

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR BITUMINOUS FULL DEPTH RECLAMATION AND OVERLAY

LOCATED ON CSAH 18 BETWEEN SODERVILLE DRIVE AND CSAH 17

STATE AID PROJ. NO. 002-618-033
CSAH 18

GROSS LENGTH	<u>19901.37</u>	FEET	<u>3.769</u>	MILES
BRIDGES-LENGTH	<u>0.00</u>	FEET	<u>0.000</u>	MILES
EXCEPTIONS-LENGTH	<u>0.00</u>	FEET	<u>0.000</u>	MILES
NET LENGTH	<u>19901.37</u>	FEET	<u>3.769</u>	MILES

GOVERNING SPECIFICATIONS

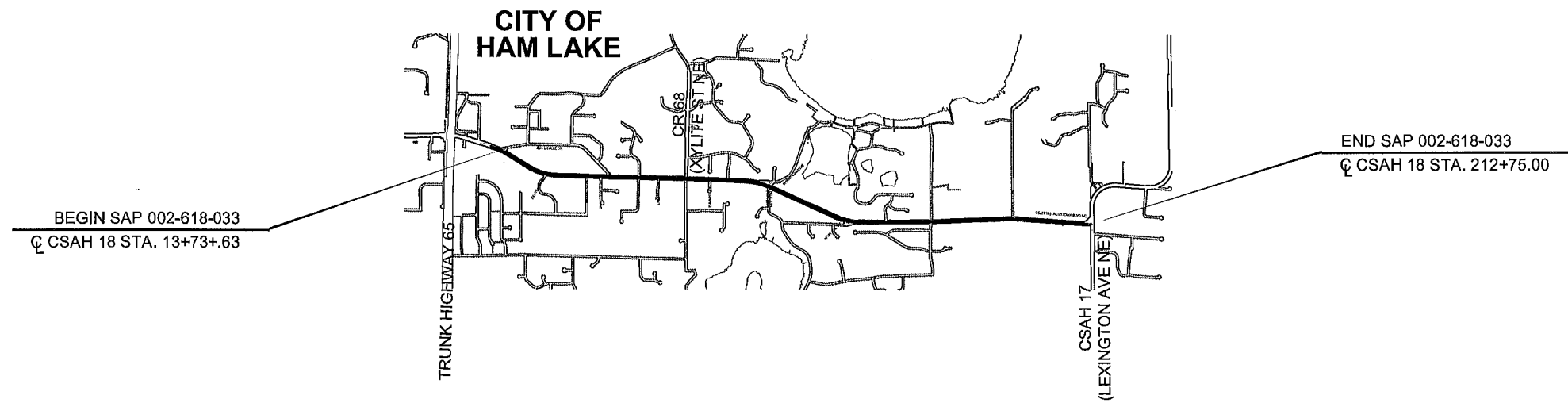
THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

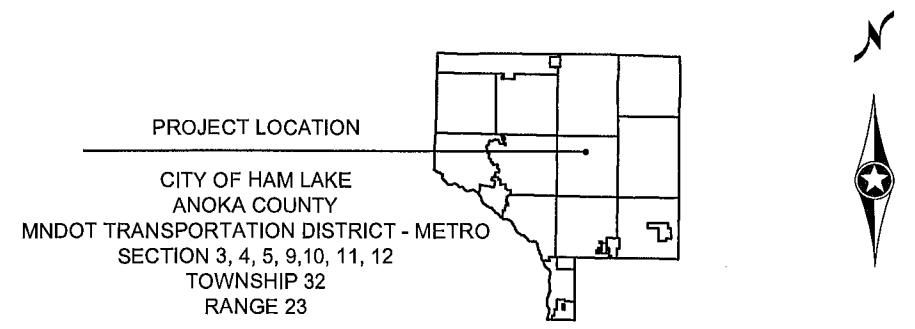
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35 - 39	SIGNING & STRIPING DETAILS

THIS PLAN CONTAINS 39 SHEETS



APPROVED	Joe MacPherson <small>Digitally signed by Joe MacPherson Date: 2021.02.12 15:24:08 -06'00'</small>	2/12/2021
	ANOKA COUNTY ENGINEER	DATE
APPROVED	Tom Collins <small>Digitally signed by Tom Collins Date: 2021.02.15 09:11:23 -06'00'</small>	2/15/21
	CITY OF HAM LAKE ENGINEER	DATE
	Julie Dresel <small>Digitally signed by Julie Dresel Date: 2021.02.23 14:20:37 -06'00'</small>	DATE
	DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY	DATE
	Julie Dresel <small>Digitally signed by Julie Dresel Date: 2021.02.23 14:21:29 -06'00'</small>	DATE
	STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING	DATE



DESIGN DESIGNATION (CSAH 18)			
ESAL ₂₀	1,108,586	FUNCTIONAL CLASSIFICATION	A MINOR EXPANDER
R VALUE	60	NO. OF TRAFFIC LANES	<u>2</u>
ADT (2021)	9238	NO. OF PARKING LANES	<u>0</u>
PROJ. ADT (2041)	9331	DESIGN SPEED	<u>55</u> MPH
PROJ. HCADT (2041)	551	STOPPING SIGHT DISTANCE BASED ON:	
SOIL FACTOR	NA	HEIGHT OF EYE	<u>3.5'</u>
		HEIGHT OF OBJECT	<u>2.0'</u>
	10 TON DESIGN	DESIGN SPEED NOT ACHIEVED AT:	
		STA. _____ TO STA. _____	MPH _____

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-618-033\Plan\002-618-033_TSH.dgn 02/10/2021 10:45:53 AM

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: ELIZABETH MARKOSE
SIGNATURE: *Elizabeth Markose*
DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY EJM DATE 08/10/2020
DESIGN BY EJM DATE 10/09/2020
CHECKED BY NJD DATE 10/27/2020

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

TITLE SHEET

Sheet 1 of 39 Sheets

STATEMENT OF ESTIMATED QUANTITIES SAP 002-618-033

TAB	NOTES	ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	COUNTY OF ANOKA SAP 002-618-033
		2021.501	MOBILIZATION	LUMP SUM	1	1
		2102.503	PAVEMENT MARKING REMOVAL	LIN FT	800	800
E		2104.502	REMOVE MAIL BOX SUPPORT	EACH	20	20
A		2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	90	90
A		2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	1512	1512
C	(1)	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	151	151
C	(1)	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	2391	2391
A		2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	3414	3414
	(2)	2123.510	MOTOR GRADER	HOUR	20	20
	(3)	2123.510	DOZER	HOUR	15	15
		2130.523	WATER	M GALLON	450	450
C	(4)	2211.509	AGGREGATE BASE CLASS 5	TON	715	715
A	(5)	2215.504	FULL DEPTH RECLAMATION	SQ YD	92190	92190
	(6)	2215.607	HAUL FULL DEPTH RECLAMATION	CU YD	80	80
B		2221.507	SHOULDER BASE AGGREGATE (CV) CLASS 5	CU YD	480	480
A	(7)	2232.504	MILL BITUMINOUS SURFACE (2.0")	SQ YD	718	718
B		2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	4818	4818
B		2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	22064	22064
B, C	(8)	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	1124	1124
	(9)	2511.504	GEOTEXTILE FILTER TYPE 3	SQ YD	374	374
	(9)	2511.507	RANDOM RIPRAP CLASS II	CU YD	80	80
D		2531.503	CONCRETE CURB AND GUTTER DESIGN B418	LIN FT	3806	3806
C		2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	151	151
	(10)	2531.604	CONCRETE DRAINAGE FLUME	SQ YD	55	55
E	(11)	2540.602	MAIL BOX SUPPORT	EACH	20	20
	(12)	2563.601	TRAFFIC CONTROL	LUMP SUM	1	1
	(13)	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20	20
		2564.518	SIGN PANELS TYPE C	SQ FT	32	32
	(14)	2574.507	COMMON TOPSOIL BORROW (LV)	CU YD	608	608
F		2574.508	FERTILIZER TYPE 3	POUND	170	170
F		2575.505	SEEDING	ACRE	1.13	1.13
F		2575.508	SEED MIXTURE 25-141	POUND	136	136
F		2575.508	HYDRAULIC MULCH MATRIX	POUND	3390	3390
	(15)	2581.503	REMOVABLE PERFORMED PAVEMENT MARKING TAPE	LIN FT	1560	1560
	(16)	2582.503	4" SOLID LINE MULTI-COMPONENT	LIN FT	48740	48740
	(16)	2582.503	4" BROKEN LINE MULTI-COMPONENT	LIN FT	1980	1980
	(16)	2582.503	8" BROKEN LINE MULTI-COMPONENT	LIN FT	180	180
	(16)	2582.503	4" DOUBLE SOLID LINE MULTI-COMPONENT	LIN FT	11510	11510
	(16)	2582.503	24" SOLID LINE-PREFORMED THERMOPLASTIC	LIN FT	539	539
	(16)	2582.518	PAVEMENT MESSAGE PREFORM THERMOPLASTIC	SQ FT	192	192
	(16)	2582.518	CROSSWALK PREFORM THERMOPLASTIC	SQ FT	162	162

CONSTRUCTION NOTES

- (1) CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
- (2) ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT.
- (3) ITEM USED FOR DITCH GRADING. ITEM SHALL BE USED ONLY AS NECESSARY AS DETERMINED BY THE ENGINEER.
- (4) GRAVEL BASE FOR DRIVEWAYS AND BITUMINOUS STREET APPROACHES.
- (5) INCLUDES REMOVAL OF BITUMINOUS CURB AND FLUME.
- (6) MATERIAL SHALL BE HAULED AND USED FOR PROFILE CORRECTION AREAS. ITEM INCLUDES PLACEMENT, SHAPING, COMPACTION, AND MAINTENANCE OF MATERIAL. EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
- (7) ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT. ALL PAVED STREET APPROACHES AND DRIVEWAYS. SEE DETAILS FOR DIMENSIONS.
- (8) ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES, WHICH SHALL BE PAVED AFTER MAINLINE PAVING AND BEFORE FINAL STRIPING.
- (9) TO BE PLACED AT THE END OF CONCRETE DRAINAGE FLUMES.
- (10) EPOXY COATED REINFORCEMENT BARS ARE INCIDENTAL.
- (11) MAILBOXES SHALL BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL POSTAL AUTHORITY. MAILBOX REMOVAL AND ALL MATERIALS NECESSARY FOR INSTALLATION ARE INCIDENTAL TO THIS ITEM.
- (12) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO, AND BE INSTALLED IN ACCORDANCE WITH, THE MOST CURRENT REVISION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS SHALL BE INPLACE WHENEVER PAVEMENT MARKINGS ARE NOT PRESENT.
- (13) 2 MESSAGE BOARDS, ONE ON EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
- (14) ITEM USED AT ENGINEER'S DISCRETION FOR RESTORATION OF DISTURBED AREAS ALONG DRIVEWAYS AND STREET APPROACHES.
- (15) CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT.
- (16) SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL PAINT STRIPING. FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.

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

NO.	STANDARD PLATE TITLE
3133D	RIPRAP AT RCP OUTLETS
8000J	CHANNELIZERS (3 SHEETS)
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2211	AGGREGATE BASE CLASS 5	1.8 TONS/CU YD
2357	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GALLONS / SQ YD / LIFT
2360	TYPE SP12.5 WEARING COURSE MIXTURE	115 POUNDS / SQ YD / IN
2574	FERTILIZER TYPE 3, 22-5-10	150 POUNDS / ACRE
2575	SEED MIXTURE 25-141	120 POUNDS / ACRE
2575	HYDRAULIC MULCH MATRIX (TYPE 3884.2.8.3)	3000 POUNDS / ACRE
2581	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	2' @ 50' INTERVAL

NO	DATE	BY	CKD	APPR	REVISION	
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**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-618-033

STATEMENT OF ESTIMATED QUANTITIES

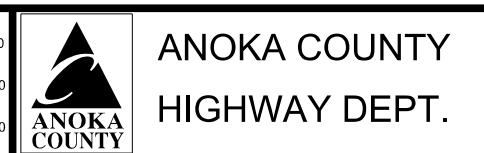
DRIVEWAY CONSTRUCTION						C
STATION	LOCATION		ADDRESS	CONSTRUCT		
	ALIGNMENT	OFFSET		6" CONC SQ YD	2.5" BIT TON	6" AGG CL 5 TON
CSAH 18						
20+75	18CL	38 LT	1740		8	11
22+00	18CL	33 LT	1755	29		6
24+90	18CL	45 RT	1748		9	12
31+00	18CL	43 LT	1854		7	9
33+25	18CL	32 LT	1913		2	13
33+70	18CL	33 RT	1930		7	10
37+85	18CL	30 LT	1965		4	5
39+50	18CL	31 RT	2020		3	5
40+30	18CL	33 LT	2025		2	7
41+90	18CL	44 LT	2055		4	6
46+40	18CL	32 LT	2136		2	9
52+50	18CL	60 LT	2219		21	30
52+90	18CL	33 RT	2222		3	5
54+00	18CL	33 RT	2240		8	11
54+30	18CL	51 LT	2237		7	10
55+40	18CL	33 RT	2240		5	7
56+40	18CL	33 LT	2257		4	5
57+00	18CL	33 LT	2257,2311		5	7
57+80	18CL	33 RT	2308		3	5
59+00	18CL	41 LT	2311		7	9
59+40	18CL	33 RT	2330		2	3
60+20	18CL	45 LT	2325		9	13
66+90	18CL	31 LT	2431		5	8
67+60	18CL	31 LT	2461		7	10
72+15	18CL	40 LT	2525		6	8
72+25	18CL	50 RT	2512		4	5
72+40	18CL	50 RT	2554	25		5
79+50	18CL	33 RT	17251		2	5
80+00	18CL	33 RT	2636		3	5
86+33	18CL	37 RT	2726	60		12
86+80	18CL	43 RT	2748		5	6
87+30	18CL	51 RT	2748		11	16
89+57	18CL	33 RT	2758		4	6
90+25	18CL	33 RT	2804		4	6
91+45	18CL	33 RT	2814		3	5
108+40	18CL	33 RT	3090		4	5
115+27	18CL	33 LT	3129		2	9
115+33	18CL	33 RT	3130	37		7
115+76	18CL	33 LT	3219		2	8
115+85	18CL	33 RT	3150		7	10
127+20	18CL	33 LT	3319		5	8
128+05	18CL	33 LT	3349		6	8
132+32	18CL	49 LT	3369		7	10
133+00	18CL	33 LT	3409		2	9
135+30	18CL	46 LT	3409		9	13
135+65	18CL	33 LT	3425		2	8
140+50	18CL	33 LT	3453,3525		3	16

DRIVEWAY CONSTRUCTION						C
STATION	LOCATION		ADDRESS	CONSTRUCT		
	ALIGNMENT	OFFSET		6" CONC SQ YD	2.5" BIT TON	6" AGG CL 5 TON
CSAH 18						
161+70	18CL	55 LT	3827		13	18
163+22	18CL	33 RT	3824		5	7
164+77	18CL	33 RT	3850		3	15
165+03	18CL	33 LT	3841		2	7
166+23	18CL	48 LT	3855		8	11
167+87	18CL	33 RT	3926		2	9
168+48	18CL	36 LT	3929		5	7
169+85	18CL	33 LT	3931		5	7
171+16	18CL	33 RT	3946		2	11
171+31	18CL	45 LT	3953		7	10
173+30	18CL	48 LT	3963		8	12
174+30	18CL	33 RT	4026		3	15
177+30	18CL	33 LT	4059		1	7
180+12	18CL	33 LT	4059		2	7
180+44	18CL	33 LT	4109		3	5
180+55	18CL	33 RT	4054		6	21
180+97	18CL	33 RT	4122			8
187+00	18CL	40 RT	4156		3	10
191+53	18CL	33 LT	4305		2	6
191+95	18CL	33 RT	4250		2	11
196+26	18CL	33 RT	4326		3	13
198+70	18CL	33 RT	4356		1	7
199+40	18CL	41 LT	4355		4	6
200+13	18CL	43 LT	4407		5	6
200+23	18CL	33 RT	4406		4	5
201+95	18CL	33 LT	4425		2	8
202+46	18CL	33 RT	4426		1	5
203+11	18CL	33 LT	4425		4	6
203+20	18CL	33 RT			1	12
203+86	18CL	33 RT			4	19
204+22	18CL	33 LT	4453		2	7
204+88	18CL	33 LT	4453		1	6
206+17	18CL	33 LT	4505		1	5
TOTAL				151	340	715

NO	DATE	BY	CKD	APPR	REVISION	02/05/2021	1:20:46 PM
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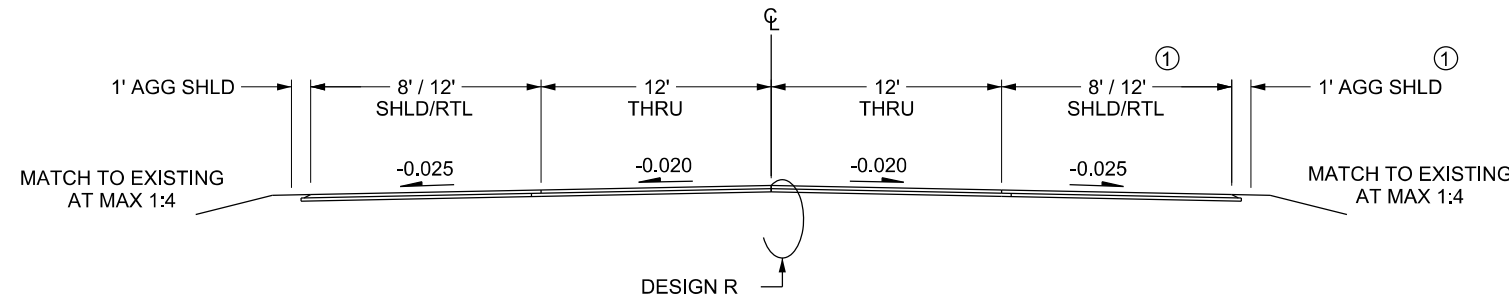
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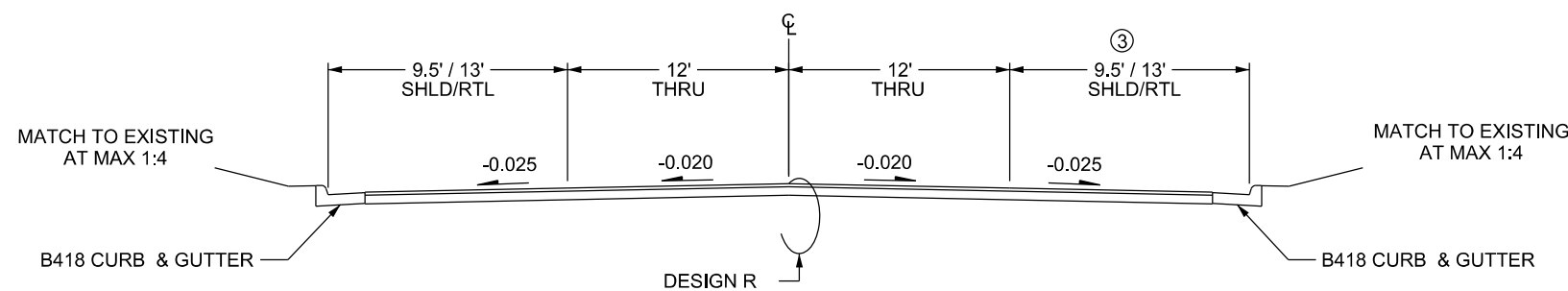
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CSAH 18 (CROSSTOWN BLVD NE)

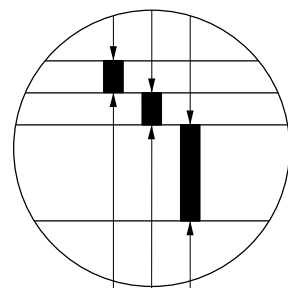
PROPOSED RURAL SECTION



PROPOSED URBAN SECTION



DESIGN R RECLAIM SECTION



2.0" BITUMINOUS WEAR(SPWEB340C)
 2.0" BITUMINOUS WEAR(SPWEB340C)
 RECLAIMED BITUMINOUS

PROPOSED TURN LANE LOCATIONS					
ALIGN	STA. TO STA. *	LOCATION	DESCRIPTION	TAPER	
18 CL	BEGIN 16+23	EB	BYPASS LANE	1:15	
18 CL	15+11 19+61	WB	RIGHT TURN LANE	1:15	
18 CL	25+45 30+00	EB	RIGHT TURN LANE	1:15	
18 CL	27+78 34+05	WB	BYPASS LANE	1:15	
18 CL	39+20 43+70	EB	RIGHT TURN LANE	1:15	
18 CL	41+60 47+80	WB	BYPASS LANE	1:15	
18 CL	44+58 48+30	EB	RIGHT TURN LANE		
18 CL	51+82 55+13	WB	RIGHT TURN LANE	1:15	
18 CL	57+70 61+00	EB	RIGHT TURN LANE	1:15	
18 CL	61+79 67+15	EB	RIGHT TURN LANE		
18 CL	62+00 66+52	WB	RIGHT TURN LANE	1:15	
18 CL	71+73 76+27	EB	RIGHT TURN LANE	1:15	
18 CL	71+73 76+27	EB	LEFT TURN LANE	1:15	
18 CL	77+34 81+84	WB	LEFT TURN LANE	1:15	
18 CL	77+34 81+84	WB	RIGHT TURN LANE	1:15	
18 CL	90+96 95+46	WB	RIGHT TURN LANE	1:15	
18 CL	98+98 103+90	EB	RIGHT TURN LANE	1:15	
18 CL	104+58 109+08	WB	RIGHT TURN LANE	1:15	
18 CL	127+63 132+10	EB	RIGHT TURN LANE	1:15	
18 CL	141+43 147+63	EB	BYPASS LANE	1:15	
18 CL	145+53 150+03	WB	RIGHT TURN LANE	1:15	
18 CL	155+18 159+30	EB	RIGHT TURN LANE	1:15	
18 CL	160+70 165+30	WB	RIGHT TURN LANE	1:15	
18 CL	187+33 191+83	WB	RIGHT TURN LANE	1:15	

* STATION RANGE INCLUDES TAPER SECTION.

NOTES:

- ① 2' PAVED SHOULDER AND 4' AGGREGATE SHOULDER FROM STATIONS 68+00 TO 71+73 AND 77+23 TO 84+07.
- ② SEE SHEET 18 FOR B418 TOP BACK OF CURB STATION, OFFSET AND ELEVATIONS.
- ③ 8' SHOULDER FROM STATION 85+00 TO 92+60.

GENERAL NOTE:

SEE SHEET 8 FOR SUPERELEVATION TRANSITION TABULATION.

NO	DATE	BY	CKD	APPR	REVISION	02/05/2021	1:20:50 PM
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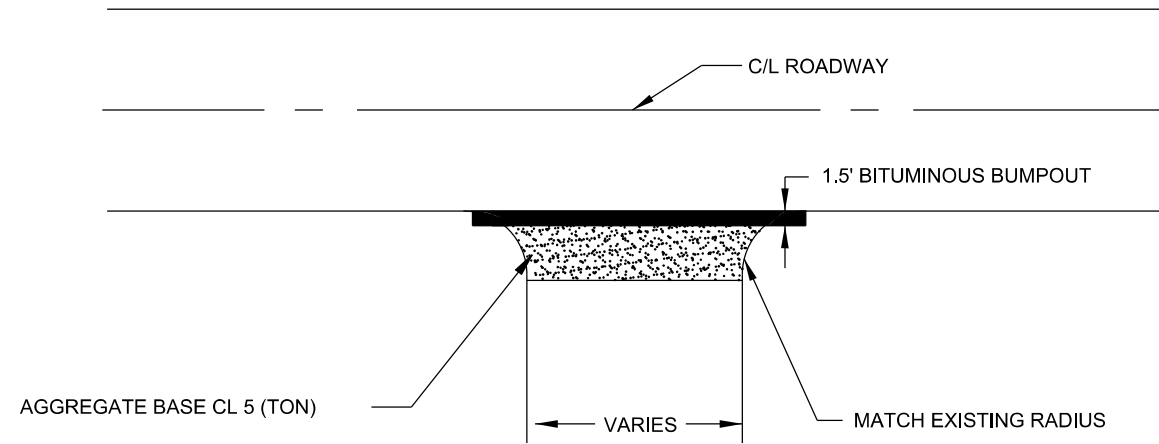
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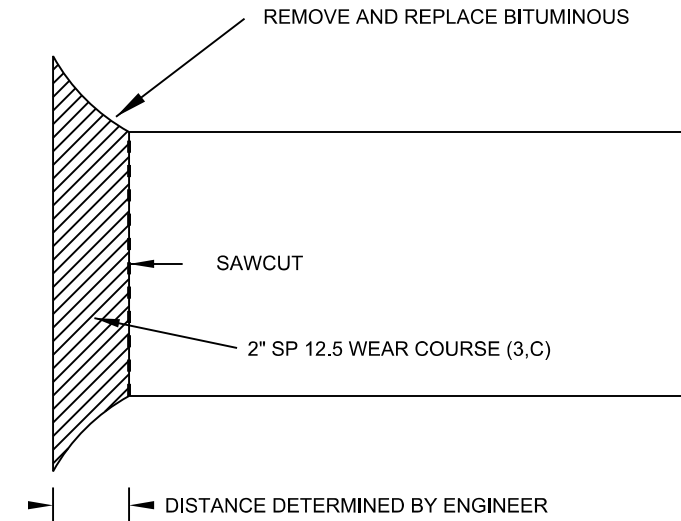
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DRIVEWAY DETAIL GRAVEL / FIELD ENTRANCE

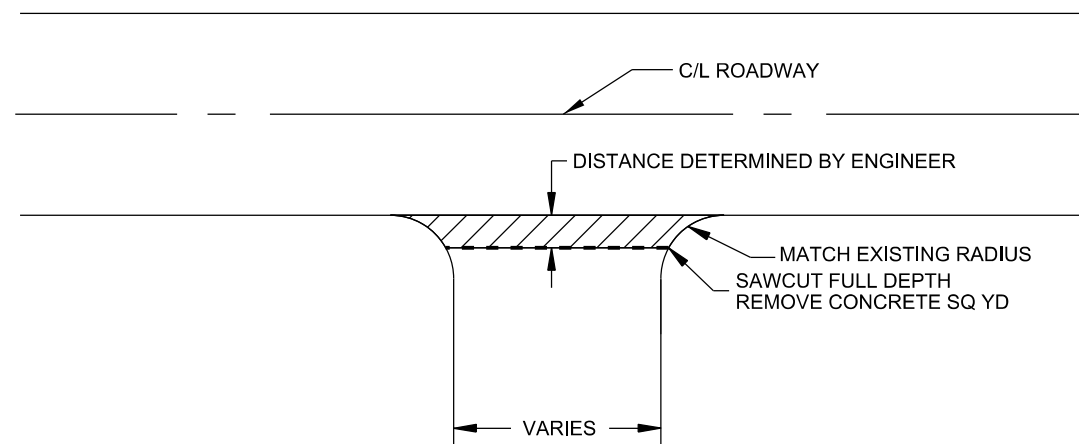


RECLAIM AREA - DRIVEWAY DETAIL BITUMINOUS DRIVEWAY

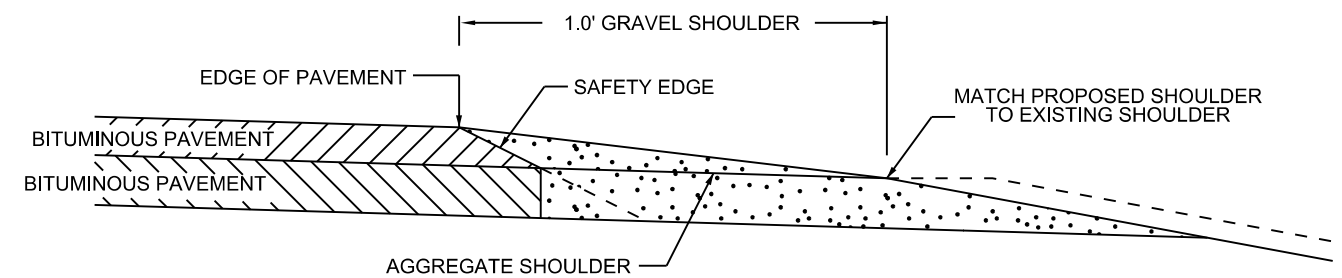
PLAN VIEW



DRIVEWAY DETAIL CONCRETE DRIVEWAY



SHOULDER DETAIL BITUMINOUS SAFETY EDGE GRAVEL SHOULDER



SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS.

NO	DATE	BY	CKD	APPR	REVISION	TIME
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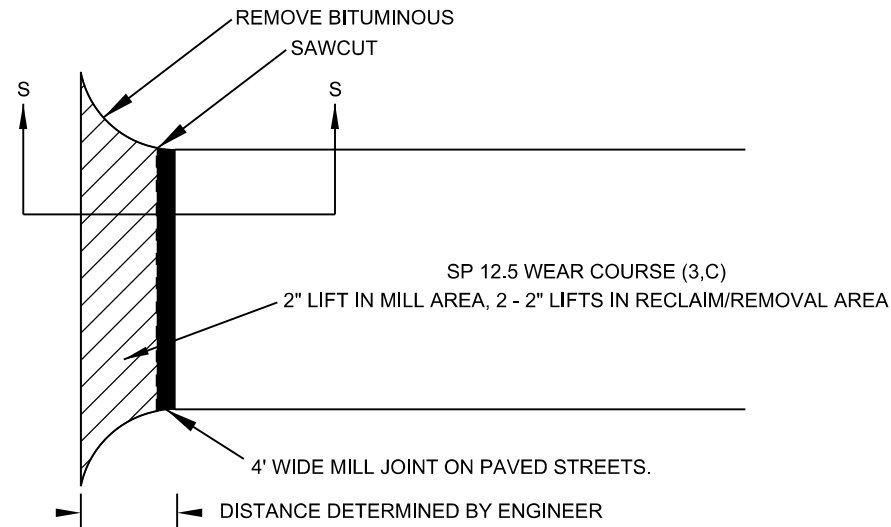
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DETAILS

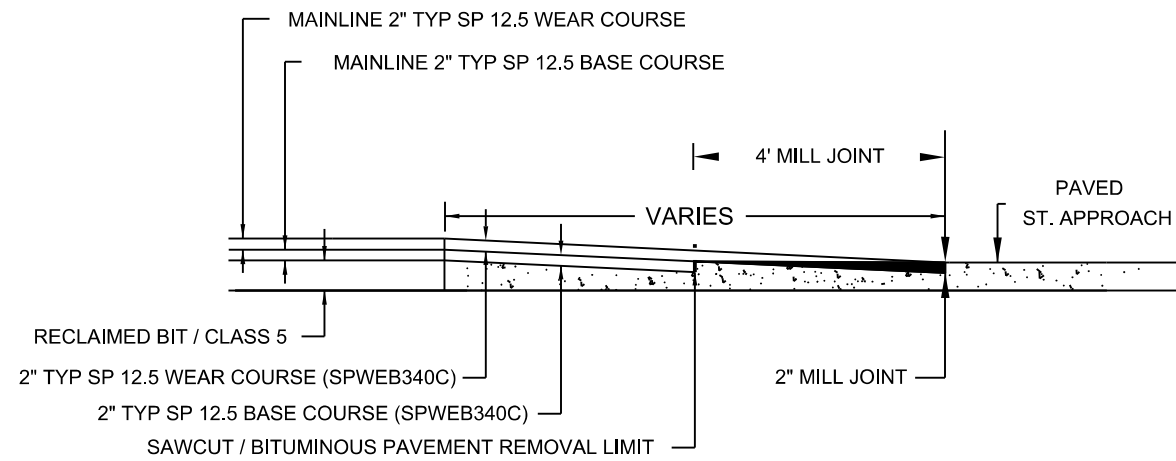
STREET APPROACH DETAIL (RECLAIM)

BITUMINOUS STREET

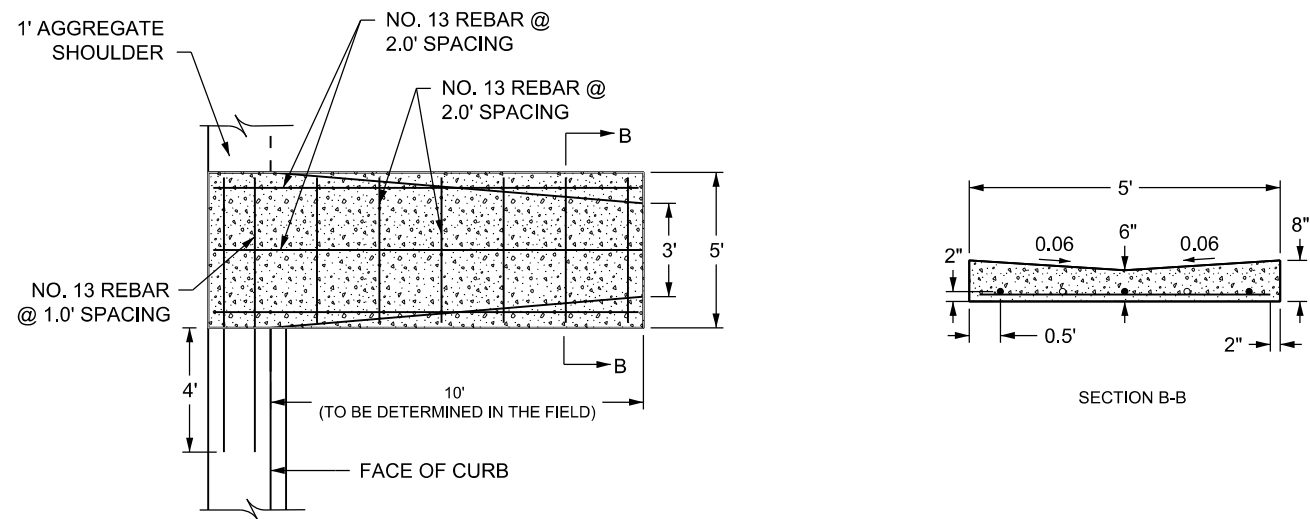
PLAN VIEW



SECTION S - S



CONCRETE DRAINAGE FLUME DETAIL



NOTE: EPOXY COATED REINFORCEMENT BARS ARE INCIDENTAL TO DRAINAGE FLUME.

NO	DATE	BY	CKD	APPR	REVISION	2/05/2021	1:20:52 PM
NAME: P:\002-618-033\Plan\002-618-033_MDET.dgn							

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: ELIZABETH MARKOSE

SIGNATURE: *Elizabeth Markose*

DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020

DESIGN BY: EJM DATE: 10/09/2020

CHECKED BY: NJD DATE: 10/27/2020

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
CSAH 18 <18_1>										
1001	POT	10+00.000						509,610.7530	191,794.0619	
	PC	10+76.562						509,683.9174	191,771.5072	S 72° 52' 00.54" E
18_11	PI	13+40.411	14° 26' 17.39" RT	2° 45' 02.30"	2,083.000'	263.849'	524.902'	509,936.0574	191,693.7790	PI
	CC							509,070.2785	189,780.9454	
	PT	16+01.464						510,160.8537	191,555.6383	S 58° 25' 43.16" E
	PC	24+30.995						510,867.6046	191,121.3293	S 58° 25' 43.16" E
18_12	PI	29+43.541	30° 02' 33.65" LT	2° 59' 59.20"	1,910.000'	512.545'	1,001.496'	511,304.2877	190,852.9810	PI
	CC							511,867.6040	192,748.6281	
	PT	34+32.492						511,816.6508	190,839.3078	S 88° 28' 16.81" E
1002	POT	50+63.020						513,446.5991	190,795.8101	
1003	POT	76+73.083						516,056.0586	190,739.6746	
	PC	96+47.352						518,029.1050	190,670.2143	S 87° 59' 01.53" E
18_13	PI	100+24.373	22° 19' 56.94" RT	2° 59' 59.20"	1,910.000'	377.021'	744.471'	518,405.8925	190,656.9497	PI
	CC							517,961.9059	188,761.3968	
	PT	103+91.823						518,749.3784	190,501.5080	S 65° 39' 04.59" E
1004	POT	114+89.812						519,749.7046	190,048.8189	
	PC	128+16.542						520,957.7139	189,500.2526	S 65° 34' 36.62" E
18_14	PI	132+31.059	24° 29' 21.90" LT	2° 59' 59.20"	1,910.000'	414.517'	816.374'	521,335.1384	189,328.8613	PI
	CC							521,747.4464	191,239.3393	
	PT	136+32.916						521,749.6551	189,329.3406	N 89° 56' 01.48" E
1005	POT	141+09.083						522,225.8220	189,329.8913	
	PC	158+14.587						523,931.2940	189,340.3853	N 89° 38' 50.83" E
18_15	PI	160+17.642	2° 01' 49.29" LT	0° 30' 00.02"	11,459.000'	203.054'	406.066'	524,134.3446	189,341.6347	PI
	CC							523,860.7861	200,799.1684	
	PT	162+20.654						524,337.2234	189,350.0772	N 87° 37' 01.54" E
	PC	184+80.030						526,594.6456	189,444.0166	N 87° 37' 01.54" E
18_16	PI	186+62.651	6° 23' 06.84" RT	1° 45' 00.09"	3,274.000'	182.622'	364.866'	526,777.1095	189,451.6095	PI
	CC							526,730.7706	186,172.8477	
	PT	188+44.895						526,959.2860	189,438.8631	S 85° 59' 51.62" E
1006	POT	207+35.013						528,844.7946	189,306.9385	
1007	POT	213+00.001						529,408.5492	189,269.6343	

SUPERELEVATION TRANSITION (18_11)					
R = 2083', V = 55 MPH, e = 0.048, L = 230.4'					
CSAH 18 C/L STATION TO STATION		PAVEMENT CROSS SLOPE (FT/FT)			
		EASTBOUND		WESTBOUND	
		MAINLINE	SHLD/RTL	MAINLINE	SHLD/RTL
14+11.53	15+24.66	-0.048	-0.048	0.048	-0.025
15+24.66	16+35.06		-0.048 to -0.025		
15+24.66	16+59.06	-0.048 to -0.020			
15+24.66	17+55.06			0.048 to 0.0	-0.025
17+55.06	18+51.06			0.0 to -0.020	-0.025

SUPERELEVATION TRANSITION (18_12)					
R = 1910', V = 55 MPH, e = 0.050, L = 240'					
CSAH 18 C/L STATION TO STATION		PAVEMENT CROSS SLOPE (FT/FT)			
		EASTBOUND		WESTBOUND	
		MAINLINE	SHLD/RTL	MAINLINE	SHLD/RTL
21+75.00	22+71.00	-0.020 to 0.0	-0.025		
22+71.00	25+11.00	0.0 to 0.050	-0.025		
23+68.60	25+11.00			-0.020 to -0.050	
23+92.60	25+11.00				-0.025 to -0.050
25+11.00	33+52.49	0.050	-0.025	-0.050	-0.050
33+52.49	35+92.49	0.050 to 0.0	-0.025		
35+92.49	36+88.49	0.0 to -0.020	-0.025		
33+52.49	34+94.89			-0.050 to -0.020	
33+52.49	34+70.89				-0.050 to -0.025

SUPERELEVATION TRANSITION (18_13)					
R = 1910', V = 55 MPH, e = 0.050, L = 240'					
CSAH 18 C/L STATION TO STATION		PAVEMENT CROSS SLOPE (FT/FT)			
		EASTBOUND		WESTBOUND	
		MAINLINE	SHLD/RTL	MAINLINE	SHLD/RTL
95+84.95	97+27.35	-0.020 to -0.050			
96+08.95	97+27.35		-0.025 to -0.050		
93+91.35	94+87.35			-0.020 to 0.0	-0.025
94+87.35	97+27.35			0.0 to 0.050	-0.025
97+27.35	103+11.82	-0.050	-0.050	0.050	-0.025
103+11.82	34+94.89	-0.050 to -0.020			
103+11.82	34+70.89		-0.050 to -0.025		
103+11.82	105+50.82			0.050 to 0.0	-0.025
105+50.82	106+46.82			0.0 to -0.020	-0.025

SUPERELEVATION TRANSITION (18_14)					
R = 1910', V = 55 MPH, e = 0.050, L = 240'					
CSAH 18 C/L STATION TO STATION		PAVEMENT CROSS SLOPE (FT/FT)			
		EASTBOUND		WESTBOUND	
		MAINLINE	SHLD/RTL	MAINLINE	SHLD/RTL
125+60.54	126+56.54	-0.020 to 0.0	-0.025		
126+56.54	128+96.54	0.0 to 0.050	-0.025		
127+54.14	128+96.54			-0.020 to -0.050	
127+78.14	128+96.54				-0.025 to -0.050
128+96.54	135+52.92	0.050	-0.025	-0.050	-0.050
135+52.92	137+92.92	0.050 to 0.0	-0.025		
137+92.92	138+88.92	0.0 to -0.020	-0.025		
135+52.92	136+95.32			-0.050 to -0.020	
135+52.92	136+71.32				-0.050 to -0.025

SUPERELEVATION TRANSITION (18_16)					
R = 3274', V = 55 MPH, e = 0.036, L = 172.8'					
CSAH 18 C/L STATION TO STATION		PAVEMENT CROSS SLOPE (FT/FT)			
		EASTBOUND		WESTBOUND	
		MAINLINE	SHLD/RTL	MAINLINE	SHLD/RTL
184+60.83	185+37.63	-0.020 to -0.036			
184+84.83	185+37.63		-0.025 to -0.036		
182+68.83	183+64.83			-0.020 to 0.0	-0.025
183+64.83	185+37.63			0.0 to 0.036	-0.025
185+37.63	187+87.30	-0.036	-0.036	0.036	-0.025
187+87.30	188+64.10	-0.036 to -0.020			
187+87.30	188+40.10		-0.036 to -0.025		
187+87.30	189+60.10			0.036 to 0.0	-0.025
189+60.10	190+56.10			0.0 to -0.020	-0.025

NO	DATE	BY	CKD	APPR	REVISION	TIME
	02/05/2021					1:20:52 PM

NAME: P:\002-618-033\Plan\002-618-033_MDET.dgn

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: ELIZABETH MARKOSE

SIGNATURE: *Elizabeth Markose*

DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: SPH DATE: 02/05/2021

DESIGN BY: AA DATE: 02/05/2021

CHECKED BY: HG DATE: 02/05/2021

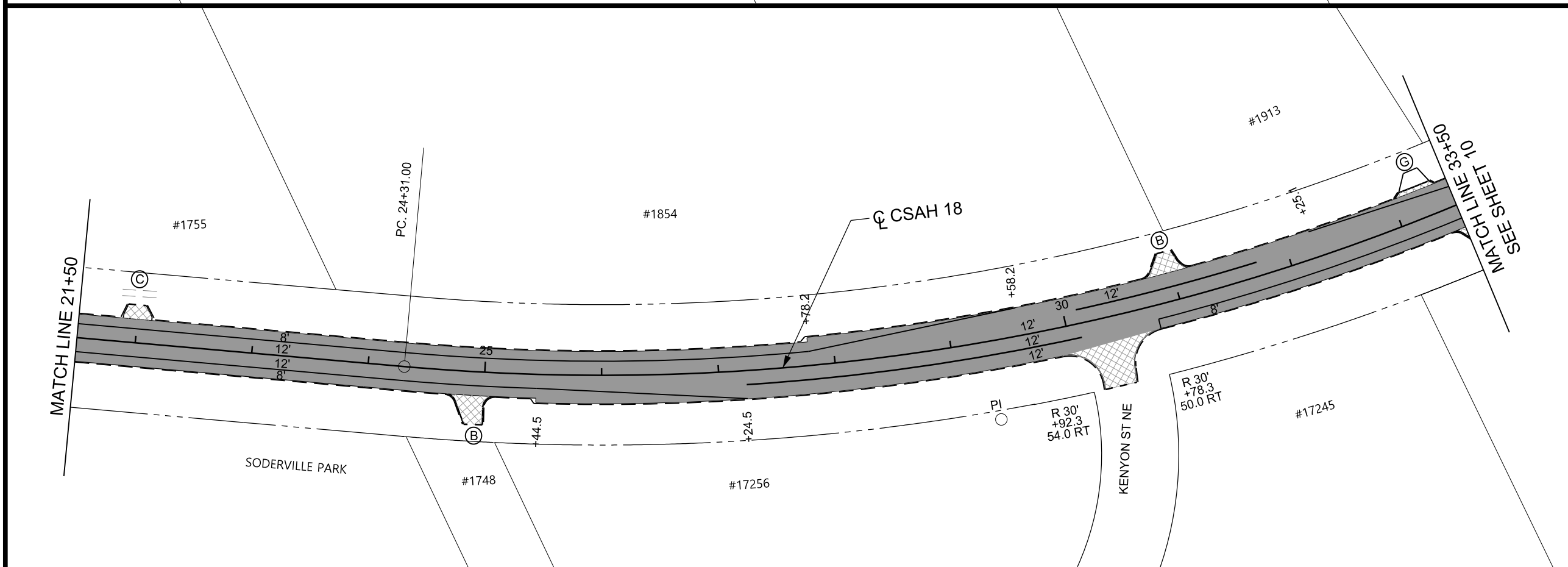
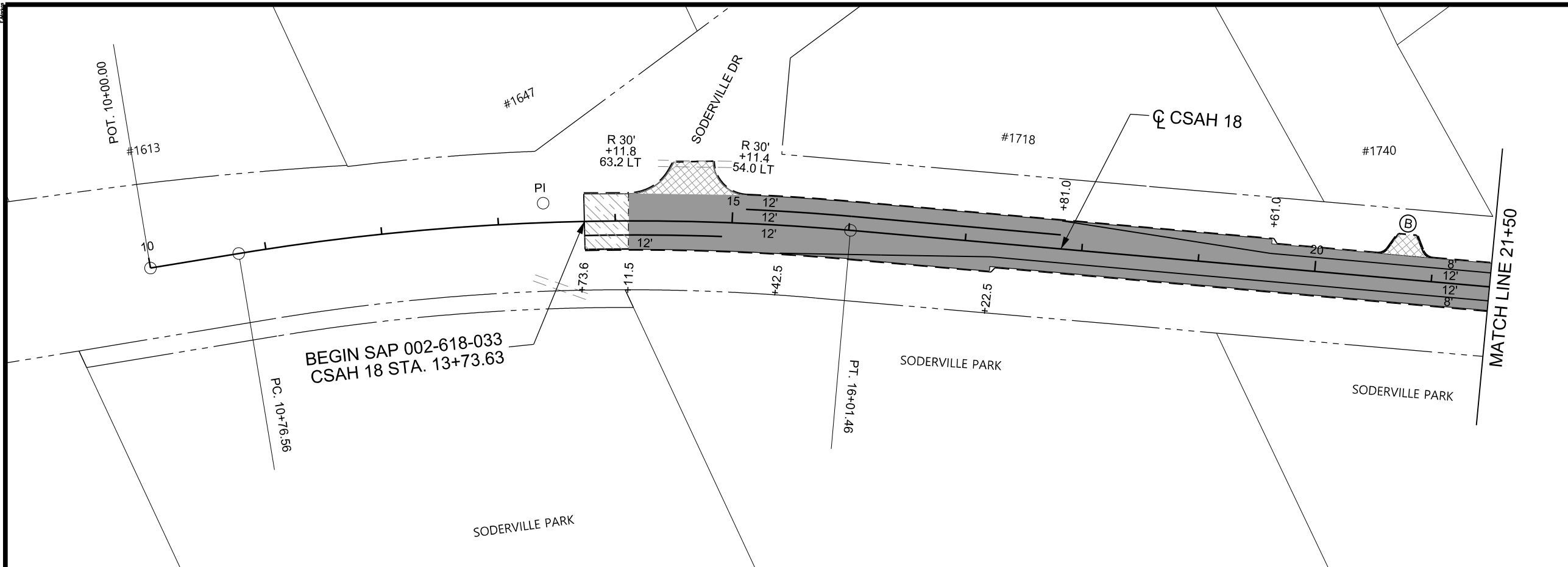


ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

ALIGNMENT & SUPERELEVATION TABULATION

Sheet 8 of 39 Sheets



LEGEND

- MAINLINE RECLAIM
- REMOVE AND REPLACE PAVEMENT
- 2" MILL AND OVERLAY
- SAWCUT
- CROSS CULVERT
- B BITUMINOUS
- C CONCRETE
- G GRAVEL

NOTES:
 PROVIDE 4 FT MILL JOINT AT ALL SIDE STREETS.

1 OF 9

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-618-033\Plan\002-618-033_RM1_P01.dgn 02/05/2021 1:21:05 PM

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: ELIZABETH MARKOSE

SIGNATURE: *Elizabeth Markose*

DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020

DESIGN BY: EJM DATE: 10/09/2020

CHECKED BY: NJD DATE: 10/27/2020

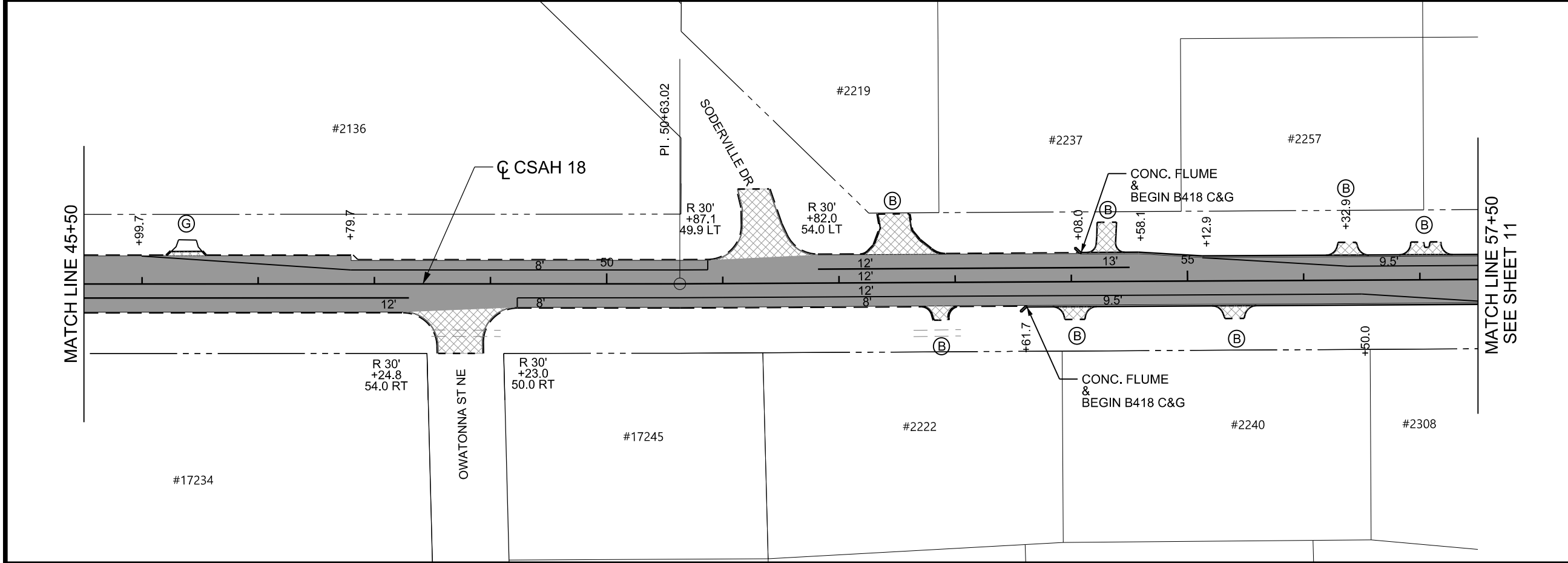
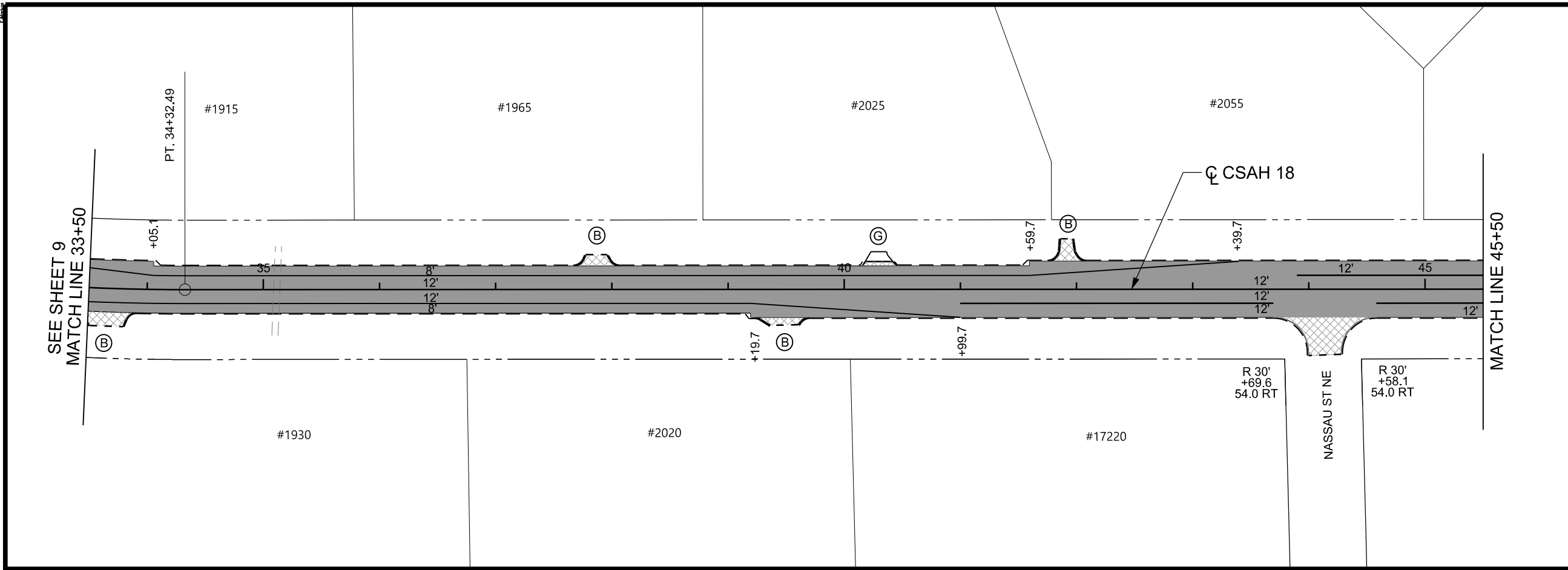
ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

CONSTRUCTION PLAN

STA 10+00.00 TO 33+50.00

Sheet 9 of 39 Sheets



LEGEND

- MAINLINE RECLAIM
- REMOVE AND REPLACE PAVEMENT
- SAWCUT
- === CROSS CULVERT

(B) BITUMINOUS
 (G) GRAVEL

NOTES:

PROVIDE 4 FT MILL JOINT AT ALL SIDE STREETS.

SEE SHEET 18 FOR B418 STAKING INFORMATION.

SCALE IN FEET

2 OF 9

NO	DATE	BY	CKD	APPR	REVISION

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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: ELIZABETH MARKOSE

SIGNATURE:

DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020

DESIGN BY: EJM DATE: 10/09/2020

CHECKED BY: NJD DATE: 10/27/2020

ANOKA COUNTY

HIGHWAY DEPT.









SAP 002-618-033

CONSTRUCTION PLAN

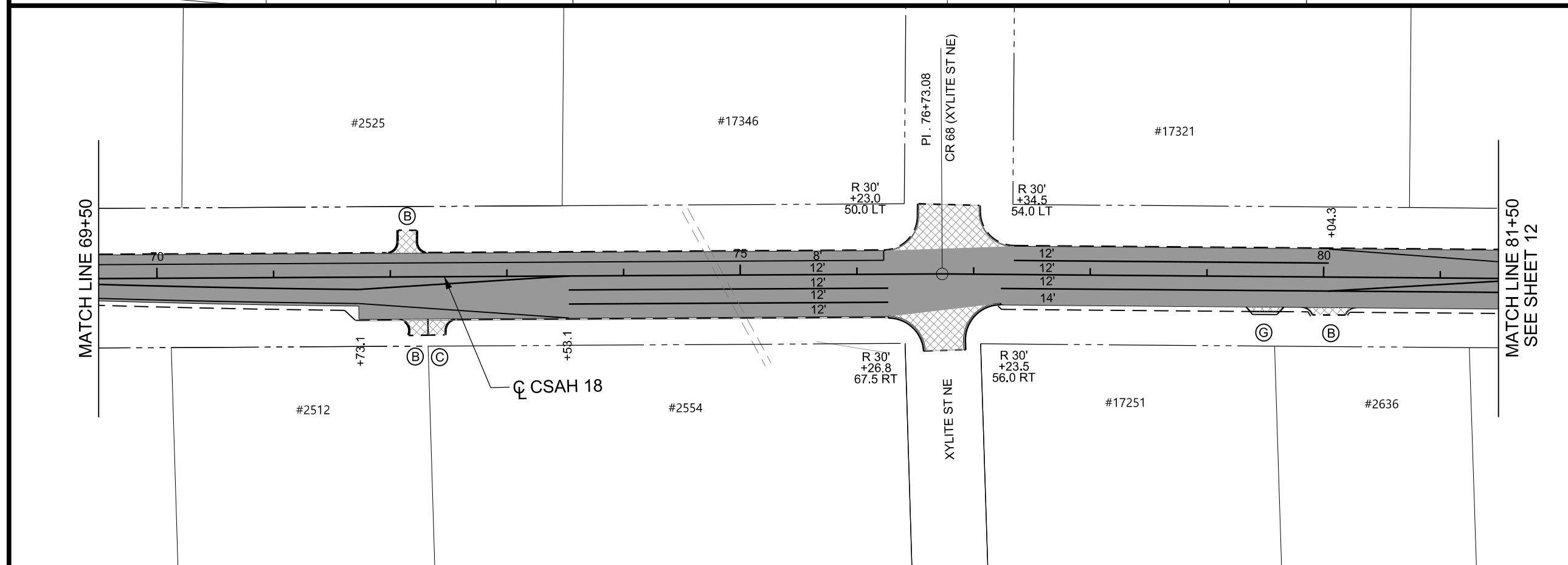
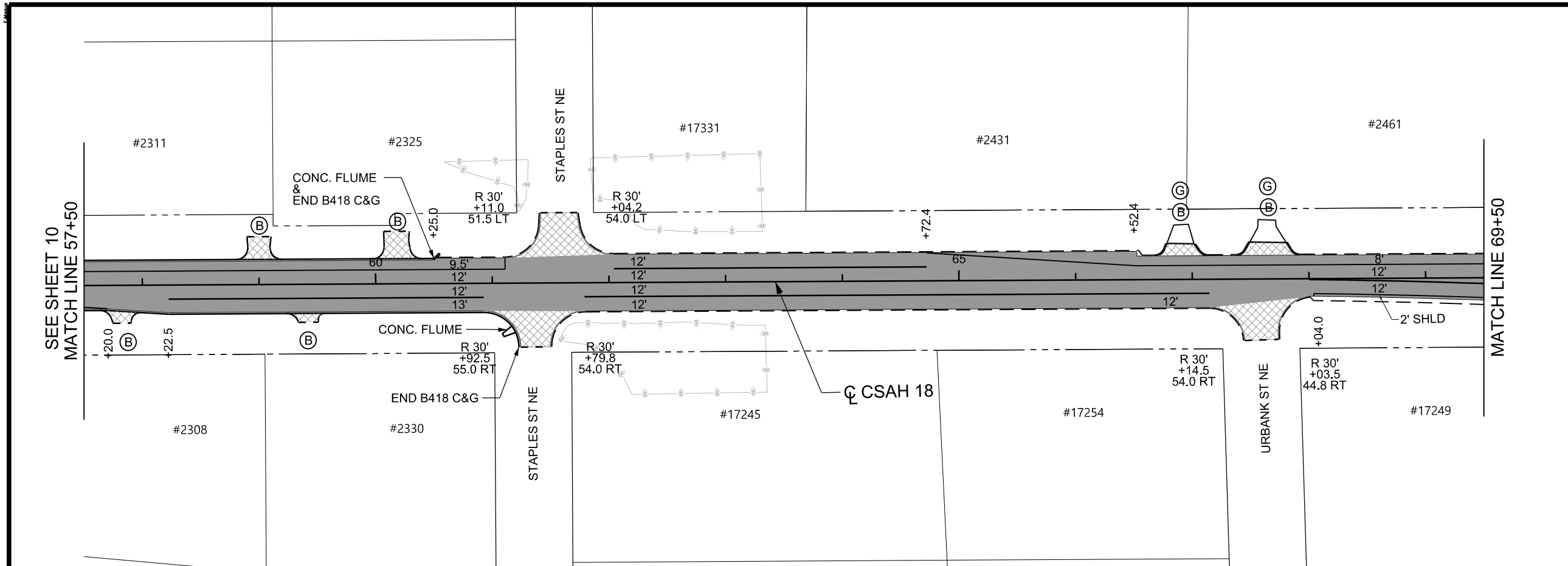
STA 33+50.00 TO 57+50.00

Sheet 10 of 39 Sheets

LEGEND

-  MAINLINE RECLAIM
-  REMOVE AND REPLACE PAVEMENT
-  SAWCUT
-  CROSS CULVERT
-  WETLAND BOUNDARY
-  BITUMINOUS
-  CONCRETE
-  GRAVEL

NOTES:
 PROVIDE 4 FT MILL JOINT AT ALL SIDE STREETS.
 SEE SHEET 18 FOR B418 STAKING INFORMATION



NO	DATE	BY	CKD	APPR	REVISION

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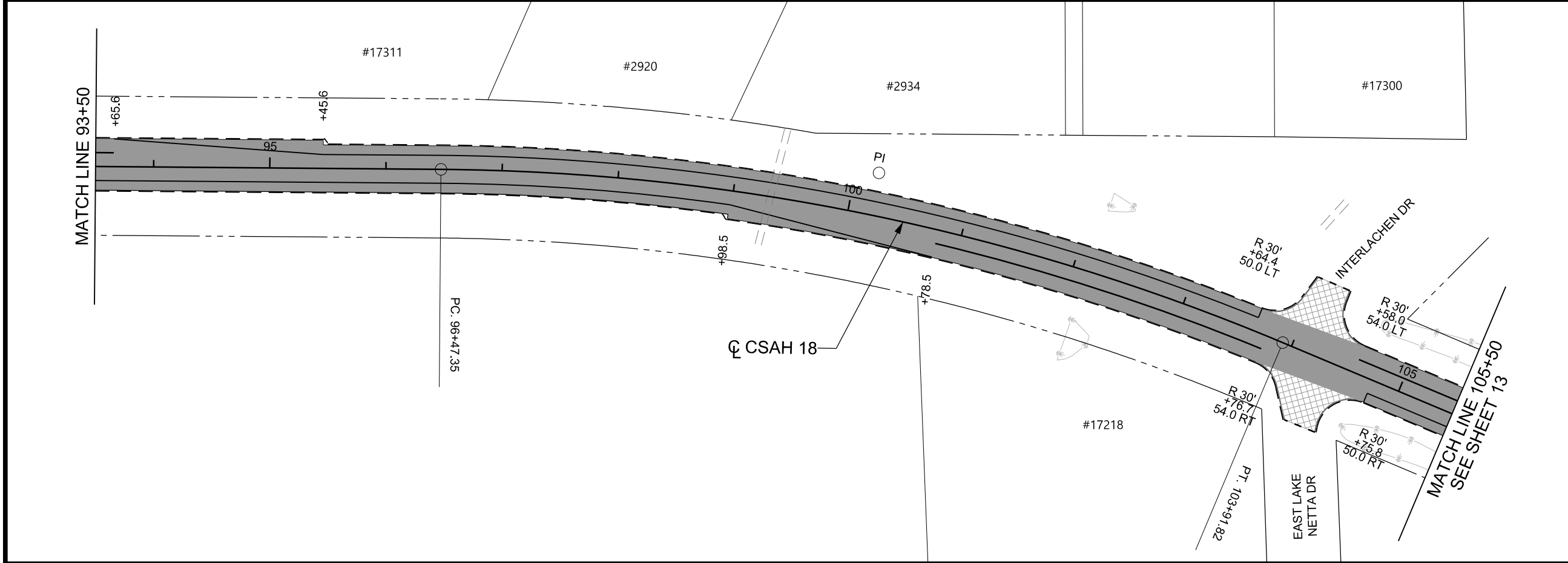
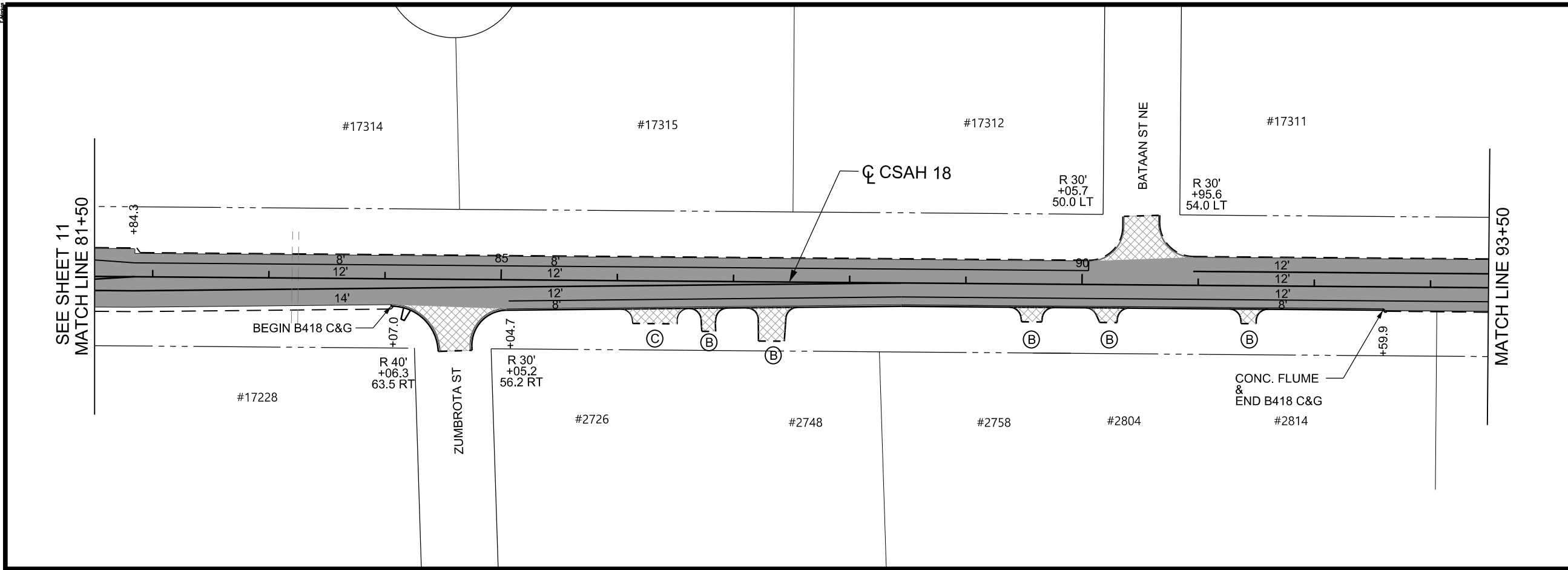
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ELIZABETH MARKOSE
 SIGNATURE: *Elizabeth Markose*
 DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020
 DESIGN BY: EJM DATE: 10/09/2020
 CHECKED BY: NJD DATE: 10/27/2020



SAP 002-618-033

CONSTRUCTION PLAN
 STA 57+50.00 TO 81+50.00
 Sheet 11 of 39 Sheets



LEGEND

- MAINLINE RECLAIM
- REMOVE AND REPLACE PAVEMENT
- SAWCUT
- CROSS CULVERT
- WETLAND BOUNDARY
- BITUMINOUS
- CONCRETE

NOTES:

PROVIDE 4 FT MILL JOINT AT ALL SIDE STREETS.

SEE SHEET 18 FOR B418 STAKING INFORMATION

0 50 100
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

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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: ELIZABETH MARKOSE

SIGNATURE:

DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020

DESIGN BY: EJM DATE: 10/09/2020

CHECKED BY: NJD DATE: 10/27/2020

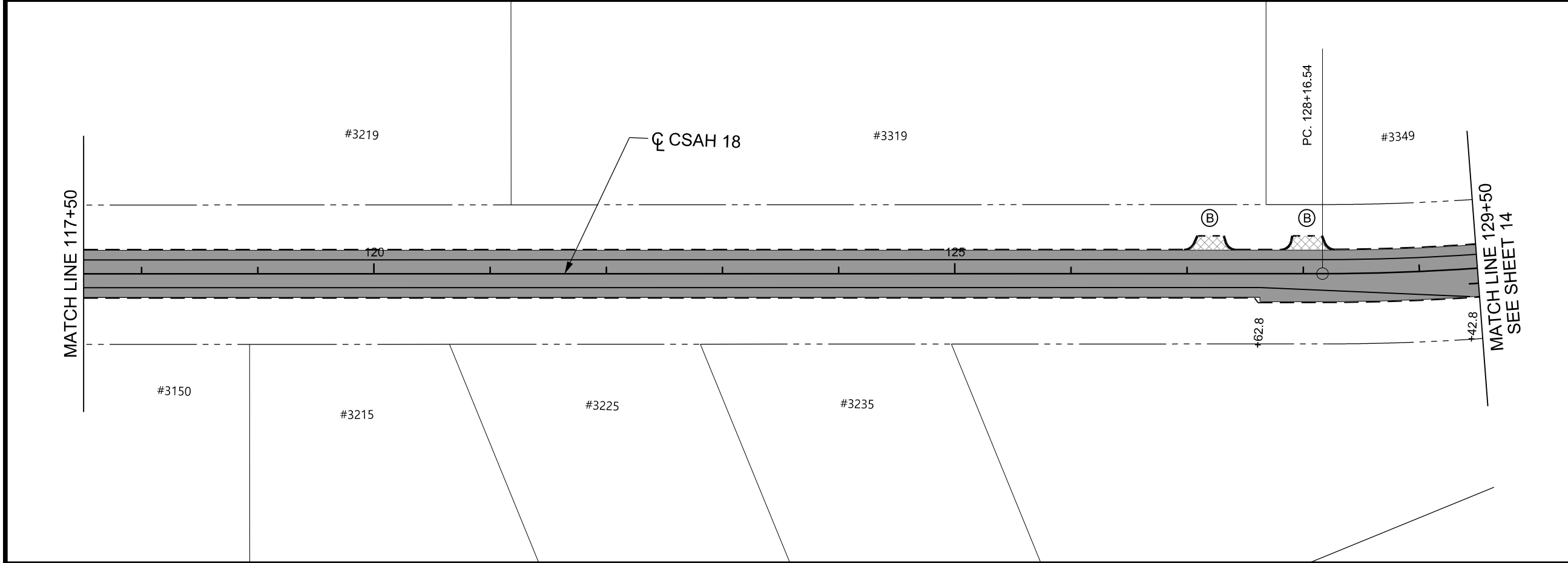
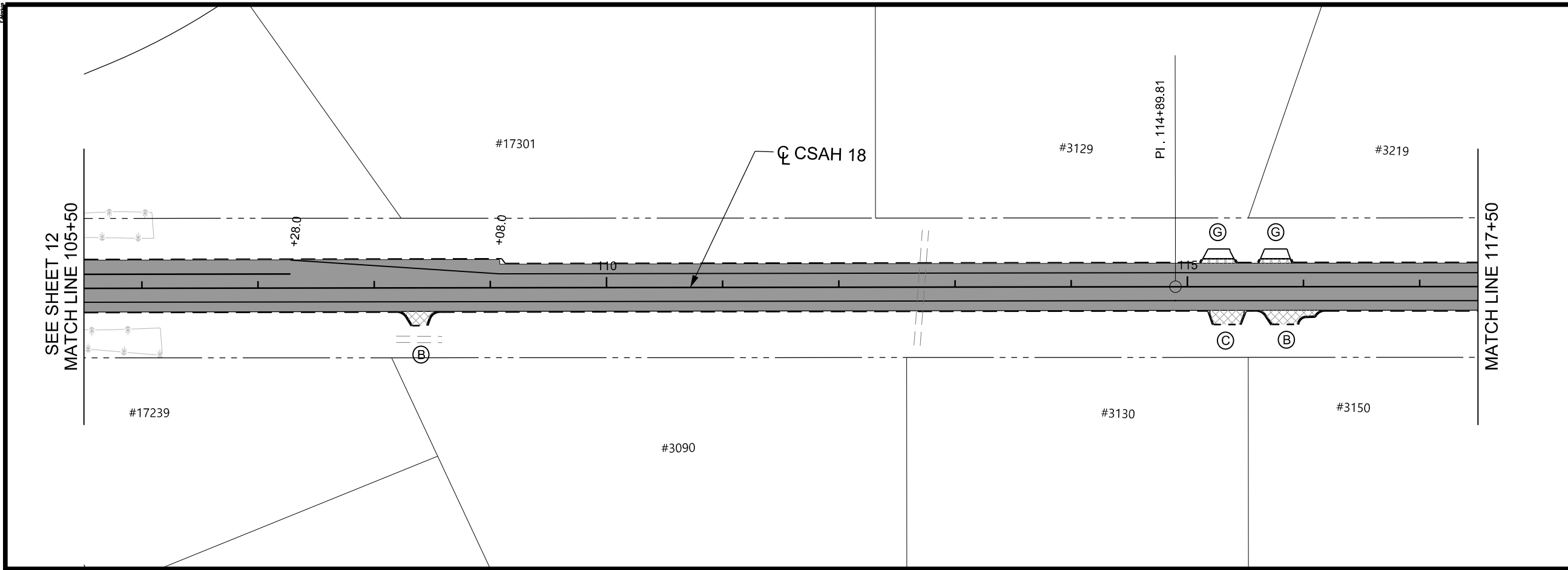
**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-618-033

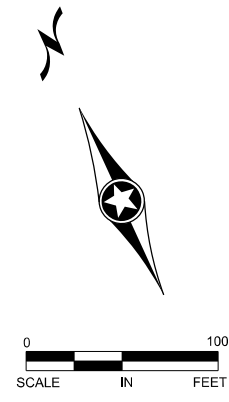
CONSTRUCTION PLAN

STA 81+50.00 TO 105+50.00

Sheet 12 of 39 Sheets



LEGEND	
	MAINLINE RECLAIM
	REMOVE AND REPLACE PAVEMENT
	SAWCUT
	CROSS CULVERT
	WETLAND BOUNDARY
	BITUMINOUS
	CONCRETE
	GRAVEL



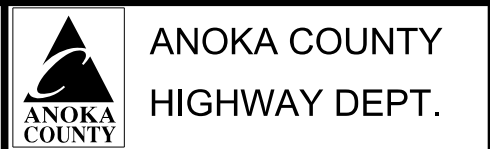
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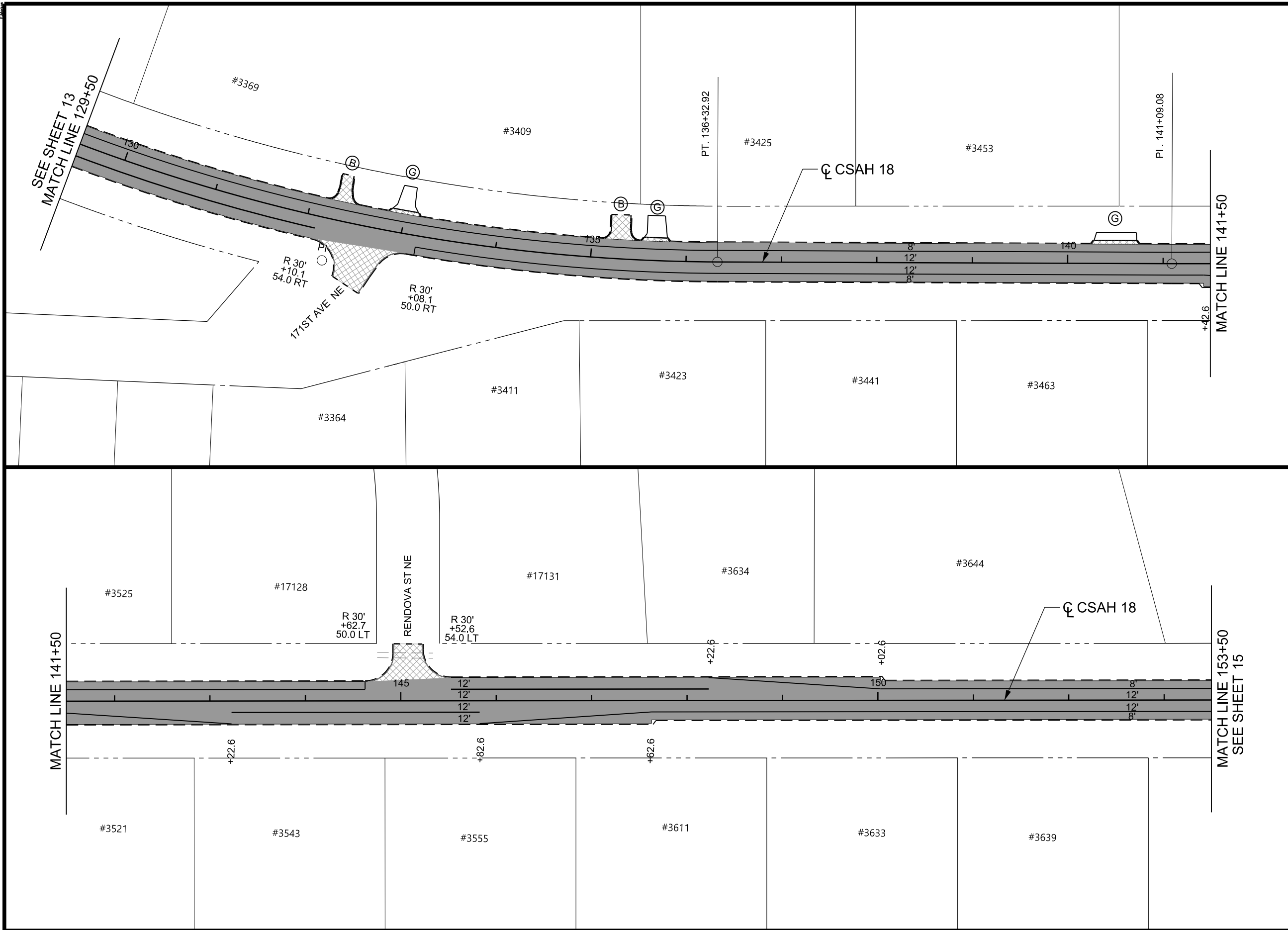
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ELIZABETH MARKOSE
 SIGNATURE: *Elizabeth Markose*
 DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020
 DESIGN BY: EJM DATE: 10/09/2020
 CHECKED BY: NJD DATE: 10/27/2020



SAP 002-618-033

CONSTRUCTION PLAN
 STA 105+50.00 TO 129+50.00
 Sheet 13 of 39 Sheets



LEGEND

- MAINLINE RECLAIM
- REMOVE AND REPLACE PAVEMENT
- SAWCUT
- CROSS CULVERT
- BITUMINOUS
- GRAVEL

NOTES:
 PROVIDE 4 FT MILL JOINT AT ALL SIDE STREETS.

SCALE IN FEET

6 OF 9

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-618-033\Plan\002-618-033_RM1_P06.dgn 02/05/2021 1:21:13 PM

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 DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020
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 CHECKED BY: NJD DATE: 10/27/2020

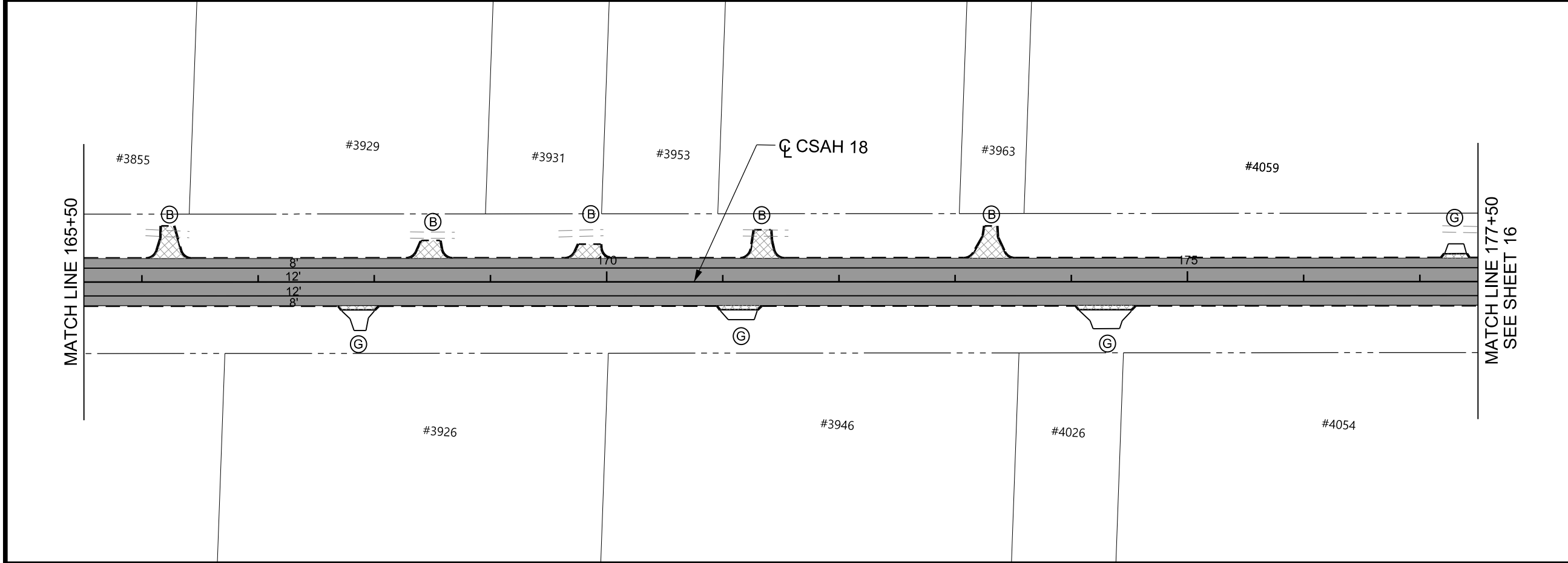
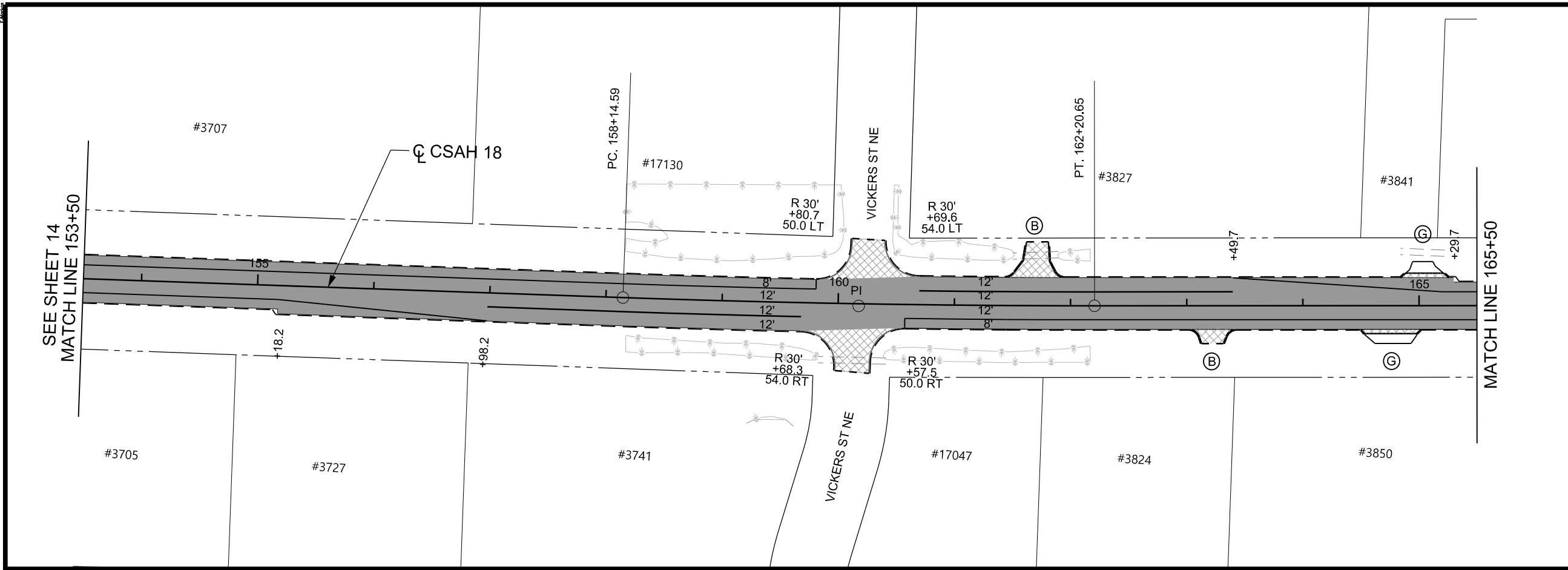
ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

CONSTRUCTION PLAN

STA 129+50.00 TO 153+50.00

Sheet 14 of 39 Sheets



LEGEND

- MAINLINE RECLAIM
- REMOVE AND REPLACE PAVEMENT
- SAWCUT
- - - - CROSS CULVERT
- WETLAND BOUNDARY
- Ⓟ BITUMINOUS
- Ⓞ GRAVEL

NOTES:
PROVIDE 4 FT MILL JOINT AT ALL SIDE STREETS.

SCALE IN FEET

7 OF 9

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-618-033\Plan\002-618-033_RM1_P07.dgn 02/05/2021 1:21:14 PM

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: ELIZABETH MARKOSE

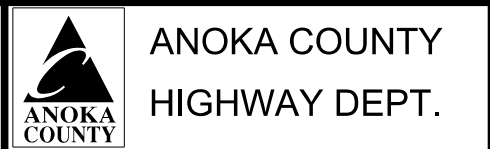
SIGNATURE: *Elizabeth Markose*

DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020

DESIGN BY: EJM DATE: 10/09/2020

CHECKED BY: NJD DATE: 10/27/2020

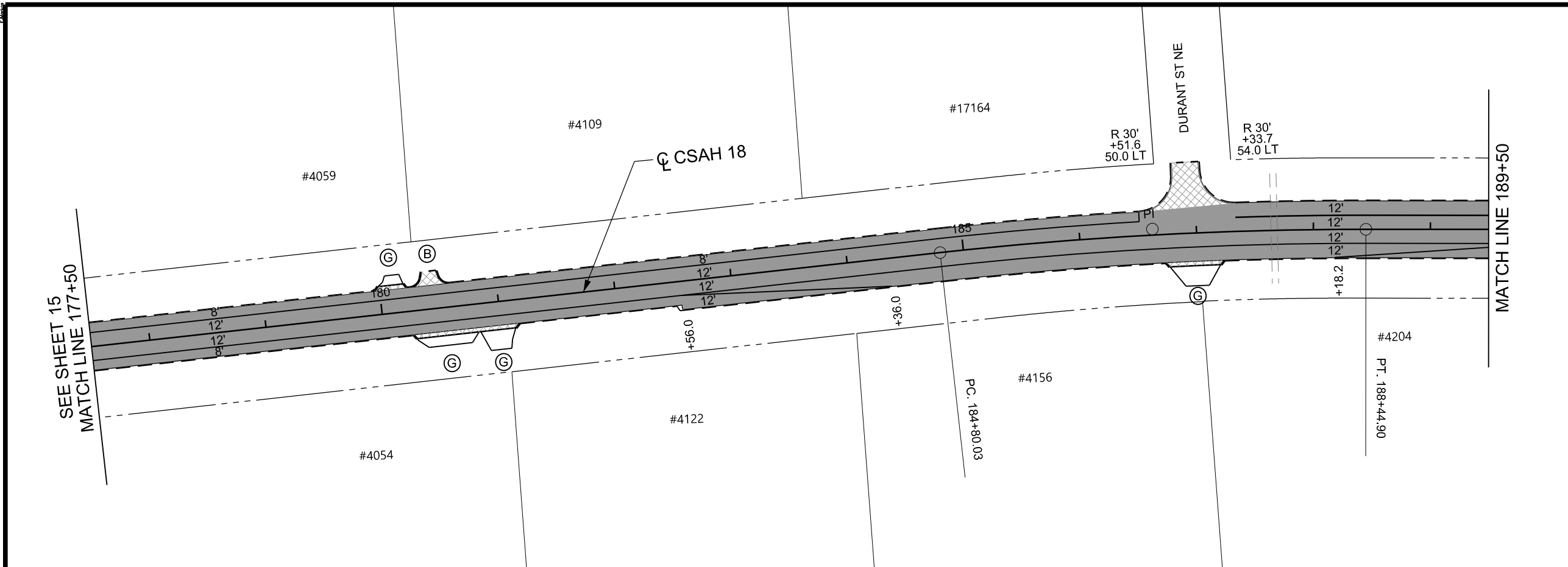


SAP 002-618-033

CONSTRUCTION PLAN

STA 153+50.00 TO 177+50.00

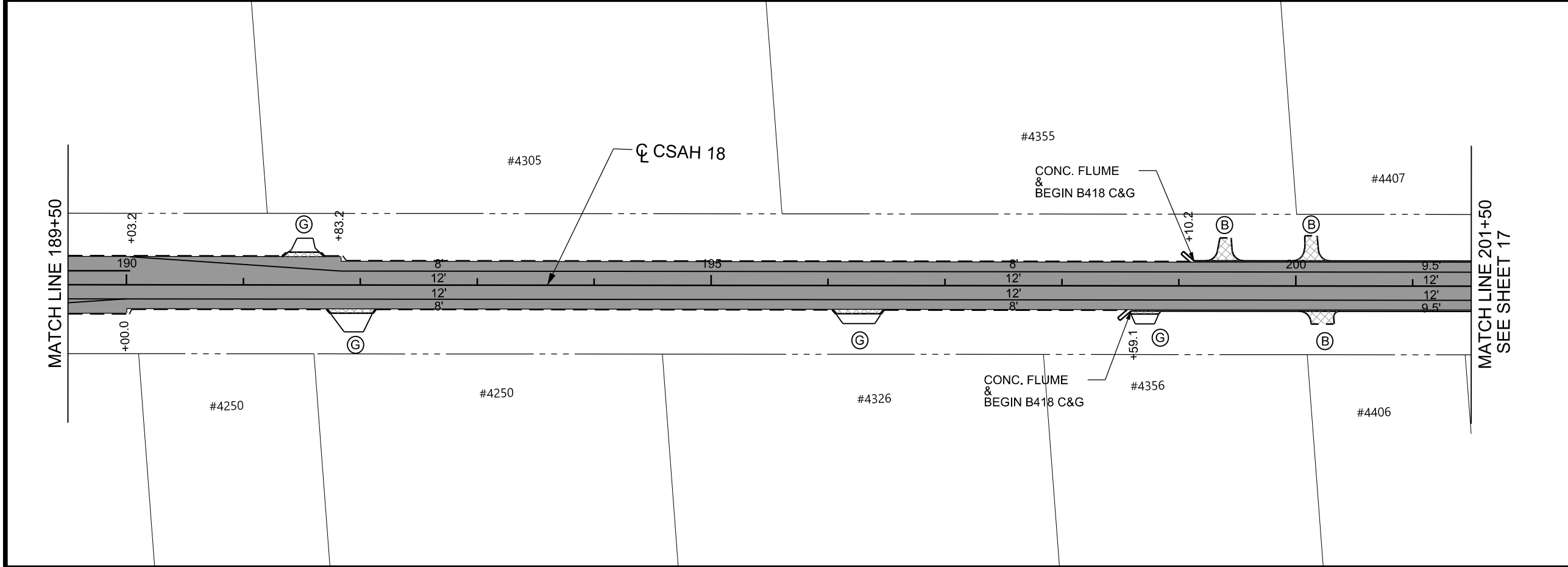
Sheet 15 of 39 Sheets



LEGEND

- MAINLINE RECLAIM
- REMOVE AND REPLACE PAVEMENT
- SAWCUT
- - - - CROSS CULVERT
- (B) BITUMINOUS
- (G) GRAVEL

NOTES:
 PROVIDE 4 FT MILL JOINT AT ALL SIDE STREETS.
 SEE SHEET 18 FOR B418 STAKING INFORMATION.



8 OF 9

SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-618-033\Plan\002-618-033_RM1_P08.dgn 02/17/2021 11:01:41 AM

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: ELIZABETH MARKOSE
 SIGNATURE: *Elizabeth Markose*
 DATE: 02/17/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020
 DESIGN BY: EJM DATE: 10/09/2020
 CHECKED BY: NJD DATE: 10/27/2020

**ANOKA COUNTY
HIGHWAY DEPT.**









SAP 002-618-033

CONSTRUCTION PLAN

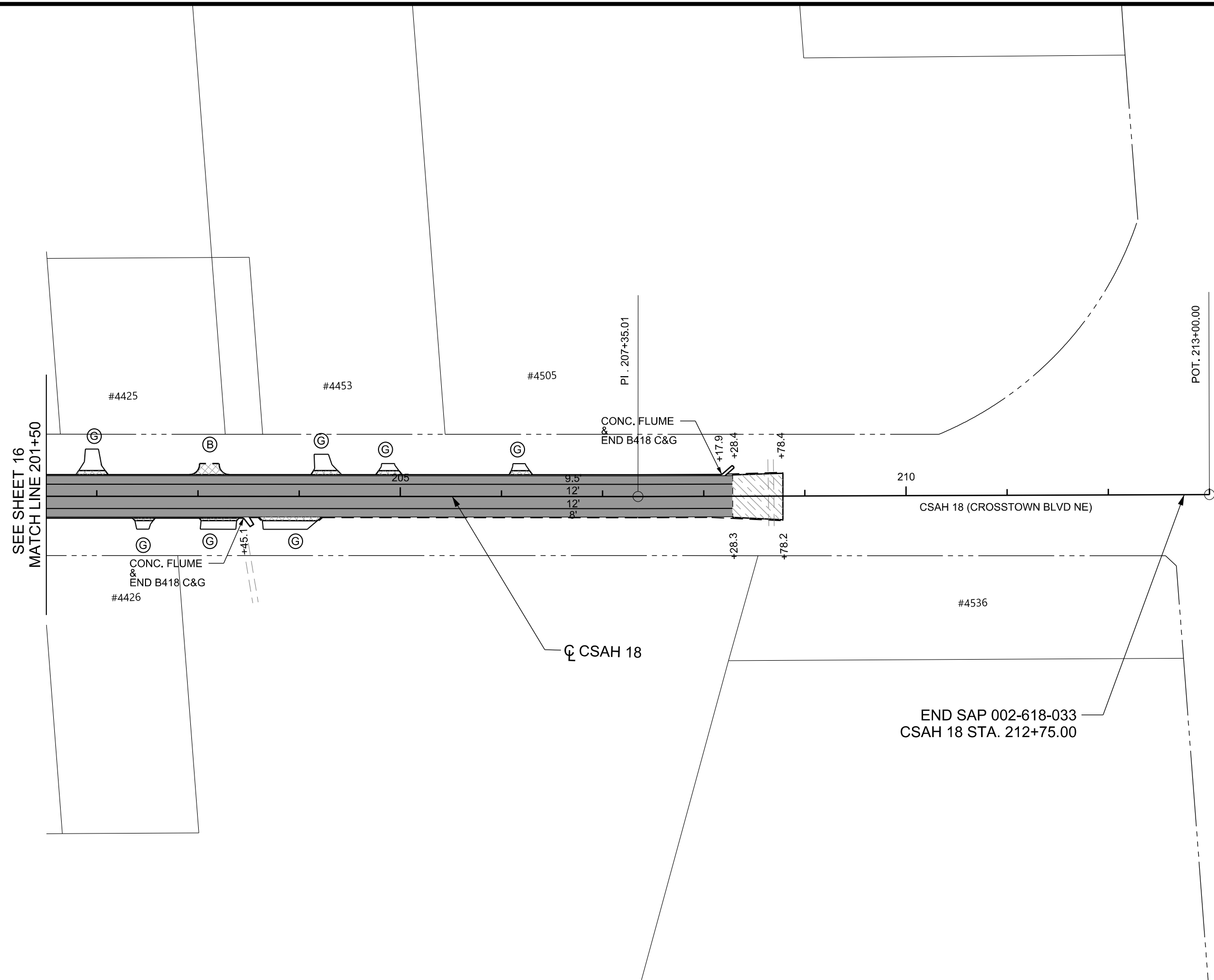
STA 177+50.00 TO 201+50.00

Sheet 16 of 39 Sheets

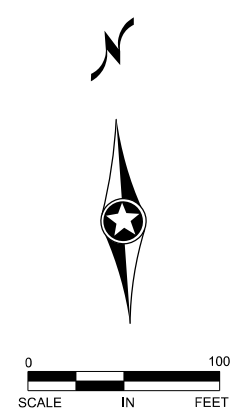
LEGEND

-  MAINLINE RECLAIM
-  REMOVE AND REPLACE PAVEMENT
-  2" MILL AND OVERLAY
-  SAWCUT
-  CROSS CULVERT
-  BITUMINOUS
-  CONCRETE
-  GRAVEL

NOTES:
 PROVIDE 4 FT MILL JOINT AT ALL SIDE STREETS.
 SEE SHEET 18 FOR B418 STAKING INFORMATION



SEE SHEET 16
MATCH LINE 201+50

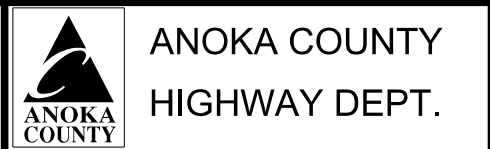


NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-618-033\Plan\002-618-033_RM1_P09.dgn 02/05/2021 1:21:18 PM

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: ELIZABETH MARKOSE
 SIGNATURE: *Elizabeth Markose*
 DATE: 02/10/2021 LICENSE NO. 49118

DRAWN BY: EJM DATE: 08/10/2020
 DESIGN BY: EJM DATE: 10/09/2020
 CHECKED BY: NJD DATE: 10/27/2020



SAP 002-618-033

CONSTRUCTION PLAN
 STA 201+50.00 TO END
 Sheet 17 of 39 Sheets

**CSAH 18
TOP BACK OF CURB**

Station	LEFT		RIGHT	
	OFFSET	ELEVATION	OFFSET	ELEVATION
53+62			22.1	914.95
53+75			22.1	915.09
54+00			22.1	915.35
54+25	25.6	915.53	22.1	915.62
54+50	25.6	915.79	22.1	915.88
54+75	22.9	916.07	22.1	916.13
55+00	24.5	916.31	22.1	916.33
55+25	22.1	916.5	22.1	916.5
55+50	22.1	916.63	22.1	916.63
55+75	22.1	916.71	22.1	916.71
56+00	22.1	916.76	22.1	916.76
56+25	22.1	916.77	22.1	916.77
56+50	22.1	916.73	22.1	916.73
56+75	22.1	916.66	22.1	916.66
57+00	22.1	916.54	22.1	916.54
57+25	22.1	916.39	22.1	916.39
57+50	22.1	916.19	22.1	916.19
57+75	22.1	915.96	22.5	915.95
58+00	22.1	915.68	24.1	915.63
58+25	22.1	915.37	25.6	915.28
58+50	22.1	915.01	25.6	914.92
58+75	22.1	914.63	25.6	914.54
59+00	22.1	914.25	25.6	914.16
59+25	22.1	913.87	25.6	913.78
59+50	22.1	913.49	25.6	913.4
59+75	22.1	913.11	25.6	913.02
60+00	22.1	912.73	25.6	912.64
60+25	22.1	912.36	25.6	912.27
60+50	22.1	912.02	25.6	911.93
60+75			25.6	911.61
61+00			25.6	911.29

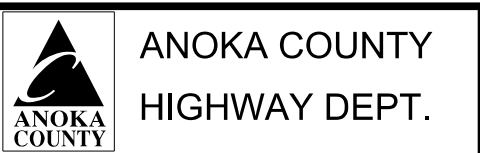
Station	RIGHT	
	OFFSET	ELEVATION
85+00	27.3	911.91
85+25	26.4	912.04
85+50	26.0	912.19
85+75	25.5	912.35
86+00	25.1	912.53
86+25	24.6	912.73
86+50	24.1	912.95
86+75	23.7	913.19
87+00	23.2	913.45
87+25	22.8	913.72
87+50	22.3	913.98
87+75	21.9	914.24
88+00	21.4	914.51
88+25	21.0	914.77
88+50	20.6	915.03
88+75	20.6	915.28
89+00	20.6	915.52
89+25	20.6	915.74
89+50	20.6	915.94
89+75	20.6	916.11
90+00	20.6	916.26
90+25	20.6	916.39
90+50	20.6	916.5
90+75	20.6	916.59
91+00	20.6	916.65
91+25	20.6	916.69
91+50	20.6	916.71
91+75	20.6	916.71
92+00	20.6	916.69
92+25	20.6	916.64
92+50	20.6	916.57
92+75	20.6	915.48
93+00	20.6	916.37

Station	LEFT		RIGHT	
	OFFSET	ELEVATION	OFFSET	ELEVATION
198+50	22.1		22.1	906.51
198+75	22.1	906.54	22.1	906.54
199+00	22.1	906.57	22.1	906.57
199+25	22.1	906.59	22.1	906.59
199+50	22.1	906.6	22.1	906.6
199+75	22.1	906.61	22.1	906.61
200+00	22.1	906.62	22.1	906.62
200+25	22.1	906.62	22.1	906.62
200+50	22.1	906.61	22.1	906.61
200+75	22.1	906.6	22.1	906.6
201+00	22.1	906.58	22.1	906.58
201+25	22.1	906.56	22.1	906.56
201+50	22.1	906.53	22.1	906.53
201+75	22.1	906.5	22.1	906.5
202+00	22.1	906.46	22.1	906.46
202+25	22.1	906.42	22.1	906.42
202+50	22.1	906.37	22.1	906.37
202+75	22.1	906.31	22.1	906.31
203+00	22.1	906.25	22.1	906.25
203+25	22.1	906.18	22.1	906.18
203+50	22.1	906.11	22.1	906.11
203+75	22.1	903.04		
204+00	22.1	905.95		
204+25	22.1	905.87		
204+50	22.1	905.77		
204+75	22.1	905.68		
205+00	22.1	905.59		
205+25	22.1	905.5		
205+50	22.1	905.41		
205+75	22.1	905.32		
206+00	22.1	905.24		
206+25	22.1	905.19		
206+50	22.1	905.17		
206+75	22.1	905.17		
207+00	22.1	905.2		
207+25	22.1	905.23		
207+50	22.1	905.26		
207+75	22.1	905.29		
208+00	22.1	905.32		
208+25	22.1	905.35		

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\002-618-033\Plan\002-618-033_RM1_P09.dgn					
02/05/2021 1:21:18 PM					

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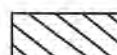
DRAWN BY: EJM DATE: 08/10/2020
 DESIGN BY: EJM DATE: 10/09/2020
 CHECKED BY: NJD DATE: 10/27/2020



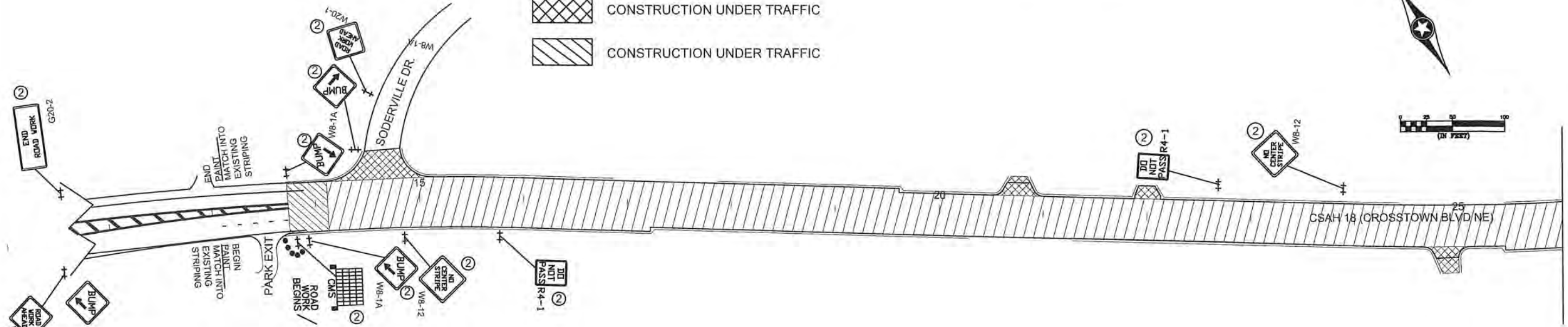
SAP 002-618-033

CURB STAKING
INFORMATION

Sheet 18 of 39 Sheets

-  CONSTRUCTION UNDER TRAFFIC
-  CONSTRUCTION UNDER TRAFFIC
-  CONSTRUCTION UNDER TRAFFIC

NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN



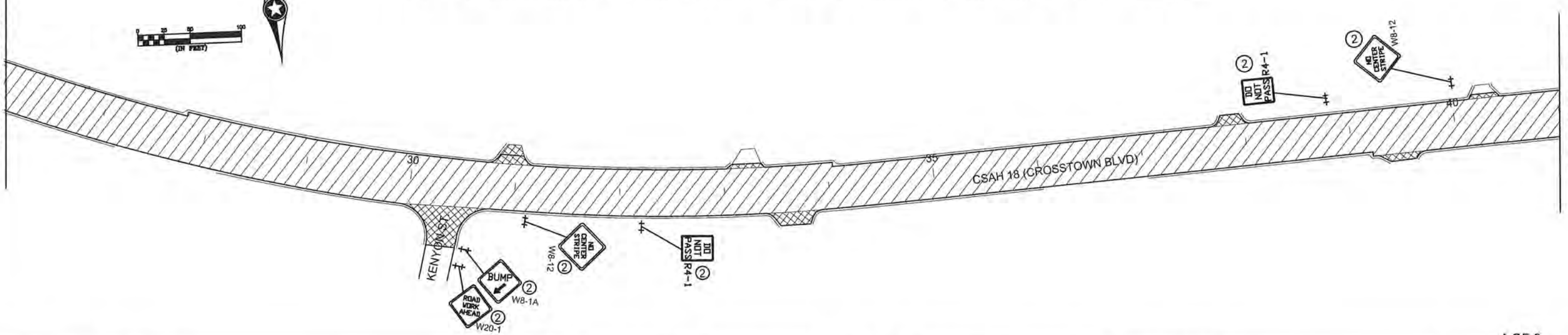
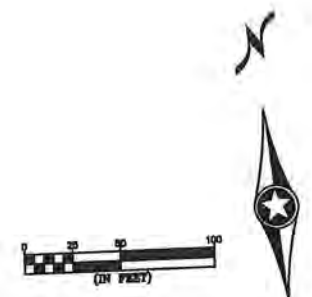
STATION 26+00

PLACE CMS 10 DAYS IN ADVANCE OF THE COMMENCEMENT OF WORK

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- CONTRACTOR SHALL SUPPLY AND PLACE THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM TEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA.
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.

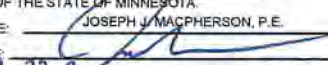
STATION 26+00




STATION 41+00

1 OF 8

NO	DATE	BY	CKD	APPR	REVISION

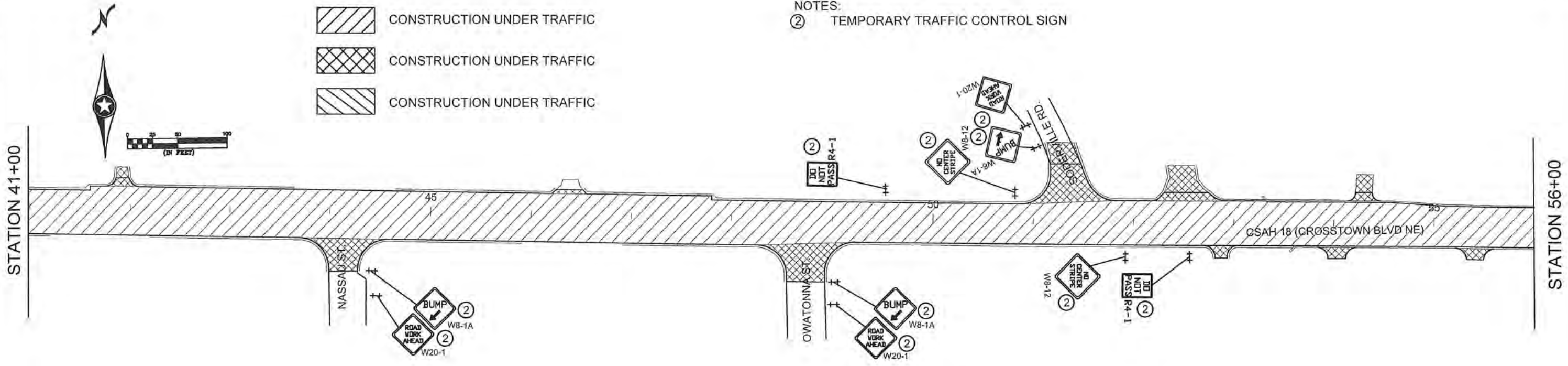
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: 
 DATE: 2-23-24 LICENSE NO. 46732

DRAWN BY: TMV DATE: 09/28/20
 DESIGN BY: TMV DATE: 09/28/20
 CHECKED BY: JKR DATE: 11/2020



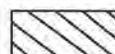
 ANOKA COUNTY HIGHWAY DEPT.

SAP 002-618-033

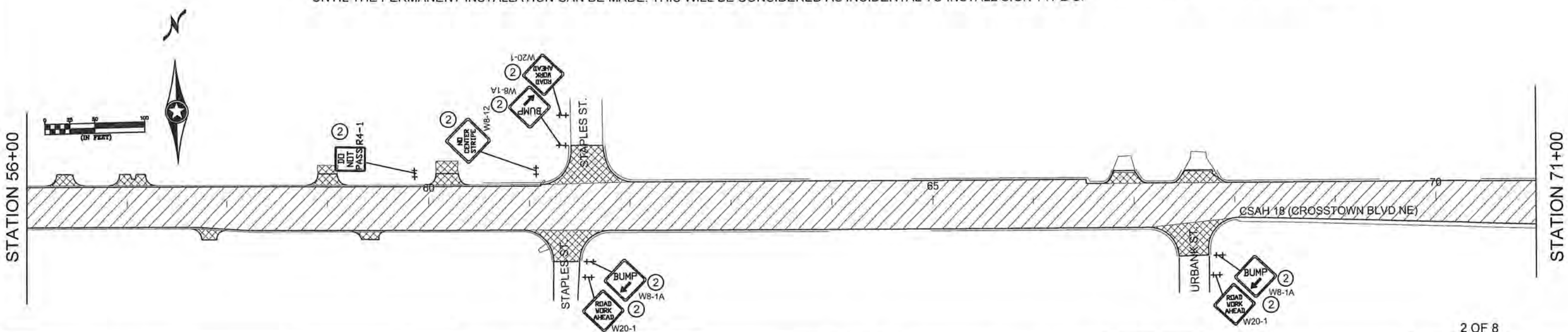
TRAFFIC CONTROL PLAN
 Sheet 19 of 39 Sheets

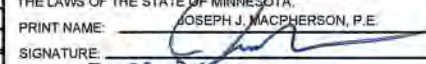



NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

 CONSTRUCTION UNDER TRAFFIC
 CONSTRUCTION UNDER TRAFFIC
 CONSTRUCTION UNDER TRAFFIC




- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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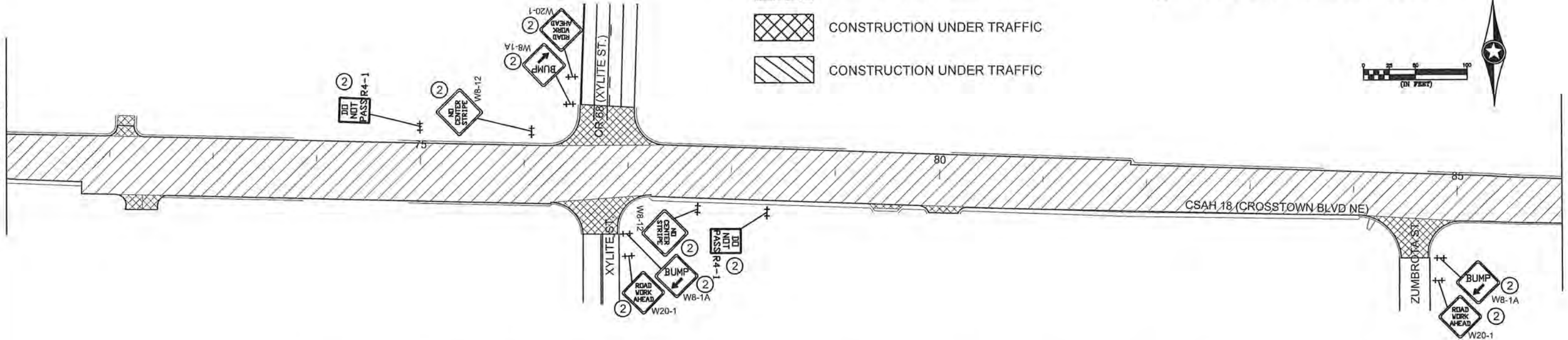
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: JOSEPH J. MACPHERSON, P.E. SIGNATURE:  DATE: 2.23.20 LICENSE NO. 46732					DRAWN BY: TMV DATE: 09/28/20 DESIGN BY: TMV DATE: 09/28/20 CHECKED BY: JKR DATE: 11/20/20		 ANOKA COUNTY HIGHWAY DEPT. SAP 002-618-033		TRAFFIC CONTROL PLAN Sheet 20 of 39 Sheets		
NO	DATE	BY	CKD	APPR	REVISION						
NAME: P:002-618-033\Basetraffic\Signing & Striping Reclaim Plan											

STATION 71+00

STATION 86+00

-  CONSTRUCTION UNDER TRAFFIC
-  CONSTRUCTION UNDER TRAFFIC
-  CONSTRUCTION UNDER TRAFFIC

NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

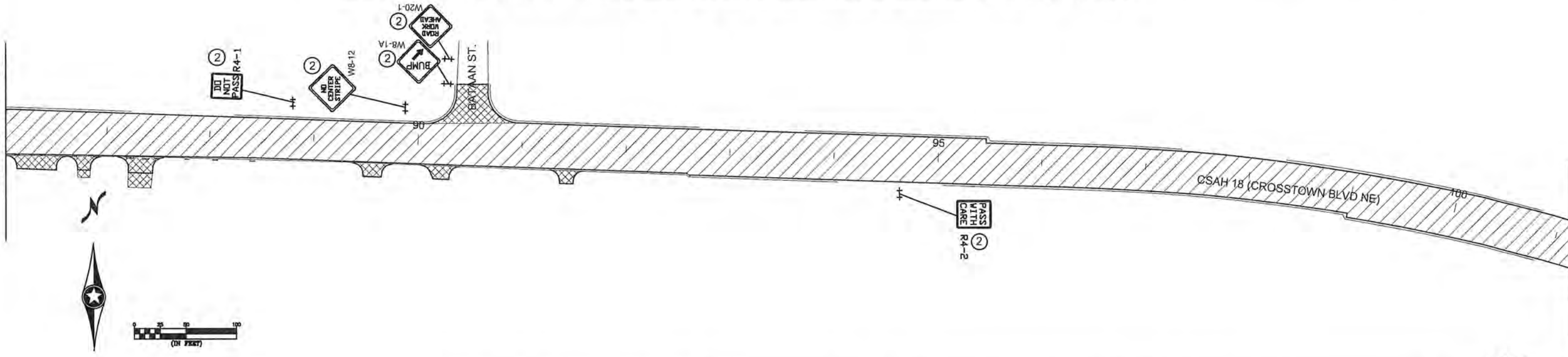


NOTES:

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STATION 86+00

STATION 101+00




3 OF 8

NO	DATE	BY	CKD	APPR	REVISION

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.

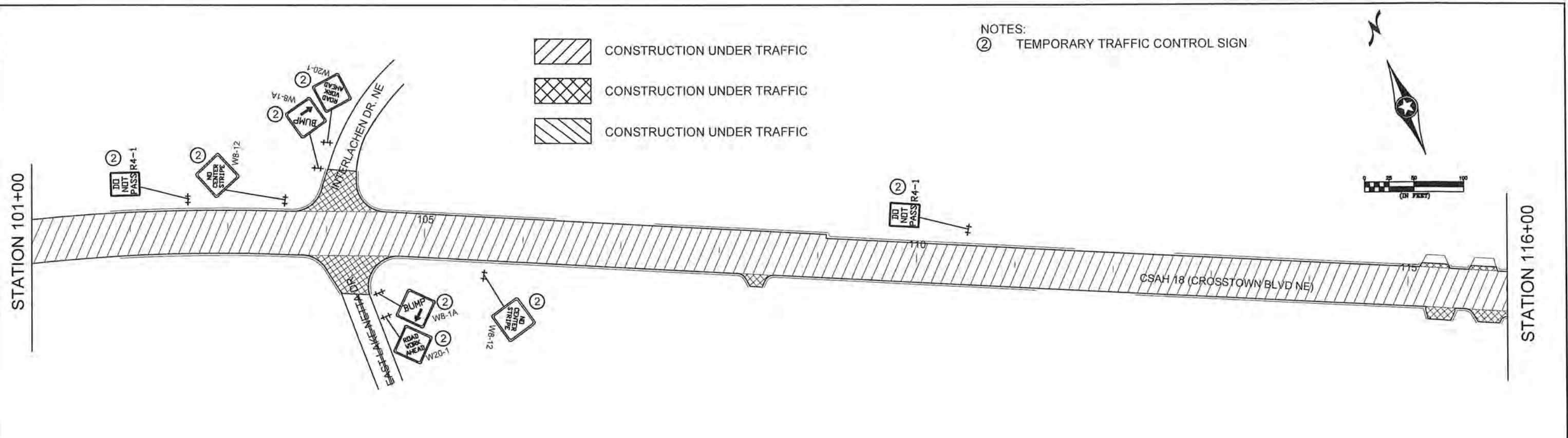
PRINT NAME: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 2/23/20 LICENSE NO. 48732

DRAWN BY: TMV DATE: 09/28/20
 DESIGN BY: TMV DATE: 09/28/20
 CHECKED BY: JKR DATE: 11/20/20

 ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

TRAFFIC CONTROL PLAN
 Sheet 21 of 39 Sheets

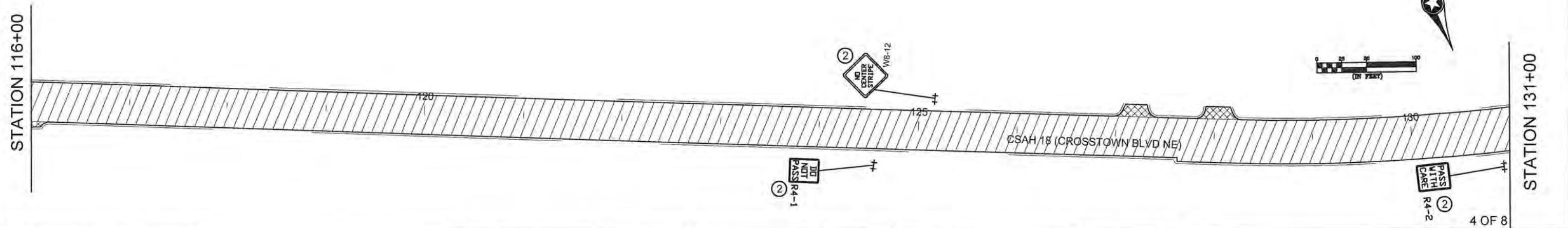


NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

- CONSTRUCTION UNDER TRAFFIC
- CONSTRUCTION UNDER TRAFFIC
- CONSTRUCTION UNDER TRAFFIC

NOTES:

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NO	DATE	BY	CKD	APPR	REVISION

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 SIGNATURE: *[Signature]*
 DATE: 2-23-20 LICENSE NO. 46732

DRAWN BY: TMV DATE: 09/28/20
 DESIGN BY: TMV DATE: 09/28/20
 CHECKED BY: JKR DATE: 11/2020

ANOKA COUNTY
HIGHWAY DEPT.

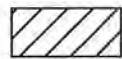


SAP 002-618-033

TRAFFIC CONTROL PLAN

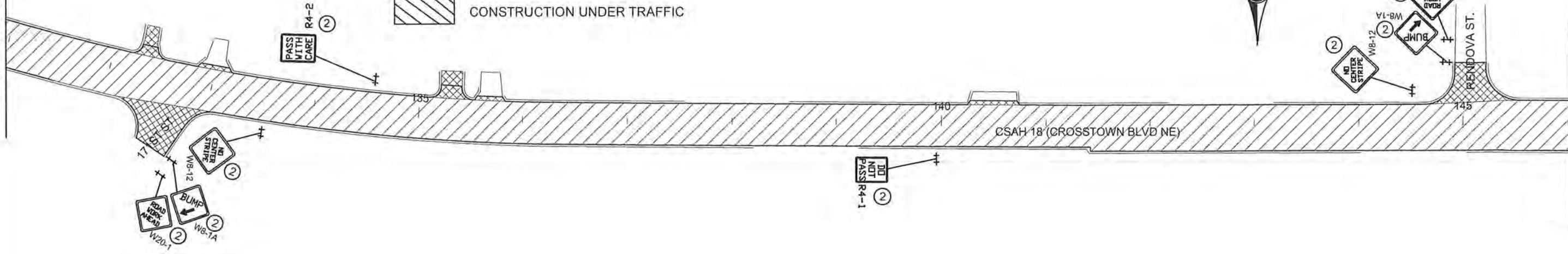
Sheet 22 of 39 Sheets

STATION 131+00

STATION 146+00

-  CONSTRUCTION UNDER TRAFFIC
-  CONSTRUCTION UNDER TRAFFIC
-  CONSTRUCTION UNDER TRAFFIC

NOTES:
 (2) TEMPORARY TRAFFIC CONTROL SIGN

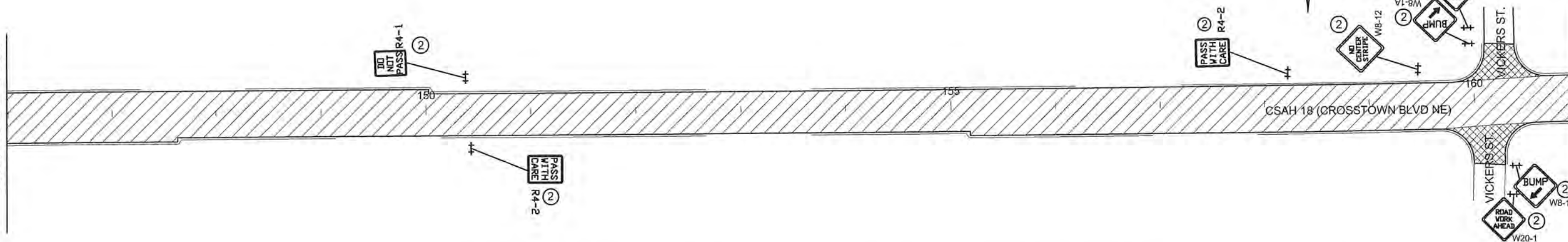
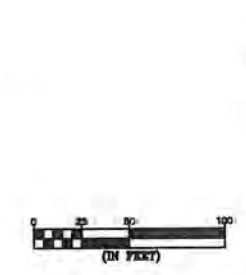


NOTES:

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STATION 146+00

STATION 161+00




NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\002-618-033\Bases\Traffic\Signing & Striping\Reclaim Plan					

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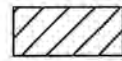

PRINT NAME: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 2-24-20 LICENSE NO. 48732

DRAWN BY: TMV DATE: 09/28/20
 DESIGN BY: TMV DATE: 09/28/20
 CHECKED BY: JKR DATE: 11/20/20

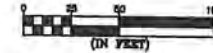
 ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

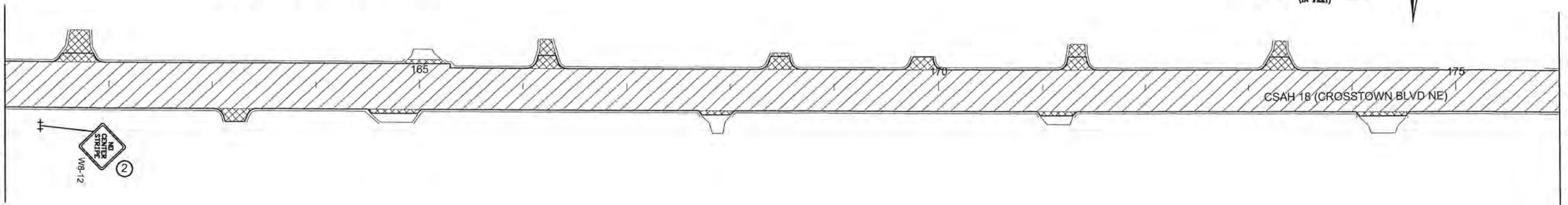
TRAFFIC CONTROL PLAN
 Sheet 23 of 39 Sheets

-  CONSTRUCTION UNDER TRAFFIC
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-  CONSTRUCTION UNDER TRAFFIC

NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN



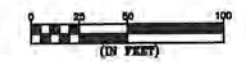
STATION 161+00



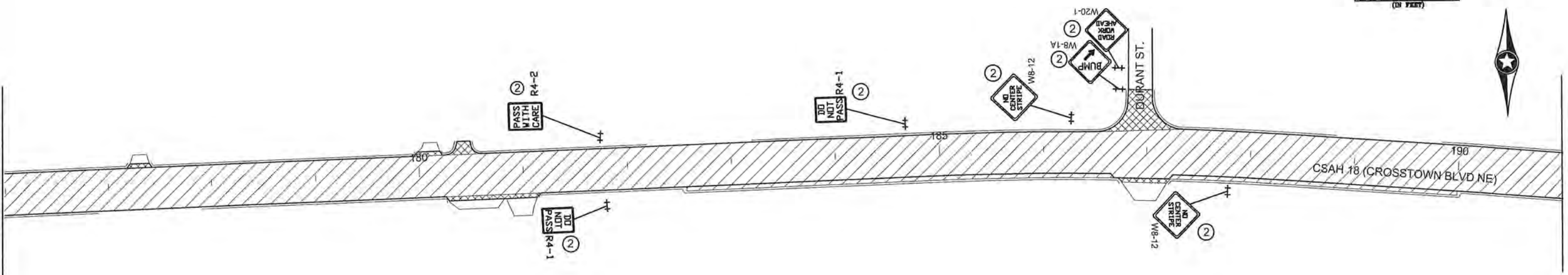
STATION 176+00

NOTES:

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STATION 176+00



STATION 191+00

NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: JOSEPH J. MACPHERSON, P.E.


SIGNATURE: *[Signature]*

DATE: 11/23/2020 LICENSE NO. 46732



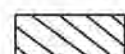
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CHECKED BY: JKR DATE: 11/20/20

 ANOKA COUNTY HIGHWAY DEPT.

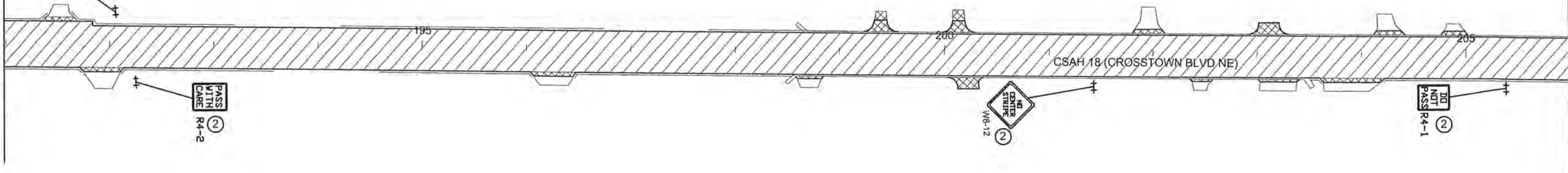
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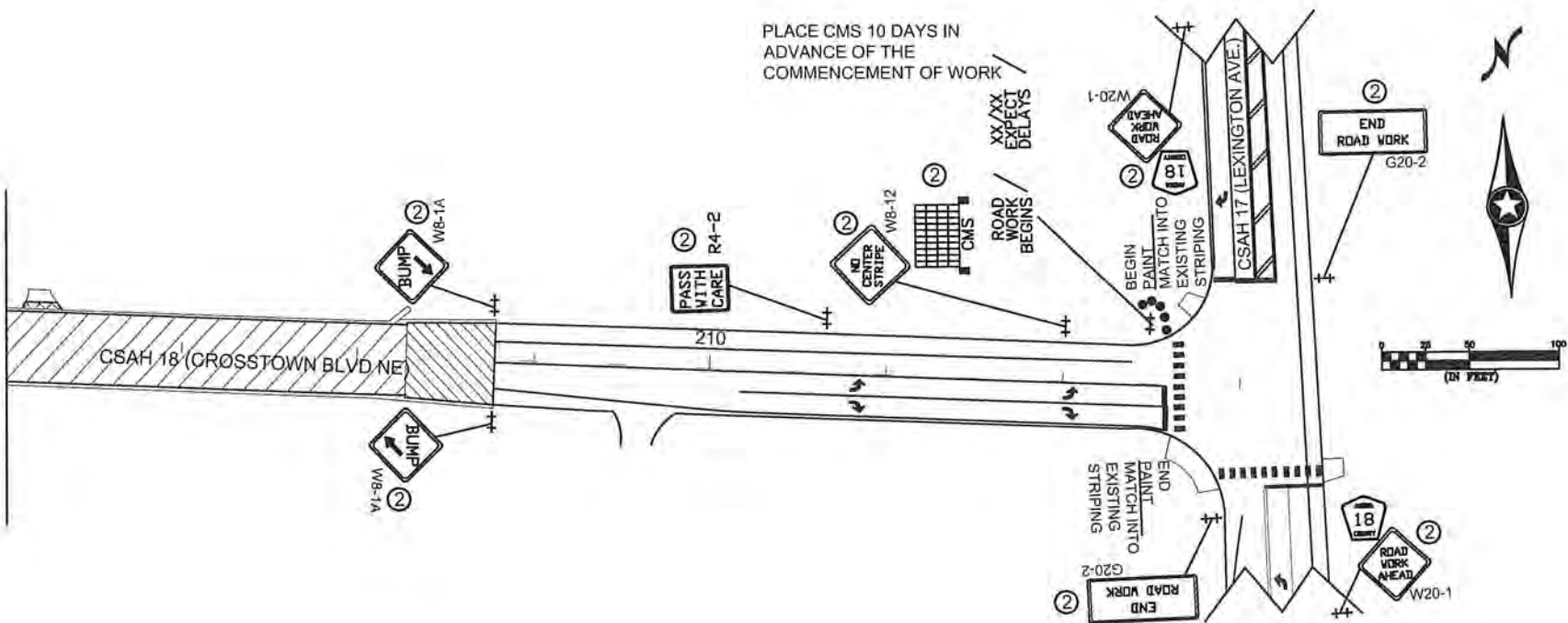
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 ② TEMPORARY TRAFFIC CONTROL SIGN

STATION 191+00

STATION 206+00

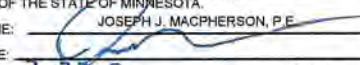


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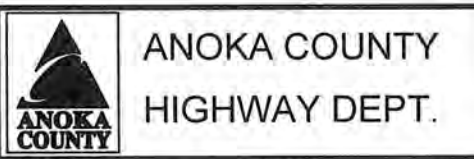


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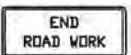










NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\002-618-033\Basetraffic\Signing & Striping Reclaim Plan					

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 SIGNATURE: 
 DATE: 11/11/2020 LICENSE NO. 48732

DRAWN BY: TMV DATE: 09/28/20
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 CHECKED BY: JKR DATE: 11/11/2020



SAP 002-618-033

TEMPORARY TRAFFIC CONTROL SIGNS			
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W8-12	48" x 48"		21
R4-1	24" x 30"		19
R4-2	24" x 30"		8
G20-2	36" x 18"		2
W8-1A	48" x 48"		23
W8-1	48" x 48"		AS NEEDED
W8-8	48" x 48"		AS NEEDED
W8-9	48" x 48"		AS NEEDED
	48" x 48"		AS NEEDED
W8-11	48" x 48"		AS NEEDED
M1-6	24" x 24"		2
W20-1	48" x 48"		AS NEEDED (ESTIMATED 22)
REFLECTORIZED REBOUNDABLE DRUM			AS NEEDED (ESTIMATED 10)
CMS sign to be placed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins.			2 AT 10 DAYS EA

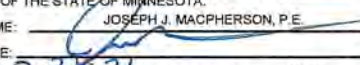
CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

		R	O	A	D		
		W	O	R	K		
		B	E	G	I	N	S


	<	D	A	T	E	>	
	E	X	P	E	C	T	
	D	E	L	A	Y	S	

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 ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT 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 A 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 ONE-HALF FOOT 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.

MULTI COMPONENT (MULTI COMP):

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 TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL MULTI COMP PAVEMENT MARKINGS.

THE MULTI COMP MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI COMP RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

A MULTI COMP RESIN LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE. GLASS BEADS SHALL BE APPLIED AT A MINIMUM RATE OF 25LBS POUNDS PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PREFORMED THERMOPLASTIC:

THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILD OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

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.

1
2

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	45180
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	3560
4" SOLID DOUBLE LINE YELLOW - MULTI COMP	LIN FT	11510
4" BROKEN LINE YELLOW - MULTI COMP	LIN FT	1980
8" BROKEN LINE WHITE - MULTI COMP	LIN FT	180
24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC (PMS*)	LIN FT	514
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC (PMS*)	LIN FT	25
PAVEMENT MESSAGE (LFT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	96
PAVEMENT MESSAGE (RT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	96
3' X 6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	SQ FT	162

1 - 10' SKIP 40' GAP

2 - 3' SKIP 12' GAP

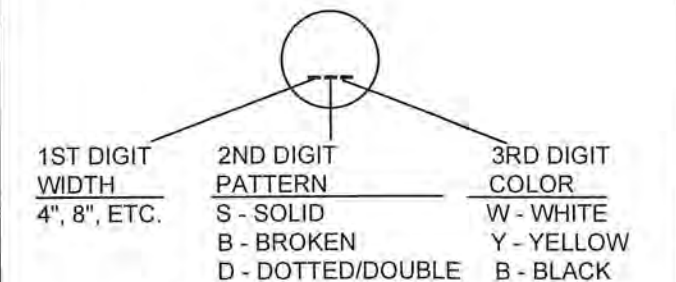
* PAVEMENT MARKING SPECIAL

SYMBOLS & MATERIALS LEGEND

- CROSSWALK BLOCK WHITE-POLY PREFORM
- ↩ PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

STRIPING KEY

- CIRCLE - MULTI COMP
- SQUARE - POLY PREFORM THERMOPLASTIC
- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = 4" SOLID LINE WHITE - MULTI COMP

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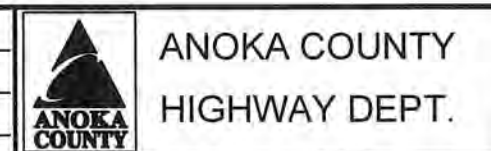
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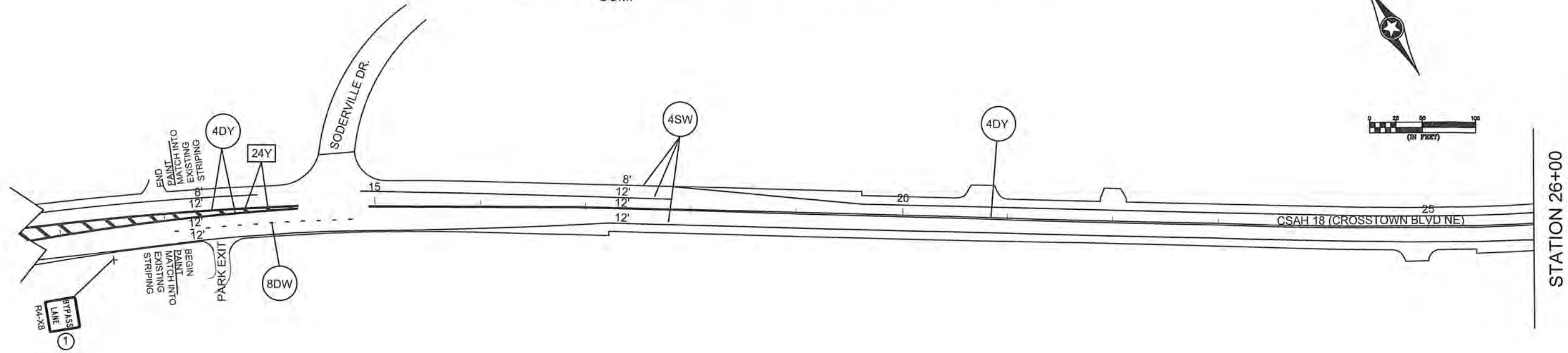
PERMANENT MARKING TABULATION

Sheet 27 of 39 Sheets

STRIPING KEY

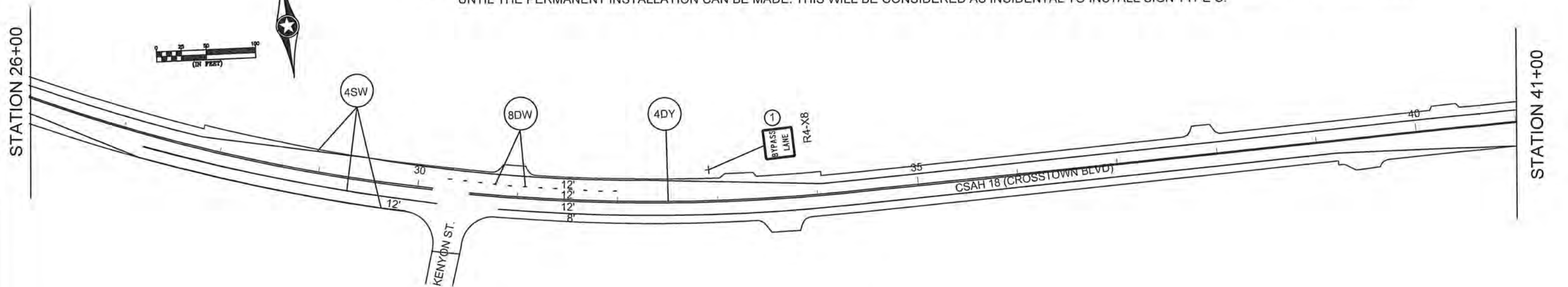
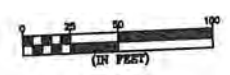


NOTES:
① FURNISH & INSTALL SIGN



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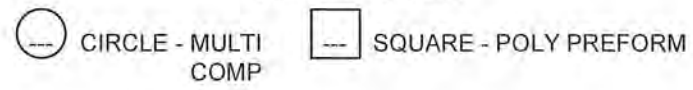
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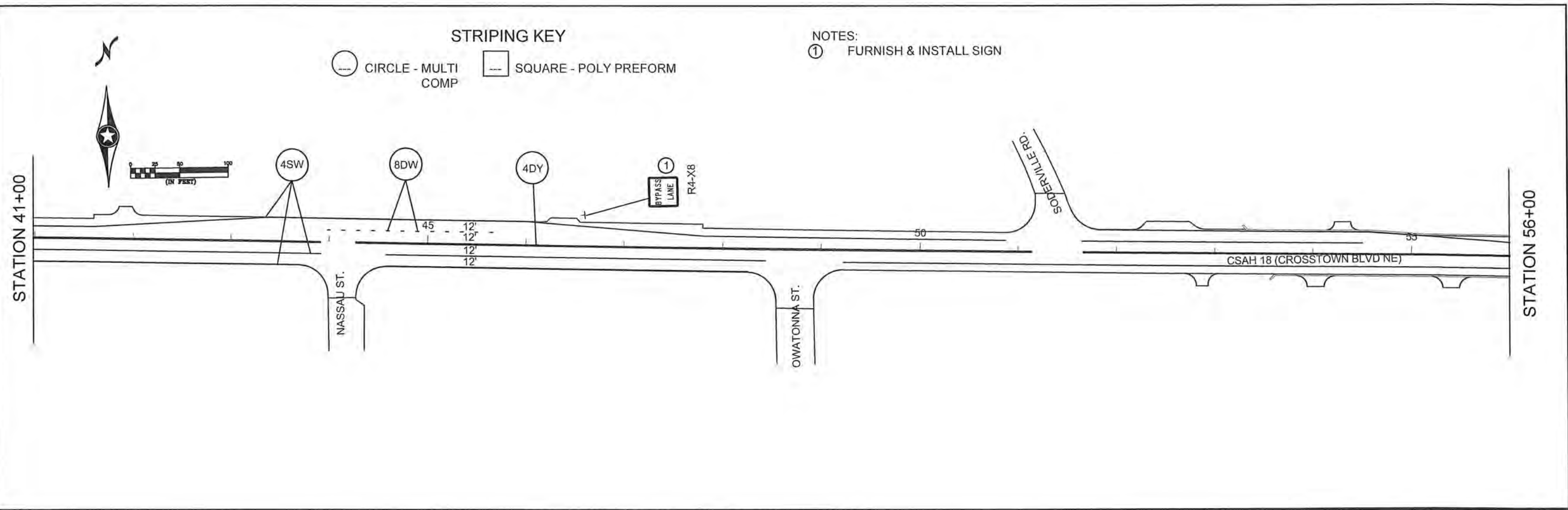
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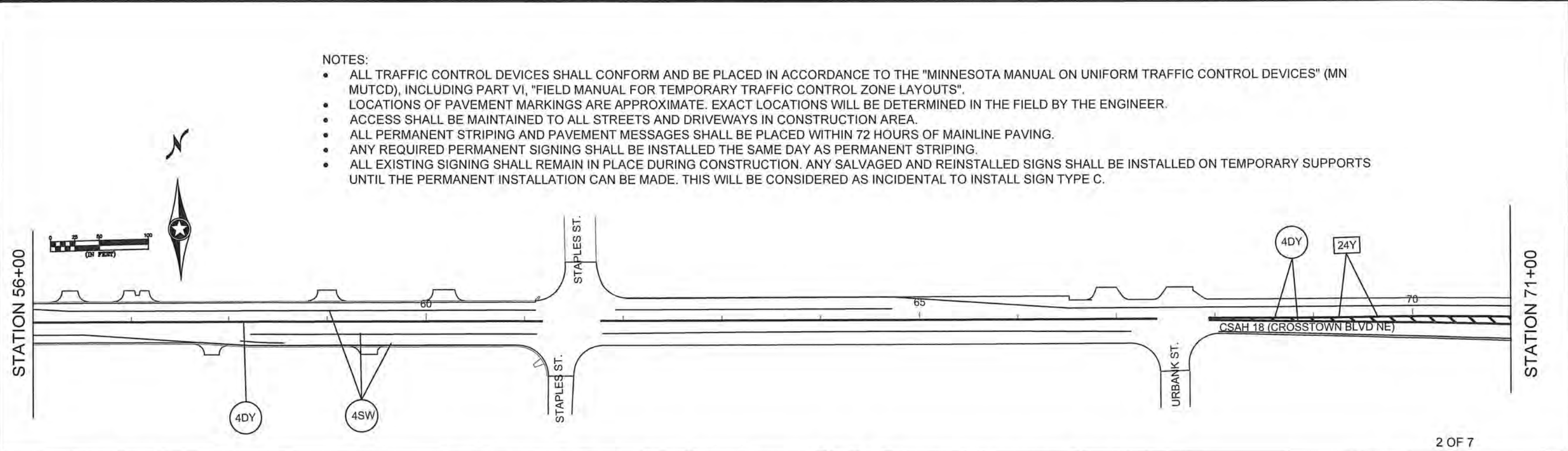
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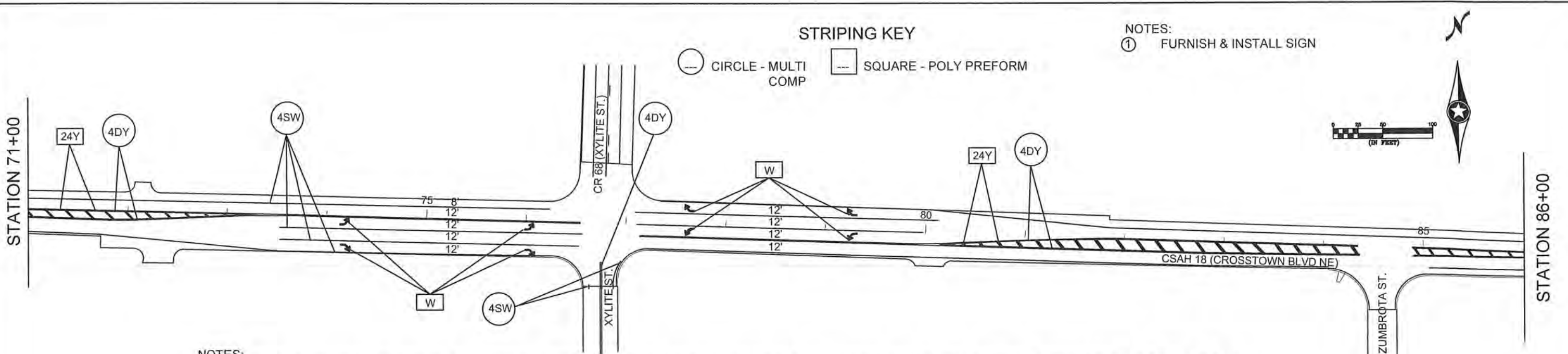
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						Sheet 29 of 39 Sheets						



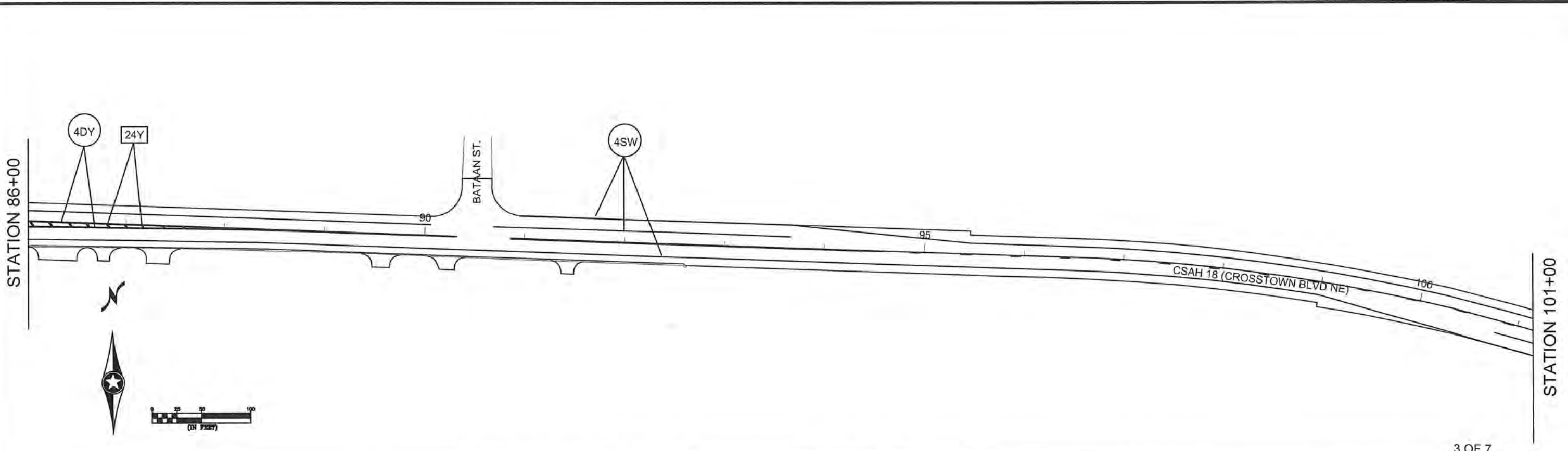
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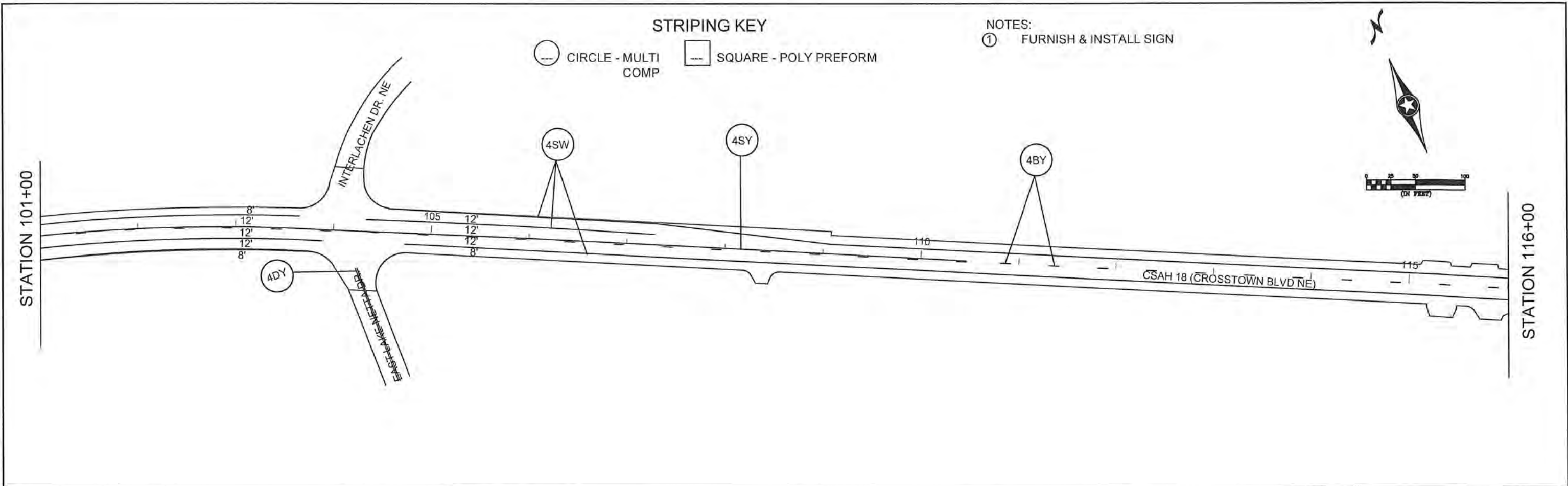
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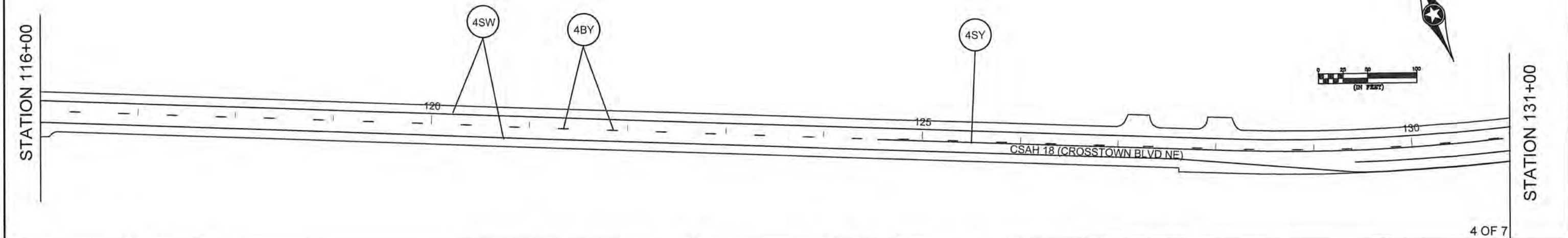
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SIGNING & STRIPING PLAN
 Sheet 30 of 39 Sheets

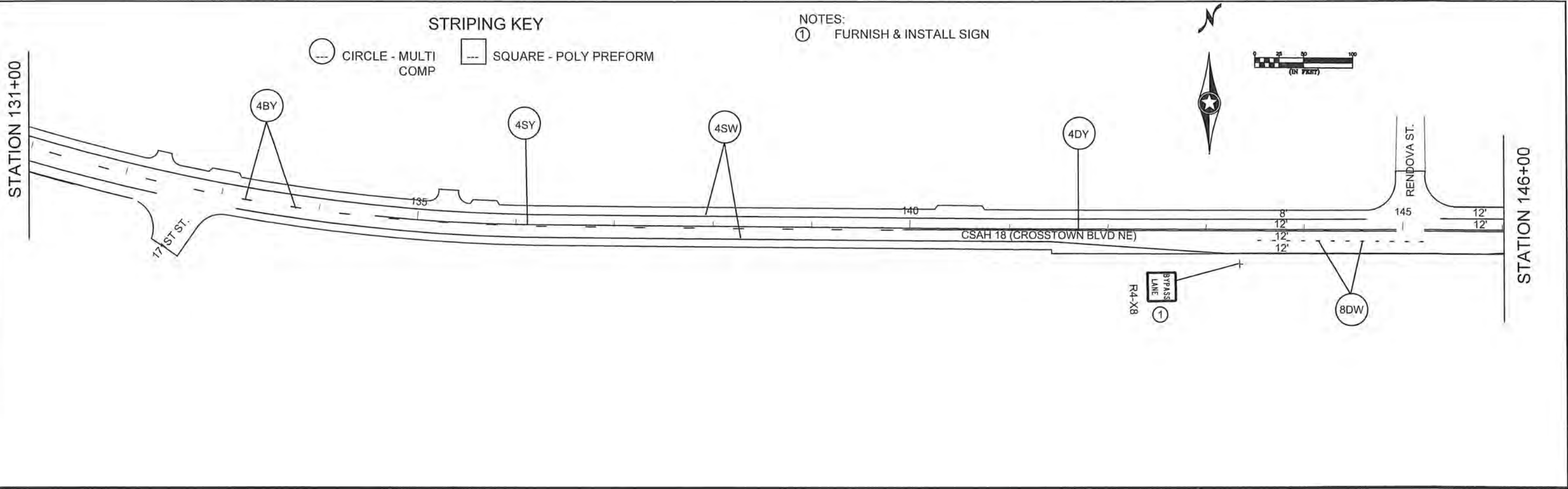


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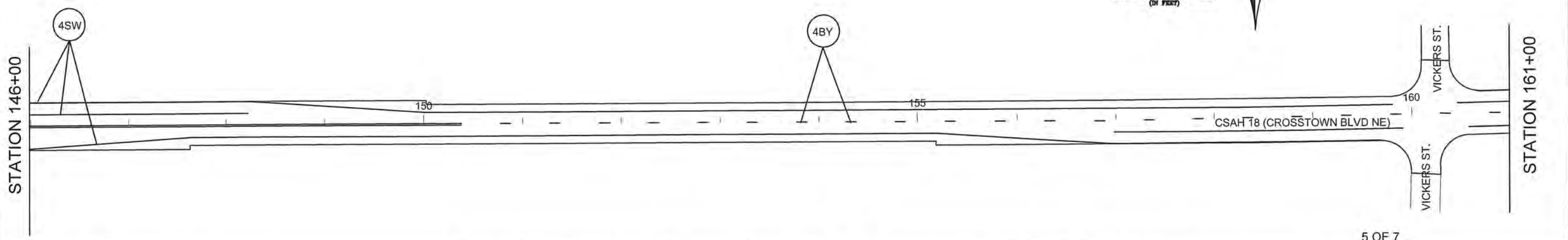
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 - ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.



5 OF 7

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:002-618-033/BasicTrafficSigning & Striping Reclaim Plan					

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: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *Joseph J. MacPherson*

DATE: 2-23-21 LICENSE NO. 48732

DRAWN BY: TMV DATE: 09/28/20

DESIGN BY: TMV DATE: 09/28/20

CHECKED BY: JKR DATE: 11/2020



ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

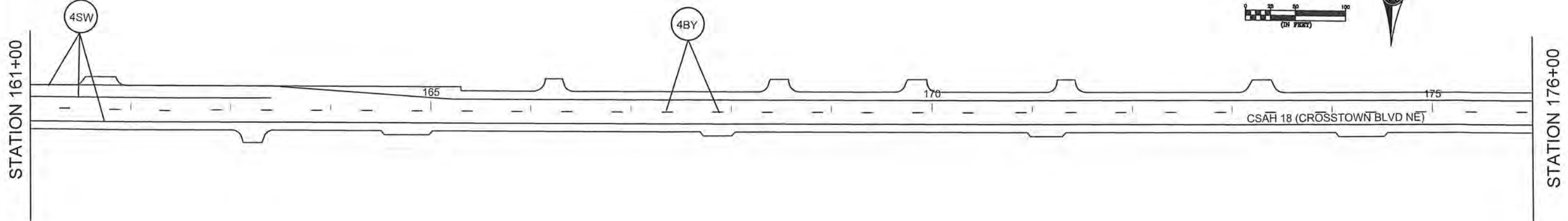
SIGNING & STRIPING PLAN

Sheet 32 of 39 Sheets

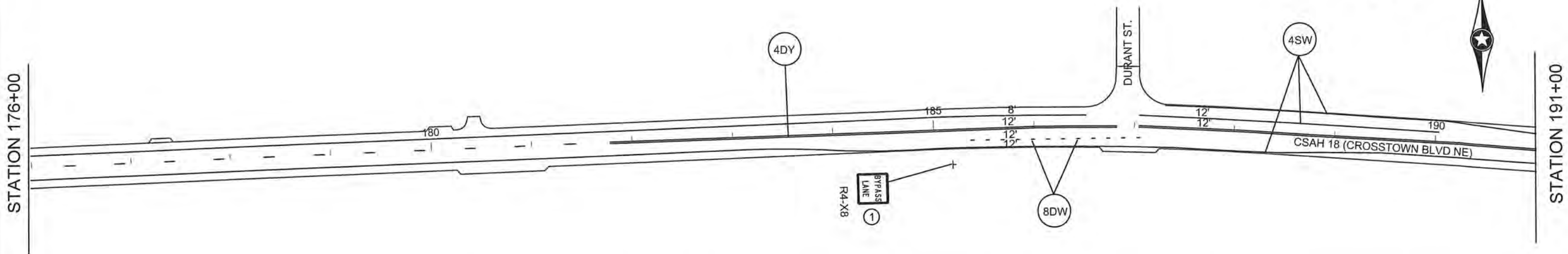
STRIPING KEY



NOTES:
 ① FURNISH & INSTALL SIGN



- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
 - LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA.
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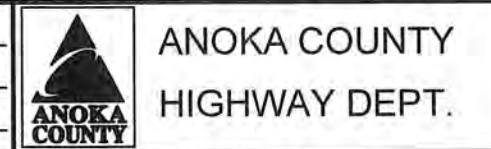


NO	DATE	BY	CKD	APPR	REVISION

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 SIGNATURE: *[Signature]*
 DATE: 2-23-21 LICENSE NO. 46732

DRAWN BY TMV DATE 09/28/20
 DESIGN BY TMV DATE 09/28/20
 CHECKED BY JKR DATE 11/2020



SAP 002-618-033

SIGNING & STRIPING PLAN
 Sheet 33 of 39 Sheets



STRIPING KEY

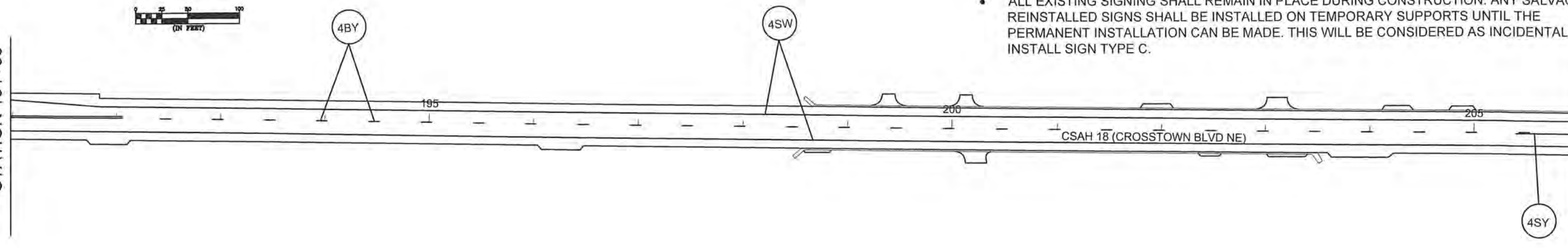


NOTES:
 ① FURNISH & INSTALL SIGN

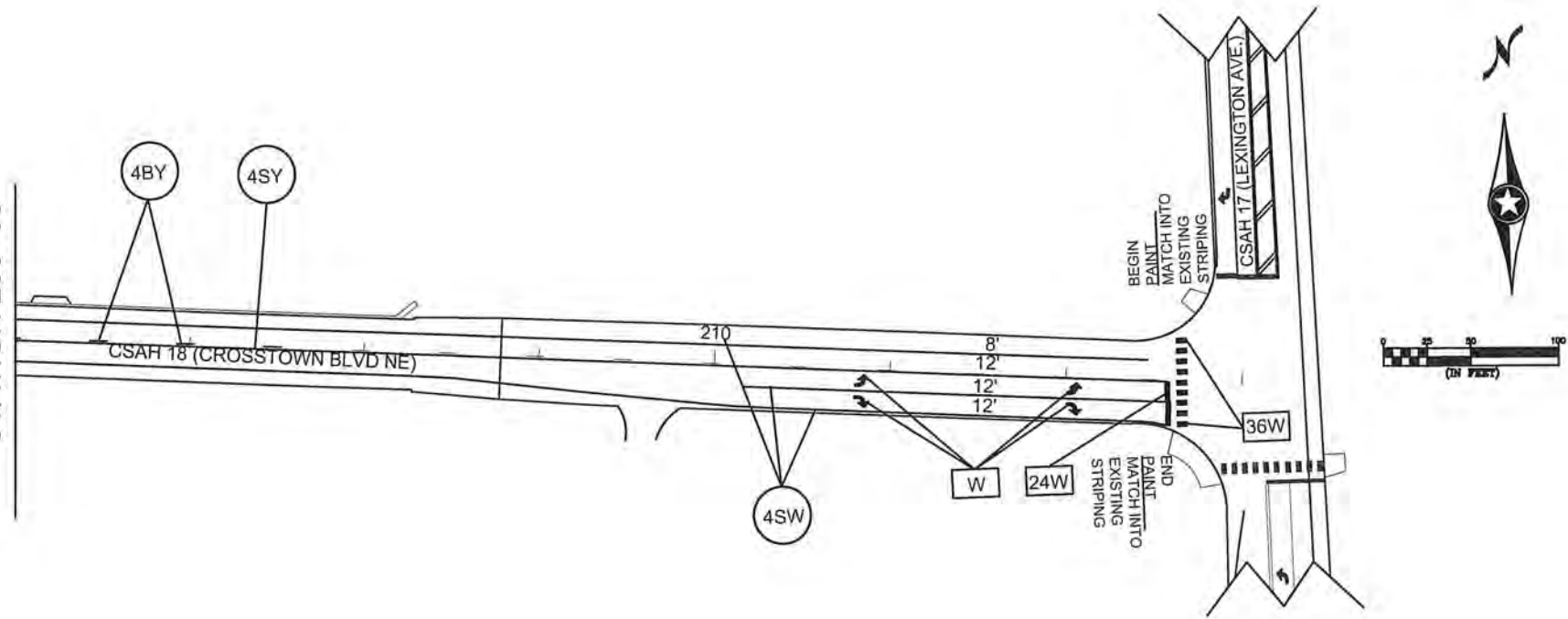
- NOTES:
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STATION 191+00

STATION 206+00



STATION 206+00

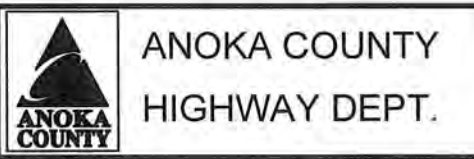


F & I SIGN PANELS TYPE C							
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	PANEL AREA	TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT To pavement edge
				SQ. FT.	SQ. FT.		
R4-X8	30" x 30"	BYPASS LANE	5	6.25	31.25	1	7.0'
TOTAL TYPE C SIGN SQ FT					31.25		
PROJECT TOTAL SQ FT					31.25		

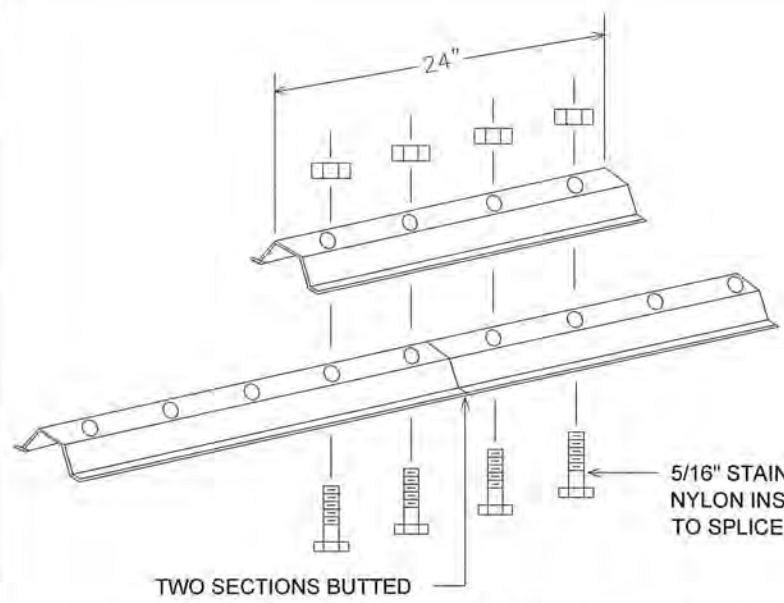
NO	DATE	BY	CKD	APPR	REVISION

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: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 2-25-21 LICENSE NO. 48732

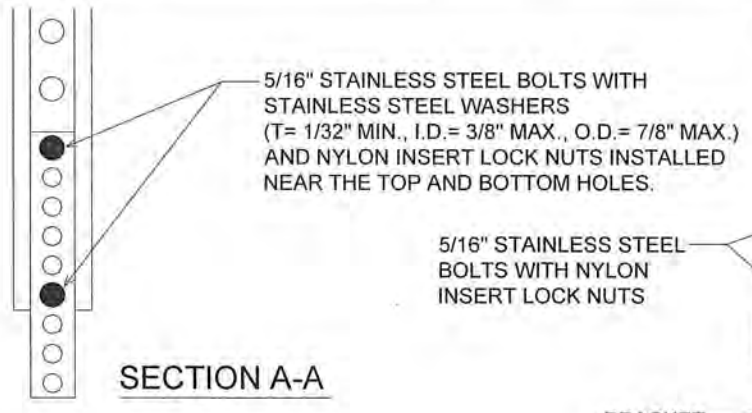
DRAWN BY: TMV DATE: 09/28/20
 DESIGN BY: TMV DATE: 09/28/20
 CHECKED BY: JKR DATE: 11/20/20



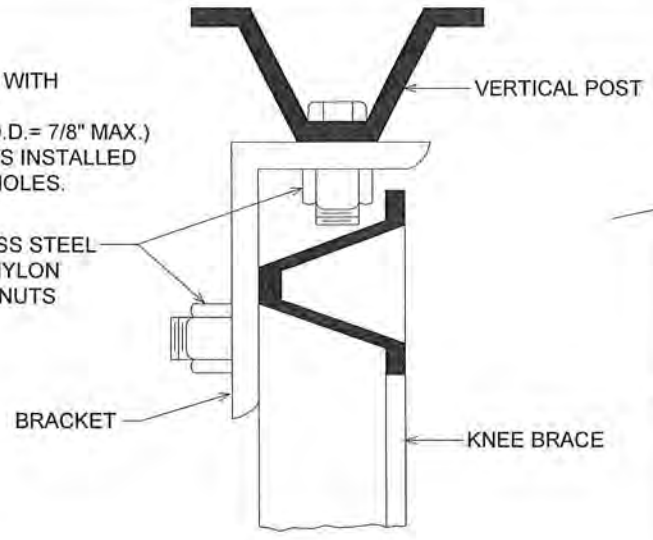
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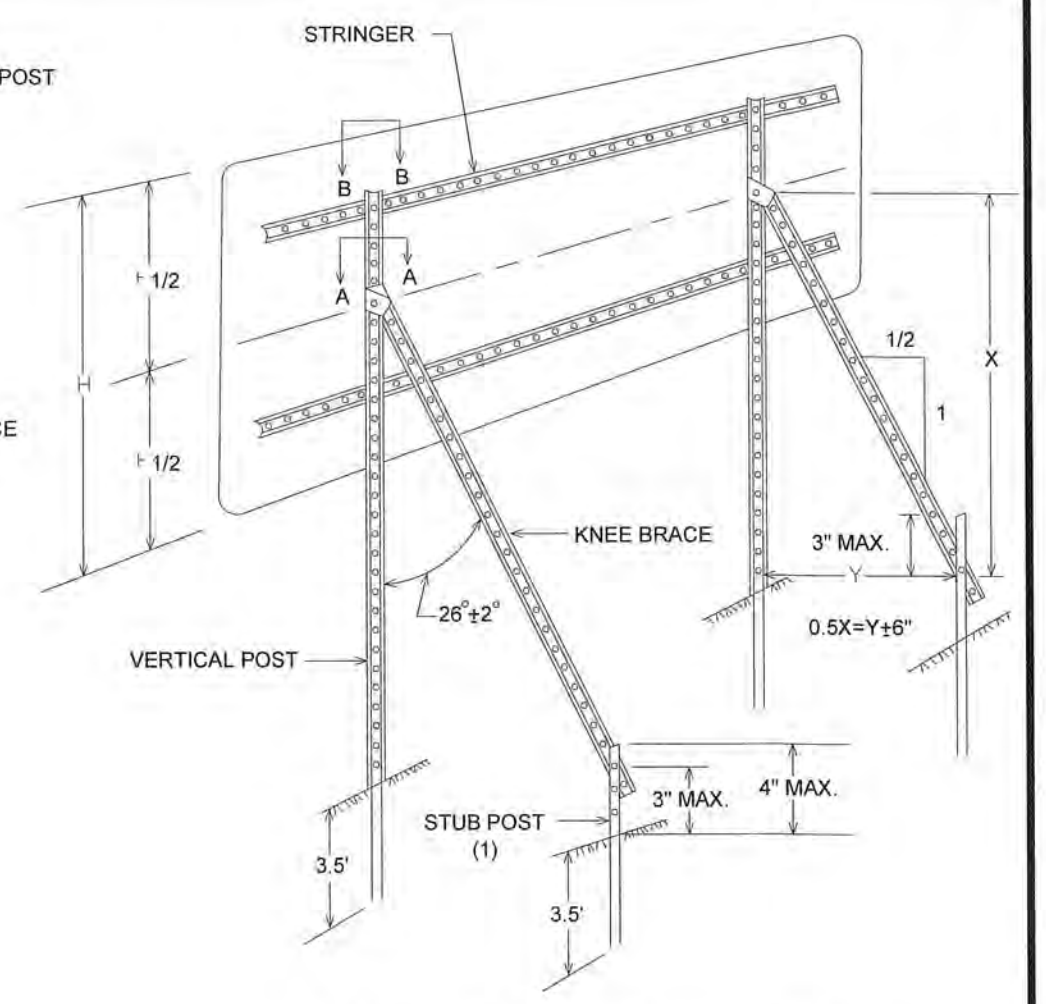
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



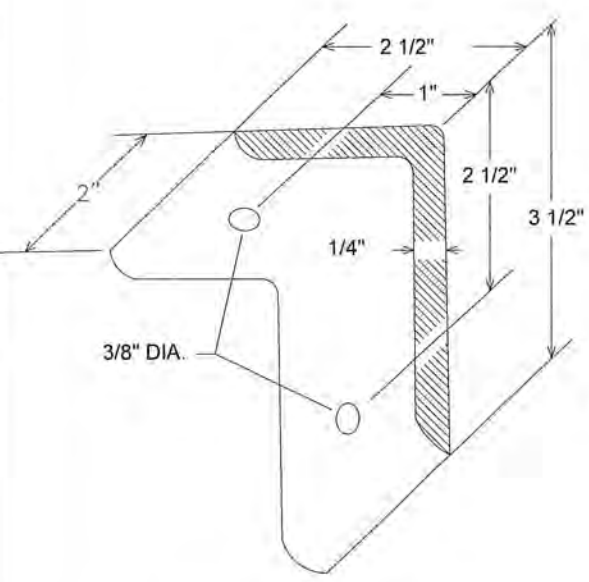
SECTION A-A



BRACKET
KNEE BRACE

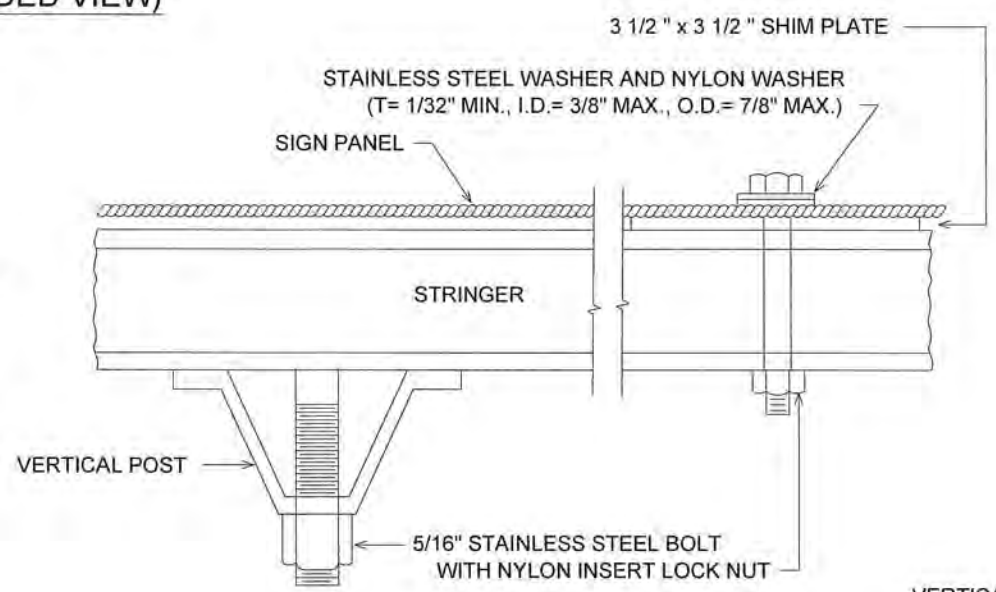


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

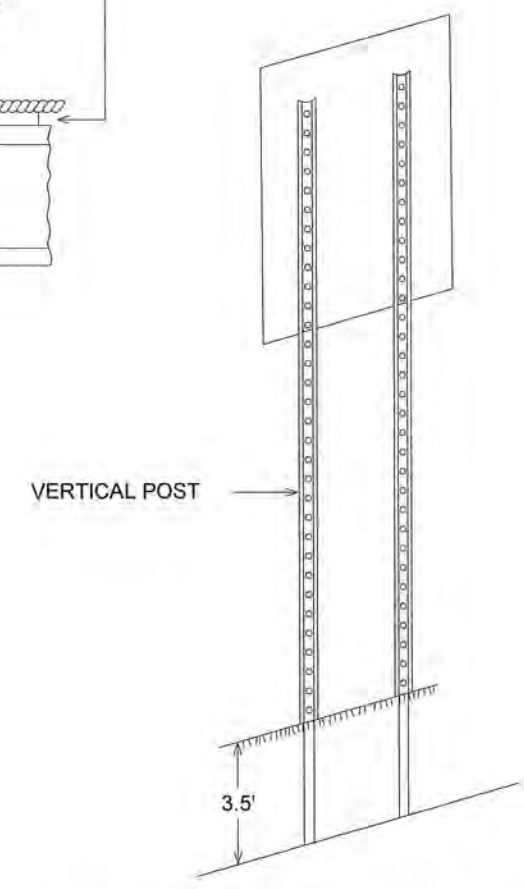


A-FRAME BRACKET

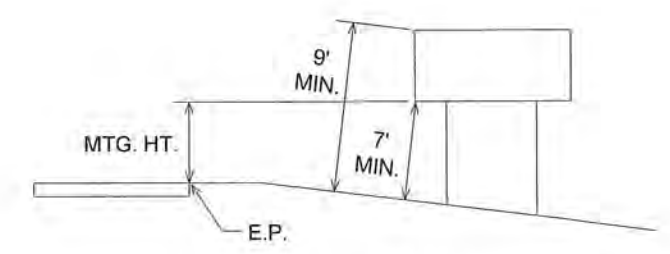
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



TYPICAL INSTALLATION 36" AND LARGER
TYPE "C" SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY
RELATIVE TO VERTICAL POST.

TYPE C & D SIGN
STRUCTURAL DETAILS

NO	DATE	BY	CKD	APPR	REVISION

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: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 2/23/21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/14/20
 DESIGN BY: TMV DATE: 12/14/20
 CHECKED BY: _____ DATE: _____

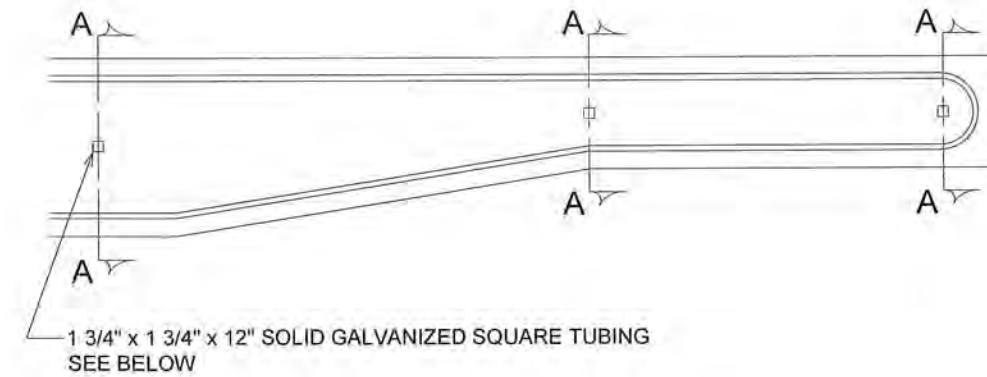
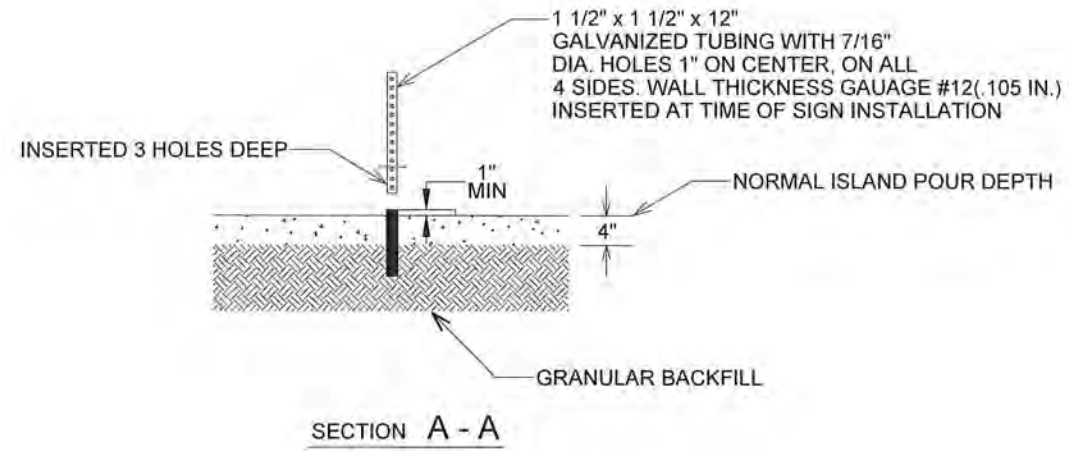


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HIGHWAY DEPT.

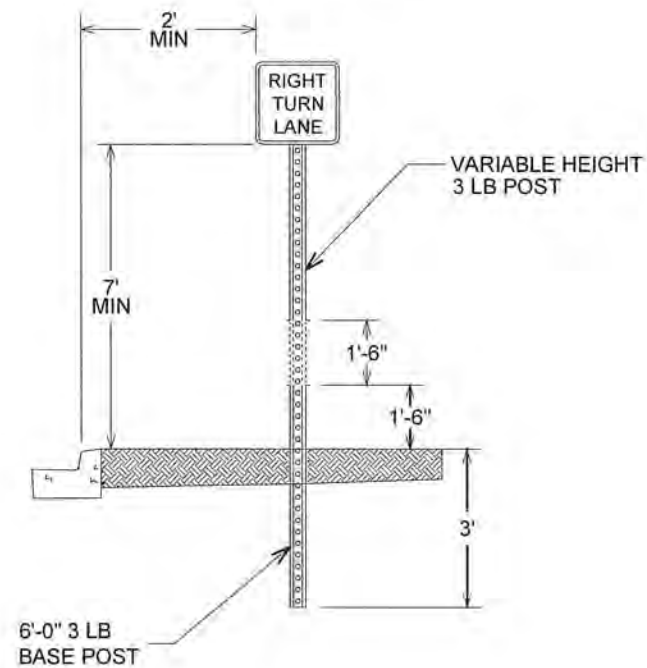
SAP 002-618-033

SIGNING & STRIPING
DETAILS

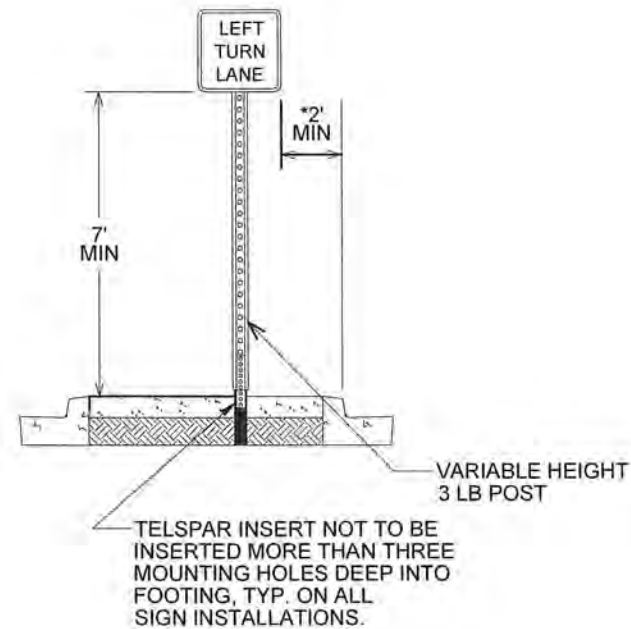
Sheet 35 of 39 Sheets



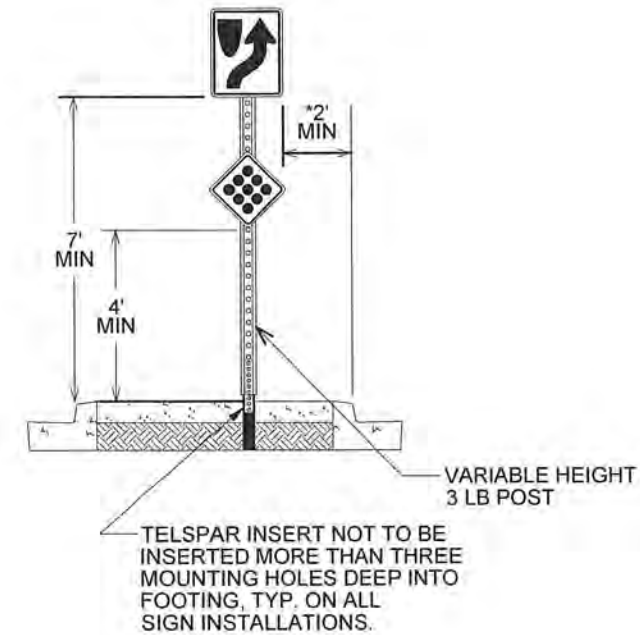
GROUND POST MOUNT SIGN INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN INSTALLATION TYPICAL KEEP RIGHT/CLUSTER



*1' MIN FOR NARROW URBAN LOCATIONS

INSTALLATION NEAR SIDEWALK (MN MUTCD)
 The minimum height, measured vertically from the bottom of the sign to the sidewalk, of signs installed above sidewalks shall be 7 feet. If the bottom of a secondary sign that is mounted below another sign is mounted lower than 7 feet above a pedestrian sidewalk or pathway, the secondary sign shall not project more than 4 inches into the pedestrian facility.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-618-033\Base\TrafficSign&Stripe Details.dwg

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: JOSEPH J. MATHERSON, P.E.

SIGNATURE: *Joseph J. Matherson*

DATE: 2-27-21 LICENSE NO: 46732

DRAWN BY: TMV DATE: 12/14/20

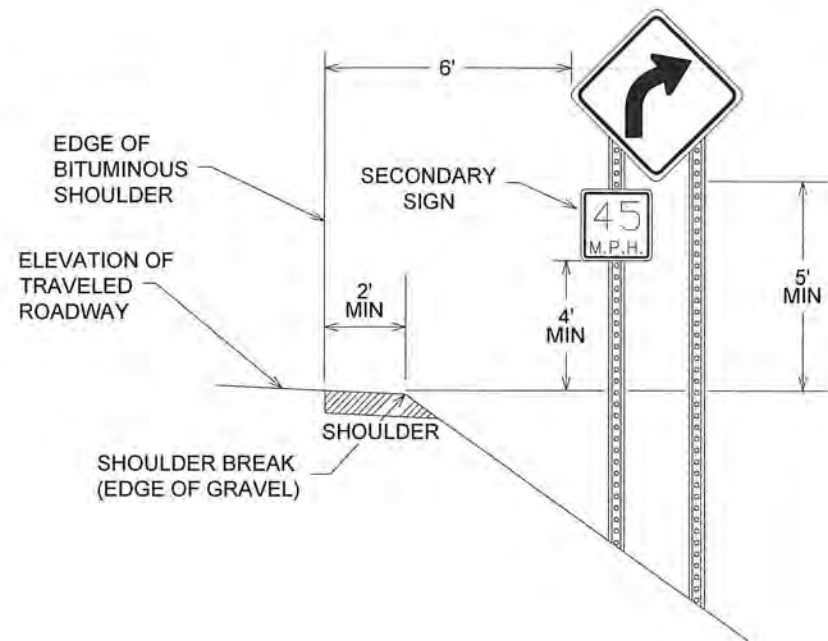
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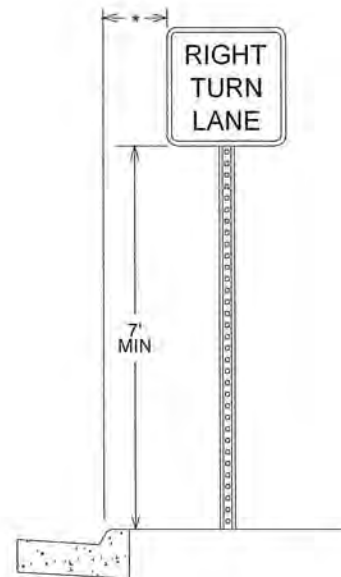
ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

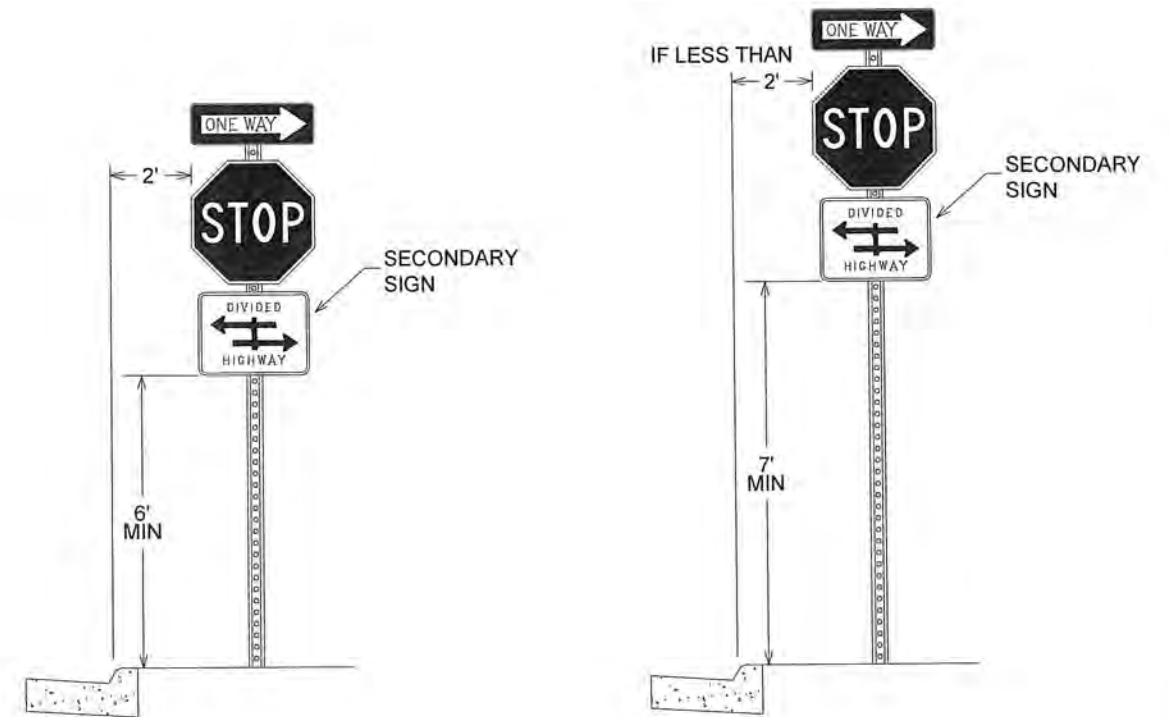
TYPICAL SIGN PLACEMENT
(RURAL)



TYPICAL SIGN PLACEMENT
(URBAN)



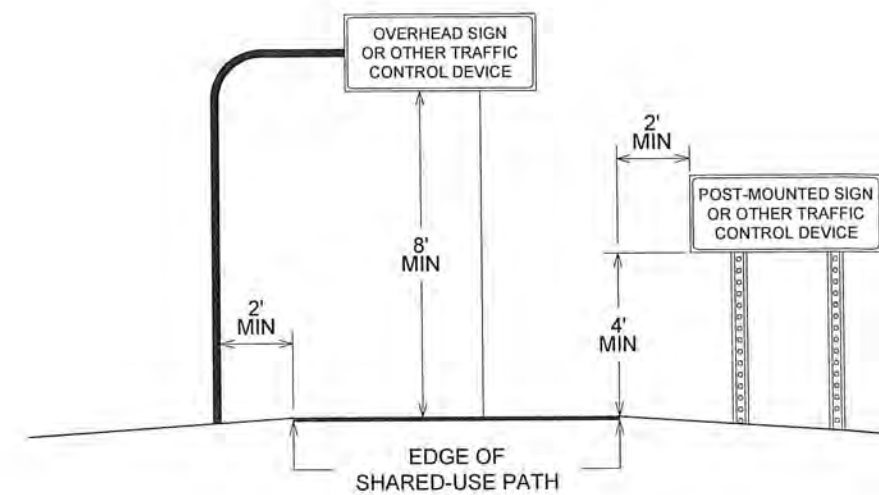
*2' - NARROW BOULEVARD (≤ 8' WIDE)
6' - WIDE BOULEVARD



NOTES:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN A DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL
- 7' SIGN CLEARANCE IF A 2' DISTANCE BETWEEN SIGN AND BITUMINOUS TRAIL CANNOT BE MAINTAINED

TYPICAL SIGN PLACEMENT
SHARED-USE PATH



NO	DATE	BY	CKD	APPR	REVISION

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: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 2-23-24 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/14/20
 DESIGN BY: TMV DATE: 12/14/20
 CHECKED BY: DATE:

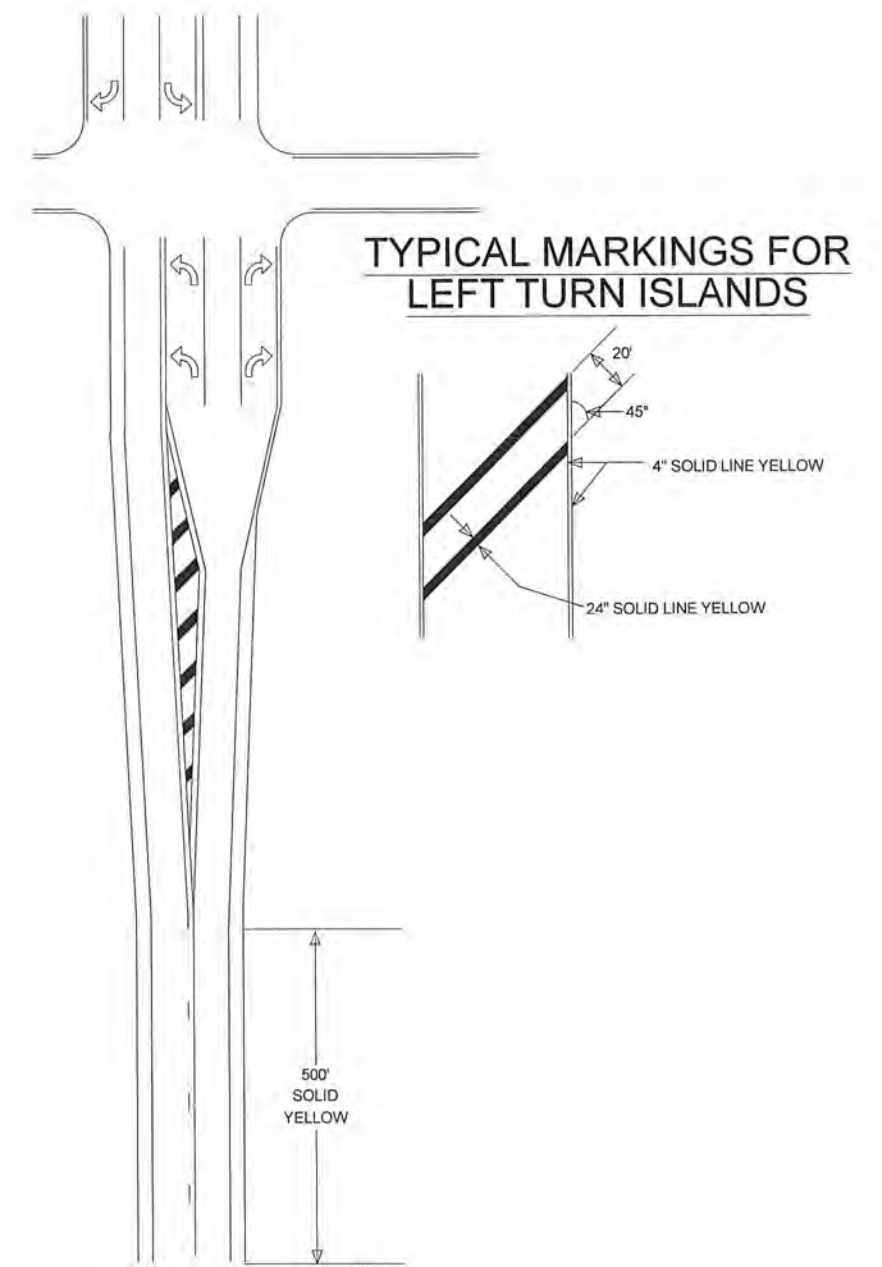
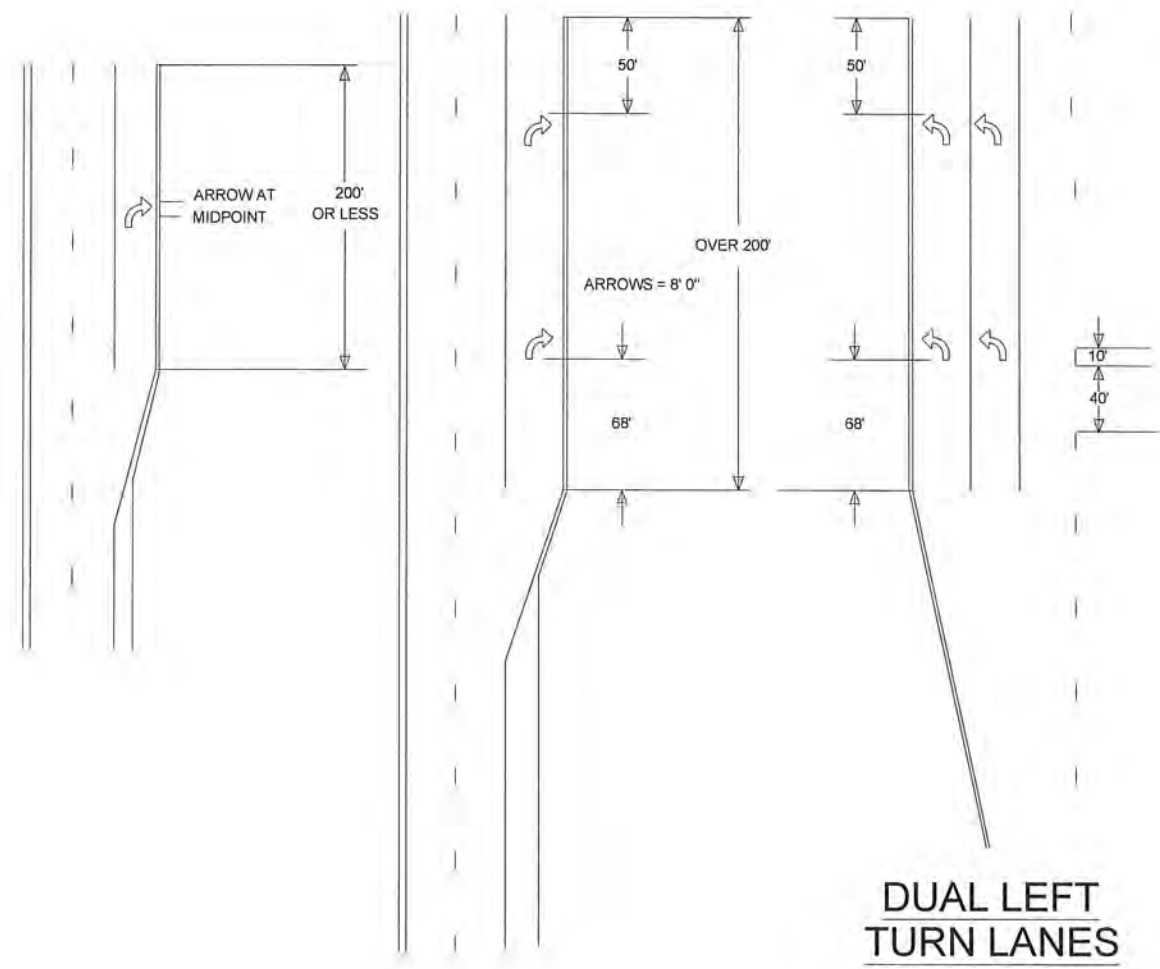


ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-618-033

SIGNING & STRIPING
DETAILS

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-618-033\BaseTraffic\Sign&Stripe Details.dwg

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SIGNATURE: *[Signature]*

DATE: *[Date]* LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/14/20

DESIGN BY: TMV DATE: 12/14/20

CHECKED BY: DATE:



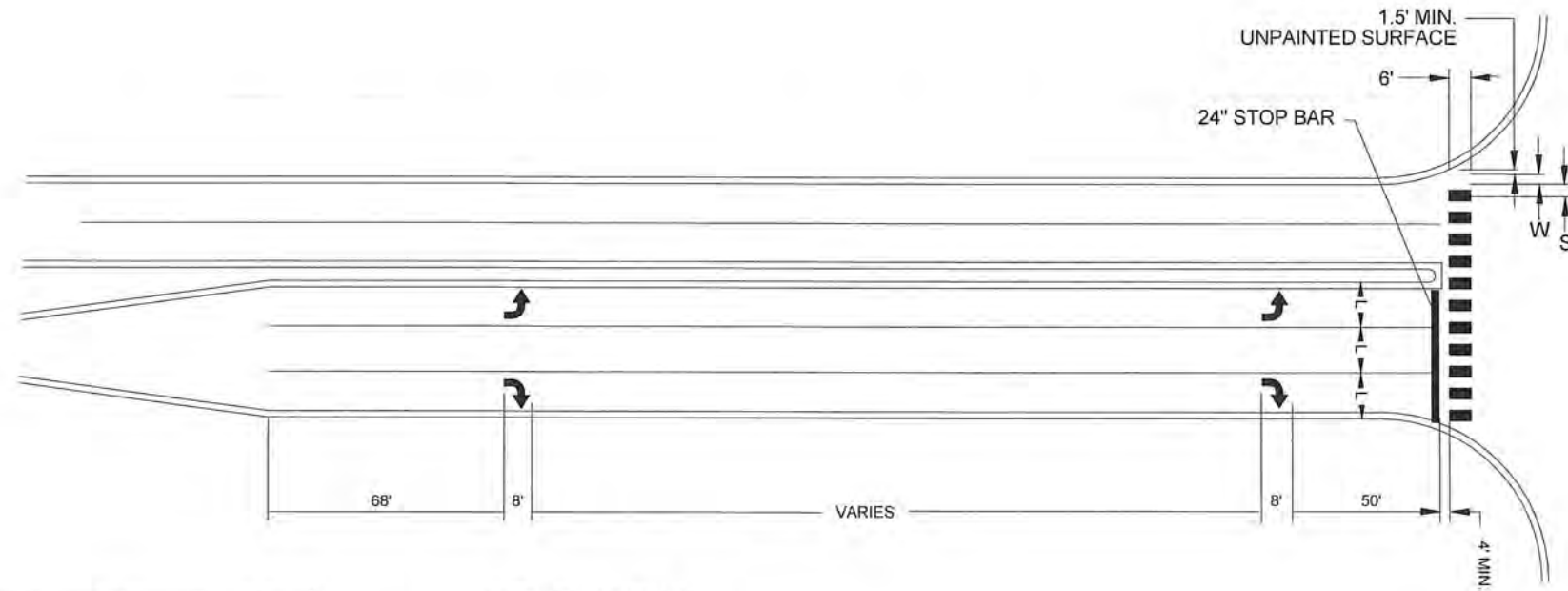
**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-618-033

SIGNING & STRIPING
DETAILS

Sheet 38 of 39 Sheets

MARKINGS FOR PEDESTRIAN CROSSWALKS



(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES. EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-618-033\Base\Traffic\Sign&Stripe Details.dwg

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ANOKA COUNTY
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SAP 002-618-033

SIGNING & STRIPING
 DETAILS

Sheet 39 of 39 Sheets