE LANE WITH SYMBOLS



GENERAL NOTES

1. 3' LINE, 9' GAP - 4-INCH WIDE, WHITE.
2. 4-INCH, WHITE.
3. 8-INCH, WHITE.
4. IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
5. BIKE ACCOMMODATION FOR CONCRETE PAVEMENT IS 5' WIDE. BIKE ACCOMMODATION FOR ASPHALT PAVEMENT IS A MINIMUM OF 4', 5' AT ≥ 45 MPH.
6. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
7. 3' LINE, 9' GAP - 8-INCH WIDE, WHITE.
8. REFER TO CONTRACT PLANS.

6

S.D.D. 15 C 29-3a

6

S.D.D. 15 C 29-3a

BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

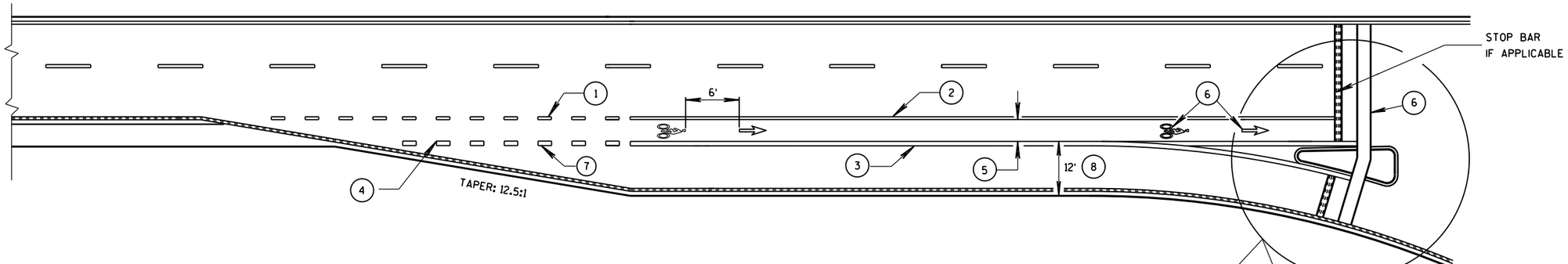
4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

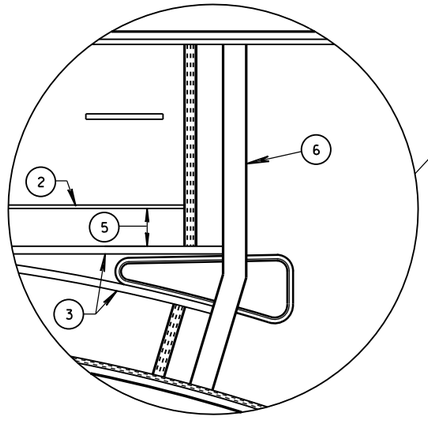
FHWA

GENERAL NOTES

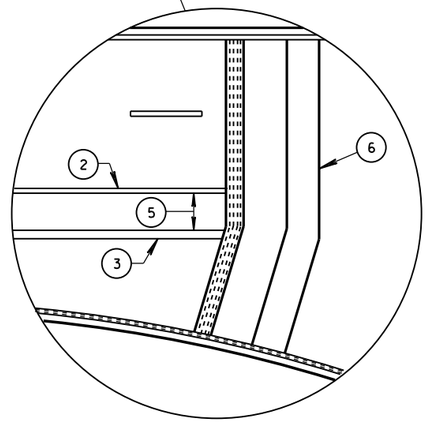
1. 3' LINE, 9' GAP - 4-INCH WIDE, WHITE.
2. 4-INCH, WHITE.
3. 8-INCH, WHITE.
4. IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
5. 5' TYPICAL.
6. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
7. 3' LINE, 9' GAP - 8-INCH WIDE, WHITE.
8. REFER TO CONTRACT PLANS.



BIKE LANE - 4-LANE DIVIDED WITH RIGHT TURN LANE



4 LANE DIVIDED WITH ISLAND



4 LANE DIVIDED WITHOUT ISLAND

BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

6

S.D.D. 15 C 29-3b

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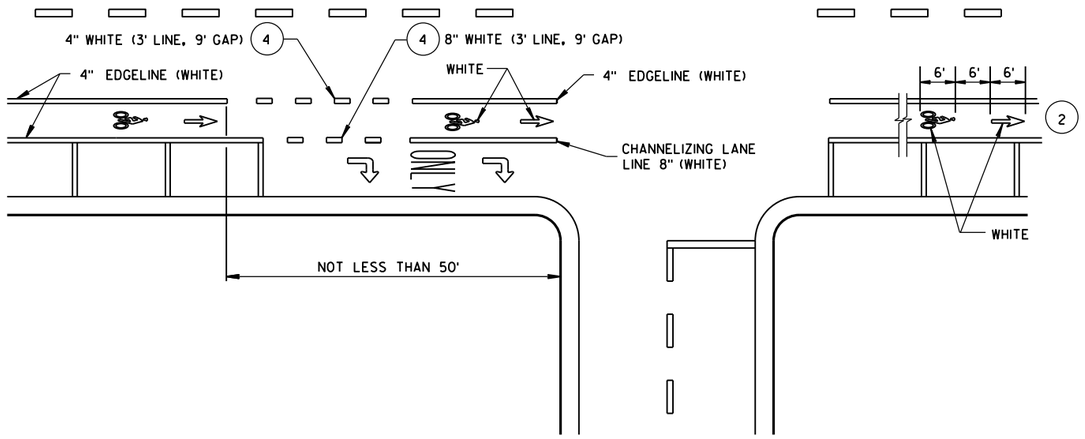
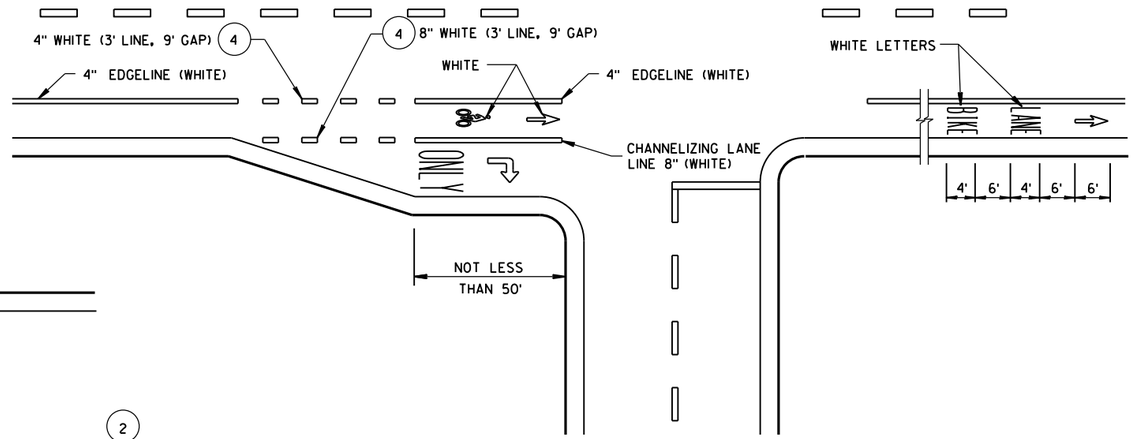
S.D.D. 15 C 29-3b



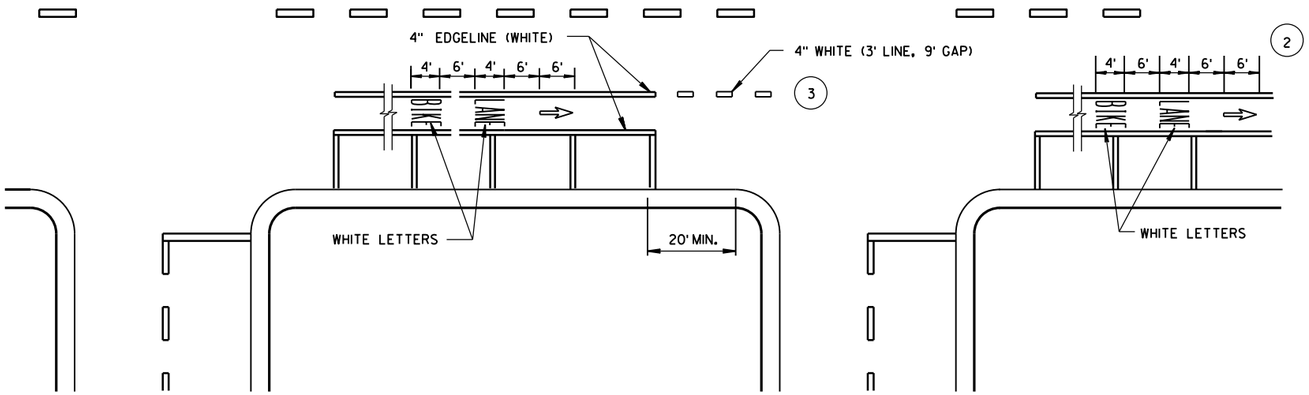
DESIGNATED BICYCLE LANE

GENERAL NOTES

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. THE SERIES OF PAVEMENT MARKING SYMBOLS SHALL BE REPEATED AFTER INTERSECTIONS AND SPACED A MAXIMUM OF 250'. NO PAVEMENT MARKING WILL TAKE PLACE IN THE CROSSWALK.
3. DOTTED LINES SHOULD BE USED 50' TO 200' IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
4. WHEN SPECIFIED IN THE CONTRACT.



DESIGNATED BICYCLE LANE
NO PARKING, RIGHT TURN LANE



DESIGNATED BICYCLE LANE
WITH PARKING, NO RIGHT TURN LANE

URBAN BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

6

S.D.D. 15 C 29-3c

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S.D.D. 15 C 29-3c

GENERAL NOTES

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
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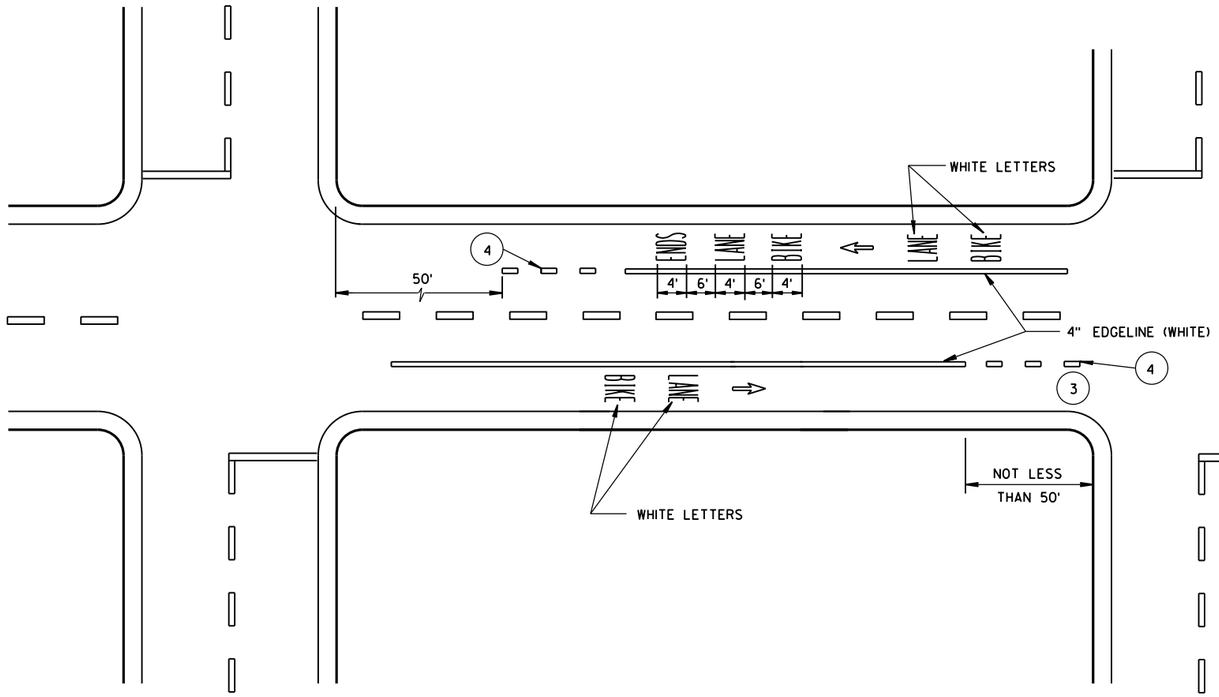
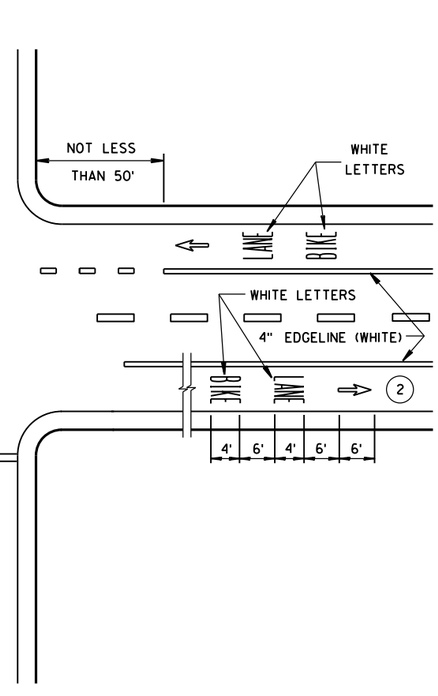
3. DOTTED LINES SHOULD BE USED 50' TO 200' IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
4. 3' LINE, 9' GAP - 4" WIDE, WHITE.





DESIGNATED BICYCLE LANE
NO PARKING

URBAN BICYCLE LANE MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4/30/2013 DATE	/S/ Travis Feltes STATE TRAFFIC EN
FHWA	

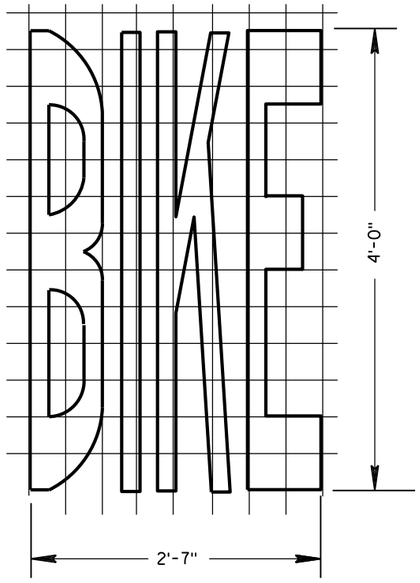
6

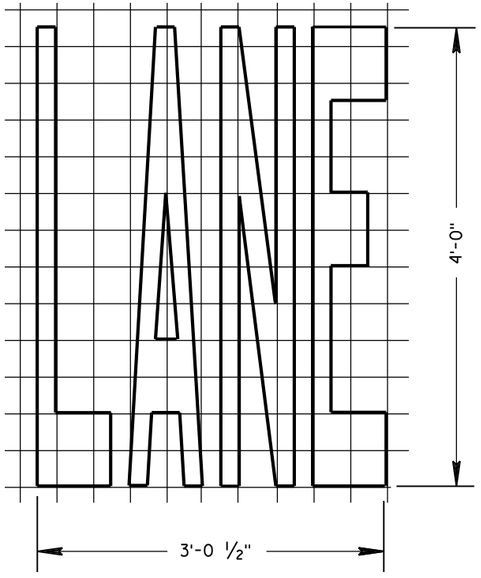
S.D.D. 15 C 29-3d

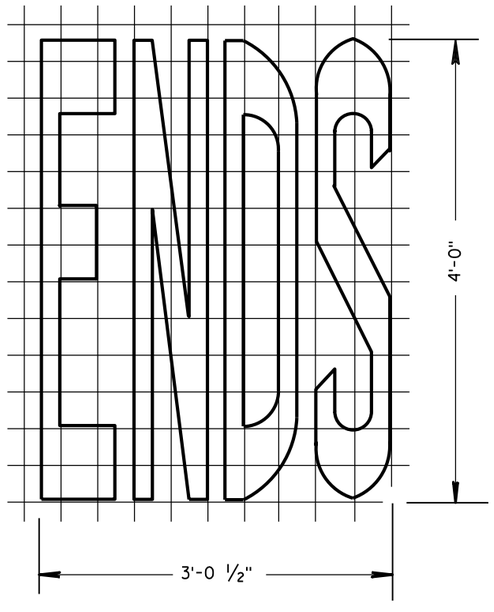
GENERAL NOTES

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

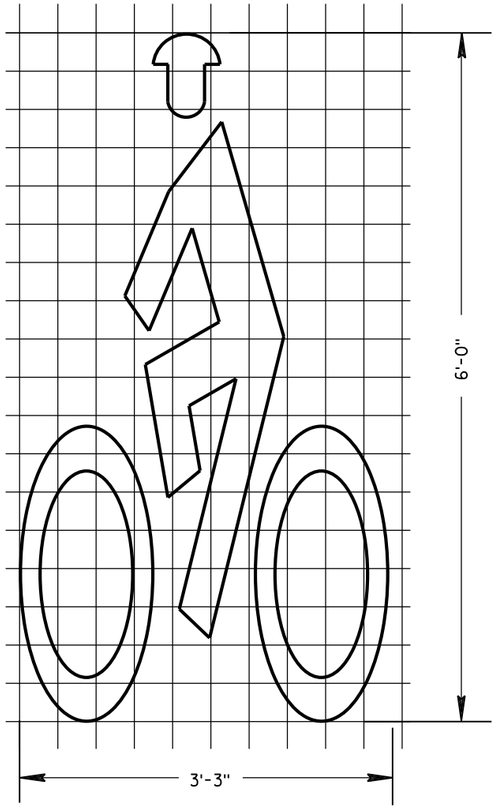
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



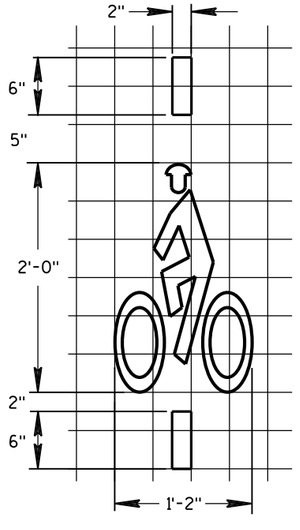




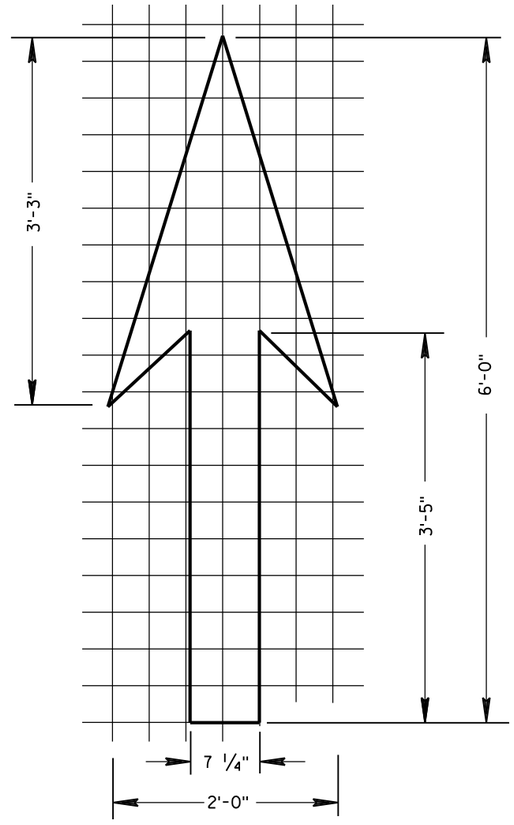
BIKE LANE WORDS



BIKE LANE SYMBOL



BICYCLE DETECTOR PAVEMENT MARKING



BIKE LANE ARROW

PAVEMENT MARKING FOR BIKE LANES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-30-2013 DATE	/S/ Travis Feltes STATE TRAFFIC EN
FHWA	

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S.D.D. 15 C 29-3e

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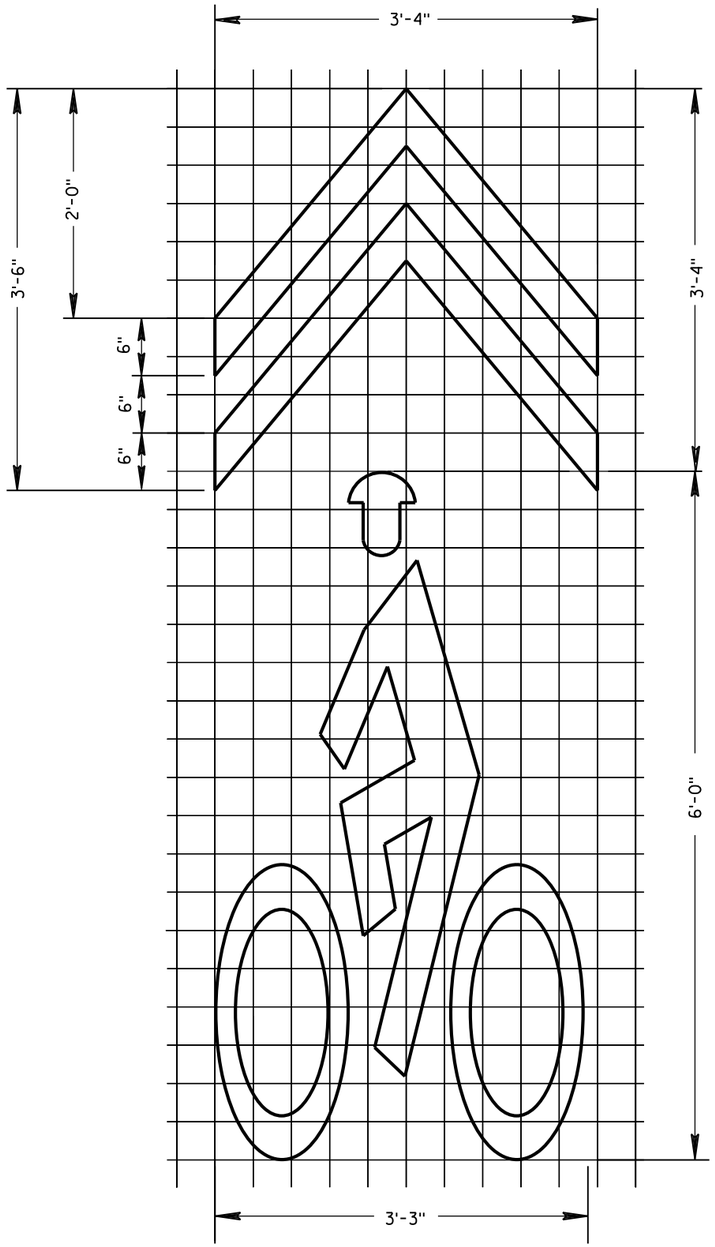
S.D.D. 15 C 29-3e



BIKE SYMBOL FOR SHARED LANE

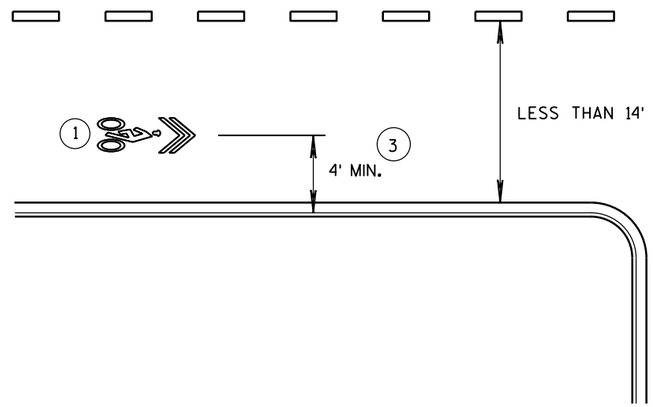
GENERAL NOTES

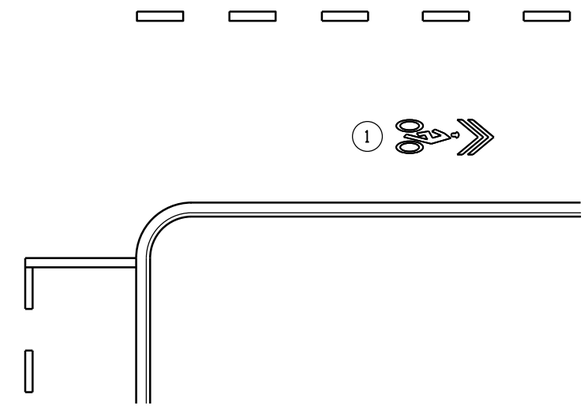
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

(1) SPACED A MAXIMUM OF 250 FEET.

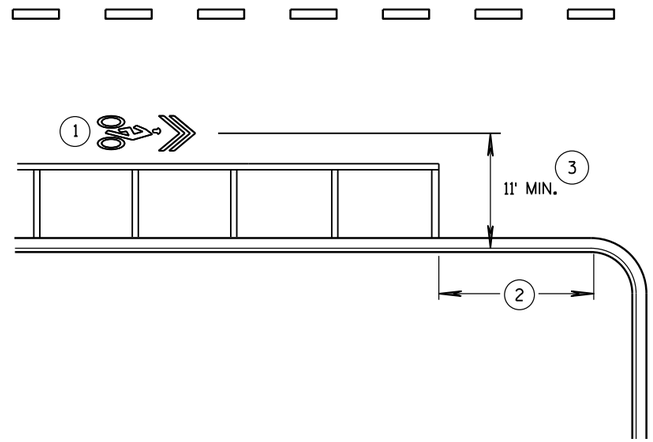
(2) 20 FOOT MINIMUM FROM CURB RADIUS.

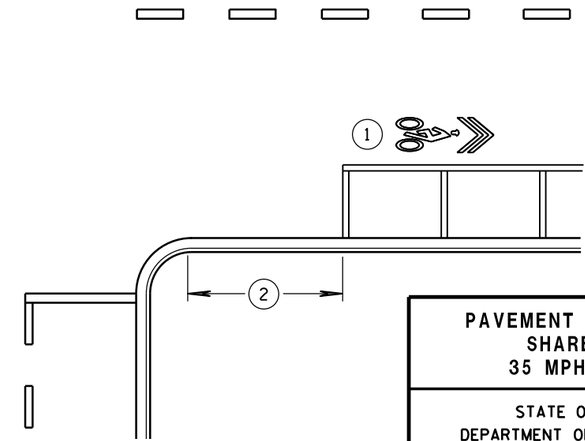
(3) OR TO EDGE OF PAVEMENT WITHOUT CURB.





WITHOUT PARKING





WITH PARKING

PAVEMENT MARKING FOR
SHARED LANE
35 MPH OR LESS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-30-2013
DATE
/S/ Travis Feltes
STATE TRAFFIC EN

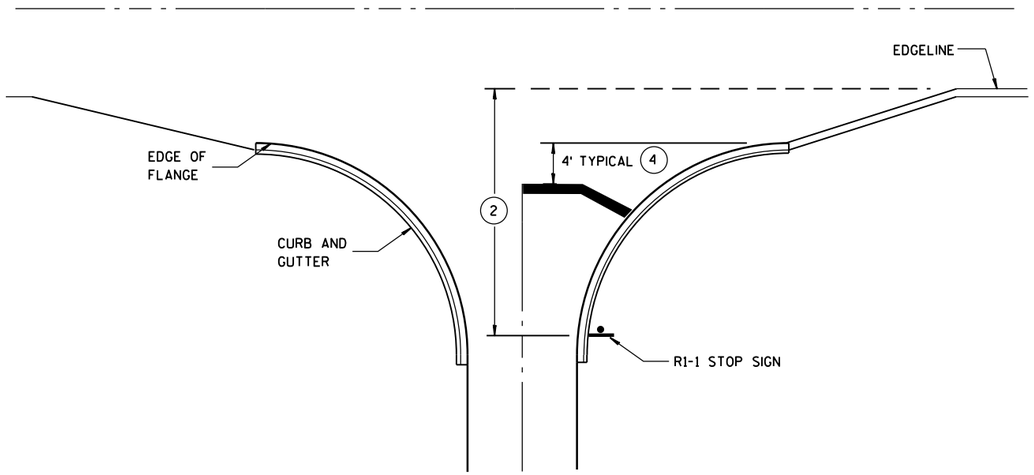
FHWA

6

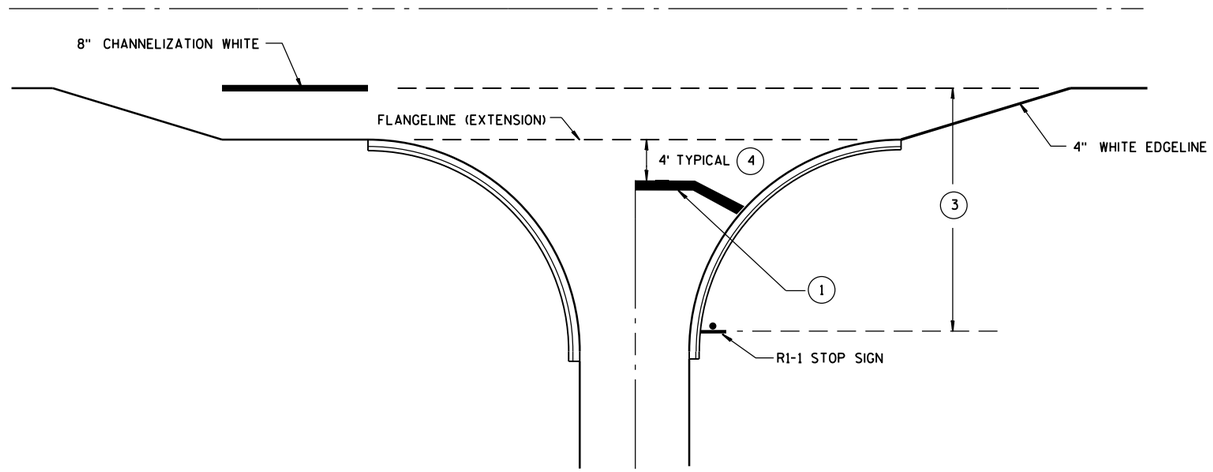
S.D.D. 15 C 29-3f

6

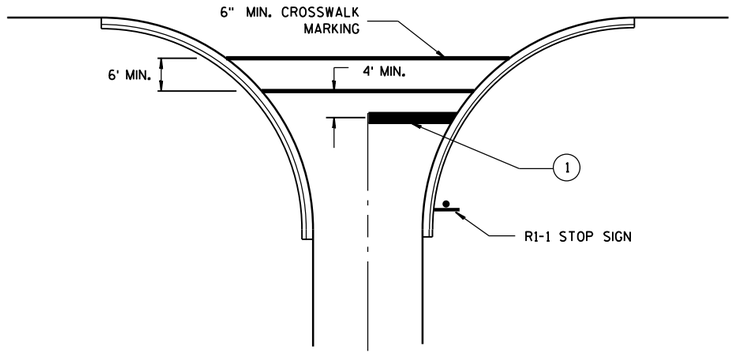
S.D.D. 15 C 29-3f



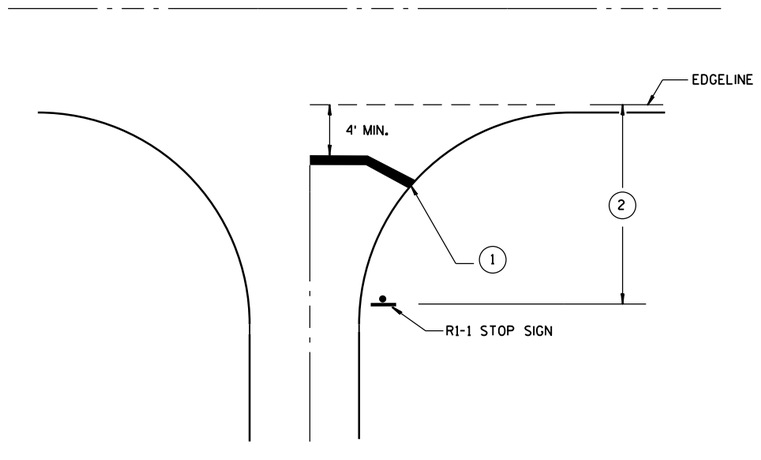
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

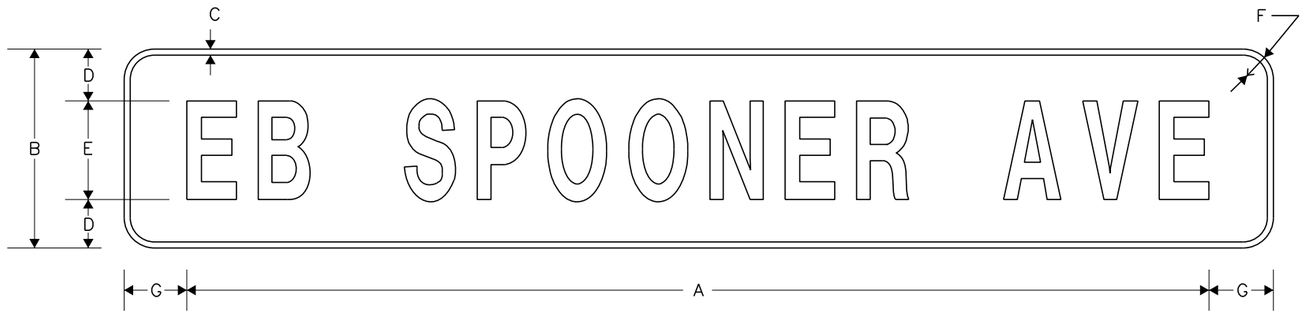
4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 33-1



DIMENSIONS IN INCHES

A	B	C	D	E	F	G
VAR	12	.5	3	6	1.5	4

COLORS: LEGEND, BORDER - BLACK (REFLECTIVE)
BACKGROUND - ORANGE (REFLECTIVE)

GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE XX".

3. UNLESS OTHERWISE NOTED, TYPE I AND TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND "TYPE H MESSAGE MATERIAL".

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE AN ORANGE BACKGROUND AND BLACK MESSAGE.

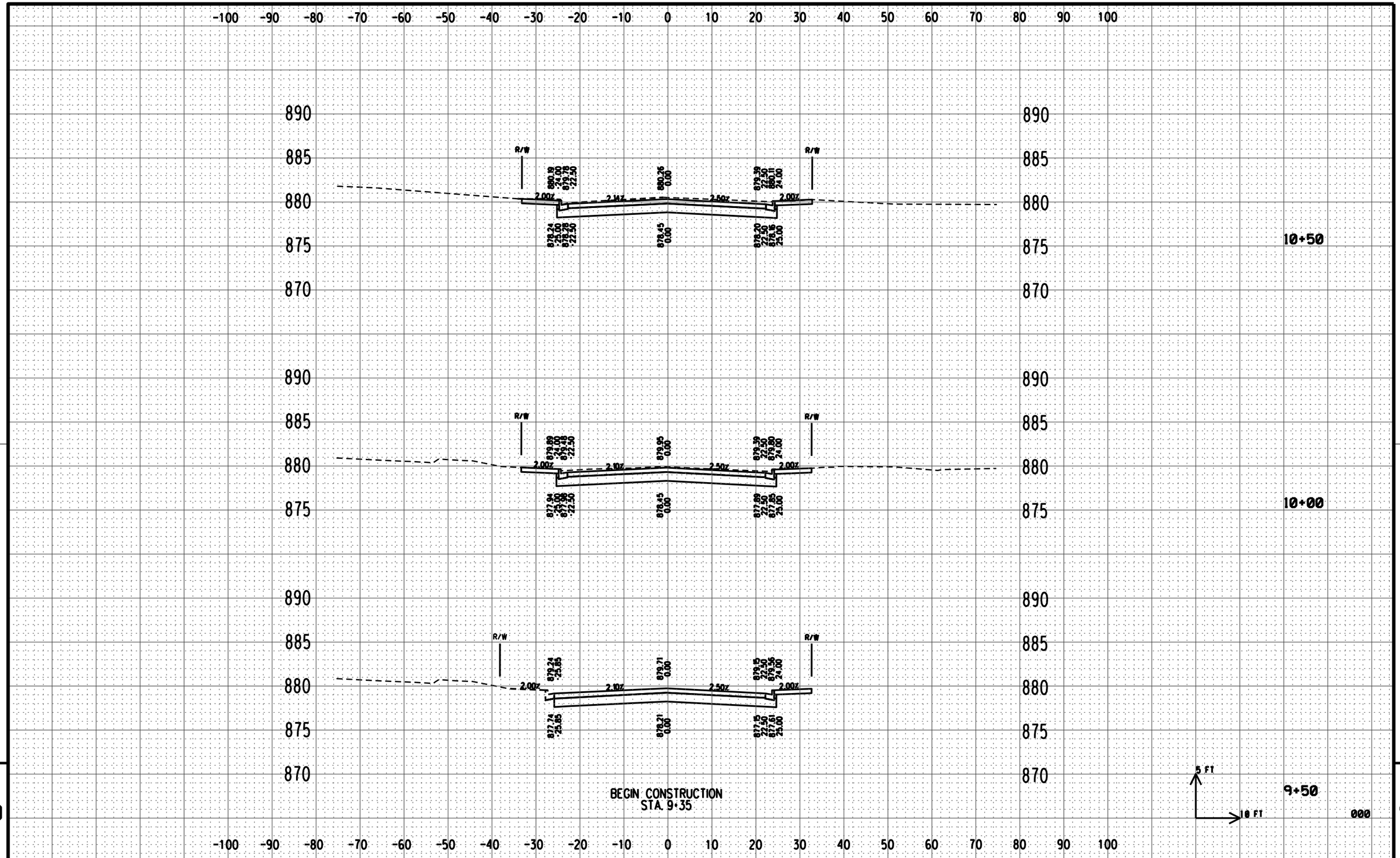
5. ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E, MODIFIED". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E, MODIFIED".

6. DO NOT SCALE.

	AREA (SF)			INCREMENTAL VOL (CY) UNADJUSTED			CUMULATIVE VOL (CY)	
STATION	CUT	UNUSUABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAV'T MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED BACKFILL 1.30 NOTE 3
9+50.00	77.50	45.00	0.00	71.76	41.67	0.00	71.76	0.00
10+00.00	76.00	45.00	0.00	140.74	83.33	0.00	212.50	0.00
10+50.00	78.00	45.00	0.00	144.44	83.33	0.00	356.94	0.00
11+00.00	81.00	45.00	0.00	150.00	83.33	0.00	506.94	0.00
11+50.00	80.50	45.00	0.00	149.07	83.33	0.00	656.02	0.00
12+00.00	114.85	45.00	0.00	212.69	83.33	0.00	868.70	0.00
12+50.00	75.45	45.00	0.00	139.72	83.33	0.00	1008.43	0.00
13+00.00	81.50	45.00	0.00	150.93	83.33	0.00	1159.35	0.00
13+50.00	74.50	45.00	1.30	137.96	83.33	2.41	1297.31	2.41
14+00.00	74.00	45.00	2.50	137.04	83.33	4.63	1434.35	7.04
14+50.00	75.05	45.00	1.70	138.98	83.33	3.15	1573.33	10.19
15+00.00	103.75	45.00	1.10	192.13	83.33	2.04	1765.46	12.22
15+50.00	106.10	45.00	2.30	196.48	83.33	4.26	1961.94	16.48
16+00.00	85.15	39.20	1.90	157.69	72.59	3.52	2119.63	20.00
16+50.00	90.50	39.20	5.90	167.59	72.59	10.93	2287.22	30.93
17+00.00	85.50	39.20	7.60	158.33	72.59	14.07	2445.56	45.00
17+50.00	84.50	39.20	9.50	156.48	72.59	17.59	2602.04	62.59
18+00.00	86.00	39.20	9.60	159.26	72.59	17.78	2761.30	80.37
18+50.00	87.75	39.20	2.60	162.50	72.59	4.81	2923.80	85.19
19+00.00	90.50	39.20	1.30	167.59	72.59	2.41	3091.39	87.59
19+50.00	92.50	39.20	0.00	171.30	72.59	0.00	3262.69	87.59
20+00.00	98.25	39.20	0.00	181.94	72.59	0.00	3444.63	87.59
20+50.00	97.50	39.20	0.00	180.56	72.59	0.00	3625.19	87.59
21+00.00	95.00	39.20	1.10	175.93	72.59	2.04	3801.11	89.63
21+50.00	112.29	39.20	3.20	207.94	72.59	5.93	4009.06	95.56
22+00.00	158.34	39.20	2.50	293.22	72.59	4.63	4302.28	100.19
22+50.00	90.50	39.20	35.20	167.59	72.59	65.19	4469.87	165.37
23+00.00	85.00	39.20	100.50	157.41	72.59	186.11	4627.28	351.48
23+50.00	86.50	39.20	150.60	160.19	72.59	278.89	4787.46	630.37
24+00.00	85.00	39.20	201.00	157.41	72.59	372.22	4944.87	1002.59
24+50.00	103.65	39.20	202.00	191.94	72.59	374.07	5136.81	1376.67
25+00.00	136.69	39.20	126.00	253.13	72.59	233.33	5389.94	1610.00
25+50.00	88.40	39.20	86.00	163.70	72.59	159.26	5553.65	1769.26
26+00.00	85.00	39.20	70.60	157.41	72.59	130.74	5711.06	1900.00
26+50.00	91.85	39.20	45.80	170.09	72.59	84.81	5881.15	1984.81
27+00.00	129.92	39.20	10.90	240.59	72.59	20.19	6121.74	2005.00
27+50.00	84.35	39.20	21.00	156.20	72.59	38.89	6277.94	2043.89
28+00.00	78.15	39.20	15.80	144.72	72.59	29.26	6422.67	2073.15
28+50.00	80.10	39.20	11.20	148.33	72.59	20.74	6571.00	2093.89
29+00.00	75.00	39.20	5.50	138.89	72.59	10.19	6709.89	2104.07
29+50.00	77.50	39.20	6.40	143.52	72.59	11.85	6853.41	2115.93
30+00.00	80.00	39.20	5.30	148.15	72.59	9.81	7001.56	2125.74
30+50.00	75.00	39.20	8.40	138.89	72.59	15.56	7140.44	2141.30
31+00.00	77.50	39.20	11.40	143.52	72.59	21.11	7283.96	2162.41
31+50.00	71.00	39.20	8.90	131.48	72.59	16.48	7415.44	2178.89
32+00.00	71.05	38.40	10.50	131.57	71.11	19.44	7547.02	2198.33
32+50.00	68.36	38.40	11.90	126.58	71.11	22.04	7673.60	2220.37
33+00.00	70.56	37.60	14.80	130.67	69.63	27.41	7804.27	2247.78
33+50.00	64.17	36.40	19.60	118.83	67.41	36.30	7923.10	2284.07
34+00.00	58.50	35.20	26.10	108.33	65.19	48.33	8031.44	2332.41
34+50.00	59.50	33.20	16.00	110.19	61.48	29.63	8141.62	2362.04
35+00.00	52.00	31.20	10.00	96.30	57.78	18.52	8237.92	2380.56
35+50.00	53.25	29.20	8.30	98.61	54.07	15.37	8336.53	2395.93
36+00.00	47.61	27.84	10.10	88.17	51.56	18.70	8424.70	2414.63
36+50.00	50.40	27.20	2.60	93.33	50.37	4.81	8518.04	2419.44
37+00.00	54.25	27.20	3.20	90.42	45.33	5.33	8608.45	2424.78
38+50.00	51.10	24.00	5.70	66.24	31.11	7.39	8674.69	2432.17
39+00.00	54.56	27.20	4.40	101.04	50.37	8.15	8775.73	2440.31
39+50.00	56.95	30.00	5.30	105.46	55.56	9.81	8881.19	2450.13
40+00.00	94.45	30.16	2.10	174.91	55.85	3.89	9056.10	2454.02
40+50.00	94.50	36.00	0.50	175.00	66.67	0.93	9231.10	2454.94
41+00.00	73.50	35.20	0.00	68.06	32.59	0.00	9299.16	2454.94
TOTALS			COLUMN TOTAL	9299.16	4321.81	2454.94		

NOTES:
1 - CUT
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL

CUT INCLUDES UNUSABLE SALVAGED PAVEMENT MATERIAL
INCLUDEDS PAVEMENT AND BASE MATERIAL
DOES NOT INCLUDE UNUSABLE PAVEMENT EXC. VOLUME



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FILE NAME :J:CIP\Projects\Highland_Spooner\Drawings\X-Sections PLOT DATE :12/30/2014 PLOT BY : PLOT NAME : PLOT SCALE :20.00:1.00

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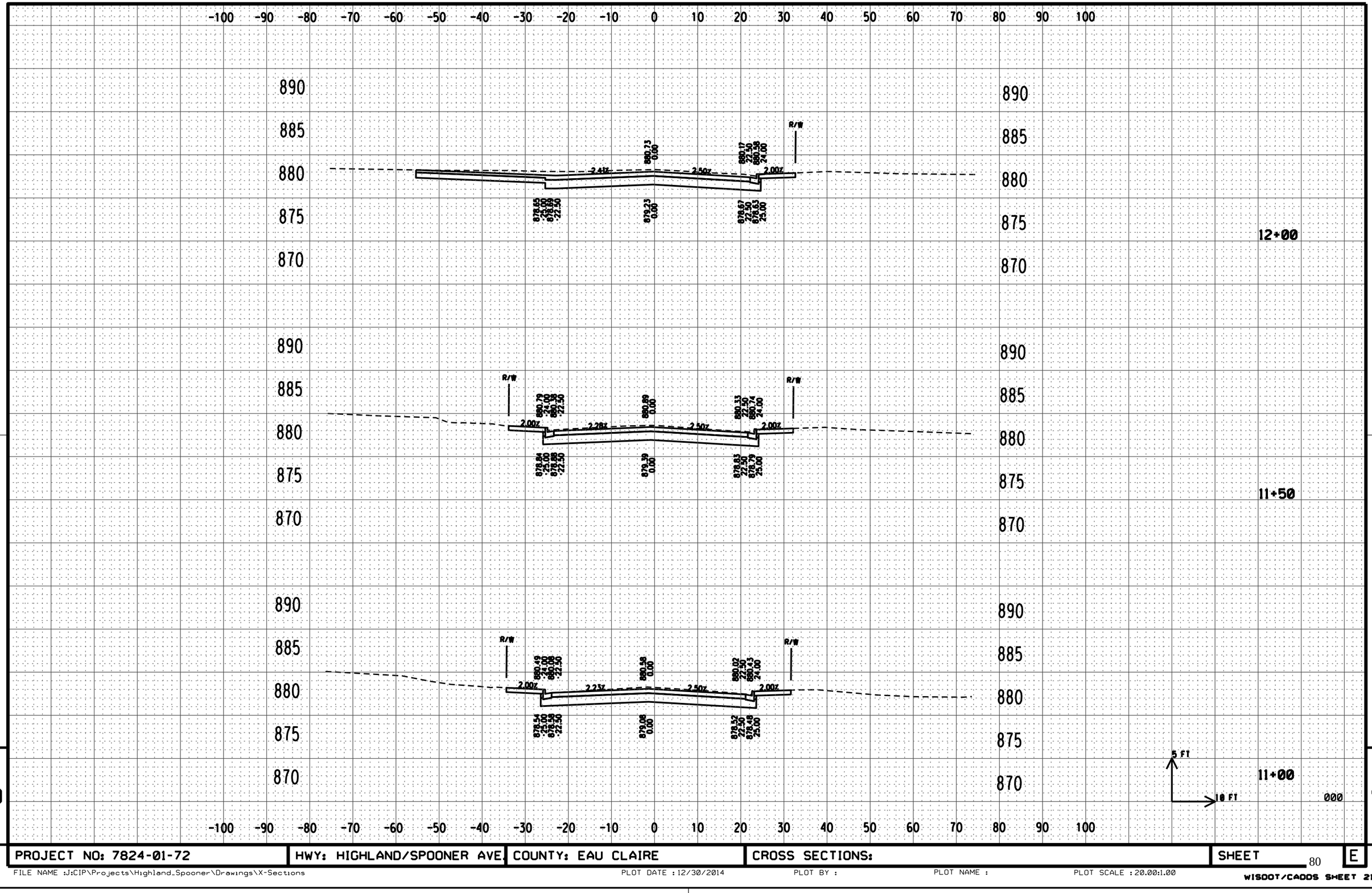

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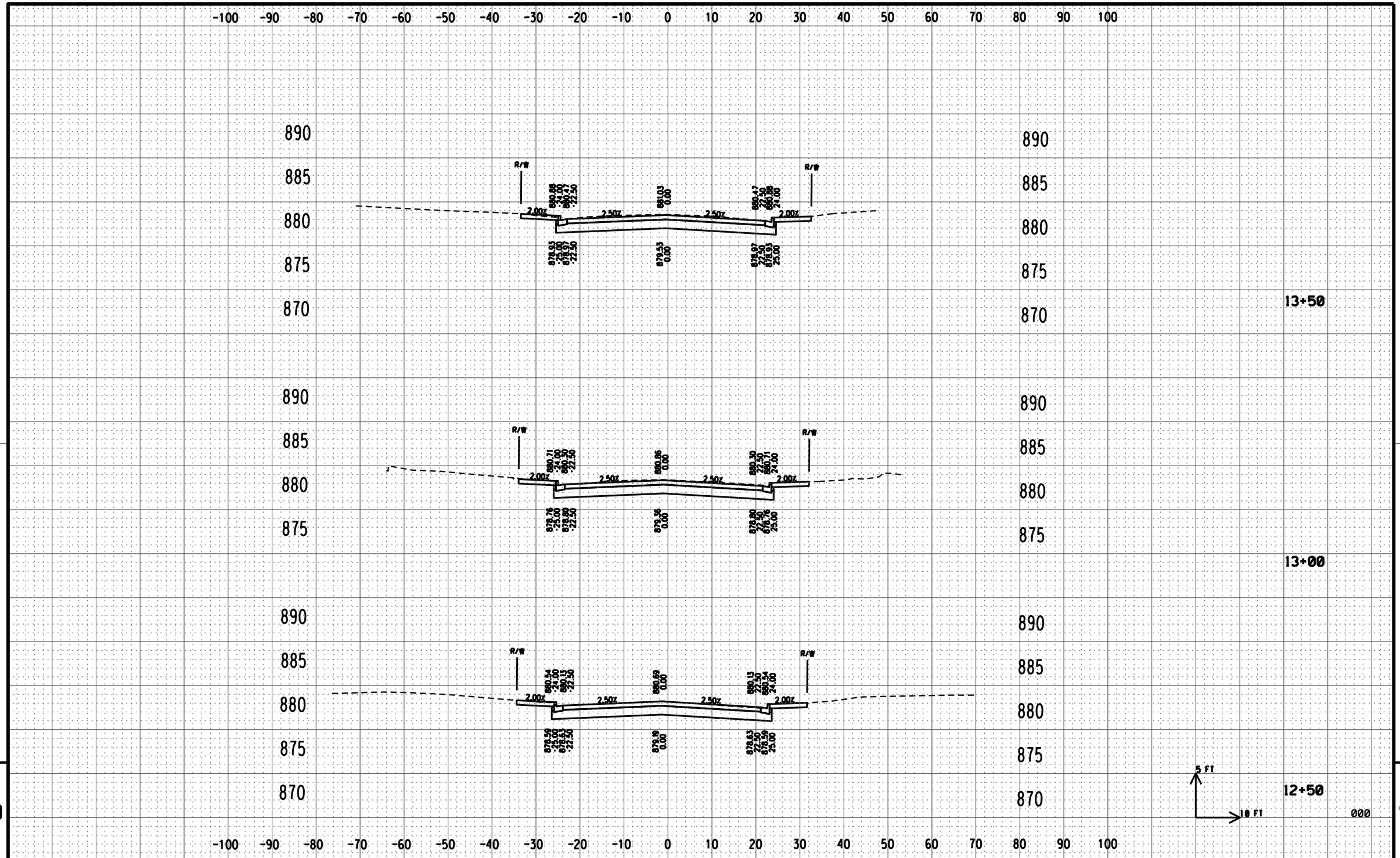

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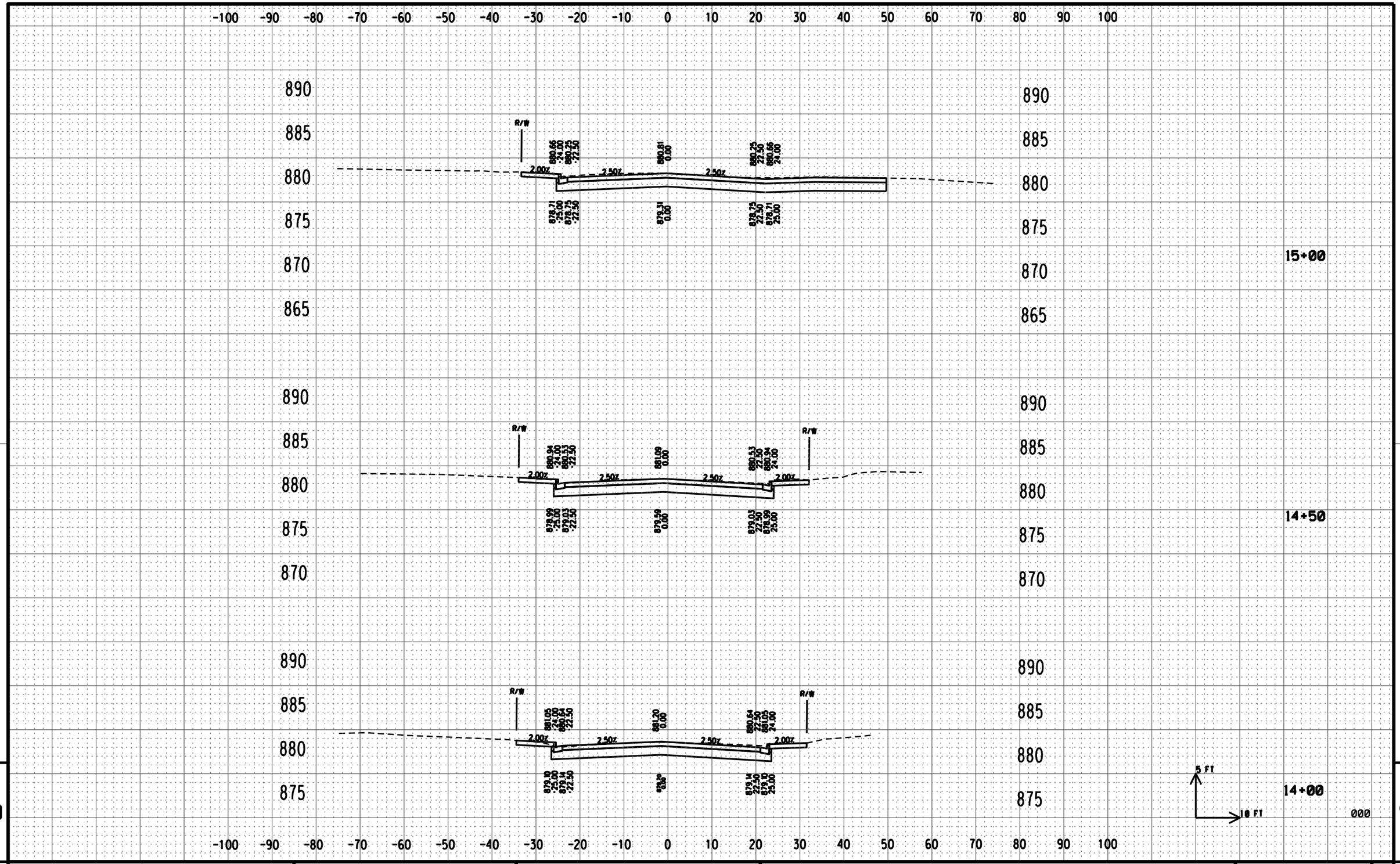

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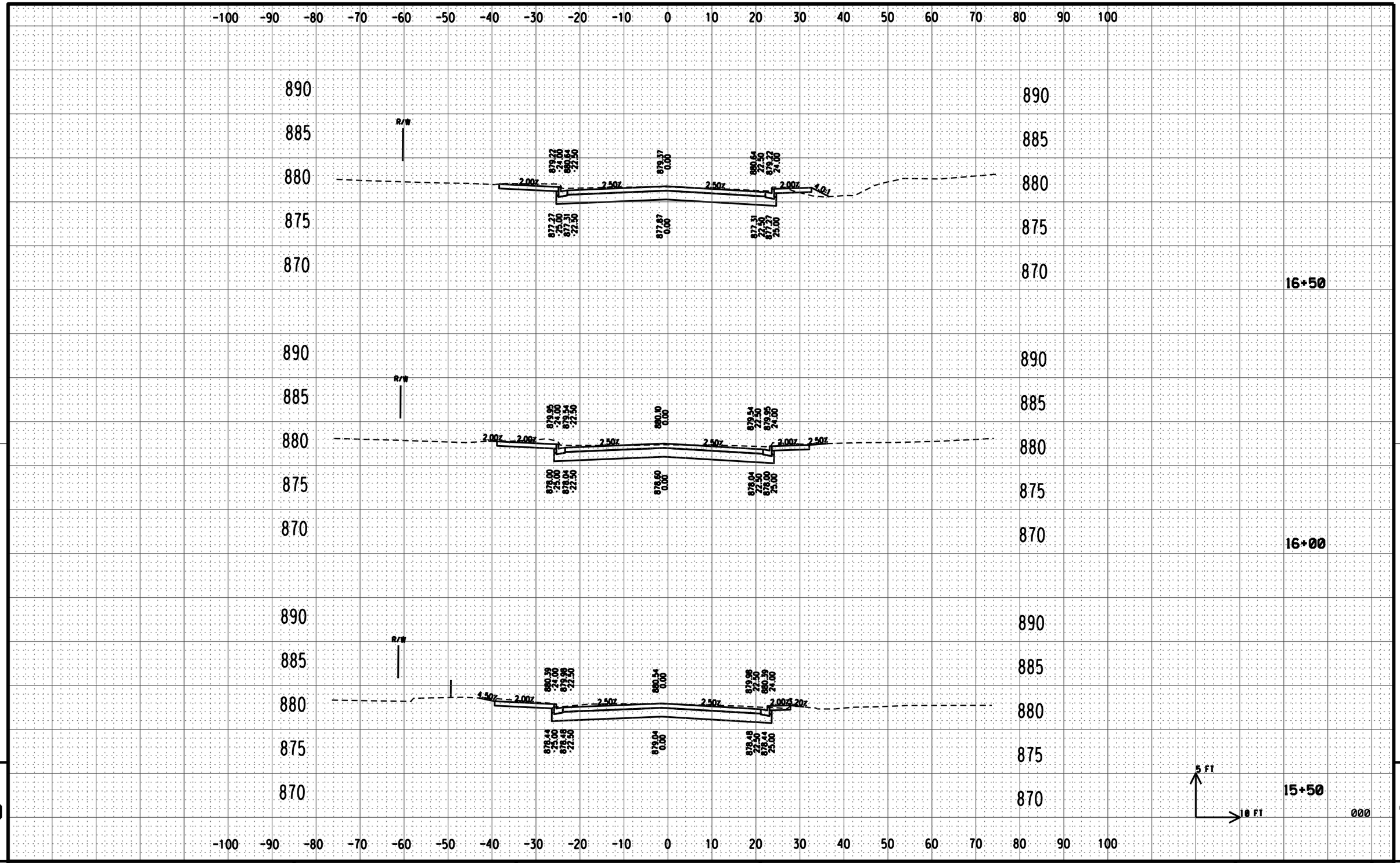

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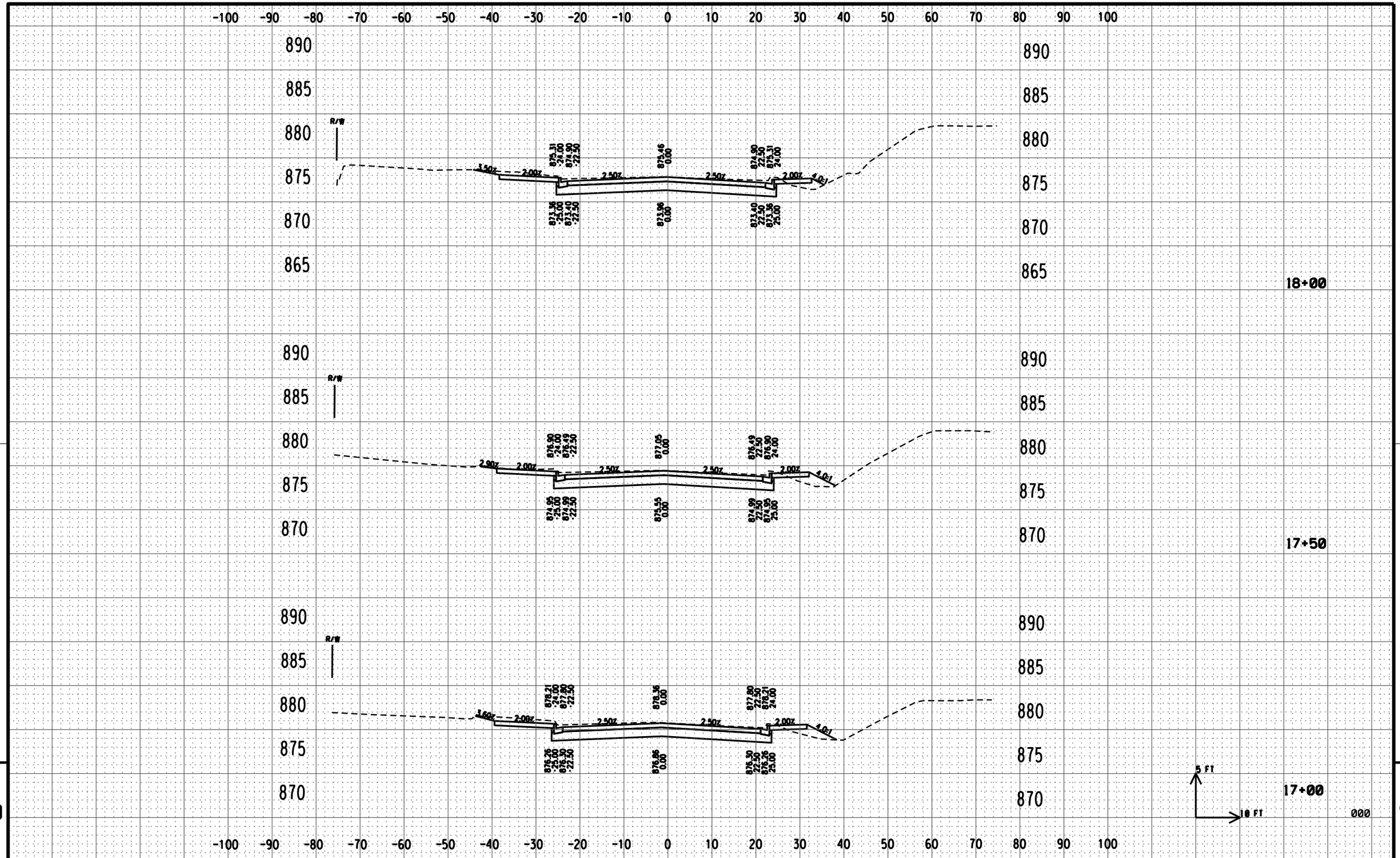

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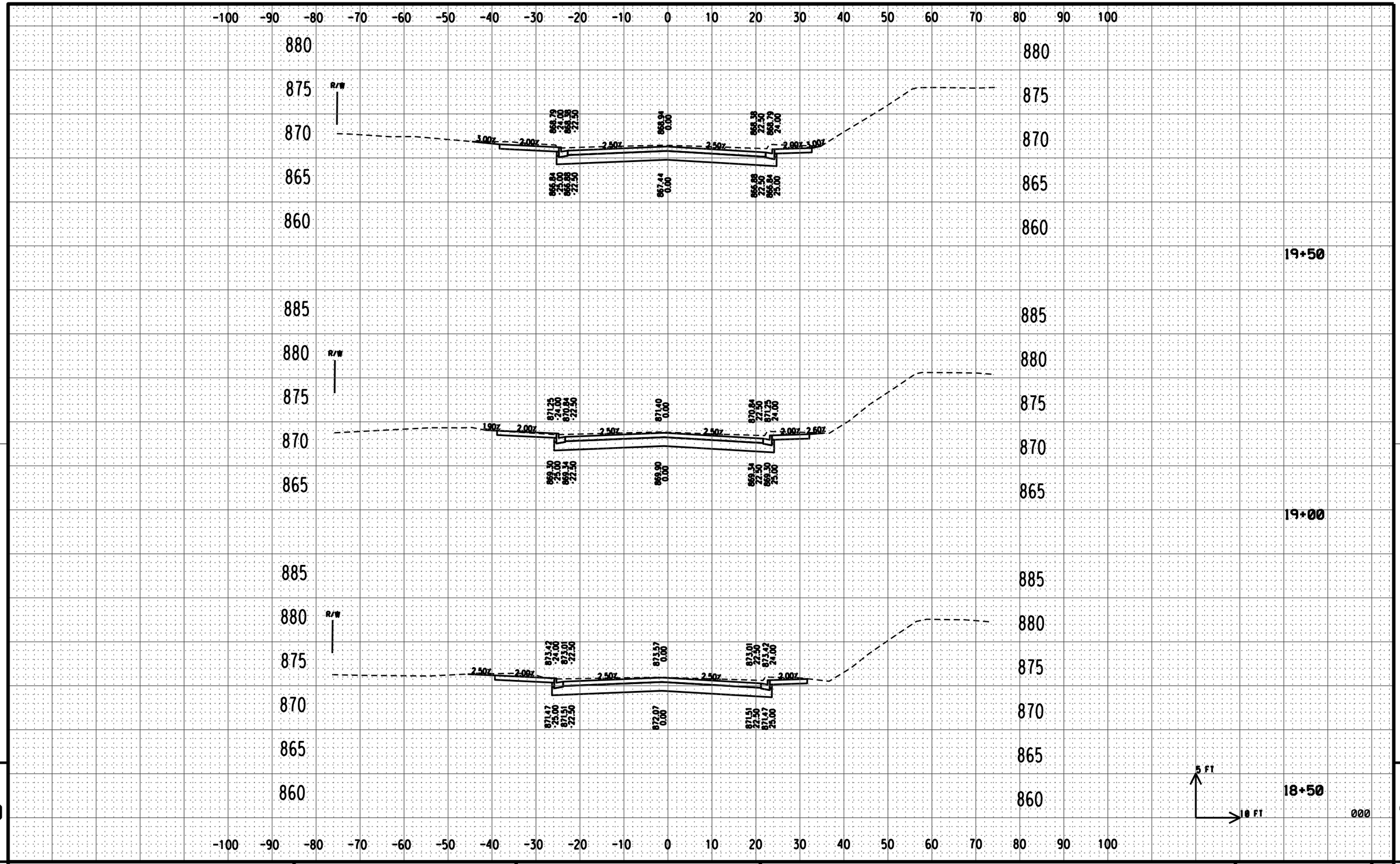

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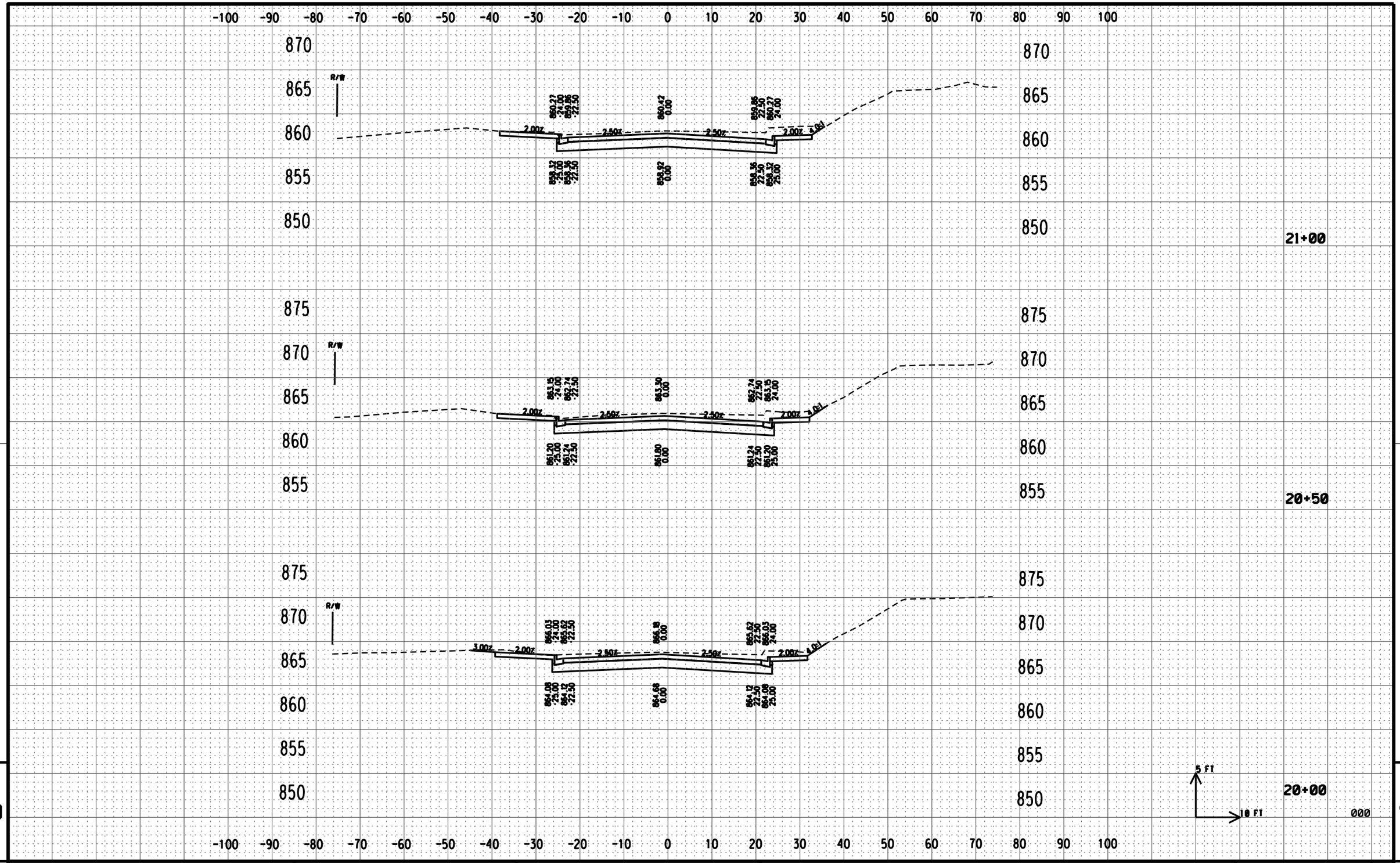

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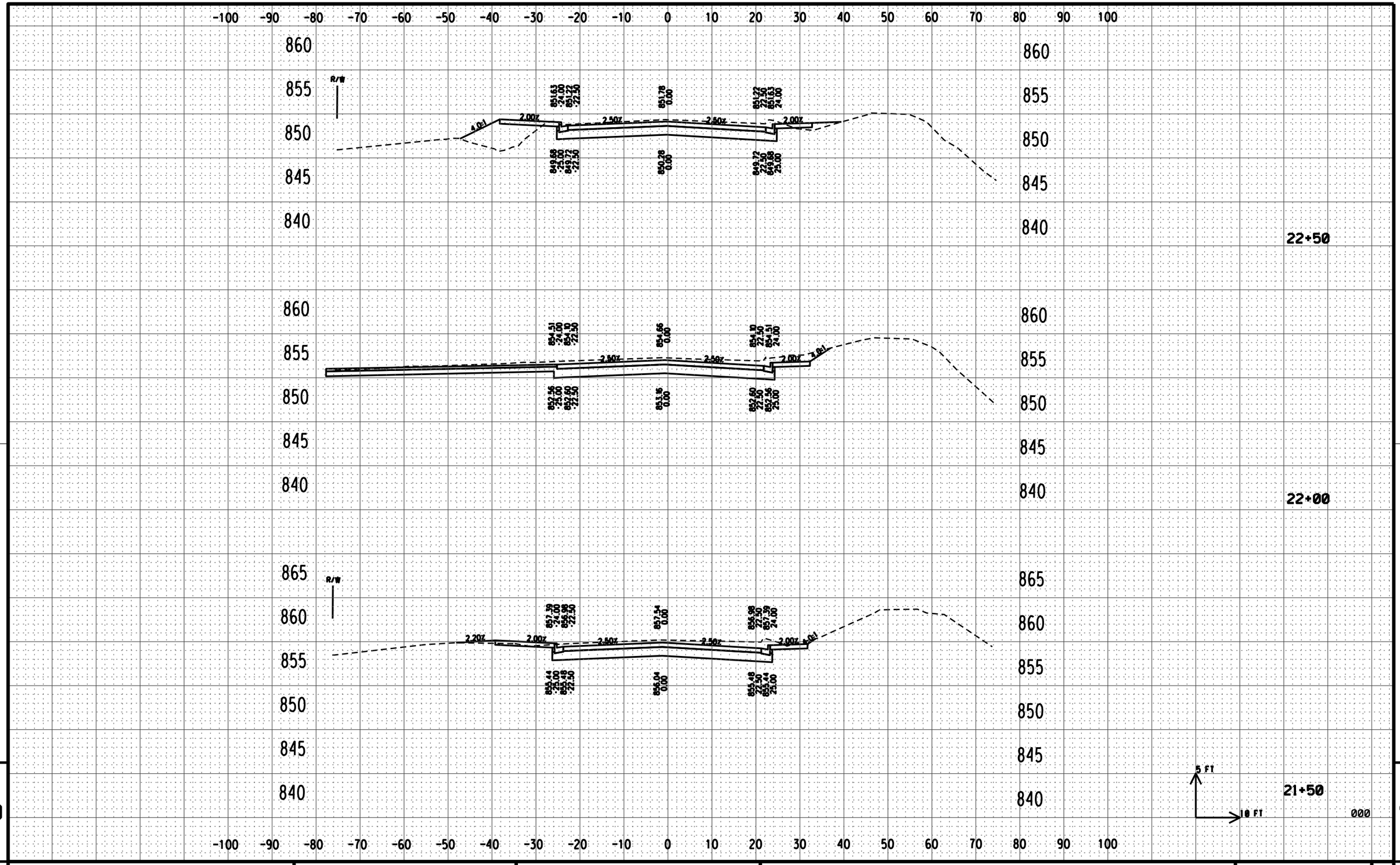

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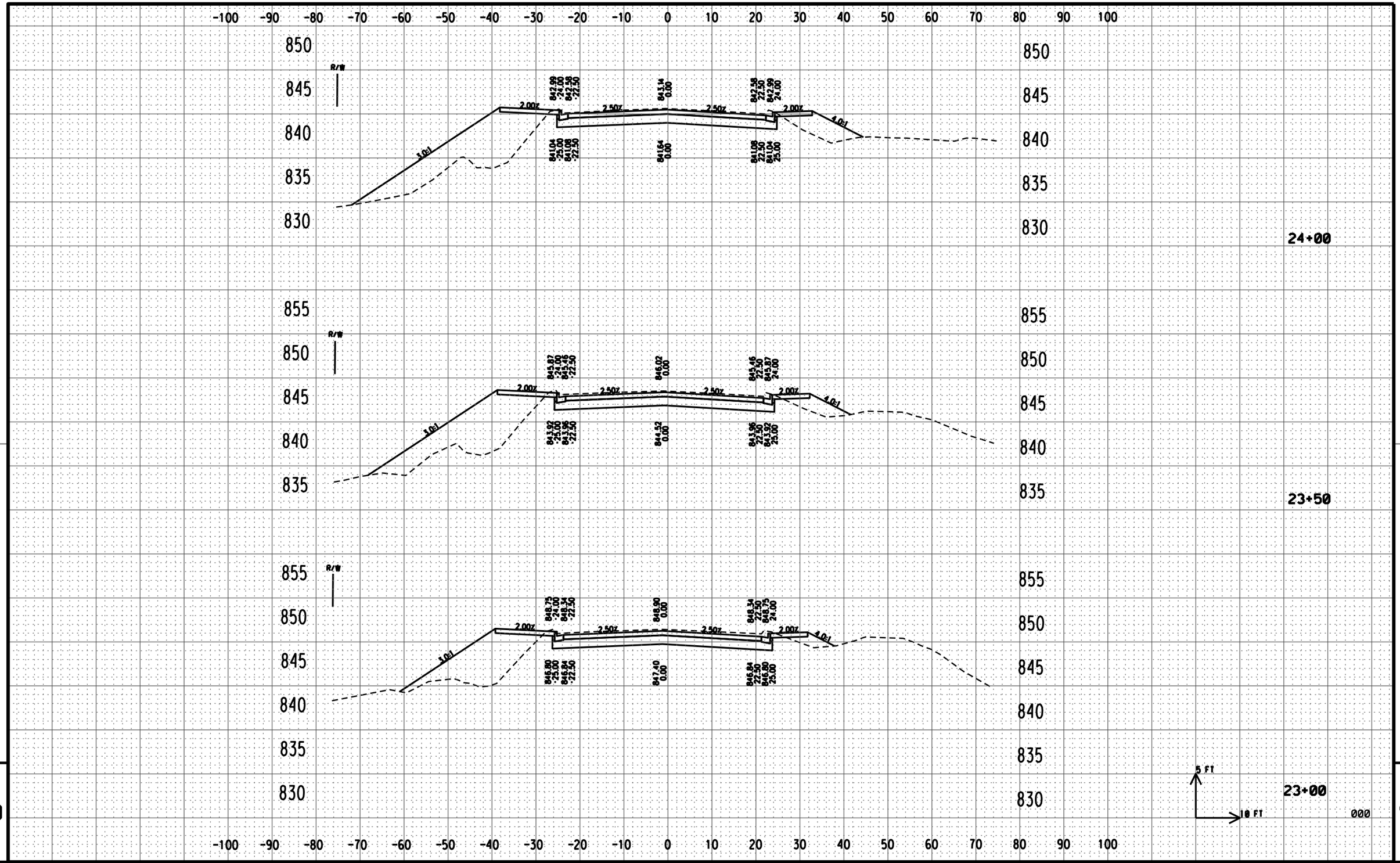

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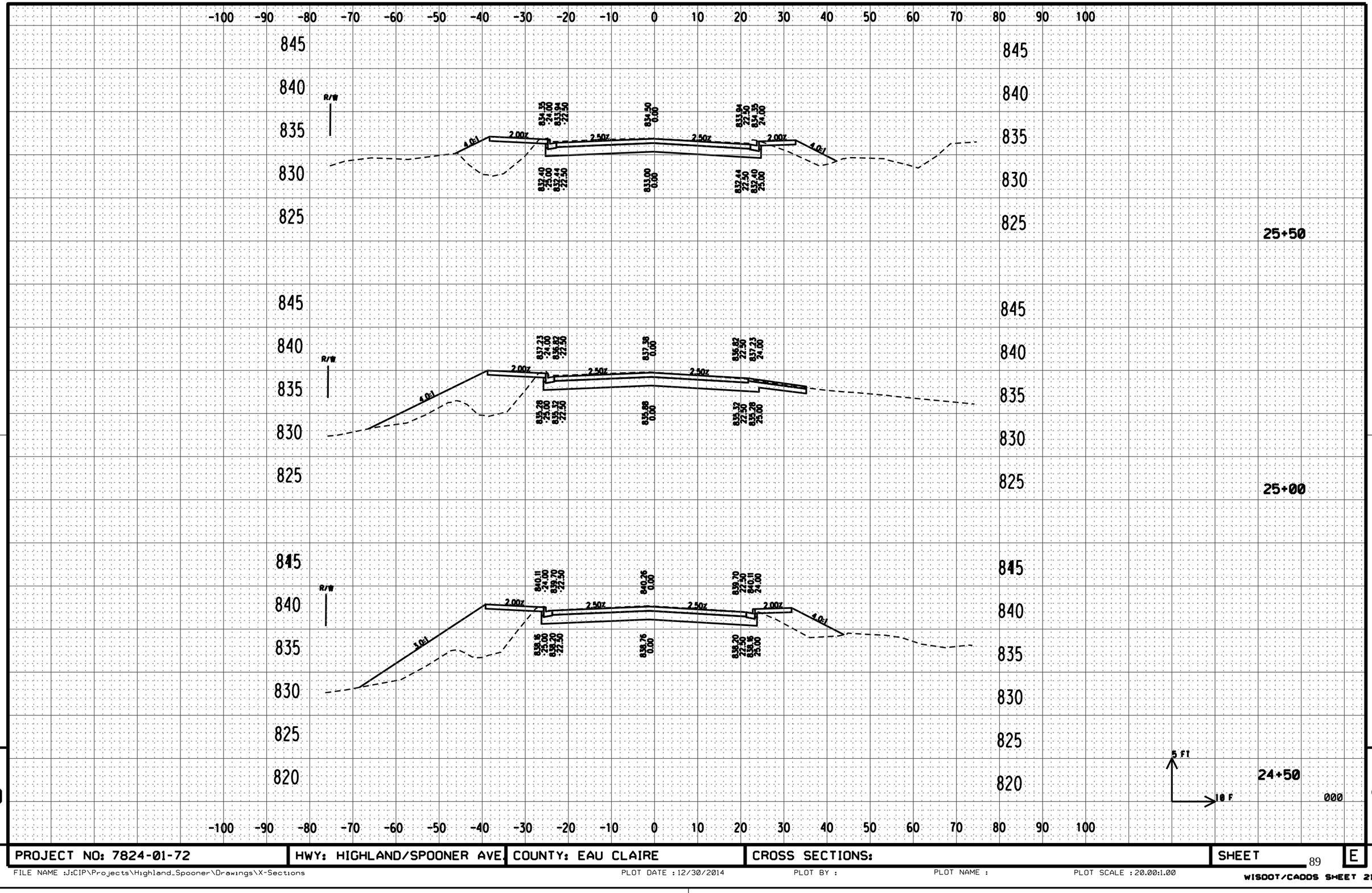

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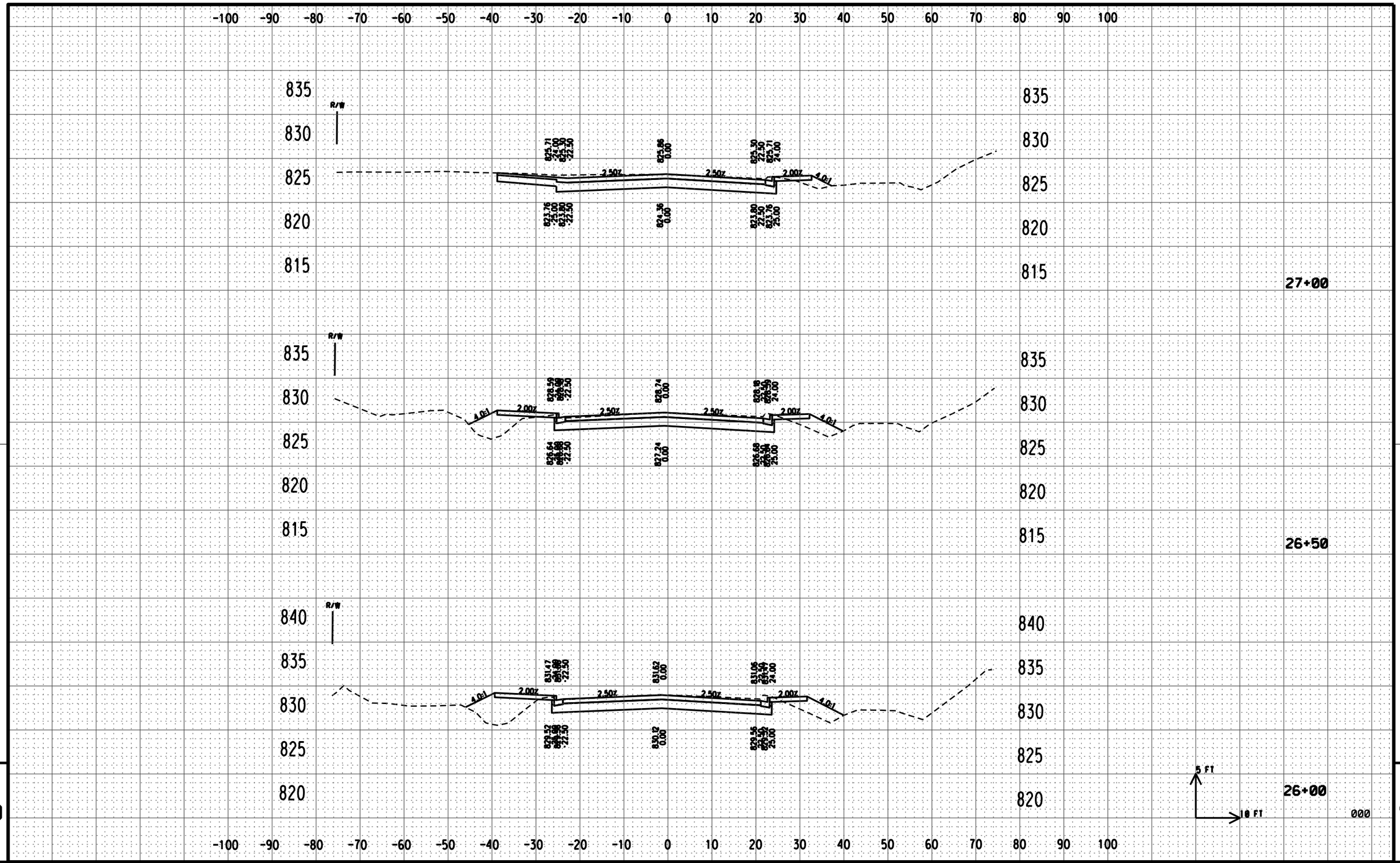

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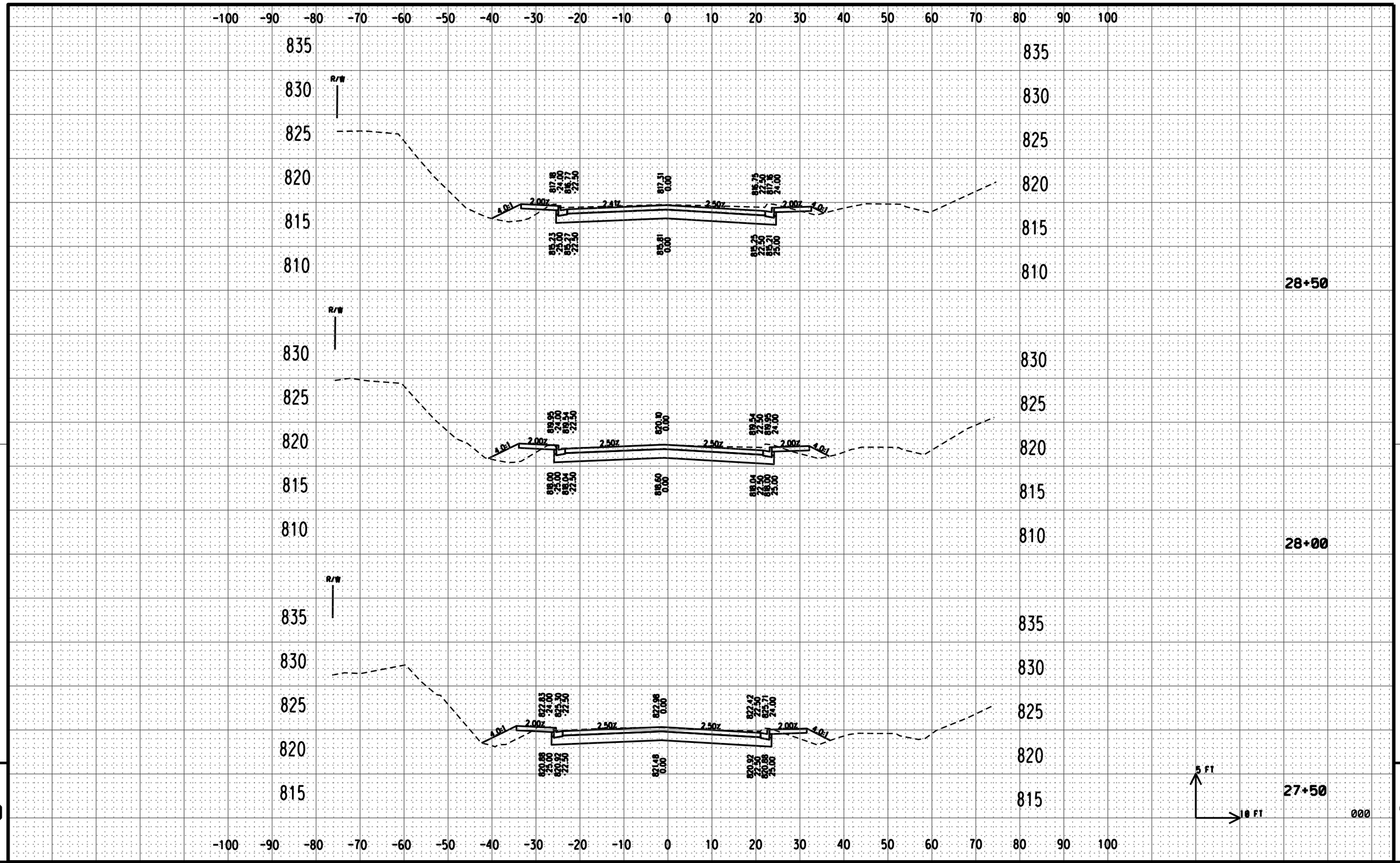

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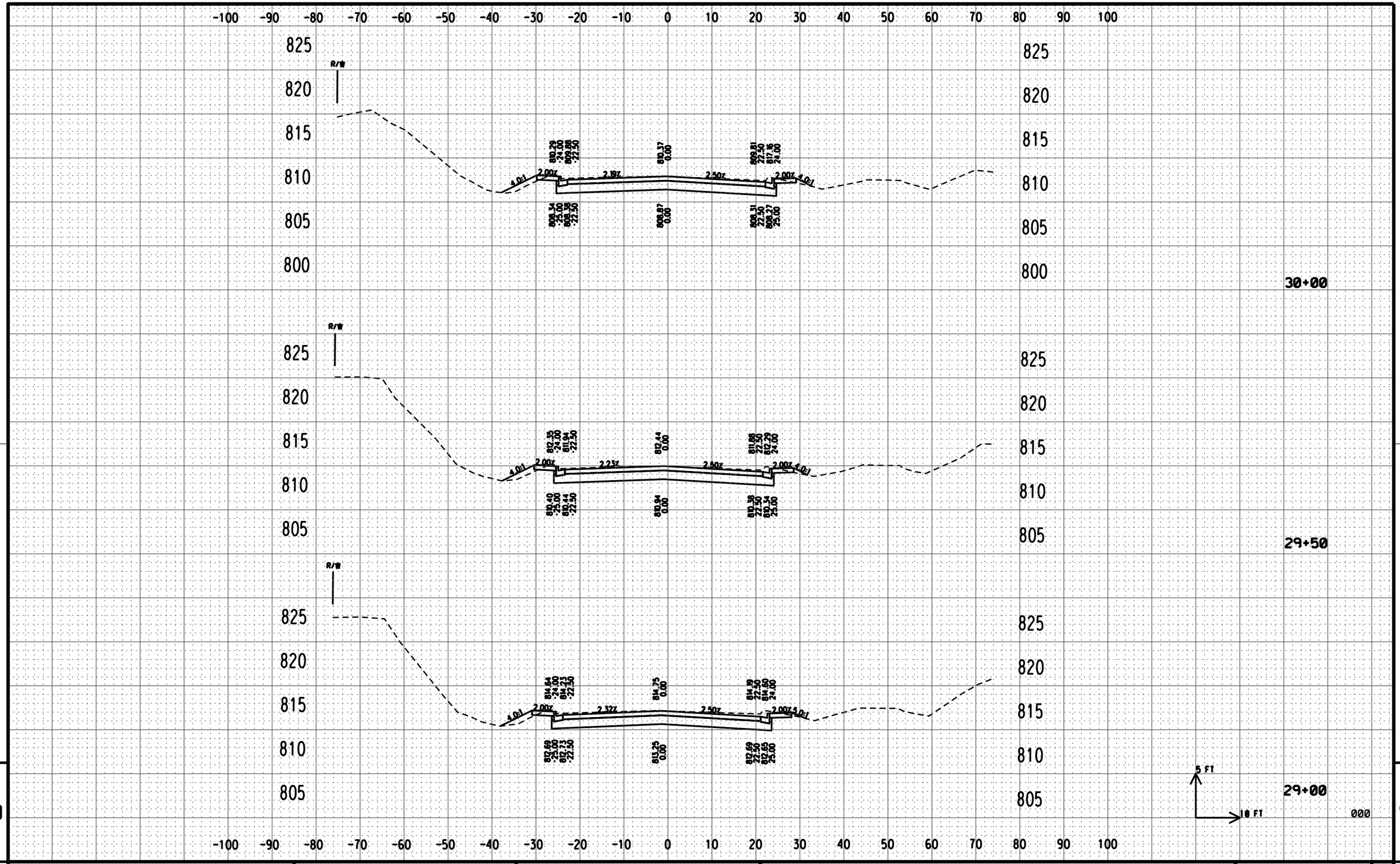
WISDOT/CADDS SHEET 21



PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE	COUNTY: EAU CLAIRE	CROSS SECTIONS:	SHEET	E

FILE NAME :J:CIP\Projects\Highland_Spooner\Drawings\X-Sections PLOT DATE :12/30/2014 PLOT BY : PLOT NAME : PLOT SCALE :20.00:1.00

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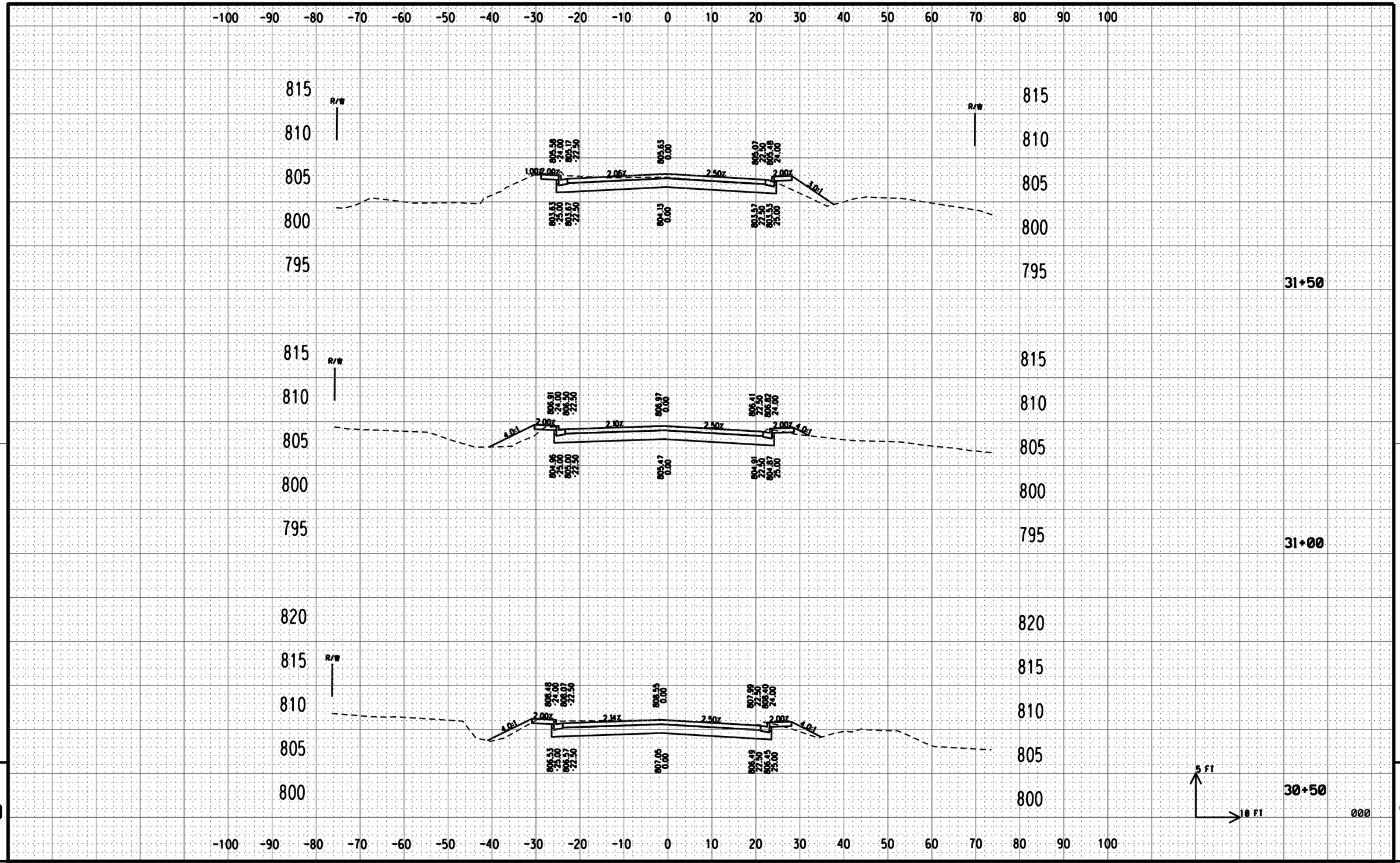

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE.	COUNTY: EAU CLAIRE	CROSS SECTIONS:	SHEET	E

FILE NAME :J:CIP\Projects\Highland_Spooner\Drawings\X-Sections PLOT DATE :12/30/2014 PLOT BY : PLOT NAME : PLOT SCALE :20.00:1.00

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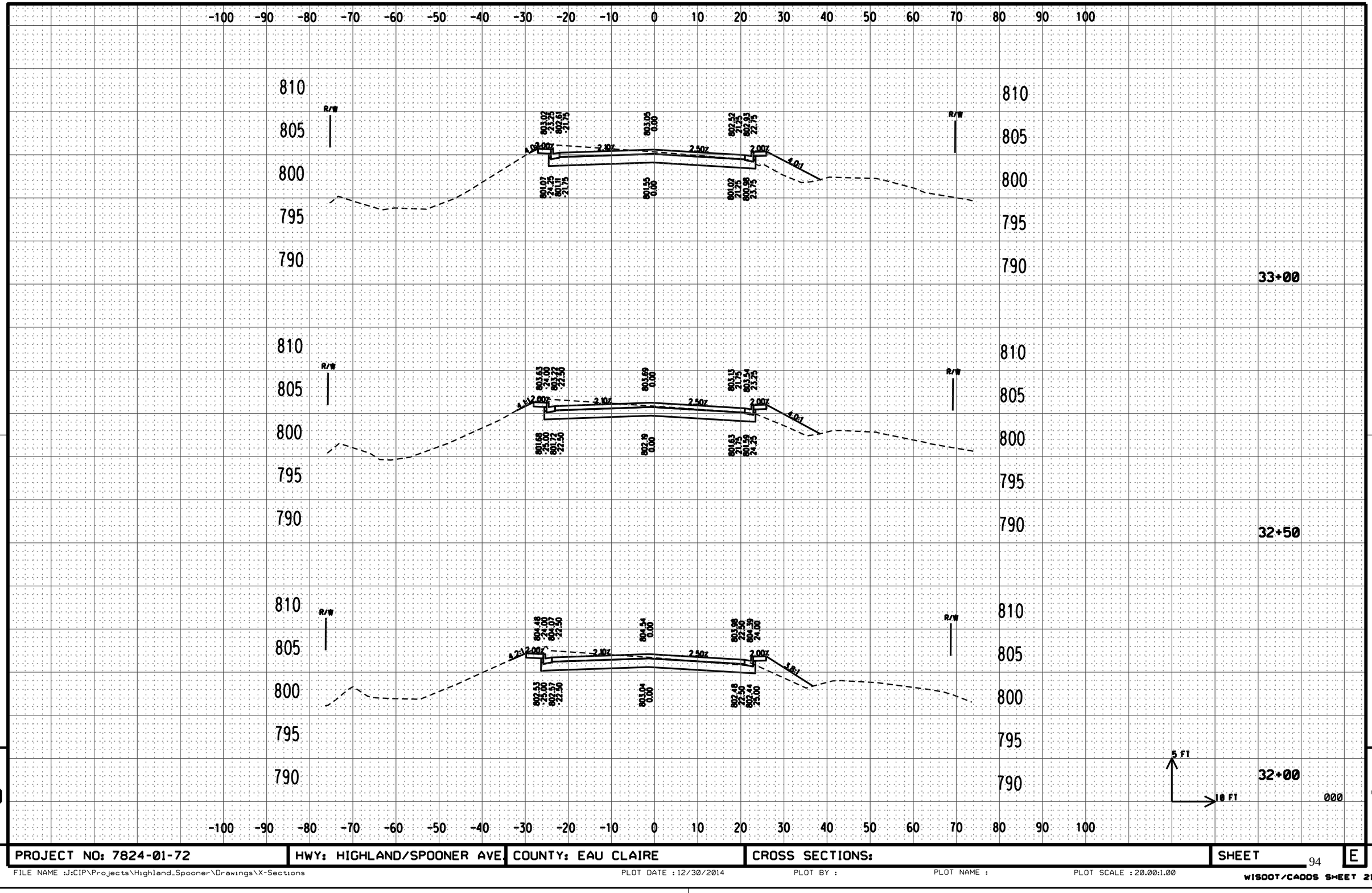

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE	COUNTY: EAU CLAIRE	CROSS SECTIONS:	SHEET	E

FILE NAME :J:CIP\Projects\Highland_Spooner\Drawings\X-Sections PLOT DATE :12/30/2014 PLOT BY : PLOT NAME : PLOT SCALE :20.00:1.00

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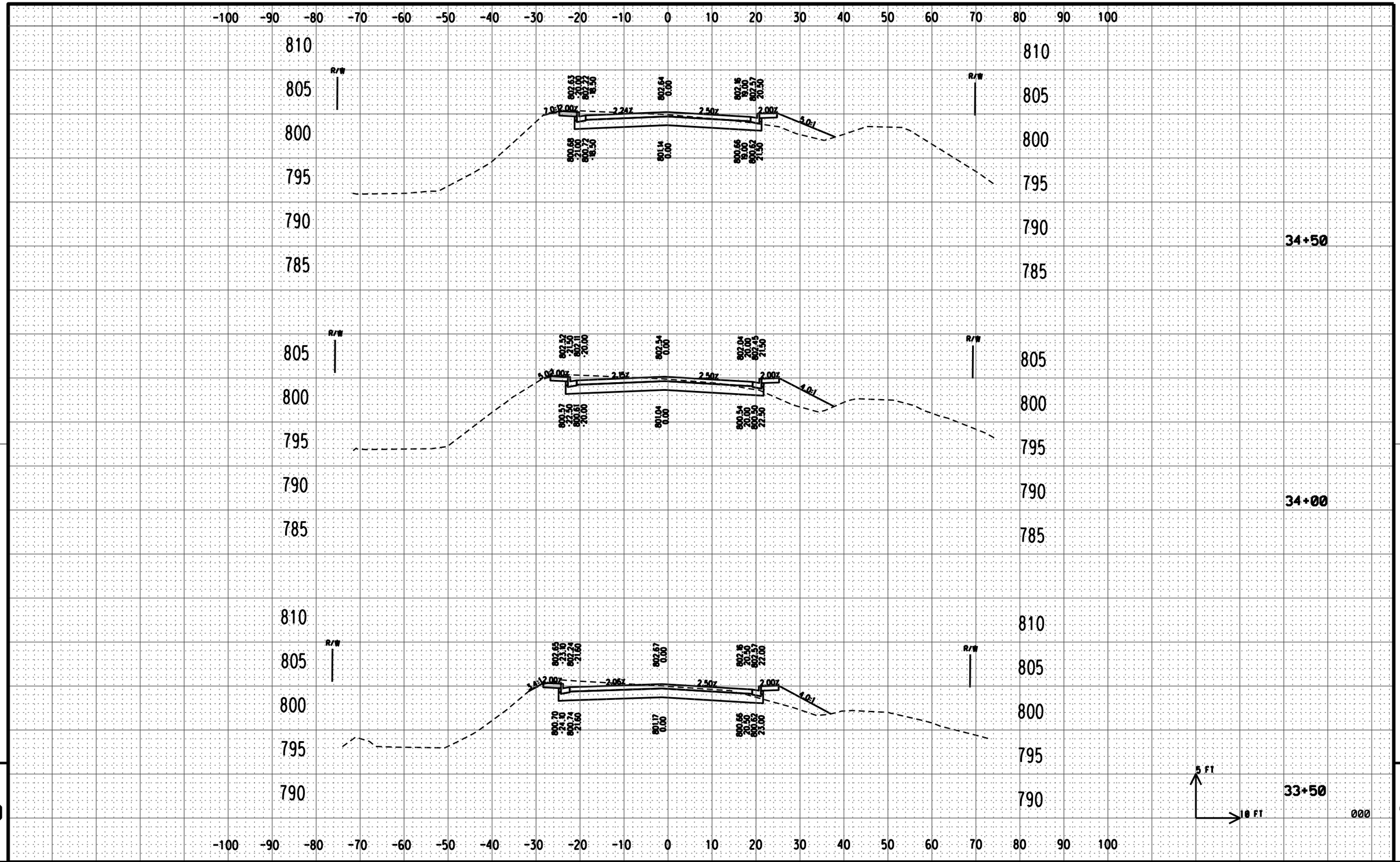
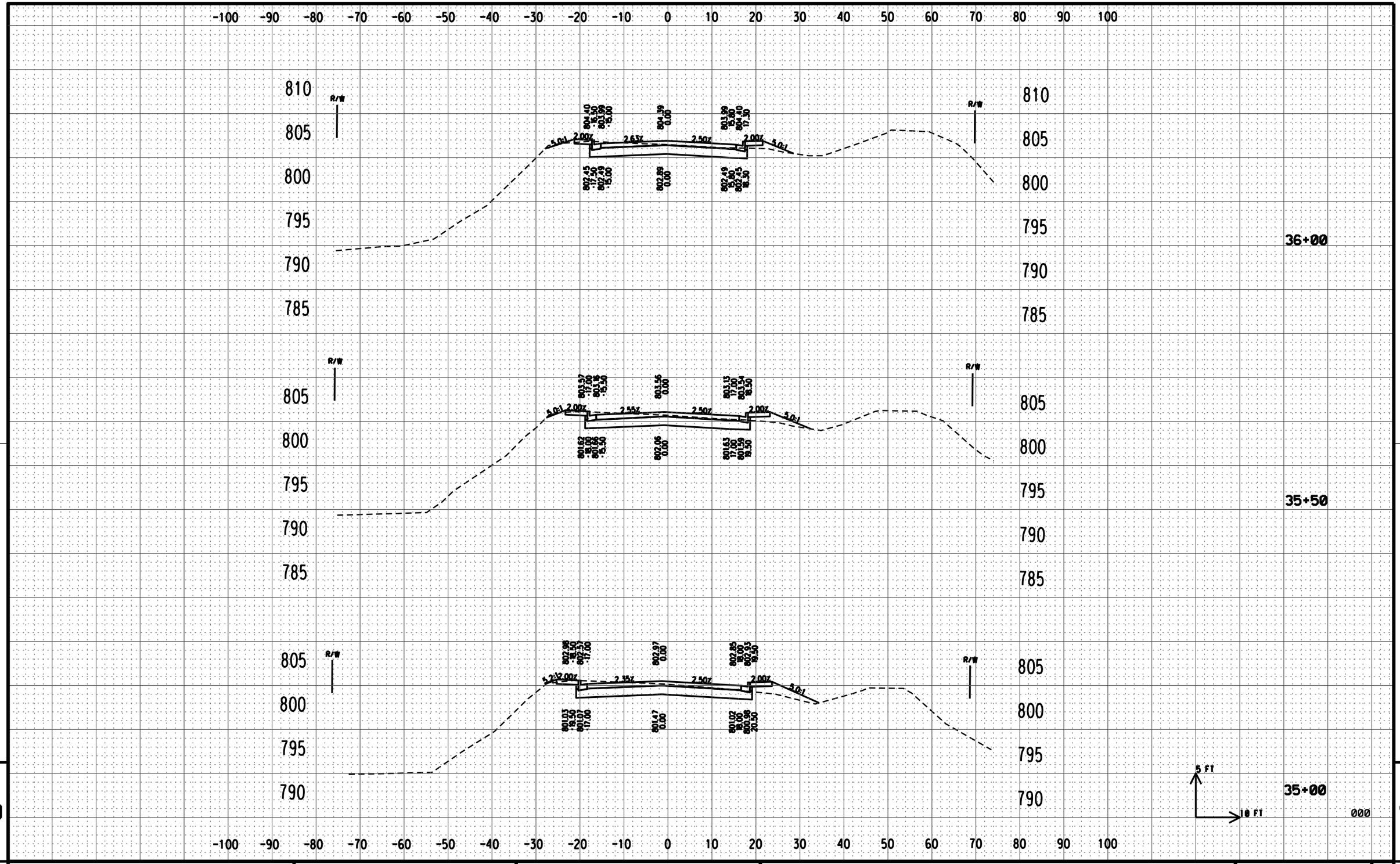


PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE	COUNTY: EAU CLAIRE	CROSS SECTIONS:	SHEET	E

FILE NAME :J:CIP\Projects\Highland_Spooner\Drawings\X-Sections | PLOT DATE :12/30/2014 | PLOT BY : | PLOT NAME : | PLOT SCALE :20.00:1.00

WISDOT/CADDS SHEET 21



PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE	COUNTY: EAU CLAIRE	CROSS SECTIONS:	SHEET	E

FILE NAME :J:CIP\Projects\Highland_Spooner\Drawings\X-Sections PLOT DATE :12/30/2014 PLOT BY : PLOT NAME : PLOT SCALE :20.00:1.00

WISDOT/CADDS SHEET 21

-100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100

815
810
805
800
795
790
785

R/W

806.78 -16.50 806.37 -15.00
806.78 0.00
806.42 15.00 806.83 15.00
4:1 2.00% 2.73% 2.50% 2.00% 5.0:1
804.83 -17.50 804.87 -15.00
805.28 0.00
804.92 15.00 804.88 16.00

37+00

R/W

805.47 -16.50 805.06 -15.00
805.46 0.00
805.08 15.00 805.49 16.50
5.0:1 2.00% 2.63% 2.50% 2.00% 5.0:1
803.52 -17.50 803.56 -15.00
803.96 0.00
803.54 17.50

36+50

5 FT
10 FT

000

PROJECT NO: 7824-01-72 | HWY: HIGHLAND/SPOONER AVE | COUNTY: EAU CLAIRE | CROSS SECTIONS: | SHEET | E

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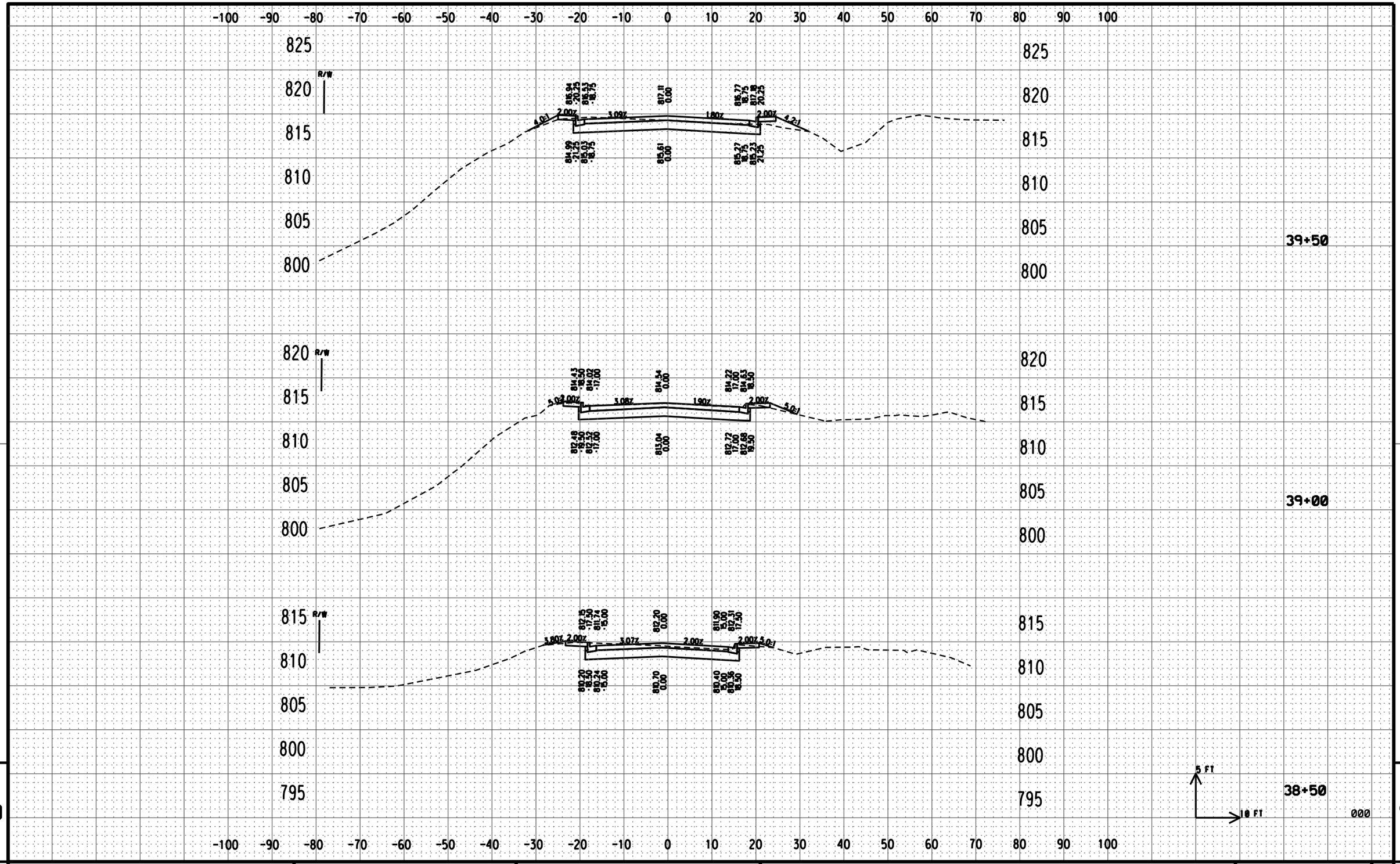

PROJECT NO: 7824-01-72	HWY: HIGHLAND/SPOONER AVE	COUNTY: EAU CLAIRE	CROSS SECTIONS:	SHEET	E

FILE NAME :J:CIP\Projects\Highland_Spooner\Drawings\X-Sections PLOT DATE :12/30/2014 PLOT BY : PLOT NAME : PLOT SCALE :20.00:1.00

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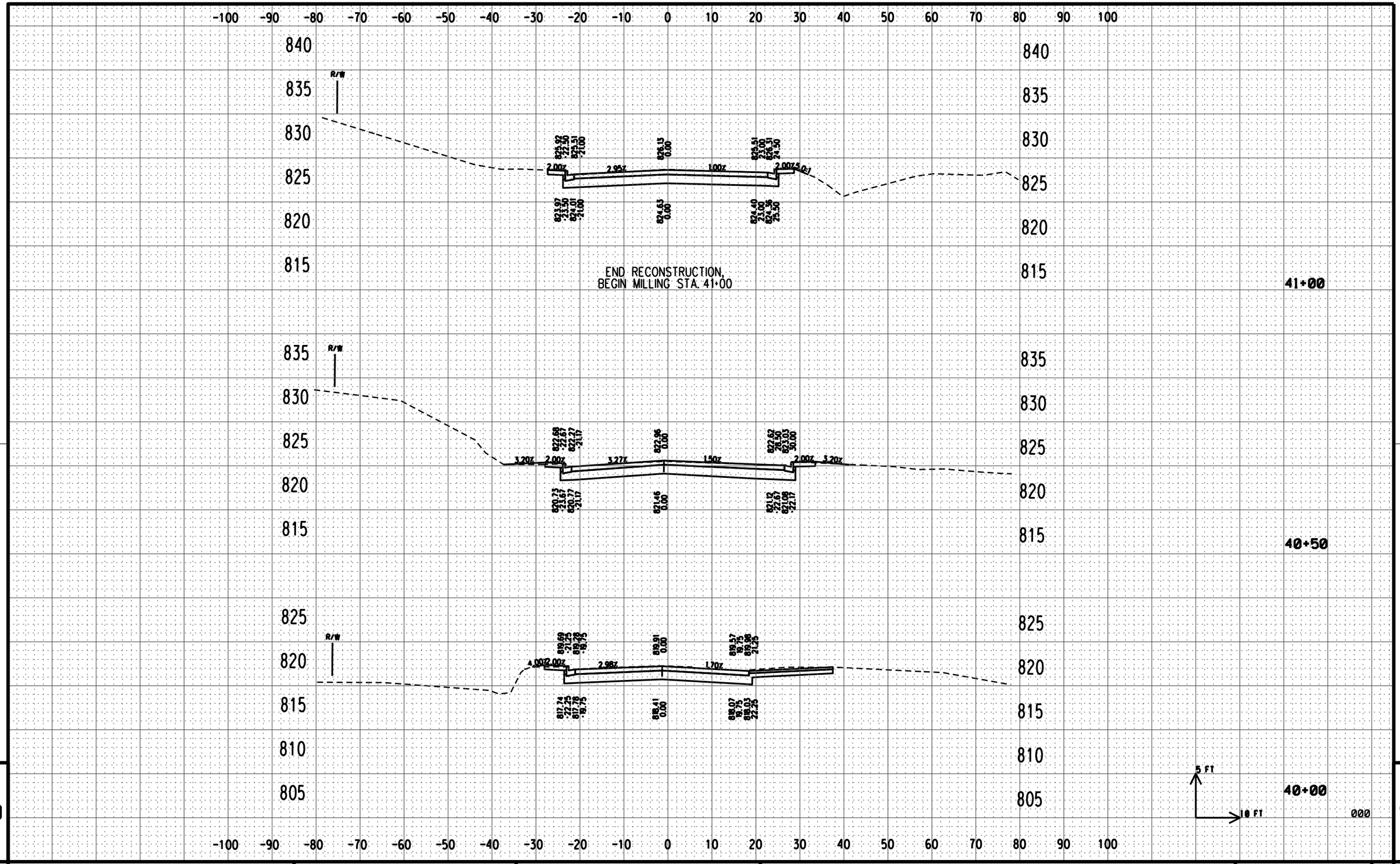

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Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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