MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR SURFACING, GRADING, MILL & OVERLAY, ADA, SIGNALS, AND LIGHTING

LOCATED ON T.H. 14 FROM 0.2 MI. W. OF 9TH AVE. SW TO 0.1 MI. E. OF CSAH 27

LOCATED ON T.H. 4 FROM 0.01 MI. S. OF ST MARY STREET NW TO 0.14 MI. N. OF ST MARY STREET NW

STATE PROJ. NO. 0803-38

GROSS LENGTH	3832.91	FEET	0.726 MILES
BRIDGES-LENGTH	0.00	FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00	FEET	0.000 MILES
NET LENGTH	3832.91	FEET	0.726 MILES

REF. POINT 88+00.357 TO REF. POINT 89+00.076

STATE PROJ. NO. 0804-114

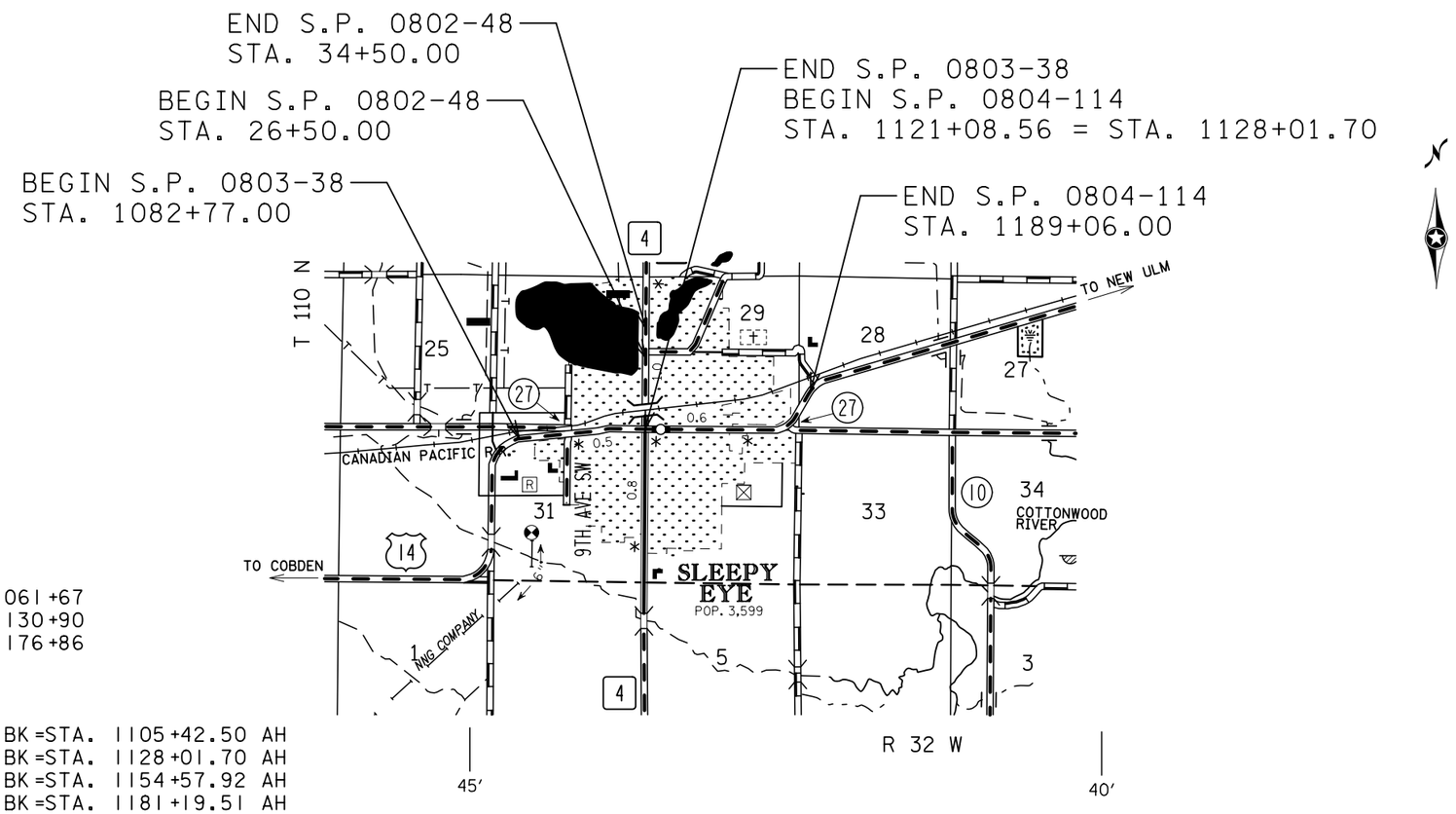
GROSS LENGTH	6103.43	FEET	1.156 MILES
BRIDGES-LENGTH	0.00	FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00	FEET	0.000 MILES
NET LENGTH	6103.43	FEET	1.156 MILES

REF. POINT 89+00.076 TO REF. POINT 90+00.231

STATE PROJ. NO. 0802-48

GROSS LENGTH	800.00	FEET	0.152 MILES
BRIDGES-LENGTH	0.00	FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00	FEET	0.000 MILES
NET LENGTH	800.00	FEET	0.152 MILES

REF. POINT 63+00.488 TO REF. POINT 63+00.640



R.P. 88 = STA. 1061+67
R.P. 89 = STA. 1130+90
R.P. 90 = STA. 1176+86

EQUATIONS:

STA. 1105+43.85 BK = STA. 1105+42.50 AH
STA. 1121+08.56 BK = STA. 1128+01.70 AH
STA. 1154+55.22 BK = STA. 1154+57.92 AH
STA. 1181+21.34 BK = STA. 1181+19.51 AH

SCALES

PLAN	100′	
PROFILE	HORIZ.	VERT.
INDEX MAP	5280′	
GENERAL LAYOUT	200′	

90% PRELIMINARY PLANS

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

DESIGN DESIGNATION

Design ESALS		=	Design Speed		MPH
ADT (Current Year)	2012	= 8500	Based on		Sight Distance
ADT (Future Year)		=	Height of eye		Height of object
DHV (Design Hr. Vol.)		=	Design Speed not achieved at:		
D (Directional Distr.)		= %	STA.	TO STA.	MPH
T (Heavy Commercial)		= %	STA.	TO STA.	MPH

PROJECT LOCATION
COUNTY : BROWN
DISTRICT : D7E

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO.	CHARGE IDENTIFIER
0803-38	
0802-48	
0804-114	

FED. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION' SHALL GOVERN.

INDEX

THIS PLAN CONTAINS 232 SHEETS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ANDREW LAWVER LICENSE # 40429

DATE: SIGNATURE:

DESIGN SQUAD J. GREENE, A. OLMANSON, A. FITZGERALD

RECOMMENDED FOR APPROVAL _____ 20____
DISTRICT TRANSPORTATION ENGINEER

RECOMMENDED FOR APPROVAL _____ 20____
DISTRICT MATERIALS ENGINEER

RECOMMENDED FOR APPROVAL _____ 20____
DISTRICT WATER RESOURCES/HYDRAULICS ENGINEER

RECOMMENDED FOR APPROVAL _____ 20____
DISTRICT TRAFFIC ENGINEER

RECOMMENDED FOR APPROVAL _____ 20____
STATE PRE-LETTING ENGINEER

OFFICE OF LAND MANAGEMENT APPROVAL _____ 20____
DIRECTOR, LAND MANAGEMENT

APPROVED _____ 20 _____
STATE DESIGN ENGINEER

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: LICENSE #

DATE: SIGNATURE:

STATE PROJ. NO. 0802-48 (TH 4 =070)
STATE PROJ. NO. 0803-38 (TH 14 =007) SHEET NO. 1 OF 152 SHEETS

LEGEND
- REMOVAL PLAN SHEET NUMBER
- CONSTRUCTION PLAN SHEET NUMBER
- DRAINAGE PLAN SHEET NUMBER
- SIGNING & STRIPING PLAN SHEET NUMBER

200'
SCALE IN FEET

82 / 97 / T19

83 / 98 / T20

BEGIN S.P. 0803-38
BEGIN TYPICAL SECTION 1
STA. 1082+77

SOO LINE / CANADIAN PACIFIC (DME) R.R.

CSAH 27

← TO SPRINGFIELD

T.H. 14

9TH AVE. S.W.

END TYPICAL SECTION 1
STA. 1100+15

BEGIN TYPICAL SECTION 2
STA. 1100+15

8TH AVE. S.W.

84 / 99 / 133 / T21

END TYPICAL SECTION 2
STA. 1105+65

BEGIN TYPICAL SECTION 3
STA. 1105+65

EQUATION:
STA. 1105+43.85 BK=
STA. 1105+42.50 AH

7TH AVE. S.W.

85 / 100 / 134 / T22

6TH AVE. S.W.

86 / 101 / 135 / T23

5TH AVE. S.W.

*SEE GENERAL LAYOUT ON SHEET 3 FOR T.H. 4, S.P. 0802-48 INFORMATION

END TYPICAL SECTION 3
STA. 1121+08.56

BEGIN TYPICAL SECTION 4
STA. 1128+01.70

END TYPICAL SECTION 4
STA. 1131+55

BEGIN TYPICAL SECTION 5
STA. 1131+55

END TYPICAL SECTION 5
STA. 1139+19

BEGIN TYPICAL SECTION 4
STA. 1139+19

END TYPICAL SECTION 4
STA. 1143+00

BEGIN TYPICAL SECTION 3
STA. 1143+00

200'
SCALE IN FEET

CSAH 27

5TH AVE. S.W.

4TH AVE. S.W.

4TH AVE. N.W.

T.H. 4/3RD AVE. N.W.

RP STA.
1130+90.14

2ND AVE. N.W.

1ST AVE. N.

2ND AVE. N.E.

3RD AVE. N.E.

4TH AVE. N.E.

5TH AVE. N.E.

T.H. 14

5TH AVE. S.W.

4TH AVE. S.W.

2ND AVE. S.W.

1ST AVE. S.

2ND AVE. S.E.

3RD AVE. S.E.

4TH AVE. S.E.

5TH AVE. S.E.

EQUATION:
STA. 1121+08.56 BK=
STA. 1128+01.70 AH

T.H. 4/3RD AVE. S.W.

87 / 102 / 136 / T24

BEGIN S.P. 0804-114
END S.P. 0803-38
STA. 1121+08.56 = STA. 1128+01.70

88 / 103 / 137 / T25

89 / 104 / 138 / T26

90 / 105 / 139 / T27

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER — LIC NO. — DATE

GENERAL LAYOUT

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 2 OF 152 SHEETS

200'
SCALE IN FEET

LEGEND
- REMOVAL PLAN SHEET NUMBER
- CONSTRUCTION PLAN SHEET NUMBER
- DRAINAGE PLAN SHEET NUMBER
- SIGNING & STRIPING PLAN SHEET NUMBER

END TYPICAL SECTION 3
STA. 1158+40

BEGIN TYPICAL SECTION 6
STA. 1158+40

6TH AVE. N.E.

7TH AVE. N.E.

1155

1160

1165

1170

1175

20

EQUATION:
STA. 1154+55.22 BK
STA. 1154+57.92 AH

91 / 106 / 140 / T28

92 / 107 / 141 / T29

END TYPICAL SECTION 6
STA. 1162+17

BEGIN TYPICAL SECTION 7
STA. 1162+17

93 / 108 / 142 / T30

CONST. NEW CONCRETE SIDEWALK

CONST. ROAD WIDENING

12TH AVE. N.E.

T.H. 14

END TYPICAL SECTION 7
STA. 1171+30

BEGIN TYPICAL SECTION 8
STA. 1171+30

94 / 109 / 143 / T31

1180

EQUATION:
STA. 1181+21.34 BK
STA. 1181+19.51 AH

CONST. ROAD WIDENING

RP STA. 1176+86

200'
SCALE IN FEET

1190

T.H.14

TO ESSIG

END S.P. 0804-114
END TYPICAL SECTION 8
STA. 1189+06

95 / 110 / 144 / T32

96 / 111 / T33

1185

CONST. ROAD WIDENING

EQUATION:
STA. 1181+21.34 BK
STA. 1181+19.51 AH

END S.P. 0802-48
STA. 34+50

34

T.H. 4

PLACE PEDESTRAIN CROSSWALK FLASHER SYSTEM

BEGIN S.P. 0802-48
STA. 26+50

ST. MARY'S STREET NW

PI . 26+00.12

25

FRONTAGE ROAD

200'
SCALE IN FEET

1120

T.H. 14

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

GENERAL LAYOUT

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 3 OF 152 SHEETS

STATEMENT OF ESTIMATED QUANTITIES (1 OF 3)

TAB	SHEET NUMBER	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES	S.P. 0803-38 80% FEDERAL / 20% STATE ESTIMATED QUANTITIES (A)	S.P. 0804-114 80% FEDERAL / 20% STATE ESTIMATED QUANTITIES (A)	S.P. 0802-48 80% FEDERAL/ 20% STATE ESTIMATED QUANTITIES (A)	100% CITY ESTIMATED QUANTITIES (B)
		2011.601	CONSTRUCTION SURVEYING	LUMP SUM	1				
		2011.601	AS BUILT	LUMP SUM	1				
		2016.601	QUALITY MANAGEMENT	LUMP SUM	1				
		2016.601	QUALITY MANAGEMENT SPECIAL	LUMP SUM	1				
		2021.501	MOBILIZATION	LUMP SUM	1	0.13	0.83	0.01	0.03
		2051.501	MAINT AND RESTORATION OF HAUL ROADS	LUMP SUM	1				
M2	M3	2104.502	REMOVE CONCRETE APRON	EACH	2		2		
M2,P	M3,21	2104.502	REMOVE METAL APRON	EACH	7		6		1
N	19,20	2104.502	REMOVE MANHOLE OR CATCH BASIN	EACH	18		18		
M2	M3,M4	2104.502	REMOVE DROP INLET	EACH	1		1		
N	19,20	2104.502	REMOVE CASTING	EACH	24	7	17		
N	19,20	2104.502	REMOVE CATCH BASIN GRATE CASTING	EACH	4	4			
M2	M3,M4	2104.502	REMOVE DRAINAGE STRUCTURE	EACH	3		2		1
B	9	2104.502	REMOVE PEDESTAL POLE & BASE	EACH	9				9
T3	T18	2104.502	REMOVE SIGN TYPE C	EACH	7	1	6		
	S9,S10	2104.502	REMOVE SIGNAL SYSTEM	EACH	2		2		
M2	M3	2104.502	REMOVE LIGHT FOUNDATION	EACH	1				1
M2,N	M4,19,20	2104.502	SALVAGE CASTING	EACH	9		8		1
M2	M3,M4	2104.502	SALVAGE CATCH BASIN	EACH	2		2		
P	21	2104.502	SALVAGE CONCRETE APRON	EACH	1		1		
J	17	2104.502	SALVAGE PRECAST CONCRETE HEADWALL	EACH	8		8		
B	9	2104.502	SALVAGE WOOD POLE	EACH	7		7		
	L1, M16	2104.502	SALVAGE FLASHER SYSTEM	EACH	2		1	1	
T2	T18	2104.502	SALVAGE SIGN TYPE C	EACH	15	4	11		
N	19,20	2104.502	ABANDON MANHOLE	EACH	1		1		
	M6	2104.502	ABANDON HANDHOLE	EACH	5				5
B,C,G,H,M1	9,10,14,15,16,M2	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	7376	1435	5875		66
H,M1	16,M2	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	603	35	376		192
J	17	2104.503	REMOVE PIPE DRAIN	LIN FT	2631		2631		
M2,P	M3,M4,21	2104.503	REMOVE METAL CULVERT	LIN FT	303		260		43
M2,N	M3,19,20	2104.503	REMOVE SEWER PIPE (STORM)	LIN FT	292		279		13
B,C,G,H	9,10,14,15,16	2104.503	REMOVE CURB	LIN FT	1543	488	1055		
B,C,G,H,M1	9,10,15,16,M2	2104.503	REMOVE CURB AND GUTTER	LIN FT	1862	186	1676		
P	21	2104.503	SALVAGE CONCRETE PIPE CULVERT	LIN FT	6		6		
H	16	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	1205	333	872		
B,C,G,H,M1	9,10,14,15,16,M2	2104.504	REMOVE CONCRETE PAVEMENT	SQ YD	2057	488	1463		106
B,C,H,M1	9,10,16,M2	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	2663	110	2168		385
B	9	2104.504	REMOVE BITUMINOUS SHOULDER PAVEMENT	SQ YD	3167		3167		
C,G	10,14,15	2104.518	REMOVE CONCRETE WALK	SQ FT	40186	7098	32921		167
	L1	2104.602	RELOCATE STREET LIGHT	EACH	1		1		
C,G	10,15	2104.618	REMOVE BRICK PAVERS	SQ FT	1091		1091		
P	21	2105.603	DITCH CLEANING	LIN FT	200		200		
A,B,G,H,M1	8,9,14,16,M2	2106.507	EXCAVATION - COMMON (P) (4)	CU YD	5347	105	5024		218
		2106.507	SELECT GRANULAR EMBANKMENT (CV) (3)	CU YD	408	40	368		
A	8	2106.507	COMMON EMBANKMENT (CV) (P)	CU YD	3926		3926		
F	13	2118.509	AGGREGATE SURFACING CLASS 1	TON	290	53	237		
A,F,G,H,M1	8,13,14,15,16,M2	2211.507	AGGREGATE BASE (CV) CLASS 5Q (P)	CU YD	5572	110	5314		148
		2231.509	BITUMINOUS PATCHING MIXTURE (1)	TON	5	3	2		
E	12	2232.504	MILL BITUMINOUS SURFACE (1.0")	SQ YD	3020	1344	1676		
E	12	2232.504	MILL BITUMINOUS SURFACE (2.0")	SQ YD	19947	8825	11122		
E	12	2232.504	MILL CONCRETE SURFACE (1.5")	SQ YD	8207	3499	4708		
I	17	2232.603	MILLED RUMBLE STRIPS-INTERMITTENT	LIN FT	1837		1837		
I	17	2232.603	MILLED SINUSOIDAL RUMBLE STRIPS-CL	LIN FT	1978		1978		
F,M1	13,M2	2301.502	DOWEL BAR	EACH	92				92
D,F,M1	11,13,M2	2301.504	CONCRETE PAVEMENT 8.0"	SQ YD	1824	389	1227		208
F,M1	13,M2	2301.508	SUPPLEMENTAL PAVEMENT REINFORCEMENT	POUND	855	180	180		495
F,M1	13,M2	2301.602	DRILL & GROUT DOWEL BAR (EPOXY COATED)	EACH	130	78			52
D,F,G,H	11,13,14,15,16	2301.602	DRILL AND GROUT REINFORCEMENT BAR (EPOXY COATED)	EACH	2100	548	1512		40
F,H,M1	13,16,M2	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (4;E) (2)	TON	17943	3230	14550		163

ESTIMATE NOTES:

(1) QUANTITY INCLUDES 5 TONS BIT MIX 2360 SPWEA440E FOR PATCHING JOINTS, CRACKS AND DEPRESSIONS PRIOR TO OVERLAY. PLACE AS DIRECTED BY THE PROJECT ENGINEER. COMPACTION SHALL BE BY THE "ORDINARY COMPACTION METHOD" WITH A ROLLER COMPACTOR.

(2) BITUMINOUS MATERIAL FOR TACK COAT IS INCIDENTAL. ASPHALT BINDER IS REQUIRED TO MEET AASTHO M332 (MSCR). SEE SPECIAL PROVISION 3151. LONGITUDINAL JOINT DENSITY REQUIREMENTS HAVE BEEN MODIFIED. SEE SPECIAL PROVISION 2360.

(3) FOR USE AT EACH NEW DRAINAGE STRUCTIURE. APRROXIAMATELY 8 CU YD EACH.

(4) EXCAVATION - COMMON INCLUDES EXCAVATION - COMMON AND EXCAVATION - SUBGRADE.

(P) PLAN QUANTITY.

FUNDING NOTES:

(A) 80% FEDERAL FUNDS. 20% STATE FUNDS. SEE AGREEMENT NO. XXXXX WITH CITY OF SLEEPY EYE.

(B) 100% CITY FUNDS. SEE AGREEMENT NO. XXXXX WITH CITY OF SLEEPY EYE.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

STATEMENT OF ESTIMATED QUANTITIES

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 4 OF 152 SHEETS

STATEMENT OF ESTIMATED QUANTITIES (2 OF 3)

TAB	SHEET NUMBER	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES	S.P. 0803-38 80% FEDERAL / 20% STATE ESTIMATED QUANTITIES (A)	S.P. 0804-114 80% FEDERAL / 20% STATE ESTIMATED QUANTITIES (A)	S.P. 0802-48 80% FEDERAL/ 20% STATE ESTIMATED QUANTITIES (A)	100% CITY ESTIMATED QUANTITIES (B)
D,H	11,16	2411.508	REINFORCEMENT BARS (EPOXY COATED)	POUND	1060	285	751		24
P	21	2451.507	FINE AGGREGATE BEDDING	CU YD	24		24		
P	21	2501.502	15" CS PIPE APRON	EACH	2		2		
P	21	2501.502	24" RC PIPE APRON	EACH	1		1		
P	21	2501.502	INSTALL CONCRETE APRON	EACH	1		1		
P	21	2501.503	15" CS PIPE CULVERT	LIN FT	64		64		
P	21	2501.503	15" RC PIPE CULVERT	LIN FT	104		104		
P	21	2501.503	24" RC PIPE CULVERT	LIN FT	12		12		
P	21	2501.503	INSTALL CONCRETE CULVERT	LIN FT	6		6		
P	21	2501.603	CLEAN PIPE CULVERT	LIN FT	200		200		
P	21	2501.603	VIDEO TAPE CULVERT	LIN FT	84		84		
J	17	2502.502	4" PRECAST CONCRETE HEADWALL	EACH	1		1		
J	17	2502.502	INSTALL PRECAST CONCRETE HEADWALL	EACH	8		8		
J	17	2502.503	4" TP PIPE DRAIN	LIN FT	180		180		
J,M2	17,M4	2502.503	4" PERF PE PIPE DRAIN	LIN FT	2513		2445		68
M2,P	M4,21	2502.503	8" PERF PE PIPE DRAIN (SMOOTH)	LIN FT	700		700		
		2502.602	CONNECT TO EXISTING PIPE DRAIN	EACH	1		1		
N	19,20	2503.503	6" PVC PIPE SEWER	LIN FT	22		22		
M2	M3,M4	2503.503	10" PVC PIPE SEWER	LIN FT	8		8		
N	19,20	2503.503	12" PVC PIPE SEWER	LIN FT	6		6		
M2,N	M3,M4,19,20	2503.503	12" RC PIPE SEWER CLASS V	LIN FT	273		273		
M2,N	M3,M4,19,20	2503.503	15" RC PIPE SEWER CLASS V	LIN FT	65		65		
M2	M4	2503.503	18" RC PIPE SEWER CLASS V	LIN FT	18		18		
M2	M4	2503.503	24" RC PIPE SEWER CLASS IV	LIN FT	59		59		
M2	M4	2503.503	36" RC PIPE SEWER CLASS IV	LIN FT	119				119
M2	M4	2503.503	INSTALL PIPE SEWER	LIN FT	8				8
M2,N	M4,19,20	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	17		16		1
M2	M4	2503.602	24" PIPE PLUG	EACH	1		1		
M2,N	M3,19,20	2503.603	PLUG FILL AND ABANDON PIPE SEWER	LIN FT	92		92		
	M6	2504.602	ADJUST HYDRANT	EACH	1				1
	M6	2504.602	ADJUST VALVE BOX	EACH	25				25
	M6	2504.602	ADJUST VALVE BOX-WATER	EACH	22				22
	M6	2504.602	ADJUST CURB BOX	EACH	57				57
M2,N,P	M3,19,20,21	2506.502	CASTING ASSEMBLY	EACH	59	7	51		1
N,P	19,20,M3,M4	2506.602	CASTING ASSEMBLY SPECIAL	EACH	2		2		
M2,N	M4,19,20	2506.502	INSTALL CASTING	EACH	5		5		
M2,N	M3,19,20	2506.502	ADJUST FRAME AND RING CASTING	EACH	12	2	9		1
M2	M3,M4	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1	EACH	1				1
M2,N	M3,19,20	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN F	LIN FT	151.0		151.0		
N,P	19,20,21	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	LIN FT	28.7		28.7		
P	21	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	LIN FT	2.3		2.3		
M2	M3	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4022 (1)	LIN FT	20.3		20.3		
N	19,20	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	40.0	6.5	33.5		
M2,N,P	M4,19,20,21	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	13		11		2
M2	M4	2506.602	INSTALL CATCH BASIN	EACH	2		2		
N	19,20	2506.602	GRATE CASTING SPECIAL	EACH	4	4			
N	19,20	2506.603	REPAIR CATCH BASIN	LIN FT	9	4	5		
P	21	2507.503	LINING CULVERT PIPE 24"	LIN FT	96		96		
F,M1	13,M2	2511.504	GEOTEXTILE FILTER TYPE 5	SQ YD	14031		13646		385
M2	M3,M4	2520.507	LEAN MIX BACKFILL	CU YD	5				5
G	14,15	2521.518	4" CONCRETE WALK	SQ FT	34402	3535	30700		167
G	15	2521.518	6" CONCRETE WALK	SQ FT	272		272		
D	11	2521.618	CONCRETE WALK	SQ FT	15241	3877	11364		
G,H,M1	14,15,16,M2	2531.503	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	1214	356	858		
G	15	2531.503	CONCRETE CURB & GUTTER DESIGN B624 (MODIFIED)	LIN FT	766		766		
H	16	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	1136	359	777		
D	11	2531.603	CONCRETE CURB AND GUTTER	LIN FT	2089	501	1588		
D	11	2531.603	CONCRETE CURB DESIGN V	LIN FT	139		139		
D	11	2531.618	TRUNCATED DOMES	SQ FT	1047	253	794		
G	15	2545.602	INSTALL WOOD POLE	EACH	7		7		
	M6	2545.602	ADJUST HANDHOLE	EACH	5				5

ESTIMATE NOTES:

(1)THIS PAY ITEM WILL BE DISCUSSED WITH CO PLAN REVIEW.

FUNDING NOTES:

(A) 80% FEDERAL FUNDS. 20% STATE FUNDS. SEE AGREEMENT NO. XXXXX WITH CITY OF SLEEPY EYE.
(B) 100% CITY FUNDS. SEE AGREEMENT NO. XXXXX WITH CITY OF SLEEPY EYE.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

STATEMENT OF ESTIMATED QUANTITIES

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 5 OF 152 SHEETS

STATEMENT OF ESTIMATED QUANTITIES (3 OF 3)

TAB	SHEET NUMBER	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES	S.P. 0803-38 80% FEDERAL / 20% STATE ESTIMATED QUANTITIES (A)	S.P. 0804-114 80% FEDERAL / 20% STATE ESTIMATED QUANTITIES (A)	S.P. 0802-48 80% FEDERAL/ 20% STATE ESTIMATED QUANTITIES (A)	100% CITY ESTIMATED QUANTITIES (B)
		2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.13	0.83	0.01	0.03
		2563.601	ALTERNATE PEDESTRIAN ROUTE	LUMP SUM	1	0.13	0.83	0.01	0.03
		2563.601	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	56	28	28		
T2	T18	2564.502	INSTALL SIGN TYPE C	EACH	15	4	11		
T4	T18	2564.618	SIGN TYPE C	SQ FT	136	15	121		
	S2-S8	2565.516	TRAFFIC CONTROL SIGNAL SYSTEM	SYS	1	0.5	0.5		
	L1, M16	2565.602	INSTALL FLASHER SYSTEM	EACH	2		1	1	
	S1, M16	2565.616	PEDESTRIAN CROSSWALK FLASHER SYSTEM	SYS	2		1		1
B	9	2572.503	CLEAN ROOT CUTTING	LIN FT	46				46
		2573.501	EROSION CONTROL SUPERVISOR	LUMP SUM	1				
L,M1	18,M2	2573.502	STORM DRAIN INLET PROTECTION	EACH	80	20	52		8
L	18	2573.502	CULVERT END CONTROLS	EACH	5		5		
L	18	2573.503	SILT FENCE, TYPE MS	LIN FT	1830		1830		
L	18	2573.503	SEDIMENT CONTROL LOG TYPE COMPOST	LIN FT	415		415		
M1	M2	2574.507	COMMON TOPSOIL BORROW	CU YD	50		10		40
K,M1	18,M2	2575.504	RAPID STABILIZATION METHOD 4	SQ YD	9921	8	9063		850
H	16	2575.602	SITE RESTORATION	EACH	18	5	13		
	T41	2580.501	INTERIM PAVEMENT MARKING	LUMP SUM	1				
T1	T17	2582.503	12" SOLID LINE MULTI-COMPONENT	LIN FT	634	93	541		
T1	T17	2582.503	4" SOLID LINE MULTI-COMPONENT GROUND IN (WR)	LIN FT	21747	9217	12530		
T1	T17	2582.503	24" SOLID LINE MULTI-COMPONENT GROUND IN (WR)	LIN FT	928	61	867		
T1	T17	2582.503	4" BROKEN LINE MULTI-COMPONENT GROUND IN (WR)	LIN FT	5010	3331	1679		
T1	T17	2582.503	4" DOTTED LINE MULTI-COMPONENT GROUND IN (WR)	LIN FT	2835	789	2046		
T1	T17	2582.503	4" DBLE SOLID LINE MULTI-COMPONENT GROUND IN (WR)	LIN FT	5661	430	5231		
T1	T17	2582.518	PAVEMENT MESSAGE MULTI-COMPONENT GROUND IN (WR)	SQ FT	93	93			
T1	T17	2582.518	CROSSWALK MULTI-COMPONENT GROUND IN (WR)	SQ FT	2888	503	2385		

FUNDING NOTES:

(A) 80% FEDERAL FUNDS. 20% STATE FUNDS. SEE AGREEMENT NO. XXXXX WITH CITY OF SLEEPY EYE.
(B) 100% CITY FUNDS. SEE AGREEMENT NO. XXXXX WITH CITY OF SLEEPY EYE.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ESTIMATE NOTES, CONSTRUCTION NOTES

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 6 OF 152 SHEETS

CONSTRUCTION NOTES:

1. ALL EXISTING IN-PLACE ROADWAY STRUCTURE MATERIALS, SUCH AS BITUMINOUS, CONCRETE AND AGGREGATES CAN BE UTILIZED ACCORDING TO THE SPECIFICATIONS AND SPECIAL PROVISIONS, OR AS NOTED. MATERIALS NOT UTILIZED ON THIS PROJECT OR NOT REQUESTED TO BE DELIVERED TO A MNDOT FACILITY WILL BECOME PROPERTY OF THE CONTRACTOR AND DISPOSED OF OFF THE R/W, AS AGREED UPON BY THE ENGINEER.

2. HEADWALL LOCATIONS NEED TO BE VERIFIED PRIOR TO CONSTRUCTION AND MARKED ON THE ROAD. PERMANENTLY MARK THE LOCATION OF ALL SUBSURFACE DRAIN OUTLETS PER MNDOT SPEC. 2502.3.D.4.

3. AS DIRECTED BY THE CONSTRUCTION PROJECT ENGINEER, MECHANICALLY REMOVE ANY LOOSE CONCRETE AND BITUMINOUS PATCHING PRIOR TO PLACING THE BITUMINOUS OVERLAY. THE ENTIRE SURFACE IS TO BE AIR BLASTED AND/OR SWEPT TO REMOVE ANY REMAINING LOOSE MATERIAL. THE AIR BLASTING SHOULD BE DONE WITH HIGH-PRESSURE (100 PSI +/-) EQUIPMENT, AND SWEEPING SHALL BE DONE WITH A PICK UP STYLE SWEEPER.

4. PROVIDE FOR PATCHING JOINTS, CRACKS, DEPRESSIONS, AND REMOVED LOOSE OR OLD PAVEMENT MATERIAL PRIOR TO THE OVERLAY. PATCHES SHALL BE TACKED IN ACCORDANCE WITH CURRENT SPECIFICATIONS. THE SEQ INCLUDES 5 TONS OF BITUMINOUS MIX 2360 SPWEA430B (58S-28) FOR PATCHING AS DIRECTED BY THE ENGINEER. COMPACTION OF THE BITUMINOUS PATCHES SHALL BE BY THE *ORDINARY COMPACTION METHOD* WITH A ROLLER COMPACTOR. THE SPECIAL PROVISION REQUIRES THE CONTRACTOR TO USE MECHANICAL MEANS (I.E., JACK HAMMER, SAW, BACKHOE) TO REMOVE ANY LOOSE OR DETERIORATED CONCRETE OR BITUMINOUS MATERIAL. DESIGNER SHALL INCLUDE PAY ITEM AND BOILER PLATE SPECIAL PROVISION 2231 * BITUMINOUS PATCHING MIXTURE FOR PREPARING THE ROAD SURFACE FOR AN OVERLAY OR SURFACE TREATMENT.

5. IT IS NOT THE INTENT OF THIS PROJECT TO CORRECT THE CROWN. PROVIDE FOR PAVING AS SHOWN IN PLANS, ON MAINLINE AND MATCH THE INPLACE CROWN, EXCEPT AT WIDENED AREAS.

6. PROVIDE FOR A TACK COAT BETWEEN ALL BITUMINOUS LIFTS AND ON THE IN-PLACE SURFACE. APPLICATION RATES SHALL BE ACCORDING TO THE 2018 MNDOT SPECIFICATION 2357, BITUMINOUS TACK COAT REQUIREMENTS, INCIDENTAL.

7. PROVIDE FOR LONGITUDINAL JOINT TREATMENT USING THE MOST CURRENT MNDOT SPECIFICATION 2355, BITUMINOUS FOG SEAL, REQUIREMENTS.

8. PRIOR TO THE PROPOSED OVERLAY, THE CONTRACTOR SHALL ADJUST THE HEIGHT OF ALL MANHOLE CASTINGS IN THE MAINLINE OVERLAY AREA SUCH AS TO MATCH THE PROPOSED FINISHED ROAD ELEVATION. CASTINGS LOCATED IN VARIABLE DEPTH MILL AND/OR OVERLAY SECTIONS MAY BE ADJUSTED AFTER THE OVERLAY BY SAW-CUTTING OUT AND PATCHING.

9. THE MAINLINE PAVEMENT SMOOTHNESS SURFACE TESTING FOR THE URBAN AND RURAL SECTION ARE EXCLUDED FROM THE SMOOTHNESS EVALUATION, BUT SHALL REQUIRE THE 10 FT. STRAIGHTEDGE ACCORDING TO 2018 CONSTRUCTION SPECIFICATION 2399.

10. CENTERLINE RUMBLE STRIP CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
    1. MILL RUMBLE.
    2. FOG SEAL.
    3. INTERIM STRIPING.
    4. 14 DAY CURE.
    5. GROOVE FOR PERMANENT PAVEMENT PARKINGS (IN SINDUSOIDAL RUMBLE BREAKS).
    6. APPLY PERMANENT PAVEMENT MARKINGS.

STANDARD PLATES TABULATION

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
1070M	SUPPLEMENTAL PAVEMENT REINFORCEMENT
1103K	TYPICAL DOWEL BAR ASSEMBLY
3001	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3131C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
4005M	MANHOLE OR CATCH BASIN (TYPE A & B CONE SECTIONS PRECAST)
4010H	CONCRETE SHORT CONE AND ADJUSTING RING (SECTIONAL CONCRETE)
4018B	MANHOLE OR CATCH BASIN (REDUCER CONE SECTION PRECAST)
4020J	MANHOLE OR CATCH BASIN COVER (2 SHEETS)
4021F	PRECAST CURB OPENING CATCH BASIN
4022A	MANHOLE OR CATCH BASIN COVER
4025B	DROP INLETS OR CATCH BASINS
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108F	ADJUSTING RINGS (FOR CATCH BASINS AND MANHOLES)
4110F	COVER CASTING FOR MANHOLE
4125D	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE)
4132F	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE)
4134A	CURB BOX CASTING FOR CATCH BASIN
4152C	CATCH BASIN GRATE CASTING
4154B	CATCH BASIN GRATE CASTING
4161F	CURB BOX CASTING FOR CATCH BASIN
4180J	MANHOLE OR CATCH BASIN STEP
7038A	DETECTABLE WARNING SURFACE
7100H	CONCRETE CURB AND GUTTER DESIGN B AND DESIGN V
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB & GUTTER)
8000J	CHANNELIZERS (3 SHEETS)
8106D	EQUIPMENT PAD B (3 SHEETS)
8110E	TAFFIC SIGNAL BRACKETING (POLE MOUNTED
8112I	PEDESTAL FOUNDATION (TRAFFIC CONTROL SIGNALS)
8118D	SERVICE EQUIPMENT & POLE TRAFFIC CONTROL SIGNALS
8120Q	POLE FOUNDATION (PA85)
8121H	TRANSFORMER BASE AND POLE BASE PLATE (PA85, PA90 AND PA100) (2 SHEETS)
8122F	PEDESTAL AND PEDESTAL BASE (FOR TRAFFICE CONTROL SIGNALS SUPPORT) (2 SHEETS)
8123G	POLE AND MAST ARM
8126L	POLE FOUNDATION (PA90 AND PA100)
8129A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)
8130D	SAW CUT LOOP DETECTORS
8132B	PREFORMED RIGID PVC CONDULT LOOP DETECTORS LAYOUT DETAILS (3 SHEETS)
8133A	POLE AND MAST ARMS TYPE BA (9 SHEETS)
8134C	POLE FOUNDATION - TYPE BA SPREAD FOOTING FOUNDATION (4 SHEETS)
9000E	APPROACHED AND ENTRANCES

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
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STANDARD PLATES

EARTHWORK TABULATION TAB A

STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	AGGREGATE BASE (CV) CLASS 5Q
	CU YD	CU YD	CU YD
SP 0804-114			
1158+00.00			
1158+50.00	17	7	8
1159+00.00	17	8	8
1159+50.00	18	11	10
1160+00.00	17	10	10
1160+50.00	17	11	10
1161+00.00	17	13	12
1161+50.00	17	10	10
1162+00.00	52	50	12
1162+17.43	8	6	5
1162+50.00	19	19	16
1163+00.00	29	37	34
1163+18.50	10	15	15
1163+50.00	19	26	28
1164+00.00	49	37	32
1164+50.00	64	38	23
1165+00.00	61	54	37
1165+50.00	62	61	44
1166+00.00	66	57	37
1166+50.00	65	58	35
1167+00.00	53	67	40
1167+50.00	44	70	42
1168+00.00	44	64	39
1168+16.25	12	23	14
1168+50.00	37	61	35
1169+00.00	65	108	50
1169+50.00	55	112	44
1170+00.00	60	114	41
1170+50.00	55	118	44
1170+64.57	12	38	16
1171+00.00	25	78	34
1171+50.00	56	100	68
1171+64.00	15	22	18
1172+00.00	48	45	70
1172+50.00	88	83	163
1173+00.00	80	81	152
1173+50.00	78	82	136
1174+00.00	76	73	118
1174+50.00	75	64	102
1175+00.00	80	56	93
1175+50.00	84	47	90
1176+00.00	78	47	90
1176+50.00	81	56	94
1177+00.00	87	69	99
1177+50.00	59	53	95
1178+00.00	16	15	186
1178+50.00	36	39	195
1179+00.00	94	108	120
1179+50.00	109	132	140
1180+00.00	101	123	159
1180+50.00	98	120	164
1181+00.00	96	118	155
1181+19.50	40	49	62
1181+50.00	57	62	84
1182+00.00	118	80	135
1182+50.00	181	50	111
1183+00.00	215	48	106
1183+50.00	197	58	115
1184+00.00	137	49	94
1184+50.00	91	48	80
1185+00.00	103	57	81
1185+50.00	112	59	77
1186+00.00	108	62	71
1186+50.00	103	67	68
1187+00.00	99	70	62
1187+50.00	93	75	55
1188+00.00	80	69	44
1188+50.00	70	58	36
1189+00.00	60	51	24
TOTAL	4485	3926	4597

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TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 8 OF 152 SHEETS

REMOVALS TABULATION

TAB B

STA. TO STA.	OFFSET	REMOVE PEDESTAL POLE & BASE	SALVAGE WOOD POLE	SAWING CONCRETE PAVEMENT (FULL DEPTH)	REMOVE CURB	REMOVE CURB AND GUTTER	REMOVE CONCRETE PAVEMENT	REMOVE BITUMINOUS PAVEMENT	REMOVE BITUMINOUS SHOULDER PAVEMENT	EXCAVATION - COMMON	CLEAN ROOT CUTTING	REMARKS
		EACH	EACH	LIN FT	LIN FT	LIN FT	SQ YD	SQ YD	SQ YD	CU YD	LIN FT	
T.H. 14												
SP 0803-38												
1105+43 - 1105+61	38-40 LT							5				
1112+77 - 1113+01	12 RT-12 LT							64		11		(1)
1119+21 - 1119+36	20 LT-22 LT				15		3					(4)
SP 0803-38 SUBTOTAL					**15**		**3**	**69**		**11**		
SP 0804-114												
1137+19 - 1137+34	27-29 RT					15						
1160+35 - 1161+18	33 RT		7									
1161+37 - 1162+39	20-65 LT			118		10		353				(2) DBL ENT.
1162+17 - 1176+98	12-24 RT								1975			
1170+75 - 1171+60	12 RT - 53 LT			158		17						12TH AVE NE (3)
1170+81 - 1171+78	12 RT - 100 RT			36		36		502				12TH AVE SE (3)
1176+98 - 1178+92	12 RT-154 RT							1077				CR 27
1178+73 - 1179+01	12-24 RT								37			
1179+01 - 1187+35	12-22 RT								927			
1187+35 - 1189+06	12-24 RT								228			
SP 0804-114 SUBTOTAL			**7**	**312**		**78**		**1932**	**3167**			
100% CITY												
1008+85	35-81 RT										46	
1131+12	30 RT	1										
1131+96	31 LT	1										
1134+96	30 RT	1										
1135+79	31 LT	1										
1138+77	31 RT	1										
1139+58	31 LT	1										
1142+65	31 RT	1										
1143+27	29 LT	1										
1143+28	29 RT	1										
100% CITY SUBTOTAL		**9**									**46**	
GRAND TOTAL		**9**	**7**	**312**	**15**	**78**	**3**	**2001**	**3167**	**11**	**46**	

NOTES:
(1) EXISTING 4" THICK TEMPORARY BIT. PATCH. CONTRACTOR SHALL REMOVE PATCH AND PLACE CONCRETE PAVEMENT PRIOR TO BITUMINOUS OVERLAY IN THIS AREA.
(2) CONSISTS OF ESTIMATED 4.5" BITUMINOUS OVERLAY AND 9"-7"-9" CONCRETE AT FAMILY FOODS ENTRANCE.
(3) CONSISTS OF 7" TO 15" OF BITUMINOUS OVERLAY AND PAVEMENT, AND 9"-7"-9" CONCRETE PAVEMENT. STORM DRAIN CONSTRUCTION AREA.
(4) REMOVE 1-15 FT. X 11 FT. PANEL.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 9 OF 152 SHEETS

REMOVAL ADA PEDESTRIAN RAMPS

TAB C

CROSS STREET	QUADRANT	REMOVE CURB	REMOVE CURB AND GUTTER	REMOVE CONCRETE WALK	REMOVE CONCRETE PAVEMENT (1)	REMOVE BITUMINOUS PAVEMENT	SAWING CONCRETE PAVEMENT (FULL DEPTH)	REMOVE BRICK PAVERS	REMARKS
		LIN FT	LIN FT	SQ FT	SQ YD	SQ YD	LIN FT	SQ FT	
TH 14									
SP 0803-38									
7TH AVENUE SW	SW	16	35		35	30	100		
	SE	24		77	10	4	55		
6TH AVENUE SW	SW	16		207	9		28		
	SE	12	3	57	6		22		
5TH AVENUE SW	SW	38		275	26		38		
	SE	40	3	275	29		62		
	NW	55		186	7		25		
	NE			131	7		26		
4TH AVENUE SW	SW	29	5	251	24		54		
	SE	29	5	262	25		53		
4TH AVENUE NW	NW	12	22	226	18		46		
	NE	12	24	283	19		50		
3RD AVENUE SW / TH 4	SW		10	683	46		73		
3RD AVENUE NW / TH 4	NW		79	658	89		111		
SP 0803-38 SUBTOTAL		**283**	**186**	**3571**	**350**	**34**	**743**		
SP 0804-114									
3RD AVENUE SW / TH 4	SE	18	96	1170	73		159		
3RD AVENUE NW / TH 4	NE		80	534	95		131		
2ND AVENUE SW	SW	44		274	37		58		
	SE	37	11	368	41		66		
2ND AVENUE NW	NW	59		475	71		114		
	NE	30	17	370	37		92		
1ST AVENUE S	SW	26	28	405	36		93		
	SE	28	46	639	50		116		
1ST AVENUE N	NW	30	24	350	48		97		
	NE	16	30	341	45		94		
2ND AVENUE SE	SW	20	24	346	30		58		
	SE	42		279	43		63		
2ND AVENUE NE	NW	26	24	386	45		98		
	NE	26	13	314	30		80	82	
3RD AVENUE SE	SW	42		413	19		112		
	SE	38	4	237	24		76		
3RD AVENUE NE	NW	49		498	23		60		
	NE	26	14	273	25		52		
4TH AVENUE SE	SW	29	4	213	23		50		
	SE	25	10	229	24		52		
4TH AVENUE NE	NW	41		171	21		57		
	NE	28	14	197	27		60		
5TH AVENUE SE	SW	20	11	188	24		51		
	SE	21	10	139	22		48		
5TH AVENUE NE	NW	27	8	193	24		51		
	NE	8	31	144	23		53		
6TH AVENUE SE	SW	26	3	386	24		50		
	SE	19		156	9		39		
6TH AVENUE NE	NW		46	194	24		62		
	NE		16	144	4		20		
7TH AVENUE NE	SW	23		142	5		23		
	NW	36	5	96	17		52		
	NE	18		52	6		5		
GROCERY ENTRANCE	NW		40			11			
12TH AVENUE SE	SW		17			5			
12TH AVENUE NE	NW		12			5			
SP 0804-114 SUBTOTAL		**878**	**638**	**10316**	**1049**	**21**	**2292**	**82**	
GRAND TOTAL		**1161**	**824**	**13887**	**1399**	**55**	**3035**	**82**	

NOTES: (1) QUANTITY OF REMOVE CONCRETE PAVEMENT MAY CONSIST OF BITUMINOUS OVER CONCRETE.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
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TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 10 OF 152 SHEETS

ADA TABULATION-PROPOSED PEDESTRIAN RAMPS

TAB D

CROSS STREET	QUADRANT	CONCRETE PAVEMENT 8.0"	REINFORCEMENT BARS (EPOXY COATED)	DRILL AND GROUT REINFORCEMENT BAR (EPOXY COATED)	CONCRETE WALK	CONCRETE CURB & GUTTER	CONCRETE CURB DESIGN V	TRUNCATED DOMES		CURB RAMPS DESIGN	SITE RESTORATION	REMARKS
								TH 14	SIDE STREET			
		SQ YD	POUND	EACH	SQ FT	LIN FT	LIN FT	SQ FT			EACH	
TH 14												
SP 0803-38												
7TH AVENUE SW	SW	24	22	24	47	42			9	ONE-WAY DIRECTIONAL	1	
	SE	8	11	13	70	24			10	ONE-WAY DIRECTIONAL	1	
6TH AVENUE SW	SW	18	10	11	207	16			10	ONE-WAY DIRECTIONAL	1	
	SE	19	10	10	170	15			10	ONE-WAY DIRECTIONAL	1	
5TH AVENUE SW	SW	13	19	20	281	37		12	10	COMBINED DIRECTIONAL	1	
	SE	12	22	22	268	44		10	10	COMBINED DIRECTIONAL	1	
	NW	4	13	10	186	16		10		PERPENDICULAR	1	
	NE	11	23	20	131	19				PERPENDICULAR	1	
4TH AVENUE SW	SW	17	19	20	251	36		10	10	COMBINED DIRECTIONAL	1	
	SE	11	18	22	263	37		10	12	COMBINED DIRECTIONAL	1	
4TH AVENUE NW	NW	13	18	18	226	35		10	10	COMBINED DIRECTIONAL	1	
	NE	14	18	19	286	36		10	12	COMBINED DIRECTIONAL	1	
3RD AVENUE SW (TH 4)	SW	54	27	34	713	63		12	12	COMBINED DIRECTIONAL	1	(1)
3RD AVENUE NW (TH 4)	NW	56	34	44	778	81		36	18	COMBINED DIRECTIONAL	1	
SP 0803-38 SUBTOTAL		**274**	**264**	**287**	**3877**	**501**		**120**	**133**		**14**	
SP 0804-114												
3RD AVENUE SW (TH 4)	SE	56	45	51	1026	108		33		FAN		
3RD AVENUE NW (TH 4)	NE	45	36	43	708	86		40		FAN		
2ND AVENUE SW	SW	16	21	28	323	49		13	13	COMBINED DIRECTIONAL		
	SE	19	23	29	407	52	14	11	12	COMBINED DIRECTIONAL		
2ND AVENUE NW	NW	46	28	33	507	65		12	12	COMBINED DIRECTIONAL		
	NE	21	21	28	378	49	17	29		DEPRESSED CORNER		
1ST AVENUE S	SW	19	23	30	408	54	12	10	11	COMBINED DIRECTIONAL		
	SE	25	31	36	649	74	20	11	12	COMBINED DIRECTIONAL		
1ST AVENUE N	NW	24	24	30	416	56	17	11	14	COMBINED DIRECTIONAL		
	NE	20	22	28	446	51	14	12	14	COMBINED DIRECTIONAL		
2ND AVENUE SE	SW	14	20	27	353	45	20	10	12	COMBINED DIRECTIONAL		
	SE	18	20	27	378	47	10	12	12	COMBINED DIRECTIONAL		
2ND AVENUE NE	NW	22	23	29	448	52	15	12	14	COMBINED DIRECTIONAL		
	NE	17	17	25	322	39		28		FAN		
3RD AVENUE SE	SW	12	23	20	383	42		20		COMBINED DIRECTIONAL		
	SE	8	18	19				10	10	COMBINED DIRECTIONAL	1	
3RD AVENUE NE	NW	14	24	23	498	49		10	10	COMBINED DIRECTIONAL		
	NE	17	19	20	273	37		10	10	COMBINED DIRECTIONAL	1	
4TH AVENUE SE	SW	17	18	19	230	35		10	10	COMBINED DIRECTIONAL	1	
	SE	18	19	20	252	36		10	10	COMBINED DIRECTIONAL	1	
4TH AVENUE NE	NW	18	21	21	187	42		10	10	COMBINED DIRECTIONAL	1	
	NE	12	22	22	198	43		10	10	COMBINED DIRECTIONAL	1	
5TH AVENUE SE	SW	17	18	19	201	35		10	10	COMBINED DIRECTIONAL	1	
	SE	16	17	19	156	33		10	10	COMBINED DIRECTIONAL	1	
5TH AVENUE NE	NW	17	19	22	218	36		10	10	COMBINED DIRECTIONAL	1	
	NE	17	18	19	147	38		10	10	COMBINED DIRECTIONAL	1	
6TH AVENUE SE	SW	17	18	19	386	35			28	FAN	1	
	SE	5	11	11	147	19			10	ONE-WAY DIRECTIONAL	1	
6TH AVENUE NE	NW	20	23	23	218	47		10		COMBINED DIRECTIONAL	1	
	NE	4	10	9	147	16			10	ONE-WAY DIRECTIONAL	1	
7TH AVENUE NE	SW	18	11	11	63	24		8		ONE-WAY DIRECTIONAL	1	
	NW	15	22	22	169	45		8	10	PERPENDICULAR		
	NE	6	11	11	50	19			8	ONE-WAY DIRECTIONAL	1	
GROCERY ENTRANCE	NW		24	22	320	50		10	10	COMBINED DIRECTIONAL	1	
12TH AVENUE SE	SW		21	8	189	38		20	12	COMBINED DIRECTIONAL	1	
12TH AVENUE NE	NW		10	10	163	42		40		FAN	1	
SP 0804-114 SUBTOTAL		**630**	**751**	**833**	**11364**	**1588**	**139**	**470**	**324**		**19**	
GRAND TOTAL		**904**	**1015**	**1120**	**15241**	**2089**	**139**	**590**	**457**		**33**	

NOTE: (1) 8" CONCRETE WALK REQUIRED.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 11 OF 152 SHEETS

MILLING TABULATION

TAB E

STA. TO STA.	OFFSET	MILL BITUMINOUS SURFACE (1.0")	MILL BITUMINOUS SURFACE (2.0")	MILL CONCRETE SURFACE (1.5")	REMARKS
		SQ YD	SQ YD	SQ YD	
T.H. 14					
SP 0803-38					
1082+77 - 1086+89	24 LT-24 RT		2197		
1086+89 - 1093+57	14 LT-24 RT		2820		
1093+57 - 1095+13	32 LT-50 RT		1055		
1095+13 - 1099+55	24 LT-24 RT		2351		
1099+55 - 1100+15	24 LT-40 RT		402		
1100+15 - 1105+65	12.5-58 RT&LT	1344		904	
1105+65 - 1121+09	12.5-50 RT			1340	
1105+65 - 1121+09	12.5-54 LT			1255	
SP 0803-38 SUBTOTAL		**1344**	**8825**	**3499**	
SP 0804-114					
1128+02 - 1131+84	19.5-66 RT			288	
1128+02 - 1131+84	19.5-64 LT			335	
1133+08 - 1137+49	19-66 RT			397	
1138+91 - 1143+35	19.5-66 LT			413	
1138+91 - 1143+35	19.5-48 RT			406	
1143+35 - 1158+40	12.5-52 RT&LT			2472	
1158+40 - 1162+17	20 LT-20 RT	1676		397	
1162+17 - 1171+00	40 LT-12 RT		3532		
1171+81 - 1189+06	40 LT-12 RT		6840		
ENTRANCES					
1164+00 - 1164+81	24-40 LT		84		GROCERY ENT.
1167+24 - 1164+83	24-40 LT		75		BANK ENT.
1170+95 - 1171+59	24-53 LT		76		12TH AVE NE
1180+08 - 1180+72	22-50 LT		123		COMM. ENT
1184+48 - 1185+58	22-50 LT		268		COMM. ENT
1188+17 - 1188+82	22-50 LT		124		COMM. ENT
SP 0804-114 SUBTOTAL		**1676**	**11122**	**4708**	
GRAND TOTAL		**3020**	**19947**	**8207**	

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
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TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 12 OF 152 SHEETS

AGGREGRATE AND PAVING TABULATION

TAB F

STA. TO STA.	OFFSET TO OFFSET	AGGREGATE SURFACING CLASS 1	AGGREGATE BASE (CV) CLASS 5Q	CONCRETE PAVEMENT (8.0")	SUPPLEMENTAL PAVEMENT REINFORCEMENT	DRILL AND GROUT REINFORCEMENT BAR (EPOXY COATED)	DRILL & GROUT DOWEL BAR (EPOXY COATED)	TYPE SP 9.5 WEARING COURSE (4;E)	GEOTEXTILE FILTER TYPE 5	REMARKS
		TON	CU YD	SQ YD	POUND	EACH	EACH	TONS	SQ YD	
TH 14										
SP 0803-38										
MAINLINE										
1082+77 - 1100+15	24 LT - 24 RT	53						1599		
1100+15 - 1105+65	20 LT - 20 RT							475		
1105+65 - 1120+44	20 LT - 20 RT							985		
1112+42 - 1112+67	11 LT - 18 LT		6	31		30	12			PLACE CONC. PRIOR TO OVERLAY
1112+77 - 1113+01	12 RT - 12 LT		11	64		30	66			PLACE CONC. PRIOR TO OVERLAY
1120+44 - 1121+09	20 LT - 20 RT							57		
MANHOLE ADJUSTS AND REPAIRS			2	20	180	40				(6)
ENTRANCES										
1094+22 - 1095+05	25 LT - 32 LT							6		CR 33
1093+93 - 1094+80	24 RT - 50 RT							15		9TH AVE SW
1099+56 - 1100+15	24 RT - 40 RT							7		8TH AVE SW
1104+90 - 1105+57	19 RT - 58 RT							14		7TH AVE SW
1108+82 - 1109+51	19 RT - 51 RT							11		6TH AVE SW
1112+62 - 1113+29	19 RT - 49 RT							10		5TH AVE SW
1116+45 - 1117+08	20 LT - 54 LT							13		4TH AVE NW
1116+45 - 1117+11	19 RT - 48 RT							9		4TH AVE SW
1120+37 - 1121+08	20 LT - 50 LT							11		TH 4 N
1120+44 - 1121+08	20 RT - 50 RT							8		TH 4 S
SP 0803-38 SUBTOTAL		**53**	**19**	**115**	**180**	**100**	**78**	**3220**		
SP 0804-114										
MAINLINE										
1128+02 - 1131+83	27 LT - 27 RT							482		
1131+83 - 1138+91	0 - 27 RT							394		
1131+83 - 1138+91	0 - 27 LT							382		
1138+91 - 1143+35	27 LT - 27 RT							485		
1143+35 - 1158+40	20 LT - 20 RT							1171		
1158+40 - 1162+17	20 LT - 20 RT							289		
1162+17 - 1167+06	24 LT - 35 RT							628		
1162+17 - 1171+00	24 LT - 33 LT	15							1790	(1)(3)
1167+06 - 1171+00	24 LT - 35 RT	7						512	1722	(2)(3)
1171+00 - 1189+06	24 LT - 37 RT	79						7136	9996	(2)(3)
MANHOLE ADJUSTS AND REPAIRS			2	20	180	40				(6)
ENTRANCES										
1121+08 - 1128+74	20 LT - 50 LT							12		TH 4 N
1121+08 - 1128+74	20 RT - 50 RT							12		TH 4 S
1130+97 - 1132+10	26 LT - 50 LT							13		2ND AVE NW
1131+08 - 1132+05	26 RT - 65 RT							21		2ND AVE SW
1134+80 - 1135+89	26 LT - 66 LT							22		1ST AVE N
1135+01 - 1135+90	26 RT - 66 RT							21		1ST AVE S
1138+61 - 1139+69	26 LT - 66 LT							21		2ND AVE NE
1138+62 - 1139+63	27 RT - 66 RT							20		2ND AVE SE
1142+55 - 1143+38	19 LT - 53 LT							13		3RD AVE NE
1142+50 - 1143+39	19 RT - 48 RT							11		3RD AVE SE
1146+44 - 1147+10	20 LT - 50 LT							11		4TH AVE NE
1146+45 - 1147+11	19 RT - 48 RT							11		4TH AVE SE
1150+25 - 1150+97	19 RT - 47 RT							10		5TH AVE SE
1153+90 - 1154+59	19 RT - 47 RT							10		6TH AVE SE
1170+91 - 1171+60	24 LT - 52 LT		2	130		21		67		12TH AVE NE
1170+81 - 1171+79	12 RT - 100 RT		10					193		12TH AVE SE (4)
1170+75 - 1171+09	12 RT - 24 LT	1	3	136		34		78		STORM DRAIN CONST. AREA (5)
1170+81 - 1171+79	12 RT - 100 RT		6	311		25		125		STORM DRAIN CONST. AREA (5)
1171+09 - 1171+79	12 RT - 24 LT							48		MAINLINE OVERLAY
1171+79 - 1177+31	12 RT - 24 LT	10						381		MAINLINE OVERLAY
1177+31 - 1182+19	12 RT - 24 LT	9						337		MAINLINE OVERLAY
1171+79 - 1177+31	12 RT - 31 RT	34						265		(4)
1177+31 - 1178+74	12 RT - 149 RT	19						376		CR 27 (4)
1178+74 - 1182+19	12 RT - 37 RT	21						331		(4)
1182+19 - 1189+06	12 RT - 37 RT	42						487		(4)
1180+08 - 1180+72	22 LT - 50 LT							21		COMM. ENT
1184+48 - 1185+58	22 LT - 50 LT							46		COMM. ENT
1188+17 - 1188+82	22 LT - 50 LT							21		COMM. ENT
SP 0804-114 SUBTOTAL		**237**	**23**	**597**	**180**	**120**		**14463**	**13508**	
100% CITY										
UTILITY ADJUSTS AND REPAIRS			2	20	180	40				(6)
100% CITY SUBTOTAL			**2**	**20**	**180**	**40**				
GRAND TOTAL		**290**	**44**	**732**	**540**	**260**	**78**	**17683**	**13508**	

NOTES:

(1) PLACE AGGREGATE AT NORTH SHOULDER PI AREA. SEE TYPICAL SECTIONS.
(2) PLACE AGGREGATE AT SOUTH SHOULDER PI AREA. SEE TYPICAL SECTIONS.
(3) SEE TYPICAL SECTIONS FOR PLACEMENT OF GEOTEXTILE FILTER.
(4) ROAD WIDENING AREA.
(5) PLACE CONCRETE PAVEMENT (8.0") TO MATCH EXISTING CONCRETE PAVEMENT AND 7 INCHES OF TYPE SP 12.5 BITUMINOUS WEARING MIXTURE TO MATCH MILLED SURFACE ELEVATION.
(6) FOR USE AT MANHOLE AND CATCH BASIN WORK AREAS.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
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TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 13 OF 152 SHEETS

SIDEWALK TABULATION (1 OF 2) (1)

TAB G

STA. TO STA.	LOCATION	REMOVE CURB	REMOVE CURB & GUTTER	REMOVE CONCRETE WALK	REMOVE CONCRETE PAVEMENT	SAWING CONCRETE PAVEMENT (FULL DEPTH)	REMOVE BRICK PAVERS	EXCAVATION - COMMON	AGGREGATE BASE (CV) CLASS 5Q	4" CONCRETE WALK	6" CONCRETE WALK	DRILL AND GROUT REINFORCEMENT BAR (EPOXY COATED)	CONCRETE CURB AND GUTTER DESIGN B624	CONCRETE CURB AND GUTTER DESIGN B624 (MODIFIED)	INSTALL WOOD POLE	REMARKS
		LIN FT	LIN FT	SQ FT	SQ YD	LIN FT	SQ FT	CU YD	CU YD	SQ FT	SQ FT	EACH	LIN FT	LIN FT	EACH	
TH 14																
SP 0803-38																
1106+41 - 1106+46	33 - 38 RT			25				1	1	25						
1107+37 - 1107+82	33 - 38 RT			225				3	3	225						
1109+46 - 1110+44	33 - 38 RT			496				6	6	495						
1110+70 - 1110+93	33 - 38 RT			119				2	2	128						
1111+27 - 1111+42	33 - 38 RT			75		5		1	1	75						
1112+22 - 1112+32	33 - 38 RT			50				1	1	50						
1112+42 - 1112+67	11 - 21 LT	30			31	53		3				14	24			(2)
1112+49 - 1112+77	23 - 50 RT					10										
1112+72 - 1112+90	30 - 36 LT	14		86	4	24		1	1	86			14			
1113+03 - 1113+09	31 - 36 LT			28				1	1	28						
1113+46 - 1113+55	32 - 39 RT			50				1	1	50						
1113+29 - 1113+45	30 - 35 LT					5		1	1							
1113+87 - 1114+17	32 - 38 RT			167		5		2	2	167						
1114+29 - 1114+75	31 - 36 LT			225		10		3	3	225						
1115+35 - 1115+55	32 - 38 RT			100		10		1	1	100						
1115+51 - 1116+28	32 - 38 LT			390				5	5	390						
1115+83 - 1115+88	33 - 38 RT			25				1	1	25						
1117+32 - 1117+61	32 - 38 LT			175		5		2	2	175						
1117+49 - 1117+54	33 - 38 RT			25				1	1	25						
1117+74 - 1117+86	32 - 38 LT			60		5		1	1	60						
1117+80 - 1117+85	33 - 38 RT			25				1	1	25						
1118+27 - 1118+37	33 - 38 RT			50				1	1	50						
1118+35 - 1118+47	32 - 38 LT			60		10		1	1	60						
1118+71 - 1118+96	32 - 38 LT			150		10		2	2	150						
1119+00 - 1119+80	32 - 40 RT			636		16		8	8	636						
1119+21 - 1119+36	20 - 22 LT											15	15			
1120+19 - 1120+49	32 - 40 RT			285		8		3	3	285						
SP 0803-38 SUBTOTAL		**44**		**3527**	**35**	**176**		**53**	**50**	**3535**		**29**	**53**			
100% CITY																
1108+69 - 1108+81	56 - 81 RT			167		10		2	2	167						
100% CITY SUBTOTAL				**167**		**10**		**2**	**2**	**167**						

NOTES:
(1) SEE ADA TABULATION-PROPOSED PEDESTRIAN RAMPS FOR ADDITIONAL INFORMATION AND QUANTITIES.
(2) REPLACE BROKEN PAVEMENT.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
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TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 14 OF 152 SHEETS

SIDEWALK TABULATION (2 OF 2) (1)

TAB G

STA. TO STA.	LOCATION	REMOVE CURB	REMOVE CURB & GUTTER	REMOVE CONCRETE WALK	REMOVE CONCRETE PAVEMENT	SAWING CONCRETE PAVEMENT (FULL DEPTH)	REMOVE BRICK PAVERS	COMMON EXCAVATION	AGGREGATE BASE (CV) CLASS 5Q	4" CONCRETE WALK	6" CONCRETE WALK	DRILL AND GROUT REINFORCEMENT BAR (EPOXY COATED)	CONCRETE CURB AND GUTTER DESIGN B624	CONCRETE CURB AND GUTTER DESIGN B624 (MODIFIED)	INSTALL WOOD POLE	REMARKS
		LIN FT	LIN FT	SQ FT	SQ YD	LIN FT	SQ FT	CU YD	CU YD	SQ FT	SQ FT	EACH	LIN FT	LIN FT	EACH	
TH 14																
SP 0804-114																
1128+75 - 1128+83	30 - 40 LT			84				2	2	84						
1128+62 - 1128+79	29 - 39 RT			190				4	4	190						
1129+13 - 1131+03	29 - 39 RT		51	1980		191		37	37	1980			51			
1129+19 - 1130+97	29 - 39 LT		45	1824		178		34	34	1824			45			
1132+10 - 1134+80	29 - 40 LT		270	2913	118	540		61	61	3267		91		270		
1132+05 - 1133+28	29 - 39 RT		123	1302	27	246		24	24	1302		42		123		
1133+28 - 1134+82	29 - 39 RT			1610		148		30	30	1610						
1135+90 - 1137+29	29 - 39 RT			1478		139		27	27	1478						
1137+29 - 1138+62	29 - 39 RT		134	1434	30	268		27	27	1434		46		134		
1135+89 - 1136+32	29 - 39 LT		39	421	20	78		9	9	511		14		39		
1136+47 - 1136+61	30 - 40 LT		14	126	8	14						6		14		
1136+76 - 1138+61	28 - 49 LT		186	1827	101	186		42	42	2252		63		186		
1139+63 - 1140+72	49 - 29 RT			1134				14	14	1134		22	49			
1139+69 - 1140+72	29 - 40 LT						1009	12	12	1009						
1140+84 - 1141+13	30 - 40 LT			303				4	4	303						
1141+13 - 1141+36	30 - 40 LT					10		3	3	268						
1141+03 - 1141+47	29 - 40 RT			488		44		6	6	488						
1141+61 - 1141+93	29 - 40 RT			356		31		4	4	356						
1141+55 - 1142+58	30 - 40 LT			1109		136		14	14	1109						
1142+15 - 1142+23	27 - 29 LT	8			2				1				8			
1143+49 - 1144+00	33 - 38 LT			272		92		3	3		272					
1144+28 - 1144+98	34 - 39 LT			369		11		5	5	369						
1144+30 - 1144+40	33 - 38 RT			50				1	1	50						
1144+98 - 1145+59	34 - 39 LT			270		8		4	4	306						
1147+23 - 1147+65	23 - 40 LT			217		5		3	3	217						
1147+43 - 1147+73	33 - 38 RT			145		10				145						
1147+83 - 1147+88	32 - 37 RT			25				1	1	25						
1147+96 - 1148+06	32 - 37 RT			54		10				54						
1148+56 - 1148+66	32 - 37 RT			54		10				54						
1148+76 - 1148+81	36 - 41 LT			25				1	1	25						
1149+00 - 1149+15	32 - 37 RT			75				1	1	75						
1149+25 - 1149+53	32 - 27 RT			139		5		2	2	139						
1149+63 - 1149+87	32 - 37 RT			113		5		1	1	113						
1149+75 - 1149+85	37 - 42 LT			54		10				54						
1151+01 - 1151+11	31 - 41 LT			54		10		1	1	54						
1151+01 - 1151+11	32 - 37 RT			50				1	1	50						
1151+68 - 1151+78	32 - 37 RT			54		10				54						
1152+14 - 1152+38	36 - 42 LT			128		5										(2)
1152+47 - 1153+87	36 - 41 LT			743				9	9	743						
1155+12 - 1155+18	37 - 42 LT			30				1	1	30						
1157+59 - 1157+69	30 - 35 RT							1	1	25		9	23			
1158+00 - 1158+18	28 - 35 RT			95				1	1	116						
1158+52 - 1158+69	28 - 33 RT								3	85						(1)
1158+67 - 1159+10	32 - 37 LT			235		5		3	3	235						
1159+01 - 1159+98	28 - 33 RT								9	485						(1)
1159+24 - 1159+53	32 - 37 LT			145				2	2	145						
1159+67 - 1160+03	32 - 37 LT			200				2	2	200						
1160+03 - 1160+89	32 - 37 LT			430		5		5	5	430						
1160+32 - 1161+19	28 - 33 RT								8	435						(1)
1160+32 - 1161+18	35 RT														7	
1161+50 - 1161+71	28 - 33 RT								2	100						(1)
1161+92 - 1162+18	28 - 33 RT								2	128						(1)
1162+18 - 1163+58	28 - 38 RT								25	706						(1)
1163+58 - 1164+21	33 - 62 RT								7	397						(1)
1164+21 - 1170+95	56 - 62 RT								75	4057						(1)
1171+47 - 1171+65	24 - 44 LT		23										30			
SP 0804-114 SUBTOTAL		8	885	22605	306	2410	1009	402	534	30700	272	293	206	766	7	
GRAND TOTAL		52	885	26299	341	2596	1009	457	586	34402	272	322	259	766	7	

NOTES:
(1) EXCAVATION-COMMON FOR SIDEWALK STA. 1158+40 TO 1170+87 RT IS INCLUDED IN THE EARTHWORK TABULATION.
(2) THE NEW SIDEWALK SHALL BE SLOPED TO PROMOTE DRAINAGE DOWN THE DRIVEWAY STA. 1152+37-1152+47.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
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TABULATION SHEET

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DRIVEWAY TABULATION

TAB H

STA. TO STA.	LOCATION	REMOVE CURB	REMOVE CURB & GUTTER	REMOVE CONCRETE DRIVEWAY PAVEMENT	REMOVE CONCRETE PAVEMENT	REMOVE BITUMINOUS PAVEMENT	SAWING CONCRETE PAVEMENT (FULL DEPTH)	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	EXCAVATION - COMMON	AGGREGATE BASE (CV) CLASS 5Q	REINFORCEMENT BAR (EPOXY COATED)	DRILL AND GROUT REINFORCEMENT BAR (EPOXY COATED)	TYPE SP 9.5 WEARING COURSE MIXTURE (4,E)	CONCRETE CURB AND GUTTER DESIGN B624	6" CONCRETE DRIVEWAY PAVEMENT	SITE RESTORATION	REMARKS
		LIN FT	LIN FT	SQ YD	SQ YD	SQ YD	LIN FT	LIN FT	CU YD	CU YD	POUND	EACH	TON	LIN FT	SQ YD	EACH	
TH 14																	
SP 0803-38																	
1104+91 - 1105+03	37- 56 RT							32	2	2	3		9			1	
1105+43 - 1105+55	40 - 47 RT	11		7			20	3	1	1			1	18	8		
1110+39 - 1110+77	22 - 38 RT	8		45	10	7	40		6	6	3	11		35	55	1	
1110+77 - 1111+37	22 - 38 RT	20		69	18		67		8	8	3	24		62	69		
1112+90 - 1113+04	21 - 36 LT	8		21	13		48		4	4	3	12		30	38	1	
1113+18 - 1113+32	21 - 36 LT	8		20	8		33		2	2	3	8		19	22		
1113+46 - 1113+90	22 - 38 RT	4		59	14		81		7	7	3	38		52	60	1	
1114+17 - 1114+50	32 - 38 RT			21			71		2	2		22			21		
1117+61 - 1117+75	31 - 38 LT	31		27			28		3	3	3	9		31	29	1	
1118+35 - 1118+47	31 - 38 LT			8			34		1	1		8			8		
1120+46 - 1120+84	22 - 46 RT	56		56	37		94		5	5				56	49		
SP 0803-38 SUBTOTAL		146		333	100	7	516	35	41	41	21	132	10	303	359	5	
SP 0804-114																	
1128+26 - 1128+37	29 - 73 RT	4		50	60		189		3	3				37			
1128+83 - 1129+19	29 - 41 LT	17		43	11	23	14		5	5		22	11	48	43		
1128+79 - 1129+12	29 - 39 RT	8		38	16		57		4	4		22		55	38		
1136+32 - 1136+75	30 - 40 LT		30	34		26		54	4	4		10	12	24	32		(3) (5)
1140+62 - 1141+10	29 - 40 LT	26		17	11	4	50	18	2	2		20	2	31	17		
1140+72 - 1141+03	29 - 41 RT	6		36		8	45	31	4	4		21	4	40	36		
1141+13 - 1141+36	30 - 41 LT	3		30	6		28					11		28			(1)
1141+36 - 1141+55	30 - 41 LT	3		24	4	13	21	30	3	3		10	6	19	23		
1141+47 - 1141+62	29 - 40 RT	6		17		3	27	27	2	2		15	2	23	17		
1141+93 - 1142+57	29 - 40 RT	3		76			130		5	5		29		65	42		
1143+99 - 1144+40	22 - 39 LT	46		54			28		7	7		23		46	64	1	(2)
1144+93 - 1145+10	22 - 39 LT	6		17			22					12		18		1	(1)
1149+46 - 1149+69	32 - 37 RT	6		20			35		2	2		11		22	20	1	
1152+37 - 1152+47	25 - 42 LT	6		10					3	3		12		21	25	1	(4)
1153+18 - 1153+51	22 - 39 RT	6		39			63		5	5		14		33	42	1	(3)
1154+73 - 1155+12	42 - 47 LT			82			93		9	9		9		39	82	1	(5)
1155+83 - 1156+06	22 - 35 RT	23		12			27		2	2		15		23	17	1	
1158+16 - 1158+54	22 - 35 RT			48			32		5	5		10			48	1	
1158+66 - 1159+03	23 - 29 RT			41					5	5					41		
1159+07 - 1159+26	32 - 37 LT			24					3	3					27		
1159+50 - 1159+71	32 - 37 LT			25				25	3	3					28	1	
1159+95 - 1160+35	23 - 29 RT			43				40	5	5					41	1	
1160+85 - 1161+06	20 - 37 LT			28					3	3					28	1	
1161+16 - 1161+53	23 - 29 RT			39				38	4	4					40	1	
1161+68 - 1161+94	23 - 29 RT			25				26	3	3					26	1	
SP 0804-114 SUBTOTAL		169	30	872	108	77	861	289	91	91		266	37	572	777	13	
GRAND TOTAL		315	30	1205	208	84	1377	324	132	132	21	398	47	875	1136	18	

NOTES: (1) PERMANENT REMOVAL.
(2) WIDEN DRIVEWAY TO 32 FT. WIDTH.
(3) WIDEN DRIVEWAY TO 24 FT. WIDTH.
(4) INPLACE CONCRETE AND AGGREGATE SURFACE.
(5) DRIVEWAY REMOVAL AND CONSTRUCTION REQUIRES STAGED PROCESS TO KEEP HALF OF DRIVEWAY OPEN AT ALL TIMES.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 16 OF 152 SHEETS

RUMBLE STRIP TABULATION — TAB I

STA. TO STA.	LOCATION	MILLED SINUSOIDAL RUMBLE STRIPS-CL	MILLED RUMBLE STRIPS-INTERMITTENT	REMARKS
		LIN FT	LIN FT	
T.H. 14				
SP 0804-114				
1171+78 - 1176+28	25 RT		450	
1173+46 - 1176+63	12 RT	317		
1175+00 - 1175+63	0 LT	63		
1176+81 - 1178+70	25 LT		189	
1178+77 - 1189+06	23-12 RT		1029	
1179+10 - 1189+06	12 RT	998		
1181+95 - 1183+39	25-23 LT		144	
1182+00 - 1188+00	0 LT	600		
1186+76 - 1187+01	23 LT		25	
SP 0804-114 TOTAL		1978	1837	

EDGE DRAIN TABULATION — TAB J

STA.TO STA.	LOCATION	REMOVE PIPE DRAIN (1)	SALVAGE PRECAST CONCRETE HEADWALL	INSTALL PRECAST CONCRETE HEADWALL	4" PRECAST CONCRETE HEADWALL	4" PERF PE PIPE DRAIN	4" TP PIPE DRAIN	REMARKS
		LIN FT	EACH	EACH	EACH	LIN FT	LIN FT	
TH 14								
SP 0804-114								
1162+17 - 1170+89	14 RT	1012	2	3		872	60	
1171+90 - 1177+32	41-43 RT			2		542	40	
1172+50	14 RT		1					
1172+84 - 1177+24	14 RT	480						
1176+00	26 RT		1					
1178+50 - 1189+09	14 RT	1139						
1179+50	14 RT		1					
1182+25	14 RT		1					
1189+00	14 RT		2					
1178+78 - 1189+09	43-27 RT			3	1	1031	80	
SP 0804-114 TOTAL		2631	8	8	1	2445	180	

NOTES:(1) INCLUDES REMOVAL OF INPLACE EDGE DRAIN SYSTEM CONSISTING OF 4" PERD PE PIPE DRAIN AND 4" TP PIPE DRAIN ON THE SOUTH SIDE TH 14.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 17 OF 152 SHEETS

TURF ESTABLISHMENT TABULATION TAB K

STA.TO STA.	LOCATION	RAPID STABILIZATION METHOD 4 (1)	REMARKS
		SQ YD	
T.H. 14			
SP 0803-38			
1104+86 - 1105+02	22-32 RT	8	
SP 0803-38 SUBTOTAL		8	
SP 0804-114			
1162+17 - 1170+95	22-75 RT	3409	
1172+00 - 1178+00	37-160 RT	1659	
1178+35 - 1189+09	119-24 RT	3745	
SP 0804-114 SUBTOTAL		8813	
GRAND TOTAL		8821	

NOTES:
(1) INCLUDES SEED MIXTURE 25-241 AT 36.5 LB/ACRE, TYPE 4 FERTILIZER AT 150 LB/ACRE AND CATEGORY 3 EROSION CONTROL BLANKET 3N.

EROSION CONTROL TABULATION TAB L

STA. TO STA.	LOCATION	STORM DRAIN INLET PROTECTION	CULVERT END CONTROLS	SEDIMENT CONTROL LOG TYPE COMPOST	SILT FENCE, TYPE MS	REMARKS
		EACH	EACH	LIN FT	LIN FT	
T.H. 14						
SP 0803-38						
1100+36	22 LT & 22 RT	2				
1105+69 - 110571	22 LT & 22 RT	2				
1107+57	22 LT & 22 RT	2				
1109+59 - 1109+64	22 LT & 22 RT	2				
1111+35	22 LT & 22 RT	2				
1113+39	22 LT & 22 RT	2				
1116+36 - 1117+20	22 LT-20 RT	4				
1120+31 - 1128+49	34 LT-28 RT	4				
SP 0803-38 SUBTOTAL		20				
SP 0804-114						
1131+23 - 1131+99	52 LT-29 RT	5				
1133+30	29 LT-29 RT	2				
1134+94 - 1135+80	43 LT-28 RT	6				
1137+27	29 LT-29 RT	2				
1138+72	28 LT	1				
1138+88 - 1139+61	29 LT-52 LT	3				
1140+08	29 LT-29 RT	2				
1142+57 - 1143+21	44 LT-28 RT	4				
1144+98	22 RT	1				
1145+10	21 LT	1				
1146+36 - 1146+98	43 LT-22 RT	4				
1150+21 - 1150+80	44 LT-22 RT	4				
1153+87 - 1154+62	44 LT-22 RT	6				
1166+00	31-56 RT			15		
1168+12	40 LT		1			
1168+43 1168+86	32-37 LT		1			
1168+00 - 1170+50	56-58 RT			250		
1170+50	54-66 RT			15		
1170+64	45 RT	1				
1170+91 - 1171+50	41 LT-35 LT	3				
1171+50 1171-65	84 RT			15		
1172+00 - 1177+90	61-136 RT				690	
1173+00	54-68 RT			15		
1177+00	53-67 RT			15		
1178+55 - 1189+00	112-43 RT				1140	
1178+82	42 LT		1			
1180+00	60-71 RT			15		
1182+20	55-69 RT		1	30		
1183+46	37-65 RT		1	30		
1188+00	35-55 RT			15		
SP 0804-114 SUBTOTAL		45	5	415	1830	
GRAND TOTAL		65	5	415	1830	

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TABULATION SHEET

STORM SEWER TABULATION (1)

TAB N

STRUCT ID		STRUCTURE LOCATION			REMOVE SEWER PIPE (STORM)	REMOVE MANHOLE OR CATCH BASIN	REMOVE CASTING	REMOVE CATCH BASIN GRATE CASTING	SALVAGE CASTING	ABANDON MANHOLE	PLUG FILL & ABANDON PIPE SEWER	REPAIR CATCH BASIN	ADJUST FRAME AND RING CASTING	RECONSTRUCT DRAINAGE STRUCTURE (4)	CONST. DRAINAGE STRUCTURE PAY HEIGHT		TOP OF CASTING ELEVATION	OUTLET ELEVATION	CASTING ASSEMBLY TYPE	GRATE CASTING SPECIAL	INSTALL CASTING	6" PVC PIPE SEWER (10)	12" PVC PIPE SEWER (10)	12" RC PIPE SEWER CLASS V (10)	15" RC PIPE SEWER CLASS V (10)	CONNECT TO EXISTING STORM SEWER	CONNECT INTO EXISTING DRAINAGE STRUCTURE	NOTES
FLOWS FROM	FLOWS TO	SHEET	STATION	OFFSET											DESIGN G	DESIGN F (7)												
					LIN FT	EACH	EACH	EACH	EACH	EACH	LIN FT	LIN FT	EACH	LIN FT	LIN FT	LIN FT	FT	FT	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	
TH 14																												
SP 0803-38																												
CB132		133	1100+37.41 R 2	19.6 LT			1							1					B-3									(2)
MH134		133	1100+23.48 R 2	16.6 RT			1							2					A-7									
CB133		133	1100+36.85 R 2	22.5 RT			1							1					B-3									(2)
CB84		134	1105+68.83 R 3	21.8 LT								1																
CB128		134	1107+56.73 R 3	21.9 LT								1																
CB129		134	1107+57.25 R 3	20.4 RT			1							1.5					B-3									(2)
MH138		135	1109+47.74 R 3	9.5 RT			1						1						A-7									
CB87		135	1109+63.33 R 3	21.8 LT				1				1								810								
CB130		135	1111+34.73 R 3	21.9 LT				1				1								810								
CB5		135	1111+34.89 R 3	22.1 RT				1												810								
CB89		135	1113+38.92 R 3	22.1 RT			1							1					B-3									(2)
CB90		136	1116+36.56 R 3	22.0 LT				1												810								
MH12		$HP16$	1120+89.77 R 3	27.5 RT			1						1						A-7									
SP 0803-38 SUBTOTAL							**7**	**4**				**4**	**2**	**6.5**					**7**	**4**								
SP 0804-114																												
CB94		145	1128+50.69 R 4	33.9 LT	6	CB																						
MH999		145	1128+47.02 R 4	28.0 LT									1															
CB800		145	1128+55.18 R 4	28.6 LT												4.6	1024.28	1020.33	B-3					10			1	
CB95		145	1128+46.69 R 4	27.6 RT	8	CB																						
MH901		145	1128+46.69 R 4	27.6 RT												6.5	1023.60	1017.60	A-7							2		
CB802		145	1128+63.38 R 4	28.0 RT												6.8	1023.72	1017.63	B-3					18		1		
CB19A		146	1131+23.58 R 4	52.2 LT	10	CB			1																			(3)
CB19		146	1131+23.94 R 4	42.1 LT	16	CB																8						
CB803A		146	1131+24.25 R 4	62.2 LT												4.8	1027.38	1023.23	B-3					8				
CB803		146	1131+24.23 R 4	55.1 LT												4.8	1027.19	1023.10	B-3					26				
MH804		146	1131+32.24 R 4	30.6 LT												5.2	1027.15	1022.78	A-7			14				1		
MH20		146	1131+53.60 R 4	0.0 RT										2.5					A-7									
EXIST	CB22	146	1131+77	LT	12																							
EXIST	CB807	146	1131+17	LT																						12		1	(4)
CB807		146	1131+85.12 R 4	47.8 LT												4.6	1027.15	1023.24	B-3							6			
CB22		146	1131+85.82 R 4	41.9 LT		CB			1																				(3) (4)
CB96		146	1131+98.74 R 4	28.2 LT					1				1						A-7									(5)
CB813		146	1132+06.28 R 4	26.2 LT											4.3		1027.04	1023.44			1					6		(6)
CB97		146	1131+98.78 R 4	27.6 RT			1						1						B-3									
CB99		137	1133+08.00 R 4	28.1 LT		CB																						
CB818		137	1133+08.00 R 4	26.1 LT												6.7	1027.12	1021.09	B-3				6			2		(8)
CB99A		137	1133+30.00 R 4	28.8 RT		CB																						
CB822		137	1133+30.00 R 4	28.8 RT											4.3		1025.98	1022.31	B-3							1		
CB805		147	1134+85.59 R 4	26.0 LT												5.1	1027.00	1022.60	B-3					22			1	
CB100		147	1134+93.67 R 4	28.3 LT	16	CB																						
CB809		147	1134+87.96 R 4	27.5 RT											4.4		1025.90	1022.17	B-3					6			1	
CB101		147	1134+93.93 R 4	27.6 RT			1							1					ADA									
MH144		147	1135+03.22 R 4	25.5 RT			1							2					A-7									
MH814		147	1135+07.60 R 4	26.6 RT													1027.25	1022.32	A-7									
CB806		147	1135+07.60 R 4	48.7 LT												5.5	1027.43	1022.60	B-3					22				
CB34		147	1135+07.46 R 4	42.5 LT	22	CB																						
MH38		147	1135+59.22 R 4	22.0 LT			1							2.5					A-7									
MH39		147	1135+60.06 R 4	25.6 RT			1							2.5					A-7									
CB40		147	1135+65.03 R 4	42.4 LT	24	CB																						
CB807		147	1135+65.96 R 4	50.8 LT												4.5	1027.23	1023.40	B-3					8			1	
MH827		147	1135+59.12 R 4	50.7 LT	4											6.2	1027.45	1021.38	A-7							2		
CB102		147	1135+81.04 R 4	28.3 LT	24	CB																						
SP 0804-114 SUBTOTAL THIS SHEET					**142**	**11**	**5**		**3**				**3**	**10.5**	**13.0**	**65.3**			**22**		**1**	**22**	**6**	**120**	**24**	**9**	**5**	

NOTES:

(1)SEE MUNICIPAL PLAN SHEETS FOR MORE DRAINAGE TABULATIONS.
(2)STA & OFFSET TAKEN FROM AVAILABLE MAPPING. ALIGN GRATES TO MATCH C&G.
(3)SALVAGED CASTING TO BECOME PROPERTY OF THE CITY
(4)45 DEGREE ELBOW INCIDENTAL TO PIPE INSTALLATION
(5)REPLACE W/ MH CASTING
(6)INSTALL CB96 CASTING
(7)ALL STRUCTURES GREATER THAN 3.5' IN DEPTH WILL REQUIRE STEPS WITH A TYPE "B" CONE
(8)REPLACES CB99
(9)SEE RECONSTRUCT DRAINAGE STRUCTURE DETAIL ON SHEET 52.
(10)PLAN SHEET LENGTH INCREASED BY 2 FT FOR EACH CONNECTION TO STORM STRUCTURE

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 19 OF 152 SHEETS

STORM SEWER TABULATION (1)

TAB N

STRUCT ID FLOWS FROM	STRUCT ID FLOWS TO	STRUCTURE LOCATION SHEET	STRUCTURE LOCATION STATION	STRUCTURE LOCATION OFFSET	REMOVE SEWER PIPE (STORM)	REMOVE MANHOLE OR CATCH BASIN	REMOVE CASTING	REMOVE CATCH BASIN GRATE CASTING	SALVAGE CASTING	ABANDON MANHOLE	PLUG FILL & ABANDON PIPE SEWER	REPAIR CATCH BASIN	ADJUST FRAME AND RING CASTING	RECONSTRUCT DRAINAGE STRUCTURE (4)	CONST. DRAINAGE STRUCTURE PAY HEIGHT DESIGN G	CONST. DRAINAGE STRUCTURE PAY HEIGHT DESIGN F (5)	TOP OF CASTING ELEVATION	OUTLET ELEVATION	CASTING ASSEMBLY TYPE	GRATE CASTING SPECIAL	INSTALL CASTING	6" PVC PIPE SEWER (6)	12" PVC PIPE SEWER (6)	12" RC PIPE SEWER CLASS V (6)	15" RC PIPE SEWER CLASS V (6)	CONNECT TO EXISTING STORM SEWER	CONNECT INTO EXISTING DRAINAGE STRUCTURE	NOTES
					LIN FT	EACH	EACH	EACH	EACH	EACH	LIN FT	LIN FT	EACH	LIN FT	LIN FT	LIN FT	FT	FT	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	
TH 14																												
CB815		147	1135+88.46 R 4	26.1 LT												5.8	1026.85	1021.70	B-3					30			1	
CB810		147	1135+95.44 R 4	27.5 RT												4.8	1025.25	1021.07	B-3					16			1	
CB103		147	1135+77.95 R 4	27.8 RT									1						ADA									
CB104		138	1137+26.69 R 4	28.0 LT	10	CB																						
CB819		138	1137+26.69 R 4	26.0 LT												4.7	1027.14	1023.07	B-3					10			1	(3)
CB105		138	1137+27.18 R 4	28.7 RT		CB																						
CB823		138	1137+27.18 R 4	28.7 RT												4.8	1025.65	1021.48	B-3									
MH145		138	1137+35.73 R 4	25.9 LT			1							2					A-7									
CB106		148	1138+71.97 R 4	28.4 LT		CB					22																	
CB817		148	1138+65.22	26.0 LT	4											5.5	1027.10	1020.75	B-3							2		
CB811		148	1138+89.67 R 4	48.5 LT												5.0	1027.32	1022.94	B-3					8			1	
CB48		148	1138+89.60 R 4	42.5 LT			1							2					ADA									
MH146		148	1138+87.17 R 4	25.3 LT			1							2					A-7									
CB812		148	1139+66.49 R 4	28.0 LT											4.3		1026.73	1023.07	B-3					8		1		
CB107		148	1139+60.69 R 4	29.2 LT			1							2					ADA									
MH147		148	1139+44.19 R 4	25.6 LT									1															
CB52		148	1139+48.25 R 4	51.4 LT								1																
CB5053		138	1141+08.74 R 4	29.3 LT			1							2					B-3									
CB5054		138	1141+08.90 R 4	28.9 RT		CB																						
CB824		138	1141+08.90 R 4	28.9 RT												4.5	1025.74	1022.07	B-7					6				
CB111		149	1142+58.00 R 4	27.8 RT			1							1.5					B-3									(2)
CB110		149	1142+62.97 R 4	28.1 LT			1							2					ADA									(2)
CB59		149	1142+82.42 R 4	44.2 LT			1							2					ADA									(2)
CB820		149	1142+81.47 R 4	50.2 LT											2.8		1024.84	1022.73	B-3									
CB63		149	1143+20.57 R 4	44.1 LT			1							2					B-7									
MH60		149	1142+97.32 R 4	2.3 LT					1					2							1								
CB113		139	1144+98.72 R 4	21.0 RT		CB																						
CB825		139	1144+98.72 R 4	21.0 RT											4.3		1025.55	1021.88	B-3									
CB114		150	1146+35.77 R 4	21.8 RT								2																
MH1000		150	1146+77.33 R 4	44.0 LT			1			1																		
CB69		150	1146+57.79 R 4	42.6 LT		CB																						
CB828		150	1146+57.79 R 4	42.6 LT												4.7	1025.41	1021.41	B-3									
MH116		150	1146+79.81 R 4	24.6 LT									1															
CB71A		150	1146+96.40 R 4	48.3 LT												4.6	1025.25	1021.29	B-7					6			1	
CB71		150	1146+97.75 R 4	42.2 LT		CB																						
CB826		150	1146+97.75 R 4	42.2 LT												4.8	1025.10	1021.17	ADA									
CB118		140	1150+20.74 R 4	21.2 RT								2																
CB117		140	1150+20.17 R 4	21.1 LT			1							1.5					B-3									
MH151		140	1150+25.06 R 4	25.4 LT									1															
MH76		140	1150+63.16 R 4	25.7 LT									1															
CB123		140	1153+89.82 R 4	22.3 RT			1							2					B-3									
CB122		140	1153+89.62 R 4	22.0 LT									1															
SP 0804-114 SUBTOTAL THIS SHEET					14	7	12		1	1	22	5	6	23.0	11.4	49.2			25		1			84		3	5	
SP 0804-114 SUBTOTAL					156	18	17		4	1	22	5	9	33.5	24.4	114.5			47		2	22	6	204	24	12	10	
SP 0803-38 SUBTOTAL							7	4				4	2	6.5					7	4								
GRAND TOTAL					156	18	24	4	4	1	22	9	11	40.0	24.4	114.5			54	4	2	22	6	204	24	12	10	

NOTES:

(1)SEE MUNICIPAL PLAN SHEETS FOR MORE DRAINAGE TABULATIONS.
(2)PIPE LENGTH INCLUDES ELBOW SHOWN IN DETAIL.
(3)REPLACES CB104
(4)SEE RECONSTRUCT DRAINAGE STRUCTURE DETAIL ON SHEET 52.
(5)ALL STRUCTURES GREATER THAN 3.5' IN DEPTH WILL REQUIRE STEPS WITH A TYPE "B" CONE
(6)PLAN SHEET LENGTH INCREASED BY 2 FT FOR EACH CONNECTION TO STORM STRUCTURE

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 20 OF 152 SHEETS

CULVERT TABULATION (1)

TAB P

STRUCTURE LOCATION			STRUCT. ID	REMOVE METAL APRON	SALVAGE CONCRETE APRON	REMOVE METAL CULVERT	SALVAGE CONCRETE PIPE CULVERT	FINE AGGREGATE BEDDING	15" CS PIPE APRON	24" RC PIPE APRON	INSTALL CONCRETE APRON	15" CS PIPE CULVERT	15" RC PIPE CULVERT	24" RC PIPE CULVERT	INSTALL CONCRETE CULVERT	CLEAN PIPE CULVERT	VIDEO TAPE CULVERT	DITCH CLEANING	8" PERF PE PIPE DRAIN (SMOOTH)	CONST. DRAINAGE STRUCTURE PAY HEIGHT		TOP OF CASTING ELEVATION	OUTLET ELEV.	CASTING ASSEMBLY TYPE	CONNECT INTO EXISTING DRAINAGE STRUCTURE	LINING CULVERT PIPE 24"	NOTES
SHEET	STATION	OFFSET																		DESIGN G	DESIGN H						
				EACH	EACH	LIN FT	LIN FT	CY	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	FT	FT	EACH	EACH	LIN FT	
TH 14																											
SP 0804-114																											
141	1161+91	42 LT	821C			101																					
141	1161+57	49 LT	821D										34														
141	1161+75	48 LT	CB821A																	2.3		1025.38	1023.02	B-3			
141	1161+95	47 LT	821A										40														
141	1162+14	46 LT	CB821																	2.0		1024.84	1022.73	B-3			
141	1162+29	46 LT	821B										30														
141	1163+60	49 RT	CB829																452		2.3	1023.40	1020.40	731			
141	1164+49	36 LT														58		100									
141	1166+50	36 LT														58		100									
144	1178+91	LT/RT	665905		1		6	7		1	1			12	6	84	84								1	96	(2)
144	1180+50	55 LT	839784	2		64		17	2			64															
144	1182+50	40 RT	839785	2		50																					
144	1183+75	40 RT	839786	2		45																					
SP 0804-114 TOTAL				**6**	**1**	**260**	**6**	**24**	**2**	**1**	**1**	**64**	**104**	**12**	**6**	**200**	**84**	**200**	**452**	**4.3**	**2.3**			**3**	**1**	**96**	

NOTES:

(1)SEE MUNICIPAL PLAN SHEETS FOR MORE DRAINAGE TABULATIONS.

(2)SEE CULVERT LINING TRIMING DETAIL ON SHEET 53.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017

LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 21 OF 152 SHEETS

DRIVEWAY ELEVATION AND SLOPES TABULATION

TAB Q

STATION (1)	SIDE	DRIVEWAY TYPE	BUILDING	CURB TYPE	E1	E2	L1 FT	S1 %	E3	L2 FT	S2 %	E4	L4 FT	S3 %	E5	COMMENTS
1110+60	RT	PERPENDICULAR	NEW HOPE CHURCH	STANDARD	1021.45	1021.53	9.89	7.5%	1022.28	5	1.5%	1022.35				
1111+11	RT	PERPENDICULAR	CENEX	STANDARD	1021.49	1021.57	9.60	5.3%	1022.09	5	1.5%	1022.16				
1112+96	LT	PERPENDICULAR	HOME	TYPE 2	1021.91	1022.08	8.50	8.0%	1022.76	5	1.5%	1022.83	4.77	5.0%	1023.07	
1113+25	LT	PERPENDICULAR	HOME	TYPE 2	1021.98	1022.15	7.11	8.0%	1022.72	5	1.5%	1022.79	3.79	5.0%	1022.98	
1113+71	RT	PERPENDICULAR	SUBWAY	STANDARD	1021.55	1021.63	9.83	6.7%	1022.30	5	1.5%	1022.37				
1114+11	LT	PERPENDICULAR	COMMERCIAL /SHEDS	TYPE 2	1022.02	1022.19	8.27	8.0%	1022.86	5	1.5%	1022.93				
1114+33	RT	PERPENDICULAR	SUBWAY	STANDARD	1021.88	1021.96	10.2	3.94%	1022.37	5	1.5%	1022.44				
1115+36	LT	PERPENDICULAR	FREEDOM GAS	STANDARD	1022.43	1022.51	8.55	4.70%	1022.92	5	1.5%	1022.99				
1117+67	LT	PERPENDICULAR	HARDEES	STANDARD	1022.486	1022.57	10.06	7.76%	1023.35	5	1.5%	1023.43				
1129+00	LT	PERPENDICULAR	PARKING LOT	TYPE 2	1024.59	1024.76	3.61	8.0%	1025.05	6	1.5%	1025.14	6.40	8.0%	1025.65	
1128+96	RT	PERPENDICULAR	COMMERCIAL	STANDARD	1024	1024.08	3.83	7.22%	1024.36	6	1.5%	1024.45				
1136+44	LT	PERPENDICULAR	FIRST SECURITY BANK	STANDARD	1026.96	1027.04	5.09	7.0%	1027.40	7	1.5%	1027.50	5.26	6.0%	1027.82	(2)
1140+78	LT	PERPENDICULAR	CITY OF SLEEPY EYE	STANDARD	1026.119	1026.20	5.02	5.5%	1026.48	6	1.5%	1026.57	10.00	0.2%	1026.59	
1141+48	LT	PERPENDICULAR	CITY OF SLEEPY EYE	STANDARD	1026.118	1026.20	5.54	5.5%	1026.51	6	1.5%	1026.60	8.00	5.4%	1027.03	
1140+88	RT	PERPENDICULAR	CIA	STANDARD	1025.63	1025.71	10.33	4.7%	1026.20	6	1.5%	1026.29				
1141+55	RT	PERPENDICULAR	CIA	STANDARD	1025.492	1025.58	10.05	4.3%	1026.01	6	1.5%	1026.10				
1144+16	LT	PERPENDICULAR	SLEEPY EYE REPAIR	STANDARD	1025.70	1025.78	11.36	7.4%	1026.62	5	1.5%	1026.69				
1149+59	RT	PERPENDICULAR	HOME	STANDARD	1022.47	1022.55	9.8	4.3%	1022.98	5	1.5%	1023.05				
1153+37	RT	PERPENDICULAR	AUTO VALUE PARTS	STANDARD	1021.00	1021.08	14.70	4.57%	1021.76	5	1.5%	1021.83				
1155+00	LT	PERPENDICULAR	SLEEPY EYE CAR WASH	STANDARD	1021.64	1021.72	13.50	7.22%	1022.70	5	1.5%	1022.77				(2)
1155+95	RT	PERPENDICULAR	HAALA TRUCK & TRAILER SERVICE	STANDARD	1022.60	1022.68	7.12	5.70%	1023.09	5	1.5%	1023.16				
1158+40	RT	PERPENDICULAR	FAMILY DOLLAR	STANDARD	1024.60	1024.68	6.50	5.44%	1025.03	5	1.5%	1025.11	1.90	2.56%	1025.16	
1158+80	RT	PERPENDICULAR	CITY LIMITS RESTAURANT (1)	STANDARD	1024.84	1024.92	6.20	2.00%	1025.05	5	1.5%	1025.12				
1159+17	LT	PERPENDICULAR	HOME	STANDARD	1024.83	1024.91	10.49	2.51%	1025.18	5	1.5%	1025.25				
1159+60	LT	PERPENDICULAR	HOME	STANDARD	1025.20	1025.28	10.59	3.93%	1025.70	5	1.5%	1025.77				
1160+20	RT	PERPENDICULAR	CITY LIMITS RESTAURANT (2)	STANDARD	1025.69	1025.77	6.00	2.00%	1025.89	5	1.5%	1025.97				
1161+30	RT	PERPENDICULAR	HERB'S REPAIR	STANDARD	1026.14	1026.22	5.50	2.00%	1026.33	5	1.5%	1026.41				
1161+80	RT	PERPENDICULAR	HOME	STANDARD	1026.51	1026.59	6.00	2.00%	1026.71	5	1.5%	1026.79				

NOTES:
(1) DRIVEWAY CENTERLINE STATION
(2) DRIVEWAY REMOVAL AND CONSTRUCTION REQUIRES STAGED PROCESS TO KEEP HALF OF DRIVEWAY OPEN AT ALL TIMES.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TABULATION SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 22 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 15:55
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Tabulations/D080338_SEQ.dgn

UTILITY ITEMS		
ANCHOR	=	ANC
BITUMINOUS FLUME	=	FLUME
CATCH BASIN	=	CB
COMMUNICATION PEDESTAL	=	CPED
CORRUGATED METAL PIPE CULVERT	=	CMP
CURB STOP	=	CURB STOP
DROP INLET	=	DI
ELECTRIC CABINET	=	CABINET
ELECTRIC HAND HOLE	=	ELECTRIC HH
ELECTRIC MANHOLE	=	ELECTRIC MH
ELECTRIC VAULT	=	ELECTRIC VAULT
FIBER OPTIC CROSSING BURIED	=	FO-BUR XING
FIRE HYDRANT	=	FIRE HYDRANT
GAS LINE BURIED	=	GAS LINE
GAS LINE CROSSING BURIED	=	GAS LINE XING
HAND HOLE	=	HH
LIGHT POLE	=	L POLE
POLE	=	POLE
POWER CROSSING BURIED	=	P-BUR XING
POWER LINE BURIED	=	P-BUR
POWER PEDESTAL	=	P-PED
SANITARY MANHOLE	=	SAN MH
STORM DRAIN	=	STORM DRAIN
STORM DRAIN CROSSING	=	STORM DRAIN XING
STORM MANHOLE	=	SMH
TELEPHONE LINE BURIED	=	T-BUR
TELEPHONE LINE CROSSING BURIED	=	T-BUR XING
TELEPHONE PEDESTAL	=	T-PED
TELEVISION CABLE BURIED	=	TV-BUR
TELEVISION CABLE CROSSING BURIED	=	TV-BUR XING
TRAFFIC SIGNAL LIGHT	=	TRAFFIC SIGNAL LIGHT
VAULT	=	VAULT
WATER LINE BURIED	=	WATER LINE
WATER MANHOLE	=	WMH
WATER VALVE	=	WVLV

THE FOLLOWING LIST SHOWS THE UTILITY COMPANIES INVOLVED ON THIS PROJECT.
CENTURYLINK = CENTURYLINK
CENTERPOINT ENERGY MINNESOTA GAS = CENTERPOINT ENERGY
MINNESOTA DEPARTMENT OF TRANSPORATION = MNDOT
NEW ULM TELECOM, INCORPORATED = NU-TELECOM
SLEEPY EYE UTILITIES = SLEEPY EYE PUBLIC UTILITIES
MEDIACOM = MEDIACOM

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI / ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

GENERAL NOTES:
- ALL POWER LINES ARE 7200 VOLT OR LESS DISTRIBUTION LINES UNLESS OTHERWISE NOTED.
- ALL UTILITY WORK SHOWN ON THESE SHEETS WILL BE DONE BY THE UTILITY OWNER UNLESS OTHERWISE NOTED.

INPLACE UTILITIES TABULATION - GAS

STATION TO STATION	OFFSET (FT) TO OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1094+72 - 1094+92	77 LT - 46 RT	GAS LINE XING	CENTERPOINT ENERGY			X	
1102+44 - 1104+81	33 RT - 100 RT	GAS LINE	CENTERPOINT ENERGY			X	
1111+16 - 1116+89	67 LT - 68 LT	GAS LINE	CENTERPOINT ENERGY			X	(1)
1111+16 - 1116+46	67 LT - 29 LT	GAS LINE	CENTERPOINT ENERGY			X	(1)
1116+45 - 1116+46	29 LT - 67 LT	GAS LINE	CENTERPOINT ENERGY			X	(1)
1116+46 - 1116+89	67 LT - 68 LT	GAS LINE XING	CENTERPOINT ENERGY			X	(1)
1116+88 - 1116+91	100 LT - 90 RT	GAS LINE XING	CENTERPOINT ENERGY			X	(1)
1131+35 - 1131+36	148 LT - 152 RT	GAS LINE XING	CENTERPOINT ENERGY			X	
1131+50 - 1131+50	40 LT - 140 LT	GAS LINE XING	CENTERPOINT ENERGY			X	
1131+50 - 1131+57	40 LT - 72 RT	GAS LINE XING	CENTERPOINT ENERGY			X	
1146+63 - 1146+64	45 LT - 45 RT	GAS LINE	CENTERPOINT ENERGY			X	
1154+50 - 1158+00	69 RT - 27 RT	GAS LINE	CENTERPOINT ENERGY			X	
1158+00 - 1167+55	28 RT - 25 RT	GAS LINE	CENTERPOINT ENERGY		X		2" INP.
1157+66 - 1167+91	95 LT - 40 LT	GAS LINE	CENTERPOINT ENERGY			X	4" INP.
1167+91 - 1190+00	66 LT - 31 LT	GAS LINE	CENTERPOINT ENERGY			X	4" INP.
1167+55 - 1167+93	27 RT - 76 LT	GAS LINE XING	CENTERPOINT ENERGY		X		(1)(2) 1.25" INP.
1170+78 - 1171+05	32 LT - 100 LT	GAS LINE	CENTERPOINT ENERGY			X	(1)
1171+55 - 1171+69	49 RT - 31 LT	GAS LINE XING	CENTERPOINT ENERGY		X		(1) 4" INP.
1177+60 - 1177+67	38 LT - 83 RT	GAS LINE XING	CENTERPOINT ENERGY	X			(2) 4" INP.
1177+60 - 1190+00	32 LT - 43 LT	GAS LINE	CENTERPOINT ENERGY			X	

NOTES: (1) PROTECT THE GAS LINE AT THIS LOCATION DURING SIDEWALK REPLACEMENT AND/OR ADA IMPROVEMENTS OR ROAD WIDENING.
(2) THIS GAS LINE WILL BE LOWERED. WORK DONE BY THE FACILITY OWNER.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 23 OF 152 SHEETS

INPLACE UTILITIES TABULATION - COMMUNICATIONS

STATION TO STATION	OFFSET (FT) TO OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1100+15 - 1100+39	53 RT - 35 RT	TV-BUR	MEDIACOM			X	
1100+39 - 1104+76	35 RT - 60 RT	TV-BUR	MEDIACOM			X	
1116+38 - 1116+50	66 LT - 90 RT	TV-BUR XING	MEDIACOM			X	2 COAX CABLES '(3)
1150+72	50 RT - 50 LT	FO-BUR XING	MEDIACOM			X	
1150+80 - 1150+80	72 LT - 120 RT	TV-BUR XING	MEDIACOM			X	
1150+86 - 1150+91	119 RT - 75 LT	TV-BUR XING	MEDIACOM			X	
1167+83	70 LT	CPED	MEDIACOM			X	
1167+77 - 1167+80	96 LT - 55 RT	TV-BUR XING	MEDIACOM		X		
1167+80 - 1171+65	55 RT - 72 RT	TV-BUR	MEDIACOM		X		
1171+66	72 RT	CPED	MEDIACOM			X	
1093+59 - 1093+97	63 RT - 64 RT	T-BUR	NU TELECOM			X	
1094+68 - 1095+01	86 RT - 44 RT	T-BUR	NU TELECOM			X	
1164+59 - 1165+31	49 LT - 53 LT	T-BUR	NU TELECOM			X	
1164+60 - 1167+38	49 LT - 55 LT	T-BUR	NU TELECOM			X	
1164+90 - 1171+60	43 RT - 42 RT	T-BUR	NU TELECOM		X		
1164+91 - 1171+00	46 RT - 40 RT	T-BUR	NU TELECOM		X		
1164+92	53 RT	CPED	NU TELECOM		X		
1165+07	52 LT	CPED	NU TELECOM			X	
1165+29 - 1175+25	21 LT - 60 LT	T-BUR	NU TELECOM			X	
1165+31 - 1167+38	57 LT - 58 LT	T-BUR	NU TELECOM			X	
1167+05 - 1167+38	47 RT - 50 RT	T-BUR	NU TELECOM		X		
1167+30	50 LT	CPED	NU TELECOM			X	
1167+33 - 1175+23	21 LT - 59 LT	T-BUR	NU TELECOM			X	
1167+83	70 LT	CPED	NU TELECOM			X	
1167+84	70 LT	CPED	NU TELECOM			X	
1167+85 - 1168+04	66 LT - 36 RT	T-BUR XING	NU TELECOM		X		
1168+06	47 RT	CPED	NU TELECOM		X		
1168+21 - 1173+73	39 RT - 45 RT	T-BUR	NU TELECOM		X		
1168+92	56 RT	CPED	NU TELECOM		X		
1170+98 - 1171+02	25 LT - 50 RT	T-BUR XING	NU TELECOM		X		
1171+06	38 LT	CPED	NU TELECOM		X		
1171+66 - 1173+63	51 RT - 37 RT	T-BUR	NU TELECOM		X		
1171+65	72RT	T-PED	NU TELECOM			X	(3)
1171+66	69 RT	CPED	NU TELECOM			X	(3)
1171+67 - 1172+46	109 RT - 40 RT	T-BUR	NU TELECOM		X		
1172+45 - 1176+16	41 RT - 184 RT	T-BUR	NU TELECOM		X		
1173+73	49 RT	CPED	NU TELECOM		X		
1173+78 - 1175+22	70 LT - 46 LT	T-BUR	NU TELECOM			X	
1173+79	62 LT	VAULT	NU TELECOM			X	
1173+92 - 1178+51	55 LT - 66 LT	T-BUR	NU TELECOM			X	
1175+25 - 1179+43	46 LT - 228 RT	T-BUR XING, T-BUR	NU TELECOM		X		
1175+25 - 1184+25	53 LT - 37 LT	T-BUR	NU TELECOM			X	
1175+25	47 LT	CPED	NU TELECOM			X	
1175+26	46 LT	CPED	NU TELECOM			X	
1178+60 - 1178+83	88 RT - 234 RT	T-BUR	NU TELECOM			X	2 LINES, SHARED TRENCH
1178+85 - 1178+51	57 LT - 94 RT	T-BUR XING	NU TELECOM		X		
1178+87 - 1188+47	22 RT - 51 RT	T-BUR	NU TELECOM		X		
1178+88	89 RT	CPED	NU TELECOM			X	
1181+57	46 LT	CPED	NU TELECOM			X	
1183+33	49 LT	CPED	NU TELECOM			X	
1183+38	49 RT	CPED	NU TELECOM		X		
1157+55 - 1174+00	10 RT - 40 RT	T-BUR	CENTURYLINK			X	(1)(2)
1157+55 - 1157+57	190 LT - 37 RT	T-BUR XING	CENTURYLINK			X	(1)(2)

NOTES: (1) OUT OF SERVICE, 1-25 PR & 1-50 PR COPPER. LINE WAS NOT MARKED OR FLAGGED. LOCATION & OFFSET IS ASSUMED.
(2) TO BE REMOVED BY CENTURYLINK.
(3) PROTECT THE UTILITY AT THIS LOCATION DURING SIDEWALK REPLACEMENT, GRADING, AND/OR ADA IMPROVEMENTS.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

INPLACE UTILITIES TABULATION - POWER (1 OF 4) (1)

STATION TO STATION	OFFSET (FT) TO OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	REMOVE	LEAVE AS IS	
1119+20	29 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1119+20 - 1120+74	29 RT - 28 RT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1120+44 - 1120+66	146 LT - 75 LT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1120+56 - 1120+66	58 LT - 75 LT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1120+57	60 LT	VAULT	DEPARTMENT OF TRANSPORTATION		X		
1120+59 - 1121+10	75 LT - 65 LT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1120+61	40 LT	TRAFFIC SIGNAL LIGHT	DEPARTMENT OF TRANSPORTATION		X		
1120+66	43 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1120+66	75 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1120+70	63 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1120+74	28 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1120+74 - 1120+56	28 RT - 58 LT	P-BUR XING	DEPARTMENT OF TRANSPORTATION		X		
1120+77	30 RT	ELECTRIC MH	DEPARTMENT OF TRANSPORTATION		X		
1120+79	39 RT	TRAFFIC SIGNAL LIGHT	DEPARTMENT OF TRANSPORTATION		X		
1128+02	62 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1128+02 - 1128+64	62 LT - 43 LT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1128+30 - 1128+41	146 RT - 39 RT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1128+30	146 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1128+33	44 RT	ELECTRIC MH	DEPARTMENT OF TRANSPORTATION		X		
1128+37	38 RT	ELECTRIC MH	DEPARTMENT OF TRANSPORTATION		X		
1128+41	40 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1128+41 - 1128+55	39 RT - 31 RT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1128+47	49 LT	TRAFFIC SIGNAL LIGHT	DEPARTMENT OF TRANSPORTATION		X		
1128+51	32 RT	TRAFFIC SIGNAL LIGHT	DEPARTMENT OF TRANSPORTATION		X		
1128+55	31 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1128+55 - 1128+64	31 RT - 43 LT	P-BUR XING	DEPARTMENT OF TRANSPORTATION		X		
1128+64 - 1129+85	43 LT - 31 LT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1128+64	43 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1129+85	31 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1133+55	30 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1133+55 - 1135+04	30 RT - 41 RT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1134+30	30 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1134+77	31 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1134+95	31 LT	TRAFFIC SIGNAL LIGHT	DEPARTMENT OF TRANSPORTATION		X		
1134+95	30 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1135+02	32 RT	ELECTRIC MH	DEPARTMENT OF TRANSPORTATION		X		
1135+03	36 LT	ELECTRIC MH	DEPARTMENT OF TRANSPORTATION		X		
1135+04 - 1135+10	181 LT - 36 LT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1135+04	181 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1135+04	41 RT	TRAFFIC SIGNAL LIGHT	DEPARTMENT OF TRANSPORTATION		X		
1135+04	41 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1135+04 - 1135+72	41 RT - 33 RT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1135+10	36 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1135+10 - 1135+71	36 LT - 33 LT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1135+67	49 LT	VAULT	DEPARTMENT OF TRANSPORTATION		X		
1135+67 - 1135+72	43 LT - 33 LT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1135+68	41 LT	TRAFFIC SIGNAL LIGHT	DEPARTMENT OF TRANSPORTATION		X		
1135+68	180 RT	HH	DEPARTMENT OF TRANSPORTATION		X		
1135+70	33 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1135+70	36 LT	ELECTRIC MH	DEPARTMENT OF TRANSPORTATION		X		
1135+71 - 1135+72	33 LT - 33 RT	P-BUR XING	DEPARTMENT OF TRANSPORTATION		X		
1135+72 - 1136+82	32 LT - 32 LT	P-BUR	DEPARTMENT OF TRANSPORTATION		X		
1135+72	34 RT	ELECTRIC MH	DEPARTMENT OF TRANSPORTATION		X		
1135+78	32 RT	TRAFFIC SIGNAL LIGHT	DEPARTMENT OF TRANSPORTATION		X		
1135+93	32 LT	HH	DEPARTMENT OF TRANSPORTATION		X		
1135+93	32 LT	VAULT	DEPARTMENT OF TRANSPORTATION		X		
1137+27	32 LT	HH	DEPARTMENT OF TRANSPORTATION		X		

NOTES: (1) WORK TO BE DONE BY CONTRACTOR. TO BE PAID AS REMOVE SIGNAL SYSTEM AT TH14/TH4 INTERSECTION AND AT TH 14/1ST AVE INTERSECTION.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 25 OF 152 SHEETS

INPLACE UTILITIES TABULATION - POWER (2 OF 4) (1)

STATION TO STATION	OFFSET (FT) TO OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1005+24	29 LT	P-PED	SLEEPY EYE UTILITIES			X	
1094+64 - 1096+41	66 RT - 37 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1094+92	36 RT	L POLE	SLEEPY EYE UTILITIES			X	
1095+08 - 1095+16	40 RT - 51 LT	P-BUR XING	SLEEPY EYE UTILITIES			X	
1097+30	35 RT	P-PED	SLEEPY EYE UTILITIES			X	
1097+40	36 RT	L POLE	SLEEPY EYE UTILITIES			X	
1100+14 - 1120+50	51 RT - 23 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1100+41	32 RT	P-PED	SLEEPY EYE UTILITIES			X	
1100+43	35 RT	P-PED	SLEEPY EYE UTILITIES			X	
1100+44 - 1100+46	28 RT - 50 LT	P-BUR XING	SLEEPY EYE UTILITIES			X	
1100+68	24 RT	L POLE	SLEEPY EYE UTILITIES			X	
1101+82	36 RT	P-PED	SLEEPY EYE UTILITIES			X	
1100+46	33 RT	P-PED	SLEEPY EYE UTILITIES			X	
1102+50 - 1102+71	45 RT - 48 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1102+52 - 1102+55	59 RT - 24 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1102+97 - 1103+01	29 RT - 46 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1102+97	24 LT	L POLE	SLEEPY EYE UTILITIES			X	
1102+99 - 1109+47	23 LT - 24 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1104+46	33 RT	P-PED	SLEEPY EYE UTILITIES			X	
1105+60	24 RT	L POLE	SLEEPY EYE UTILITIES			X	
1105+66	28 LT	ANC	SLEEPY EYE UTILITIES			X	
1105+68	46 LT	POLE	SLEEPY EYE UTILITIES			X	
1105+91	41 RT	L POLE	SLEEPY EYE UTILITIES			X	
1106+23	29 LT	P-PED	SLEEPY EYE UTILITIES			X	
1107+49	24 LT	L POLE	SLEEPY EYE UTILITIES			X	
1109+29	24 LT	ELECTRIC MH	SLEEPY EYE UTILITIES			X	
1109+39	30 RT	ELECTRIC MH	SLEEPY EYE UTILITIES			X	(2)
1109+40 - 1109+45	24 LT - 26 RT	P-BUR XING	SLEEPY EYE UTILITIES			X	
1109+47 - 1120+57	24 LT - 28 LT	P-BUR	SLEEPY EYE UTILITIES			X	(2)
1100+00 - 1120+75	53 RT - 20 RT	P-BUR	SLEEPY EYE UTILITIES			X	(2)
1109+57	24 RT	L POLE	SLEEPY EYE UTILITIES			X	(2)
1110+40	24 LT	L POLE	SLEEPY EYE UTILITIES			X	
1111+40	24 LT	L POLE	SLEEPY EYE UTILITIES			X	
1113+36	24 RT	L POLE	SLEEPY EYE UTILITIES			X	(2)
1115+08	24 LT	L POLE	SLEEPY EYE UTILITIES			X	
1115+14	42 LT	L POLE	SLEEPY EYE UTILITIES			X	
1116+37	52 LT	L POLE	SLEEPY EYE UTILITIES			X	
1116+50	50 RT - 50 LT	P-BUR XING	SLEEPY EYE UTILITIES			X	(2)
1117+16	24 RT	L POLE	SLEEPY EYE UTILITIES			X	
1117+25	43 LT	L POLE	SLEEPY EYE UTILITIES			X	
1118+82	24 LT	L POLE	SLEEPY EYE UTILITIES			X	
1120+42	24 RT	L POLE	SLEEPY EYE UTILITIES			X	
1121+08	38 RT - 32 RT	ELECTRIC MH	SLEEPY EYE UTILITIES			X	
1128+38 - 1135+01	38 RT - 32 RT	P-BUR	SLEEPY EYE UTILITIES		X		
1128+40 - 1135+02	47 LT - 36 LT	P-BUR	SLEEPY EYE UTILITIES			X	(2)
1128+40 - 1128+68	70 RT - 48 LT	P-BUR XING	SLEEPY EYE UTILITIES			X	3 PWR LINES (2)
1128+44	41 LT	POLE	SLEEPY EYE UTILITIES		X		(4)
1128+48	41 LT	VAULT	SLEEPY EYE UTILITIES			X	
1128+48	40 RT	L POLE	SLEEPY EYE UTILITIES		X		(4)
1128+60	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1128+54	31 RT	VAULT	SLEEPY EYE UTILITIES	X			(3)
1129+12	41 RT	POLE	SLEEPY EYE UTILITIES			X	
1129+25	32 LT	VAULT	SLEEPY EYE UTILITIES			X	
1129+26	32 LT	L POLE	SLEEPY EYE UTILITIES			X	
1129+41	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1129+93	32 LT	ELECTRIC HH	SLEEPY EYE UTILITIES			X	
1130+05	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1130+93	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1131+13	30 RT	POLE	SLEEPY EYE UTILITIES		X		(4)

NOTES: (1) SLEEPY EYE VOLTAGES ARE 7,200 AND 14,250.
(2) PROTECT THE UTILITY AT THIS LOCATION DURING SIDEWALK REPLACEMENT, GRADING, AND/OR ADA IMPROVEMENTS.
(3) WORK TO BE COMPLETED BY CONTRACTOR. PAID AS ADJUST HANDHOLE. MATCH SIDEWALK ELEVATION.
(4) WORK TO BE COMPLETED BY CONTRACTOR. TO BE PAID AS REMOVE PEDESTAL POLE AND BASE.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 26 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 15:55
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Tabulations/D080338_UTIL TAB.dgn

INPLACE UTILITIES TABULATION - POWER (3 OF 4) (1)

STATION TO STATION	OFFSET (FT) TO OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1131+21	58 LT	L POLE	SLEEPY EYE UTILITIES			X	
1131+22	58 RT	L POLE	SLEEPY EYE UTILITIES			X	
1131+87	60 RT	L POLE	SLEEPY EYE UTILITIES			X	
1131+89	59 LT	L POLE	SLEEPY EYE UTILITIES			X	
1131+96	31 LT	POLE	SLEEPY EYE UTILITIES		X		(4)
1132+13	32 LT	L POLE	SLEEPY EYE UTILITIES			X	
1132+13	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1132+95	31 LT	L POLE	SLEEPY EYE UTILITIES			X	
1133+00	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1133+49	31 RT	ELECTRIC HH	SLEEPY EYE UTILITIES	X			(3)
1133+90	31 LT	L POLE	SLEEPY EYE UTILITIES			X	
1133+92	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1134+74	31 RT	ELECTRIC HH	SLEEPY EYE UTILITIES	X			(3)
1134+78	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1134+79	31 LT	L POLE	SLEEPY EYE UTILITIES			X	
1134+96	30 RT	POLE	SLEEPY EYE UTILITIES		X		(4)
1135+04	58 RT	L POLE	SLEEPY EYE UTILITIES			X	
1135+04	61 LT	L POLE	SLEEPY EYE UTILITIES			X	
1135+66 - 1135+76	33 RT - 32 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1135+67 - 1138+86	36 LT - 32 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1135+67 - 1135+72	57 RT - 35 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1135+67	58 RT	L POLE	SLEEPY EYE UTILITIES			X	
1135+68	63 LT	L POLE	SLEEPY EYE UTILITIES			X	
1135+68	46 LT	CABINET	SLEEPY EYE UTILITIES			X	
1135+68	49 LT	CABINET	SLEEPY EYE UTILITIES			X	
1135+73 - 1138+86	34 RT - 33 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1135+79	31 LT	POLE	SLEEPY EYE UTILITIES		X		(4)
1135+92	31 RT	VAULT	SLEEPY EYE UTILITIES			X	
1135+93	32 LT	L POLE	SLEEPY EYE UTILITIES			X	
1135+95	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1135+97	31 LT	ELECTRIC HH	SLEEPY EYE UTILITIES	X			(3)
1136+83	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1137+09	31 LT	ELECTRIC HH	SLEEPY EYE UTILITIES	X			(3)
1137+76	31 LT	L POLE	SLEEPY EYE UTILITIES			X	
1137+76	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1138+58	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1138+59	32 LT	L POLE	SLEEPY EYE UTILITIES			X	
1138+77	31 RT	POLE	SLEEPY EYE UTILITIES		X		(4)
1138+86	56 LT	L POLE	SLEEPY EYE UTILITIES			X	
1138+86	56 RT	L POLE	SLEEPY EYE UTILITIES			X	
1139+47 - 1142+56	33 RT - 31 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1139+49 - 1142+47	32 LT - 31 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1139+50	57 RT	L POLE	SLEEPY EYE UTILITIES			X	
1139+50	56 LT	L POLE	SLEEPY EYE UTILITIES			X	
1139+58	31 LT	POLE	SLEEPY EYE UTILITIES		X		(4)
1139+78	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1139+78	31 LT	L POLE	SLEEPY EYE UTILITIES			X	
1140+65	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1141+65	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1141+67	31 LT	L POLE	SLEEPY EYE UTILITIES			X	
1141+85	45 RT	L POLE	SLEEPY EYE UTILITIES			X	
1142+50	31 LT	L POLE	SLEEPY EYE UTILITIES			X	
1142+54	49 RT	L POLE	SLEEPY EYE UTILITIES			X	
1142+58	31 RT	L POLE	SLEEPY EYE UTILITIES			X	
1142+65	31 RT	POLE	SLEEPY EYE UTILITIES		X		(4)
1143+27	29 LT	POLE	SLEEPY EYE UTILITIES		X		(4)
1143+28	29 RT	POLE	SLEEPY EYE UTILITIES		X		(4)
1143+38	24 LT	L POLE	SLEEPY EYE UTILITIES			X	
1143+40 - 1150+03	24 LT - 24 LT	P-BUR	SLEEPY EYE UTILITIES			X	(2)

NOTE: (1) SLEEPY EYE VOLTAGES ARE 7,200 AND 14,250.
(2) PROTECT THE UTILITY AT THIS LOCATION DURING SIDEWALK REPLACEMENT, GRADING, AND/OR ADA IMPROVEMENTS.
(3) WORK TO BE COMPLETED BY CONTRACTOR. PAID AS ADJUST HANDHOLE. MATCH SIDEWALK ELEVATION.
(4) WORK TO BE COMPLETED BY CONTRACTOR. TO BE PAID AS REMOVE PEDESTAL POLE AND BASE.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 27 OF 152 SHEETS

INPLACE UTILITIES TABULATION - POWER (4 OF 4) (1)

STATION TO STATION	OFFSET (FT) TO OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1145+34 - 1153+94	24 RT - 24 RT	P-BUR	SLEEPY EYE UTILITIES			X	(2)
1147+16	24 LT	L POLE	SLEEPY EYE UTILITIES			X	
1149+06	24 RT	L POLE	SLEEPY EYE UTILITIES			X	
1150+03 - 1154+29	23 LT - 24 LT	P-BUR	SLEEPY EYE UTILITIES			X	(2)
1150+83 - 1150+83	54 RT - 69 LT	P-BUR XING	SLEEPY EYE UTILITIES			X	(2)
1150+79	45 LT	HH	SLEEPY EYE UTILITIES			X	(2)
1150+99	24 LT	L POLE	SLEEPY EYE UTILITIES			X	
1152+73	23 RT	L POLE	SLEEPY EYE UTILITIES			X	
1154+40 - 1157+61	23 LT - 23 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1154+51 - 1162+01	22 RT - 24 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1154+65	23 LT	L POLE	SLEEPY EYE UTILITIES			X	
1156+17	23 RT	L POLE	SLEEPY EYE UTILITIES			X	
1157+63	23 LT	L POLE	SLEEPY EYE UTILITIES		X		
1161+62	33 RT	L POLE	SLEEPY EYE UTILITIES		X		
1161+64 - 1161+67	34 RT - 56 RT	P-BUR	SLEEPY EYE UTILITIES		X		
1164+83	29 LT	L POLE	SLEEPY EYE UTILITIES			X	
1164+82 - 1164+83	76 LT - 32 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1164+84 - 1167+84	53 LT - 59 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1164+96	54 RT	ELECTRIC VAULT	SLEEPY EYE UTILITIES		X		
1165+01 - 1171+52	52 RT - 65 RT	P-BUR	SLEEPY EYE UTILITIES		X		
1165+03	58 LT	L POLE	SLEEPY EYE UTILITIES			X	
1165+73	58 LT	L POLE	SLEEPY EYE UTILITIES			X	
1167+85 - 1168+05	58 LT - 50 RT	P-BUR XING	SLEEPY EYE UTILITIES			X	
1167+85	65 LT	ELECTRIC VAULT	SLEEPY EYE UTILITIES			X	
1167+86 - 1172+34	49 LT - 39 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1168+92	56 RT	ELECTRIC VAULT	SLEEPY EYE UTILITIES		X		
1171+59 - 1171+86	79 LT - 45 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1171+64 - 1171+64	67 RT - 141 RT	P-BUR	SLEEPY EYE UTILITIES			X	
1171+63	62 RT	ELECTRIC VAULT	SLEEPY EYE UTILITIES			X	(2)
1171+65 - 1171+90	54 RT - 39 LT	P-BUR XING	SLEEPY EYE UTILITIES			X	
1171+90 - 1181+17	36 LT - 56 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1171+91	30 LT	L POLE	SLEEPY EYE UTILITIES			X	
1172+27	55 LT	L POLE	SLEEPY EYE UTILITIES			X	
1172+72	55 LT	L POLE	SLEEPY EYE UTILITIES			X	
1173+22	52 LT	L POLE	SLEEPY EYE UTILITIES			X	
1177+52 - 1178+74	32 LT - 27 LT	P-BUR	SLEEPY EYE UTILITIES			X	
1177+52	32 LT	L POLE	SLEEPY EYE UTILITIES			X	
1178+74 - 1178+76	79 RT - 27 LT	P-BUR XING	SLEEPY EYE UTILITIES		X		
1178+93	92 RT	P PED	SLEEPY EYE UTILITIES			X	
1179+49	29 RT	L POLE	SLEEPY EYE UTILITIES		X		

NOTE:(1) SLEEPY EYE VOLTAGES ARE 7,200 AND 14,250.
(2) PROTECT THE UTILITY AT THIS LOCATION DURING SIDEWALK REPLACEMENT, GRADING, AND/OR ADA IMPROVEMENTS.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 28 OF 152 SHEETS

INPLACE UTILITIES TABULATION - SANITARY SEWER

STATION	OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1113+16	1 LT	SAN MH	SLEEPY EYE UTILITIES	X			(1)
1116+77	0 RT	SAN MH	SLEEPY EYE UTILITIES	X			(1)
1128+13	57 RT	SAN MH	SLEEPY EYE UTILITIES			X	
1128+19	1 LT	SAN MH	SLEEPY EYE UTILITIES	X			(3)
1135+41	46 LT	SAN MH	SLEEPY EYE UTILITIES	X			(3)
1154+20	59 LT	SAN MH	SLEEPY EYE UTILITIES			X	
1154+21	53 RT	SAN MH	SLEEPY EYE UTILITIES			X	
1154+22	18 LT	SAN MH	SLEEPY EYE UTILITIES			X	(2)
1157+10	18 LT	SAN MH	SLEEPY EYE UTILITIES			X	(2)

NOTE: (1) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST FRAME & RING CASTING.
(2) TRANSITION BITUMINOUS OVERLAY TO MATCH EXISTING STRUCTURE.
(3) WORK TO BE DONE BY CONTRACTOR. PAID AS CASTING ASSEMBLY.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 29 OF 152 SHEETS

INPLACE UTILITIES TABULATION - STORM

STATION TO STATION	OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1150+38	61 LT	CB	SLEEPY EYE UTILITIES			X	
1150+78	68 LT	CB	SLEEPY EYE UTILITIES			X	
1154+05	44 LT	CB	SLEEPY EYE UTILITIES			X	
1154+45	45 LT	CB	SLEEPY EYE UTILITIES			X	
1161+41 - 1162+42	43-41 LT	CMP	SLEEPY EYE UTILITIES			X	15"INP
1162+15 - 1162+36	46-66 LT	FLUME	SLEEPY EYE UTILITIES			X	BIT. FLUME
1168+12	25 LT-82 RT	STORM DRAIN XING	SLEEPY EYE UTILITIES	X			12"INP (1)
1168+10 - 1170+65	82 RT	STORM DRAIN	SLEEPY EYE UTILITIES			X	12"INP
1168+43 - 1168+86	36-34 LT	CMP	SLEEPY EYE UTILITIES			X	
1171+41	52 RT-192 RT	STORM DRAIN	SLEEPY EYE UTILITIES			X	36"INP
1170+65	45 RT-82 RT	STORM DRAIN	SLEEPY EYE UTILITIES		X		15"INP
1170+65 - 1171+41	82 RT-72 RT	STORM DRAIN	SLEEPY EYE UTILITIES			X	15"INP (1)
1171+41 - 1171+96	72 RT	STORM DRAIN	SLEEPY EYE UTILITIES			X	18"INP
1171+52 - 1171+96	225 RT-75 RT	STORM DRAIN	SLEEPY EYE UTILITIES			X	15"INP
1171+96 - 1172+03	72 RT-64 LT	STORM DRAIN	SLEEPY EYE UTILITIES	X			12"INP (1)
1172+03	64 LT	MH	SLEEPY EYE UTILITIES	X			-1
1172+03 - 1173+59	64 LT-62 LT	STORM DRAIN	SLEEPY EYE UTILITIES			X	8"INP

NOTES: (1) WORK TO BE DONE BY CONTRACTOR. SEE MUNICIPAL PLAN SHEETS.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 30 OF 152 SHEETS

INPLACE UTILITIES TABULATION - WATER & STEAM (1 OF 3)

STATION TO STATION	OFFSET (FT) TO OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1105+39	66 RT	WMH	SLEEPY EYE UTILITIES			X	
1105+40	66 RT	WVLV	SLEEPY EYE UTILITIES			X	
1105+41	67 RT	FIRE HYRANT	SLEEPY EYE UTILITIES			X	
1105+44	62 RT	WVLV	SLEEPY EYE UTILITIES			X	
1105+44	62 RT	WVLV	SLEEPY EYE UTILITIES			X	
1109+39	30 RT	MH	SLEEPY EYE UTILITIES			X	
1112+25 - 1112+25	33 RT - 15 RT	WATER LINE	SLEEPY EYE UTILITIES			X	
1112+25	33 RT	CURB BOX	SLEEPY EYE UTILITIES			X	
1112+55 - 1113+61	16 LT - 31 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1112+63	16 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1112+65 - 1112+65	16 LT - 24 LT	WATER LINE & HYDRANT	SLEEPY EYE UTILITIES			X	
1112+72	30 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1112+72 - 1112+72	16 LT - 30 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1113+61	30 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1114+05 - 1114+05	22 LT - 30 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1114+05	30 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1114+14 - 1114+14	16 RT - 32 RT	WATER LINE	SLEEPY EYE UTILITIES			X	
1114+14	31 RT	CURB BOX	SLEEPY EYE UTILITIES			X	
1114+56 - 1114+56	22 LT - 30 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1114+56	30 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1114+80 - 1114+80	22 RT - 32 RT	WATER LINE	SLEEPY EYE UTILITIES			X	
1114+80	32 RT	CURB BOX	SLEEPY EYE UTILITIES			X	
1114+91 - 1114+91	15 LT - 30 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1114+92	30 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1115+32 - 1115+33	23 RT - 32 RT	WATER LINE	SLEEPY EYE UTILITIES			X	
1115+33	32 RT	CURB BOX	SLEEPY EYE UTILITIES			X	
1115+67 - 1115+67	23 RT - 32 RT	WATER LINE	SLEEPY EYE UTILITIES			X	
1115+67	32 RT	CURB BOX	SLEEPY EYE UTILITIES			X	
1115+91 - 1115+91	15 LT - 30 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1115+91	31 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1116+57	15 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1116+59	13 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1116+59	27 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1116+63	19 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1117+21	30 LT	FIRE HYRANT	SLEEPY EYE UTILITIES			X	
1117+21 - 1117+22	27 LT - 14 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1118+25 - 1118+25	16 LT - 32 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1119+41 - 1119+41	17 LT - 32 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1128+36	18 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1128+43	25 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1128+54	31 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1129+40	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1129+42	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1129+61	32 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1129+67	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1129+97	32 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1130+04	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1130+07	32 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1130+15	31 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1130+91	31 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1130+91	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1130+94	32 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1130+94	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)

GENERAL NOTES: THE SAME SYMBOL FOR CURB BOX AND WATER VALVES MAY BE USED INTERCHANGABLY IN THE PLAN.
CITY OF SLEEPY EYE WILL SUPPLY ALL CURB BOX, VALVE BOX, AND GATE VALVE AND BOX ADJUSTING MATERIALS.

NOTES: (1) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST VALVE BOX - WATER. MATCH ROADWAY ELEVATION.
(2) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST CURB BOX. MATCH SIDEWALK ELEVATION.
(3) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST VALVE BOX. MATCH SIDEWALK ELEVATION.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 31 OF 152 SHEETS

INPLACE UTILITIES TABULATION - WATER & STEAM (2 OF 3)

STATION TO STATION	OFFSET (FT) TO OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1131+48	42 RT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1131+49	10 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1131+94	28 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1131+95	31 LT	FIRE HYRANT	SLEEPY EYE UTILITIES	X			(4)
1132+11	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1132+12	32 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1132+20	32 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1132+25	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1132+60	32 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1132+59	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1132+80	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1132+90	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1132+93	32 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1132+98	30 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1133+04	29 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1133+00	33 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1133+22	31 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1133+38	31 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1133+75	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1133+88	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1133+92	35 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1133+94	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1134+07	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1134+41	31 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1134+57	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1134+75	31 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1135+17	40 RT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1135+14	18 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1135+16	14 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1135+18	18 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1135+75	29 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1135+76	31 LT	FIRE HYRANT	SLEEPY EYE UTILITIES			X	
1136+10	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1136+30	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1136+52	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1136+59	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1136+81	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1136+84	31 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1136+84	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1137+13	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1137+32	31 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1137+33	31 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1137+42	31 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1137+63	31 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1137+63	31 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1137+75	31 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1137+78	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1137+89	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1137+89	32 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1138+18	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1138+40	31 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1138+57	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1138+58	31 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1138+64	32 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1138+70	32 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1138+76	30 LT	FIRE HYRANT	SLEEPY EYE UTILITIES			X	
1138+76	27 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1138+96	32 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)

GENERAL NOTES: THE SAME SYMBOL FOR CURB BOX AND WATER VALVES MAY BE USED INTERCHANGABLY IN THE PLAN.
CITY OF SLEEPY EYE WILL SUPPLY ALL CURB BOX, VALVE BOX, AND GATE VALVE AND BOX ADJUSTING MATERIALS.

NOTES: (1) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST VALVE BOX - WATER. MATCH ROADWAY ELEVATION.
(2) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST CURB BOX. MATCH SIDEWALK ELEVATION.
(3) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST VALVE BOX. MATCH SIDEWALK ELEVATION.
(4) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST HYDRANT.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 32 OF 152 SHEETS

INPLACE UTILITIES TABULATION - WATER & STEAM (3 OF 3)

STATION TO STATION	OFFSET (FT) TO OFFSET (FT)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
1139+51	44 LT	STEAM MH	SLEEPY EYE UTILITIES	X			(4)
1139+56	19 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1139+74	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1139+77	32 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1139+77	31 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1139+90	32 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1140+58	32 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1140+81	38 LT	STEAM MH	SLEEPY EYE UTILITIES	X			(4)
1141+00	31 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1140+64	31 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1140+67	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1141+34	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1141+58	32 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1141+59	32 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1141+66	31 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1141+66	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1141+88	30 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1142+03	30 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1142+11	39 LT	STEAM MH	SLEEPY EYE UTILITIES	X			(4)
1142+19	31 LT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1142+38	32 RT	CURB BOX	SLEEPY EYE UTILITIES	XXXX			(2)
1142+45	31 RT	CURB BOX	SLEEPY EYE UTILITIES	X			(2)
1142+48	31 LT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1142+59	31 RT	UTILITY HH	SLEEPY EYE UTILITIES	X			(3)
1142+60	31 LT	FIRE HYRANT & WVLV	SLEEPY EYE UTILITIES	X			(2)
1142+99	41 LT	STEAM MH	SLEEPY EYE UTILITIES	X			(4)
1143+05	20 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1143+11	16 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1143+11	25 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1143+15	19 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)
1144+38	39 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1144+72	33 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1145+39	34 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1145+43	39 LT	STEAM MH	SLEEPY EYE UTILITIES	X			(4)
1146+42	33 LT	FIRE HYRANT	SLEEPY EYE UTILITIES			X	
1146+42	30 LT	WVLV	SLEEPY EYE UTILITIES			X	
1147+65	36 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1148+34	36 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1148+82	35 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1149+26	36 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1149+77	37 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1150+20	30 LT	FIRE HYRANT & CURB BO	SLEEPY EYE UTILITIES			X	
1150+51	19 LT	WVLV	SLEEPY EYE UTILITIES			X	
1151+27	36 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1151+45	31 RT	CURB BOX	SLEEPY EYE UTILITIES			X	
1152+96	37 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1153+69	36 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1153+93	32 LT	FIRE HYRANT	SLEEPY EYE UTILITIES			X	
1153+93	30 LT	WVLV	SLEEPY EYE UTILITIES			X	
1154+18 - 1154+43	67 LT - 51 LT	WATER LINE	SLEEPY EYE UTILITIES			X	
1154+33	53 LT	WVLV	SLEEPY EYE UTILITIES			X	
1154+37	51 LT	WVLV	SLEEPY EYE UTILITIES			X	
1155+32	30 RT	2 CURB BOXS	SLEEPY EYE UTILITIES			X	
1155+37	37 LT	CURB BOX	SLEEPY EYE UTILITIES			X	
1171+07	49 LT	FIRE HYRANT	SLEEPY EYE UTILITIES			X	
1171+19	46 LT	WVLV	SLEEPY EYE UTILITIES	X			(1)

GENERAL NOTES: THE SAME SYMBOL FOR CURB BOX AND WATER VALVES MAY BE USED INTERCHANGABLY IN THE PLAN.
CITY OF SLEEPY EYE WILL SUPPLY ALL CURB BOX, VALVE BOX, AND GATE VALVE AND BOX ADJUSTING MATERIALS.

NOTES: (1) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST VALVE BOX - WATER. MATCH ROADWAY ELEVATION.
(2) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST CURB BOX. MATCH SIDEWALK ELEVATION.
(3) WORK TO BE DONE BY CONTRACTOR. PAID AS ADJUST VALVE BOX. MATCH SIDEWALK ELEVATION.
(4) WORK TO BE DONE BY CONTRACTOR. PAID AS ABANDON HANDHOLE.

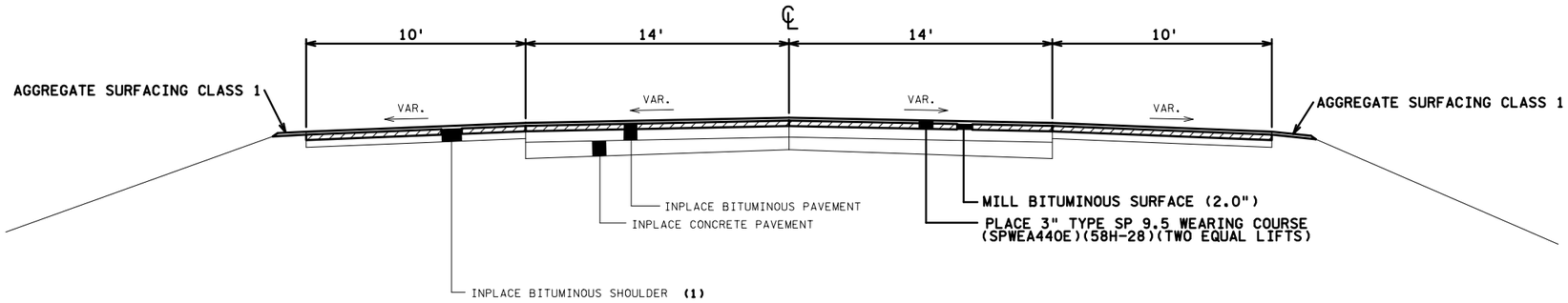
CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

UTILITY TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 33 OF 152 SHEETS

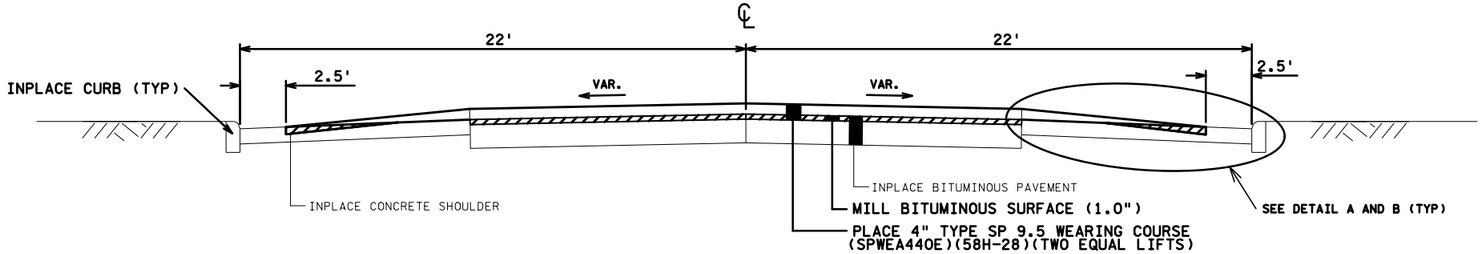
TYPICAL SECTION 1

STA. 1082+77 - STA. 1100+15
RR CROSSING - 8TH AVE. SW

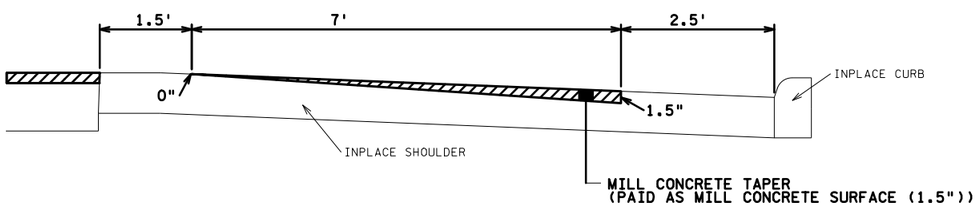


TYPICAL SECTION 2

STA. 1100+15 - STA. 1105+65
8TH AVE SW - 7TH AVE SW

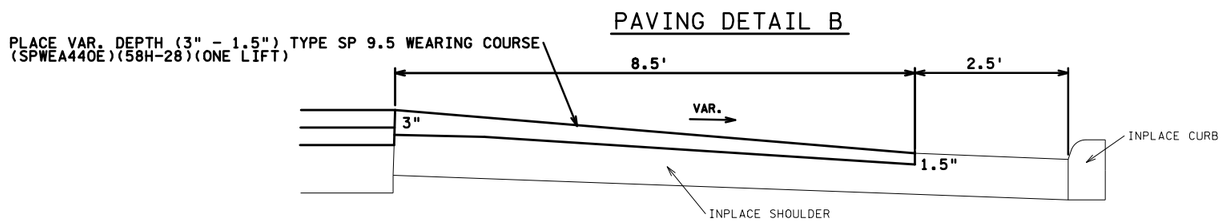


MILLING DETAIL A



MILLED AREA

PAVING DETAIL B



NOTES:

(1) INPLACE 6' AGGREGATE SHOULDER 1086+50 - 1093+75 (LEFT ONLY).
NO MILLING OR SHOULDER PAVING IS REQUIRED IN THIS AREA.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TYPICAL SECTIONS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 34 OF 152 SHEETS

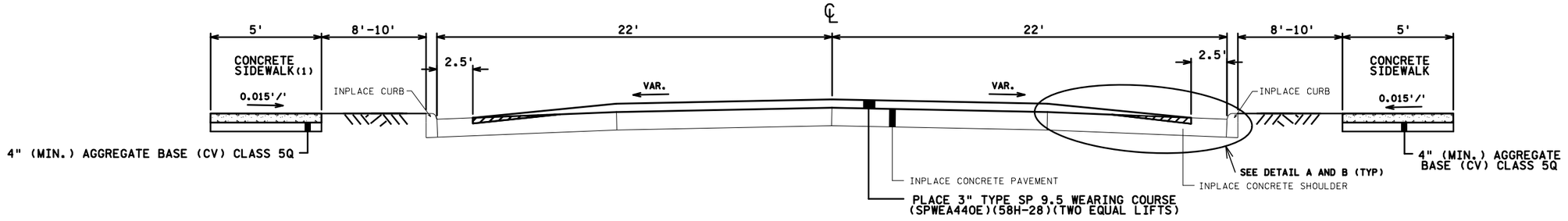
TYPICAL SECTION 3

STA. 1105+65 - STA. 1121+09 (1)
7TH AVE SW - 3RD AVE SW

STA. 1143+00 - STA. 1158+40
3RD AVE SE - 7TH AVE NE

NOTES:

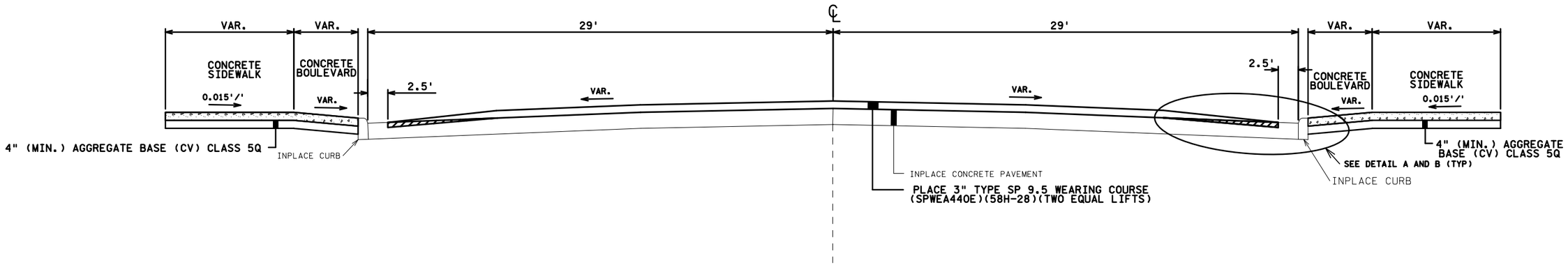
(1) SIDEWALK STARTS AT STATION 1112+00. SEE SIDEWALK TAB.



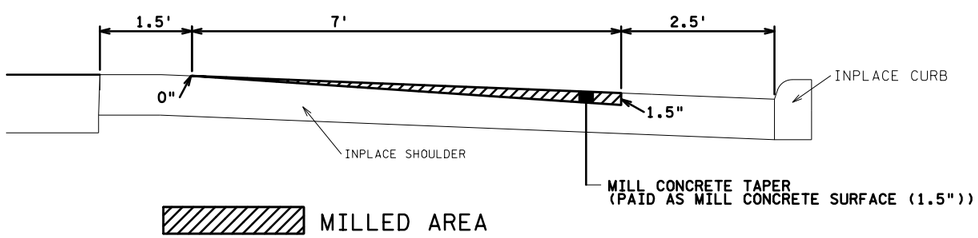
TYPICAL SECTION 4

STA. 1128+02 - STA. 1131+55
3RD AVE SW - 2ND AVE SW

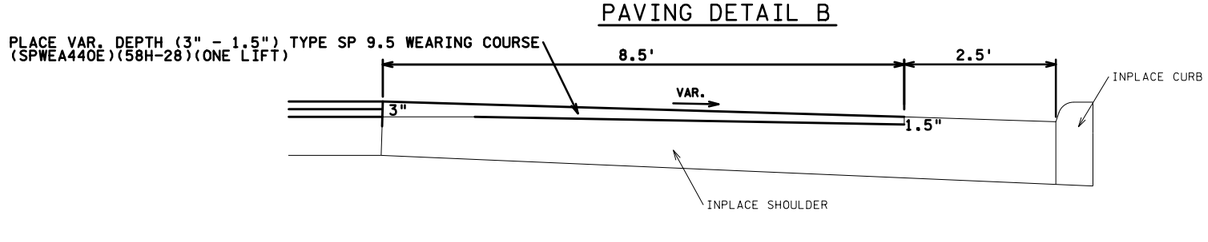
STA. 1139+19 - STA. 1143+00
2ND AVE SE - 3RD AVE SE



MILLING DETAIL A



PAVING DETAIL B



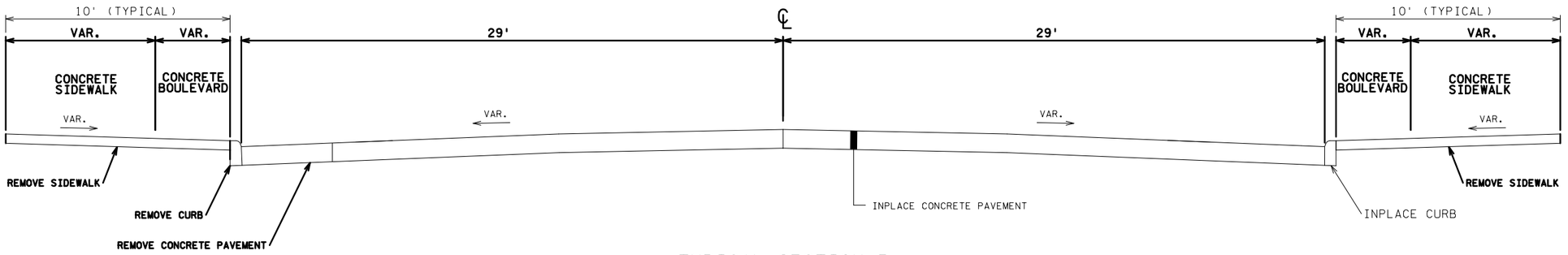
CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TYPICAL SECTIONS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 35 OF 152 SHEETS

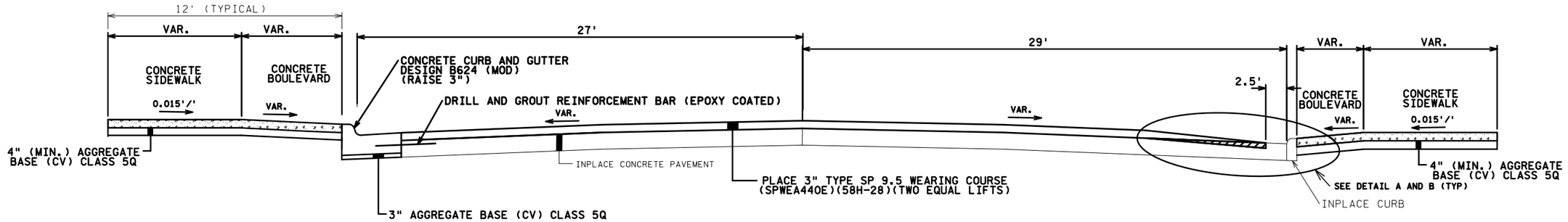
TYPICAL SECTION 5
EXISTING

STA. 1131+55 - STA. 1139+19
2ND AVE NW - 2ND AVE NE

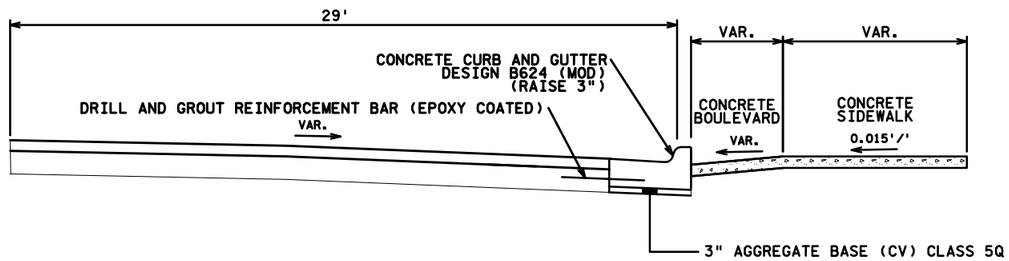


TYPICAL SECTION 5
PROPOSED

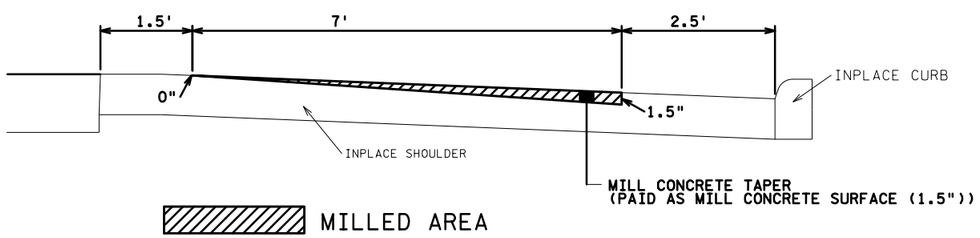
STA. 1131+55 - STA. 1139+19
2ND AVE NW - 2ND AVE NE



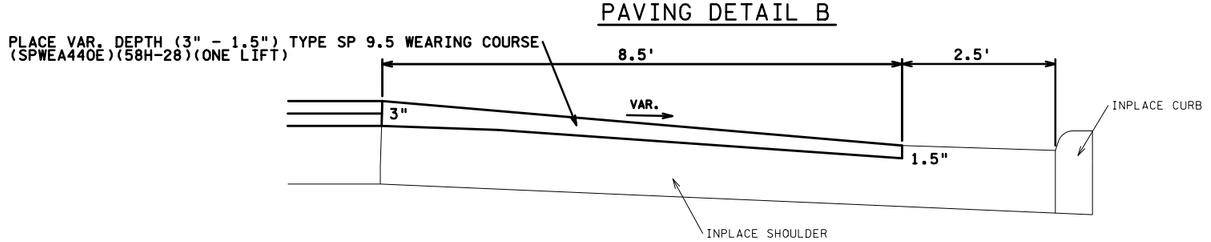
STA. 1131+55 - STA. 1133+28
STA. 1137+29 - STA. 1139+19



MILLING DETAIL A



PAVING DETAIL B

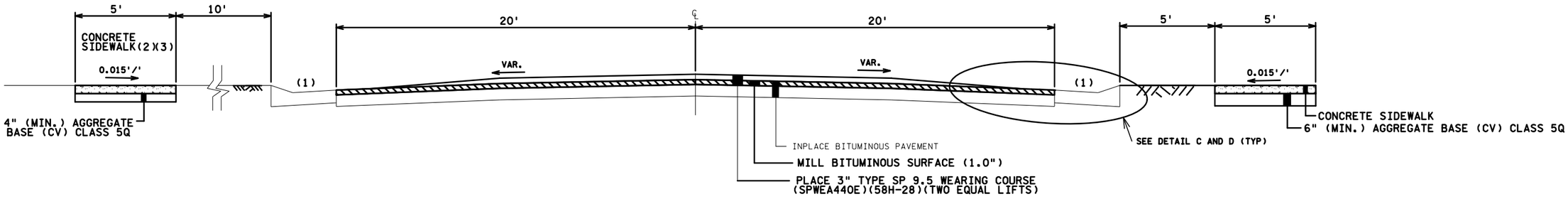


CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TYPICAL SECTIONS

TYPICAL SECTION 6

STA. 1158+40 - STA. 1162+17
7TH AVE NE - 8TH AVE NE



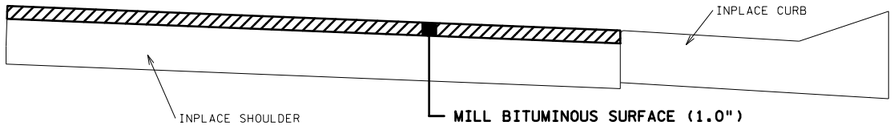
NOTES:

(1) LEFT GUTTER ENDS AT STA 1161+52
RIGHT GUTTER ENDS AT STA 1162+03

(2) SIDEWALK ENDS AT STATION 1161+03

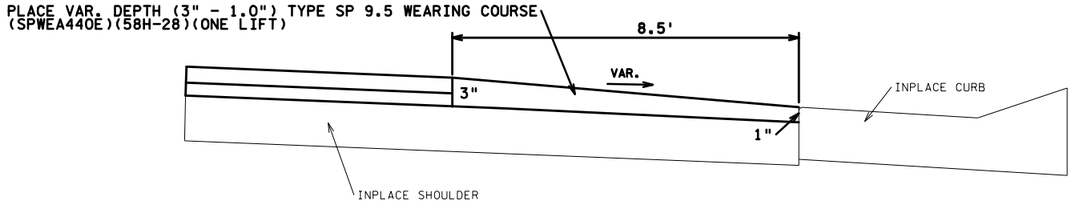
(3) PLACE 6" AGGREGATE BASE (CV) CLASS 5Q AT PROPOSED SIDEWALK STA. 1161+03 TO STA. 1141+49 LEFT

MILLING DETAIL C



MILLED AREA

PAVING DETAIL D



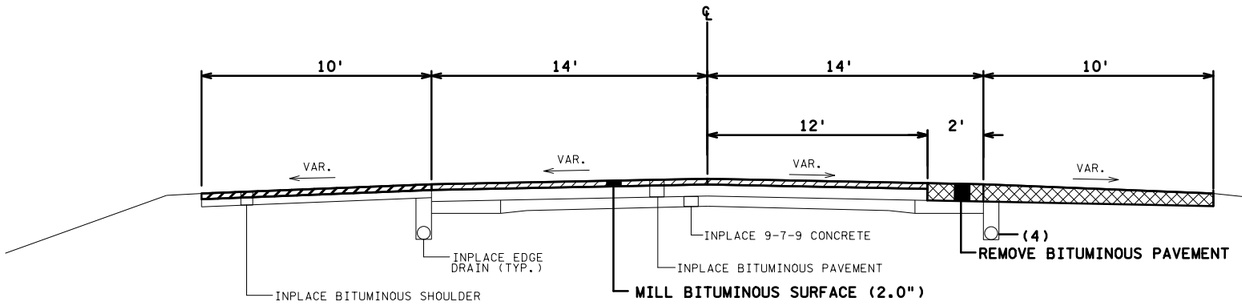
CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TYPICAL SECTIONS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 37 OF 152 SHEETS

TYPICAL SECTION 7
EXISTING

STA. 1162+17 - STA. 1171+30



NOTES:

(1) VARIES FROM 8' TO 12.4'

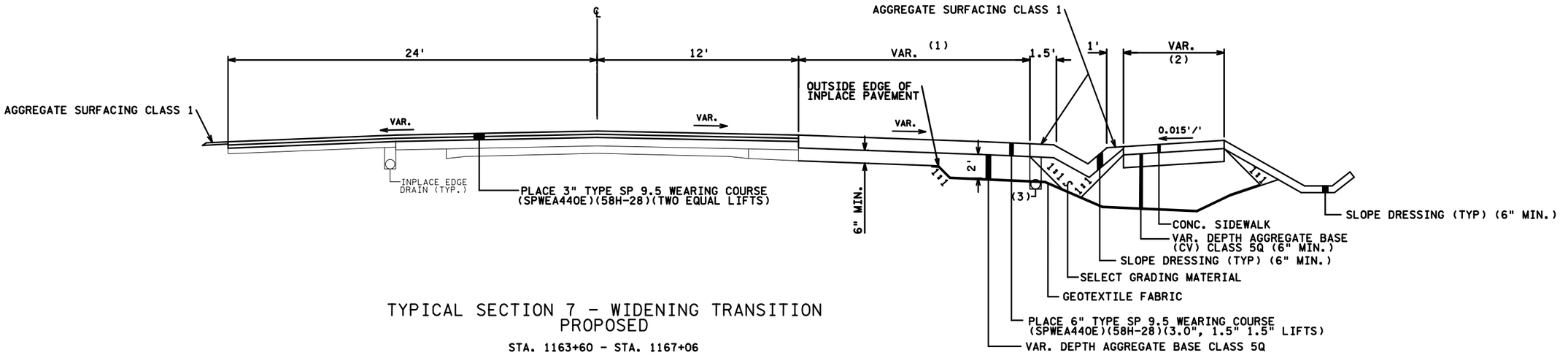
(2) VARIES FROM 12.4' TO 23'

(3) SEE STANDARD PLANS FOR SUBSURFACE DRAINS INFORMATION

(4) REMOVE PIPE DRAIN

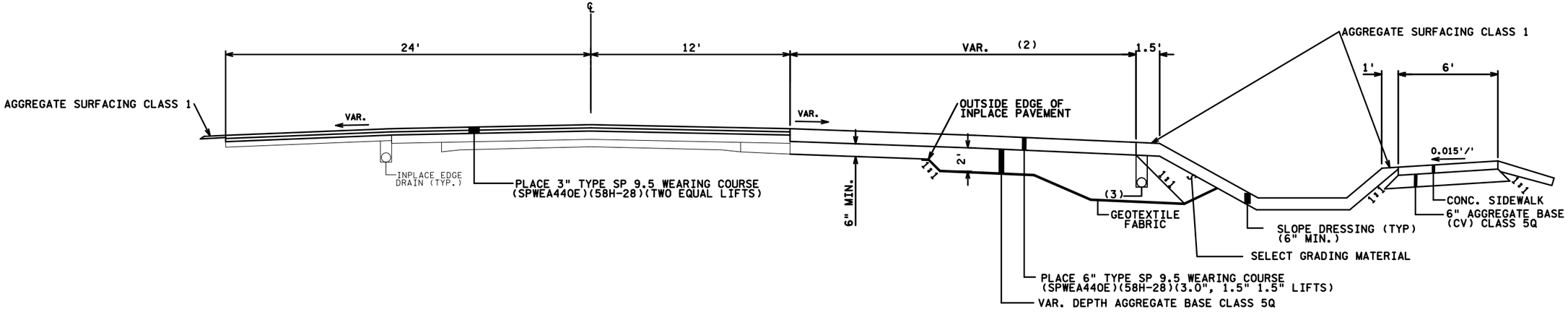
TYPICAL SECTION 7 - WIDENING TRANSITION
PROPOSED

STA. 1162+17 - STA. 1163+60



TYPICAL SECTION 7 - WIDENING TRANSITION
PROPOSED

STA. 1163+60 - STA. 1167+06



CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

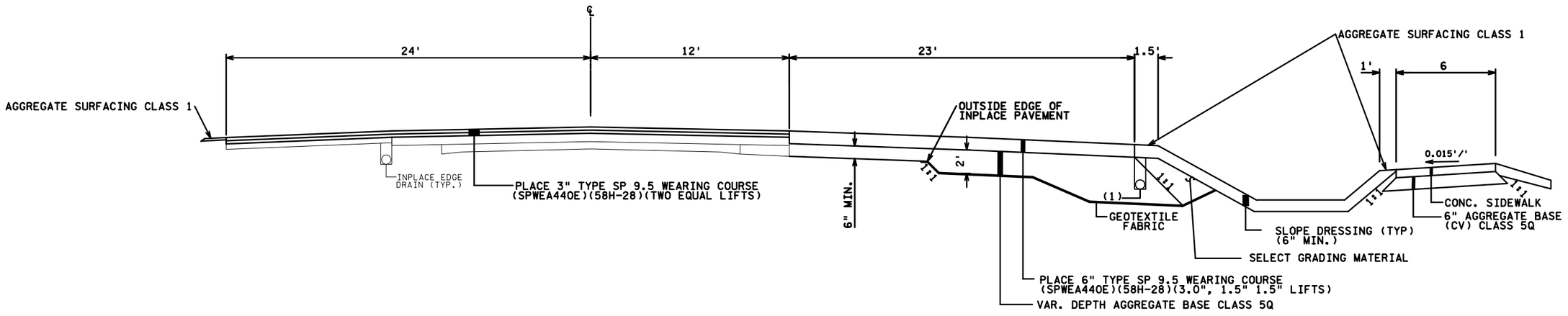
TYPICAL SECTIONS

NOTES:

(1) SEE STANDARD PLANS FOR SUBSURFACE DRAINS INFORMATION

TYPICAL SECTION 7 - WIDENING PROPOSED

STA. 1167+06 - STA. 1171+30



CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TYPICAL SECTIONS

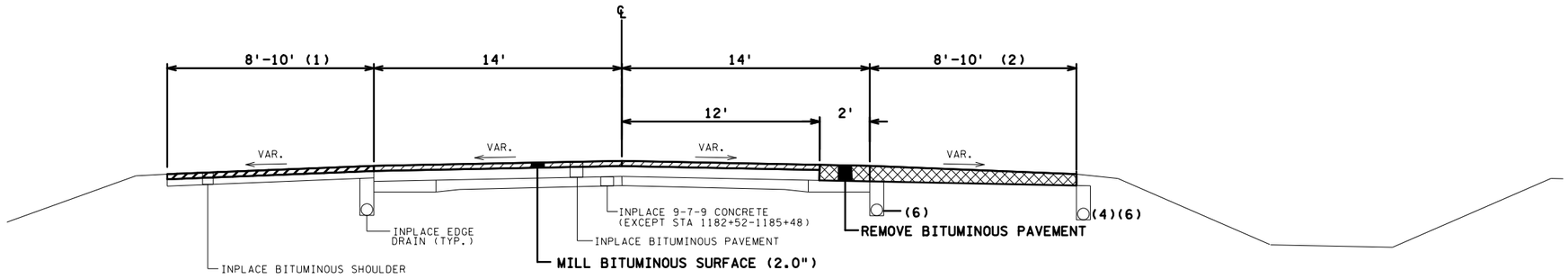
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 39 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 15:56

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Typicals/d030838_typ.dgn

TYPICAL SECTION 8
EXISTING

STA. 1171+30 - STA. 1189+06



NOTES:

(1) 1171+00 - 1176+40 (10')
1176+40 - 1189+06 (8')

(2) 1171+00 - 1179+01 (10')
1179+01 - 1187+35 (8')
1187+35 - 1189+06 (10')

(3) 1182+37 - 1189+06 (25'-12')

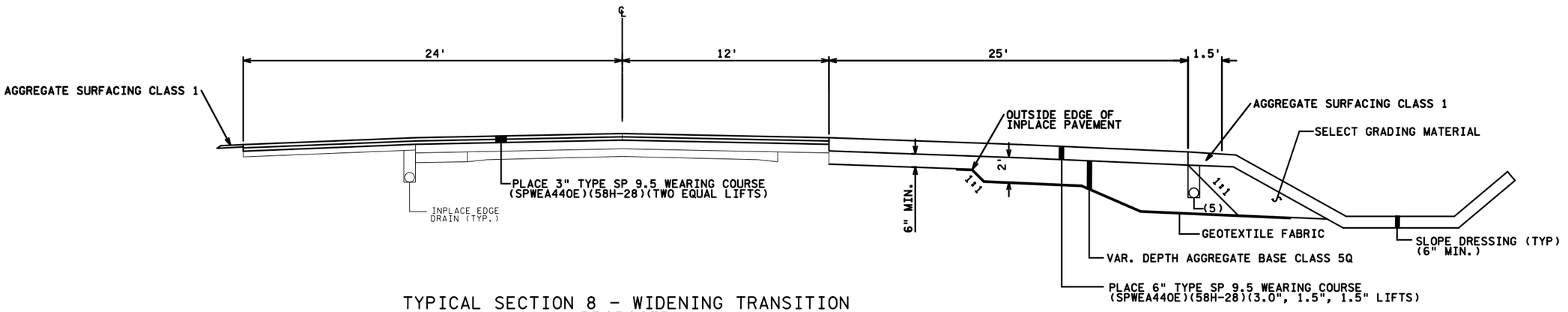
(4) LOCATION AT THE RIGHT TURN LANE ONTO CSAH 27

(5) SEE STANDARD PLANS FOR SUBSURFACE DRAINS INFORMATION

(6) REMOVE PIPE DRAIN

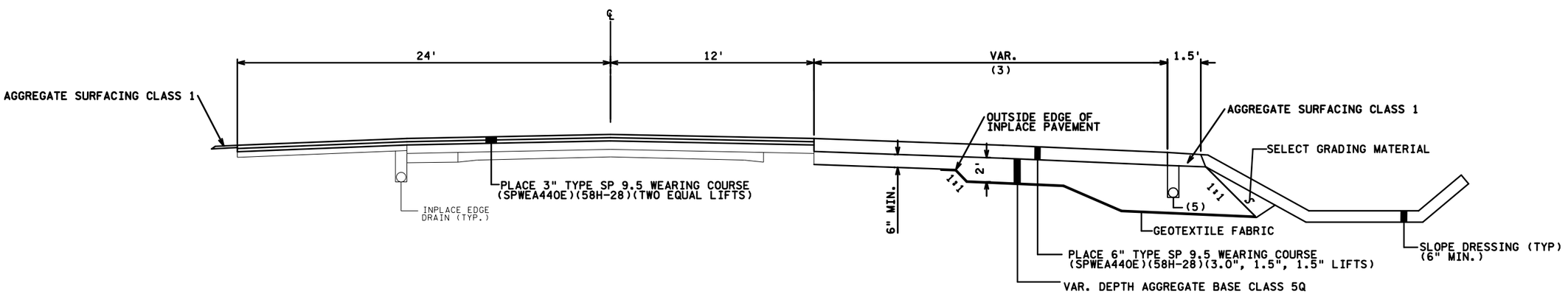
TYPICAL SECTION 8 - WIDENING
PROPOSED

STA. 1171+30 - STA. 1182+19



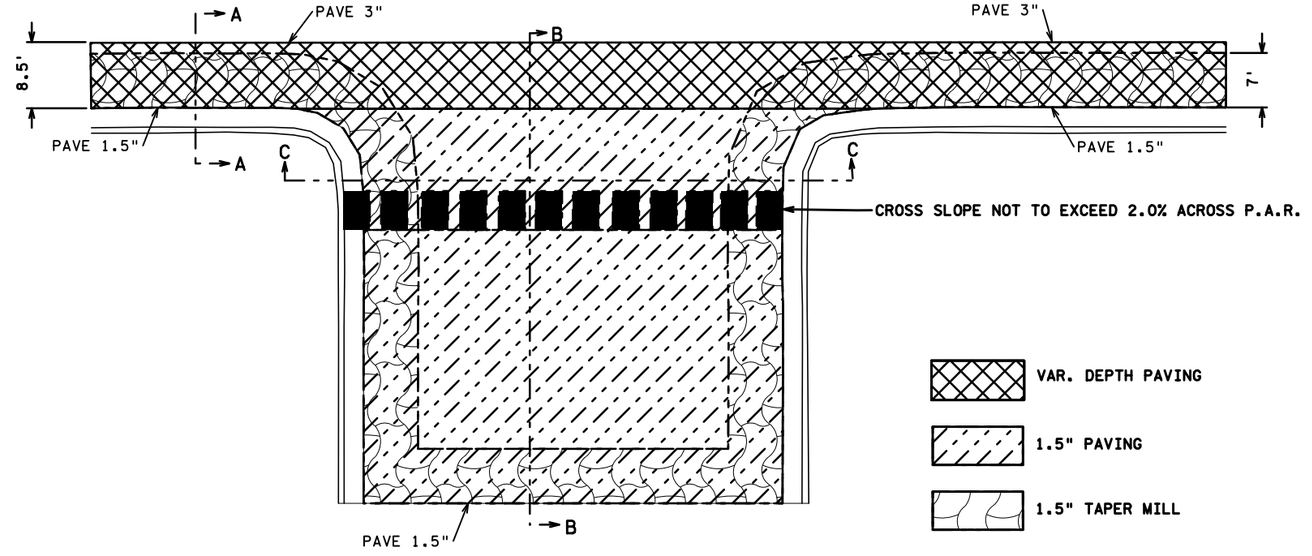
TYPICAL SECTION 8 - WIDENING TRANSITION
PROPOSED

STA. 1182+19 - STA 1189+06

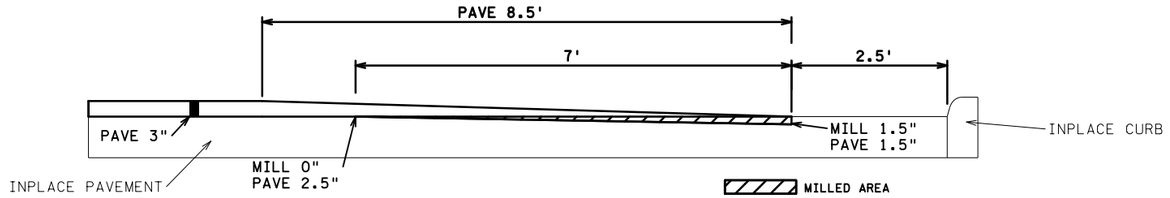


CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

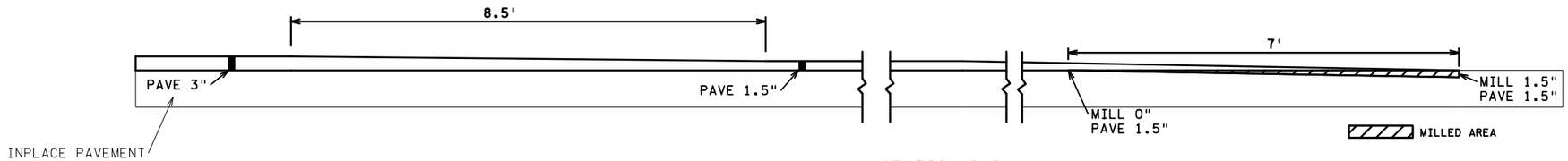
TYPICAL SECTIONS



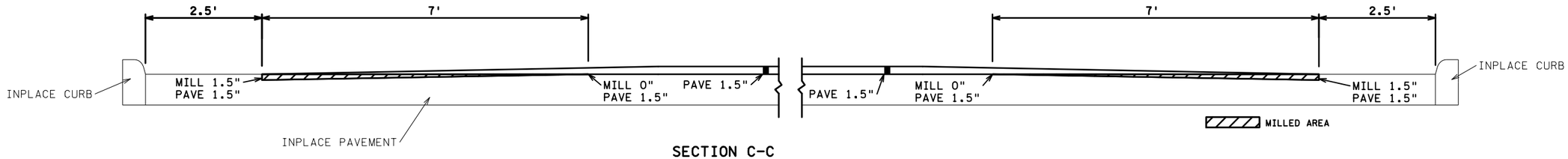
SIDE ROAD APPROACH PAVING DETAIL



SECTION A-A



SECTION B-B

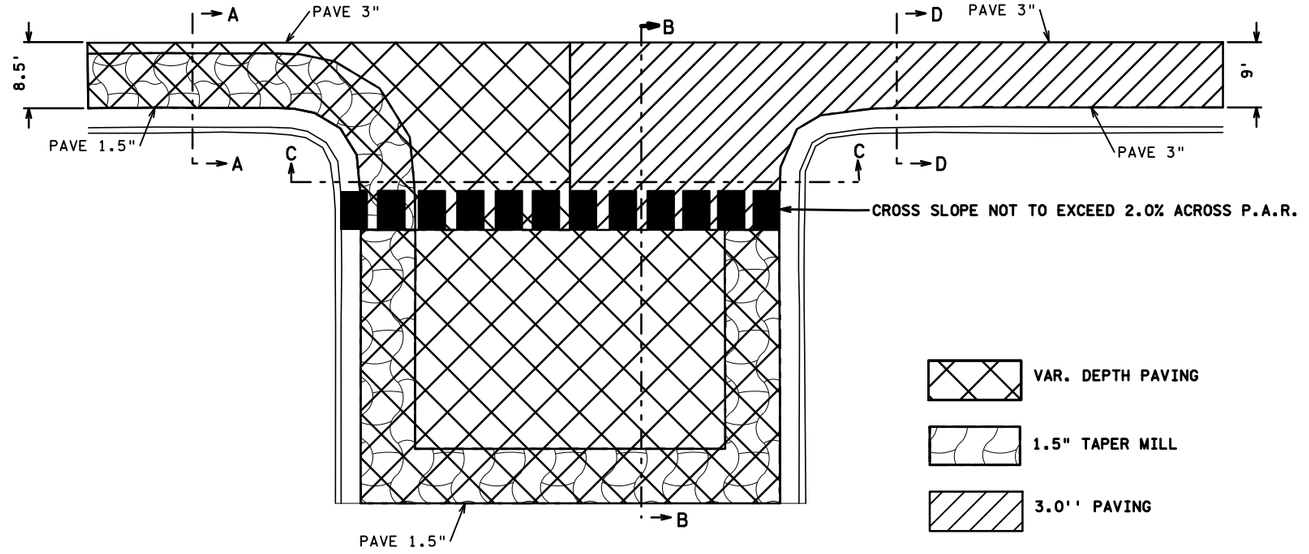


SECTION C-C

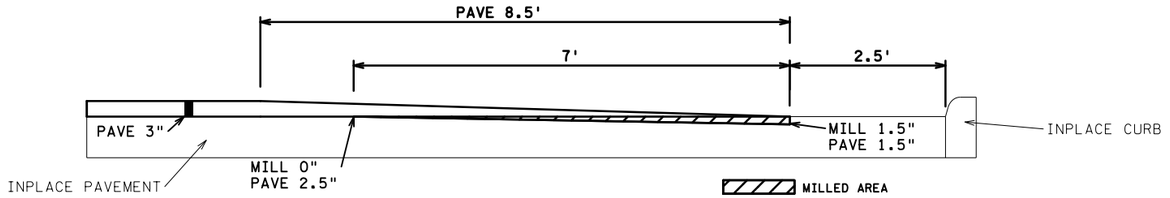
CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

MILL AND PAVE INTERSECTION DETAIL A

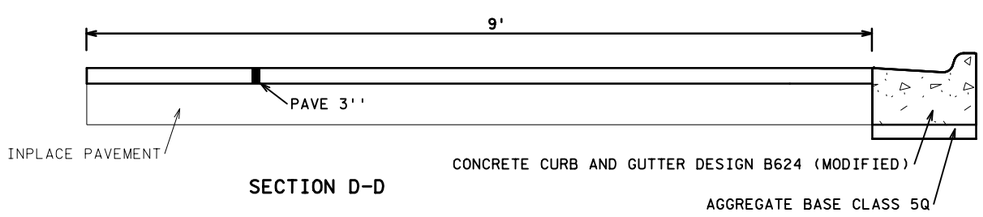
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 41 OF 152 SHEETS



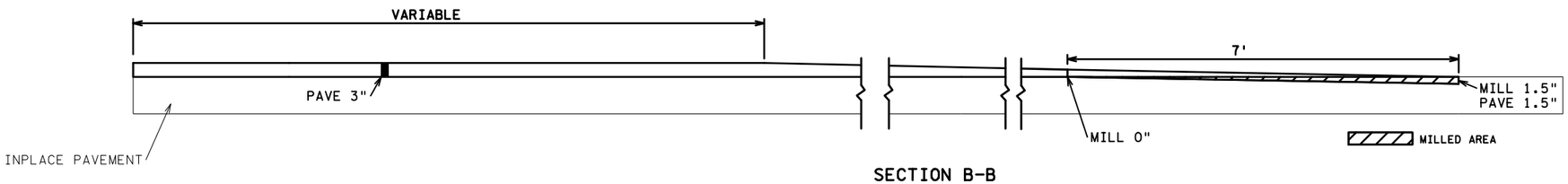
SIDE ROAD APPROACH PAVING DETAIL



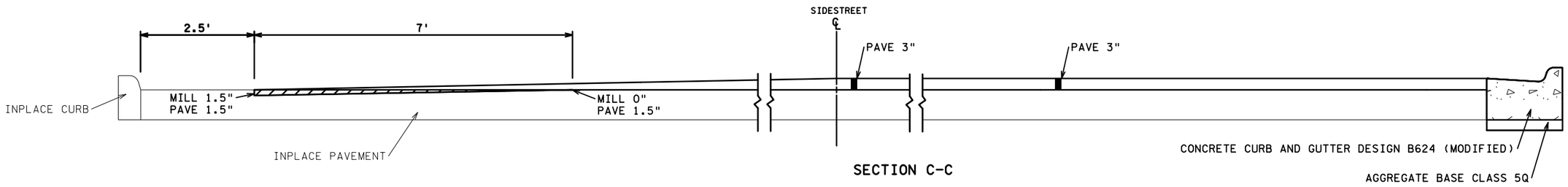
SECTION A-A



SECTION D-D



SECTION B-B



SECTION C-C

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

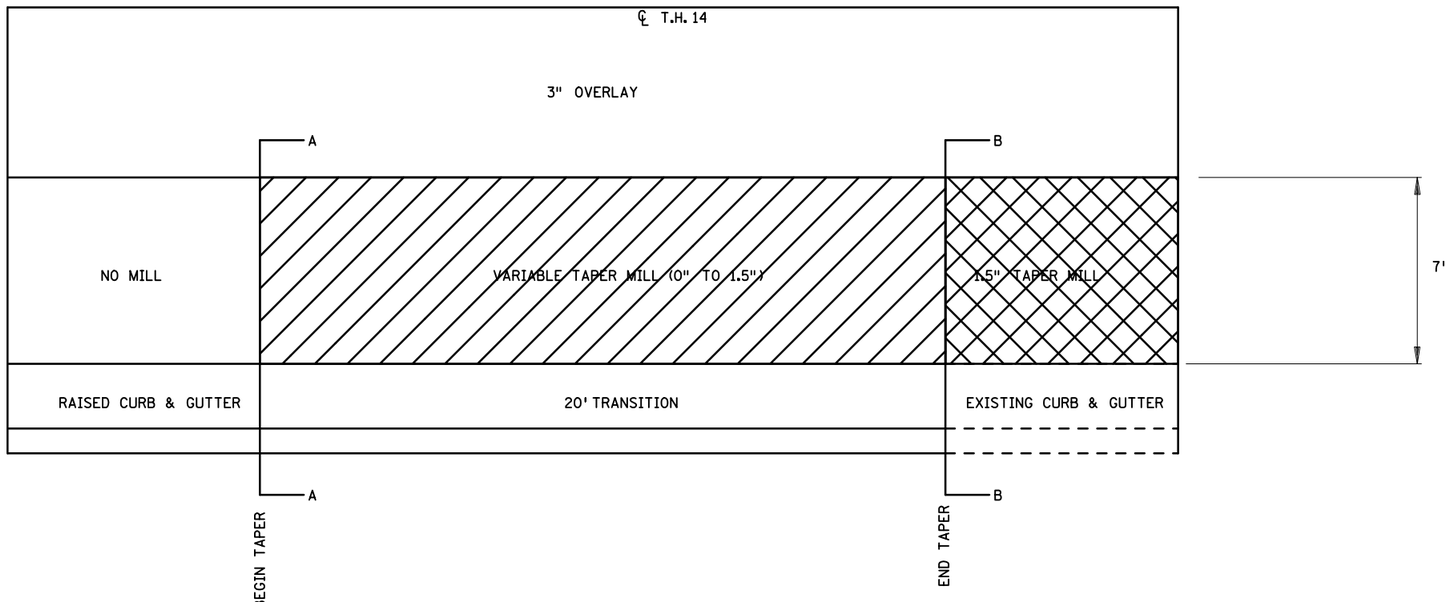
MILL AND PAVE INTERSECTION DETAIL B

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 42 OF 152 SHEETS

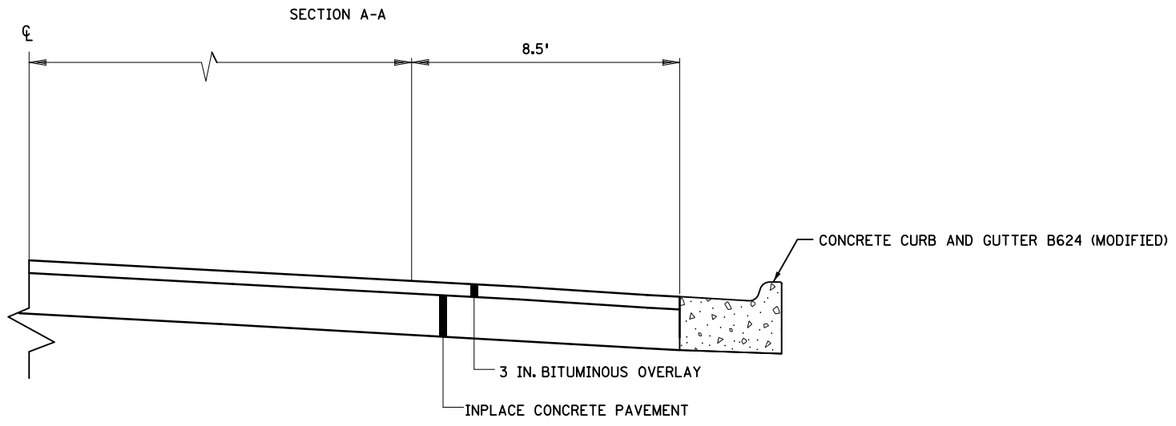
PROPOSED MILL TAPER DETAIL

APPLIES TO CURB AND GUTTER RAISE AREAS
ON SOUTH SIDE OF T.H. 14 FROM STA. 1133+08 TO STA. 1133+28
AND STA. 1137+29 TO STA. 1137+49
(NOT TO SCALE)

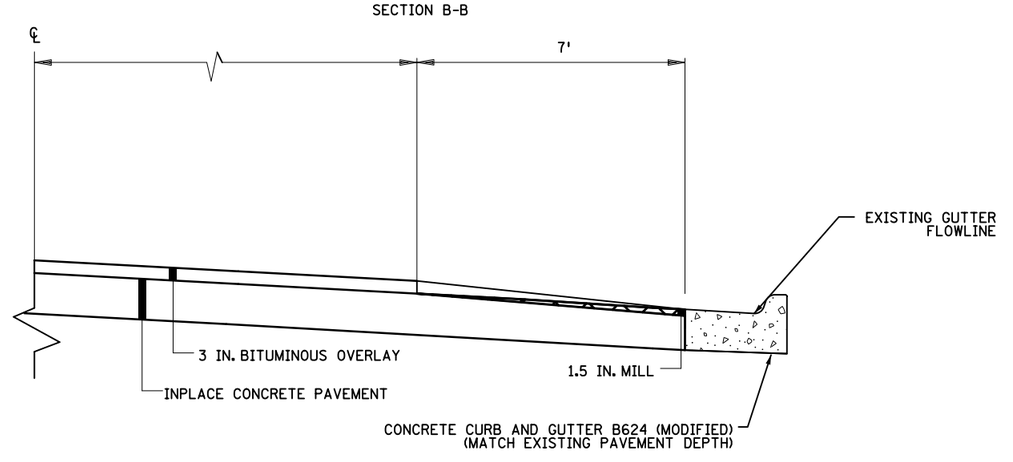
PLAN VIEW



SECTION A-A



SECTION B-B



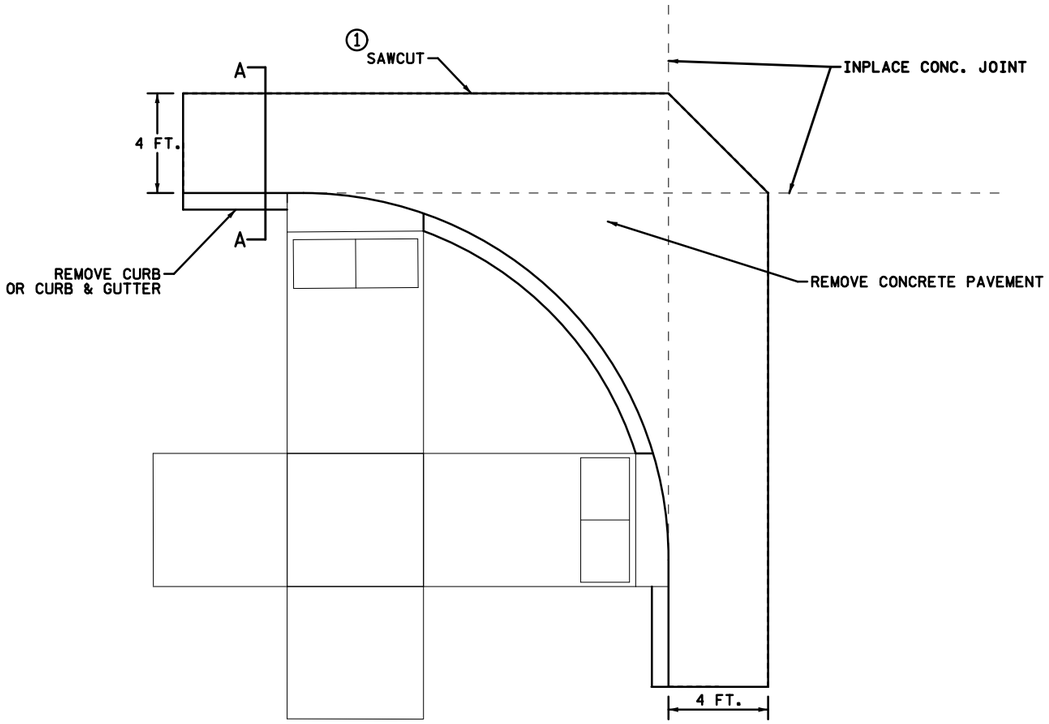
CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DETAILS

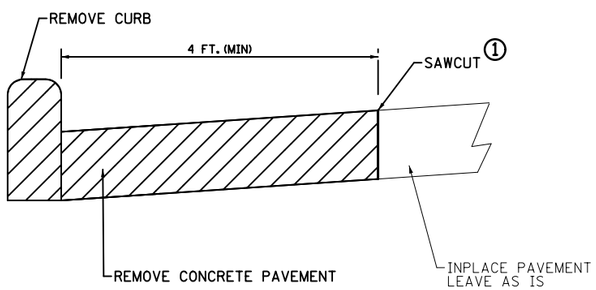
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 43 OF 152 SHEETS

REMOVAL DETAIL AT ADA CORNER ②

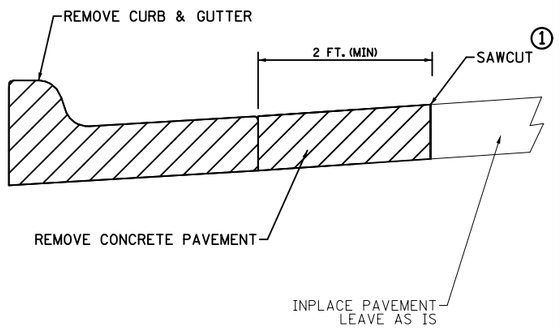
(ADJACENT TO CONCRETE ROADWAY PAVEMENT)



SECTION A-A
INPLACE CURB



SECTION A-A
INPLACE CURB & GUTTER



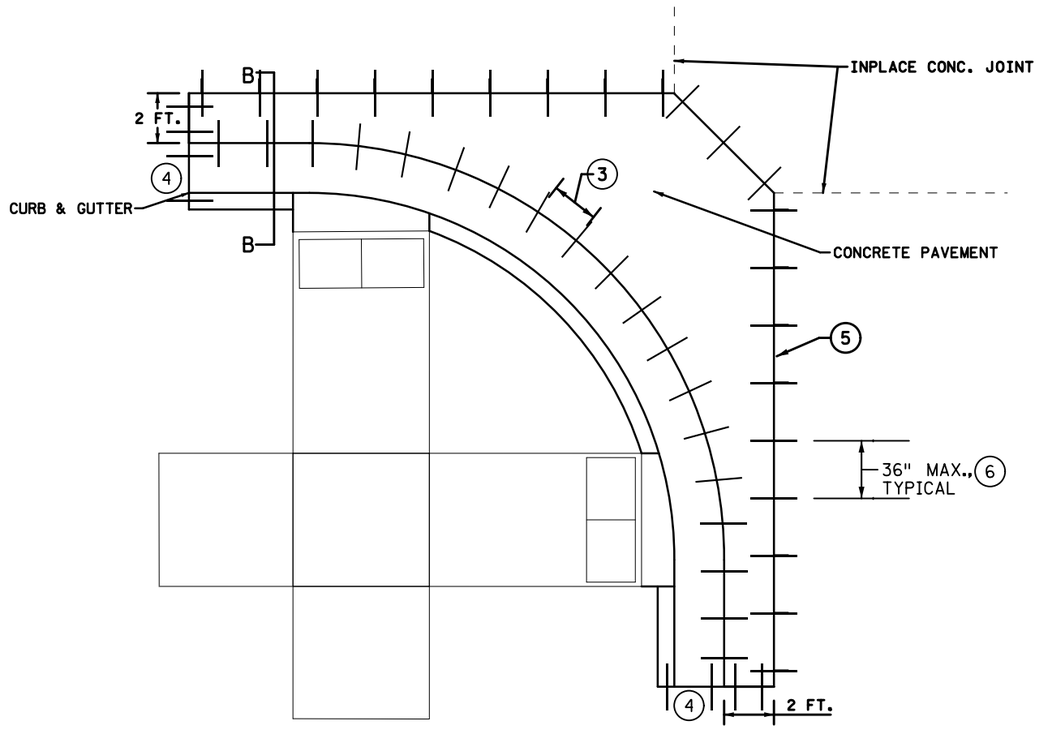
NOTES:

① SAWCUT EXISTING PAVEMENT FULL DEPTH.

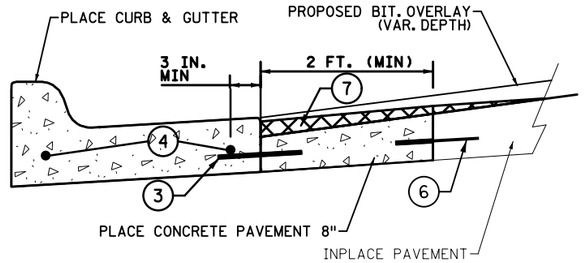
② TYPICAL COMBINED DIRECTIONAL ADA RAMP SHOWN. SEE ADA TABULATION FOR ADDITIONAL DETAILS.

CONSTRUCTION DETAIL AT ADA CORNER ②

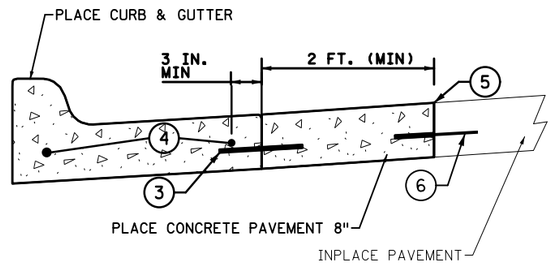
(ADJACENT TO CONCRETE ROADWAY PAVEMENT)



SECTION B-B
PROPOSED CURB AND GUTTER
WITH BIT. OVERLAY



SECTION B-B ⑧
PROPOSED CURB AND GUTTER
WITHOUT BIT. OVERLAY



NOTES:

③ PLACE REINFORCEMENT BARS (EPOXY-COATED) 18" LONG NO. 4 BARS) AT 30" ON CENTER, EMBEDDED 9 INCHES INTO PROPOSED CONCRETE PAVEMENT.

④ DRILL AND GROUT 2- NO. 4 EPOXY COATED 12" LONG TIE BARS EMBEDDED 6 INCHES INTO EXISTING CONCRETE PAVEMENT, 3 INCH MIN. CLEARANCE.

⑤ SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION, WITH NO VERTICAL DISCONTINUITIES GREATER THAN 1/4 INCH.

⑥ DRILL AND GROUT REINFORCEMENT BARS (EPOXY COATED) (18" LONG NO. 4 BARS) AT 36" (MAX.) ON CENTER, EMBEDDED 9 INCHES INTO INPLACE CONCRETE PAVEMENT.

⑦ SEE TYPICAL SECTIONS ON SHEET 35 FOR ADDITIONAL MILL TAPER INFORMATION.

⑧ AT 5TH AVE NE, 6TH AVE NE AND 7TH AVE NE INTERSECTIONS.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
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PAVEMENT DETAILS AT CORNER RAMPS

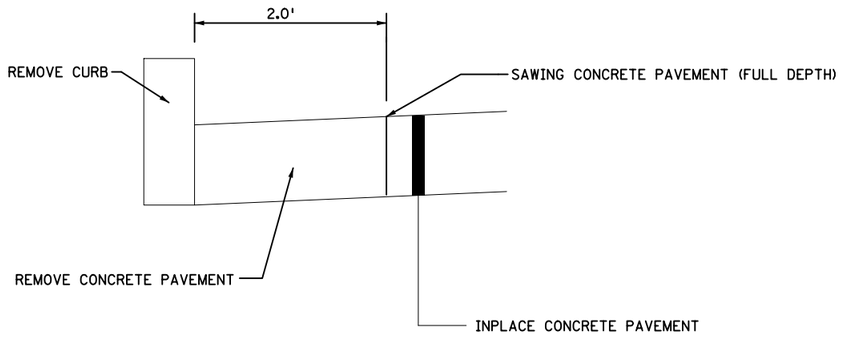
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 44 OF 152 SHEETS

PROPOSED CURB RAISE DETAIL

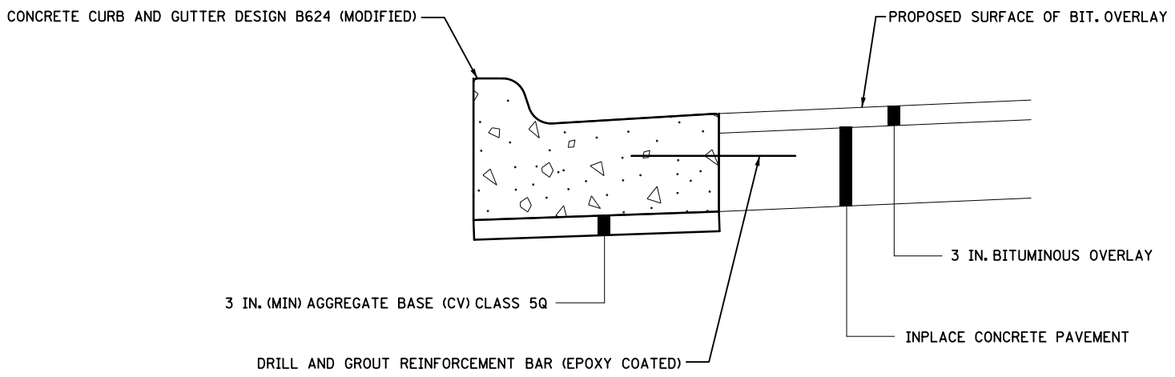
APPLIES TO CURB RAISE AREAS
ON SOUTH SIDE OF TH 14 FROM STA. 1133+08 TO STA. 1133+28 AND STA. 1137+29 TO STA. 1137+49
ON NORTH SIDE OF TH 14 FROM STA. 1131+55 TO STA. 1139+19

(NOT TO SCALE)

REMOVAL

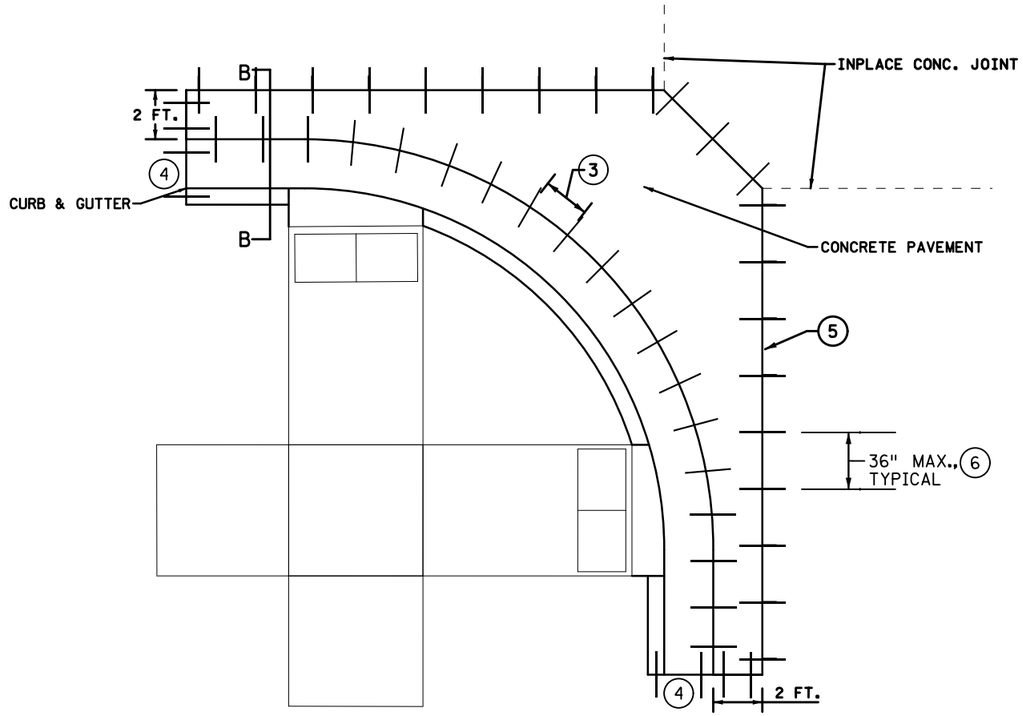


CONSTRUCTION

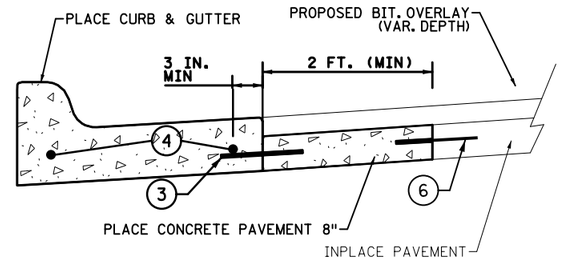


CONSTRUCTION DETAIL AT ADA CORNER②

(ADJACENT TO CONCRETE ROADWAY PAVEMENT)



SECTION B-B
PROPOSED CURB AND GUTTER WITH BIT. OVERLAY



NOTES:

② TYPICAL COMBINED DIRECTIONAL ADA RAMP SHOWN. SEE ADA TABULATION FOR ADDITIONAL DETAILS.

③ PLACE REINFORCEMENT BARS (EPOXY-COATED) 18" LONG NO. 4 BARS) AT 30" ON CENTER, EMBEDDED 9 INCHES INTO PROPOSED CONCRETE PAVEMENT.

④ DRILL AND GROUT 2- NO. 4 EPOXY COATED 12" LONG TIE BARS EMBEDDED 6 INCHES INTO EXISTING CONCRETE PAVEMENT, 3 INCH MIN. CLEARANCE.

⑤ SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION, WITH NO VERTICAL DISCONTINUITIES GREATER THAN 1/4 INCH.

⑥ DRILL AND GROUT REINFORCEMENT BARS (EPOXY COATED) (18" LONG NO. 4 BARS) AT 36" (MAX.) ON CENTER, EMBEDDED 9 INCHES INTO INPLACE CONCRETE PAVEMENT.

CERTIFIED BY _____
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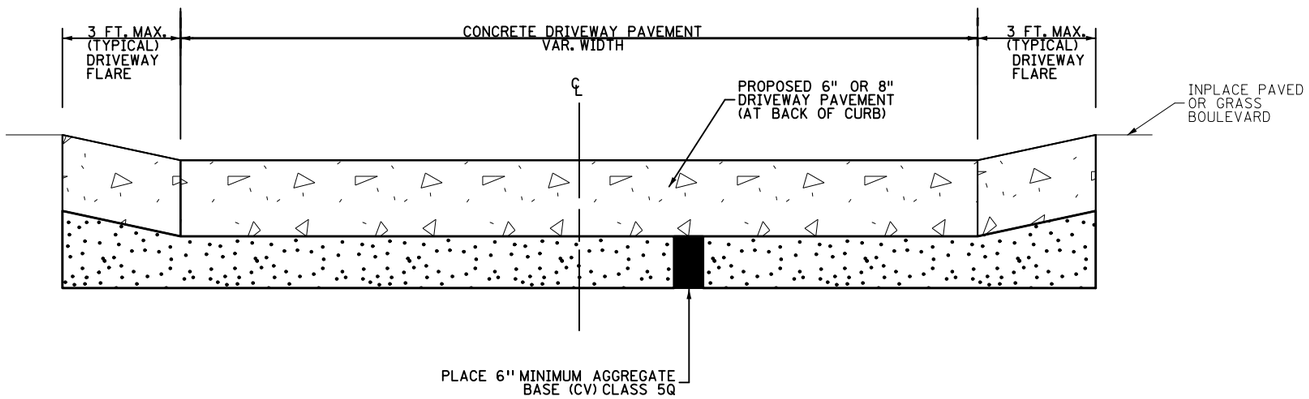
DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 45 OF 152 SHEETS

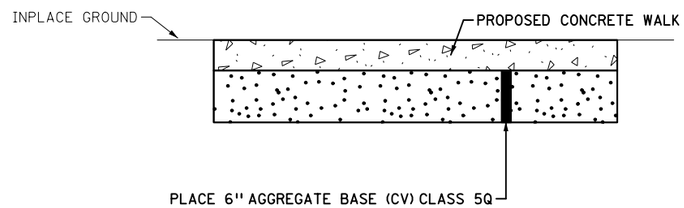
PROPOSED DRIVEWAY DETAIL

APPLIES TO PERPENDICULAR CONCRETE DRIVEWAY ENTRANCES
(NOT TO SCALE)

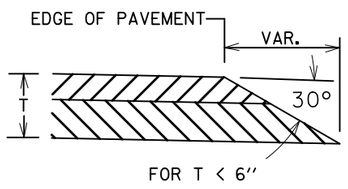


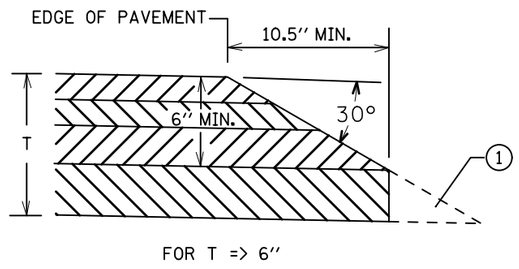
PROPOSED SIDEWALK DETAIL

APPLIES TO NEW SIDEWALK CONSTRUCTION AREAS AT
7TH ST. NW CORNER STA. 1157+46 LT
AND 1161+03 TO 1161+23 LT
AND 1158+00 TO 1171+12 RT
(NOT TO SCALE)



SAFETY EDGE DETAILS FOR BITUMINOUS PAVEMENT

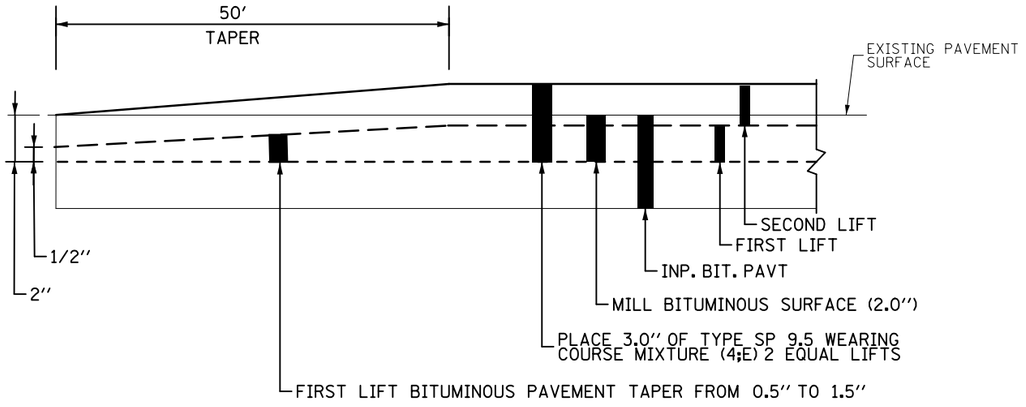




(1) OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5".

PROPOSED MILL TAPER DETAIL

APPLIES TO: STA. 1082+77 TO STA. 1083+27 (SKEWED) (2)
STA. 1188+56 TO STA. 1189+06
(NOT TO SCALE)



(2) CONTRACTOR SHALL MILL BITUMINOUS PAVEMENT UP TO THE INPLACE CONCRETE SURFACE OF THE DEL MONTE PRIVATE SPUR RAILROAD TRACK. DO NOT MILL INTO THE EXISTING RAILROAD CROSSING CONCRETE SURFACE.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
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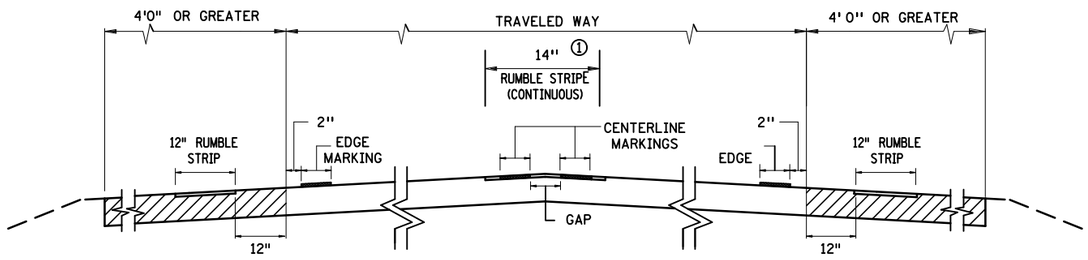
DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 46 OF 152 SHEETS

BITUMINOUS RUMBLE STRIPE AND STRIP

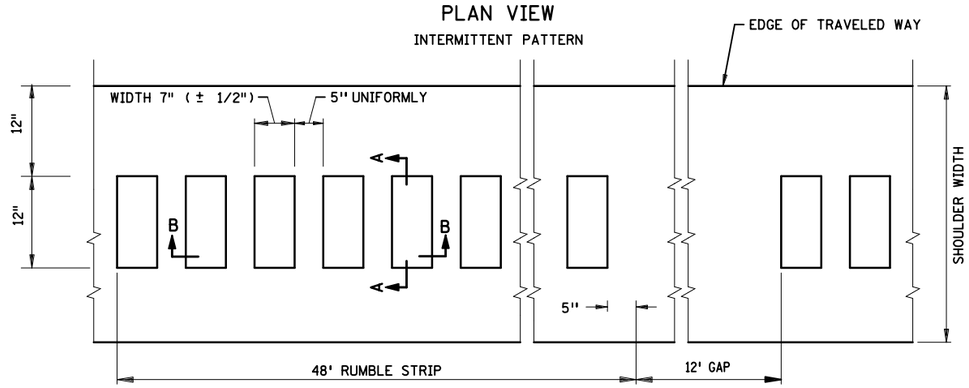
SECTION VIEW

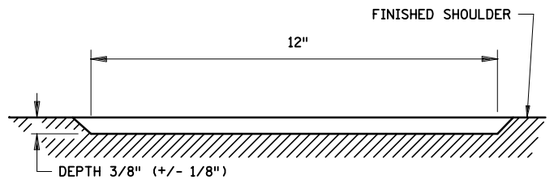


① SEE SHEET 48 FOR CENTERLINE RUMBLE STRIPE DETAILS.

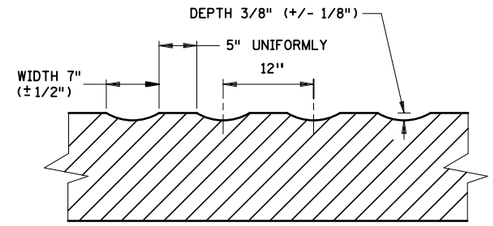
BITUMINOUS SHOULDER RUMBLE STRIP

PLAN VIEW
INTERMITTENT PATTERN





SECTION A-A



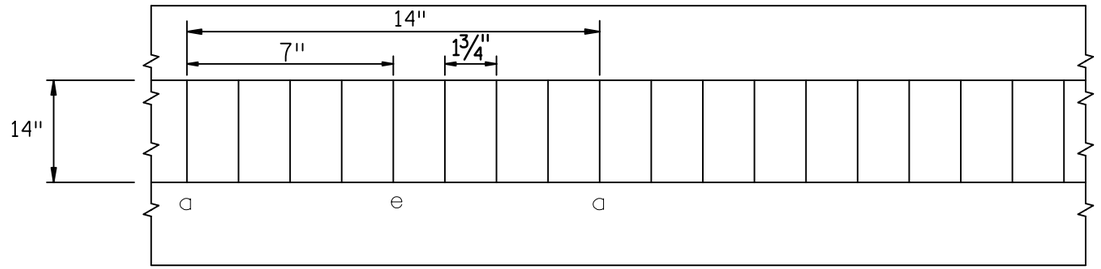
SECTION B-B

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

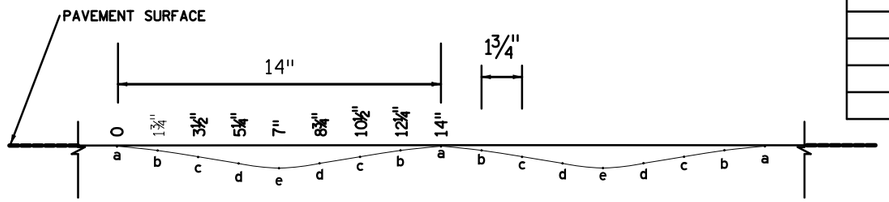
RUMBLE STRIPE AND STRIP DETAILS

SINUSOIDAL RUMBLE STRIPE PATTERN

PLAN VIEW



PROFILE VIEW



	DEPTH	
LOCATION	MIL	INCHES
a	62.5	1/16"
b	156	5/32"
c	281	9/32"
d	438	7/16"
e	500	1/2"

±

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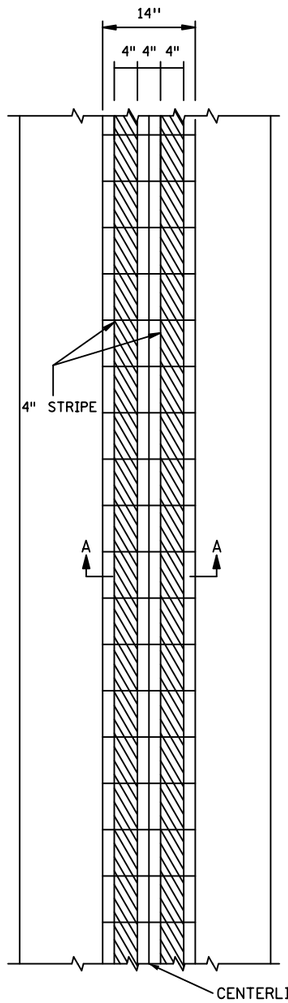
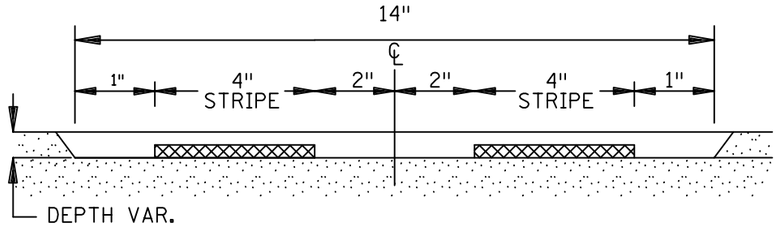
BITUMINOUS CENTERLINE RUMBLE STRIPE

PLAN VIEW



SECTION A-A



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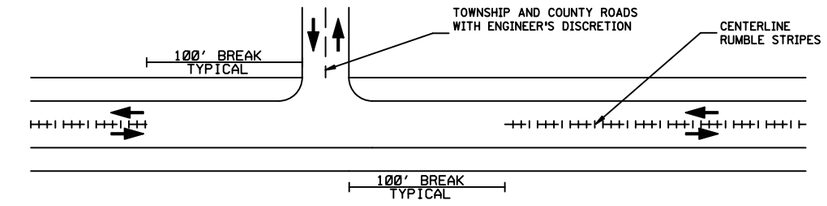
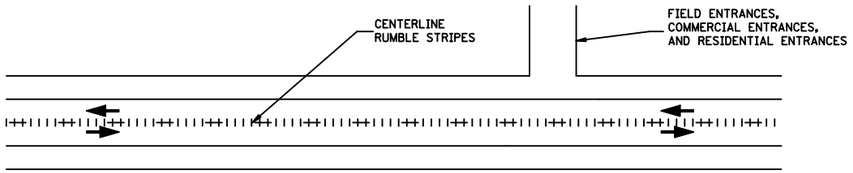
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CENTERLINE RUMBLE STIPE DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 48 OF 152 SHEETS

APPROPRIATE BREAKS - CENTERLINE SINUSOIDAL RUMBLE STRIPE





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APPROPRIATE BREAKS - SHOULDER RUMBLE STRIPS

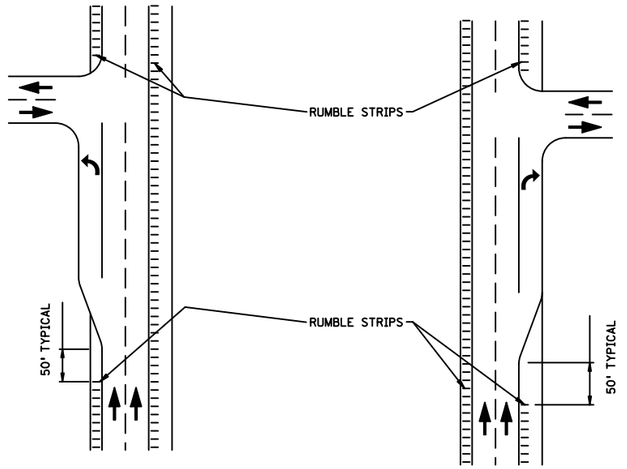

FIGURE 9A
LEFT TURN LANE

FIGURE 9B
RIGHT TURN LANE

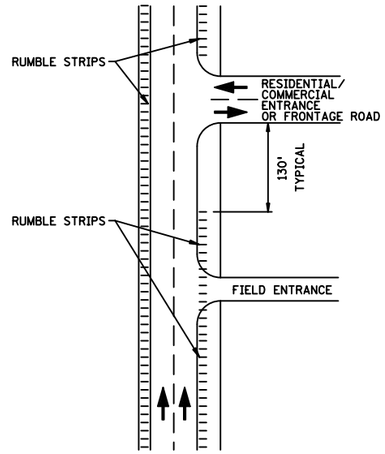

FIGURE 9C
ENTRANCE ROADS

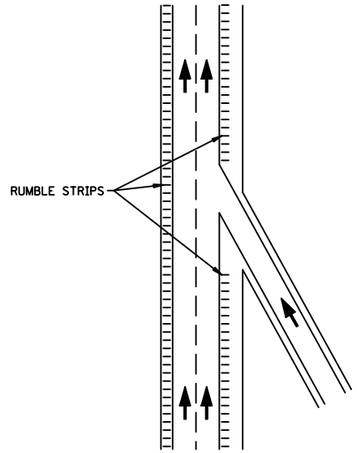

FIGURE 9D
ACCELERATION LANE

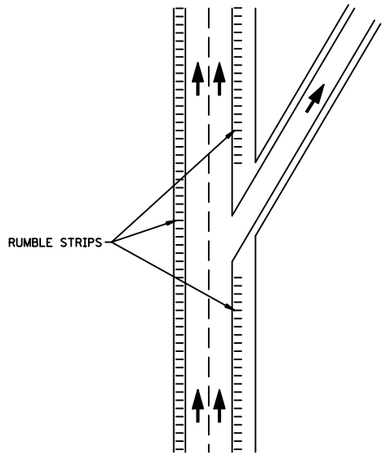

FIGURE 9E
DECELERATION LANE

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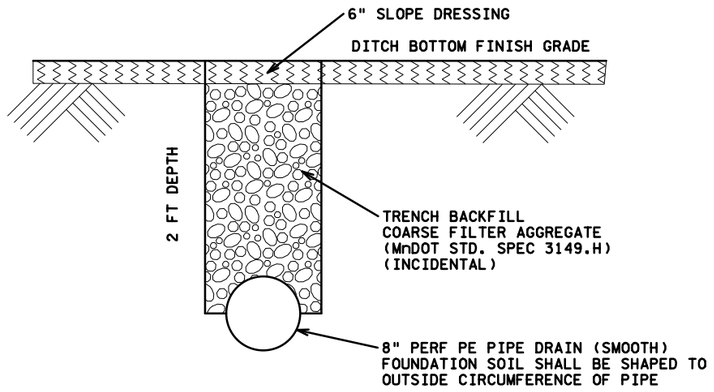
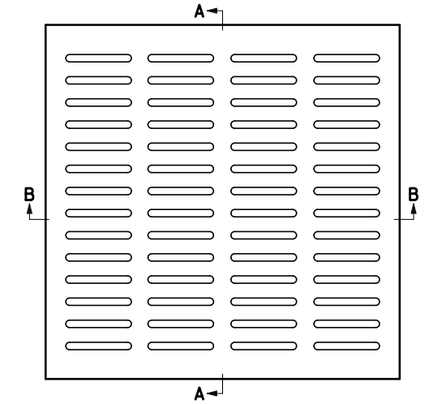
RUMBLE STRIPE AND STRIP DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 49 OF 152 SHEETS

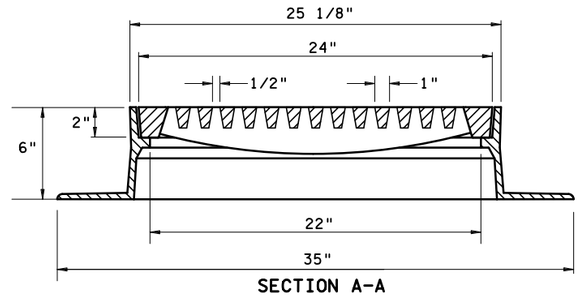


BACKFILL FOR PERFORATED PE PIPE DRAIN (SMOOTH)

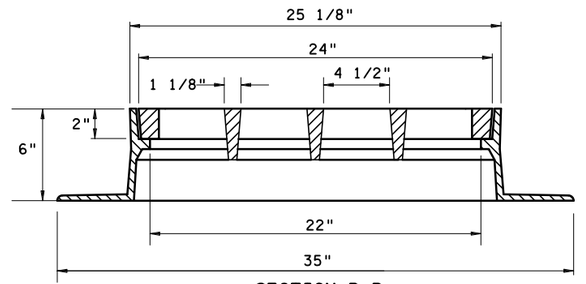
USE AT ALL LOCATIONS WHERE 8" PERFORATED PE PIPE DRAIN (SMOOTH) IS SPECIFIED IN THE PLANS



TOP VIEW



SECTION A-A



SECTION B-B

NOTES

GRATE CASTING IS ADA COMPLIANT.

PLACE GRATE PERPENDICULAR TO THE DOMINANT DIRECTION OF PEDESTRIAN TRAVEL.

ADA SAFE GRATE CASTING NEEDS TO BE USED WITH A NEW FRAME CASTING DUE TO THE NON-STANDARD GRATE SIZE.

MINIMMUM OPEN AREA 0.79 SQ FT.

ADA COMPLIANT CASTING ASSEMBLY

ADA CATCH BASIN FRAME
AND GRATE CASTING

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LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DETAILS

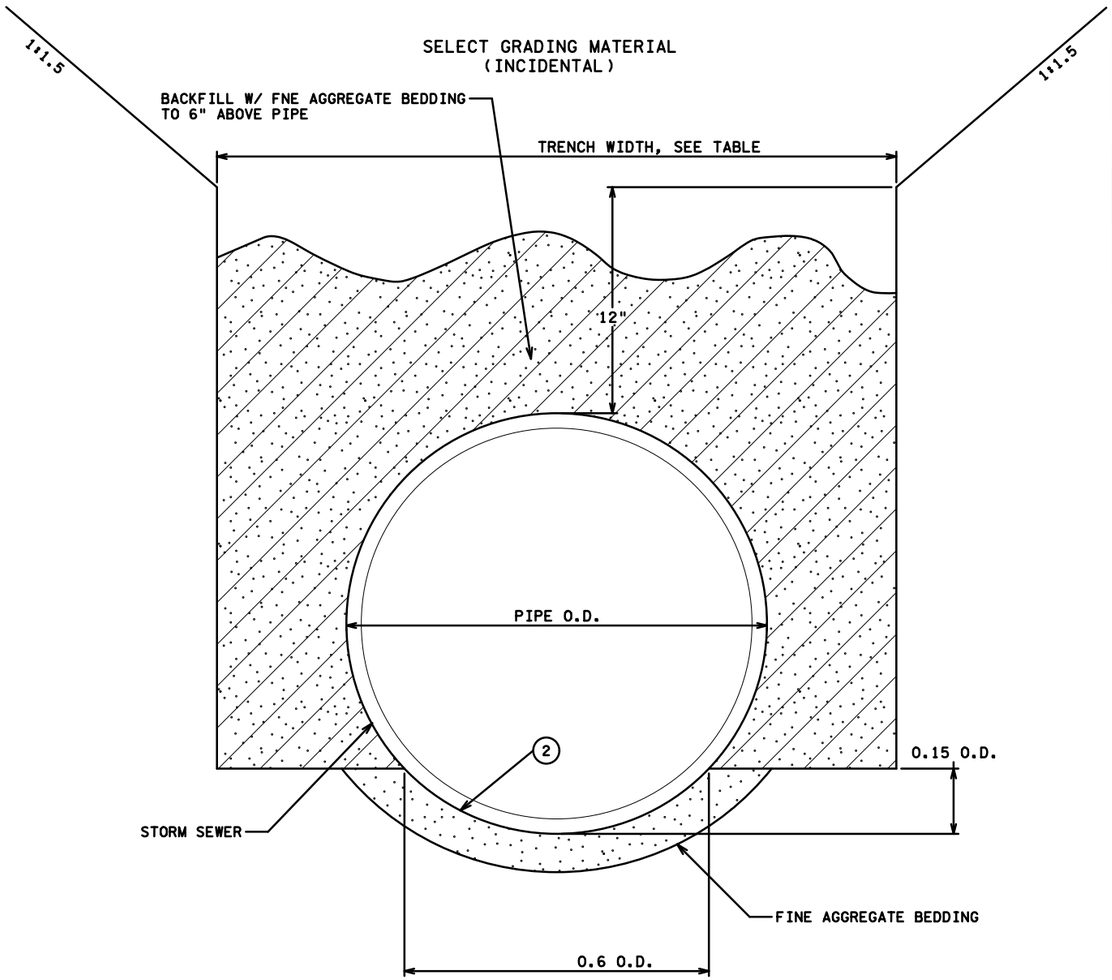
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 50 OF 152 SHEETS

NOTE:

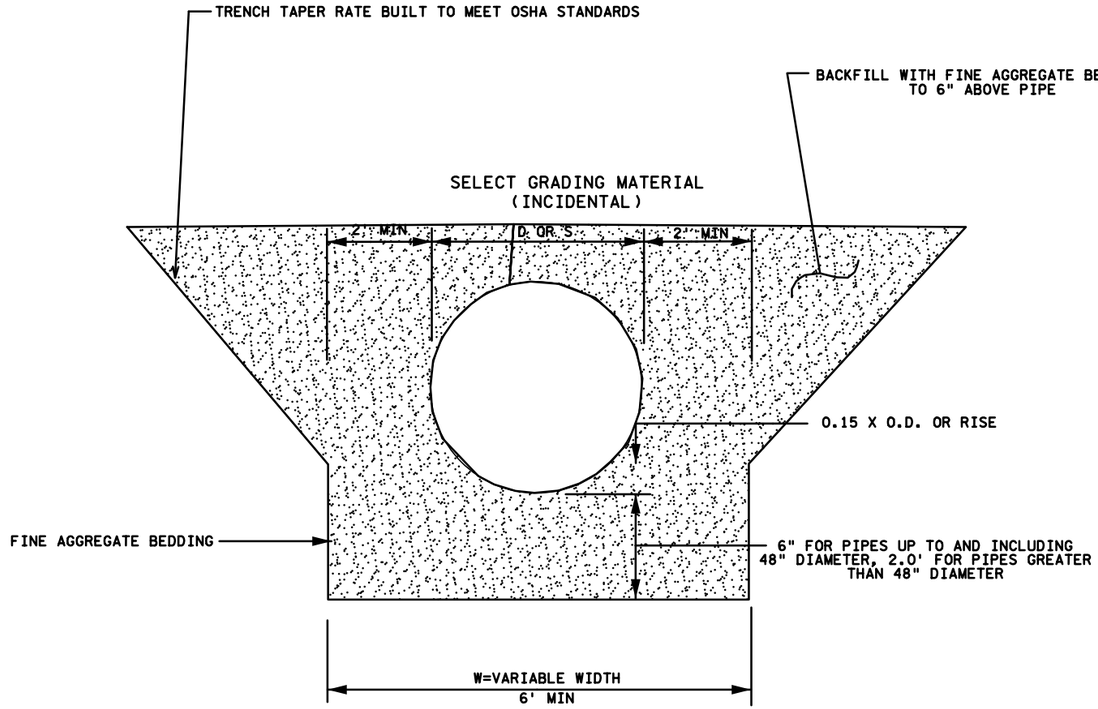
1. CP (SMOOTH) AND PE (SMOOTH) MAY USE SAME BEDDING DETAIL
2. THE FINE AGGREGATE BEDDING SHALL BE SHAPED TO MATCH THE OUTSIDE DIAMETER OF PIPE TO BE PLACED. THIS SHAPING SHALL BE DONE USING A TEMPLATE WITH THE SAME DIMENSIONS AS THE PIPE BEING PLACED.

TRENCH WIDTH	
PIPE DIA.	TRENCH WIDTH
36" OR LESS	O.D. + 24"
42" TO 54"	1.5 X O.D.

PIPE	CU.YD BEDDING PER
SIZE (1)	LIN. FT.
12" RC	0.209
15" RC	0.241
18" RC	0.273
24" RC	0.327
30" RC	0.401
42" RC	0.591
48" RC	0.733



STORM SEWER & CS CULVERT BEDDING DETAIL



CONCRETE CULVERT & APRON BEDDING DETAIL

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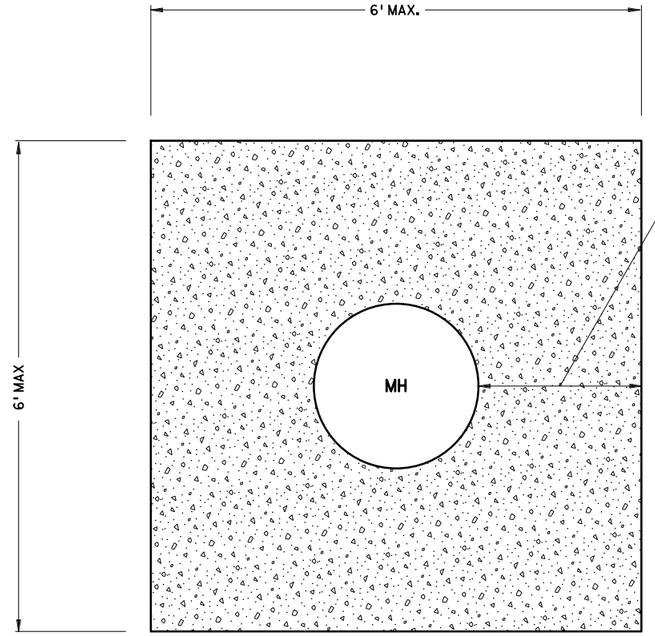
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PIPE BEDDING DETAILS

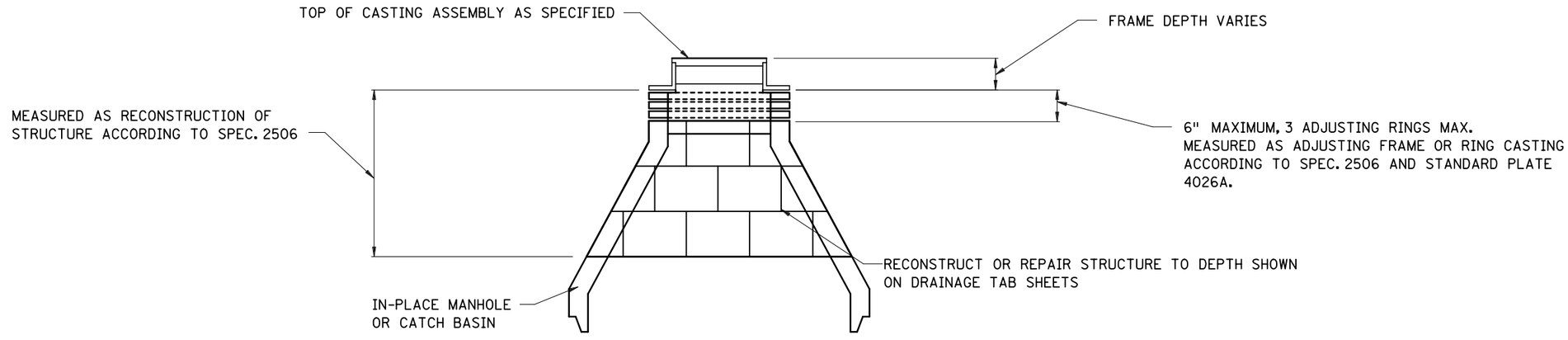
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 51 OF 152 SHEETS



MIN. 18" ON EACH SIDE

NOTES:

1. BID ITEM SHALL INCLUDE THE FOLLOWING,
   - SAWCUTTING, PAVEMENT REMOVAL, AND EXCAVATION.
   - REMOVING EXISTING CASTING AND ADJUSTING RINGS, AND/OR BRICK TO THE TOP OF THE SOLID INPLACE CONE SECTION PLATFORM.
   - FURNISHING AND INSTALLING CONCRETE ADJUSTING RINGS, BRICK, MORTAR AND NEW CASTING IN ACCORDANCE TO STANDARD PLATE 4026A.
   - REMOVING AND REPLACING CURB & GUTTER AT MANHOLE AND CATCH BASIN LOCATIONS IN THE GUTTER LINE.
2. SEE TYPICAL PAVEMENT SECTIONS FOR PAVEMENT PATCHING INFORMATION.
3. EXCAVATION SIZE SHALL NOT EXCEED 6' X 6'



RECONSTRUCTION OF MANHOLE OR CATCH BASIN STRUCTURE DETAIL

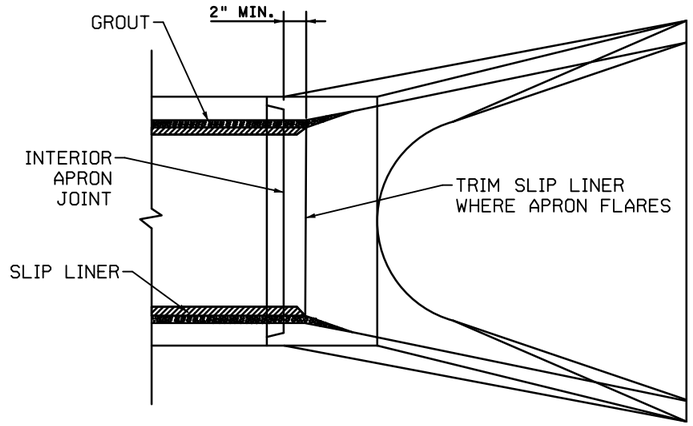
(NO SCALE)

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

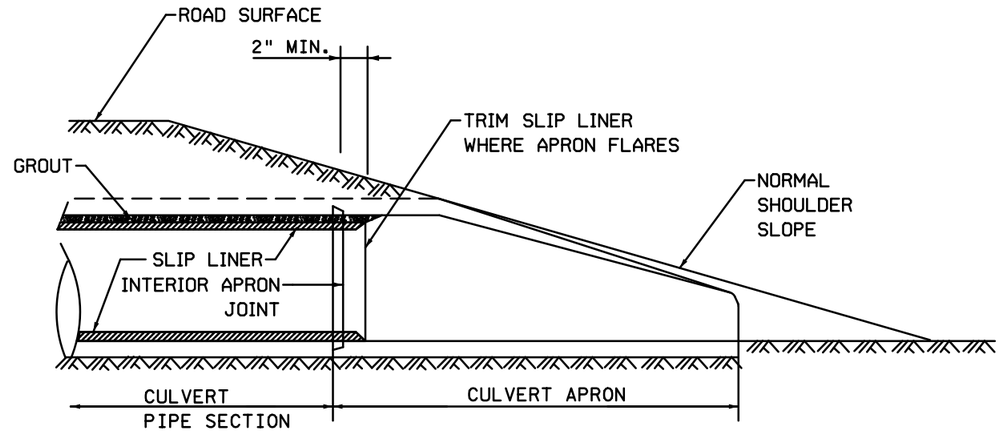
DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 52 OF 152 SHEETS

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/Consultant/whks/from_whks/basefiles/D080338_dd_WHKS.dgn PLOTTED/REVISED: 14-NOV-2017 15:57



TOP VIEW



ELEVATION VIEW

SLIP LINER AT RCP APRON DETAIL

NOTE: USE FASTENERS,BLOCKS, OR MULTIPLE GROUT LAYERS TO SECURE LINERS EQUAL TO OR GREATER THAN 2 FT. IN DIAMETER TO THE INVERT OF THE INPLACE PIPE TO PREVENT THE LINER FROM FLOATING DURING THE GROUTING OPERATIONS.

CULVERT LINING TRIMING DETAIL

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 53 OF 152 SHEETS

ALIGNMENT TABULATION

AETH14 = INP. T.H. 14

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH			
			SPIRAL CURVE DATA					X	Y	
			ANGLE (~~θs~~)	DEGREE	ST	LT	LS			
MS3000	POT	1078+25.901						497,746.9419	168,597.5576	
	PC	1085+02.099						498,419.7564	168,665.1129	84° 15' 58.74"
MS1005	PI	1086+52.100	0° 30' 00.00" LT	0° 10' 00.00"	34,377.468'	150.001'	300.000'	498,569.0069	168,680.0987	PI
	CC							494,985.2857	202,870.5905	
	PT	1088+02.099						498,718.1210	168,696.3864	83° 45' 58.74"
	PC	1093+01.153						499,214.2247	168,750.5756	83° 45' 58.74"
MS1010	PI	1094+56.498	0° 31' 04.12" RT	0° 10' 00.00"	34,377.468'	155.345'	310.687'	499,368.6508	168,767.4435	PI
	CC							502,947.0600	134,576.3715	
	PT	1096+11.840						499,523.2229	168,782.9151	84° 17' 02.86"
	PC	1101+52.406						500,061.1013	168,836.7530	84° 17' 02.86"
MS1015	PI	1103+48.302	5° 52' 18.19" LT	1° 30' 00.00"	3,819.719'	195.895'	391.448'	500,256.0228	168,856.2633	PI
	CC							499,680.6749	172,637.4801	
	PT	EQN 1 1105+43.854						500,447.9257	168,895.6120	78° 24' 44.67"
MS3005	POT	1105+42.495						500,447.9257	168,895.6120	
	PC	1107+93.407						500,693.7242	168,946.0117	78° 24' 44.67"
MS1020	PI	1109+38.800	11° 35' 30.00" RT	4° 00' 00.00"	1,432.394'	145.392'	289.792'	500,836.1530	168,975.2160	PI
	CC							500,981.4432	167,542.8112	
	PT	1110+83.199						500,981.5451	168,975.2057	90° 00' 14.67"
MS1015	POT	EQN 2 1128+01.700						502,006.9103	168,975.1327	
CB2010	POT	EQN 3 1154+57.916						504,660.4230	168,980.9410	
	PC	1172+65.208						506,467.7083	168,975.8478	90° 09' 41.28"
MS1025	PI	1177+37.100	59° 55' 44.36" LT	7° 00' 00.00"	818.511'	471.892'	856.128'	506,939.5980	168,974.5180	PI
	CC							506,470.0150	169,794.3557	
	PT	1181+21.337						507,177.2000	169,382.2274	30° 13' 56.92"
MS3015	POT	~~EQN 4~~ 1181+19.507						507,177.2000	169,382.2274	
	PC	1190+94.714						507,668.2261	170,224.7957	30° 13' 56.92"
MS1030	PI	1195+45.700	42° 57' 54.69" RT	5° 00' 00.00"	1,145.916'	450.986'	859.304'	507,895.3020	170,614.4430	PI
	CC							508,658.2852	169,647.8160	
	PT	1199+54.017						508,327.0345	170,744.8099	73° 11' 51.61"

ALIGNMENT TABULATION

CPHWALK = SIDEWALK

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH			
			SPIRAL CURVE DATA					X	Y	
			ANGLE (~~θs~~)	DEGREE	ST	LT	LS			
1000	POT	19+97.921						505,393.9941	168,950.8736	
1001	POT	20+23.348						505,419.4217	168,950.8019	
1002	POT	21+66.538						505,562.5311	168,946.0113	
1003	POT	22+31.251						505,622.7158	168,922.2289	
1004	POT	29+20.904						506,312.3658	168,920.2854	

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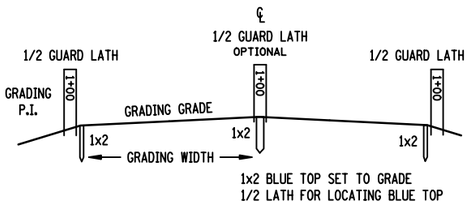
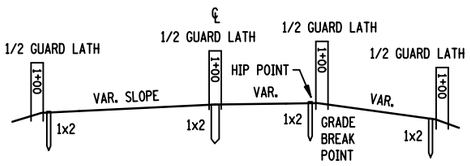
BLUE TOPS

NORMAL SECTION

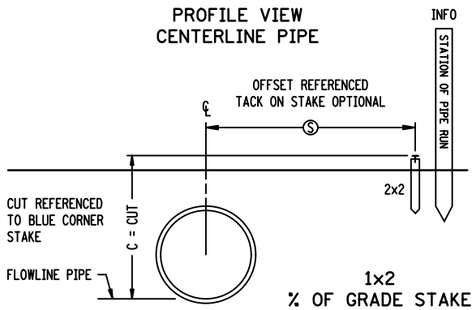


TRANSITION SECTION

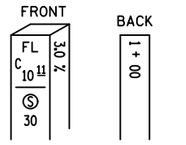


PIPE STAKING

PROFILE VIEW CENTERLINE PIPE

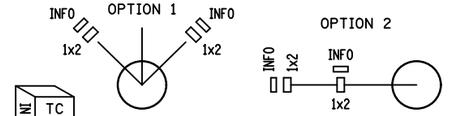


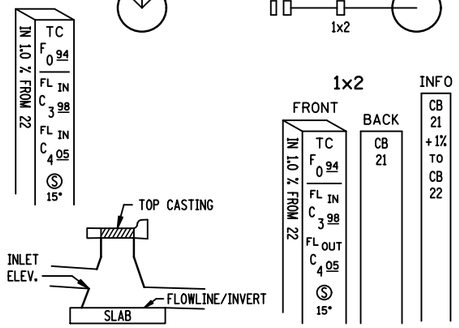
1x2 % OF GRADE STAKE



CATCH BASIN OR MANHOLE (CB/MH)

TOP VIEWS

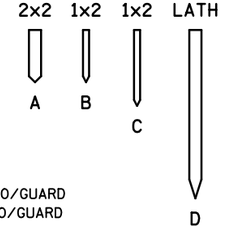




FLOWLINE/INVERT + 0.7'

STANDARD STAKES

TYPES:
REFERENCE (REF)
INFORMATIONAL (INFO)
VISIBILITY (VIS)
GUARD (GUARD)



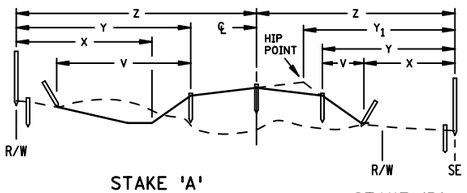
SIZES:
A = 2" X 2" X VAR. REF/INFO/GUARD
B = 1" X 2" X VAR. REF/INFO/GUARD
C = 1" X 2" X VAR. REF
D = LATH INFO/VIS/GUARD
1x2 OR LATH = INFO STAKES

ABBREVIATIONS

BBL = BARREL (PIPE)
B.C. = BACK CURB
C & G = CURB & GUTTER
C = CUT
CAP = CORR. ALUM. PIPE
CB = CATCH BASIN
℄ = CENTERLINE
CL & GR = CLEAR & GRUB
CMP = CORR. METAL PIPE
COR = CORNER
CR = CROWN
CSP = CORR. STEEL PIPE
℄ = DITCH CUT
D.E. = DRAINAGE EASEMENT
DI = DROP INLET
EB = EASTBOUND
E.M. = EDGE BITUMINOUS MAT
E.S. = EDGE CONCRETE SLAB
F = FILL
FF = FRONT FACE
FL = FLOW LINE
FL IN = FLOWLINE INLET
FL OUT = FLOWLINE OUTLET
GR = GRADE
GW = GRADING WIDTH
HH = HANDHOLE
HP = HIP POINT
LT = LEFT
MH = MANHOLE
NB = NORTHBOUND
Ⓢ = OFFSET
PAR = PARCEL
% = PERCENT GRADE
P.E. = PERM. EASEMENT
RAD = RADIUS POINT
RCP = REINF. CONC. PIPE
RP = REFERENCE POINT
RSC = REINF. SECT. CONC.
RT = RIGHT
R/W = RIGHT OF WAY
SB = SOUTHBOUND
SCP = SECT. CONC. PIPE
SH = SHOULDER
TC = TOP CASTING
OR TOP CURB
T.E. = TEMP. EASEMENT
3 :1 = SLOPE (EXAMPLE)
WB = WESTBOUND
WP = WORKING POINTS

SLOPE STAKES

SINGLE ROADWAY - EXAMPLE 'A'



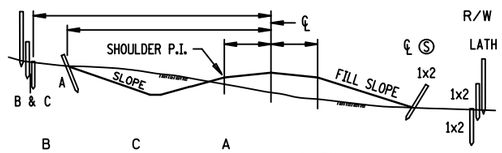
STAKE 'A'
FULL LATH AND HUB-STATION
DIST. TO ℄ WITH CUT/FILL TO ℄ (Z)
DIST. TO SHLD. WITH CUT/FILL TO SHLD. (Y) (Y1)
DIST. TO TOE OF SLOPE, CUT/FILL FROM HUB (X)
OFFSET TO SAFTY SLOPE
OFFSET TO HIP POINT

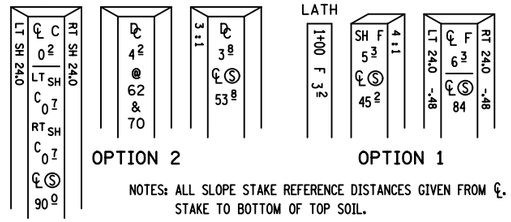
STAKE 'B'
FULL LATH
DITCH CUT/SHLD. FILL
SLOPE RATED
DISTANCE TO INSLOPE TOE (V1) OR SHOULDER (AS APPLIES) (V)

NOTE:
BLUE TOPS REQUIRED ON ℄ AND BOTH SHOULDERS AT MINIMUM
ALL CULVERTS TO BE STAKED
MINIMUM DATA TO BE PROVIDED
STAKE TO BOTTOM OF TOPSOIL

SLOPE STAKES

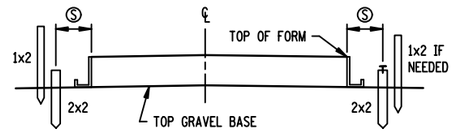
SINGLE ROADWAY - EXAMPLE 'B'



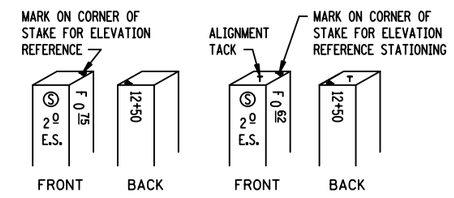


NOTES: ALL SLOPE STAKE REFERENCE DISTANCES GIVEN FROM ℄ STAKE TO BOTTOM OF TOP SOIL.
KEY STAKES: BLUE TOP SET AT R/W BOUNDARY LT. & RT. MAY BE EXCEPTIONS TO SETTING STAKE ON R/W.

CONCRETE PAVING STATIONARY FORM



OFFSET TO CONTRACTOR'S OPTION



NOTE INFORMATION ON STAKE IF NECESSARY

RECOMMENDED STAKING INTERVALS

FIGURE A

	SLOPE STAKES	SUB GRADE B.T.	CLASS MATERIAL B.T.	CONC PAVT	C & G	CL & GR LIMITS	MUCK EXC.	R/W	TEMP. EASE.
TANGENT	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
HORIZ. CURVE									
0 - 3°	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
OVER 3° -	100	50	50	25	25	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
VERT. CURVE									
'M' 100' CHORD 0 - .25	100	100	100	50	50				
'M' OVER .25	100	50	50	25	25				
TRAN.		50	50						

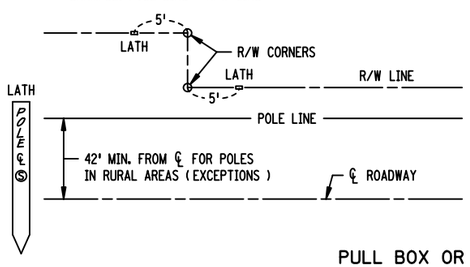
STAKING TOLERANCES (FEET)

	HORIZONTAL	VERTICAL
CONSTRUCTION LIMITS	± 1.5	
CLEARING & GRUBBING	2.0	
SLOPES STAKES	2.0	± 0.2
KEY STAKES	0.2	0.03
DRAINAGE STAKES	0.05	0.05
CURB & GUTTER	0.07	0.03
PAVING	0.05	0.03
ALIGNMENT	0.07	
UTILITY	0.10	0.05
STRUCTURAL	0.02	0.02
GUARD RAIL	0.5	
BUILDINGS	0.04	
O.H. SIGNS	0.05	0.05
MUCK EXCAVATION LIMITS	2.0	
R/W B-POINTS	0.10	
NOISE WALLS	1.0	0.5

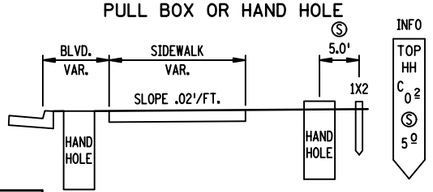
THE TOLERANCES ARE RELATIVE TO PROJECT DATUM

UTILITY (UTIL)

STAKE POLES MINIMUM OF 5 FT. FROM ANY R/W CORNER
EXAMPLE: POLE LINE = R/W LINE

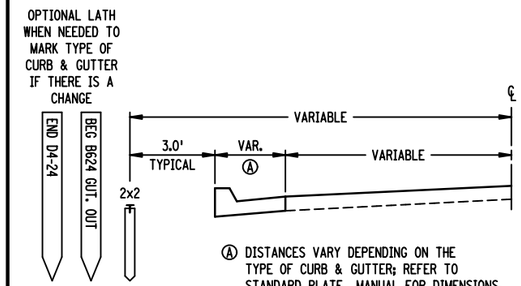


PULL BOX OR HAND HOLE

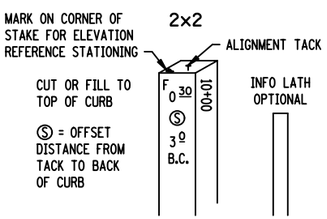


CURB & GUTTER (CURB)

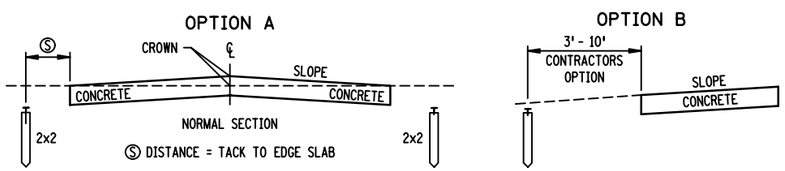
OPTIONAL LATH WHEN NEEDED TO MARK TYPE OF CURB & GUTTER IF THERE IS A CHANGE

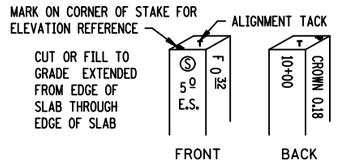


Ⓐ DISTANCES VARY DEPENDING ON THE TYPE OF CURB & GUTTER; REFER TO STANDARD PLATE MANUAL FOR DIMENSIONS.



CONCRETE PAVING - SLIP FORM





DISCLAIMER

THESE STAKING INFORMATION SHEETS ARE FOR INFORMATION PURPOSES ONLY. STAKING PROCEDURES VARY AND MAY BE SUBJECT TO CHANGE DURING CONSTRUCTION BY CIRCUMSTANCES AND/OR AGREEMENTS BETWEEN SURVEY CREW AND CONTRACTOR.

REVISION:
APPROVED: 8-6-2014
DIRECTOR, OFFICE OF LAND MANAGEMENT

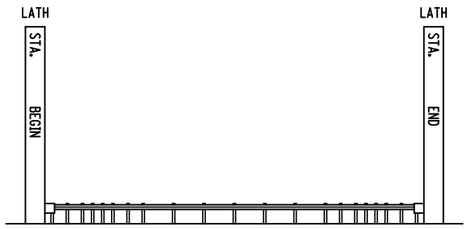
REVISED:
APPROVED: 8-6-2014
STATE DESIGN ENGINEER

STAKING INFORMATION SHEET

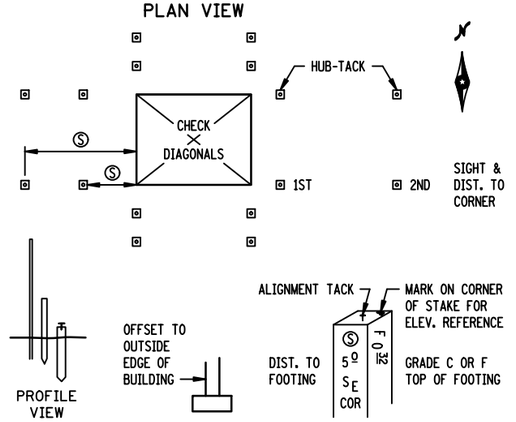
STANDARD PLAN 5-297.115 | 1 OF 2

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 55 OF 152 SHEETS

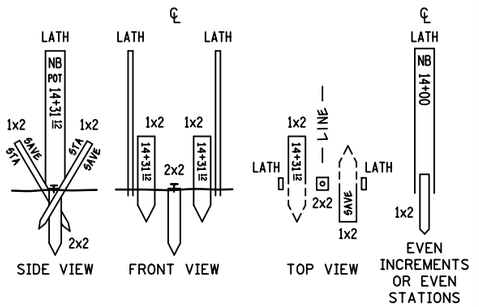
GUARDRAIL (GUARD)



BUILDING (BUILD) FOUNDATION / FOOTING



ALIGNMENT POINTS (ALIGN)



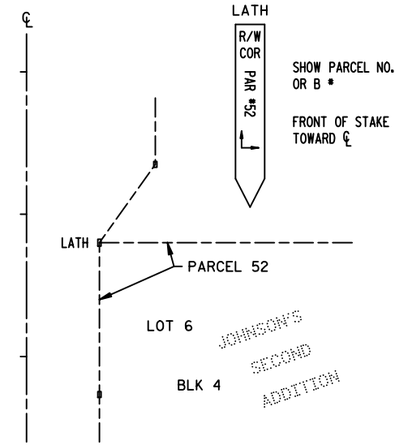
STAKE C = 2" X 2" HUB (LENGTH MAY VARY) SET AS TEMPORARY STAKE. MAY BE REPLACED BY MnDOT MARKER AFTER CONSTRUCTION IS COMPLETED.

SET AT GROUND LEVEL (TEMPORARY CONSTRUCTION STAKE).

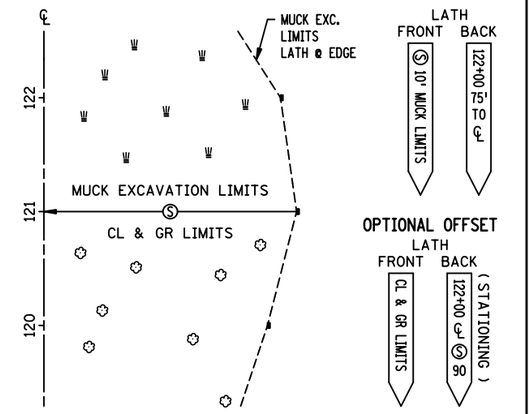
TACK SET AT ALIGNMENT POINTS.

STAKE A = GUARD STAKES SET AT ANGLE IN GROUND 6" EACH SIDE OF STAKE D, WITH STATIONING READ WHEN LOOKING UP STATION.

R/W & TEMP. EASEMENT (R/W)



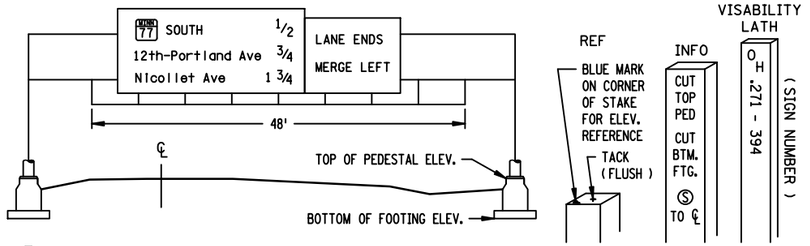
CLEAR & GRUBBING LIMITS (CLEAR) OR MUCK EXCAVATION LIMITS (MUCK)

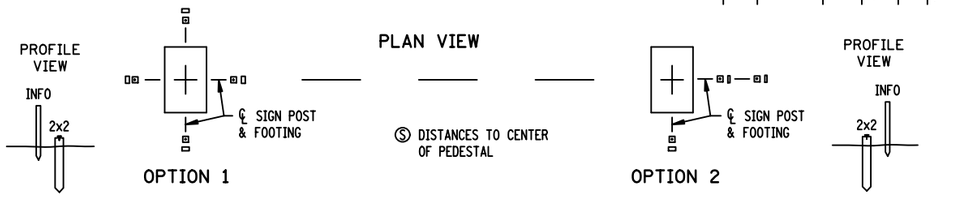


NOTE: FRONT OF LATH GOES TOWARD ℄

OVERHEAD SIGNS (SIGN)

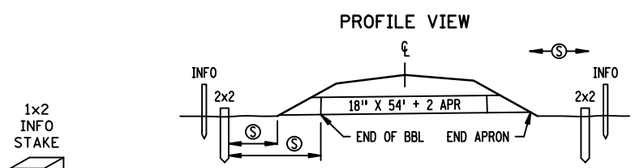
PROFILE VIEW

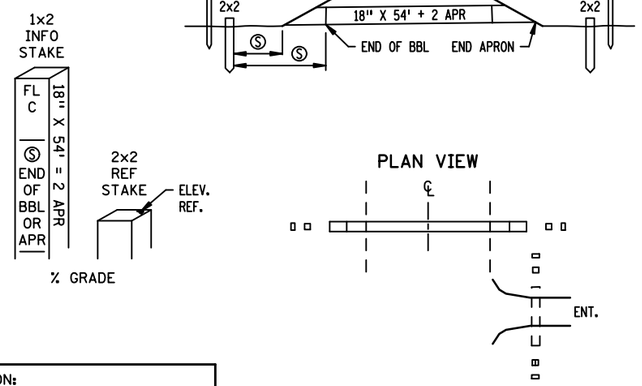




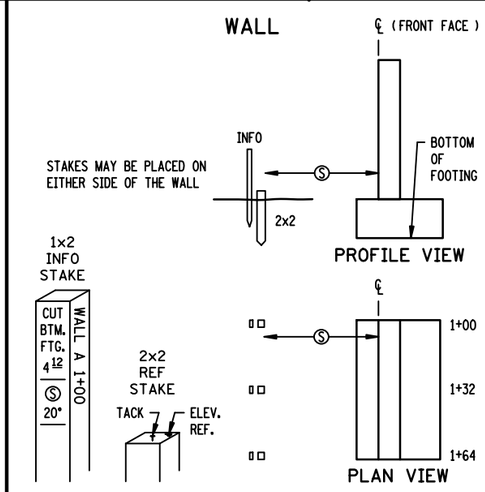
CULVERT

PROFILE VIEW



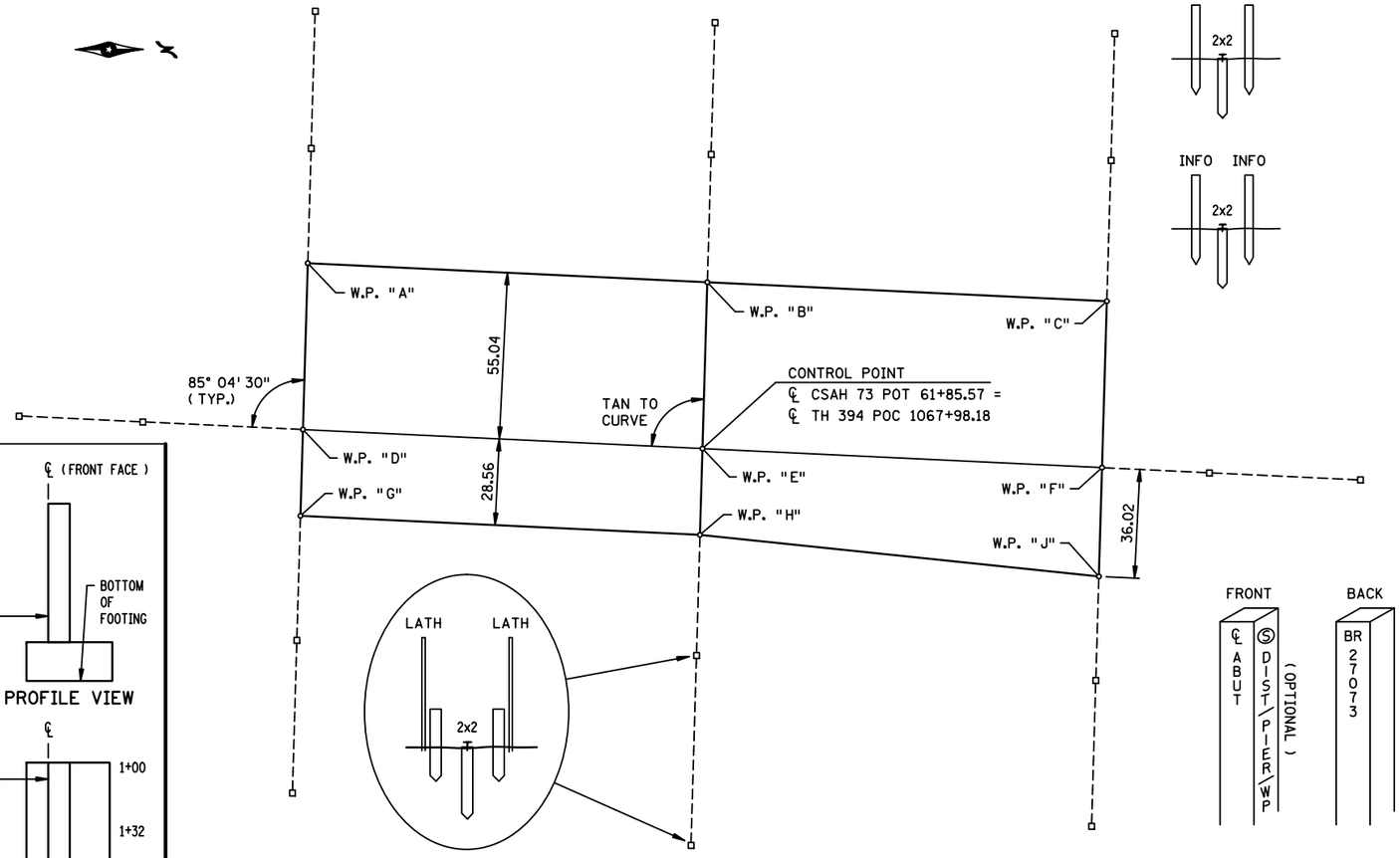


WALL



BRIDGESTAKING (BRIDGE)

WORKING POINTS LAYOUT



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DIRECTOR, OFFICE OF LAND MANAGEMENT

REVISED:

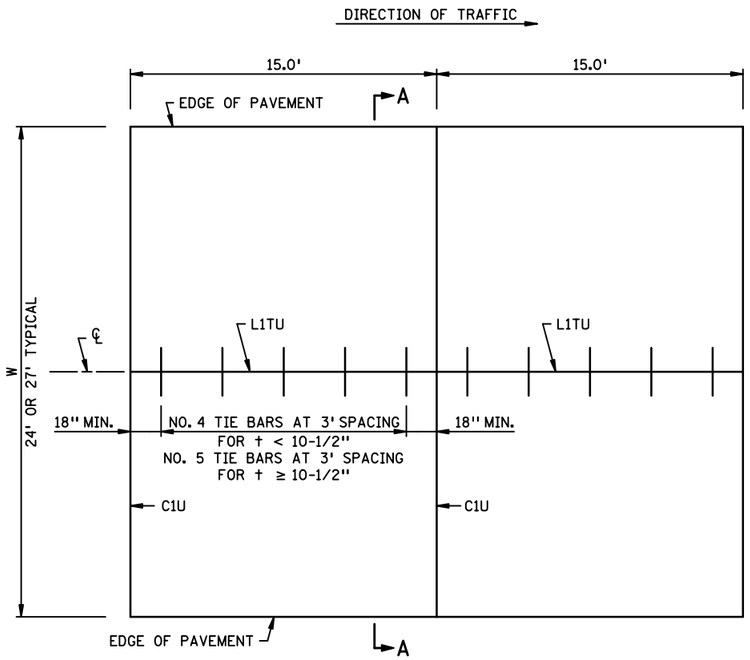
APPROVED: 8-6-2014

STATE DESIGN ENGINEER

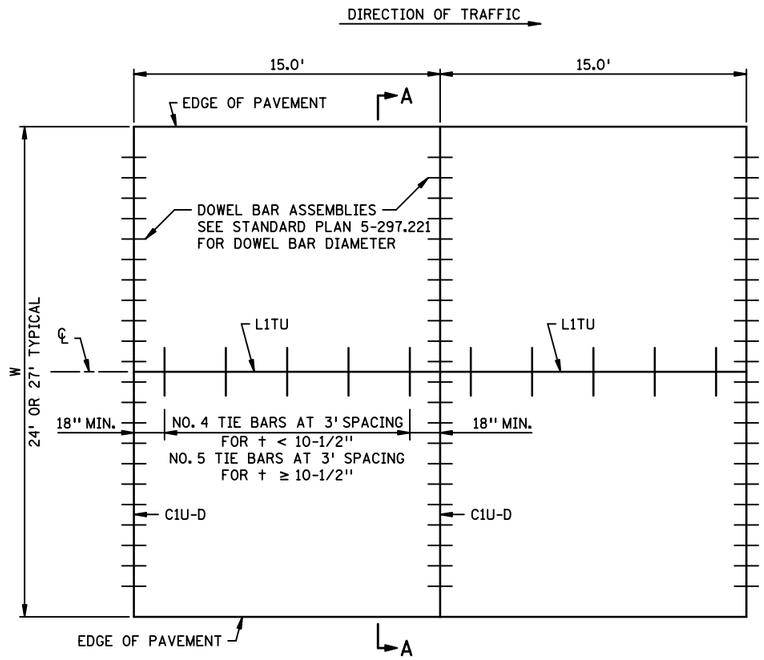
STAKING INFORMATION SHEET

STANDARD PLAN 5-297.115 | 2 OF 2

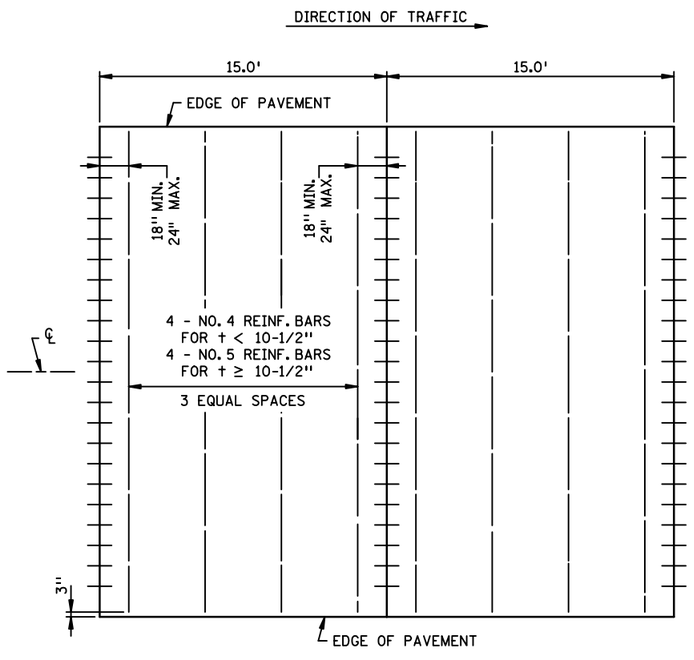
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 56 OF 152 SHEETS



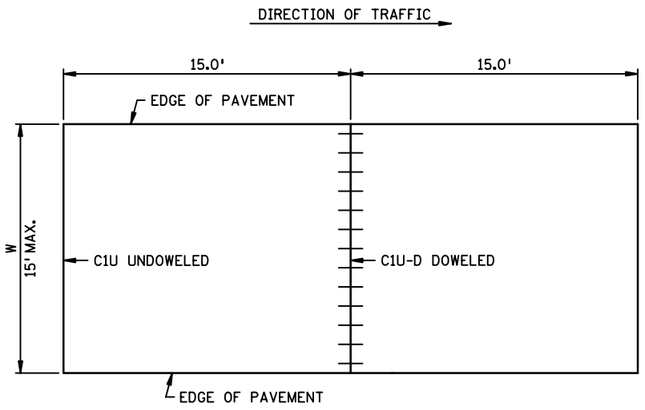
MAINLINE PAVEMENT
UNDOWELED



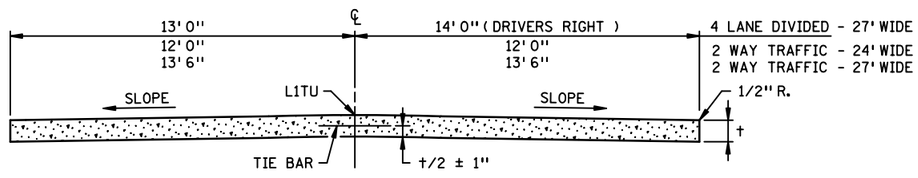
MAINLINE PAVEMENT
DOWELED



PANEL REINFORCEMENT



PAVEMENT 2 FT. THRU 15 FT. WIDTH
UNDOWELED OR DOWELED



SECTION A-A

GENERAL NOTES:

SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS, †.

DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.

ALL REINFORCING BARS SHALL BE EPOXY COATED AND COMPLY WITH SPEC 3301.

FOR SUPPLEMENTAL PAVEMENT REINFORCEMENT, SEE STANDARD PLATE 1070.

PANEL REINFORCEMENT:
PLACE IN PANELS WHERE PAVEMENT WIDTH EXCEEDS 15.0' WITHOUT A LONGITUDINAL JOINT, PLACEMENT DEPTH SHALL BE PLANNED †/2 ± 1". IT IS PREFERRED TO ADD A LONGITUDIDNAL JOINT RATHER THAN PAVE GREATER THAN 15' IN WIDTH.

REVISION:
APPROVED: FEBRUARY 16, 2016
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

REVISED:

APPROVED: 2-16-2016

STATE DESIGN ENGINEER

CONCRETE MAINLINE PAVEMENT
15.0 FT. PANEL LENGTH
RURAL

STANDARD PLAN 5-297.217 | 1 OF 2

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 57 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 15:58
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
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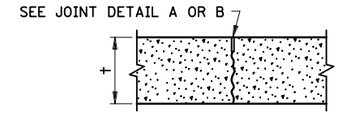
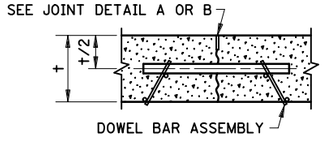
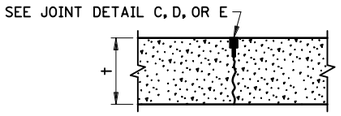


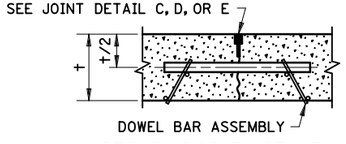
C1U & C2H



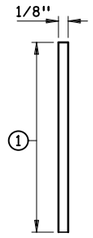
C1U-D & C2H-D



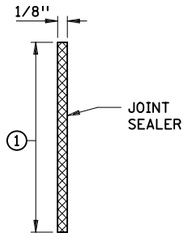
C3P, C4S, C5H



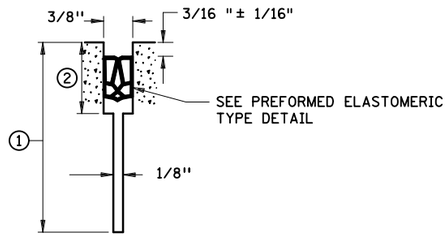
C3P-D, C4S-D, C5H-D



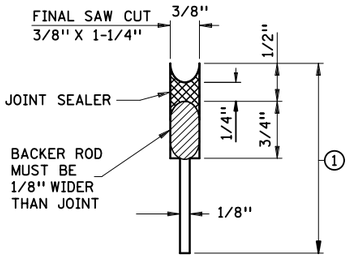
JOINT DETAIL A
SAWED & UNSEALED



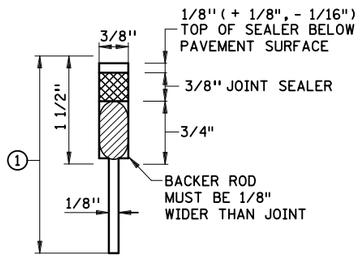
JOINT DETAIL B ③
SAWED & SEALED



JOINT DETAIL C ③
SAWED AND SEALED



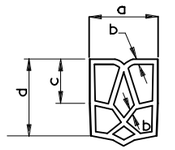
JOINT DETAIL D ③④
SAWED AND SEALED



JOINT DETAIL E ③⑤
SAWED AND SEALED

REQUIRED DIMENSIONS

JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	11/16" USE IN ALL 3/8" JOINTS
a	0.69" + 0.13" - 0.05"
b	0.08" ± 0.02"
c	0.25" MIN.
d	0.63" MIN.



SPEC. REFERENCE 3721

TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

PREFORMED ELASTOMERIC TYPE DETAIL

CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
C1U	C1U-D	A	UNSEALED	1/8"
C2H	C2H-D	B	3725	1/8"
C3P	C3P-D	C	3721	3/8"
C4S	C4S-D	D	3722	3/8"
C5H	C5H-D	E	3725	3/8"

LEGEND — EXAMPLE (C2H-D)
C = CONTRACTION JOINT
NO. = JOINT REFERENCE
U = UNSEALED
H = HOT POURED
P = PREFORMED
S = SILICONE
-D = DOWEL BARS

DOWEL BAR DIAMETER TABLE

PAVEMENT THICKNESS †	DOWEL BAR DIAMETER
LESS THAN 6"	NONE
6" - 6 1/2"	1" OR NONE
7" - 7 1/2"	1"
8" - 10"	1 1/4"
10 1/2" AND GREATER	1 1/2"

NOTES:

SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.

SEE STANDARD PLATE 1150 FOR CONSTRUCTION OF HEADER JOINTS.

JOINT WIDTH TOLERANCE IS + 1/16" TO - 1/32"

FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SEE STANDARD PLANS 5-297.217 AND 5-297.219, FOR CONCRETE MAINLINE/RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

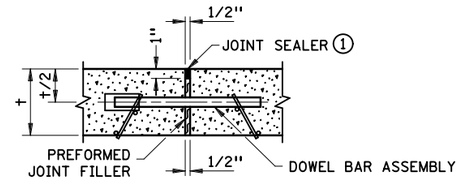
① JOINT DEPTH SHALL BE:
FOR CONCRETE OVERLAYS - 1/3 THE PAVEMENT THICKNESS
FOR CONCRETE PAVEMENT - 1/4 THE PAVEMENT THICKNESS

② SEE CONTRACTION JOINT SEALER DETAIL. WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 1/4" MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH. "a" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT "c" DEPTH. SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET.

③ WHEN SEALING, THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.

④ PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2" BELOW THE SURFACE OF THE PAVEMENT. NON SELF-LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEAL AND BEAD THICKNESS OF 1/4".

⑤ PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F. SHALL BE PLACED 1/2" BELOW THE TOP OF PAVEMENT.



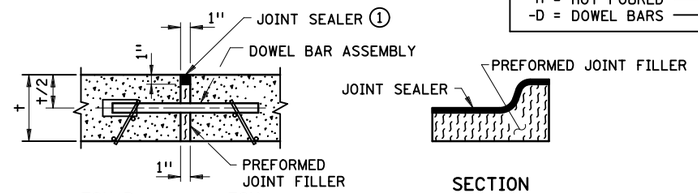
E1H-D (W/DOWELS) E1H (W/O DOWELS)

JOINT DETAIL A

EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

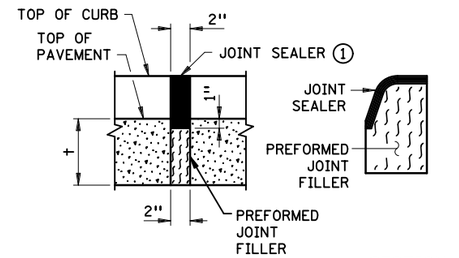
JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
E1H	E1H-D	A	3725	1/2"
E2H	E2H-D	B	3725	1"
E4H		C	3725	2"
	E4H-D	D	3725	2"
E8H		STANDARD PLAN 5-297.229	3725	4"

LEGEND — EXAMPLE (E4H-D)
E = EXPANSION JOINT
NO. = JOINT REFERENCE
H = HOT POURED
-D = DOWEL BARS

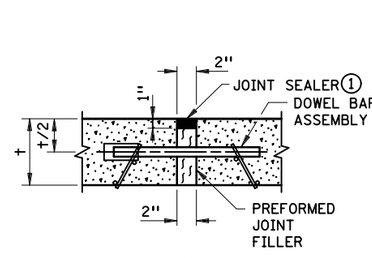


E2H-D (W/DOWELS) E2H (W/O DOWELS)

JOINT DETAIL B



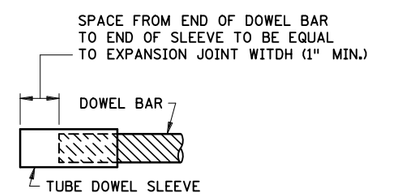
E4H (W/O DOWELS)



E4H-D (W/DOWELS)

JOINT DETAIL C

JOINT DETAIL D



DOWEL BAR SLEEVE DETAIL

NOTES:

PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.

FOR DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.

① JOINT SEALER SPEC. 3725. THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER, FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION D JOINTS FLUSH WITH SURFACE ±1/8".

REVISION:
APPROVED: 8-6-2014
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

CONTRACTION JOINTS
DESIGN C

REVISED:
APPROVED: 8-6-2014
STATE DESIGN ENGINEER

PAVEMENT JOINTS
CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)

STANDARD PLAN 5-297.221 | 1 OF 2

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 58 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 15:58
DISTRICT: 7 - Mankato/Windom
USER NAME: lawvland
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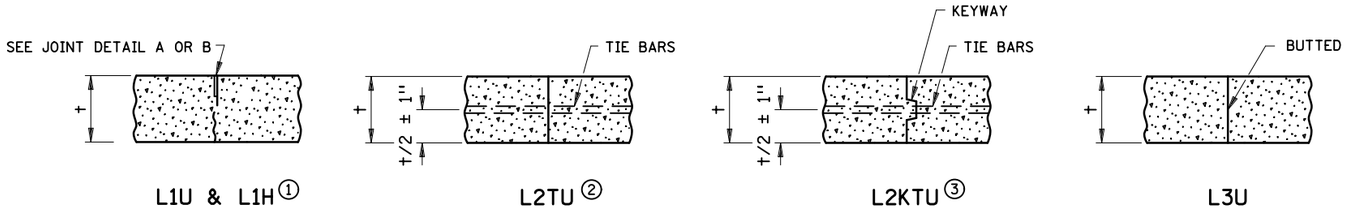
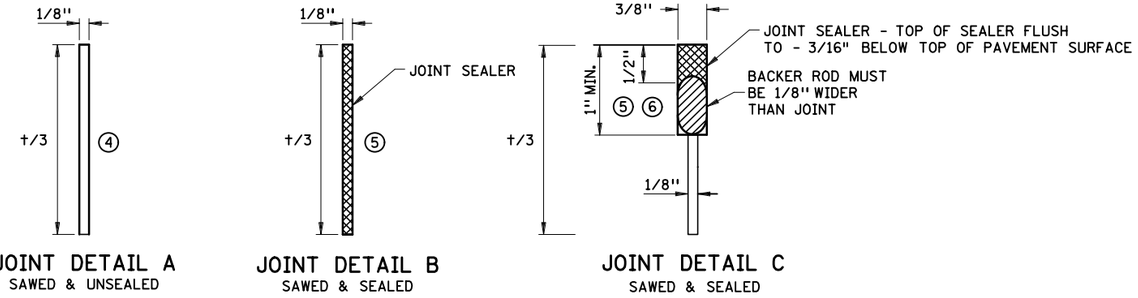




JOINT DETAIL A
SAWED & UNSEALED

JOINT DETAIL B
SAWED & SEALED

JOINT DETAIL C
SAWED & SEALED

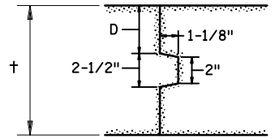
TIEBAR TABLE

PAVEMENT THICKNESS	TIEBAR SIZE	LENGTH
< 10-1/2"	NO. 4	30"
≥ 10-1/2"	NO. 5	36"
ALL THICKNESS WHEN TYING TO CURB AND GUTTER	NO. 4	30"

THE TIE BAR SPACING FOR ALL L2T AND L2KT JOINTS SHALL BE 3'-0" CENTER TO CENTER AND BENT 60° AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE L2T AND L2KT JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T JOINTS, WHEN TYING PAVEMENT TO PAVEMENT. TIE BARS IN THE L2KT JOINTS SHALL BE NO. 4 X 2' - 6", WHEN TYING CURB & GUTTER TO PAVEMENT.

ALL TIE BARS SHALL BE EPOXY COATED AND COMPLY WITH SPEC. 3301.



PAVEMENT KEYWAY DETAIL

LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE

JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1TU		A	UNSEALED	1/8"
L1H	L1TH		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
	L2TH	L2KTH	C	3725	3/8"
L3U			NONE	UNSEALED	
L3H			C	3725	3/8"

LEGEND — EXAMPLE: L2KTH

- L = LONGITUDINAL JOINT
- NO. = JOINT REFERENCE
- 1 = PAVED CONSTRUCTION JOINT
- 2 = TIED/KEYED CONSTRUCTION JOINT
- 3 = BUTTED CONSTRUCTION JOINT
- K = KEYWAY
- T = TIE BARS
- U = UNSEALED
- H = HOT POURED

NOTES:

NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED FOUR LANES, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.

JOINT WIDTH TOLERANCE IS + 1/16 IN. TO - 1/32 IN.

FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

TIED/KEYED AND BUTTED CONSTRUCTION JOINTS SHALL BE UNSEALED EXCEPT AS OTHERWISE NOTED IN THE PLAN OR REQUIRED BY THE ENGINEER.

SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATIONS TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

WHEN CURB AND GUTTER IS PLACED ADJACENT TO CONCRETE MAINLINE, THE TIEBARS SHALL BE PLACED A MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.

① SEE THE LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE TO DETERMINE JOINT DETAIL.

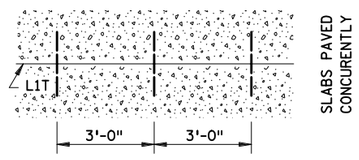
② CONCRETE PAVEMENTS LESS THAN 7" SHALL USE L2TU AND L2TH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.

③ CONCRETE PAVEMENTS GREATER THAN OR EQUAL TO 7" SHALL USE L2KTU AND L2KTH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.

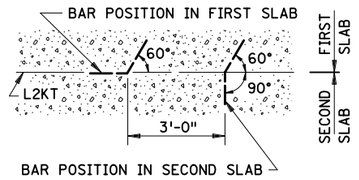
④ THE JOINT FACES SHALL BE CLEANED WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.

⑤ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.

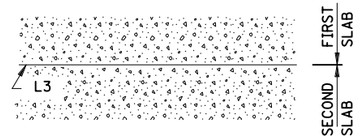
⑥ PRIOR TO SEALING THE JOINT, A 1/2" DIAMETER CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F. SHALL BE PLACED 1/2" BELOW THE TOP OF THE PAVEMENT.



L1T PAVING DETAIL



L2T & L2KT TIE BAR BENDING AND PAVING DETAIL



L3 PAVING DETAIL

KEYWAY DIMENSION TABLE

t PAVEMENT THICKNESS	D (TOLERANCE ± 1/4")
< 7"	NO KEYWAY
7" TO 7-1/2"	3"
8" TO 10"	4"
≥ 10-1/2"	5"

KEYWAY (1-1/8" x 2" x 2-1/2") MAY BE FORMED WITH MOLD OR METAL FORM. OTHER APPROVED KEYWAY SHAPES GIVING EQUIVALENT CONSTRUCTION FEATURES MAY BE USED WITH APPROVAL OF THE ENGINEER.

REVISION:
APPROVED: 8-6-2014
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

REVISED:
APPROVED: 8-6-2014
STATE DESIGN ENGINEER

PAVEMENT JOINTS
LONGITUDINAL (DESIGN L)

STANDARD PLAN 5-297.221 | 2 OF 2

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 59 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 15:58
DISTRICT #: 7 - Mankato/Windom
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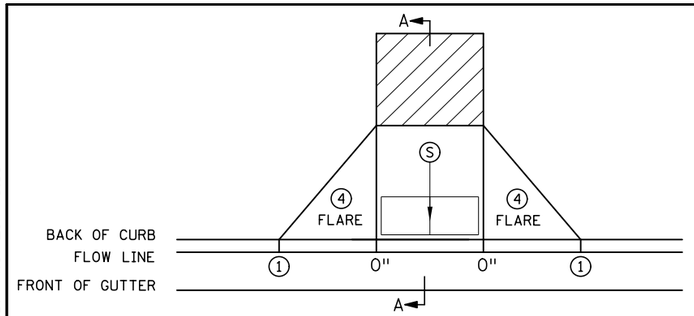
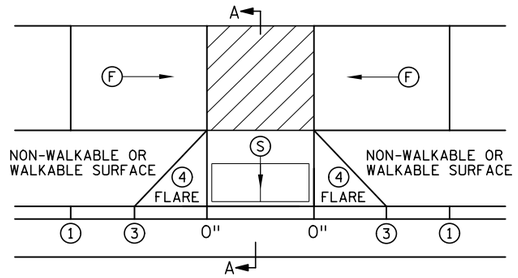
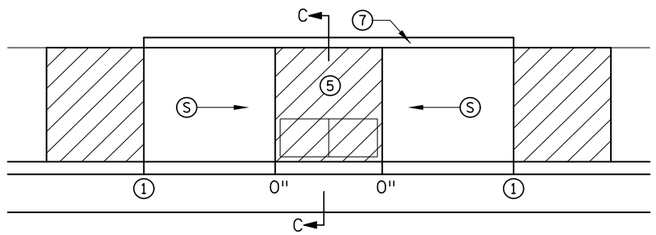


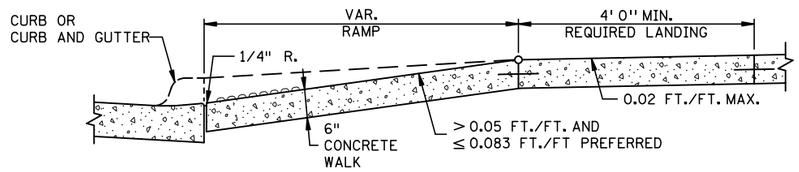
PERPENDICULAR



TIERED PERPENDICULAR

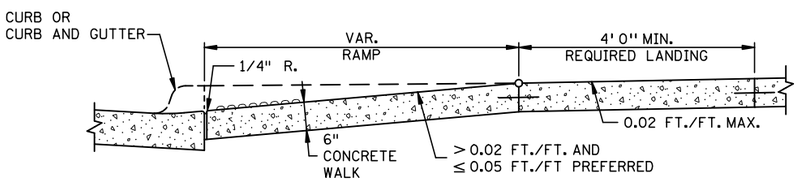


PARALLEL



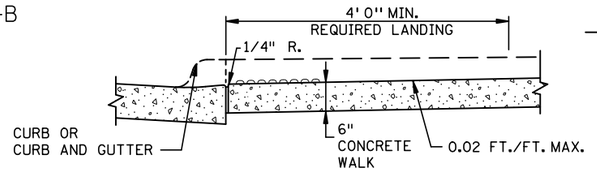
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



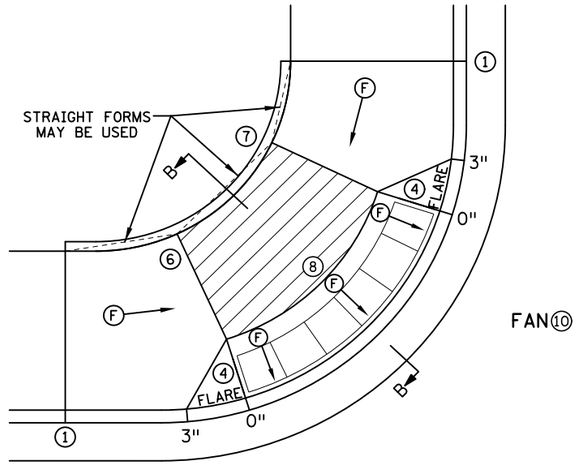
SECTION B-B

FAN

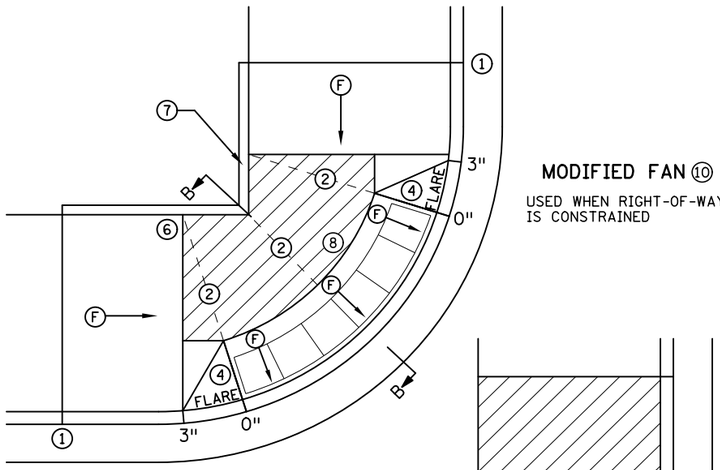


SECTION C-C

PARALLEL/DEPRESSED CORNER

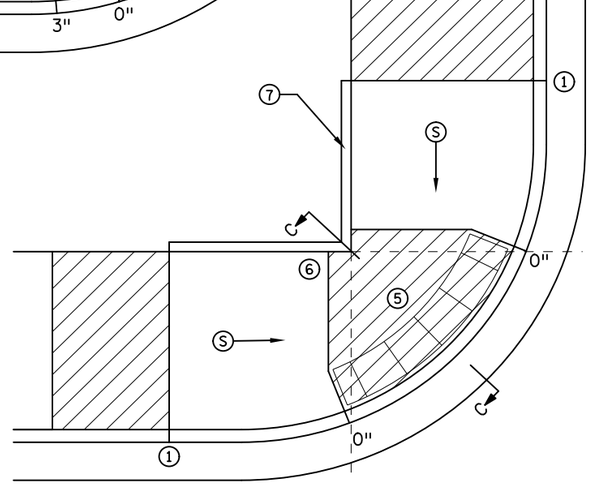


FAN (10)

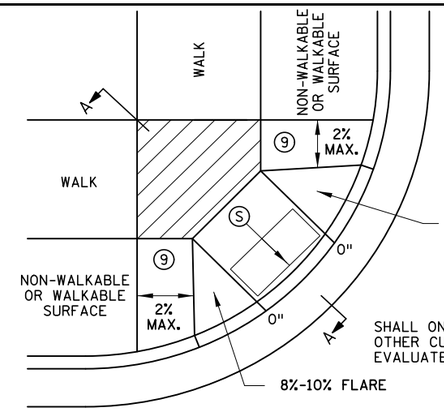


MODIFIED FAN (10)

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN (6) BELOW.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

(1) MATCH FULL HEIGHT CURB.
(2) 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
(3) 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
(4) SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
(5) DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
(6) THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
(7) WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
(8) A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
(9) PAVE FULL WALK WIDTH.
(10) "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED:

STATE DESIGN ENGINEER

1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 1 OF 6

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 60 OF 152 SHEETS

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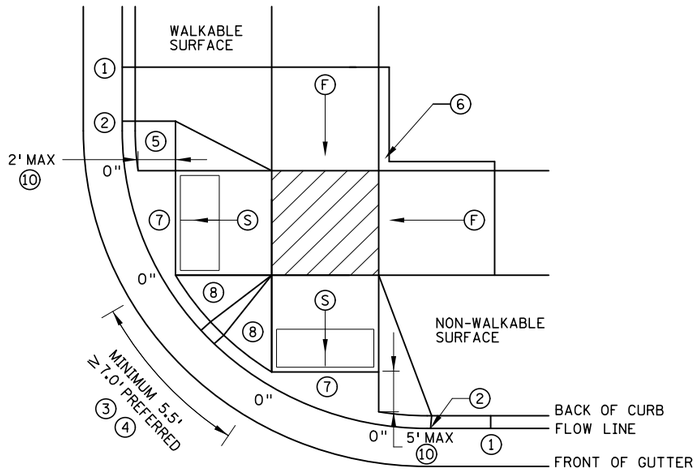
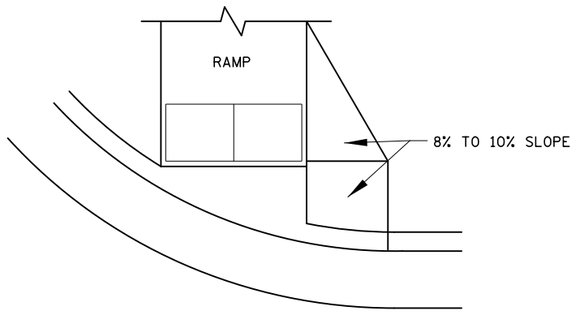
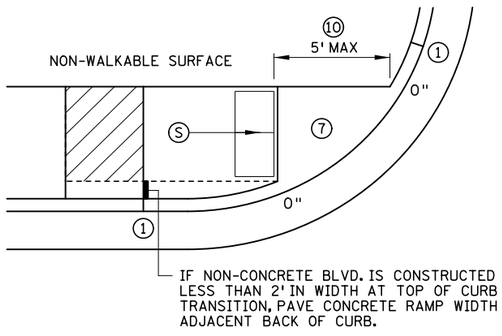


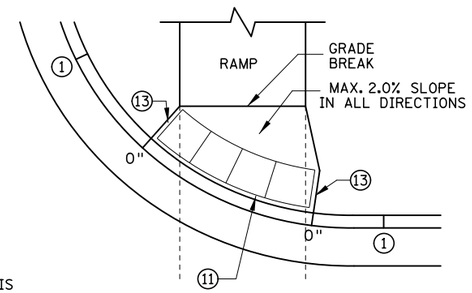
COMBINED DIRECTIONAL ⑨



DIRECTIONAL RAMP WALKABLE FLARE

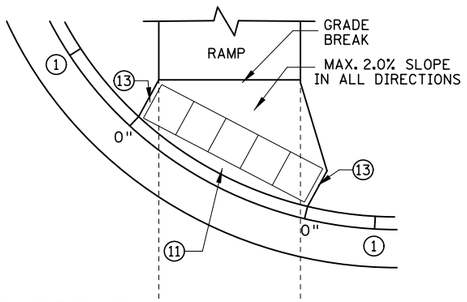


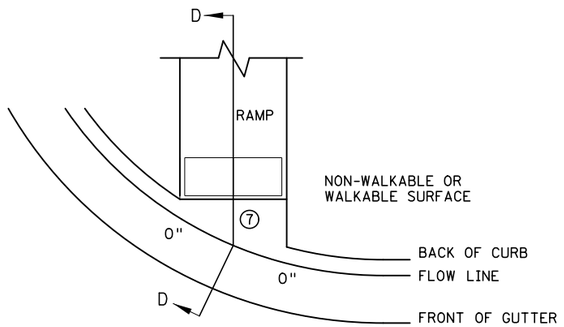
STANDARD ONE-WAY DIRECTIONAL ⑨



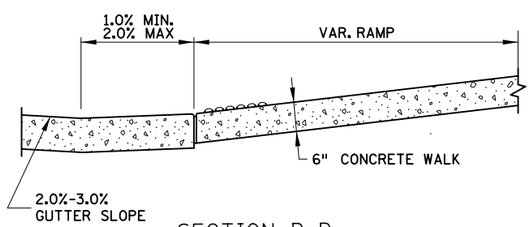
DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

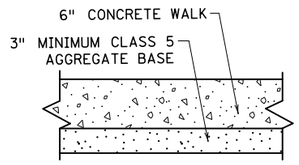




CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

① MATCH FULL CURB HEIGHT.

② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.

③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).

④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.

⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.

⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

⑧ 8% TO 10% WALKABLE FLARE.

⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.

⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.

⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

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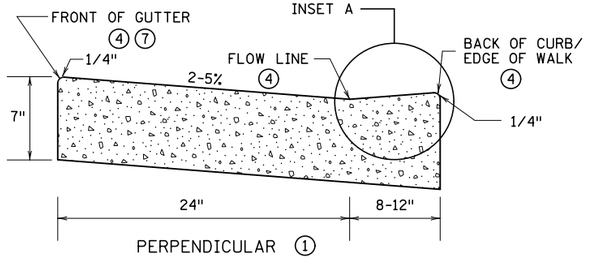
PEDESTRIAN CURB RAMP DETAILS

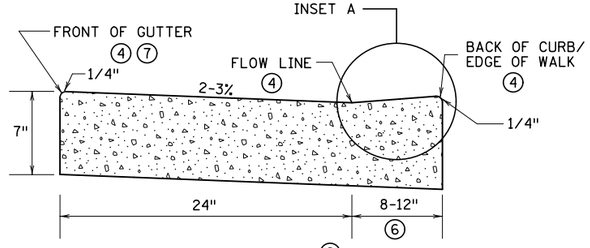
STANDARD PLAN 5-297.250 | 2 OF 6

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 61 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 15:58
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/DT_MK0/014/0803/038/Design/PlanSheets/Standard Plans/s250_2_spn.dgn

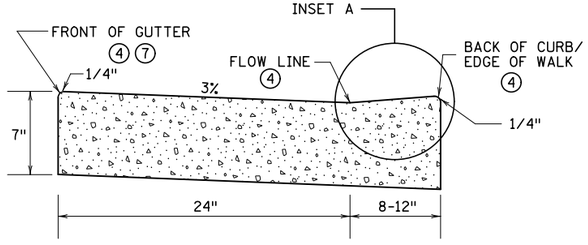


PERPENDICULAR ①

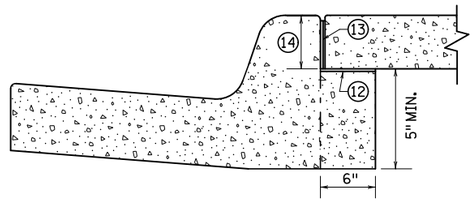


NON PERPENDICULAR ②

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

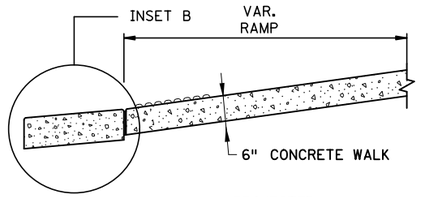


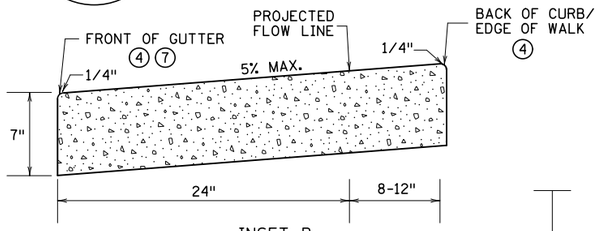
FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)



OPTIONAL SILL CURB WHEN SIDEWALK IS AT BACK OF CURB

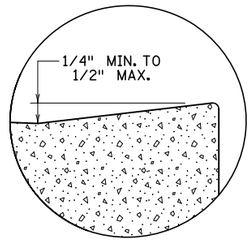
CONCRETE SILL TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



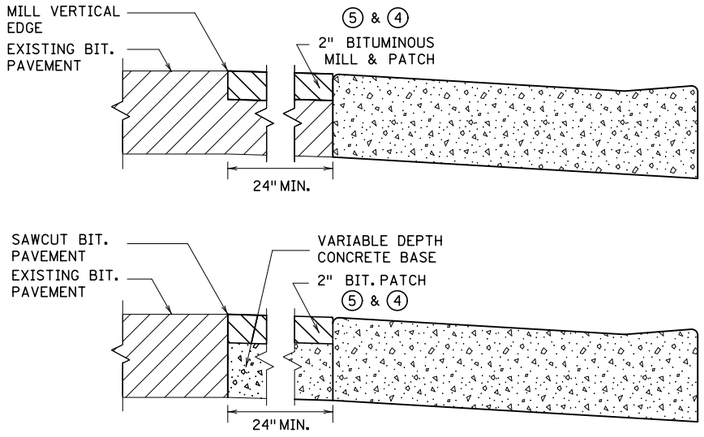


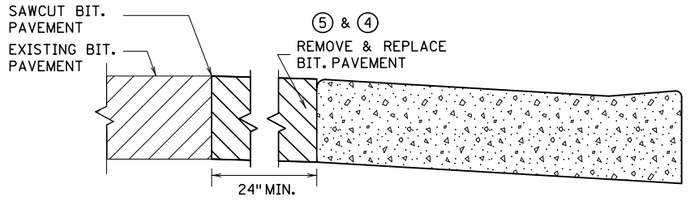
INSET B

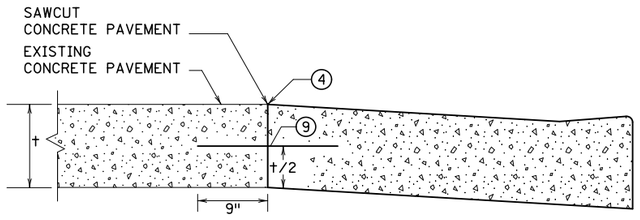
OUTFLOW GUTTER ⑧



INSET A



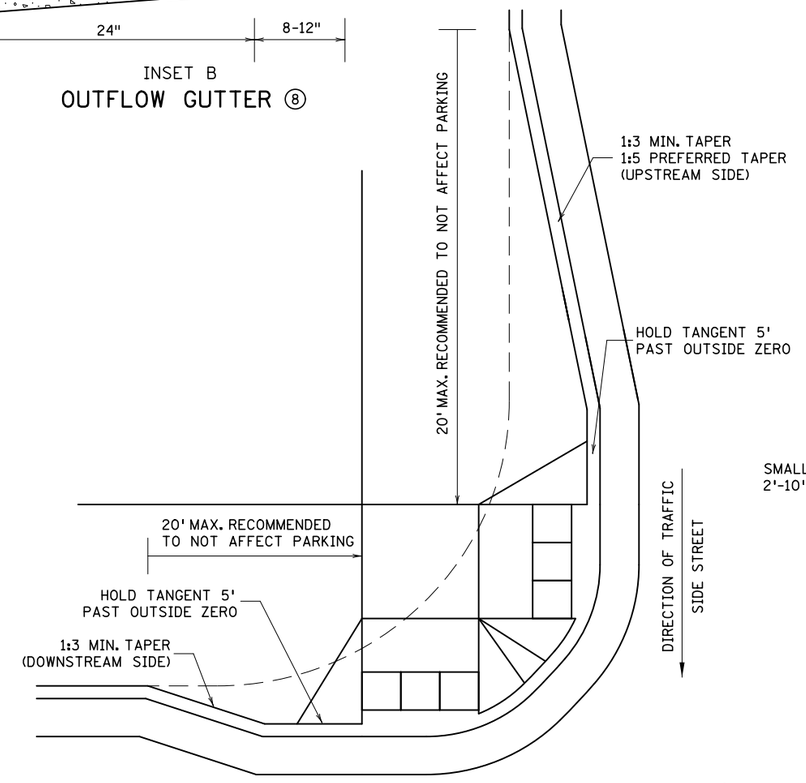




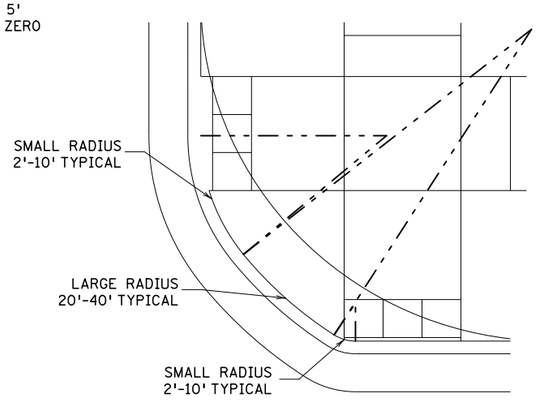
ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.

③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.

④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.

⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.

⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.

⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

⑬ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.

⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

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REVISED:

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PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 3 OF 6

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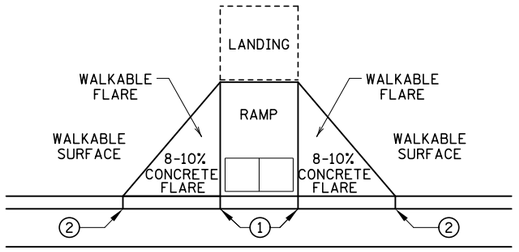
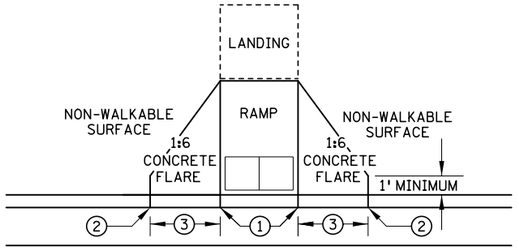
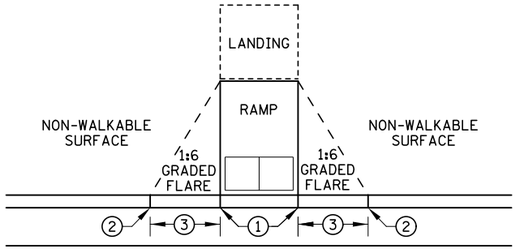


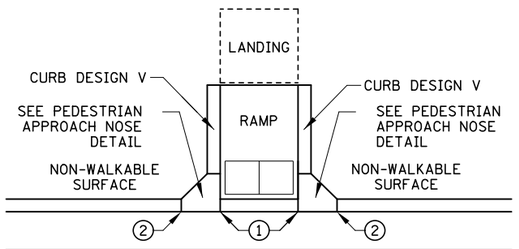
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

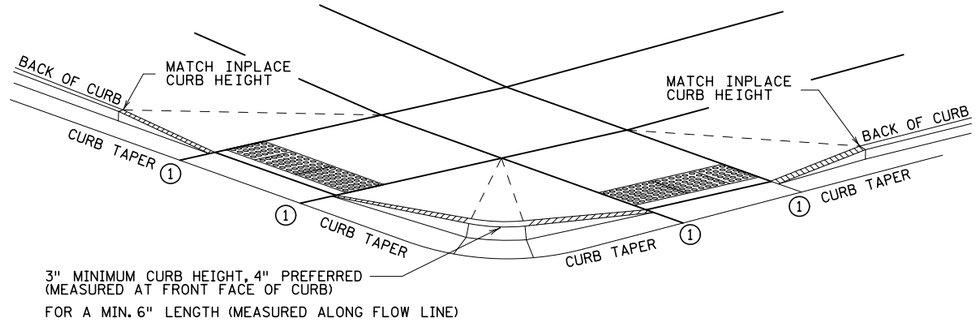


GRADED FLARES

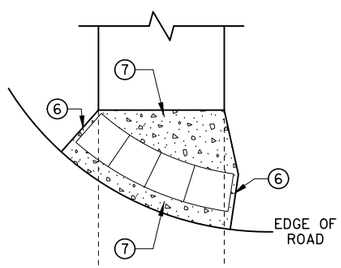


RETURNED CURB ⑤

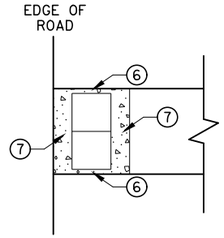
TYPICAL SIDE TREATMENT OPTIONS ④ ⑪



DETECTABLE EDGE WITH ⑧ CURB AND GUTTER

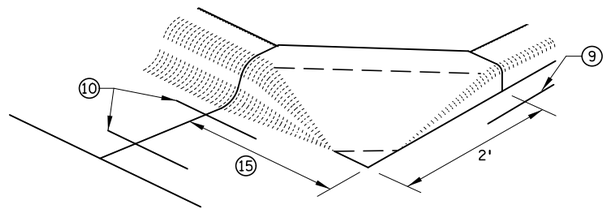


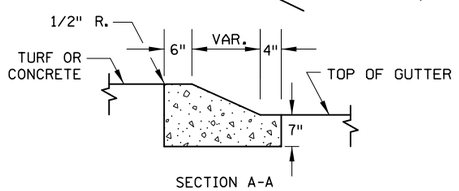
RADIAL DETECTABLE WARNING



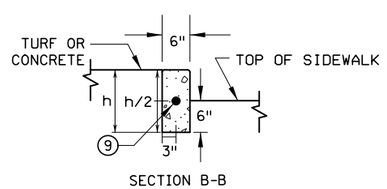
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

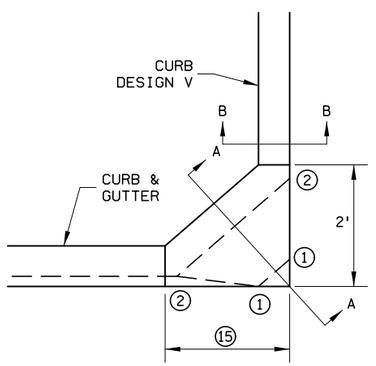




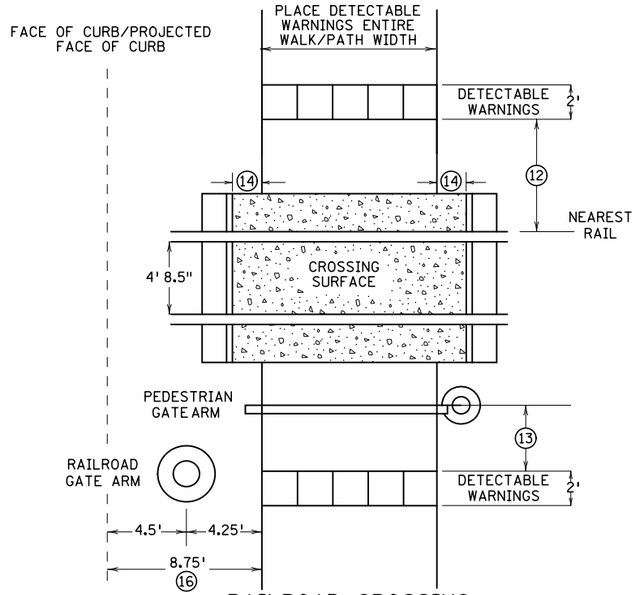
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH NOSE DETAIL
(FOR RETURNED CURB SIDE TREATMENT)



RAILROAD CROSSING PLAN VIEW

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.

④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑨ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑩ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.

⑫ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.

⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

⑮ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.

⑯ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

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PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 4 OF 6

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 63 OF 152 SHEETS

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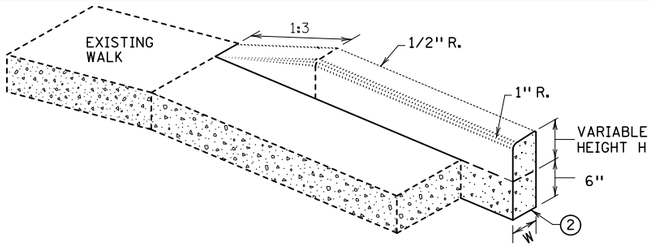
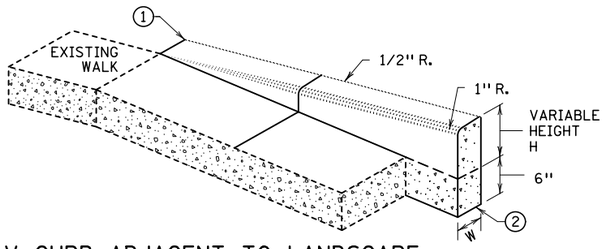


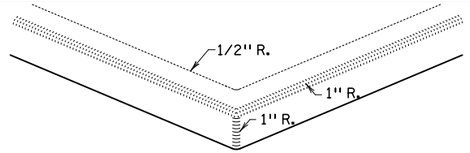
V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS

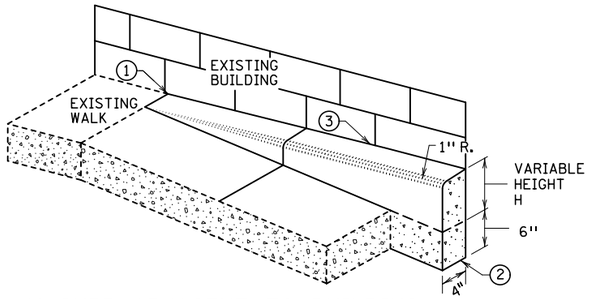


V CURB ADJACENT TO LANDSCAPE

CURB OUTSIDE SIDEWALK LIMITS

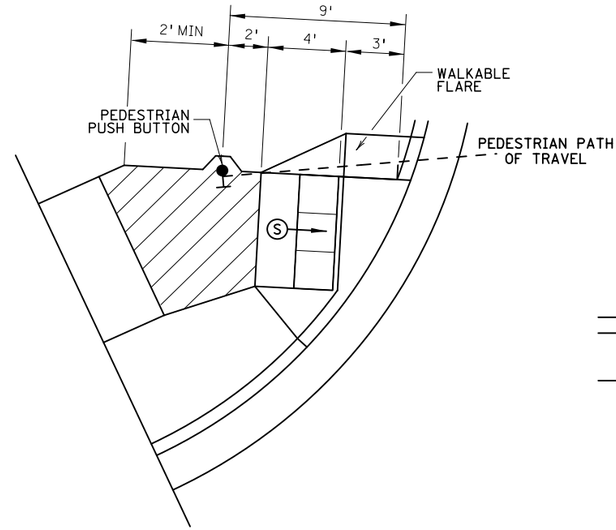


V CURB INTERSECTION



V CURB ADJACENT TO BUILDING OR BARRIER

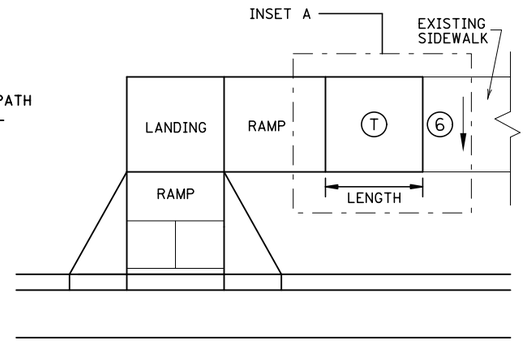
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"

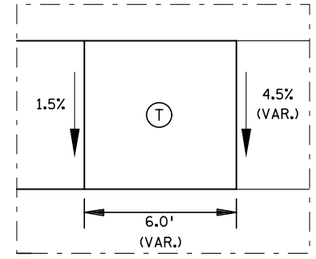


SEMI-DIRECTIONAL RAMP (3,4,9)

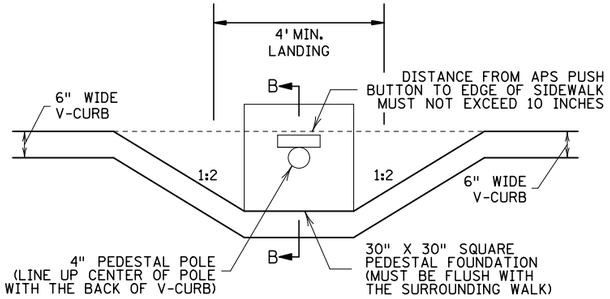
3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)

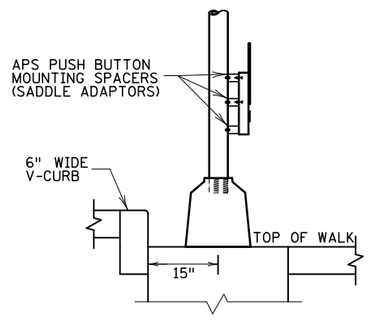




TRANSITION PANEL ④⑤

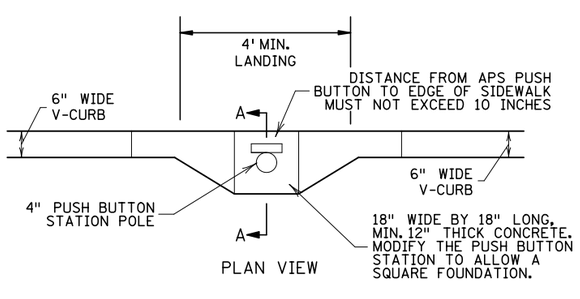


PLAN VIEW

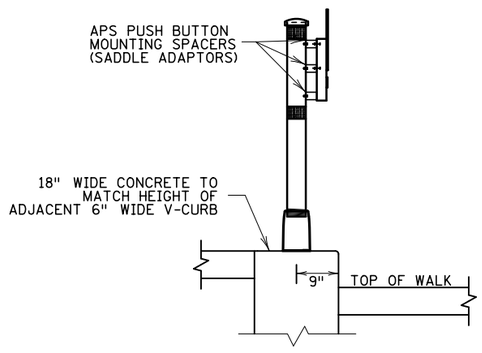


SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



PLAN VIEW



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.

② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.

⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).

⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

Ⓣ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

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PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 5 OF 6

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 64 OF 152 SHEETS

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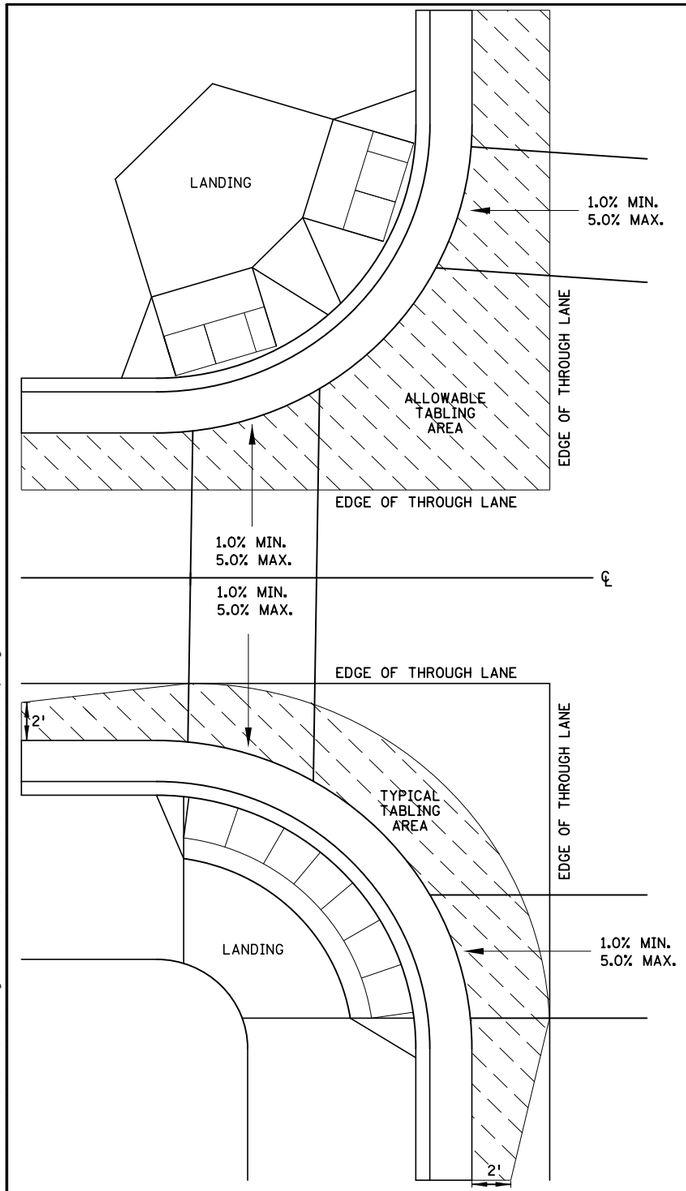
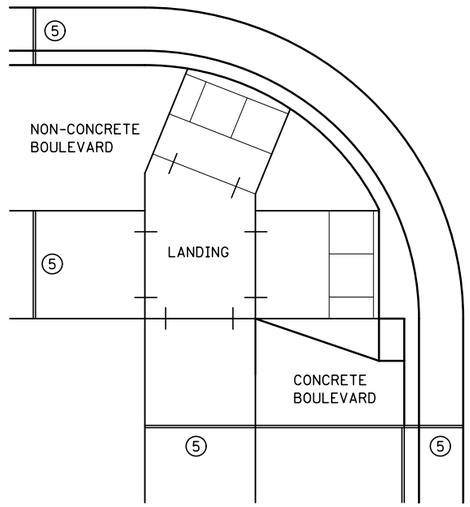
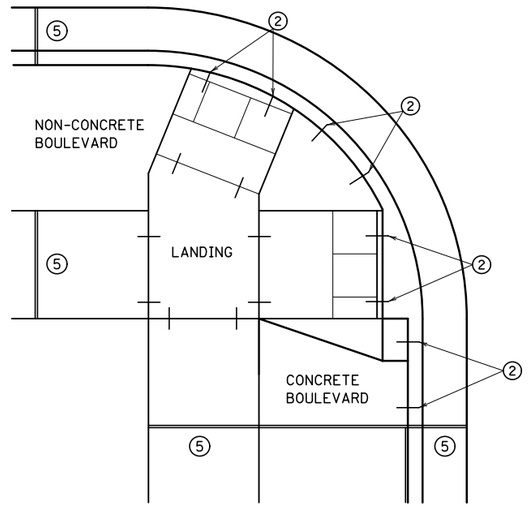


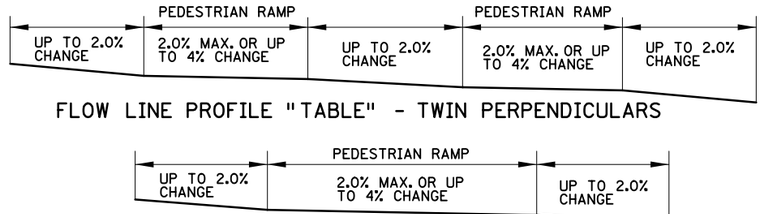
CURB LINE AND ROAD CROSSING ADJUSTMENTS



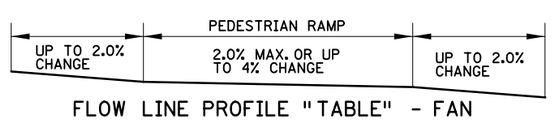
EXPANSION MATERIAL PLACEMENT FOR
CONCRETE AND BITUMINOUS ROADWAYS



OPTIONAL CURB LINE REINFORCEMENT
PLACEMENT ON BITUMINOUS ROADWAYS ④



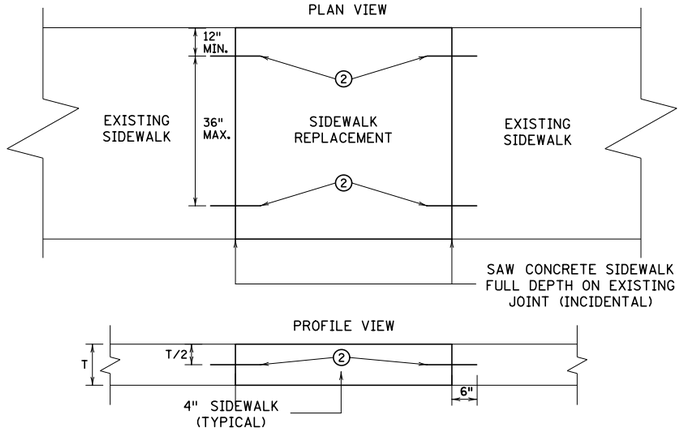
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



FLOW LINE PROFILE "TABLE" - FAN

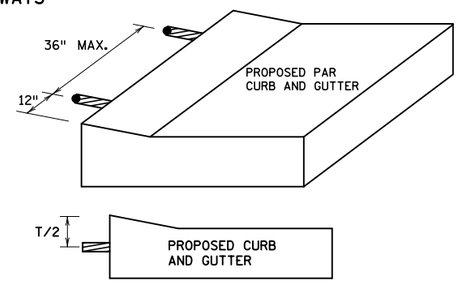
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

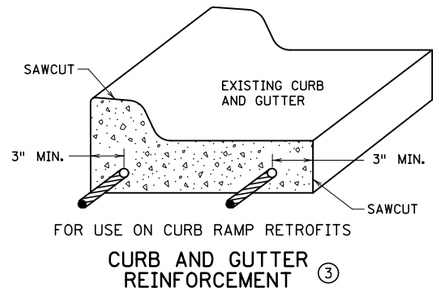
FLOW LINE PROFILE RAISE - FAN



OPTIONAL SIDEWALK REINFORCEMENT

SIDEWALK REINFORCEMENT TO BE USED
ONLY WHEN SPECIFIED IN THE PLAN.

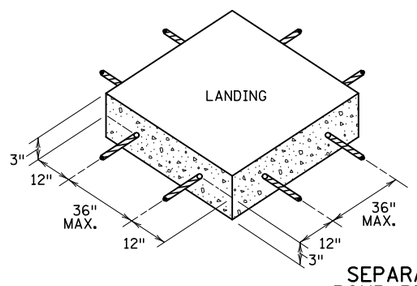


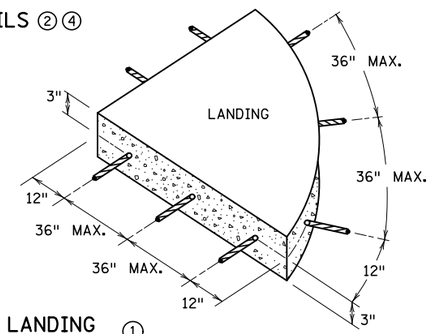


FOR USE ON CURB RAMP RETROFITS

CURB AND GUTTER
REINFORCEMENT ③

OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④





SEPARATE LANDING
POUR REINFORCEMENT ①

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS
"TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.

② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.

③ DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.

④ THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.

⑤ 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

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PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 6 OF 6

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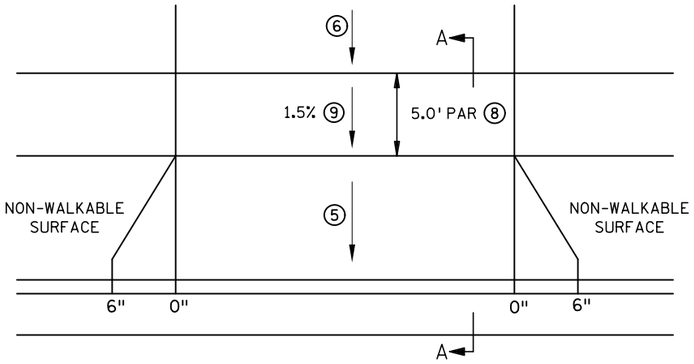
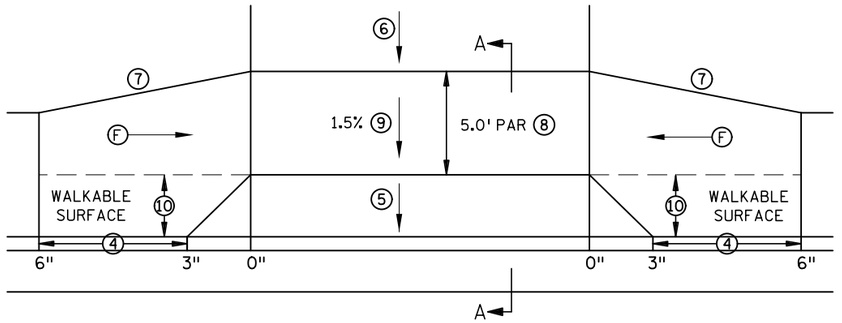
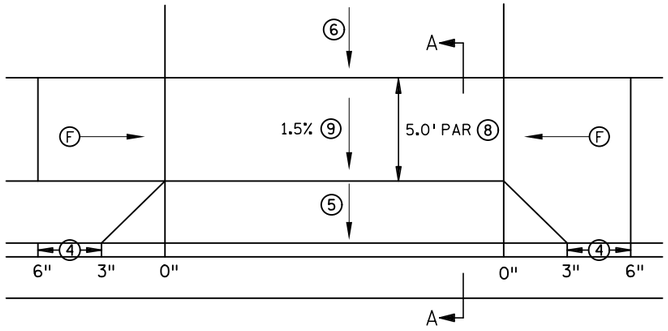


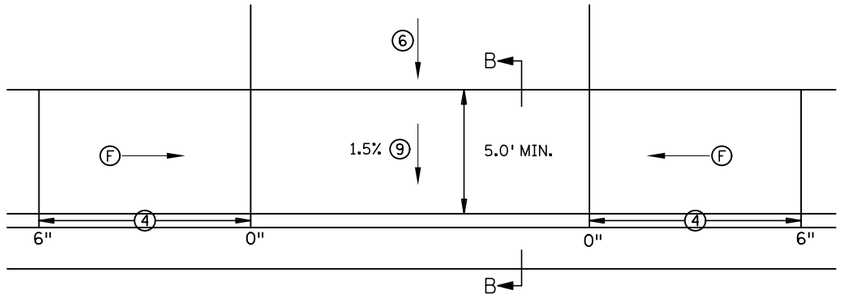
PERPENDICULAR DRIVEWAY ①



TIERED PERPENDICULAR OFFSET DRIVEWAY



TIERED PERPENDICULAR DRIVEWAY ②



PARALLEL DRIVEWAY ③

NOTES:

IN NO CASE SHALL SIDEWALK PROFILES EXCEED 5.0%, EXCEPT SIDEWALK PROFILES CAN MATCH ROADWAY GRADE IF ROADWAY GRADE IS GREATER THAN 5.0%. RAMPS FOR DRIVEWAYS ARE REQUIRED TO FOLLOW THE ABOVE SIDEWALK CRITERIA.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PEDESTRIAN ACCESS ROUTE (PAR). 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

DRIVEWAY TYPES FROM MOST PREFERRED TO LEAST PREFERRED ARE AS FOLLOWS: PERPENDICULAR, TIERED PERPENDICULAR, TIERED PERPENDICULAR OFFSET & PARALLEL.

(1) TO BE USED WHEN THE DRIVEWAY PAR IS LEVEL WITH OR ABOVE THE TOP OF CURB, RESULTING IN A CONTINUOUS PAR PROFILE.

(2) TO BE USED WHEN THE DRIVEWAY PAR IS BELOW THE ROADWAY CURB HEIGHT. THIS DRIVEWAY TYPE CAN BE USED FOR BOTH PAVED (AS SHOWN) AND GRASS BOULEVARDS.

(3) SHOULD BE USED FOR NEGATIVE SLOPED DRIVEWAYS. DW CURB TYPE 2 CURB SHOULD BE USED TO RAISE PAR ABOVE GUTTER AND REDUCE "ROLLER COASTER" EFFECT. 4" HIGH ROADWAY CURB SHOULD BE USED TO REDUCE "ROLLER COASTER" EFFECT ESPECIALLY WHEN MULTIPLE DRIVEWAYS ARE PRESENT.

(4) TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

(5) 8% MAX. PREFERRED, 10% MAX. FOR COMMERCIAL AND 12% MAX. FOR RESIDENTIAL. SEE GENERAL NOTES ON SHEET 2 FOR MORE INFORMATION.

(6) 8% MAX. PREFERRED, SEE SHEET 2 FOR MORE INFORMATION.

(7) 1:3 MIN. 1:5 PREFERRED FOR DRIVEWAY RETROFIT PROJECTS. 1:10 PREFERRED FOR SIDEWALK REPLACEMENT PROJECTS.

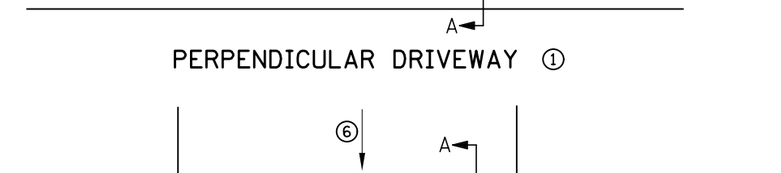
(8) 5.0' MIN. PAR WIDTH IS THE STANDARD THROUGH DRIVEWAYS. IF FEASIBLE WIDEN DRIVEWAY PAR WIDTH TO MATCH APPROACHING SIDEWALK PAR WIDTHS. IN VERTICALLY CONSTRAINED AREAS PAR WIDTHS CAN INCREMENTALLY BE REDUCED TO 4.5' OR 4' MIN AFTER ALL OTHER OPTIONS HAVE BEEN APPLIED.

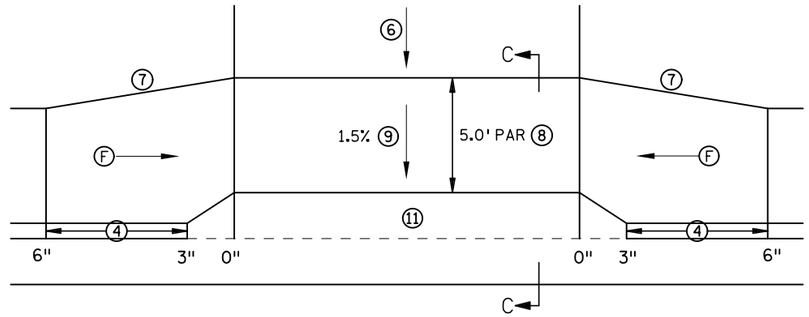
(9) THE PEDESTRIAN ACCESS ROUTE, MAY NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.

(10) SIDEWALK OFFSET TO BE LESS THAN OR EQUAL TO HALF THE APPROACHING SIDEWALK WIDTH.

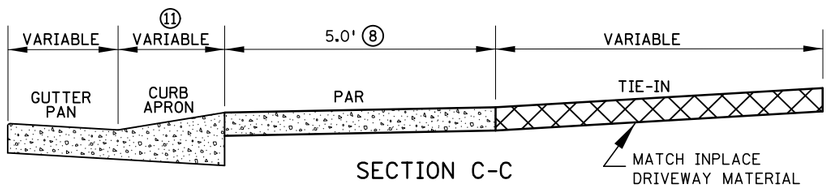
(11) VALLEY GUTTER APRON TO BE POURED INTEGRAL WITH THE CURB AND GUTTER. SEE SHEET 2 FOR MORE INFORMATION.

(12) SEE SHEET 2 FOR CURB TYPE INFORMATION.





VALLEY GUTTER DRIVEWAY



LEGEND	
F ↓	INDICATES DRIVEWAY RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
X"	CURB HEIGHT (INCHES)

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DRIVEWAY AND SIDEWALK DETAILS

STANDARD PLAN 5-297.254 | 1 OF 4

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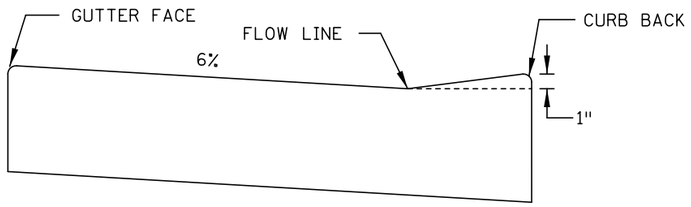
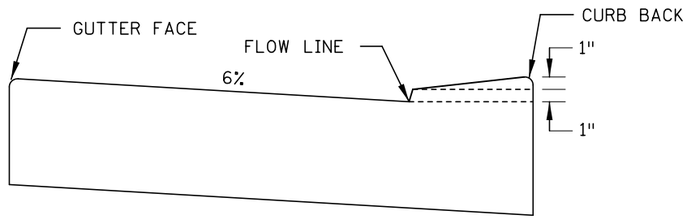


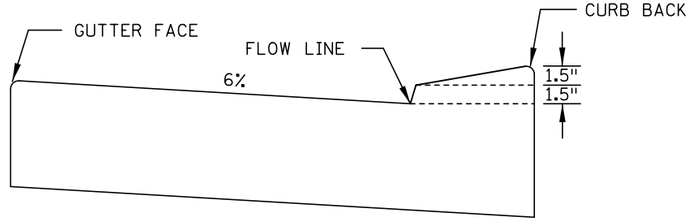
DW CURB STANDARD

STANDARD CURB AT DRIVEWAY



DW CURB TYPE 2

VERTICALLY CONSTRAINED



DW CURB TYPE 3

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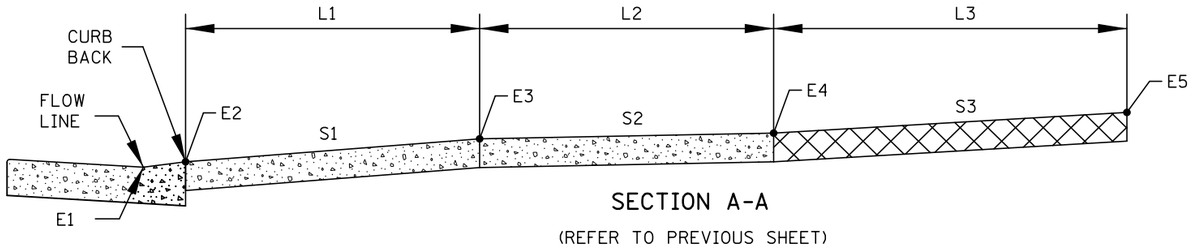
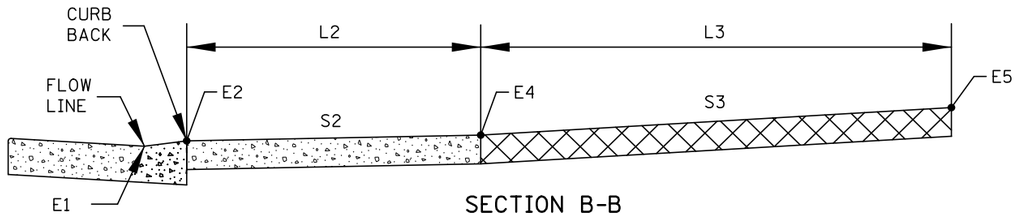


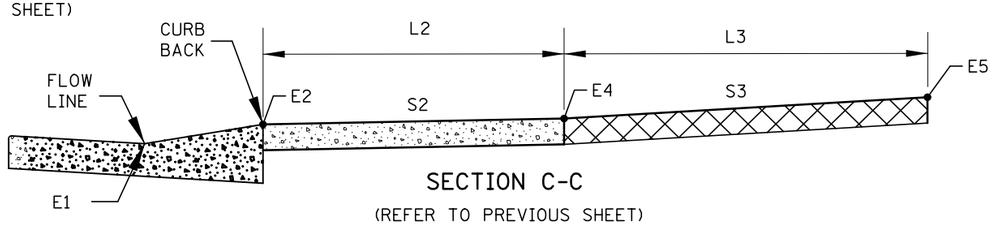
SECTION A-A

(REFER TO PREVIOUS SHEET)



SECTION B-B

(REFER TO PREVIOUS SHEET)

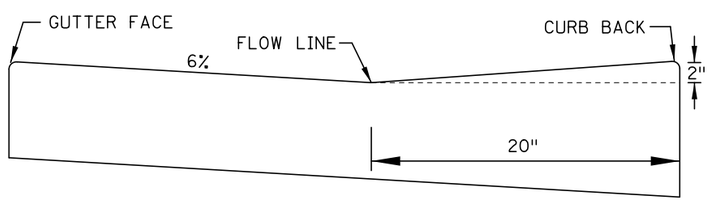


SECTION C-C

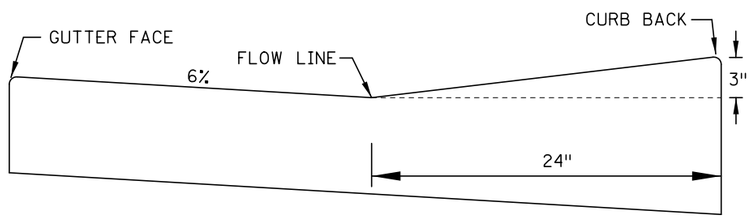
(REFER TO PREVIOUS SHEET)

DRIVEWAY TABULATION ①

STATION	SIDE	DRIVEWAY TYPE	CURB TYPE ③	E1	E2	L1 FT	S1 %	E3	L2 FT	S2 ② %	E4	L3 FT	S3 %	EXISTING %	E5	COMMENTS



VG 220



VG 324

VALLEY GUTTER CURB

OTHER CURB HEIGHTS & CURB APRON LENGTHS CAN BE USED

NOTES:

DW CURB STANDARD SHALL BE USED WHEN THE DRIVEWAY ACTS AS A PEDESTRIAN RAMP. THE MAX. APRON SLOPE MUST ADHERE TO ADA CRITERIA AS WELL. DW CURB STANDARD SHOULD BE USED IF THERE IS ON STREET PARKING.

WHERE ROADWAY DRAINAGE IS A CONCERN (NEGATIVE SLOPED APRON) DW CURB TYPE 2 CAN BE USED TO HELP KEEP THE WATER ON PUBLIC RIGHT OF WAY.

S1 8% MAX PREFERRED, 10% MAX. COMMERCIAL AND 12% MAX. RESIDENTIAL. IF EXISTING GRADES ARE STEEPER DO NOT MAKE GRADES APPRECIABLY WORSE BY USING BEST PRACTICES SUCH AS DRIVEWAY CURB HEIGHTS, EXTENDING L3 AND/ OR STEEPEN S3.

DW CURB TYPE 3 SHALL ONLY BE USED IN EXTREME TIE-IN CASES.

S3 8% MAX PREFERRED, IF THIS SLOPE IS EXCEEDED OR IS CONTINUED FOR MORE THAN 5' ANALYZE THE NEED FOR VERTICAL CURVE(S). SEE ROAD DESIGN MANUAL, CHAPTER 5, FOR GEOMETRIC DESIGNS OF DRIVEWAYS.

① EXAMPLE SHOWN TO BE INCLUDED IN PLAN FOR EACH DRIVEWAY.

② SHOULD BE DESIGNED AT 1.5%.

③ DW CURB STANDARD SHALL BE THE STARTING POINT FOR ALL PERPENDICULAR AND TIERED DRIVEWAYS. DW CURB TYPES 2 AND 3 SHALL ONLY BE USED AFTER UTILIZING BEST PRACTICES SUCH AS MAXIMIZING S1, S3, AND L3.

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DRIVEWAY AND SIDEWALK DETAILS

STANDARD PLAN 5-297.254 | 2 OF 4

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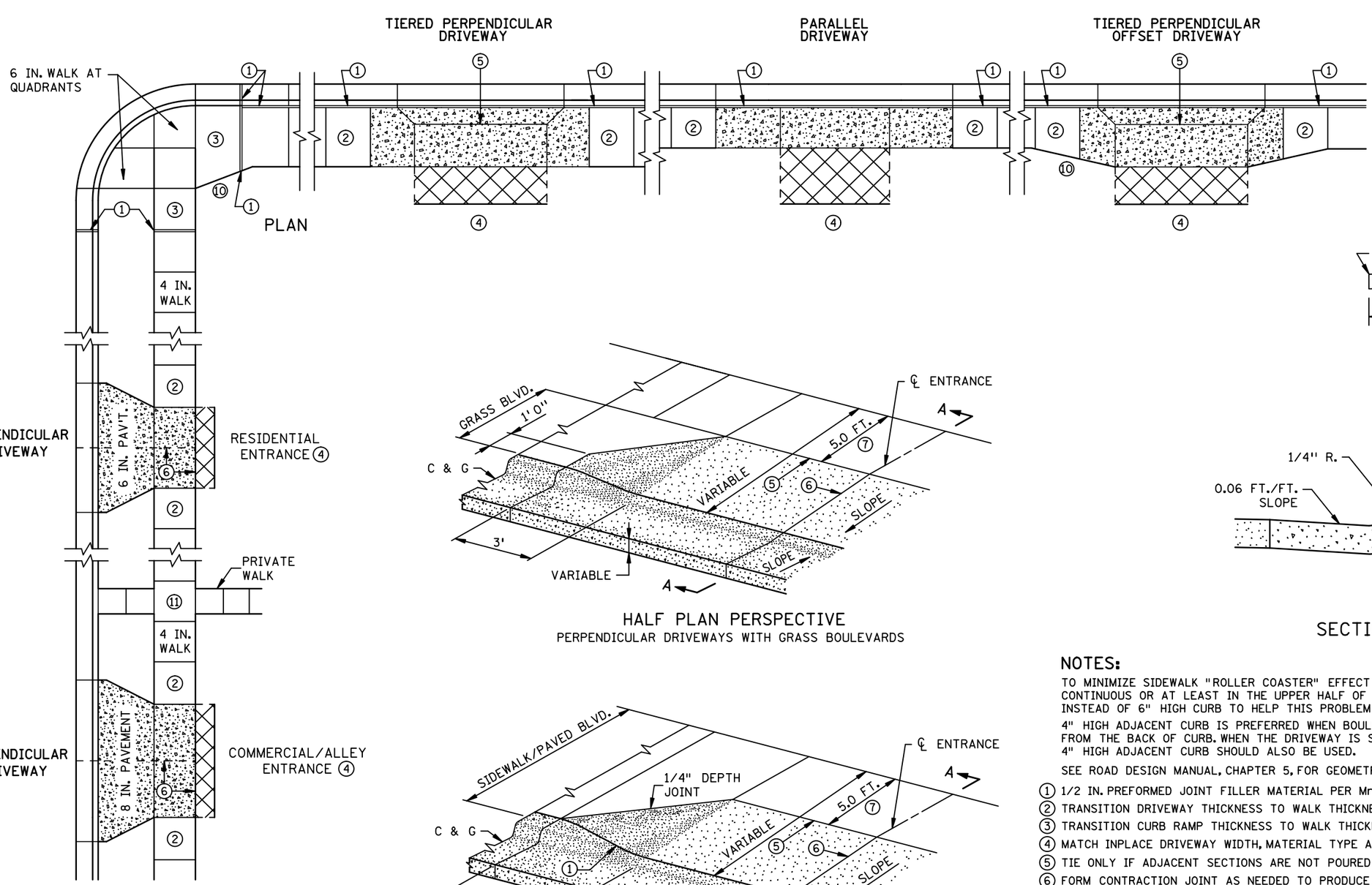
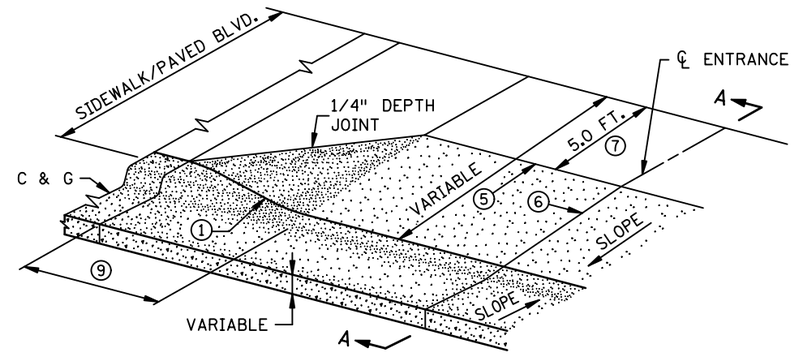
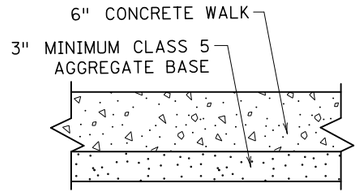


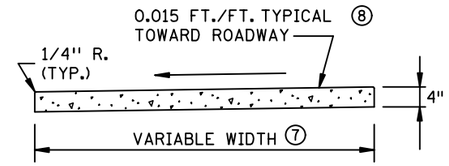
HALF PLAN PERSPECTIVE
PERPENDICULAR DRIVEWAYS WITH GRASS BOULEVARDS



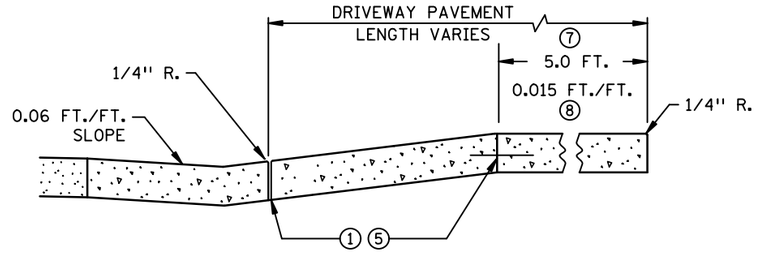
HALF PLAN PERSPECTIVE
PERPENDICULAR DRIVEWAYS WITH CONCRETE BOULEVARDS AND ALL TIERED DRIVEWAYS



SECTION THRU CURB RAMP



SECTION THRU WALK



SECTION A-A
SECTION THRU DRIVEWAY

NOTES:

TO MINIMIZE SIDEWALK "ROLLER COASTER" EFFECT IT IS DESIRABLE TO KEEP THE PAR ELEVATION CONTINUOUS OR AT LEAST IN THE UPPER HALF OF CURB HEIGHT. 4" HIGH CURB SHOULD BE USED INSTEAD OF 6" HIGH CURB TO HELP THIS PROBLEM WHEN APPLICABLE.

4" HIGH ADJACENT CURB IS PREFERRED WHEN BOULEVARDS 4' OR LESS ARE PRESENT MEASURED FROM THE BACK OF CURB. WHEN THE DRIVEWAY IS SLOPING DOWN FROM THE ROADWAY (NEGATIVE) 4" HIGH ADJACENT CURB SHOULD ALSO BE USED.

SEE ROAD DESIGN MANUAL, CHAPTER 5, FOR GEOMETRIC DESIGN OF DRIVEWAYS.

① 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MnDOT SPEC. 3702, EXCEPT AT GRASS BOULEVARDS.
② TRANSITION DRIVEWAY THICKNESS TO WALK THICKNESS.
③ TRANSITION CURB RAMP THICKNESS TO WALK THICKNESS.
④ MATCH INPLACE DRIVEWAY WIDTH, MATERIAL TYPE AND THICKNESS.
⑤ TIE ONLY IF ADJACENT SECTIONS ARE NOT POURED MONOLITHICALLY. SEE SECTION A-A.
⑥ FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS (MAXIMUM WIDTH 15 FT. BETWEEN JOINTS).
⑦ 5.0' MIN. PAR WIDTH IS THE STANDARD THROUGH DRIVEWAYS. IF FEASIBLE WIDEN DRIVEWAY PAR WIDTH TO MATCH APPROACHING SIDEWALK PAR WIDTHS. IN VERTICALLY CONSTRAINED AREAS PAR WIDTHS CAN INCREMENTALLY BE REDUCED TO 4.5' OR 4' MIN AFTER ALL OTHER OPTIONS HAVE BEEN APPLIED.
⑧ THE PEDESTRIAN ACCESS ROUTE CROSS-SLOPE, SHALL NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
⑨ 8% TO 10% FLARES SHALL BE USED WHEN ADJACENT TO WALKABLE SURFACES AND FOR ALL TIERED DRIVEWAYS WITH GRASS BOULEVARDS.
⑩ 1:10 MIN. SIDEWALK OFFSET TAPER REQUIRED FOR SIDEWALK REPLACEMENT PROJECTS. 1:3 MIN. AND 1:5 MIN. PREFERRED SIDEWALK OFFSET TAPER FOR DRIVEWAY REPLACEMENT.
⑪ LANDING REQUIRED, SEE NEXT SHEET FOR MORE INFORMATION.

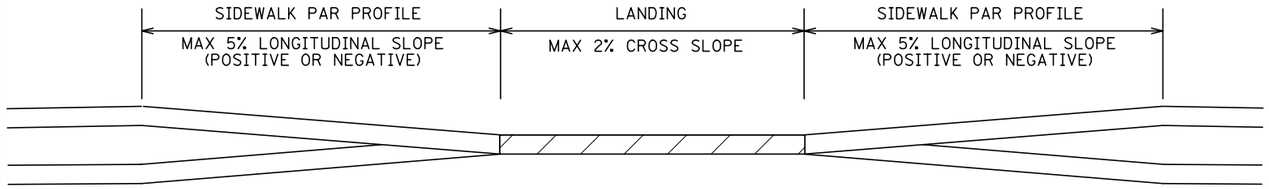
REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

REVISED:
APPROVED: 1-23-2017
STATE DESIGN ENGINEER

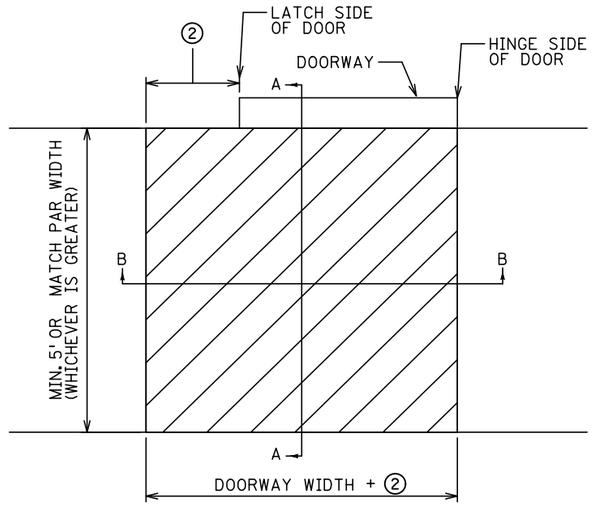
DRIVEWAY AND SIDEWALK DETAILS

STANDARD PLAN 5-297.254 | 3 OF 4

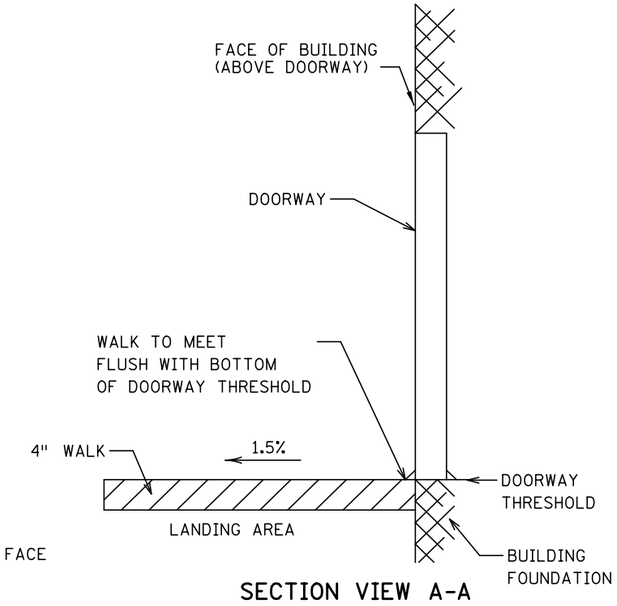
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 68 OF 152 SHEETS



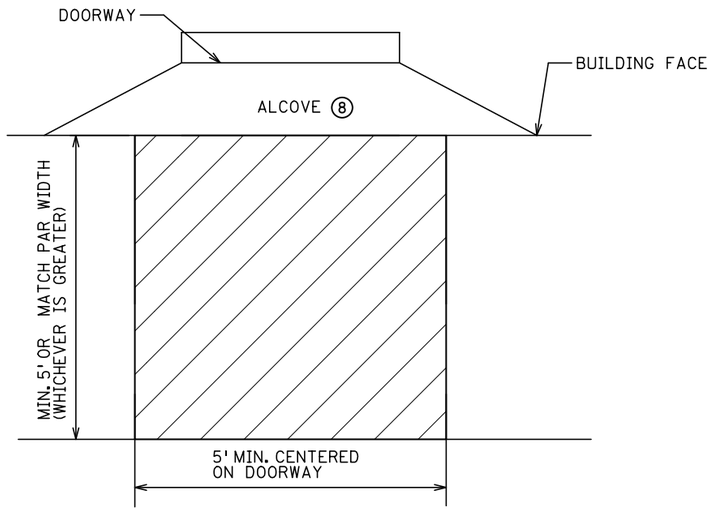
SECTION VIEW B-B



PLAN VIEW DOORWAY

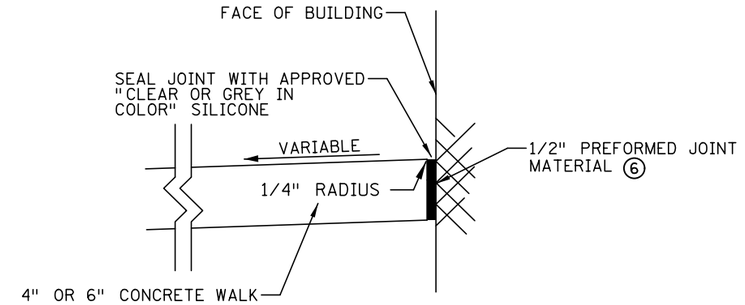


SECTION VIEW A-A

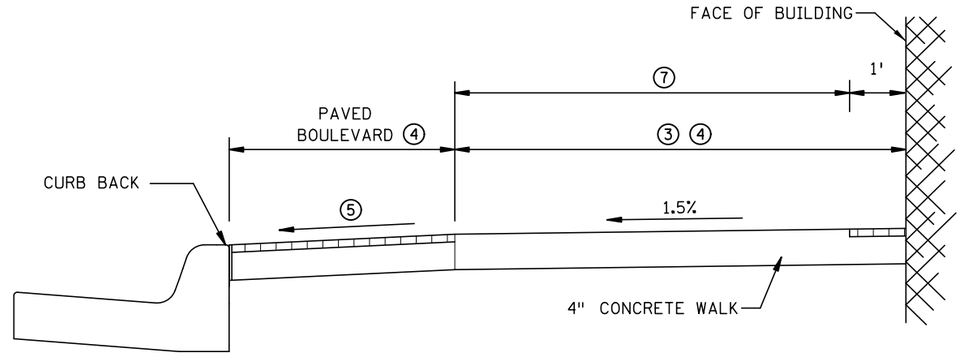


PLAN VIEW DOORWAY WITH ALCOVE

SIDEWALK LANDING REQUIREMENTS ①



BUILDING JOINT SEAL (INCIDENTAL)



DOWNTOWN SIDEWALK TYPICAL SECTION

NOTES:

FIELD ADJUST SIDEWALK PROFILES TO MEET ALL DOORWAY THRESHOLDS.

SIDEWALK MUST MAINTAIN POSITIVE DRAINAGE AWAY FROM THE BUILDING TO THE ROADWAY.

SEE SPECIAL PROVISIONS FOR SILICONE SPECIFICATIONS.

① LANDING CRITERIA IS REQUIRED FOR ALL DOORS, PRIVATE WALKS AND STEPS.

② 18" MIN. WHEN DOOR SWINGS OUTWARD FROM BUILDING.
12" MIN WHEN DOOR SWINGS INWARD FROM BUILDING.

③ 6' MIN. PAR REQUIRED WHEN ADJACENT TO BUILDINGS.

④ 2/3 PAR TO 1/3 BOULEVARD SHOULD BE USED WHEN FEASIBLE.

⑤ 1%-5% FOR THE MAJORITY OF THE BLOCK, WITH EXCEPTIONS UP TO 8% IN CONSTRAINED AREAS. 10% MAX. FOR SHORT SECTIONS ALLOWED TO ACCOUNT FOR FIELD TOLERANCES.

⑥ FURNISH AND INSTALL BACKER ROD OF APPROPRIATE DIAMETER.

⑦ TO MINIMIZE VIBRATION AND ROLLING RESISTANCE, AREA SHOULD BE FREE OF PAVERS, STAMPED CONCRETE, AND/OR EXCESSIVE JOINTING.

⑧ 2% MAX. PER BUILDING CODE. IF GREATER THAN 2%, FLATTEN AS FEASIBLE.

LEGEND	
	LANDING - ALL SLOPES TO BE LESS THAN 2%
	OPTIONAL AESTHETIC TREATMENT

REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

STATE DESIGN ENGINEER

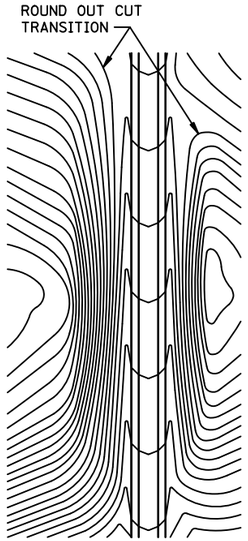
REVISED:

APPROVED: 1-23-2017

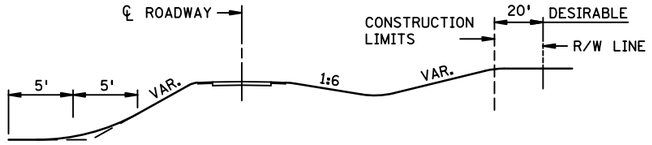
DRIVEWAY AND SIDEWALK DETAILS

STANDARD PLAN 5-297.254 | 4 OF 4

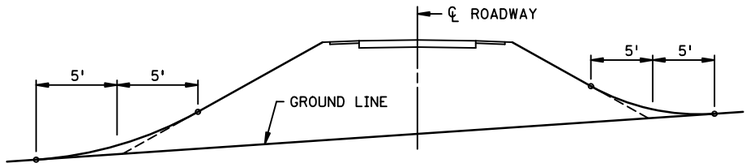
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 69 OF 152 SHEETS



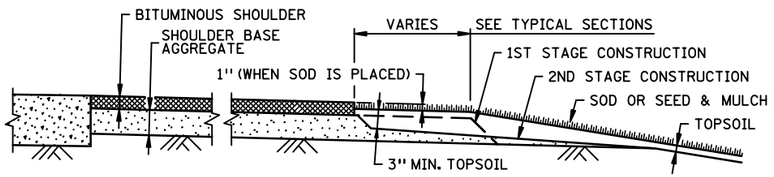
CONTOURING ROAD CUTS



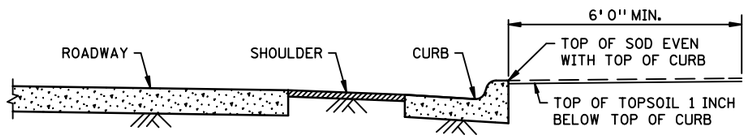
ROUNDING SHOULDERS AND BACKSLOPES



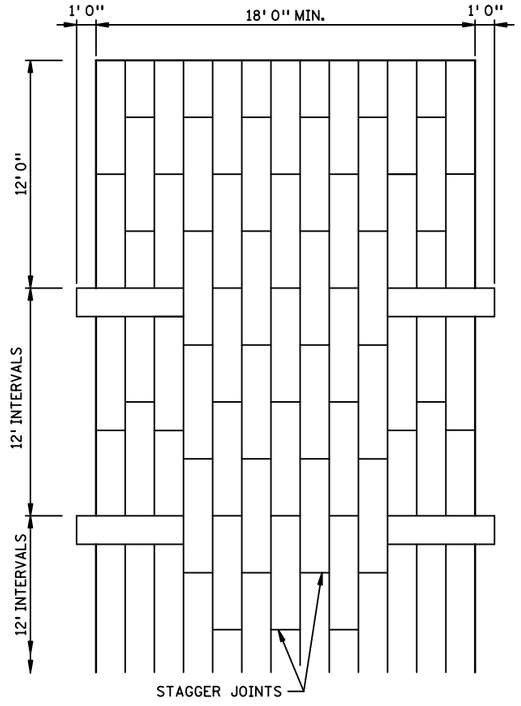
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



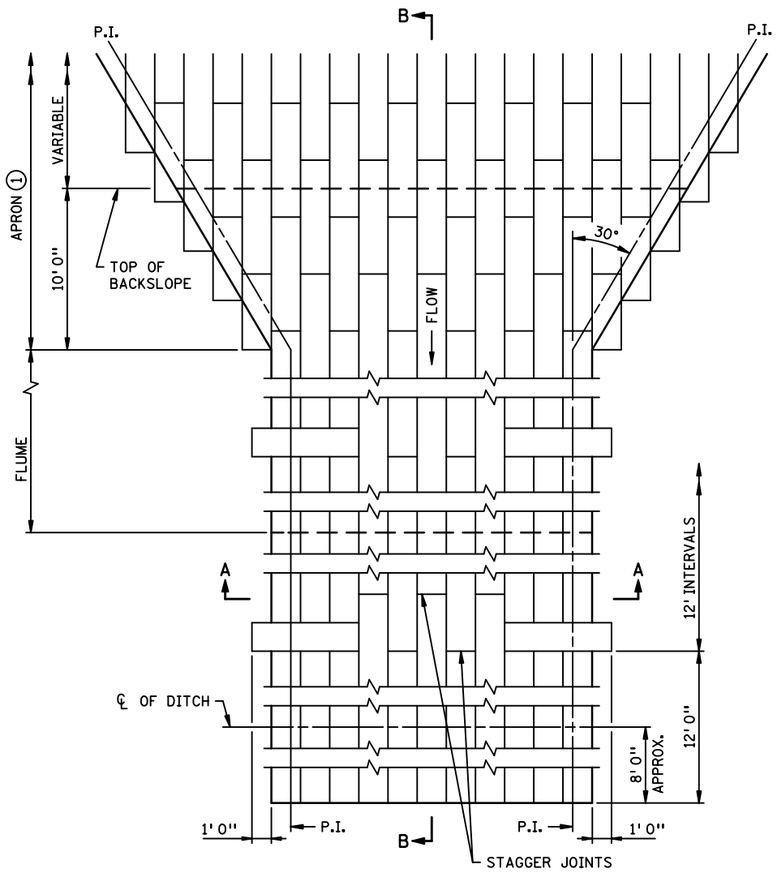
SHAPING AND TOPSOILING INSLOPES



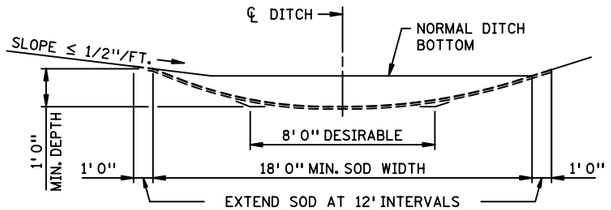
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



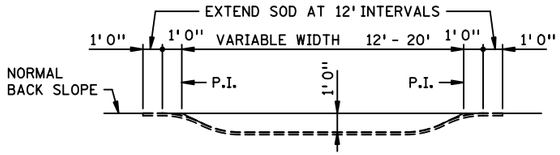
PLAN VIEW



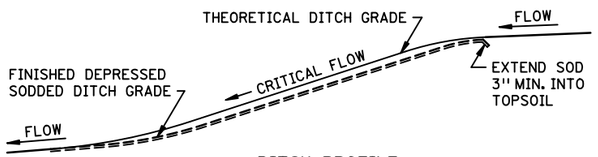
PLAN VIEW



SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.

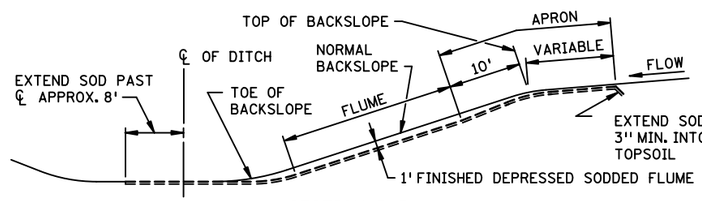


SECTION A-A



DITCH PROFILE

SODDED DITCH DETAILS



SECTION B-B

SODDED FLUME DETAILS

NOTES:
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
(1) CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

REVISION:
APPROVED: 8-6-2014
CHIEF ENVIRONMENTAL OFFICER

STATE DESIGN ENGINEER

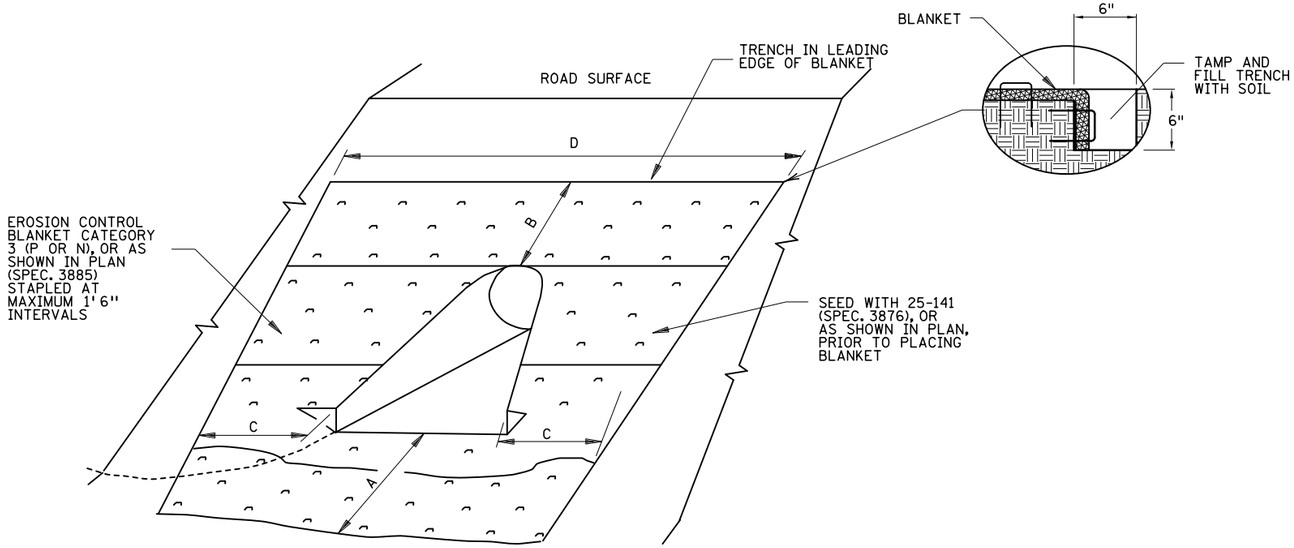
REVISED:

APPROVED: 8-6-2014

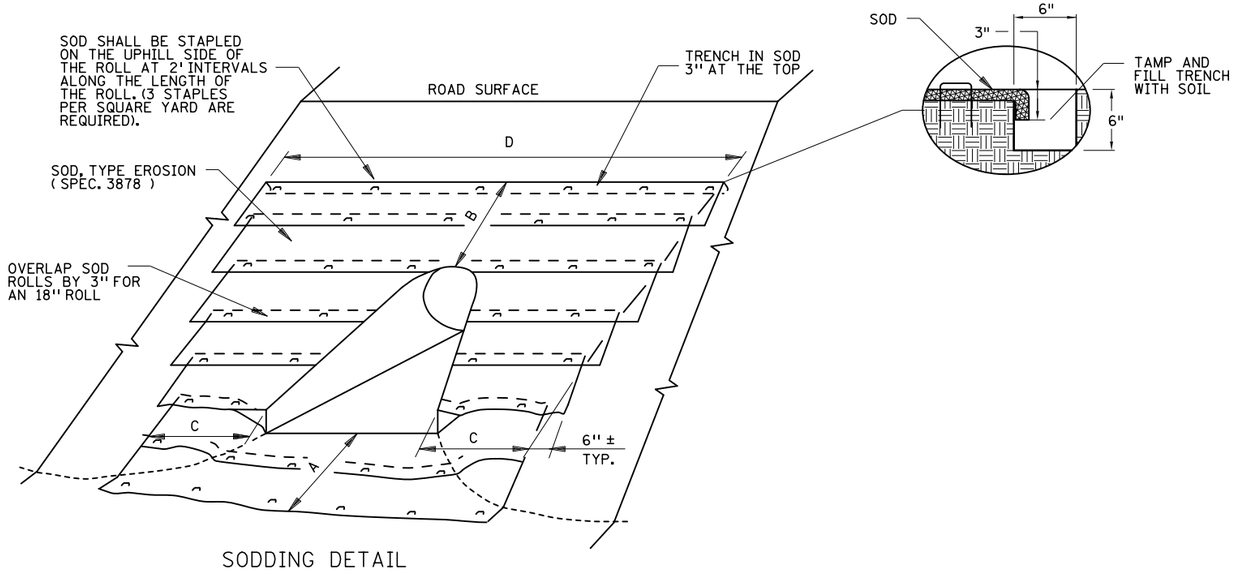
PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

STANDARD PLAN 5-297.404 | 1 OF 1

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 70 OF 152 SHEETS



EROSION CONTROL BLANKET & SEED DETAIL



SODDING DETAIL

CULVERT INLET APRON (1)

CULVERT DIAMETER (2)	SOD OR EROSION CONTROL BLANKET (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	9	9	8	8	N/A	N/A	3'	1.5'	3'	13'
18"	13	12	12	14	16	N/A	3'	3'	3'	16'
21"	14	14	14	16	18	14	3'	3'	3'	17'
24"	16	15	16	19	21	17	3'	3'	3'	18'
27"	N/A	20	N/A	N/A	N/A	N/A	3'	4.5'	3'	20'
30"	23	22	25	30	32	N/A	3'	4.5'	3'	22'
36"	34	34	39	48	51	37	4.5'	4.5'	4.5'	27'
42"	43	40	51	64	N/A	N/A	4.5'	6'	4.5'	30'
48"	54	50	66	82	N/A	N/A	4.5'	7.5'	4.5'	34'
54"	65	58	81	102	N/A	N/A	4.5'	9'	4.5'	37'
60"	69	59	91	115	N/A	N/A	4.5'	9'	4.5'	39'
66"	69	63	N/A	N/A	N/A	N/A	4.5'	9'	4.5'	39'
72"	78	72	99	122	N/A	N/A	4.5'	10.5'	4.5'	41'

CULVERT OUTLET APRON (1)

CULVERT DIAMETER (2)	SOD OR EROSION CONTROL BLANKET (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	10	10	9	10	N/A	N/A	4.5'	1.5'	3'	13'
18"	13	13	12	14	15	N/A	6'	1.5'	3'	14'
21"	16	14	16	18	19	15	6'	1.5'	3'	15'
24"	18	18	18	21	22	18	7.5'	1.5'	3'	16'
27"	N/A	19	N/A	N/A	N/A	N/A	7.5'	1.5'	3'	17'
30"	23	23	24	28	29	N/A	9'	1.5'	3'	18'
36"	36	35	38	47	48	37	10.5'	1.5'	4.5'	23'
42"	43	40	47	58	N/A	N/A	12'	1.5'	4.5'	25'
48"	50	46	57	70	N/A	N/A	13.5'	1.5'	4.5'	27'
54"	57	50	67	84	N/A	N/A	15'	1.5'	4.5'	29'
60"	74	63	90	113	N/A	N/A	16.5'	1.5'	6'	33'
66"	75	67	N/A	N/A	N/A	N/A	16.5'	1.5'	6'	33'
72"	77	70	92	114	N/A	N/A	16.5'	1.5'	6'	34'

NOTES:

AREA SHOWN IN SQUARE YARDS IS FOR ONE CULVERT END.

QUANTITIES ARE CALCULATED TO INCLUDE SOD REQUIRED TO PROVIDE A 3" OVERLAP ON ALL 18" WIDE ROLLS. THIS ALLOWS FOR SHRINKAGE OF THE SOD.

FOR PIPE ARCHES USE EQUIVALENT PIPE DIAMETER TO APPROXIMATE AREA.

FOR CORRUGATED POLYETHYLENE PIPE METAL APRON (PLATE 3129), USE THE METAL APRON COLUMN (PLATE 3123).

AREAS AND DIMENSIONS ARE APPROXIMATE AND ARE BASED ON APRON SIDE SLOPES OF NO STEEPER THAN 1:2, UNLESS INDICATED AS FOR SAFETY APRONS.

CARE SHOULD BE TAKEN IN SELECTING SOD TO STABILIZE THE APRON. RIP-RAP SHOULD BE USED FOR FLOW VELOCITIES GREATER THAN 6 FPS.

(1) ADDITIONAL QUANTITIES MAY BE SHOWN IN THE PLAN OR REQUIRED BY THE ENGINEER.

(2) FOR ARCH PIPE USE CLOSEST CIRCULAR PIPE DIAMETER AND APRON SLOPE. (DIAMETERS LARGER THAN 72" REQUIRE SPECIAL DESIGNS.)

REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 2-28-2017

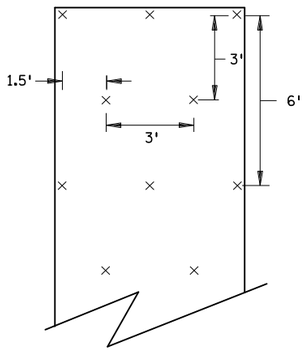
PERMANENT EROSION CONTROL

TURF ESTABLISHMENT DETAIL AT CULVERT ENDS

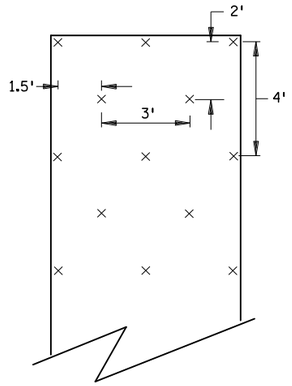
STANDARD PLAN 5-297.404 | 2 OF 3

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 71 OF 152 SHEETS

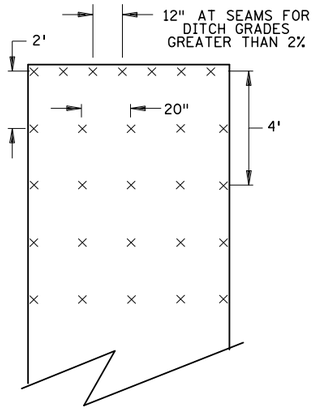
PLOTTED/REVISED: 14-NOV-2017 15:59
DISTRICT ": 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/07_MKO/014/0803/038/Design/PlanSheets/Standard Plans/s404_2_spn.dgn



SLOPES FLATTER THAN 1:2
(120 STAPLES PER 100 SQ YD)

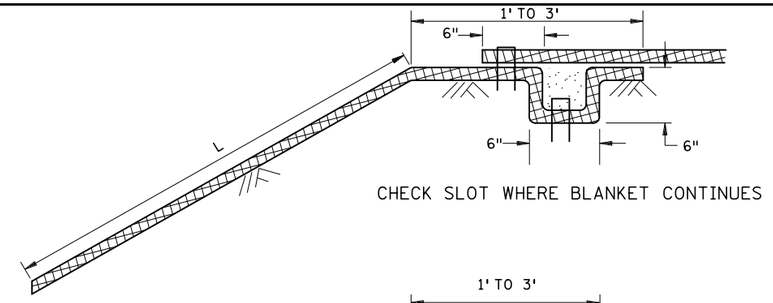


SLOPES 1:2 TO 1:1
(170 STAPLES PER 100 SQ YD)

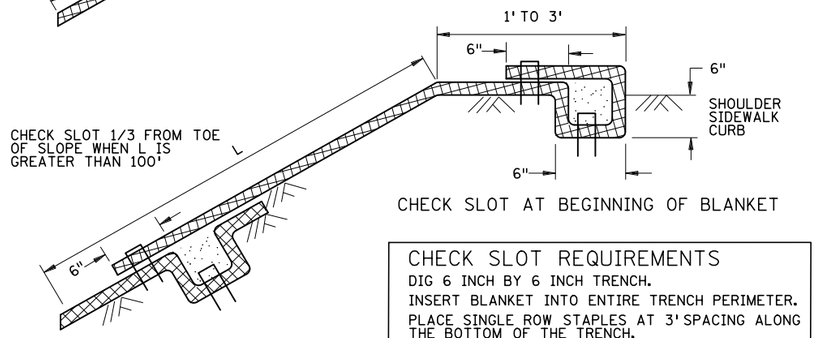


CHANNEL AND DITCH APPLICATIONS
(350 STAPLES PER 100 SQ YD)

BLANKET STAPLE PATTERN



CHECK SLOT WHERE BLANKET CONTINUES



CHECK SLOT AT BEGINNING OF BLANKET

CHECK SLOT REQUIREMENTS

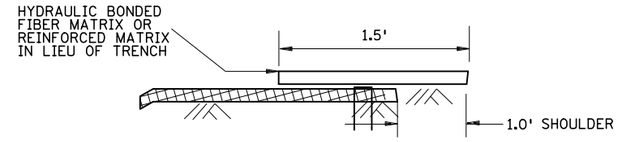
DIG 6 INCH BY 6 INCH TRENCH.

INSERT BLANKET INTO ENTIRE TRENCH PERIMETER.

PLACE SINGLE ROW STAPLES AT 3' SPACING ALONG THE BOTTOM OF THE TRENCH.

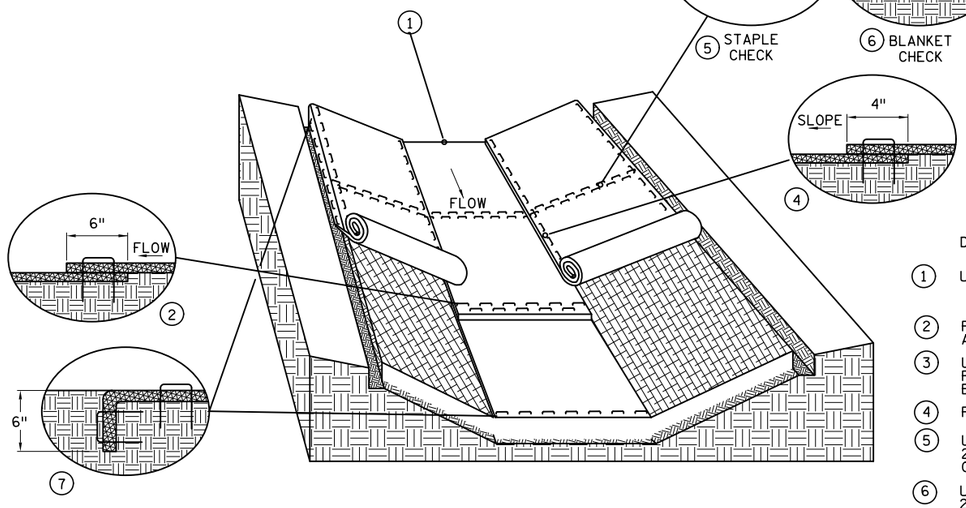
BACKFILL TRENCH WITH SOIL AND TAMP.

PLACE SINGLE ROW STAPLES AT 3' SPACING ON OVERLAP.

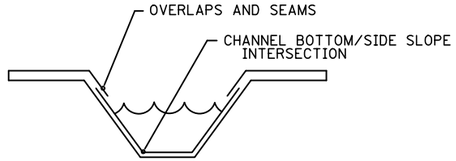


CHECK SLOT ALTERNATIVE
PLACE SINGLE ROW STAPLES AT 12" SPACING

CHECK SLOT DETAILS



DITCH BLANKET STAPLE DETAIL



DITCH BLANKET CRITICAL POINTS (7)

DITCH BLANKET STAPLE DETAIL NOTES

(1) USE CHECK SLOT DETAIL (NO ALTERNATES).

(2) PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER.

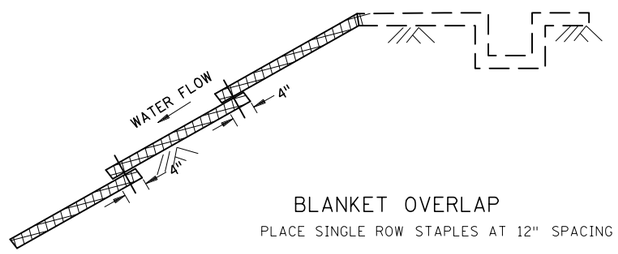
(3) USE 6" X 6" TRENCH TO PLACE BLANKET. PLACE SINGLE ROW OF STAPLES ON TOP AND TRENCH SIDES AT 12" SPACING. BACKFILL TRENCH WITH SOIL AND TAMP.

(4) PLACE SINGLE ROW OF STAPLES AT 12" SPACING.

(5) USE STAPLE CHECK FOR CHANNEL SLOPES LESS THAN 2.5% GRADE AT 100 FOOT INTERVALS. PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND AT 4" SPACING.

(6) USE BLANKET CHECKS FOR THE FOLLOWING SLOPES:
2.5%-3% 100 FT INTERVALS
3%-5% 50 FT INTERVALS
5%-7% 25 FT INTERVALS

(7) CRITICAL POINTS SHALL BE SECURED WITH PROPER STAPLE PATTERNS.



BLANKET OVERLAP
PLACE SINGLE ROW STAPLES AT 12" SPACING

GENERAL BLANKET INSTALLATION REQUIREMENTS

PREPARE SOIL AS PER SPECIFICATION 2574.

LAY PARALLEL OR PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

OVERLAP ADJACENT STRIP EDGES A MINIMUM OF 4 INCHES.

OVERLAP BLANKET 6" (MIN.) AT EACH END. OVERLAP BOTTOM END OF UPPER BLANKET OVER TOP END OF LOWER BLANKET. STAPLE ALONG OVERLAP EVERY 1.5'.

THE UPPERMOST BLANKET OF ALL SLOPE APPLICATIONS MUST START IN A CHECK SLOT. IF SLOPE LENGTH (L) IS 100' OR GREATER, INSERT BLANKET INTO A CHECK SLOT 1/3 FROM THE BOTTOM OF THE SLOPE.

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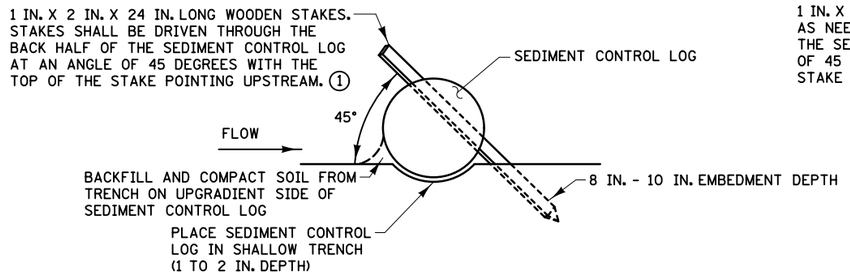
STATE DESIGN ENGINEER

PERMANENT EROSION CONTROL
BLANKET STAPLE PATTERN FOR SLOPES

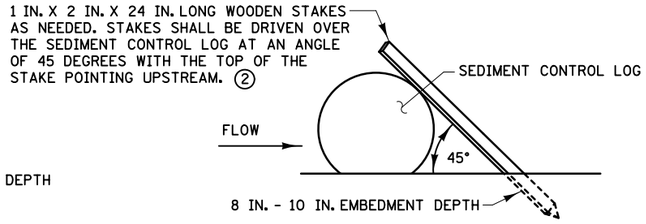
STANDARD PLAN 5-297.404 | 3 OF 3

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 72 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 15:59
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Standard Plans/s404_3_spn.dgn

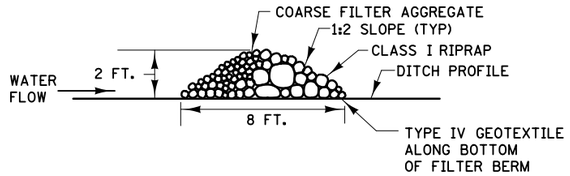


TYPES: STRAW, WOOD FIBER, OR COIR

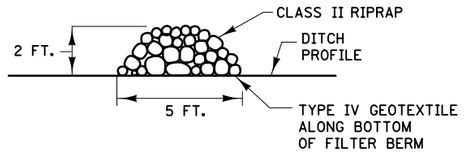


TYPES: WOOD CHIP, COMPOST, OR ROCK

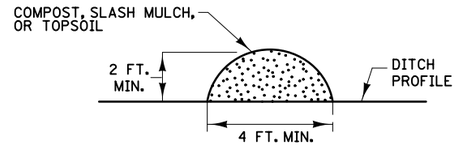
SEDIMENT CONTROL LOGS



TYPE 3 (ROCK WEEPER)

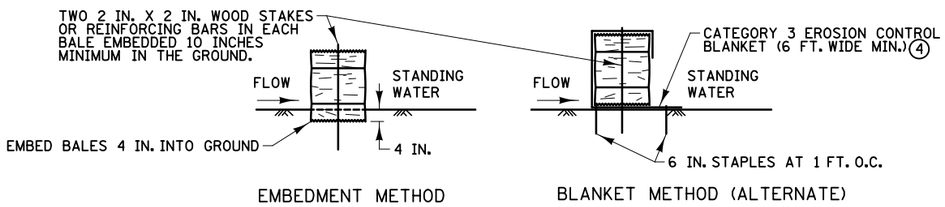


TYPE 5 (ROCK)



TYPE 1 (COMPOST), TYPE 2 (SLASH MULCH), OR TYPE 4 (TOPSOIL)

FILTER BERMS



EMBEDMENT METHOD

BLANKET METHOD (ALTERNATE)

BALE BARRIERS (3)

NOTES:

SEE SPECS. 2573, 3149, 3874, 3882, 3886, & 3897.

(1) SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1 FOOT FOR DITCH CHECKS OR 2 FEET FOR OTHER APPLICATIONS.

(2) PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.

(3) TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6 INCH MAX. DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14 IN. X 18 IN. X 36 IN. LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.

(4) INSTEAD OF TRENCHING, PLACE BALE ON THE BLANKET AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

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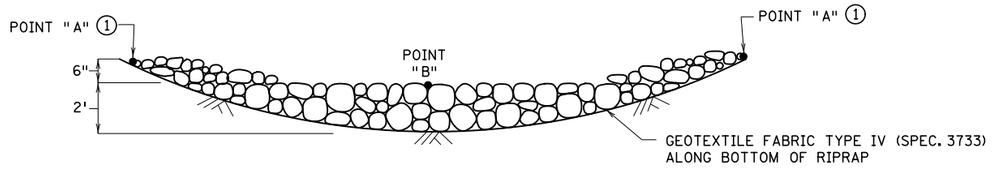
TEMPORARY SEDIMENT CONTROL
FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS

STANDARD PLAN 5-297.405 | 2 OF 8

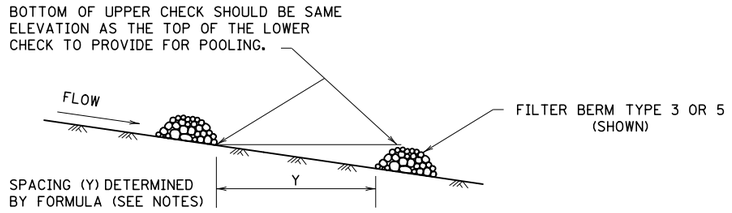
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 73 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 15:59
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Standard Plans/s405_2_spn.dgn



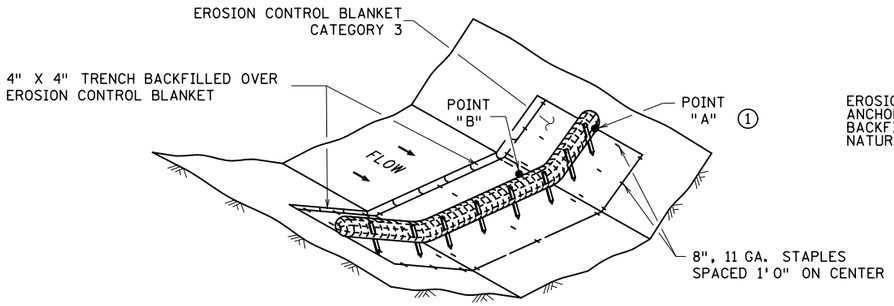
ROCK DITCH CHECKS
FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ②③

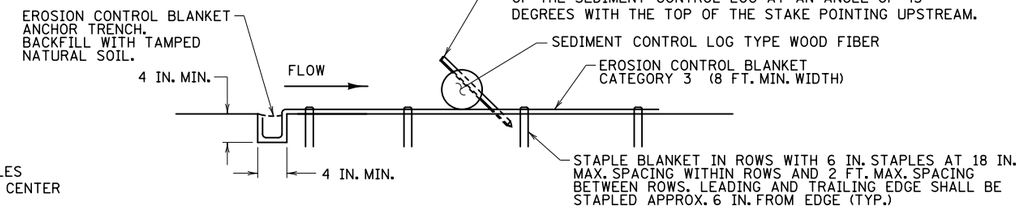
(FOR USE ON ROUGH GRADED AREAS)



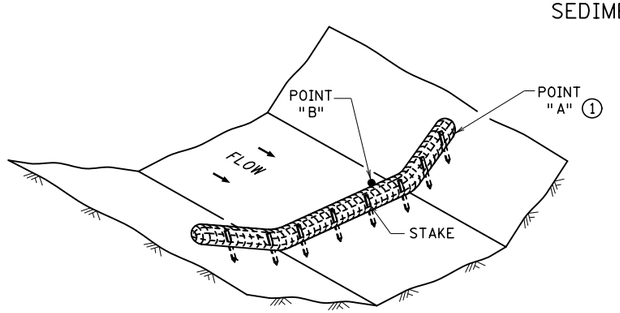
DITCH CHECK SPACING

(FOR ALL FILTER BERM TYPES)





SEDIMENT CONTROL LOG TYPE BLANKET SYSTEM ④



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST ⑤

(FOR USE ON ROUGH GRADED AREAS)

NOTES:

SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.

FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT)}}{\text{\% CHANNEL SLOPE}} \times 100$$

① POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

② PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC..

④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC..

⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC..

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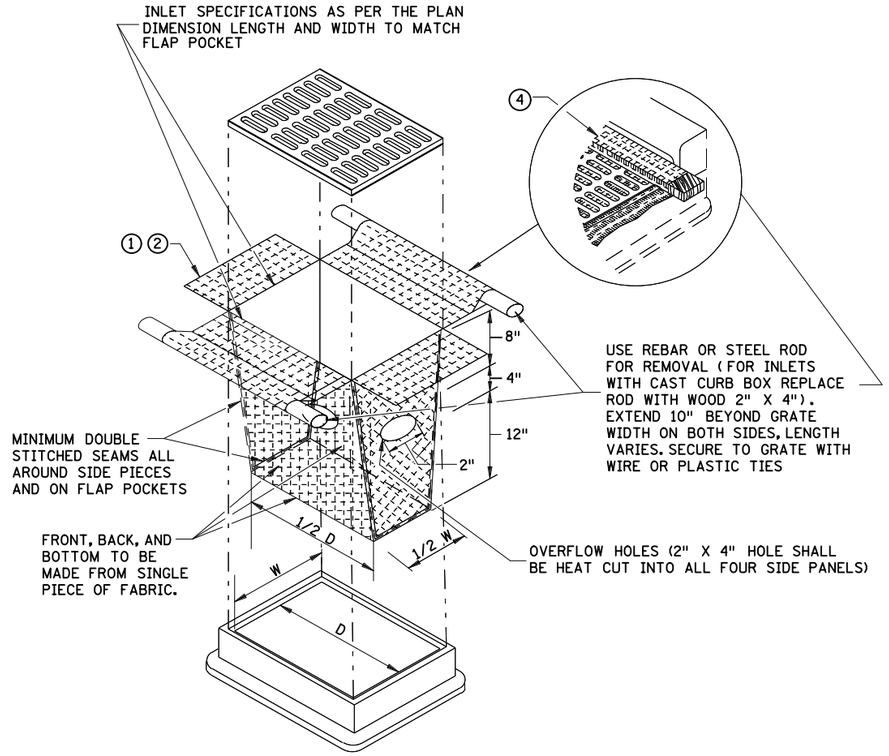
TEMPORARY SEDIMENT CONTROL
DITCH CHECK

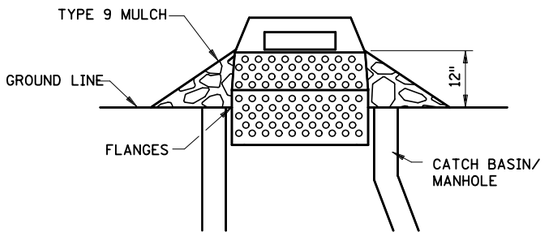
STANDARD PLAN 5-297.405 | 3 OF 8

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 74 OF 152 SHEETS



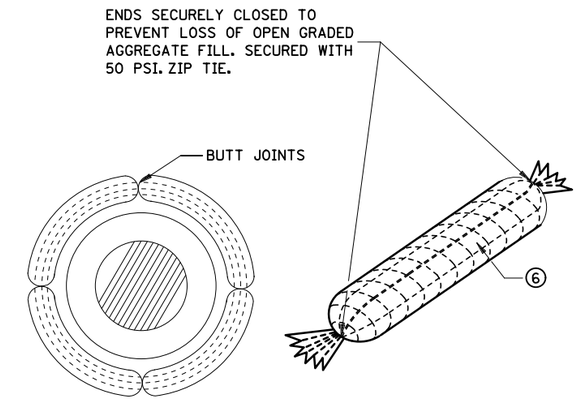
FILTER BAG INSERT ③

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



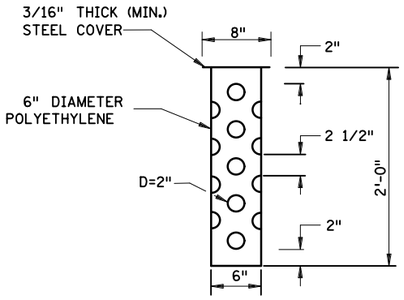
SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.

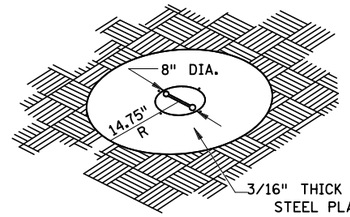


**ROCK LOG/COMPOST LOG

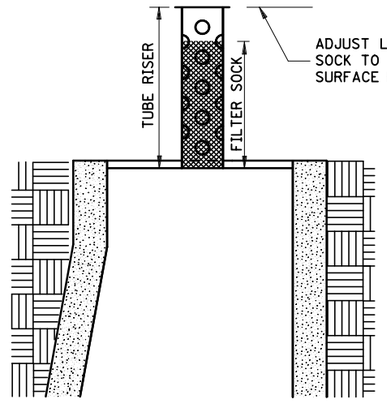
ROCK LOG CANNOT BE USED ADJACENT TO TRAFFIC.



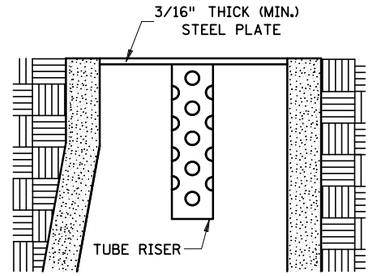
TUBE RISER



PERSPECTIVE VIEW

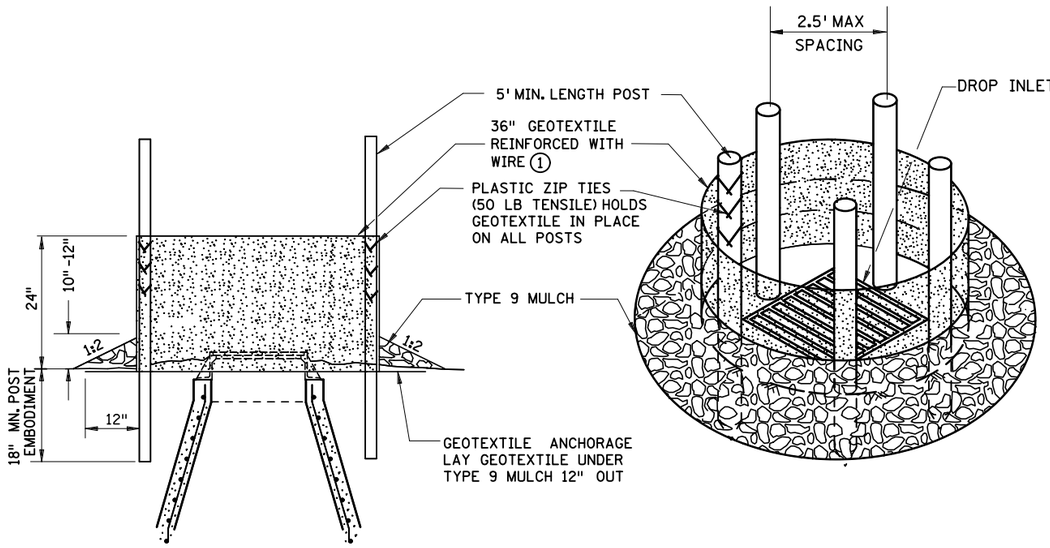


SECTION
(UP POSITION)



SECTION
(DOWN POSITION)

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 or LESS

MODIFIED

NOTES:

SEE SPECS. 2573, 3137, & 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY SO AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.

1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
2. FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
3. INSTALLATION NOTES:
   DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
4. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
5. SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
6. GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

***DENOTES MODIFICATION FROM STANDARD PLAN.

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MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:
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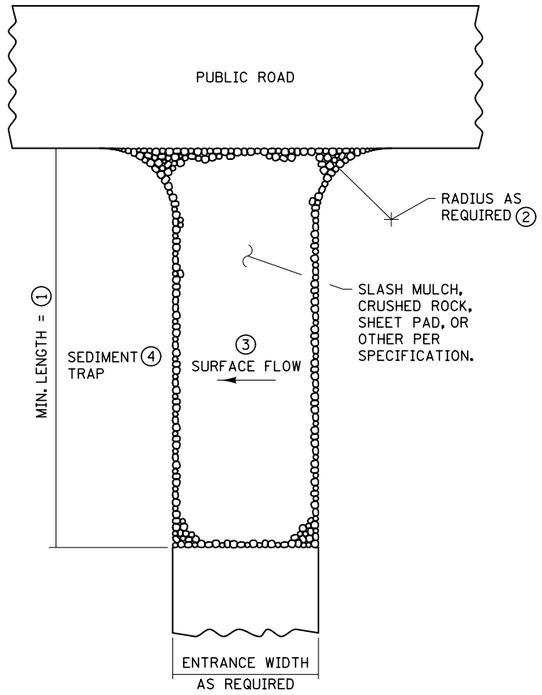
STATE DESIGN ENGINEER

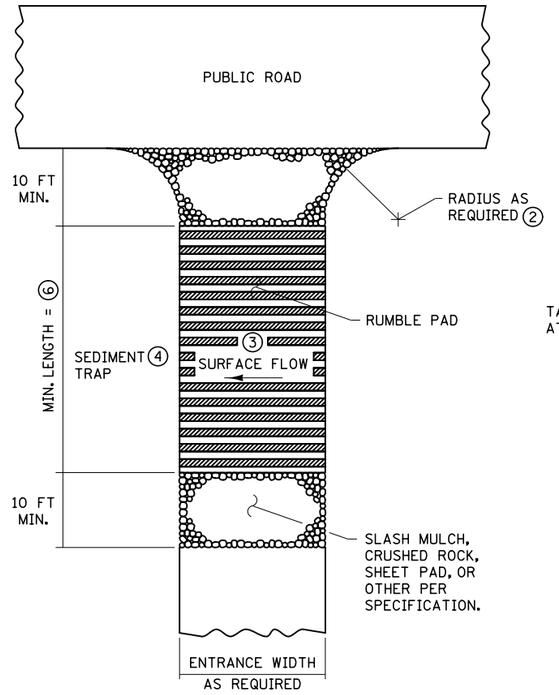
TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION

STANDARD PLAN 5-297.405

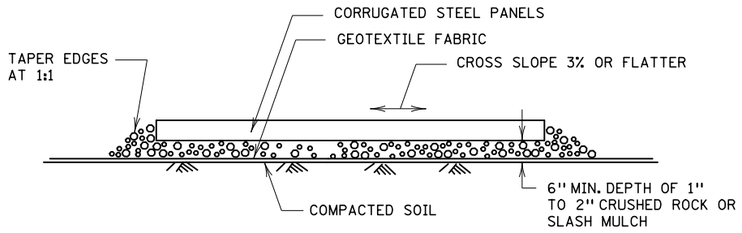
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Standard Plans/s405_4_spn.dgn
PLOTTED/REVISED: 14-NOV-2017 15:59



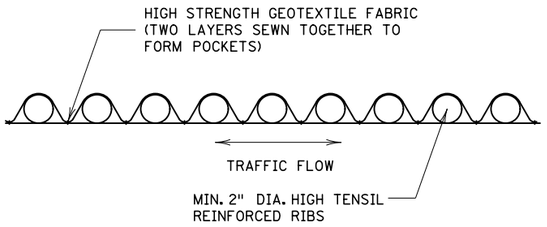
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



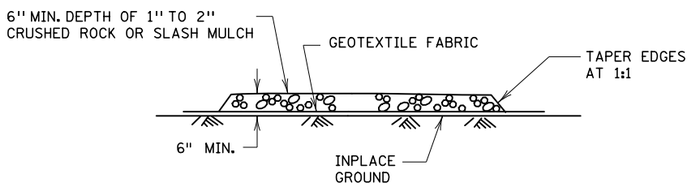
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

(1) MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.

(2) PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.

(3) IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.

(4) IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.

(5) IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.

(6) MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.

(7) MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

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MINNESOTA DEPARTMENT OF TRANSPORTATION

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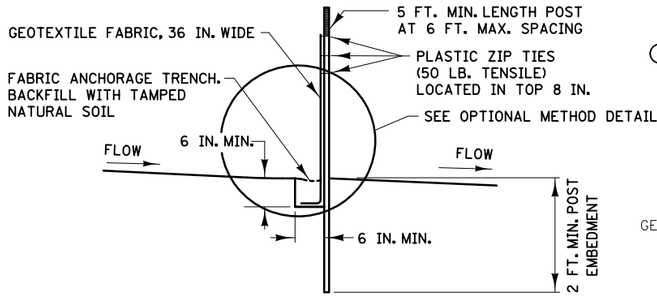
APPROVED: 2-28-2017

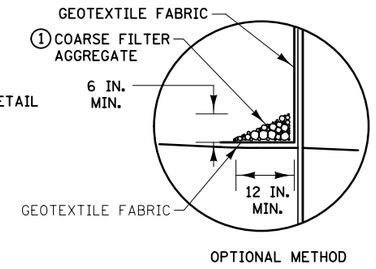
TEMPORARY SEDIMENT CONTROL
STABILIZED CONSTRUCTION EXIT

STANDARD PLAN 5-297.405 | 5 OF 8

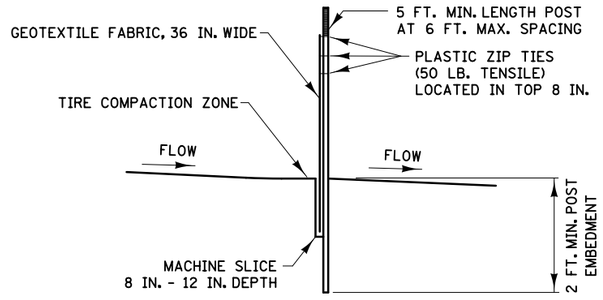
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 76 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:00
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/07_MKO/014/0803/038/Design/PlanSheets/Standard Plans/s405_5_spn.dgn

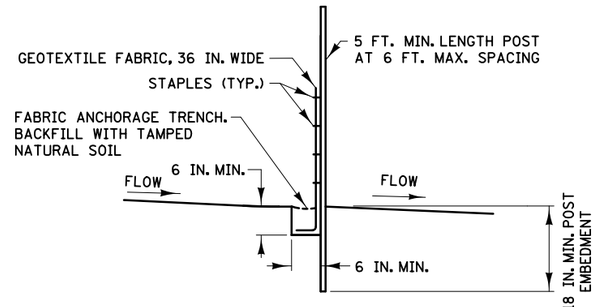




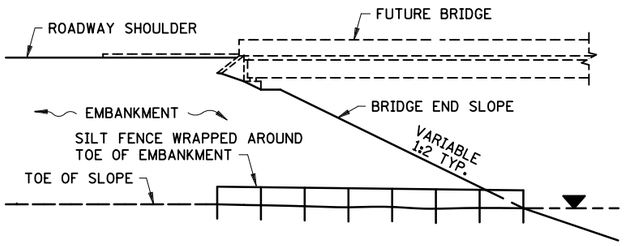
SILT FENCE TYPE HI ②
(HAND INSTALLED)



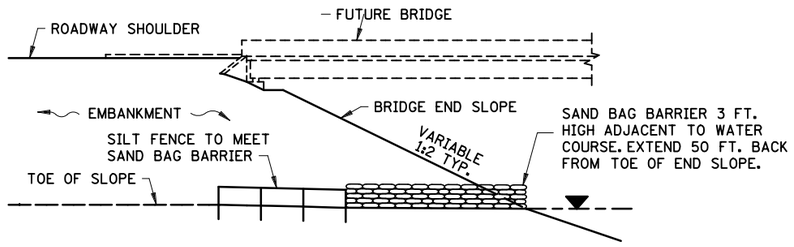
SILT FENCE TYPE MS ②
(MACHINE SLICED)



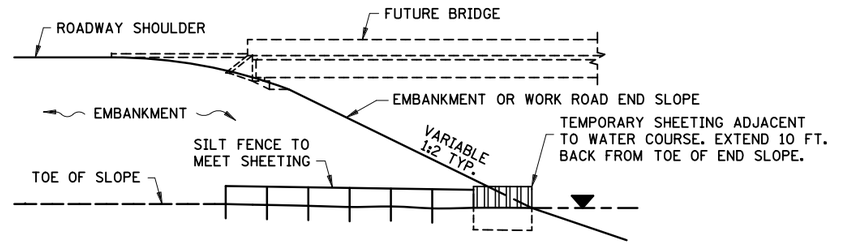
SILT FENCE TYPE PA ③
(PREASSEMBLED)



SILT FENCE ONLY ④

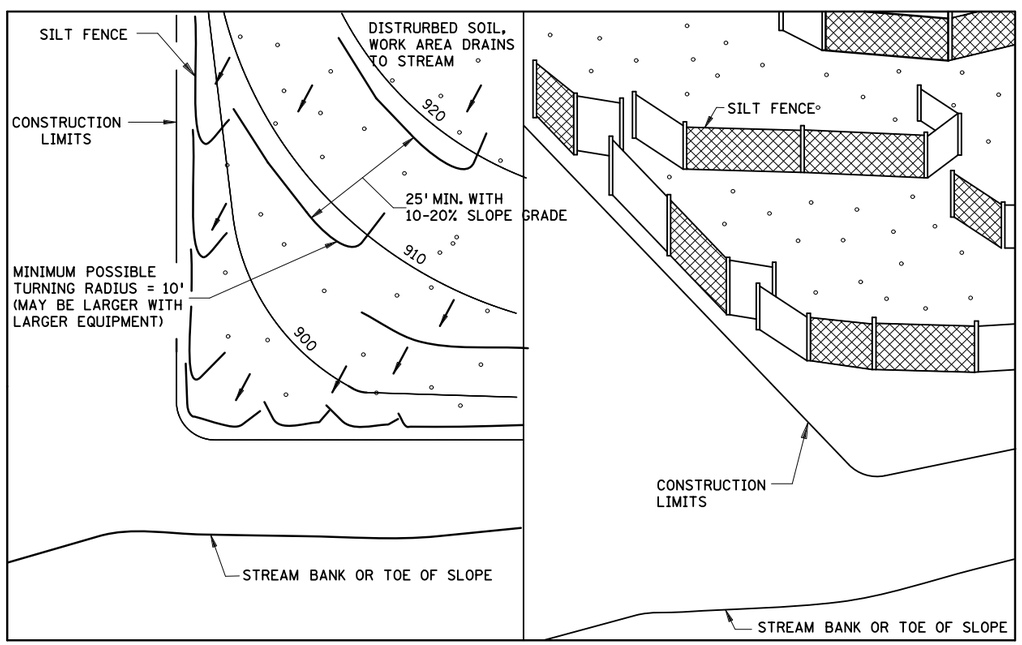


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

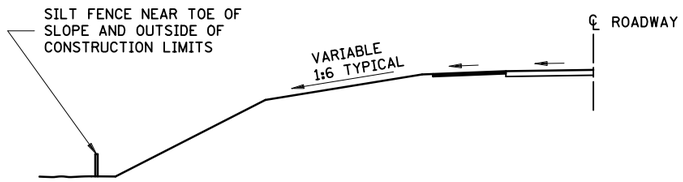
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:
SEE SPECS. 2573, 3149 & 3886.

① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.

③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.

④ WATER COURSE FLOW VELOCITY: STANDING.
CONTRIBUTING SLOPE AREA: 1./2 ACRE.

⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1. ACRE.

⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:
APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

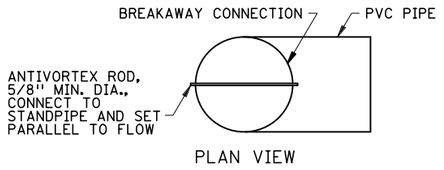
REVISED:

APPROVED: 2-28-2017

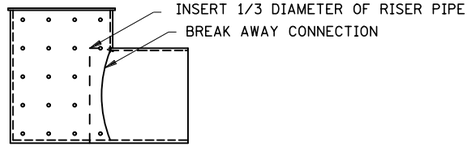
TEMPORARY SEDIMENT CONTROL
SILT FENCE

STANDARD PLAN 5-297.405 | 6 OF 8

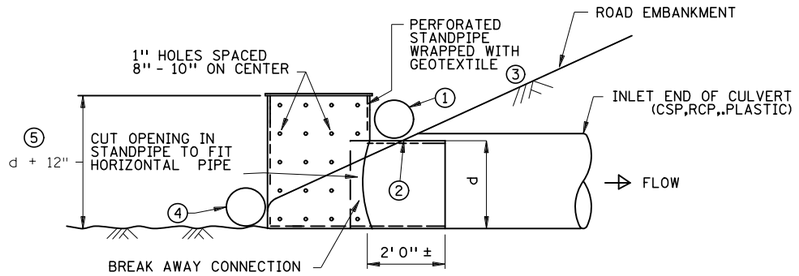
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 77 OF 152 SHEETS



PLAN VIEW



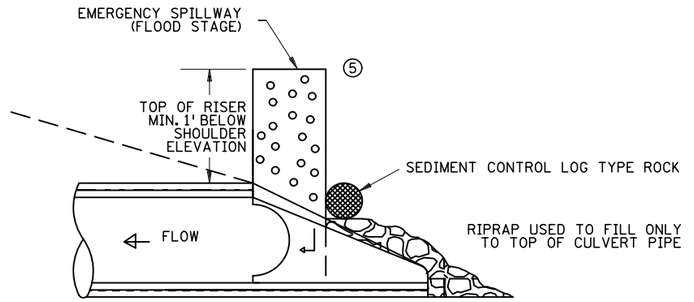
CULVERT STANDPIPE



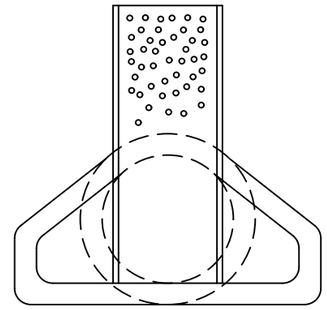
ELEVATION VIEW OF CULVERT INSTALLATION

CULVERT STANDPIPE INSERT (D-RISER)

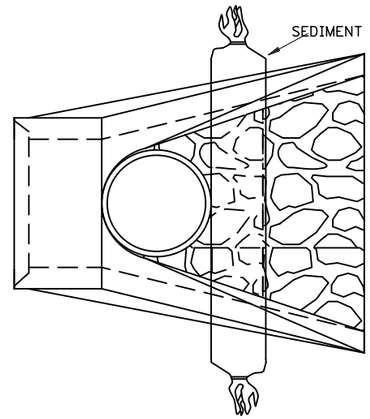
d= CULVERT SIZE: 12" - 36"



LONGITUDINAL SECTION



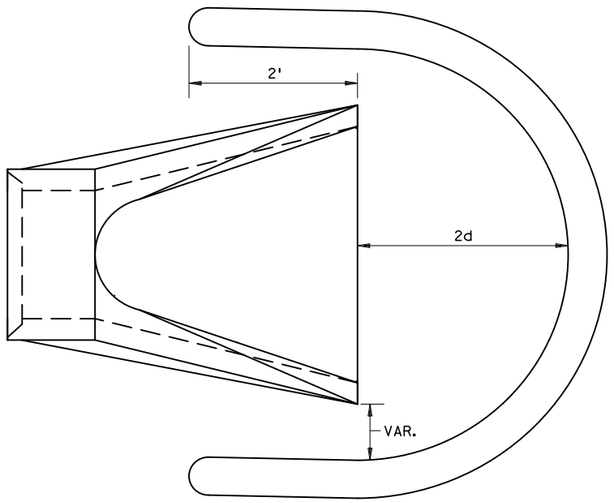
END VIEW



NOTE: SEDIMENT CONTROL LOG TYPE ROCK MAY BE WRAPPED AROUND RISER

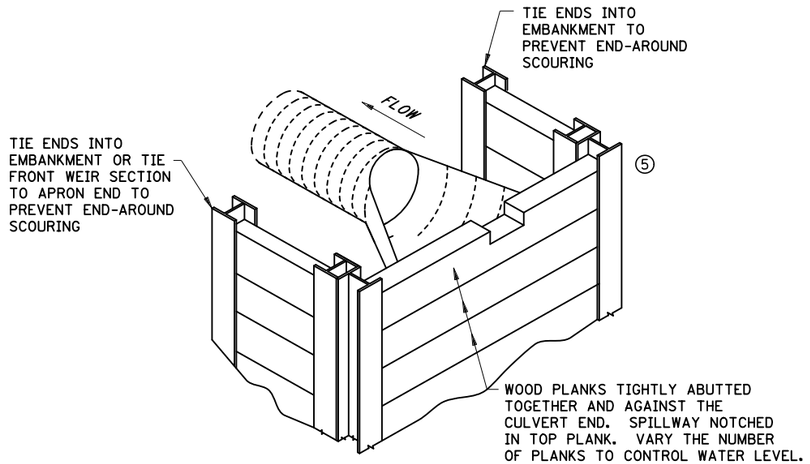
TOP VIEW

CULVERT STANDPIPE INSERT (D-RISER)



SEDIMENT CONTROL LOG WEIR
(COMPOST, WOOD CHIP, OR ROCK)

d = CULVERT SIZE: 12"-36"



WOOD PLANK WEIR

NOTES:

SEE SPECS. 2573, 3891 & 3893.

FOR USE WHEN TEMPORARY PONDING IS NEEDED IN DITCH SECTIONS FOR SEDIMENT CONTROL.

MANUFACTURED ALTERNATIVES LISTED ON MnDOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED AT NO ADDITIONAL COST.

① ROCK LOG OR SANDBAG TO HOLD STANDPIPE AND ACT AS A SEAL BETWEEN RISER PIPE AND CULVERT.

② PLACE CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO CSP OR RCP CULVERT.

③ ALL GEOTEXTILE USED FOR CULVERT PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.

④ ROCK LOG OR RIP RAP TO HOLD STANDPIPE AND ACT AS A FILTER BETWEEN RISER PIPE AND CULVERT.

⑤ HEIGHT OVERFLOW NOT TO CAUSE FLOODING OF ROAD OR ADJACENT PROPERTIES.

REVISION:
APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

APPROVED: 2-28-2017

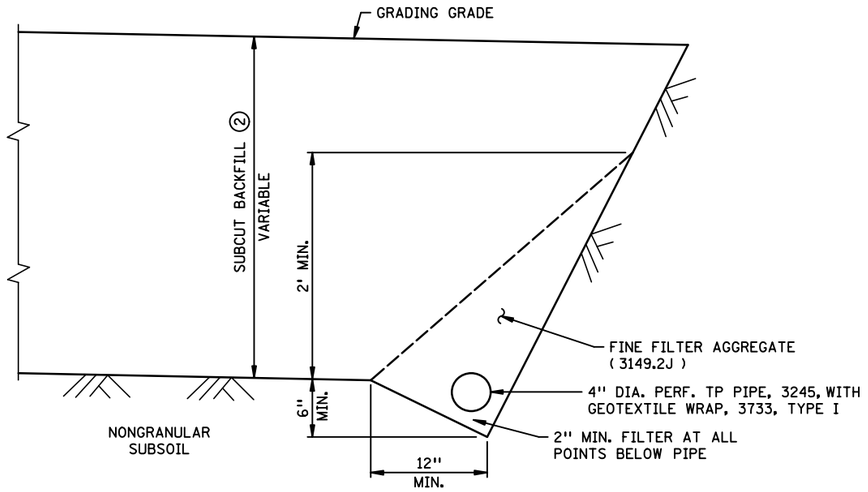
STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL
CULVERT END CONTROLS

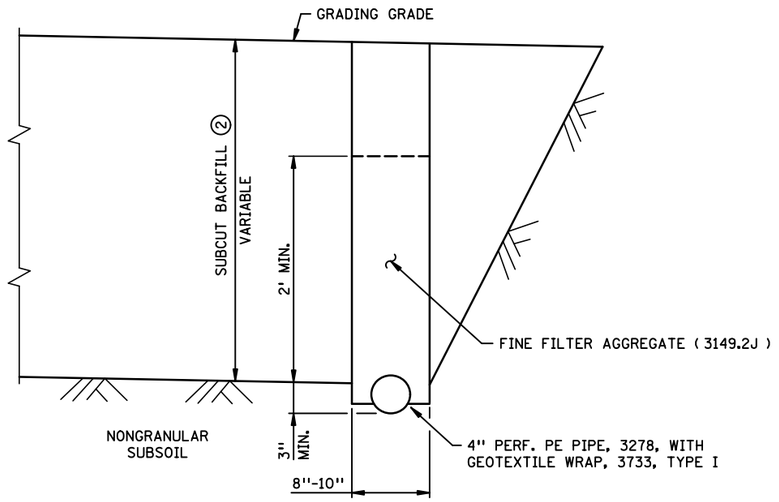
STANDARD PLAN 5-297.405 | 8 OF 8

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 78 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:00
DISTRICT ": 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Standard Plans/s405_8_spa.dgn



TYPICAL SECTION (OPTION NO. 1) ①



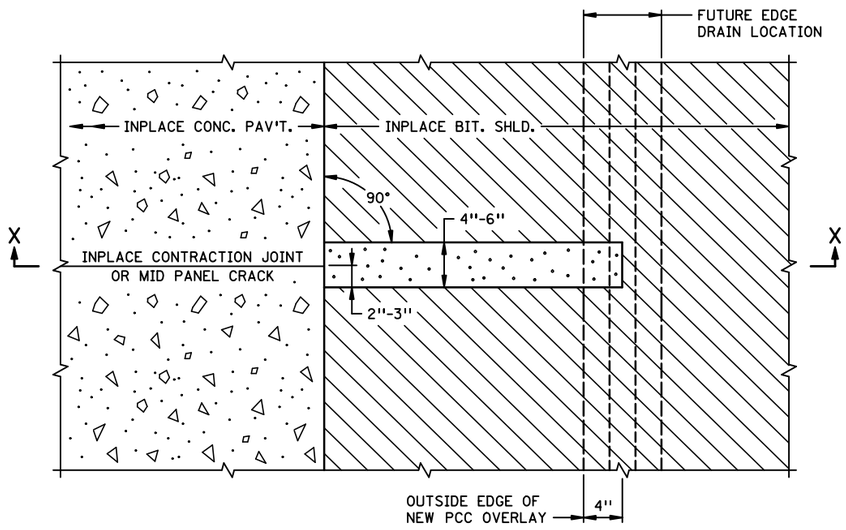
TYPICAL SECTION (OPTION NO. 2) ①

SUBSURFACE DRAIN, SUBCUT DRAIN TYPE

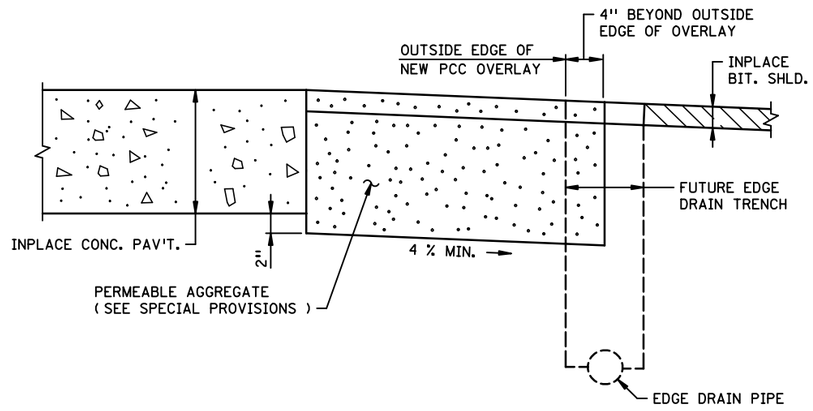
NOTES:

① MAY NEED TO BE MODIFIED FOR SPECIFIC PROJECTS. SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS. OPTION NO. 2 MAY ONLY BE USED WHEN PIPE IS TO BE PLACED BY MACHINE TRENCHER.

② GRANULAR, SELECT GRANULAR OR SELECT GRANULAR MODIFIED. (AS SHOWN IN DESIGN RECOMMENDATION LETTER).



PLAN VIEW



SECTION X-X

INTERCEPTOR DRAIN DETAIL ①

NOTE:

① SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

REVISION:
APPROVED: 8-6-2014
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

REVISED:

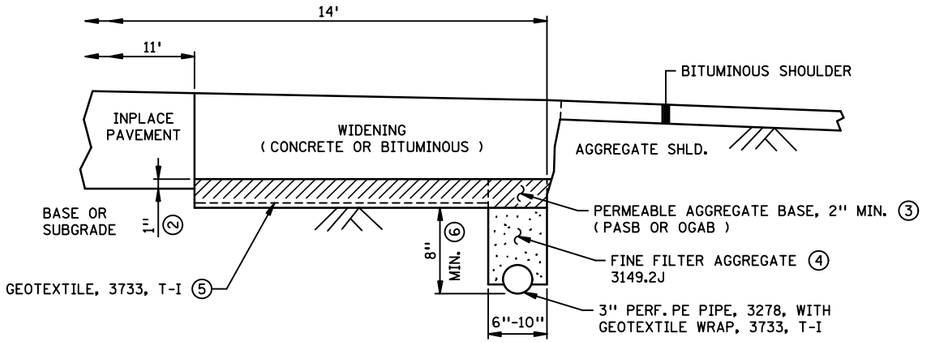
APPROVED: 8-6-2014

STATE DESIGN ENGINEER

SUBSURFACE DRAINS

STANDARD PLAN 5-297.430 | 1 OF 1

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 79 OF 152 SHEETS



SUBSURFACE DRAIN, WIDENED PAVEMENT DESIGN WITH PAVEMENT EDGE DRAIN (1)

NOTES:

(1) SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

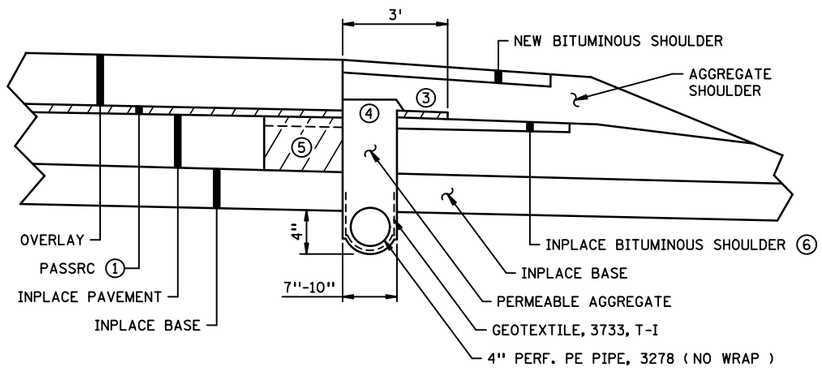
(2) PERMEABLE BASE SHOULD OVERLAP PAVEMENT MAXIMUM AMOUNT PERMITTED BY STRUCTURAL DESIGN, BUT BOTTOM SHOULD NOT BE ABOVE THE BOTTOM OF INPLACE PAVEMENT.

(3) AS REQUIRED BY DESIGN STANDARDS.
PASB - PERMEABLE ASPHALT STABILIZED BASE.
OGAB - OPEN GRADED AGGREGATE BASE.
PAB - OPTION

(4) DRAIN SHALL BE PAVEMENT EDGE DRAIN TYPE. AFTER COMPACTION, FINE FILTER AGGREGATE IN DRAIN SHALL EXTEND AT LEAST 4" ABOVE THE BOTTOM OF THE FUTURE PERMEABLE AGGREGATE BASE.

(5) GEOTEXTILE MAY BE DELETED IF CLASS 5 OR 6 BASE EXISTS INPLACE UNDER PERMEABLE BASE.

(6) IF CLASS 5 OR 6 BASE IS INPLACE BELOW THE PAB, BOTTOM OF PIPE SHOULD BE A MINIMUM OF 3" BELOW BASE/SUBGRADE INTERFACE OR A MINIMUM OF 8", WHICHEVER IS DEEPER.



SUBSURFACE DRAIN, PERMEABLE BASE & DRAIN USED WITH PASSRC (1)(2)

NOTES:

(1) PASSRC - PERMEABLE ASPHALT STABILIZED STRESS RELIEF COURSE.

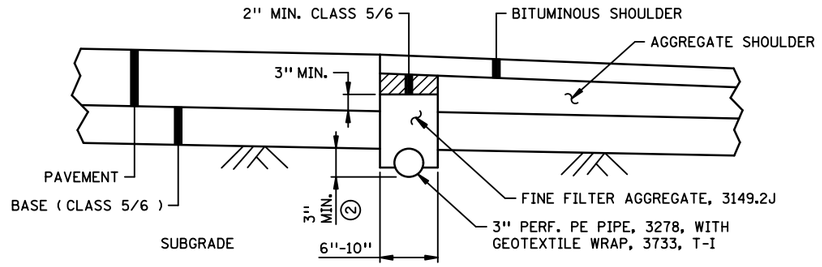
(2) SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

(3) WIDTH AS NEEDED TO SUPPORT PAVER TRACK.

(4) PERMEABLE AGGREGATE TO BE HEAPED 2" ABOVE TOP OF PASSRC AFTER COMPACTION.

(5) INTERCEPTOR DRAINS TYPICALLY USED AT THIS LOCATION. SEE DETAIL & SPECIAL PROVISIONS IF APPLICABLE.

(6) IF THE BITUMINOUS SHOULDER REMAINS INPLACE, THE PASSRC AND SHOULDER CAN BE REMOVED BY MILLING, TRENCHING, OR OTHER METHOD, PROVIDED THE REMAINING BITUMINOUS SHOULDER IS NOT DISTURBED/DISPLACED.

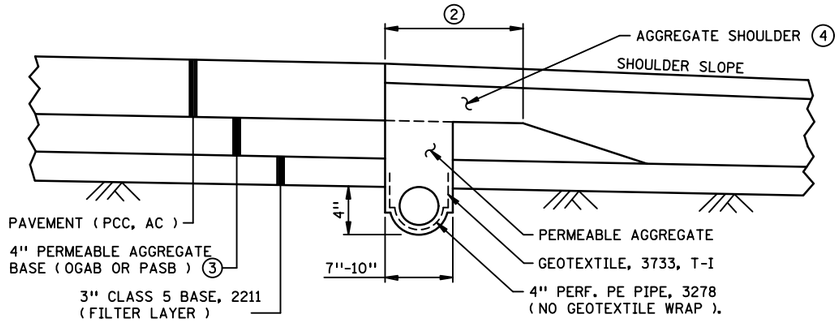


SUBSURFACE DRAIN, PAVEMENT EDGE DRAIN TYPE (1)

NOTES:

(1) SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

(2) DESIGN FOR 15" COVER FROM TOP OF PIPE TO TOP OF SHOULDER (12" MINIMUM).



SUBSURFACE DRAIN, PERMEABLE AGGREGATE BASE TYPE (1)

(RIGHT SIDE OF ROADWAY SHOWN)

NOTES:

(1) SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS. TYPICAL SECTION SHOWN IS FOR PERMEABLE ASPHALT STABILIZED BASE (PASB). DRAIN TRENCH FOR OPEN GRADED AGGREGATE BASE (OGAB) IS MOVED 6" AWAY FROM THE PAVEMENT EDGE.

(2) USE 36" FOR EITHER PASB OR OGAB UNDER PCC PAVEMENT.
USE 12" FOR PASB UNDER AC PAVEMENT.

(3) OGAB - OPEN GRADED AGGREGATE BASE.
PASB - PERMEABLE ASPHALT STABILIZED BASE.
USE PASB WITH AC PAVEMENTS.
USE PASB OR OGAB WITH PCC PAVEMENTS.

(4) CLASS 3, 5 OR 6, AS SPECIFIED

REVISION:
APPROVED: 8-6-2014
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

STATE DESIGN ENGINEER

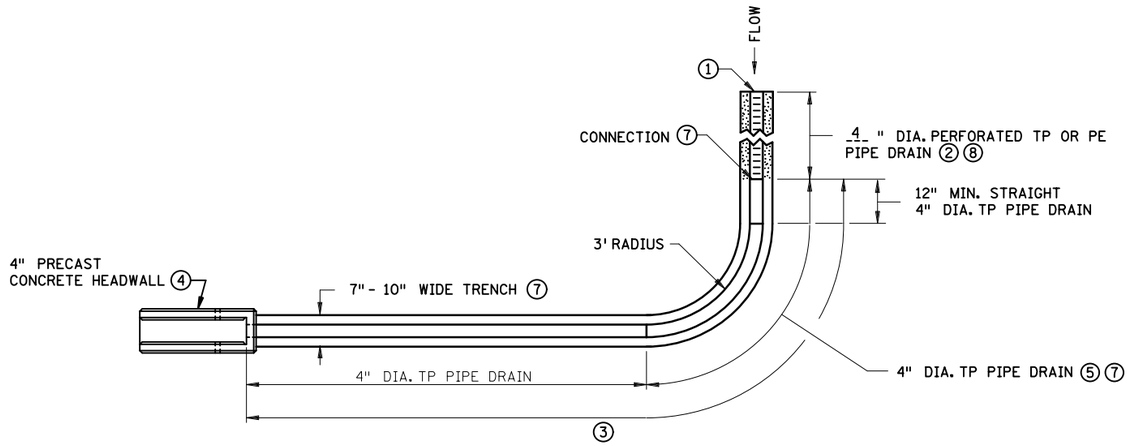
REVISED:

APPROVED: 8-6-2014

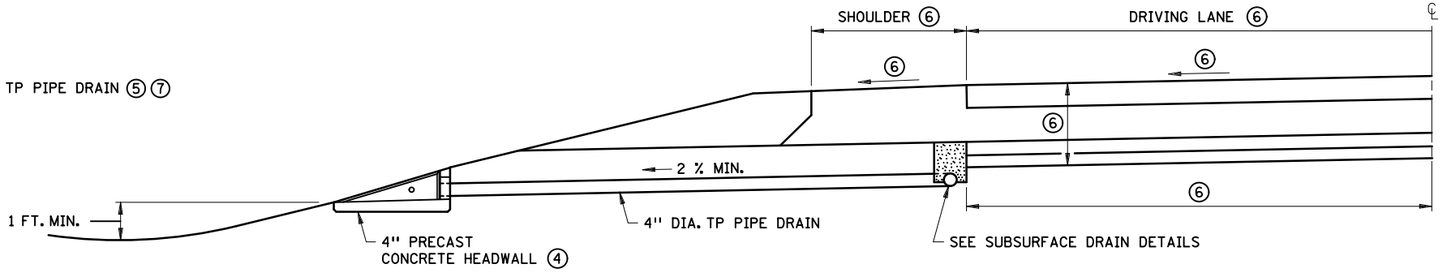
SUBSURFACE DRAINS

STANDARD PLAN 5-297.432 | 1 OF 1

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 80 OF 152 SHEETS

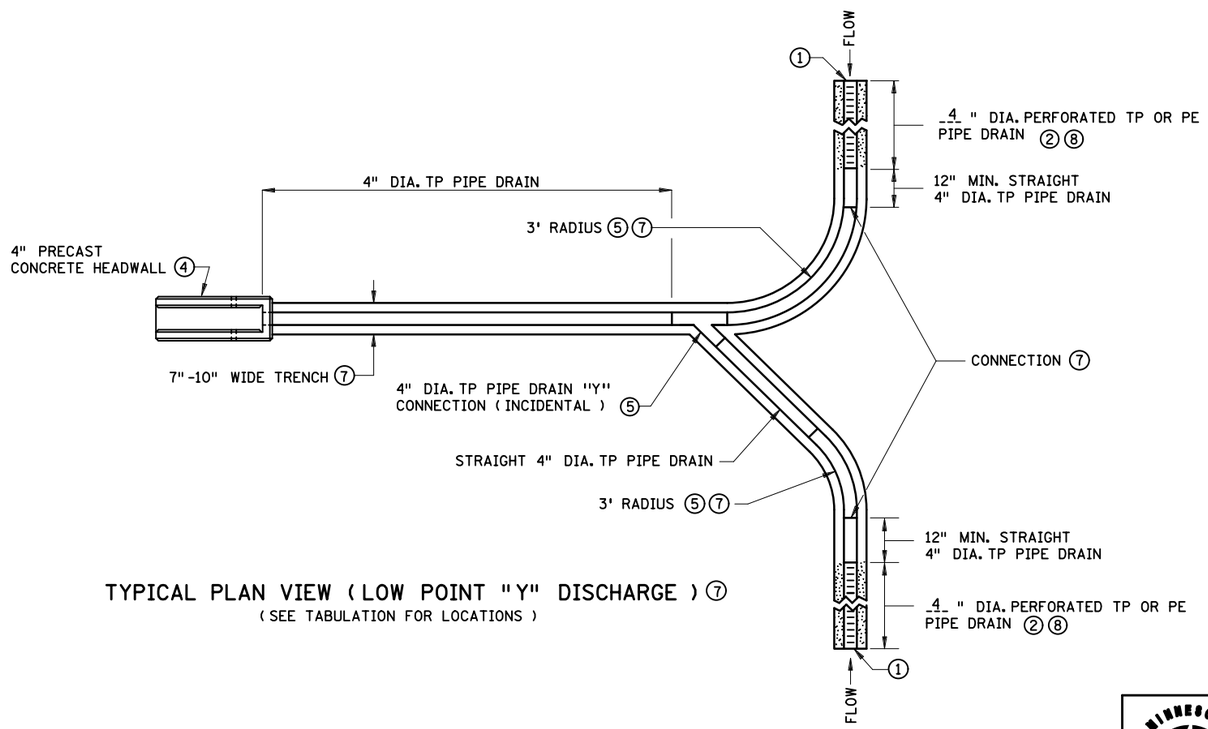


TYPICAL PLAN VIEW (SINGLE DISCHARGE) 7
(SEE TABULATION FOR LOCATIONS)



SECTION VIEW

TYPICAL EDGE DRAIN AND DISCHARGE CROSS SECTION 7
(SEE TABULATION FOR LOCATIONS)



TYPICAL PLAN VIEW (LOW POINT "Y" DISCHARGE) 7
(SEE TABULATION FOR LOCATIONS)

NOTES:

1. THE UPSTREAM ENDS OF THE PERFORATED PIPE SHALL BE CAPPED AS APPROVED BY THE PROJECT ENGINEER, THE CAPS ARE INCIDENTAL. PLACE PERFORATED PIPE WITH THE PERFORATIONS DOWN.
2. MAXIMUM LENGTH 500 FT., EXCEPT 300 FT. MAXIMUM FOR GRADES LESS THAN 0.2% . LENGTH INCLUDED AND PAID FOR AS SPEC. 2502, 4 INCH PERFORATED TP OR PE PIPE DRAIN.
3. LENGTH INCLUDED AND PAID FOR AS SPEC. 2502, 4 INCH DIA. TP PIPE DRAIN.
4. PRECAST CONCRETE HEADWALL STANDARD PLATE 3131 PAID FOR AS SPEC. 2502, 4 INCH PRECAST CONCRETE HEADWALL.
5. DETAILS OF CONNECTION AND COUPLING TO PIPE SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR " Y " AND EXTRA CONNECTION, 11 INCH TP PIPE AND COUPLING TO BE INCIDENTAL.
6. SEE ROADWAY TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
7. SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.
8. 3 INCH OR 4 INCH DIAMETER.

REVISION:
APPROVED: 8-6-2014
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

REVISED:
APPROVED: 8-6-2014
STATE DESIGN ENGINEER

SUBSURFACE DRAINS
OUTLET PIPES FOR EDGE AND SUBCUT DRAINS

STANDARD PLAN 5-297.433 | 1 OF 1

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 81 OF 152 SHEETS

SOO LINE / CANADIAN PACIFIC (DME) R.R.

T.H. 14/MAIN ST.

BEGIN TYPICAL SECTION 1

80

1085

BEGIN SP 0803-38
STA 1082+77
BEGIN MILL

DEL MONTE
R.R. SPUR

N

LEGEND

MILL
BITUMINOUS
SURFACE (2.0")

INPLACE RIGHT OF WAY
R/R R/W

50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 82 OF 152 SHEETS

SOO LINE / CANADIAN PACIFIC (DME) R.R.

CR 33

T.H. 14/MAIN ST.

1090

CENTERPOINT ENERGY GAS XING
3" PE, 50-85 PSI

P-BUR

T-BUR
SLEEPY EYE
PUBLIC UTILITIES

UMH

9TH AVE S.W.

DEL MONTE
R.R. SPUR

LEGEND

MILL
BITUMINOUS
SURFACE (2.0")

INPLACE RIGHT OF WAY
RAILROAD RIGHT OF WAY

N

50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 83 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:00

CR 33

SOO LINE / CANADIAN PACIFIC (DME) R.R.

T.H. 14/MAIN ST.

END TYPICAL SECTION 1
BEGIN TYPICAL SECTION 2

1095

1100

CENTERPOINT ENERGY GAS
3" STEEL, 50-65 PSI

P-BUR

SLEEPY EYE PUBLIC UTILITIES

T-BUR

SLEEPY EYE PUBLIC UTILITIES

36" STM CULV. INP.

24" RCP STM INP.

15" RCP STM INP.

24" HDPE STM INP.
W. APRON

UMH

MEDIACOM

9TH AVE S.W.

8TH AVE S.W.

LEGEND

MILL BITUMINOUS SURFACE (2.0")

MILL BITUMINOUS SURFACE (1.0")

MILL CONC. TAPER

INPLACE RIGHT OF WAY

RAILROAD RIGHT OF WAY

50'

SCALE IN FEET

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/DZ_MK0/014/0803/038/Design/PlanSheets/Removal Plan/d080338_rem13.dgn

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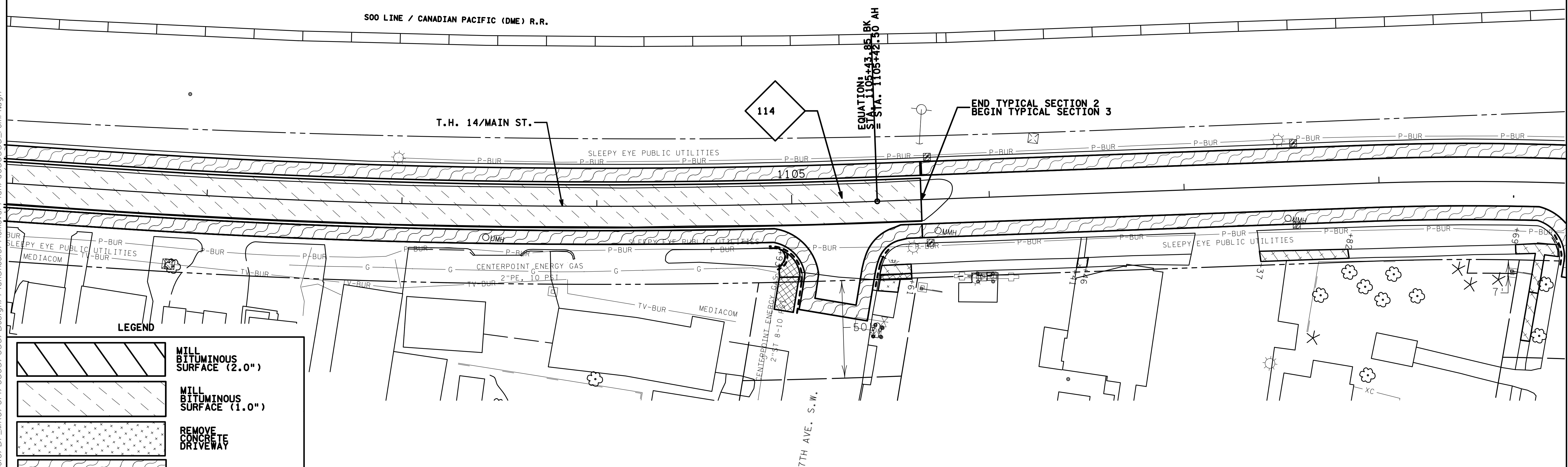
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 84 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:00



LEGEND

(hatch)	MILL BITUMINOUS SURFACE (2.0")
(hatch)	MILL BITUMINOUS SURFACE (1.0")
(hatch)	REMOVE CONCRETE DRIVEWAY
(hatch)	MILL CONC. TAPER
(hatch)	REMOVE CONCRETE WALK
(hatch)	REMOVE BITUMINOUS PAVEMENT

- - - - - - REMOVE CURB, GUTTER, & CONC. PAV'T
INPLACE RIGHT OF WAY
RAILROAD RIGHT OF WAY
TEMPORARY EASEMENT, TEMPORARY TAKE OVER

REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

50'
SCALE IN FEET

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Removal Plan/d080338_rem14.dgn

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LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

SOO LINE / CANADIAN PACIFIC (DME) R.R.

REMOVE CONC. PAVEMENT

J.H. 14/MAIN ST.

SLEEPY EYE PUBLIC UTILITIES

CENTERPOINT ENERGY GAS
4" ST, 10 PSI

REMOVE BIT. PAVEMENT
(INPLACE PATCH AREA)

6TH AVE. S.W.

5TH AVE. S.W.

LEGEND

- MILL CONCRETE TAPER
- REMOVE CONCRETE DRIVEWAY
- REMOVE CONCRETE WALK
- REMOVE BITUMINOUS PAVEMENT
- INPLACE RIGHT OF WAY
- RAILROAD RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER
- REMOVE CURB, GUTTER, & CONC. PAV'T
- REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

N

50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 86 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:01

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Removal Plan/d0803338_rem16.dgn

REMOVE CONC. PAVEMENT
T.H. 14/MAIN ST.

END TYPICAL SECTION 3
BEGIN TYPICAL SECTION 4

SEE SIGNAL PLAN FOR INFORMATION

END S.P. 0803-38
BEGIN S.P. 0804-114

EQUATION:
STA. 1121+08.56 BK =
STA. 1128+01.70 AH

ABANDONED GAS STATION

SLEEPY EYE PUBLIC UTILITIES

CENTERPOINT ENERGY GAS
4" S.T., 10 PSI

LEGEND

- MILL CONCRETE TAPER
- REMOVE CONCRETE DRIVEWAY
- REMOVE CONCRETE WALK
- REMOVE CURB, GUTTER, & CONC. PAV'T
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER
- NEW RIGHT OF WAY
- REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

50'
SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 87 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:01
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
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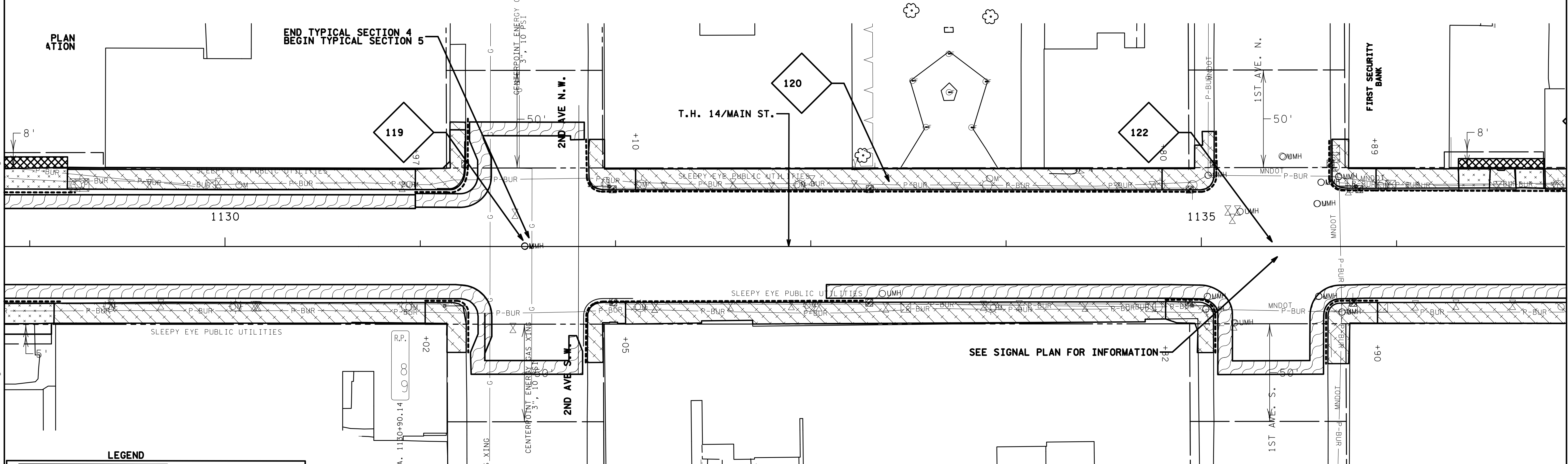


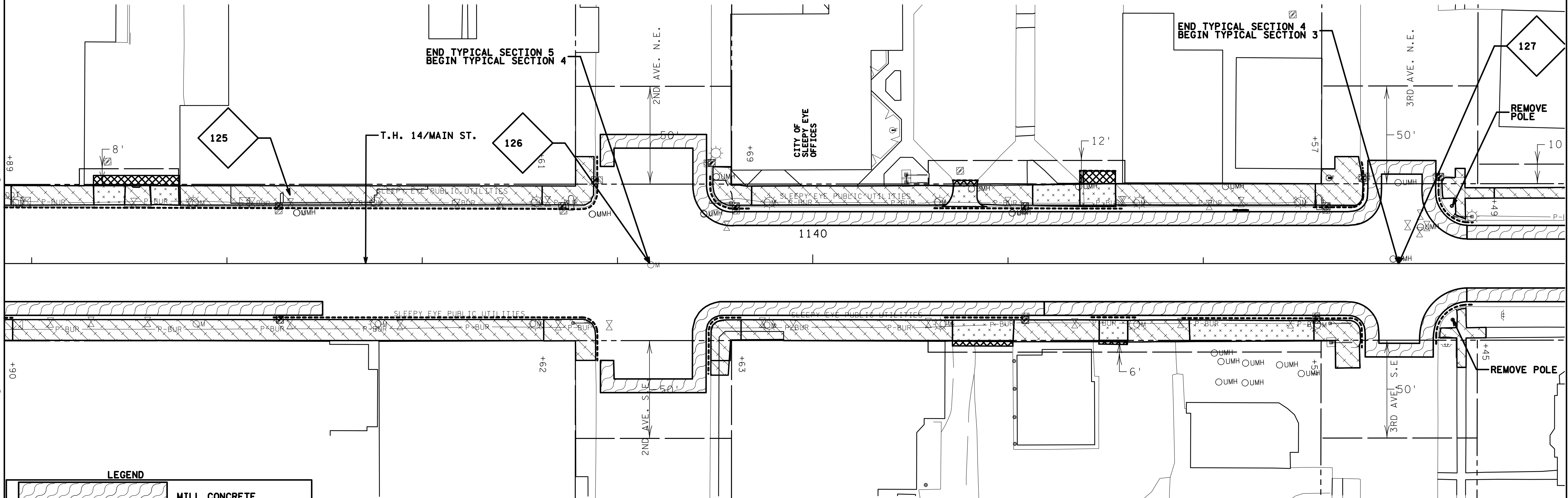
LEGEND

- MILL CONCRETE TAPER
- REMOVE CONCRETE WALK
- REMOVE CONCRETE DRIVEWAY
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CURB, GUTTER, & CONC. PAV'T
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER
- REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

50'
SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN



LEGEND

- MILL CONCRETE TAPER
- REMOVE CONCRETE DRIVEWAY
- REMOVE CONCRETE WALK
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CURB, GUTTER, & CONC. PAV'T
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER
- REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

50'

SCALE IN FEET

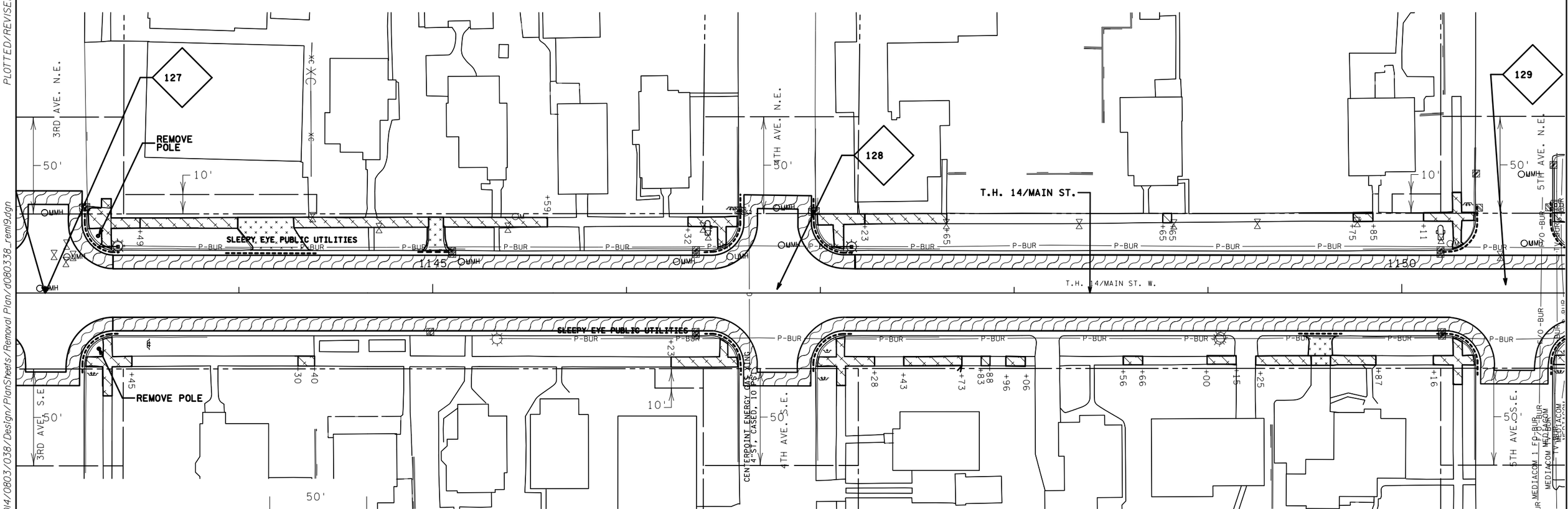
PLOTTED/REVISED: 14-NOV-2017 16:01

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Removal Plan/d080338_rem18.dgn

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 89 OF 152 SHEETS



LEGEND

- MILL CONCRETE TAPER
- REMOVE CONCRETE DRIVEWAY
- REMOVE CONCRETE WALK
- REMOVE CURB, GUTTER, & CONC. PAV'T
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER
- REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 90 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:01

129

130

5TH AVE. N.E.

6TH AVE. N.E.

6TH AVE. S.E.

1150

1155

SLEEPY EYE PUBLIC UTILITIES

CENTERPOINT ENERGY GAS
4"TR, 50-55 PSI

CENTERPOINT ENERGY GAS
2"PE, 10 PSI

EQUATION:
STA. 1154+55.22 BK
= STA. 1154+57.92 AH

50'

SCALE IN FEET

LEGEND

- MILL CONCRETE TAPER
- REMOVE CONCRETE DRIVEWAY
- REMOVE CONCRETE WALK
- REMOVE CURB, GUTTER, & CONC. PAV'T
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER
- REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 91 OF 152 SHEETS

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Removal Plan/d0803038_remlO.dgn

7TH AVE. N.E.

CENTERPOINT ENERGY GAS 4"TR, 50-55 PSI

50'

131

132

SAWCUT BIT. PAVEMENT (FULL DEPTH)

END TYPICAL SECTION 6
BEGIN TYPICAL SECTION 7

25'

20'

15'

10'

1160

CENTERPOINT ENERGY GAS 4"TR, 50-55 PSI

CENTERPOINT ENERGY GAS 2"PE, 10 PSI

CENTURYLINK OUT OF SERVICE

END TYPICAL SECTION 3
BEGIN TYPICAL SECTION 6

T.H. 14/MAIN ST.

3'

SALVAGE WOOD POLE

SCALE IN FEET

50'

LEGEND

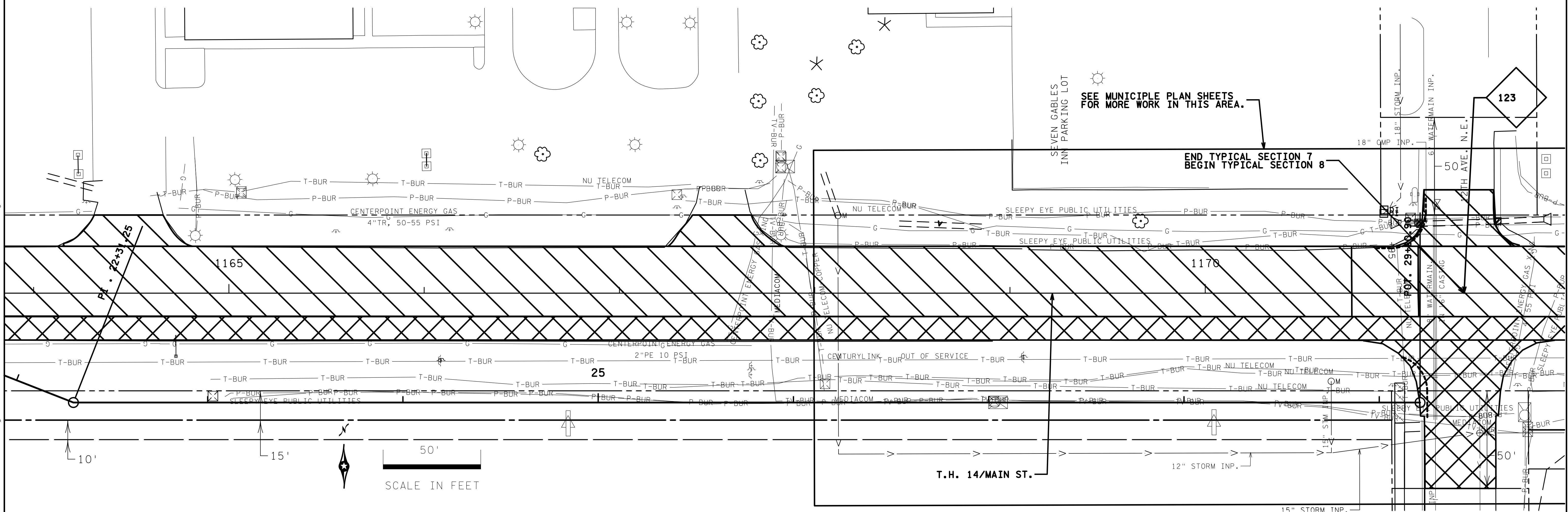
- MILL BITUMINOUS SURFACE (2.0")
- MILL BITUMINOUS SURFACE (1.0")
- MILL CONCRETE TAPER
- REMOVE PAVEMENT
- REM. CONC. DRIVEWAY
- REMOVE CONCRETE WALK
- REMOVE CURB, GUTTER, & CONC. PAV'T
- INPLACE RIGHT OF WAY
- NEW RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER
- REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 92 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:01



LEGEND

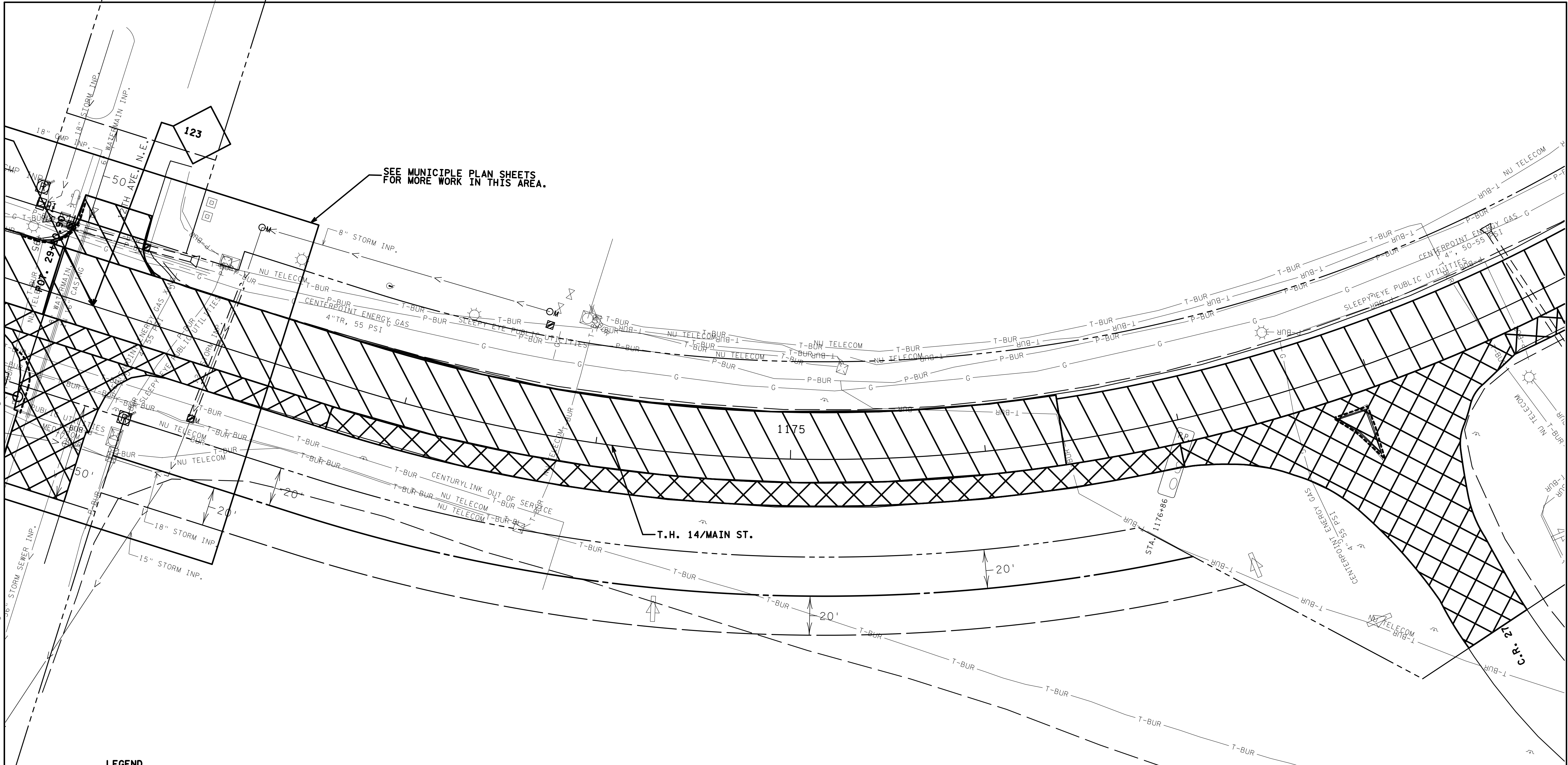
(hatched)	MILL BITUMINOUS SURFACE (2.0")
(cross-hatched)	REMOVE PAVEMENT
	INPLACE RIGHT OF WAY
	NEW RIGHT OF WAY
	TEMPORARY EASEMENT, TEMPORARY TAKE OVER
(diamond)	REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Removal Plan/d080338_reml12.dgn

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 93 OF 152 SHEETS



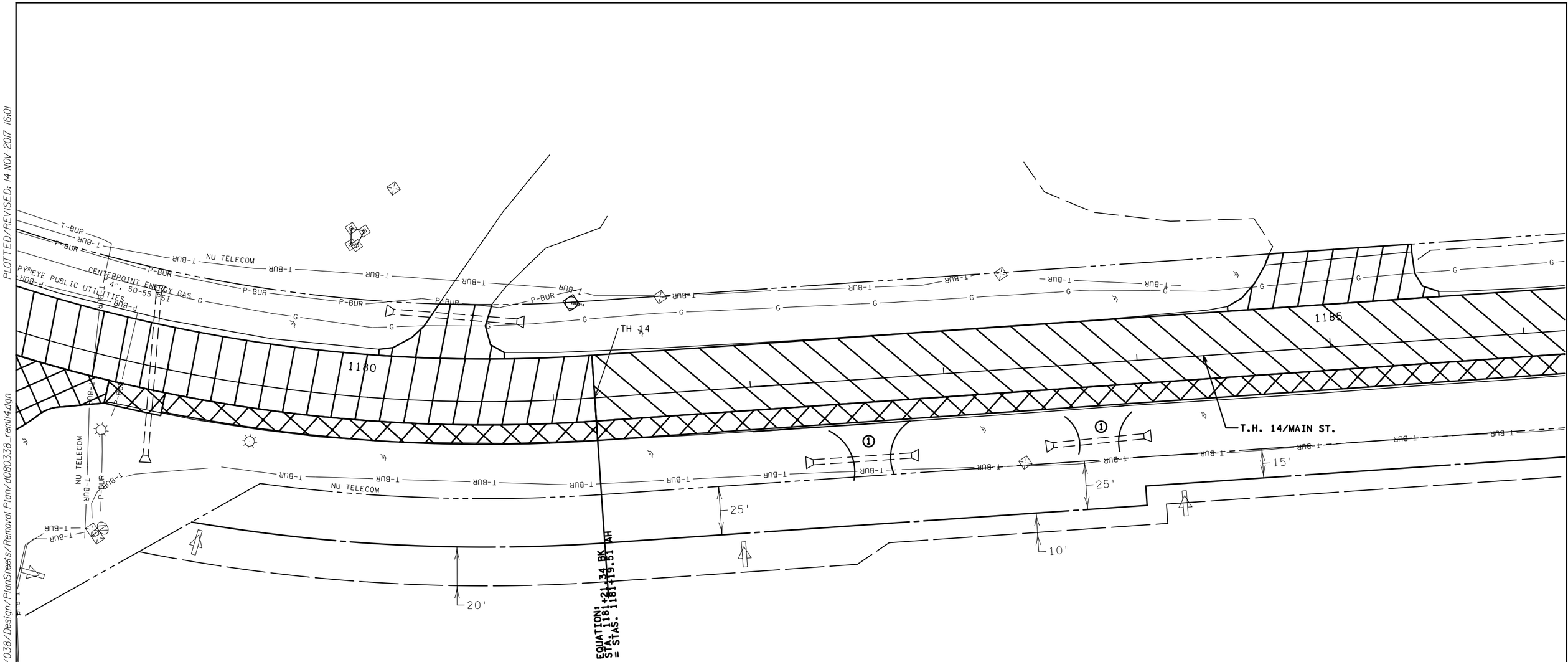
LEGEND

- MILL BITUMINOUS SURFACE (2.0")
- REMOVE PAVEMENT
- INPLACE RIGHT OF WAY
- NEW RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER
- REMOVE CURB, GUTTER, & CONC. PAV'T
- REFER TO ADA PLAN SHEET NUMBER SHOWN FOR ADDITIONAL INFORMATION

50'
SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN



NOTE:

① REMOVE ENTRANCE.

LEGEND

- MILL BITUMINOUS SURFACE (2.0")
- REMOVE PAVEMENT
- INPLACE RIGHT OF WAY
- NEW RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER

50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 95 OF 152 SHEETS

END SP 0804-114
END MILLING STA. 1189+06
END TYPICAL SECTION 8

CENTERPOINT ENERGY GAS
4", 50-55 PSI

1190

TH 14

T.H. 14/MAIN ST.

NU TELECOM

15'

10'

END PAVEMENT REMOVAL STA. 1189+06

LEGEND

- MILL BITUMINOUS SURFACE (2.0")
- REMOVE PAVEMENT
- INPLACE RIGHT OF WAY
- NEW RIGHT OF WAY
- TEMPORARY EASEMENT, TEMPORARY TAKE OVER

50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

REMOVAL PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 96 OF 152 SHEETS

SOO LINE / CANADIAN PACIFIC (DME) R.R.

T.H. 14/MAIN ST.

BEGIN TYPICAL SECTION 1

80

1085

BEGIN SP 0803-38
STA 1082+77
BEGIN OVERLAY

DEL MONTE
R.R. SPUR

LEGEND

BIT. OVERLAY

INPLACE RIGHT OF WAY
RAILROAD RIGHT OF WAY

N

50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 97 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:02

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Const.Plan/d080338_CP02.dgn

SOO LINE / CANADIAN PACIFIC (DME) R.R.

CR 33

T.H. 14/MAIN ST.

1090

9TH AVE S.W.

DEL MONTE
R.R. SPUR

LEGEND

BIT. OVERLAY

INPLACE RIGHT OF WAY
RAILROAD RIGHT OF WAY

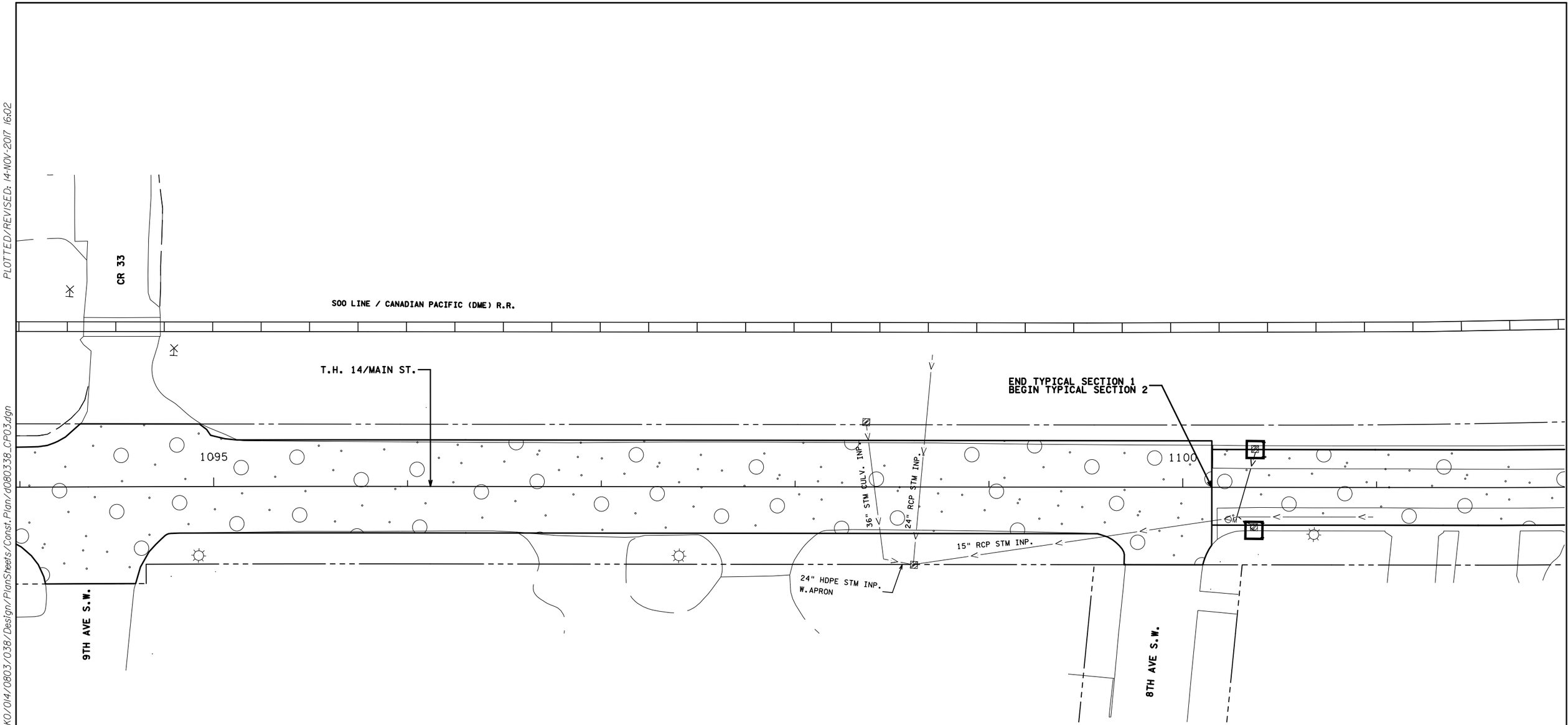
50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 98 OF 152 SHEETS



LEGEND

BIT. OVERLAY

INPLACE RIGHT OF WAY
RAILROAD RIGHT OF WAY

STORM DRAIN INLET PROTECTION

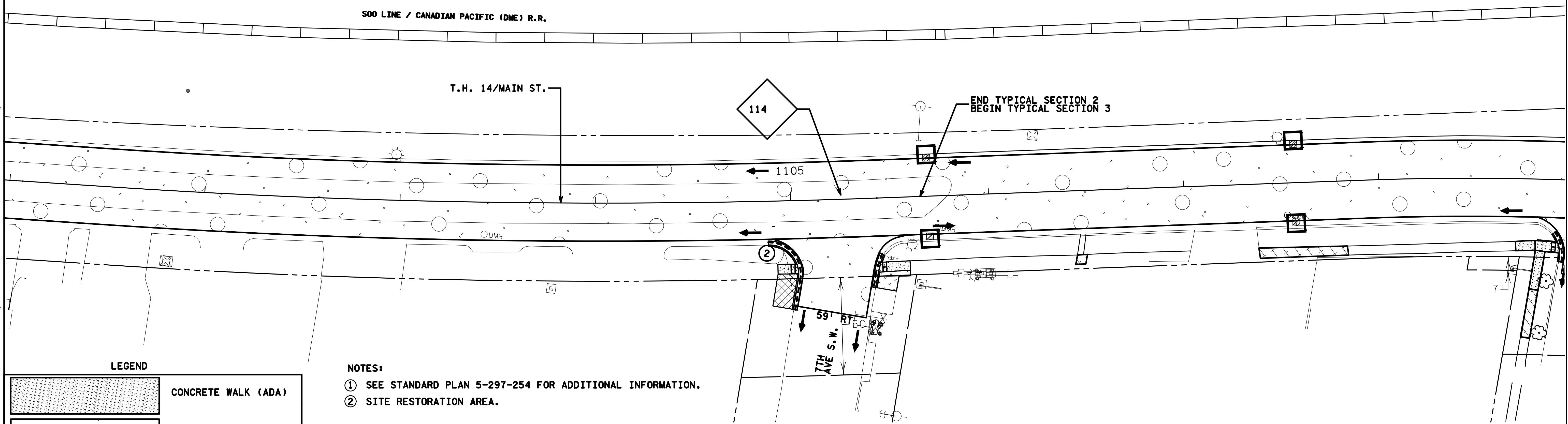
50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 99 OF 152 SHEETS



LEGEND

- CONCRETE WALK (ADA)
- BIT. OVERLAY
- 4" CONCRETE WALK
- TYPE SP 12.5 WEARING COURSE MIXTURE (4,E) (1)
- INPLACE RIGHT OF WAY
- RAILROAD RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- NEW CURB & GUTTER
- REFER TO ADA PLAN SHEET NUMBER SHOWN
- STORM DRAIN INLET PROTECTION

NOTES:

(1) SEE STANDARD PLAN 5-297-254 FOR ADDITIONAL INFORMATION.
(2) SITE RESTORATION AREA.

50'
SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 100 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:02
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Const.Plan/d080338_CP04.dgn

SOO LINE / CANADIAN PACIFIC (DME) R.R.

T.H. 14/MAIN ST.

115

116

11+10

11+15

7'

51' RT

50

6TH AVE S.W.

7'

11'

PLACE CONCRETE PAVEMENT 8.0"

49' RT

50

5TH AVE S.W.

8'

LEGEND

- CONCRETE WALK (ADA)
- BIT. OVERLAY
- CONCRETE DRIVEWAY (1)
- 4" CONCRETE WALK
- INPLACE RIGHT OF WAY
- RAILROAD RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- NEW CURB & GUTTER
- REFER TO ADA PLAN SHEET NUMBER SHOWN
- STORM DRAIN INLET PROTECTION

NOTES:

(1) SEE STANDARD PLAN 5-297.254 FOR ADDITIONAL INFORMATION.
(2) SITE RESTORATION AREA.

N

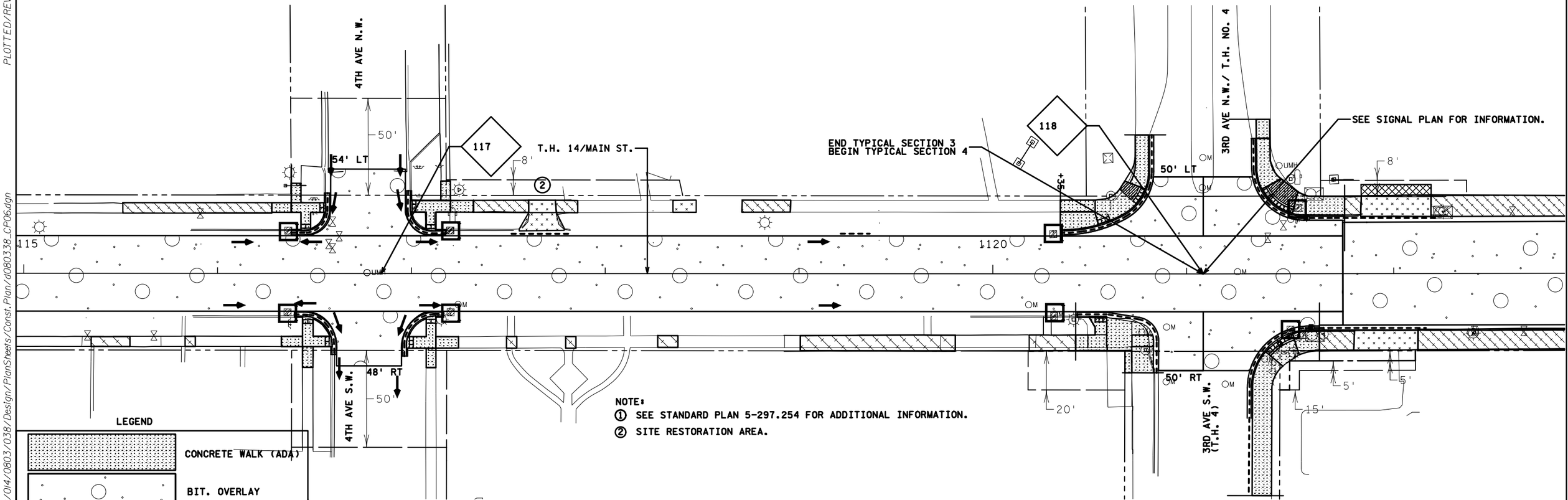
50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 101 OF 152 SHEETS



NOTE:
① SEE STANDARD PLAN 5-297.254 FOR ADDITIONAL INFORMATION.
② SITE RESTORATION AREA.

LEGEND

- CONCRETE WALK (ADA)
- BIT. OVERLAY
- CONCRETE DRIVEWAY ①
- 4" CONCRETE WALK
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- NEW CURB & GUTTER
- REFER TO ADA PLAN SHEET NUMBER SHOWN
- STORM DRAIN INLET PROTECTION

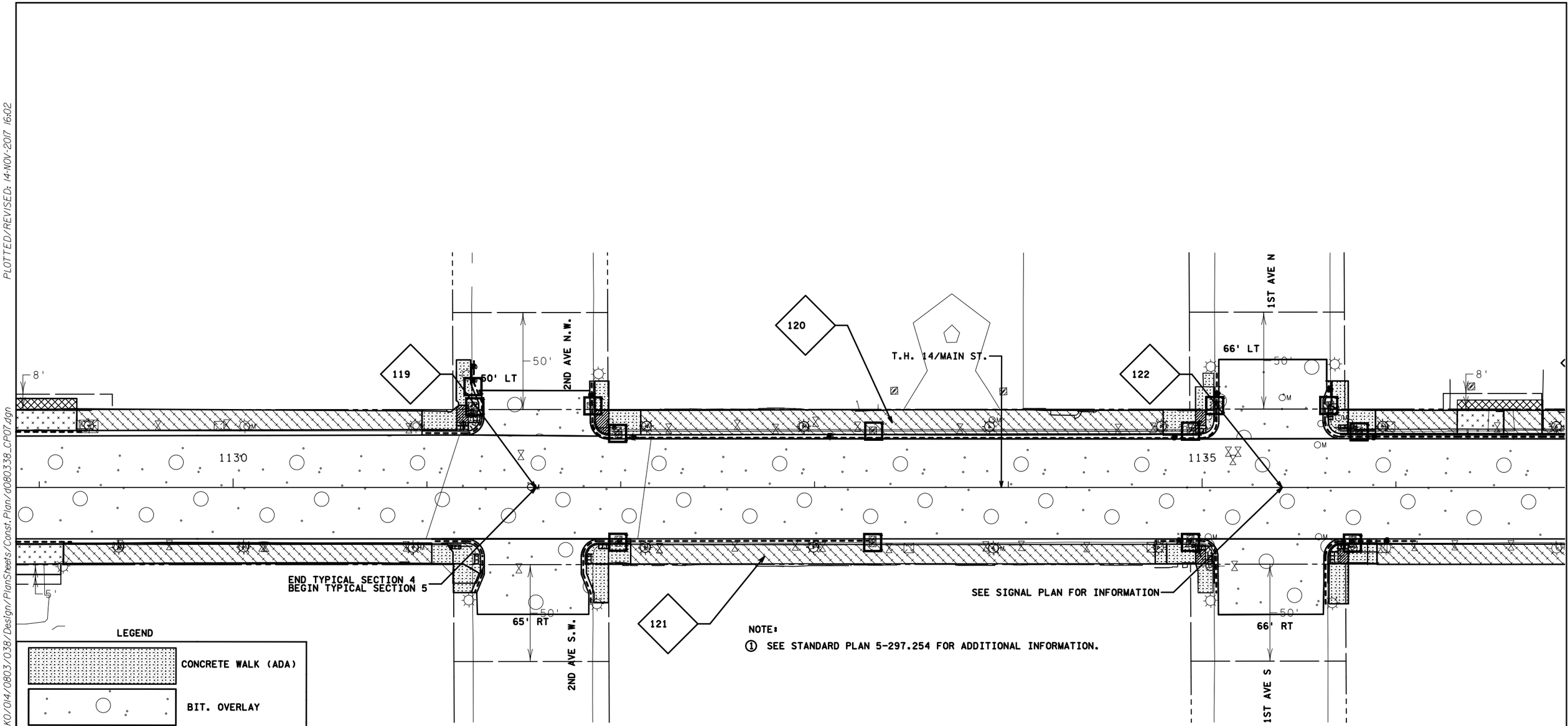
N

50'
SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 102 OF 152 SHEETS



NOTE:

① SEE STANDARD PLAN 5-297.254 FOR ADDITIONAL INFORMATION.

LEGEND

- CONCRETE WALK (ADA)
- BIT. OVERLAY
- 4" CONCRETE WALK
- CONCRETE DRIVEWAY ①
- TYPE SP 12.5 WEARING COURSE MIXTURE (4,E)
- NEW CURB & GUTTER
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- REFER TO ADA PLAN SHEET NUMBER SHOWN
- STORM DRAIN INLET PROTECTION

N

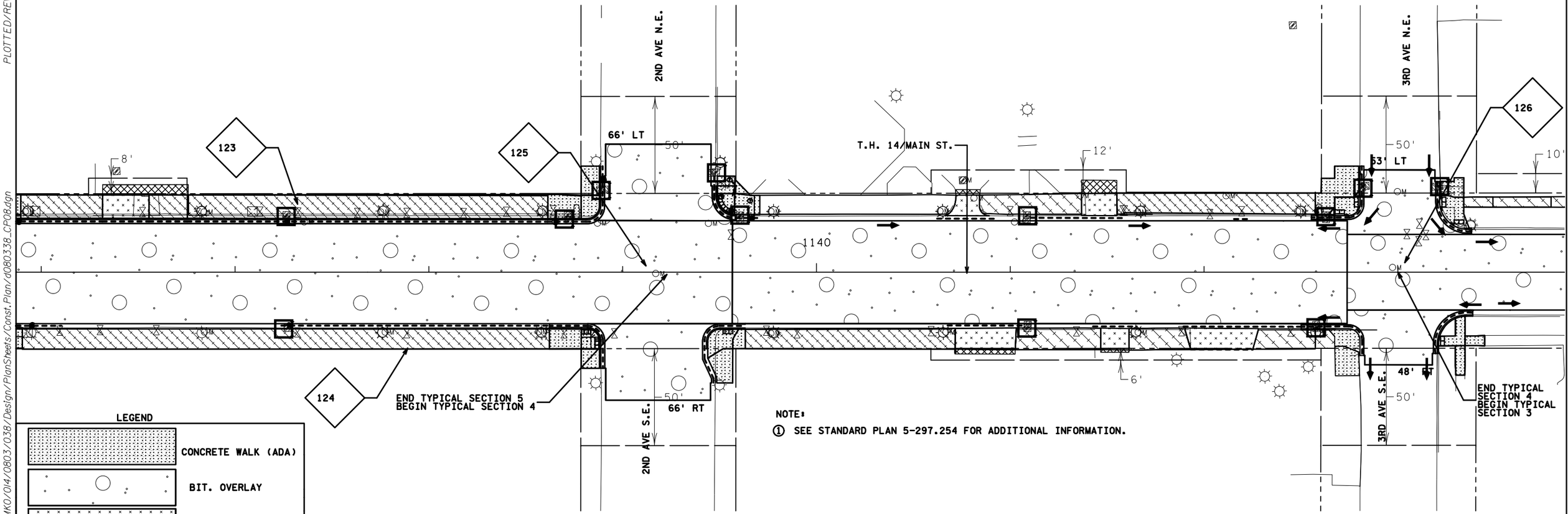
50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 103 OF 152 SHEETS



NOTE:
① SEE STANDARD PLAN 5-297.254 FOR ADDITIONAL INFORMATION.

LEGEND

- CONCRETE WALK (ADA)
- BIT. OVERLAY
- CONCRETE DRIVEWAY ①
- 4" CONCRETE WALK
- TYPE SP 12.5 WEARING COURSE MIXTURE (4,E)
- NEW CURB & GUTTER
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- REFER TO ADA PLAN SHEET NUMBER SHOWN
- STORM DRAIN INLET PROTECTION

N

50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 104 OF 152 SHEETS

3RD AVE N.E.

4TH AVE N.E.

5TH AVE N.E.

126

127

128

63' LT

50' LT

T.H. 14/MAIN ST.

1145

1150

48' RT

48' RT

47' RT

3RD AVE S.E.

4TH AVE S.E.

5TH AVE S.E.

END TYPICAL SECTION 4
BEGIN TYPICAL SECTION 3

LEGEND

- CONCRETE WALK (ADA)
- BIT. OVERLAY
- CONCRETE DRIVEWAY (1)
- 4"CONCRETE WALK
- NEW CURB & GUTTER
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- REFER TO ADA PLAN SHEET NUMBER SHOWN
- STORM DRAIN INLET PROTECTION

NOTE:
(1) SEE STANDARD PLAN 5-297.254 FOR ADDITIONAL INFORMATION.
(2) SITE RESTORATION AREA.

N

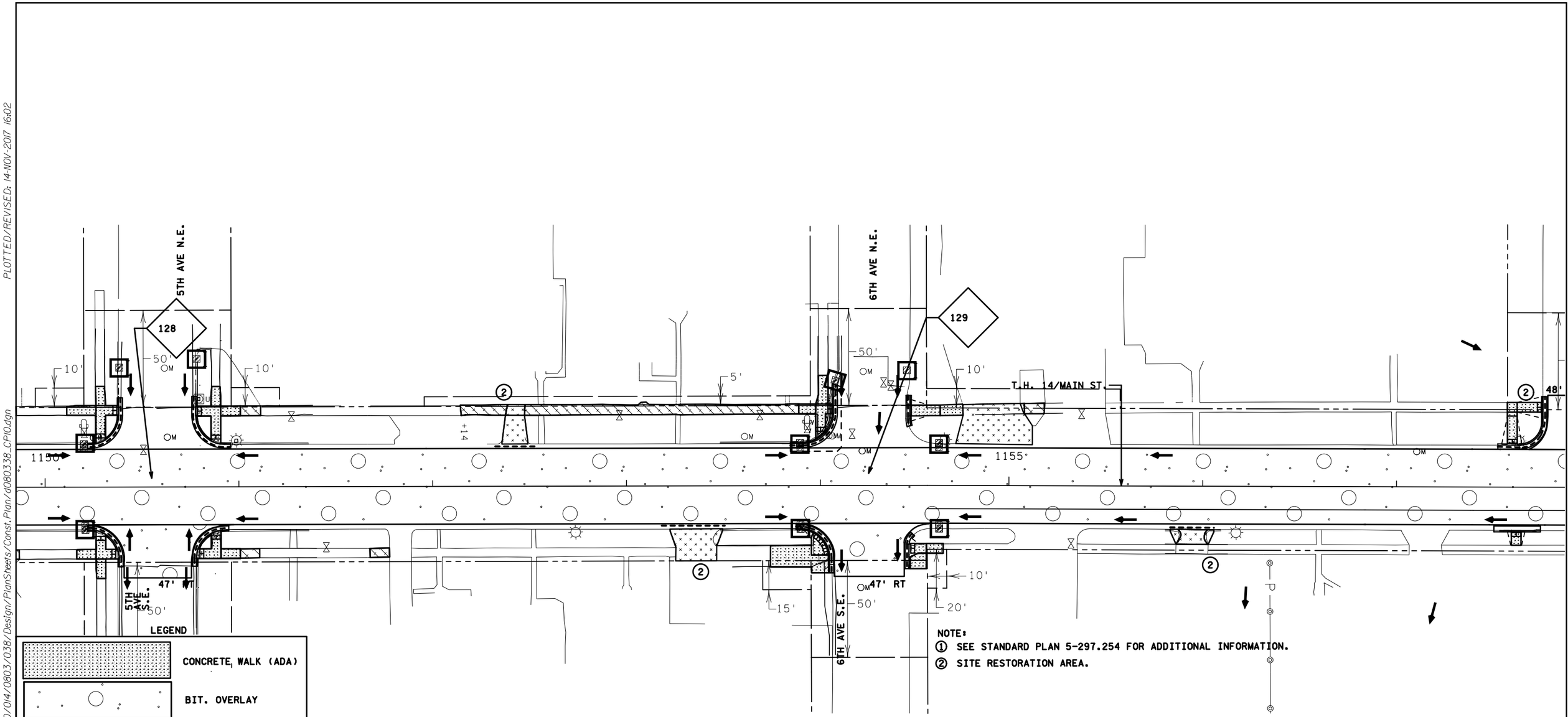
50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 105 OF 152 SHEETS



LEGEND

- CONCRETE WALK (ADA)
- BIT. OVERLAY
- CONCRETE DRIVEWAY (1)
- 4" CONCRETE WALK
- NEW CURB & GUTTER
- INPLACE RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- REFER TO ADA PLAN SHEET NUMBER SHOWN
- STORM DRAIN INLET PROTECTION

50'
SCALE IN FEET

NOTE:
(1) SEE STANDARD PLAN 5-297.254 FOR ADDITIONAL INFORMATION.
(2) SITE RESTORATION AREA.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 106 OF 152 SHEETS

7TH AVE N.E.

7TH AVE. N.E.

130

131

48' LT

T.H. 14/MAIN ST.

10'

END SIDEWALK CONSTRUCTION

BEGIN SIDEWALK CONSTRUCTION

END TYPICAL SECTION 6
BEGIN TYPICAL SECTION 7

INP.
POND

POT. 15+47.92

PI . 20+23.35

PI . 21+66.54

PI . 22+31.25

105'

1160

20'

BEGIN BIT. PAVING

BEGIN NEW SIDEWALK CONSTRUCTION

END TYPICAL SECTION 3
BEGIN TYPICAL SECTION 6

3'

INSTALL WOOD POLE

CONSTRUCT NEW CONCRETE SIDEWALK

15'

LEGEND

- CONCRETE WALK (ADA)
- BIT. OVERLAY
- BIT. PAVING
- CONCRETE DRIVEWAY (1)
- 4" CONCRETE WALK
- NEW CURB & GUTTER
- INPLACE RIGHT OF WAY
- NEW RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- REFER TO ADA PLAN SHEET NUMBER SHOWN
- RAPID STABILIZATION METHOD 4

NOTE:

(1) SEE STANDARD PLAN 5-297.254 FOR ADDITIONAL INFORMATION.

(2) SITE RESTORATION AREA.

N

50'

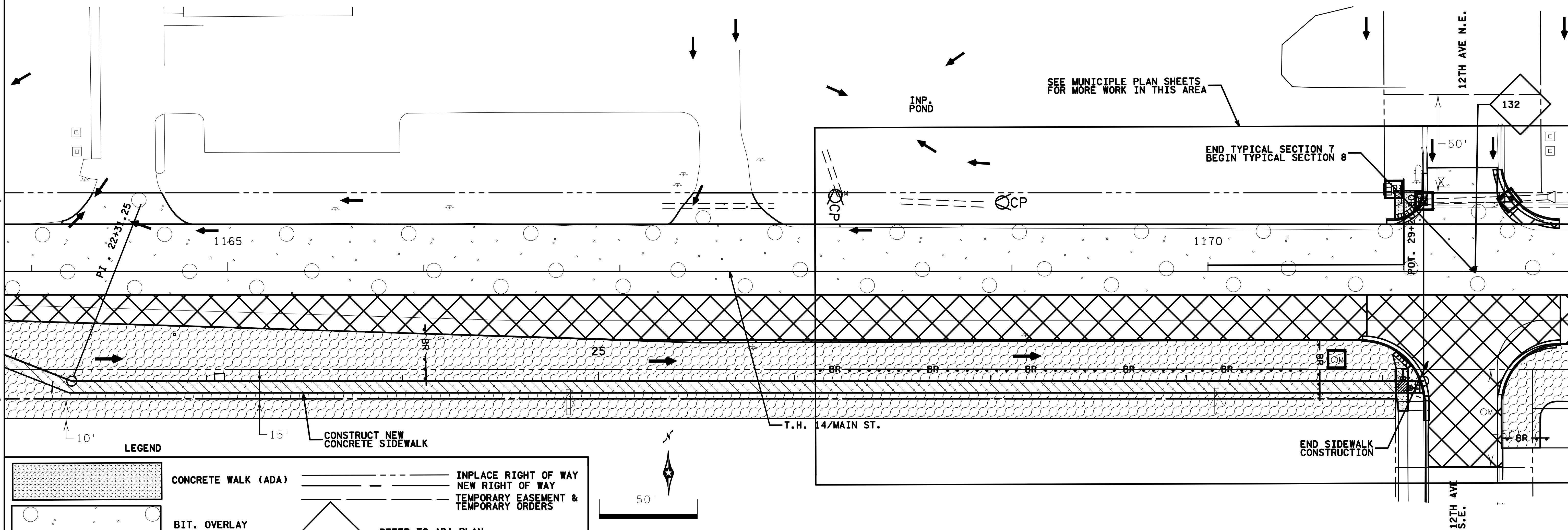
SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 107 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:03



LEGEND

[pattern]	CONCRETE WALK (ADA)	[line]	INPLACE RIGHT OF WAY
[pattern]	BIT. OVERLAY	[line]	NEW RIGHT OF WAY
[pattern]	BIT. PAVING	[line]	TEMPORARY EASEMENT & TEMPORARY ORDERS
[pattern]	4" CONCRETE WALK	[diamond]	REFER TO ADA PLAN SHEET NUMBER SHOWN
		[arrow]	DIRECTION OF FLOW
		BR	SEDIMENT CONTROL LOG TYPE COMPOST
		[square]	STORM DRAIN INLET PROTECTION
		CP	CULVERT END CONTROLS
		[pattern]	RAPID STABILIZATION METHOD 4

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Const.Plan/d080338_CPl2.dgn

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

12TH AVE N.E.

132

8

SEE MUNICIPLE PLAN SHEETS
FOR MORE WORK IN THIS AREA

1175

S.E. 4TH AVE

T.H. 14/MAIN ST.

C.R. 27

MS

BR

CP

LEGEND

- CONCRETE WALK (ADA)
- BIT. OVERLAY
- BIT. PAVING
- INPLACE RIGHT OF WAY
- NEW RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- REFER TO ADA PLAN SHEET NUMBER SHOWN
- DIRECTION OF FLOW
- BR — SEDIMENT CONTROL LOG TYPE COMPOST
- STORM DRAIN INLET PROTECTION
- MS — SILT FENCE, TYPE MS
- CP — CULVERT END CONTROLS
- RAPID STABILIZATION METHOD 4

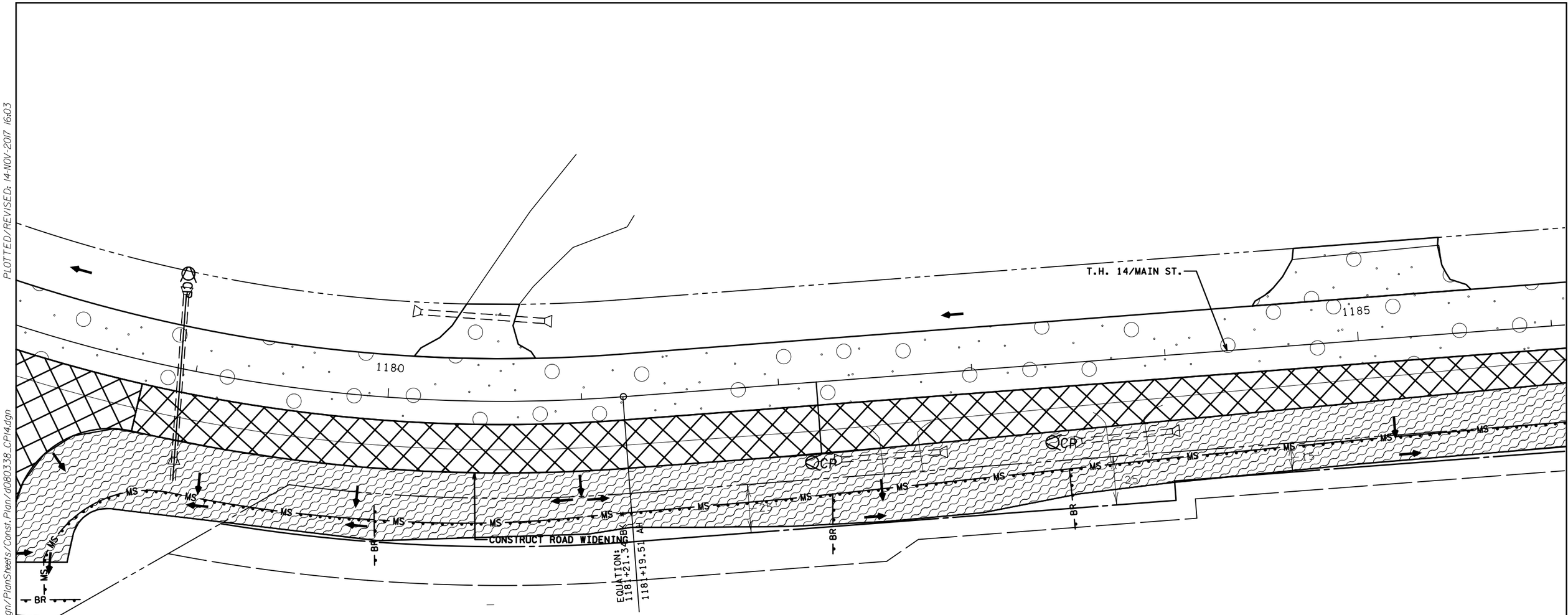
50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 109 OF 152 SHEETS



LEGEND

- BIT. OVERLAY
- BIT. PAVING
- INPLACE RIGHT OF WAY
- NEW RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- DIRECTION OF FLOW
- BR — SEDIMENT CONTROL LOG TYPE COMPOST
- MS — SILT FENCE, TYPE MS
- CP — CULVERT END CONTROLS
- RAPID STABILIZATION METHOD 4

50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 110 OF 152 SHEETS

END S.P., 0804-114
END BIT OVERLAY
STA 1189+06

1190

T.H. 14

MS

BR

LEGEND

- BIT. OVERLAY
- BIT. PAVING
- INPLACE RIGHT OF WAY
- NEW RIGHT OF WAY
- TEMPORARY EASEMENT & TEMPORARY ORDERS
- DIRECTION OF FLOW
- BR — SEDIMENT CONTROL LOG TYPE COMPOST
- MS — SILT FENCE, TYPE MS
- RAPID STABILIZATION METHOD 4

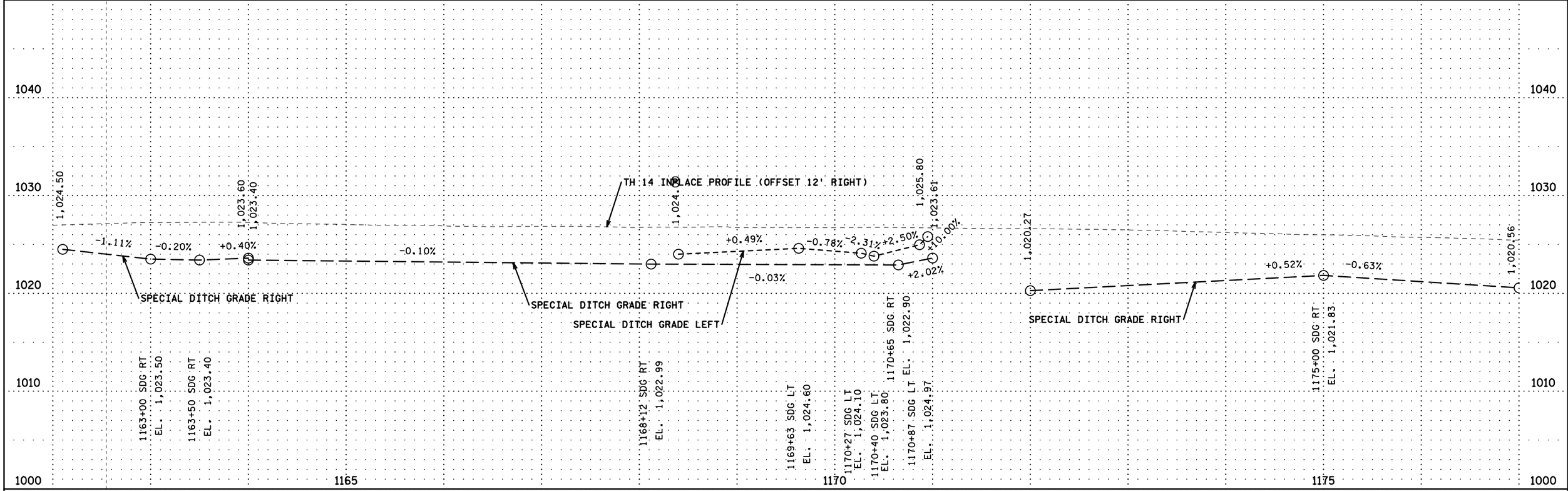
50'

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

CONSTRUCTION PLAN

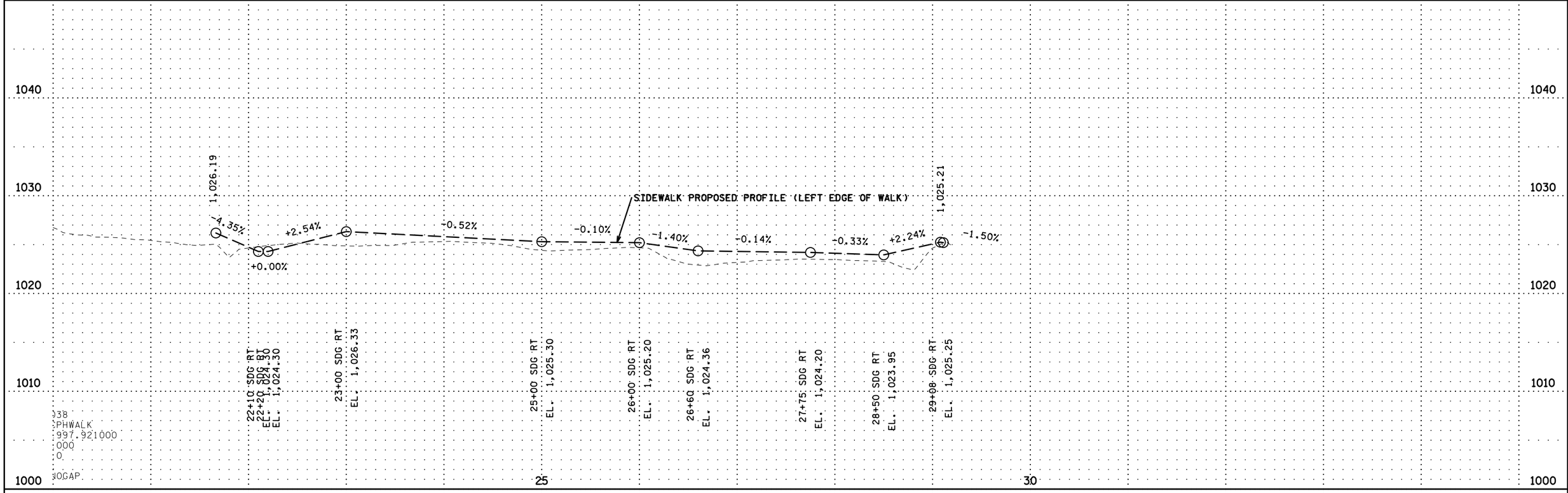
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 111 OF 152 SHEETS



CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PROFILE SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 112 OF152 SHEETS



CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PROFILE SHEET

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 113 OF152 SHEETS

NOTES:

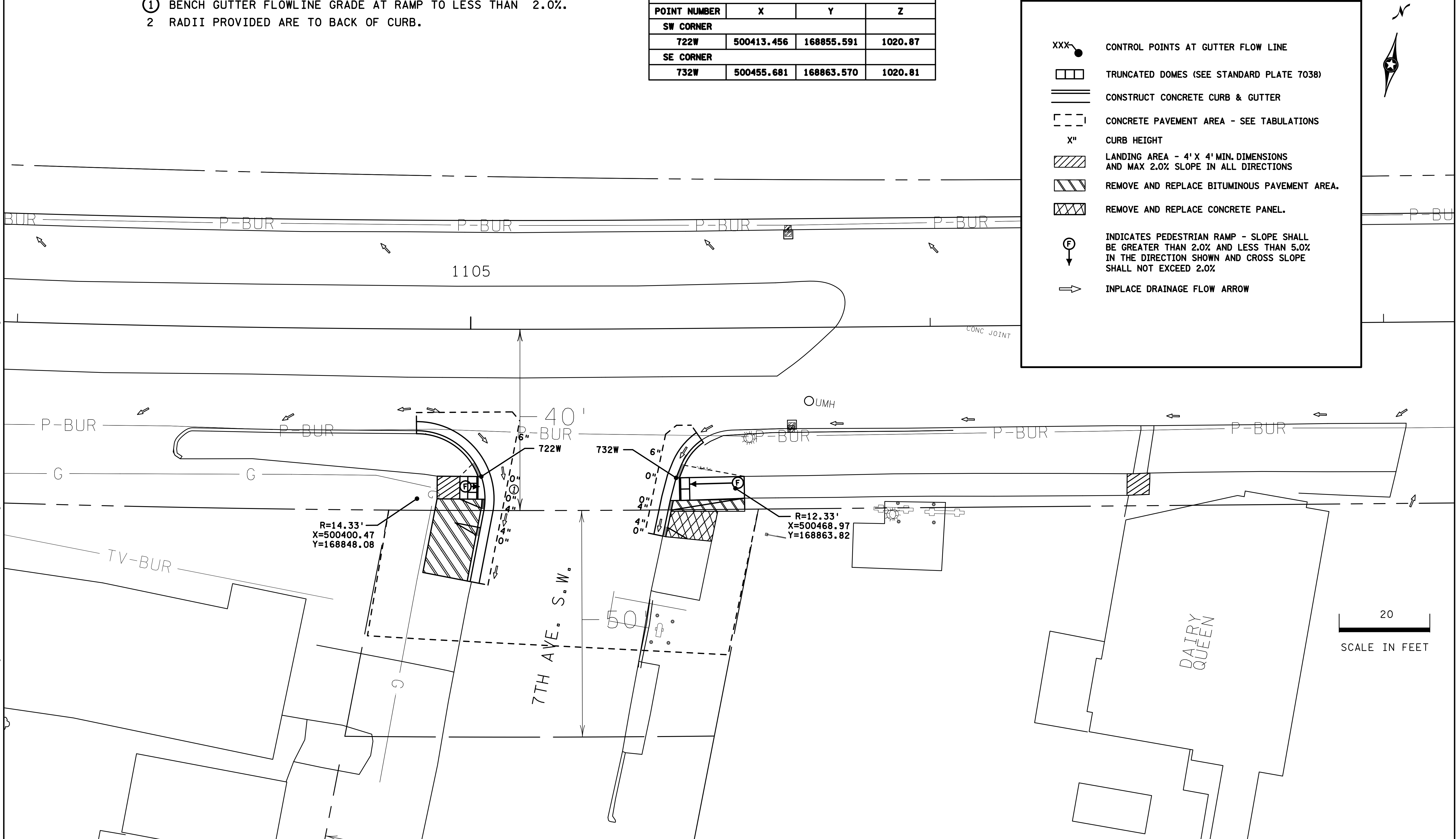
1. BENCH GUTTER FLOWLINE GRADE AT RAMP TO LESS THAN 2.0%.
2. RADII PROVIDED ARE TO BACK OF CURB.

CONTROL POINTS

POINT NUMBER	X	Y	Z
SW CORNER			
722W	500413.456	168855.591	1020.87
SE CORNER			
732W	500455.681	168863.570	1020.81

LEGEND

XXX●	CONTROL POINTS AT GUTTER FLOW LINE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONSTRUCT CONCRETE CURB & GUTTER
	CONCRETE PAVEMENT AREA - SEE TABULATIONS
X"	CURB HEIGHT
	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
	REMOVE AND REPLACE BITUMINOUS PAVEMENT AREA.
	REMOVE AND REPLACE CONCRETE PANEL.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	INPLACE DRAINAGE FLOW ARROW

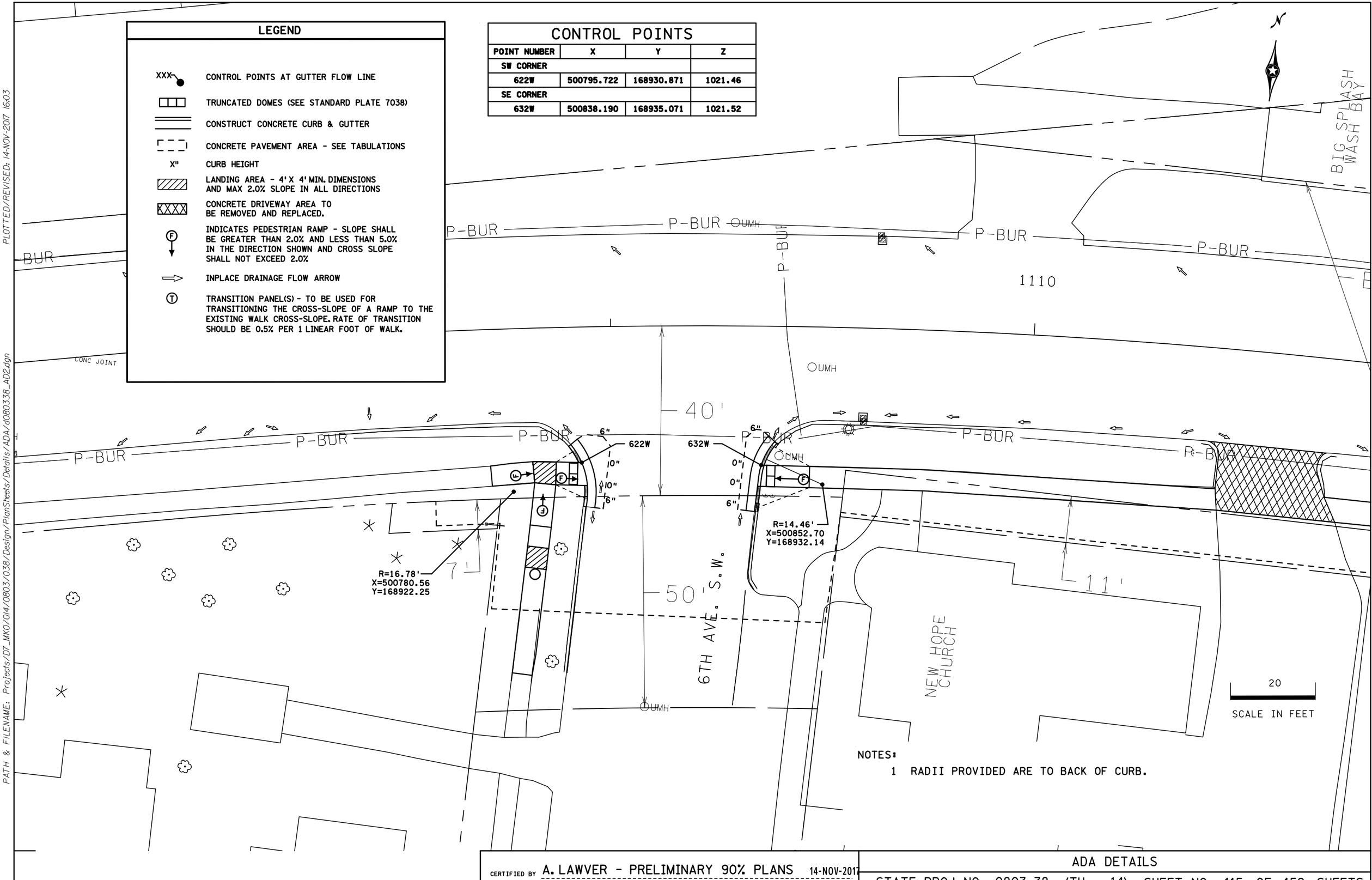


LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENT AREA - SEE TABULATIONS
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- CONCRETE DRIVEWAY AREA TO BE REMOVED AND REPLACED.
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INPLACE DRAINAGE FLOW ARROW
- (T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

CONTROL POINTS

POINT NUMBER	X	Y	Z
SW CORNER			
622W	500795.722	168930.871	1021.46
SE CORNER			
632W	500838.190	168935.071	1021.52



NOTES:

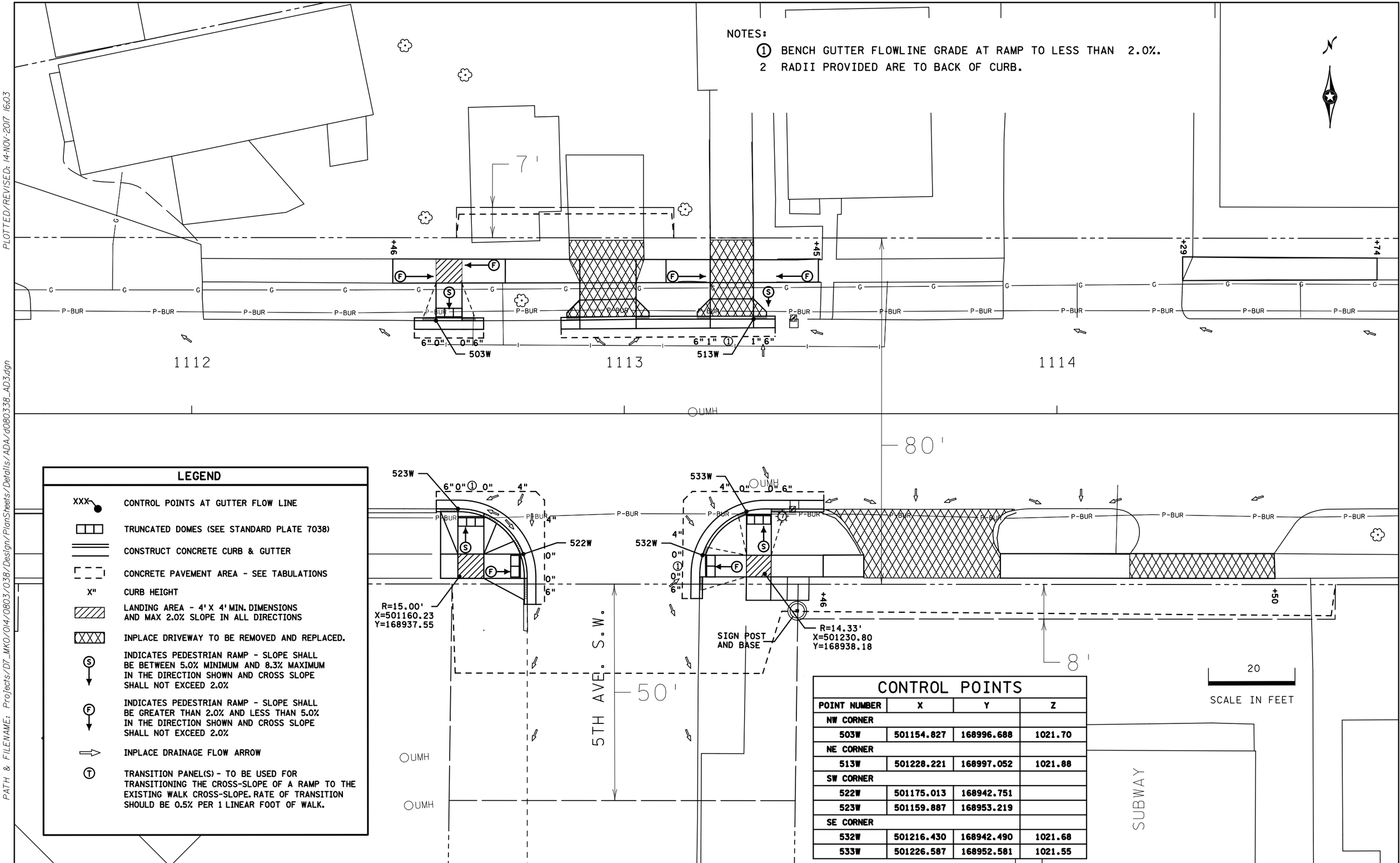
1 RADII PROVIDED ARE TO BACK OF CURB.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 115 OF 152 SHEETS

NOTES:
1. BENCH GUTTER FLOWLINE GRADE AT RAMP TO LESS THAN 2.0%.
2. RADII PROVIDED ARE TO BACK OF CURB.



LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENT AREA - SEE TABULATIONS
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INPLACE DRIVEWAY TO BE REMOVED AND REPLACED.
- (S) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
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- (T) — TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

CONTROL POINTS

POINT NUMBER	X	Y	Z
NW CORNER			
503W	501154.827	168996.688	1021.70
NE CORNER			
513W	501228.221	168997.052	1021.88
SW CORNER			
522W	501175.013	168942.751	
523W	501159.887	168953.219	
SE CORNER			
532W	501216.430	168942.490	1021.68
533W	501226.587	168952.581	1021.55

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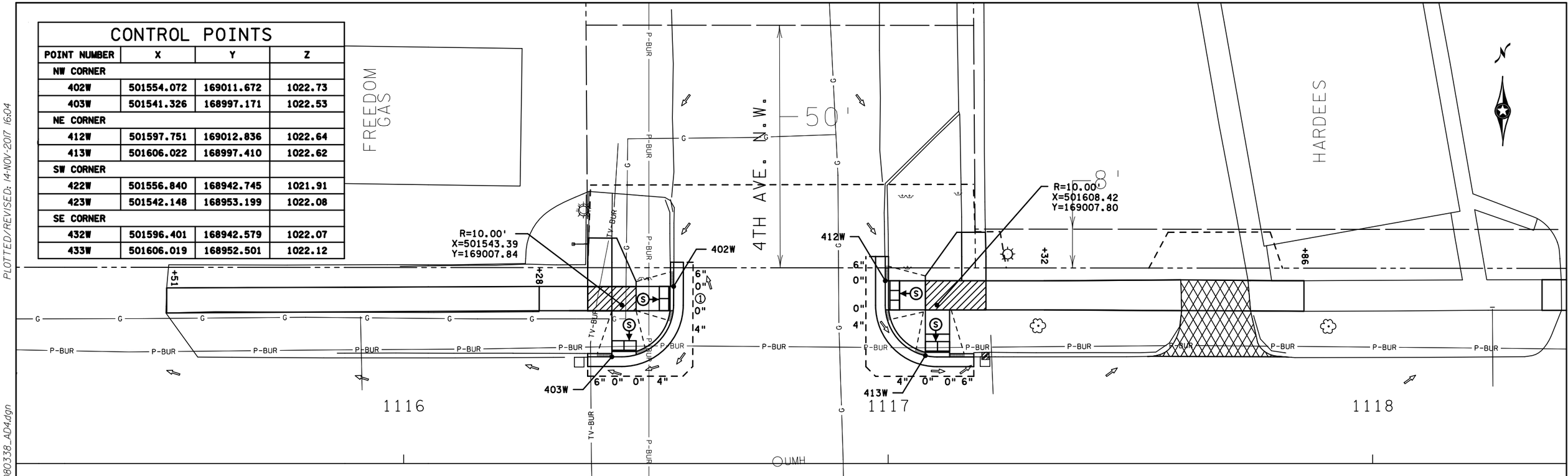
ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 116 OF 152 SHEETS

CONTROL POINTS			
POINT NUMBER	X	Y	Z
NW CORNER			
402W	501554.072	169011.672	1022.73
403W	501541.326	168997.171	1022.53
NE CORNER			
412W	501597.751	169012.836	1022.64
413W	501606.022	168997.410	1022.62
SW CORNER			
422W	501556.840	168942.745	1021.91
423W	501542.148	168953.199	1022.08
SE CORNER			
432W	501596.401	168942.579	1022.07
433W	501606.019	168952.501	1022.12



LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
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NOTES:

(1) BENCH GUTTER FLOWLINE GRADE AT RAMP TO LESS THAN 2.0%.

2 RADII PROVIDED ARE TO BACK OF CURB.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 117 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:04

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/04/0803/038/Design/PlanSheets/Details/ADA/d080338_AD4.dgn

PLOTTED/REVISED: 14-NOV-2017 16:04

DISTRICT : 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Details/ADA/d080338_AD5.dgn

LEGEND

- INPLACE SIGNAL POLE
- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- INPLACE PEDESTAL POLE
- PROPOSED PEDESTAL POLE
- PROPOSED SIGNAL CABINET
- EXISTING CABINETS (SCALE TO SIZE)
- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENT AREA - SEE TABULATIONS
- X" — CURB HEIGHT
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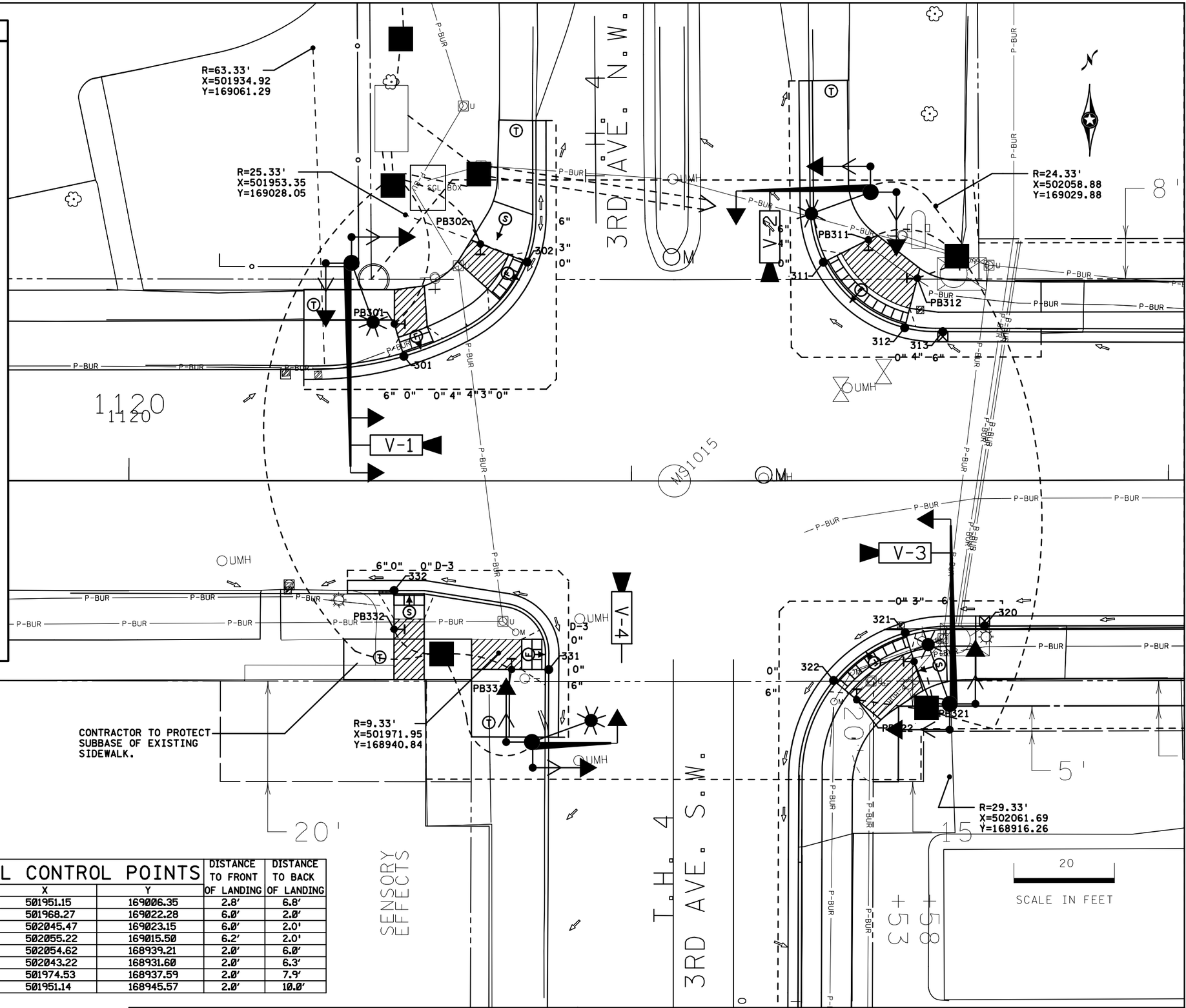
- PROPOSED INTAKE



CONTROL POINTS

POINT NUMBER	X	Y	Z
NW CORNER			
301	501953.0532	168999.9084	1022.5110
302	501977.5981	169018.6750	1022.6520
NE CORNER			
311	502036.5329	169018.6750	1023.9200
312	502052.7111	169005.6499	1024.1830
313	502060.2972	169004.8740	1024.2775
SE CORNER			
320	502068.6463	168947.2820	1023.7160
321	502052.8607	168944.9368	1023.5400
322	502038.6047	168935.4277	1023.3200
SW CORNER			
331	501981.9303	168937.5642	1022.3390
332	501951.1357	168953.2833	1022.0440

SIGNAL CONTROL POINTS

PT NO.	X	Y	DISTANCE TO FRONT OF LANDING	DISTANCE TO BACK OF LANDING
PB301	501951.15	169006.35	2.8'	6.8'
PB302	501968.27	169022.28	6.0'	2.0'
PB311	502045.47	169023.15	6.0'	2.0'
PB312	502055.22	169015.50	6.2'	2.0'
PB321	502054.62	168939.21	2.0'	6.0'
PB322	502043.22	168931.60	2.0'	6.3'
PB331	501974.53	168937.59	2.0'	7.9'
PB332	501951.14	168945.57	2.0'	10.0'

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
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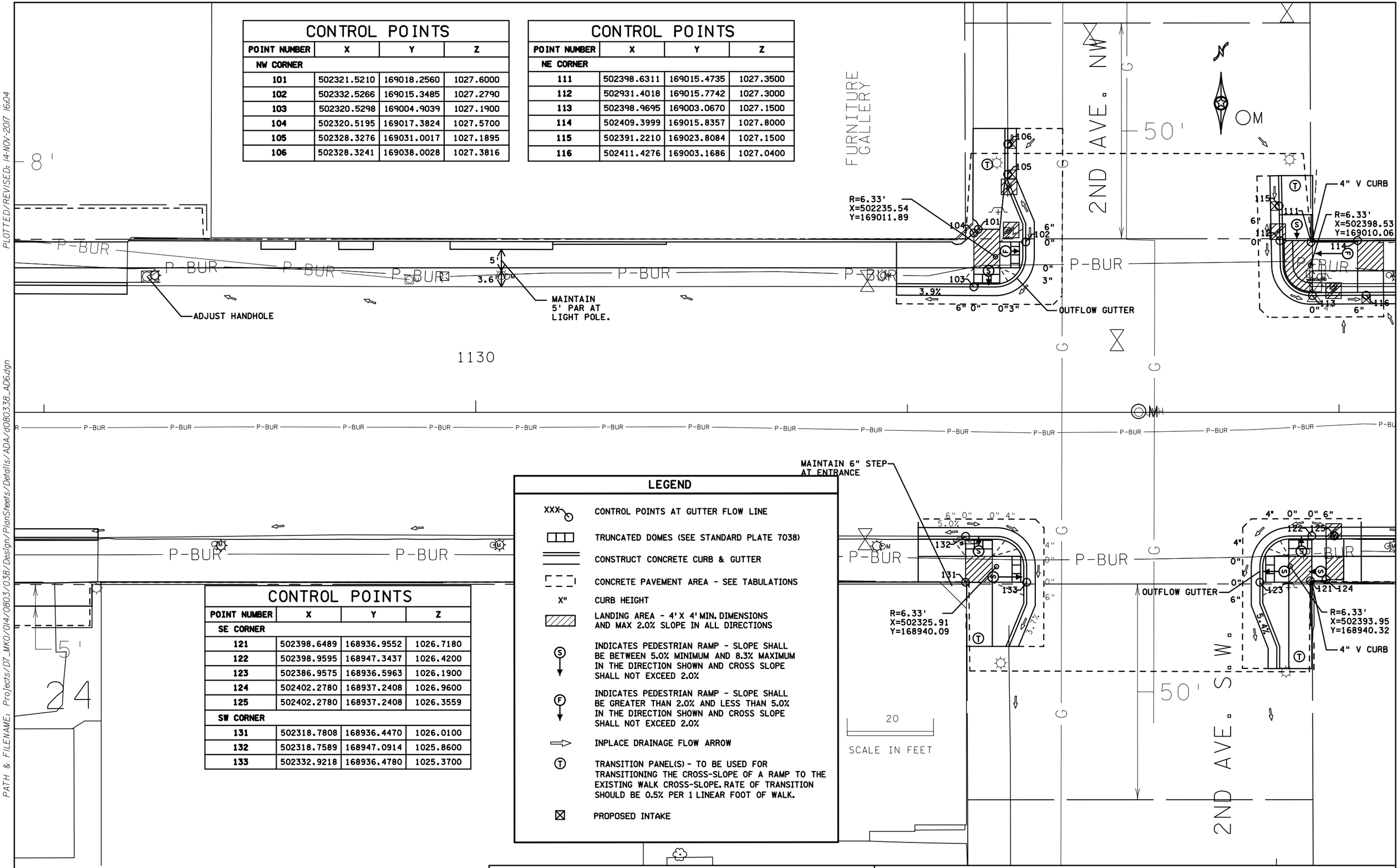
ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 118 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:04
DISTRICT ": 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Details/ADA/d080338_AD6.dgn

CONTROL POINTS			
POINT NUMBER	X	Y	Z
NW CORNER			
101	502321.5210	169018.2560	1027.6000
102	502332.5266	169015.3485	1027.2790
103	502320.5298	169004.9039	1027.1900
104	502320.5195	169017.3824	1027.5700
105	502328.3276	169031.0017	1027.1895
106	502328.3241	169038.0028	1027.3816

CONTROL POINTS			
POINT NUMBER	X	Y	Z
NE CORNER			
111	502398.6311	169015.4735	1027.3500
112	502931.4018	169015.7742	1027.3000
113	502398.9695	169003.0670	1027.1500
114	502409.3999	169015.8357	1027.8000
115	502391.2210	169023.8084	1027.1500
116	502411.4276	169003.1686	1027.0400



LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENT AREA - SEE TABULATIONS
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
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- PROPOSED INTAKE

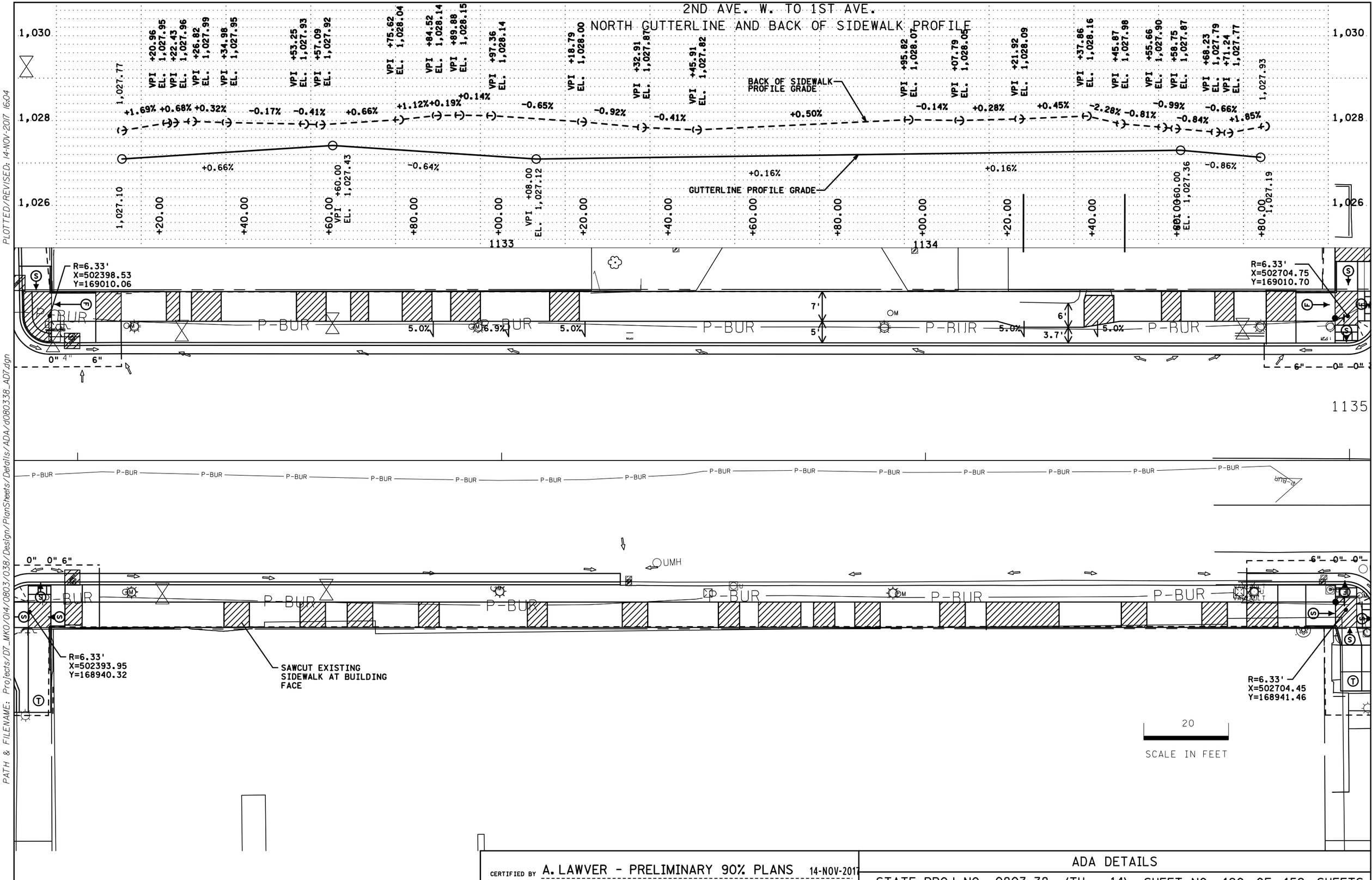
CONTROL POINTS			
POINT NUMBER	X	Y	Z
SE CORNER			
121	502398.6489	168936.9552	1026.7180
122	502398.9595	168947.3437	1026.4200
123	502386.9575	168936.5963	1026.1900
124	502402.2780	168937.2408	1026.9600
125	502402.2780	168937.2408	1026.3559
SW CORNER			
131	502318.7808	168936.4470	1026.0100
132	502318.7589	168947.0914	1025.8600
133	502332.9218	168936.4780	1025.3700

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 119 OF 152 SHEETS

2ND AVE. W. TO 1ST AVE.
NORTH GUTTERLINE AND BACK OF SIDEWALK PROFILE

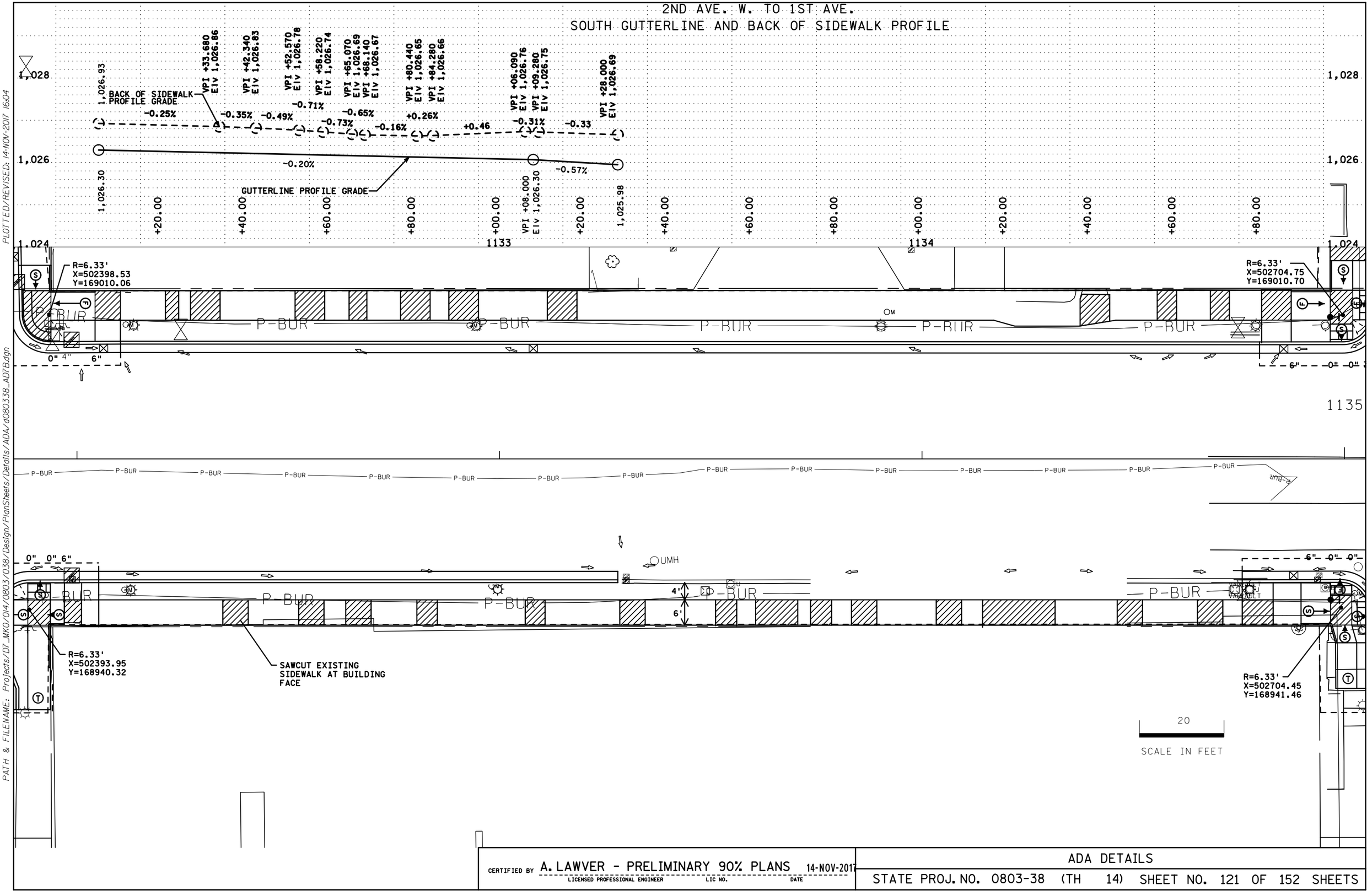


CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 120 OF 152 SHEETS

2ND AVE. W. TO 1ST AVE.
SOUTH GUTTERLINE AND BACK OF SIDEWALK PROFILE

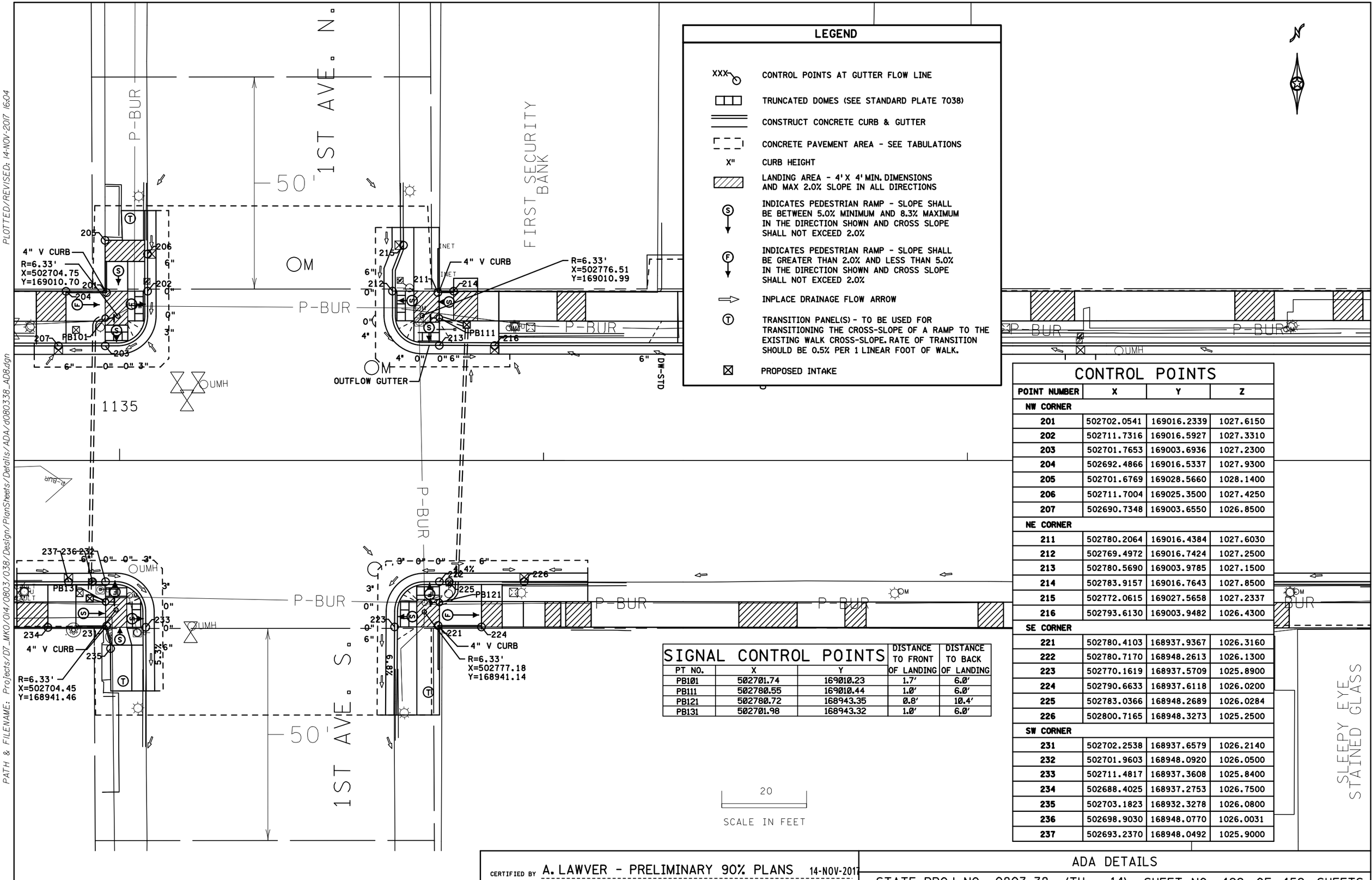


CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 121 OF 152 SHEETS

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/07_MKO/014/0803/038/Design/PlanSheets/Details/ADA/d080338_A07B.dgn
PLOTTED/REVISED: 14-NOV-2017 16:04



LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENT AREA - SEE TABULATIONS
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- PROPOSED INTAKE

CONTROL POINTS

POINT NUMBER	X	Y	Z
NW CORNER			
201	502702.0541	169016.2339	1027.6150
202	502711.7316	169016.5927	1027.3310
203	502701.7653	169003.6936	1027.2300
204	502692.4866	169016.5337	1027.9300
205	502701.6769	169028.5660	1028.1400
206	502711.7004	169025.3500	1027.4250
207	502690.7348	169003.6550	1026.8500
NE CORNER			
211	502780.2064	169016.4384	1027.6030
212	502769.4972	169016.7424	1027.2500
213	502780.5690	169003.9785	1027.1500
214	502783.9157	169016.7643	1027.8500
215	502772.0615	169027.5658	1027.2337
216	502793.6130	169003.9482	1026.4300
SE CORNER			
221	502780.4103	168937.9367	1026.3160
222	502780.7170	168948.2613	1026.1300
223	502770.1619	168937.5709	1025.8900
224	502790.6633	168937.6118	1026.0200
225	502783.0366	168948.2689	1026.0284
226	502800.7165	168948.3273	1025.2500
SW CORNER			
231	502702.2538	168937.6579	1026.2140
232	502701.9603	168948.0920	1026.0500
233	502711.4817	168937.3608	1025.8400
234	502688.4025	168937.2753	1026.7500
235	502703.1823	168932.3278	1026.0800
236	502698.9030	168948.0770	1026.0031
237	502693.2370	168948.0492	1025.9000

SIGNAL CONTROL POINTS

PT NO.	X	Y	DISTANCE TO FRONT OF LANDING	DISTANCE TO BACK OF LANDING
PB101	502701.74	169010.23	1.7'	6.0'
PB111	502780.55	169010.44	1.0'	6.0'
PB121	502780.72	168943.35	0.8'	10.4'
PB131	502701.98	168943.32	1.0'	6.0'

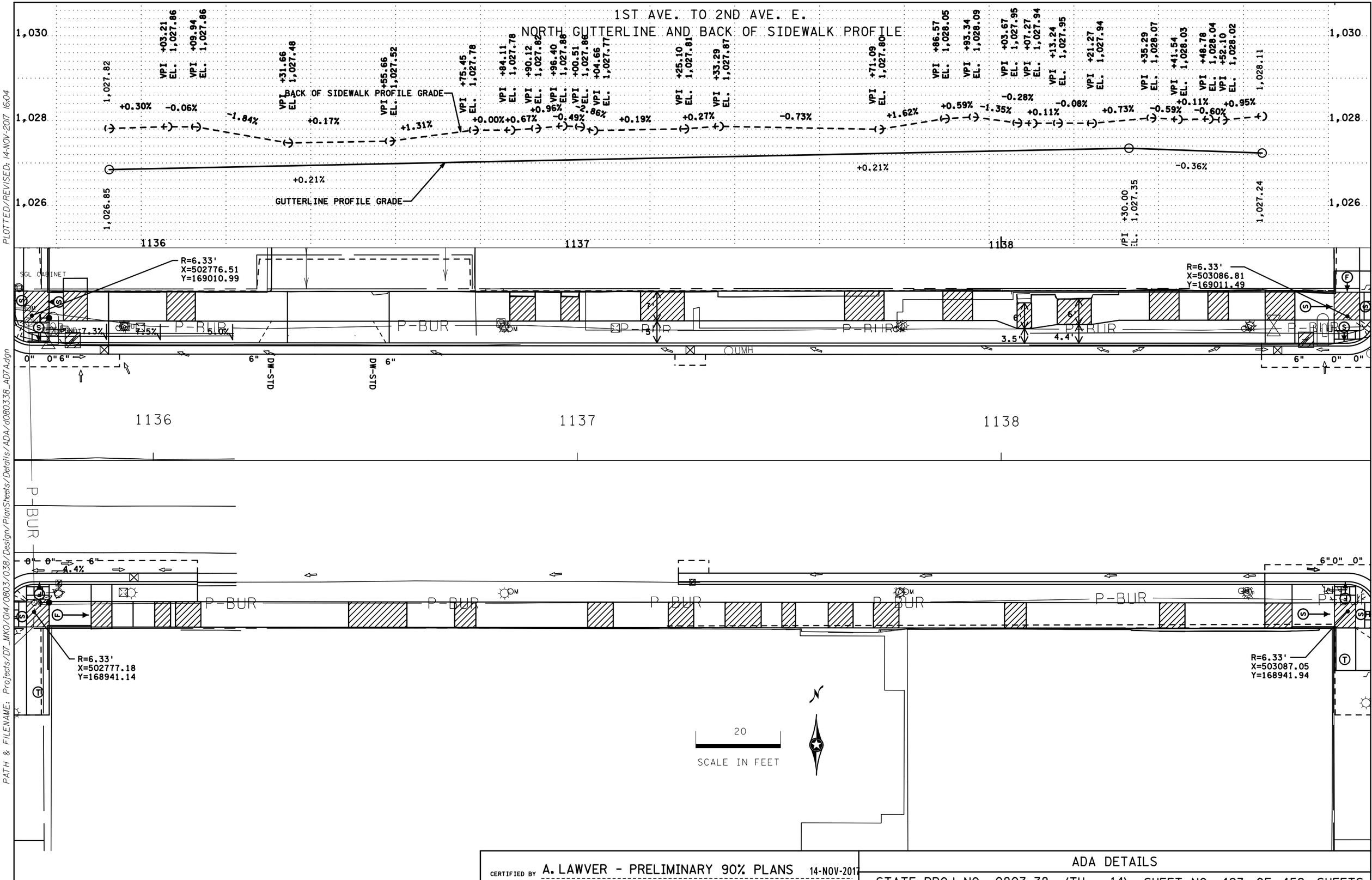
20
SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 122 OF 152 SHEETS

1ST AVE. TO 2ND AVE. E.
NORTH GUTTERLINE AND BACK OF SIDEWALK PROFILE



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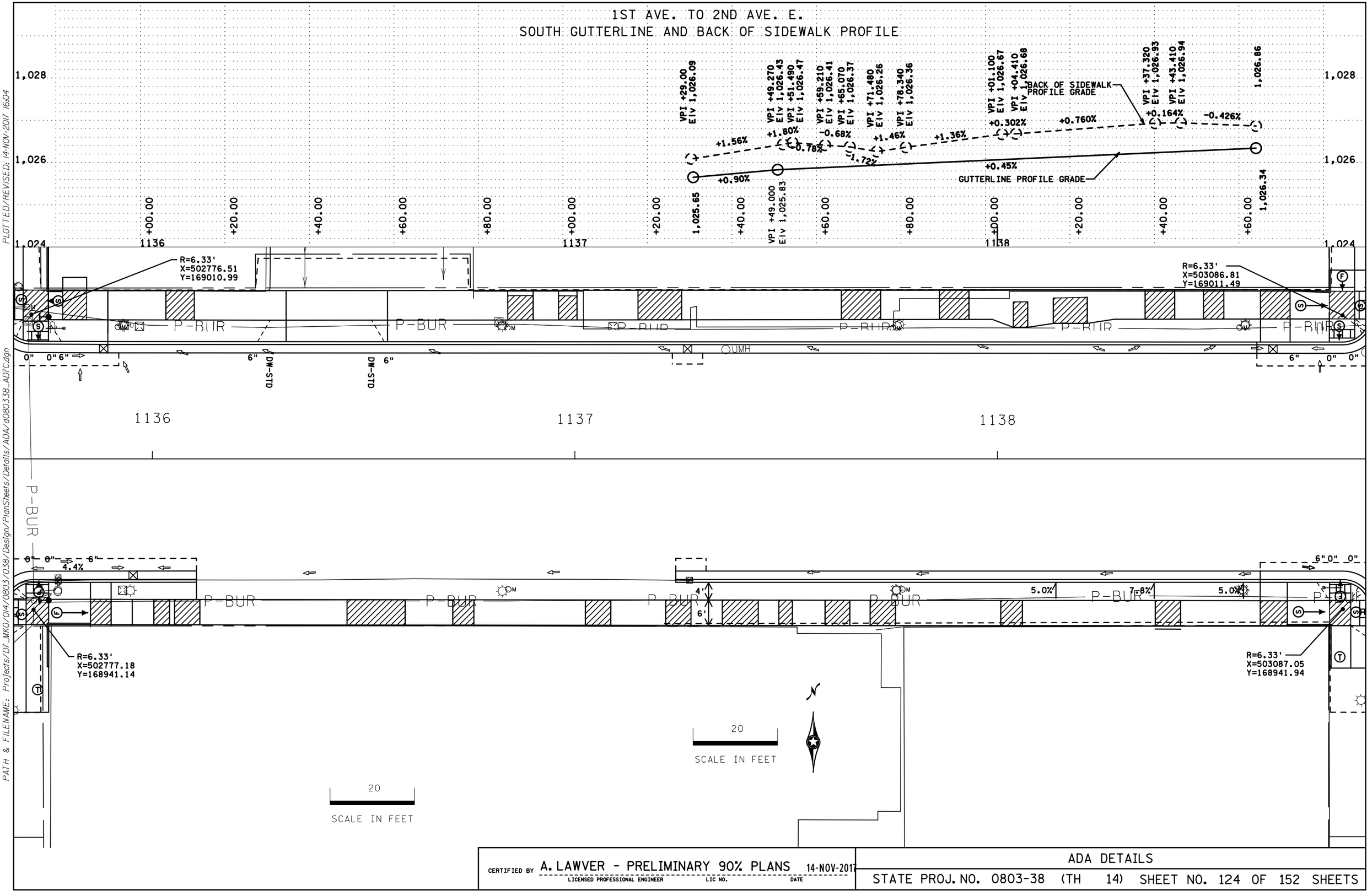
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 123 OF 152 SHEETS

1ST AVE. TO 2ND AVE. E.
SOUTH GUTTERLINE AND BACK OF SIDEWALK PROFILE



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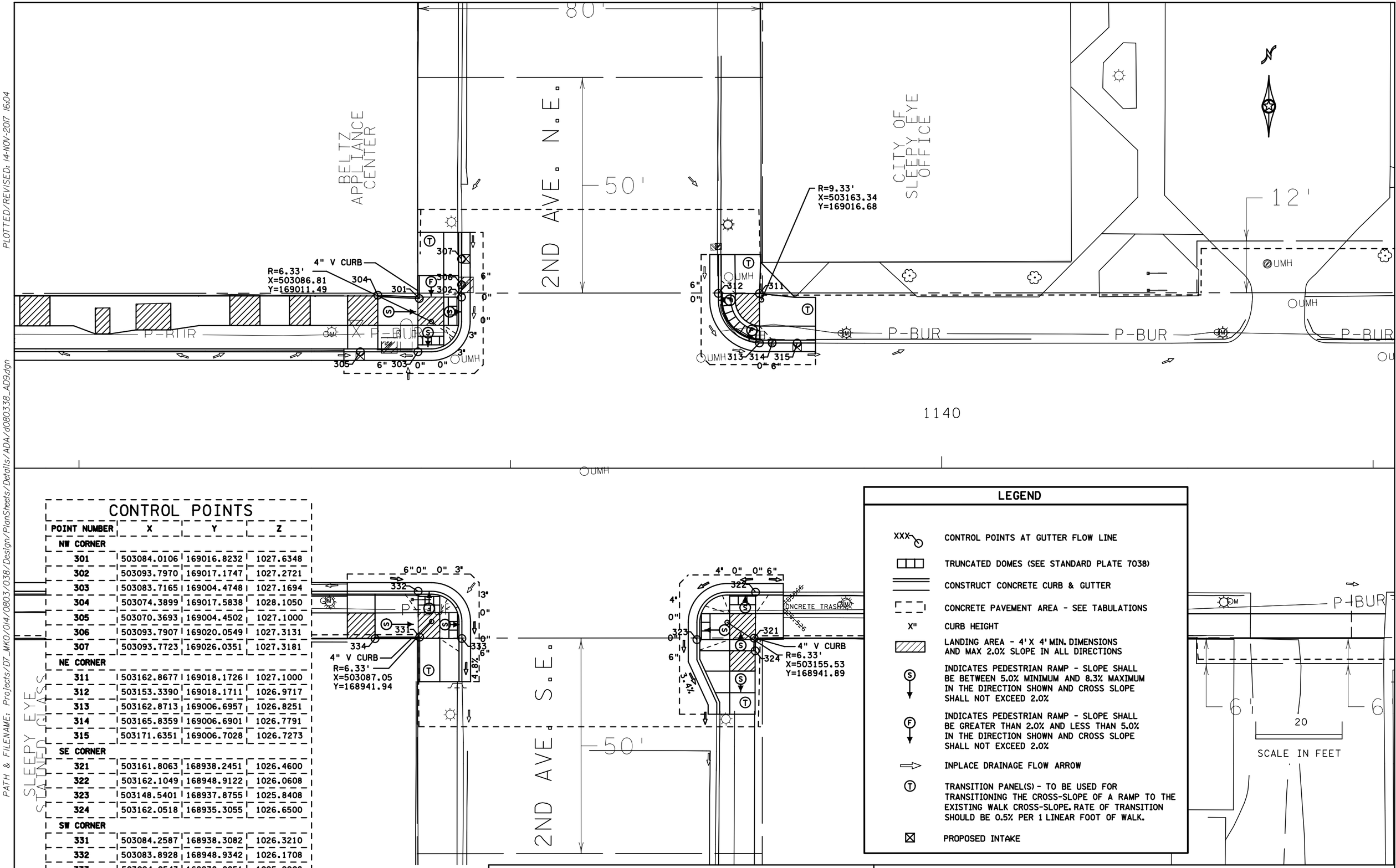
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 124 OF 152 SHEETS



CONTROL POINTS

POINT NUMBER	X	Y	Z
NW CORNER			
301	503084.0106	169016.8232	1027.6348
302	503093.7970	169017.1747	1027.2721
303	503083.7165	169004.4748	1027.1694
304	503074.3899	169017.5838	1028.1050
305	503070.3693	169004.4502	1027.1000
306	503093.7907	169020.0549	1027.3131
307	503093.7723	169026.0351	1027.3181
NE CORNER			
311	503162.8677	169018.1726	1027.1000
312	503153.3390	169018.1711	1026.9717
313	503162.8713	169006.6957	1026.8251
314	503165.8359	169006.6901	1026.7791
315	503171.6351	169006.7028	1026.7273
SE CORNER			
321	503161.8063	168938.2451	1026.4600
322	503162.1049	168948.9122	1026.0608
323	503148.5401	168937.8755	1025.8408
324	503162.0518	168935.3055	1026.6500
SW CORNER			
331	503084.2587	168938.3082	1026.3210
332	503083.8928	168948.9342	1026.1708
333	503094.0543	168938.0051	1025.9208
334	503073.9265	168937.9422	1026.8920

LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
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- PROPOSED INTAKE

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LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 125 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:04

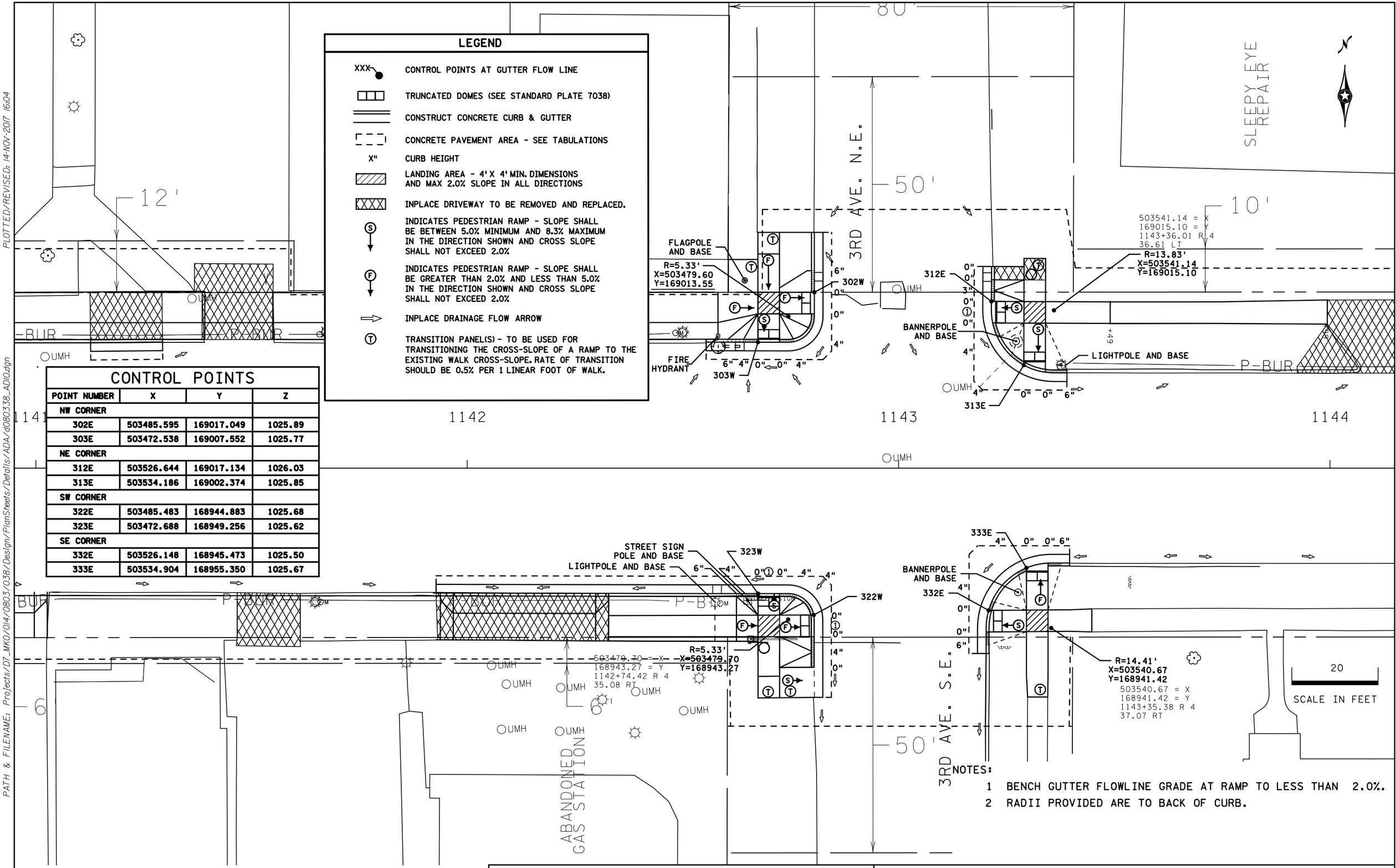
DISTRICT "": 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Details/ADA/d080338_ADI0.dgn

LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENT AREA - SEE TABULATIONS
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INPLACE DRIVEWAY TO BE REMOVED AND REPLACED.
- (S) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INPLACE DRAINAGE FLOW ARROW
- (T) — TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

CONTROL POINTS

POINT NUMBER	X	Y	Z
NW CORNER			
302E	503485.595	169017.049	1025.89
303E	503472.538	169007.552	1025.77
NE CORNER			
312E	503526.644	169017.134	1026.03
313E	503534.186	169002.374	1025.85
SW CORNER			
322E	503485.483	168944.883	1025.68
323E	503472.688	168949.256	1025.62
SE CORNER			
332E	503526.148	168945.473	1025.50
333E	503534.904	168955.350	1025.67



NOTES:

1. BENCH GUTTER FLOWLINE GRADE AT RAMP TO LESS THAN 2.0%.
2. RADII PROVIDED ARE TO BACK OF CURB.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

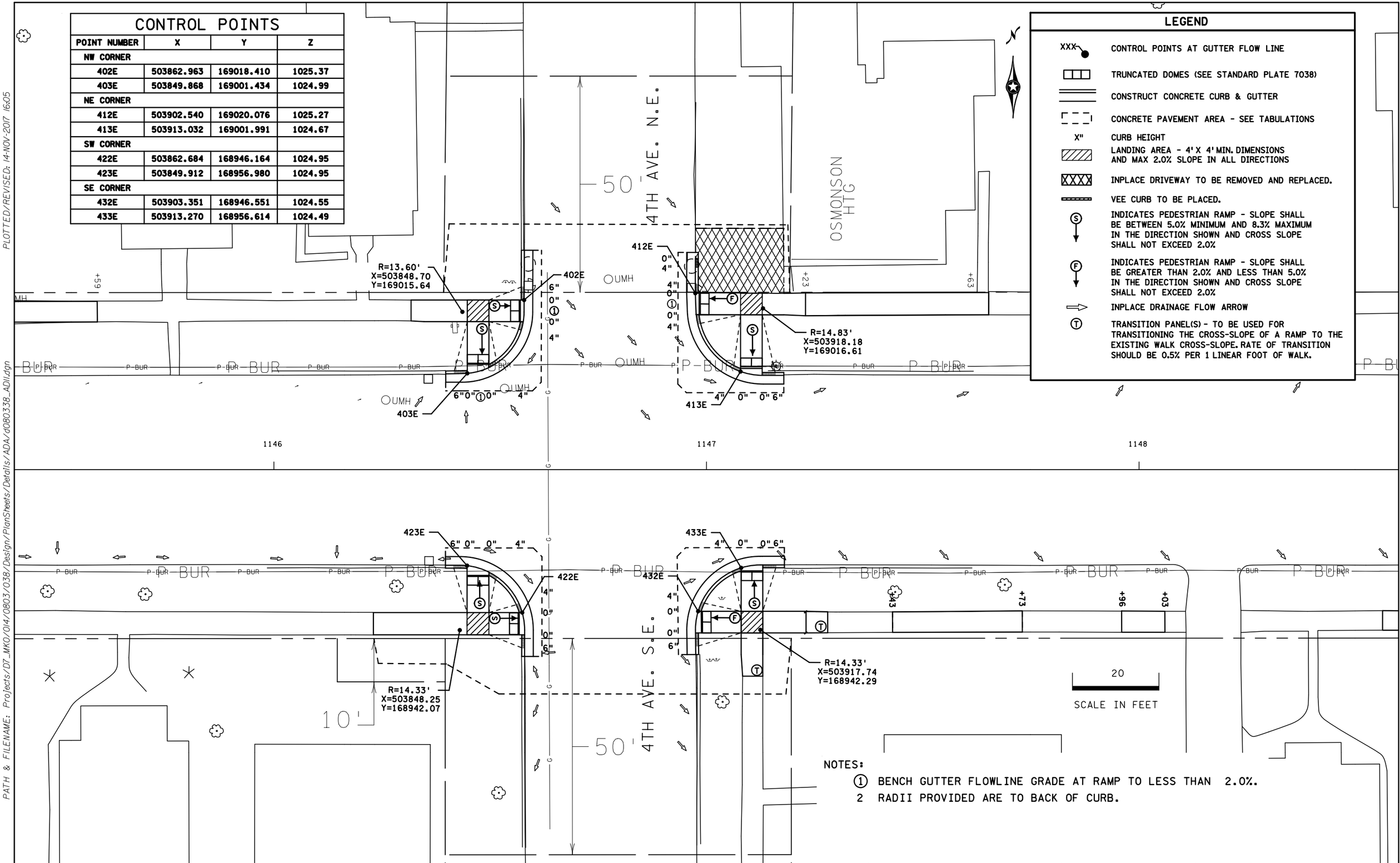
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 126 OF 152 SHEETS

CONTROL POINTS

POINT NUMBER	X	Y	Z
NW CORNER			
402E	503862.963	169018.410	1025.37
403E	503849.868	169001.434	1024.99
NE CORNER			
412E	503902.540	169020.076	1025.27
413E	503913.032	169001.991	1024.67
SW CORNER			
422E	503862.684	168946.164	1024.95
423E	503849.912	168956.980	1024.95
SE CORNER			
432E	503903.351	168946.551	1024.55
433E	503913.270	168956.614	1024.49

LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENT AREA - SEE TABULATIONS
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INPLACE DRIVEWAY TO BE REMOVED AND REPLACED.
- VEE CURB TO BE PLACED.
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INPLACE DRAINAGE FLOW ARROW
- (T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.



NOTES:

1. BENCH GUTTER FLOWLINE GRADE AT RAMP TO LESS THAN 2.0%.
2. RADII PROVIDED ARE TO BACK OF CURB.

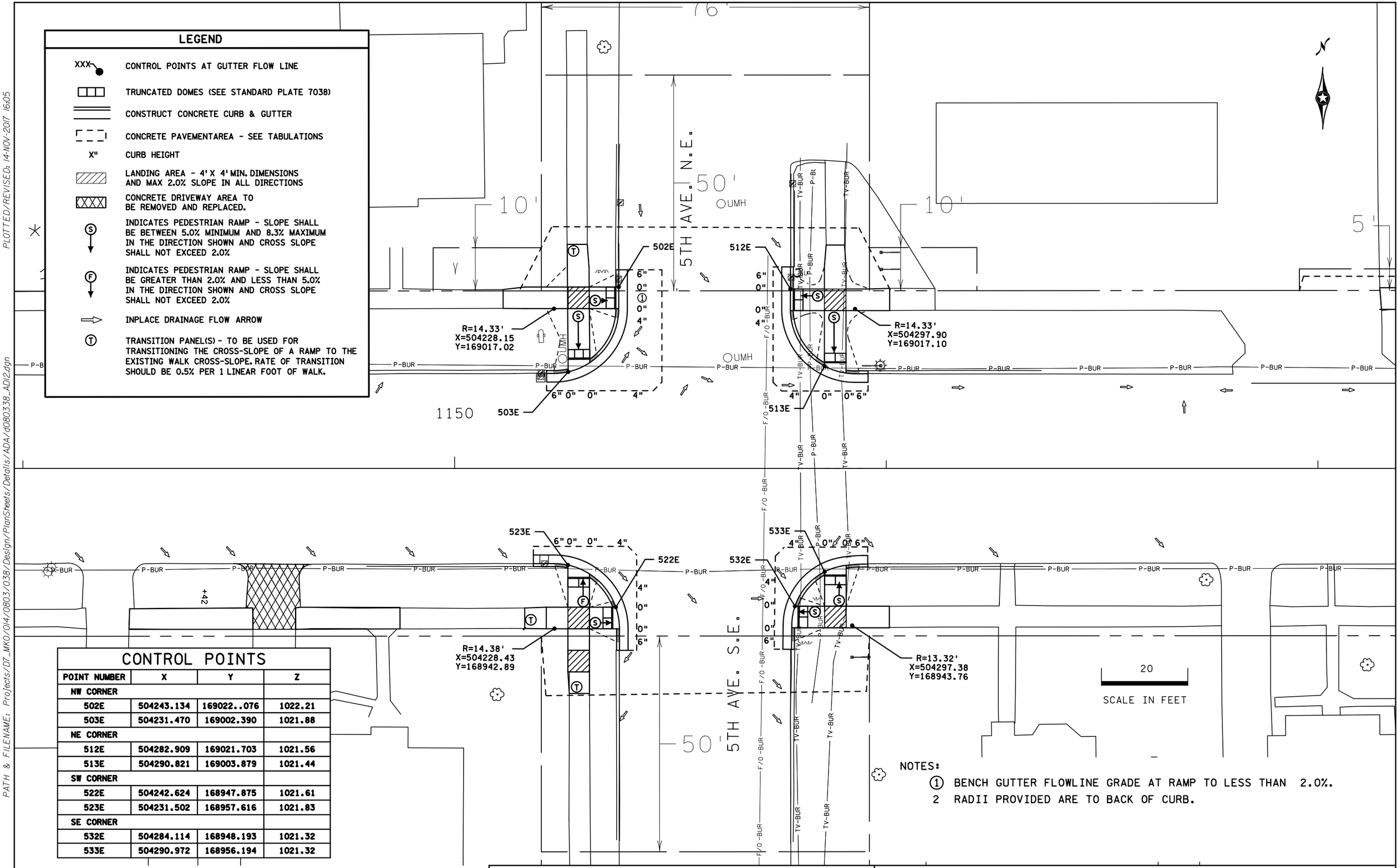
CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 127 OF 152 SHEETS

LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENTAREA - SEE TABULATIONS
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- CONCRETE DRIVEWAY AREA TO BE REMOVED AND REPLACED.
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INPLACE DRAINAGE FLOW ARROW
- (T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.



CONTROL POINTS

POINT NUMBER	X	Y	Z
NW CORNER			
502E	504243.134	169022..076	1022.21
503E	504231.470	169002.390	1021.88
NE CORNER			
512E	504282.909	169021.703	1021.56
513E	504290.821	169003.879	1021.44
SW CORNER			
522E	504242.624	168947.875	1021.61
523E	504231.502	168957.616	1021.83
SE CORNER			
532E	504284.114	168948.193	1021.32
533E	504290.972	168956.194	1021.32

NOTES:

1. BENCH GUTTER FLOWLINE GRADE AT RAMP TO LESS THAN 2.0%.
2. RADII PROVIDED ARE TO BACK OF CURB.

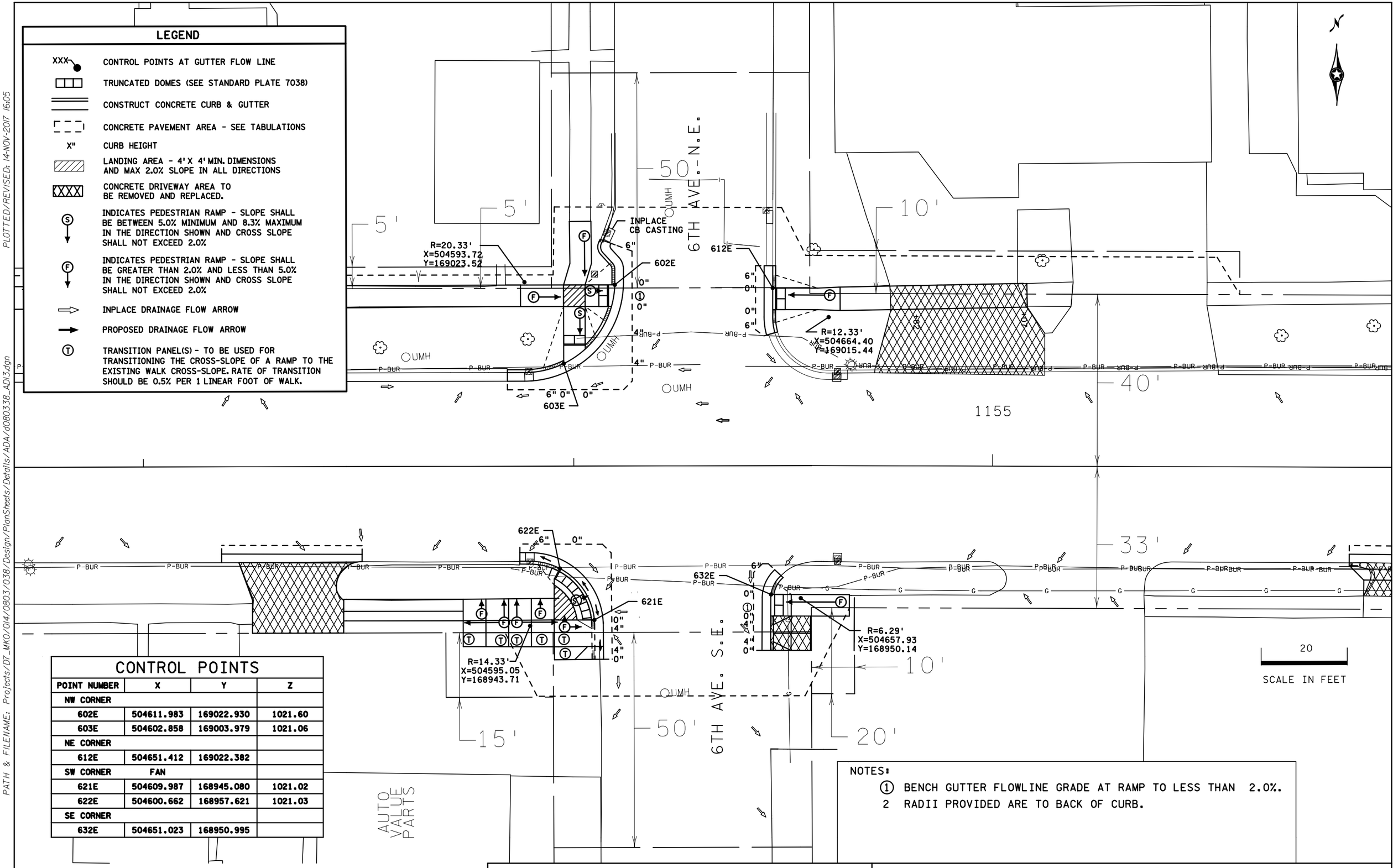
CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 128 OF 152 SHEETS

LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENT AREA - SEE TABULATIONS
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- XXXX — CONCRETE DRIVEWAY AREA TO BE REMOVED AND REPLACED.
- (S) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INPLACE DRAINAGE FLOW ARROW
- PROPOSED DRAINAGE FLOW ARROW
- (T) — TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.



CONTROL POINTS

POINT NUMBER	X	Y	Z
NW CORNER			
602E	504611.983	169022.930	1021.60
603E	504602.858	169003.979	1021.06
NE CORNER			
612E	504651.412	169022.382	
SW CORNER	FAN		
621E	504609.987	168945.080	1021.02
622E	504600.662	168957.621	1021.03
SE CORNER			
632E	504651.023	168950.995	

NOTES:

1. BENCH GUTTER FLOWLINE GRADE AT RAMP TO LESS THAN 2.0%.
2. RADII PROVIDED ARE TO BACK OF CURB.

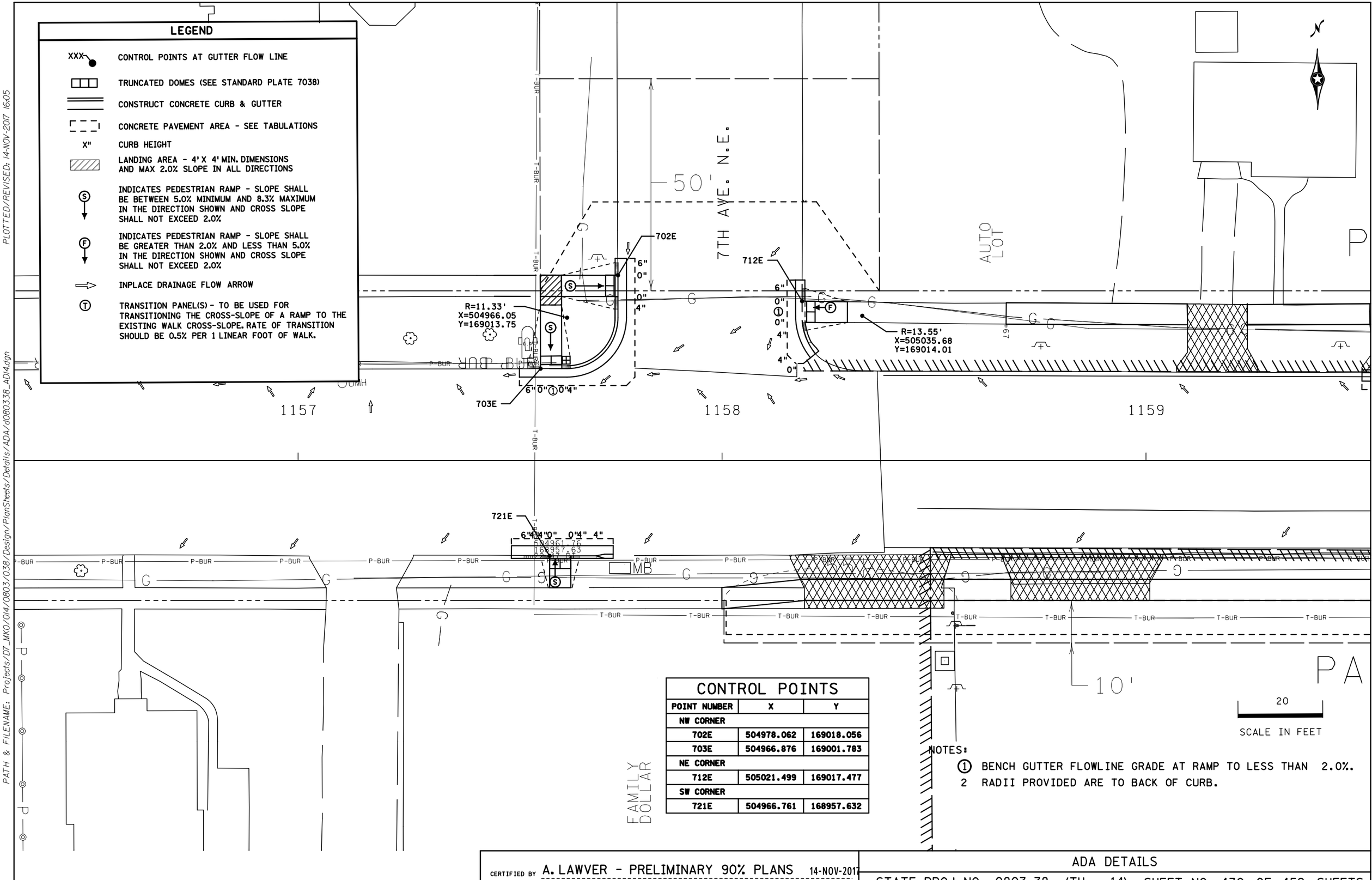
CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 129 OF 152 SHEETS

LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- CONCRETE PAVEMENT AREA - SEE TABULATIONS
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INPLACE DRAINAGE FLOW ARROW
- (T) — TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.



CONTROL POINTS

POINT NUMBER	X	Y
NW CORNER		
702E	504978.062	169018.056
703E	504966.876	169001.783
NE CORNER		
712E	505021.499	169017.477
SW CORNER		
721E	504966.761	168957.632

NOTES:

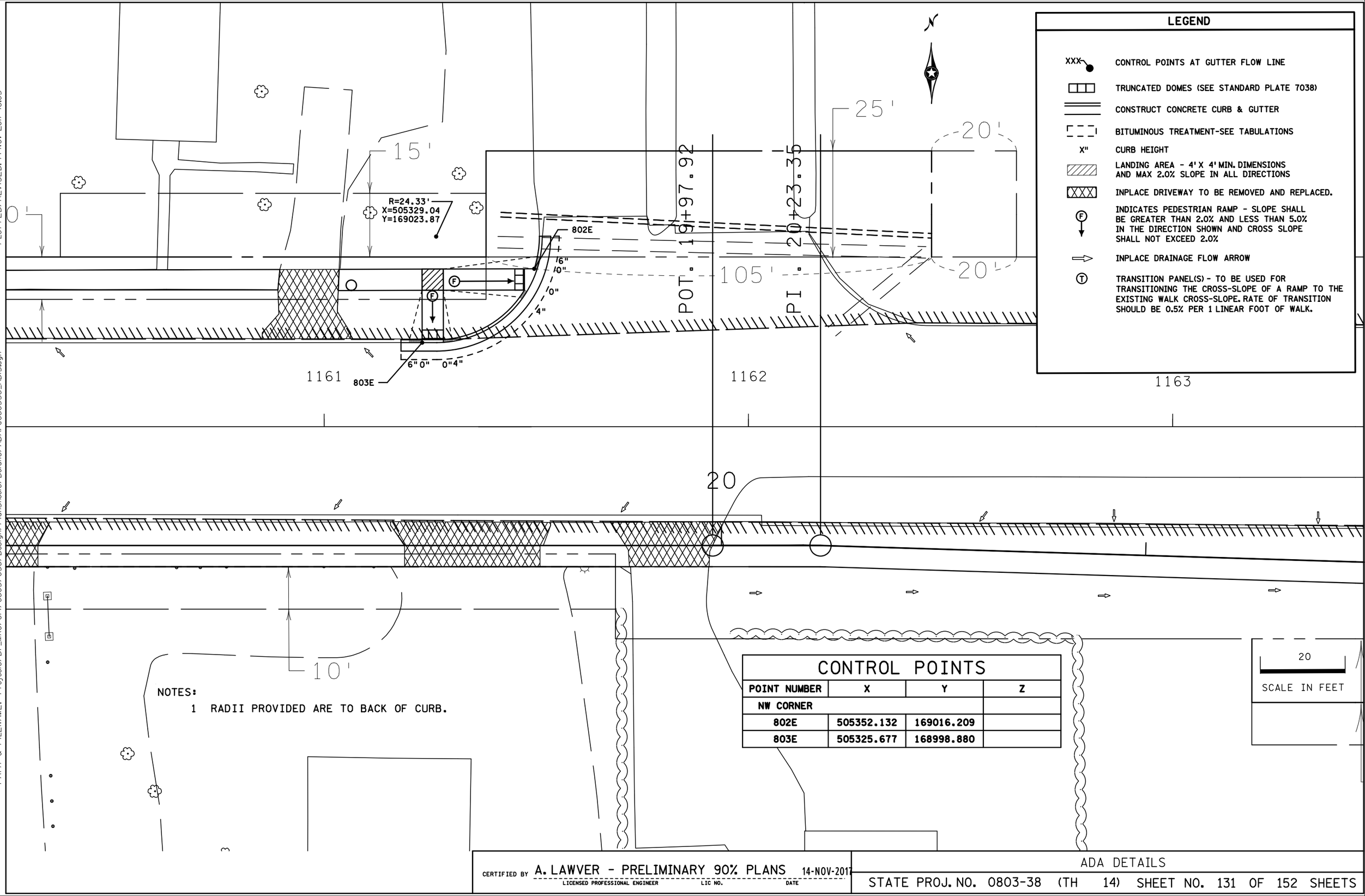
1. BENCH GUTTER FLOWLINE GRADE AT RAMP TO LESS THAN 2.0%.
2. RADII PROVIDED ARE TO BACK OF CURB.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 130 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:05
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Details/ADA/d080338_ADI4.dgn



NOTES:

1 RADII PROVIDED ARE TO BACK OF CURB.

CONTROL POINTS

POINT NUMBER	X	Y	Z
NW CORNER			
802E	505352.132	169016.209	
803E	505325.677	168998.880	

20

SCALE IN FEET

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017

LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 131 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:05

DISTRICT *: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Details/ADA/d080338_AD15.dgn

PLOTTED/REVISED: 14-NOV-2017 16:05

CONTROL POINTS			
POINT NUMBER	X	Y	Z
NW CORNER			
1202E	506312.127	169013.489	
1203E	506297.975	169002.331	
SW CORNER			
1222E	506309.189	168936.331	
1223E	506299.447	168941.258	

LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- BITUMINOUS TREATMENT-SEE TABULATIONS
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
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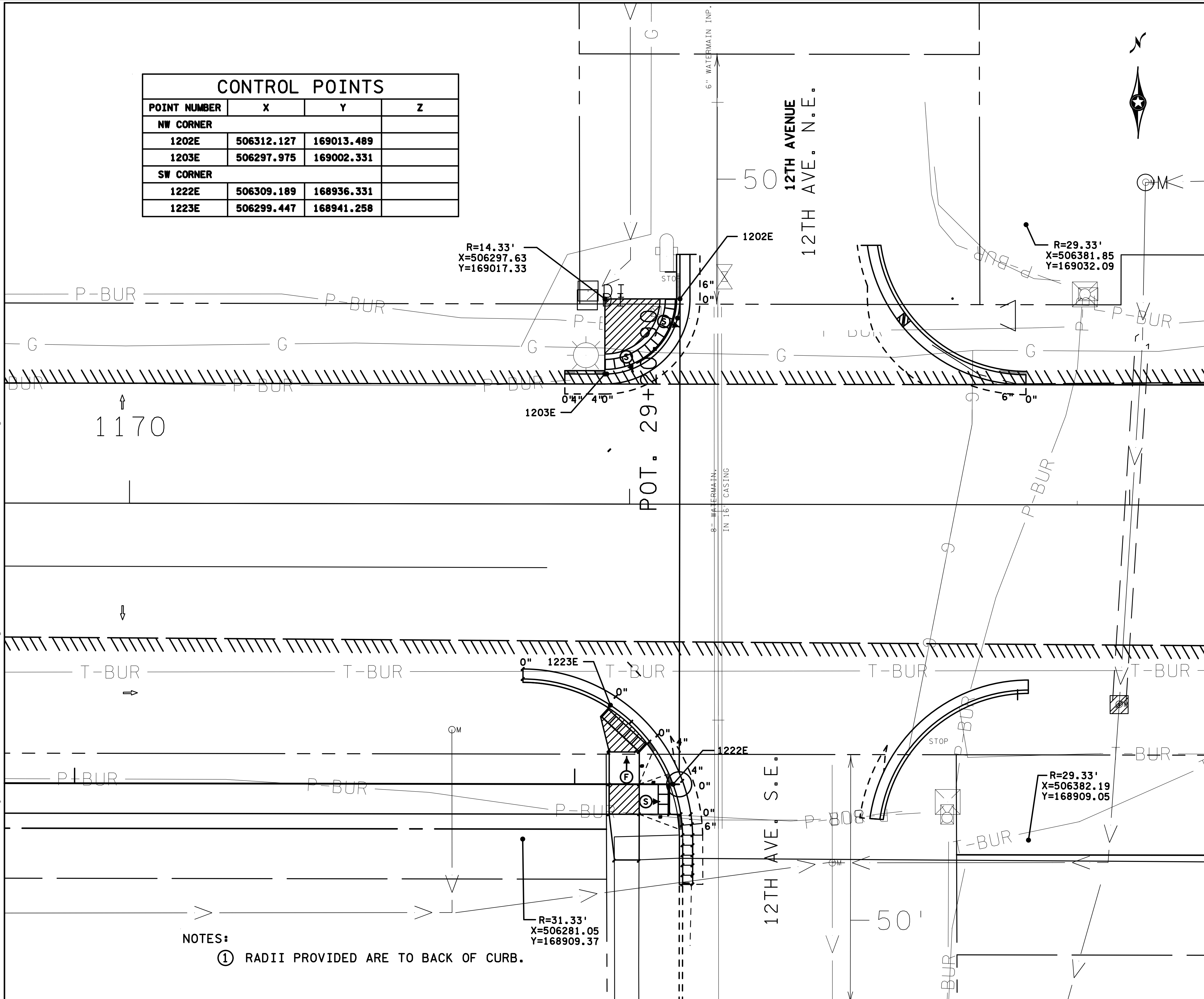


NOTES:

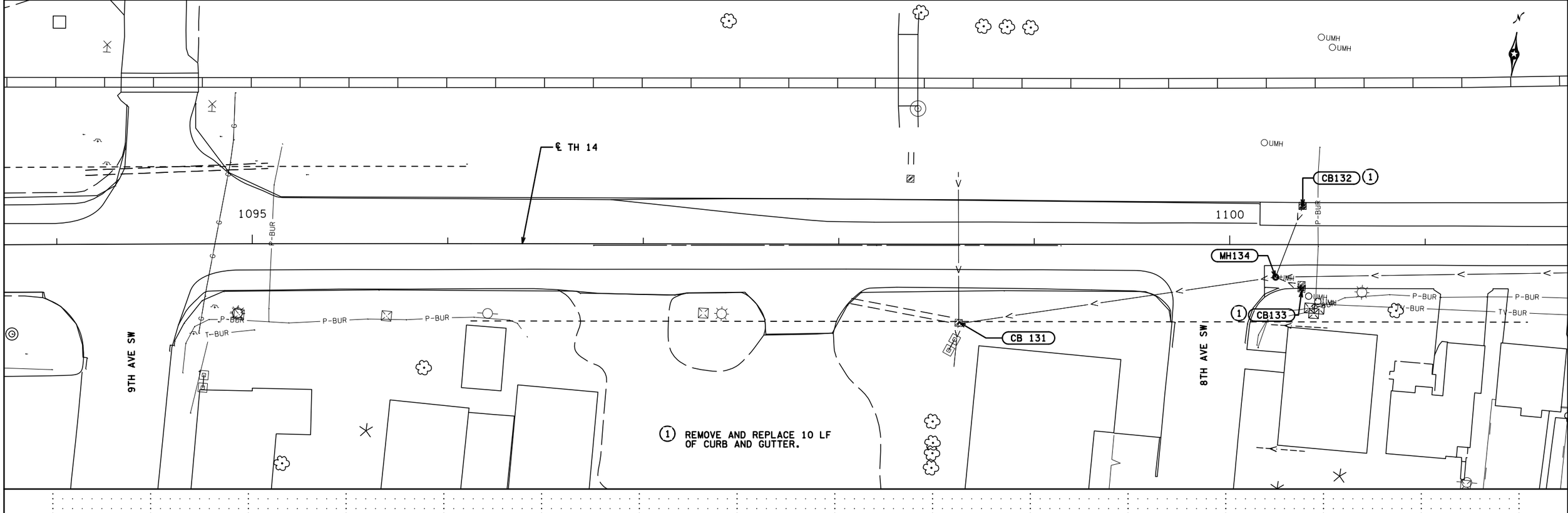
① RADII PROVIDED ARE TO BACK OF CURB.

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/0I4/0803/038/Design/PlanSheets/Details/ADA/d080338_ADI6.dgn

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

ADA DETAILS

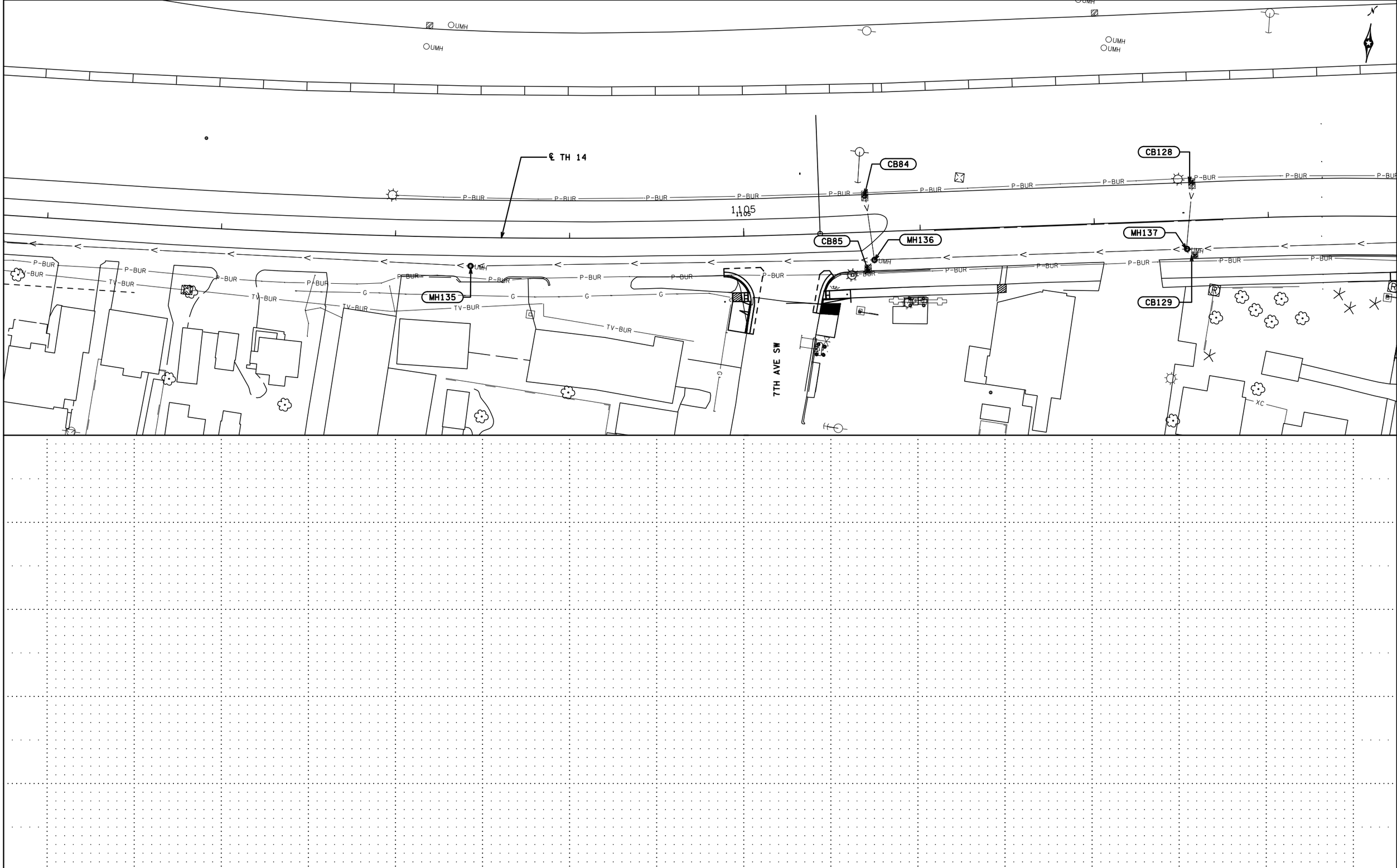
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 132 OF 152 SHEETS



CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 133 OF 152 SHEETS

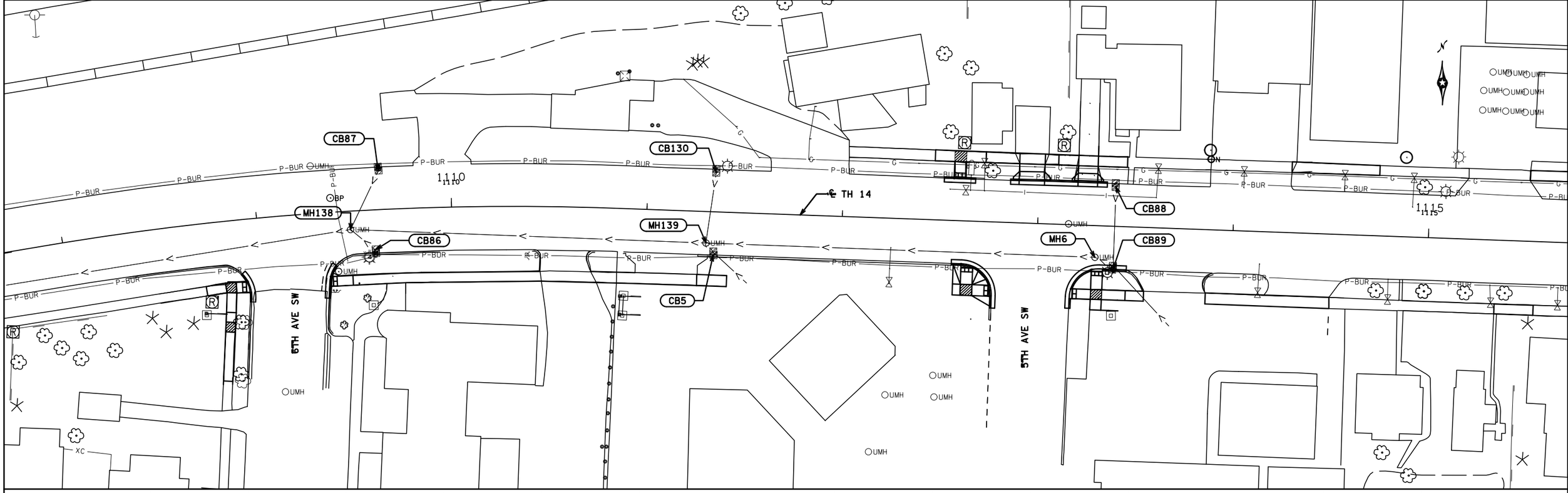


PLOTTED/REVISED: 14-NOV-2017 16:05

DISTRICT #: 7 - Mankato/Windom
PLOT NAME: h080338_drsheets12
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Drainage/h080338_drsheets1.dgn

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 134 OF 152 SHEETS



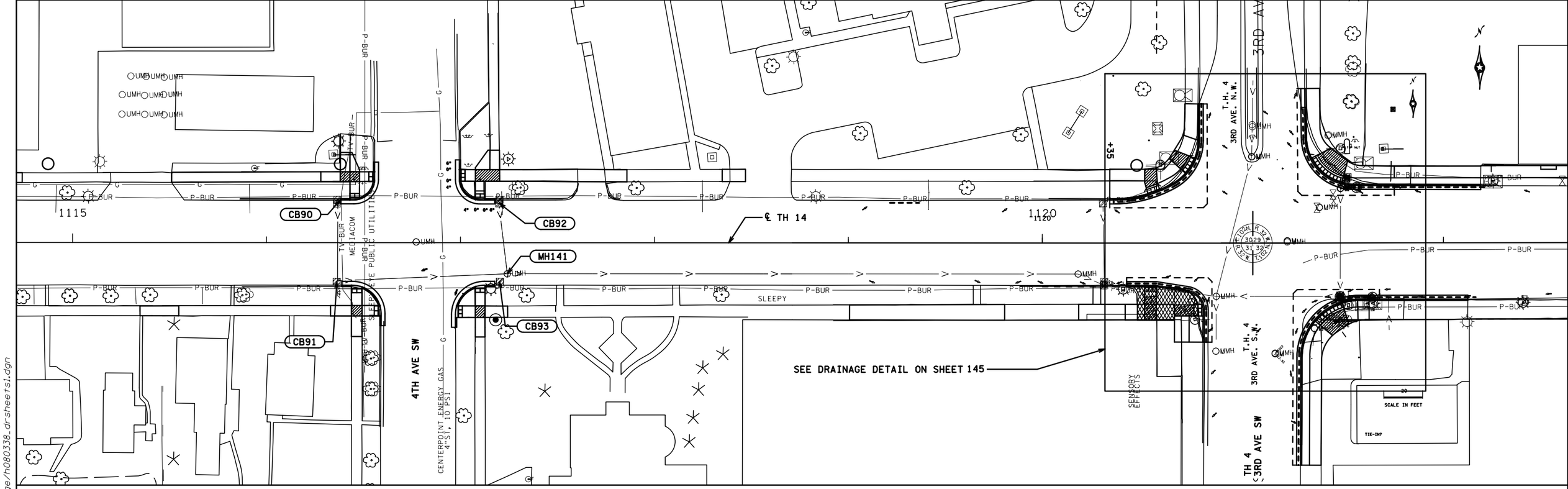
PLOTTED/REVISED: 14-NOV-2017 16:05

DISTRICT #: 7 - Mankato/Windom
PLOT NAME: h080338_drsheets13
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Drainage/h080338_drsheets1.dgn

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 135 OF 152 SHEETS



PLOTTED/REVISED: 14-NOV-2017 16:05

DISTRICT #: 7 - Mankato/Windom
PLOT NAME: h080338_drsheets14
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Drainage/h080338_drsheets1.dgn

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 136 OF 152 SHEETS

2ND AVE NW
2ND AVE. NW
2ND AVE. S.W.
2ND AVE SW
1ST AVE N.
1ST AVE
1ST AVE. S.
1ST AVE
FURNITURE GALLERY
FIRST SECURITY BANK
RIVERSIDE ANIMAL
REMOVE CB99
CB99
CB818
PLACE CB818
℄ TH 14
MH143
REMOVE CB99A
CB99A
CB822
PLACE CB822
SEE DRAINAGE DETAIL ON SHEET 147
SEE DRAINAGE DETAIL ON SHEET 146
1130
1135
P-BUR
UMH
20 SCALE IN FEET

1030.00
1027.50
1025.00
1022.50
1020.00

CB822
B-3 CATCH BASIN
1025.98
1022.31

CB818
B-3 CATCH BASIN
1027.12
1021.09
EXISTING 12" PVC
NE INLET EL. = 1021.51

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 137 OF 152 SHEETS

FIRST SECURITY BANK
BELTZ APPLIANCE CENTER
2ND AVE NE
2ND AVE. N.E.
CITY OF SLEEPY EYE OFFICE
3RD AVE NE
3RD AVE. N.E.
REMOVE CB104
CB104
CB819
PLACE CB819
MH145
MH5050
MH5051
MH5055
MH5052
CB5053
1140
REMOVE CB105
CB105
CB823
PLACE CB823
SEE DRAINAGE DETAIL ON SHEET 148
SLEEPY EYE STAINED GLASS
2ND AVE SE
2ND AVE. S.E.
20
SCALE IN FEET
℄ TH 14
REMOVE CB5054
CB5054
CB824
PLACE CB824
SEE DRAINAGE DETAIL ON SHEET 149
ABANDONED GAS STATION
3RD AVE SE
3RD AVE. S.E.
P-BUR
UMH
MH

1030.00
1027.50
1025.00
1022.50
1020.00

CB105
B-3 CATCH BASIN
1025.65
1021.48

CB819
B-3 CATCH BASIN
1027.14
1023.07

CB824
B-7 CATCH BASIN
1025.74
1022.07

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 138 OF 152 SHEETS

3RD AVE. N.E.

SLIPPY EYE REPAIR

CB112

1145

MH149

REMOVE CB113

CB113

CB825

PLACE CB825

3RD AVE. S.E.

SEE DRAINAGE DETAIL ON SHEET 149

4TH AVE. N.E.

OSMONSON HTS

4TH AVE. S.E.

SEE DRAINAGE DETAIL ON SHEET 150

CB119

MH151

CB117

1150

5TH AVE. N.E.

CB118

P-BUR

MMH

CB113
B-3 CATCH BASIN
1025.55

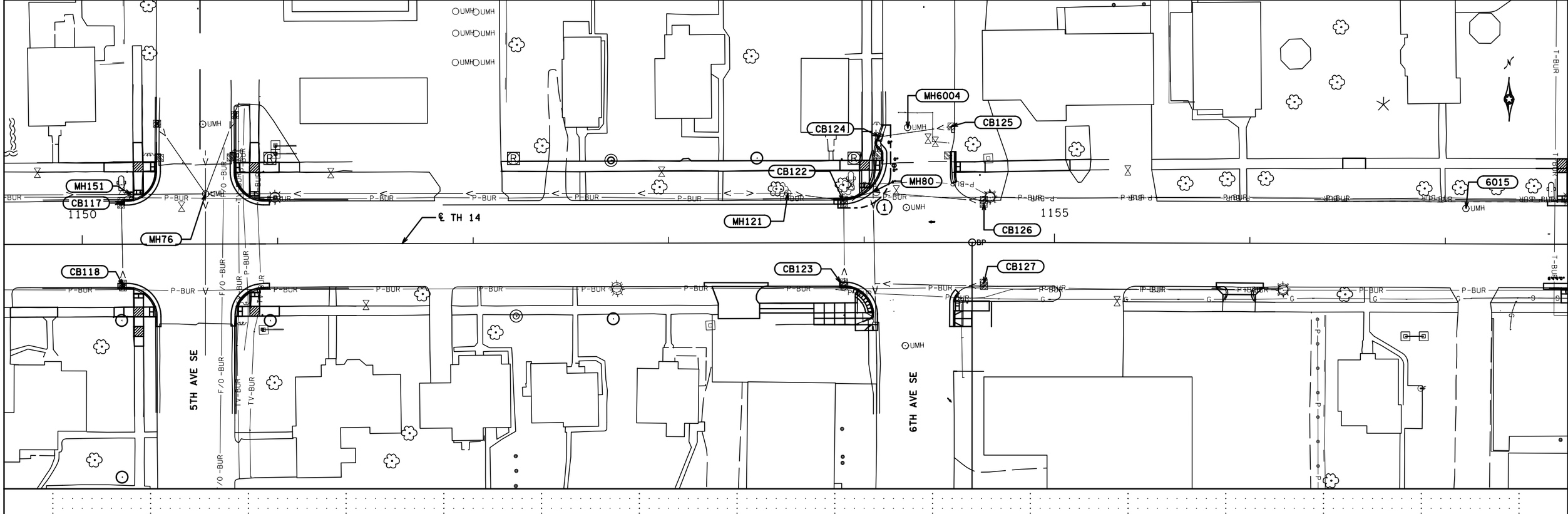
1021.88

1030.00
1027.50
1025.00
1022.50
1020.00

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

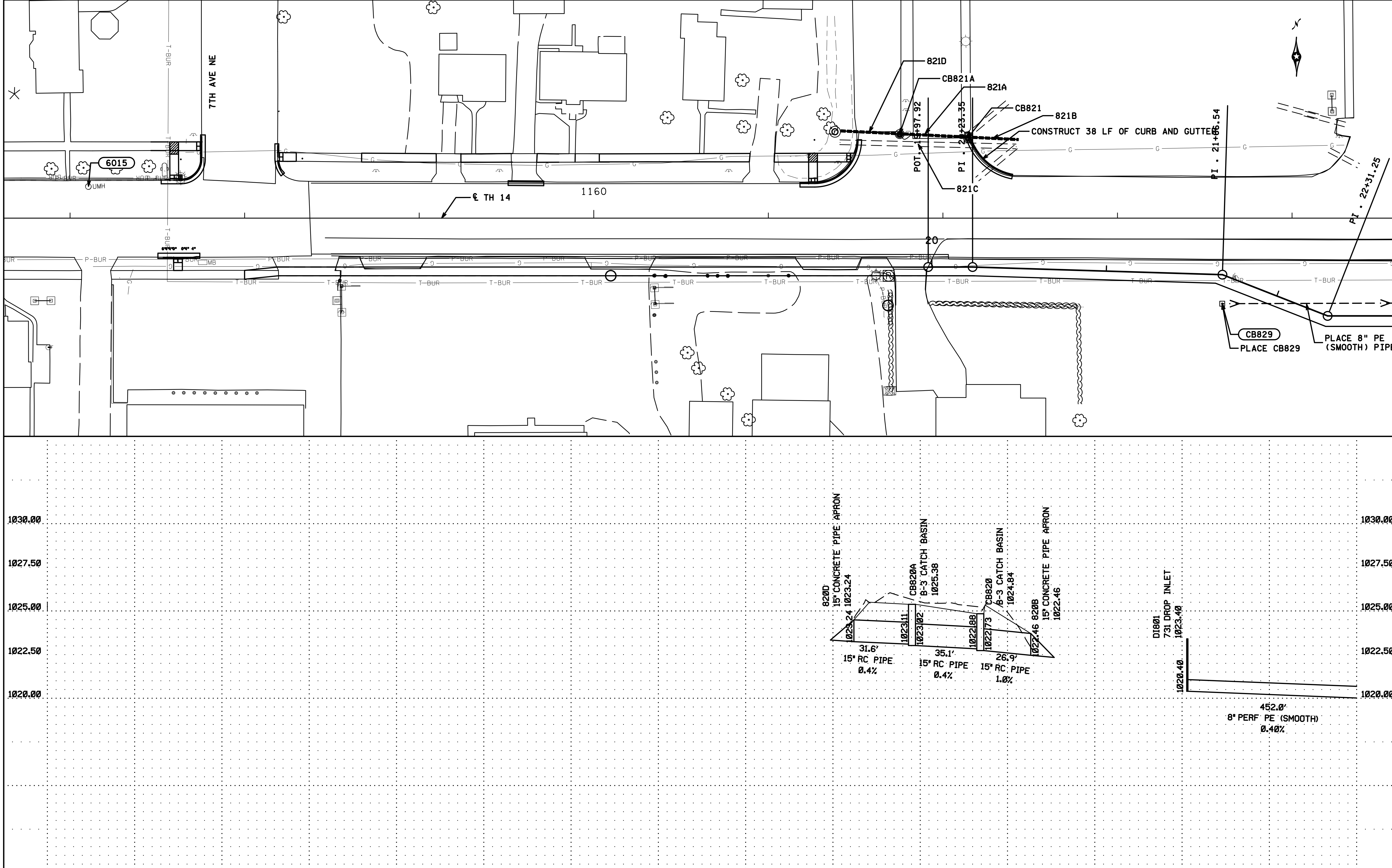
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 139 OF 152 SHEETS



CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 140 OF 152 SHEETS



7TH AVE NE
6015
UMH
℄ TH 14
1160
821D
CB821A
821A
CB821
821B
CONSTRUCT 38 LF OF CURB AND GUTTER
POT. 19+97.92
PI . 20+23.35
PI . 21+06.54
PI . 22+31.25
821C
20
MB
CB829
PLACE CB829
PLACE 8" PE (SMOOTH) PIPE
1030.00
1027.50
1025.00
1022.50
1020.00
820D
15" CONCRETE PIPE APRON
1023.24
CB820A
B-3 CATCH BASIN
1025.38
CB820
B-3 CATCH BASIN
1024.84
820B
15" CONCRETE PIPE APRON
1022.46
1023.24
1023.11
1023.02
1022.88
1022.73
1022.46
31.6'
15" RC PIPE
0.4%
35.1'
15" RC PIPE
0.4%
26.9'
15" RC PIPE
1.0%
DI801
731 DROP INLET
1023.40
1020.40
452.0'
8" PERF PE (SMOOTH)
0.40%

CERTIFIED BY ______________________

LICENSED PROFESSIONAL ENGINEER   LIC NO.   DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 141 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:06

DISTRICT #: 7 - Mankato/Windom

PLOT NAME: h080338_drsheets19

PATH & FILENAME: Projects/D7_MK0/014/0803/038/Design/PlanSheets/Drainage/h080338_drsheets1.dgn

UMH

CLEAN PIPE CULVERT

CLEAN PIPE CULVERT

PI · 22+31.25

1165

℄ TH 14

1170

POT. 29+2

NOT DONE

NOT DONE

25

PLACE 8" PE
(SMOOTH) PIPE

DITCH CLEANING, INCLUDES CLEANING
AND REGRADING AROUND APRONS.

CONNECT TO DI
FROM CITY PLANS

DITCH CLEANING, INCLUDES CLEANING
AND REGRADING AROUND APRONS.

12TH AVE SE

1030.00
1027.50
1025.00
1022.50
1020.00
1017.50
1015.00

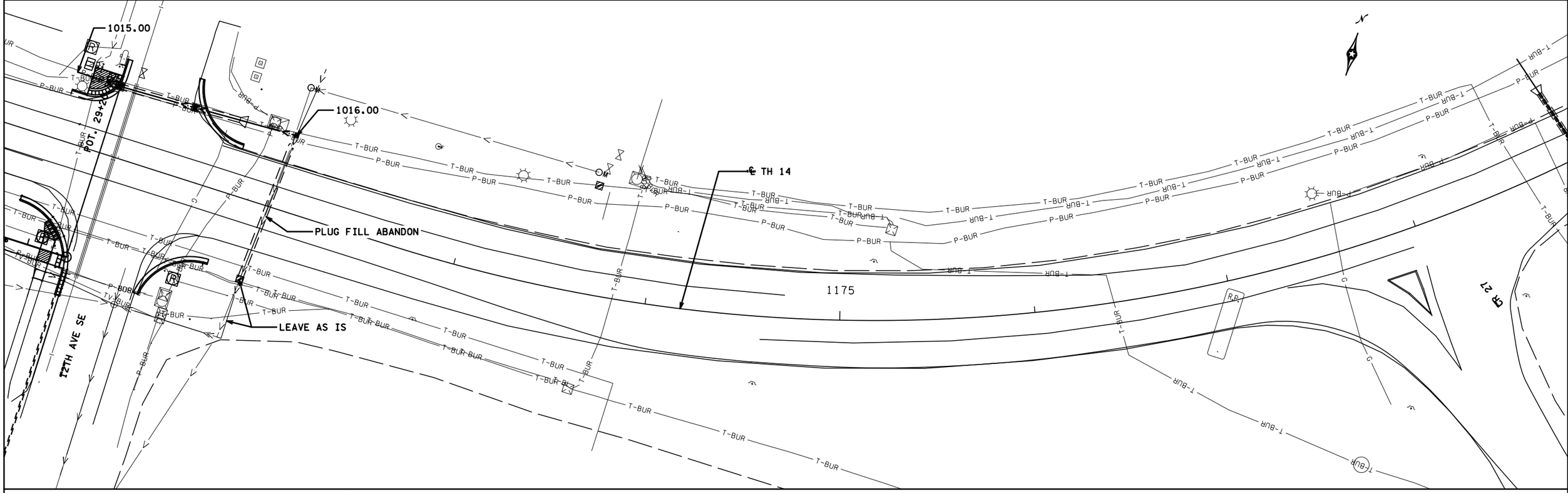
452.0'
8" PERF PE (SMOOTH)
0.40%

CONNECT TO DROP INLET.
SEE CITY PLANS

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 142 OF 152 SHEETS



PLOTTED/REVISED: 14-NOV-2017 16:06

DISTRICT #: 7 - Mankato/Windom
PLOT NAME: h080338_drsheets111
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CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 143 OF 152 SHEETS

PIPE ID 839784
REMOVE METAL APRON
REMOVE METAL CULVERT
PLACE 64' LF 15" CS PIPE CULVERT
PLACE 15" CS PIPE APRON
FL LT. = 1019.57
FL RT. = 1019.28

℄ TH 14

1180

1185

CR 27

53

PIPE ID 665905
VIDEO TAPE CULVERT
CLEAN PIPE CULVERT

SALVAGE CONCRETE APRON RT.
SALVAGE 6 LF CONCRETE CULVERT RT.
INSTALL 6 LF OF CONCRETE CULVERT RT.
PLACE 12 LF OF 24" RC PIPE CULVERT RT.
PLACE 24" RC PIPE APRON RT.

PIPE ID 839785
REMOVE METAL APRON
REMOVE METAL CULVERT

PIPE ID 839786
REMOVE METAL APRON
REMOVE METAL CULVERT

1030.00
1027.50
1025.00
1022.50
1020.00
1017.50
1015.00

INSTALL SLIPLINE THROUGH
ALL OF 24" RCP

SALVAGE CONCRETE APRON
SALVAGE 6 LF CONCRETE PIPE CULVERT

1016.89

1019.05

96.0'
24" RCP CULVERT
0.2%

INSTALL 6 LF CONCRETE CULVERT
PLACE 12LF OF 24" RC PIPE CULVERT
PLACE 24" RC PIPE APRON

REMOVE 2 METAL APRONS &
REMOVE METAL CULVERT

1019.57

1019.28

64.0'
15" CSP CULVERT
0.5%

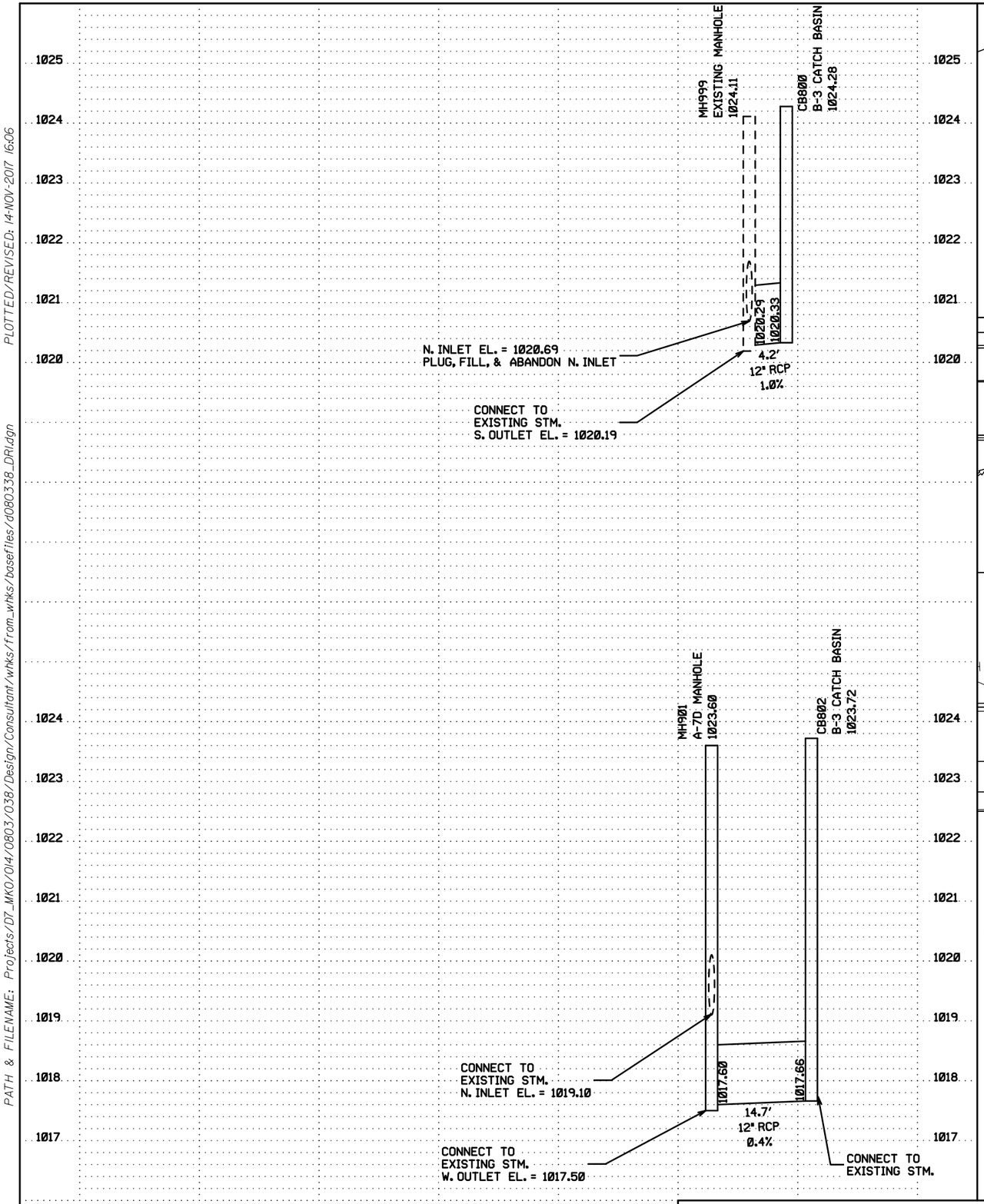
INSTALL 15" CS PIPE CULVERT
& 2 15" CS PIPE APRONS

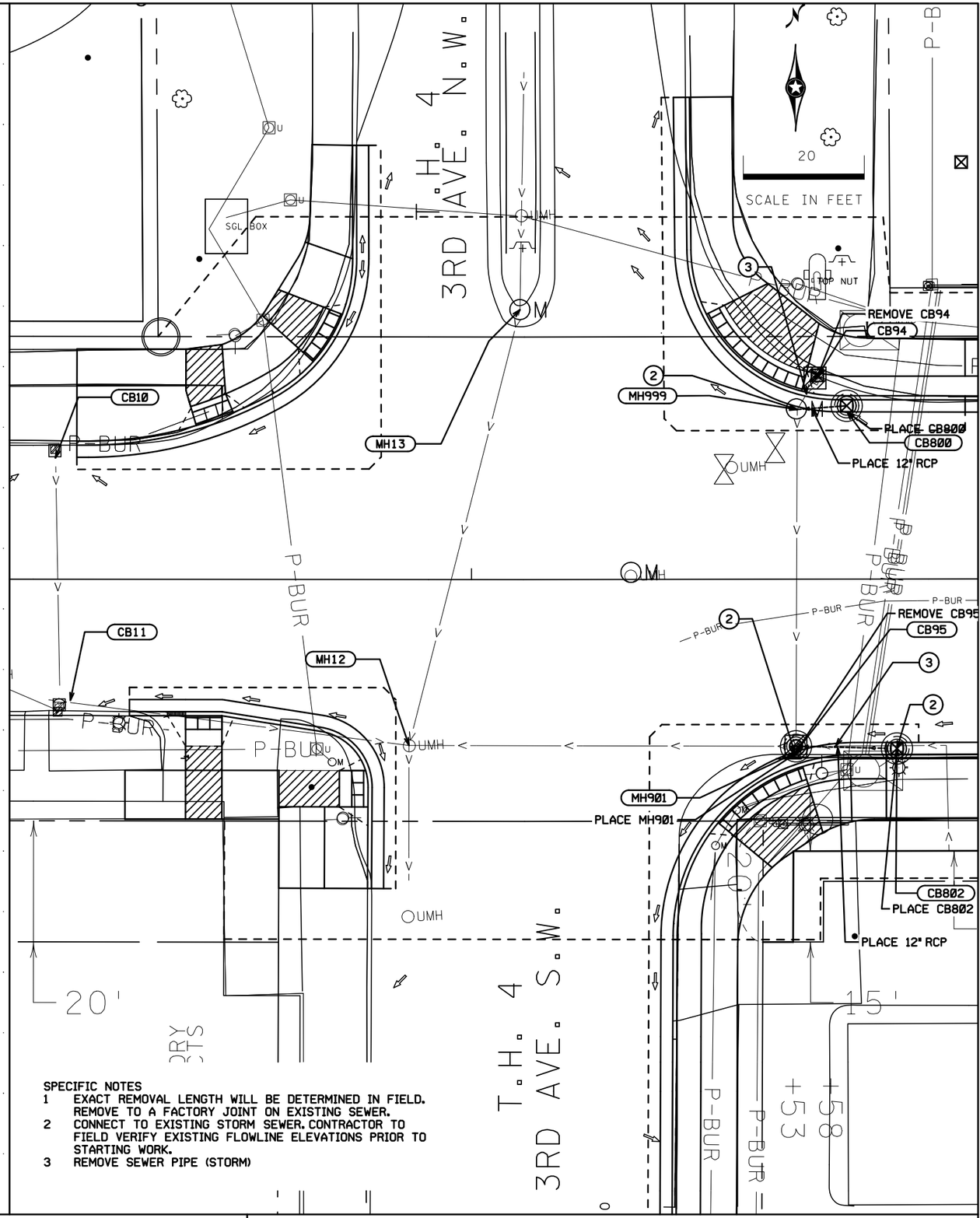
CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 144 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:06
DISTRICT #: 7 - Mankato/Windom
PLOT NAME: h080338_drsheets112
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/PlanSheets/Drainage/h080338_drsheets1.dgn



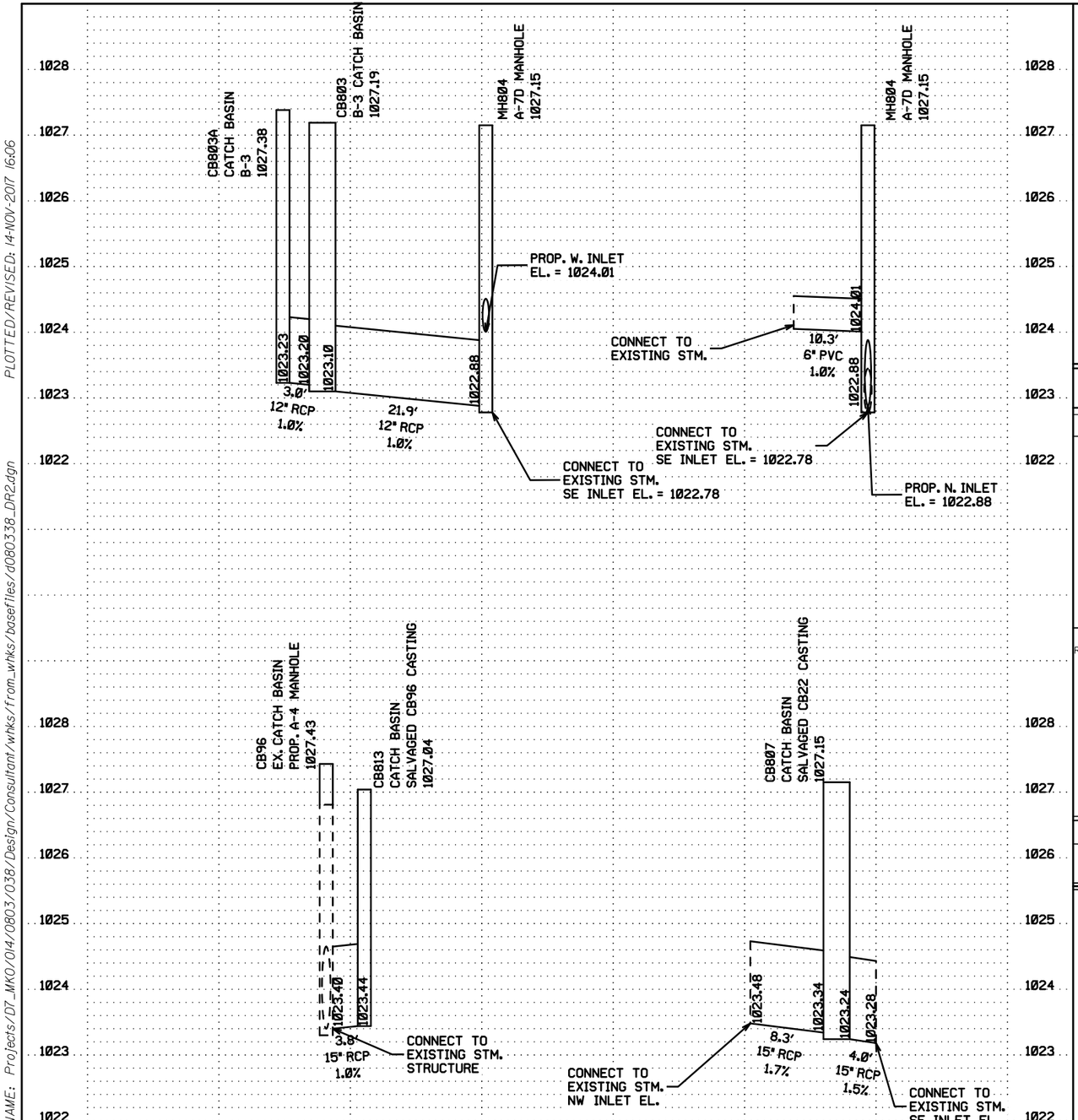


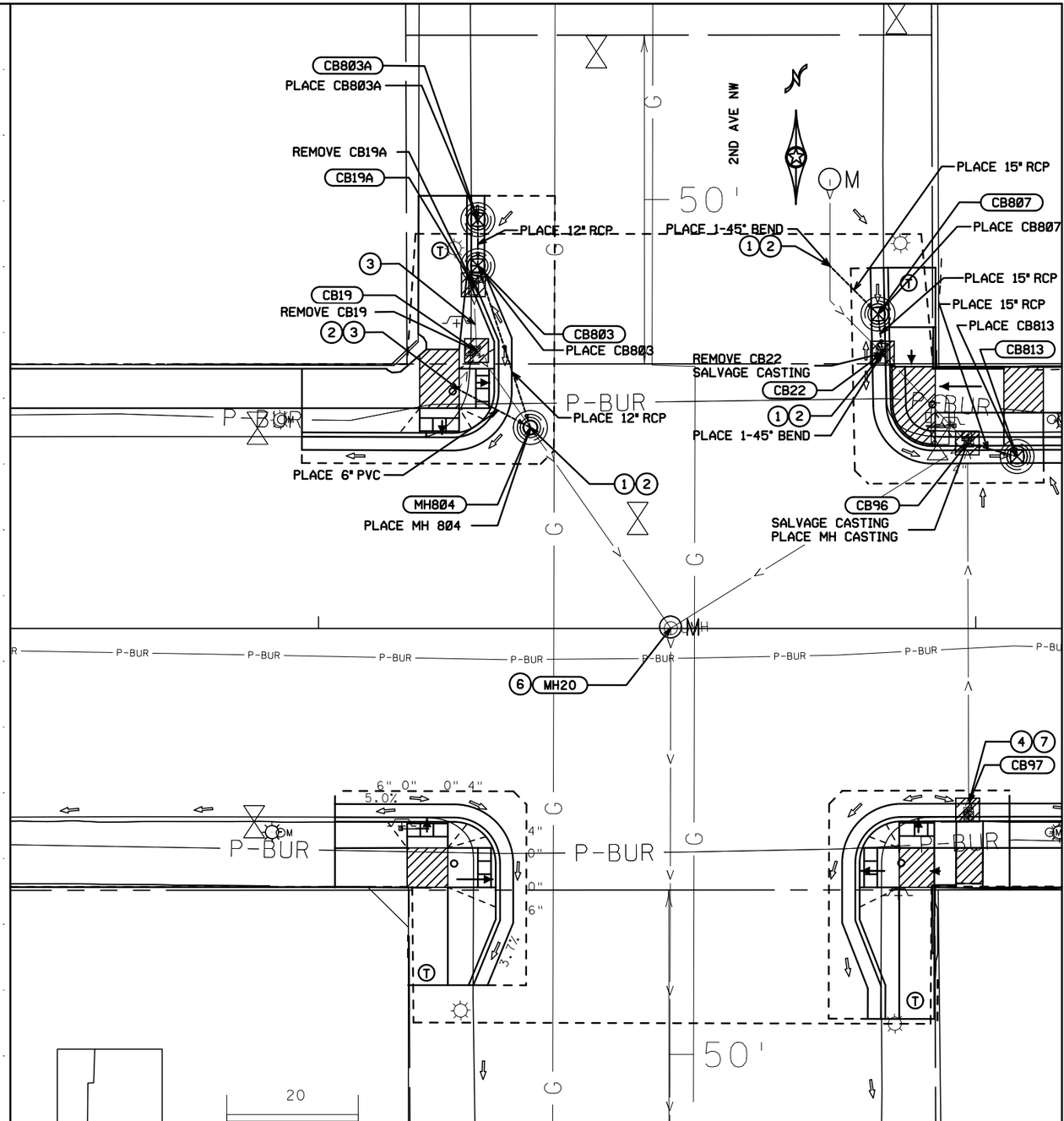
SPECIFIC NOTES
1 EXACT REMOVAL LENGTH WILL BE DETERMINED IN FIELD. REMOVE TO A FACTORY JOINT ON EXISTING SEWER.
2 CONNECT TO EXISTING STORM SEWER. CONTRACTOR TO FIELD VERIFY EXISTING FLOWLINE ELEVATIONS PRIOR TO STARTING WORK.
3 REMOVE SEWER PIPE (STORM)

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 145 OF 152 SHEETS





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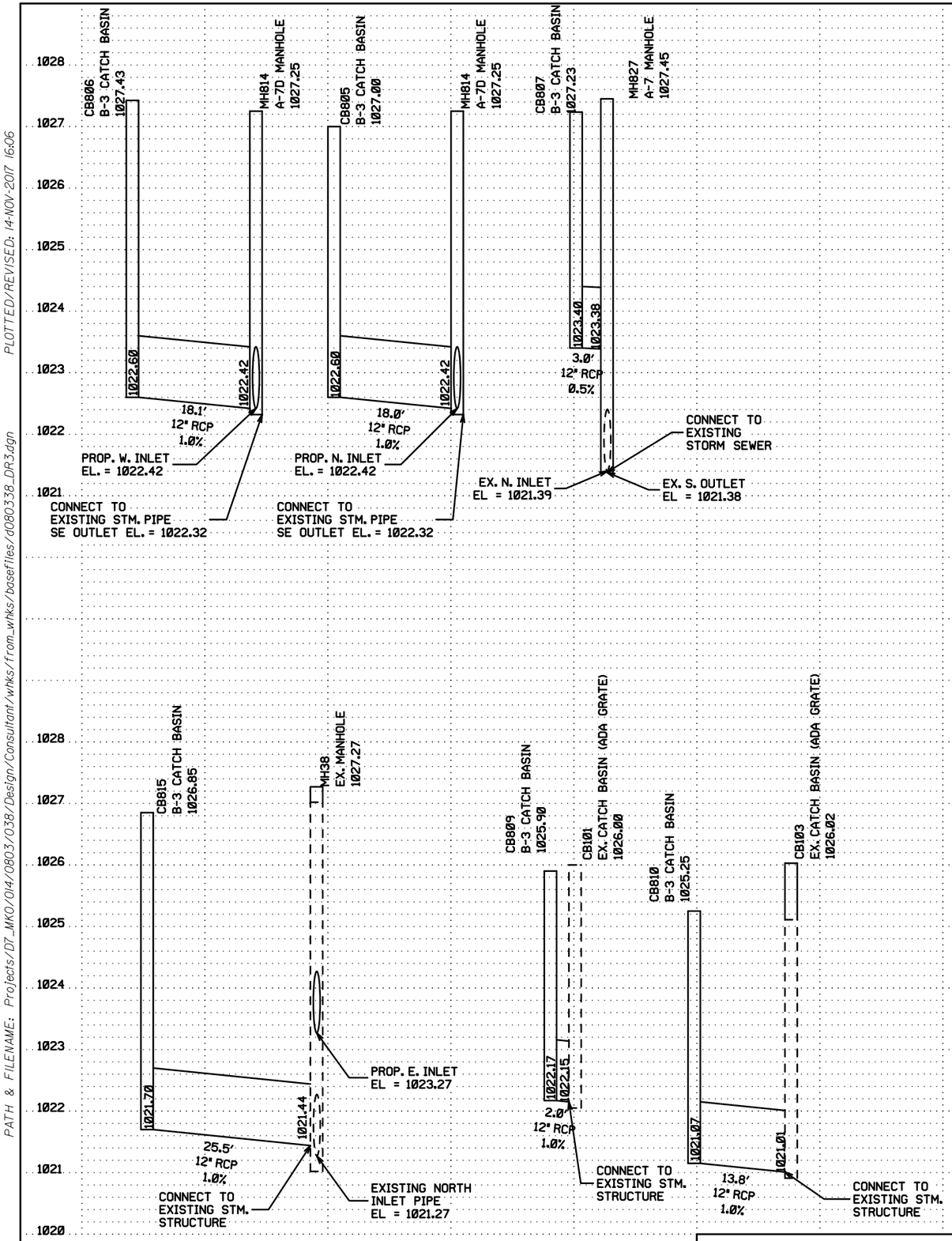
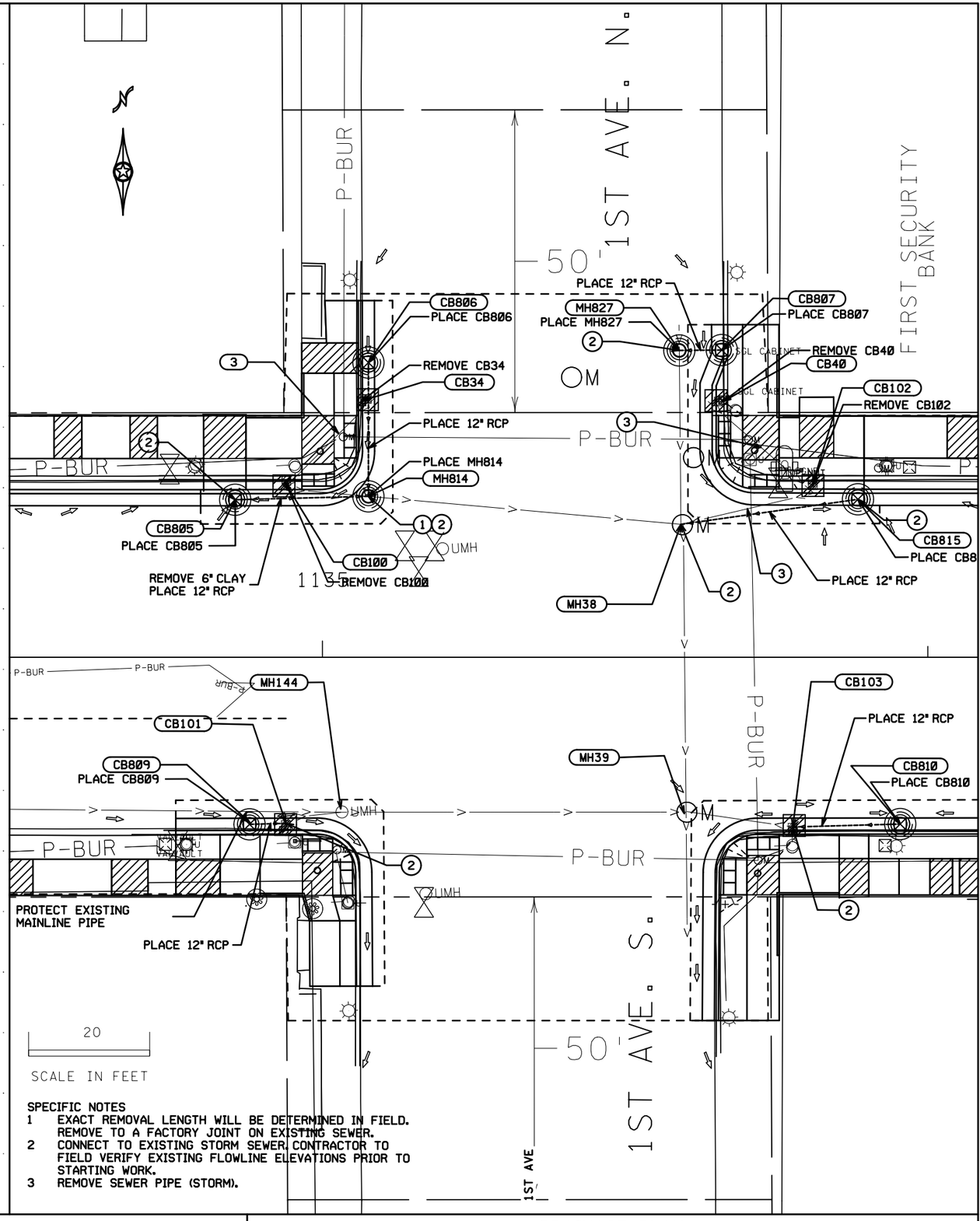
2 CONNECT TO EXISTING STORM SEWER. CONTRACTOR TO FIELD VERIFY EXISTING FLOWLINE ELEVATIONS PRIOR TO STARTING WORK.
3 REMOVE SEWER PIPE (STORM)

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 146 OF 152 SHEETS





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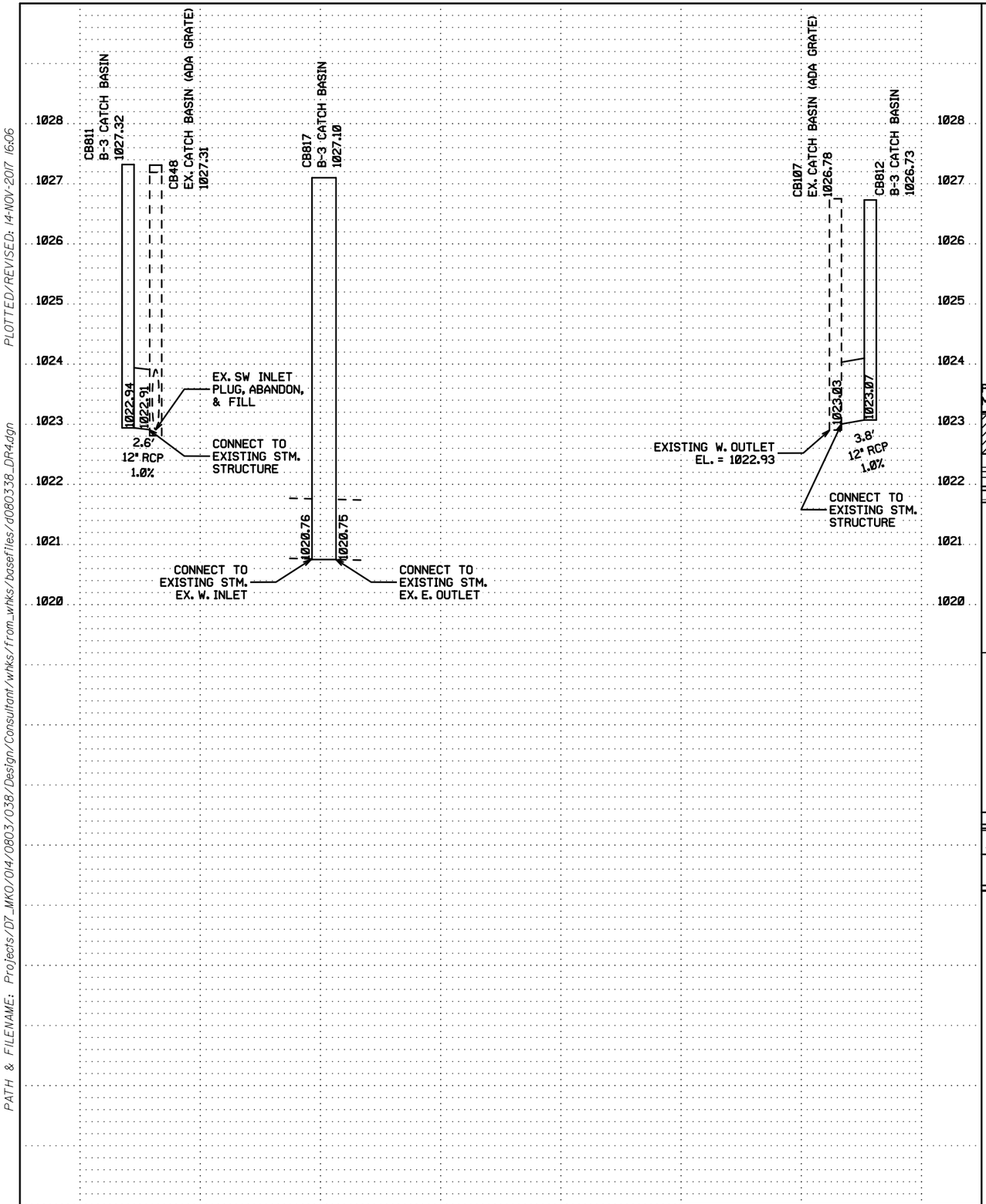
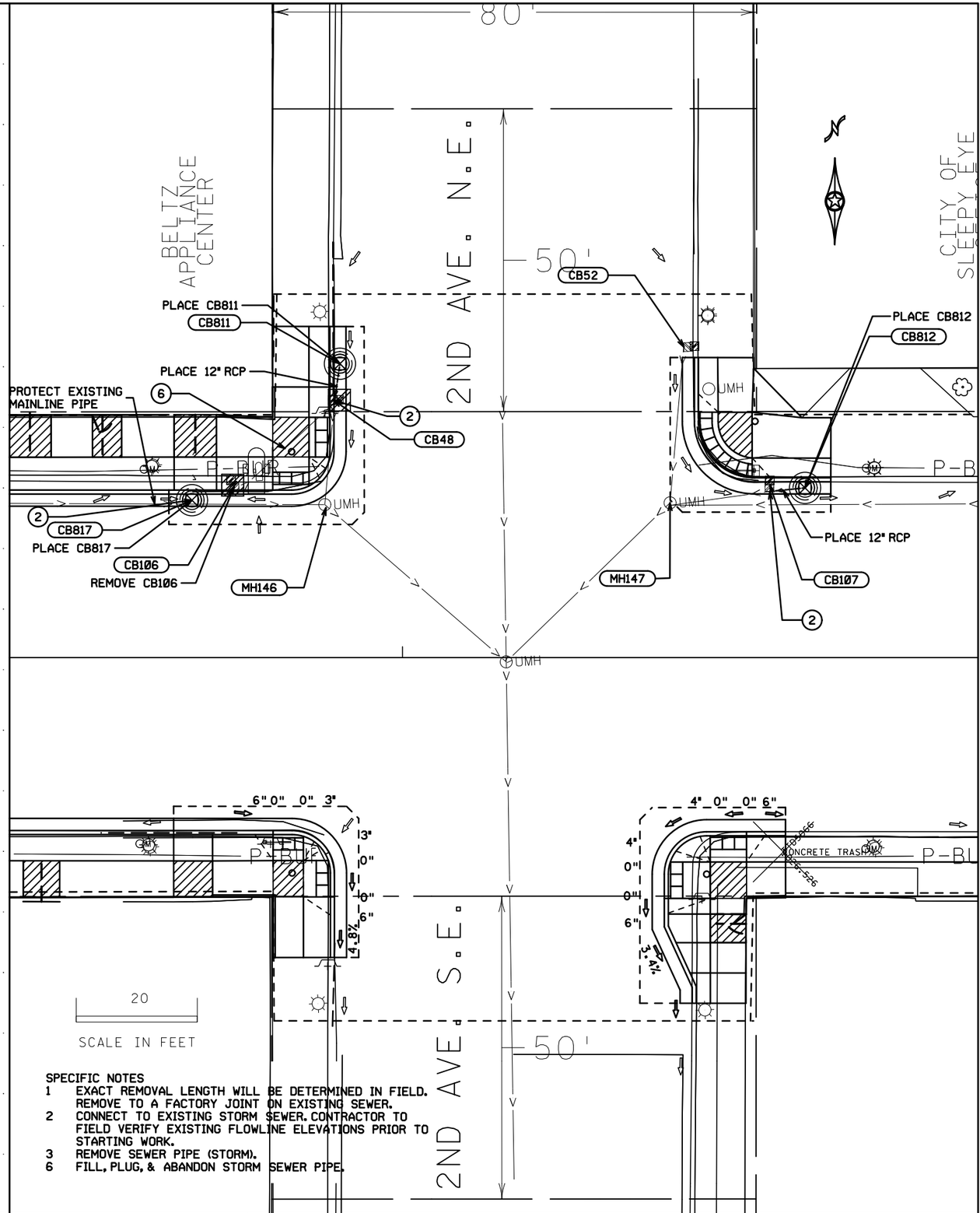
2 CONNECT TO EXISTING STORM SEWER. CONTRACTOR TO FIELD VERIFY EXISTING FLOWLINE ELEVATIONS PRIOR TO STARTING WORK.
3 REMOVE SEWER PIPE (STORM).

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 147 OF 152 SHEETS





SPECIFIC NOTES

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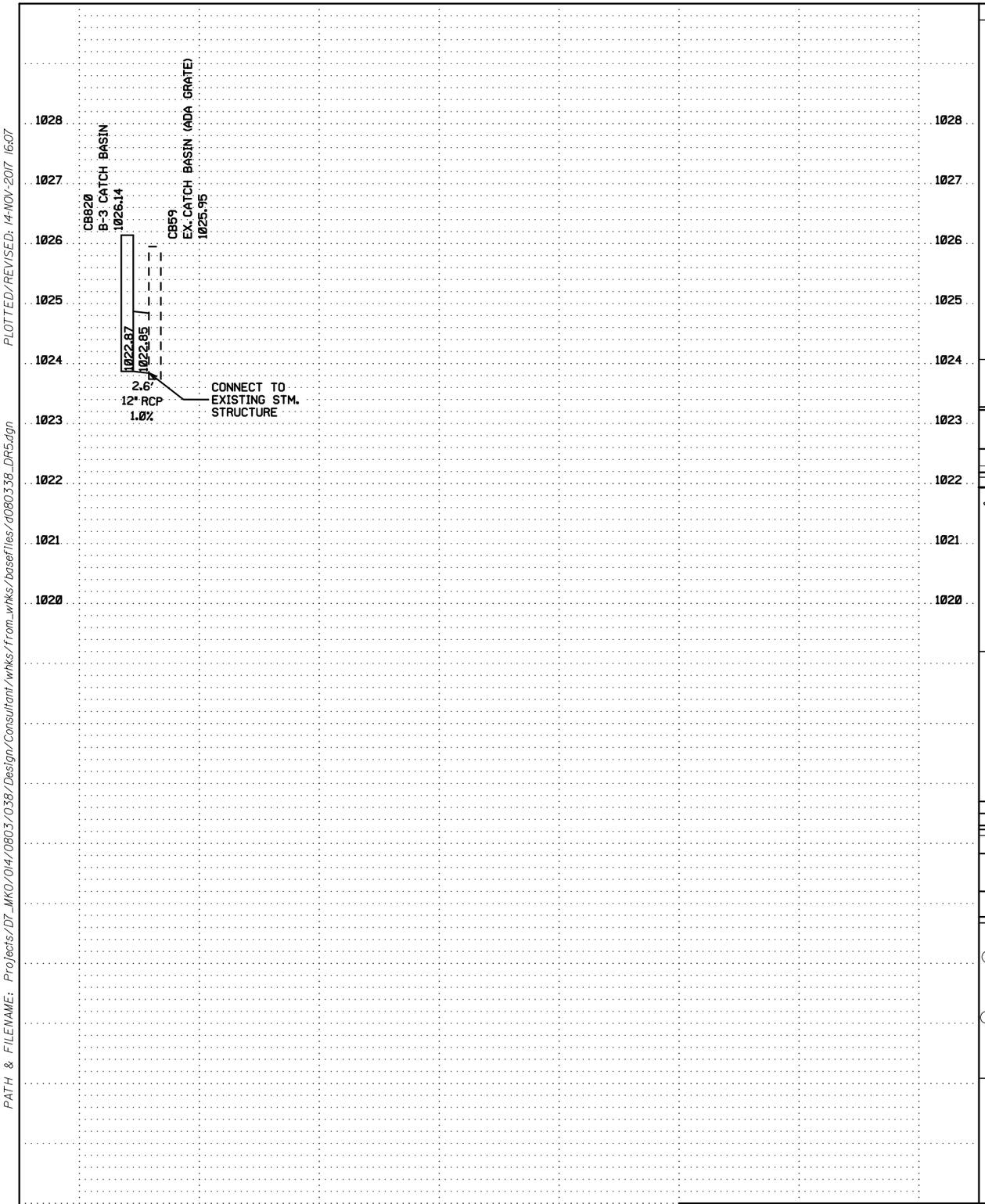
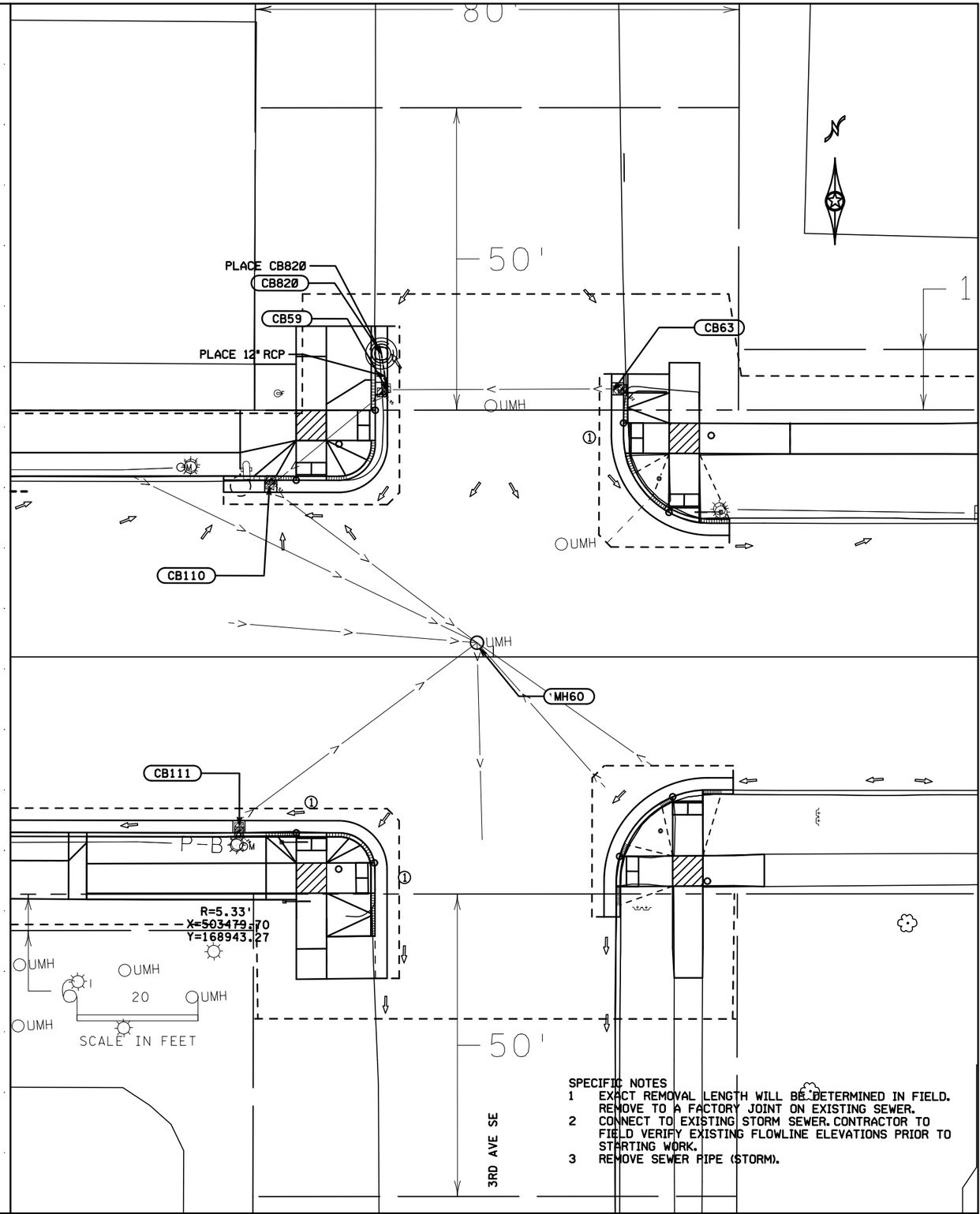
2 CONNECT TO EXISTING STORM SEWER. CONTRACTOR TO FIELD VERIFY EXISTING FLOWLINE ELEVATIONS PRIOR TO STARTING WORK.
3 REMOVE SEWER PIPE (STORM).
6 FILL, PLUG, & ABANDON STORM SEWER PIPE.

CERTIFIED BY A. LAWVER - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 148 OF 152 SHEETS



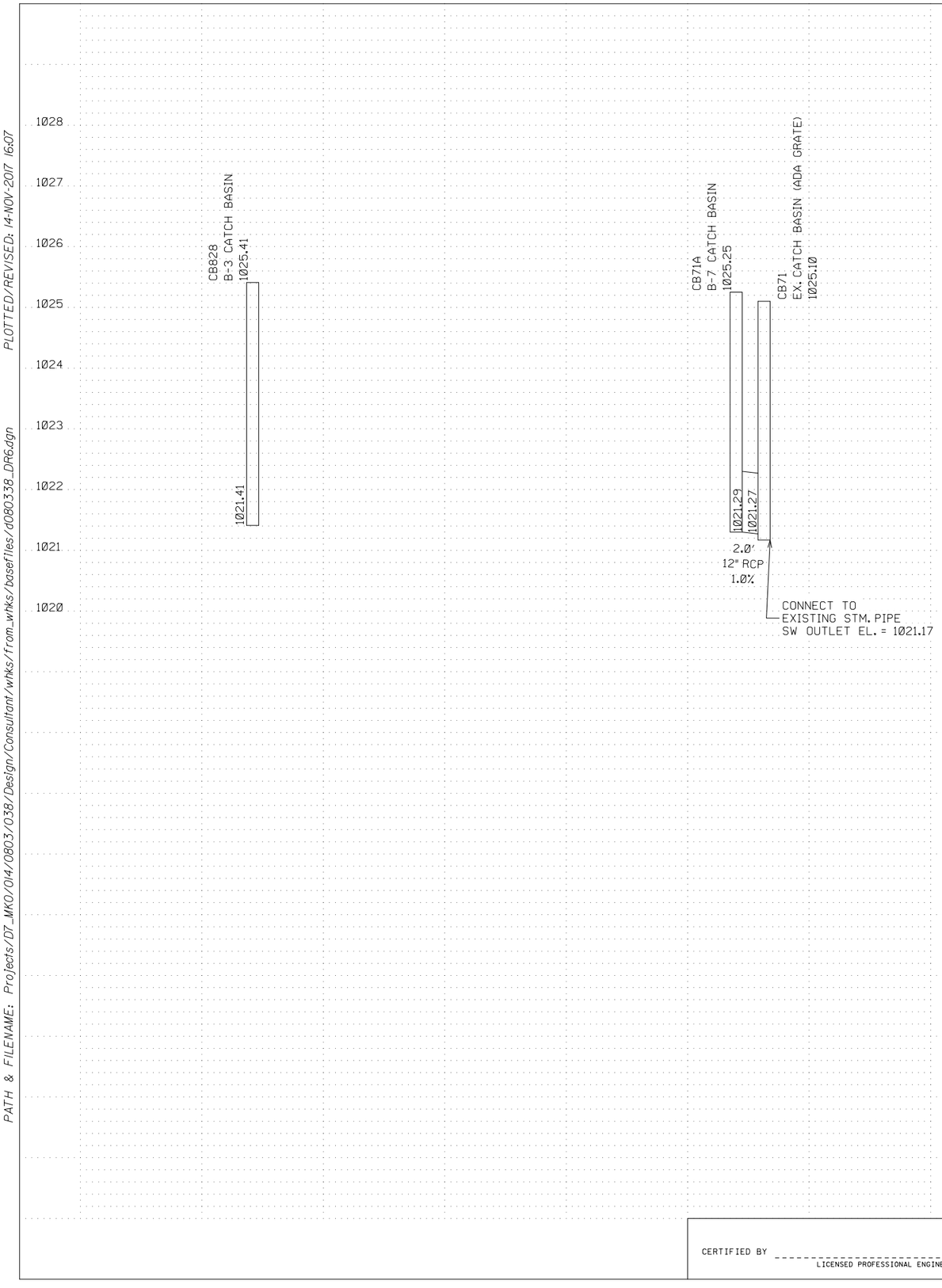


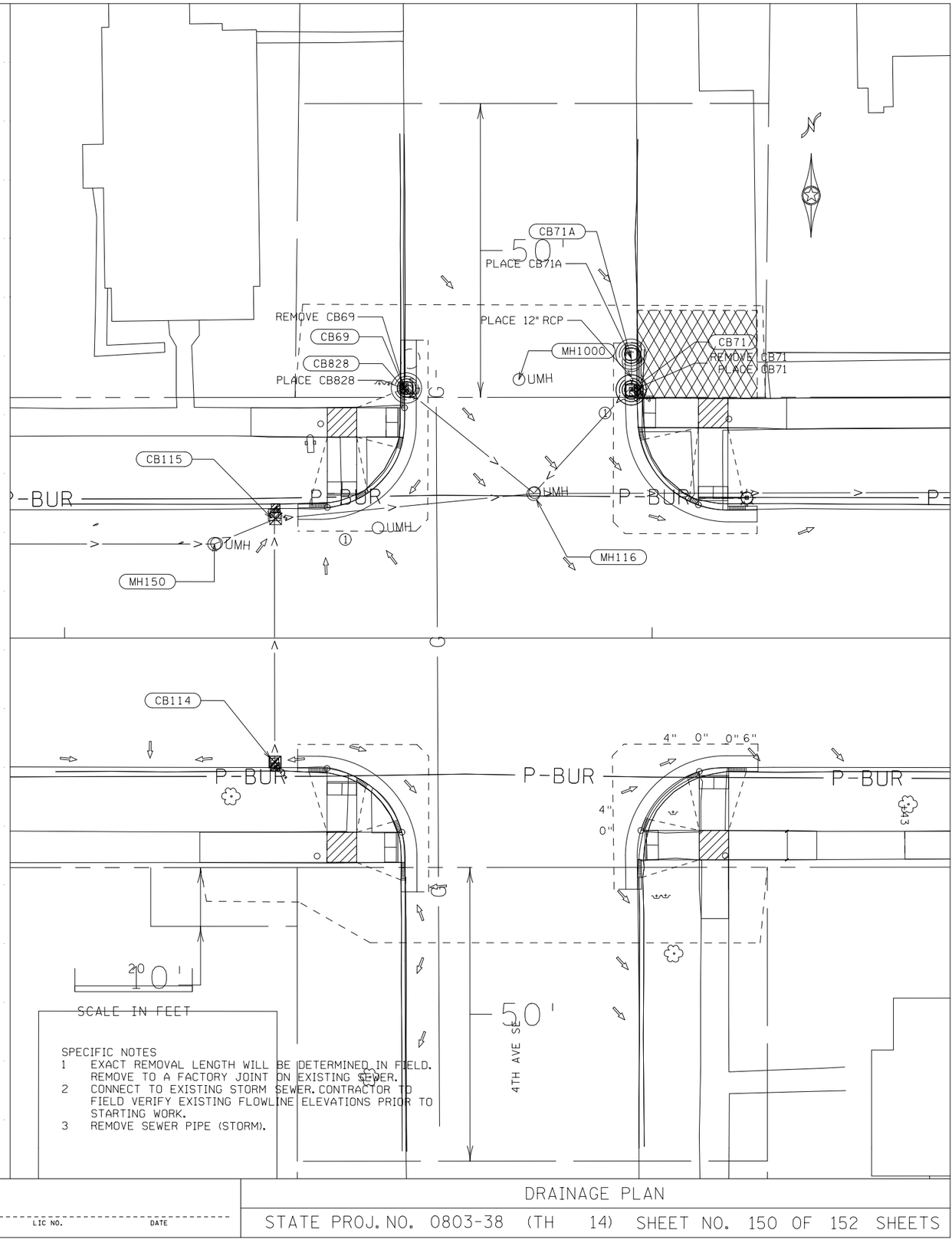
CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 149 OF 152 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:07
DISTRICT #: 7 - Mankato/Windom
USER NAME: lowvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/Consultant whks/from_whks/basefiles/d080338_DR5.dgn





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3 REMOVE SEWER PIPE (STORM).

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

DRAINAGE PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 150 OF 152 SHEETS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

(NPDES PERMIT IS REQUIRED ON THIS PROJECT)

PROJECT NAME/LOCATION

S.P. 0803-38 is located on T.H. 14 from RP 88+00.375 to RP 90+00.231 in Brown County, city of Sleepy Eye, 56085.
Latitude: 44.297 Longitude: -94.726 (from Digital Raster Graphic Topo 7.5-minute) Zip Code(s): 56085.

ENVIRONMENTAL REVIEW

The environmental review that was completed on 01/06/2017 was a Categorical Exclusion Determination. There are no stormwater mitigation measures required as a result of an environmental, archeological or agency review. All mitigation measures have been addressed in this plan set or the special provisions. This project is not located in a well head protection area or Drinking Water Supply Management Area (DWSMA).

PROJECT DESCRIPTION/NARRATIVE

Project includes Mill & Overlay, Concrete Grinding, Replace Sidewalks and New Sidewalks, New Signal System and Signal System Removal, and ADA Improvements.

LONG TERM MAINTENANCE AND OPERATION

MnDOT has entered into a cooperative agreement with City of Sleepy Eye that identifies the agency that is responsible for ongoing maintenance. See agreement number for Construction, on file with MnDOT, for more information.

PROJECT CONTACTS

The project engineer and contractor are responsible for implementation of the SWPPP and installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before, during and after construction until the Notice of Termination (NOT) has been submitted with the Minnesota Pollution Control Agency (MPCA). MnDOT District 7 staff and members of MnDOT's Office of Environmental Stewardship are also available for technical assistance.

MnDOT District 7
Construction Engineer
Keith Bloomgren
507-831-8025
180 S. Cty. Rd. 26, Windom, MN 56101
keith.bloomgren@state.mn.us

MnDOT District 7
Maintenance Supervisor (owner)
Mark Larson
507-375-4051
1513 7th Avenue S, St. James, MN 56081
mark.larson@state.mn.us

Contractor is:

Co-Permitee

ORGANIZATION	CONTACT NAME	PHONE	PERMIT NO.
MnDOT District 7 Design	Andrew Lawver	507-304-6216	N/A
MnDOT District 7 Hydraulics (SWPPP Designer)	Kyle Vogt	507-304-6139	N/A
Construction Site Manager	Keith Bloomgren	507-831-8025	N/A
MnDOT Office of Environmental Stewardship	Lori Belz	651-366-3607	N/A
MN Department of Natural Resources	Peter Leete	651-366-3634	2004-0001
Minnesota Pollution Control Agency			MN R100001
Army Corp of Engineers	Ben Orne	651-290-5358	RGP-002-MN
MPCA's General Permit for Construction Stormwater			97870

MPCA 24 HOUR EMERGENCY NOTIFICATION: 651-649-5451 TOLL FREE: 800-422-0798

EROSION CONTROL SUPERVISOR

In accordance with spec. 2573.3 A1 the contractor shall provide an Erosion Control Supervisor with a valid certification to direct the contractor and subcontractors operations and insure compliance with federal, state and local ordinances and regulations. The Erosion Control Supervisor will work with the project engineer to oversee the implementation of the SWPPP and the installation, inspection, and maintenance and repair of the erosion prevention and sediment control BMPs before, during and after construction until the NOT has been filed with the MPCA.

The Erosion Control Supervisor is responsible for complying with all the inspection and maintenance requirements stated in the NPDES permit. Inspections of the entire construction site will occur a minimum of once every seven days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. The Erosion Control Supervisor will oversee inspection of all erosion prevention and sediment control BMPs to ensure integrity and effectiveness of each BMP. All inspections and maintenance conducted during construction must be recorded in writing (within 24 hrs.) and these records must become part of the SWPPP. Inspection reports must be submitted to the project engineer in a format that meets or exceeds the project engineer's expectations. Records of each inspection and maintenance activity shall include:

A. Date and time of inspections;
B. Name of persons conducting inspections;
C. Findings of inspections, including specific locations where corrective actions are needed;
D. Corrective actions taken, including dates, times, and party completing maintenance activities;
E. Date and amount of all rainfall events greater than 0.5 inch in 24 hours;
F. Photograph and description of discharge (i.e. color, odor, floating, settled or suspended solids, foam, oil sheen,etc.); and
G. Documents and changes made to the SWPPP.

Rainfall amounts must be obtained by a properly maintained rain gage on site, a weather station within 1 mile of site, or a weather reporting system that provides site specific rainfall data from radar summaries.

LOCATION OF SWPPP REQUIREMENTS

The required SWPPP elements are located in several places within the plan set as well as in the special provisions and MnDOT spec book (2016 edition). Soils maps are on file at the MnDOT Mankato office. The notes and table below are a quick reference for the contractor and project engineer to use in the field. There may be additional required SWPPP elements included on the project that are not listed on this sheet.

SWPPP TRAINING

This SWPPP was prepared by MnDOT personnel certified, or under the supervision of someone certified, in the design of construction SWPPPs. Copies of the certifications are on file with MnDOT and are available upon request. The contractor is responsible for providing an erosion control supervisor with valid certification that is responsible for overseeing the implementation of the SWPPP. The contractor must provide proof of certification at the preconstruction meeting and will not be allowed to commence work until proof of certification has been provided to the project engineer.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	LOCATION
SITE MAP & EROSION CONTROL SHEETS	SHEETS NO. 97 111
DIRECTION OF FLOW	SHEETS NO. 100-102 104-111
FINAL STABILIZATION	SHEETS NO. 97 111
SOILS AND CONSTRUCTION NOTES	SHEETS NO. 7
DRAINAGE STRUCTURES	SHEETS NO. 133 150
DRAINAGE TABULATION	SHEETS NO. 19 21
STORM SEWER PLAN/PROFILE SHEETS	SHEETS NO. 133 150
STORM SEWER TABULATION	SHEETS NO. 19 21
EROSION AND SEDIMENT CONTROL DETAILS	SHEETS NO. 70 78
EROSION CONTROL TABULATION	SHEETS NO. 11 18
TURF ESTABLISHMENT TABULATION	SHEETS NO. 18

PROJECT WATERBODIES

The following waterbodies are located within one mile of the project limits and receive runoff from the project site. If any of the waterbodies are special or impaired waters, the BMPs described in Appendix A of the NPDES permit will apply to all areas of the site. Approved TMDL implementation plans are also listed.

NAME	TYPE	SPECIAL?	IMPAIRED?	APPROVED TMDL?
JUDICIAL DITCH 30	DITCH	NO	NO	

No work shall occur within the banks of DNR designated Public Waters between March 1 and June 15. Stabilization of soils within 200 feet of the waters edge must be completed within 24 hours during this period.

STORMWATER CONTROLS AND PRECIPITATION

The contractor must plan and implement BMPs to protect receiving waters. The average annual rainfall amount for the project area is 32.3 inches. Average 2-year and 10-year rainfall intensities are 2.74 in/hr and 4.01 in/hr respectively.
Type of stormwater management: regional ponding

LAND FEATURE CHANGES

Total disturbed area: 15.55 acres
Total existing impervious surface area: 13.47 acres
Total post construction surface area: 15.55 acres (14.32 Ac impervious, 1.23 Ac non-impervious)
Total proposed net change in impervious surface area: 0.85 acres

ADDITIONAL SWPPP REQUIREMENTS

-Timing for Installation is described in General SWPPP notes and are specified relative to contractor schedule.
-BMP Design Factors are incorporated in the design of BMP Standard Detail Sheets.
-Soil Management:
Soil types typically found on this project are Webster clay loam, Normania loam.
Preservation Projects: all work is done within road core so there will be no disturbance or compaction outside of road core.
Grading Projects: subsoiling and seeding practices will be done to mitigate for compatction and disturbance beyond road core.
-All MPCA Construction Activity Requirements are incorporated into this SWPPP and associated plan documents.

I HEREBY CERTIFY THAT SHEETS 151 THROUGH 152 WERE PREPARED BY MY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER SCOTT MORGAN — LIC NO. — DATE

SWPPP

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. 151 OF 152 SHEETS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (CONTINUED)

GENERAL SWPPP NOTES FOR CONSTRUCTION ACTIVITY

1. Construction shall be governed by the 2013 NPDES Construction Stormwater Permit, MnDOT Spec Book (2018 Edition), project plans, and special provisions. Reference special provision 1717 for additional MPCA NPDES requirements. The contractor will develop a chain of command with all operators on the site to ensure that the SWPPP will be implemented and stay in effect until the construction project is complete, the entire site has undergone final stabilization, and the NOT has been submitted.

2. The contractor will prepare a written, weekly schedule of proposed erosion control activities for the Project Engineer's approval as per MnDOT Spec 1717.2C.

3. The contractor will prepare and submit a site plan for the Engineer's approval as per MnDOT Spec 1717.2D for concrete management, work in environmentally sensitive areas, areas identified in the plans as "site plan requirement area", any work that will require dewatering, the staging of inlet protection devices over the life of the contract, and as requested by the engineer. All site plans must be submitted to the engineer in writing. The contractor shall allow a minimum of 7 days for MnDOT to review and approve site plan submittals. The contractor will not be allowed to commence work for which a site plan is required until approval has been granted by the engineer. The contractor will not be given any extra time in the contract due to the untimely submittal of a site plan.

4. The contractor will comply with the requirements regarding pollution prevention management during construction, which will include, but not be limited to:
   - A. Concrete (including stucco, paint, form release oils, curing compounds, and other construction materials) washout areas for use by all subcontractors and MnDOT personnel must be identified by signage. These areas must be at least 200' from site plan requirement areas or environmentally sensitive areas, and utilize a leak-proof containment facility or impermeable liner that prevents runoff onto adjacent soils. An engineered collection system can also be used if it is approved by the project engineer. Liquid and solid waste must be disposed of properly and in compliance with all MPCA regulations.
   - B. Solid waste including, but not limited to, collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris, and other wastes, must be disposed of properly and in compliance with MPCA disposal requirements.
   - C. Hazardous waste, such as, oil, gasoline, paint, and other hazardous substances, must be properly stored, including secondary containment, to prevent spills, leaks, or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.
   - D. External washing of trucks and other construction vehicles must be limited to a defined area of the site and runoff must be contained and properly disposed of. Engine degreasing is not allowed on site.
   - E. Chemical spill kits must be available on site at all times.
   - F. Portable restroom facilities must be anchored to prevent tipping.

5. Chemicals must be kept in a secure storage area when not in use. Chemical storage containers must have secondary containment when being used or stored on the project site. Chemical spills of any kind (oil, fuel, fertilizer, etc.) must be cleaned up and removed from the site immediately.

6. The contractor is responsible for creating and following a written disposal plan for all waste materials, and submitting the plan to the engineer. The plan will include how the material will be disposed of and the location of the disposal site.

7. Burning of any material is not allowed within project boundary.

8. The erosion prevention and sediment control BMPs shall be placed as necessary to minimize erosion from disturbed surfaces and to capture sediment onsite. All erosion control measures shall be in place prior to starting any removal work and/or ground disturbing activities and shall be maintained until temporarily or permanently stabilized.

9. Sediment control devices must be established on all down gradient perimeters before any up gradient land disturbing activities begin.

10. Storm sewer inlets will be protected at all times with the appropriate inlet protection for each specific phase of construction. Inlet protection devices may need to be placed multiple times in the same location over the life of the contract. Inlet protection devices will be paid for once per inlet regardless of the number of times the BMP is placed. All storm sewer inlet protection devices will be kept in good functional condition at all times. If the project engineer deems an inlet protection device to be nonfunctional, in poor condition, ineffective, or not appropriate for the current construction activities it will be replaced with a suitable alternative at no cost to MnDOT.

11. The contractor will place construction exits, as necessary, to prevent tracking of sediment onto paved surfaces and in compliance with part IV of the NPDES permit. Construction exits will be sufficiently sized and maintained to prevent track out. Type 5 mulch (slash mulch) or an approved engineered product will be allowed for construction exits in lieu of crushed rock.

12. All stormwater, including dewatering, must be discharged in a manner that does not cause nuisance conditions or erosion in receiving channels, downslope properties or inundation in wetlands causing an adverse impact to the wetland as determined by the engineer.

13. Backfill placed in streams shall consist of rock or granular material free of fines, silts, and mud. Machinery shall be cleaned of all such material and free of grease, oil, etc. before entering the stream.

14. Slopes steeper than 1:3 (V:H) and greater than 75' in length shall be temporarily or permanently stabilized in increments not to exceed 75' in length prior to constructing or disturbing a new increment. If temporary or permanent stabilization is not feasible at a particular site, a sediment basin or other approved sediment control measure will be allowed as approved by the engineer.

15. Land disturbance and removal of riparian (streamside) vegetation shall be minimized.

16. All exposed soil areas must be temporarily or permanently stabilized no more than 14 days (7 days if within 1 mile of and draining to a special or impaired water) after construction activity on that portion of the site has temporarily or permanently ceased. Stabilization must be initiated immediately. In many instances, this will require stabilization to occur more than once during rough grading. Rapid stabilization methods 1, 2, 3 or 4 will be used to provide temporary cover, as appropriate, in these areas.

17. All temporary or permanent drainage ditches or swales that drain water from the construction site or divert water around the construction site must be stabilized to top of bank within 200 lineal feet from the property edge or point of discharge to any surface water. Stabilization must occur within 24 hours of connection to surface water, existing gutter, storm sewer inlet, drainage ditch, or other stormwater conveyance system according to MnDOT Spec 1717.2A. Rapid stabilization Method 4 will be used to stabilize these areas. The remainder of the ditch must be stabilized within 14 days (7 days if within 1 mile of and draining to a special or impaired water) of connecting to the surface water. Permanent erosion control blanket or rapid stabilization Method 4 will be used to stabilize these areas. Disc anchored mulch and hydraulic soil stabilizers are not allowed to be used for permanent ditch stabilization.

18. Outlets shall be permanently or temporarily stabilized with energy dissipation within 24 hours of being constructed.

19. All exposed soil areas will be stabilized prior to the onset of winter. Any work still being performed will be snow mulched, seeded, or blanketed within the time frames indicated in the NPDES permit.

20. The contractor shall comply with the following inspection and maintenance requirements:
   - A. Perimeter control devices must be repaired, replaced, or supplemented when it becomes non-functional or sediment reaches 1/2 the height of the device. Repairs must be made within 24 hours of discovery.
   - B. Inlet protection devices should be repaired when they become non-functional or sediment reaches 1/3 the height and/or depth of the device.
   - C. Temporary and permanent sediment basins must be drained and have the sediment removed once the sediment has reached 1/2 the storage volume within 72 hours of discovery.
   - D. Tracked sediment must be removed within 24 hours of discovery of tracking onto paved surfaces.
   - E. All other non-functional BMPs must be repaired, replaced, or supplemented within 24 hours of discovery.
   - F. Contractor is responsible for maintaining all BMPs until all soil disturbing work has been completed, site has gone under final stabilization, and the NOT has been submitted.

21. If sediment deposits in a surface water (including drainage ditches and conveyance systems), the material must be removed within 7 days.

22. Pavement surfaces shall be swept within 24 hours of discovery of sediment or tracking onto pavement that drains to curbs, inlets, ditches, or ponds. Pavement shall be lightly wetted prior to sweeping.

23. Temporary dewatering activities may be required for roadway construction and utility work. Therefore it is possible that a permit for the temporary appropriation of waters of the state, non-irrigation from MnDNR will be required for this project. The contractor will be responsible for obtaining this permit. All temporary dewatering shall be discharged to an approved location for treatment prior to discharge to the receiving water. The contractor is required to submit site plans to MnDOT engineer for approval prior to commencing work according to MnDOT Spec 1717.2D.

24. Final stabilization requires that:
   - A. All soil disturbing activities at the site have been completed.
   - B. All soils have been stabilized by a uniform perennial cover with a density of 70% or other equivalent means to prevent soil failure under erosive conditions.
   - C. All accumulated sediment has been removed from permanent water quality basins.
   - D. The permanent stormwater management system has been constructed and is operating as designed.
   - E. All temporary synthetic and structural erosion prevention and sediment control BMPs have been removed.

25. The size and elevation of storm sewer pipes, inlets and overflow devices have been specifically designed to conform to MnDOT design standards, MPCA and watershed district permit requirements. The design computations are on file with MnDOT District 7 Hydraulics. Changing flow directions, quantities, or patterns is not permitted. Any changes to the size, elevation or direction of flow of the drainage system must be approved by the hydraulics engineer.

26. The NOT form can be found on the MPCA Stormwater Program for Construction Activity webpage. Submit the completed NOT form to the MnDOT District 7 Construction Office for final submittal to MPCA.

27. Temporary soil stockpiles must have silt fence or other effective perimeter control. Soil stock piles must be convered with mulch, plastic or other BMP if left in place for more than 7 days (incidental).

Note: information on this sheet is available in the permit and is not intended to be all inclusive. Modifications from the permit will be underlined for quick identification.

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER SCOTT MORGAN — LIC NO. — DATE

SWPPP

STATE PROJ. NO. 8827-112 (TH 14) SHEET NO. 152 OF 152 SHEETS

CITY OF SLEEPY EYE, MINNESOTA

CONSTRUCTION PLANS FOR

2018 T.H. 14 UTILITY IMPROVEMENTS

STATE PROJ. NO. 0802-48, 0803-38, 0804-114

STORM SEWER, CONCRETE & BITUMINOUS STREET SURFACING
AND RECTANGULAR RAPID FLASHING BEACON (RRFB)

NOVEMBER, 2017

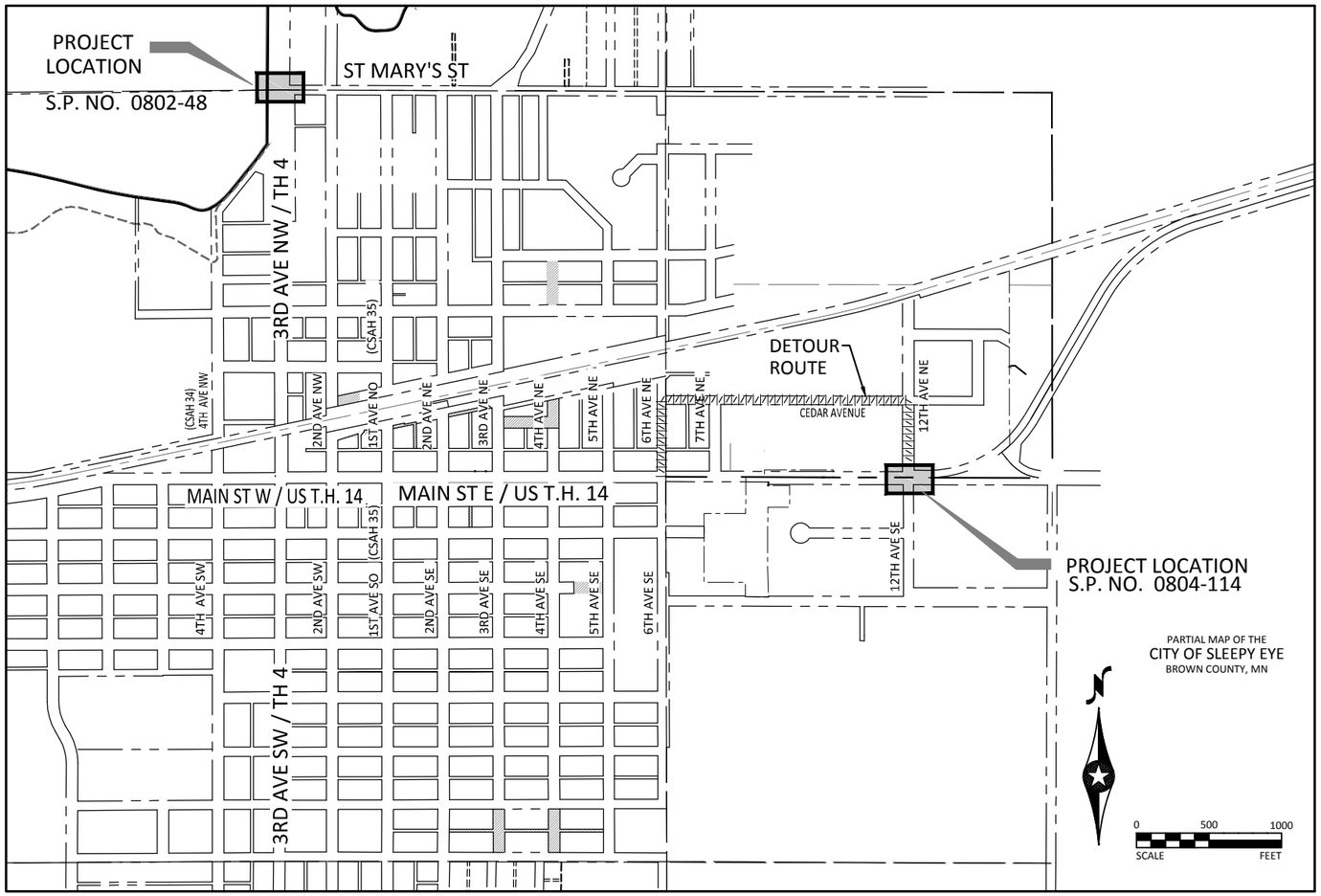
DESIGN DESIGNATION - TIER NO.

ADT (Current Year) 2012 = 8500
ADT (Future Year) ..... = ...
DHV (Design Hr. Vol.) = ...
D (Directional Distr.) = ...%
T (Heavy Commercial) = ...%
Design Speed .....
Based on ..... Sight Distance
Height of eye..... Height of object.....
Design Speed not achieved at: .....
STA. ..... TO STA. ..... MPH .....
STA. ..... TO STA. ..... MPH .....

FOR PLANS & UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO
0803-38

PLAN REVISIONS		
DATE	SHEET NUMBER	APPROVED BY



MAP LEGEND

PROJECT LOCATIONS

DETOUR ROUTE

SHEET INDEX

SHEET NO. TITLE

* THIS PLAN SET CONTAINS 13 SHEETS *

RESOURCE LIST

CITY OF SLEEPY EYE

City Hall
200 Main Street East
Sleepy Eye, MN 56085
(507) 794-3741

Mayor: Wayne Pelzel

City Manager: Mark Kober

City Council Members:
Doug Pelzel
Joann Schmidt
Larry Braun
Nathan Stevermer
Richard Zinniel

City Engineer:
(Consultant)
David A. Palm P.E.
Bolton & Menk, Inc.
140 First Avenue North
P.O. Box 434
Sleepy Eye, MN 56085
(507) 794-5541

UTILITIES

GAS
Center Point Energy
700 West Linden Avenue
P.O. Box 1165
Minneapolis, MN 55440-1165
Andrew Balgobin, Delivery Systems Engineering
Phone: 612-321-5426

TELEPHONE
New Ulm Telecom
27 North Minnesota
New Ulm, MN 56073
Phone: 507-354-4111
Attn: Alan Felber

CABLE
MediaCom
902 South Highway 15
Hutchinson, MN 55350
Phone: 612-325-7634
Attn: Paul Davis

ELECTRIC, SEWER & WATER
Sleepy Eye P.U.C.
130 2nd Avenue NW
Sleepy Eye, MN 56085
Phone: 507-794-4371
Attn: Bob Elston

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL, 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DAVID A PALM, P.E.

LIC. NO. 22574 DATE: / /

PROJECT LOCATION
COUNTY : BROWN
DISTRICT : D7E

BM=1032.44
TOP OF HYDRANT
NW QUAD OF TWELFTH AVE. NE AND CEDAR ST.

PROJECT DATUM: COUNTY COORDINATES
HORIZONTAL: BROWN COUNTY NAD83 2007 (ADJUSTMENT)
VERTICAL: NGVD 29

BOLTON & MENK

1243 CEDAR STREET NE
SLEEPY EYE, MINNESOTA 56085
Phone: (507) 794-5541
Email: SleepyEye@bolton-menk.com
www.bolton-menk.com

RECORD DRAWING INFORMATION
OBSERVER:
CONTRACTOR:
DATE:

S.P. NO. 0803-38

CITY OF SLEEPY EYE, MINNESOTA

2018 T.H. 14 UTILITY IMPROVEMENTS - SP 0803-38

TITLE SHEET

SHEET M1

H:\SEYE\S13109231\CAD\C3D_Storm Sewer Imp- TH 14-12th Ave\109231TTL-2018.dwg 11/14/2017 9:11 AM

REMOVALS, EXCAVATION, AGGREGRATE, PAVEMENTS, AND TURF RESTORATION TABULATION, M (MUNICIPAL) PLAN SHEETS

TAB M1

STA. TO STA.	OFFSET TO OFFSET	SAWING CONCRETE PAVEMENT (FULL DEPTH)	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	REMOVE CONCRETE PAVEMENT	REMOVE BITUMINOUS PAVEMENT	REMOVE CURB AND GUTTER	EXCAVATION - COMMON (P)	EXCAVATION - SUBGRADE (EV)	COMMON TOPSOIL BORROW (LV)	AGGREGATE BASE (CV) CLASS 5Q	GEOTEXTILE FILTER TYPE 5	TYPE SP 9.5 WEARING COURSE (4,E)	CONCRETE CURB AND GUTTER DESIGN B624	CONCRETE PAVEMENT (8.0")	DOWEL BAR	DRILL & GROUT DOWEL BAR (EPOXY COATED)	SUPPLEMENTAL PAVEMENT REINFORCEMENT	REINFORCEMENT BAR (EPOXY COATED)	STORM DRAIN INLET PROTECTION	RAPID STABILIZATION METHOD 4	REMARKS
		LIN FT	LIN FT	SQ YD	SY YD	LIN FT	CU YD	CU YD	CU YD	CU YD	SQ YD	TON	LIN FT	SQ YD	EACH	EACH	POUND	EACH	EACH	SQ YD	
TH 14																					
100% CITY																					
1170+76 - 1171+10	24 LT - 24 RT	56	111	106	188		50	25		47	188	91		188	92	52	315	24			
1170+76 - 1171+50	24 RT - 82 RT		81		197		66	33		99	197	72									
1168+00 - 1172+50	24 LT - 50 LT						100		40										8	850	
100% CITY SUBTOTAL		**56**	**192**	**106**	**385**		**216**	**58**	**40**	**146**	**385**	**163**		**188**	**92**	**52**	**315**	**24**	**8**	**850**	
TH 14																					
SP 0804-114																					
1171+00 - 1172+50	24 LT - 55 LT		87		138	45	46	23	10	69	138	50	80						7	250	INLET PROTECTION IS FOR S. DITCH & SEE MNDOT PLANS FOR EROSION PROTECTION OF S. DITCH
SP 0804-114 SUBTOTAL			**87**		**138**	**45**	**46**	**23**	**10**	**69**	**138**	**50**	**80**						**7**	**250**	
GRAND TOTAL		**56**	**279**	**106**	**523**	**45**	**262**	**81**	**50**	**215**	**523**	**213**	**80**	**188**	**92**	**52**	**315**	**24**	**15**	**1100**	

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www.bolton-menk.com

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DAVID A. PALM, P.E.
LIC. NO. 22574 DATE / /

DESIGNED DAP
DRAWN sml
CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TABLES
STATEMENT OF ESTIMATED QUANTITIES

SHEET M2

STORM SEWER TABULATION, M (MUNICIPAL) PLAN SHEETS

TAB M2

STRUCTURE NO.		STRUCTURE LOCATION			REMOVE SEWER PIPE (STORM)	REMOVE METAL CULVERT	PLUG, FILL & ABANDON PIPE	LEAN MIX BACKFILL	REMOVE CONCRETE APRON	REMOVE METAL APRON	REMOVE DROP INLET	REMOVE LIGHT FOUNDATION	REMOVE DRAINAGE STRUCTURE	ADJUST FRAME AND RING CASTING	CONST. DRAINAGE STRUCTURE			TOP OF CASTING ELEVATION	OUTLET ELEVATION	CASTING ASSEMBLY TYPE	CASTING ASSEMBLY SPECIAL
FLOWS FROM	FLOWS TO	SHEET	STATION	OFFSET	LIN FT	LIN FT	LIN FT	CU YD	EACH	EACH	EACH	EACH	EACH	EACH	DESIGN SPECIAL 1 EACH	DESIGN 48-4022 LIN FT	DESIGN F LIN FT	FT	FT	EACH	EACH
TH 14																					
100% CITY																					
EAST	WEST	M9	1168+43-1168+86	35 LT		43				1											
EXIST	EX MH 1	M9	1171+40	71.6 RT	13			5						1							
EXIST	EX CB 2	M9	1171+09	35.6 LT								1	1								
MH 2	EX MH 1	M10-M11	1170+91	40.7 LT											1			1025.80	1013.10	A-7D	
				100% CITY SUBTOTAL	**13**	**43**		**5**		**1**		**1**	**1**	**1**	**1**					**1**	
TH 14																					
SP 0804-114																					
EXIST	EX CB 2B	M9	1171+09.9	35.6 LT	32				1				1								
EXIST	EX CB 2C	M9	1171+49.79	36.8 LT	32				1				1								
EXIST	EX CB 2D	M9	1172+02.42	32.6 LT	8		70				1										
EXIST	CB 3 LOC	M9	1168+16.25	47.5 RT	20																
EXIST	EX CB 4	M9	1170+64.48	43.6 RT	5																
EXIST	EX CB 5	M9	1171+97.77	37.9 RT	26																
CB 2A	MH 2	M9-M11	1170+40.07	36.0 LT												10.1		1023.80	1013.75		
CB 2B	MH 2	M9-M11	1171+09.33	43.3 LT											10.4			1024.93	1014.56		1
CB 2C	CB 2B	M9-M11	1171+50.17	43.4 LT											9.9			1025.01	1015.17		1
CB 2D	CB 2C	M9-M11	1172+02.42	32.6 LT												6.5		1022.41	1015.90	M-11	
CB 3	EXIST 12"	M9-M11	1168+16.25	47.5 RT												6.7		1022.99	1016.28	M-11	
CB 4	EXIST 15"	M9-M11	1170+64.57	48.5 RT												6.7		1022.90	1016.19		
CB 5	EXIST 18"	M9-M11	1171+96.13	60.0 RT												6.5		1020.27	1013.82		
				SP 0804-114 SUBTOTAL	**123**		**70**		**2**		**1**		**2**			**20.3**	**36.5**			**2**	**2**
				GRAND TOTAL	**136**	**43**	**70**	**5**	**2**	**1**	**1**	**1**	**3**	**1**	**1**	**20.3**	**36.5**			**3**	**2**

SEE SHEET M4 FOR CONTINUATION OF STORM SEWER TABULATION TABLE

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www.bolton-menk.com

REV	ISSUED FOR	DATE
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DAVID A. PALM, P.E.
LIC. NO. 22574 DATE __/__/__

DESIGNED DAP
DRAWN sml
CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TABLES
STORM TABLE

SHEET M3

STORM SEWER TABULATION, M (MUNICIPAL) PLAN SHEETS

TAB M2

STRUCTURE NO.		STRUCTURE LOCATION			SALVAGE CATCH BASIN	INSTALL CATCH BASIN	SALVAGE CASTING	INSTALL CASTING	4" PERF PE PIPE DRAIN	8" PERF PE PIPE DRAIN (SMOOTH)	10" PVC PIPE SEWER	12" RC PIPE SEWER CLASS V	15" RC PIPE SEWER CLASS V	18" RC PIPE SEWER CLASS V	24" RC PIPE SEWER CLASS IV	36" RC PIPE SEWER CLASS IV	INSTALL PIPE SEWER	24" PIPE PLUG	CONNECT TO EXISTING STORM SEWER	CONNECT INTO EXISTING DRAINAGE STRUCTURE	NOTES
FLOWS FROM	FLOWS TO	SHEET	STATION	OFFSET	EACH	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	NOTES
TH 14																					
100% CITY																					
EAST	WEST	M9	1168+43-1168+86	35 LT																	
EXIST	EX MH 1	M9	1171+40	71.6 RT																	FILL PIPE WITH LEAN MIX BACKFILL
EXIST	EX CB 2	M9	1171+09	35.6 LT			1														SALVAGE CASTING INCLUDES CONCRETE FRAME
MH 2	EX MH 1	M10-M11	1170+91	40.7 LT					68							119	8		1	2	SEE MH STRUCTURE DETAIL. 36" PIPE INCLUDES 36" x 45 DEGREE BENDS. CITY TO SUPPLY 8' OF 36" RC PIPE SEWER.
			100% CITY SUBTOTAL				**1**		**68**							**119**	**8**		**1**	**2**	
TH 14																					
SP 0804-114																					
EXIST	EX CB 2B	M9	1171+09.9	35.6 LT			1														
EXIST	EX CB 2C	M9	1171+49.79	36.8 LT			1														
EXIST	EX CB 2D	M9	1172+02.42	32.6 LT																	FILL PIPE WITH SILICA SAND
EXIST	CB 3 LOC	M9	1168+16.25	47.5 RT																	
EXIST	EX CB 4	M9	1170+64.48	43.6 RT	1		1														
EXIST	EX CB 5	M9	1171+97.77	37.9 RT	1		1														
CB 2A	MH 2	M9-M11	1170+40.07	36.0 LT				1							59			1			
CB 2B	MH 2	M9-M11	1171+09.33	43.3 LT										18							CASTING ASSEMBLY TO BE NEENAH R-3067-L, DEETER 2047-L, OR EJIW 7035 OR APPROVED EQUAL
CB 2C	CB 2B	M9-M11	1171+50.17	43.4 LT									41								CASTING ASSEMBLY TO BE NEENAH R-3067-L, DEETER 2047-L, OR EJIW 7035 OR APPROVED EQUAL
CB 2D	CB 2C	M9-M11	1172+02.42	32.6 LT							8	53									PVC PIPE TO BE SDR 26
CB 3	EXIST 12"	M9-M11	1168+16.25	47.5 RT						248		16							2		
CB 4	EXIST 15"	M9-M11	1170+64.57	48.5 RT		1		1											1		REINSTALL EXISTING CB & CASTING
CB 5	EXIST 18"	M9-M11	1171+96.13	60.0 RT		1		1											1		REINSTALL EXISTING CB & CASTING (BRICK & MORTAR HOLE TO N. - INCIDENTAL)
			SP 0804-114 SUBTOTAL		**2**	**2**	**4**	**3**		**248**	**8**	**69**	**41**	**18**	**59**			**1**	**4**		
			GRAND TOTAL		**2**	**2**	**5**	**3**	**68**	**248**	**8**	**69**	**41**	**18**	**59**	**119**	**8**	**1**	**5**	**2**	

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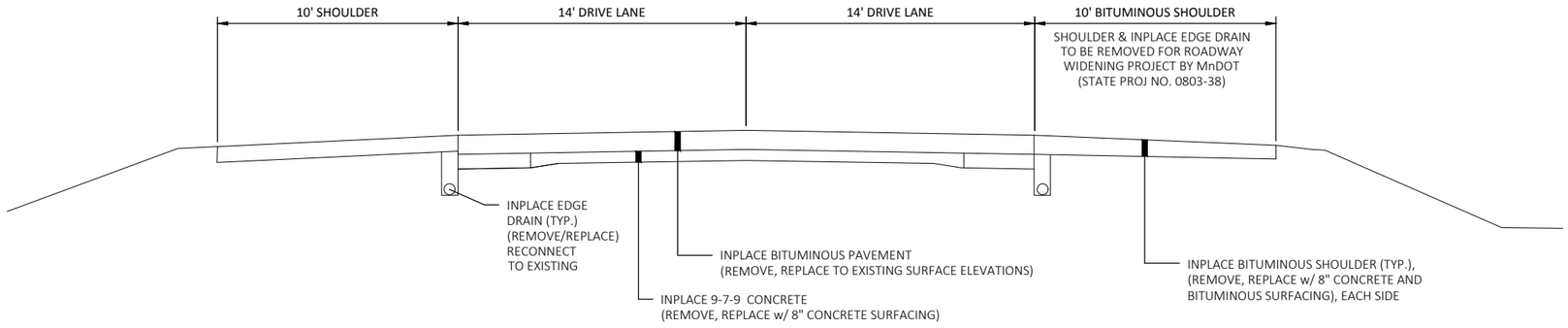
DAVID A. PALM, P.E.
LIC. NO. 22574 DATE / /

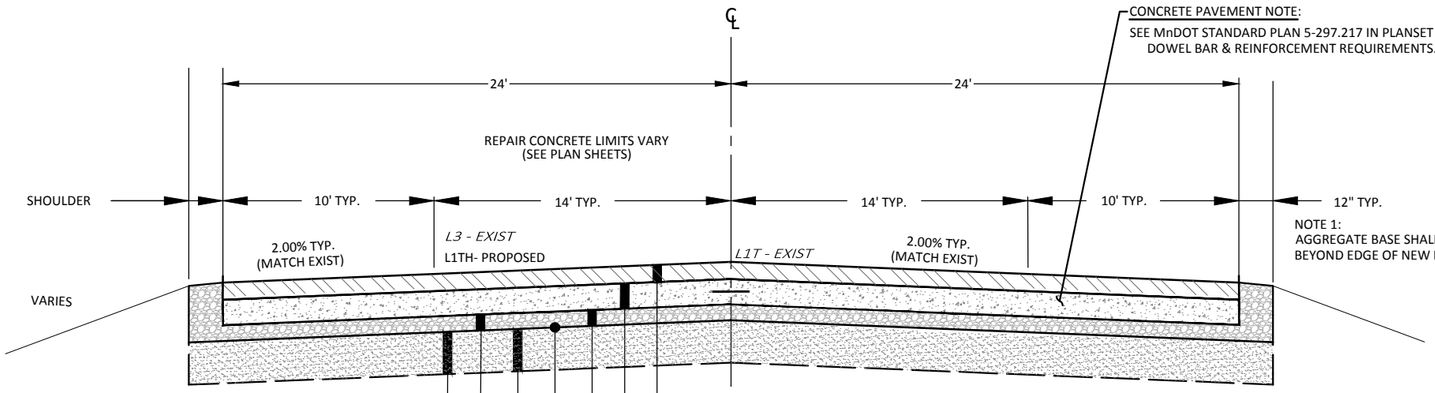
DESIGNED DAP
DRAWN sml
CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TABLES
STORM TABLE, CONTINUED

SHEET M4

EXISTING TYPICAL SECTION - 1162+17 - STA 1171+30

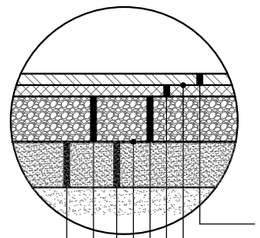




CONCRETE PAVEMENT NOTE:
SEE MnDOT STANDARD PLAN 5-297.217 IN PLANSET FOR DOWEL BAR & REINFORCEMENT REQUIREMENTS.

NOTE 1:
AGGREGATE BASE SHALL EXTEND 12" BEYOND EDGE OF NEW BITUMINOUS.

CONCRETE PAVEMENT & BITUMINOUS PAVEMENT RESTORATION
(T.H. 14)



NOTE 1:
AGGREGATE BASE SHALL EXTEND 12" BEYOND EDGE OF NEW BITUMINOUS.

NOTE 2:
BITUMINOUS REMOVAL IS PAID AS "REMOVE BITUMINOUS PAVEMENT"

- 3" THICK, TYPE SP 9.5 WEARING COURSE (SPWEA440E) (58H-28)
- BITUMINOUS MATERIAL FOR TACK COAT (2357) (INCIDENTAL)
- 3" THICK, TYPE SP 9.5 WEARING COURSE (SPWEA440E) (58H-28)
- 12" AGGREGATE BASE, CLASS 5Q (2211) - SEE NOTE 1
- GEOTEXTILE FABRIC, TYPE 5 (3733)
- 12" SUBGRADE PREPARATION (2112) (INCIDENTAL)
- EXCAVATION - COMMON - SEE NOTE 2
- 6"-12" EXCAVATION - SUBGRADE - AS REQUIRED
- AGGREGATE BASE, CL 5 (2211) - AS REQUIRED
- TO BE PERFORMED ONLY AS DIRECTED BY ENGINEER

BITUMINOUS SURFACE RESTORATION
(12TH AVENUE NE & SE)

NOTE: DETAILS ARE NOT TO SCALE

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DAVID A. PALM, P.E.
LIC. NO. 22574 DATE / /

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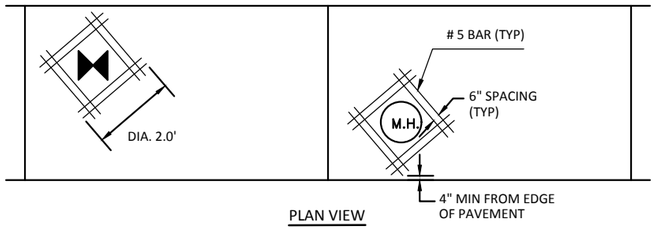
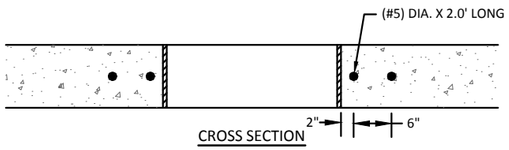
CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
CONSTRUCTION DETAILS
TYPICAL SECTIONS

SHEET M5

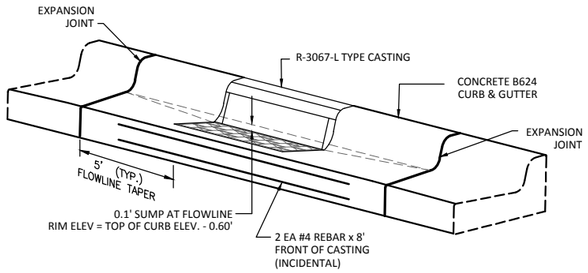


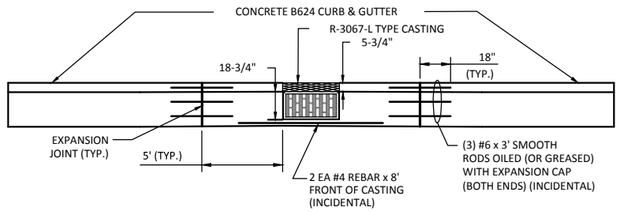
PLAN VIEW



CROSS SECTION

REINFORCING FOR CONCRETE PAVEMENT (AROUND MANHOLES & GATE VALVE BOXES)



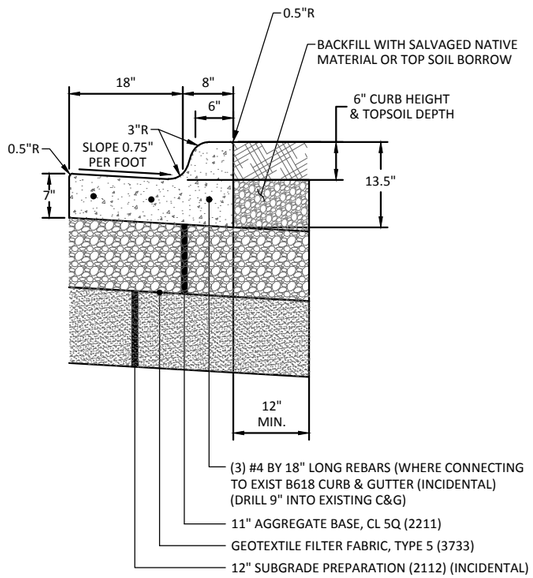


NOTE:
IN GENERAL THE CONTRACTOR SHALL PROVIDE 3 #6X3' SMOOTH RODS OILED (OR GREASED) WITH EXPANSION CAP (BOTH ENDS) THROUGH AN EXPANSION JOINT 5' AWAY FROM THE CASTING EDGE. (INCIDENTAL)

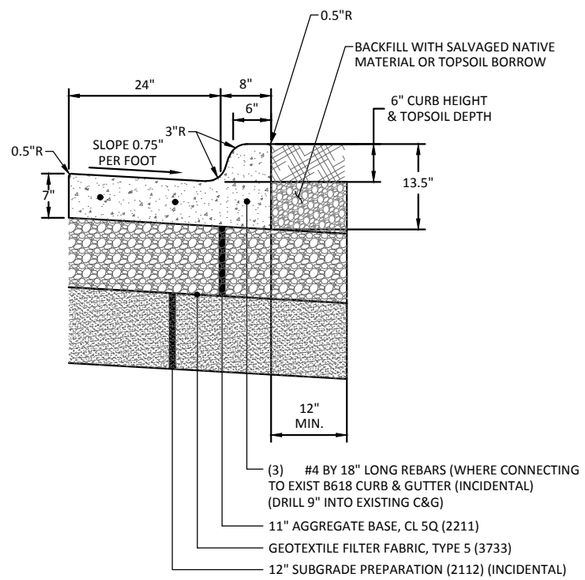
IN GENERAL, THE RIM OF THE CB IS TO BE 0.60' BELOW THE TOP OF CURB. THE CONTRACTOR SHALL PROVIDE A 0.10' SUMP IN THE GUTTER AT THE CB LOCATION.

IN GENERAL, ANY ADDITIONAL REBAR REQUIRED BY THE ENGINEER AT NEW/ADJUSTED CB CASTINGS THAT DO NOT MATCH THE DETAILS SHOWN, SHALL BE INCIDENTAL.

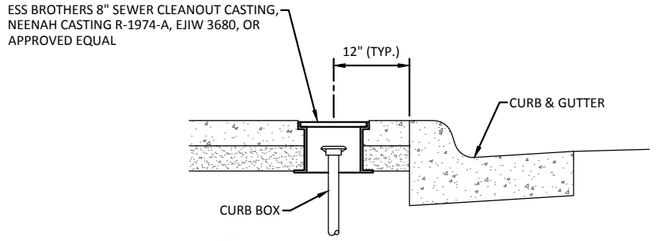
CATCH BASIN/CURB DETAIL FOR R-3067-L TYPE CASTINGS



CONCRETE CURB & GUTTER DESIGN B-618



CONCRETE CURB & GUTTER DESIGN B-624



NOTES:
1. TO BE USED WHEN IT IS NECESSARY TO CONSTRUCT CURB STOPS WITHIN CONCRETE OR BITUMINOUS SURFACE AREAS.
2. THE TOP OF THE CASTING ASSEMBLY SHALL BE SET 0.02' BELOW CONCRETE SURFACES AND 0.04' BELOW BITUMINOUS SURFACES.
3. THE CENTER OF THE CASTING SHALL BE SET 12" BEHIND THE BACK OF CURB, UNLESS SPECIFIED OTHERWISE ON THE PLANS.

CURB BOX CASTING DETAIL (CASTING ASSEMBLY SPECIAL 2)

SEE APPLICABLE MnDOT PLAN STANDARD PLATES FOR DRAINAGE STRUCTURES ON SHEET 7 OF 150, MnDOT PLANS.

NOTE: DETAILS ARE NOT TO SCALE

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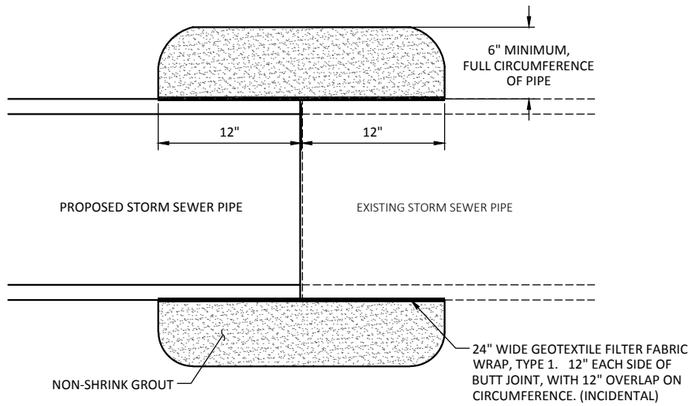
DAVID A. PALM, P.E.
LIC. NO. 22574 DATE / /

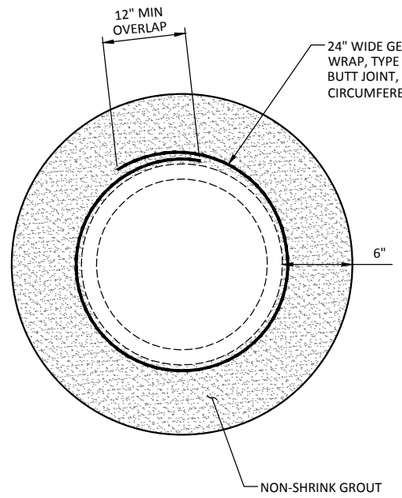
DESIGNED DAP
DRAWN sml
CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
CONSTRUCTION DETAILS
CONCRETE & UTILITIES

SHEET M6



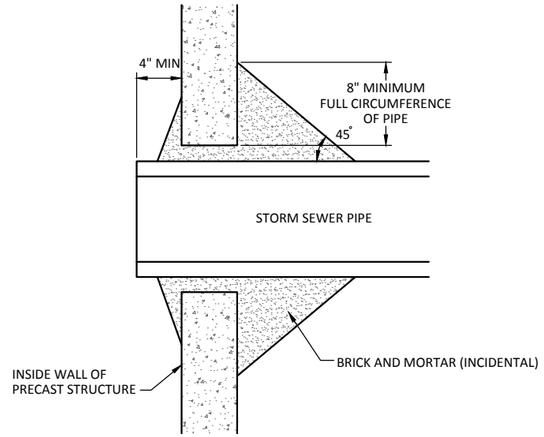
PLAN VIEW



SECTION VIEW

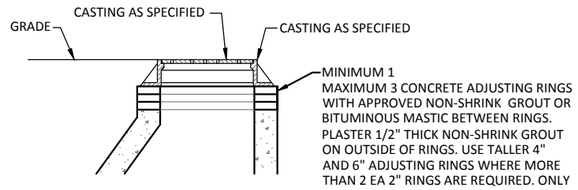
PAID AS: "CONNECT TO EXISTING STORM SEWER"

DRAINAGE PIPE CONSTRUCTION JOINT DETAIL

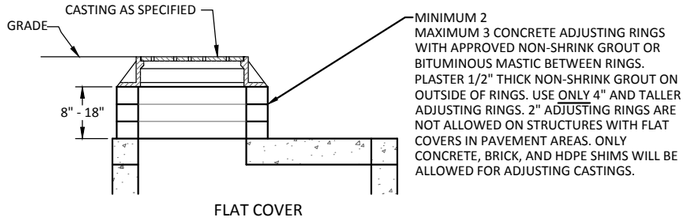


CONNECTION IS INCIDENTAL TO NEW DRAINAGE STRUCTURE. PAID AS: "CONNECT TO EXISTING DRAINAGE STRUCTURE" WHEN CUTTING INTO EXISTING DRAINAGE STRUCTURE IS REQUIRED.

DRAINAGE STRUCTURE PIPE PENETRATION DETAIL

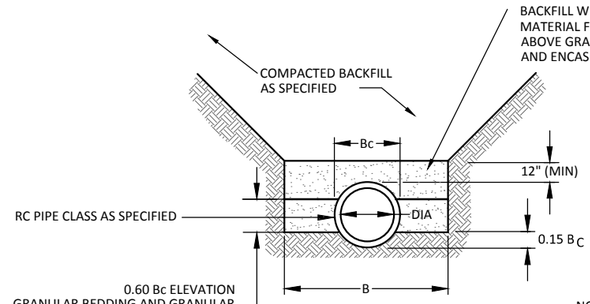


CONE STRUCTURES



FLAT COVER
(4020 AND 4022 STRUCTURES)

CASTING ADJUSTMENT DETAIL



PIPE DIA	B
36" OR LESS	B_C + 24"
42" TO 54"	1.5 x B_C
60" OR OVER	B_C + 36"

NOTE 1:
IN WET OR UNSTABLE SOIL CONDITIONS USE GRANULAR FOUNDATION MATERIAL (ROCK) TO PROVIDE STABLE TRENCH. (INCIDENTAL)

NOTE 2:
FOR PVC STORM SEWER, GRANULAR BEDDING & GRANULAR ENCASEMENT MATERIAL SHALL EXTEND FROM 6" BELOW TO 12" ABOVE THE PIPE.

TRENCH DETAIL RC STORM SEWER

NOT TO SCALE

SEE APPLICABLE MnDOT PLAN STANDARD PLATES FOR DRAINAGE STRUCTURES ON SHEET 7 OF 150, MnDOT PLANS.

NOTE: DETAILS ARE NOT TO SCALE

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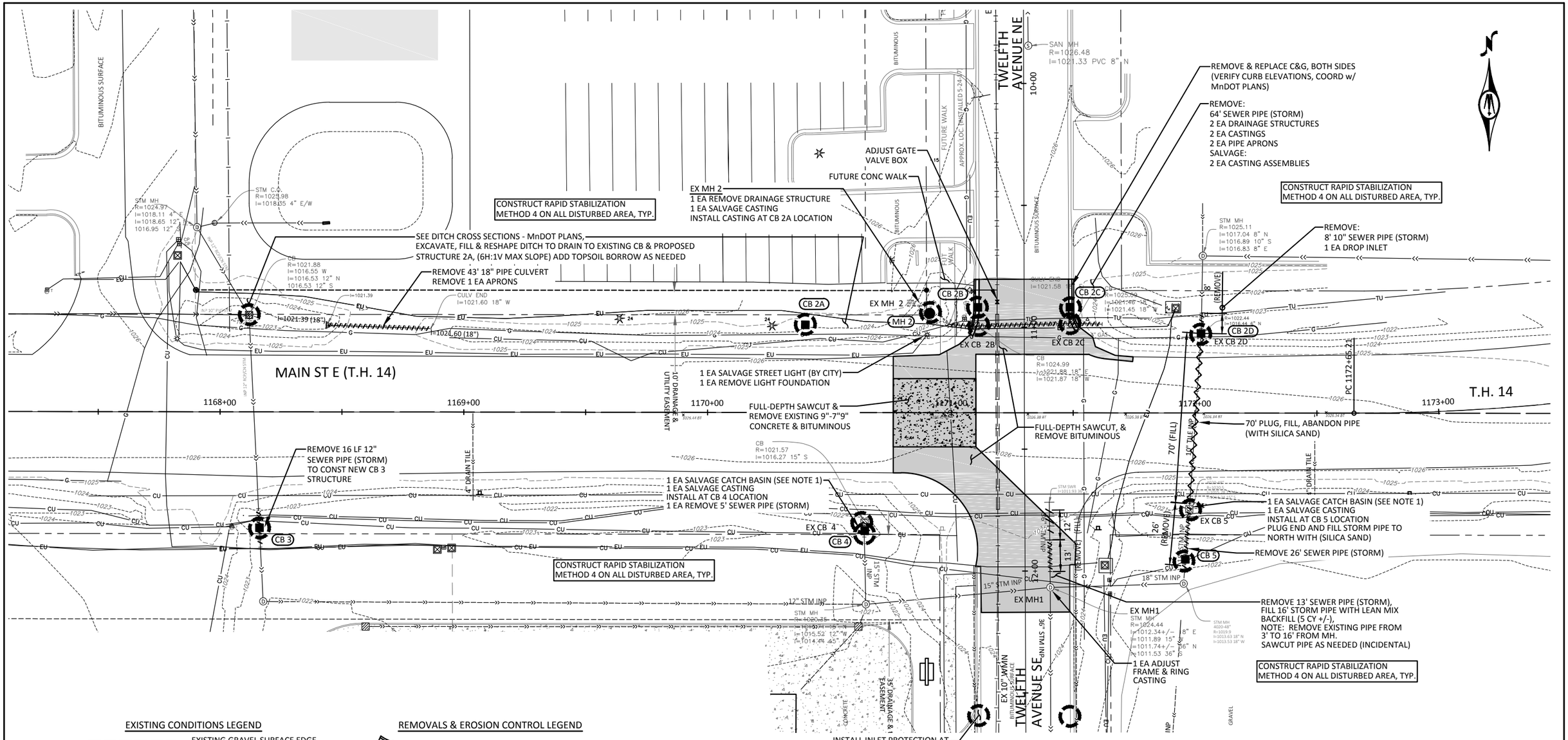
CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
CONSTRUCTION DETAILS
UTILITIES

SHEET
M7



EXISTING CONDITIONS LEGEND

- EXISTING GRAVEL SURFACE EDGE
- EXISTING BITUMINOUS EDGE
- EXISTING CURB & GUTTER
- COMMUNICATIONS UNDERGROUND (TU / CU)
- ELECTRIC/POWER UNDERGROUND (EU / P-BUR)
- UNDERGROUND GAS (G)
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS
- EXISTING STORM SEWER
- EXISTING STORM TILE
- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS

REMOVALS & EROSION CONTROL LEGEND

- CURB & GUTTER
- 9-7-9 CONC & BITUMINOUS PAVEMENT
- BITUMINOUS PAVEMENT
- FILL EXISTING STORM -SILICA SAND
- FILL EXISTING STORM - LEAN MIX BACKFILL
- EXISTING STORM TO BE REMOVED
- PROPOSED STORM CB STRUCTURE
- PROPOSED STORM MH STRUCTURE
- INLET PROTECTION

NOTE 1:
SALVAGE CATCH BASINS BY SAWCUTTING STORM PIPE 2'-3' AWAY FROM OUTSIDE OF STRUCTURE. (INCIDENTAL)

HORZ. SCALE 0 20 40 FEET
VERT. SCALE 0 5 10 FEET

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DRAWN	sml
CHECKED	DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
REMOVALS PLAN & EROSION CONTROL

SHEET M8

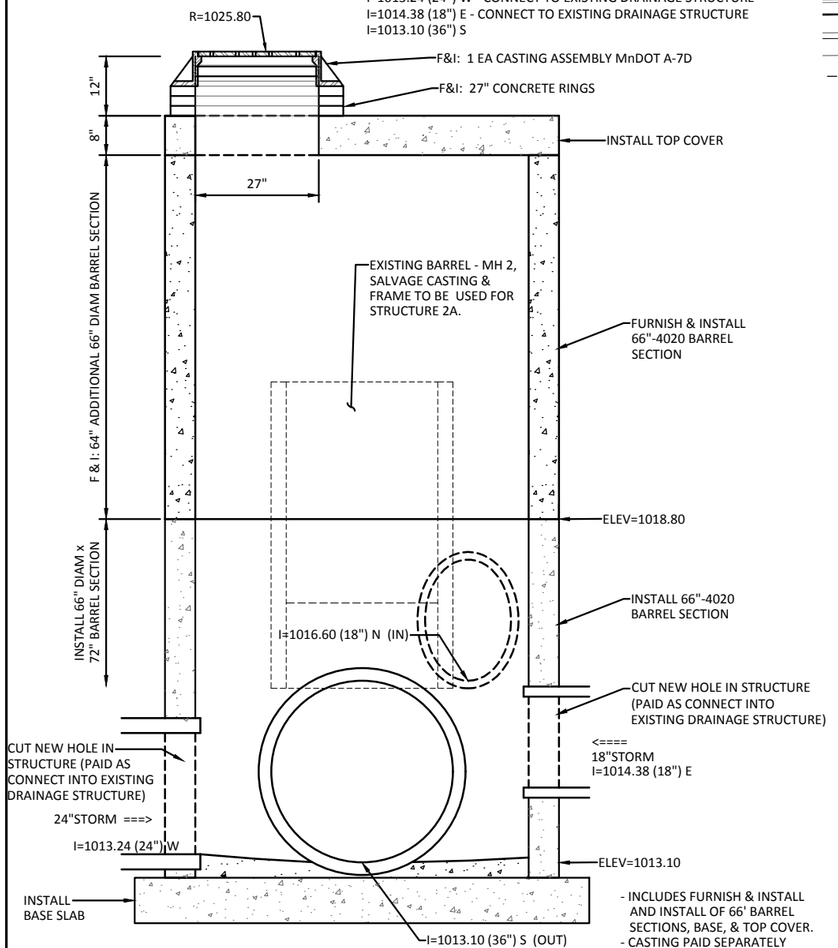
EXISTING CONDITIONS LEGEND

- EXISTING GRAVEL SURFACE EDGE
- EXISTING BITUMINOUS EDGE
- EXISTING CURB & GUTTER
- COMMUNICATIONS UNDERGROUND (TU / CU)
- ELECTRIC/POWER UNDERGROUND (EU / P-BUR)
- UNDERGROUND GAS (G)
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS
- EXISTING STORM SEWER
- EXISTING STORM TILE
- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS
- 9-7-9 CONC & BITUMINOUS PAVEMENT
- BITUMINOUS PAVEMENT

PROPOSED CONDITIONS

- PROPOSED PAVEMENT
- PROPOSED CURB & GUTTER (B624 / B618)
- PROPOSED INTERMEDIATE CONTOURS
- PROPOSED INDEX CONTOURS
- STORM SEWER PIPE
- STORM CB STRUCTURE
- STORM MH STRUCTURE
- (2) STRUCTURE NUMBER
- FILL EXISTING STORM -SILICA SAND
- FILL EXISTING STORM - LEAN MIX BACKFILL
- EXISTING STORM TO BE REMOVED

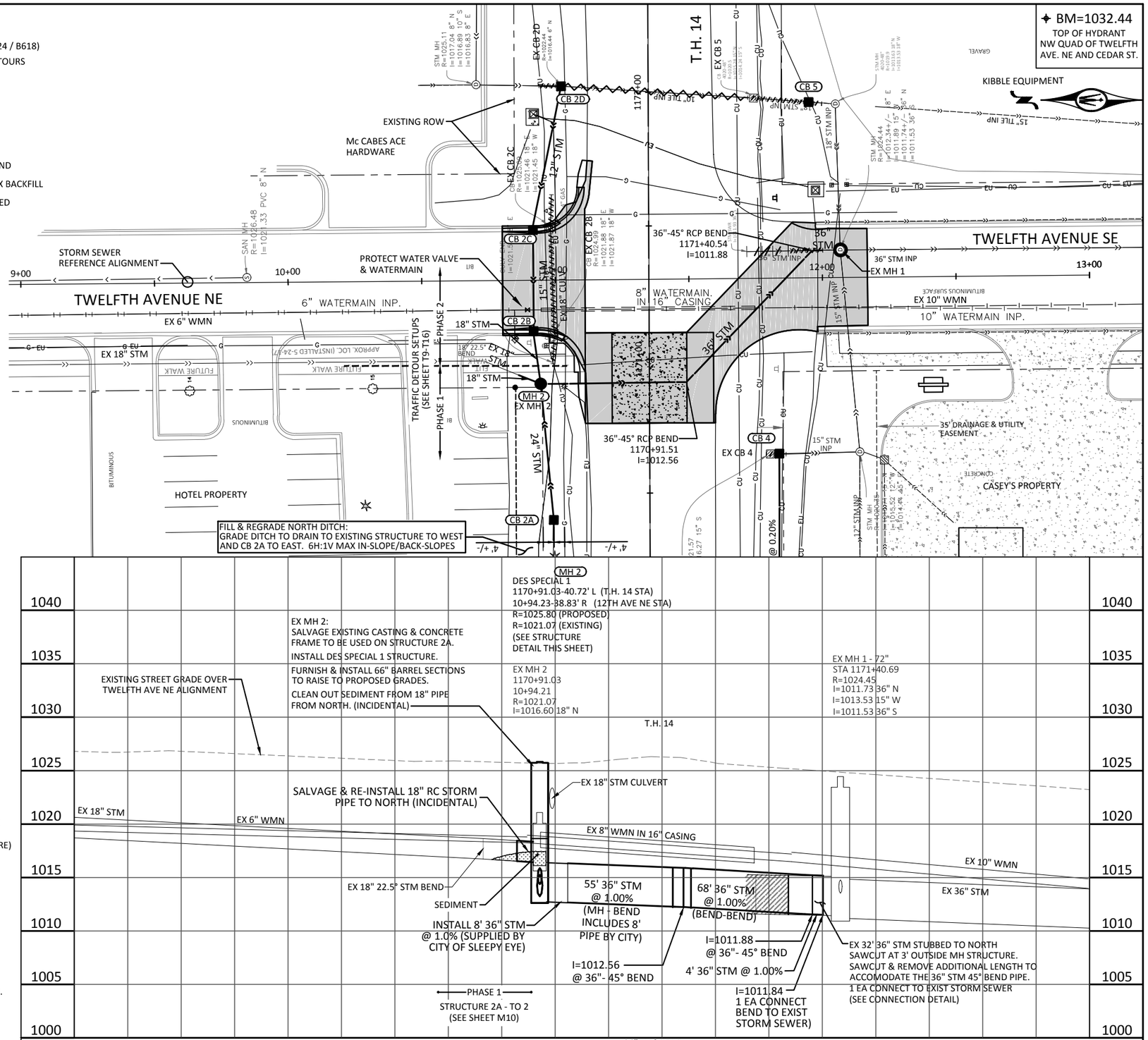
MH 2
DES SPECIAL 1
1170+91.03-40.72' L (T.H. 14 STA)
10+94.23-38.83' R (12TH AVE NE STA)
R=1025.80 (PROPOSED)
R=1021.07 (EXISTING)
I=1016.60 (18") N
I=1013.24 (24") W - CONNECT TO EXISTING DRAINAGE STRUCTURE
I=1014.38 (18") E - CONNECT TO EXISTING DRAINAGE STRUCTURE
I=1013.10 (36") S



- INCLUDES FURNISH & INSTALL AND INSTALL OF 66' BARREL SECTIONS, BASE, & TOP COVER.
- CASTING PAID SEPARATELY
- CONNECT INTO EXISTING DRAINAGE STRUCTURE PAID SEPARATELY.

MANHOLE 2 IMPROVEMENTS DETAIL

PAID AS: "CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1"



HORZ. SCALE 0 20 40 FEET
VERT. SCALE 0 5 10 FEET

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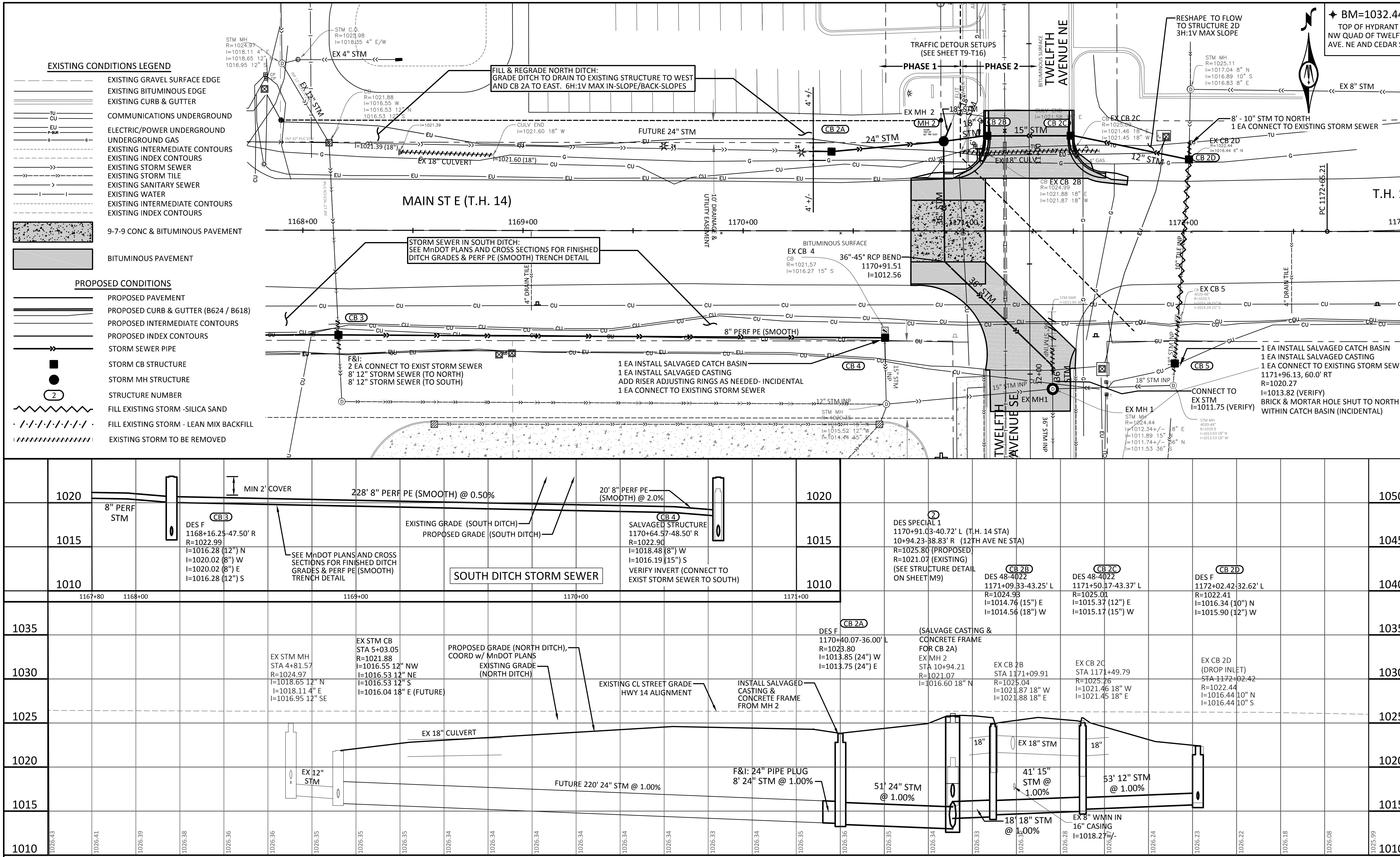
CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TWELFTH AVE NE - STORM PLAN & PROFILE
STA 10+00 - STA 13+00

SHEET M9


EXISTING CONDITIONS LEGEND
EXISTING GRAVEL SURFACE EDGE
EXISTING BITUMINOUS EDGE
EXISTING CURB & GUTTER
COMMUNICATIONS UNDERGROUND
ELECTRIC/POWER UNDERGROUND
UNDERGROUND GAS
EXISTING INTERMEDIATE CONTOURS
EXISTING INDEX CONTOURS
EXISTING STORM SEWER
EXISTING STORM TILE
EXISTING SANITARY SEWER
EXISTING WATER
EXISTING INTERMEDIATE CONTOURS
EXISTING INDEX CONTOURS
9-7-9 CONC & BITUMINOUS PAVEMENT
BITUMINOUS PAVEMENT
PROPOSED CONDITIONS
PROPOSED PAVEMENT
PROPOSED CURB & GUTTER (B624 / B618)
PROPOSED INTERMEDIATE CONTOURS
PROPOSED INDEX CONTOURS
STORM SEWER PIPE
STORM CB STRUCTURE
STORM MH STRUCTURE
STRUCTURE NUMBER
FILL EXISTING STORM -SILICA SAND
FILL EXISTING STORM - LEAN MIX BACKFILL
EXISTING STORM TO BE REMOVED
BM=1032.44
TOP OF HYDRANT
NW QUAD OF TWELFTH
AVE. NE AND CEDAR ST.
MAIN ST E (T.H. 14)
T.H. 14
TWELFTH AVENUE NE
TWELFTH AVENUE SE
TRAFFIC DETOUR SETUPS
(SEE SHEET T9-T16)
PHASE 1
PHASE 2
FILL & REGRADE NORTH DITCH:
GRADE DITCH TO DRAIN TO EXISTING STRUCTURE TO WEST
AND CB 2A TO EAST. 6H:1V MAX IN-SLOPE/BACK-SLOPES
RESHAPE TO FLOW
TO STRUCTURE 2D
3H:1V MAX SLOPE
8' - 10" STM TO NORTH
1 EA CONNECT TO EXISTING STORM SEWER
STORM SEWER IN SOUTH DITCH:
SEE MnDOT PLANS AND CROSS SECTIONS FOR FINISHED
DITCH GRADES & PERF PE (SMOOTH) TRENCH DETAIL
36"-45° RCP BEND
1170+91.51
I=1012.56
F&I:
2 EA CONNECT TO EXIST STORM SEWER
8' 12" STORM SEWER (TO NORTH)
8' 12" STORM SEWER (TO SOUTH)
1 EA INSTALL SALVAGED CATCH BASIN
1 EA INSTALL SALVAGED CASTING
ADD RISER ADJUSTING RINGS AS NEEDED- INCIDENTAL
1 EA CONNECT TO EXISTING STORM SEWER
1 EA INSTALL SALVAGED CATCH BASIN
1 EA INSTALL SALVAGED CASTING
1 EA CONNECT TO EXISTING STORM SEWER
1171+96.13, 60.0' RT
R=1020.27
I=1013.82 (VERIFY)
BRICK & MORTAR HOLE SHUT TO NORTH
WITHIN CATCH BASIN (INCIDENTAL)
CONNECT TO
EX STM
I=1011.75 (VERIFY)
8" PERF PE (SMOOTH)
FUTURE 24" STM
24" STM
15" STM
12" STM
36" STM
EX 18" CULVERT
10' DRAINAGE & UTILITY EASEMENT
BITUMINOUS SURFACE
228' 8" PERF PE (SMOOTH) @ 0.50%
MIN 2' COVER
20' 8" PERF PE (SMOOTH) @ 2.0%
EXISTING GRADE (SOUTH DITCH)
PROPOSED GRADE (SOUTH DITCH)
SEE MnDOT PLANS AND CROSS SECTIONS FOR FINISHED DITCH GRADES & PERF PE (SMOOTH) TRENCH DETAIL
DES F
1168+16.25-47.50' R
R=1022.99
I=1016.28 (12") N
I=1020.02 (8") W
I=1020.02 (8") E
I=1016.28 (12") S
SALVAGED STRUCTURE
1170+64.57-48.50' R
R=1022.90
I=1018.48 (8") W
I=1016.19 (15") S
VERIFY INVERT (CONNECT TO EXIST STORM SEWER TO SOUTH)
SOUTH DITCH STORM SEWER
DES SPECIAL 1
1170+91.03-40.72' L (T.H. 14 STA)
10+94.23-38.83' R (12TH AVE NE STA)
R=1025.80 (PROPOSED)
R=1021.07 (EXISTING)
(SEE STRUCTURE DETAIL ON SHEET M9)
DES 48-4022
1171+09.33-43.25' L
R=1024.93
I=1014.76 (15") E
I=1014.56 (18") W
DES 48-4022
1171+50.17-43.37' L
R=1025.01
I=1015.37 (12") E
I=1015.17 (15") W
DES F
1172+02.42-32.62' L
R=1022.41
I=1016.34 (10") N
I=1015.90 (12") W
DES F
1170+40.07-36.00' L
R=1023.80
I=1013.85 (24") W
I=1013.75 (24") E
(SALVAGE CASTING & CONCRETE FRAME FOR CB 2A)
EX MH 2
STA 10+94.21
R=1021.07
I=1016.60 18" N
EX STM MH
STA 4+81.57
R=1024.97
I=1018.65 12" N
I=1018.11 4" E
I=1016.95 12" SE
EX STM CB
STA 5+03.05
R=1021.88
I=1016.55 12" NW
I=1016.53 12" NE
I=1016.53 12" S
I=1016.04 18" E (FUTURE)
PROPOSED GRADE (NORTH DITCH), COORD w/ MnDOT PLANS
EXISTING GRADE (NORTH DITCH)
EXISTING CL STREET GRADE HWY 14 ALIGNMENT
INSTALL SALVAGED CASTING & CONCRETE FRAME FROM MH 2
EX CB 2B
STA 1171+09.91
R=1025.04
I=1021.87 18" W
I=1021.88 18" E
EX CB 2C
STA 1171+49.79
R=1025.26
I=1021.46 18" W
I=1021.45 18" E
EX CB 2D
(DROP INLET)
STA 1172+02.42
R=1022.44
I=1016.44 10" N
I=1016.44 10" S
FUTURE 220' 24" STM @ 1.00%
F&I: 24" PIPE PLUG
8' 24" STM @ 1.00%
51' 24" STM @ 1.00%
41' 15" STM @ 1.00%
18' 18" STM @ 1.00%
53' 12" STM @ 1.00%
EX 8" WMN IN 16" CASING
I=1018.27+/-
EX 12" STM
EX 18" STM

HORZ. SCALE 0 20 40 FEET	VERT. SCALE 0 5 10 FEET		

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CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TH 14 - STORM PLAN & PROFILE
STA 1167+00 - STA 1173+00

SHEET M10

BM=1032.44
TOP OF HYDRANT
NW QUAD OF TWELFTH AVE. NE AND CEDAR ST.

CONCRETE WALK, ACCESSIBILITY RAMPS, BY MnDOT. COORDINATE w/ HIGHWAY PLANS FOR IMPROVEMENTS BY MnDOT

FILL & REGRADE NORTH DITCH:
GRADE DITCH TO DRAIN TO EXISTING STRUCTURE TO WEST AND CB 2A TO EAST. 6H:1V MAX IN-SLOPE/BACK-SLOPES. ADD COMMON TOPSOIL BORROW AS NEEDED

1023.36 (DITCH GRADE)

1024.60 HP (DITCH GRADE)

1024.10 (DITCH GRADE)

R=1023.80 (DITCH GRADE & CB ELEV)

R=1025.80 (DITCH GRADE & MH ELEV)

TWELFTH AVENUE NE

MAIN ST E (T.H. 14)

LANE WIDENING, BLVD & WALK BY MnDOT

CONSTRUCT CONCRETE PAVEMENT & BITUMINOUS RESTORATION (SEE TYPICAL SECTION)

CONSTRUCT BITUMINOUS SURFACE RESTORATION (SEE TYPICAL SECTION)

CONSTRUCT BITUMINOUS SURFACE RESTORATION (SEE TYPICAL SECTION)

COORDINATE w/ HIGHWAY PLANS FOR IMPROVEMENTS BY MnDOT

SEE INTERSECTION DETAIL ON SHEET M12

35' DRAINAGE & UTILITY EASEMENT

10' DRAINAGE & UTILITY EASEMENT

PROPOSED SPOT ELEVATION LEGEND

BT	BITUMINOUS SURFACE	TC	BACK TOP OF CURB
CN	CONCRETE SURFACE	TC-D	BACK TOP OF CURB - DROPPED
CW	CONCRETE SIDEWALK	GU	GUTTER (CURB)
GR	GROUND ELEVATION	GL	LIP (CURB)

SPOT ELEVATION TABLE:

A -	STA 1171+09.29, 54.75' LT	TC=1025.76	GU=1025.26	(MATCH)
B -	STA 1171+09.34, 43.25' LT	TC=1025.53	GU=1024.93	(AT CB)
C -	STA 1171+08.83, 37.20' LT	TC-D=1025.20	GU=1025.20	(AT HC RAMP)
D -	STA 1171+50.16, 54.87' LT	TC=1025.84	GU=1025.34	(MATCH)
E -	STA 1171+50.17, 43.37' LT	TC=1025.61	GU=1025.01	(AT CB)

PROPOSED CONDITIONS

- PROPOSED PAVEMENT
- PROPOSED CURB & GUTTER (B624 / B618)
- STORM SEWER PIPE
- STORM CB STRUCTURE
- STORM MH STRUCTURE
- 2 STRUCTURE NUMBER
- 8" CONC & BITUMINOUS PAVEMENT
- BITUMINOUS PAVEMENT
- PROPOSED INTERMEDIATE CONTOURS
- PROPOSED INDEX CONTOURS

EXISTING CONDITIONS LEGEND

- EXISTING GRAVEL SURFACE EDGE
- EXISTING BITUMINOUS EDGE
- EXISTING CURB & GUTTER
- COMMUNICATIONS UNDERGROUND
- ELECTRIC/POWER UNDERGROUND
- UNDERGROUND GAS
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS
- EXISTING STORM SEWER
- EXISTING STORM TILE
- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS

HORZ. SCALE 0 20 40 FEET

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CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TH 14 / 12TH AVE NE - SITE & GRADING PLAN

SHEET M11

BM=1032.44
TOP OF HYDRANT
NW QUAD OF TWELFTH AVE. NE AND CEDAR ST.

TWELFTH AVENUE NE

FUT WALK

CONCRETE WALK, ACCESSIBILITY RAMPS, BY MnDOT. COORDINATE w/ HIGHWAY PLANS FOR IMPROVEMENTS BY MnDOT.

R=14.33'
X=506297.63
Y=169017.33

R=14.33'
X=506367.12
Y=169017.33

1202E

1203E

11+00

10' DRAINAGE & UTILITY EASEMENT

CONSTRUCT CONCRETE PAVEMENT & BITUMINOUS RESTORATION w/ UTILITY CONSTRUCTION WORK (SEE TYPICAL SECTION)

CONSTRUCT BITUMINOUS SURFACE RESTORATION (SEE TYPICAL SECTION)

COORDINATE w/ HIGHWAY PLANS FOR IMPROVEMENTS BY MnDOT

1170+00 1026.44 BT
1026.47 BT
1171+00 1026.42 BT
1026.38 BT
1026.38 BT

MAIN ST E (T.H. 14)

BITUMINOUS SURFACE

CONSTRUCT BITUMINOUS SURFACE RESTORATION (SEE TYPICAL SECTION)

1223E

SPOT ELEVATION TABLE:

A -	STA 1171+09.29, 54.75' LT	TC=1025.76	GU=1025.26	(MATCH)
B -	STA 1171+09.34, 43.25' LT	TC=1025.53	GU=1024.93	(AT CB)
C -	STA 1171+09.34, 41.00' LT	TC=	GU=	(AT PT)
D -	STA 1171+08.83, 37.20' LT	TC-D=1025.20	GU=1025.20	(AT HC RAMP)
E -	STA 1170+95.36, 37.15' LT	CN=		(AT HC RAMP)
F -	STA 1170+95.40, 26.67' LT	TC-D=	GU=	(AT HC RAMP)
G -	STA 1170+91.21, 26.67' LT	TC-D=	GU=	(AT END CURB)
H -	STA 1170+76.21, 23.11' LT	BT=		(MATCH)
J -	STA 1171+30.02, 0.00' LT	BT=10226.38		(AT CL INT)
K -	STA 1171+50.16, 54.87' LT	TC=1025.84	GU=1025.34	(MATCH)
L -	STA 1171+50.17, 43.37' LT	TC=1025.61	GU=1025.01	(AT CB)
M -	STA 1171+50.18, 41.12' LT	TC=	GU=	(AT PT)
N -	STA 1171+54.42, 31.02' LT	TC=	GU=	(AT MID-RAD)
O-	STA 1171+64.55, 26.86' LT	TC=	GU=	(AT END CURB)
P-	STA 1171+74.74, 24.79' LT	BT=		(MATCH)
Q-	STA 1171+74.35, 21.06' LT	BT=		(MATCH)

R=14.33'
X=506298.01
Y=168926.33

12+00

R=29.33'
X=506382.19
Y=168909.05

TWELFTH AVENUE SE

EXISTING CONDITIONS LEGEND

- EXISTING GRAVEL SURFACE EDGE
- EXISTING BITUMINOUS EDGE
- EXISTING CURB & GUTTER
- COMMUNICATIONS UNDERGROUND (TU / CU)
- ELECTRIC/POWER UNDERGROUND (EU / P-BUR)
- UNDERGROUND GAS (G)
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS
- EXISTING STORM SEWER
- EXISTING STORM TILE
- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS

PROPOSED CONDITIONS

- PROPOSED PAVEMENT
- PROPOSED CURB & GUTTER (B624 / B618)
- PROPOSED INTERMEDIATE CONTOURS
- PROPOSED INDEX CONTOURS
- STORM SEWER PIPE
- STORM CB STRUCTURE
- STORM MH STRUCTURE
- STRUCTURE NUMBER (2)
- 8" CONC & BITUMINOUS PAVEMENT
- BITUMINOUS PAVEMENT
- -1.14% DIRECTION OF FLOW & SLOPE - EXISTING
- -1.58% DIRECTION OF FLOW & SLOPE - PROPOSED
- 832.58 EG × SPOT ELEVATION - EXISTING
- 832.87 BT × SPOT ELEVATION - PROPOSED

PROPOSED SPOT ELEVATION LEGEND

BT	BITUMINOUS SURFACE	TC	BACK TOP OF CURB
CN	CONCRETE SURFACE	TC-D	BACK TOP OF CURB - DROPPED
CW	CONCRETE SIDEWALK	GU	GUTTER (CURB)
GR	GROUND ELEVATION	GL	LIP (CURB)

HORZ. SCALE 0 10 20 FEET

H:\SEYE\S13109231\CAD\C3D_Storm Sewer Imp- TH 14-12th Ave\109231_C_STRM_1.dwg 11/9/2017 3:37 PM

BOLTON & MENK
1243 CEDAR STREET NE
SLEEPY EYE, MINNESOTA 56085
Phone: (507) 794-5541
Email: SleepyEye@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE
.	.	.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DAVID A. PALM, P.E.
LIC. NO. 22574 DATE / /

DESIGNED DAP
DRAWN sml
CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TH 14 / 12TH AVE NE - INTERSECTION DETAIL

SHEET M12

BM=1023.63
TOP OF HYDRANT
307' SOUTH OF ST
MARY'S STREET- WEST
SIDE OF SERVICE ROAD

SLEEPY EYE LAKE
EXISTING RIP RAP - LAKE EDGE
GRASS
EXISTING BITUMINOUS TRAIL
GRASS
TRUNK HIGHWAY No.4
BITUMINOUS SURFACE
SERVICE ROAD
D-1
GL-2
BUILDING
DAUGHTERS OF ST. MARY
700' (APPROX.)
"ROAD CLOSED WHEN FLASHING" SIGNAGE w/ "NO PARKING" SIGN ON POST
18"
18" ASH
18" ASH
l=1015.82
l=1015.77
2' CONCRETE
CB R=1013.05 l= 1009.25
15" STM
BITUMINOUS SURFACE
ST. MARYS STREET NW
6" WMN
SAN MH R=1020.99 l=1016.74 4" (NW) l=1015.74 8" (E) l=1015.64 10" (S)
APPROX. LOC 67' TILE
4" SAN
8" SAN
10" SAN
CB R=1012.84 l=1009.09
CB R=1011.06 l= 1008.64
EX 18" STM
CITY OF SLEEPY EYE
4" WMN
EXISTING RIP RAP - LAKE EDGE
GRASS
GRASS

30 1/4 29

EXISTING CONDITIONS LEGEND

- EXISTING GRAVEL SURFACE EDGE
- EXISTING BITUMINOUS EDGE
- EXISTING CURB & GUTTER
- CU — COMMUNICATIONS UNDERGROUND
- EU — ELECTRIC/POWER UNDERGROUND
- UNDERGROUND GAS
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS
- EXISTING STORM SEWER
- EXISTING STORM TILE
- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING INTERMEDIATE CONTOURS
- EXISTING INDEX CONTOURS
- EXIST CROSSWALK

CONSTRUCT:

RECTANGULAR RAPID FLASHING BEACON AT THIS INTERSECTION. SEE NOTES.

PROPOSED CONDITIONS

- RRFB- RECTANGULAR RAPID FLASHING BEACON
- RRFB- WITH PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON STATION

NOTES:

1. SALVAGE FLASHER SYSTEM
2. INSTALL FLASHER SYSTEM APPROXIMATELY 700' NORTH IN LOCATION TO BE STAKED BY MnDOT.
3. FURNISH AND INSTALL PEDESTRIAN CROSSWALK FLASHER SYSTEM

SP 0802-48

HORZ. SCALE 0 20 40 FEET

H:\SEYE\S13109231\CAD\C3D_Storm Sewer Imp- TH 14-12th Ave\109231_C_STRT_ST Marys.dwg 11/9/2017 3:37 PM

BOLTON & MENK
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DAVID A. PALM, P.E.
LIC. NO. 22574 DATE / /

DESIGNED DAP
DRAWN sml
CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TH 4 / ST MARY'S ST NW - INTERSECTION DETAIL

SHEET M13

LEGEND

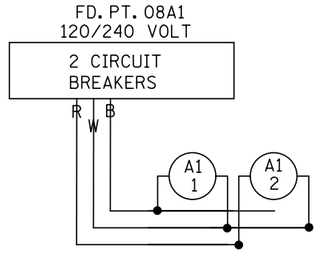
PAD MOUNTED SOURCE OF POWER

VM-45 WITH LED FIXTURE

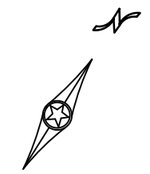
PERMANENT GROUND ROD (25 OHMS OR LESS)

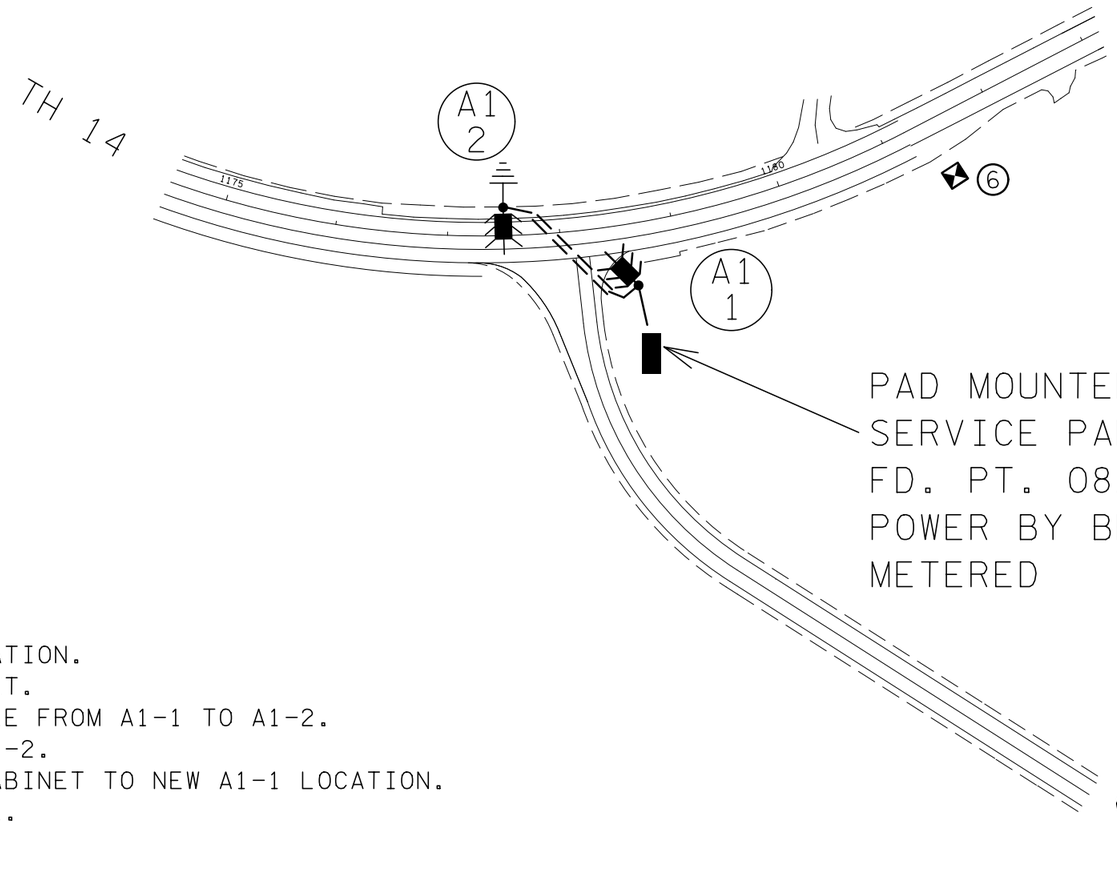
3" RIGID STEEL CONDUIT

ARMORED CABLE SPEC NO. 3804 & 3805
DIRECT BURIED POWER CABLE 3 CONDUCTOR NO. 4 AWG



B AND R DENOTE CURRENT CARRYING CONDUCTORS
W DENOTES NEUTRAL CONDUCTOR





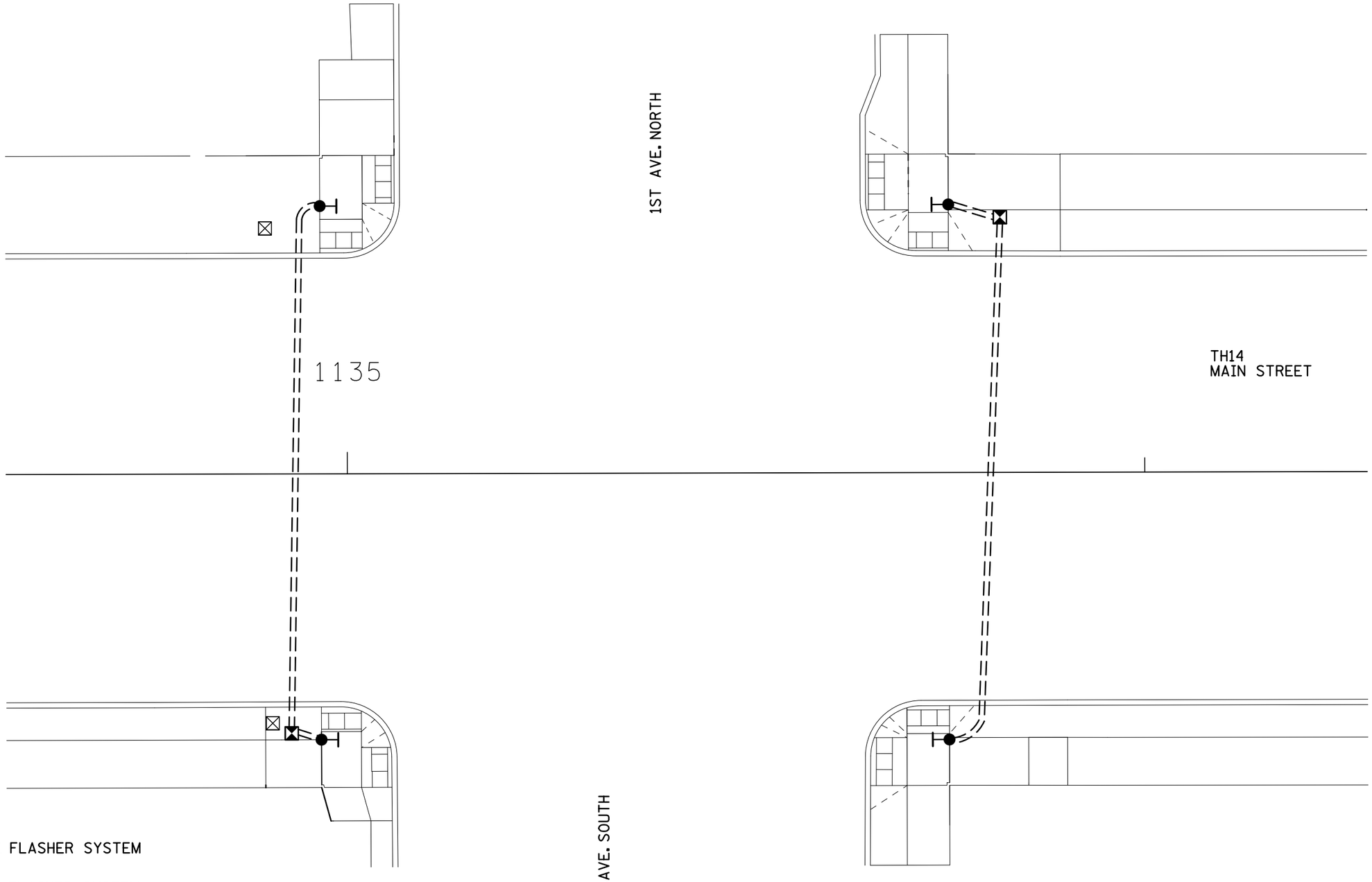
NOTES;
1. SALVAGE AND INSTALL A1-1 STEEL FOUNDATION.
2. SALVAGE AND INSTALL A1-1 LIGHTING UNIT.
3. FURNISH AND INSTALL 4C#4 ARMORED CABLE FROM A1-1 TO A1-2.
4. BORE NEW 2'' NMC FROM A1-1 OVER TO A1-2.
5. REROUTE ARMORED CABLE FROM SERVICE CABINET TO NEW A1-1 LOCATION.
⑥ SALVAGE AND INSTALL SIGN TYPE SPECIAL.

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

STREET LIGHTING

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. L1 OF L1 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:10
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawlond
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Traffic/Signals/TH14 AT TH4 signal.dgn



⊠ SALVAGE FLASHER SYSTEM

⊠ INSTALL FLASHER SYSTEM

●⊣ F&I PUSH BUTTON AND STATION

=== F&I 2" NMC WITH 1-3/C #14

NOTE: SEE SPECIAL PROVISIONS FOR ITEMS TO BE SALVAGED.

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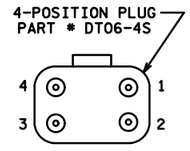
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

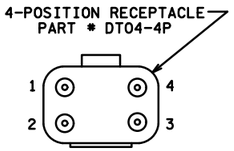
1ST STREET PEDESTRIAN FLASHER

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S1 OF S10 SHEETS

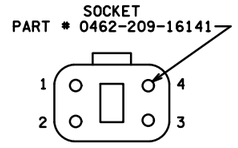
4-POSITION CONNECTOR

(BACK VIEW)

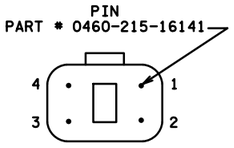




(FRONT VIEW)



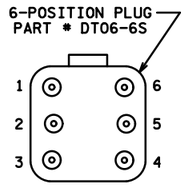
SECONDARY LOCK PART
PART # W4S

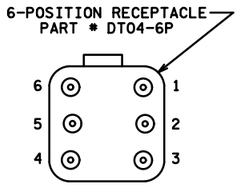


SECONDARY LOCK PART
PART # W4P

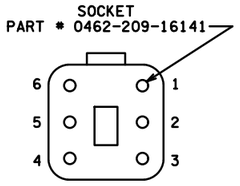
6-POSITION CONNECTOR

(BACK VIEW)

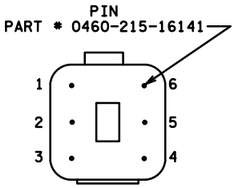




(FRONT VIEW)

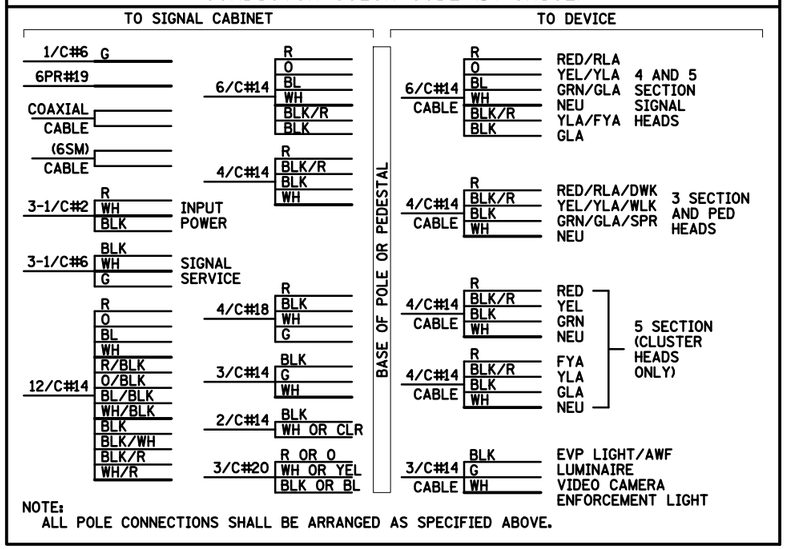


SECONDARY LOCK PART
PART # W6S



SECONDARY LOCK PART
PART # W6P

CONDUCTOR COLOR CODE (14 GAUGE)



NOTE:
ALL POLE CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

4 Position DT Connector (3 Section Head/DWK/WLK)

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R or R/BLK or BLK	1	R	RED or DWK
O or O/BLK or BLK/WH or BLK	2	BLK/R	YEL or WLK
BL or BL/BLK or BLK/R or BLK	3	BLK	GRN or SPR
WH or WH/BLK or WH/R	4	WH	NEU

4 Position DT Connector

(Used with 3 Conductor Cable Only) (EVP LHT/LUM/AWF/ VID CAM/ENF LHT)

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
BLK	1	BLK	EVP LHT or LUM or RED or YEL or VID CAM or ENF LHT or AWF
(Not Used)	2	(Not Used)	(Not Used) (See Note #8)
G	3	G	EQ.G
WH	4	WH	NEU

4 Position DT Connectors

(Use Two Connectors for 5 Section FYA Cluster Heads)

12 Conductor Wire to Control Cabinet	Connector pin #	4 Conductor to Signal Indication	Signal Indication
R	1	R	RED
O	2	BLK/R	YEL
BL	3	BLK	GRN
WH	4	WH	NEU
R/BLK	1	R	FYA
O/BLK	2	BLK/R	YLA
BL/BLK	3	BLK	GLA
WH/BLK	4	WH	NEU

6 Position DT Connector (4 and 5 Section Heads)

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R	1	R	RED
O	2	O	YEL
BL	3	BL	GRN
WH	4	WH	NEU
O/BLK or BLK/R (6/C)	5	BLK/R	YLA or FYLA
BL/BLK or BLK (6/C)	6	BLK	GLA

WIRE COLOR CODE KEY

R	Red
O	Orange
BL	Blue
WH	White
BLK	Black
BRN	Brown
CL	Clear
G	Green
R/BLK	Red with Black Stripe
O/BLK	Orange with Black Stripe
BL/BLK	Blue with Black Stripe
WH/BLK	White with Black Stripe
WH/R	White with Red Stripe
BLK/WH	Black with White Stripe
BLK/R	Black with Red Stripe

WIRE SPECIFICATION CHART

Type	Name	Specification Number
1/C#2	Power Conductors	3815.2B.1
1/C#6	Power Conductors	3815.2B.1
1/C#6 INS.GR.	Grounding Conductors	3815.2B.5
2/C#14	Loop Detector Lead-In Cable	3815.2C.4
3/C#14	Signal Control Cable	3815.2C.3
4/C#14	Signal Control Cable	3815.2C.3
6/C#14	Signal Control Cable	3815.2C.3
12/C#14	Signal Control Cable	3815.2C.3
6PR#19	Telephone Cables Outdoor	3815.2C.6.b
3/C#20	EVP Detector Cable	3815.2C.5

NOTES:

1. DT04-P RECEPTACLE SHALL BE TERMINATED TO THE WIRING HARNESS RUNNING FROM THE BASE/JUNCTION BOX OF THE POLE TO SIGNAL INDICATIONS.
2. DT06-_S PLUG SHALL BE TERMINATED TO THE CABLES RUNNING FROM THE TRAFFIC SIGNAL CABINET TO THE BASE/JUNCTION BOX OF THE POLE.
3. THERE SHALL BE A MINIMUM OF 24 INCHES OF SLACK ON EACH CABLE IN EVERY POLE BASE /JUNCTION BOX.
4. STRIP A MAXIMUM OF 6 INCHES OF THE OUTER JACKET OF EACH SIGNAL CABLE.
5. STRIP .250 INCHES OF INSULATION FROM EACH INDIVIDUAL CONDUCTOR.
6. CRIMP PINS OR SOCKETS USING RATCHETING TYPE CRIMPING TOOL HDT-48-00. NO OTHER CRIMPING TOOL WILL BE ALLOWED.
7. WIRES MUST BE TERMINATED AS DETAILED IN TABLES DEPENDING ON WIRE COUNT.
8. ANY UNUSED PIN MUST HAVE A SEALING PLUG PLACED IN BOTH THE PLUG & RECEPTACLE (PART # 114017).
9. LABEL EACH HALF OF THE CONNECTOR (PLUG AND RECEPTACLE) WITH THE DEVICE DESIGNATION (AS INDICATED IN THE WIRING DIAGRAM) USING A PERMANENT BLACK MARKER.

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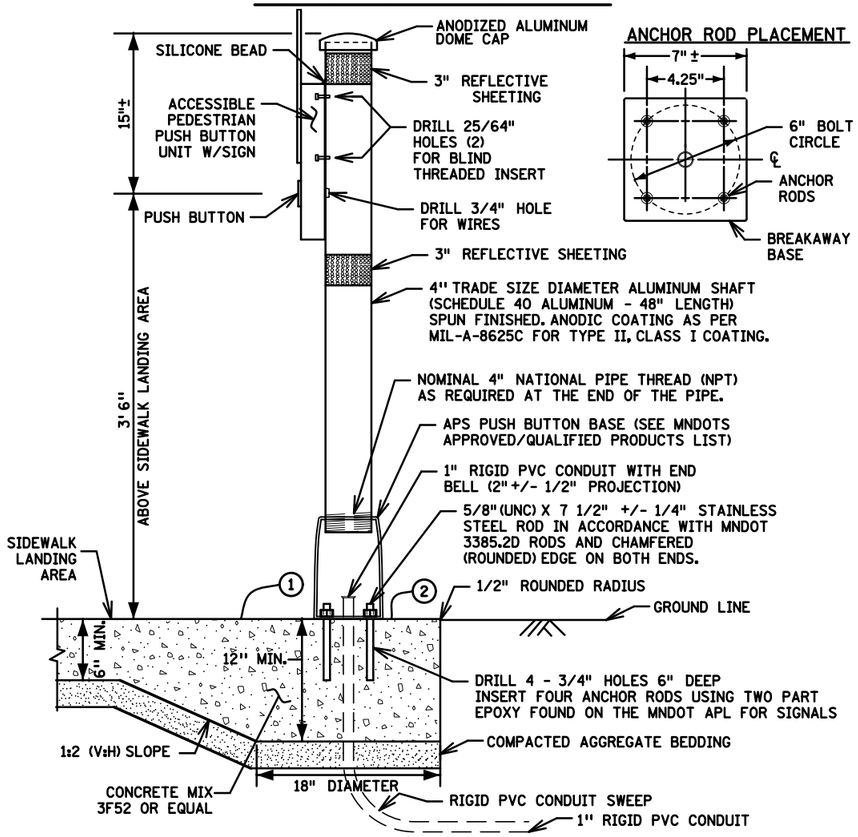
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

SIGNAL WIRE STANDARDS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S2 OF S10 SHEETS

APS PUSH BUTTON STATION



ANCHOR ROD PLACEMENT

NOTES:

PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK. SCREW IN SHAFT TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE SHAFT.

ORIENT ACCESS OPENING ON THE BREAKAWAY PEDESTAL DIRECTLY BELOW THE APS BUTTON.

PLUMB THE PUSH BUTTON STATION WITH LEVELING SHIMS IN ACCORDANCE WITH STANDARD PLATE 8129.

INSTALL BLIND THREADED INSERTS USING MANUFACTURER'S SPECIFIC INSERTION TOOL.

USE ZINC PLATED STEEL 1/4 - 20 UNC BLIND THREADED INSERTS SUITABLE FOR MOUNTING ON SURFACE WALL THICKNESS OF .337. APPROVED BLIND INSERTS ARE LISTED ON MNDOT'S APPROVED/QUALITY PRODUCTS LIST WEBSITE FOR TRAFFIC SIGNALS.

USE APS 1/4 - 20 STAINLESS STEEL MOUNTING BOLTS. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.

APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" SHAFT.

USE WHITE REFLECTIVE SHEETING AT INTERSECTION CORNERS AND YELLOW REFLECTIVE SHEETING IN CENTER MEDIANS. APPROVED TUBE DELINEATOR SHEETING IS LISTED ON MNDOT'S APPROVED/QUALIFIED PRODUCTS LIST WEBSITE FOR SIGNING.

AN 18" X 6" FIBER FORMING TUBE MAY BE USED FOR THE LOWER HALF OF THE FOUNDATION WHEN CONDITIONS DO NOT ALLOW FOR THE 18" X 6" HOLE TO STAND OPEN.

(1) THE PUSH BUTTON STATION FOUNDATION IS MONOLITHIC (POURED AT ONE TIME) WITH THE SIDEWALK. PROVIDE A 1:2 (V:H) SLOPE GRADE WHERE THE 6" MIN SIDEWALK DEPTH TRANSITIONS TO THE 12" MIN FOUNDATION DEPTH. MAINTAIN THE COMPACTED AGGREGATE BEDDING AND THICKNESS USED FOR THE SIDEWALK THROUGHOUT THE SLOPE AND FOUNDATION GRADING. PROVIDE 1:2 (V:H) SLOPE GRADING 360 DEGREES FOR THE TRANSITION FROM THE SIDEWALK TO THE FOUNDATION WHEN THE FOUNDATION IS NOT LOCATED NEAR EDGE OF SIDEWALK AND IS SURROUNDED BY CONCRETE WALK.

(2) ENSURE CONCRETE CONTROL JOINTS AND EDGE OF CONCRETE WALK ARE A MINIMUM 9" FROM THE CENTER OF THE PUSH BUTTON FOUNDATION.

TYPICAL APS PEDESTRIAN PUSH BUTTON LOCATION

THIS IS A GENERAL DETAIL INTENDED TO SHOW THE REQUIREMENTS OF APS PUSH BUTTON LOCATION. FOR PROJECT SPECIFIC INFORMATION REGARDING PEDESTRIAN RAMP LAYOUT AND PUSH BUTTON LOCATIONS, SEE THE PLAN.

SUPPLEMENTAL GUIDANCE FOR CONSTRUCTING COMPLIANT APS PUSH BUTTONS:

(1) THE FACE OF THE BUTTON SHALL BE PARALLEL WITH THE OUTSIDE EDGE OF CROSSWALK.

(2) A MINIMUM 4 FT X 4 FT LANDING AREA SHALL BE PROVIDED ADJACENT TO EACH BUTTON, WITH A 2 PERCENT MAXIMUM SLOPE IN ALL DIRECTIONS.

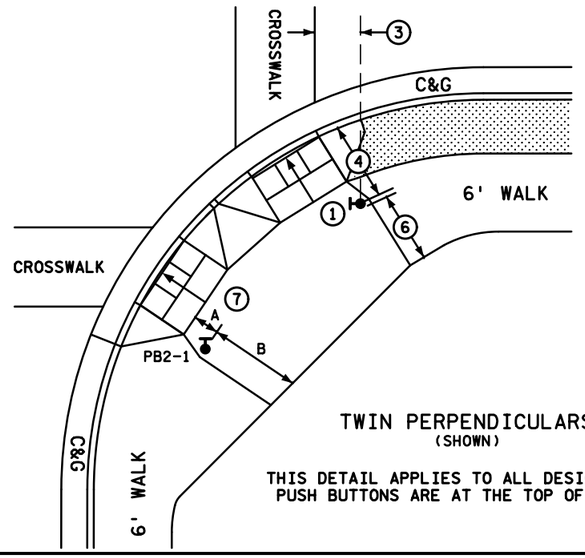
(3) BUTTONS SHALL BE WITHIN 5 FT OF THE OUTSIDE EDGE OF THE CROSSWALK.

(4) BUTTONS SHALL BE BETWEEN 1.5 FT AND 10 FT FROM THE BACK OF CURB OR EDGE OF ROADWAY, MEASURED IN THE DIRECTION OF TRAVEL. STANDALONE PUSH BUTTON STATIONS SHOULD BE 4' MINIMUM FROM THE BACK OF CURB TO AVOID KNOCKDOWNS.

(5) BUTTONS SHALL BE AT LEAST 10 FT APART.

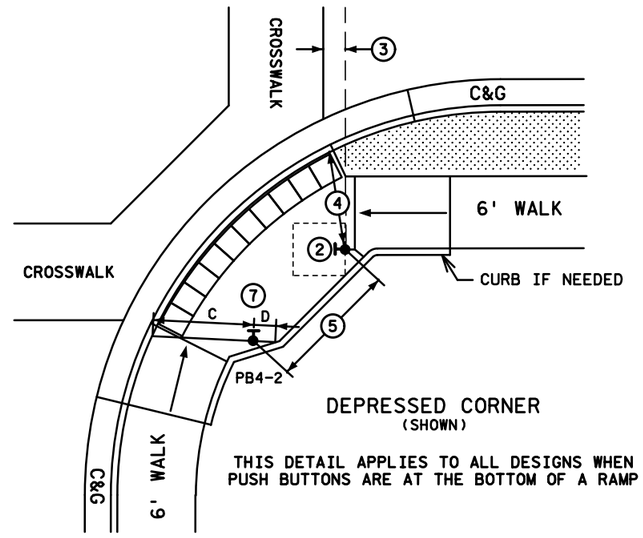
(6) PROVIDE A MAINTENANCE ACCESS ROUTE (MAR) WHEREVER POSSIBLE FOR SNOW REMOVAL PURPOSES. A MAR REQUIRES A 6 FT MINIMUM CLEAR DISTANCE BETWEEN A PUSH BUTTON AND ANY OBSTRUCTIONS, INCLUDING BUILDINGS, V-CURB, ELECTRICAL FOUNDATIONS, SIGNAL CABINETS, OR ANOTHER PUSH BUTTON.

(7) BUTTON SHOULD BE 2 FT MINIMUM FROM RAMP GRADE BREAK AND BACK OF WALK.



TWIN PERPENDICULARS
(SHOWN)

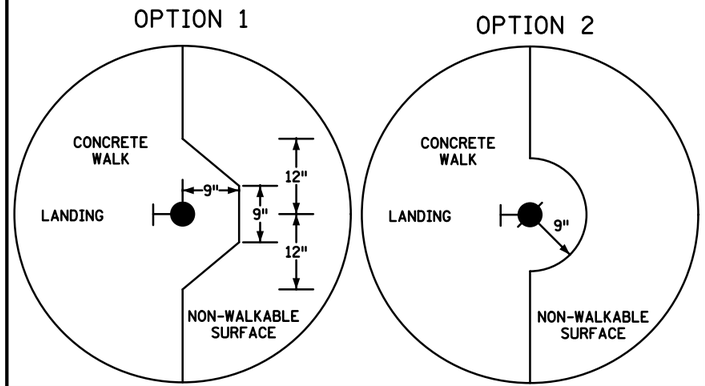
THIS DETAIL APPLIES TO ALL DESIGNS WHEN PUSH BUTTONS ARE AT THE TOP OF A RAMP



DEPRESSED CORNER
(SHOWN)

THIS DETAIL APPLIES TO ALL DESIGNS WHEN PUSH BUTTONS ARE AT THE BOTTOM OF A RAMP

CONTRACTOR MUST USE OPTION 1 OR 2 WHEN THE APS PUSH BUTTON IS SHOWN AT THE EDGE OF WALK. OPTION USED (OR SELECTED) MUST BE THE SAME THROUGHOUT THE ENTIRE PROJECT.



SIGNAL CONTROL POINTS			DISTANCE TO FRONT OF LANDING (FT)	DISTANCE TO BACK OF LANDING (FT)
SIGNAL NO.	X	Y		
PB2-1	-	-	A	B
PB4-2	-	-	C	D

A - DISTANCE MEASURED FROM THE PUSH BUTTON TO THE FRONT OF LANDING/TOP OF RAMP

B - CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE BACK OF LANDING/EDGE OF WALK

C - CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE OUTSIDE EDGE OF DOMES IN THE DIRECTION OF TRAVEL

D - CLEAR DISTANCE FROM THE PUSH BUTTON TO THE BACK OF LANDING MEASURED IN THE OPPOSITE DIRECTION OF TRAVEL

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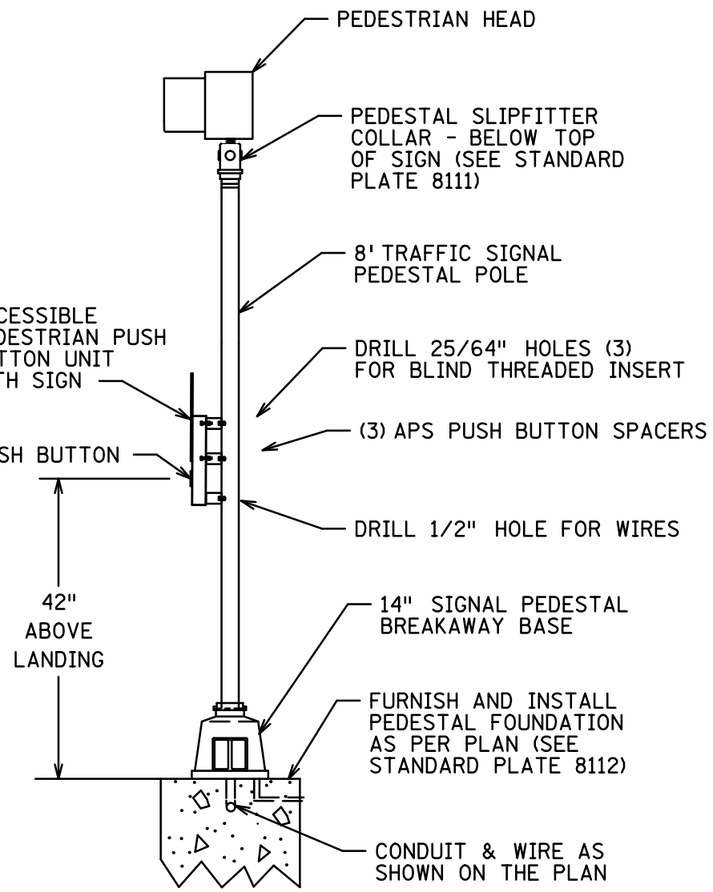
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

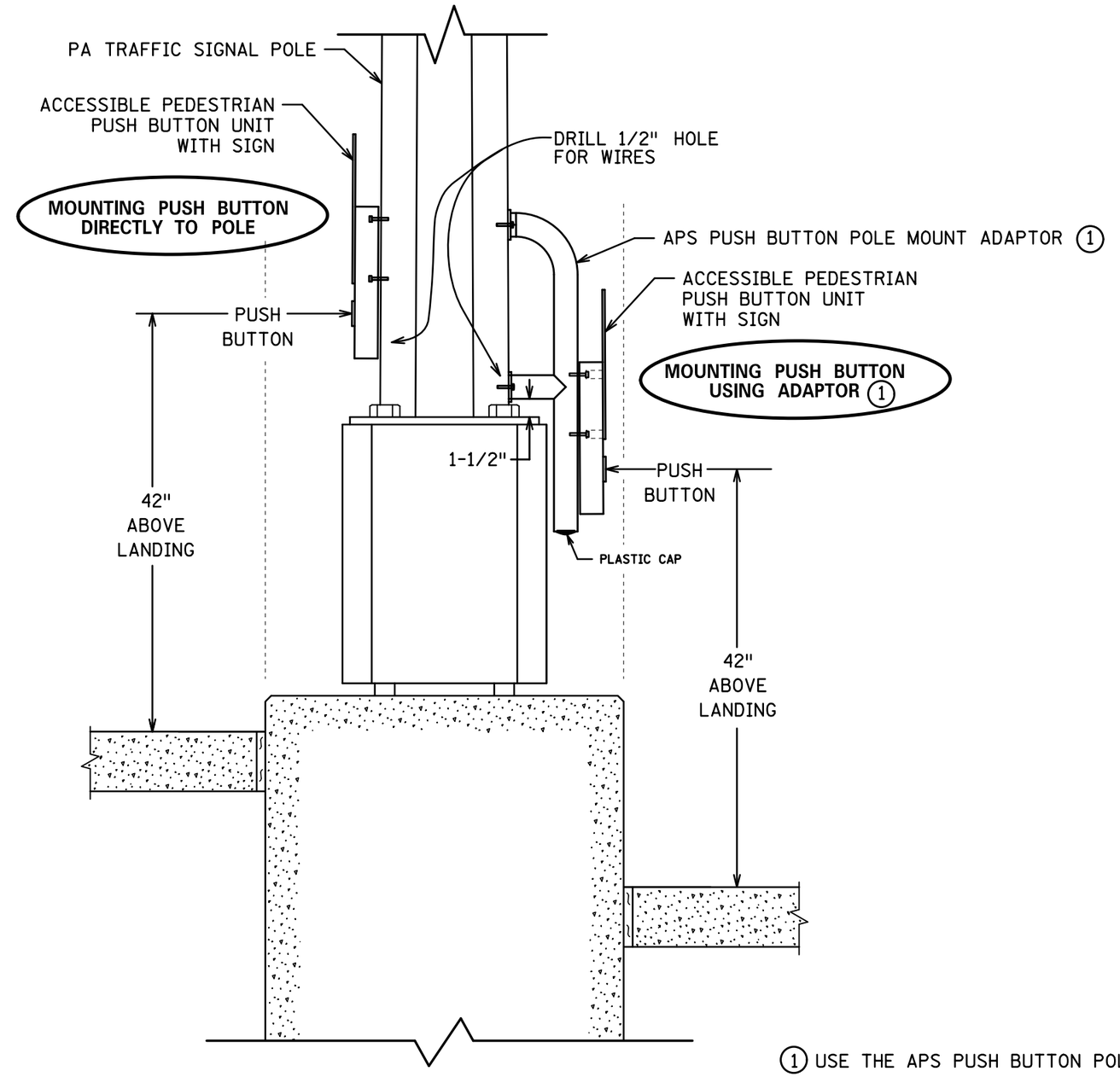
PEDESTRIAN STATION DETAIL

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S3 OF S10 SHEETS



PEDESTRIAN PEDESTAL POLE STATION TYPE 4A

NOT TO SCALE



PEDESTRIAN BUTTON POLE STATION (WITH OR WITHOUT POLE MOUNTING ADAPTOR)

NOT TO SCALE

NOTE: SEE THE SPECIAL PROVISIONS FOR ADDITIONAL MOUNTING INSTRUCTIONS AND REQUIREMENTS.

(1) USE THE APS PUSH BUTTON POLE MOUNTING ADAPTOR:

-WHEN THE SIGNAL POLE FOUNDATION IS TOO HIGH TO ALLOW THE APS PUSH BUTTON TO BE PLACED ON THE POLE AT THE PROPER HEIGHT.

-WHEN THE "FLAT" OF THE POLE ISN'T PARALLEL TO THE CROSS WALK.

-TO REDUCE THE REACH DISTANCE FROM THE EDGE OF THE SIGNAL POLE FOUNDATION TO THE BUTTON.

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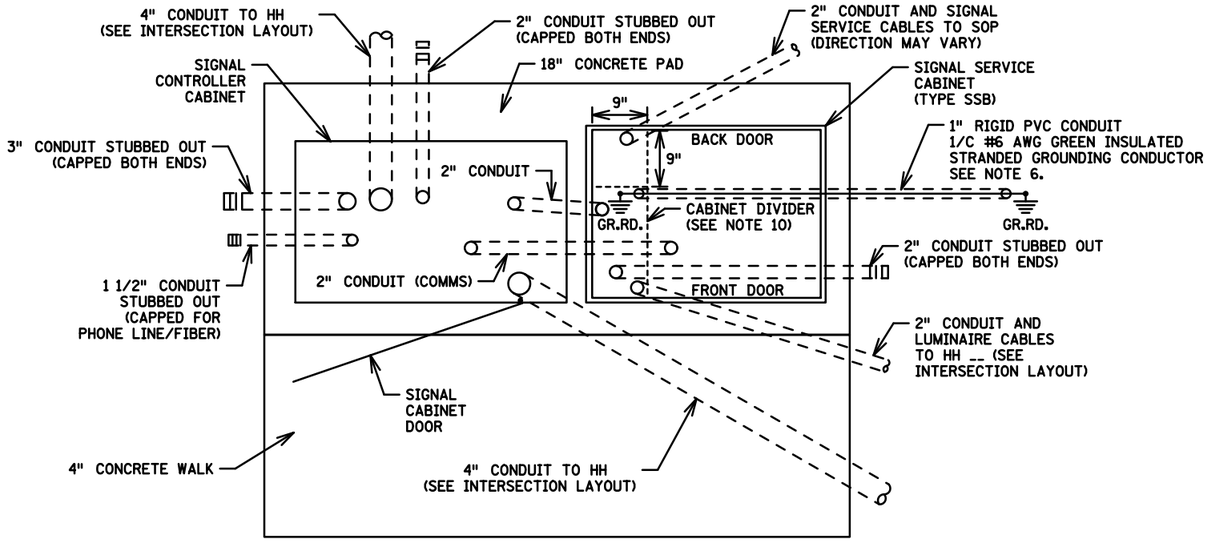
PUSH BUTTON DETAIL

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S4 OF S10 SHEETS

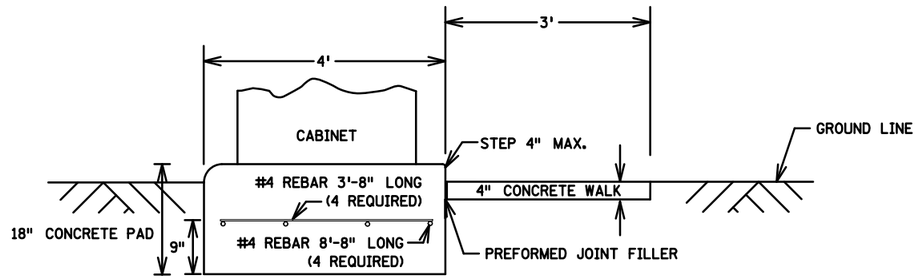
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

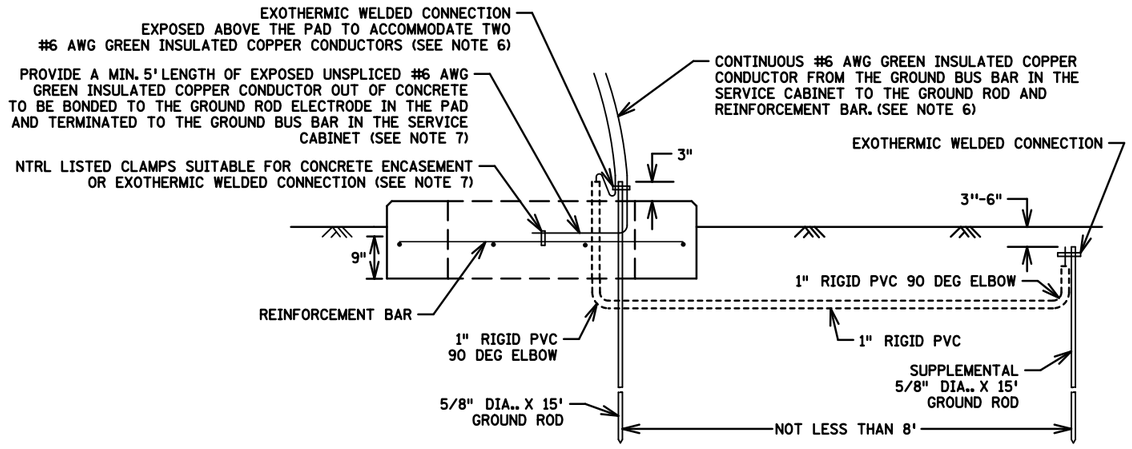
PLAN VIEW



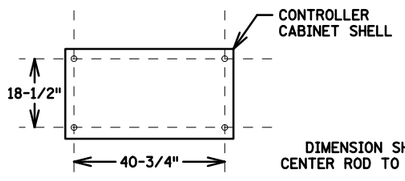
SIDE VIEW



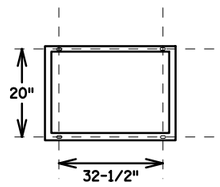
GROUNDING ELECTRODE SYSTEM



CONTROLLER CABINET TYPE "P" & "R" BOLT PATTERN

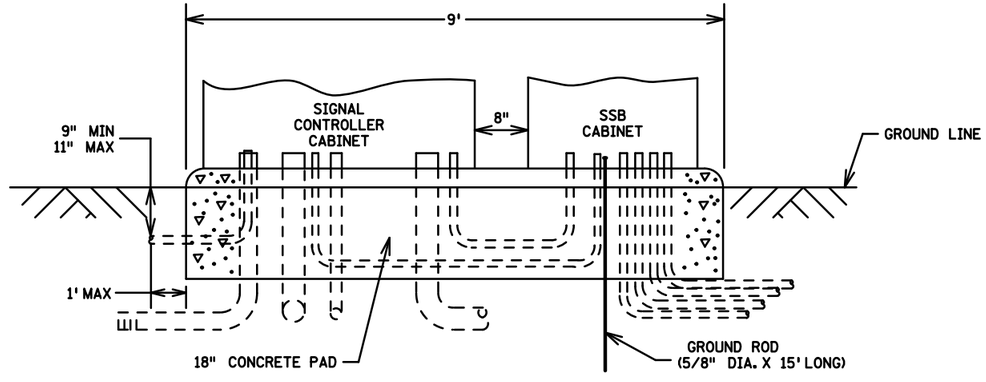


S.S.B. SERVICE CABINET BOLT PATTERN



DIMENSION SHOWN ARE CENTER ROD TO CENTER ROD

FRONT VIEW



NOTES:

1. THE ANCHOR RODS, NUTS, WASHERS AND RUBBER GASKET FOR THE CONTROLLER CABINET SHALL BE FURNISHED BY MNDOT.
2. THE OUTER EDGE OF THE ENTIRE EQUIPMENT PAD AND CONCRETE WALK SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE CAPPED UNTIL CABLES ARE PULLED IN.
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3F52 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. SUPPLY TWO 15 FOOT GROUND ROD ELECTRODES IN ACCORDANCE WITH 2545.3R. PROVIDE ONE GROUND ROD IN THE EQUIPMENT PAD IN ACCORDANCE WITH 2545.3 F.3 AND THE OTHER OUTSIDE OF THE PAD WITH A MINIMUM OF 8 FEET OF SEPARATION BETWEEN ELECTRODES. BOND THE TWO GROUND RODS TOGETHER WITH ONE CONTINUOUS LENGTH UNSPLICED CONDUCTOR FROM THE OUTER MOST GROUND ROD TO THE GROUND BUS BAR IN THE CABINET. EXOTHERMICALLY WELD THE 6 AWG STRANDED GREEN INSULATED CONDUCTOR TO THE GROUND RODS. PLACE THE BONDING CONNECTION TO THE EQUIPMENT PAD GROUND ROD ABOVE THE CONCRETE. APPLY DE-OX COMPOUND TO THE GROUNDING CONNECTIONS AFTER FINAL ASSEMBLY.
7. BOND A #6 AWG GREEN INSULATED GROUNDING CONDUCTOR TO THE REBAR GRID PRIOR TO CONCRETE POURING OPERATIONS. ENSURE THE CONDUCTOR IS PLACED IN THE LOAD SIDE OF THE CABINET. TERMINATE THE GREEN INSULATED 6 AWG GROUND CONDUCTOR ON THE GROUND BUS IN THE SERVICE CABINET WITHOUT SPLICES.
8. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE PLACED BELOW THE CONCRETE.
9. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
10. CORRECT PLACEMENT OF CONDUIT TO THE LEFT OF THE S.S.B. CABINET DIVIDER IS CRITICAL.
11. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
12. CABINETS TO BE CENTERED (LEFT & RIGHT) ON THE PAD.
13. BRUSH ON ANTI-SEIZE LUBRICANT MUST BE APPLIED TO ALL ANCHOR ROD THREADS PROTRUDING ABOVE THE CONCRETE PAD BEFORE THE CABINET IS SET.
14. CENTER THE 8', 8" X 3', 8" #4 REINFORCEMENT REBAR GRID IN THE 9' X 4' X 18" CONCRETE PAD.

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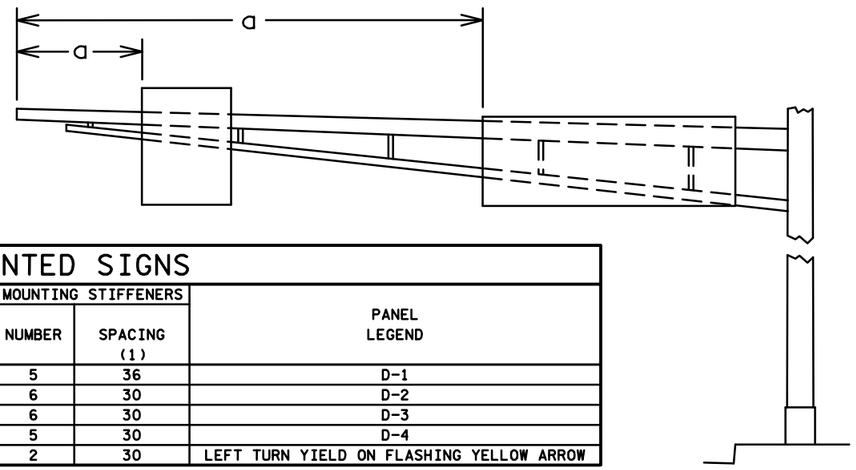
TYPICAL CABINET PAD DETAIL

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S5 OF S10 SHEETS

SIGN DETAILS

MAST ARM SIGN LOCATION



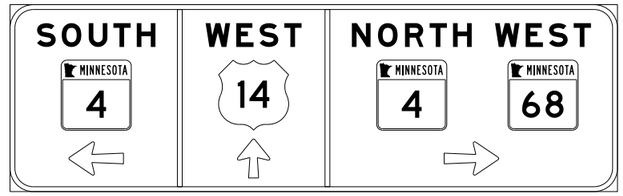
MAST ARM MOUNTED SIGNS

	SIGN NO	POLE NO	QTY	a	PANEL SIZE	PANEL AREA	PANEL TOTAL AREA	MOUNTING STIFFENERS NUMBER	MOUNTING STIFFENERS SPACING (1)	PANEL LEGEND
				FEET	INCH	SQ FT	SQ FT			
(2)	D-1	1	1	17.5	156 x 48	52.00	52.00	5	36	D-1
(2)	D-2	2	1	5.75	162 x 48	54.00	54.00	6	30	D-2
(2)	D-3	3	1	10.5	168 x 48	56.00	56.00	6	30	D-3
(2)	D-4	4	1	2	132 x 48	44.00	44.00	5	30	D-4
	D-5	1	1	0	42 x 48	14.00	14.00	2	30	LEFT TURN YIELD ON FLASHING YELLOW ARROW

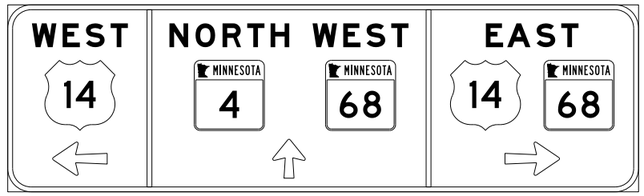
SPECIFIC NOTES:
(1) SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED.
SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL, PAGE 105A FOR STIFFENER SPACING REQUIREMENTS.
(2) SIGNS SALVAGED FROM EXISTING SIGNAL SYSTEM.

GENERAL NOTES:
1. CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
2. FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL, PAGE 105A.
3. FOR TYPE D STRINGER AND PANEL JOINT DETAILS SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL, PAGE 105.
4. THE MAST ARM MOUNTED SIGNS ARE INCLUDED IN THE TRAFFIC CONTROL SIGNAL SYSTEM PAY ITEM.
5. AT INTERSECTIONS WITH MEDIAN WIDTHS LESS THAN 30', ONE WAY (R6-1) SIGNS SHALL NOT BE PLACED AS PART OF THE SIGNALS PLAN.
6. SIGNS D-1, D-2, D-3 AND D-4 ARE EXISTIG SIGNS THAT WILL BE SALVAGED AND INSTALLED.

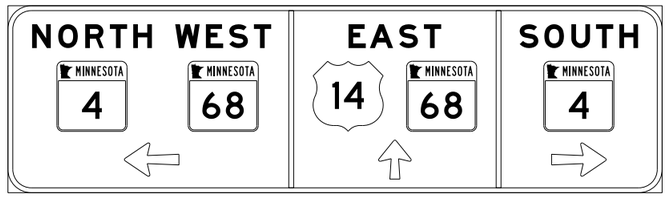
D-1



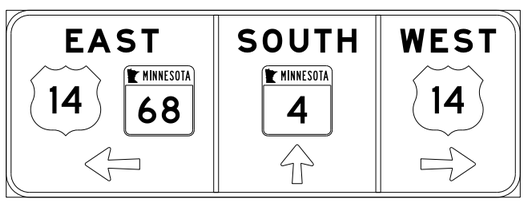
D-2



D-3



D-4



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SIGNAL SIGNING

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S6 OF S10 SHEETS

EQUIPMENT PAD (SEE DETAIL SHEET)
SERVICE CABINET (SSB) WITH BATTERY BACKUP
CONTROLLER AND CABINET (STATE FURNISHED)

2-3" CONDUIT TO HH5:
4-12/C #14
2-3/C #14
2-2/C #14
2-VIDEO CABLES
1-1/C #6 INS. GR.

(A) 2-3" CONDUIT TO HH5:
4-12/C #14
2-3/C #14
2-2/C #14
2-VIDEO CABLES
1-1/C #6 INS. GR.

GROUND WIRE AND GROUND ROD-MIN 8' OUT FROM PAD
2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
CONTROLLER CABINET TO SERVICE CABINET:
2" CONDUIT
2-1/C #6
1-1/C #6 INS. GR.
SERVICE CABINET TO EXTERNAL GR. RD.
1" CONDUIT
1-1/C #6 INS. GR.
(SEE EQUIPMENT PAD LAYOUT)
SERVICE CABINET TO HH 5:
2" CONDUIT
4-3/C #14 (LUM)
HH 5 TO HH 8:
2" CONDUIT
2-3/C #14 (LUM)

CONTRACTOR TO F&I FEED TO SOP, EXISTING HAND HOLES 2 AND 3 MAY USED FOR FEED.

SOP — 120' — 1 — 120' — 2 — 55' — 3 — 135' — 4

(B) SOP - GROUND MOUNTED TRANSFORMER
(CITY OF SLEEPY EYE ELECTRIC)
2" CONDUIT INTO SERVICE CABINET:
3-1/C #2

(1) PA90 POLE FOUNDATION
TYPE P90 A40-D40-9
LUMINAIR- LED (APPROX. 355°)
2-ONE WAY SIGNAL (OVERHEAD)
0' & 11' FROM END OF MAST ARM
2-TYPE 10B (MOUNTED AT 90° AND 180°)
3" NMC 2-12/C #14, 3-3/C #14,
2-VIDEO CABLES & 1-1/C #6 INS. GR.
INTO HH8

CABINET & SERVICE

HH5 TO HH6
3" NMC
2-12/C #14
3-3/C #14
2-2/C #14
2-WIRES FOR V-2
1-1/C #6 INS. GR.
3" NMC
2-12/C #14
3-3/C #14
2-2/C #14
2-WIRES FOR V-3
1-1/C #6 INS. GR.

(2) PA85 POLE FOUNDATION
TYPE P85 A25-D40-9
LUMINAIR- LED (APPROX. 355°)
1-ONE WAY SIGNAL (OVERHEAD)
0' FROM END OF MAST ARM
2-TYPE 10B (MOUNTED AT 90° & 180°)
3" NMC 2-12/C #14, 3-3/C #14,
2-VIDEO CABLES & 1-1/C #6 INS. GR.
INTO HH6

SCALE
0' 20' 50' 100'

TO HH6

1120

1130

TH 14 (MAIN ST.) 30 MPH

HH6 TO HH7
3" NMC
2-12/C #14
3-3/C #14
2-2/C #14
2-WIRES FOR V-3
1-1/C #6 INS. GR.

HH8 TO HH9
3" NMC
2-12/C #14
3-3/C #14
2-2/C#14
2-WIRES FOR V-4
1-1/C #6 INS. GR.

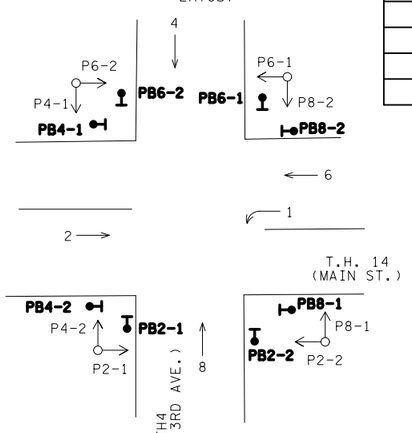
(4) PA85 POLE FOUNDATION
TYPE P85 A15-D40-9
LUMINAIR- LED (APPROX. 355°)
1-ONE WAY SIGNAL (OVERHEAD)
0' FROM END OF MAST ARM
2-TYPE 10B (MOUNTED AT 90° & 180°)
3" CONDUIT, 2-12/C #14, 3-3/C #14,
2-VIDEO CABLES & 1-1/C #6 INS. GR.
INTO HH9

(3) PA90 POLE FOUNDATION
TYPE P90 A35-D40-9
LUMINAIR- LED (APPROX. 355°)
2-ONE WAY SIGNAL (OVERHEAD)
0' & 11' FROM END OF MAST ARM
2-TYPE 10B (MOUNTED AT 90° & 180°)
3" CONDUIT, 2-12/C #14, 3-3/C #14,
2-VIDEO CABLES & 1-1/C #6 INS. GR.
INTO HH7

TH14 (3RD AVE.)

30 MPH

CONTROLLER PHASING
PUSH BUTTON
AND
PEDESTRIAN INDICATION
LAYOUT



DETECTION CHART	
CAMERA	PHASE
V-1	1,6
V-2	8
V-3	2
V-4	4

SIGNAL INDICATION CHART

FACE	PHASE	FLASH	TYPE			
			R	Y	FYA	G
1-1,1-2	1	R	←	←	←	←
2-1,2-2,2-3	2	R	●	●		●
4-1,4-2,4-3	4	R	●	●		●
6-1,6-2	6	R	●	●		●
8-1,8-2,8-3	8	R	●	●		●

ALL INDICATION SHALL BE 12" LED

TE NO. 3837 SYS. NO. 20306

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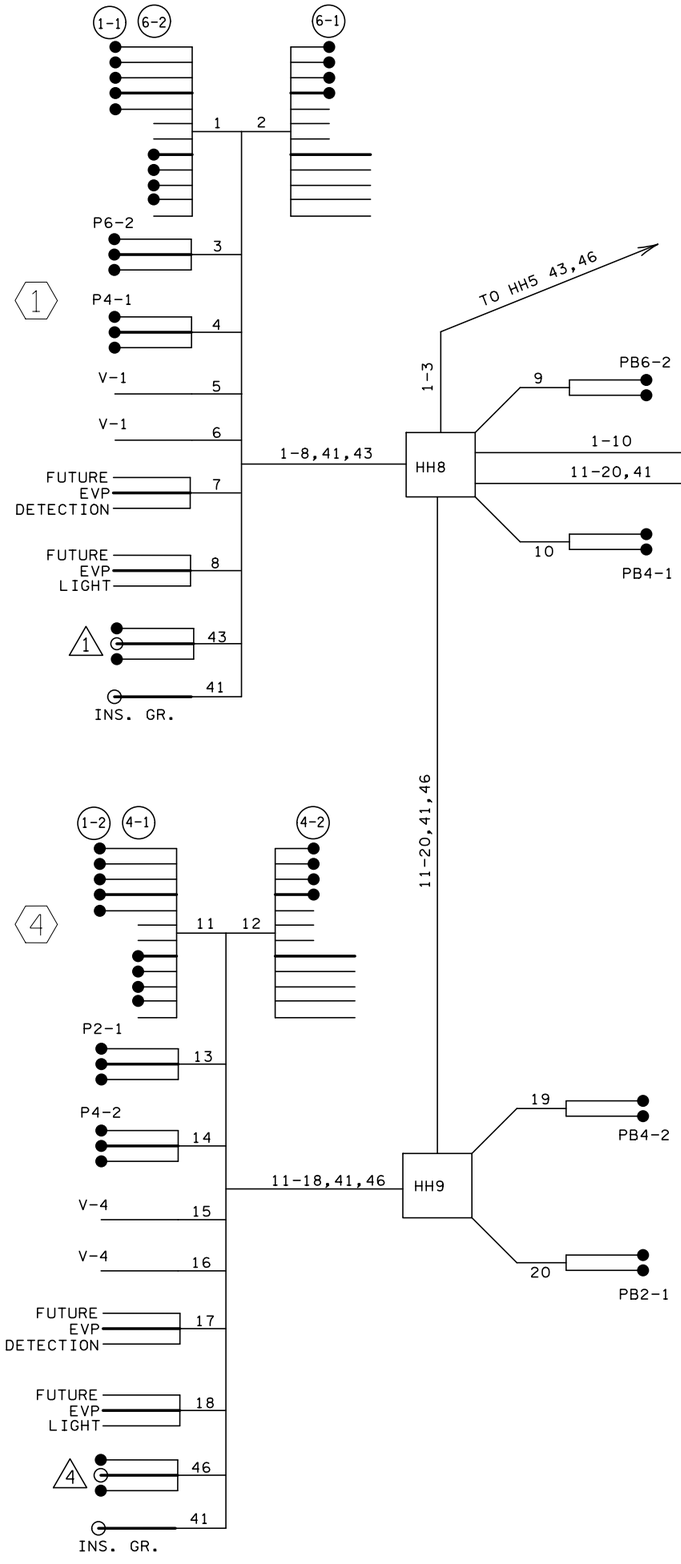
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

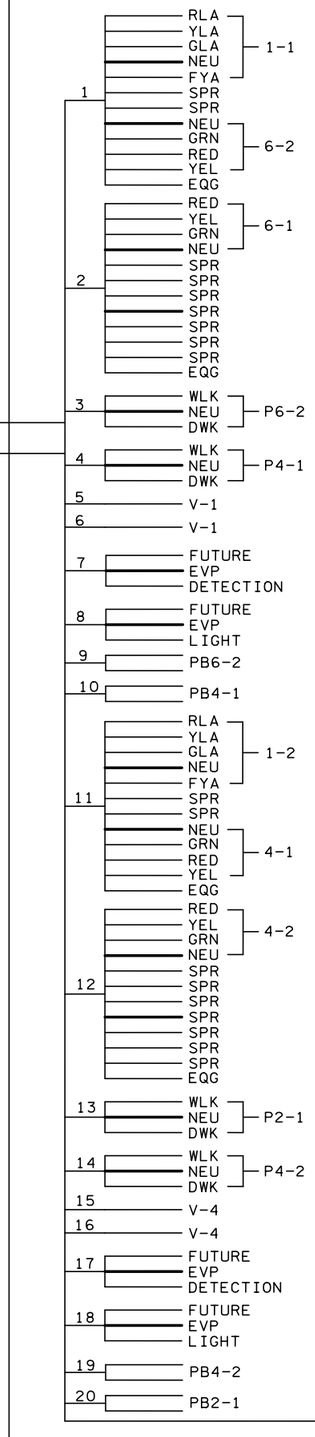
TH14 AT TH4 TRAFFIC SIGNAL

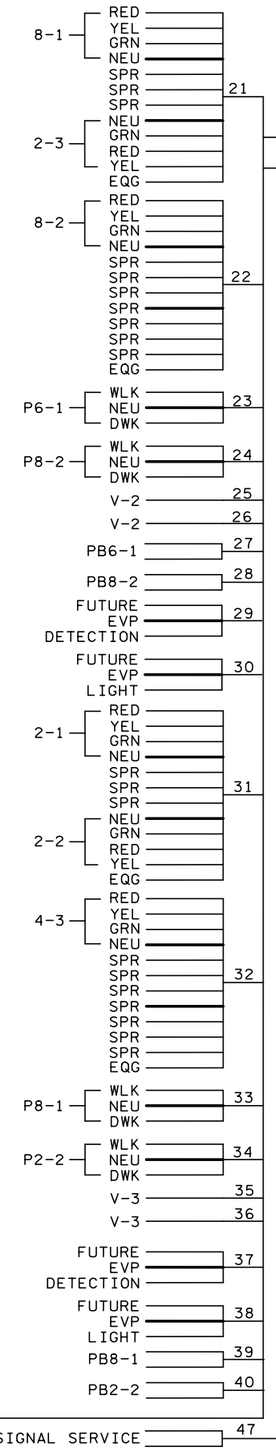
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S7 OF S10 SHEETS

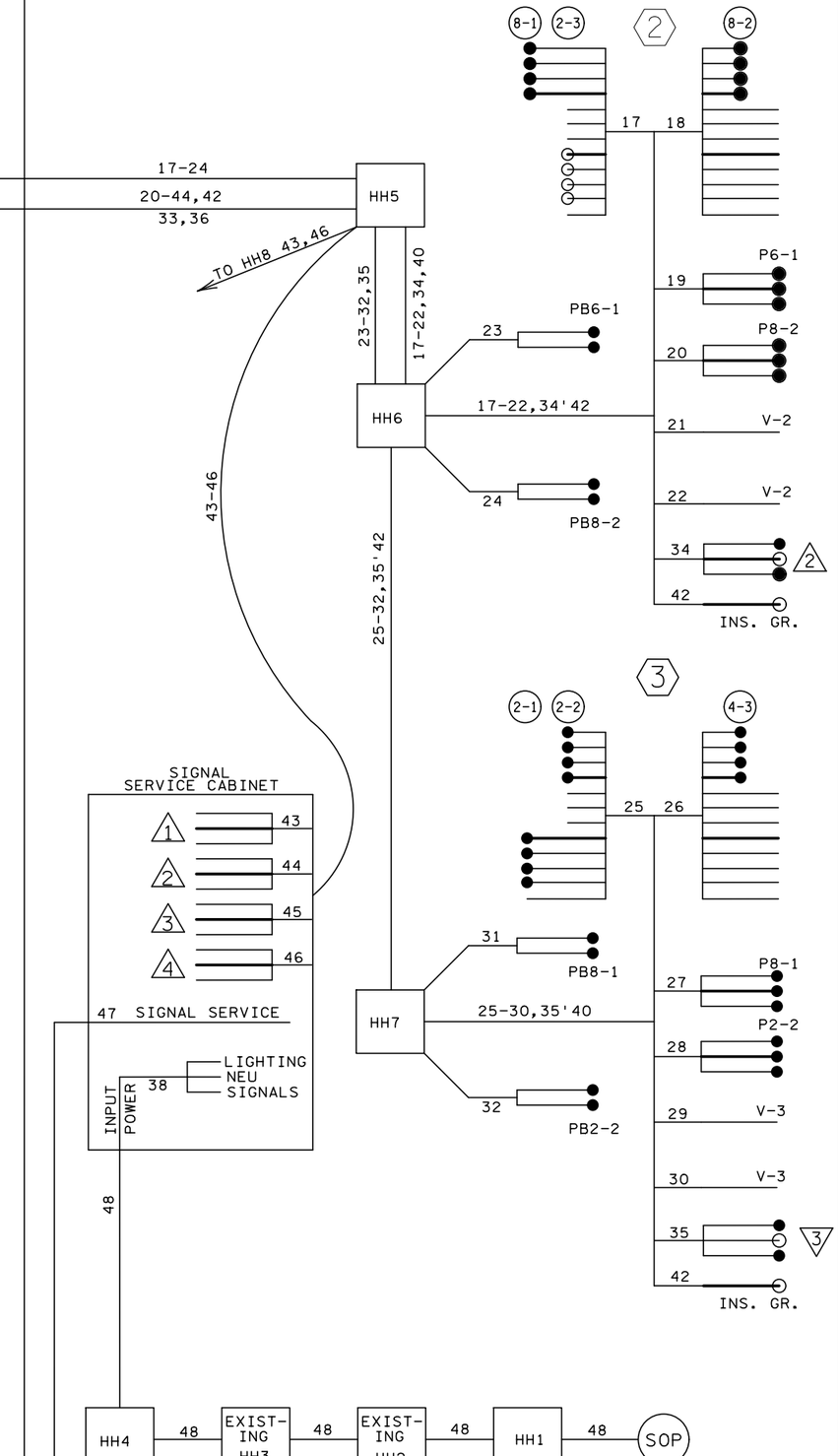
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Traffic/Signals/TH14 AT TH4 signal.dgn
PLOTTED/REVISED: 14-NOV-2017 16:11

CONTROLLER CABINET









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LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

SIGNAL WIRING DIAGRAM

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S8 OF S10 SHEETS

FOR INFORMATION ONLY

INPLACE-11-4" R.S.C, 1" R.S.C. & 2-1/C #6
R&S-2-1/C #6
F&I-2-1/C #2
1-1/C #6 BR. GR.

INPLACE-CONTROLLER & CABINET

INPLACE-SOP
SERVICE EQUIPMENT

R&S-2-12/C #12 & 3-3/C #12
F&I-3" R.S.C., 3-3/C #12, 2-2/C #14 & 1-12/C #12
INSTALL SALVAGED-1-12/C #12

(1) INPLACE-TYPE A-20
ONE WAY SIGNAL (OVERHEAD)
TWO WAY SIGNAL (TYPE 20C-POLE MOUNTED 270°)
2 SETS PEDESRIAN INDICATIONS
1-PEDESTRIAN PUSH BUTTON
1-12/C #12 & 6-3/C #12 INTO HH14
F&I-TYPE A-30
3" R.S.C. & 3-3/C #12 INTO HH13
INSTALL SALVAGED-ONE WAY SIGNAL (OVERHEAD)
TWO WAY SIGNAL (TYPE 20C-POLE MOUNTED 270°)
2-SETS PEDESTRIAN INDICATIONS
2-PEDESTRIAN PUSH BUTTONS
1-12/C #12

INPLACE-3" RSC 2-12/C & 8-3/C #12
R&S-6-3/C #12
F&I-4-2/C #14

INPLACE -11/4" R.S.C. & 1-3/C # 12
R&S-1-3/C #12
F&I-1-2/C #14

INPLACE3" RSC, 2-12/C # 12 & 6-3/C #12
R&S-1-3/C #12
F&I-3-2/C #14

(2) INPLACE-TYPE A-25
ONE WAY SIGNAL (OVERHEAD)
ONE WAY SIGNAL (TYPE 10C-POLE MOUNTED 270°)
2-SETS PEDESTRIAN INDICATIONS
1-12/C #12 & 4-3/C #12 INTO HH 6
R&S- TYPE A-25
ONE WAY SIGANAL (OVERHEAD)
ONE WAY SIGNAL (TYPE 10C-POLE MOUNTED 270°)
2-SETS PEDESTRIAN INDICATIONS
2-PEDESTRAIN PUSH BUTTONS
PULL 1-112/C #12 & 4-3/C #12 BACK INTO HH6
REMOVE-TOP 4 FEET OF CONCRETE FOOTING
F&I-TYPE A-30-T40-10
STUB OUT 2" R.S.C.
3" R.S.C. INTO HH 6
INSTALL SALVAGED-1-12/C #12 & 4-3/C #12 FROM HH 6
ONE WAY SIGNAL (OVERHEAD)
ONE WAY SIGNAL (TYPE 10C-POLE MOUNTED 270°)
2-SETS PEDESTRIAN INDICATIONS
2-PEDESTRIAN PUSH BUTTONS
LUMINARE (APPROX. 270°)

11/4" RSC
1-2/C #14

INPLACE-3" R.S.C., 1-12/C #12 & 4-3/C #12
R&S-2-3/C #12
F&I-2-2/C #14

(3) INPLACE- TYOPE A-25
ONE WAY SIGNAL(OVERHEAD)
ONE WAY SIGNAL (TYPE 10O-POLE MOUNTED 270")
2 SETS PEDESTRIAN INDICATIONS
1- PEDESTRIAN PUSH BUTTON
3" R.S.C. 1-12/C & 3-3/C #12 INTO HH 8

INPLACE- PEDESTRIAN PUSH BUTTON STATION
1-PEDESTRIAN PUSH BUTTON
11/4" R.S.C & 1-3/C #12 INTO HH8

INPLACE -3" R.S.C & 2-3/C #12
R&S-2-3/C #12
F&I-2-2/C #14

INPLACE-11/4" R.S.C. & 1-3/C #12
R&S-1-3/C #12
F&I-1-2/C #14

DETECTOR CHART		
PHASE NUMBER	SIZE OR TYPE	NO. OF TURNS
D2-2	18'x8'	2
D2-1	18'x8'	2
D4-1	20'x8'	2
D6-1	14'x8'	2
D4-3		2
D4-2	12'x8"	2

SCALE
0 20 50 100

TH 14 (MAIN ST)

TH 4 (3RD AVE)

11/4" RSC
1-2/C #14

3" R.S.C EXTEND INTO HH13
3-3/C #12, 2-2/C #14 & 1-12/C #12

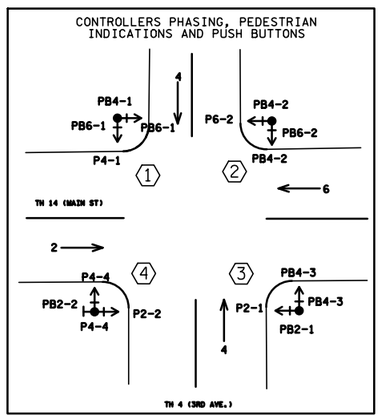
(4) TYPE A-15
ONE WAY SIGNAL (OVERHEAD)
TWO WAY SIGNAL (TYPE 20C-POLE MOUNTED 270°)
2-SETS PEDESTRIAN INDICATIONS
2-PEDESTRIAN PUSH BUTTONS
3" R.S.C., 1-12/C #12 & 3-3/C #12 INTO HH1

SIGNAL INDICATION CHART

FACE	PHASE	FLASH	IND SIZE		
			R	G	Y
6-2	A	R	12"	12"	12"
6-1	A	R	12"	12"	12"
2-2	A	R	12"	12"	12"
2-1	A	R	12"	12"	12"
6-3	A	R	12"	12"	12"
4-1	B	R	12"	12"	12"
4-3	B	R	12"	12"	12"
4-2	B	R	12"	12"	12"
4-5	B	R	12"	12"	12"
4-4	B	R	12"	12"	12"

COUNT DOWN PED INDICATIONS

CONTROLLERS PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



TH 14 / TH 4
SLEEPY EYE

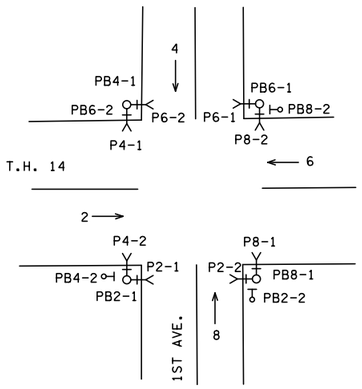
CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

EXISTING SIGNAL

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S9 OF S10 SHEETS

FOR INFORMATION ONLY

CONTROLLER PHASING
PUSH BUTTON
AND
PEDESTRIAN INDICATION
LAYOUT



1. ONE WAY SIGNAL TYPE 1D
1-PEDESTRIAN PUSH BUTTON & SIGN
3" RSC 2-12/C#12, & 6-3/C#12
INTO HH1

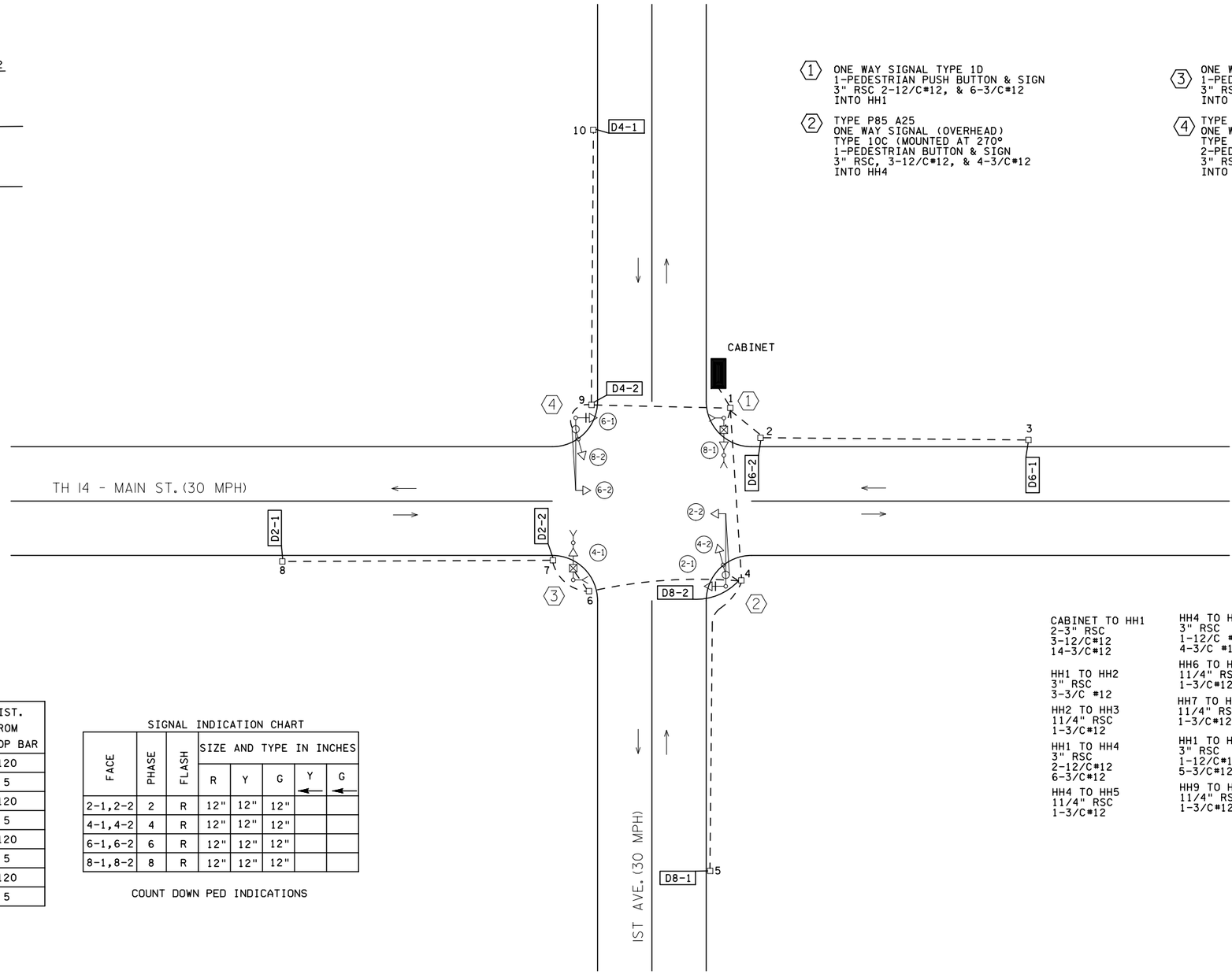
2. TYPE P85 A25
ONE WAY SIGNAL (OVERHEAD)
TYPE 10C (MOUNTED AT 270°
1-PEDESTRIAN BUTTON & SIGN
3" RSC, 3-12/C#12, & 4-3/C#12
INTO HH4

3. ONE WAY SIGNAL TYPE 10
1-PEDESTRIAN PUSH BUTTON & SIGNS
3" RSC, 1-12/C#12, & 3-3/C#12
INTO HH6

4. TYPE P85 A25
ONE WAY SIGNAL (OVERHEAD)
TYPE 10C (MOUNTED AT 270°)
2-PEDESTRIAN PUSH BUTTONS & SIGNS
3" RSC, 1-12/C#12, 3-3/C#12
INTO HH9

SCALE

0 20 50 100



DETECTOR CHART			DIST. FROM STOP BAR
DETECTOR	PHASE	SIZE	
D2-1	2	8X15	120
D2-2	2	8X15	5
D4-1	4	6X6	120
D4-2	4	8X20	5
D6-1	6	8X15	120
D6-2	6	8X15	5
D8-1	8	6X6	120
D8-2	8	8X15	5

SIGNAL INDICATION CHART

FACE	PHASE	FLASH	SIZE AND TYPE IN INCHES				
			R	Y	G	Y ←	G ←
2-1,2-2	2	R	12"	12"	12"		
4-1,4-2	4	R	12"	12"	12"		
6-1,6-2	6	R	12"	12"	12"		
8-1,8-2	8	R	12"	12"	12"		

COUNT DOWN PED INDICATIONS

CABINET TO HH1
2-3" RSC
3-12/C#12
14-3/C#12

HH1 TO HH2
3" RSC
3-3/C #12

HH2 TO HH3
1 1/4" RSC
1-3/C#12

HH1 TO HH4
3" RSC
2-12/C#12
6-3/C#12

HH4 TO HH5
1 1/4" RSC
1-3/C#12

HH4 TO HH6
3" RSC
1-12/C #12
4-3/C #12

HH6 TO HH7
1 1/4" RSC
1-3/C#12

HH7 TO HH8
1 1/4" RSC
1-3/C#12

HH1 TO HH9
3" RSC
1-12/C#12
5-3/C#12

HH9 TO HH10
1 1/4" RSC
1-3/C#12

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

EXISTING SIGNAL

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. S10 OF S10 SHEETS

NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MN MUTCD.
5. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER. REVISED TRAFFIC CONTROL PLANS ARE TO BE SIGNED BY A QUALIFIED INDIVIDUAL LICENSED BY THE STATE OF MINNESOTA AS A LICENSED PROFESSIONAL ENGINEER. CONTRACTOR SHALL PROVIDE SEVEN CALENDAR DAYS FOR ENGINEER'S REVIEW OF ANY REVISED TRAFFIC CONTROL PLANS.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS, ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE PLACED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS SHOWN IN THE "TYPICAL TEMPORARY SIGN FRAMING & INSTALLATION DETAILS" IN THE PLAN. IF THIS IS NOT POSSIBLE, THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS, DELINEATORS, AND MARKERS".
5. BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR "BARRICADE SHEETING",
6. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
7. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

PAVEMENT MARKING:

1. THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.
2. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
3. TRANSITIONS AND TAPERS FOR TEMPORARY STRIPING SHALL BE WET REFLECTIVE OR SUPPLEMENTED WITH TEMPORARY RASIED PAVEMENT MARKERS AND SHOULD BE A MINIMUM OF 6" IN WIDTH.
4. INTERIM STRIPING SHALL CONSIST OF ALL CENTERLINE, NO PASSING ZONES, PAINTED ISLANDS, AND LANE LINES (INCLUDING TURN LANE LINES).
5. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 3 DAYS) EDGELINES ON ALL TRANSITION AREAS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PLACEMENT OF TEMPORARY AND FINAL STRIPING.

TRAFFIC CONTROL TABULATION

SIGN	SIGN NO.	SIZE (INCHES)	COLOR
14	M1-4	24 X 24	WHITE/BLACK
ROAD CLOSED BEGINNING XXX XX	G20-X1	54 x 48	BLACK/ORANGE
LED ENHANCED STOP	R1-1	36 x 36	WHITE/RED
STOP	R1-1	36 x 36	WHITE/RED
ALL WAY	R1-3P	18 x 6	WHITE/RED
	R4-7	24 X 30	BLACK/WHITE
STOP HERE ON RED	R10-6R	24 X 36	BLACK/WHITE
ROAD CLOSED	R11-2	48 x 30	BLACK/WHITE
ROAD CLOSED X MILES AHEAD LOCAL TRAFFIC ONLY	R11-3a	60 x 30	BLACK/WHITE
ROAD CLOSED TO THRU TRAFFIC	R11-4	60 x 30	BLACK/WHITE
	W3-1	48 x 48	BL&RED& WHITE /ORANGE
	W3-3	48 x 48	BL&RED& WHITE /ORANGE
TRAFFIC CONTROL CHANGE AHEAD	W3-X5	48 x 48	BLACK/ORANGE
NO PASSING ZONE	W14-3	48 X 48 X 36	BLACK/YELLOW

TRAFFIC CONTROL TABULATION

SIGN	SIGN NO.	SIZE (INCHES)	COLOR
ROAD CLOSED AHEAD	W20-2	48 x 48	BLACK/ORANGE
ONE LANE ROAD AHEAD	W20-4	48 x 48	BLACK/ORANGE
XXX FEET	W20-100p	42 x 18	BLACK/ORANGE
	TYPE 3 (LT)	6' MIN.	ORANGE/WHITE
	TYPE 3 (RT)	6' MIN.	ORANGE/WHITE

NOTE:
1. LED ENHANCED REFERS TO A PRODUCT SHOWN ON THE MNDOT APPROVED PRODUCTS LIST UNDER THE ADDED EMPHASIS SIGNS.
2. SIGN G20-X1 SHALL BE PLACED AT CONSTRUCTION LIMITS 14 DAYS PRIOR TO CLOSURE.

LEGEND

- SIGN TYPE C
- TYPE 3 BARRICADE
- INPLACE SIGNAL WITH SIGN TYPE D
- POLE MOUNTED TYPE C

I HEREBY CERTIFY THAT SHEETS T1 THROUGH T8 OF THIS PLAN WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: SCOTT THOMPSON LICENSE #

DATE: SIGNATURE: _____

DESIGNER: JOSH GUSTAFSON

TH 14 TRAFFIC CONTROL DETAILS AND TABULATIONS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T1 OF T41 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:11
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Traffic/TrafficControl/D0803038_tc01.dgn

STAGING PLAN

CONSTRUCTION OF T.H. 14 IN THE CITY OF SLEEPY EYE WILL TAKE PLACE IN 2018.
AS PART OF THIS PROJECT A TRAFFIC CONTROL PLAN IS NECESSARY.
THE FOLLOWING PLAN WILL BE APPLIED TO A MAXIMUM OF THREE BLOCKS AT A TIME.
THE CONSTRUCTION IS TO BE STAGED AS FOLLOWS

1. SIGNAL WORK
2. ADA CURB AND SIDEWALK (USE ADA DETOUR DETAILS, TPAR, ON SHEET T4 AND T5)
3. U.S. 14 CONCRETE PATCH AT 5TH AVE. SW
4. MILL AND OVERLAY

EAST PROJECT LIMITS TO T.H. 4

STREET WIDTH: 44' CURB FACE TO CURB FACE
* DURING WORKING HOURS THE CONTRACTOR WILL USE FLAGGER OPERATIONS TO MAINTAIN ONE LANE. SEE FIELD MANUAL LAYOUT 6K-13
* A PILOT CAR WILL BE UTILIZED WHEN CONSTRUCTION TAKES PLACE ON MORE THAN ONE SIMULTANEOUS BLOCK.
* INTERM MARKINGS WILL BE APPLIED AT THE END OF EACH WORK DAY WHERE PERMANENT MARKINGS ARE NOT PRESENT.
* DURING NON WORKING HOURS, THE CONTRACTOR WILL RESTORE THE ROADWAY TO ITS NORMAL TWO LANE, TWO WAY TRAFFIC OPERATION.

T.H. 4 TO WEST PROJECT LIMITS

STREET WIDTH: 58' CURB FACE TO CURB FACE IN DOWNTOWN SECTION
* DURING WORKING HOURS THE CONTRACTOR WILL MAINTAIN TWO WAY - TWO LANE TRAFFIC. USE FIELD MANUAL FOR LANE SHIFTS.
* INTERM MARKINGS WILL BE APPLIED AT THE END OF EACH WORK DAY WHERE PERMANENT MARKINGS ARE NOT PRESENT.
* DURING NON WORKING HOURS, THE CONTRACTOR WILL OPEN THE ROADWAY TO TWO LANE, TWO WAY TRAFFIC.

T.H. 14 & T.H. 4 SIGNAL REPLACEMENT

* SEE SHEET T3 FOR TRAFFIC CONTROL PLANS.
* FOLLOW TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FOR LANE CLOSURES.
* A PEDESTRIAN DETOUR WILL BE REQUIRED IF TPAR CANNOT BE MAINTAINED.

CONCRETE PATCH AT 5TH AVENUE SW

* DEPLOY MN MUTCD LAYOUT 6J-20 FOR CLOSURE ON 5TH AVEUNE SW.
* MAINTAIN OR PROVIDE ALTERNATIVE ACCESS TO ALL RESIDENCES AND BUSINESSES.
* UTILIZE LAYOUT 51 ON SHEET T8 ON TH 14 FOR PATCH WORK AND CURING TIME.

T.H. 14 & 1ST AVENUE SIGNAL REMOVAL

* IT IS ANTICIPATATED THAT THE TRAFFIC CONTROL SIGNAL WILL BE OFF AT THE TIME OF REMOVAL.
* INTERSECTION WILL BE UNDER THROUGH-STOP CONTROL, WHICH WILL REMAIN INPLACE AFTER THE PROJECT.
* FOLLOW TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FOR LANE CLOSURES.
* A PEDESTRIAN DETOUR WILL BE REQUIRED IF TPAR CANNOT BE MAINTAINED.

CERTIFIED BY S. THOMPSON - PRELIMINARY 90% PLANS 14-NOV-2017
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TRAFFIC CONTROL DETAILS

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Traffic/TrafficControl/D080338_tc03.dgn
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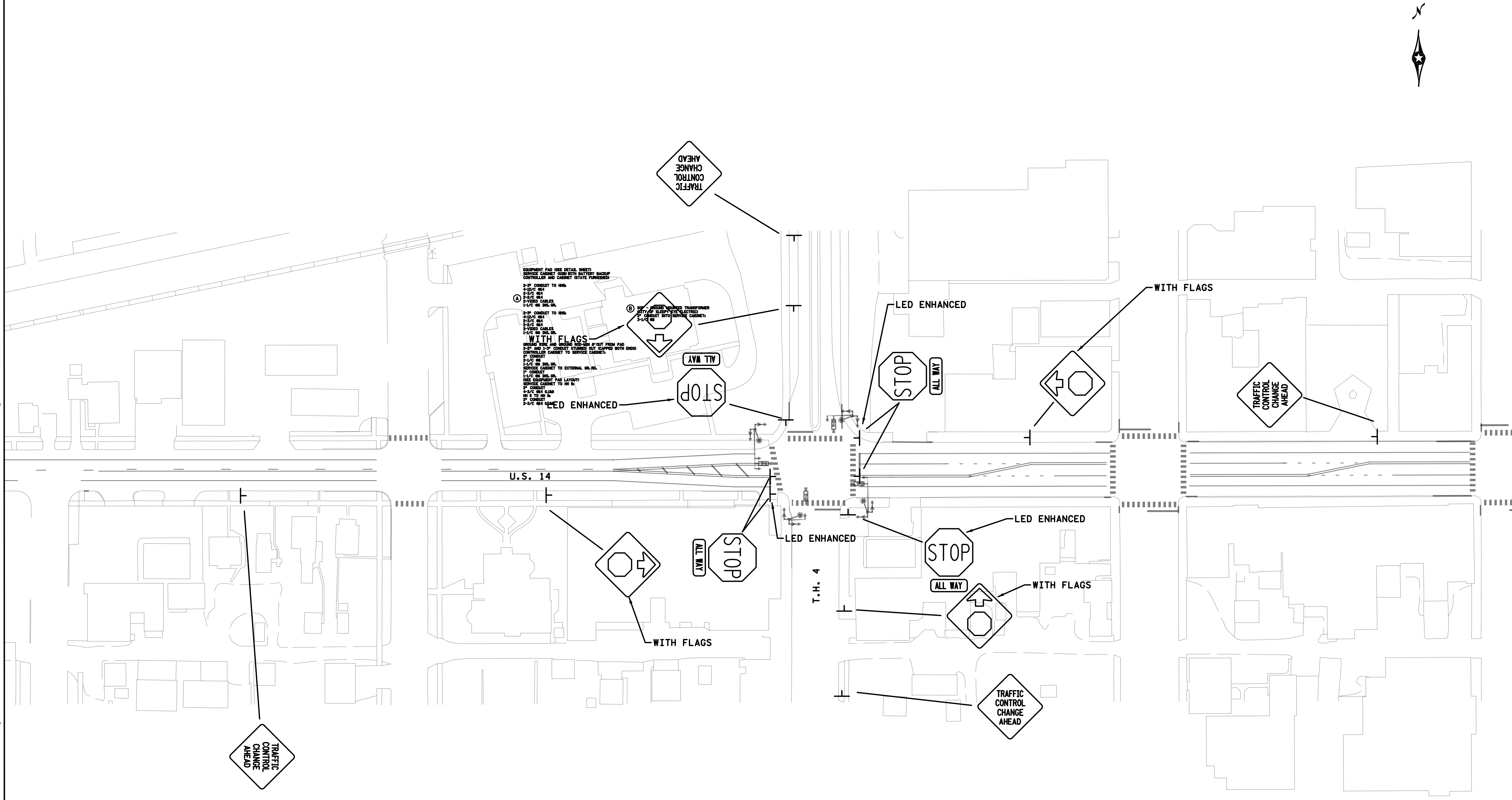
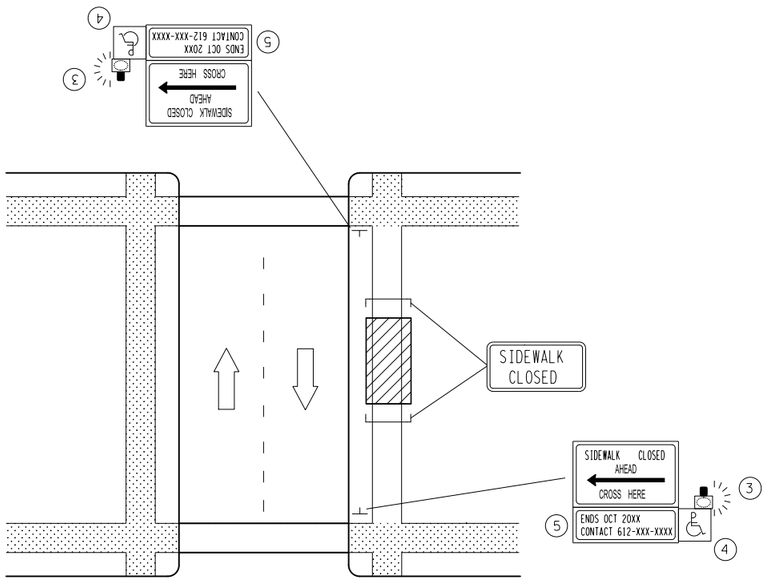


GENERAL NOTES:

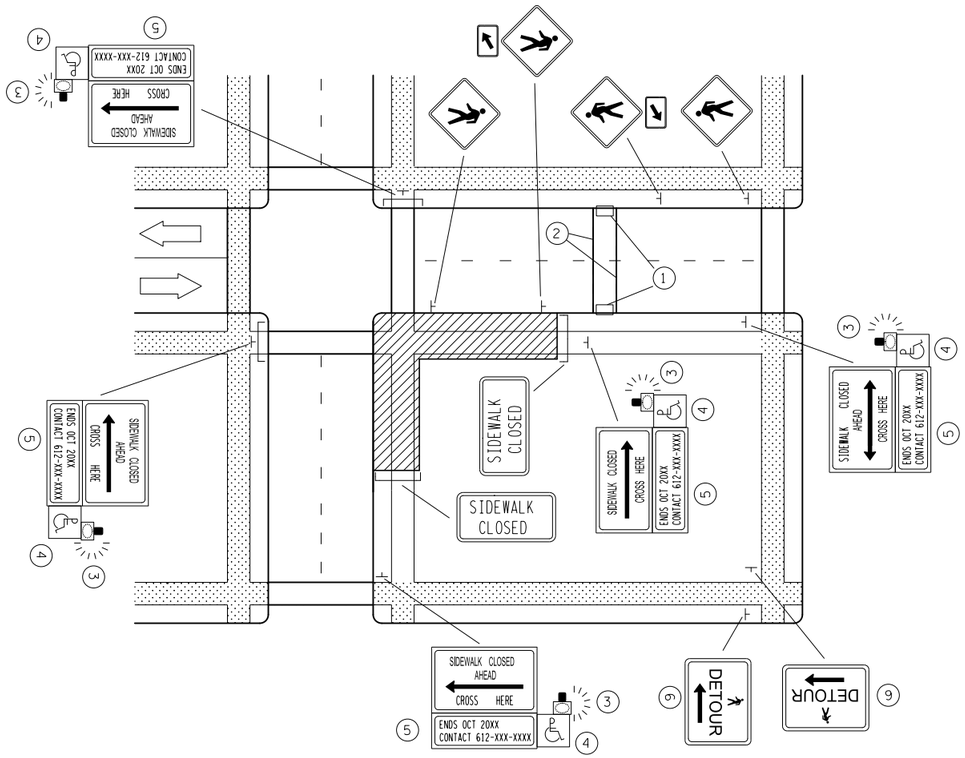
1. FOR USE WHILE TRAFFIC CONTROL SIGNAL IS NOT OPERATING IN NORMAL RED/YELLOW/GREEN MODE. REFRESH EXISTING STOP BARS AT T.H. 14 AND T.H. 4 IN EPOXY.

2. PEDESTRIAN SIGNAL HEAD AND PUSH BUTTON TO BE COVERED WHEN SIGNAL IS DEACTIVATED OR PLACED INTO ALL WAY FLASH.

CERTIFIED BY S. THOMPSON - PRELIMINARY 90% PLANS 14-NOV-2017 LICENSED PROFESSIONAL ENGINEER LIC NO. DATE	T.H. 14 AND T.H. 4 SIGNAL WORK TRAFFIC CONTROL
	STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T3 OF T41 SHEETS



OTHER SIDE OF STREET DETOUR
(FOR MID-BLOCK CLOSURE)



OTHER SIDE OF STREET DETOUR OR DETOUR WITH TRAILBLAZING SIGNS
(FOR CORNER SIDEWALK CLOSURE WITH OPTIONAL TEMPORARY CROSSWALK)

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (apr) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE detours, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO TRAFFIC (BIKES, PEDESTRIANS) IS REDUCED ENOUGH TO CAUSE HAZARD, DELINEATE THE SIGN/BARRICADE WITH APPROPRIATE DEVICES.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.

SPECIFIC NOTES

(1) TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.

(2) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(3) AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHOULD BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.

(4) THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHOULD BE POSTED AND AN ALTERNATE ROUTE SHOULD BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.

(5) TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHOULD INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.

(6) PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHOULD BE USED IF THE PEDESTRIAN DETOUR IS LOCATED SOMEPLACE OTHER THAN ACROSS THE STREET FROM THE SIDEWALK CLOSURE.

LEGEND

- SIGN
- DIRECTION OF TRAFFIC
- EXISTING PEDESTRIAN SURFACE
- TRAFFIC CONTROL DEVICE
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- SIDEWALK BARRICADE

TRAFFIC CONTROL
ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

PUBLISHED BY OTST: 1/6/2016	MODIFIED:

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PEDESTRIAN DETOUR

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T4 OF T41 SHEETS

DISTRICT *: 7 - Mankato/Windom
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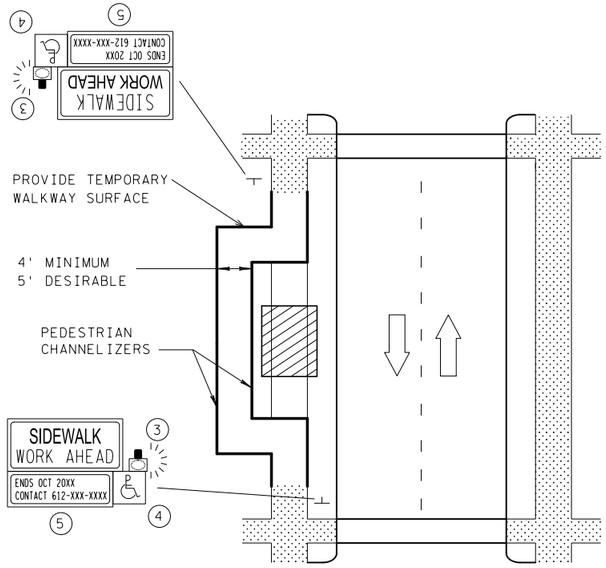
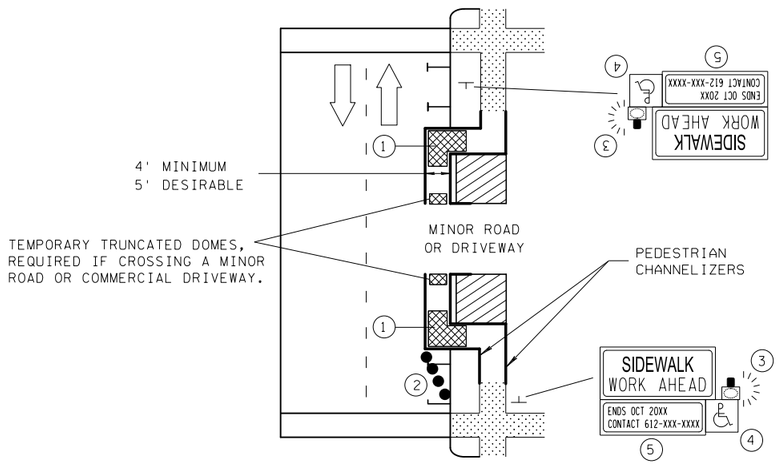


BYPASS ON ADJACENT AVAILABLE RIGHT OF WAY

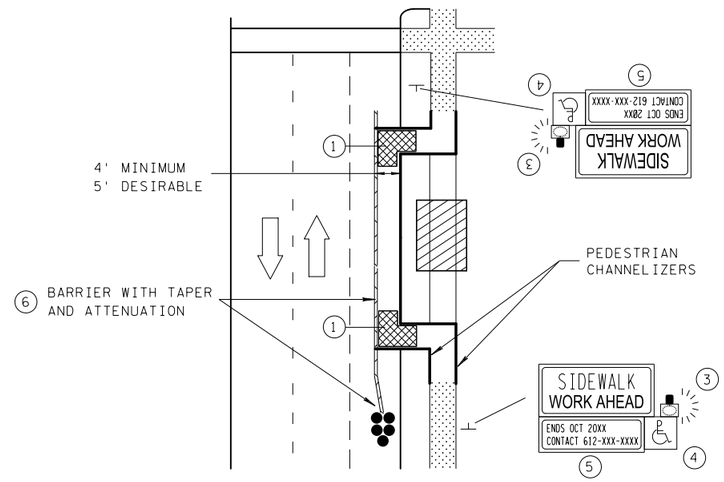
BYPASS TYPE A

NOTE: MAY ONLY BE USED ON ROADWAY WITH POSTED SPEED OF 45 MPH OR LESS.



SIDEWALK BYPASS USING PARKING OR SHOULDER ON LOW SPEED ROADWAY

BYPASS TYPE B



SIDEWALK BYPASS USING SHOULDER OR PARKING LANE HIGH SPEED ROADWAY

BYPASS TYPE C

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE An alternate pedestrian ROUTE (apr) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE detours, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO TRAFFIC (BIKES, PEDESTRIANS) IS REDUCED ENOUGH TO CAUSE HAZARD, DELINEATE THE SIGN/BARRICADE WITH APPROPRIATE DEVICES.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.

SPECIFIC NOTES

(1) TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.

(2) 5 DEVICE TAPER 25 FEET LONG, RECOMMENDED WHEN THE CLOSED AREA WAS USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(3) AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHOULD BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.

(4) THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHOULD BE POSTED AND AN ALTERNATE ROUTE SHOULD BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.

(5) TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHOULD INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.

(6) SEE MN MUTCD FOR GUIDANCE ON PLACEMENT AND USAGE OF BARRIER.

LEGEND

- SIGN
- DIRECTION OF TRAFFIC
- EXISTING PEDESTRIAN SURFACE
- TRAFFIC CONTROL DEVICE
- WORK AREA
- SIDEWALK BARRICADE
- PEDESTRIAN CHANNELIZATION DEVICE
- BARRIER

TRAFFIC CONTROL
ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS

PUBLISHED BY OTST: 1/6/2016	MODIFIED:

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PEDESTRIAN DETOUR

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T5 OF T41 SHEETS

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawland
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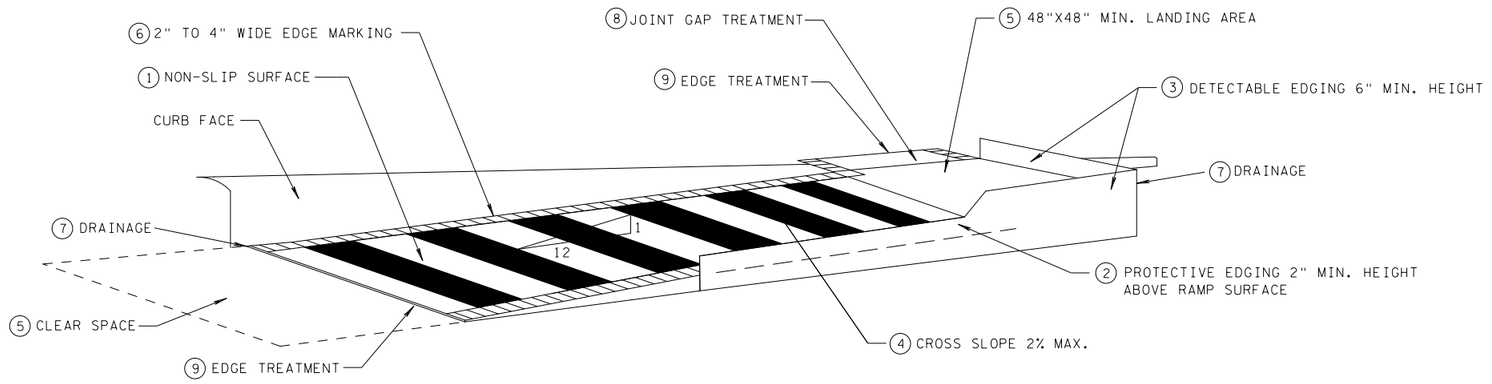
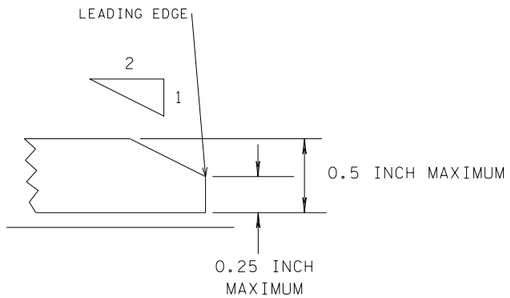


TEMPORARY CURB RAMP
PARALLEL TO CURB

SPECIFIC NOTES

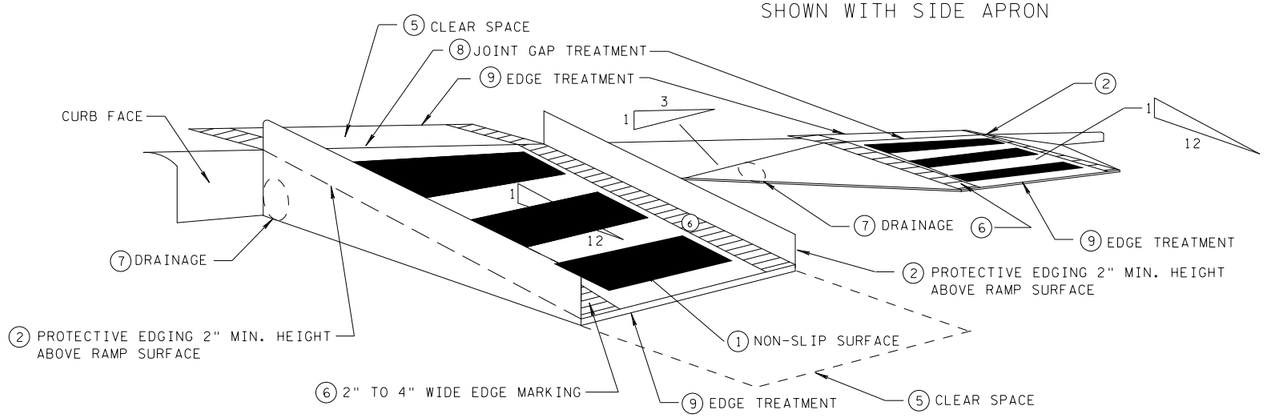
1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
2. PROTECTIVE EDGING WITH A 2' MIN. HEIGHT SHALL BE PLACED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE PLACED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHALL HAVE A 2% MAX. CROSS SLOPE.
5. CLEAR SPACE OF 48"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR, 2" TO 4" WIDE MARKING. The MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL NOT BE IMPEDED.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHOULD BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2" HEIGHT.



9 EDGE TREATMENT

SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON



TEMPORARY CURB RAMP
PERPENDICULAR TO CURB

TPAR - RAMPS

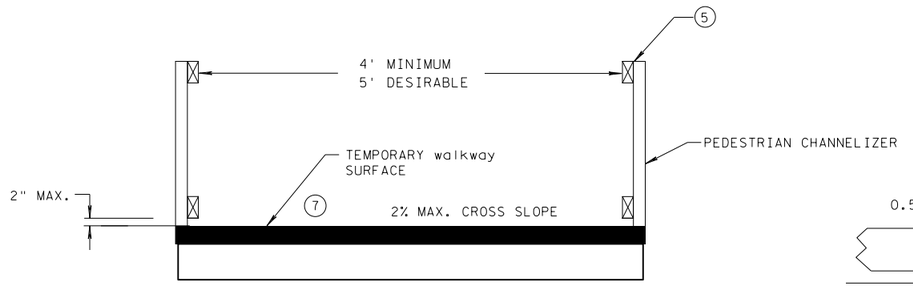
PUBLISHED BY OTST: 1/6/2016	MODIFIED:

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

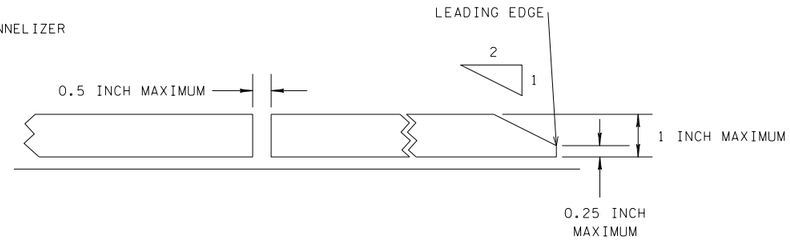
PEDESTRIAN DETOUR

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T6 OF T41 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:11
DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Traffic/TrafficControl/D080338_tc04.dgn



TEMPORARY PEDESTRIAN ACCESS



TEMPORARY WALKWAY SURFACE

GENERAL NOTES

RAILINGS OR OTHER OBJECTS MAY PROTRUDE A MAXIMUM OF 4 INCHES INTO THE WALKWAY CLEAR SPACE WHEN LOCATED A MINIMUM OF 27 INCHES ABOVE THE WALKWAY SURFACE.

ANY PEDESTRIAN DEVICES USED TO PROVIDE POSITIVE PROTECTION FOR PEDESTRIANS OR WORKERS SHALL MEET CRASHWORTHY REQUIREMENTS APPROPRIATE FOR THE BARRIERS APPLICATION.

BARRICADES SHALL BE PLACED ACROSS THE ENTIRE WIDTH OF THE WALKWAY SURFACE.

SPECIFIC NOTES

(1) ANY TRIPPING HAZARD IN THE WALKWAY NEEDS A DETECTABLE EDGE. BALLAST SHALL BE LOCATED BEHIND OR INTERNAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHALL NOT EXTEND INTO THE 48 INCH MINIMUM WALKWAY CLEAR SPACE AND SHALL NOT EXCEED 0.5 INCHES IN HEIGHT ABOVE THE WALKWAY SURFACE.

(2) DETECTABLE EDGES SHALL BE CONTINUOUS AND 6 INCHES MIN. HIGH ABOVE WALKWAY SURFACE AND HAVE COLOR MARKINGS CONTRASTING WITH THE WALKWAY SURFACE.

(3) DEVICES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2 INCHES IS ALLOWED FOR DRAINAGE PURPOSES.

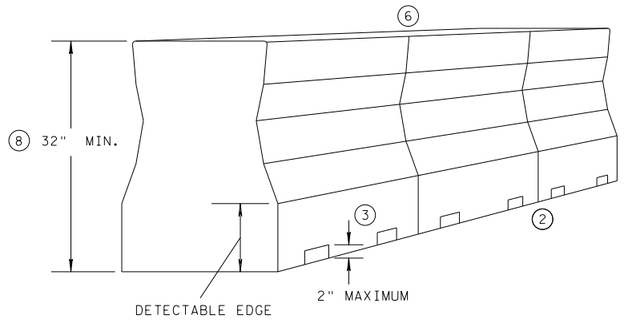
(4) WHEN HAND GUIDANCE IS REQUIRED, THE TOP RAIL OR TOP SURFACE SHALL:
- BE IN A VERTICAL PLANE PERPENDICULAR TO THE WALKWAY ABOVE THE DETECTABLE EDGE,
- BE CONTINUOUS AT A HEIGHT OF 34 TO 38 INCHES ABOVE THE WALKWAY SURFACE, AND
- BE SUPPORTED WITH MINIMAL INTERFERENCE TO THE PEDESTRIAN'S HANDS OR FINGERS.

(5) ALL DEVICES SHALL BE FREE OF SHARP OR ROUGH EDGES, AND FASTENERS (BOLTS) SHALL BE ROUNDED TO PREVENT HARM TO HANDS, ARMS OR CLOTHING OF PEDESTRIANS.

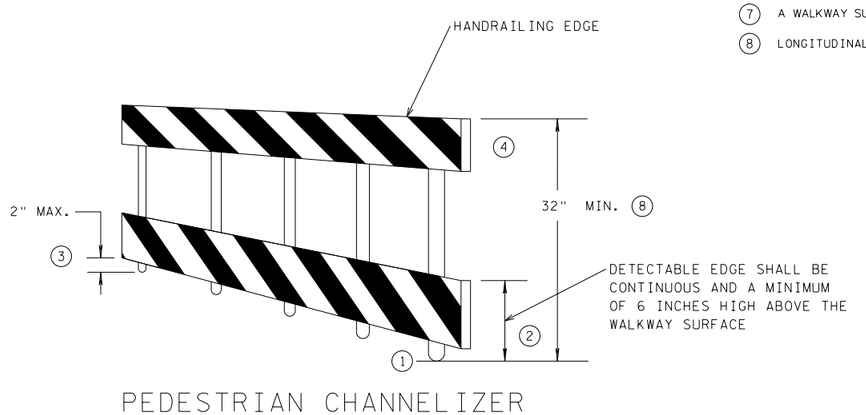
(6) ALL DEVICES USED TO CHANNELIZE PEDESTRIAN FLOW SHOULD INTERLOCK SUCH THAT GAPS DO NOT ALLOW PEDESTRIANS TO STRAY FROM THE CHANNELIZED PATH.

(7) A WALKWAY SURFACE SHALL BE FIRM, STABLE, AND SLIP RESISTANT.

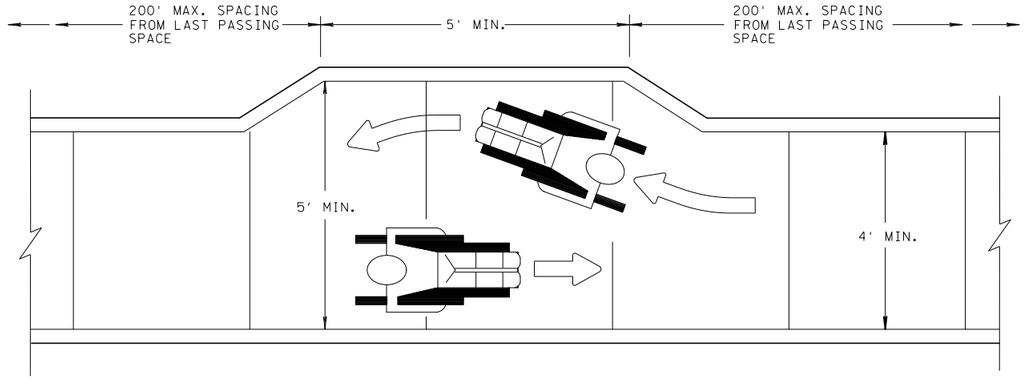
(8) LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS SHALL BE 32 INCHES HIGH OR GREATER.



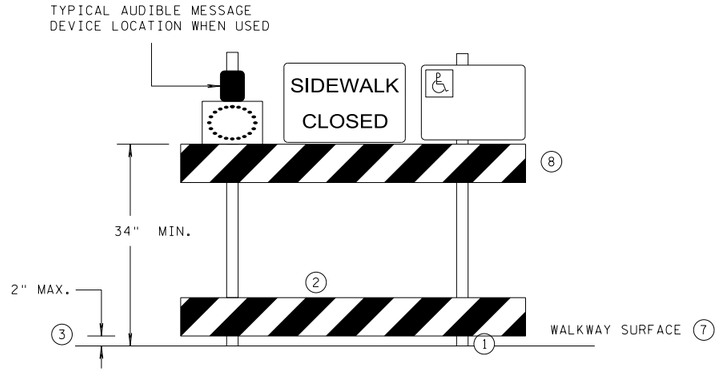
PEDESTRIAN CHANNELIZER USING A BARRIER
(MINIMUM REQUIREMENTS)



PEDESTRIAN CHANNELIZER
(MINIMUM REQUIREMENTS)



NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL



SIDEWALK BARRICADE

TPAR - WALKWAY DEVICES

PUBLISHED BY OTST: 1/6/2016	MODIFIED:

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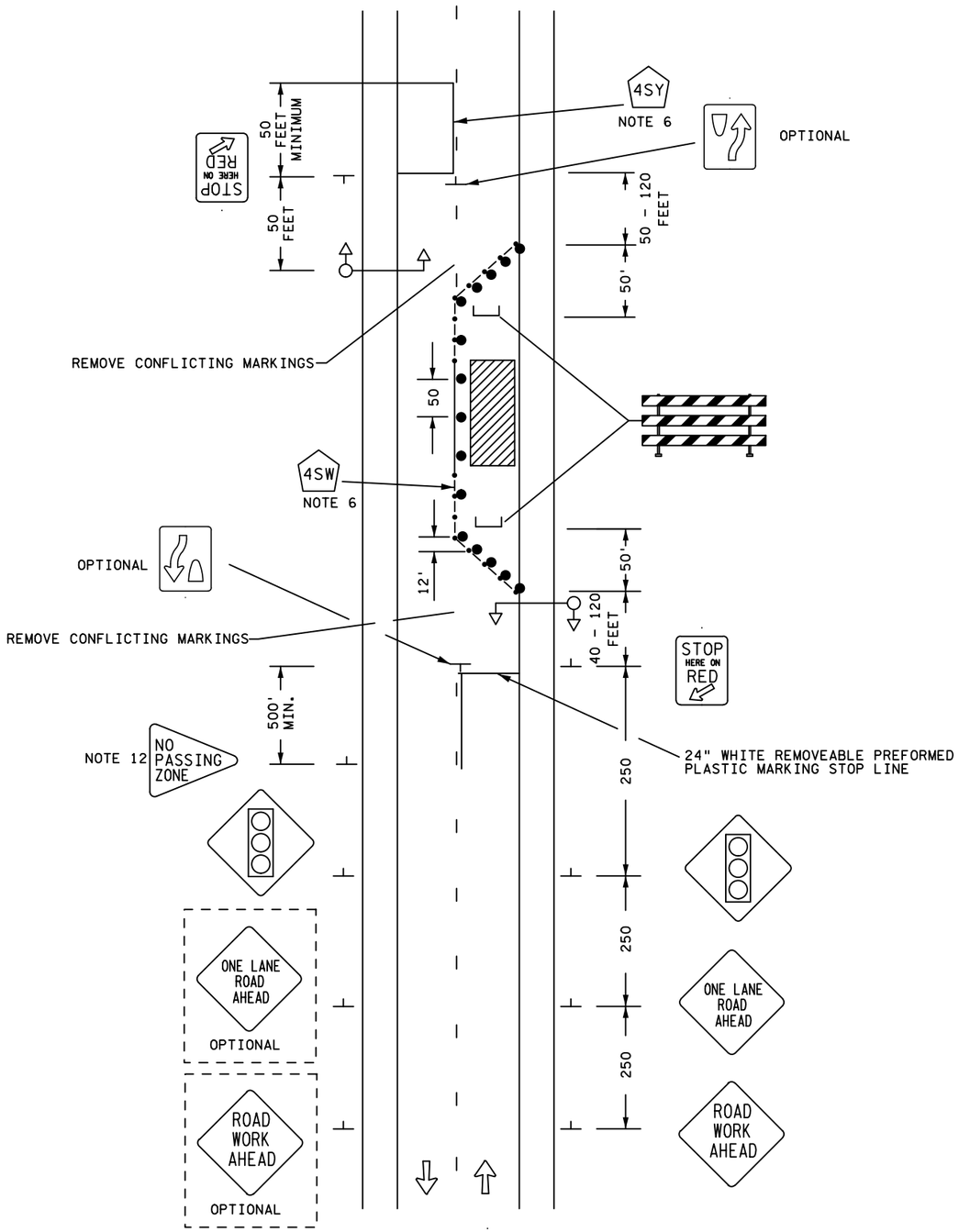
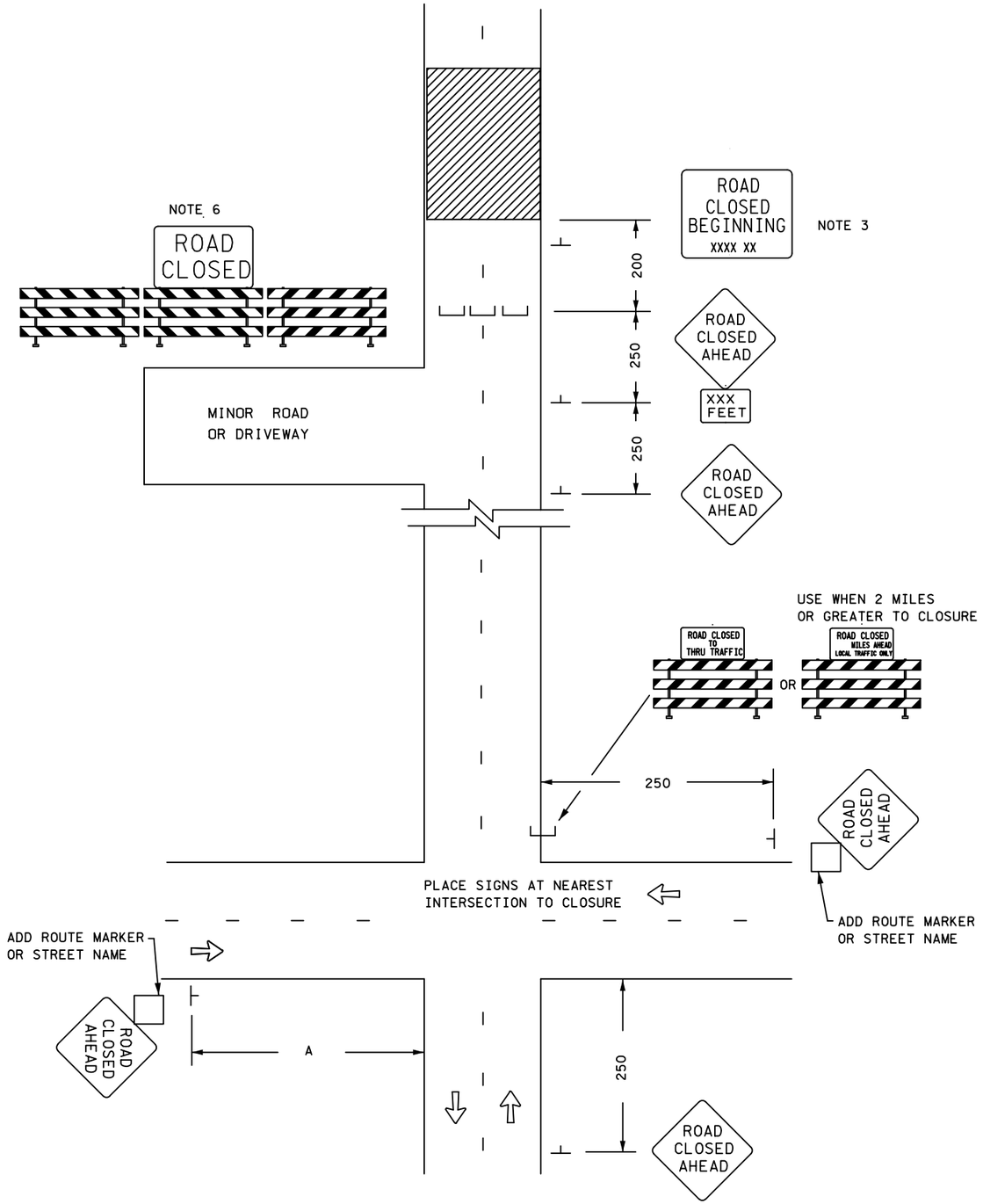
PEDESTRIAN DETOUR

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T7 OF T41 SHEETS



LANE CLOSURE WITH SIGNALS
TWO LANE, TWO WAY ROAD
LONG TERM

11/06/14 LAYOUT 51



TYPICAL SIGNING FOR ROAD CLOSURE
SHORT AND LONG TERM

11/06/14 LAYOUT 53

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

TRAFFIC CONTROL DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T8 OF T41 SHEETS

PHASE 1 TRAFFIC CONTROL PLAN: TRUNK HIGHWAY 14 DETOUR

1. WORK TO BE COMPLETED WITH THE PHASE 1 TRAFFIC CONTROL IN PLACE INCLUDES:
   - STORM SEWER STRUCTURES AND PIPE FROM CB 2A TO MH 2 AND MH 2 TO EX MH 1.
   - ALL SURFACE RESTORATION ACROSS T.H. 14 AND ACROSS 12TH AVENUE SE.
2. ALL WORK SPECIFIED ABOVE SHALL BE COMPLETED WITHIN 7 CONSECUTIVE CALENDAR DAYS.
3. THE CONTRACTOR SHALL CONVERT DETOUR SIGNAGE TO PHASE 2 TRAFFIC CONTROL ON OR BEFORE 8 CONSECUTIVE CALENDAR DAYS FROM THE TIME THE PHASE 1 DETOUR WAS IN PLACE.

NOTES:

1. NOTIFY MNDOT ONE WEEK PRIOR TO DETOUR BEING SET UP.
2. ADDITIONAL SIGNAGE OR ADJUSTING OF SIGNAGE MAY BE REQUIRED AT DRIVEWAY LOCATIONS. INSTALL SIGNS IN THESE LOCATIONS AS DIRECTED BY THE ENGINEER.
3. REFLECTIVE SHEETING ON BOTH SIDES OF TYPE III BARRICADES OR BACK TO BACK TYPE III BARRICADES SETUP REQUIRED.
4. COVER ALL EXISTING INFORMATIONAL DIRECTIONAL SIGNS THAT CONTRADICT DETOUR SIGNAGE.
5. PLACE DIRECTION SIGNS ADJACENT TO IN-PLACE DIRECTION SIGNS (TYPICAL).
6. ALL SIGNS SHALL BE GROUND MOUNTED INSTALLED (EXCEPT THOSE LOCATIONS INDICATING THE USE OF TYPE III BARRICADES) UNLESS OTHERWISE NOTED. GROUND MOUNTED SIGN INSTALLATIONS SHALL CONFORM TO THE SPECIFICATIONS IN THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD) AND THE MINNESOTA DEPARTMENT OF TRANSPORTATION TRAFFIC ENGINEERING MANUAL. NO OTHER INSTALL TYPES WILL BE ALLOWED WITHOUT APPROVAL BY THE ENGINEER.
7. CONTRACTOR SHALL SUPPLY AND MAINTAIN ALL TRAFFIC CONTROL DEVICES THROUGHOUT THE PROJECT.
8. ROAD BARRICADE CLOSURE SIGNAGE SETUPS TO BE ADJUSTED AS WORK AT INTERSECTION IS PHASED, WITH APPROVAL OF THE ENGINEER.
9. NO STOCKPILES, MATERIALS OR EQUIPMENT SHALL BE LEFT ON TRUNK HIGHWAY ROADWAYS OR COUNTY ROADWAYS.
10. WHEN NO WORK IS BEING PERFORMED, A 1V:4H TAPER SHALL BE CONSTRUCTED OFF THE EXISTING PAVEMENT EDGE IN PAVEMENT AREAS.
11. MNDOT WILL HAVE THE RIGHT TO MODIFY THE TRAFFIC CONTROL REQUIREMENTS AS DEEMED NECESSARY DUE TO EXISTING FIELD CONDITIONS. (INCIDENTAL)

SIGN SETUP NO.	SIGN SETUP
1	DETOUR / WEST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M6-3 21"X15"
2	DETOUR / WEST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M6-1 21"X15"
3	DETOUR / WEST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M5-1R 21"X15"
4	DETOUR / WEST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M6-1 21"X15"
5	DETOUR / WEST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M5-1L 21"X15"
6	END DETOUR / WEST / 14 — M4-8a 24"X18", M3-4 24"X12", M1-4 24"X24"
7	ROAD CLOSED TO THRU TRAFFIC — R11-4 60"X30" w/ FLASHER; TYPE III BARRICADE DOUBLE SIDED; LT/RT; SINGLE BARRICADE
8	ROAD CLOSED — R11-2 48"X30" w/ FLASHERS; LT LT RT; TYPE III BARRICADE DOUBLE SIDED - FULL WIDTH OF STREET (5 TYP.), 1 FLASHER PER BARRICADE, TYP.
9	END DETOUR / EAST / 14 — M4-8a 24"X18", M3-2 24"X12", M1-4 24"X24"
10	DETOUR / EAST / 14 — M4-8 24"X12", M3-2 24"X12", M1-4 24"X24", M6-3 21"X15"
11	DETOUR / EAST / 14 — M4-8 24"X12", M3-2 24"X12", M1-4 24"X24", M6-1 21"X15"
12	DETOUR / EAST / 14 — M4-8 24"X12", M3-2 24"X12", M1-4 24"X24", M5-1R 21"X15"
13	DETOUR / EAST / 14 — M4-8 24"X12", M3-2 24"X12", M1-4 24"X24", M6-1 21"X15"
14	DETOUR / EAST / 14 — M4-8 24"X12", M3-2 24"X12", M1-4 24"X24", M5-1L 21"X15"
15	ROAD CLOSED 1/2 MILES AHEAD / FOLLOW DETOUR — R11-2 60"X30"
16	EAST / 14 / DETOUR AHEAD — M3-2 24"X12", M1-4 24"X24", W20-2 48"X48"
17	DETOUR / WEST / 14 and DETOUR / EAST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M6-3 21"X15", M3-2 24"X12"
18	DETOUR / WEST / 14 and DETOUR / EAST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M5-1R 21"X15", M3-2 24"X12"
19	DETOUR / WEST / 14 and DETOUR / EAST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M6-1 21"X15", M3-2 24"X12"
20	ROAD WORK AHEAD — W20-1 48"X48"
21 (a-e)	ROAD CLOSED AHEAD / XX FEET — w/ FLASHER; W20-3 48"X48"; W16-2 24"X18"; **a 1650 FT - PH 1, ON WB TH 14**; **b 250 FT - PH 1, ON 12TH AVE SE**; **c 500 FT - PH 1, ON EB TH 14**; **d 250 FT - PH 2, ON 12TH AVE NE**; **e 250 FT - PH 2, ON EB TH 14**
22	WEST / 14 / DETOUR AHEAD — M3-4 24"X12", M1-4 24"X24", W20-2 48"X48"
23	ROAD CLOSED NO ACCESS / 14
24	ACCESS TO SOUTH BUSINESSES
25	ACCESS TO SOUTH BUSINESSES
26	ACCESS TO SOUTH BUSINESSES
27	ACCESS TO NORTH BUSINESSES
28	ACCESS TO NORTH BUSINESSES
29	ACCESS TO NORTH BUSINESSES
30	TURN LANE CLOSED — R11-4 60"X30" w/ FLASHER; TYPE III BARRICADE DOUBLE SIDED; RT; SINGLE BARRICADE
31	RIGHT SHOULDER CLOSED — W21-5a 48"X48"
32	R3-1 24"X24" w/ FLASHER; TYPE III BARRICADE DOUBLE SIDED; RT; SINGLE BARRICADE
33	END ROAD WORK — G20-2 48"X24"
34	R3-2 24"X24"
35	DETOUR / WEST / 14 and DETOUR / EAST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M6-1 21"X15", M3-2 24"X12", M5-1L 21"X15", M5-1R 21"X15"
36	DETOUR / WEST / 14 and DETOUR / EAST / 14 — M4-8 24"X12", M3-4 24"X12", M1-4 24"X24", M5-1L 21"X15", M3-2 24"X12", M6-1 21"X15"
37	DRUM CHANNELIZER
38	NO PARKING ANYTIME BLOCK — 12"X18"
39 (a-i)	ROAD CLOSED AHEAD / 650 FEET / 12TH AVE NE — w/ FLASHER; W20-3 48"X48"; W16-2 24"X18"; **f 1650 FT - PH 2, ON EB TH 14**; **g 150 FT - PH 2, ON 12TH AVE SE**; **h 1955 FT - PH 2, ON WB TH 14**; **i 1955 FT - PH 2, ON EB TH 14**; SPECIAL-1 12"X24"
40	DETOUR / EAST / 14 and DETOUR / WEST / 14 — M4-8 24"X12", M3-2 24"X12", M1-4 24"X24", M5-1L 21"X15", M3-4 24"X12", M5-1R 21"X15"
41	DETOUR / EAST / 14 and DETOUR / WEST / 14 — M4-8 24"X12", M3-2 24"X12", M1-4 24"X24", M6-1 21"X15", M3-4 24"X12"
SAND BAG	AS REQUIRED TO HOLD BARRICADES INPLACE

TRAFFIC CONTROL

ALL OTHER TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD), INCLUDING THE "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

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1243 CEDAR STREET NE
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Phone: (507) 794-5541
Email: SleepyEye@bolton-menk.com
www.bolton-menk.com

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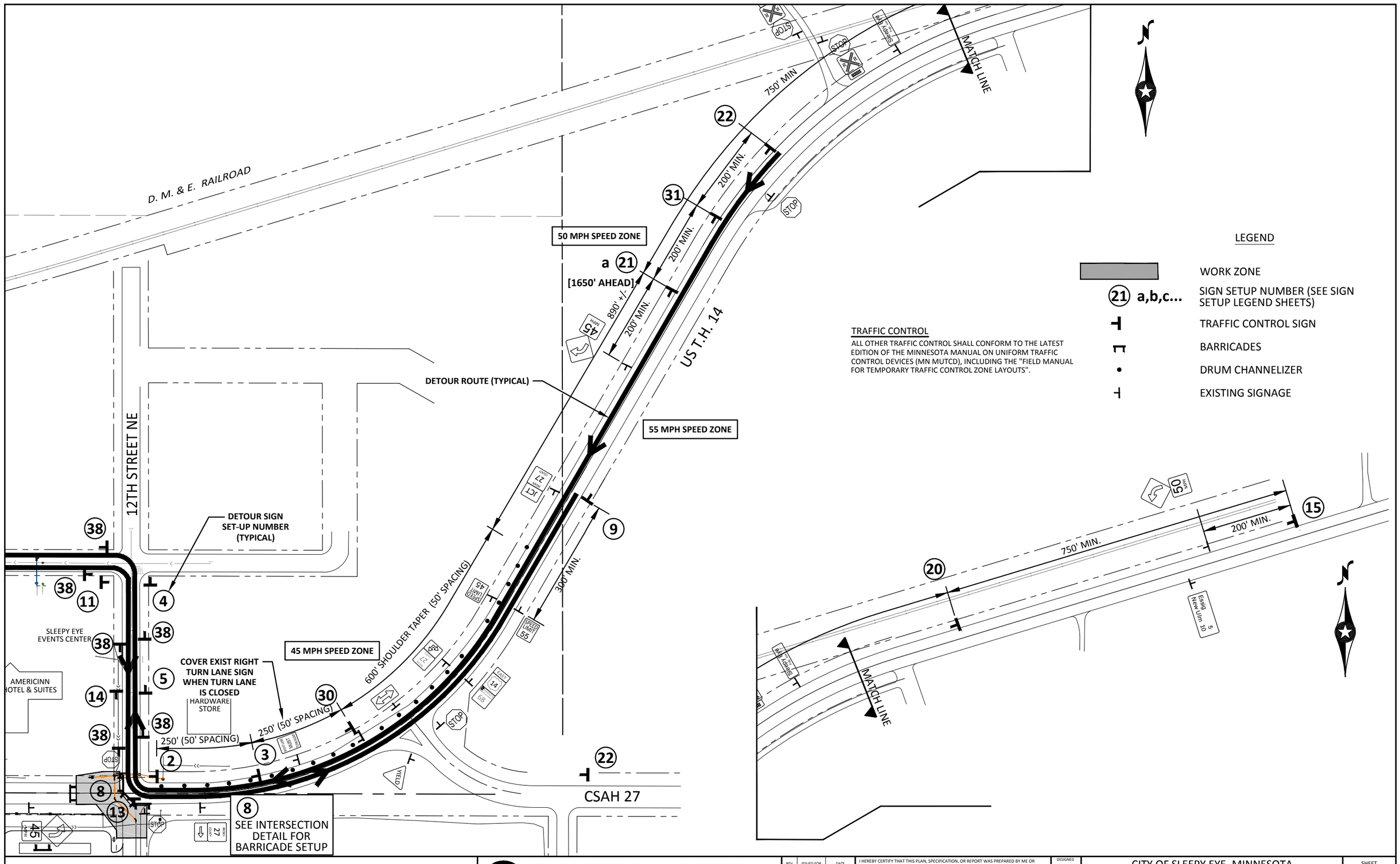
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DAVID A. PALM, P.E.
LIC. NO. 22574 DATE / /

DESIGNED DAP
DRAWN sml
CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TRAFFIC CONTROL PLAN FOR CITY WORK
SIGN SETUP LEGEND - PHASE 1

SHEET T9



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LEGEND

- WORK ZONE
- 21 a,b,c... SIGN SETUP NUMBER (SEE SIGN SETUP LEGEND SHEETS)
- TRAFFIC CONTROL SIGN
- BARRICADES
- DRUM CHANNELIZER
- EXISTING SIGNAGE

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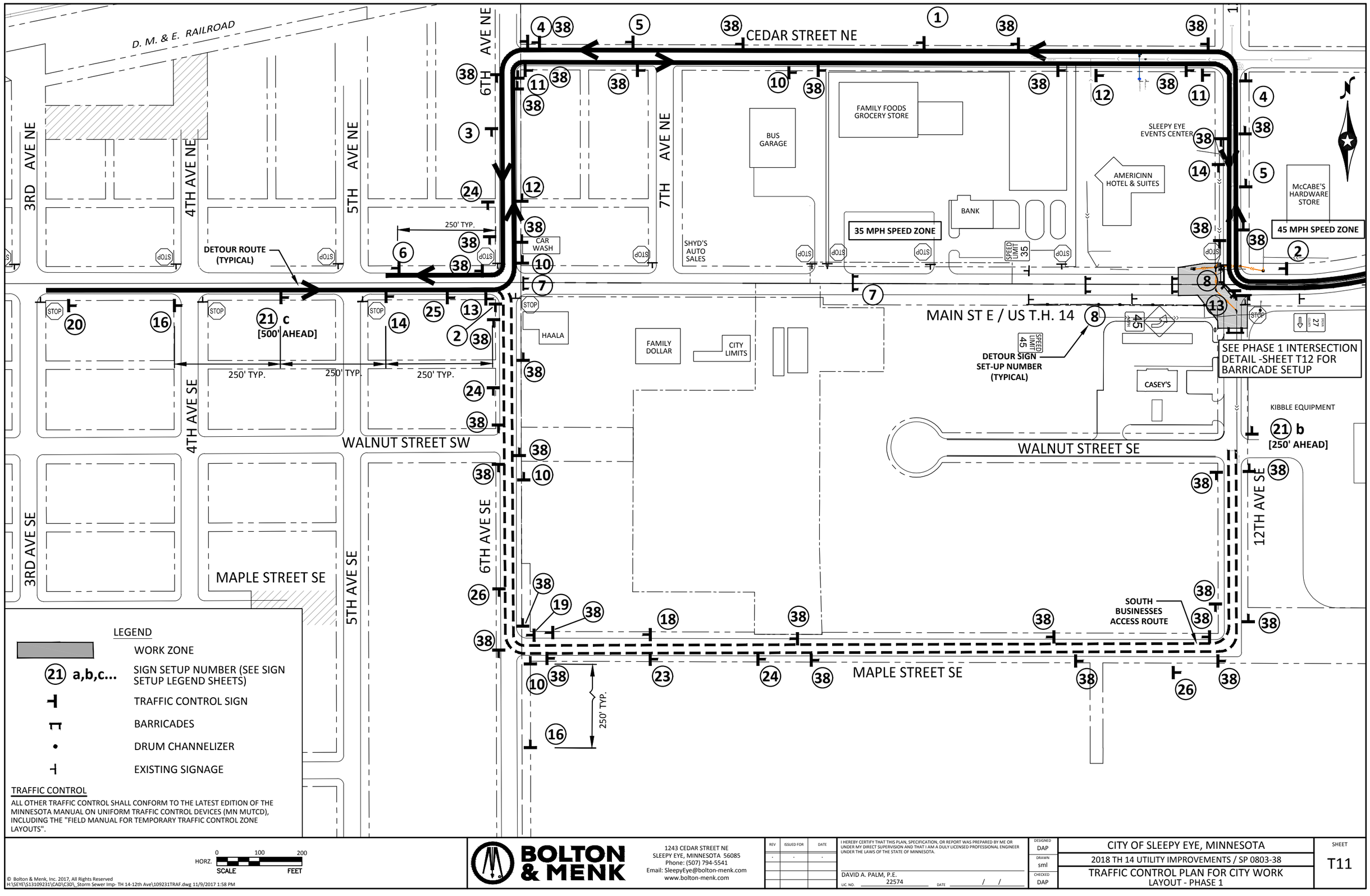
CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TRAFFIC CONTROL PLAN FOR CITY WORK
LAYOUT - PHASE 1

SHEET T10



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DESIGNED	DAP
DRAWN	sml
CHECKED	DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TRAFFIC CONTROL PLAN FOR CITY WORK
LAYOUT - PHASE 1

SHEET T11

AMERICINN

McCABE'S HARDWARE STORE

12TH AVE NE

SAN MH
R=1026.48
I=102.33 PVC 8" N

PHASE 1 — PHASE 2

MAIN ST E / US T.H. 14

STOP

RIGHT LANE MUST TURN RIGHT

2 DETOUR SIGN SET-UP NUMBER (TYPICAL)

BROWN COUNTY 27

45 MPH

35' DRAINAGE & UTILITY EASEMENT

GAS PUMP CANOPY

CASEY'S

KIBBLE EQUIPMENT

LEGEND

- WORK ZONE
- 21 a,b,c... SIGN SETUP NUMBER (SEE SIGN SETUP LEGEND SHEETS)
- TRAFFIC CONTROL SIGN
- BARRICADES
- DRUM CHANNELIZER
- EXISTING SIGNAGE

TRAFFIC CONTROL

ALL OTHER TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD), INCLUDING THE "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

HORZ. 0 20 40
SCALE FEET

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LIC. NO. 22574 DATE / /

DESIGNED DAP
DRAWN sml
CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TRAFFIC CONTROL PLAN FOR CITY WORK
PHASE 1 INTERSECTION DETAIL

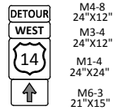
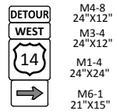
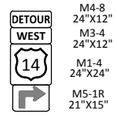
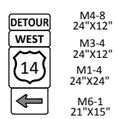
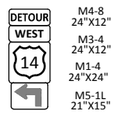
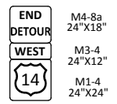
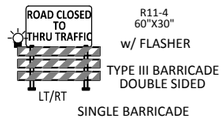
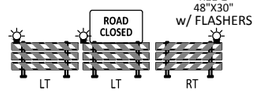
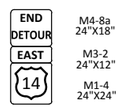
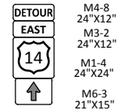
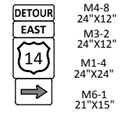
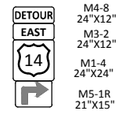
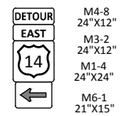
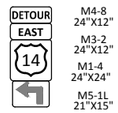
SHEET T12

PHASE 2 TRAFFIC CONTROL PLAN: 12TH AVE NE DETOUR

1. WORK TO BE COMPLETED WITH THE PHASE 2 TRAFFIC CONTROL IN-PLACE INCLUDES:
   - STORM SEWER STRUCTURES AND PIPE FROM CB 2D TO CB 2C TO CB 2B TO THE EASTERLY PIPE LEAD FROM MH 2.
   - ALL SURFACE RESTORATION ACROSS 12TH AVENUE NE INCLUDING CURB & GUTTER AND BITUMINOUS SURFACING.
2. ALL WORK SPECIFIED ABOVE SHALL BE COMPLETED WITHIN 7 CONSECUTIVE CALENDAR DAYS.
3. THE CONTRACTOR SHALL REMOVE ALL PHASE 2 DETOUR SIGNAGE ON OR BEFORE 7 CONSECUTIVE CALENDAR DAYS FROM THE TIME THE PHASE 2 DETOUR WAS IN PLACE.

NOTES:

1. NOTIFY MNDOT ONE WEEK PRIOR TO DETOUR BEING SET UP.
2. ADDITIONAL SIGNAGE OR ADJUSTING OF SIGNAGE MAY BE REQUIRED AT DRIVEWAY LOCATIONS. INSTALL SIGNS IN THESE LOCATIONS AS DIRECTED BY THE ENGINEER.
3. REFLECTIVE SHEETING ON BOTH SIDES OF TYPE III BARRICADES OR BACK TO BACK TYPE III BARRICADES SETUP REQUIRED.
4. COVER ALL EXISTING INFORMATIONAL DIRECTIONAL SIGNS THAT CONTRADICT DETOUR SIGNAGE.
5. PLACE DIRECTION SIGNS ADJACENT TO IN-PLACE DIRECTION SIGNS (TYPICAL).
6. ALL SIGNS SHALL BE GROUND MOUNTED INSTALLED (EXCEPT THOSE LOCATIONS INDICATING THE USE OF TYPE III BARRICADES) UNLESS OTHERWISE NOTED. GROUND MOUNTED SIGN INSTALLATIONS SHALL CONFORM TO THE SPECIFICATIONS IN THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD) AND THE MINNESOTA DEPARTMENT OF TRANSPORTATION TRAFFIC ENGINEERING MANUAL. NO OTHER INSTALL TYPES WILL BE ALLOWED WITHOUT APPROVAL BY THE ENGINEER.
7. CONTRACTOR SHALL SUPPLY AND MAINTAIN ALL TRAFFIC CONTROL DEVICES THROUGHOUT THE PROJECT.
8. ROAD BARRICADE CLOSURE SIGNAGE SETUPS TO BE ADJUSTED AS WORK AT INTERSECTION IS PHASED, WITH APPROVAL OF THE ENGINEER.
9. NO STOCKPILES, MATERIALS OR EQUIPMENT SHALL BE LEFT ON TRUNK HIGHWAY ROADWAYS OR COUNTY ROADWAYS.
10. WHEN NO WORK IS BEING PERFORMED, A 1V:4H TAPER SHALL BE CONSTRUCTED OFF THE EXISTING PAVEMENT EDGE IN PAVEMENT AREAS.
11. MNDOT WILL HAVE THE RIGHT TO MODIFY THE TRAFFIC CONTROL REQUIREMENTS AS DEEMED NECESSARY DUE TO EXISTING FIELD CONDITIONS. (INCIDENTAL)

SIGN SETUP NO.	SIGN SETUP
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
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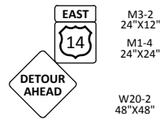
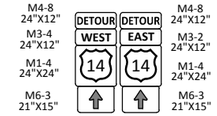
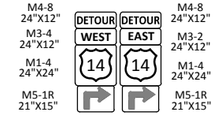
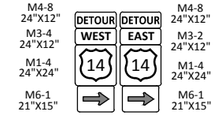
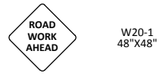
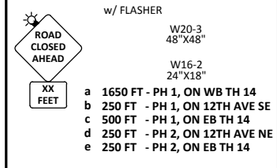
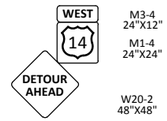
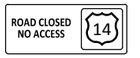
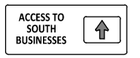
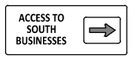
16	
17	
18	
19	
20	
21 (a - e)	
22	
23	
24	
25	
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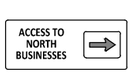
28	
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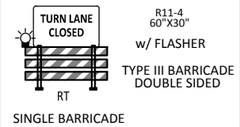
30	
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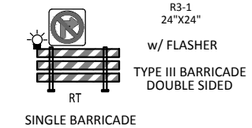
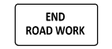
32	
33	
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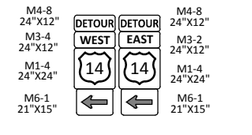
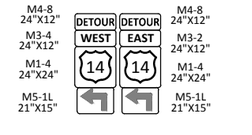
35	
36	
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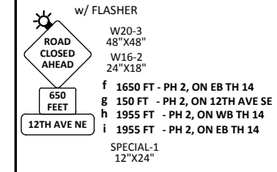
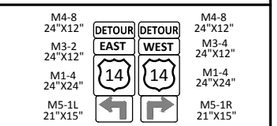
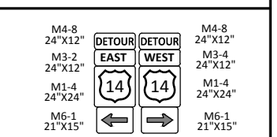
39 (a - i)	
40	
41	
SAND BAG	 AS REQUIRED TO HOLD BARRICADES INPLACE

TRAFFIC CONTROL

ALL OTHER TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD), INCLUDING THE "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

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BOLTON & MENK
1243 CEDAR STREET NE
SLEEPY EYE, MINNESOTA 56085
Phone: (507) 794-5541
Email: SleepyEye@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE
.	.	.

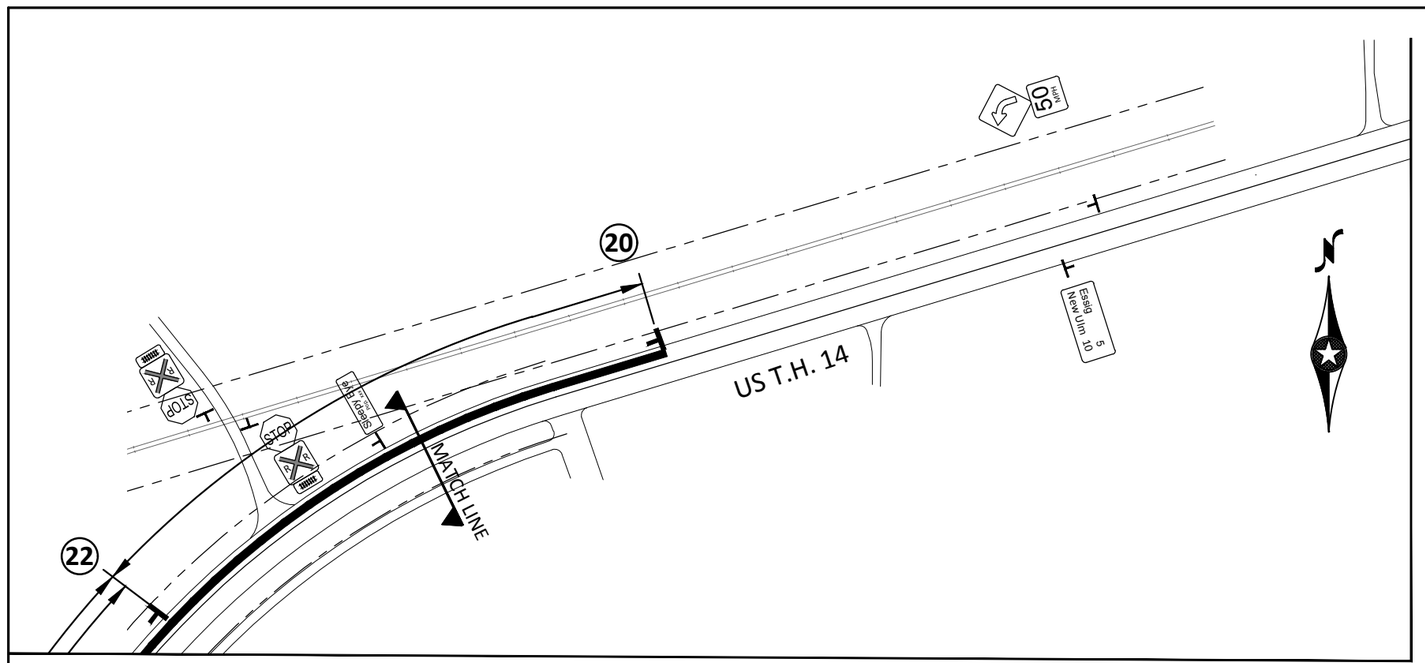
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

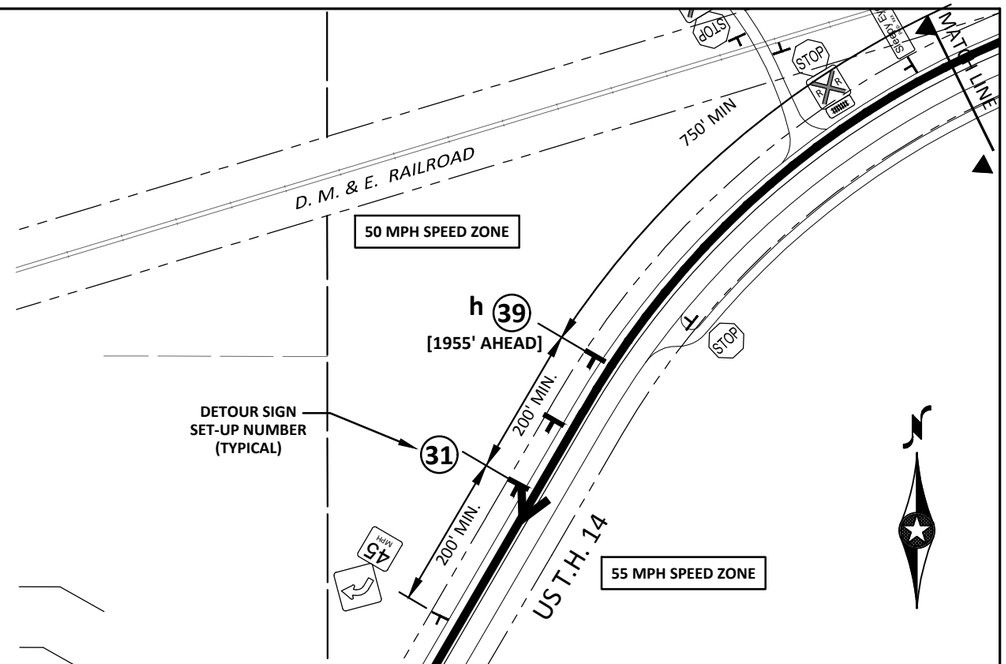
DAVID A. PALM, P.E.
LIC. NO. 22574 DATE / /

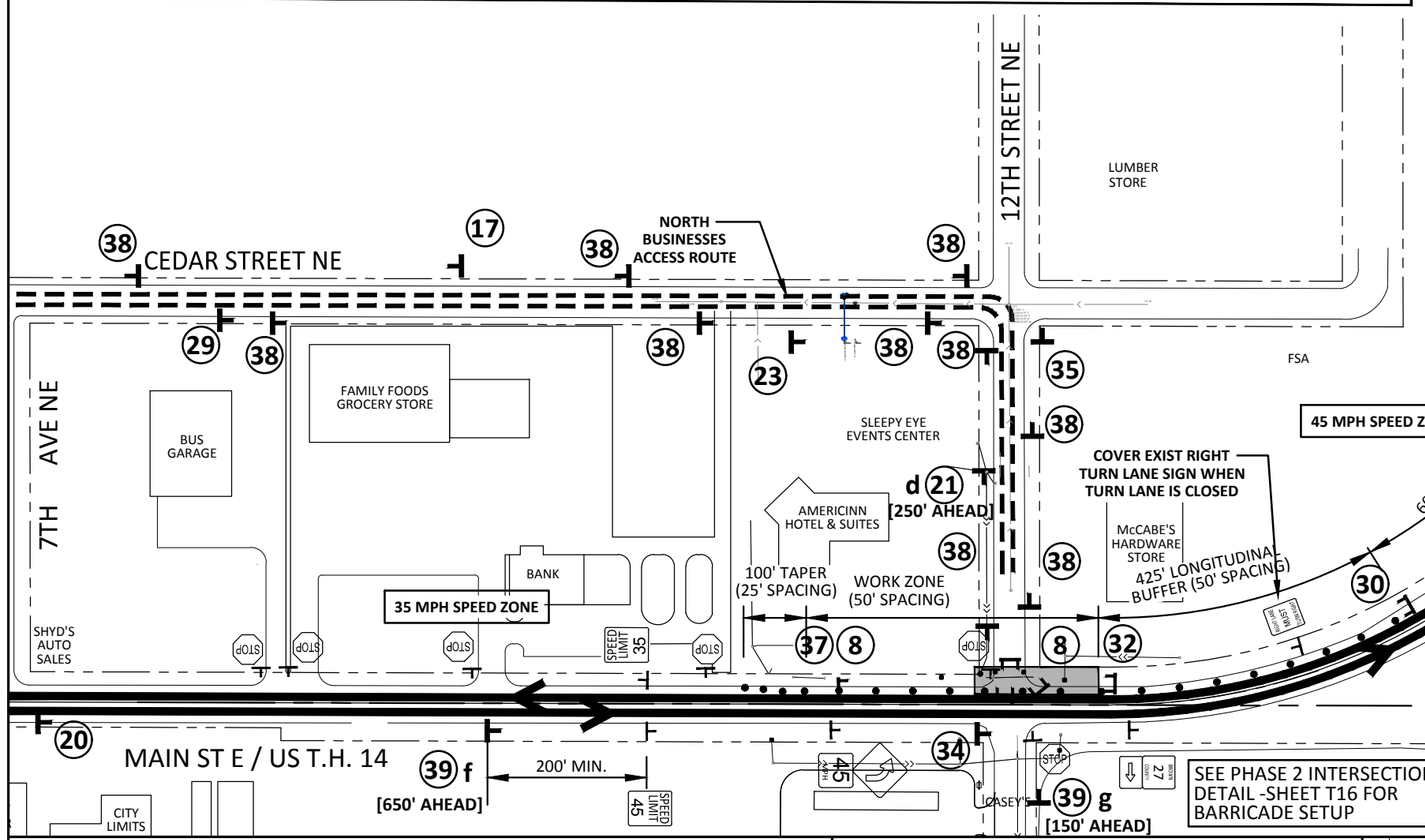
DESIGNED DAP
DRAWN sml
CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TRAFFIC CONTROL PLAN FOR CITY WORK
SIGN SETUP LEGEND - PHASE 2

SHEET T13







LEGEND

- WORK ZONE
- 21 a,b,c... SIGN SETUP NUMBER (SEE SIGN SETUP LEGEND SHEETS)
- TRAFFIC CONTROL SIGN
- BARRICADES
- DRUM CHANNELIZER
- EXISTING SIGNAGE

TRAFFIC CONTROL

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HORZ. SCALE 0 100 200 FEET

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DRAWN	sml
CHECKED	DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TRAFFIC CONTROL PLAN FOR CITY WORK
LAYOUT & INTERSECTION DETAIL - PHASE 2

SHEET T14

LEGEND

WORK ZONE

21 a,b,c... SIGN SETUP NUMBER (SEE SIGN SETUP LEGEND SHEETS)

TRAFFIC CONTROL SIGN

BARRICADES

DRUM CHANNELIZER

EXISTING SIGNAGE

TRAFFIC CONTROL

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D. M. & E. RAILROAD

12TH STREET NE

LUMBER STORE

CEDAR STREET NE

NORTH BUSINESSES ACCESS ROUTE

6TH AVE NE

7TH AVE NE

4TH AVE NE

5TH AVE NE

BUS GARAGE

FAMILY FOODS GROCERY STORE

SLEEPY EYE EVENTS CENTER

AMERICINN HOTEL & SUITES

McCABE'S HARDWARE STORE

COVER EXIST RIGHT TURN LANE SIGN

d 21 [250' AHEAD]

425' LONGITUDINAL BUFFER (50' SPACING)

100' TAPER (25' SPACING)

WORK ZONE (50' SPACING)

BANK

35 MPH SPEED ZONE

SPEED LIMIT 35

CAR WASH

SHYD'S AUTO SALES

MAIN ST E / US T.H. 14

39 f [650' AHEAD]

SPEED LIMIT 45

HAALA

FAMILY DOLLAR

CITY LIMITS

39 i [1955' AHEAD]

250' TYP.

39 g [150' AHE

SEE PHASE 2 INTERSECTION DETAIL -SHEET T16 FOR BARRICADE SETUP

CASEY'S

KIBBLE EQUIPMENT

WALNUT STREET SW

WALNUT STREET SE

4TH AVE SE

6TH AVE SE

12TH AVE SE

HORZ. 0 100 200 SCALE FEET

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CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TRAFFIC CONTROL PLAN FOR CITY WORK
LAYOUT - PHASE 2

SHEET T15

AMERICINN

McCABE'S HARDWARE STORE

100' TAPER
(25' SPACING)

WORK ZONE
(50' SPACING)

WORK ZONE

425' LONGITUDINAL
BUFFER (50' SPACING)

PHASE 1

PHASE 2

FUTURE WALK

FUTURE WALK

APPROX. LOC. (INSTALLED 5-24-17)

FUTURE WALK

STOP

STOP

MAIN ST E / US T.H. 14

25' SPACING, TYP.

50' SPACING, TYP.

4' OFF LANE EDGE, TYP.

BROWN COUNTY 27

35' DRAINAGE & UTILITY EASEMENT

CASEY'S

LEGEND

- WORK ZONE
- (21) a,b,c... SIGN SETUP NUMBER (SEE SIGN SETUP LEGEND SHEETS)
- TRAFFIC CONTROL SIGN
- BARRICADES
- DRUM CHANNELIZER
- EXISTING SIGNAGE

TRAFFIC CONTROL

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CHECKED DAP

CITY OF SLEEPY EYE, MINNESOTA
2018 TH 14 UTILITY IMPROVEMENTS / SP 0803-38
TRAFFIC CONTROL PLAN FOR CITY WORK
PHASE 2 INTERSECTION DETAIL

SHEET T16

PERMANENT PAVEMENT MARKING PLAN

NOTES & GUIDELINES

PLOTTED/REVISED: 14-NOV-2017 16:12

DISTRICT #: 7 - Mankato/Windom
USER NAME: lowland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Traffic/Striping/t0803338_pm01.dgn

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO 3 INCHES FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

JUST PRIOR TO THE PLACEMENT OF PAVEMENT MARKINGS THE ROAD SURFACE SHALL BE CLEANED AND FREE OF CONTAMINATION AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE.

APPLY ALL PAVEMENT MARKINGS AS RECOMMENDED BY THE MATERIAL MANUFACTURER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

REFER TO SPECIAL PROVISIONS OR SPEC BOOK FOR GROUND IN/RECESSED PAVEMENT MARKING APPLICATION REQUIREMENTS.

EPOXY:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE.

APPLY EPOXY MARKINGS WITH A MINIMUM THICKNESS OF 20 MILS, GLASS BEADS SHALL BE APPLIED AT A RATE OF AT LEAST 25 LB/GAL. THE "NO-TRACKING" CONDITION SHALL BE DETERMINED ON AN APPLICATION OF SPECIFIED THICKNESS TO THE PAVEMENT AND COVERED WITH GLASS BEADS AT THE RATE OF AT LEAST 25 LB/GAL.

PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES ARE 40°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

PERMANENT STRIPING TABULATION — TAB T1

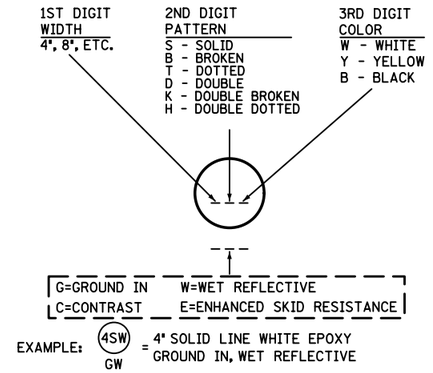
ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	SP 0803-38 QUANTITY	SP 0804-114 QUANTITY	REMARKS
TH 14						
12" SOLID LINE MULTI-COMPONENT	YELLOW	LIN FT	634	93	541	
4" SOLID LINE MULTI-COMPONENT GROUND IN (WR)	WHITE	LIN FT	21747	8017	11718	
	YELLOW			1200	812	
24" SOLID LINE MULTI-COMPONENT GROUND IN (WR)	WHITE	LIN FT	928	37	169	
	YELLOW			24	698	
4" BROKEN LINE MULTI-COMPONENT GROUND IN (WR)	YELLOW	LIN FT	5010	3331	1679	
4" DOTTED LINE MULTI-COMPONENT GROUND IN (WR)	WHITE	LIN FT	2835	789	2046	
4" DOUBLE SOLID LINE MULTI-COMPONENT GROUND IN (WR)	YELLOW	LIN FT	5661	430	5231	
PAVEMENT MESSAGE MULTI-COMPONENT GROUND IN (WR)	WHITE	SQ FT	93	93		
CROSSWALK MULTI-COMPONENT GROUND IN (WR)	WHITE	SQ FT	2888	503	2385	

SYMBOLS & MATERIALS LEGEND

- CROSSWALK BLOCK - EPOXY GROUND-IN
- PAVEMENT MESSAGE (LEFT ARROW) - EPOXY GROUND-IN
- PAVEMENT MESSAGE (RIGHT ARROW) - EPOXY GROUND-IN

STRIPING KEY

CIRCLE-EPOXY



EXAMPLE: 4SW / GW = 4" SOLID LINE WHITE EPOXY GROUND IN, WET REFLECTIVE

I HEREBY CERTIFY THAT SHEETS T17 THROUGH T41 OF THIS PLAN WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: SCOTT THOMPSON LICENSE #

DATE: SIGNATURE: _____

DESIGNER: JOSH GUSTAFSON

PAVEMENT MARKING AND SIGNING TITLE SHEET AND TABULATION

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T17 OF T41 SHEETS

SALVAGE & INSTALL SIGN TYPE C — T2

SIGN NO.	TOTAL QUANTITY	SP 0803-38	SP 0804-114	POSTS NO. & TYPE	POSTS KNEE BRACES QTY.	POSTS LENGTH FEET	MTG. HT. (1) FEET	PANEL SIZE INCH	PANEL LEGEND
C-201	1	1		2-U	-	14	7	24 x 24	BROWN CO 27
								21 x 15	HORIZONTAL ARROW LEFT / VERTICAL ARROW THRU
C-202	1	1		2-U	-	14	7	36 x 36	RIGHT LANE MUST TURN RIGHT
C-203	1		1	2-U	-	14	7	21 x 15	JCT
								24 x 24	BROWN CO 27
C-204	1		1	2-U	-	14	7	30 x 36	SPEED LIMIT 45
C-205	1		1	2-U	1	15	7	64 x 48	NO PASSING ZONE
C-206	2		2	2-U	-	13	7	30 x 30	STOP
C-207	1		1	2-U	-	14	7	24 x 24	BROWN CO 27
								21 x 15	HORIZONTAL ARROW RIGHT
C-208	1		1	1-U	-	13	7	10 x 27	MILE MARKER 90
								10 x 27	MILE MARKER 90
C-209	1		1	2-U	-	14	7	30 x 36	SPEED LIMIT 55
C-210	1		1	2-U	-	15	7	30 x 30	COMBINATION HORIZONATAL ALIGNMENT/INTERSECTION
								18 x 18	SPEED ADVISORY SIGN 50
C-211	1		1	2-U	-	18	7	24 x 12	EAST
								24 x 24	US HIGHWAY 14
								24 x 24	MINNESOTA STATE HIGHWAY 68
								24 x 30	LAURA INGALLS WILDER HISTORIC HIGHWAY
C-212	1	1		2-U	-	12	7	72 x 18	SCHOENSTATT SHRINE LEFT ARROW
C-213	1		1	2-U	1	16	7	60 x 36	ADOPT A HIGHWAY
								24 x 24	DISPOSAL BY BRAUN & BORTH
C-214	1	1		2-U	1	16	7	36 x 36	COMBINATION HORIZONATAL ALIGNMENT/INTERSECTION
								24 x 24	SPEED ADVISORY 40
C-215	1		1	2-U	1	14	7	24 x 24	MINNESOTA STATE HIGHWAY 4
								21 x 15	JCT
TOTAL	15	4	11						

REMOVE SIGN TYPE C — T3

REMOVE SIGN TYPE C	TOTAL QUANTITY	SP 0803-38	SP 0804-114	NOTES
TOTAL	7	1	6	

SIGN PANELS TYPE C — T4

SIGN NO.	QUANTITY TOTAL	QUANTITY S.P. 0803-38	QUANTITY S.P. 0804-114	POSTS NO. & TYPE	POSTS KNEE BRACES QTY.	POSTS LENGTH FEET	MTG. HT. (1) FEET	PANEL SIZE INCH	PANEL AREA SQ. FT.	PANEL TOTAL AREA SQ. FT.	SP 0803-38 QUANTITY SQ. FT.	SP 0804-114 QUANTITY SQ. FT.	CODE NO.	PANEL LEGEND	PANEL LEGEND
C-1	1	1		2-U	1	14	7	36 x 36	9.00	9.00	9.00		R4-X4	TRUCK STOPPING LANE	
C-2	1	1		1-U		12	7	12 x 18	1.50	1.50	1.50		R7-1 mod.	NO PARKING ANY TIME (LEFT)	
C-3	7		7	2-U	1	13	7	36 x 30	7.50	52.50		52.50	R3-8AD	LANE DESIGNATION (LEFT, THRU-RIGHT)	
C-4	4		4	2-U		13	7	30 x 30	6.25	25.00		25.00	R3-7R	RIGHT LANE MUST TURN RIGHT	
C-5	1	1		2-U		13	7	24 x 24	4.00	4.00	4.00		R3-2	NO LEFT TURN	
C-6	2		2	2-U	1	13	7	54 x 30	11.25	22.50		22.50	R3-8ACA	LANE DESIGNATION (LEFT, THRU, RIGHT)	
C-7	1		1	2-U	1	14	7	36 x 36	9.00	9.00		9.00	W1-10L	COMBINATION HORIZONATAL ALIGNMENT/INTERSECTION	
C-8	1		1	2-U				24 x 24	4.00	4.00		4.00	W13-1P	45 MPH	(2)
C-9	1		1	2-U	1	13	7	36 x 30	7.50	7.50		7.50	R3-8AC	LANE DESIGNATION (LEFT, THRU)	
TOTAL										135.00	14.50	120.50			

NOTES:
(1) MOUNT SIDE BY SIDE
(2) FOR USE WITH SIGN C-7

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PAVEMENT MARKING AND SIGNING TABULATION

T.H. 14/MAIN ST.

24SY GW

4SW GW

TRUCK STOPPING LANE C-1 (1)

4TW GW 3/12

40 MPH C-214 (2) (3)

4SW GW

40 MPH C-214 (6)

80

12'

1085

1:15

12'

11'

12'

1:15

4DY GW

4SW GW

4TW GW 3/12

(2) 27 TONNAGE JCT

4BY GW

4SY GW

4SW GW

SCHOENSTATT SHRINE

C-212 (6)

50'

SCALE IN FEET

LEGEND

(1) FURNISH & INSTALL
(2) INPLACE
(3) SALVAGE
(6) INSTALL

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T19 OF T41 SHEETS

40 MPH C-214 (6)

(2)

4BY GW

4SY GW

T.H. 14/MAIN ST.

SPEED LIMIT 55 (2)

4BY GW

4TW GW 3/12

ROAD CLOSED WHEN FLASHING (2)

CR 33

1090

RR

12'

11'

1:15

12'

11'

12'

9TH AVE S.W.

SCHOENSTATT SHRINE C-212 (6)

C-201 (6)

SCHOENSTATT SHRINE C-212 (2) (3)

4SW GW

(2)

NO PASSING ZONE (2)

SPEED LIMIT 30 (2)

RIGHT LANE MUST TURN RIGHT C-202 (6)

C-201 (2) (3)

C-202 (2) (3)

RIGHT LANE MUST TURN RIGHT

4SW GW

STOP (2)

N

50'

SCALE IN FEET

LEGEND

(2) INPLACE
(3) SALVAGE
(6) INSTALL

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T20 OF T41 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:12

CR 33

RIGHT LANE MUST TURN RIGHT (2)

4SW GW

4TW GW 3/12

27 COUNTY (2)

ADOPT A HIGHWAY (2)

4SW GW

SCHOENSTATT SHRINE (2)

T.H. 14/MAIN ST.

1095

12'

11'

11'

1:15

1100

9TH AVE S.W.

4SW GW

MAIN ST W

9TH AVE SW (2)

STOP (2)

4BY GW

MAIN ST W

8TH AVE SW (2)

8TH AVE S.W.

4SW GW

SPEED LIMIT 30 (2)

STOP (2)

N

LEGEND

(2) INPLACE

50'

SCALE IN FEET

CERTIFIED BY _____

LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T21 OF T41 SHEETS

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Traffic/Signing/t080338_sgn03.dgn

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DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/07_MK0/014/0803/038/Traffic/Signing/t080338_sgn04.dgn

T.H. 14/MAIN ST.

1105

11'

11'

4BY
GW

4SW
GW

SPEED LIMIT 30

4SW
GW

SPEED LIMIT 30

4SW
GW

STOP

MAIN ST W

7TH AVE SW

7TH AVE. S.W.

LEGEND

N

LEGEND

(2) INPLACE

50'

SCALE IN FEET

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T22 OF T41 SHEETS

JCT
(2)

4BY
GW

T.H. 14/MAIN ST.

4SW
GW

4SW
GW

4BY
GW

1110

11'
11'

1115

11'
11'

6TH AVE. S.W.

MAIN ST W
6TH AVE SW
(2)
NO PARKING ANY TIME
(2)
STOP
(2)
(2)

4SW
GW

5TH AVE. S.W.

(10)
(2)
MAIN ST W
5TH AVE SW
(2)
STOP
(2)
(2)

4SW
GW

4SW
GW

4SY
GW

LEGEND
(2)

LEGEND

(2) INPLACE

(10) PAINT CURB FACE WITH YELLOW LATEX PAID FOR AS 12SY PAINT

N

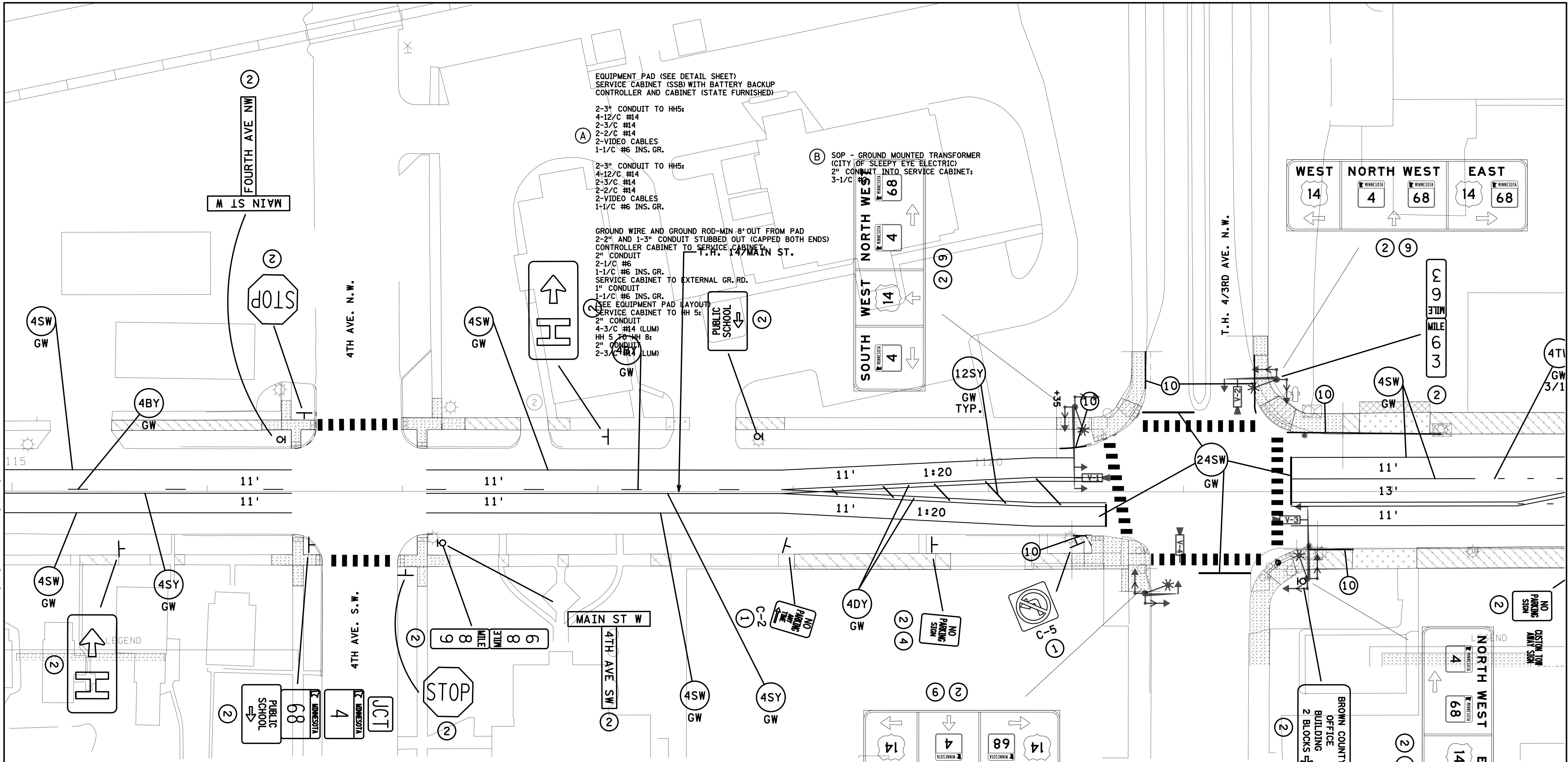
50'

SCALE IN FEET

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T23 OF T41 SHEETS


EQUIPMENT PAD (SEE DETAIL SHEET)
SERVICE CABINET (SSB) WITH BATTERY BACKUP
CONTROLLER AND CABINET (STATE FURNISHED)
2-3" CONDUIT TO HH5:
4-12/C #14
2-3/C #14
2-2/C #14
2-VIDEO CABLES
1-1/C #6 INS. GR.
GROUND WIRE AND GROUND ROD-MIN 8' OUT FROM PAD
2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
CONTROLLER CABINET TO SERVICE CABINET:
SERVICE CABINET TO EXTERNAL GR. RD.
SERVICE CABINET TO HH 5:
SOP - GROUND MOUNTED TRANSFORMER
(CITY OF SLEEPY EYE ELECTRIC)
2" CONDUIT INTO SERVICE CABINET:
T.H. 14/MAIN ST.
T.H. 4/3RD AVE. N.W.
4TH AVE. N.W.
4TH AVE. S.W.
FOURTH AVE NW
MAIN ST W
4TH AVE SW
STOP
PUBLIC SCHOOL
NORTH WEST
WEST
SOUTH
EAST
JCT
MILE
NO PARKING SIGN
NO PARKING ANY TIME
BROWN COUNTY OFFICE BUILDING 2 BLOCKS
4SW GW
4BY GW
4SY GW
4DY GW
12SY GW TYP.
24SW GW
11'
13'
1:20
C-2
C-5
V-1
V-2
V-3
V-4

LEGEND

1. FURNISH & INSTALL
2. INPLACE
4. REMOVE
9. SALVAGE AND INSTALL. THE MAST ARM MOUNTED SIGNS ARE INCLUDED IN THE TRAFFIC CONTROL SIGNAL SYSTEM PAY ITEM. SEE SHEET S6 FOR DETAILS.
10. PAINT CURB FACE WITH YELLOW LATEX PAID FOR AS 12SY PAINT

50'
SCALE IN FEET

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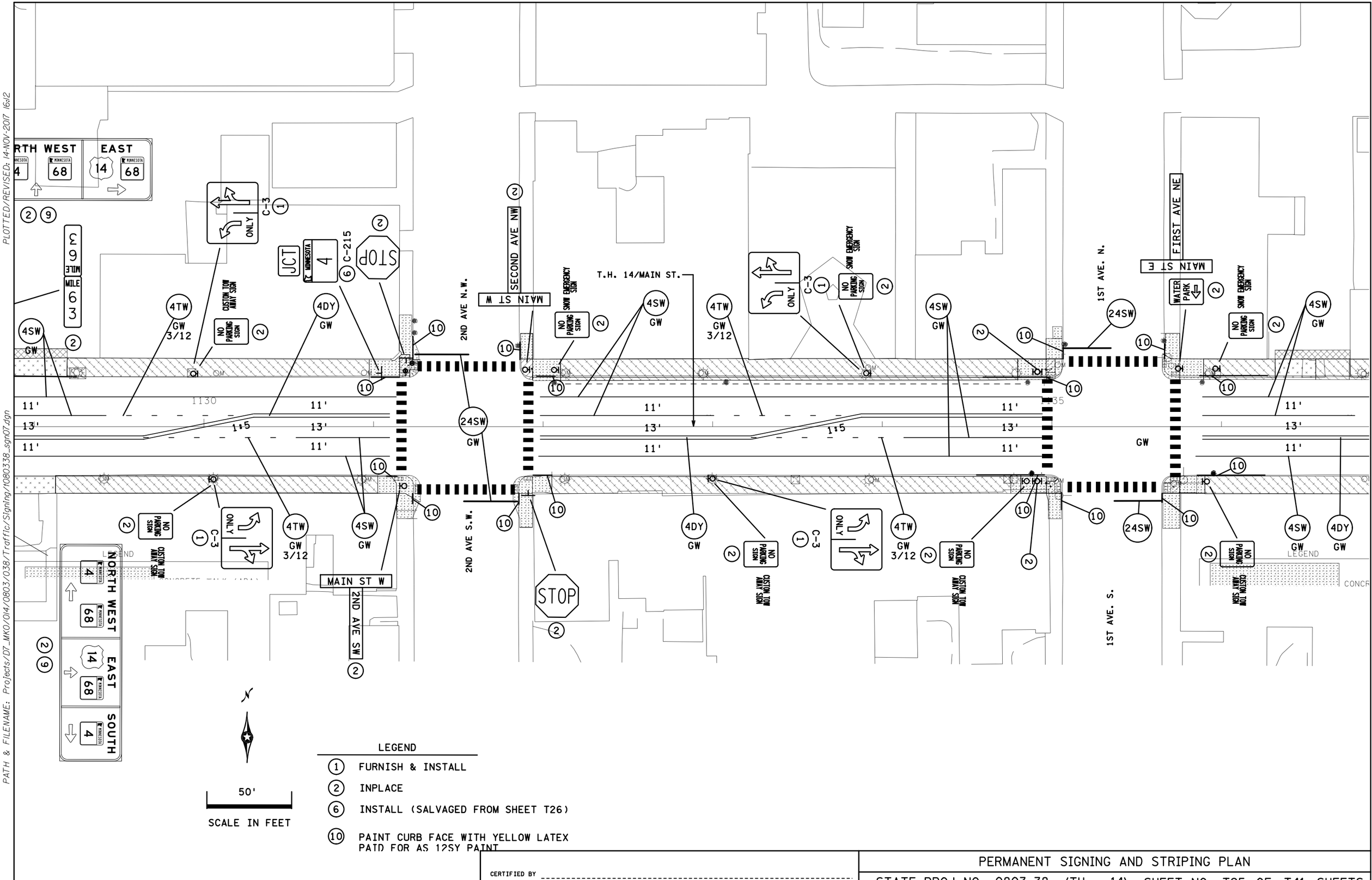
CERTIFIED BY ______ LICENSED PROFESSIONAL ENGINEER   LIC NO.   DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T24 OF T41 SHEETS



LEGEND

1. FURNISH & INSTALL
2. INPLACE
6. INSTALL (SALVAGED FROM SHEET T26)
10. PAINT CURB FACE WITH YELLOW LATEX PAID FOR AS 12SY PAINT

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T25 OF T41 SHEETS

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T.H. 14/MAIN ST.

2ND AVE. N.E.

3RD AVE. N.E.

2ND AVE. S.E.

3RD AVE. S.E.

MAIN ST E

2ND AVE NE

3RD AVE NE

ST E

MAIN ST W

3RD AVE SE

2ND AVE S

ONLY C-3

STOP

NO PARKING SIGN

SNOW EMERGENCY SIGN

CHAMBER OF COMMERCE

CUSTOM TOW AWAY SIGN

ST. JOHNS SCHOOL

4SW GW

4TW GW 3/12

4DY GW

12SY GW TYP.

1:5

1:17

11'

13'

1140

LEGEND

CONCRETE WALK (AM)

50'

SCALE IN FEET

LEGEND

(1) FURNISH & INSTALL

(2) INPLACE

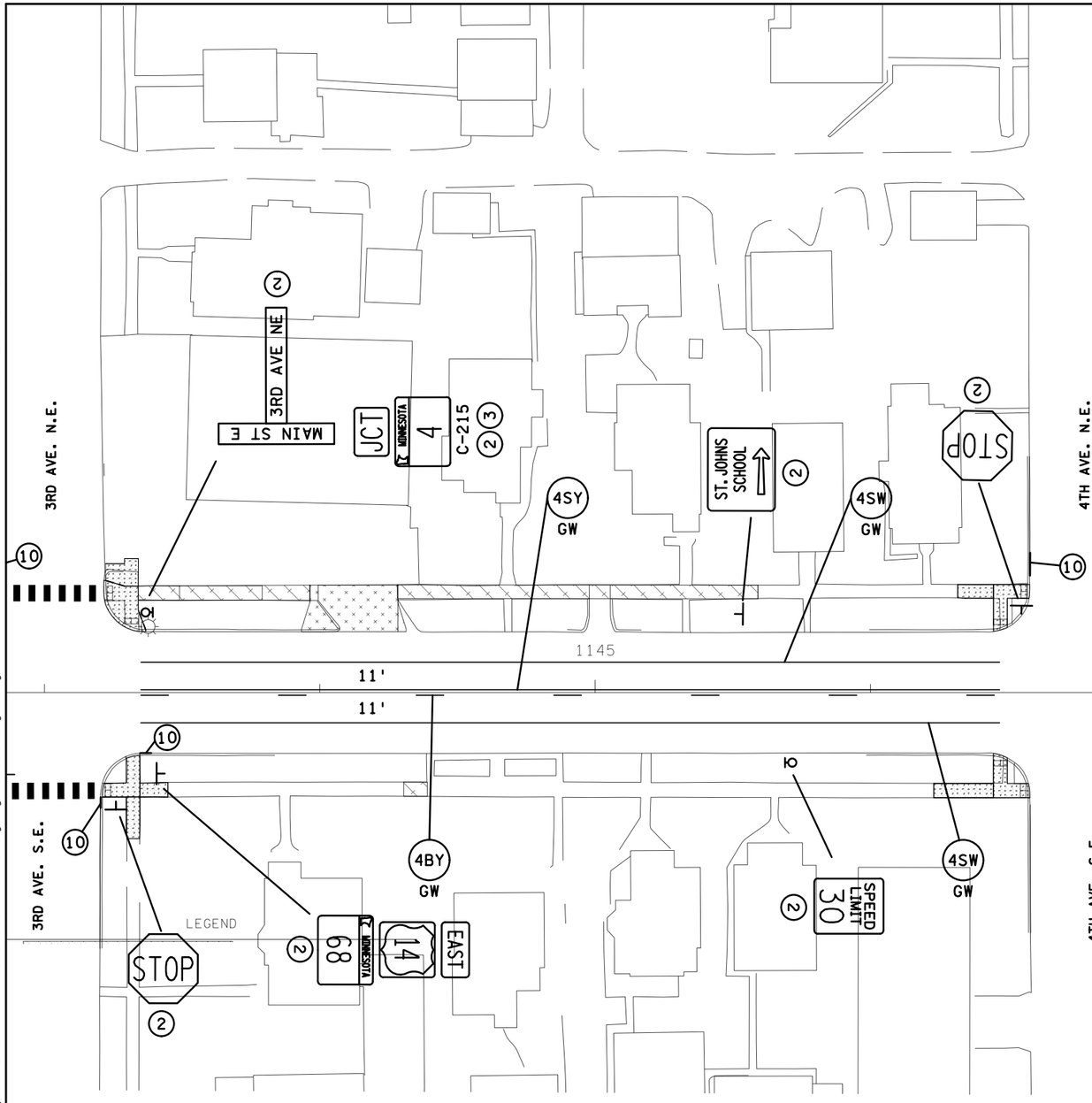
(10) PAINT CURB FACE WITH YELLOW LATEX PAID FOR AS 12SY PAINT

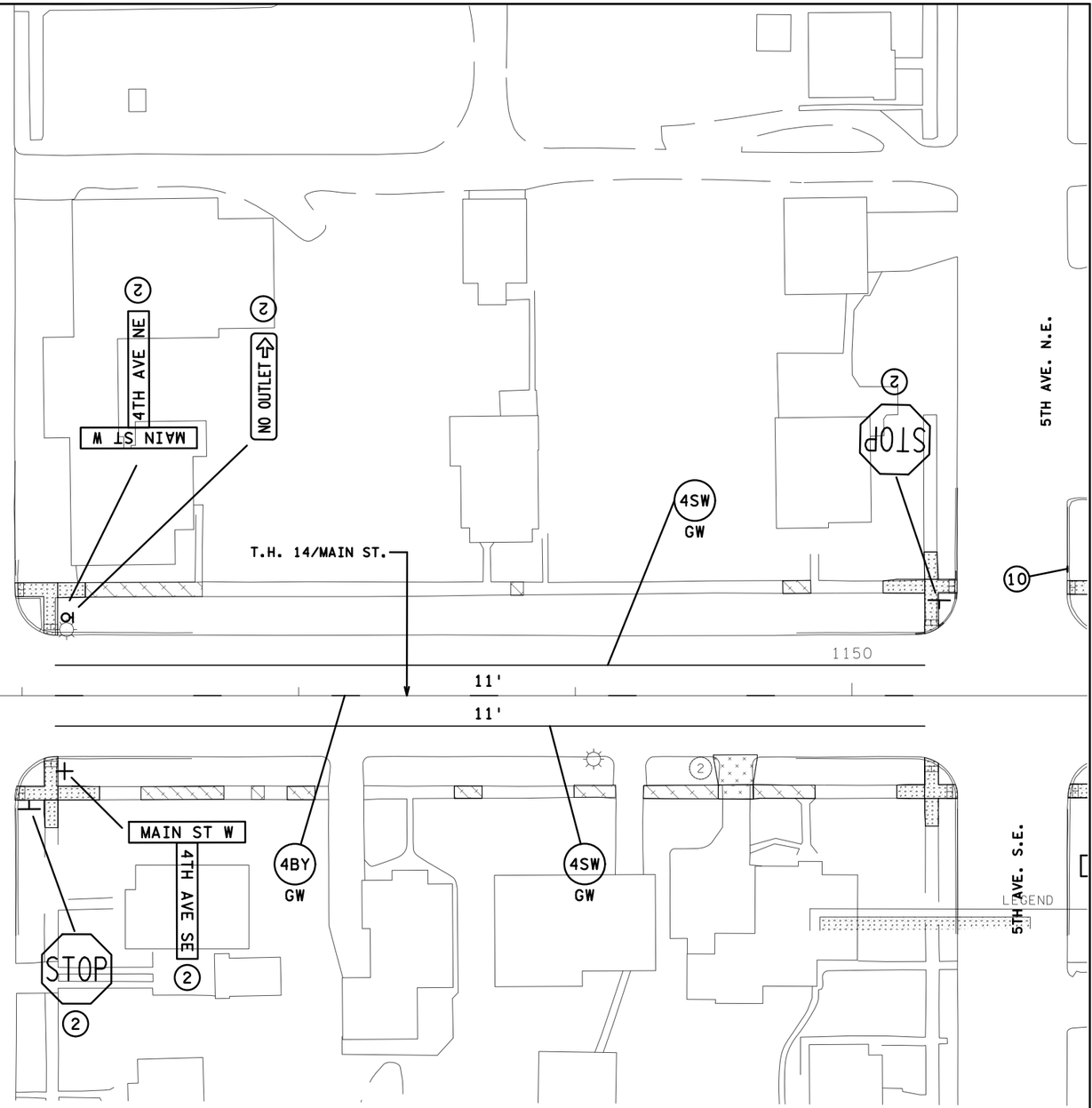
CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T26 OF T41 SHEETS

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MK0/014/0803/038/Traffic/Signing/t080338_sgn08.dgn





N

50'

SCALE IN FEET

LEGEND

(1) FURNISH & INSTALL

(2) INPLACE

(3) SALVAGE

(10) PAINT CURB FACE WITH YELLOW LATEX PAID FOR AS 12SY PAINT

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T27 OF T41 SHEETS

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DISTRICT #: 7 - Mankato/Windom
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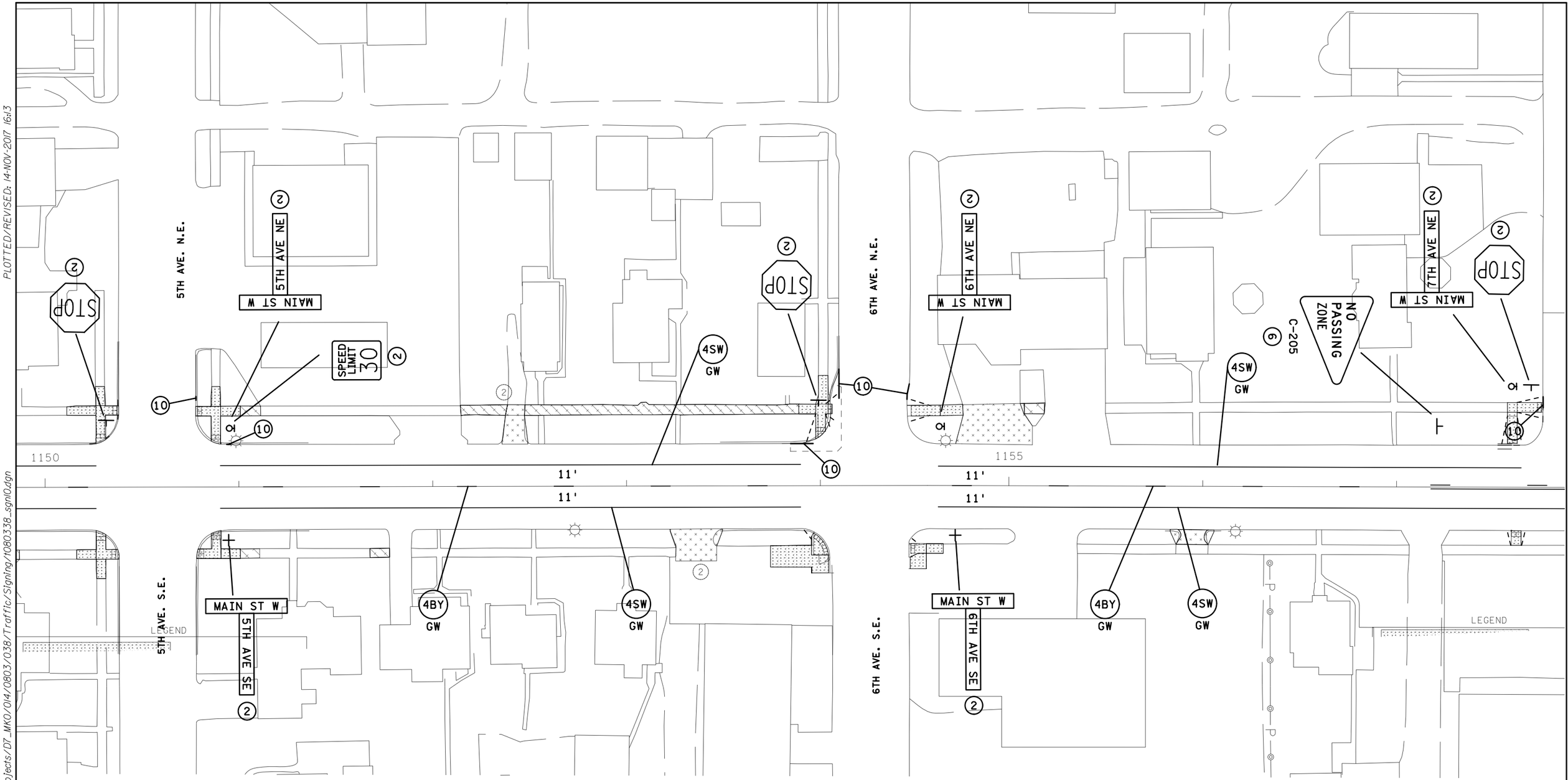
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Traffic/Signing/t080338_sgnl0dgn



LEGEND

(1) FURNISH & INSTALL

(2) INPLACE

(6) INSTALL (SALVAGE FROM SHEET T29)

(10) PAINT CURB FACE WITH YELLOW LATEX PAID FOR AS 12SY PAINT

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T28 OF T41 SHEETS

7TH AVE. N.E.

MAIN ST W

7TH AVE NE

STOP

NO PARKING ANY TIME

4SW GW

4BY GW

4SY GW

4DY GW

24SY GW TYP.

4TW GW 3/12

1160

11'

12'

1:5

1:45

VAR SHLD

20

POT. 19+97.92

PI . 20+23.35

PI . 21+66.54

PI . 22+31.25

T.H. 14/MAIN ST.

C-203

27 COUNTY

JCT

15'

LEGEND

50'

SCALE IN FEET

LEGEND

1. FURNISH & INSTALL
2. INPLACE
3. SALVAGE
6. INSTALL
10. PAINT CURB FACE WITH YELLOW LATEX PAID FOR AS 12SY PAINT

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T29 OF T41 SHEETS

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SEVEN GABLES INN

T.H. 14/MAIN ST.

STOP (2)

4TW GW 3/12

NO PASSING ZONE (2) (11) C-205

4SW GW

SPEED LIMIT 30 (2)

RIGHT LANE MUST TURN RIGHT (1)

4TW GW 3/12

24SY GW TYP.

STOP (2)

4SW GW

4TW GW 3/12

RIGHT LANE MUST TURN RIGHT (1) C-202

12TH AVE NE (2)

MAIN ST E

STOP (2)

POT. 29+20.90

PT - 22+31.25

1165

1170

12'

11'

1:5

1:10

1:45

VAR SHLD

25

4DY GW

4TW GW 3/12

4SW GW

4DY GW

SPEED LIMIT 45 (2) (3) (6) C-204

ADOPT A HIGHWAY (2) (3) (6) C-213

50'

SCALE IN FEET

ONLY

ONLY

ONLY

(1)

45 MPH (2) (4) C-205

45 MPH (1) C-7, C-8

NEW RIGHT OF WAY

TEMPORARY EASEMENT & TEMPORARY ORDERS

50'

SCALE IN FEET

LEGEND

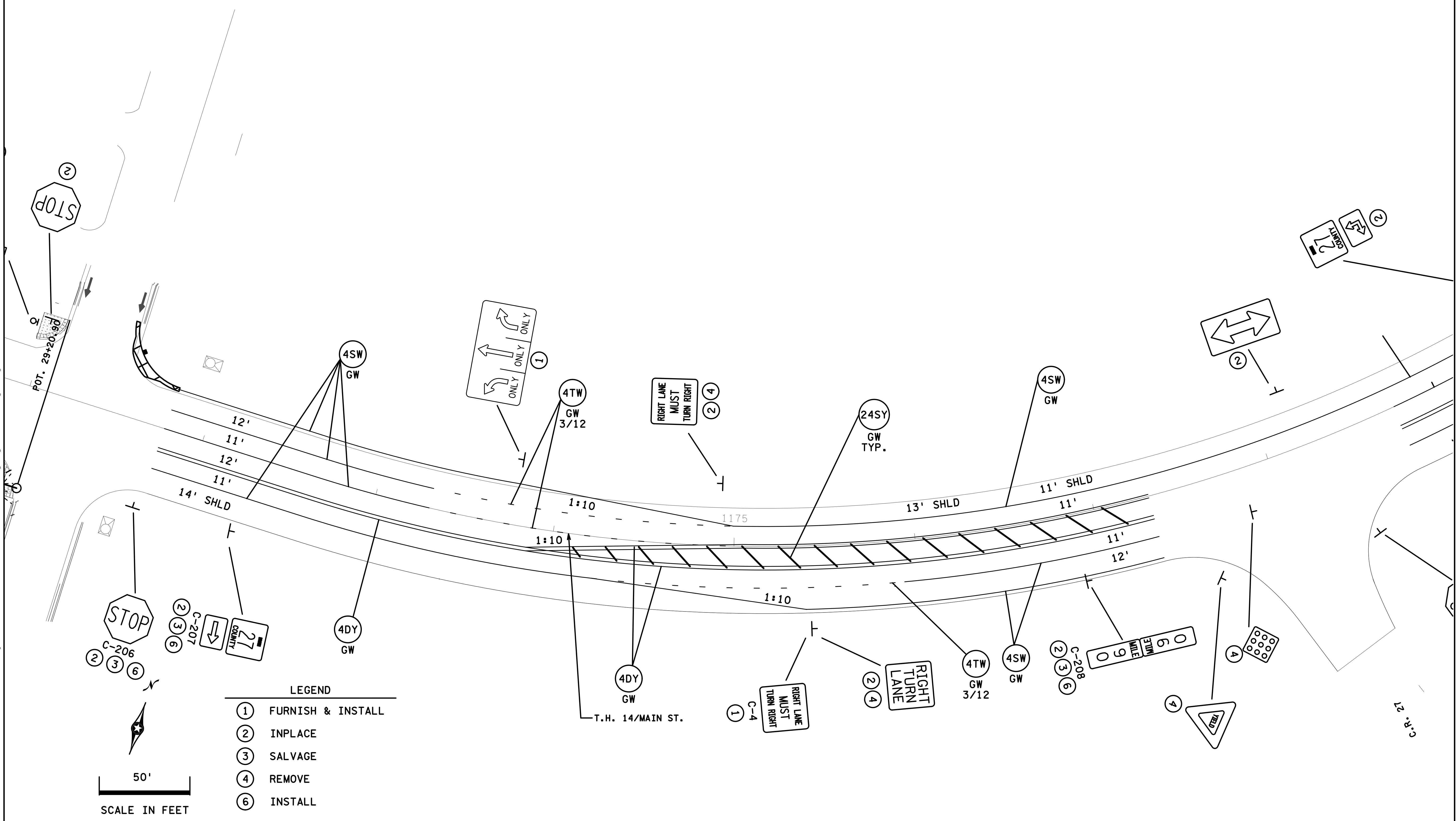
(1) FURNISH & INSTALL
(2) INPLACE
(3) SALVAGE
(4) REMOVE
(6) INSTALL
(11) SALVAGE (INSTALL ON SHEET T27)

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T30 OF T41 SHEETS

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/07_MKO/014/0803/038/Traffic/Signing/1080338_sgnl2.dgn



LEGEND

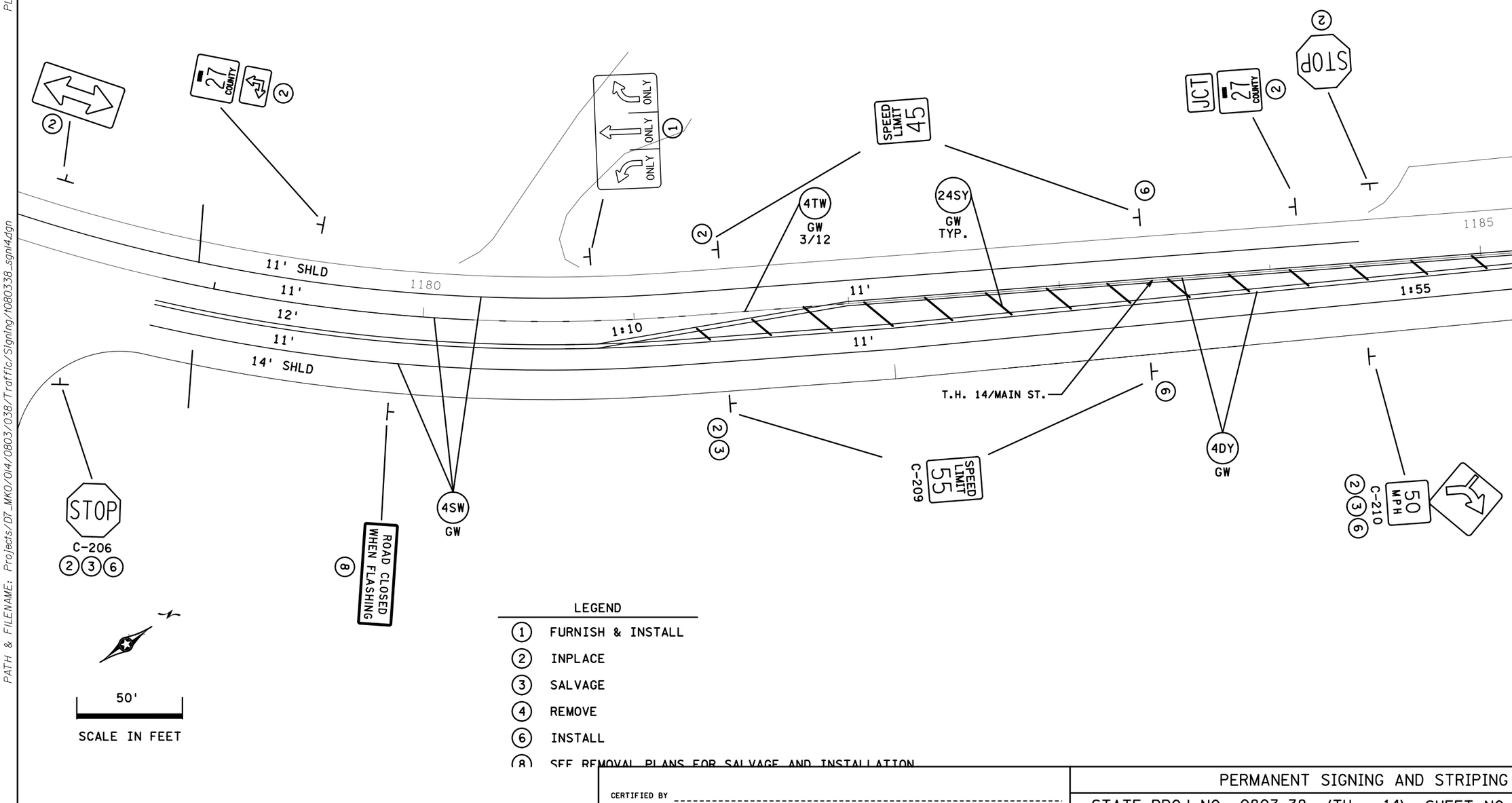
1. FURNISH & INSTALL
2. INPLACE
3. SALVAGE
4. REMOVE
6. INSTALL

DISTRICT #: 7 - Mankato/Windom
USER NAME: lawvland
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Traffic/Signing/1080338_sgn13.dgn
PLOTTED/REVISED: 14-NOV-2017 16:13

CERTIFIED BY ______ LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T31 OF T41 SHEETS



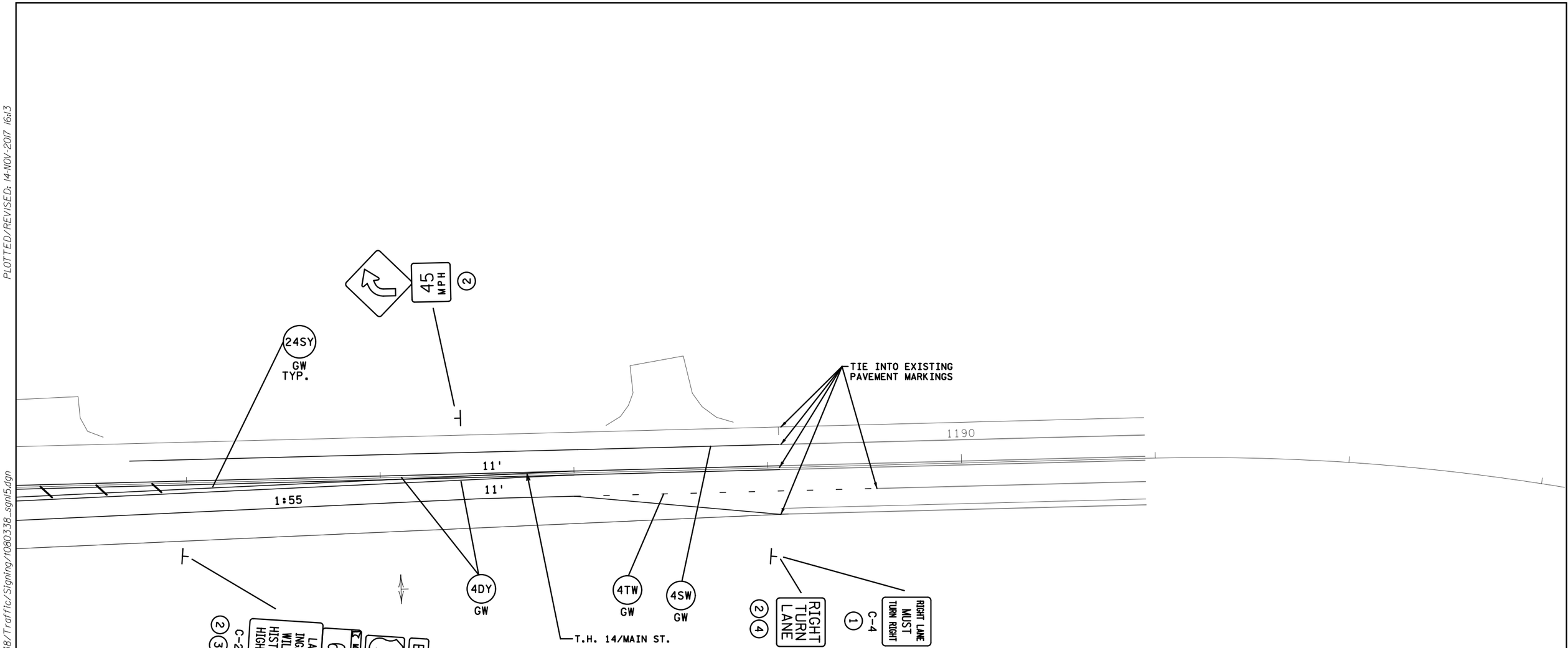
LEGEND

(1)	FURNISH & INSTALL
(2)	INPLACE
(3)	SALVAGE
(4)	REMOVE
(6)	INSTALL
(8)	SEE REMOVAL PLANS FOR SALVAGE AND INSTALLATION

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

PERMANENT SIGNING AND STRIPING PLAN

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T32 OF T41 SHEETS



50'

SCALE IN FEET

LEGEND

(1)	FURNISH & INSTALL
(2)	INPLACE
(4)	REMOVE
(6)	INSTALL

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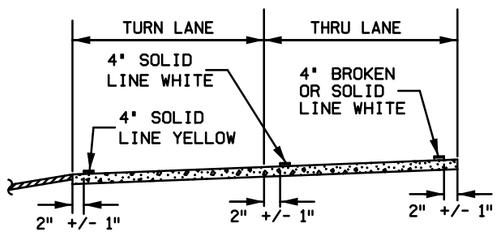
PERMANENT SIGNING AND STRIPING PLAN

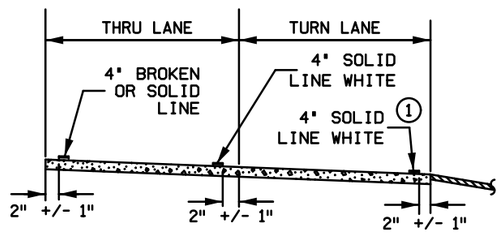
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T33 OF T41 SHEETS

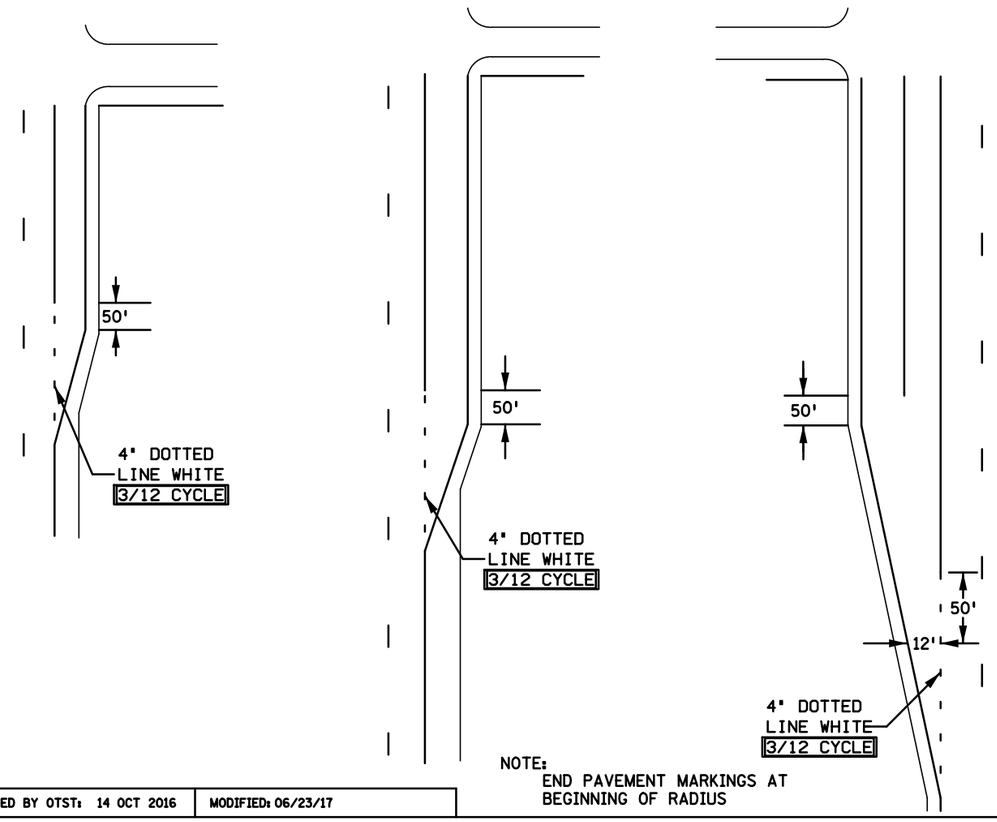
TURN LANE WITH DOTTED LINE EXTENSION

LEFT TURN LANE



RIGHT TURN LANE



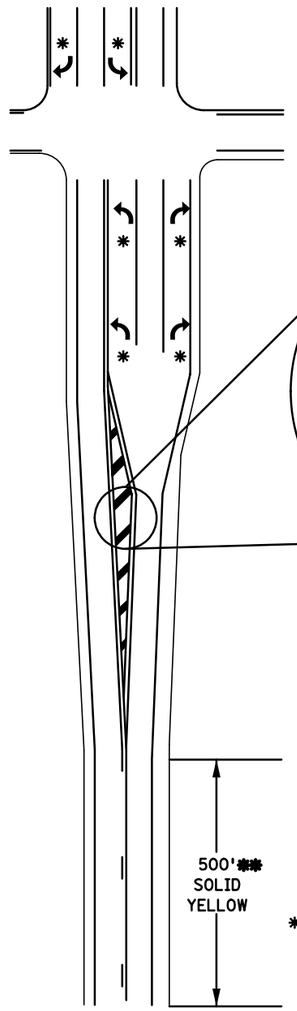


NOTE:
END PAVEMENT MARKINGS AT BEGINNING OF RADIUS

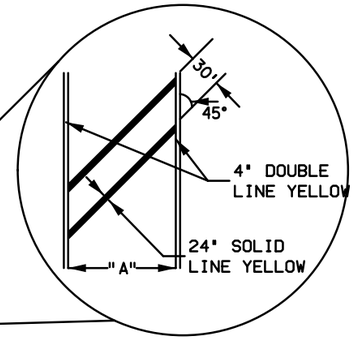
PUBLISHED BY OTST: 14 OCT 2016 | MODIFIED: 06/23/17

LEFT TURN LANE ISLAND

NOTE:
END PAVEMENT MARKINGS AT BEGINNING OF RADIUS



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



* SEE "TURN LANE WITH ARROW MESSAGE, OR WITH DOTTED LINE EXTENSION" TYPICALS FOR PLACEMENT AND NUMBER OF ARROWS OR OPTIONAL LANE LINE EXTENSIONS. (MNMUTCD SECTION 3B.20)

** IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN TABLE 7.5 IN THE (TEM) FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

PUBLISHED BY OTST: 14 OCT 2016 | MODIFIED:

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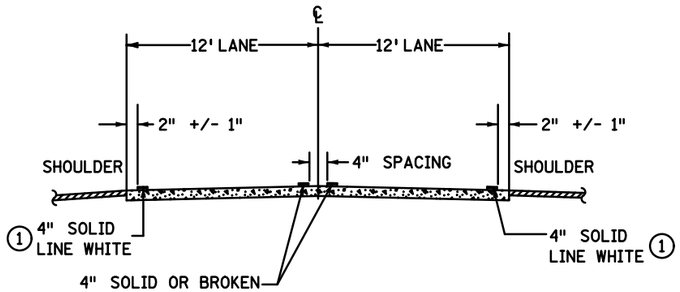
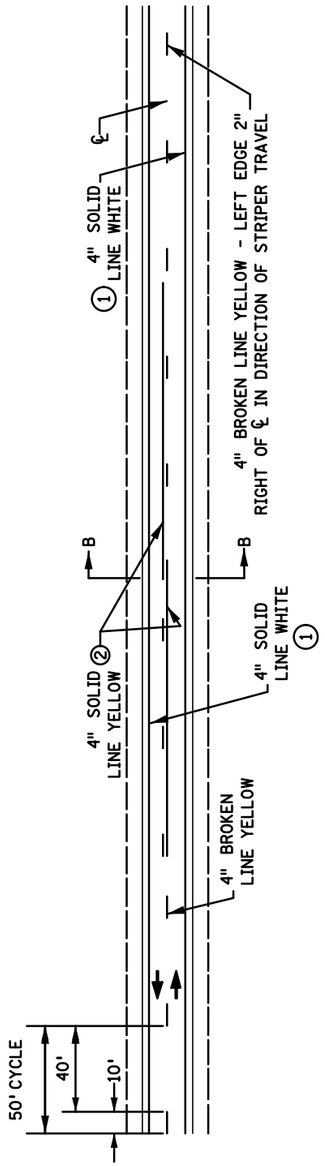
PAVEMENT MARKING DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T34 OF T41 SHEETS

TWO-LANE, TWO-WAY



SECTION B-B

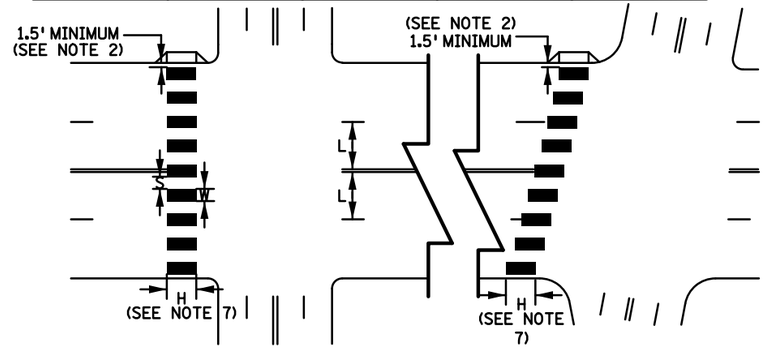


① PERPETUATE EXISTING NO PASSING ZONE UNLESS OTHERWISE SHOWN IN PLAN.

PUBLISHED BY OTST: 20 NOV 2015 | MODIFIED:

PEDESTRIAN CROSSWALK MARKINGS

(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREA	(S) WIDTH OF SPACE	ALTERNATE (W) WIDTH OF PAINTED AREA	ALTERNATE (S) WIDTH OF SPACE
9′	2.0′	2.5′	—	—
10′	2.5′	2.5′	2.0′	3.0′
11′	2.5′	3.0′	2.0′	3.5′
12′	3.0′	3.0′	2.5′	3.5′
13′	3.0′	3.5′	—	—



NOTES:

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB FACE. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.
6. THE BLOCKS SHALL BE PLACED SO THAT THEY ARE NOT LOCATED IN THE WHEEL PATH OF THE VEHICLES.
7. THE BLOCKS SHALL BE A MINIMUM OF 6' LONG AND AT LEAST AS LONG AS THE TRUNCATED DOMES, FOR FANNED TRUNCATED DOMES THE BLOCKS SHALL BE AT LEAST AS LONG AS THE APPROACHING SIDEWALK OR SHARED USE PATH.
8. THE ALTERNATE (W) AND (S) MAY BE USED WHEN BLOCKS LONGER THAN 6' (H) ARE USED.

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PAVEMENT MARKING DETAILS

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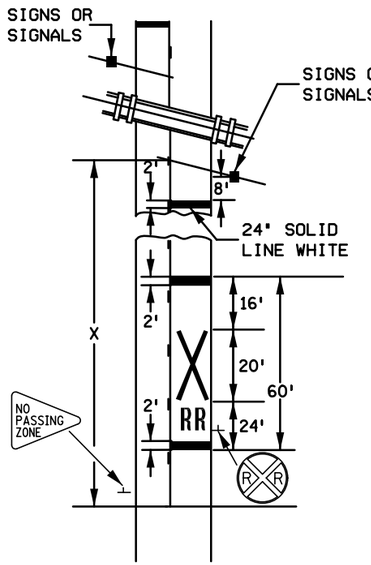
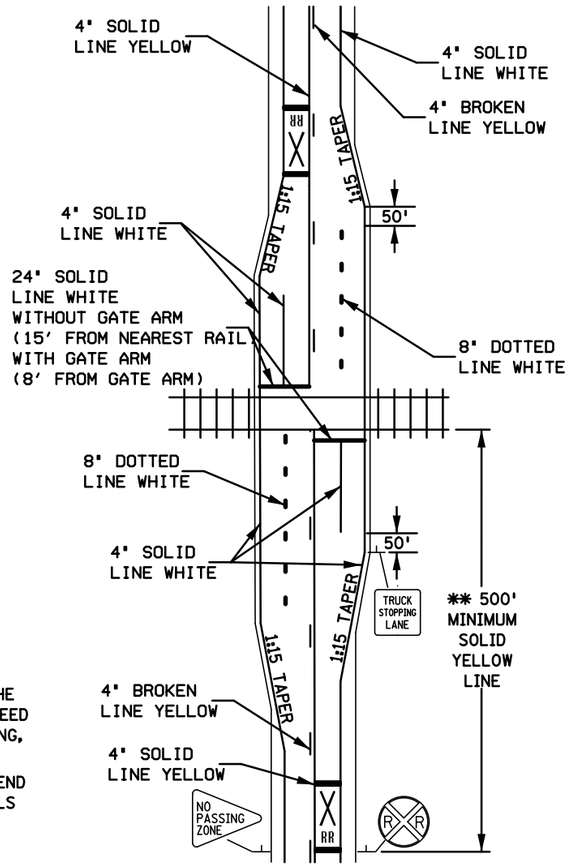
RAILROAD CROSSING WITH TRUCK STOPPING LANE



SPEED LIMIT (MPH)	X
30	150'
40	275'
50	425'
55	500'

FROM MnMUTCD SECTION 2C-D TABLE II-1



DESIGNER'S NOTES:

1. THE DISTANCE FROM THE RAILROAD CROSSING MARKING TO THE NEAREST TRACK WILL VARY ACCORDING TO THE APPROACH SPEED AND SIGHT DISTANCE OF THE VEHICULAR TRAFFIC APPROACHING, BUT SHOULD NOT BE LESS THAN 50 FEET.
2. ON MULTI -LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.
3. USE THE SAME SIGNING AND PAVEMENT MARKINGS FOR THE OPPOSITE DIRECTION.

** IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN TABLE 7.5 IN THE (TEM) FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

NOTE:
SIGN LOCATION FOR REFERENCE ONLY.

PUBLISHED BY OTST: 20 NOV 2015	MODIFIED:

CERTIFIED BY _____
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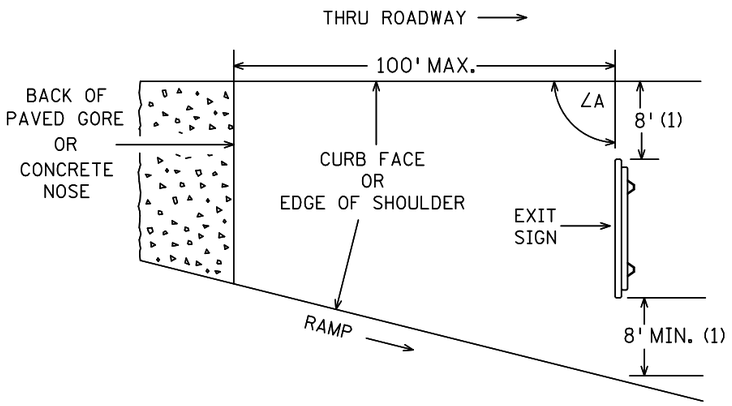
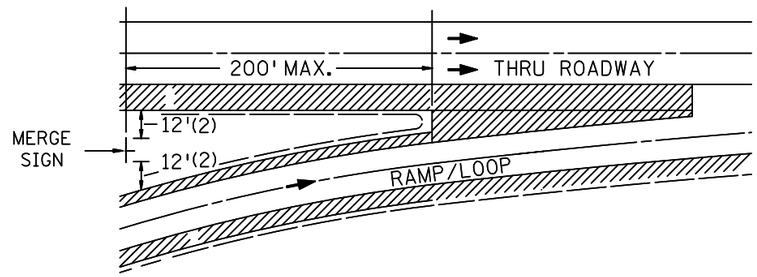
PAVEMENT MARKING DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T36 OF T41 SHEETS

GORE PLACEMENT



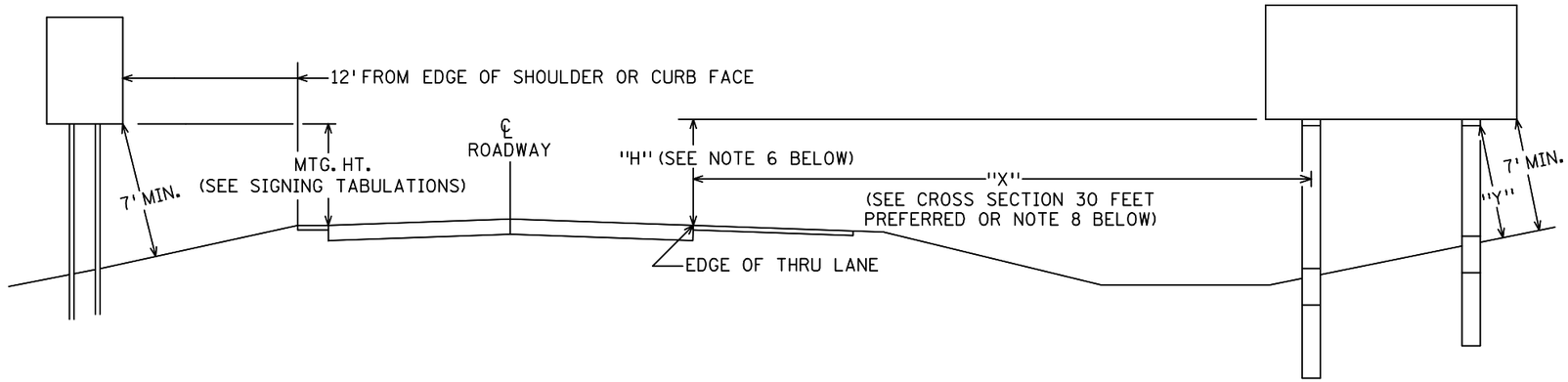


SPECIFIC NOTES:

(1) EXIT SIGNS
IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, CONTACT THE PROJECT ENGINEER.

(2) MERGE SIGNS
IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, CONTACT THE PROJECT ENGINEER.

ROADSIDE PLACEMENT



ROUTE MARKER, REGULATORY & WARNING SIGNS - TYPE C
GUIDE SIGNS - TYPE D

GUIDE SIGN - TYPE A

NOTES:

1. ALL TYPE C AND D MOUNTING HEIGHTS ARE MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE ELEVATION OF THE NEAR EDGE OF PAVEMENT IN RURAL AREAS OR TO THE TOP OF THE CURB OR IN THE ABSCENCE OF CURB, TO THE NEAR EDGE OF THE TRAVELED WAY.
2. SIGN FACES SHALL BE VERTICAL.
3. OVERHEAD SIGNS SHALL BE POSITIONED AT RIGHT ANGLES TO THE THRU ROADWAY UNLESS OTHERWISE NOTED.
4. TO AVOID SPECULAR GLARE, ∠A SHALL BE APPROXIMATELY 93° FOR SIGNS LOCATED LESS THAN 30' FROM THE EDGE OF THRU LANE AND APPROXIMATELY 92° FOR SIGNS LOCATED 30' OR MORE FROM EDGE OF THRU LANE. THIS APPLIES TO SIGNS TYPE A, C, & D AND INCLUDES SIGNS IN THE GORE.
5. "Y" IS THE PERPENDICULAR DISTANCE FROM THE GROUND LINE TO THE FRICTION FUSE ON THE POST. THIS DISTANCE SHALL BE AT LEAST 7'.
6. WHERE "X" IS LESS THAN 30', "H" SHALL BE 7'. WHERE "X" IS 30' OR GREATER, MINIMUM AND PREFERRED "H" IS 5'.
7. LATERAL CLEARANCES GIVEN APPLY TO RIGHT AND OR LEFT SIDE INSTALLATION.
8. WHEN A TYPE A SIGN IS INSTALLED DIRECTLY BEHIND TRAFFIC BARRIER, THE LEFT EDGE OF THE SIGN PANEL SHALL BE LOCATED A MINIMUM OF 8 FEET BEHIND THE FACE OF THE TRAFFIC BARRIER.

SIGN PLACEMENT

REVISED: 7-23-15

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SIGNING DETAILS

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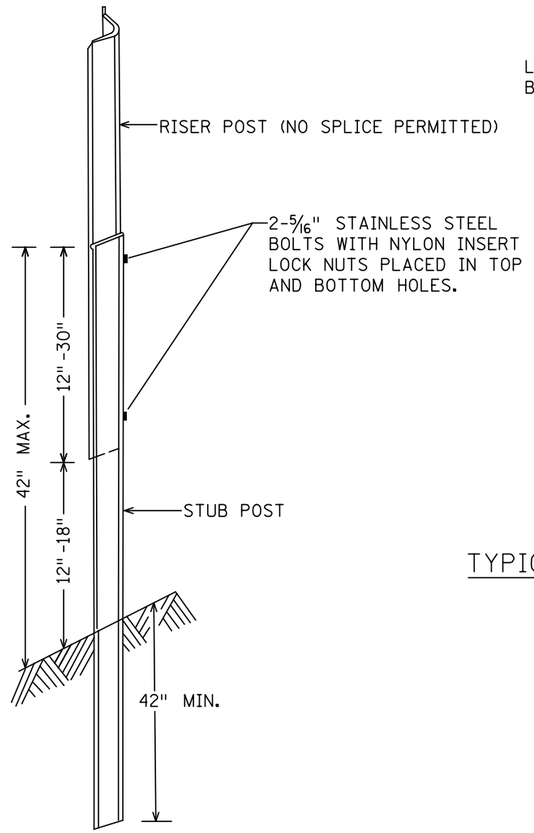
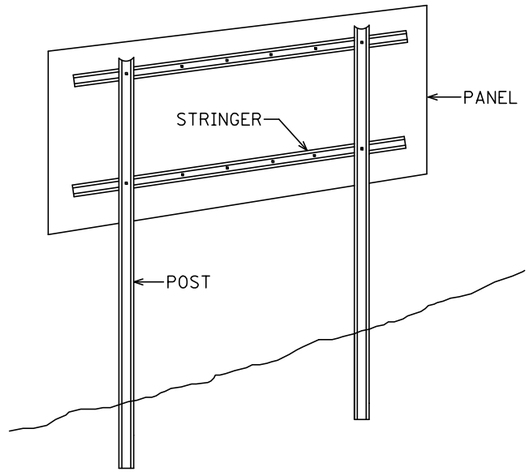
TYPE C & D POST

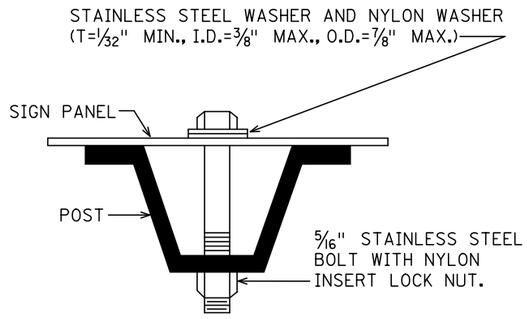


U POST BREAKAWAY SPLICE

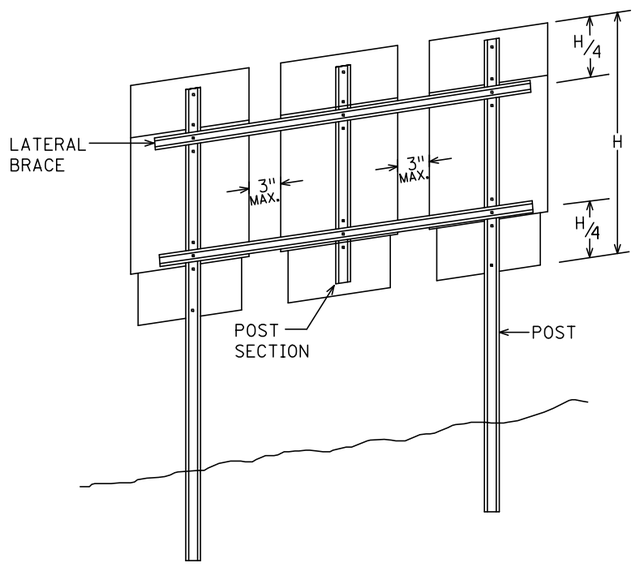
TYPICAL TYPE C INSTALLATION



TYPICAL TYPE D INSTALLATION



U POST MOUNTING
TYPE C SIGNS



MODIFIED TYPE C INSTALLATION

NOTES:

1. USE 3 LB/FT STUB POSTS. SHALL CONFORM TO MNDOT 3401.
2. USE 2.5 LB/FT RISER POSTS, STRINGERS, KNEE BRACES AND LATERAL BRACES. ALL SHALL CONFORM TO MNDOT 3401.
3. SEE SIGN DATA SHEETS FOR NUMBER OF POSTS, KNEE BRACES, POST LENGTHS AND SPACINGS, AS DETERMINED FROM TEM CHARTS 6.3 AND 6.4.
4. IF MORE THAN TWO POSTS ARE NEEDED, THE MINIMUM SPACING SHALL BE 45" BETWEEN POSTS.
5. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH THE TYPE D STRINGER AND PANEL-JOINT DETAIL (SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL).
6. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL UNLESS OTHERWISE SPECIFIED.
7. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
8. USE STAINLESS STEEL 5/16" BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
9. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
10. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 42".
11. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MNDOT 3306 AND GALVANIZED IN ACCORDANCE WITH MNDOT 3394.
12. COLLARS SHALL BE USED TO SHIM OVERLAYS AND LEGEND COMPONENTS AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MNDOT 3352.2A6.
13. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
14. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED LATERALLY BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.
15. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED LATERALLY BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

TYPE C & D SIGN
STRUCTURAL DETAILS

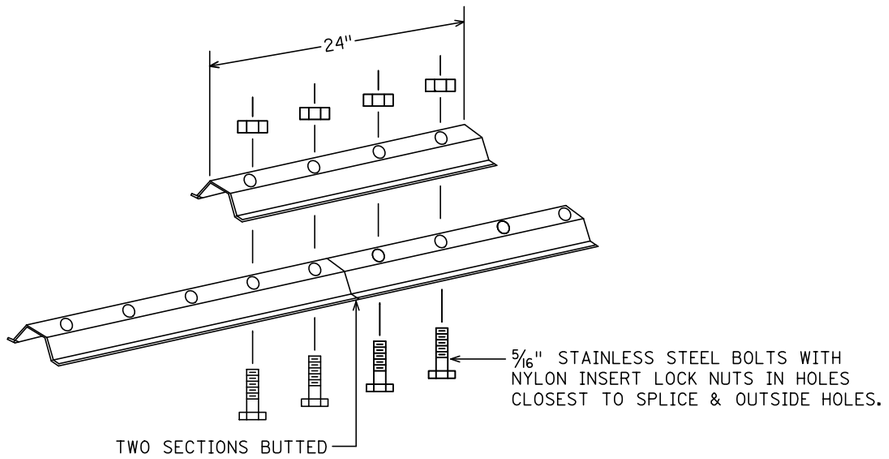
Sheet 1 of 2

REVISED: 5-5-2017

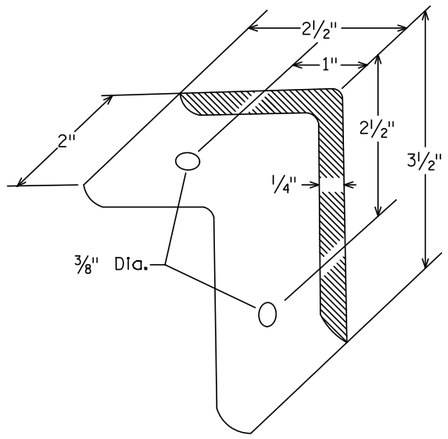
CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

SIGNING DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T38 OF T41 SHEETS

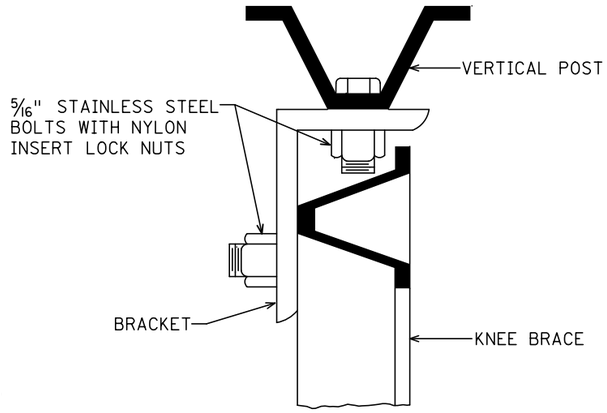


LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)

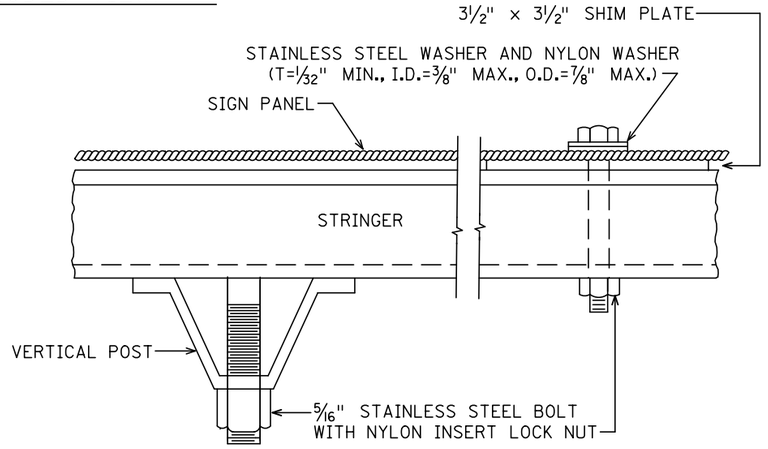


A-FRAME BRACKET

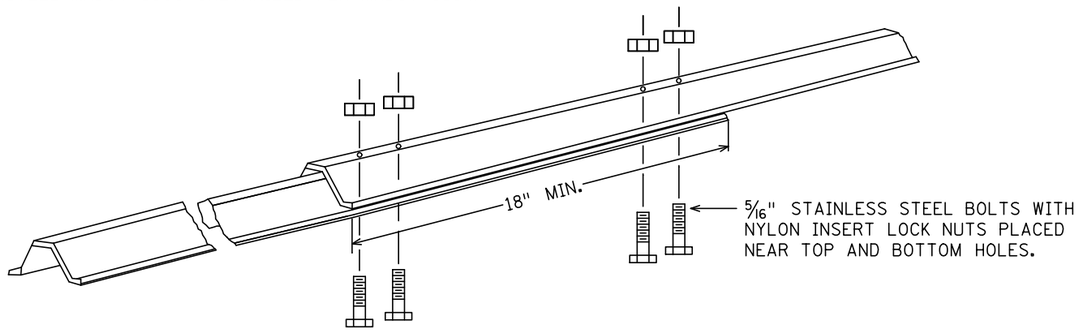
(STEEL MNDOT 3306 GALVANIZED PER MNDOT 3394)



SECTION A-A

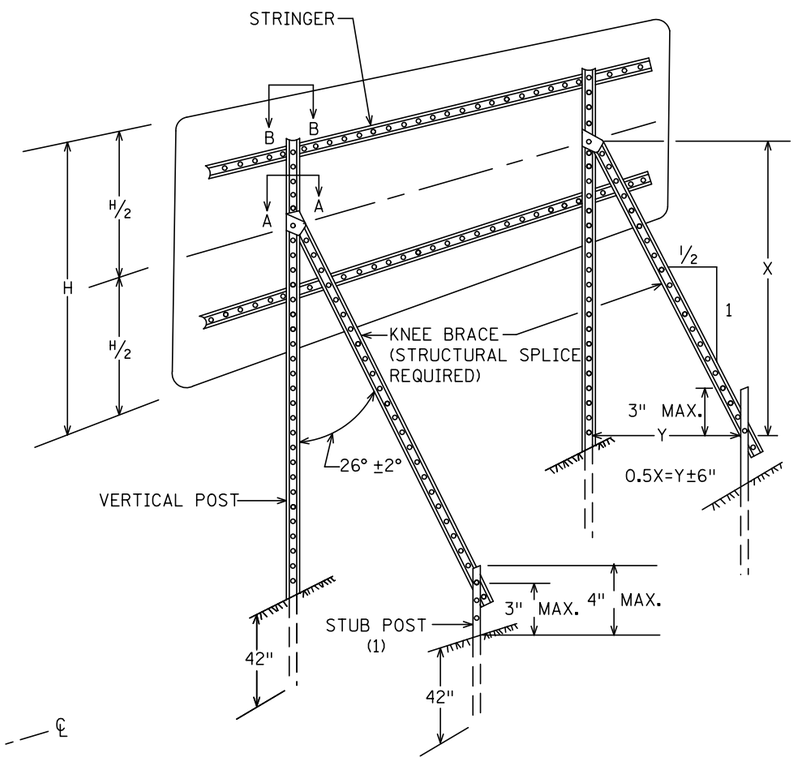


SECTION B-B

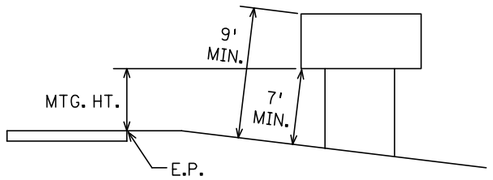


STRUCTURAL SPLICE

(USE WHEN IT IS NECESSARY TO FABRICATE THE CORRECT LENGTH OF POST FROM TWO PIECES)

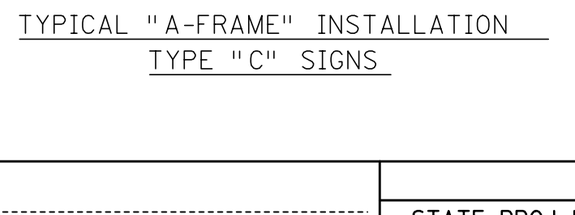


TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST. ATTACH STUB POST AND KNEE BRACE BACK TO BACK.



TYPICAL "A-FRAME" INSTALLATION TYPE "C" SIGNS

TYPE C & D SIGN STRUCTURAL DETAILS

REVISED: 5-5-2017

CERTIFIED BY _____
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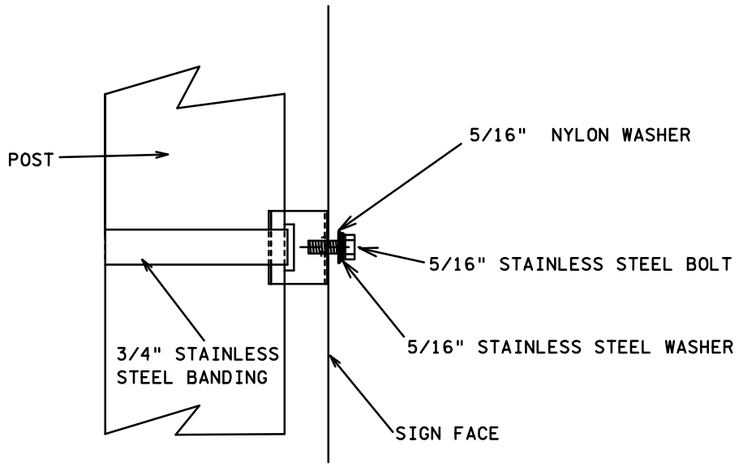
SIGNING DETAILS

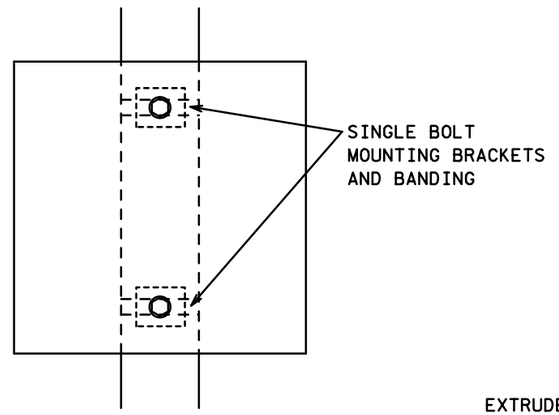
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T39 OF T41 SHEETS

SINGLE BOLT MOUNTING BRACKET AND BANDING DETAILS

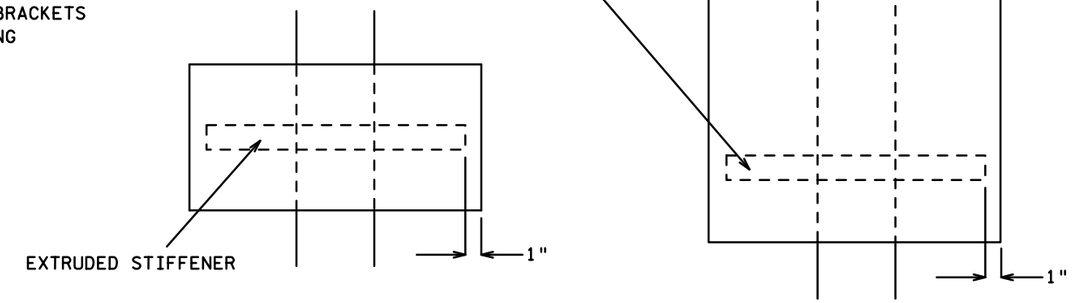


STIFFENER MOUNTING DETAILS

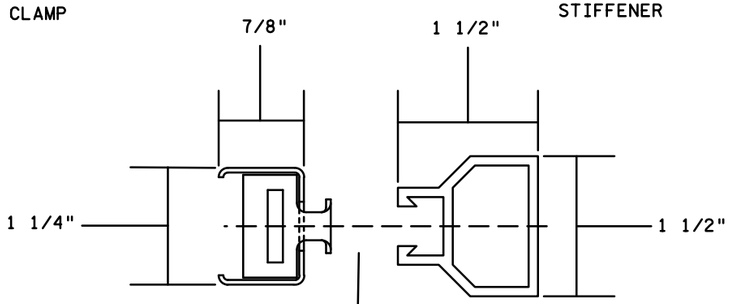
SINGLE POST PUNCHING



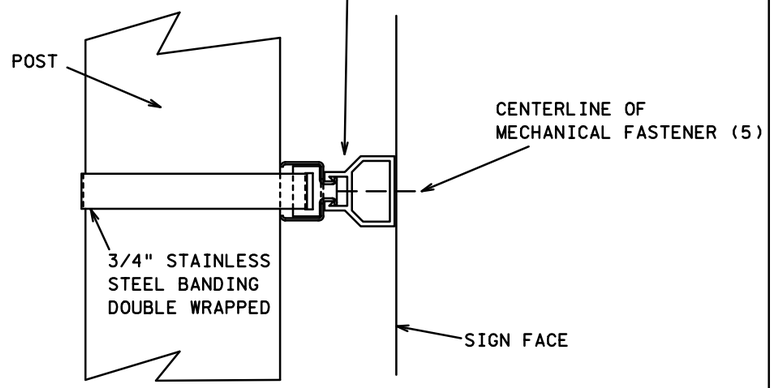
2-POST PUNCHING



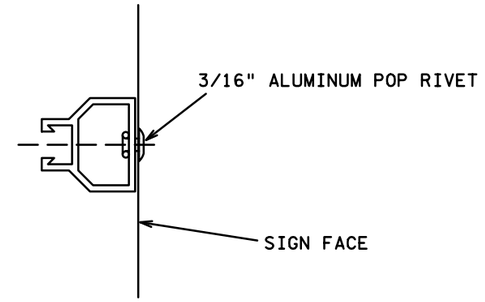
UNIVERSAL CHANNEL CLAMP



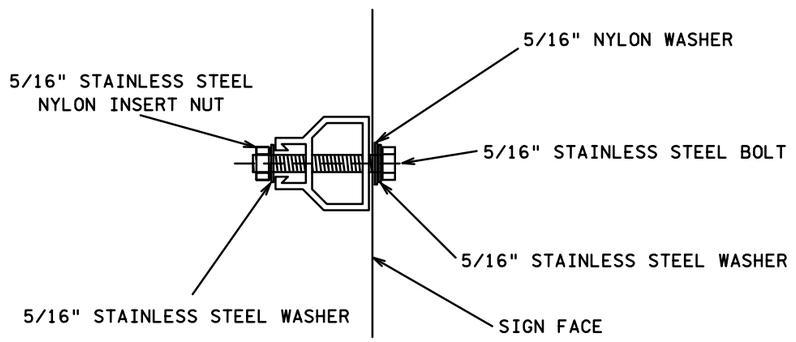
LARGE EXTRUSION STIFFENER



SUPPLEMENTAL POP RIVET ATTACHMENT



SUPPLEMENTAL BOLT ATTACHMENT



NOTES:

1. FOR DETAILS AND NOTES NOT SHOWN, SEE TYPE "C" AND "D" SIGN DETAILS.
2. FOR BACK TO BACK INSTALLATION, ROTATE STIFFENERS FOR ONE PANEL 180 DEGREES SUCH THAT PANELS CAN BE MOUNTED AT THE SAME ELEVATION.
3. HORIZONTAL SPACING OF STIFFENERS SHALL BE ACCORDING TO THE PUNCH CODES AS SHOWN IN THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL.
4. MOUNTING HOLES ARE NOT REQUIRED ON SIGNS SMALLER THAN 6.3 SQUARE FEET, EXCEPT ON SINGLE POST PUNCHED SIGNS.
5. STIFFENERS SHALL BE ATTACHED TO SIGNS USING EITHER 3/16" DIAMETER POP-RIVETS OR 5/16" DIAMETER BOLTS.
6. USE .75" X .030" BANDING STRAPS OF TYPE 201 "1/4 HARD" STAINLESS STEEL, DOUBLE-WRAPPED AROUND THE POLE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. BAND PRETENSION SHALL NOT EXCEED 1300 POUNDS.
8. ALL HARDWARE SHALL BE COMPATIBLE WITH STIFFENER AND MOUNTING SYSTEMS.

SIGN TYPE C AND D EXTRUDED ALUMINUM MOUNTING SYSTEM FOR ROUND SUPPORTS

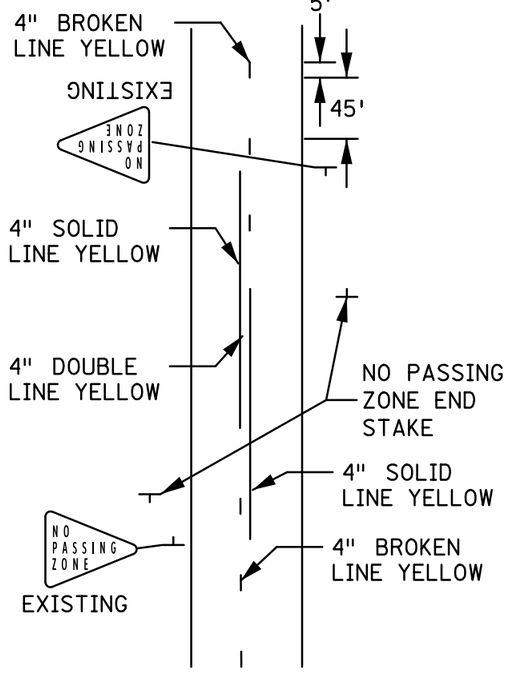
REVISED: 1-25-2016

CERTIFIED BY _____
LICENSED PROFESSIONAL ENGINEER LIC NO. DATE

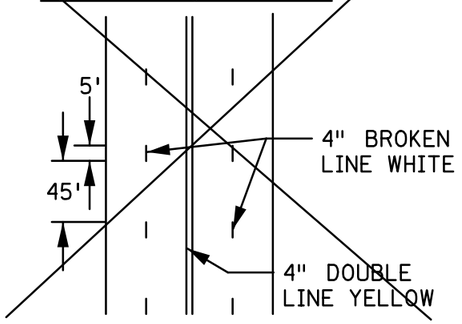
SIGNING DETAILS

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. T40 OF T41 SHEETS

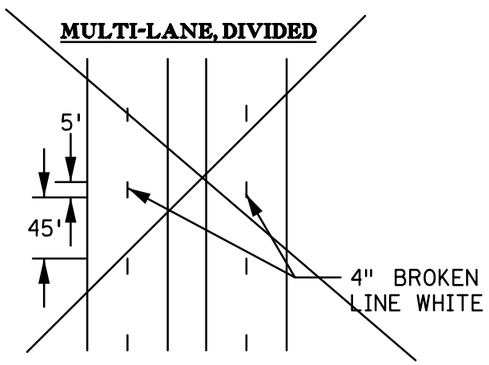
TWO LANE, TWO WAY



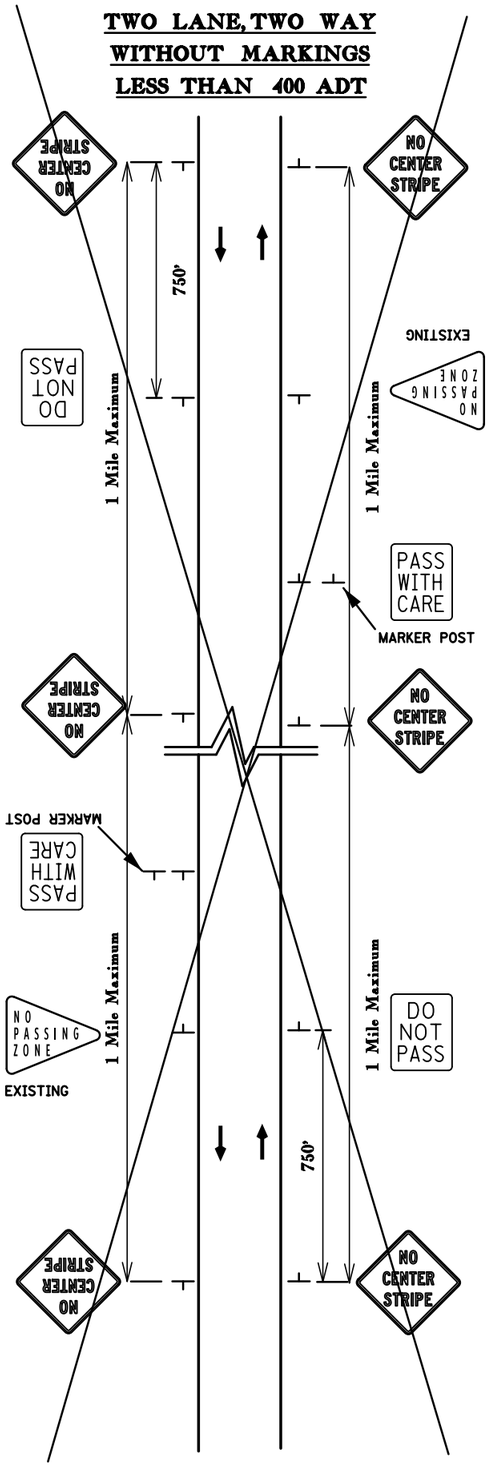
MULTI-LANE, UNDIVIDED



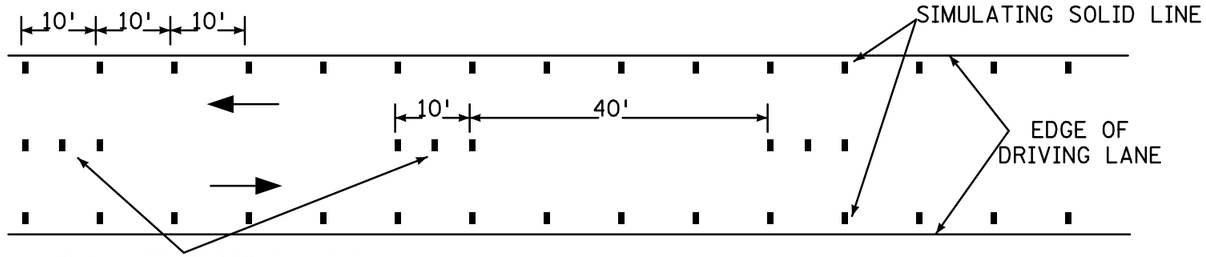
MULTI-LANE, DIVIDED



TWO LANE, TWO WAY WITHOUT MARKINGS LESS THAN 400 ADT



SIMULATING A SOLID LINE AND A BROKEN LINE (50 FOOT CYCLE) WITH TRPM'S



USING TRPM'S AS INTERIM PAVEMENT MARKING

WHEN TRPM'S ARE USED TO SIMULATE A LINE THE FOLLOWING GUIDELINE APPLIES:

SKIP STRIPE - USES 3 TRPM's PER 10' SKIP STRIPE ON 5' CENTERS WITH A 40' GAP

SOLID LINE - USES TRPM'S ON 10' CENTERS ON TANGENTS, FLATTER GRADES AND CURVES UNDER 6 DEGREES. FOR CURVES OVER 6 DEGREES AND STEEP GRADES, THIS SPACING SHALL BE REDUCED TO 5' CENTERS.

GENERAL NOTES:

SEE SPECIAL PROVISIONS FOR INTERIM PAVEMENT MARKING GUIDELINES

THESE INTERIM PAVEMENT MARKING GUIDELINES APPLY TO ALL TEMPORARY TRAFFIC CONTROL ZONES OF AT LEAST 300' IN LENGTH ON TANGENT AND 50' ON CURVES OF 6 DEGREES OR GREATER.

1. FOR ALL PROJECTS GREATER THAN 1.25 MILES IN LENGTH, INTERIM SKIP STRIPE PAVEMENT MARKINGS SHALL USE THE SAME CYCLE LENGTH AS FINAL PAVEMENT MARKINGS (50') AND SHALL BE A MINIMUM OF 5' LENGTH. DOTTED LINE CYCLE SHALL BE 3' LINE 12' GAP UNLESS STATED OTHERWISE IN THE PLAN.

2. ON PROJECTS GREATER THAN 300' IN LENGTH, BUT LESS THAN 1.25 MILES IN LENGTH, THE INTERIM MARKING SHALL MATCH THE CYCLE LENGTH AT EITHER END OF THE PROJECT. THE INTERIM STRIPE SHALL BE 5' IN LENGTH. DOTTED LINE CYCLE SHALL BE 3' LINE 12' GAP UNLESS STATED OTHERWISE IN THE PLAN.

ALL INTERIM MARKINGS SHALL BE PLACED PRIOR TO REMOVING LANE CLOSURE OR OPENING THE ROADWAY TO TRAFFIC . INTERIM PAVEMENT MARKINGS SHALL CONSIST OF CENTER LINE (INCLUDING NO-PASSING ZONES), PAINTED ISLAND (MINUS CROSSHATCHING), AND ALL LANE LINES (INCLUDING TURN LANE LINES). AND SHALL BE THE SAME WIDTH AS THE CORRESPONDING PERMANENT PAVEMENT MARKINGS.

FINAL MARKINGS AND ALL OTHER PAVEMENT MARKINGS INCLUDING EDGELINES, CHANNELIZING LINES LANE, LANE REDUCTION TRANSITIONS, GORE MARKINGS AND OTHER LONGITUDIUAL MARKINGS AND THE VARIOUS NON-LONGITUDINAL MARKINGS (STOP LINES, RAIL ROAD CROSSING, CROSSWALKS, WORDS, SYMBOLS. ETC) SHOULD BE PLACED WITHIN 14 CALENDAR DAYS.

WHEN FINAL MARKINGS ARE TO BE EPOXY AND PAINT IS USED FOR INTERIM SOLID LINES, A 10 MIL THICK LAYER APPLICATION OF A WATER-BASED TRAFFIC MARKING PAINT SHALL BE USED. WITH A 10 MIL LAYER OF PAINT APPLIED, BEADS SHOULD BE APPLIED AT A RATE OF 6 LBS/GAL. REMOVAL OF THE 10 MIL LAYER OF PAINT IS NOT REQUIRED PRIOR TO PLACING THE EPOXY.

USING SIGNING AS INTERIM PAVEMENT MARKING

ON LOW VOLUME ROADS WITH AN ADT (AVERAGE DAILY TRAFFIC) OF LESS THAN 400 VEHICLES, THE SIGNS MAY BE USED IN LIEU OF PAVEMENT MARKINGS FOR UP TO 14 CALENDAR DAYS (SEE SECTION 5A.1 OF THE MMUTCD) OR AS DIRECTED BY THE PROJECT ENGINEER.

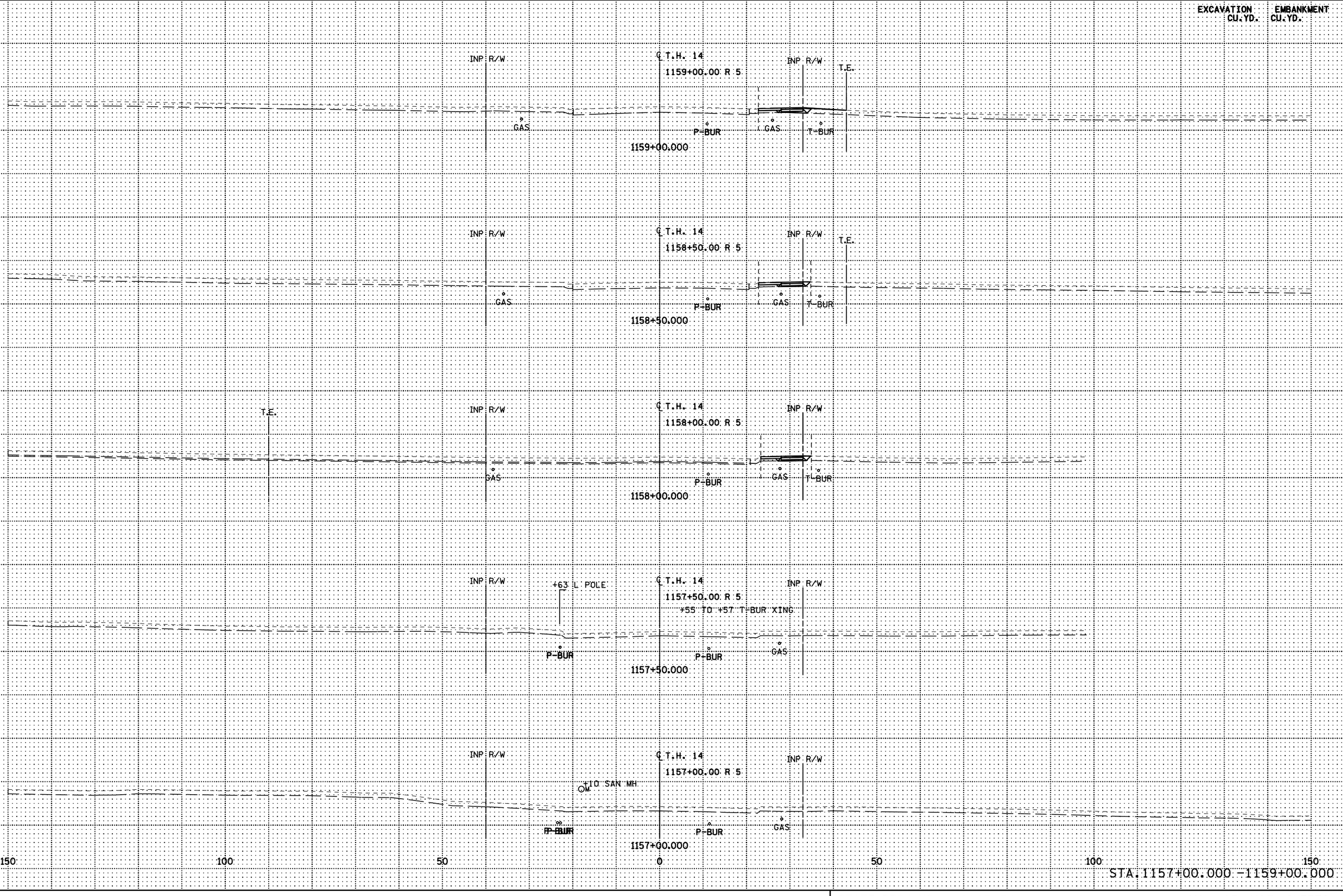
1. IF NO INTERIM MARKINGS ARE USED A "NO CENTER STRIPE" SIGN (W8-12) SHALL BE USED FOR EACH DIRECTION OF TRAVEL. THIS SIGN SHALL BE REPEATED AT MAJOR INTERSECTIONS OR ONE MILE INTERVALS, WHICHEVER IS GREATER.

2. IF NOT ALREADY IN PLACE, A "DO NOT PASS" SIGN (R4-1) SHALL BE PLACED ON THE RIGHT SIDE OF THE ROAD AT THE BEGINNING OF THE ZONE OPPOSITE OF THE "NO PASSING ZONE" SIGN (W14-3)

INTERIM PAVEMENT MARKINGS

PUBLISHED BY OTST: 14 OCT 2016	MODIFIED BY: SMT	CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER _____ DATE $IDATE|$	STATE PROJ. NO. 0803-38 (TH 14)	SHEET NO. T41 OF T41 SHEETS

EXCAVATION CU.YD. | EMBANKMENT CU.YD.



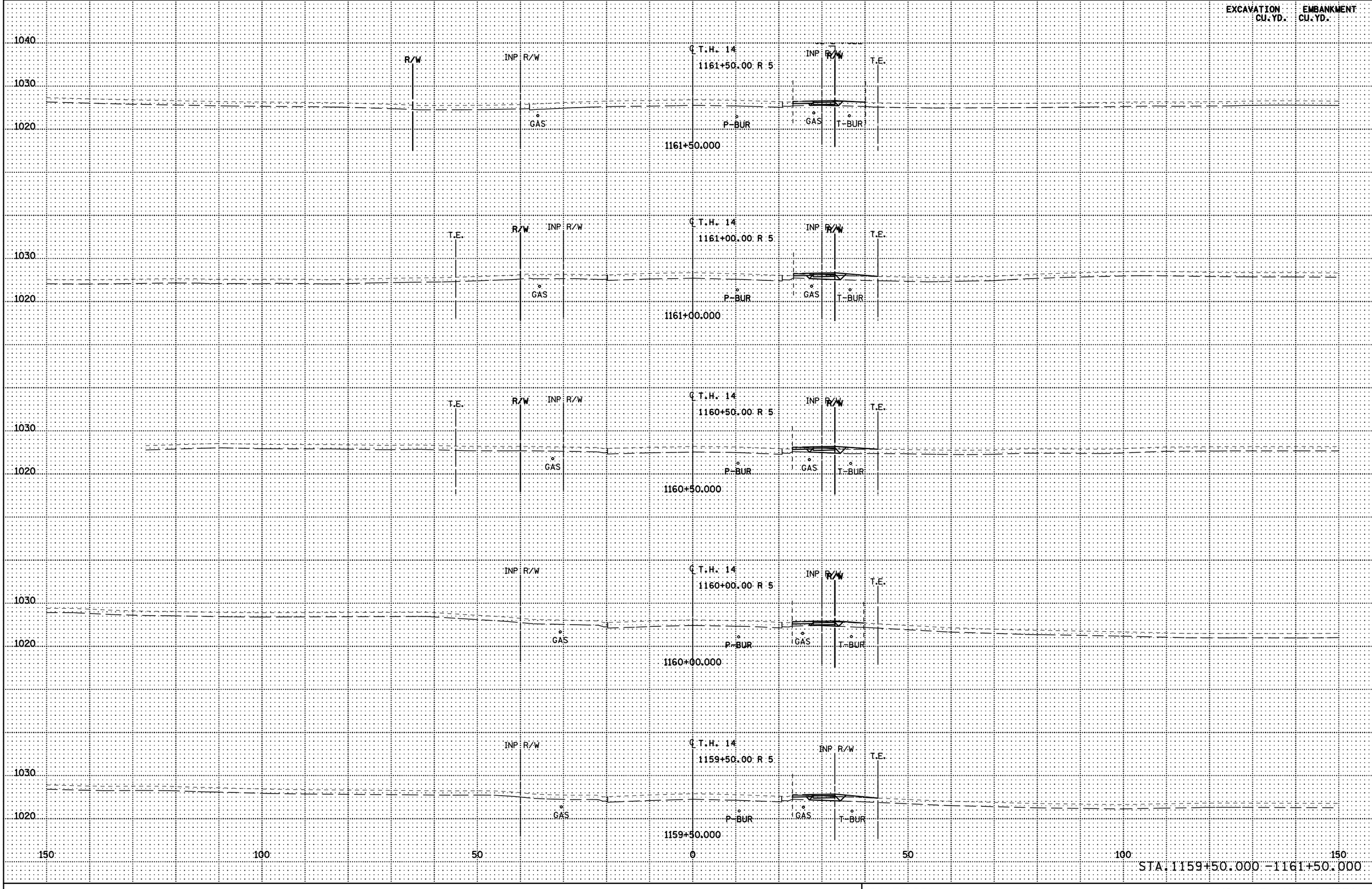
STA.1157+00.000 -1159+00.000

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X1 OF X15 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:14

DISTRICT *: 7 - Mankato/Windom
IPLOT NAME: d080338_XP
PATH & FILENAME: Projects/DT_MKO/014/0803/038/Design/XS/d080338_XP.dgn

EXCAVATION CU.YD. EMBANKMENT CU.YD.



STA.1159+50.000 -1161+50.000

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X2 OF X15 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:14

DISTRICT "": 7 - Mankato/Windom
IPLOT NAME: d0803338_XP)
PATH & FILENAME: Projects/DT_MKO/014/0803/038/Design/XS/d0803338_XP.dgn

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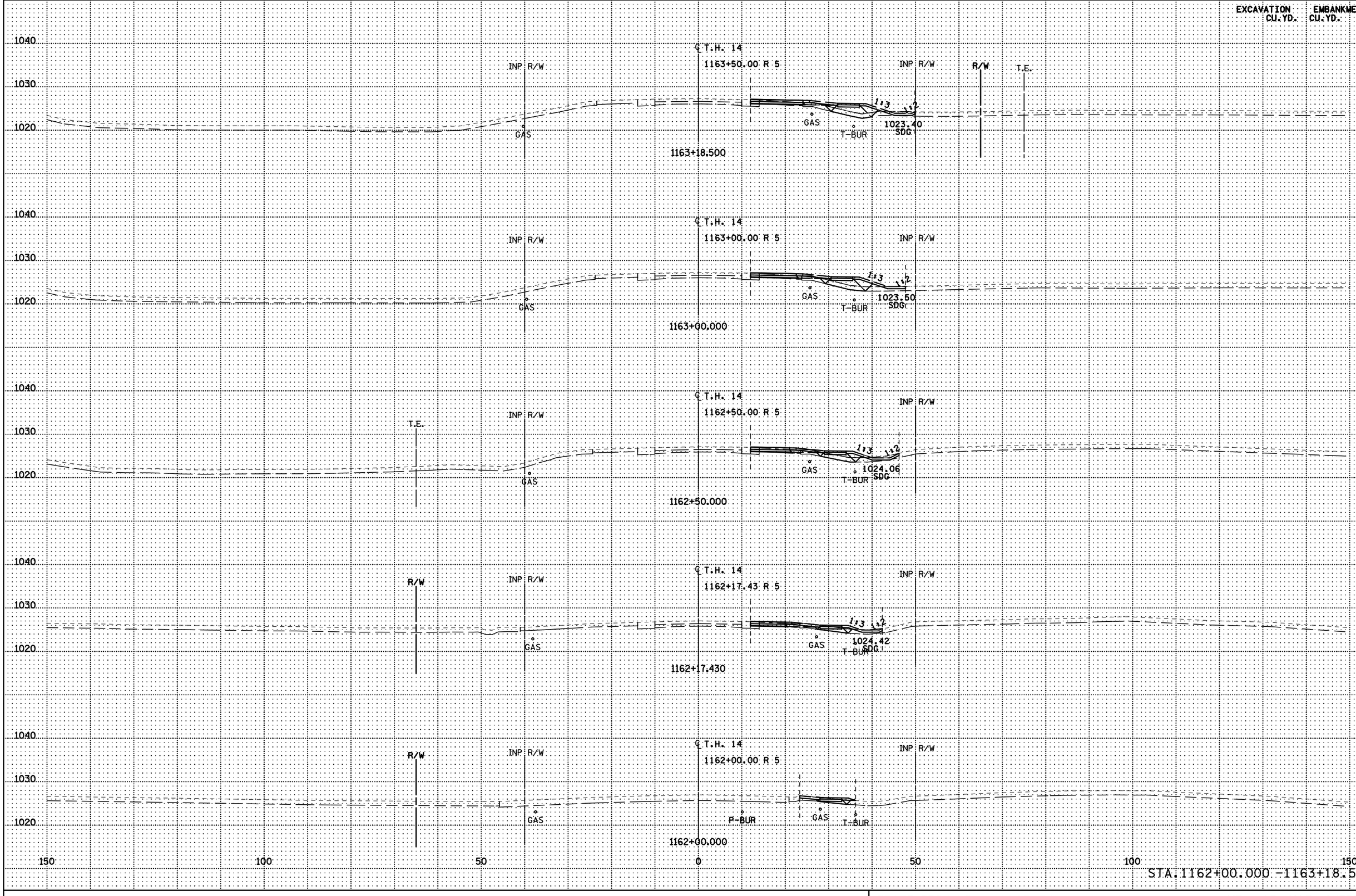
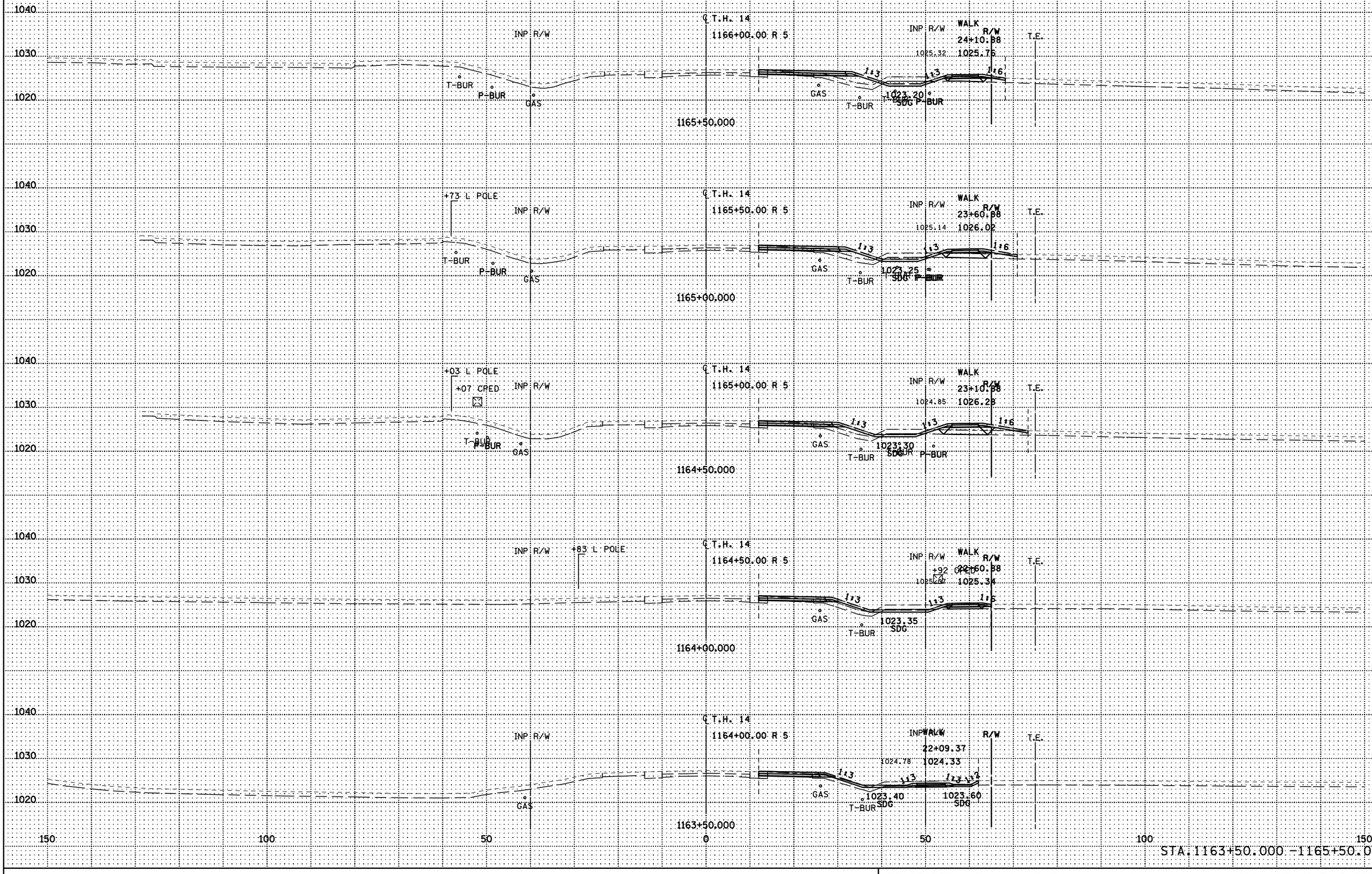
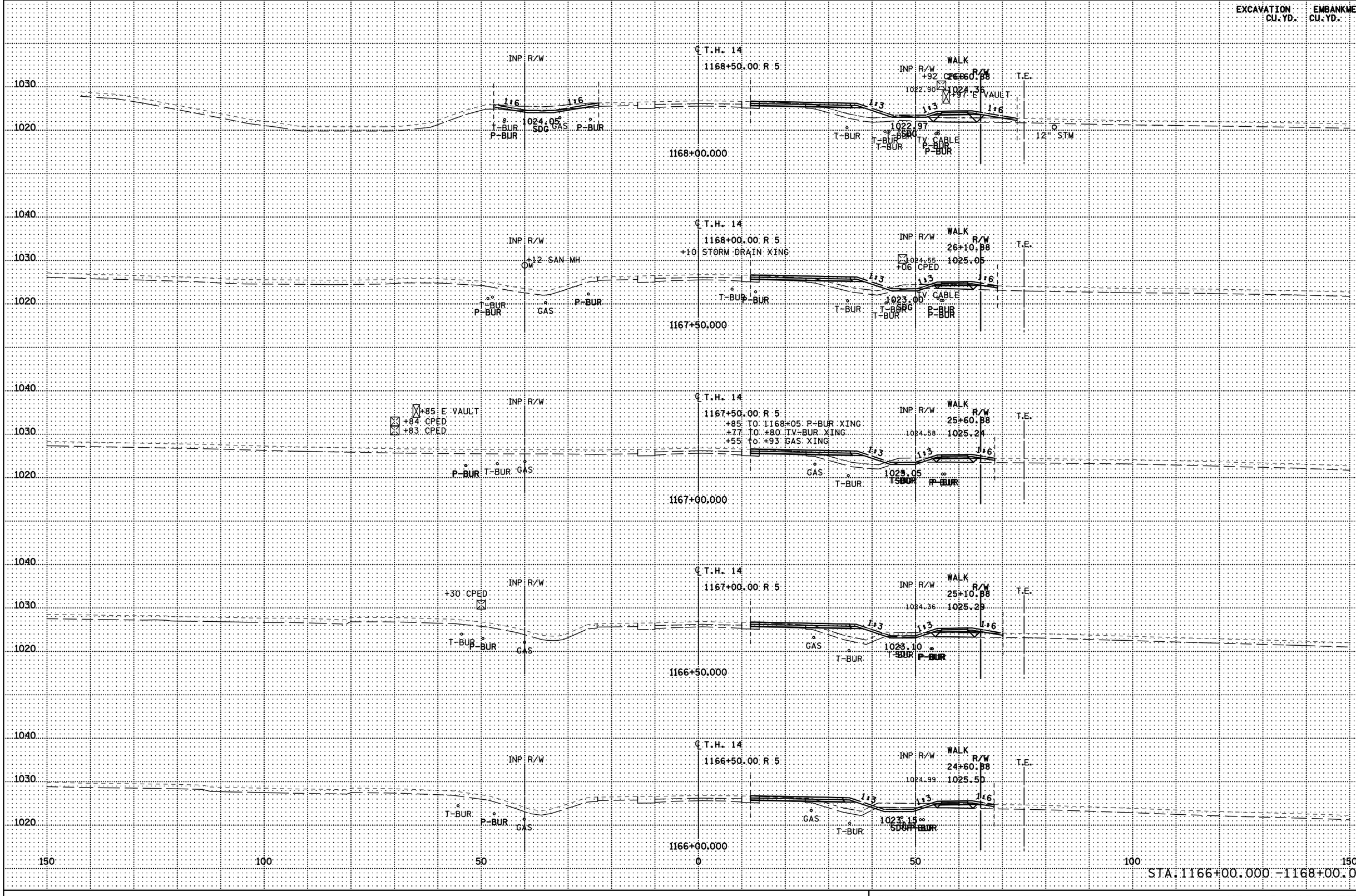


EXCAVATION CU.YD. EMBANKMENT CU.YD.



STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X4 OF X15 SHEETS

EXCAVATION CU.YD. EMBANKMENT CU.YD.



EXCAVATION CU.YD. | EMBANKMENT CU.YD.

1170+00.000

℄ T.H. 14
1170+50.00 R 5

INP R/W
+92 36" DI
INP IN DITCH
1024.05
P-BUR SDG GAS P-BUR
T-BUR

INP R/W
WALK
R/W
28+60.88
1024.19
T.E.
+65 STORM DRAIN
1022.91
SDG
T-BUR T-BUR TV CABLE
T-BUR T-BUR P-BUR
12" STM

1169+50.000

℄ T.H. 14
1170+00.00 R 5

INP R/W
1024.31
P-BUR SDG GAS P-BUR
T-BUR

INP R/W
WALK
R/W
28+10.88
1023.41 1024.08
T.E.
1022.92
SDG
T-BUR TV CABLE
T-BUR T-BUR P-BUR
12" STM

1169+00.000

℄ T.H. 14
1169+50.00 R 5

INP R/W
1024.54
P-BUR SDG GAS P-BUR
T-BUR

INP R/W
WALK
R/W
27+60.88
1023.51 1024.22
T.E.
1022.94
SDG
T-BUR T-BUR TV CABLE
T-BUR P-BUR
12" STM

1168+50.000

℄ T.H. 14
1169+00.00 R 5

INP R/W
1024.29
P-BUR SDG GAS P-BUR
T-BUR

INP R/W
WALK
R/W
27+10.88
1023.25 1024.29
T.E.
1022.96
SDG
T-BUR T-BUR TV CABLE
T-BUR P-BUR
12" STM

1168+16.250

150 100 50 0 50 100 150

STA.1168+16.250 -1170+00.000

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X6 OF X15 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:15

DISTRICT *: 7 - Mankato/Windom
IPLOT NAME: d080338_XP5
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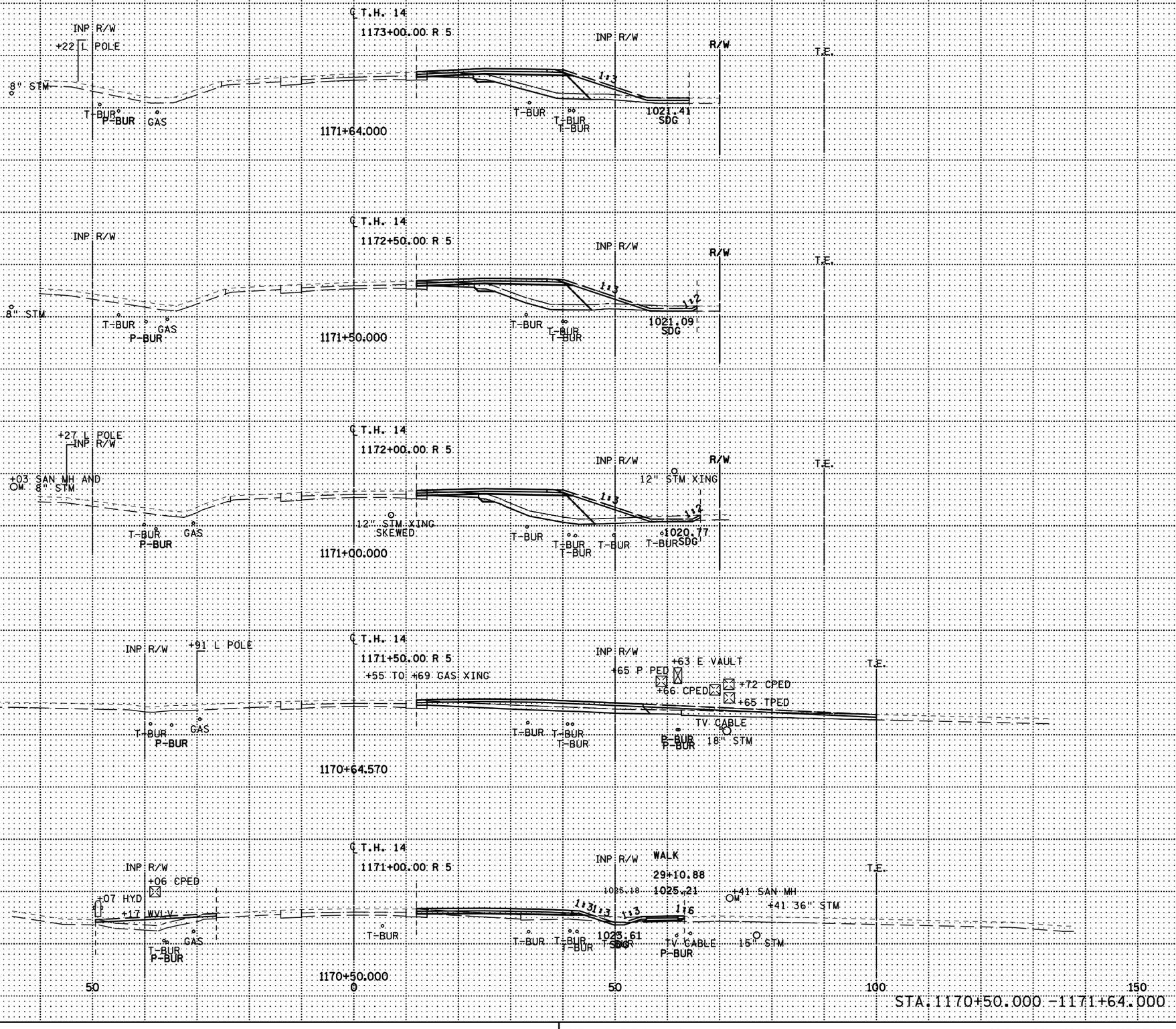
EXCAVATION CU.YD. EMBANKMENT CU.YD.



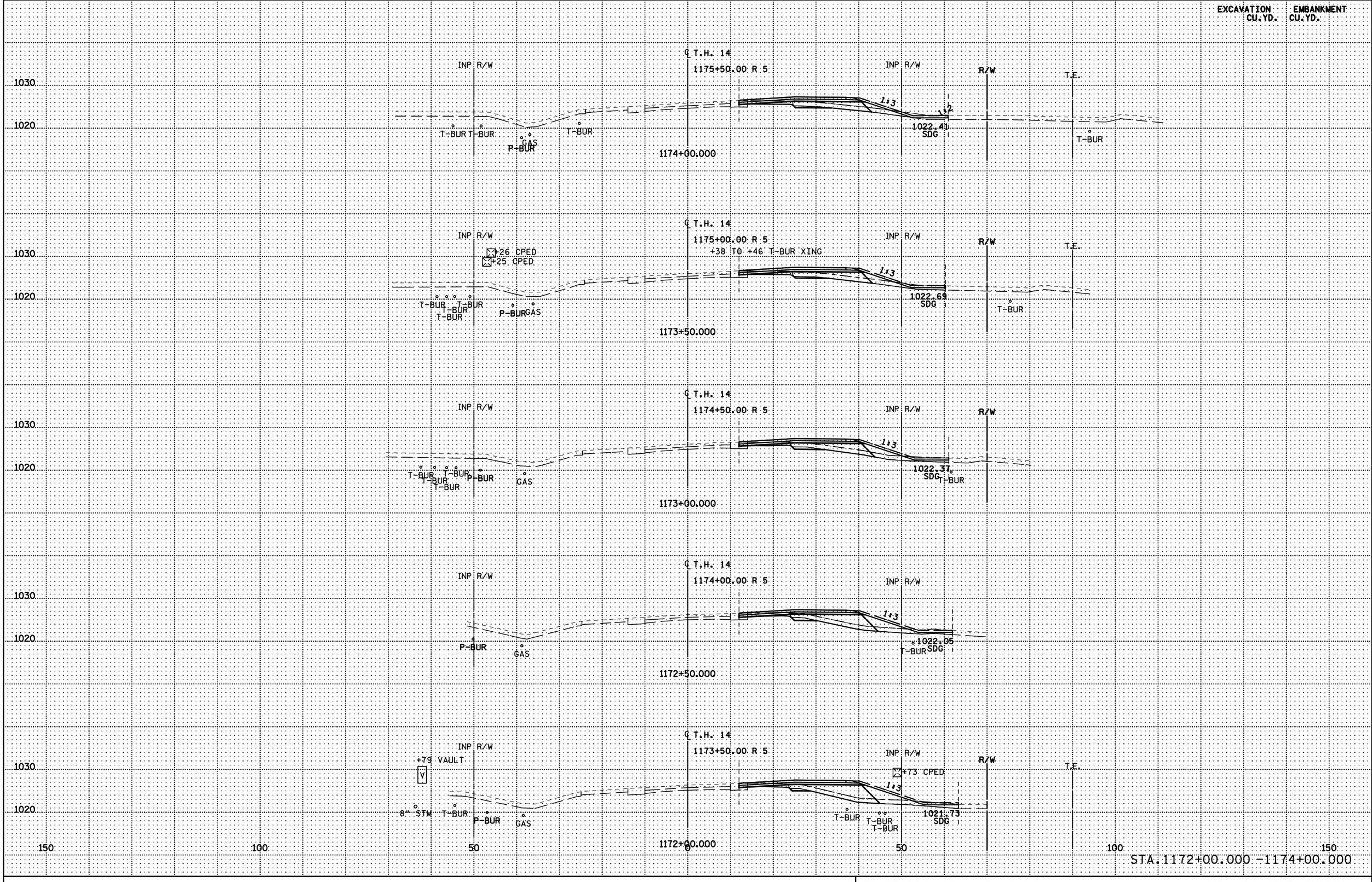
STA.1170+50.000 -1171+64.000

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X7 OF X15 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:15

DISTRICT *: 7 - Mankato/Windom
PLOT NAME: d080338_XP6
PATH & FILENAME: Projects/DT_MKO/0141/0803/038/Design/XS/d080338_XP.dgn

EXCAVATION CU.YD. EMBANKMENT CU.YD.



PLOTTED/REVISED: 14-NOV-2017 16:15

DISTRICT " : 7 - Mankato/Windom
IPLOT NAME: d0803338_XP7
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/XS/d0803338_XP.dgn

EXCAVATION CU.YD. EMBANKMENT CU.YD.

℄ T.H. 14
1178+00.00 R 5
INP R/W
1176+50.000
T-BUR T-BUR P-BUR P-BUR GAS T-BUR

℄ T.H. 14
1177+50.00 R 5
+60 TO +67 GAS XING
INP R/W
+52 L POLE
1:3
1023.07
1176+00.000
T-BUR T-BUR P-BUR GAS T-BUR INP R/W

℄ T.H. 14
1177+00.00 R 5
INP R/W
1:3
1021.51 SDG
1175+50.000
T-BUR T-BUR P-BUR GAS T-BUR INP R/W T.E.

℄ T.H. 14
1176+50.00 R 5
INP R/W
1:3
1:2
1021.65 SDG
1175+00.000
T-BUR T-BUR P-BUR GAS T-BUR INP R/W R/W T.E. T-BUR

℄ T.H. 14
1176+00.00 R 5
INP R/W
1:3
1:2
1022.13 SDG
1174+50.000
T-BUR T-BUR P-BUR GAS T-BUR INP R/W R/W T.E. T-BUR

1030
1020

150 100 50 0 50 100 150

STA.1174+50.000 -1176+50.000

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X9 OF X15 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:15
DISTRICT *: 7 - Mankato/Windom
IPLOT NAME: d080338_XP8
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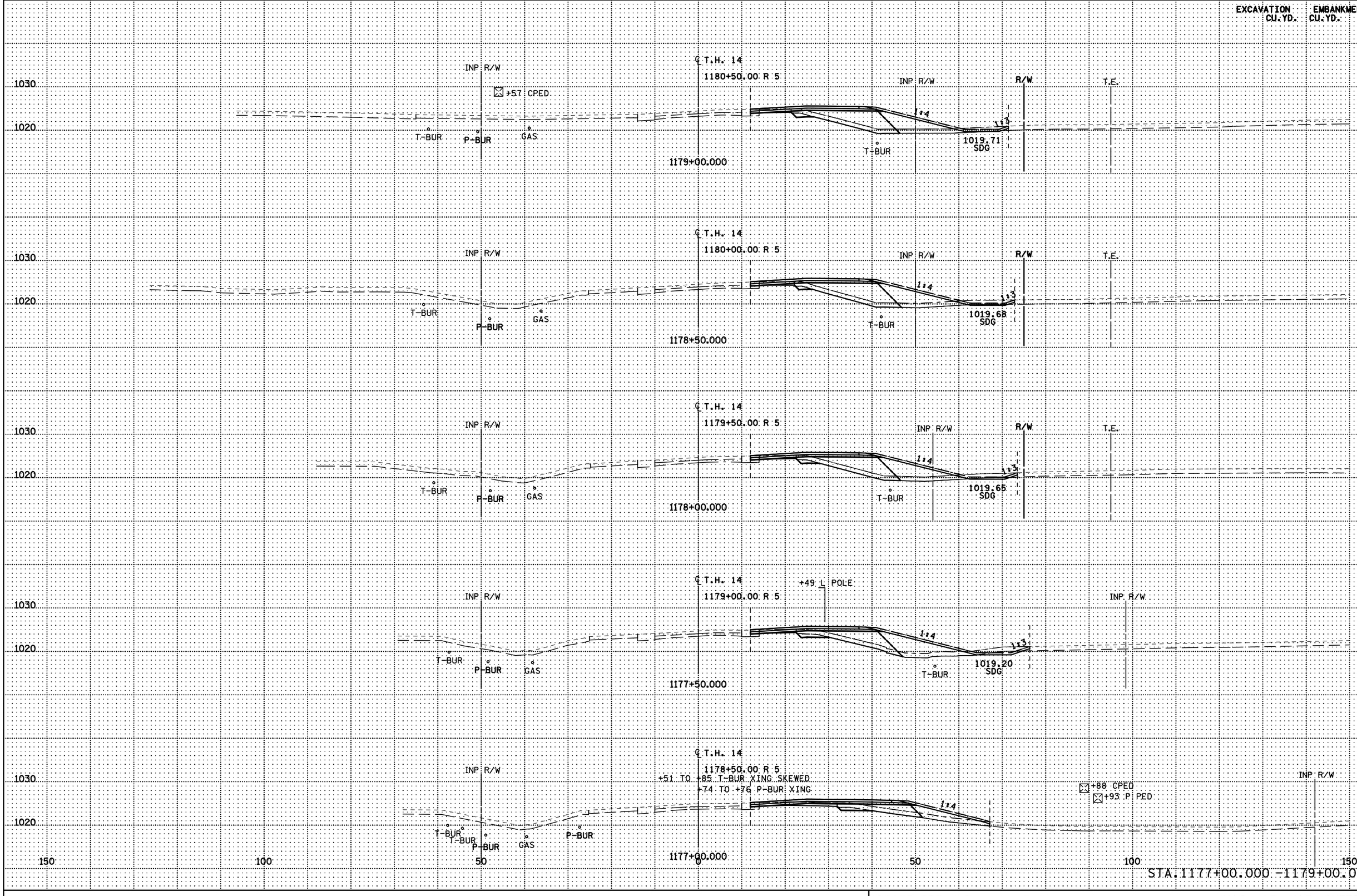

STA.1177+00.000 -1179+00.000

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X10 OF X15 SHEETS

DISTRICT *: 7 - Mankato/Windom
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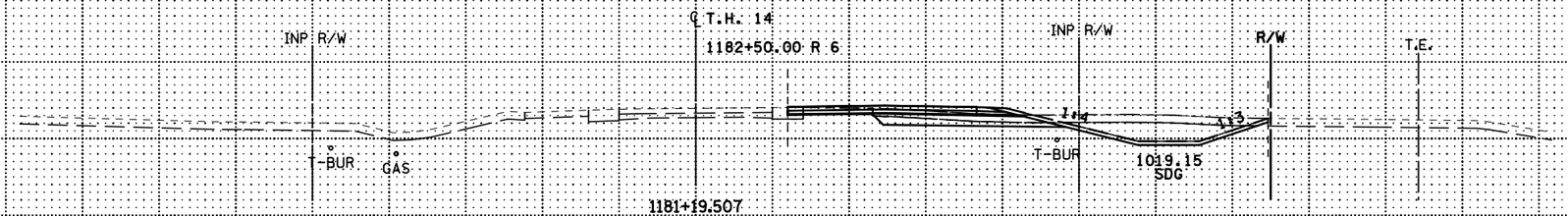
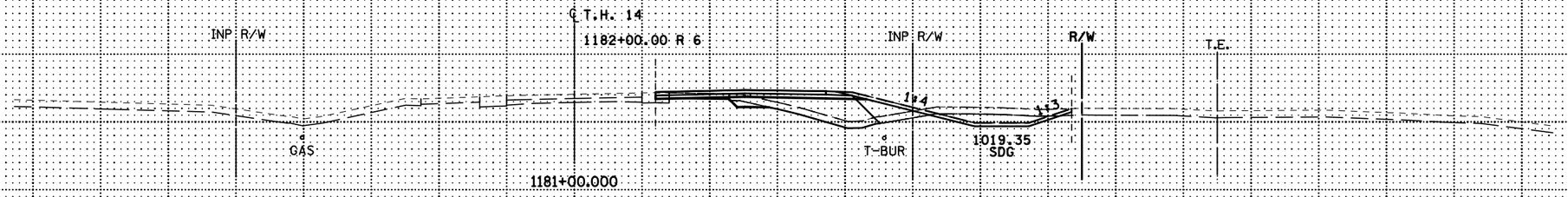
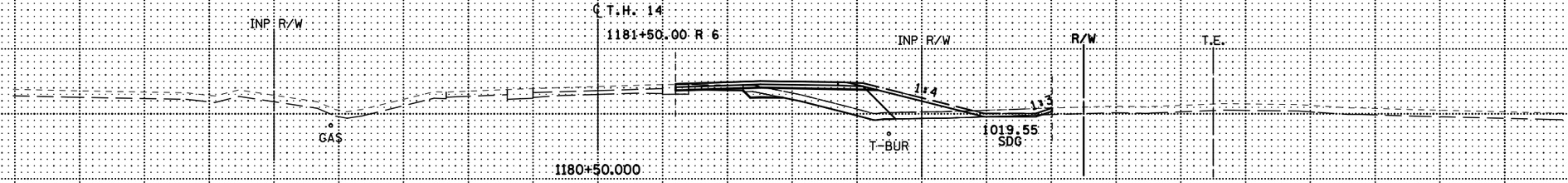
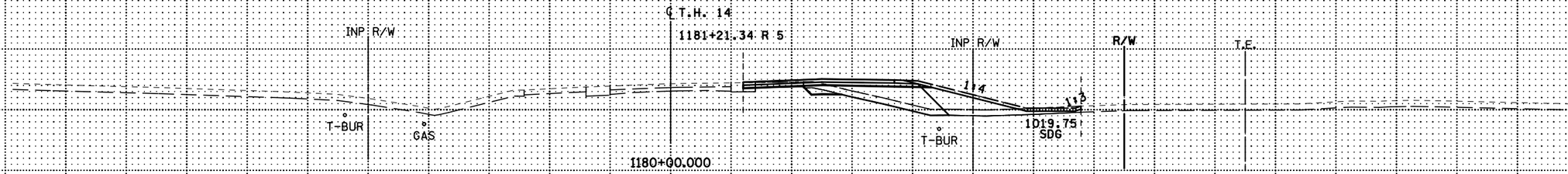
PLOTTED/REVISED: 14-NOV-2017 16:15

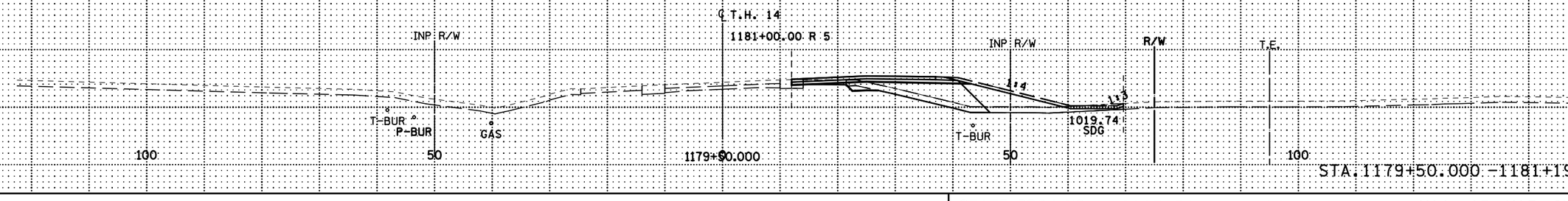
EXCAVATION CU.YD. EMBANKMENT CU.YD.







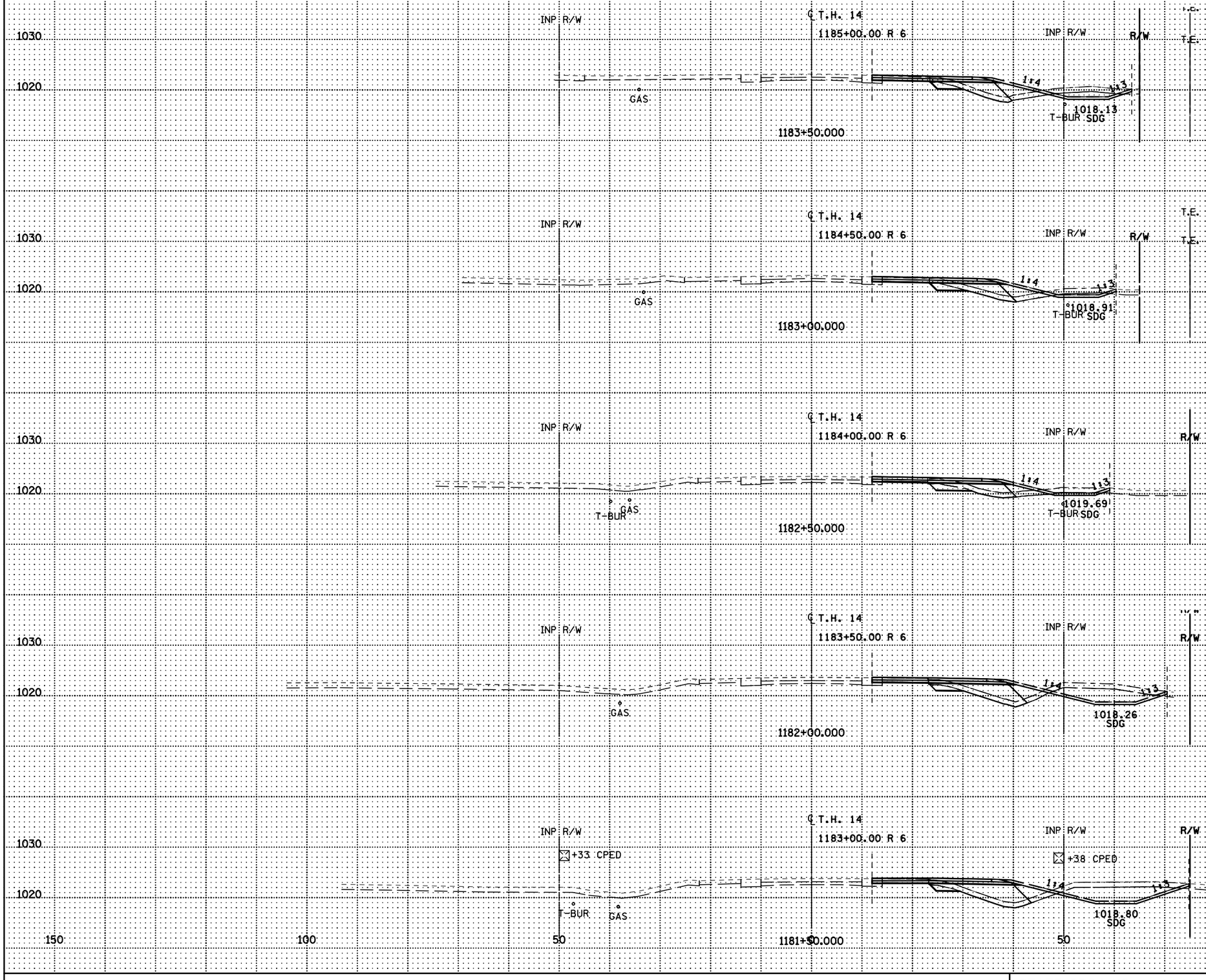




STA.1179+50.000 -1181+19.507

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X11 OF X15 SHEETS

EXCAVATION CU.YD. | EMBANKMENT CU.YD.



STA.1181+50.000 -1183+50.000

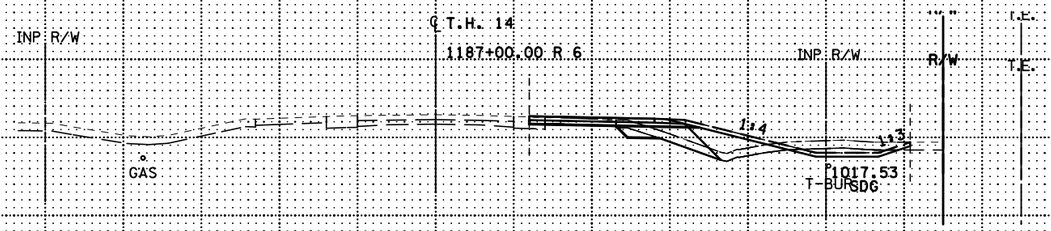
STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X12 OF X15 SHEETS

PLOTTED/REVISED: 14-NOV-2017 16:15

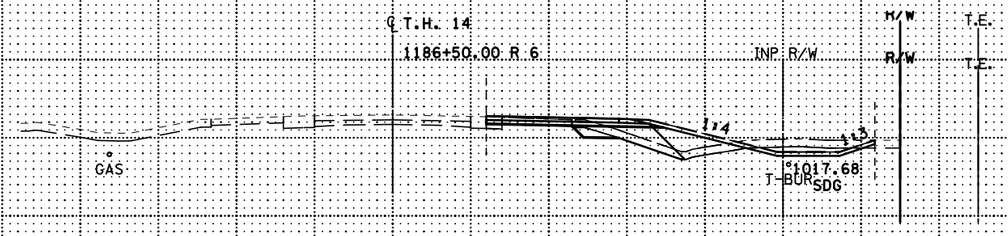
DISTRICT *: 7 - Mankato/Windom
IPLOT NAME: d080338_XPII
PATH & FILENAME: Projects/D7_MKO/014/0803/038/Design/XS/d080338_XP.dgn

EXCAVATION CU.YD. | EMBANKMENT CU.YD.

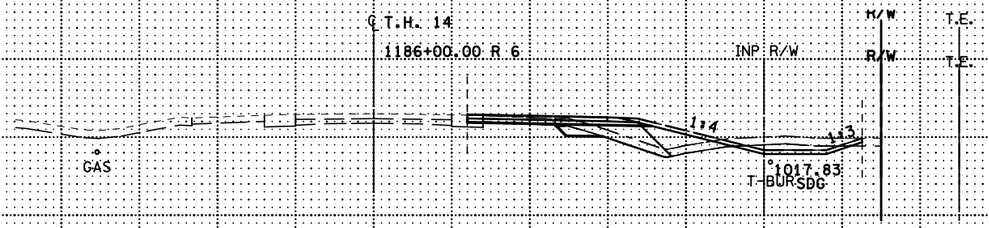
1186+00.000



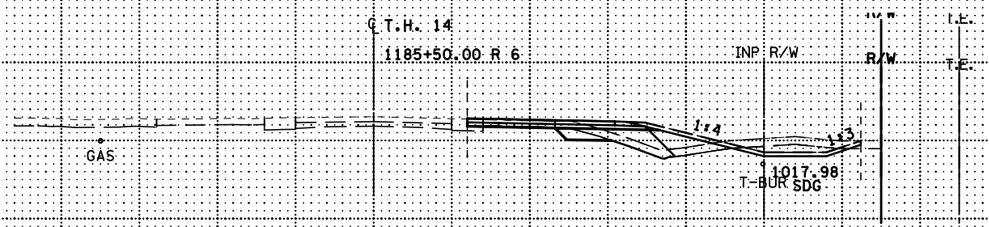
1185+50.000



1185+00.000



1184+50.000

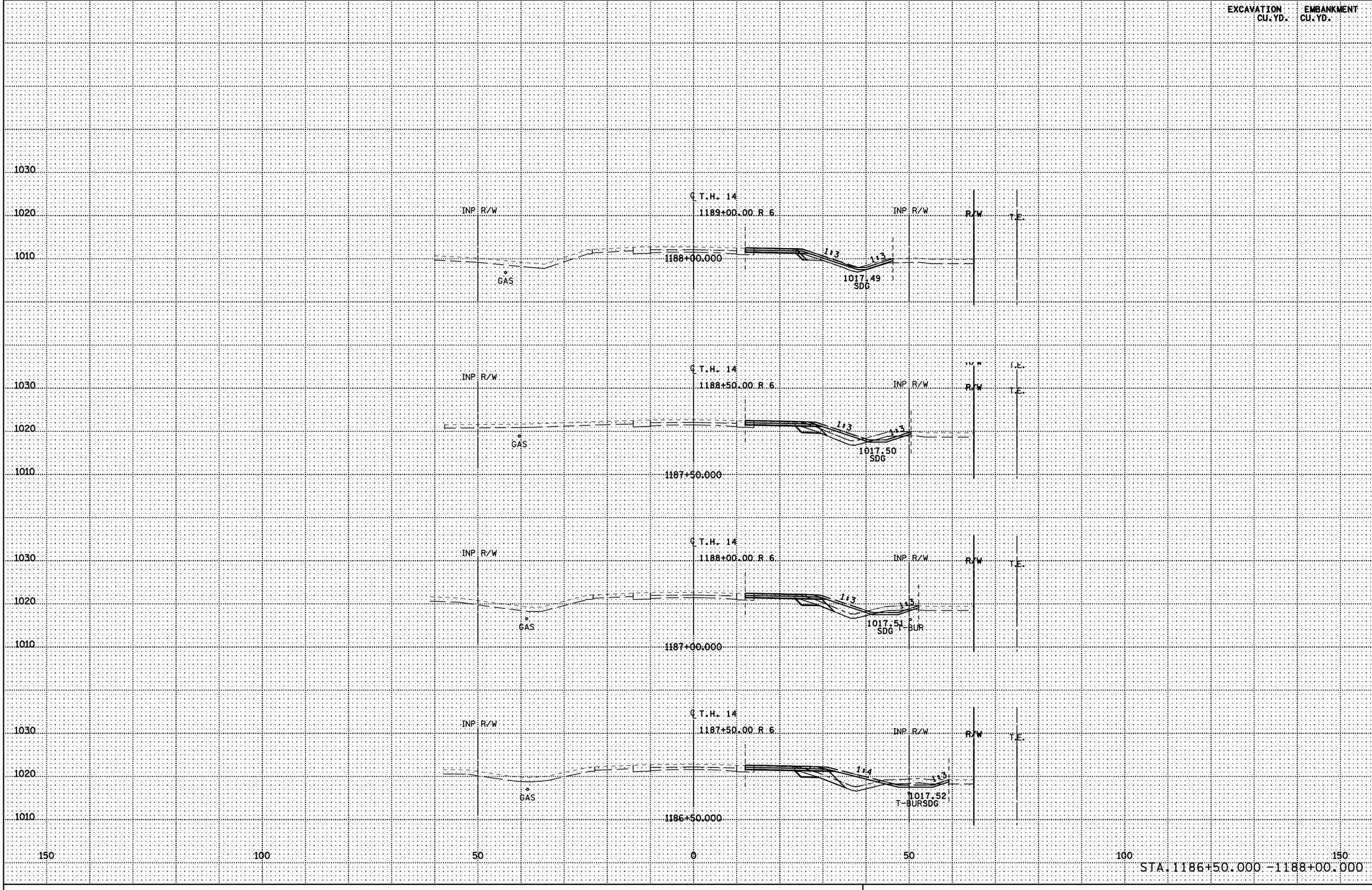


1184+00.000

STA.1184+00.000 -1186+00.000

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X13 OF X15 SHEETS

EXCAVATION CU.YD. EMBANKMENT CU.YD.



STA.1186+50.000 -1188+00.000

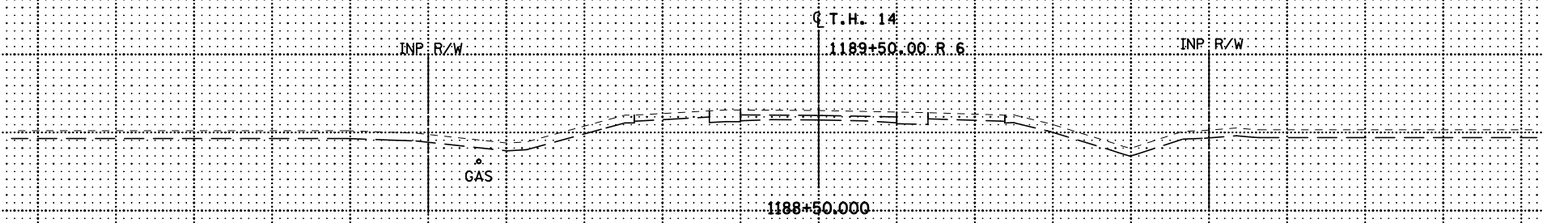
EXCAVATION CU.YD. | EMBANKMENT CU.YD.

1189+50.000

1189+09.600

1189+00.000

1188+50.000



1030
1020
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1020
1010
1030
1020
1010

150 100 50 0 50 100 150

STA.1188+50.000 -1189+50.000

STATE PROJ. NO. 0803-38 (TH 14) SHEET NO. X15 OF X15 SHEETS