

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR MILL BITUMINOUS, BITUMINOUS SURFACING, CURB & GUTTER, SEWER REPAIRS, PEDESTRIAN RAMPS

LOCATED ON CSAH 116, BUNKER LAKE BLVD BETWEEN 300' EAST OF CSAH 9, ROUND LAKE BLVD AND 650' WEST OF CSAH 78, HANSON BLVD

LEB CSAH 116	LWB CSAH 116
GROSS LENGTH <u>12,156.250</u> FEET <u>2.302</u> MILES	GROSS LENGTH <u>11,793.620</u> FEET <u>2.233</u> MILES
MILL / PAVE EXCEPTIONS-LENGTH <u>917.860</u> FEET <u>0.174</u> MILES	MILL / PAVE EXCEPTIONS-LENGTH <u>882.570</u> FEET <u>0.167</u> MILES
NET LENGTH <u>11,238.390</u> FEET <u>2.128</u> MILES	NET LENGTH <u>10,911.050</u> FEET <u>2.066</u> MILES

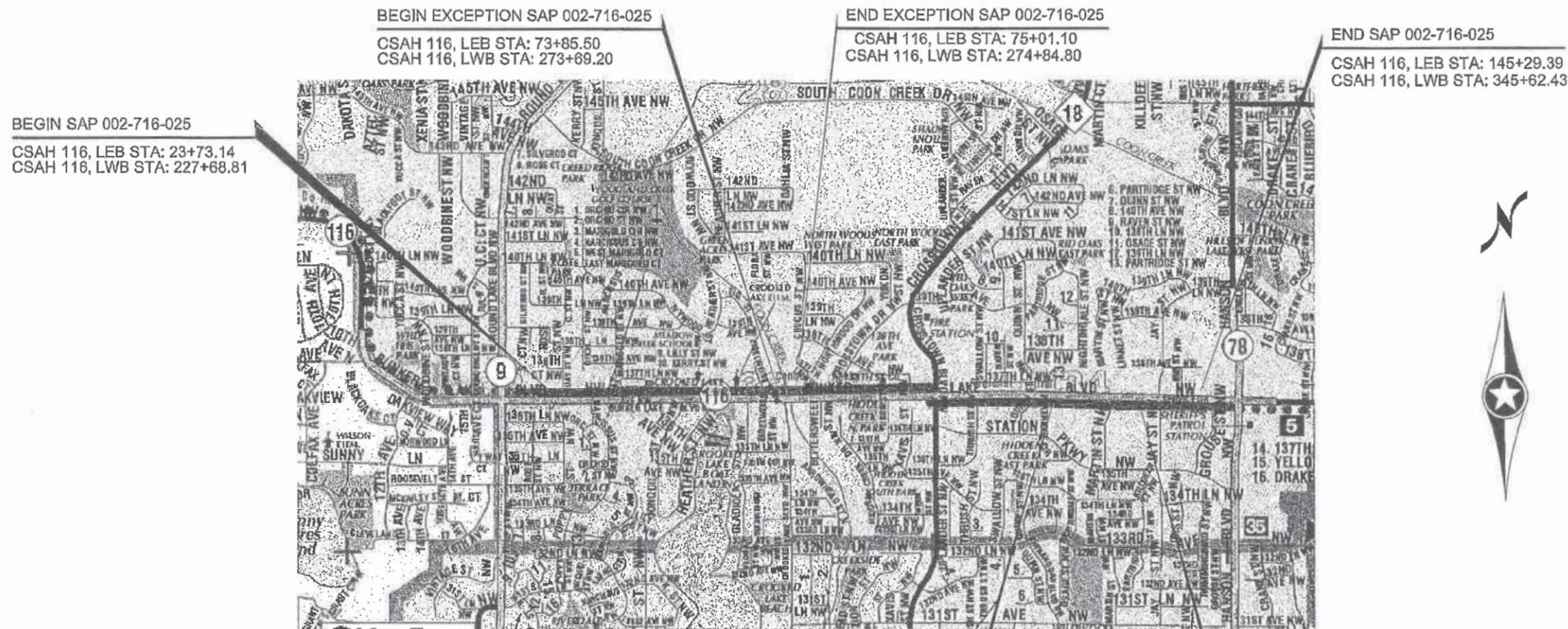
GOVERNING SPECIFICATIONS

THE 2020 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.

THIS PLAN CONTAINS 65 SHEETS

SHEET NO.	INDEX DESCRIPTION
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PROJECT LOCATION



DESIGN DESIGNATION CSAH 116		FUNCTIONAL CLASSIFICATION	
ESAL 20	<u>2,033,752</u>	<u>A - MINOR RELIEVER</u>	
R VALUE	<u>65</u>	NO. OF TRAFFIC LANES <u>4</u>	NO. OF PARKING LANES <u>0</u>
ADT (2025)	<u>19,128</u>	DESIGN SPEED <u>60</u> MPH	
PROJ. ADT (2045)	<u>19,128</u>	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2045)	<u>1129</u>	HEIGHT OF EYE <u>3.5'</u>	HEIGHT OF OBJECT <u>2.0'</u>
		DESIGN SPEED NOT ACHIEVED AT:	
		STA. _____ TO STA. _____	MPH _____
		<u>10</u> TON DESIGN	

CITY OF ANDOVER
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 33, 34
TOWNSHIP 32 NORTH
RANGE 24 WEST

Approved: 2-26-25
ANOKA COUNTY ENGINEER

Approved: 2-26-25
CITY OF ANDOVER ENGINEER

Dan Erickson Digitally signed by Dan Erickson
Date: 2025.03.04 09:20:52 -06'00' 20

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

Dan Erickson Digitally signed by Dan Erickson
Date: 2025.03.04 09:21:15 -06'00' 20

for STATE AID ENGINEER:
APPROVED FOR STATE AID FUNDING

NO	DATE	BY	CKD	A'P'P	REVISION		
						02/20/2025	8:22:00 AM

NAME: P:\25-01-00\CSAH_116_300 W, HANSON-600 W, CSAH 9\JPlan1_TITL.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: GERALD J. AUGER, JR.

SIGNATURE:

DATE: 01/30/2025 LICENSE NO. 26611

DRAWN BY JF DATE 02/16/24

DESIGN BY JF DATE 02/16/24

CHECKED BY NJD DATE 11/14/24

**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-716-025

TITLE SHEET

Sheet 1 of 65 Sheets

SAP 002-716-025 STATEMENT OF ESTIMATED QUANTITIES						
TAB	NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL	ANOKA COUNTY
					PROJECT QUANTITIES ESTIMATED	002-716-024 ROADWAY QUANTITIES ESTIMATED
		2021.501	MOBILIZATION	LUMP SUM	1	1
		2102.518	PAVEMENT MARKING REMOVAL	SQ FT	235.83	235.83
	1	2104.502	REMOVE CONCRETE NOSE	EACH	2	2
A	1	2104.502	REMOVE DRAINAGE STRUCTURE	EACH	14	14
		2104.502	REMOVE SIGN TYPE C	EACH	110	110
		2104.502	REMOVE SIGN PANEL TYPE C	EACH	27	27
		2104.502	SALVAGE SIGN TYPE C	EACH	6	6
B,F	1	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	1004	1004
B,F	1	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	2902	2902
B,F	1	2104.503	REMOVE CURB AND GUTTER	LIN FT	1447	1447
B,F	1	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	749	749
F	1	2104.518	REMOVE CONCRETE PAVEMENT	SQ FT	802	802
B	1	2104.518	REMOVE CONCRETE MEDIAN	SQ FT	682	682
B,F	2	2211.509	AGGREGATE BASE CLASS 5	TON	164	164
E	3	2232.504	MILL BITUMINOUS SURFACE (3.0")	SQ YD	91535	91535
E	4	2232.604	MILL BITUMINOUS SURFACE SPECIAL (2.0")	SQ YD	4038	4038
E		2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	9359	9359
B,F	5	2360.509	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	TON	256	256
E		2360.509	TYPE SP 12.5 WEARING COURSE MIX (3.C)	TON	15790	15790
E	6	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3.C) ST APPROACHES	TON	464	464
D	7	2504.602	ADJUST GATE VALVE	EACH	34	34
C	9	2506.502	CASTING ASSEMBLY	EACH	99	99
A	8	2506.503	CONST. DRAINAGE STRUCTURE DESIGN G	LIN FT	10.0	10.0
A	8	2506.503	CONST. DRAINAGE STRUCTURE DES 48-4020	LIN FT	36.9	36.9
A	8	2506.503	CONST. DRAINAGE STRUCTURE DES 60-4020	LIN FT	23.2	23.2
A	8	2506.602	RECONSTRUCT DRAINAGE STRUCTURE	EACH	17	17
A	10	2506.602	GROUT CATCH BASIN OR MANHOLE	EACH	118	118
B	11	2521.518	4" CONCRETE WALK	SQ FT	580	580
F		2521.518	6" CONCRETE WALK	SQ FT	2362	2362
B		2531.503	CONCRETE CURB & GUTTER DESIGN B412	LIN FT	260	260
B,F		2531.503	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	1075	1075
B,F		2531.503	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	52	52
B		2531.503	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	20	20
G		2531.602	CONCRETE MEDIAN NOSE SPECIAL	EACH	2	2
F		2531.618	TRUNCATED DOMES	SQ FT	420	420
		2563.618	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1	1
	12,13	2563.601	TRAFFIC CONTROL	LUMP SUM	1	1
	14	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20	20
		2564.502	INSTALL SIGN PANEL TYPE C	EACH	27	27
		2564.502	INSTALL SIGN TYPE C	EACH	118	118
		2564.518	SIGN PANELS TYPE C	SQ FT	887.75	887.75
		2564.602	DELINEATOR / MARKER	EACH	37	37
		2565.602	RIGID PVC LOOP DETECTOR 6" X 6"	EACH	1	1
A	15	2573.502	STORM DRAIN INLET PROTECTION	EACH	141	141
B		2574.609	COMMON TOPSOIL BORROW	TON	58	58
B	16	2575.508	HYDRAULIC REINFORCED FIBER MATRIX	LB	116	116
	17	2581.503	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	LIN FT	973	973
	18, 20	2582.503	4" SOLID LINE MULTI-COMPONENT	LIN FT	2284	2284
	18, 20	2582.503	4" BROKEN LINE MULTI-COMPONENT	LIN FT	30	30
	18, 20	2582.503	4" DOUBLE SOLID LINE MULTI-COMPONENT	LIN FT	465	465
	18, 20	2582.503	4" SOLID LINE PREFORM TAPE GROUND IN	LIN FT	59077	59077
	18, 20	2582.503	10" SOLID LINE PREFORM TAPE GROUND IN	LIN FT	1267	1267
	18, 20	2582.503	4" BROKEN LINE PREFORM TAPE GROUND IN	LIN FT	4840	4840
	18, 20	2582.503	24" SOLID LINE PREFORM THERMO GROUND IN	LIN FT	788	788
	19, 20	2582.518	PAVEMENT MESSAGE PREFORM THERMOPLASTIC	SQ FT	853	853
	19, 20	2582.518	CROSSWALK PREFORM THERMOPLASTIC	SQ FT	2374	2374
	19, 20	2582.518	CROSSWALK PREFORM THERMOPLASTIC GROUND IN	SQ FT	7305	7305

CONSTRUCTION NOTES	
1	REFERENCE DETAILS (PAGE 11-13) FOR REMOVAL DETAILS
2	ITEM TO BE USED AS BASE FOR NEW CONCRETE WALK AND CURB PATCHES AND MEDIAN NOSES.
3	DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.
4	TO BE USED FOR MILLING STREET APPROACHES AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN.
5	ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB, STORM STRUCTURE REPAIRS, AND ANY POTHOLES.
6	STREET APPROACHES SHALL BE PAVED AFTER MAINLINE, AND BEFORE FINAL STRIPING
7	GATE VALVES TO BE ADJUSTED ONLY AS NECESSARY AS DETERMINED BY THE ENGINEER.
8	PAY HEIGHT IS MEASURED FROM INVERT OF OUTLET PIPE TO TOP OF PRECAST CONCRETE STRUCTURE PLUS AN ALLOWANCE OF 0.70 FEET FOR THE DEPTH OF THE CONCRETE BASE, REGARDLESS OF ITS ACTUAL THICKNESS. CONCRETE ADJUSTMENT RINGS ARE INCIDENTAL. CONNECTIONS TO EXISTING STORM SEWER ARE INCIDENTAL.
9	ITEM INCLUDES FULL REPLACEMENT OF CASTING ADJUSTMENT RINGS. REMOVAL OF MANHOLE OR CATCH BASIN CASTING (S), ADJUSTING RINGS, AND INSTALLING A METAL PLATE, FOR THE PURPOSE OF ADJUSTING OR RE-RINGING A CASTING FOR A STRUCTURE SHALL BE INCIDENTAL. SEE STORM TABULATIONS FOR RING HEIGHTS. CASTINGS IN ROADWAY SHALL BE INSTALLED BETWEEN BASE AND WEAR LIFT PAVING
10	ITEM INCLUDES GROUTING OF INVERTS, DOGHOUSES, RINGS, STRUCTURES AND CASTINGS AS DIRECTED BY PLAN AND ENGINEER. SEE DRAINAGE TAB, PAGES 3-9.
11	ITEM USED FOR CONCRETE MEDIAN.
12	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
13	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 PERMANENT PAVEMENT MARKINGS ARE NOT PRESENT.
14	2 MESSAGE BOARDS, ONE ON EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
15	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
16	TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
17	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON MILLED SURFACE AND EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL STRIPING.
18	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS.
19	INCLUDES ALL THERMOPLASTIC STOP BARS, GORE AREA HATCHING, CROSSWALKS, LANE DESIGNATION ARROWS, AND PAVEMENT MESSAGES.
20	ALL PAVEMENT MARKINGS WILL BE TESTED POST INSTALLATION BY ANOKA COUNTY. ANY PAVEMENT MARKINGS THAT DO NOT MEET RETROREFLECTIVITY PER MNDOT SPEC. 2582.3C.3, CONTRACTOR IS RESPONSIBLE FOR REPLACING PAVEMENT MARKINGS AT ENGINEERS REQUEST AT NO COST TO ANOKA COUNTY.

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

MNDOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
3007F	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4024A	48" DIA. PRECAST SHALLOW DEPTH CATCH BASIN - DESIGN SD
4026B	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) - CASTING NO. 715
4134A	CURB BOX CASTING FOR CATCH BASIN (FOR DESIGN B CURES) - CASTING NO. 825
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113A	CONCRETE APPROACH NOSE DETAIL
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)

BASIS OF PLANNED QUANTITIES

2357	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD
2211	AGGREGATE BASE CLASS 5	1.8 TONS / CU YD
2360	ALL BITUMINOUS PAVEMENT	115 LBS / SQ YD / IN THICKNESS
2581	REMOVABLE PREFORM PAVEMENT MARKING TAPE	2' AT 50' INTERVALS
2575	SEED MIXTURE 25-121	61 LBS / ACRE
2574	FERTILIZER TYPE 3	350 LBS / ACRE
2575	HYDRAULIC REINFORCED FIBER MATRIX	3900 LBS / ACRE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan2_SEQ_TABS.dgn 03/24/2025 9:39:01 AM

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PRINT NAME: GERALD J. AUGER JR.

SIGNATURE: 

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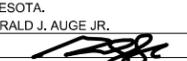
ANOKA COUNTY
HIGHWAY DEPT.

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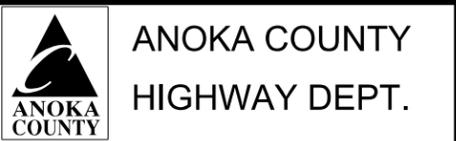
STATEMENT
OF
ESTIMATED QUANTITIES

STORM DRAINAGE TAB															A
NUMBER	TYPE	ALI	STATION	LOCATED	ACTION	NEW CASTING TYPE	STORM DRAIN INLET PROTECTION	FURNISH AND INSTALL CASTING ASSEMBLY	RING HEIGHT (INCIDENTAL)	REMOVE STRUCTURE	GROUT CATCH BASIN OR MANHOLE	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020"	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020"	RECONSTRUCT DRAINAGE STRUCTURE (REBUILD INVERT AND/OR DOGHOUSE)
							EACH	EACH	LIN FT	EACH	EACH	LIN FT	LIN FT	LIN FT	EACH
112	CB	LEB	24+25	MEDIAN	RE-RING / GROUT INVERT	A	1	1	1.0		1				
113	CB	LEB	24+25	SHOULDER	NO ACTION, GOOD COND.		1								
114	CB	LWB	228+05	SHOULDER	GROUT STRUCTURE		1				1				
115	CB	LWB	228+05	MEDIAN	GROUT STRUCTURE		1				1				
116	CB	LEB	28+05	MEDIAN	GROUT DOGHOUSE / CLEAN		1				1				
119A	CB	LEB	28+05	SHOULDER	GROUT STRUCTURE		1				1				
117	CB	LEB	230+75	SHOULDER	RE-RING	A	1	1	0.0						
118	CB	LEB	230+90	MEDIAN	REPLACE STRUCTURE	A	1	1	0.7	1			6.0		
119	CB	LEB	30+60	SHOULDER	GROUT STRUCTURE		1				1				
120	CB	LEB	30+90	MEDIAN	GROUT STRUCTURE		1				1				
121	CB	LEB	30+90	SHOULDER	GROUT STRUCTURE		1				1				
423 SAN	MH	LWB	231+10	QUAY ST	RE-RING	A-7D SAN		1	1.4						
122	CB	LEB	31+25	SHOULDER	RE-RING	A	1	1	0.7						
123	CB	LWB	231+25	MEDIAN	RE-RING / GROUT DOGHOUSE	A	1	1	0.5		1				
124	CB	LWB	231+75	SHOULDER	GROUT STRUCTURE & INVERT		1				1				
125	CB	LWB	232+10	SHOULDER	GROUT DOGHOUSE		1				1				
126	CB	LEB	33+05	SHOULDER	GROUT DOGHOUSE		1				1				
127	CB	LWB	234+95	SHOULDER	GROUT DOGHOUSE & INVERT		1				1				
128	CB	LWB	236+95	SHOULDER	RE-RING / CLEAN	A	1	1	0.2						
128B	CB	LEB	36+95	MEDIAN	GROUT STRUCTURE		1				1				
129	CB	LEB	36+95	SHOULDER	CLEAN / GROUT DOGHOUSE		1				1				
130	CB	LWB	238+90	SHOULDER	CLEAN / GROUT DOGHOUSE		1				1				
422	MH	LWB	240+50	MARIGOLD	RE-RING	A-7D STM		1	0.4						
131	CB	LWB	244+25	SHOULDER	REPLACE STRUCTURE	A	1	1	0.8	1		5.7			
132	CB	LEB	44+25	SHOULDER	GROUT INVERT		1				1				
133	CB	LEB	46+90	SHOULDER	RE-RING	A	1	1	0.5						
134	CB	LWB	246+90	SHOULDER	GROUT DOGHOUSE / INVERT	A					1				
135	CB	LWB	248+95	SHOULDER	GROUT INVERT	A					1				
136	CB	LWB	248+95	MEDIAN	REPLACE STRUCTURE	A	1	1	0.6	1			6.1		
137	CB	LEB	48+95	MEDIAN	RE-RING / GROUT/ REDO INVERT	A	1	1	0.8		1				1
138	CB	LEB	48+95	MEDIAN	GROUT DOGHOUSE		1				1				
139	CB	LEB	52+10	SHOULDER	RE-RING	A	1	1	0.8						
140	CB	LEB	52+10	MEDIAN	RE-RING / GROUT / REDO INVERT	A	1	1	0.9		1				1
141	CB	LWB	252+10	MEDIAN	GROUT INVERT/ REDO DOGHOUSE		1				1				1
142	CB	LWB	252+10	SHOULDER	GROUT DOGHOUSE / INVERT		1				1				
143	CB	LWB	254+45	SHOULDER	GROUT DOGHOUSE & INVERT		1				1				
144	CB	LWB	255+10	SHOULDER	REPLACE STRUCTURE	A	1	1	0.8	1			6.3		
145	CB	LWB	255+50	SHOULDER	REPLACE STRUCTURE	A	1	1	0.7	1			6.5		
146	CB	LWB	256+00	SHOULDER	REPLACE STRUCTURE	A	1	1	0.8	1		5.2			
147	CB	LWB	255+50	MEDIAN	REPLACE STRUCTURE	A	1	1	0.5	1			6.3		
148	CB	LEB	55+10	MEDIAN	RE-RING	A	1	1	0.2						
149	CB	LEB	55+50	MEDIAN	RE-RING / CLEAN	A	1	1	0.8						
150	CB	LEB	55+10	SHOULDER	GROUT STRUCTURE		1				1				
151	CB	LEB	55+50	SHOULDER	RE-RING GROUT DOGHOUSE	A	1	1	0.4		1				
152	CB	LEB	55+70	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.4		1				
153	CB	LWB	257+60	SHOULDER	RE-RING	A	1	1	0.5						
SAN1	MH	LEB	58+00	INT	GROUT STRUCTURE						1				
SAN1A	MH	LEB	58+00	HEATHER	GROUT STRUCTURE						1				
420	MH	LWB	258+70	SCHOOL	RE-RING	A-7D STM		1	1.5						
421	MH	LWB	258+50	SCHOOL	RE-RING / GROUT DOGHOUSE & INVERT	A-7D STM		1	1.5		1				
154	CB	LEB	58+75	SHOULDER	RE-RING	A	1	1	0.4						
SAN2	MH	LEB	60+70	PROFILE	NONE, GOOD CONDITION										
155	CB	LWB	261+90	SHOULDER	RE-RING	A	1	1	0.5						
155A	CB	LEB	62+10	MEDIAN	RE-RING / GROUT DOGHOUSE	A	1	1	0.7		1				
156	CB	LEB	62+10	SHOULDER	RE-RING	A	1	1	0.8						
SAN3	MH	LEB	63+25	PROFILE	GROUT STRUCTURE						1				
157	CB	LEB	67+60	SHOULDER	RE-RING	A	1	1	0.9						
158	CB	LWB	267+60	SHOULDER	RE-RING	A	1	1	0.8						
419 SAN	MH	LWB	268+00	EIDELWEIS	GROUT STRUCTURE						1				
159	CB	LWB	270+10	SHOULDER	RE-RING	A	1	1	0.4						
160	CB	LWB	270+00	MEDIAN	RE-RING / GROUT INVERT	A	1	1	0.3		1				

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan2_SEQ_TABS.dgn 02/20/2025 8:22:03 AM					

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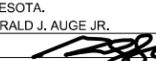
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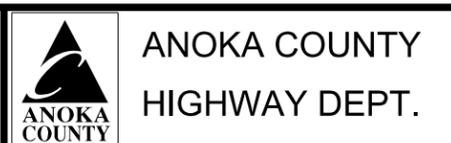
SAP 002-716-025

STORM DRAINAGE TAB														A	
NUMBER	TYPE	ALI	STATION	LOCATED	ACTION	NEW CASTING TYPE	STORM DRAIN INLET PROTECTION	FURNISH AND INSTALL CASTING ASSEMBLY	RING HEIGHT (INCIDENTAL)	REMOVE STRUCTURE	GROUT CATCH BASIN OR MANHOLE	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020"	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020"	RECONSTRUCT DRAINAGE STRUCTURE (REBUILD INVERT AND/OR DOGHOUSE)
							EACH	EACH	LIN FT	EACH	EACH	LIN FT	LIN FT	LIN FT	EACH
160A	CB	LWB	259+05	MEDIAN	RE-RING / GROUT DOGHOUSE	A	1	1	0.2		1				
160B	CB	LWB	258+90	MEDIAN	RE-RING	A	1	1	1.0						
160C	CB	LEB	58+75	MEDIAN	GROUT STRUCTURE		1				1				
161	CB	LEB	70+00	MEDIAN	GROUT DOGHOUSE		1				1				
162	CB	LEB	70+25	SHOULDER	GROUT STRUCTURE		1				1				
SAN3A	MH	LEB	70+70	INT	GROUT STRUCTURE						1				
163	CB	LWB	272+50	SHOULDER	GROUT STRUCTURE		1				1				
164	CB	LWB	272+75	SHOULDER	RE-RING	A	1	1	0.8						
165	CB	LWB	273+10	SHOULDER	GROUT STRUCTURE		1				1				
166	CB	LWB	272+75	MEDIAN	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.4		1				
167	CB	LWB	273+10	MEDIAN	GROUT STRUCTURE		1				1				
168	CB	LEB	72+75	MEDIAN	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.2		1				
169	CB	LEB	72+50	SHOULDER	GROUT DOGHOUSE		1				1				
170	CB	LEB	72+75	SHOULDER	RE-RING	A	1	1	0.3						
171	CB	LEB	73+15	SHOULDER	RE-RING	A	1	1	0.4						
172					NONE, DOES NOT EXIST										
408 SAN	MH	LWB	273+30	LT LANE	GROUT STRUCTURE						1				
418	MH	LWB	273+15	RT LN	RE-RING	A-7D SAN		1	0.5						
173	CB	LWB	276+60	SHOULDER	GROUT INVERT & DOGHOUSE		1				1				
174	CB	LWB	276+90	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.8		1				
175	CB	LEB	76+60	MEDIAN LP	RE-RING / GROUT DOGHOUSE/ REDO	A	1	1	1.0		1				1
176	CB	LEB	76+60	SHOULDER	GROUT BARRELS		1				1				
409 SAN	MH	LEB	77+90	LTL	GROUT STRUCTURE						1				
177	CB	LWB	277+95	SHOULDER	RE-RING	A	1	1	0.5						
178	CB	LWB	277+95	MEDIAN	GROUT INVERT & DOGHOUSE		1				1				
179	CB	LEB	77+95	MEDIAN	GROUT DOGHOUSE / CLEAN		1				1				
180	CB	LEB	77+95	SHOULDER	GROUT / CLEAN		1				1				
180A	CB	LEB	78+50	SHOULDER	GROUT STRUCTURE		1				1				
400 SAN	MH	LEB	78+80	LT LANE	GROUT STRUCTURE						1				
410SAN	MH	LEB	80+70	INT	GROUT STRUCTURE						1				
410A	MH	LEB	80+70	LEB	GROUT STRUCTURE						1				
417 SAN	MH	LWB	281+00	OLD 18	RE-RING	A-7D SAN		1	0.5						
181	CB	LWB	281+60	SHOULDER	RE-RING	A	1	1	0.7						
182	CB	LWB	284+40	SHOULDER	RE-RING	A	1	1	0.4						
183	CB	LEB	84+40	SHOULDER	GROUT / CLEAN		1				1				
184	CB	LEB	85+50	SHOULDER	RE-RING / GROUT INVERT	A	1	1	0.3		1				
185	CB	LEB	85+70	SHOULDER	RE-RING / GROUT STRUCTURE	A	1	1	0.9		1				
186	CB	LEB	86+00	SHOULDER	GROUT DOGHOUSE		1				1				
187	CB	LEB	85+70	MEDIAN	GROUT DOGHOUSE		1				1				
188	CB	LWB	285+70	MEDIAN	GROUT INVERT & DOGHOUSE		1				1				
189	CB	LWB	285+50	SHOULDER	RE-RING / GROUT DOGHOUSE	A	1	1	0.7		1				
190	CB	LWB	285+70	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.2		1				
191	CB	LWB	286+05	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.6		1				
192	CB	LWB	288+50	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.6		1				
193	CB	LEB	88+50	SHOULDER	RE-RING / GROUT INVERT	A	1	1	1.4		1				
194	CB	LEB	90+25	SHOULDER	RE-RING	A	1	1	1.2						
194A	CB	LEB	90+45	BEEHIVE	GROUT STRUCTURE		1				1				
195	CB	LEB	90+25	MEDIAN	RE-RING / GROUT DOGHOUSE / CLEAN	A	1	1	1.1		1				
196	CB	LWB	290+25	MEDIAN	RE-RING / GROUT DOGHOUSE	A	1	1	1.2		1				
197	CB	LWB	290+25	SHOULDER	RE-RING / GROUT DOGHOUSE	A	1	1	0.3		1				
198					NONE, DOES NOT EXIST										
411 SAN	MH	LEB	96+00	LTL	RE-RING	A-7D SAN		1	0.4						
401 SAN	MH	LEB	96+05	INT	GROUT STRUCTURE						1				
199	CB	LEB	97+45	SHOULDER	RE-RING	A	1	1	0.7						
200	CB	LEB	97+75	MEDIAN	RE-RING / GROUT DOGHOUSE	A	1	1	0.4		1				
201	CB	LWB	297+75	MEDIAN	GROUT DOGHOUSE / CLEAN		1				1				
202	CB	LWB	297+50	SHOULDER	RE-RING / GROUT DOGHOUSE	A	1	1	0.8		1				
402 SAN	MH	LEB	97+90	CSAH 18	GROUT STRUCTURE						1				
402A SAN	MH	LWB	298+80	INT	GROUT STRUCTURE						1				
417 SAN	MH	LWB	299+20	RTL	RE-RING	A-7D SAN		1	0.5						

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan2_SEQ_TABS.dgn 02/20/2025 8:22:05 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: GERALD J. AUGER JR.
 SIGNATURE: 
 DATE: 01/30/2025 LICENSE NO. 26511

DRAWN BY JF DATE 02/15/24
 DESIGN BY JF DATE 02/15/24
 CHECKED BY NJD DATE 11/14/24



SAP 002-716-025

STORM DRAINAGE TAB															A
NUMBER	TYPE	ALI	STATION	LOCATED	ACTION	NEW CASTING TYPE	STORM DRAIN INLET PROTECTION	FURNISH AND INSTALL CASTING ASSEMBLY	RING HEIGHT (INCIDENTAL)	REMOVE STRUCTURE	GROUT CATCH BASIN OR MANHOLE	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020"	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020"	RECONSTRUCT DRAINAGE STRUCTURE (REBUILD INVERT AND/OR DOGHOUSE)
							EACH	EACH	LIN FT	EACH	EACH	LIN FT	LIN FT	LIN FT	EACH
203	CB	LWB	300+45	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT		1	1	0.2		1				
204	CB	LWB	300+70	SHOULDER	RE-RING / GROUT DOGHOUSE/ REDO	A	1	1	0.0		1				1
205	CB	LWB	301+05	SHOULDER	RE-RING / GROUT DOGHOUSE/ REDO	A	1	1	0.0		1				1
206	CB	LWB	300+45	MEDIAN	RE-RING / GROUT DOGHOUSE/ REDO	A	1	1	0.5		1				1
207	CB	LWB	300+70	MEDIAN	GROUT DOGHOUSE / REDO INVERT		1				1				1
208	CB	LEB	100+70	MEDIAN	GROUT STRUCTURE		1				1				
209	CB	LEB	100+45	SHOULDER	GROUT DOGHOUSE		1				1				
210	CB	LEB	100+70	SHOULDER	GROUT DOGHOUSE		1				1				
211	CB	LEB	101+05	SHOULDER	GROUT INVERT & DOGHOUSE		1				1				
212	CB	LEB	103+00	SHOULDER	REPLACE STRUCTURE	A	1	1	0.0	1			4.1		
213	CB	LWB	303+00	SHOULDER	RE-RING / GROUT INVERT	A	1	1	0.6		1				
403 SAN	MH	LEB	105+50	INT	GROUT STRUCTURE						1				
415 SAN	MH	LWB	305+50	INT	RE-RING	A-7D SAN		1	0.5						
416 SAN	MH	LWB	305+50	INT	RE-RING	A-7D SAN		1	0.5						
214	CB	LWB	306+00	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.2		1				
215	CB	LWB	306+00	MEDIAN	RE-RING / GROUT DOGHOUSE	A	1	1	0.2		1				
216	CB	LEB	106+00	MEDIAN	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.7		1				
217	CB	LEB	106+00	SHOULDER	GROUT STRUC & DOG HSE/REDO INVERT		1				1				1
218	CB	LEB	108+40	SHOULDER	GROUT DOGHOUSE / REDO INVERT		1				1				1
219	CB	LEB	112+10	SHOULDER	RE-RING / GROUT DOGHOUSE	A	1	1	0.2		1				
220	CB	LWB	312+10	SHOULDER	RE-RING / GROUT DOGHOUSE	A	1	1	0.8		1				
414	MH	LWB	315+50	INT	RE-RING	A-7D SAN		1	0.5						
413	MH	LWB	315+80	INT	RE-RING	A-7D SAN		1	0.5						
404 SAN	MH	LEB	115+90	INT	GROUT STRUCTURE						1				
221	CB	LWB	316+15	SHOULDER	RE-RING / GROUT DOGHOUSE	A	1	1	1.0		1				
222	CB	LWB	316+15	MEDIAN	RE-RING/GROUT STRUC & DOGHOUSE	A	1	1	0.9		1				
223	CB	LEB	116+15	MEDIAN	RE-RING / GROUT DOGHOUSE	A	1	1	0.4		1				
224	CB	LEB	116+20	SHOULDER	USE EXISTING 2X3 CASTING		1	1	0.5						
225	CB	LWB	322+30	SHOULDER	RE-RING / REDO INVERT	A	1	1	0.0						1
226	CB	LWB	322+30	MEDIAN	REPLACE STRUCTURE	A	1	1	0.4	1			3.8		
227	CB	LEB	122+30	MEDIAN	RE-RING / CLEAN	A	1	1	0.9						
228	CB	LEB	122+30	SHOULDER	REPLACE STRUCTURE	A	1	1	0.3	1			4.0		
229	CB	LEB	124+50	SHOULDER	GROUT STRUCTURE / REDO INVERT		1				1				1
230	CB	LEB	124+90	SHOULDER	REPLACE STRUCTURE	A	1	1	0.9	1				4.1	
231	CB	LEB	125+20	SHOULDER	RE-RING / GROUT STRUCTURE	A	1	1	0.2		1				
232	CB	LEB	124+90	MEDIAN	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.4		1				
233	CB	LWB	324+90	MEDIAN	GROUT DOGHOUSE / REDO INVERT		1				1				1
234	CB	LWB	324+40	SHOULDER	REPLACE STRUCTURE	A	1	1	0.2	1			4.1		
235	CB	LWB	324+90	SHOULDER	RE-RING	A	1	1	0.2						
236	CB	LWB	325+20	SHOULDER	REPLACE STRUCTURE	A	1	1	0.2	1			3.6		
237	CB	LWB	335+05	SHOULDER	RE-RING	A	1	1	1.0						
238	CB	LWB	335+05	MEDIAN	RE-RING	A	1	1	0.7						
239	CB	LEB	135+05	MEDIAN	GROUT INVERT & DOGHOUSE		1				1				
240	CB	LEB	135+05	SHOULDER	RE-RING	A	1	1	1.0						
405 SAN	MH	LEB	138+00	INT	GROUT STRUCTURE						1				
412 SAN	MH	LWB	338+40	INT	RE-RING	A-7D SAN		1	0.5						
241	CB	LEB	139+00	SHOULDER	GROUT STRUCTURE		1				1				
406	MH	LEB	142+10	SHOULDER	GROUT DOGHOUSE & INVERT						1				
242	CB	LEB	142+10	MEDIAN	GROUT DOGHOUSE		1				1				
243	CB	LWB	342+10	MEDIAN	REPLACE STRUCTURE	A	1	1		1		4.3			
244	CB	LWB	342+10	SHOULDER	RE-RING / GROUT STRUCTURE	A	1	1	0.4		1				
245	CB	LEB	143+75	SHOULDER	GROUT STRUCTURE / REDO INVERT		1				1				1
246	CB	LEB	145+10	SHOULDER	GROUT STRUCTURE / REDO INVERT		1				1				1
247	CB	LEB	128+70	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	A	1	1	0.3		1				
248	CB	LEB	130+90	SHOULDER	GROUT DOGHOUSE & INVERT						1				1
407	MH	LWB	330+80	LTL	GROUT STRUCTURE / REDO INVERT						1				1
249	CB	LWB	330+80	SHOULDER	GROUT STRUCTURE		1				1				
TOTALS							141	99	57.0	14	118	10.0	36.9	23.2	17

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan2_SEQ_TABS.dgn 02/20/2025 8:22:08 AM					

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 CHECKED BY: NJD DATE: 11/14/24



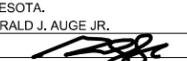
**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-716-025

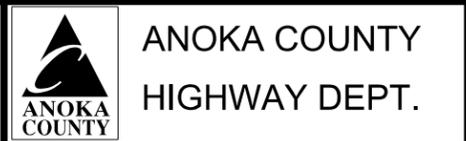
CB/MH WORK (RE-RINGS & RECONSTRUCT)																	B			
NUMBER	TYPE	ALI	STATION	LOCATION	ACTION	SAWING		REMOVE			CONSTRUCT									
						BITUMINOUS PAVEMENT FULL DEPTH	CONCRETE PAVEMENT FULL DEPTH	BITUMINOUS PAVEMENT	CURB & GUTTER	CONCRETE MEDIAN	4.0" CONCRETE WALK (MEDIAN) WHITE	4.0" CONCRETE WALK (MEDIAN) RED	TYPE SP 12.5 BIT MIX FOR PATCHING	AGGREGATE BASE CLASS 5	COMMON TOPSOIL BORROW	HYDRAULIC REINFORCED FIBER MATRIX	CURB AND GUTTER			
						LIN FT	LIN FT	SQ YD	LIN FT	SQ FT	SQ FT	SQ FT	TON	TON	CU YD	POUND	B412 LIN FT	B418 LIN FT	B612 LIN FT	B618 LIN FT
112	CB	LEB	24+25	MEDIAN	RE-RING / GROUT INVERT	18	18	4	10	20	20		2	1					10	
117	CB	LEB	230+75	SHOULDER	RE-RING	18	5	4	10				2	1	1	2			10	
118	CB	LEB	230+90	MEDIAN	REPLACE STRUCTURE	18	18	4	10	20	20		2	1				10		
423	MH	LWB	231+10	QUAY ST	RE-RING	32		7					2	2						
122	CB	LEB	31+25	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
123	CB	LWB	231+25	MEDIAN	RE-RING / GROUT DOGHOUSE	18	18	4	10	20	20		2	1				10		
128	CB	LWB	236+95	SHOULDER	RE-RING / CLEAN	18	5	4	10				2	1	1	2		10		
422	MH	LWB	240+50	MARIGOLD	RE-RING	32		7					2	2						
131	CB	LWB	244+25	SHOULDER	REPLACE STRUCTURE	18	5	4	10				2	1	1	2		10		
133	CB	LEB	46+90	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
136	CB	LWB	248+95	MEDIAN	REPLACE STRUCTURE	18	18	4	10	20	20		2	1			10			
137	CB	LEB	48+95	MEDIAN	RE-RING / GROUT/ REDO INVERT	18	18	4	10	20	20		2	1			10			
139	CB	LEB	52+10	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
140	CB	LEB	52+10	MEDIAN	RE-RING / GROUT / REDO INVERT	18	18	4	10	20	20		2	1			10			
142	CB	LWB	252+10	SHOULDER	GROUT DOGHOUSE / INVERT	18	5	4	10				2	1	1	2		10		
144	CB	LWB	255+10	SHOULDER	REPLACE STRUCTURE	18	5	4	10				2	1	1	2		10		
145	CB	LWB	255+50	SHOULDER	REPLACE STRUCTURE	18	5	4	10				2	1	1	2		10		
146	CB	LWB	256+00	SHOULDER	REPLACE STRUCTURE	18	5	4	10				2	1	1	2		10		
147	CB	LWB	255+50	MEDIAN	REPLACE STRUCTURE	18	18	4	10	20	20		2	1			10			
148	CB	LEB	55+10	MEDIAN	RE-RING	18	18	4	10	20	20		2	1			10			
149	CB	LEB	55+50	MEDIAN	RE-RING / CLEAN	18	18	4	10	20	20		2	1			10			
151	CB	LEB	55+50	SHOULDER	RE-RING GROUT DOGHOUSE	18	5	4	10				2	1	1	2		10		
152	CB	LEB	55+70	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	18	5	4	10				2	1	1	2		10		
153	CB	LWB	257+60	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
420	MH	LWB	258+70	SCHOOL	RE-RING	31		7					2	2						
421	MH	LWB	258+50	SCHOOL	RE-RING / GROUT DOGHOUSE & INVERT	32		7					2	2						
154	CB	LEB	58+75	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
155	CB	LWB	261+90	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
155A	CB	LEB	62+10	MEDIAN	RE-RING / GROUT DOGHOUSE	18	18	4	10	20	20		2	1			10			
156	CB	LEB	62+10	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
157	CB	LEB	67+60	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
158	CB	LWB	267+60	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
159	CB	LWB	270+10	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
160	CB	LWB	270+00	MEDIAN	RE-RING / GROUT INVERT	18	18	4	10	20	20		2	1			10			
160A	CB	LWB	259+05	MEDIAN	RE-RING / GROUT DOGHOUSE	18	18	4	10	20	20		2	1			10			
160B	CB	LWB	258+90	MEDIAN	RE-RING	18	18	4	10	20	20		2	1			10			
164	CB	LWB	272+75	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
166	CB	LWB	272+75	MEDIAN	RE-RING / GROUT DOGHOUSE & INVERT	18	18	4	10	20	20		2	1			10			
168	CB	LEB	72+75	MEDIAN	RE-RING / GROUT DOGHOUSE & INVERT	18	18	4	10	20	20		2	1			10			
170	CB	LEB	72+75	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
171	CB	LEB	73+15	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
418	MH	LWB	273+15	RT LN	RE-RING	32		7					2	2						
174	CB	LWB	276+90	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	18	5	4	10				2	1	1	2		10		
175	CB	LEB	76+60	MEDIAN	RE-RING / GROUT DOGHOUSE/ REDO	18	18	4	10	20	20		2	1			10			
177	CB	LWB	277+95	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
417 SAN	MH	LWB	281+00	OLD 18	RE-RING	32		7					2	2						
181	CB	LWB	281+60	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
182	CB	LWB	284+40	SHOULDER	RE-RING	18	5	4	10				2	1	1	2		10		
184	CB	LEB	85+50	SHOULDER	RE-RING / GROUT INVERT	18	5	4	10				2	1	1	2		10		
185	CB	LEB	85+70	SHOULDER	RE-RING / GROUT STRUCTURE	18	5	4	10				2	1	1	2		10		
189	CB	LWB	285+50	SHOULDER	RE-RING / GROUT DOGHOUSE	18	5	4	10				2	1	1	2		10		
190	CB	LWB	285+70	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	18	5	4	10				2	1	1	2		10		

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan2_SEQ_TABS.dgn 02/20/2025 8:22:10 AM

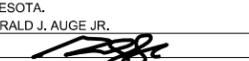
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 CHECKED BY NJD DATE 11/14/24



SAP 002-716-025

CB/MH WORK (RE-RINGS & RECONSTRUCT)																B				
NUMBER	TYPE	ALI	STATION	LOCATION	ACTION	SAWING		REMOVE			CONSTRUCT									
						BITUMINOUS PAVEMENT FULL DEPTH	CONCRETE PAVEMENT FULL DEPTH	BITUMINOUS PAVEMENT	CURB & GUTTER	CONCRETE MEDIAN	4.0" CONCRETE WALK (MEDIAN) WHITE	4.0" CONCRETE WALK (MEDIAN) RED	TYPE SP 12.5 BIT MIX FOR PATCHING	AGGREGATE BASE CLASS 5	COMMON TOPSOIL BORROW	HYDRAULIC REINFORCED FIBER MATRIX	CURB AND GUTTER			
						LIN FT	LIN FT	SQ YD	LIN FT	SQ FT	SQ FT	SQ FT	TON	TON	CU YD	POUND	B412	B418	B612	B618
191	CB	LWB	286+05	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	18	5	4	10			2	1	1	2		10			
192	CB	LWB	288+50	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	18	5	4	10			2	1	1	2		10			
193	CB	LEB	88+50	SHOULDER	RE-RING / GROUT INVERT	18	5	4	10			2	1	1	2		10			
194	CB	LEB	90+25	SHOULDER	RE-RING	18	5	4	10			2	1	1	2		10			
195	CB	LEB	90+25	MEDIAN	RE-RING / GROUT DOGHOUSE / CLEAN	18	18	4	10	20	20	2	1			10				
196	CB	LWB	290+25	MEDIAN	RE-RING / GROUT DOGHOUSE	18	18	4	10	20	20	2	1			10				
197	CB	LWB	290+25	SHOULDER	RE-RING / GROUT DOGHOUSE	18	5	4	10			2	1	1	2		10			
411 SAN	MH	LEB	96+00	LTL	RE-RING	32		7				2	2							
199	CB	LEB	97+45	SHOULDER	RE-RING	18	5	4	10			2	1	1	2		10			
200	CB	LEB	97+75	MEDIAN	RE-RING / GROUT DOGHOUSE	18	18	4	10	20	20	2	1			10				
202	CB	LWB	297+50	SHOULDER	RE-RING / GROUT DOGHOUSE	18	5	4	10			2	1	1	2		10			
417 SAN	MH	LWB	299+20	RTL	RE-RING	32		7				2	2							
203	CB	LWB	300+45	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	18	5	7	10			2	1	1	2		10			
204	CB	LWB	300+70	SHOULDER	RE-RING / GROUT DOGHOUSE/ REDO	18	5	4	10			2	1	1	2		10			
205	CB	LWB	301+05	SHOULDER	RE-RING / GROUT DOGHOUSE/ REDO	18	5	4	10			2	1	1	2		10			
206	CB	LWB	300+45	MEDIAN	RE-RING / GROUT DOGHOUSE/ REDO	18	18	4	10	20	20	2	1			10				
212	CB	LEB	103+00	SHOULDER	REPLACE STRUCTURE	18	5	4	10			2	1	1	2		10			
213	CB	LWB	303+00	SHOULDER	RE-RING / GROUT INVERT	18	5	4	10			2	1	1	2		10			
415 SAN	MH	LWB	305+50	INT	RE-RING	32		7				2	2							
416 SAN	MH	LWB	305+50	INT	RE-RING	32		7				2	2							
214	CB	LWB	306+00	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	18	5	4	10			2	1	1	2		10			
215	CB	LWB	306+00	MEDIAN	RE-RING / GROUT DOGHOUSE	18	18	4	10	20	20	2	1			10				
216	CB	LEB	106+00	MEDIAN	RE-RING / GROUT DOGHOUSE & INVERT	18	18	4	10	20	20	2	1			10				
219	CB	LEB	112+10	SHOULDER	RE-RING / GROUT DOGHOUSE	18	5	4	10			2	1	1	2		10			
220	CB	LWB	312+10	SHOULDER	RE-RING / GROUT DOGHOUSE	18	5	4	10			2	1	1	2		10			
414	MH	LWB	315+50	INT	RE-RING	32		7				2	2							
413	MH	LWB	315+80	INT	RE-RING	32		7				2	2							
221	CB	LWB	316+15	SHOULDER	RE-RING / GROUT DOGHOUSE	18	5	4	10			2	1	1	2		10			
222	CB	LWB	316+15	MEDIAN	RE-RING/GROUT STRUC & DOGHOUSE	18	18	4	10	20	20	2	1			10				
223	CB	LEB	116+15	MEDIAN	RE-RING / GROUT DOGHOUSE	18	18	4	10	20	20	2	1			10				
224	CB	LEB	116+20	SHOULDER	USE EXISTING 2X3 CASTING	18	5	4	10			2	1	1	2		10			
225	CB	LWB	322+30	SHOULDER	RE-RING / REDO INVERT	18	5	4	10			2	1	1	2		10			
226	CB	LWB	322+30	MEDIAN	REPLACE STRUCTURE	18	18	4	10	20	20	2	1			10				
227	CB	LEB	122+30	MEDIAN	RE-RING / CLEAN	18	18	4	10	20	20	2	1			10				
228	CB	LEB	122+30	SHOULDER	REPLACE STRUCTURE	18	5	4	10			2	1	1	2		10			
230	CB	LEB	124+90	SHOULDER	REPLACE STRUCTURE	18	5	4	10			2	1	1	2		10			
231	CB	LEB	125+20	SHOULDER	RE-RING / GROUT STRUCTURE	18	5	4	10			2	1	1	2		10			
232	CB	LEB	124+90	MEDIAN	RE-RING / GROUT DOGHOUSE & INVERT	18	18	4	10	20	20	2	1			10				
234	CB	LWB	324+40	SHOULDER	REPLACE STRUCTURE	18	5	4	10			2	1	1	2		10			
235	CB	LWB	324+90	SHOULDER	RE-RING	18	5	4	10			2	1	1	2		10			
236	CB	LWB	325+20	SHOULDER	REPLACE STRUCTURE	18	5	4	10			2	1	1	2		10			
237	CB	LWB	335+05	SHOULDER	RE-RING	18	5	4	10			2	1	1	2		10			
238	CB	LWB	335+05	MEDIAN	RE-RING	18	18	4	10	20	20	2	1			10				
240	CB	LEB	135+05	SHOULDER	RE-RING	18	5	4	10			2	1	1	2		10			
412 SAN	MH	LWB	338+40	INT	RE-RING	32		7				2	2							
243	CB	LWB	342+10	MEDIAN	REPLACE STRUCTURE	18	18	4	10	20	20	2	1			10				
244	CB	LWB	342+10	SHOULDER	RE-RING / GROUT STRUCTURE	18	5	4	10			2	1	1	2		10			
247	CB	LEB	128+70	SHOULDER	RE-RING / GROUT DOGHOUSE & INVERT	18	5	4	10			2	1	1	2		10			
PROJECT TOTAL						1981	812	442	870	580	400	180	200	113	58	116	260	570	20	20

NO DATE BY CKD APPR REVISION NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan2_SEQ_TABS.dgn 02/20/2025 8:22:12 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: GERALD J. AUGER JR. SIGNATURE:  DATE: 01/30/2025 LICENSE NO. 26511		DRAWN BY: JF DATE: 02/15/24 DESIGN BY: JF DATE: 02/15/24 CHECKED BY: NJD DATE: 11/14/24		 ANOKA COUNTY HIGHWAY DEPT.		SAP 002-716-025		TABULATIONS Sheet <u>7</u> of <u>65</u> Sheets	
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CASTING ASSEMBLIES SUMMARY						C
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	DESCRIPTION	NOTES	QUANTITY
A-7D	700-7	715		301-CP LID WITH RUBBER GASKET ON BOTTOM	CASTING COVER STAMPED "STORM SEWER" (NEENAH R-1733 WITH LID 301-CP)	2
A-7D	700-7	715		301-CP LID WITH RUBBER GASKET ON BOTTOM	CASTING COVER STAMPED "SANITARY SEWER" (NEENAH R-1733 WITH LID 301-CP)	10
A	NEENAH R-3030	L	YES	NEENAH R-3030-L	18" CASTING WITH LOW RISE CURB BOX	86
ALL CASTING HEIGHTS ARE TO BE VERIFIED IN THE FIELD						
ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR SANITARY						
ALL MANHOLES TO BE WRAPPED WITH INFI- SHIELD. THIS WORK IS INCIDENTAL TO THE CASTING ASSEMBLY.						
ADJUSTING RINGS TO BE RECESSED 1/4" FROM TOP OF FINISHED MAT						

GATE VALVE TAB			D
NUMBER	ALI	STA	ADJUST EACH
500	LWB	231+00	1
501	LWB	231+05	1
502	LWB	240+25	1
502A	LEB	57+70	1
502B	LEB	57+85	1
503	LWB	261+05	1
504	LWB	264+80	1
505	LWB	267+80	1
506	LWB	267+85	1
507	LWB	272+95	1
508	LWB	275+05	1
509	LWB	277+15	1
510	LWB	277+25	1
511	LWB	277+40	1
512	LWB	280+20	1
513	LWB	280+25	1
514	LEB	92+80	1
515	LEB	93+20	1
516	LEB	96+10	1
517	LWB	301+80	1
518	LEB	105+75	1
519	LWB	305+75	1
520	LWB	305+80	1
521	LWB	307+05	1
522	LWB	318+55	1
523	LWB	330+50	1
524	LWB	330+80	1
525	LWB	332+70	1
526	LWB	334+75	1
527	LWB	338+40	1
528	LWB	338+50	1
529	LEB	138+50	1
530	LWB	342+55	1
531	LWB	345+25	1
TOTAL			34
GATE VALVES TO BE ADJUSTED ONLY AS NECESSARY AS DETERMINED BY THE ENGINEER.			

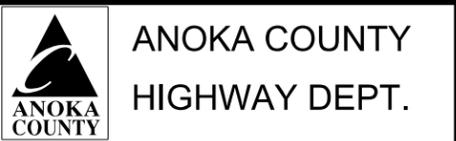
MAINLINE AND STREET APPROACHES					E	
LOCATION	ALI	MILLING		PAVING		
		BITUMINOUS SURFACE (MAINLINE)	BITUMINOUS PAVEMENT SPECIAL (ST APPR)	BITUMINOUS MATERIAL FOR TACK COAT	TYPE SP 12.5 WEARING COURSE 4;C (MAINLINE)	TYPE SP 12.5 WEARING COURSE 4;C (ST APPR)
		(3.0") SQ YD	(2.0") SQ YD	GALLON	TONS	TONS
CSAH 116 MAINLINE	LEB / LWB	91535		9154	15790	
ROSE ST	LEB		193	10	22	
ROSE ST	LWB		133	7	15	
QUAY ST	LWB		117	6	13	
MARIGOLD ST	LWB		141	7	16	
SCHOOL PARKING LOT W.	LWB		104	5	12	
HEATHER ST	LEB		162	8	19	
HEATHER ST	LWB		190	10	22	
SCHOOL PARKING LOT E.	LWB		110	6	13	
GLADIOLA ST	LEB		116	6	13	
EIDELWEISS ST	LWB		80	4	9	
CROOKED LK BLVD	LEB		170	9	20	
BITTERSWEET ST	LEB		90	5	10	
OLD 18	LWB		313	16	36	
YUKON ST	LEB		88	4	10	
XAVIS ST	LWB		113	6	13	
CSAH 18	LEB		311	16	36	
CSAH 18	LWB		245	12	28	
THRUSH ST	LWB		98	5	11	
THRUSH ST	LEB		180	9	21	
QUINN ST	LWB		242	12	28	
QUINN ST	LEB		223	11	26	
MARTIN ST	LEB		116	6	13	
JAY ST	LWB		226	11	26	
JAY ST	LEB		205	10	24	
IBIS ST	LWB		72	4	8	
TOTAL		91535	4038	9359	15790	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan2_SEQ_TABS.dgn 02/20/2025 8:22:14 AM

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 PRINT NAME: GERALD J. AUGER JR.
 SIGNATURE: 
 DATE: 01/30/2025 LICENSE NO. 26511

DRAWN BY JF DATE 02/15/24
 DESIGN BY JF DATE 02/15/24
 CHECKED BY NJD DATE 11/14/24



SAP 002-716-025

PEDESTRIAN RAMP CONSTRUCTION													F		
INTERSECTION	ALI	STA	LOCATION	SAWING		REMOVE			CONSTRUCT						
				BITUMINOUS PAVEMENT FULL DEPTH	CONCRETE PAVEMENT FULL DEPTH (CURB)	BITUMINOUS PAVEMENT	CURB & GUTTER	CONCRETE PAVEMENT (RAMPS)	6.0" CONCRETE WALK (RAMPS)	TYPE SP 12.5 BIT MIX FOR PATCHING	AGGREGATE BASE CLASS 5	TRUNCATED DOMES	CURB & GUTTER		
				LIN FT	LIN FT	SQ YD	LIN FT	SQ FT	SQ FT	TON	TON	SQ FT	B418 LIN FT	B612 LIN FT	
ROSE ST	LWB	228+20	WEST												
ROSE ST	LWB	228+80	EAST												
ROSE ST	LEB	28+30	WEST												
ROSE ST	LEB	28+90	EAST												
MARIGOLD ST	LWB	240+10	WEST	69	4	25	26		160	3	2	20	26		
MARIGOLD ST	LWB	241+10	EAST	46	4	29	28		197	3	2	20	28		
WEST SCHOOL LOT	LWB	252+20	WEST	47	4	12	22		80	2	2	20	22		
WEST SCHOOL LOT	LWB	252+70	EAST	38	4	19	21		121	2	2	20	21		
HEATHER ST	LWB	257+90	WEST												
HEATHER ST	LWB	258+60	EAST												
HEATHER ST	LEB	57+75	WEST												
HEATHER ST	LEB	58+20	EAST												
EAST SCHOOL ENT	LWB	264+00	WEST	38	4	16	21		100	2	2	20	21		
EAST SCHOOL ENT	LWB	264+50	EAST	43	4	19	26		116	2	2	20	26		
EIDELWEISS ST	LWB	267+75	WEST	33	4	15	17		101	2	2	20	17		
EIDELWEISS ST	LWB	268+10	EAST	33	4	15	17		84	2	2	20	17		
CROOKED LK BLVD	LEB	70+40	WEST	39	9	7	28	65	65	2	2	10	28		
CROOKED LK BLVD	LEB	71+20	EAST	37	9	7	31	99	99	2	2	10	31		
BITTERSWEET ST	LEB	77+00	WEST	32	9	7	25	55	55	2	2	10	25		
BITTERSWEET ST	LEB	77+80	EAST	35	9	8	28	66	66	2	2	10	28		
OLD 18	LWB	280+20	WEST	42	4	17	22		154	2	2	20	22		
OLD 18 MEDIAN	LWB	280+70	MEDIAN	40	49	7	32	164	164	4	4	40		32	
OLD 18	LWB	281+10	EAST	60	4	7	28	126	126	2	2	20	28		
XAVIS ST	LWB	293+20	WEST	38	4	17	21		114	2	2	20	21		
XAVIS ST	LWB	293+80	EAST	43	4	16	26		84	2	2	20	26		
CSAH 18	LWB	297+80	WEST												
CSAH 18	LWB	298+60	EAST												
CSAH 18	LEB	97+90	WEST												
CSAH 18	LEB	98+80	EAST												
N. THRUSH ST	LWB	305+00	WEST	47	4	18	29		100	2	2	20	29		
S. THRUSH ST	LEB	105+00	WEST	42	4	23	26		149	2	2	20	26		
S. THRUSH ST	LEB	105+80	EAST	27	27	5	21	67	67	2	2	20	21		
QUINN ST	LWB	315+25	WEST												
QUINN ST	LWB	315+90	EAST												
QUINN ST	LEB	115+20	WEST												
QUINN ST	LEB	116+10	EAST												
JAY ST	LWB	337+75	WEST												
JAY ST	LWB	338+60	EAST												
JAY ST	LEB	37+80	WEST												
JAY ST	LEB	38+60	EAST												
IBIS ST	LWB	342+20	WEST	32	4	4	16	99	99	2	2	20	16		
IBIS ST	LWB	342+60	EAST	32	4	6	26	61	61	2	2	20	26		
TOTAL				893	176	299	537	802	2362	48	46	420	505	32	

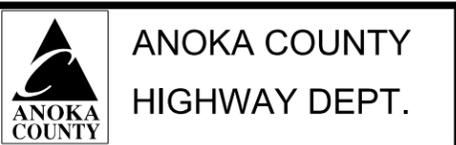
MEDIAN NOSE CONSTRUCTION												G
INTERSECTION	LOCATION	SAWING		REMOVE				CONSTRUCT				
		BITUMINOUS PAVEMENT FULL DEPTH	CONCRETE PAVEMENT FULL DEPTH	BITUMINOUS PAVEMENT	CURB & GUTTER	CONCRETE WALK (SF)	CONCRETE NOSE	CONCRETE MEDIAN	CONCRETE MEDIAN NOSE SPECIAL	TYPE SP 12.5 BIT MIX FOR PATCHING	AGGREGATE BASE CLASS 5	
		LIN FT	LIN FT	SQ YD	LIN FT		EACH	SQ FT	EACH	TON	TON	
ROSE ST	EAST	14	10	4	20		1	65	1	5	3	
QUINN ST	EAST	14	6	4	20		1	37	1	3	2	
TOTAL		28	16	8	40	0	2	102	2	8	5	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan2_SEQ_TABS.dgn 02/20/2025 8:22:15 AM

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 PRINT NAME: GERALD J. AUGER, JR.
 SIGNATURE: 
 DATE: 01/30/2025 LICENSE NO. 26511

DRAWN BY: JF DATE: 02/15/24
 DESIGN BY: JF DATE: 02/15/24
 CHECKED BY: NJD DATE: 11/14/24



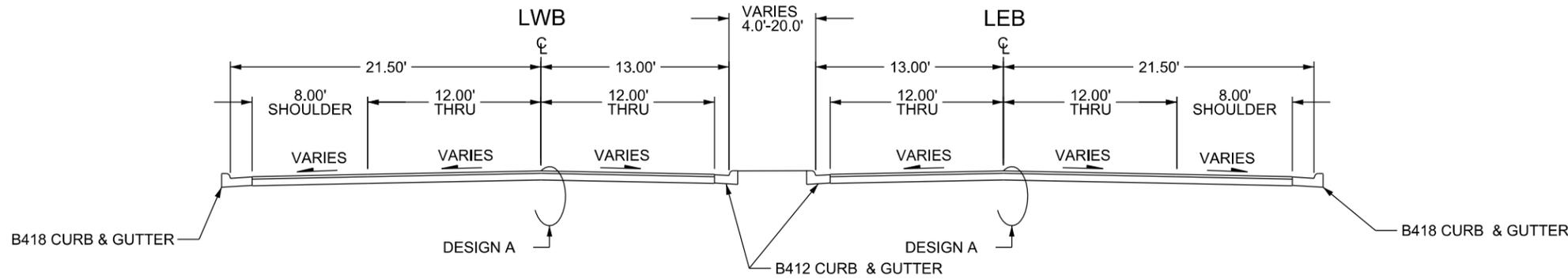
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CSAH 116 - BUNKER LAKE BLVD

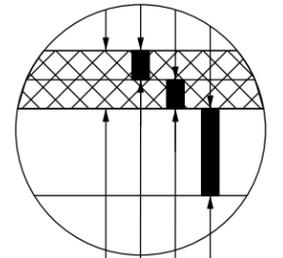
EXISTING / PROPOSED SECTION

227+68.81 - 345+62.43
(EXCEPTION 327+16.33 - 334+83.30)

23+73.14 - 145+29.39
(EXCEPTION 125+42.42 - 133+44.68)



DESIGN A MILL SECTION



3.0" MILL BITUMINOUS
1.5" BITUMINOUS WEAR (SPWEB340C)
1.5" BITUMINOUS WEAR (SPWEB340C)
REMAINING BITUMINOUS

CSAH 116 - BUNKER LAKE BLVD

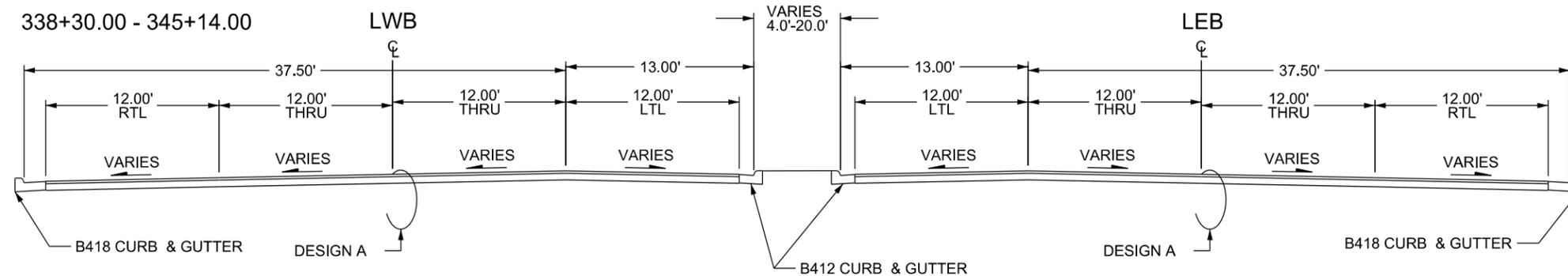
EXISTING / PROPOSED SECTION

227+69.00 - 235+00.00
240+64.00 - 244+65.00
252+50.00 - 256+00.00
258+25.00 - 261+95.00
264+30.00 - 266+69.00
268+00.00 - 271+64.00
281+00.00 - 284+70.00
293+50.00 - 295+00.00
298+23.00 - 302+28.00
305+45.00 - 309+22.00
315+70.00 - 319+50.00
338+30.00 - 345+14.00

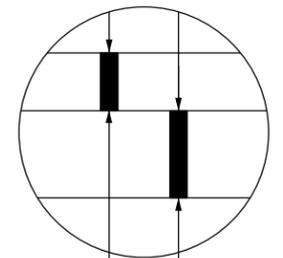
228+70.00 - 232+42.00
258+00.00 - 260+40.00
270+75.00 - 275+05.00
298+23.00 - 302+05.00
315+70.00 - 319+50.00
338+30.00 - 342+16.00

25+21.00 - 28+50.00
37+95.00 - 40+65.00
49+91.00 - 52+30.00
54+45.00 - 58+00.00
62+15.00 - 64+15.00
77+05.00 - 80+60.00
94+45.00 - 98+25.00
112+16.00 - 115+70.00
134+80.00 - 138+28.00

55+65.00 - 58+00.00
62+15.00 - 64+28.00
66+92.00 - 70+75.00
75+80.00 - 77+45.00
79+34.00 - 82+30.00
85+90.00 - 89.70.00
94+20.00 - 95+95.00
101+62.00 - 105+45.00
111+90.00 - 115+70.00
134+80.00 - 138+28.00



EXISTING SECTION



6" EXISTING BITUMINOUS
EXISTING AGGREGATE BASE

1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan3_TYP.dgn 02/20/2025 8:22:19 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: GERALD J. AUGER JR.
SIGNATURE: *[Signature]*
DATE: 01/30/2025 LICENSE NO. 26511

DRAWN BY JF DATE 02/15/24
DESIGN BY JF DATE 02/15/24
CHECKED BY NJD DATE 11/14/24



ANOKA COUNTY
HIGHWAY DEPT.

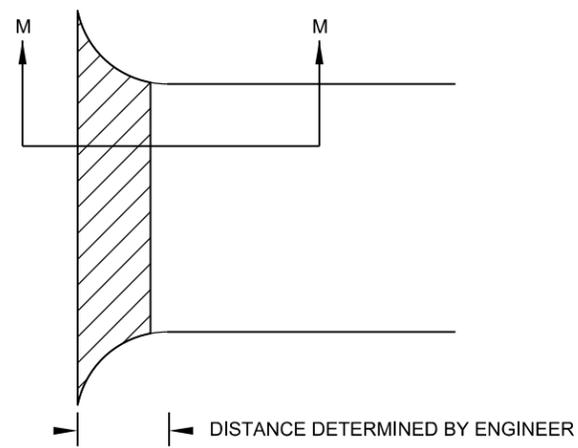
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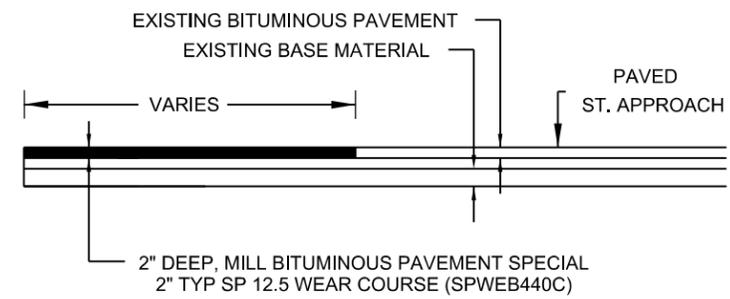
Sheet 10 of 65 Sheets

STREET APPROACH DETAIL (MILL & OVERLAY)
BITUMINOUS STREET

PLAN VIEW



SECTION M - M

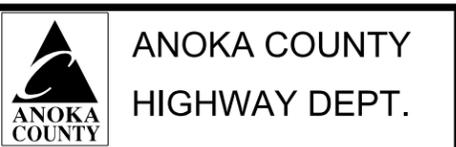


NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH_116_(300 W. HANSON-500 W. CSAH 9)\Plan4_DETAILS.dgn 02/20/2025 8:22:19 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: GERALD J. AUGER JR.
 SIGNATURE: 
 DATE: 01/30/2025 LICENSE NO. 26511

DRAWN BY JF DATE 02/15/24
 DESIGN BY JF DATE 02/15/24
 CHECKED BY NJD DATE 11/14/24



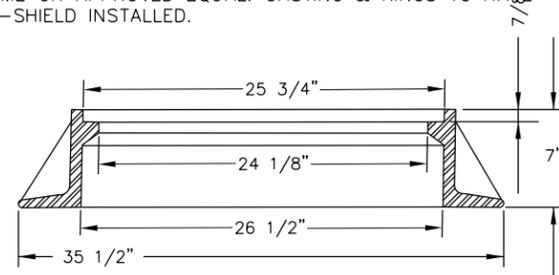
SAP 002-716-025

DETAILS

Sheet 11 of 65 Sheets

STANDARD MANHOLE CASTING

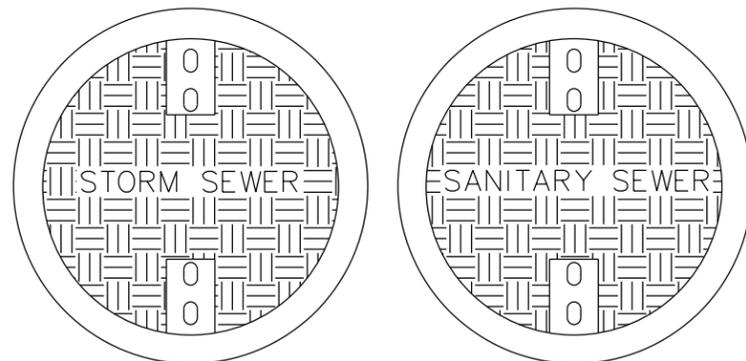
CASTING - NEENAH FOUNDRY NO. R-1733 SERIES MANHOLE FRAME OR APPROVED EQUAL. CASTING & RINGS TO HAVE INFI-SHIELD INSTALLED.



COVER-ESS BROTHER 301-CP LID. OR EQUAL WITH RUBBER GASKET ON THE BOTTOM OF THE LID.

NEENAH R1733-5044

NEENAH R1733-5044



NOTE: ALL LIDS MUST HAVE RUBBER GASKET ON THE BOTTOM OF THE LID.

THIS TAB IS ALSO SHOWN IN THE TABULATIONS, PAGE 8

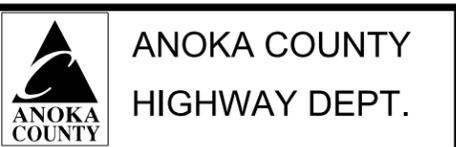
CASTING ASSEMBLIES SUMMARY						C
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	DESCRIPTION	NOTES	QUANTITY
A-7D	700-7	715		301-CP LID WITH RUBBER GASKET ON BOTTOM	CASTING COVER STAMPED "STORM SEWER" (NEENAH R-1733 WITH LID 301-CP)	2
A-7D	700-7	715		301-CP LID WITH RUBBER GASKET ON BOTTOM	CASTING COVER STAMPED "SANITARY SEWER" (NEENAH R-1733 WITH LID 301-CP)	10
A	NEENAH R-3030	L	YES	NEENAH R-3030-L	18" CASTING WITH LOW RISE CURB BOX	86
ALL CASTING HEIGHTS ARE TO BE VERIFIED IN THE FIELD						
ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR SANITARY						
ALL MANHOLES TO BE WRAPPED WITH INFI-SHIELD. THIS WORK IS INCIDENTAL TO THE CASTING ASSEMBLY.						
ADJUSTING RINGS TO BE RECESSED 1/4" FROM TOP OF FINISHED MAT						

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan4_DETAILS.dgn 02/20/2025 8:22:19 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: GERALD J. AUGER JR.
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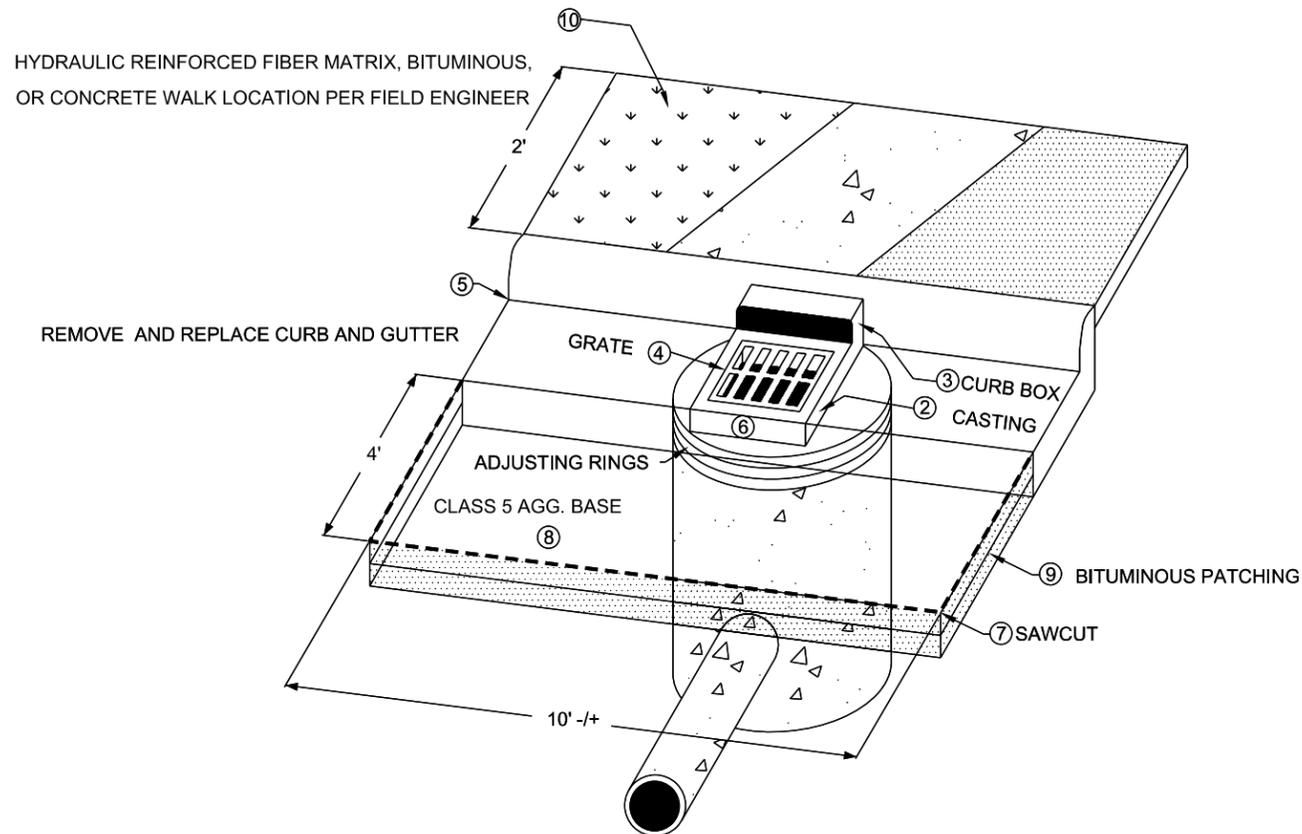
SAP 002-716-025

DETAILS
 Sheet 12 of 65 Sheets

CATCH BASIN DETAIL

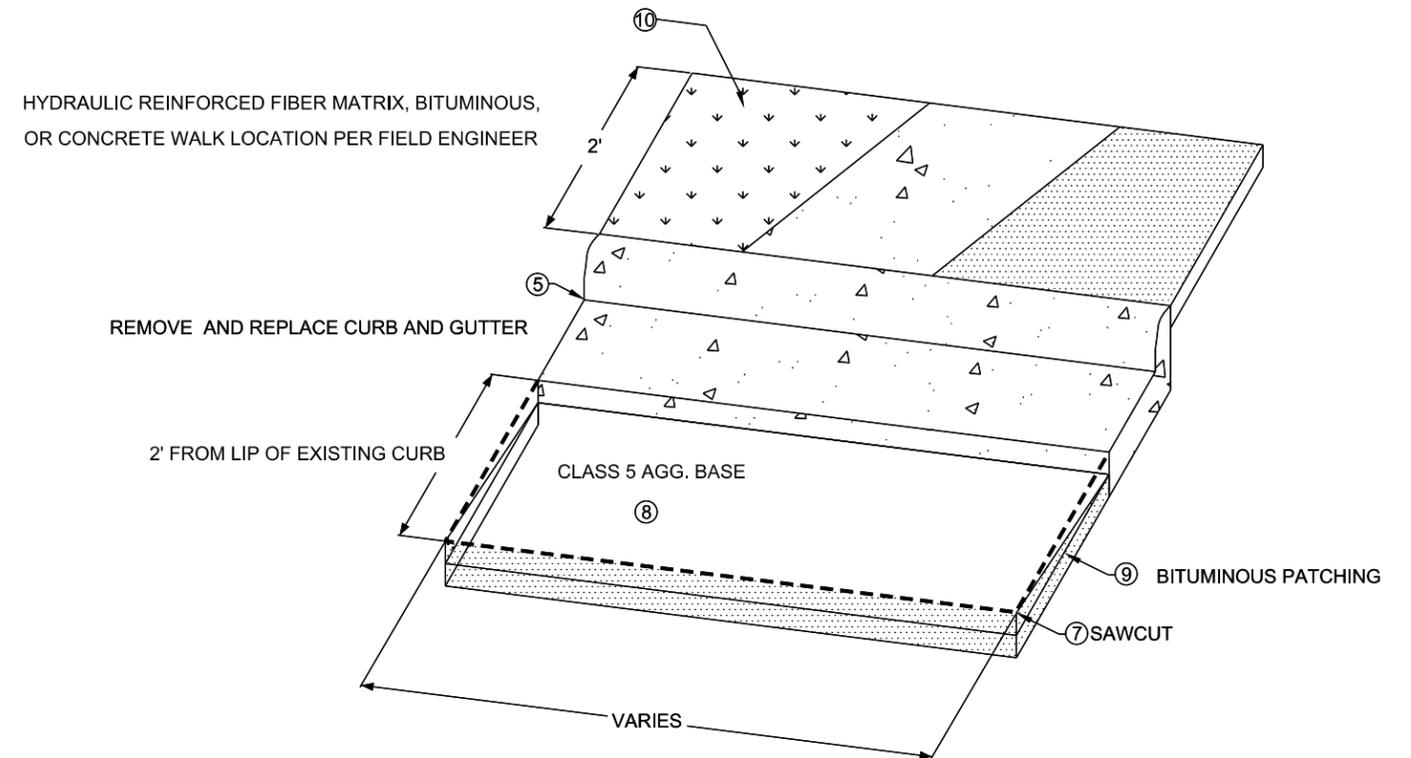
SEE STRUCTURE TAB FOR LOCATION

(PAGE 9)



NEW CURB DETAIL

SEE PLAN FOR LOCATION

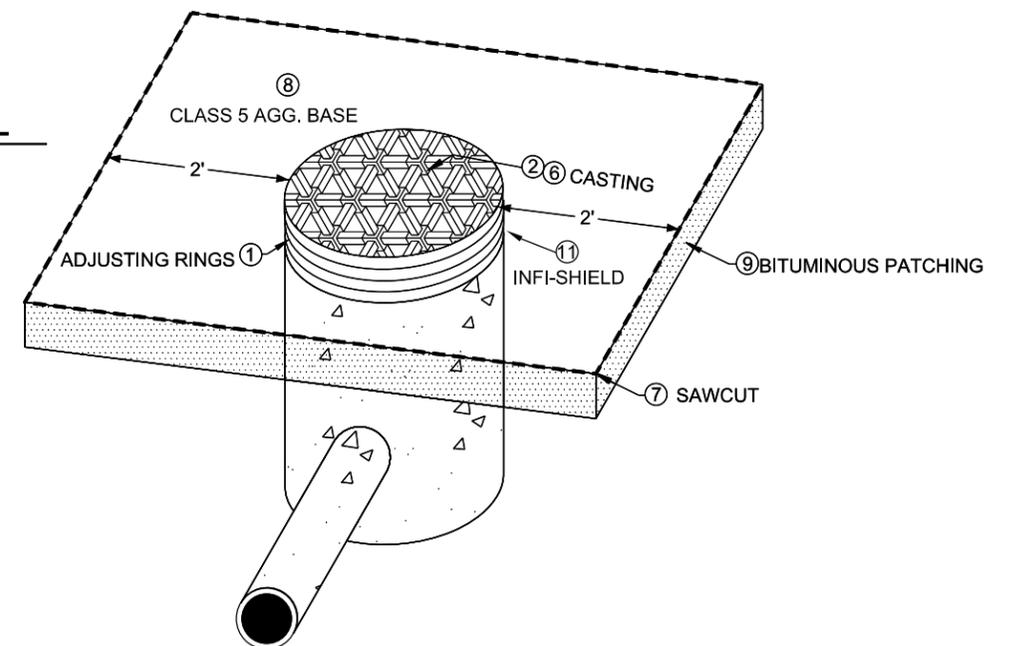


NOTES

FOR TRAFFIC CONTROL AT CATCH BASIN AND MANHOLE REPAIRS REFER TO THE MINNESOTA MANUAL ON TEMPORARY TRAFFIC CONTROL LAYOUTS FIELD MANUAL.

- ① CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A
- ② RING AND FRAME CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ③ CURB BOX MATCHES CASTING REFERENCE CHART FOR CASTING TYPE
- ④ GRATE CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ⑤ CONCRETE CURB AND GUTTER DESIGN B STANDARD PLATE 7100H, FORM CURB TO FIT CASTING
- ⑥ INSTALLATION OF CATCH BASIN OR MANHOLE CASTINGS; REFERENCE STANDARD PLATE PER TYPE OF CASTING
- ⑦ SAWCUT BITUMINOUS PAVEMENT / CONCRETE CURB FULL DEPTH.
- ⑧ ADD AND COMPACT AGGREGATE BASE CLASS 5 AROUND REPAIRED STRUCTURE. ITEM INCIDENTAL TO ENTIRE STRUCTURE REPAIR
- ⑨ REMOVE VARIABLE DEPTH BITUMINOUS, PATCH WITH 2, 3" LIFTS OF BITUMINOUS, TOP LIFT SHOULD TAPER TO BOTTOM LIFT AT CURB.
- ⑩ REPLACE DISTURBED AREA BEHIND CATCH BASIN WITH HYDRAULIC REINFORCED FIBER MATRIX.
- ⑪ WRAP STORM SEWER MANHOLE AND SANITARY SEWER MANHOLE CONCRETE ADJUSTING RINGS & CASTING WITH INFI-SHIELD SEAL WRAP OR APPROVED EQUIVALENT, INSTALL PER MANUFACTURER'S RECOMMENDATIONS, INFI-SHIELD WRAP INCIDENTAL TO ADJUSTMENT.

MANHOLE DETAIL



3 OF 3

NO	DATE	BY	CKD	APPR	REVISION
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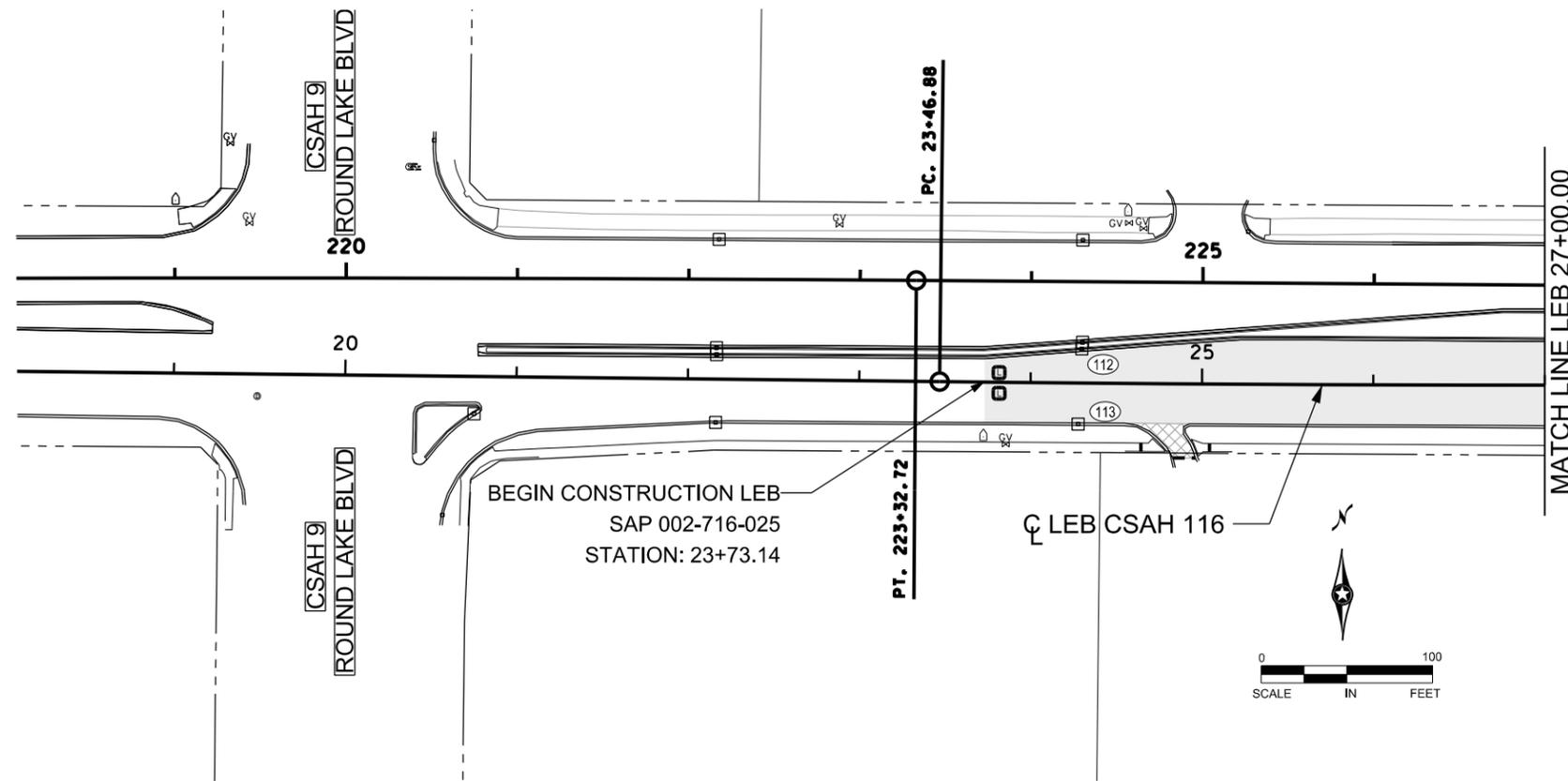


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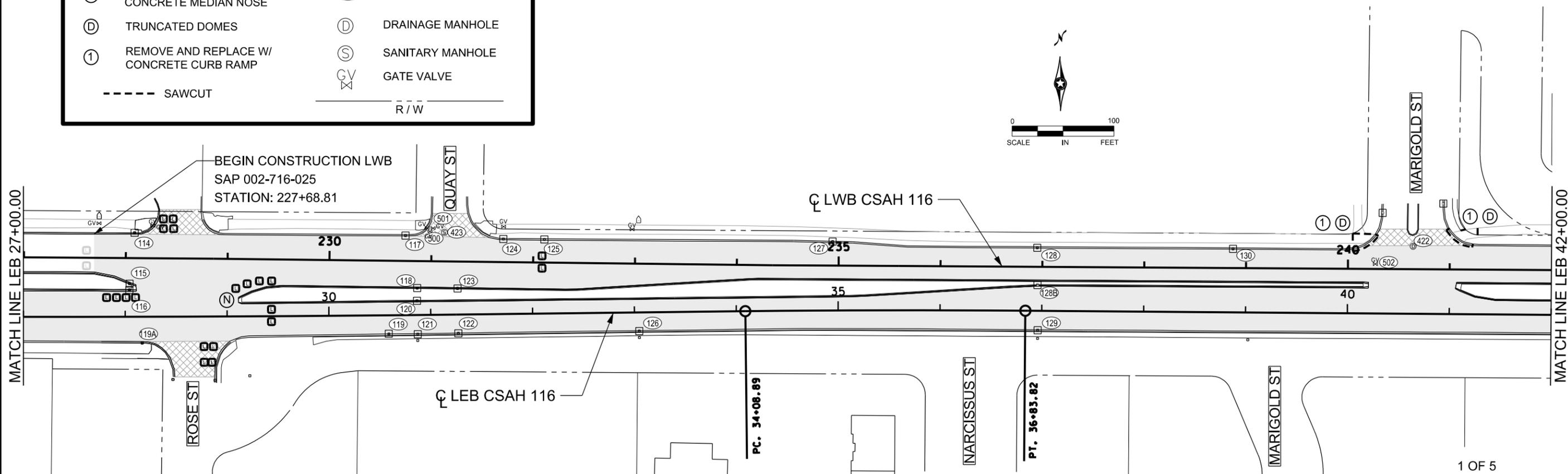
DETAILS

Sheet 13 of 65 Sheets



LEGEND

APPROX. LOOP LOCATION	MAINLINE MILL AREA
APPROX. LOOP LOCATION - EXISTING LOOP OUTSIDE MILLING/PAVING LIMITS, REMAINS IN-PLACE	STREET APPROACH MILL SPECIAL AREA
REMOVE AND REPLACE CONCRETE MEDIAN NOSE	CB / MH / GV NUMBER
TRUNCATED DOMES	DRAINAGE MANHOLE
REMOVE AND REPLACE W/ CONCRETE CURB RAMP	SANITARY MANHOLE
SAWCUT	GATE VALVE
	R/W



NO	DATE	BY	CKD	APPR	REVISION	
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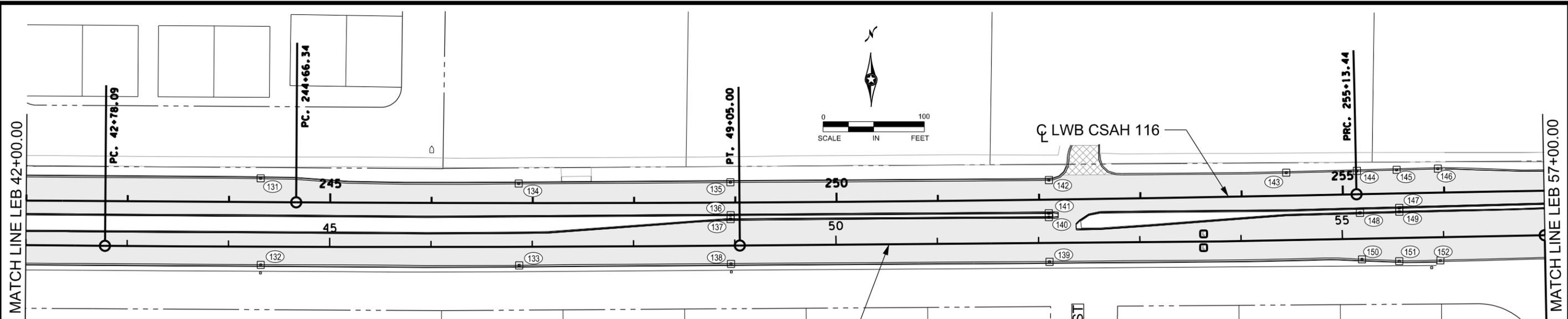
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CHECKED BY NJD DATE 11/14/24

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HIGHWAY DEPT.

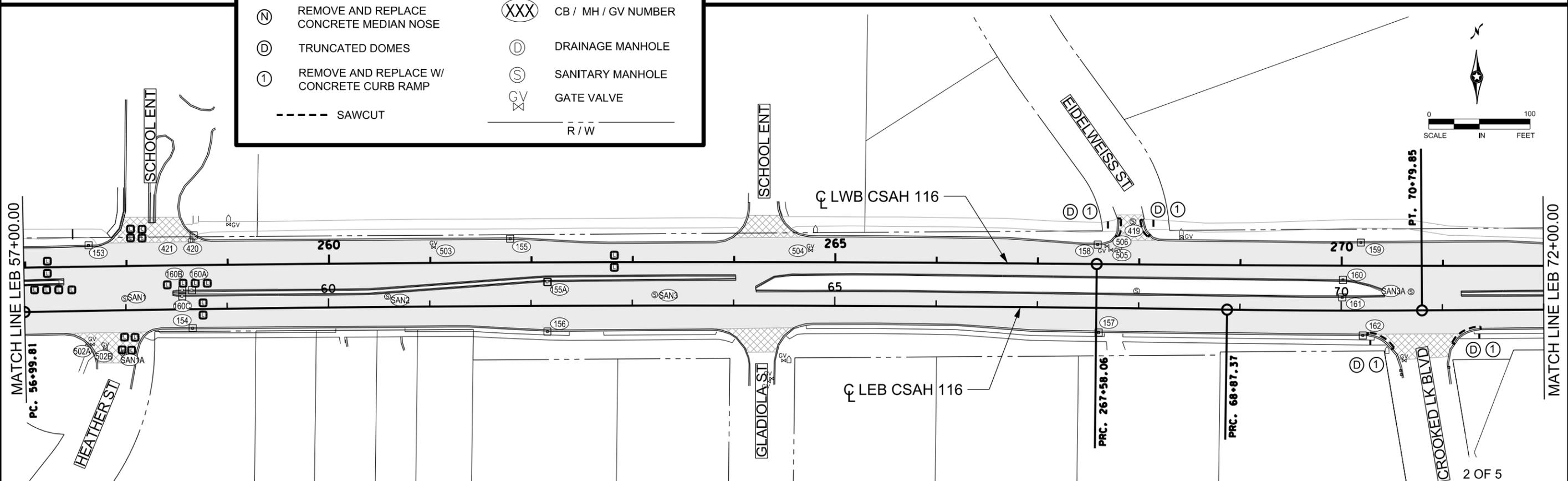
SAP 002-716-025

CONSTRUCTION PLAN
STA 23+73.14 TO 42+00.00
Sheet 14 of 65 Sheets



LEGEND

	APPROX. LOOP LOCATION		MAINLINE MILL AREA
	APPROX. LOOP LOCATION - EXISTING LOOP OUTSIDE MILLING/PAVING LIMITS, REMAINS IN-PLACE		STREET APPROACH MILL SPECIAL AREA
	REMOVE AND REPLACE CONCRETE MEDIAN NOSE		CB / MH / GV NUMBER
	TRUNCATED DOMES		DRAINAGE MANHOLE
	REMOVE AND REPLACE W/ CONCRETE CURB RAMP		SANITARY MANHOLE
	SAWCUT		GATE VALVE
			R / W



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: GERALD J. AUGER JR.

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**ANOKA COUNTY
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CONSTRUCTION PLAN

STA 42+00.00 TO 72+00.00

Sheet 15 of 65 Sheets

SPH005

BEGIN LWB MILL / PAVE EXCEPTION
SAP 002-716-025
STATION: 273+69.20

END LWB MILL / PAVE EXCEPTION
SAP 002-716-025
STATION: 274+84.80

BEGIN LEB MILL / PAVE EXCEPTION
SAP 002-716-025
STATION: 73+85.50

END LEB MILL / PAVE EXCEPTION
SAP 002-716-025
STATION: 75+01.10

PT. 274+18.76

COON CREEK

BITTERSWEET ST

XAVIS ST

YUKON ST

CSAH 18

CLWB CSAH 116

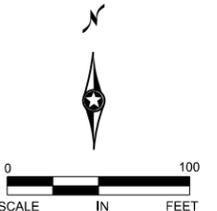
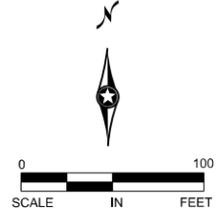
CLWB CSAH 116

CLWB CSAH 116

CLWB CSAH 116

LEGEND

	APPROX. LOOP LOCATION		MAINLINE MILL AREA
	APPROX. LOOP LOCATION - EXISTING LOOP OUTSIDE MILLING/PAVING LIMITS, REMAINS IN-PLACE		STREET APPROACH MILL SPECIAL AREA
	REMOVE AND REPLACE CONCRETE MEDIAN NOSE		CB / MH / GV NUMBER
	TRUNCATED DOMES		DRAINAGE MANHOLE
	REMOVE AND REPLACE W/ CONCRETE CURB RAMP		SANITARY MANHOLE
	SAWCUT		GATE VALVE
			R / W



MATCH LINE LEB 72+00.00

MATCH LINE LEB 87+00.00

MATCH LINE LEB 87+00.00

MATCH LINE LEB 102+00.00

3 OF 5

NO	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:22:26 AM
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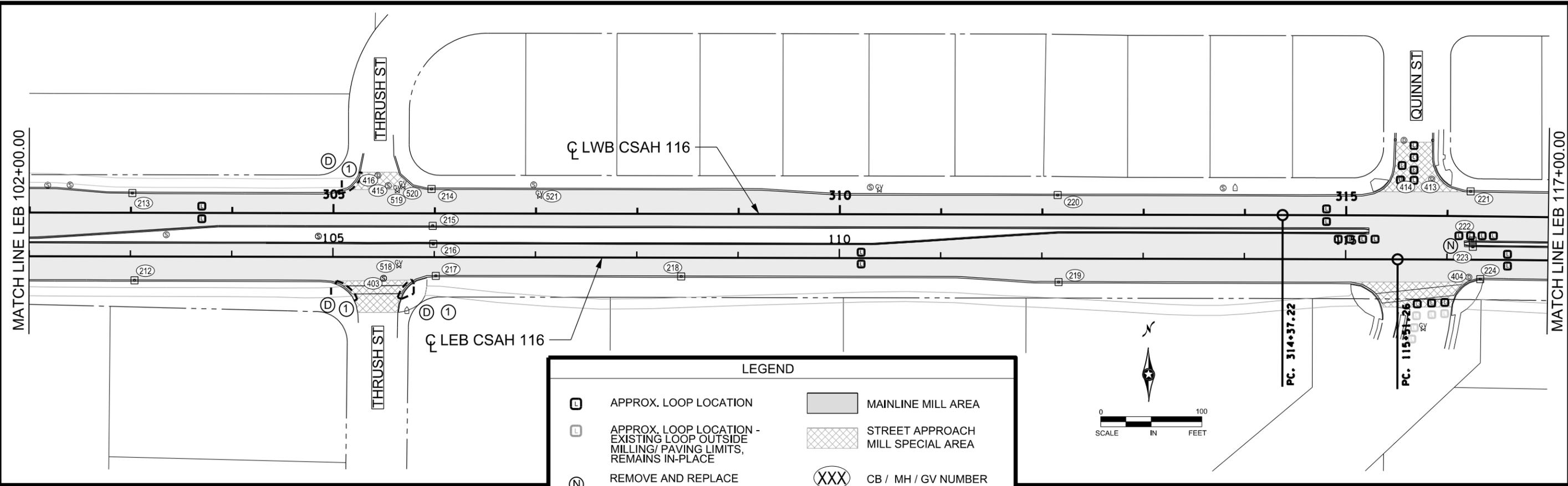
**ANOKA COUNTY
HIGHWAY DEPT.**

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CONSTRUCTION PLAN

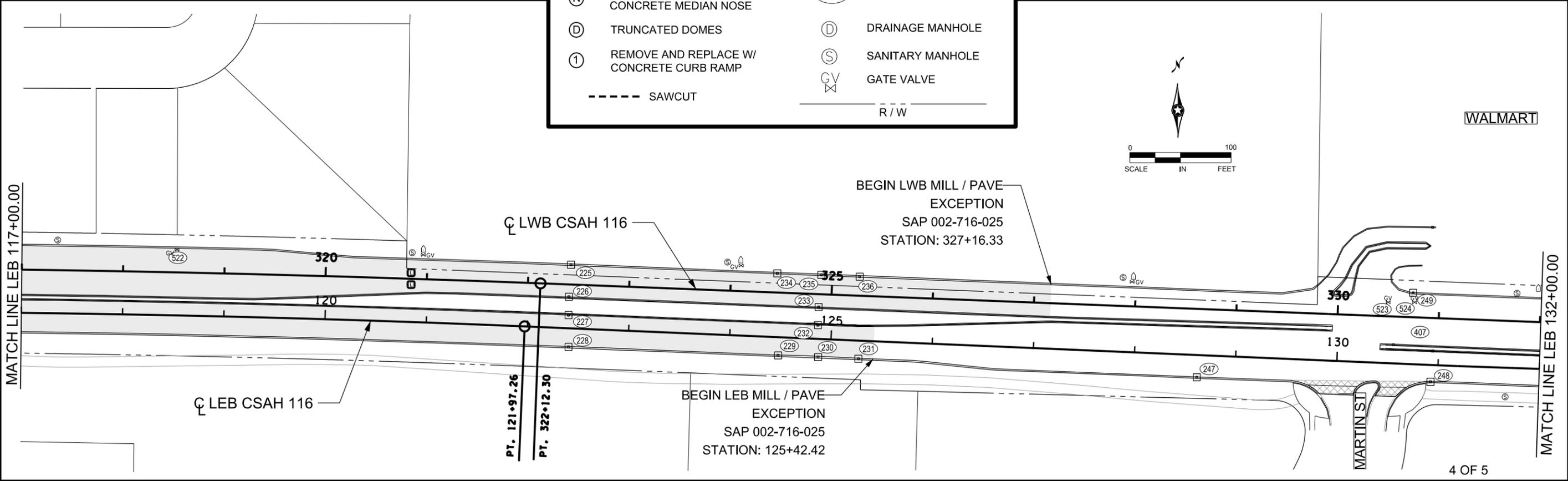
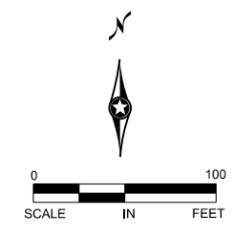
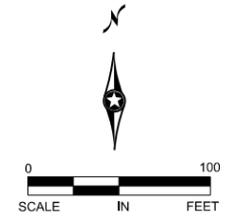
STA 72+00.00 TO 102+00.00

Sheet 16 of 65 Sheets



LEGEND

	APPROX. LOOP LOCATION		MAINLINE MILL AREA
	APPROX. LOOP LOCATION - EXISTING LOOP OUTSIDE MILLING/PAVING LIMITS, REMAINS IN-PLACE		STREET APPROACH MILL SPECIAL AREA
	REMOVE AND REPLACE CONCRETE MEDIAN NOSE		CB / MH / GV NUMBER
	TRUNCATED DOMES		DRAINAGE MANHOLE
	REMOVE AND REPLACE W/ CONCRETE CURB RAMP		SANITARY MANHOLE
	SAWCUT		GATE VALVE
			R / W



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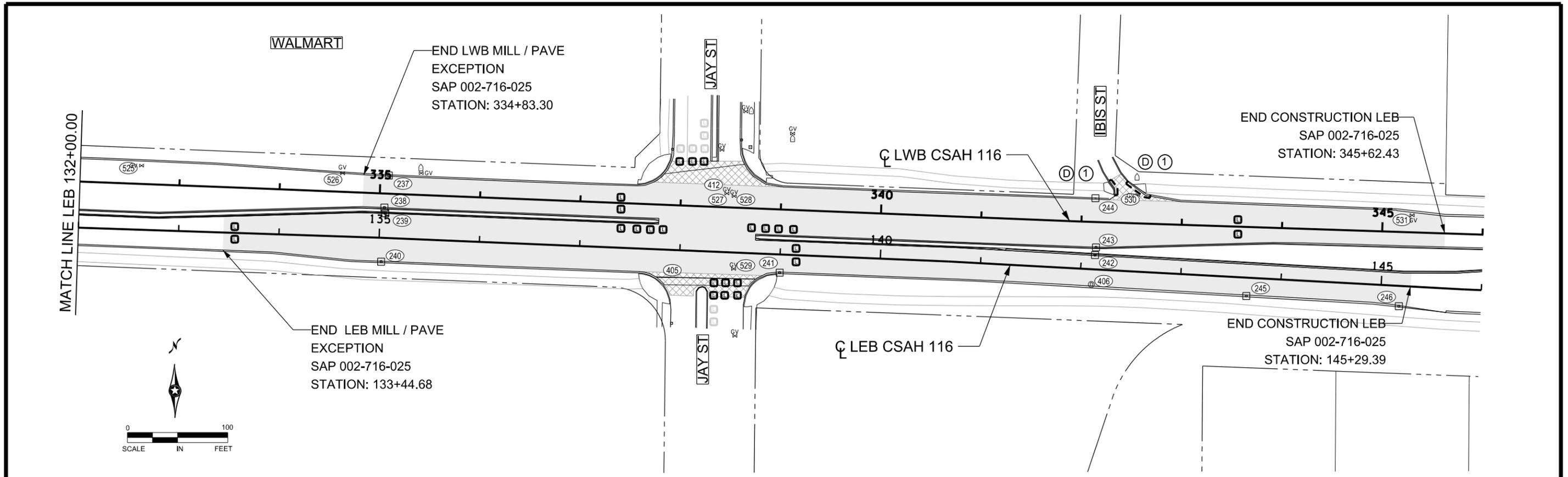
SAP 002-716-025

4 OF 5

CONSTRUCTION PLAN

STA 102+00.00 TO 132+00.00

Sheet 17 of 65 Sheets



LEGEND

APPROX. LOOP LOCATION	MAINLINE MILL AREA
APPROX. LOOP LOCATION - EXISTING LOOP OUTSIDE MILLING/PAVING LIMITS, REMAINS IN-PLACE	STREET APPROACH MILL SPECIAL AREA
REMOVE AND REPLACE CONCRETE MEDIAN NOSE	CB / MH / GV NUMBER
TRUNCATED DOMES	DRAINAGE MANHOLE
REMOVE AND REPLACE W/ CONCRETE CURB RAMP	SANITARY MANHOLE
SAWCUT	GATE VALVE
	R / W

NO	DATE	BY	CKD	APPR	REVISION	
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PRINT NAME: GERALD J. AUGER JR.

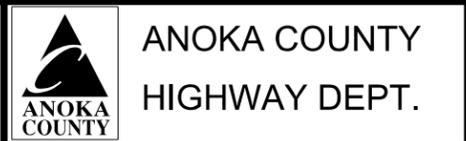
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DATE: 01/30/2025 LICENSE NO. 26511

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CONSTRUCTION PLAN

STA 132+00.00 TO 145+29.39

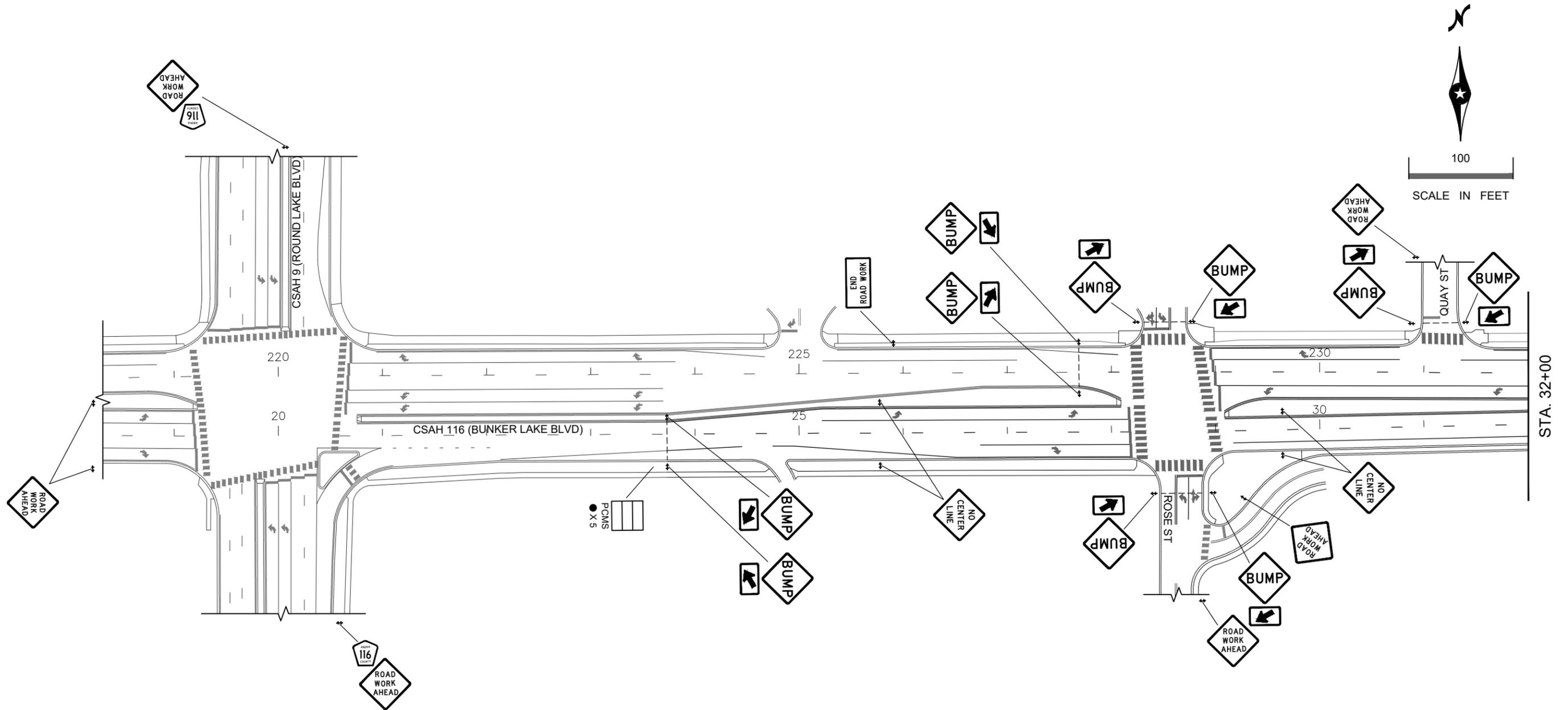
Sheet 18 of 65 Sheets

NOTES: (TYP.)

- 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 (PCMS) 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.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
++	TRAFFIC CONTROL SIGN (TEMPORARY)
●	DRUM-LIKE CHANNELIZER TYPE B = 
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\25-01-00\CSAH_116_(300 W. HANSON-500 W. CSAH 9)\Base\Traffic\Temporary Signing and Tabulations.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: SEAN R. THIEL
 SIGNATURE: *Sean R. Thiel*
 DATE: 2/12/2025 LICENSE NO. 45129

DRAWN BY: FL DATE: 01/30/25
 DESIGN BY: FL DATE: 01/30/25
 CHECKED BY: SRT DATE: _____

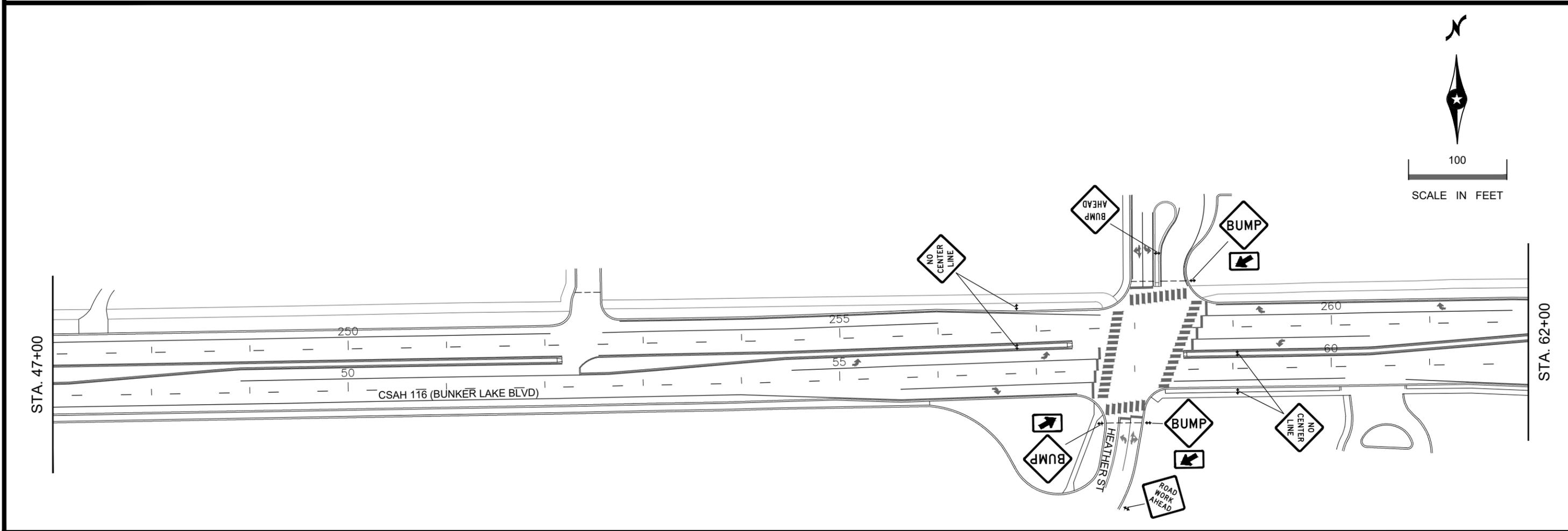
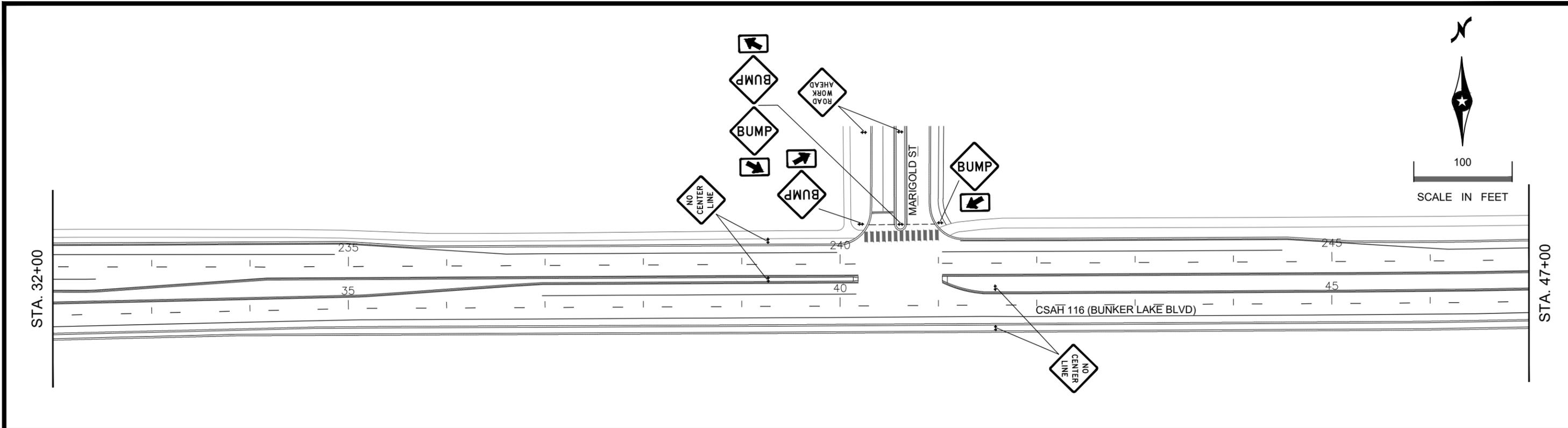
ANOKA COUNTY
HIGHWAY DEPT.



SAP 002-716-025

TEMPORARY SIGNING AND TABULATIONS

Sheet 19 of 65 Sheets



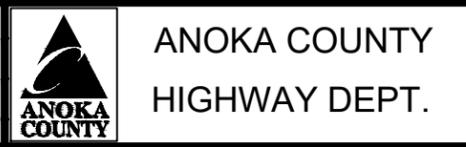
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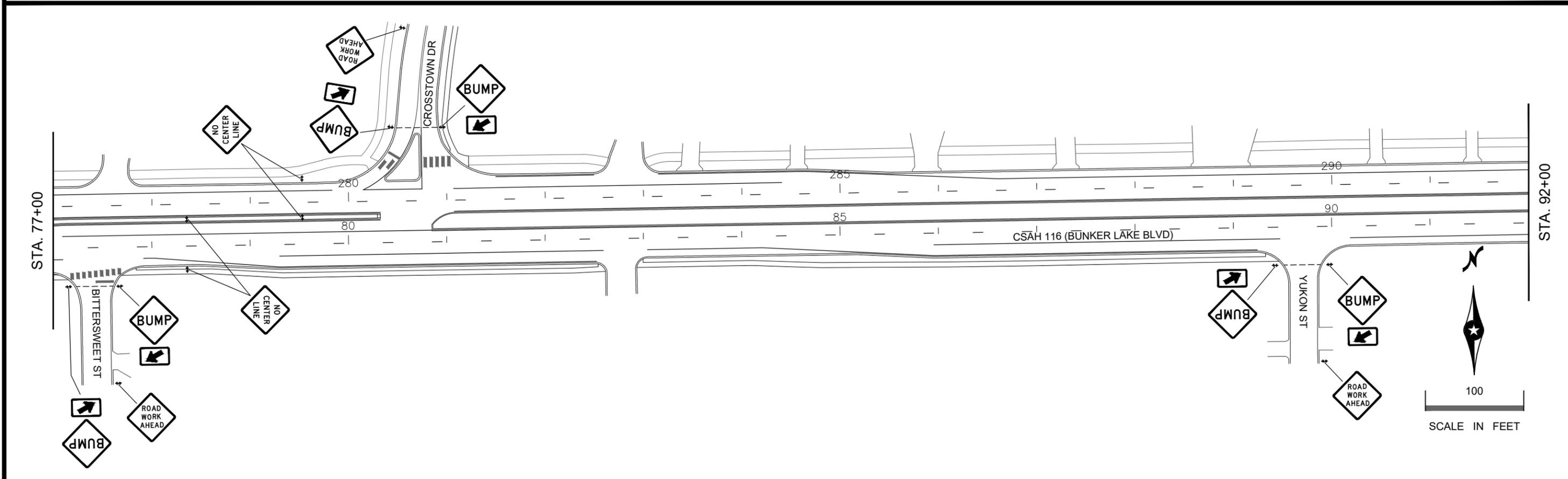
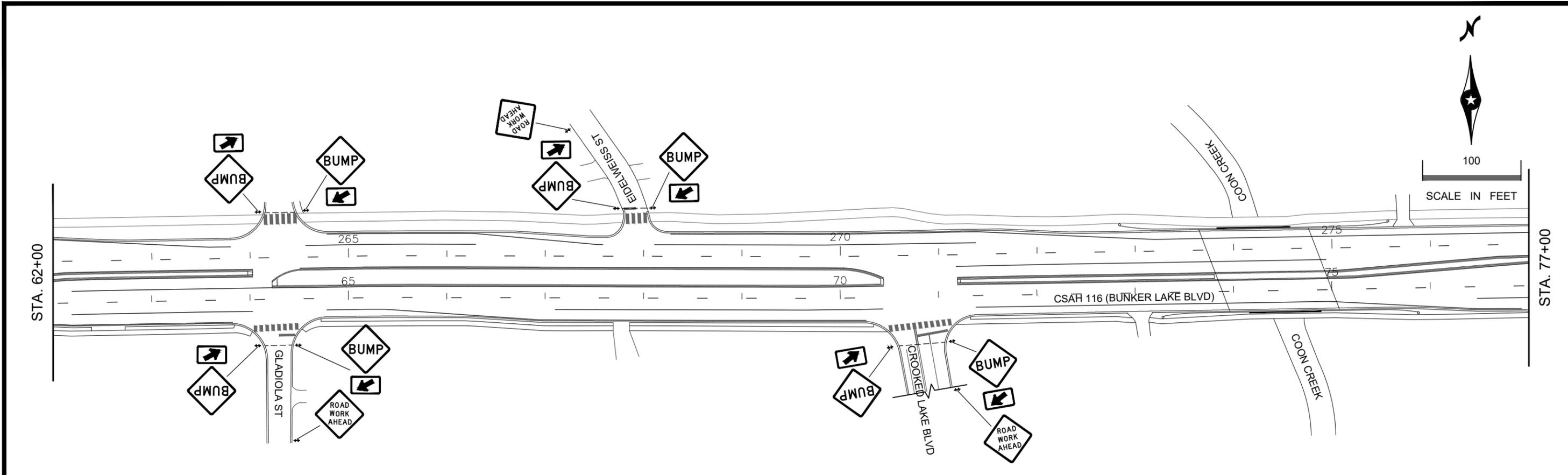
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TEMPORARY SIGNING AND TABULATIONS
 Sheet 20 of 65 Sheets



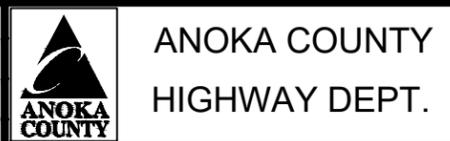
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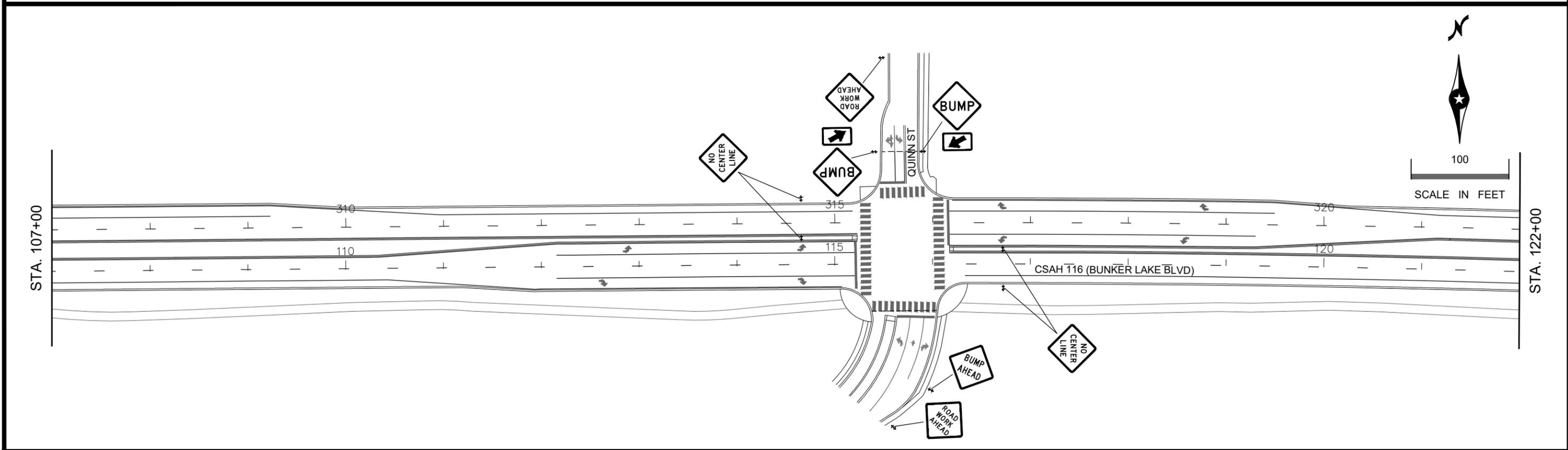
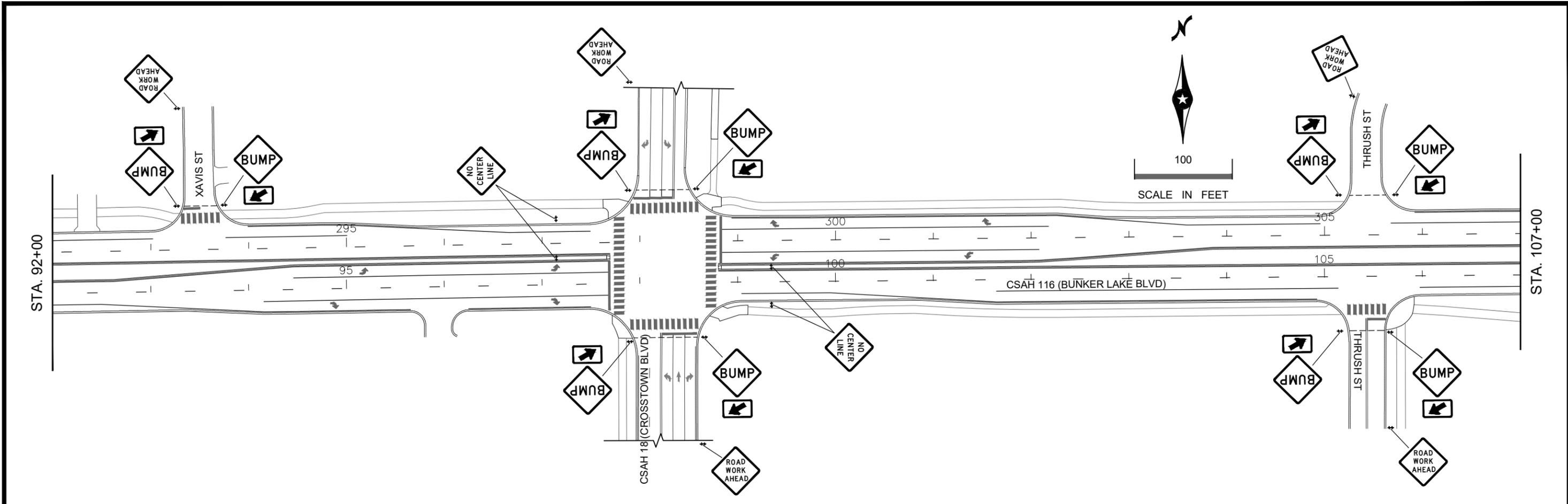
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TEMPORARY SIGNING AND TABULATIONS
 Sheet 21 of 65 Sheets

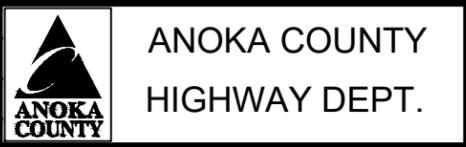


NO	DATE	BY	CKD	APPR	REVISION

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 CHECKED BY: SRT DATE: _____



SAP 002-716-025

TEMPORARY SIGNING AND TABULATIONS
 Sheet 22 of 65 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES

"W" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	W3-4	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-1	BLACK ON ORANGE	36" X 36"	1
			48" X 48"	47
	W16-7PL	BLACK ON ORANGE	30" X 18"	42
	W16-7PR	BLACK ON ORANGE	30" X 18"	6
	W8-1M	BLACK ON ORANGE	36" X 36"	1
			48" X 48"	6
	W8-8	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-9	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-11	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-12	BLACK ON ORANGE	36" X 36"	14
			48" X 48"	16
	W8-23	BLACK ON ORANGE	48" X 48"	AS NEEDED
	M1-6M	WHITE AND YELLOW ON BLUE	24 X 24	4
	W20-1	BLACK ON ORANGE	36" X 36"	2
			48" X 48"	30

"W" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	W20-4	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W20-7	BLACK ON ORANGE	48" X 48"	AS NEEDED

"G" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	G20-2	BLACK ON ORANGE	48" X 24"	2

DEVICES		
ITEM	MUTCD CODE	QUANTITY
	DRUM	AS NEEDED (ESTIMATED 10)
(1)	TYPE C	2 (10 DAYS EACH)

PCMS - 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

NOTES:

- 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.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD.

SPECIFIC NOTES:

1. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) TO BE INSTALLED A MINIMUM OF 10 DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS.

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\25-01-00\CSAH 116 (300 W. HANSON-500 W. CSAH 9)\Base\Traffic\Temporary Signing and Tabulations.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: SEAN R. THIEL
 SIGNATURE: *Sean R. Thiel*
 DATE: 2/12/2025 LICENSE NO. 45129

DRAWN BY: FL DATE: 01/30/25
 DESIGN BY: FL DATE: 01/30/25
 CHECKED BY: SRT DATE: _____


**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-716-025

**TEMPORARY SIGNING
AND
TABULATIONS**
 Sheet 24 of 65 Sheets

PAVEMENT MARKING PLAN NOTES & GUIDELINES

GENERAL INFORMATION:

1. 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.
2. 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.
3. 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.
4. PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.
5. 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.

MULTI-COMPONENT (MULTI-COMP):

1. 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.
2. THE MULTI-COMP MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI-COMP LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.
3. A MULTI-COMP 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 25 LBS POUNDS PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.
4. PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES ARE 40° OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

PREFORMED THERMOPLASTIC:

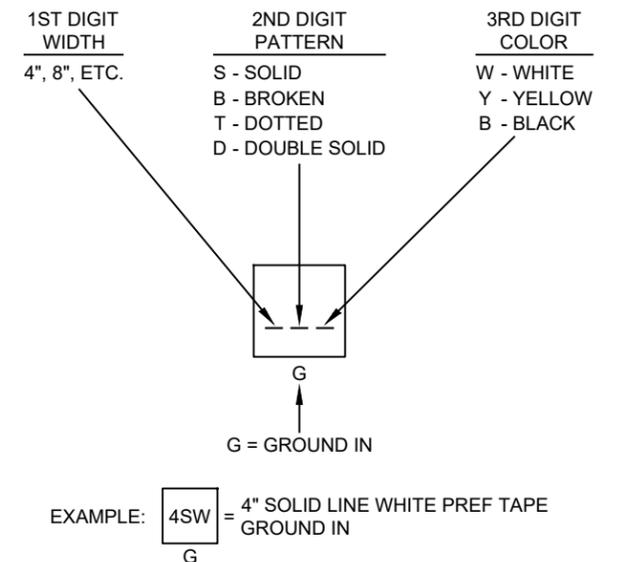
1. THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

PAVEMENT MARKING SYMBOLS & MATERIALS LEGEND

- BROKEN LINE - 50' CYCLE (10' LINE, 40' GAP)
- █ CROSSWALK BLOCK
- ↩ PAVEMENT MESSAGE (LEFT ARROW)

STRIPING KEY

-  CIRCLE - MULTI-COMP
-  SQUARE - PREF TAPE
-  OCTAGON - PREF THERMO



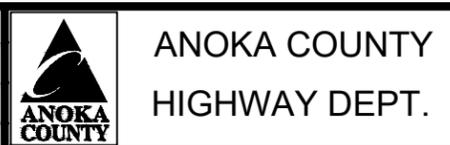
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NAME: P:\25-01-00\CSAH_116 (300 W. HANSON-500 W. CSAH 9)\BaseTraffic\Pavement Marking Plan Notes and Guidelines.dwg

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.

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SIGNATURE: *Sean R. Thiel*
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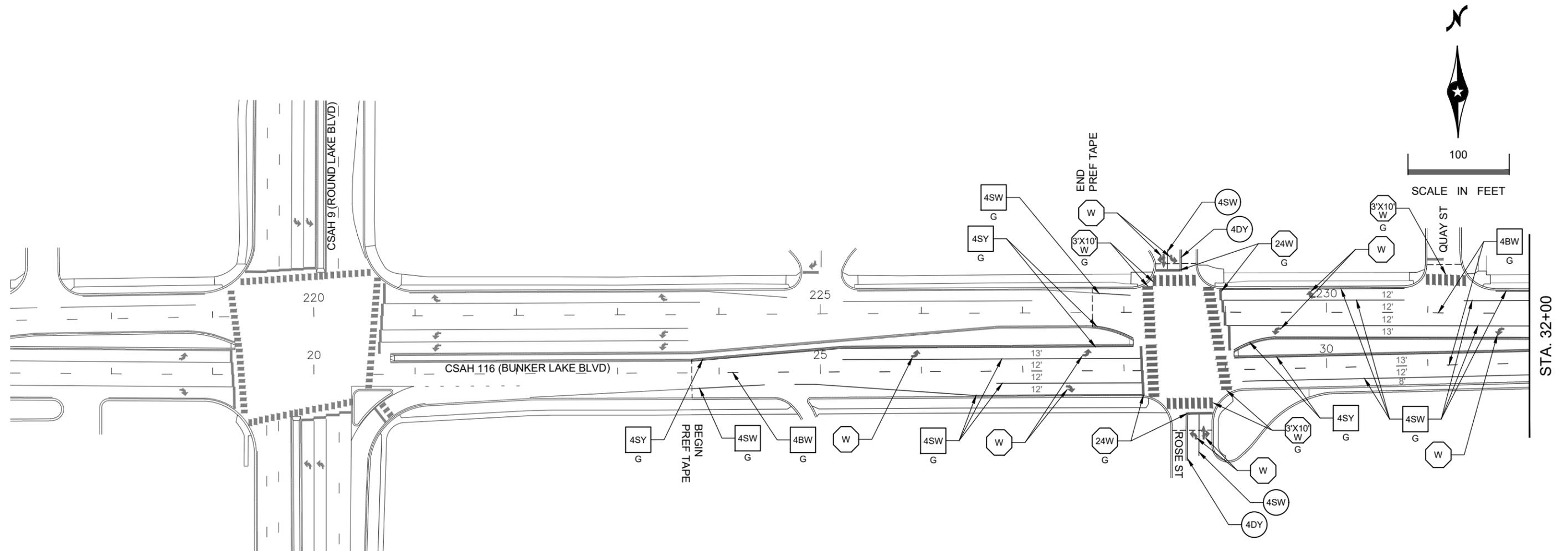
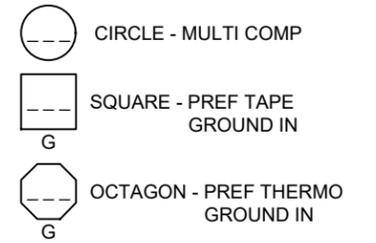


SAP 002-716-025

STRIPING NOTES: (TYP.)

1. LOCATIONS OF ALL PERMANENT STRIPING AND PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. ALL MAINLINE PERMANENT STRIPING AND PAVEMENT MARKINGS SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
3. APPLY ALL PAVEMENT MARKINGS AS RECOMMENDED BY THE MATERIAL MANUFACTURER.
4. PERMANENT PAVEMENT MARKINGS AND STRIPING SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.
5. MAINLINE PREFORMED TAPE LANE LINE MARKINGS SHALL MATCH INTO EXISTING MARKINGS.
6. PAVEMENT MARKINGS OUTSIDE OF WORK AREA AFFECTED BY CONSTRUCTION ACTIVITIES SHALL BE REMARKED WITH ORIGINAL MATERIAL OR AS SPECIFIED ON PLAN.
7. CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED.

STRIPING KEY



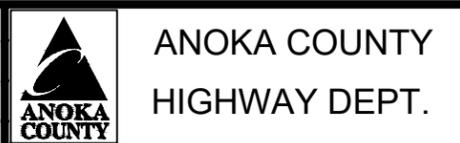
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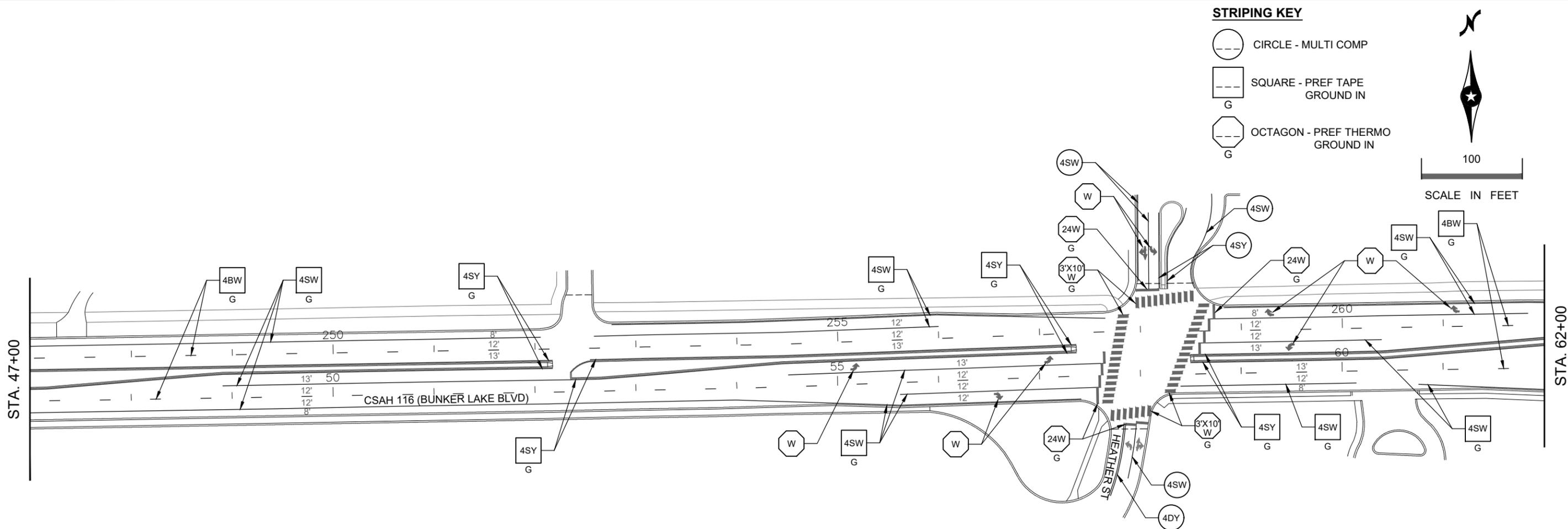
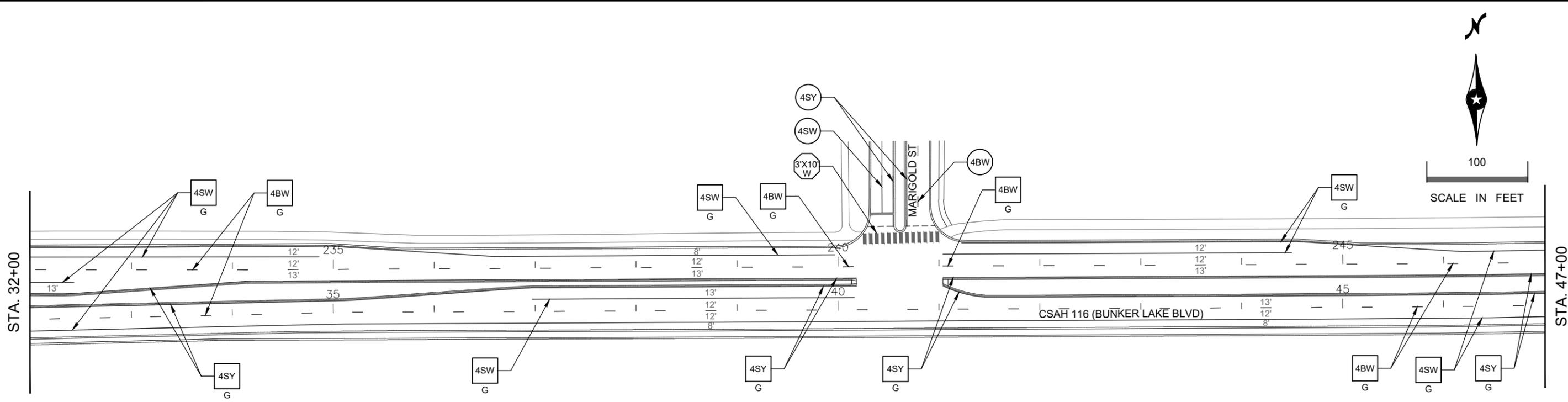
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PERMANENT PAVEMENT MARKING PLAN & TABULATIONS
 Sheet 26 of 65 Sheets



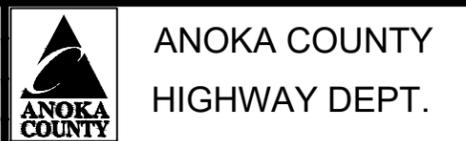
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH 116 (300 W. HANSON-500 W. CSAH 9)\BaseTrafficPermanent Pavement Marking Plan and Tabulations.dwg

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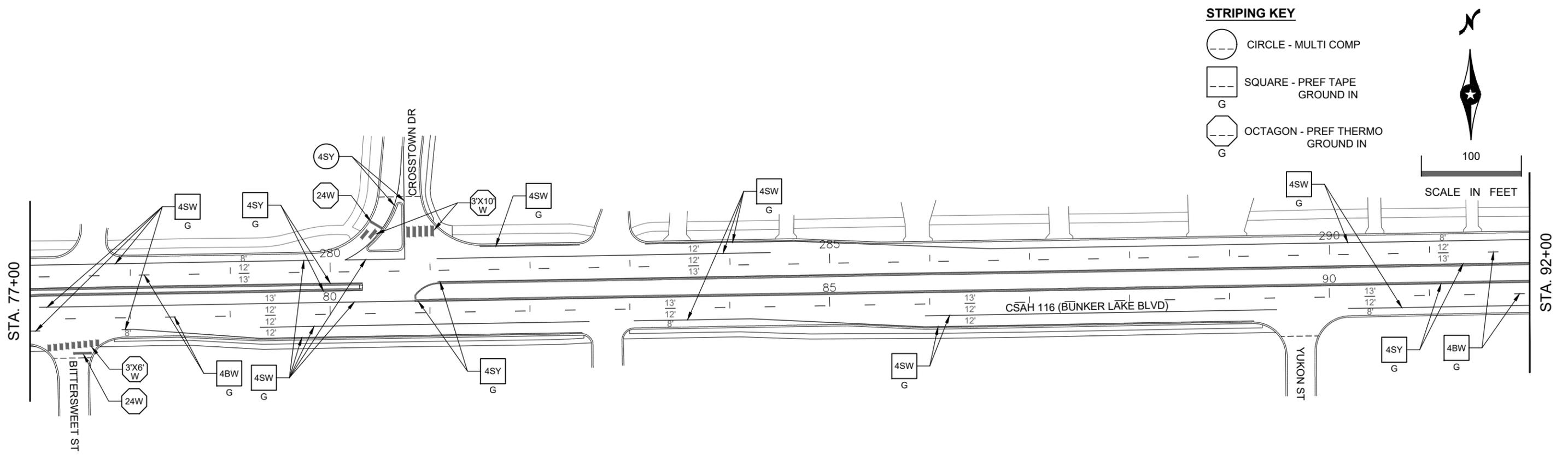
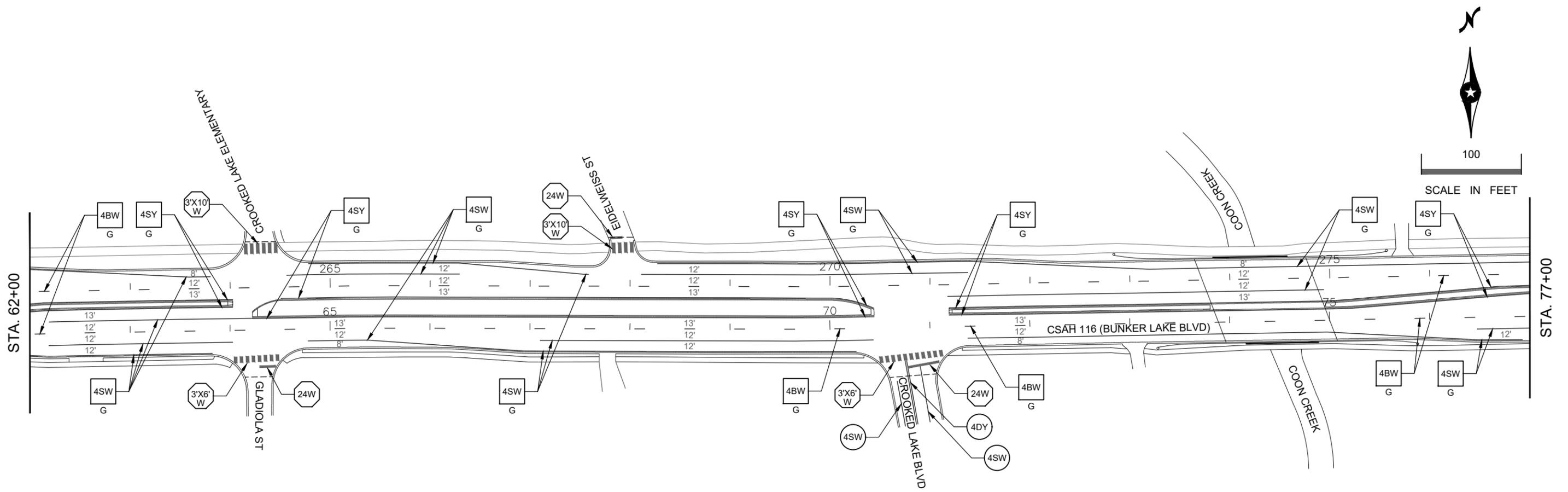
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PERMANENT PAVEMENT MARKING PLAN & TABULATIONS
 Sheet 27 of 65 Sheets



STRIPING KEY

- CIRCLE - MULTI COMP
- SQUARE - PREF TAPE GROUND IN
- OCTAGON - PREF THERMO GROUND IN

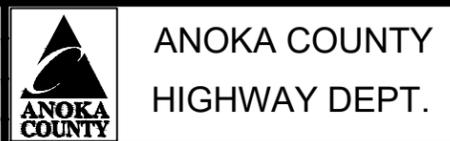
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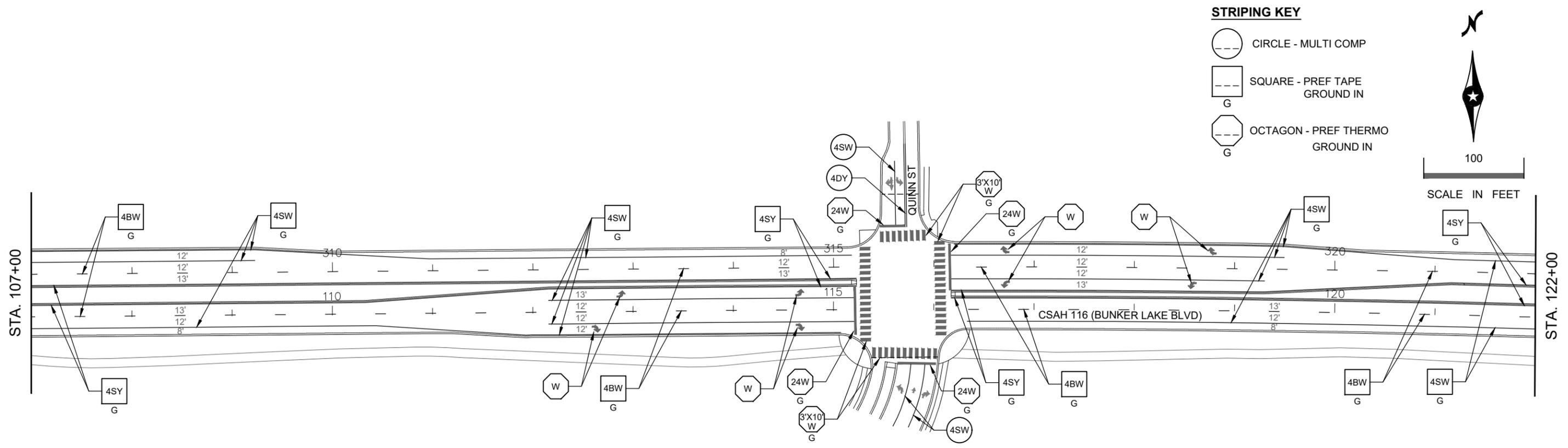
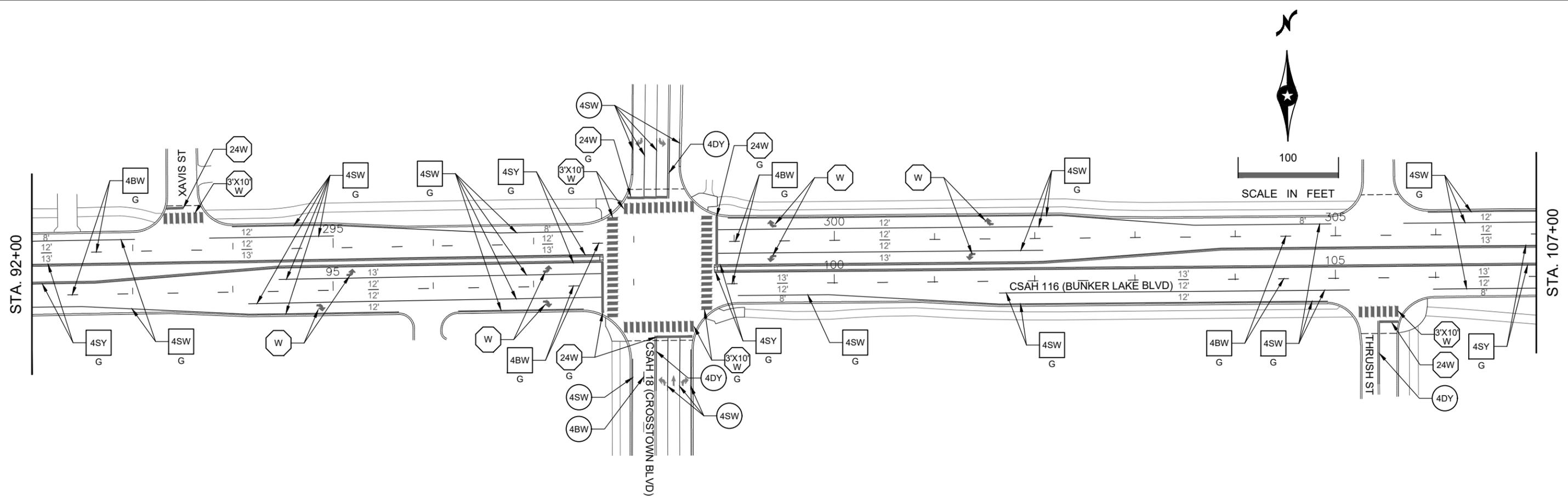
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PERMANENT PAVEMENT MARKING PLAN & TABULATIONS

Sheet 28 of 65 Sheets



- STRIPING KEY**
- CIRCLE - MULTI COMP
 - SQUARE - PREF TAPE GROUND IN
 - OCTAGON - PREF THERMO GROUND IN

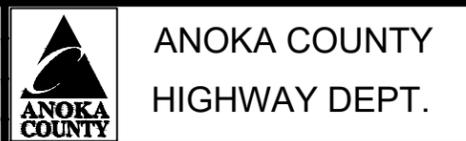
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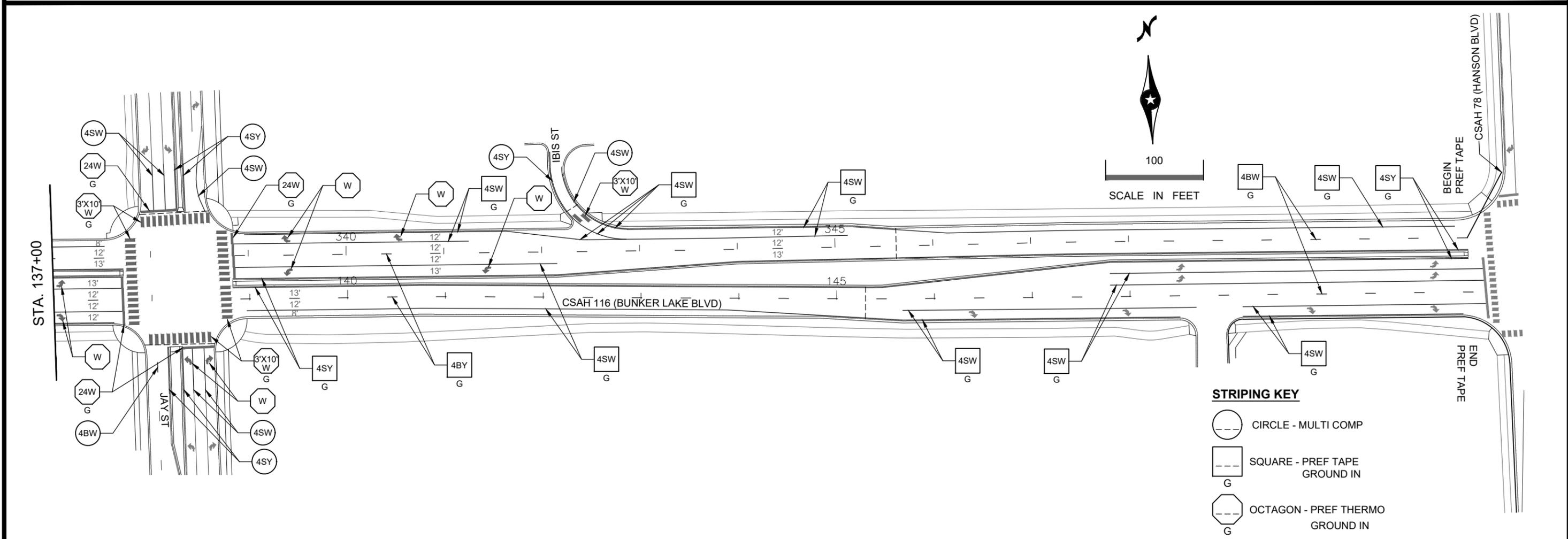
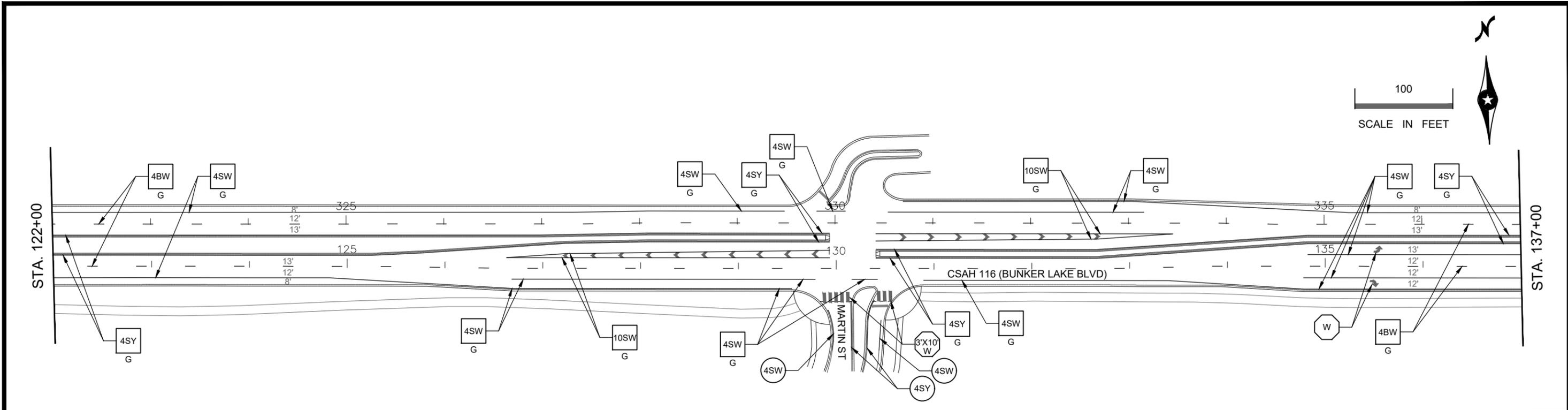
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PERMANENT PAVEMENT MARKING PLAN & TABULATIONS

Sheet 29 of 65 Sheets



- STRIPING KEY**
-  CIRCLE - MULTI COMP
 -  SQUARE - PREF TAPE GROUND IN
 -  OCTAGON - PREF THERMO GROUND IN

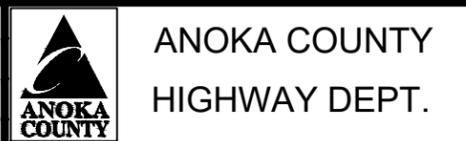
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PERMANENT PAVEMENT MARKING PLAN & TABULATIONS

Sheet 30 of 65 Sheets

PAVEMENT MARKING TABULATIONS

L

ITEM DESCRIPTION	UNIT	CSAH 116 (BUNKER LK BLVD)		ROSE ST		QUAY ST		MARIGOLD ST		HEATHER ST		GLADIOLA ST		CROOKED LK ELEM		EIDELWEISS ST		CROOKED LK BLVD		
		WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	
4" SOLID LINE MULTI COMP	LIN FT			60.00				36.00	101.00	314.00	159.00								102.00	
4" BROKEN LINE MULTI COMP	LIN FT							10.00												
4" DBLE SOLID LINE MULTI COMP	LIN FT				69.00						73.00									64.00
4" SOLID LINE PREF TAPE GR IN	LIN FT	35626.00	23451.00																	
10" SOLID LINE PREF TAPE GR IN	LIN FT	1267.00																		
4" BROKEN LINE PREF TAPE GR IN	LIN FT	4840.00																		
24" SOLID LINE PREF THERMO GR IN	LIN FT	489.00		49.00						45.00										
PAVT MARKING REMOVAL	SQ FT			139.83																
PAVT MSSG PREF THERMO (ARROW)	SQ FT	556.20		92.70						46.35										
PAVT MSSG PREF THERMO (STOPBAR)	SQ FT											16.00				12.00			32.00	
CROSSWALK PREF THERMO	SQ FT					210.00		390.00				144.00		180.00		160.00			198.00	
CROSSWALK PREF THERMO GR IN	SQ FT	4800.00		15.00						510.00										

ITEM DESCRIPTION	UNIT	BITTERSWEET ST		CROSSTOWN DR		XAVIS ST		CSAH 18 (CROSSTOWN BLVD)		THRUSH ST		QUINN ST		MARTIN ST		JAY ST		IBIS ST	
		WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW
4" SOLID LINE MULTI COMP	LIN FT				247.00			354.00				192.00		72.00	102.00	235.00	193.00	43.00	74.00
4" BROKEN LINE MULTI COMP	LIN FT							10.00								10.00			
4" DBLE SOLID LINE MULTI COMP	LIN FT								114.00		62.00		83.00						
4" SOLID LINE PREF TAPE GR IN	LIN FT																		
10" SOLID LINE PREF TAPE GR IN	LIN FT																		
4" BROKEN LINE PREF TAPE GR IN	LIN FT																		
24" SOLID LINE PREF THERMO GR IN	LIN FT							74.00				63.00				68.00			
PAVT MARKING REMOVAL	SQ FT															96.00			
PAVT MSSG PREF THERMO (ARROW)	SQ FT															30.90			
PAVT MSSG PREF THERMO (STOPBAR)	SQ FT	18.00		13.00		17.00				19.00									
CROSSWALK PREF THERMO	SQ FT	162.00		210.00		210.00				210.00				240.00					60.00
CROSSWALK PREF THERMO GR IN	SQ FT							720.00				570.00				690.00			

ITEM DESCRIPTION	UNIT	TOTAL
4" SOLID LINE MULTI COMP	LIN FT	2284.00
4" BROKEN LINE MULTI COMP	LIN FT	30.00
4" DBLE SOLID LINE MULTI COMP	LIN FT	465.00
4" SOLID LINE PREF TAPE GR IN	LIN FT	59077.00
10" SOLID LINE PREF TAPE GR IN	LIN FT	1267.00
4" BROKEN LINE PREF TAPE GR IN	LIN FT	4840.00
24" SOLID LINE PREF THERMO GR IN	LIN FT	788.00
PAVT MARKING REMOVAL	SQ FT	235.83
PAVT MSSG PREF THERMO (ARROW)	SQ FT	726.15
PAVT MSSG PREF THERMO (STOPBAR)	SQ FT	127.00
CROSSWALK PREF THERMO	SQ FT	2374.00
CROSSWALK PREF THERMO GR IN	SQ FT	7305.00

NO	DATE	BY	CKD	APPR	REVISION

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**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-716-025

PAVEMENT MARKING
TABULATIONS

Sheet 31 of 65 Sheets

TRAFFIC CONTROL NOTES: (TYP.)

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART 6, "FIELD MANUAL", DATED SEPTEMBER 2020.
- ALL SIGNS SHALL BE FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.
- ALL CENTER MEDIAN SIGNS NOTED BETWEEN STA. 27+75 AND CSAH 78 (HANSON BLVD), SHALL BE REMOVED, FABRICATED AND INSTALLED UTILIZING THE SQUARE TUBE SHEAR BOLT BASE IN ACCORDANCE TO MnDOT SPEC. 3402 AND THE ANOKA COUNTY SIGNING DETAILS.
- INPLACE SIGNS NOT AFFECTED BY CONSTRUCTION HAVE BEEN OMITTED FROM PLAN SHEETS TO REDUCE CLUTTER.

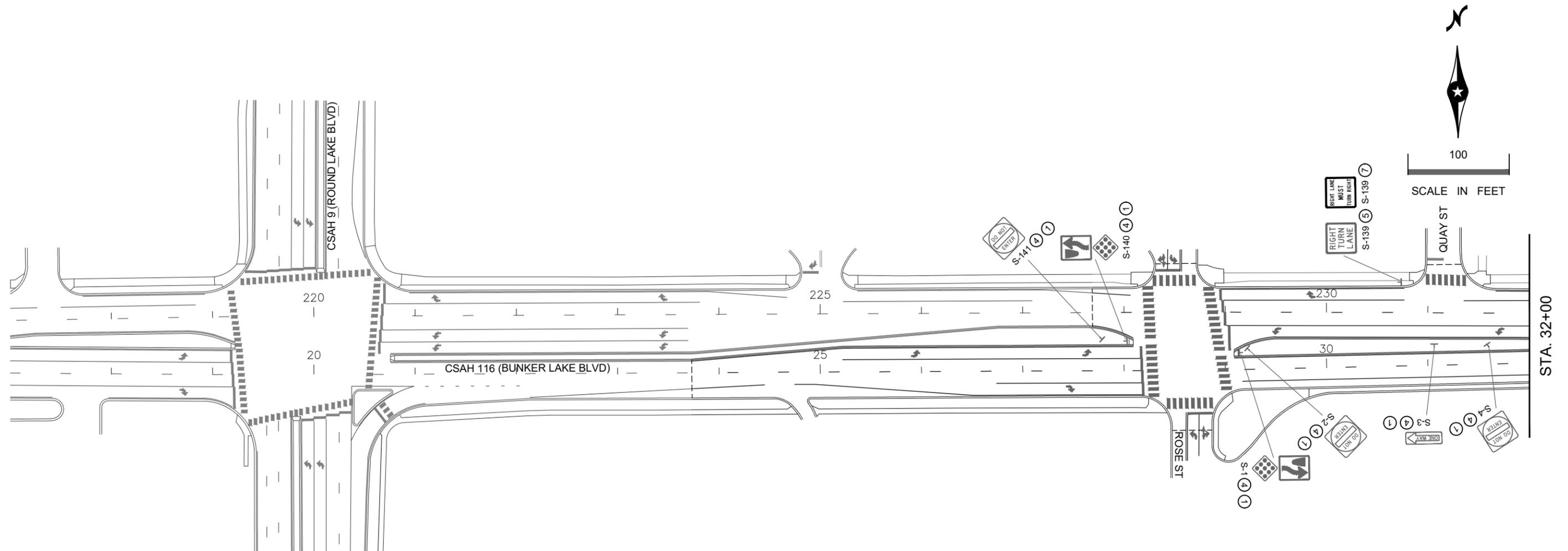
TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

- ⊥ TRAFFIC CONTROL SIGN (SINGLE POST)
- ⊥ TRAFFIC CONTROL SIGN (SINGLE POST, BACK TO BACK)
- ⊥ TRAFFIC CONTROL SIGN (DOUBLE POST)

SIGNING NOTES

- ① F. & I.
- ③ SALVAGE
- ④ REMOVE
- ⑤ REMOVE SIGN PANEL
- ⑥ INSTALL
- ⑦ F. & I. SIGN PANEL
- ⑧ RETAIN INPLACE
- ⑨ INSTALL SALVAGED SIGN

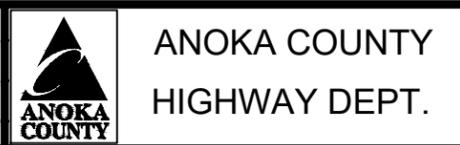


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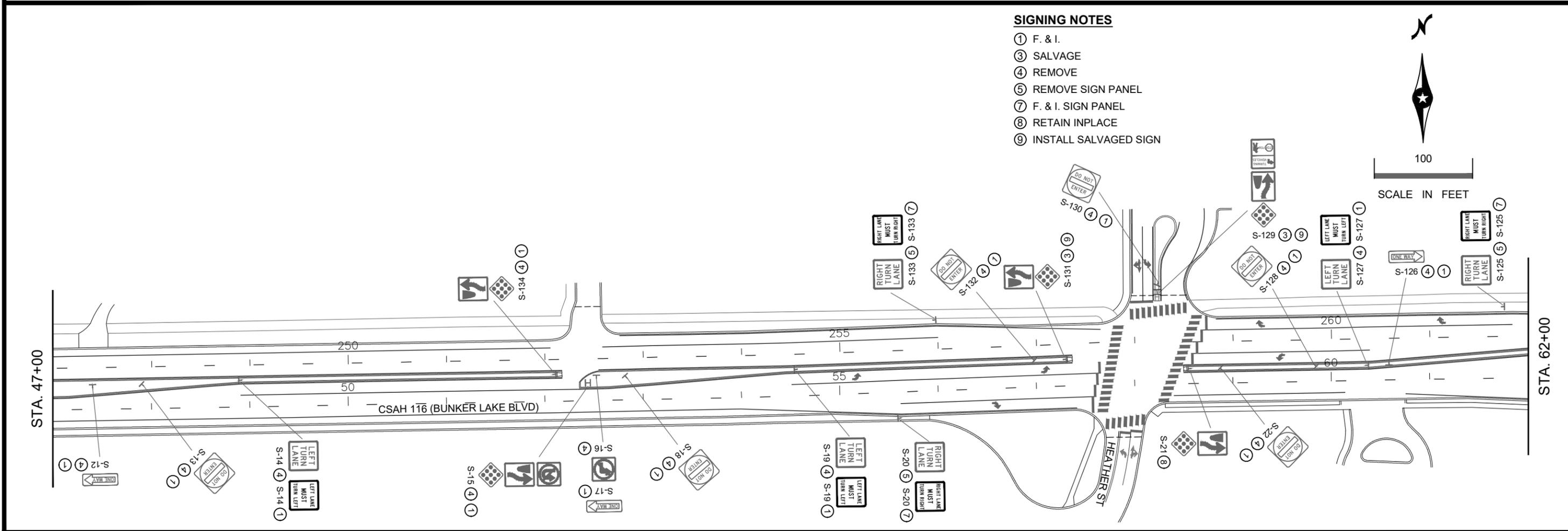
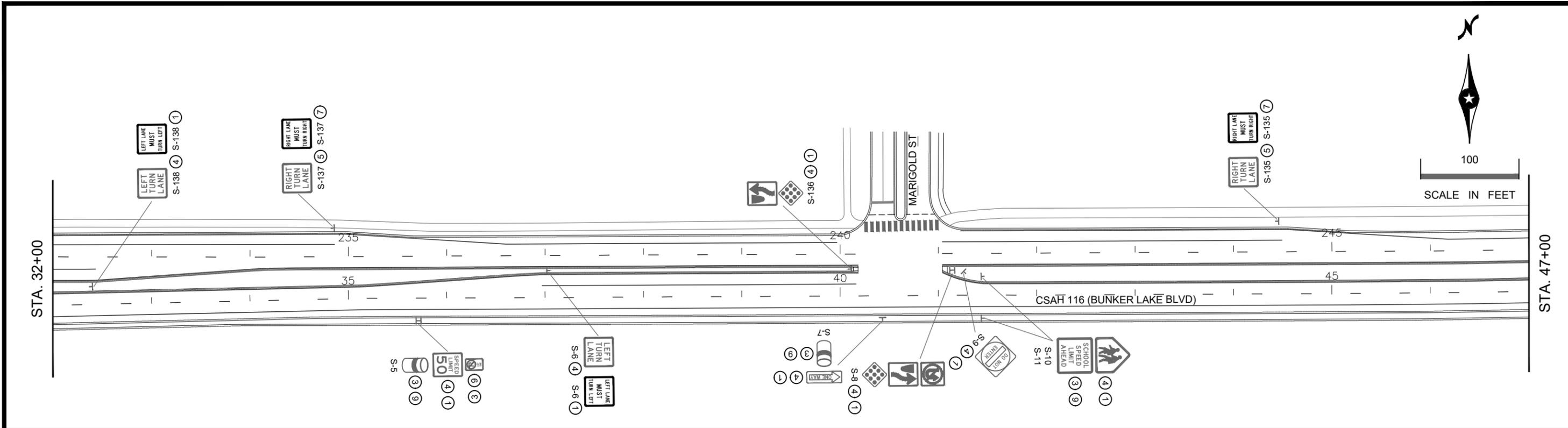
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PERMANENT SIGNING AND TABULATIONS
 Sheet 32 of 65 Sheets



SIGNING NOTES

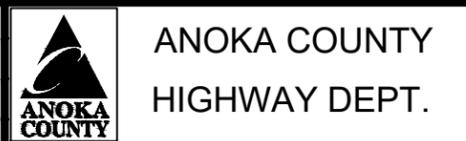
- ① F. & I.
- ③ SALVAGE
- ④ REMOVE
- ⑤ REMOVE SIGN PANEL
- ⑦ F. & I. SIGN PANEL
- ⑧ RETAIN INPLACE
- ⑨ INSTALL SALVAGED SIGN

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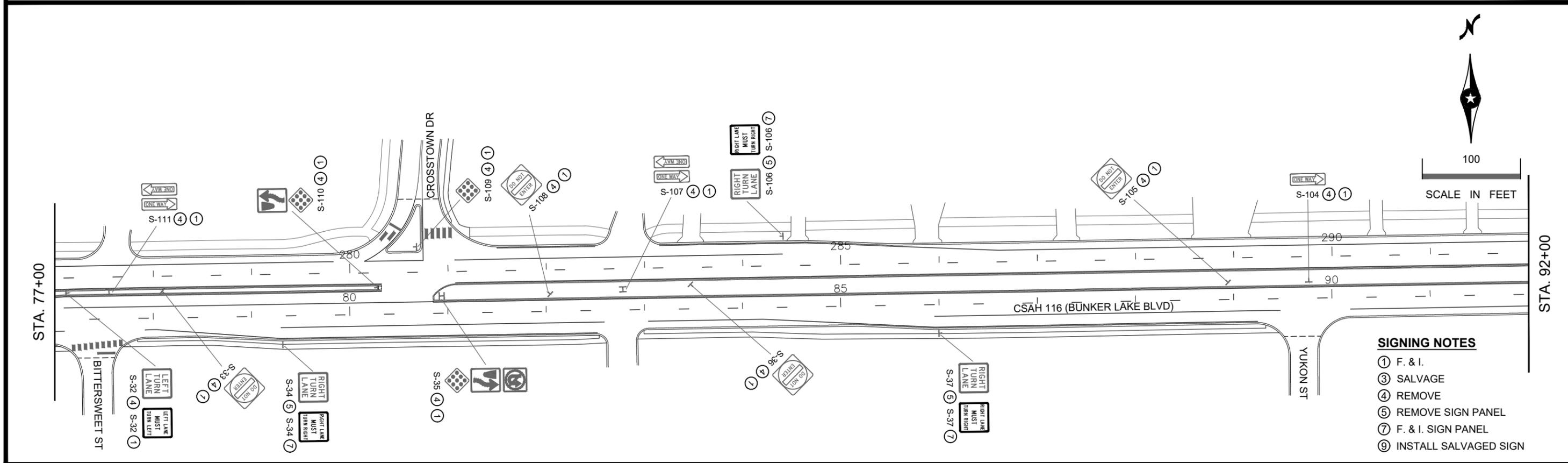
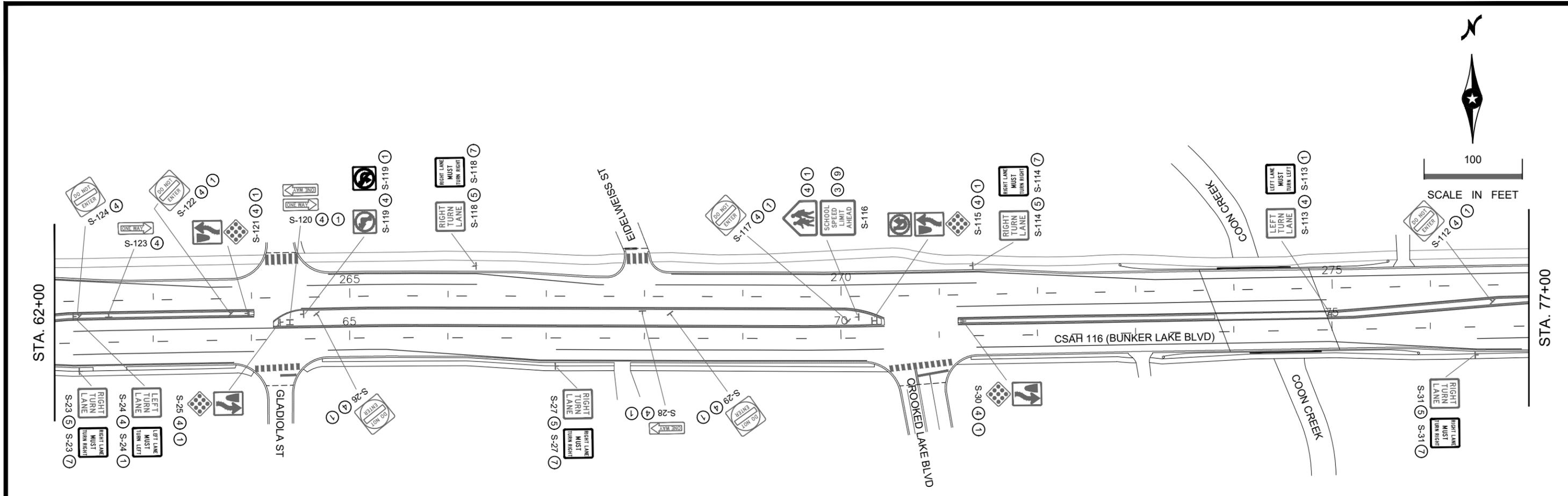
PRINT NAME: SEAN R. THIEL
 SIGNATURE: *Sean R. Thiel*
 DATE: 2/12/2025 LICENSE NO. 45129

DRAWN BY: FL DATE: 01/30/25
 DESIGN BY: FL DATE: 01/30/25
 CHECKED BY: SRT DATE: _____



SAP 002-716-025

PERMANENT SIGNING AND TABULATIONS
 Sheet 33 of 65 Sheets



- SIGNING NOTES**
- ① F. & I.
 - ③ SALVAGE
 - ④ REMOVE
 - ⑤ REMOVE SIGN PANEL
 - ⑦ F. & I. SIGN PANEL
 - ⑨ INSTALL SALVAGED SIGN

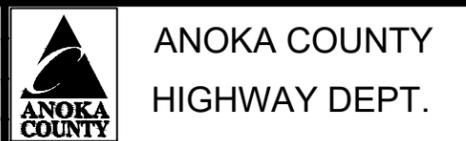
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH 116 (300 W. HANSON-500 W. CSAH 9)\BaseTrafficPermanent Signing and Tabulations.dwg

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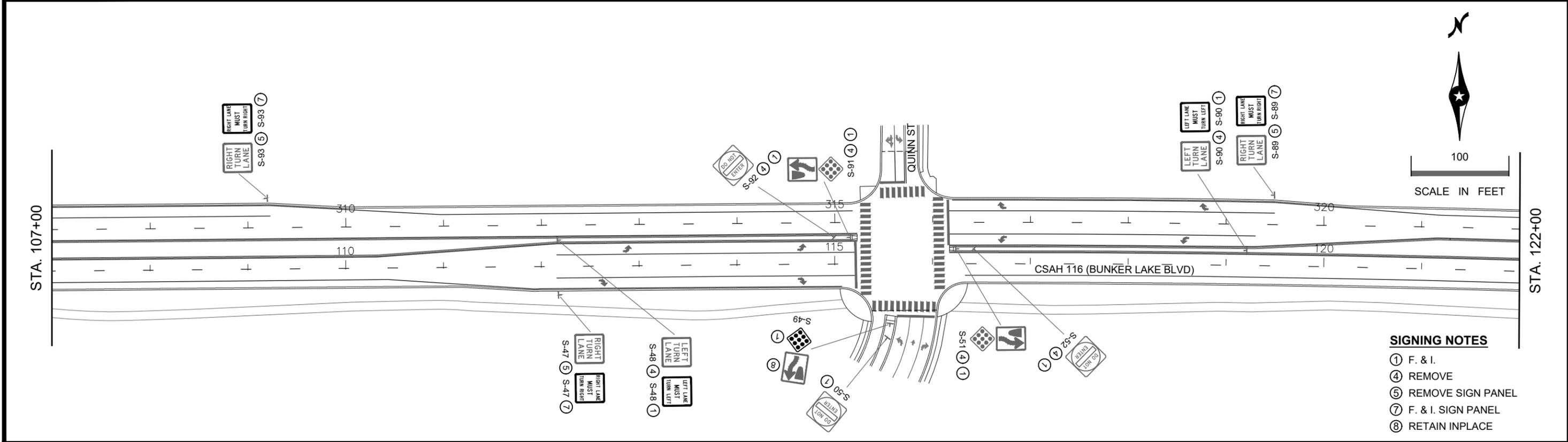
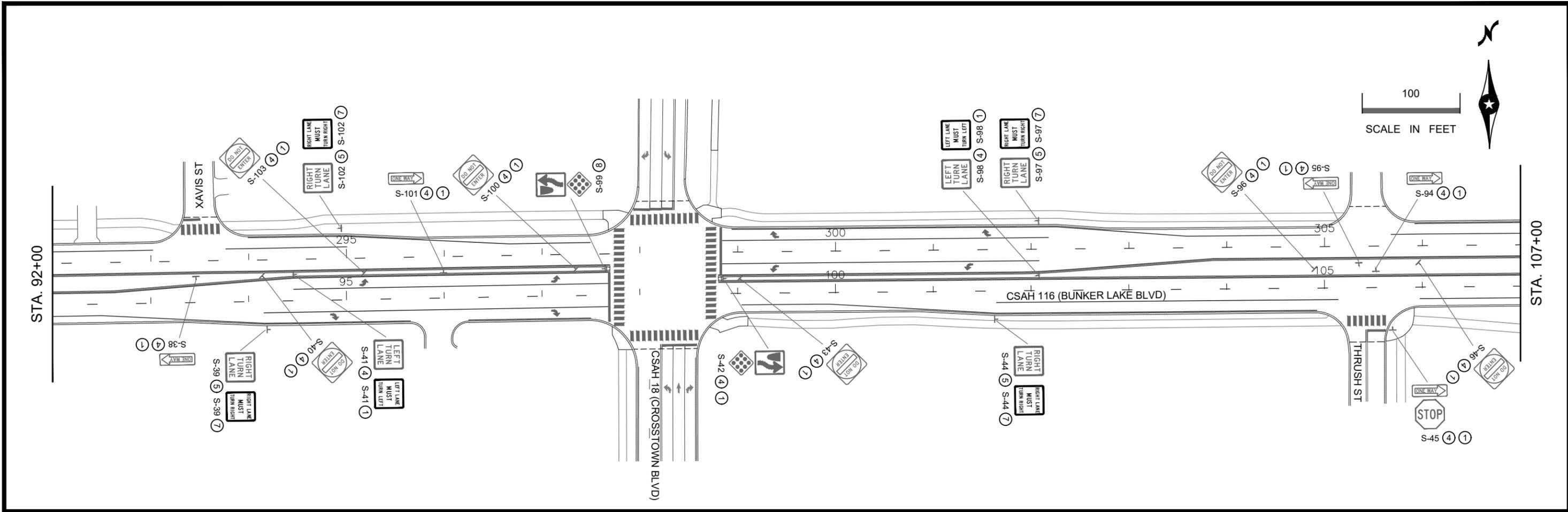
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PERMANENT SIGNING AND TABULATIONS
 Sheet 34 of 65 Sheets



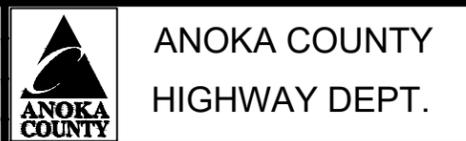
- SIGNING NOTES**
- ① F. & I.
 - ④ REMOVE
 - ⑤ REMOVE SIGN PANEL
 - ⑦ F. & I. SIGN PANEL
 - ⑧ RETAIN INPLACE

NO	DATE	BY	CKD	APPR	REVISION

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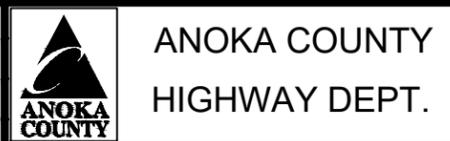
SIGN AND DELINEATOR / MARKER														ST-A
SIGN NUMBER	PANEL				SUPPORT		REMOVE SIGN TYPE C	REMOVE SIGN TYPE C PANEL	SIGN	SALVAGE SIGN TYPE C	INSTALL SIGN TYPE C	INSTALL SIGN TYPE C PANEL	INSTALL SALVAGE SIGN TYPE C	DELINEATOR / MARKER
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE (1)	NUMBER OF POSTS	EACH	EACH	SQ FEET	EACH	EACH	EACH		
			INCHES	FEET										
S-1	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1		1	
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4										
S-2	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-3	R6-1R	ONE WAY RIGHT	48 x 18	7	S-CONC	1	1		6.75		1			
			54 x 18											
S-4	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1			6.25		1			
(2) S-5	R2-1	NO PARKING ANY TIME	12 x 18	7	S-CONC	1	1		7.50	1	1		1	
		SPEED LIMIT 50	30 x 36											
		CYLINDER STYLE DELINEATOR	4 x 15											
S-6	R3-X1L	LEFT TURN LANE	30 x 30	7	S-CONC	1	1		6.25		1			
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30											
S-7	R6-1L	ONE WAY LEFT	48 x 18	7	S-CONC	1	1		6.75		1			
			54 x 18											
			X4-3											CYLINDER STYLE DELINEATOR
(2) S-8	R3-X1L	NO U-TURN	24 x 24	7	S-CONC	1	1		4.00		1			
	R4-7	KEEP RIGHT	24 x 30											
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18											
S-9	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-10	S1-1	SCHOOL ZONE	36 x 36	8	S-CONC	1	1		9.00	1	1			
		SCHOOL SPEED LIMIT AHEAD	36 x 36	5										
S-11	S1-1	SCHOOL ZONE	36 x 36	8	S-CONC	1	1		9.00	1	1			
		SCHOOL SPEED LIMIT AHEAD	36 x 36	5										
S-12	R6-1R	ONE WAY RIGHT	48 x 18	7	S-CONC	1	1		6.75		1			
			54 x 18											
S-13	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-14	R3-X1L	LEFT TURN LANE	30 x 30	7	S-CONC	1	1		6.25		1			
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30											
(2) S-15	R3-4	NO U-TURN	24 x 24	7	S-CONC	1	1		4.00		1			
		R4-7	KEEP RIGHT											24 x 30
		OM1-1	TYPE 1 OBJECT MARKER											18 x 18
S-16	R3-2	NO LEFT TURN	24 x 24				1							
S-17	R6-1R	ONE WAY RIGHT	54 x 18	7	S-CONC	1			6.75		1			
S-18	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1			6.25		1			
S-19	R3-X1L	LEFT TURN LANE	30 x 30	7	S-CONC	1	1		6.25		1			
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30											
S-20	R3-X1R	RIGHT TURN LANE	30 x 30	7	S-CONC	1	1		6.25		1			
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30											
(3) S-21	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
		OM1-1	TYPE 1 OBJECT MARKER											18 x 18
S-22	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-23	R3-X1R	RIGHT TURN LANE	30 x 30	7	U-SOIL	1		1	6.25			1		
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30											
S-24	R3-X1L	LEFT TURN LANE	30 x 30	7	S-CONC	1	1		6.25		1			
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30											
S-25	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18											
S-26	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-27	R3-X1R	RIGHT TURN LANE	30 x 30	7	U-SOIL	1		1	6.25			1		
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30											
S-28	R6-1R	ONE WAY RIGHT	36 x 12	7	S-CONC	1	1		6.75		1			
			54 x 18											
S-29	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-30	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18											
S-31	R3-X1R	RIGHT TURN LANE	30 x 30	7	U-SOIL	1		1	6.25			1		
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30											
S-32	R3-X1L	LEFT TURN LANE	30 x 30	7	S-CONC	1	1		6.25		1			
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30											
S-33	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-34	R3-X1R	RIGHT TURN LANE	30 x 30	7	U-SOIL	1		1	6.25			1		
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30											

SPECIFIC NOTES:
(1) S-CONC: 2" POST
U-CHANNEL: 3 LBS PER FOOT BLACK POST
(2) BACK TO BACK
(3) PART OF 2025 SIGNAL PROJECT

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\25-01-00\CSAH 116 (300 W. HANSON-500 W. CSAH 9)\BaseTraffic\Permanent Signing and Tabulations.dwg					

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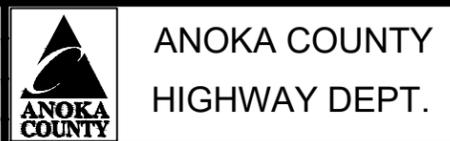
SIGN AND DELINEATOR / MARKER														ST-A
SIGN NUMBER	PANEL				SUPPORT		REMOVE SIGN TYPE C	REMOVE SIGN TYPE C PANEL	SIGN	SALVAGE SIGN TYPE C	INSTALL SIGN TYPE C	INSTALL SIGN TYPE C PANEL	INSTALL SALVAGE SIGN TYPE C	DELINEATOR / MARKER
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE (1)	NUMBER OF POSTS	EACH	EACH	SQ FEET	EACH	EACH	EACH	EACH	
			INCHES	FEET										
(2) S-35	R3-4	NO U-TURN	24 x 24		S-CONC	1	1		4.00	1				
	R4-7	KEEP RIGHT	24 x 30	7					5.00					
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4										1
S-36	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1	6.25		1				
S-37	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1	6.25		1			
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7										
S-38	R6-1R	ONE WAY RIGHT	48 x 18		S-CONC	1		1	6.75		1			
			54 x 18	7										
S-39	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1	6.25		1			
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7										
S-40	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1	6.25		1				
S-41	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1		6.25		1				
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7										
S-42	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1		5.00		1			1	
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4										
S-43	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1	6.25		1				
S-44	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1	6.25		1			
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7										
S-45	R6-1R	ONE WAY RIGHT	36 x 12		S-CONC	1	1	3.00		1				
			30 x 30	7										6.25
S-46	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1	6.25		1				
S-47	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1	6.25		1			
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7										
S-48	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1		6.25		1				
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7										
(3) S-49	R4-7	KEEP RIGHT	24 x 30	7	S-CONC								1	
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4										
S-50	R5-1	DO NOT ENTER	30 x 30	7	U-SOIL	1		6.25		1				
S-51	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1	5.00		1			1	
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4										
S-52	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1	6.25		1				
S-53	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1	6.25		1			
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7										
S-54	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1		6.25		1			1	
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7										
S-55	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4	S-CONC	1							1	
(2) S-56	R3-2	NO LEFT TURN	24 x 24		S-CONC	1	1	4.00		1			1	
	R4-7	KEEP RIGHT	24 x 30	7				5.00						
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4										1
S-57	R6-1R	ONE WAY RIGHT	36 x 12		S-CONC	1	1	3.00		1			1	
	R1-1	STOP	30 x 30	7				6.25						
S-58	X4-3	CYLINDER STYLE DELINEATOR	4 x 15		S-CONC	1	1			1			1	
	R6-1R	ONE WAY RIGHT	36 x 12					3.00						
	R1-1	STOP	30 x 30	7				6.25						
S-59	X4-3	CYLINDER STYLE DELINEATOR	4 x 15		S-CONC	1	1			1			1	
	R4-7	KEEP RIGHT	24 x 30	7				5.00						
S-60	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4	S-CONC	1	1			1			1	
S-61	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1	6.25		1				
S-62	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1	6.25		1			
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7										
S-63	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1		6.25		1			1	
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7										
(3) S-64	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1	5.00		1			1	
	OM1-1	TYPE 1 OBJECT MARKER	30 x 30	4										
(3) S-65	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1	6.25		1			1	
	R4-7	KEEP RIGHT	24 x 30	7										
S-66	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4	S-CONC	1	1	5.00		1			1	
	R5-1	DO NOT ENTER	30 x 30	7										
S-67	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1	6.25		1			
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7										
S-68	R3-8AB	DOUBLE LEFT TURN	36 x 30	7	S-CONC	1	1	7.50		1				

SPECIFIC NOTES:
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U-CHANNEL: 3 LBS PER FOOT BLACK POST
(2) BACK TO BACK
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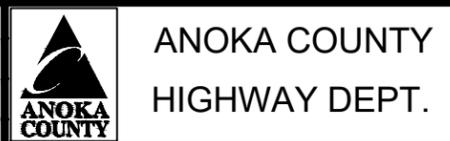
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	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE (1)	NUMBER OF POSTS	EACH	EACH	SQ FEET	EACH	EACH	EACH	EACH	
			INCHES	FEET										
S-69	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25			1			
S-70	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4									1	
S-71	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-72	R6-1R	ONE WAY RIGHT	36 x 12		S-CONC	1	1							
			54 x 18	7				6.75		1				
S-73	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-74	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25			1			
S-75	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1	1				1			
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7				6.25			1			1
S-76	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25			1			
(3) S-77	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4									1	
S-78	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
(3) S-79	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4									1	
S-80	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-81	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25			1			
S-82	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1	1				1			
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7				6.25						
S-83	R6-1R	ONE WAY RIGHT	48 x 18		S-CONC	1	1							
			54 x 18	7				6.75		1				
S-84	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4	S-CONC	1							1	
(2) S-85	R3-2	NO LEFT TURN	24 x 24		S-CONC	1			4.00					
	R4-7	KEEP RIGHT	24 x 30	7				5.00			1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4									1	
S-86	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	30 x 30	4									1	
S-87	R6-1R	ONE WAY RIGHT	48 x 18		S-CONC	1	1							
			54 x 18	7				6.75		1				
S-88	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-89	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25			1			
S-90	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1	1							
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7				6.25			1			
S-91	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4									1	
S-92	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-93	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25			1			
S-94	R6-1R	ONE WAY RIGHT	48 x 18		S-CONC	1	1							
			54 x 18	7				6.75		1				
S-95	R6-1R	ONE WAY RIGHT	48 x 18		S-CONC	1	1							
			54 x 18	7				6.75		1				
S-96	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-97	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25			1			
S-98	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1	1							
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7				6.25			1			
S-99	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4									1	
S-100	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-101	R6-1R	ONE WAY RIGHT	36 x 12		S-CONC	1	1							
			54 x 18	7				6.75		1				
S-102	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25			1			
S-103	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			

SPECIFIC NOTES:
(1) S-CONC: 2" POST
U-CHANNEL: 3 LBS PER FOOT BLACK POST
(2) BACK TO BACK
(3) PART OF 2025 SIGNAL PROJECT

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\25-01-00\CSAH_116_(300 W. HANSON-500 W. CSAH 9)\BaseTraffic\Permanent Signing and Tabulations.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: SEAN R. THIEL
SIGNATURE: *Sean R. Thiel*
DATE: 2/12/2025 LICENSE NO. 45129

DRAWN BY: FL DATE: 01/30/25
DESIGN BY: FL DATE: 01/30/25
CHECKED BY: SRT DATE: _____



SAP 002-716-025

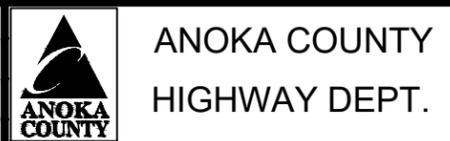
SIGN AND DELINEATOR / MARKER														ST-A	
SIGN NUMBER	PANEL				SUPPORT		REMOVE SIGN TYPE C	REMOVE SIGN TYPE C PANEL	SIGN	SALVAGE SIGN TYPE C	INSTALL SIGN TYPE C	INSTALL SIGN TYPE C PANEL	INSTALL SALVAGE SIGN TYPE C	DELINEATOR / MARKER	
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE (1)	NUMBER OF POSTS	EACH	EACH	SQ FEET	EACH	EACH	EACH	EACH		
			INCHES	FEET											
S-104	R6-1R	ONE WAY RIGHT	48 x 18		S-CONC	1	1			6.75		1			
S-105	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1			6.25		1			
S-106	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1							
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25			1				
S-103	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1			5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4									1		
S-104	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1			6.25		1			
S-105	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1							
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25				1			
S-106	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1	1			6.25		1			
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7											
(2) S-107	R6-1R	ONE WAY RIGHT	36 x 12		S-CONC	1	1			6.75		1			
			54 x 18	7											
	R6-1R	ONE WAY RIGHT	36 x 12					1				6.75		1	
			54 x 18	7											
S-108	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1			6.25		1			
S-109	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4	S-CONC	1							1		
	R4-7	KEEP RIGHT	24 x 30	7				5.00							
S-110	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4	S-CONC	1	1						1		
(2) S-111	R6-1R	ONE WAY RIGHT	36 x 12		S-CONC	1	1			6.75		1			
			54 x 12	7											
	R6-1R	ONE WAY RIGHT	36 x 12					1				6.75		1	
			54 x 18	7											
S-112	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1			6.25		1			
S-113	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1	1								
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7				6.25			1				
S-114	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1							
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25				1			
(2) S-115	R3-4	NO U-TURN	24 x 24		S-CONC	1	1			4.00		1			
	R4-7	KEEP RIGHT	24 x 30	7						5.00					
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4											
S-116	S1-1	SCHOOL ZONE	36 x 36	8	S-CONC	1	1			9.00		1			
		SCHOOL SPEED LIMIT AHEAD	36 x 36	5										1	
S-117	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1			6.25		1			
S-118	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1							
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25				1			
S-119	R3-2	NO LEFT TURN	24 x 24		S-CONC	1	1			4.00		1			
	R3-18	NO U-TURN/NO LEFT TURN	24 x 24	7											
(2) S-120	R6-1R	ONE WAY RIGHT	48 x 18		S-CONC	1	1			6.75		1			
			54 x 18	7											
	R6-1R	ONE WAY RIGHT	48 x 18					1				6.75		1	
			54 x 18	7											
S-121	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1			5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4											
S-122	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1			6.25		1			
S-123	R6-1R	ONE WAY RIGHT	36 x 12				1								
S-124	R5-1	DO NOT ENTER	30 x 30				1								
S-125	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1							
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7				6.25				1			
S-126	R6-1R	ONE WAY RIGHT	36 x 12		S-CONC	1	1								
			54 x 12	7						6.75			1		
S-127	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1	1								
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7				6.25			1				
S-128	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1			6.25		1			
(2) S-129	R10-15ML	TURNING VEHICLES STOP FOR PEDS	24 x 30		S-CONC	1							1		
	R4-7	KEEP RIGHT	24 x 30	7											
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4											
S-130	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1			6.25		1			
	R4-7	KEEP RIGHT	24 x 30	7											
S-131	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4	S-CONC	1							1		

SPECIFIC NOTES:
(1) S-CONC: 2" POST
U-CHANNEL: 3 LBS PER FOOT BLACK POST
(2) BACK TO BACK
(3) PART OF 2025 SIGNAL PROJECT

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\25-01-00\CSAH_116_(300 W. HANSON-500 W. CSAH 9)\Base\Traffic\Permanent Signing and Tabulations.dwg					

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DATE: 2/12/2025 LICENSE NO.: 45129

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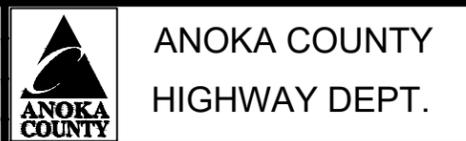
SIGN AND DELINEATOR / MARKER														ST-A
SIGN NUMBER	PANEL				SUPPORT		REMOVE SIGN TYPE C	REMOVE SIGN TYPE C PANEL	SIGN	SALVAGE SIGN TYPE C	INSTALL SIGN TYPE C	INSTALL SIGN TYPE C PANEL	INSTALL SALVAGE SIGN TYPE C	DELINEATOR / MARKER
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE (1)	NUMBER OF POSTS	EACH	EACH	SQ FEET	EACH	EACH	EACH	EACH	EACH
			INCHES	FEET										
S-132	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			
S-133	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7					6.25		1			
S-134	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			1
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4										
S-135	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1	1							
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7					6.25		1			
S-136	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			1
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4										
S-137	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7					6.25		1			
S-138	R3-X1L	LEFT TURN LANE	30 x 30		S-CONC	1	1							
	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7					6.25		1			
S-139	R3-X1R	RIGHT TURN LANE	30 x 30		U-SOIL	1		1						
	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7					6.25		1			
S-140	R4-7	KEEP RIGHT	24 x 30	7	S-CONC	1	1		5.00		1			
	OM1-1	TYPE 1 OBJECT MARKER	18 x 18	4										
S-141	R5-1	DO NOT ENTER	30 x 30	7	S-CONC	1	1		6.25		1			1
TOTAL							110	27	887.75	6	112	27	6	37

SPECIFIC NOTES:
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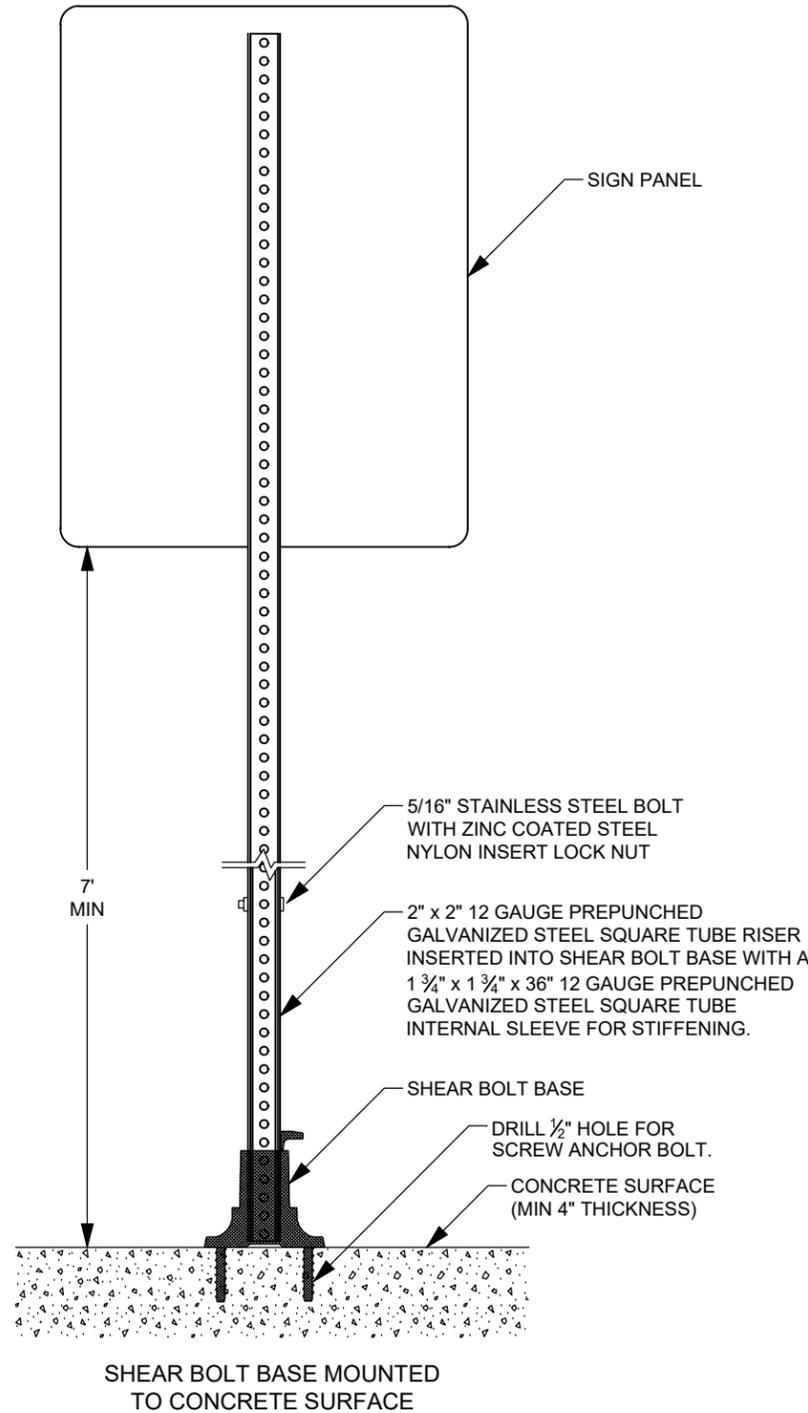


SAP 002-716-025

PERMANENT SIGNING AND TABULATIONS
Sheet 41 of 65 Sheets

SIGN INSTALLATION TYPICALS

**ISLAND MOUNT
SQUARE TUBE SHEAR BOLT BASE
SIGN INSTALLATION TYPICAL**

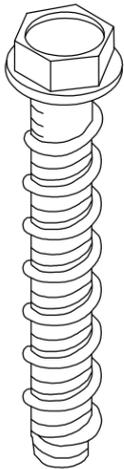


SIGN NOTES:

1. TO MEET CRASHWORTHY REQUIREMENTS THE DISTANCE BETWEEN THE BOTTOM OF THE SIGN PANEL AND THE GROUND SURFACE BELOW ANY PORTION OF THE PRIMARY SIGN PANEL MUST BE A MINIMUM OF 7 FEET. SEE TABULATIONS FOR MOUNTING HEIGHT.
2. INSTALLATION OF SHEAR BOLT BASE MUST BE NO EARLIER THAN 3 DAYS AFTER CONCRETE IS PLACED.
3. FOR SHEAR BOLT BASE USE APPROVED PRODUCT FROM MnDOT APPROVED PRODUCTS LIST. PRODUCT MUST BE MODIFIED AS SHOWN.
4. USE ANTI SEIZE ON THE SHEAR BOLT CONNECTIONS.

INSTALLATION NEAR SHARED-USE PATHWAY (MN MUTCD):

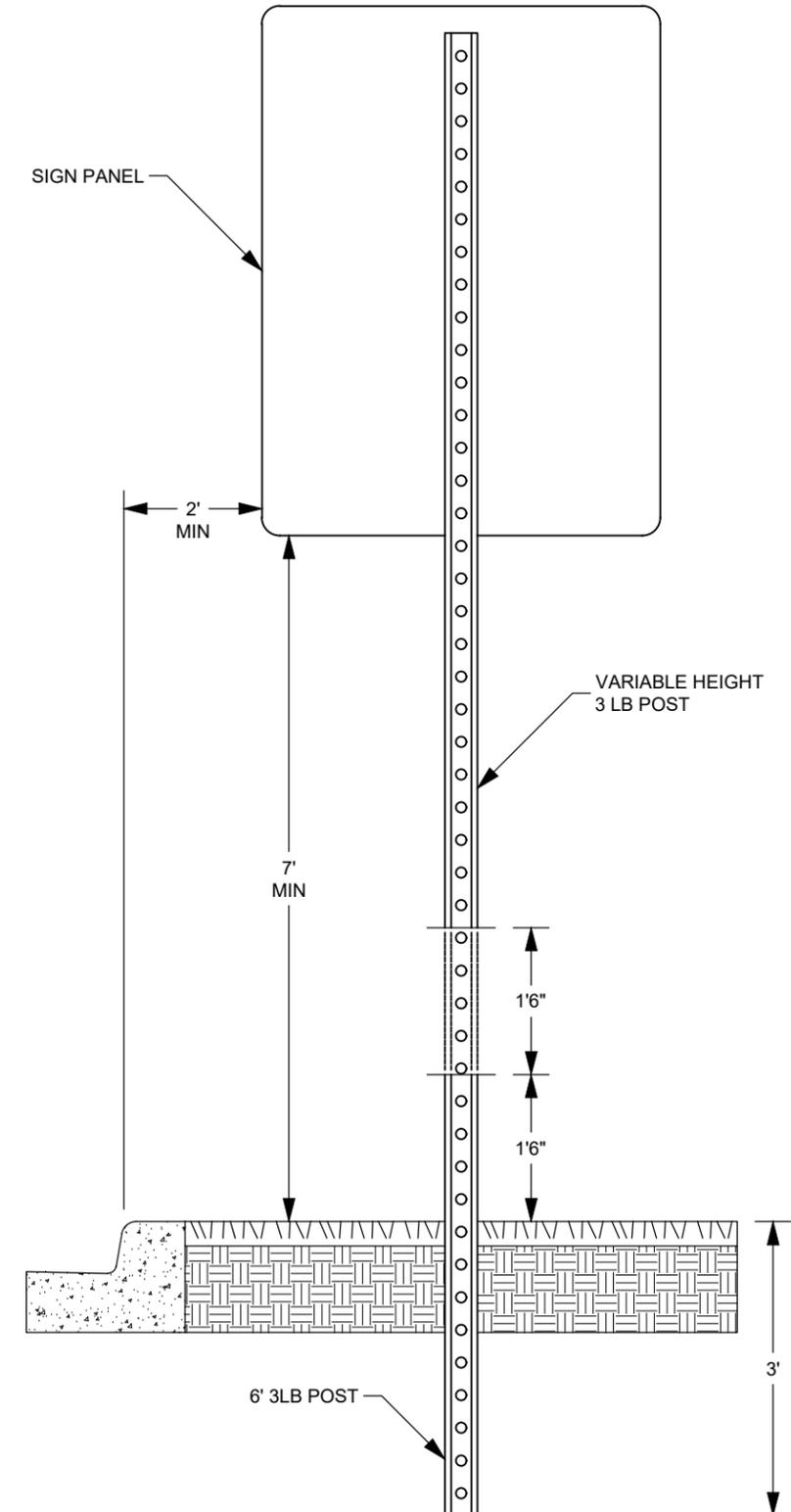
- THE MINIMUM HEIGHT MEASURED VERTICALLY FROM THE SHARED-USE PATHWAY TO THE BOTTOM OF THE SIGN SHALL BE 7 FEET. IF A SECONDARY SIGN IS MOUNTED BELOW THE PRIMARY SIGN AND IS MOUNTED LESS THAN 7 FEET, IT SHALL NOT PROJECT MORE THAN 4 INCHES INTO THE SHARED-USE PATHWAY.



SCREW ANCHOR BOLT

5" LONG CARBON STEEL THAT MUST MEET A MINIMUM ALLOWABLE TENSION LOAD OF 2270 PSI.

**GROUND POST MOUNT
SIGN INSTALLATION TYPICAL**



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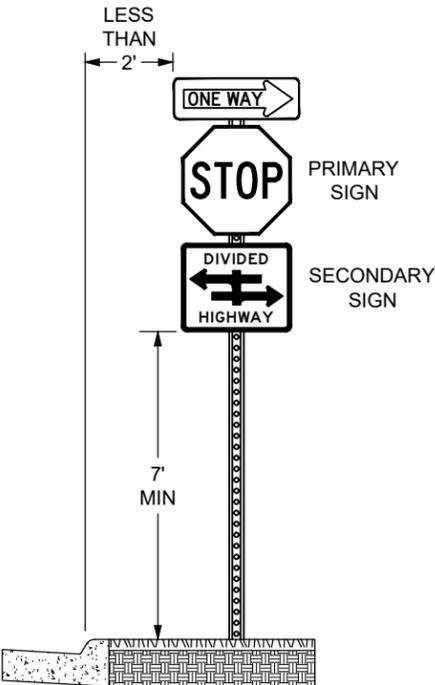
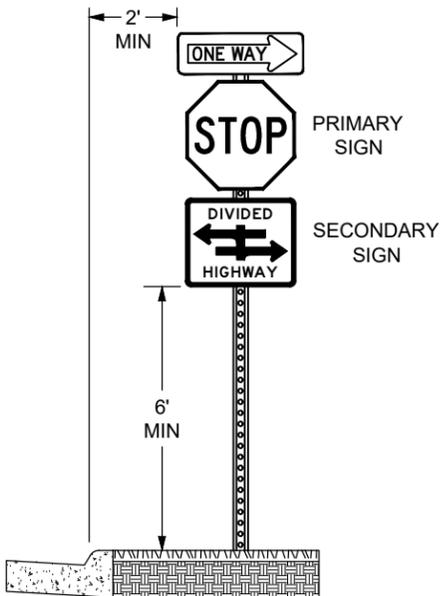
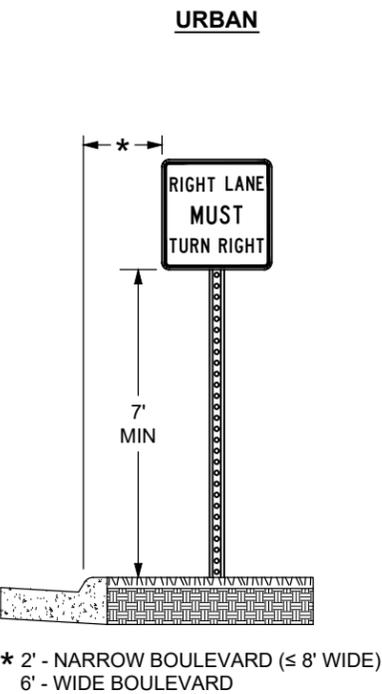
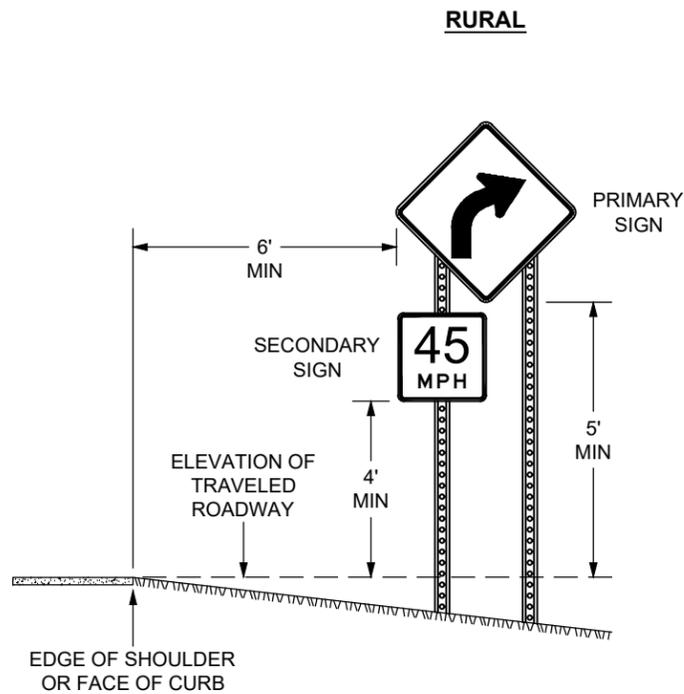
DRAWN BY: FL DATE: 01/30/25
 DESIGN BY: DATE:
 CHECKED BY: SRT DATE:
 ANOKA COUNTY

**ANOKA COUNTY
HIGHWAY DEPT.**

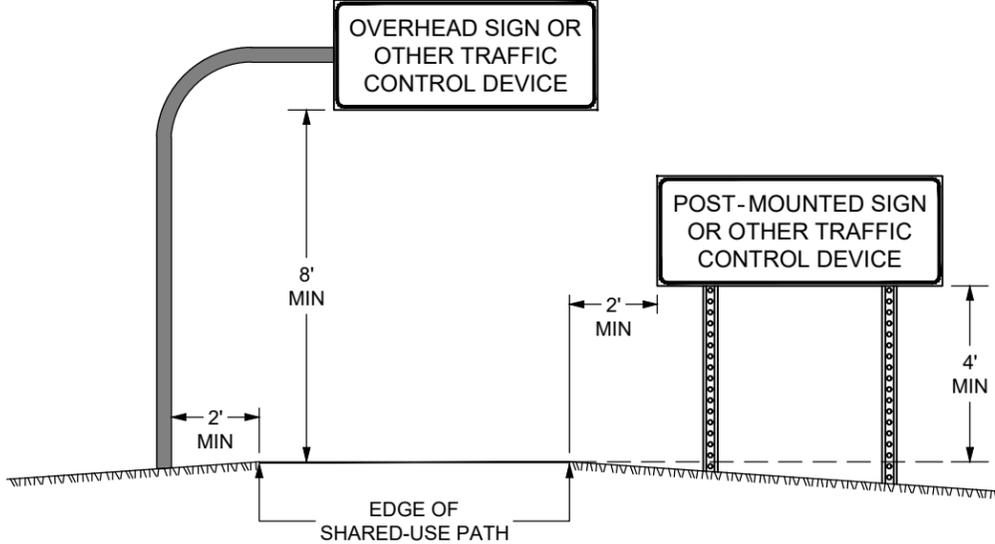
SAP 002-716-025

**SIGNING & STRIPING
DETAILS**
 Sheet 42 of 65 Sheets

SIGN PLACEMENT TYPICALS



SHARED-USE PATH



- NOTES:**
- ALL DIMENSIONS ARE MINIMUMS.
 - MAINTAIN A DISTANCE OF 2' BETWEEN TRAFFIC CONTROL DEVICE AND SHARED-USE PATH.
 - 7' SIGN CLEARANCE IF 2' DISTANCE BETWEEN SIGN AND SHARED-USE PATH CANNOT BE MAINTAINED.

NO	DATE	BY	CKD	APPR	REVISION
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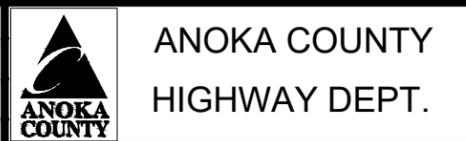
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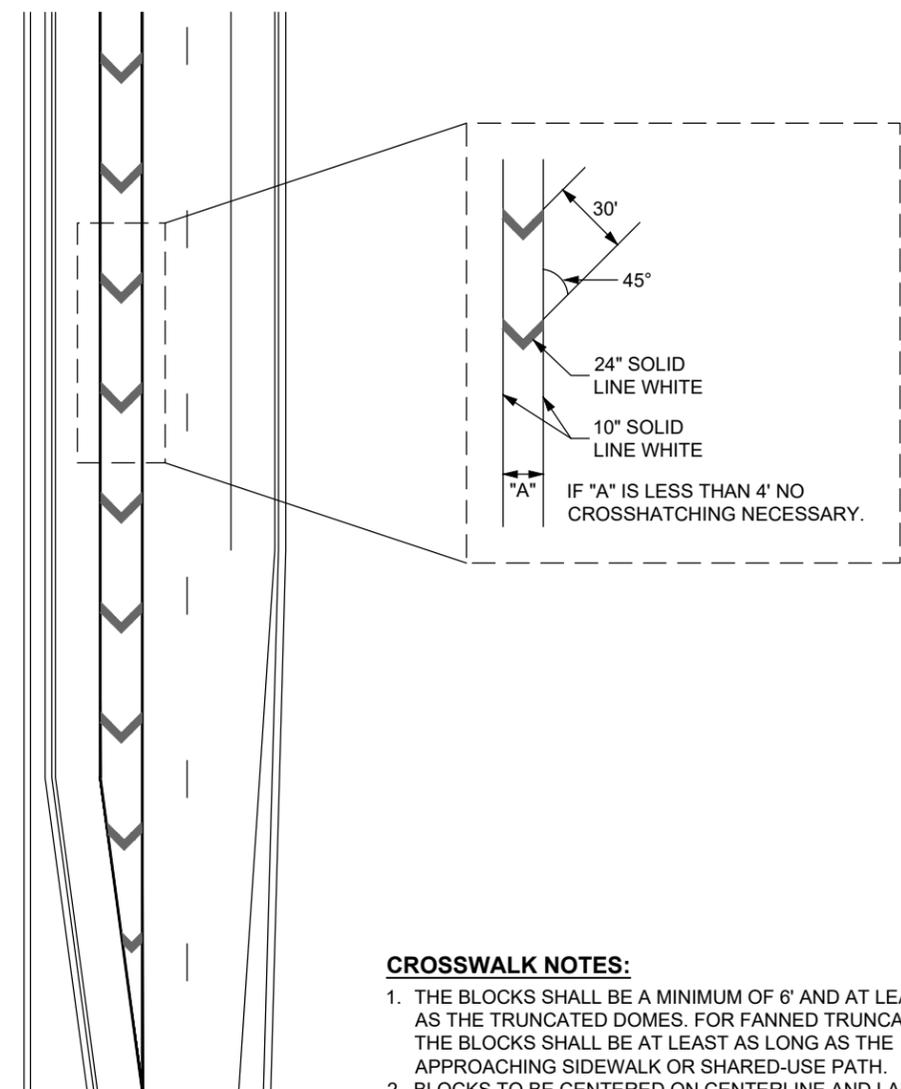
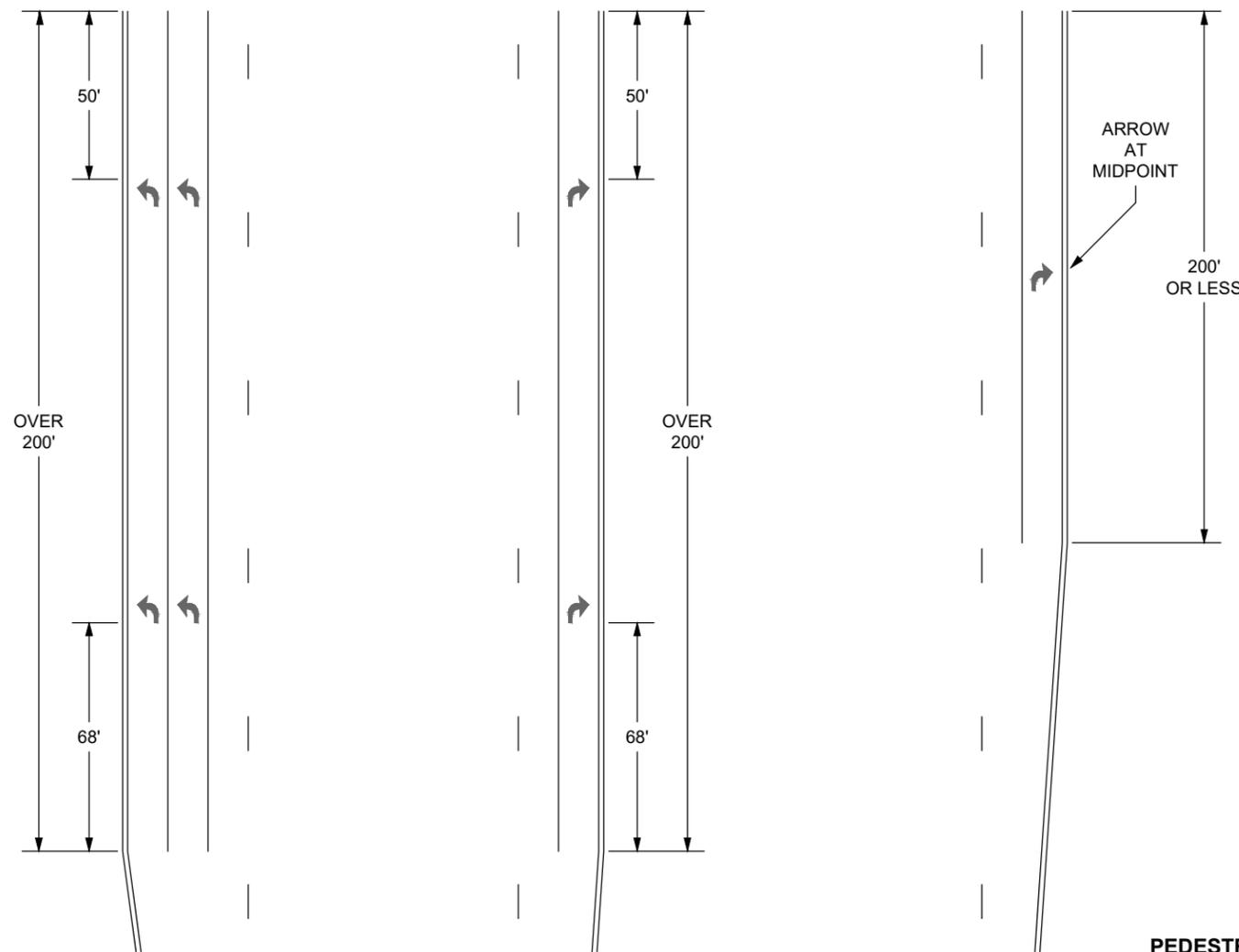


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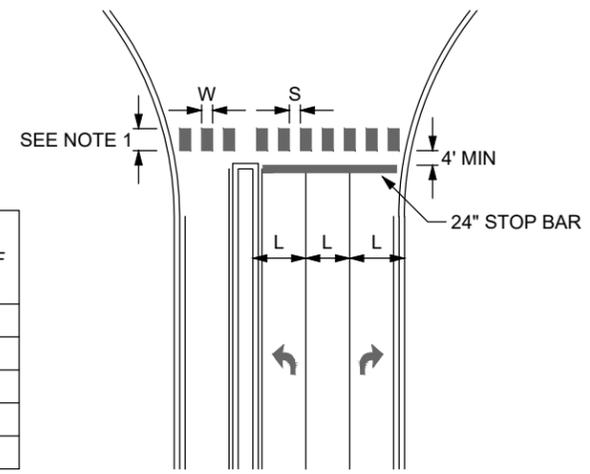
PAVEMENT MARKING TYPICALS

TURN LANE ARROW PLACEMENT

CHANNELIZED LEFT TURN LANE



PEDESTRIAN CROSSWALK



(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREAS	(S) 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'

CROSSWALK NOTES:

1. THE BLOCKS SHALL BE A MINIMUM OF 6' 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.
2. BLOCKS TO BE CENTERED ON CENTERLINE AND LANE LINES.
3. A MINIMUM OF 1.5' CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB FACE. IF BLOCK FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
4. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11' INSIDE LANE.
5. 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.
6. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES.
7. THE BLOCKS SHALL BE PLACED SO THAT THEY ARE NOT LOCATED IN THE WHEEL PATH OF THE VEHICLES.
8. LOCATION OF CROSSWALK BLOCKS, STOP BARS, SIGNAL LOOPS AND PEDESTRIAN RAMPS ARE APPROXIMATE. FINAL LOCATIONS TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGINEER.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH 116 (300 W. HANSON-500 W. CSAH 9)\BaseTrafficSigning & Striping Details.dwg

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ANOKA COUNTY

HIGHWAY DEPT.

SAP 002-716-025

INTERCONNECT NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN & DENOTED BY BOTH (***) AND BY F & I (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

NMC LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20' & 50'	1
D1-2	2-6x6	5' & 35'	1
D2-1	6x6	300'	1
D2-2	6x6	300'	1
D4-1	2-6x6	AS SHOWN	7
D4-2	2-6x6	AS SHOWN	7
D5-1	2-6x6	20' & 50'	1
D5-2	2-6x6	5' & 35'	1
D6-1	6x6	300'	1
D6-2	6x6	300'	1
D8-1	2-6x6	AS SHOWN	7
D8-2	2-6x6	AS SHOWN	7
DC-1	6x6	60'	11
DC-2	6x6	60'	11
DC-3	6x6	60'	11
DC-4	6x6	60'	11

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

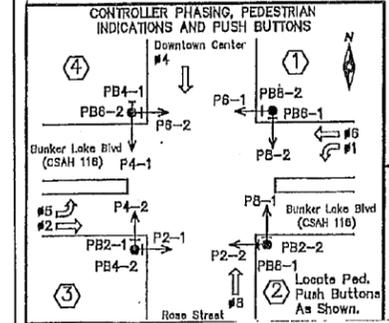
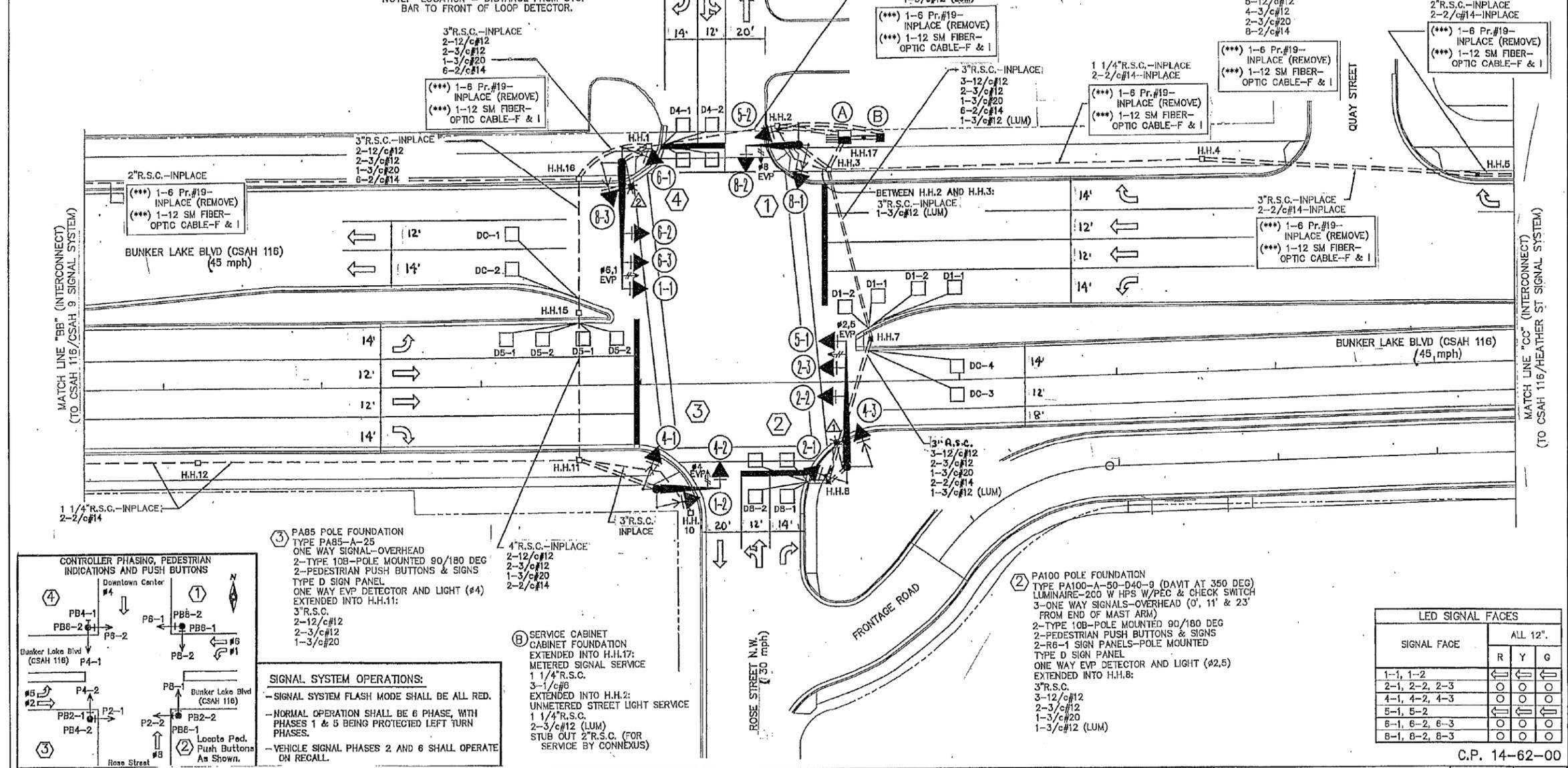
FUNCTIONS:

- CALL AND EXTEND
- DELAYED CALL IMMEDIATE EXTEND
- COUNT DETECTOR

PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
 LUMINAIRE-200 W HPS W/PEC & CHECK SWITCH
 3-ONE WAY SIGNALS-OVERHEAD (0', 11' & 23' FROM END OF MAST ARM)
 2-TYPE 10B-POLE MOUNTED 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS
 2-RB-1 SIGN PANELS-POLE MOUNTED
 TYPE D SIGN PANEL
 ONE WAY EVP DETECTOR AND LIGHT (#8,1) / EXTENDED INTO H.H.1:
 3*R.S.C.
 3-12/c#12
 2-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

PA85 POLE FOUNDATION
 TYPE PA85-A-20
 ONE WAY SIGNAL-OVERHEAD
 2-TYPE 10B-POLE MOUNTED 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS
 TYPE D SIGN PANEL
 ONE WAY EVP DETECTOR AND LIGHT (#8)
 EXTENDED INTO H.H.3:
 3*R.S.C.
 2-12/c#12
 2-3/c#12
 1-3/c#20

CONTROLLER AND CABINET
 CABINET FOUNDATION
 EXTENDED INTO H.H.17:
 METERED SIGNAL SERVICE
 1 1/4*R.S.C.
 3-1/c#6
 EXTENDED INTO H.H.2:
 4*R.S.C.
 5-12/c#12
 4-3/c#12
 2-3/c#20
 8-2/c#14



PA85 POLE FOUNDATION
 TYPE PA85-A-25
 ONE WAY SIGNAL-OVERHEAD
 2-TYPE 10B-POLE MOUNTED 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS
 TYPE D SIGN PANEL
 ONE WAY EVP DETECTOR AND LIGHT (#4) EXTENDED INTO H.H.11:
 3*R.S.C.
 2-12/c#12
 2-3/c#12
 1-3/c#20
 2-2/c#14

SERVICE CABINET
 CABINET FOUNDATION
 EXTENDED INTO H.H.17:
 METERED SIGNAL SERVICE
 1 1/4*R.S.C.
 3-1/c#6
 EXTENDED INTO H.H.2:
 UNMETERED STREET LIGHT SERVICE
 1 1/4*R.S.C.
 2-3/c#12 (LUM)
 STUB OUT 2*R.S.C. (FOR SERVICE BY CONNEXUS)

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

LED SIGNAL FACES

SIGNAL FACE	ALL 12"		
	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2, 2-3	○	○	○
4-1, 4-2, 4-3	○	○	○
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	○	○	○
8-1, 8-2, 8-3	○	○	○

DRAWN BY: JMG	DESIGNER: JMG	CHECKED BY: JMG	DATE: August 25, 2015
DESIGN TEAM		REVISIONS	
NO.	BY	DATE	

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.

John M. Gray, PE
 Name: John M. Gray, PE
 License No.: 22487

SEH
 PHONE: (651) 490-2000
 3535 VANDANIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT 'C'
 INTERSECTION LAYOUT
 CSAH 116 (BUNKER LAKE BLVD NW)
 AT ROSE STREET/DOWNTOWN CENTER

FILE NO. ANOKC 133855
 DATE 08/26/2015
 19
 52

NO.	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:22:33 AM
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn							

DRAWN BY: SPH DATE 11/19/2024
 DESIGN BY: SPH DATE 11/19/2024
 CHECKED BY: CO DATE 02/20/2025

ANOKA COUNTY HIGHWAY DEPT.

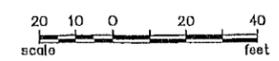
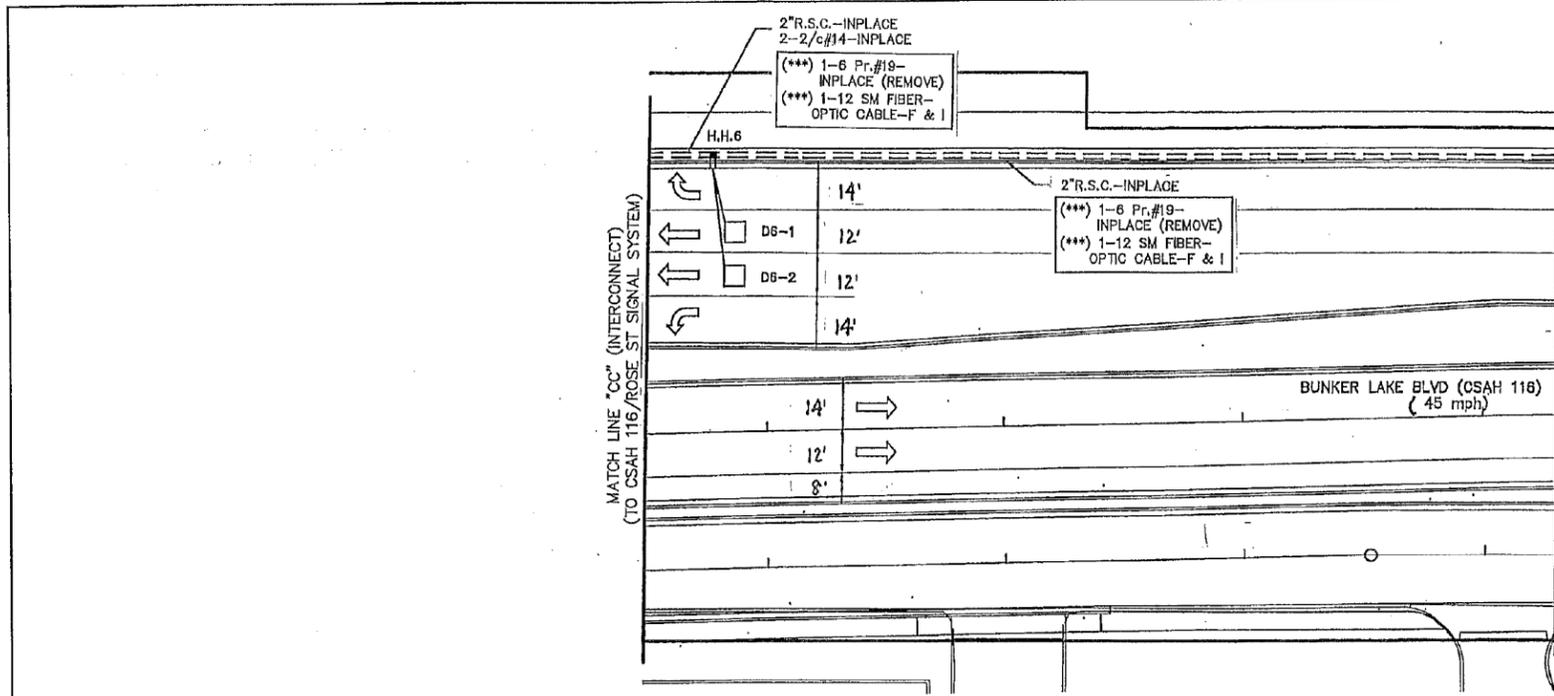
ANOKA COUNTY HIGHWAY DEPT.

ROSE ST.
 STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 45 of 65 Sheets

FOR REFERENCE PURPOSES ONLY

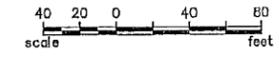
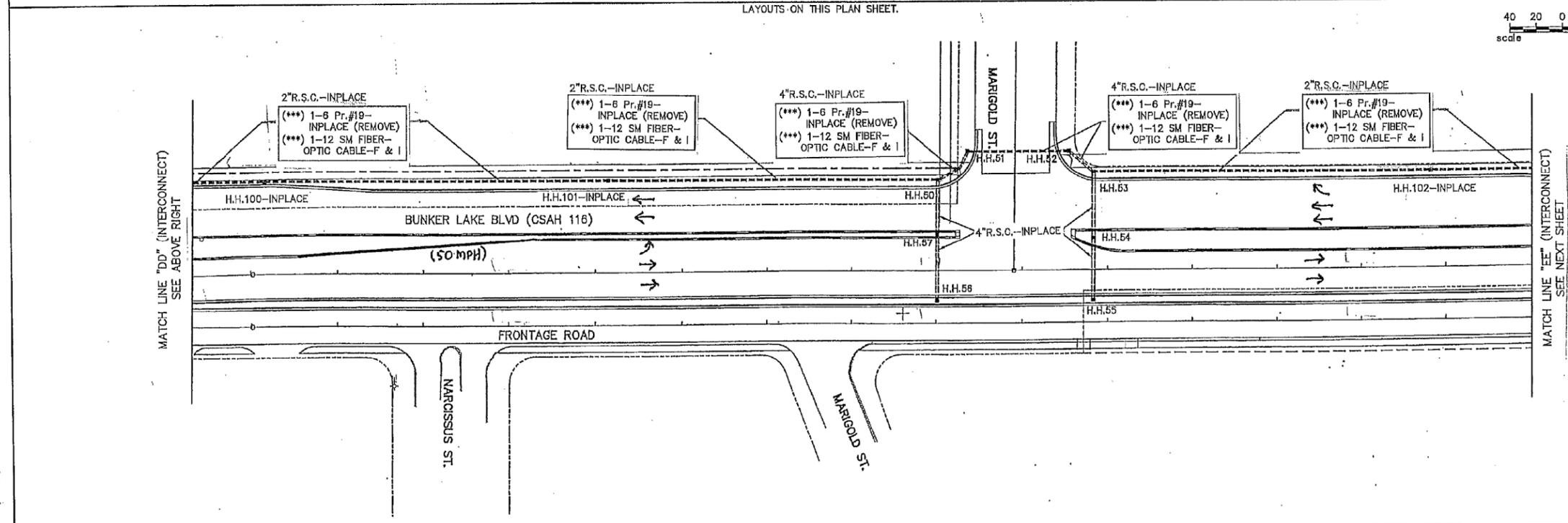
7142



INTERCONNECT NOTES:

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2585 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

NOTE SCALE CHANGE BETWEEN LAYOUTS ON THIS PLAN SHEET.



DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM:	NO. BY DATE REVISIONS:	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. Name: John M. Gray, PE Date: August 25, 2015 Lic. No.: 22457	 PHONE: (651) 490-2000 3535 VANDUYS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MINNESOTA CITY OF ANDOVER	TRAFFIC SIGNAL INTERCONNECT "C" INTERSECTION LAYOUT CSAH 116 (BUNKER LAKE BLVD NW) (ROSE STREET TO HEATHER STREET)	C.P. 14-62-00 FILE NO. ANOKC 133655 DATE 08/26/2015 21 52
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FOR REFERENCE PURPOSES ONLY

NO	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:22:36 AM

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn

DRAWN BY: SPH DATE: 11/19/2024 DESIGN BY: SPH DATE: 11/19/2024 CHECKED BY: CO DATE: 02/20/2025

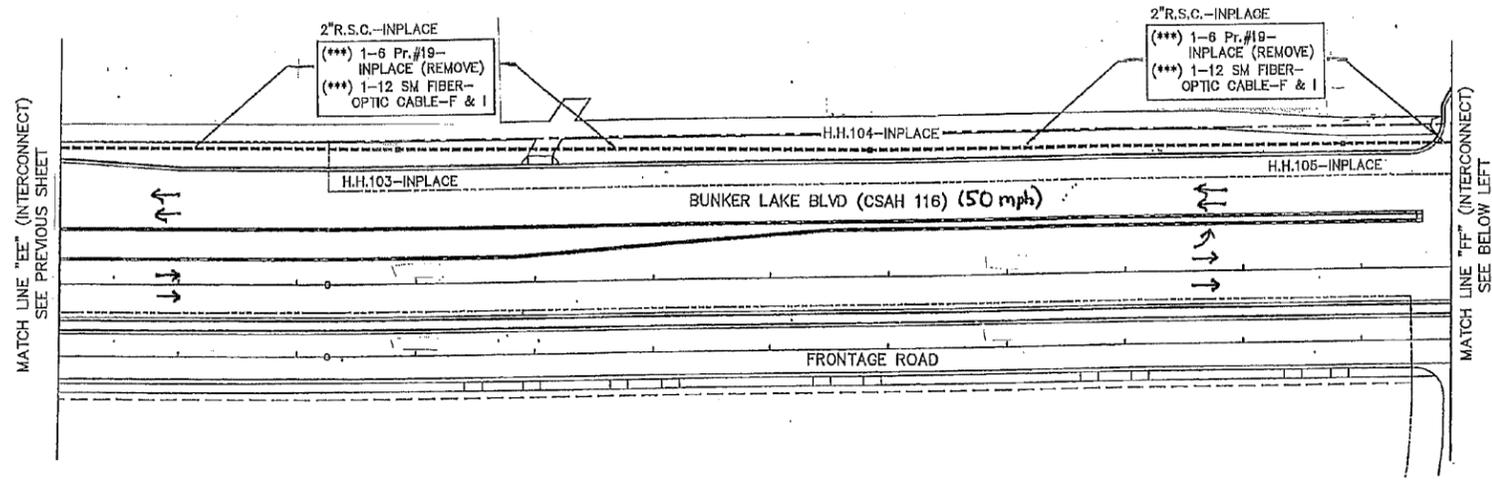
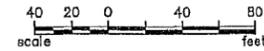
ANOKA COUNTY HIGHWAY DEPT.

ROSE ST.

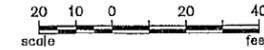
STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
Sheet 46 of 65 Sheets

7142

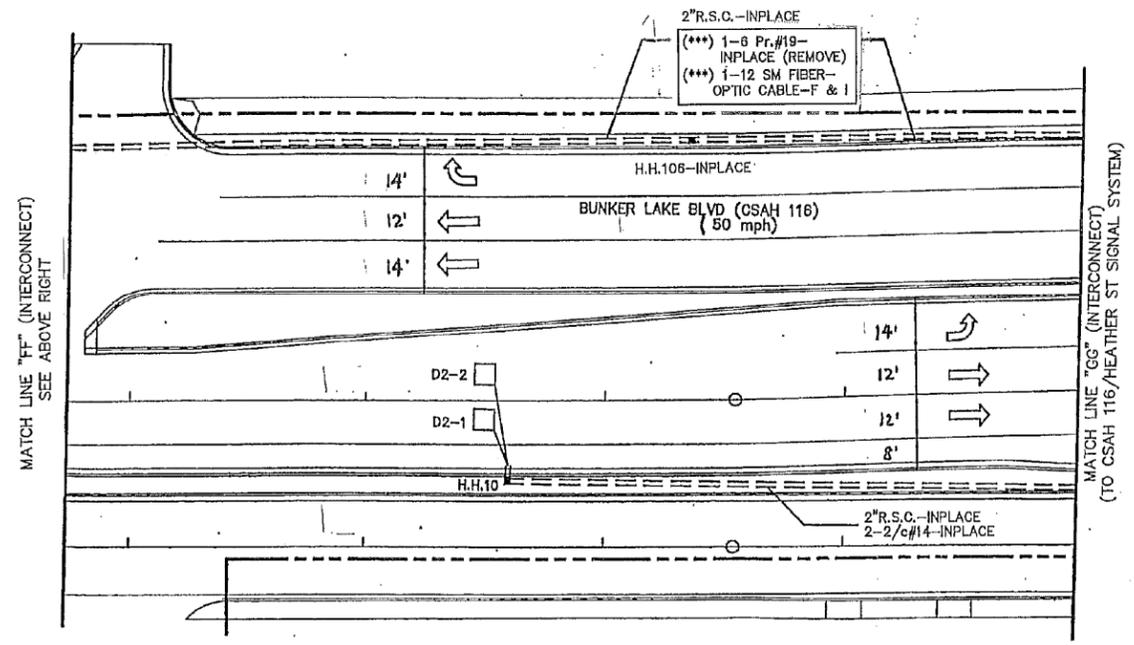


NOTE SCALE CHANGE BETWEEN LAYOUTS ON THIS PLAN SHEET.



INTERCONNECT NOTES:

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-484-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.



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DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Date: August 25, 2015 Name: John M. Gray, PE License No.: 22457



ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

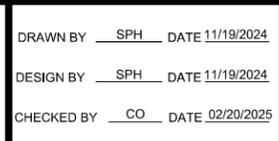
TRAFFIC SIGNAL INTERCONNECT 'C'
INTERSECTION LAYOUT
CSAH 116 (BUNKER LAKE BLVD NW)
(ROSE STREET TO HEATHER STREET)

FILE NO. ANOKC 133855	22
DATE 08/25/2015	52

C.P. 14-62-00

NO.	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:22:38 AM
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn							

DRAWN BY: SPH	DATE: 11/19/2024
DESIGN BY: SPH	DATE: 11/19/2024
CHECKED BY: CO	DATE: 02/20/2025



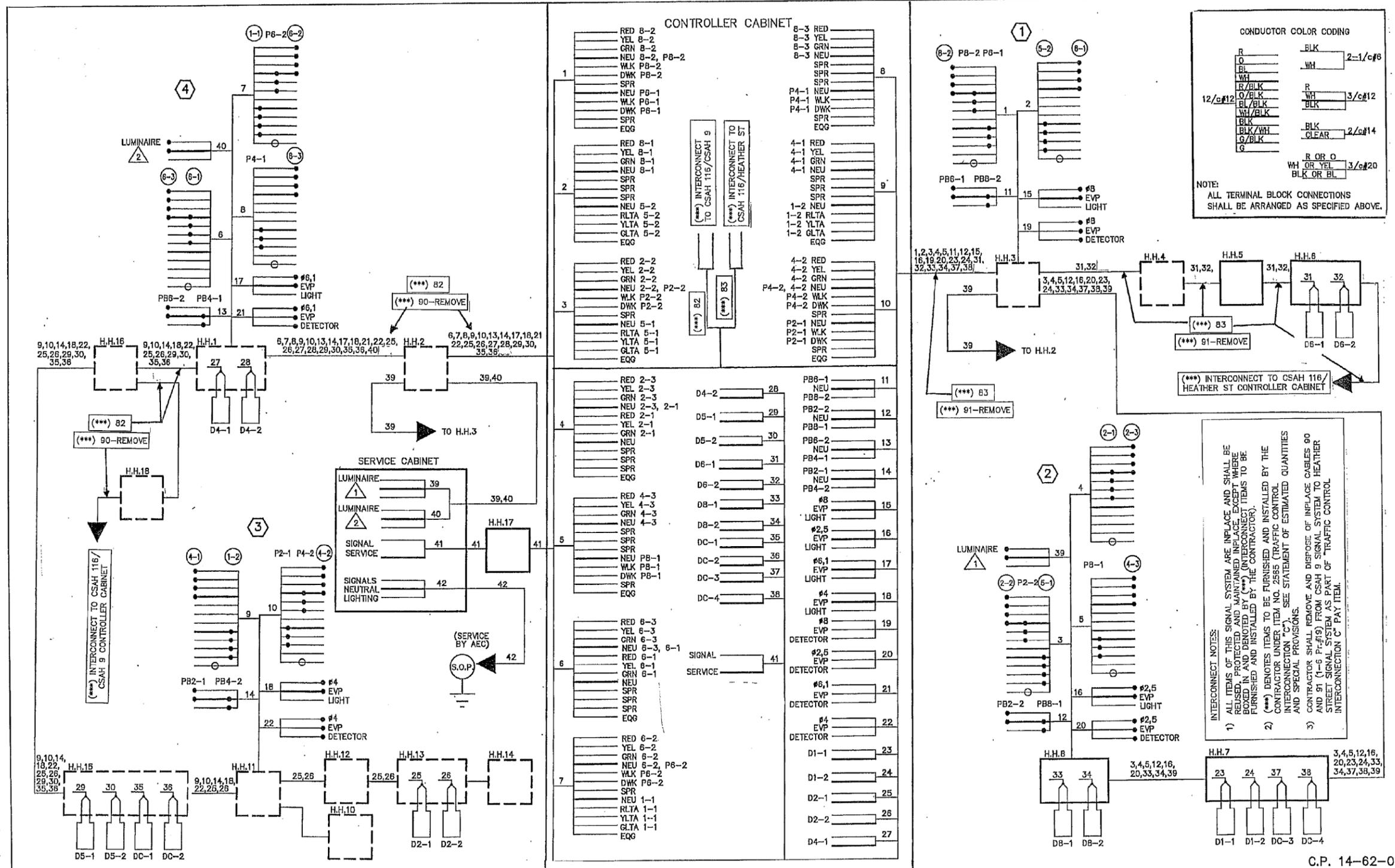
ANOKA COUNTY
HIGHWAY DEPT.

ROSE ST.
STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
Sheet 47 of 65 Sheets

FOR REFERENCE PURPOSES ONLY

7142



CONDUCTOR COLOR CODING

R	BLK	2-1/c#8
O	WH	
BL		
WH		
R/BLK	R	3/c#12
O/BLK	WH	
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#14
BLK/WH	CLEAR	
O/BLK		
G		
R OR O		
WH OR YEL		3/c#20
BLK OR BL		

NOTE:
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

INTERCONNECT NOTES:

- ALL ITEMS OF THIS SIGNAL SYSTEM ARE IN PLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED IN PLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (***) INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2585 (TRAFFIC CONTROL INTERCONNECTION 'C'). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF IN PLACE CABLES 90 AND 91 (1-6 P4-#9) FROM CSAH 9 SIGNAL SYSTEM TO HEATHER STREET SIGNAL SYSTEM AS PART OF 'TRAFFIC CONTROL INTERCONNECTION C' PAY ITEM.

DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG	NO. BY DATE _____ _____ _____	REVISIONS _____ _____ _____	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. Name: John M. Gray, PE Date: August 25, 2015 Lic. No.: 22457	 PHONE (651) 490-2000 3935 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MINNESOTA CITY OF ANDOVER	TRAFFIC SIGNAL INTERCONNECT 'C' FIELD WIRING DIAGRAM CSAH 116 (BUNKER LAKE BLVD NW) AT ROSE STREET/DOWNTOWN CENTER	FILE NO. ANOKC 133655 DATE 08/25/2015 20 52
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FOR REFERENCE PURPOSES ONLY

INTERCONNECT NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2665 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN & DENOTED BY BOTH (***) AND BY F & I (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

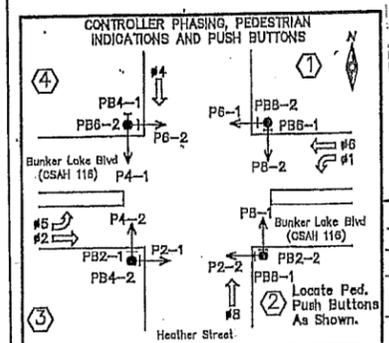
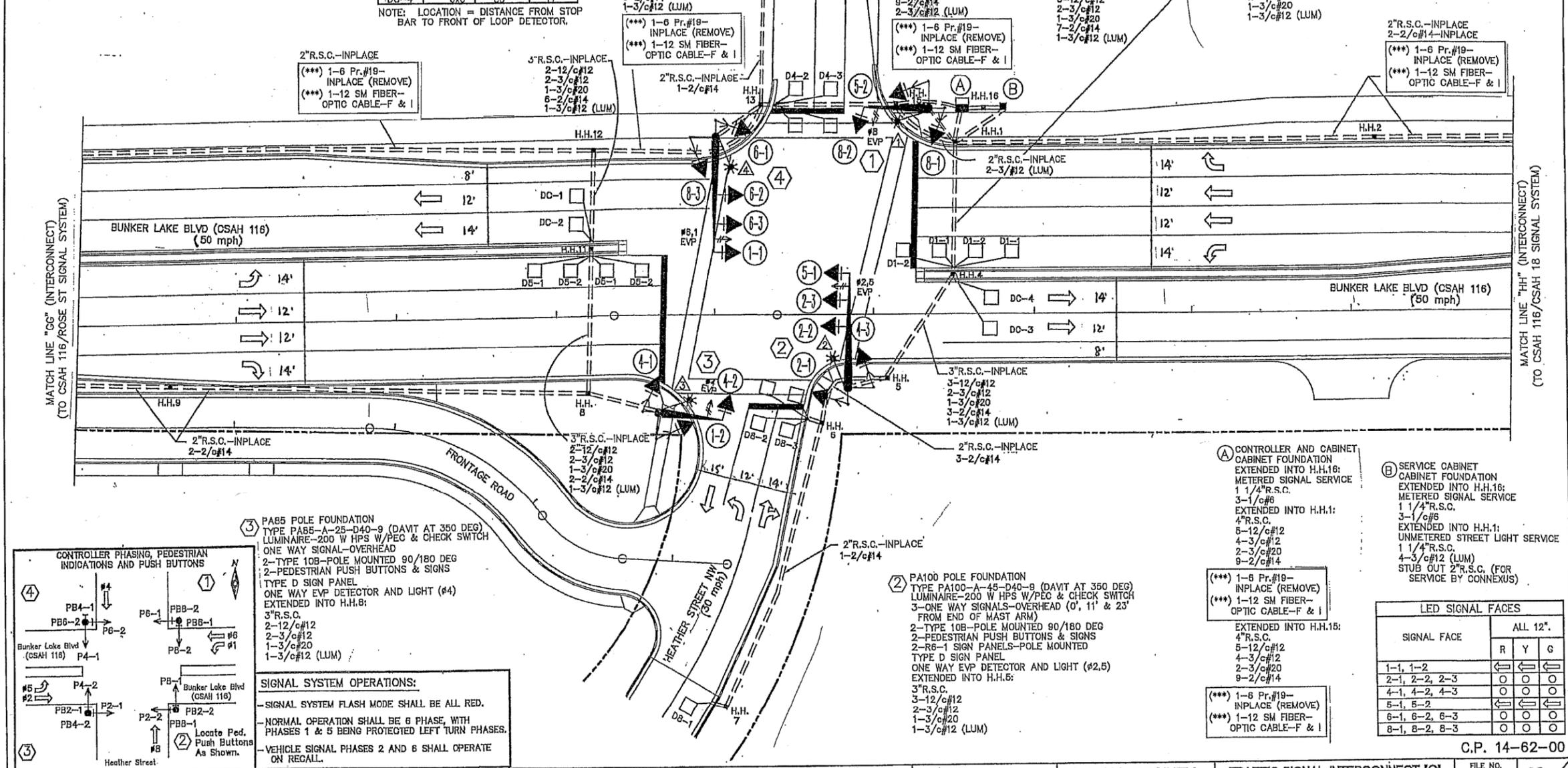
NMC LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	26' & 56'	1
D1-2	2-6x6	6' & 35'	1
D2-1	6x6	400'	1
D2-2	6x6	400'	1
D4-1	6x6	80'	3,8
D4-2	2-6x6	AS SHOWN	7
D4-3	2-6x6	AS SHOWN	7
D5-1	2-6x6	26' & 56'	1
D5-2	2-6x6	6' & 35'	1
D6-1	6x6	400'	1
D6-2	6x6	400'	1
D8-1	6x6	120'	3,8
D8-2	2-6x6	AS SHOWN	7
D8-3	2-6x6	AS SHOWN	7
DC-1	6x6	50'	11
DC-2	6x6	50'	11
DC-3	6x6	50'	11
DC-4	6x6	50'	11

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

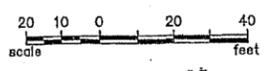
FUNCTIONS:

- CALL AND EXTEND
- EXTEND ONLY
- DELAYED CALL IMMEDIATE EXTEND
- CARRY OVER (STRETCH)
- COUNT DETECTOR



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON REGALL.



LED SIGNAL FACES

SIGNAL FACE	ALL 12"		
	R	Y	G
1-1, 1-2	◀	◀	◀
2-1, 2-2, 2-3	◀	◀	◀
4-1, 4-2, 4-3	◀	◀	◀
5-1, 5-2	◀	◀	◀
6-1, 6-2, 6-3	◀	◀	◀
8-1, 8-2, 8-3	◀	◀	◀

DESIGN TEAM

NO.	BY	DATE

REVISIONS

NO.	BY	DATE	DESCRIPTION

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.

John M. Gray, PE
 Name: John M. Gray, PE
 License No.: 22457

SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

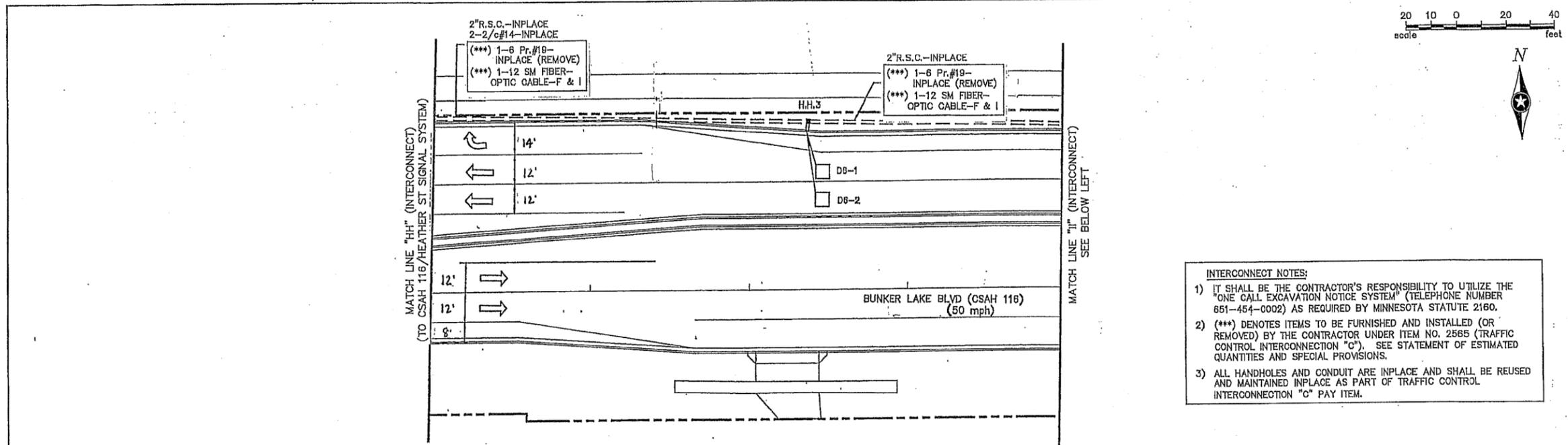
ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT "C" INTERSECTION LAYOUT
 CSAH 116 (BUNKER LAKE BLVD NW) AT HEATHER STREET NW

FILE NO. ANOKO 133655
 DATE 08/26/2015
 23
 52

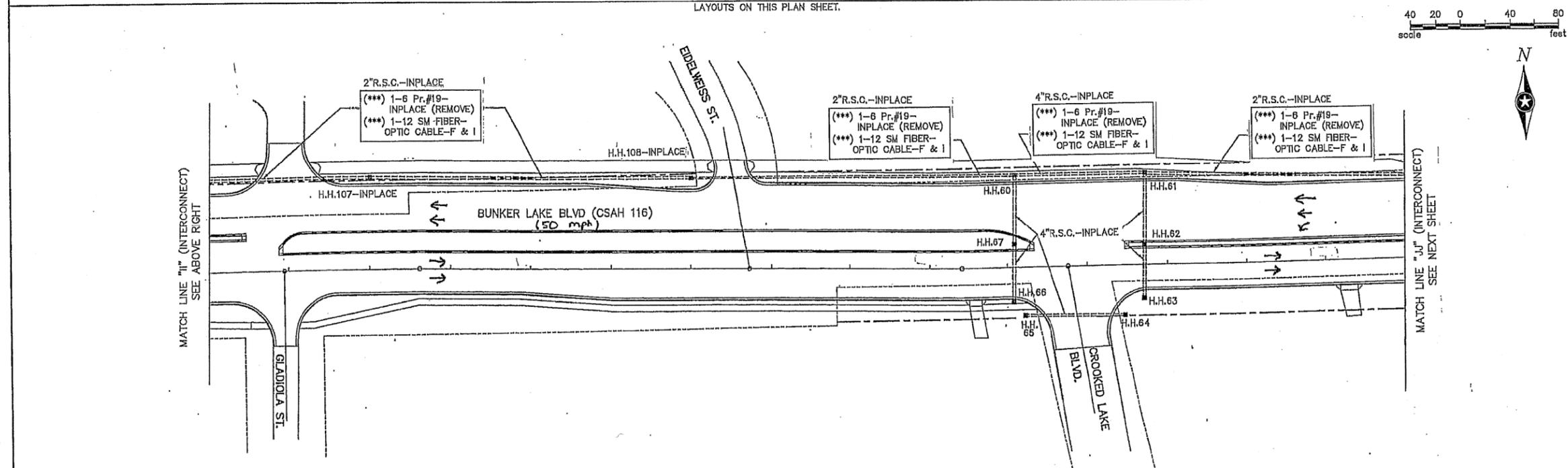
FOR REFERENCE PURPOSES ONLY

7141



- INTERCONNECT NOTES:**
- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 3) ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

NOTE SCALE CHANGE BETWEEN LAYOUTS ON THIS PLAN SHEET.



S:\VIA\ANOKA\COUNTY\GIS\MAPS\2015_INTERCONNECT\2015INTERCONNECT.dwg 08/17/2015

DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG
DESIGN TEAM	

NO.	BY	DATE

REVISIONS

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.

J.M. Gray
 Name: John M. Gray, PE
 Date: August 25, 2015
 Lic. No.: 22457

SEH
 PHONE: (951) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT 'C' INTERSECTION LAYOUT
 CSAH 116 (BUNKER LAKE BLVD NW) (HEATHER STREET TO CSAH 18)

FILE NO. ANOKC 133655	25
DATE 08/25/2015	52

C.P. 14-62-00

NO.	DATE	BY	CKD	APPR	REVISION	2025	8:22:46 AM

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn

DRAWN BY	SPH	DATE	11/19/2024
DESIGN BY	SPH	DATE	11/19/2024
CHECKED BY	CO	DATE	02/20/2025

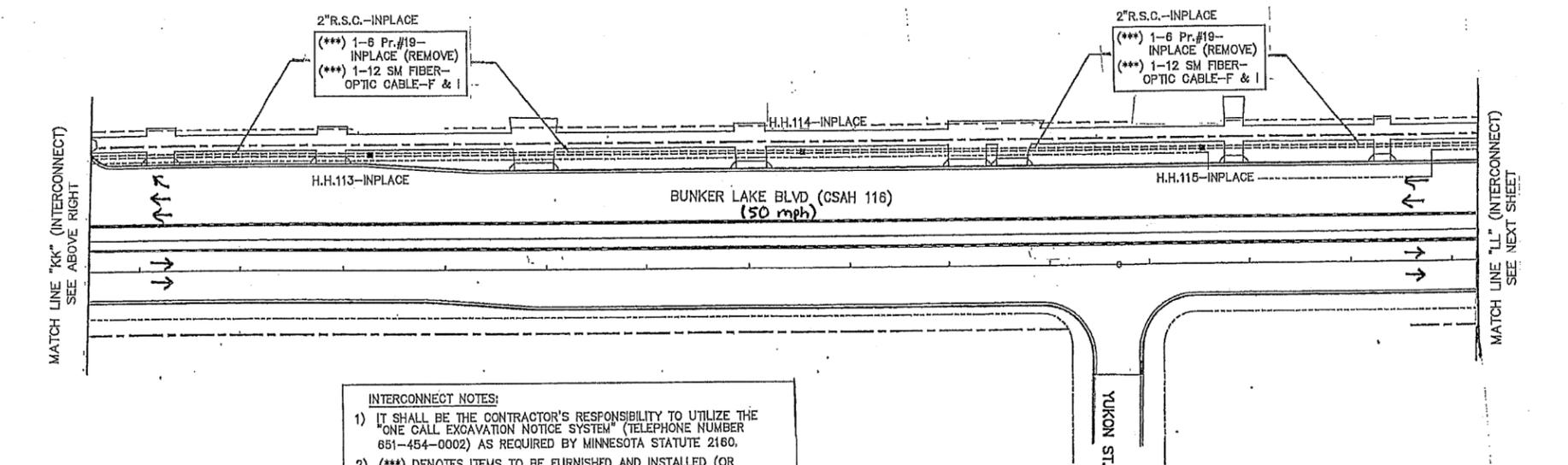
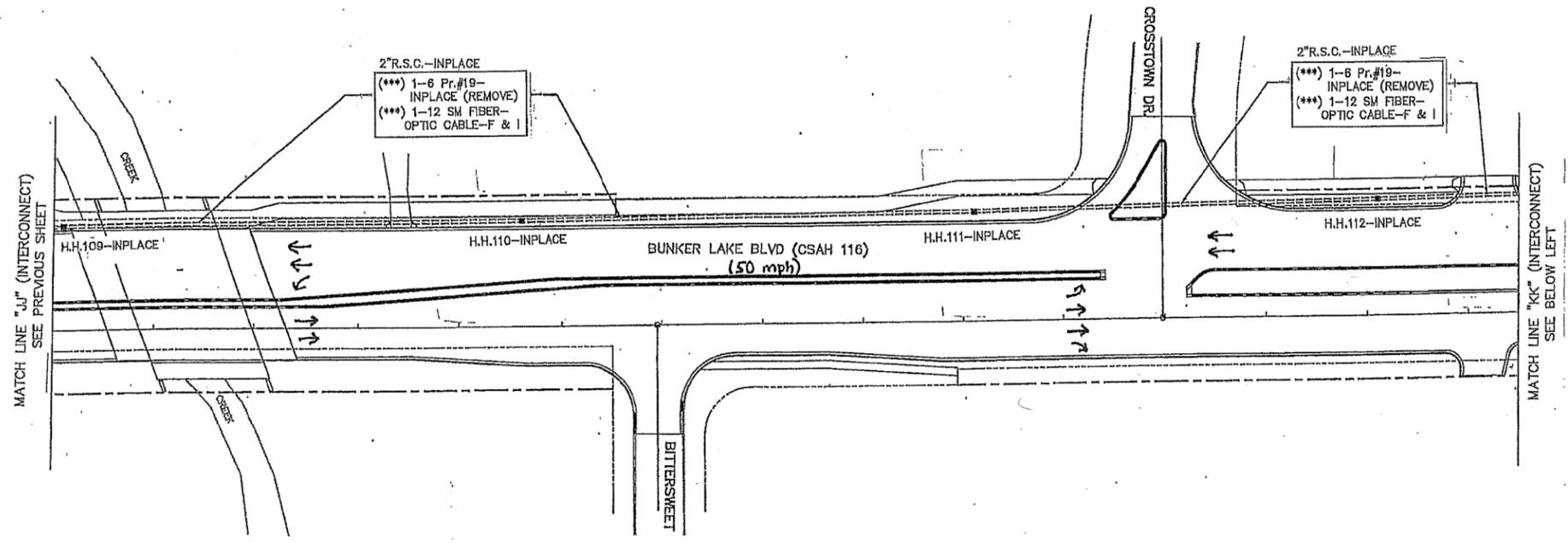
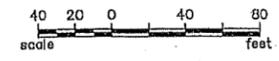
ANOKA COUNTY HIGHWAY DEPT.

HEATHER ST.

STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 50 of 65 Sheets

FOR REFERENCE PURPOSES ONLY



INTERCONNECT NOTES:

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

SEE ANOKA COUNTY COMMUNITY SERVICES OFFICE INTERCONNECT CENTER 2015

DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG
DESIGN TEAM	

NO.	BY	DATE	REVISIONS

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John M. Gray
Name: John M. Gray, PE
Lic. No. 22457
Date: August 25, 2015

SEH
PHONE: (651) 490-2000
3630 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT "C" INTERSECTION LAYOUT
CSAH 116 (BUNKER LAKE BLVD NW)
(HEATHER STREET TO CSAH 18)

C.P. 14-62-00
FILE NO. ANOKO 133655
DATE 08/25/2015
26
52

NO.	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:22:50 AM

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn

DRAWN BY: SPH DATE 11/19/2024
DESIGN BY: SPH DATE 11/19/2024
CHECKED BY: CO DATE 02/20/2025

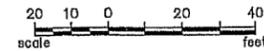
ANOKA COUNTY HIGHWAY DEPT.

HEATHER ST.
STATE AID PROJECT 002-617-025

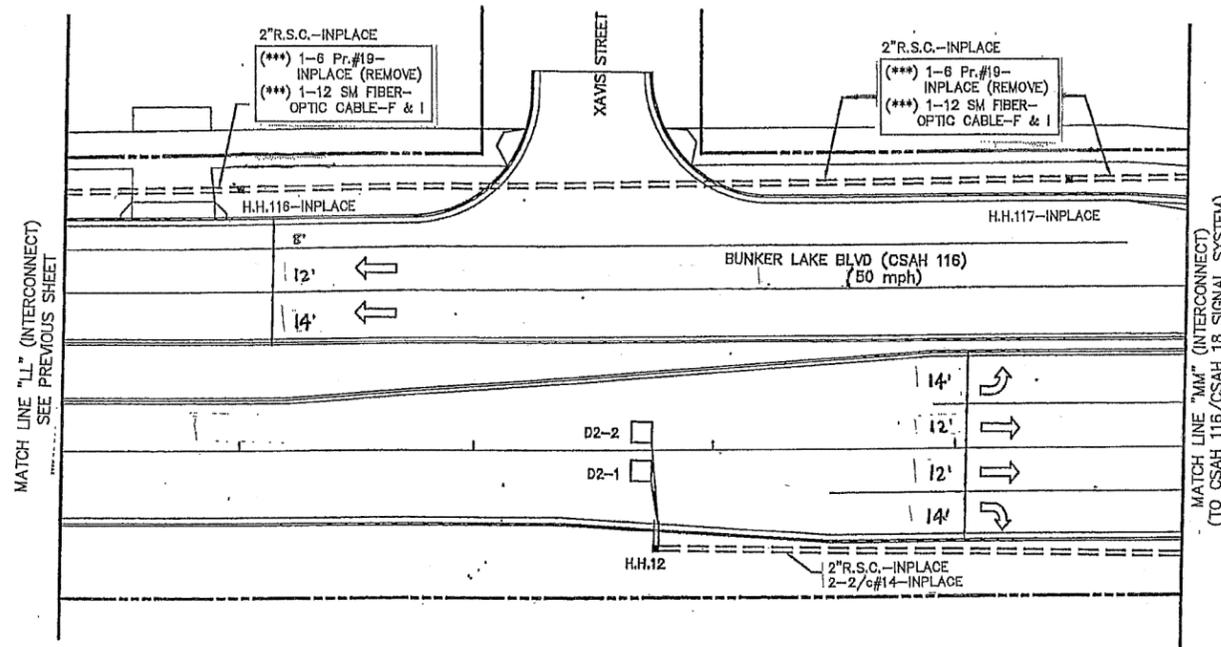
EXISTING SIGNAL PLANS
Sheet 51 of 65 Sheets

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INTERCONNECT NOTES:

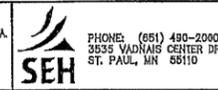
- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"), SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

SA:\EVAN\ANOKA\CAD\CON\SIGNALS\2116_INTERCONNECT\2015\INTERCONNECT\2015.DWG 08/17/2015

DRAWN BY: JMG			
DESIGNER: JMG			
CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE

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John M. Gray
 Name: John M. Gray, PE
 Date: August 25, 2015
 Lic. No.: 22457



ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

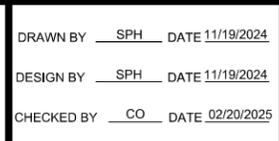
TRAFFIC SIGNAL INTERCONNECT "C" INTERSECTION LAYOUT
 CSAH 116 (BUNKER LAKE BLVD NW) (HEATHER STREET TO CSAH 18)

C.P. 14-62-00

FILE NO. ANOKO 133655	27
DATE 08/25/2015	52

NO.	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:22:53 AM
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn							

DRAWN BY: SPH	DATE: 11/19/2024
DESIGN BY: SPH	DATE: 11/19/2024
CHECKED BY: CO	DATE: 02/20/2025



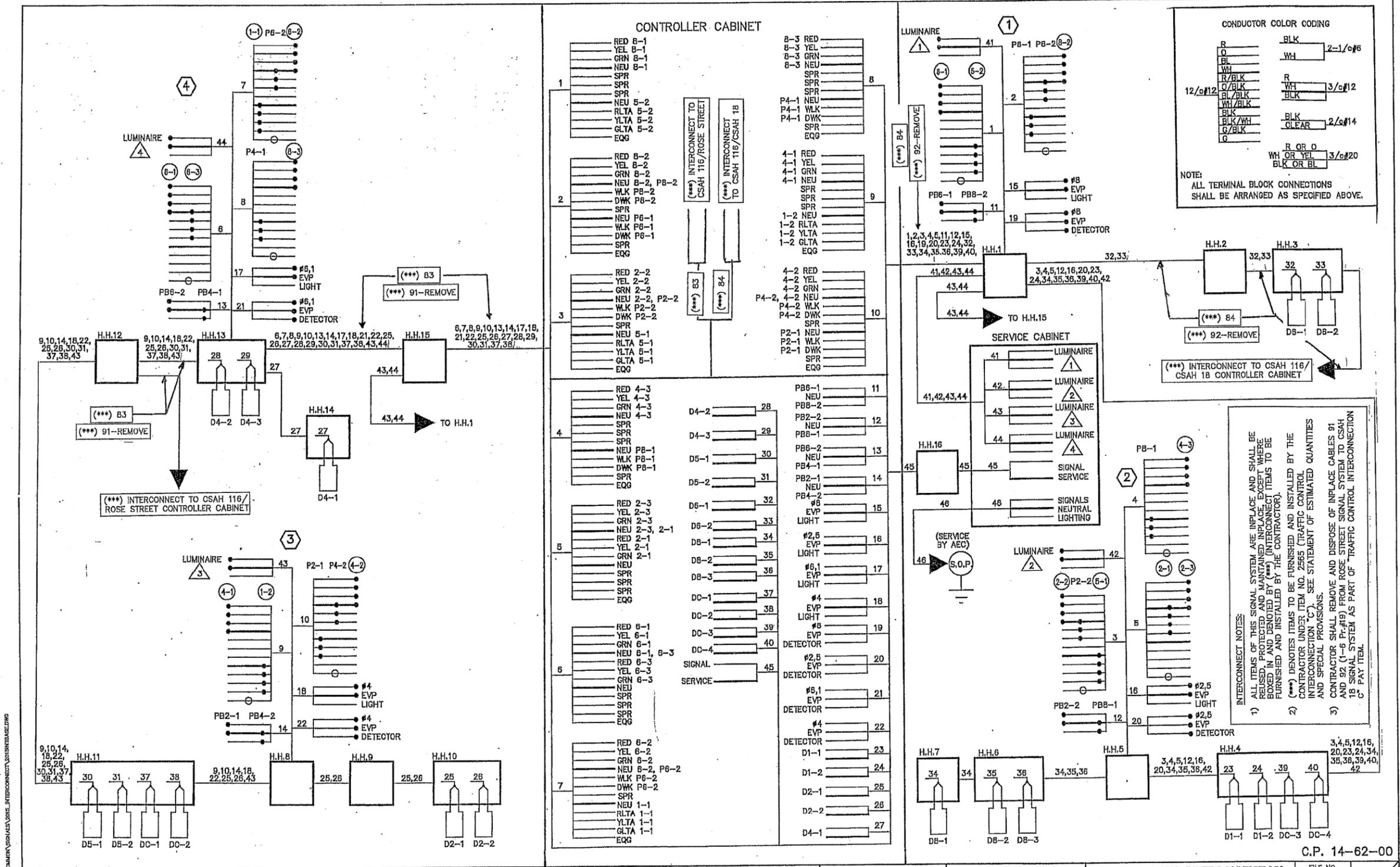
ANOKA COUNTY HIGHWAY DEPT.

HEATHER ST.
 STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 52 of 65 Sheets

FOR REFERENCE PURPOSES ONLY

FOR REFERENCE PURPOSES ONLY



DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG
DATE:	08/27/2015

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.

John M. Gray
Name: John M. Gray, PE
Date: August 25, 2015
Lic. No.: 22457

SEH
PHONES: (651) 480-2000
3635 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT 'C'
FIELD WIRING DIAGRAM
CSAH 116 (BUNKER LAKE BLVD NW)
AT HEATHER STREET NW

FILE NO. ANOKO 133658
DATE 08/25/2015

24
52

INTERCONNECT NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "G"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (*) AND BY F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR).
- FIBER OPTIC INTERCONNECT BETWEEN THIS SIGNAL SYSTEM AND SYSTEMS TO THE EAST (QUINN STREET) AND WEST (HEATHER STREET) ARE INPLACE AND SHALL BE MAINTAINED INPLACE AND IN OPERATION.
- SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "G" PAY ITEM.

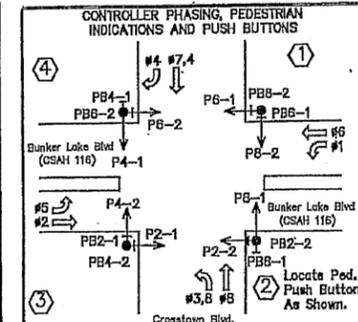
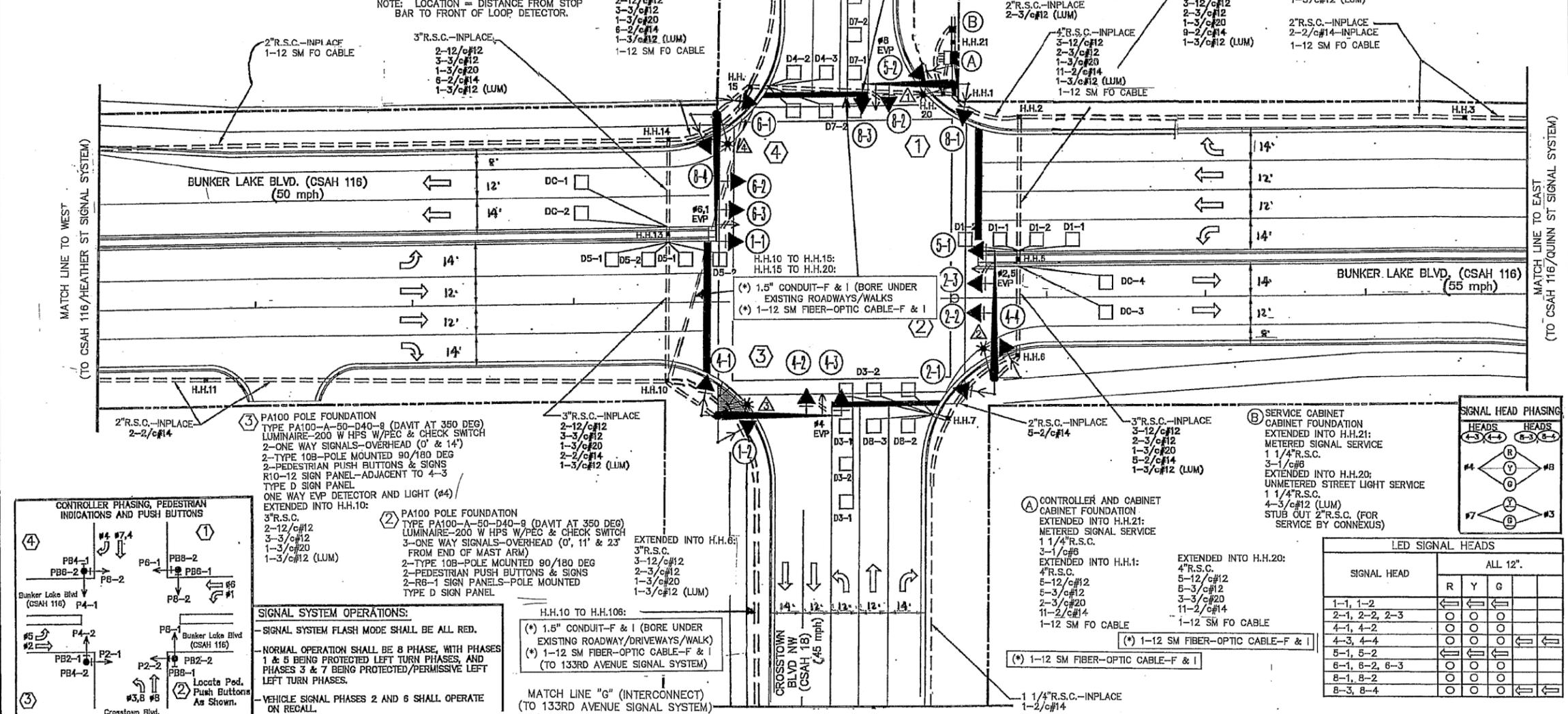
NMC LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-8x6	20' & 50'	1
D2-1	2-8x6	5' & 35'	1
D2-2	8x6	400'	1
D3-1	2-8x6	20' & 50'	1
D3-2	2-8x6	5' & 35'	1
D4-1	8x6	300'	3
D4-2	2-8x6	AS SHOWN	7
D4-3	2-8x6	AS SHOWN	7
D5-1	2-8x6	20' & 50'	1
D5-2	2-8x6	5' & 35'	1
D6-1	8x6	475'	1
D6-2	8x6	475'	1
D7-1	2-8x6	20' & 50'	1
D7-2	2-8x6	5' & 35'	1
D8-1	8x6	300'	3
D8-2	2-8x6	AS SHOWN	7
D8-3	2-8x6	AS SHOWN	7
DC-1	8x6	50'	11
DC-2	8x6	50'	11
DC-3	8x6	50'	11
DC-4	8x6	50'	11

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

FUNCTIONS:

- CALL AND EXTEND
- EXTEND ONLY
- DELAYED CALL IMMEDIATE EXTEND
- CARRY OVER (STRETCH)
- COUNT DETECTOR

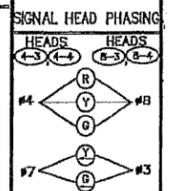
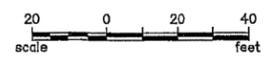


SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES, AND PHASES 3 & 7 BEING PROTECTED/PERMISSIVE LEFT LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

H.H.10 TO H.H.106:

- (*) 1.5" CONDUIT-F & I (BORE UNDER EXISTING ROADWAY/DRIVEWAYS/WALK)
- (*) 1-12 SM FIBER-OPTIC CABLE-F & I (TO 133RD AVENUE SIGNAL SYSTEM)



LED SIGNAL HEADS

SIGNAL HEAD	ALL 12"		
	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2, 2-3	○	○	○
4-1, 4-2	○	○	○
4-3, 4-4	○	○	○
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	○	○	○
8-1, 8-2	○	○	○
8-3, 8-4	○	○	←

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

DESIGN TEAM

NO.	BY	DATE

REVISIONS

NO.	BY	DATE	DESCRIPTION

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.

Signature: *John M. Gray*
 Name: John M. Gray, PE
 License No.: 22457

SEH
 PHONE: (651) 490-2000
 3536 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY, MN
 CITY OF ANDOVER
 SAP 002-030-010

TRAFFIC SIGNAL INTERCONNECT 'G' INTERSECTION LAYOUT
 CSAH 18 (COON CREEK BLVD) AT CSAH 116 (BUNKER LAKE BLVD)

FILE NO. 114
 ANOKC 142312
 115

DRAWN BY: SPH DATE 11/19/2024
 DESIGN BY: SPH DATE 11/19/2024
 CHECKED BY: CO DATE 02/20/2025

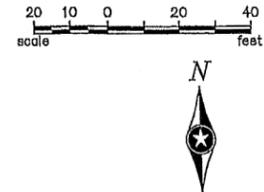
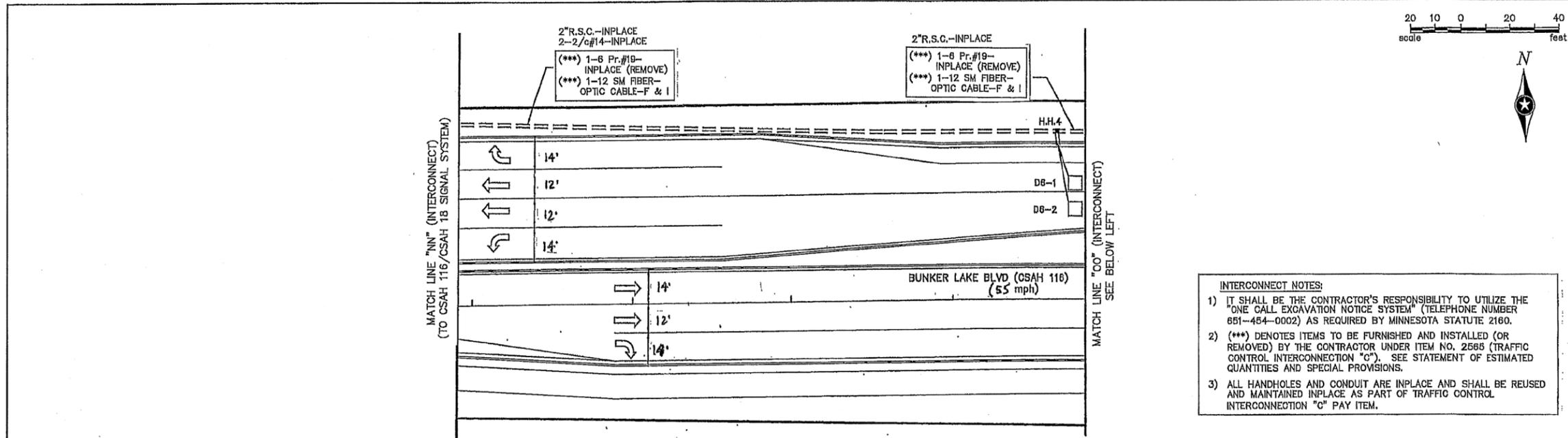
ANOKA COUNTY HIGHWAY DEPT.

CROSSTOWN BLVD.
 STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 54 of 65 Sheets

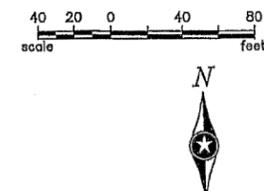
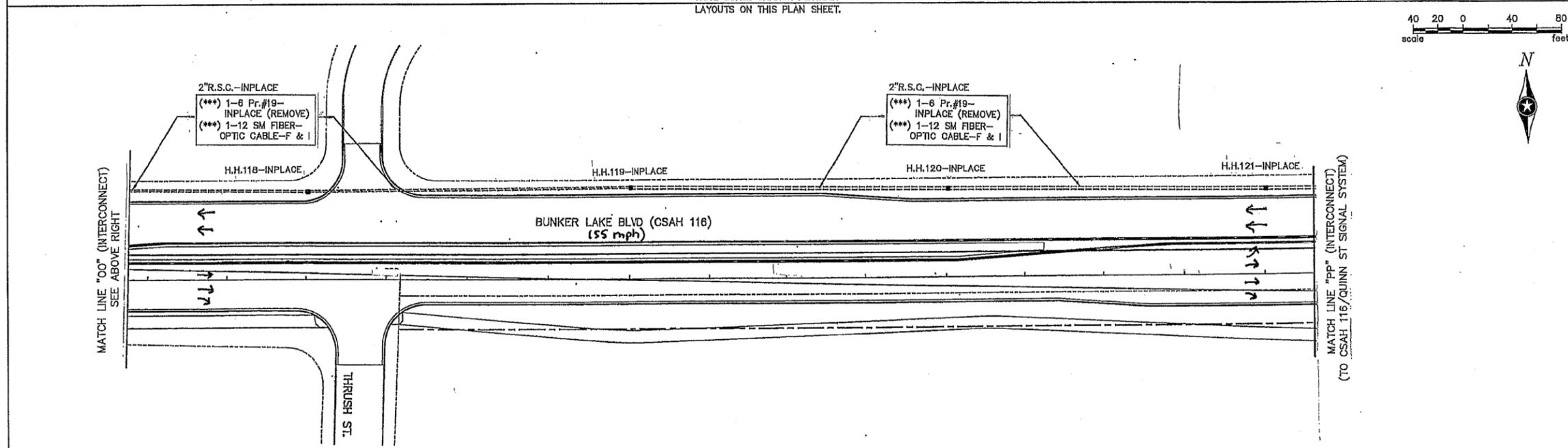
FOR REFERENCE PURPOSES ONLY

7158



- INTERCONNECT NOTES:**
- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 3) ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

NOTE SCALE CHANGE BETWEEN LAYOUTS ON THIS PLAN SHEET.



S:\VIA\ANOKA\CAD\COMMON\SERIALS\BOTH_INTERCONNECT_V01019\BUSEWING 08/17/2015

DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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.

John M. Gray
 Name: John M. Gray, PE
 License No.: 22467

SEH
 PHONE: (651) 490-2000
 3530 MADRAIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT "C" INTERSECTION LAYOUT
 CSAH 116 (BUNKER LAKE BLVD NW) (CSAH 18 TO QUINN STREET)

FILE NO.	ANOKO 133655	30
DATE	08/25/2015	52

C.P. 14-62-00

NO.	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:23:03 AM
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn							

DRAWN BY	SPH	DATE	11/19/2024
DESIGN BY	SPH	DATE	11/19/2024
CHECKED BY	CO	DATE	02/20/2025

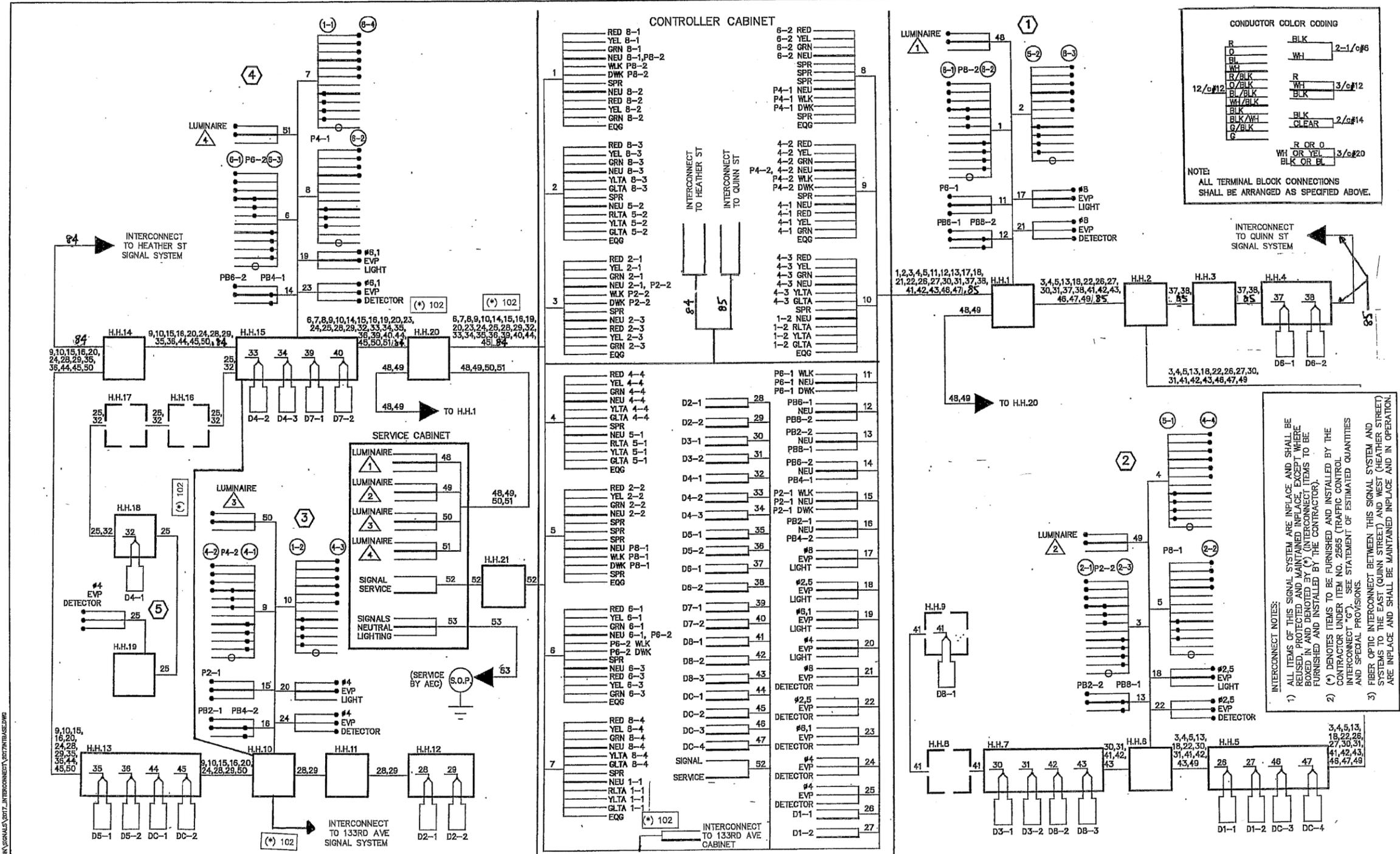
ANOKA COUNTY
 HIGHWAY DEPT.

ANOKA COUNTY
 HIGHWAY DEPT.

CROSTOWN BLVD.
 STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 55 of 65 Sheets

FOR REFERENCE PURPOSES ONLY



DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM:	NO. BY DATE REVISIONS:	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. Date: July 6, 2018 Name: John M. Gray, PE Lic. No.: 22457	ANOKA COUNTY, MN CITY OF ANDOVER SAP 002-030-010	TRAFFIC SIGNAL INTERCONNECT "G" FIELD WIRING DIAGRAM CSAH 116 (BUNKER LAKE BLVD) AT CSAH 116 (BUNKER LAKE BLVD)	FILE NO. ANOKO 142312 115 115
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FOR REFERENCE PURPOSES ONLY

NO	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:23:10 AM
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn							

DRAWN BY: SPH	DATE: 11/19/2024
DESIGN BY: SPH	DATE: 11/19/2024
CHECKED BY: CO	DATE: 02/20/2025

ANOKA COUNTY HIGHWAY DEPT.

CROSTOWN BLVD.
 STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 57 of 65 Sheets

INTERCONNECT NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2180.
- (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN & DENOTED BY BOTH (***) AND BY F & I (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "C" PAY ITEM.

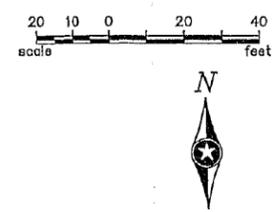
PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350')
 LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 3-ONE WAY SIGNALS-OVERHEAD (AT 0',11',23')
 2-TYPE 10B-POLE MOUNTED 90° AND 180°
 2-PEDESTRIAN PUSH BUTTONS
 2-R6-1 SIGN PANELS (3 FT. X 1 FT.)-POLE MOUNTED 0° AND 180°
 TYPE "D" SIGN PANEL (5.5 FT. X 1.5 FT.)-OVERHEAD (D-2)
 ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#8,1)
 EXTEND INTO EX. HH 71:
 3 IN. R.S.C.
 3-12/c#12
 2-3/c#20
 1-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

N.M.C. LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION (FT.)	FUNCTION
D1-1	2-6X8	4 & 34	1
D1-2	2-6X8	-5 & 19	1
D2-1	8X8	475	1
D2-2	8X8	475	1
D3-1	2-6X8	4 & 34	1
D3-2	2-6X8	-5 & 19	1
D4-1	8X8	120	3,8
D4-2	2-6X8	0 & 9	7
D5-1	2-6X8	4 & 34	1
D5-2	2-6X8	-5 & 19	1
D6-1	8X8	475	1
D6-2	8X8	475	1
D7-1	2-6X8	4 & 34	1
D7-2	2-6X8	-5 & 19	1
D8-1	8X8	120	3,8
D8-2	2-6X8	-5 & 4	7
D8-3	2-6X8	0 & 9	1
DC-1	6X6	40	11
DC-2	6X6	40	11
DC-3	6X6	40	11
DC-4	6X6	40	11

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR

- LOOP DETECTOR FUNCTIONS:**
- GALL. AND EXTEND
 - GALL. ONLY
 - EXTEND ONLY
 - GALL. ONLY DENSITY
 - DELAYED GALL. ONLY
 - DELAYED GALL. ONLY DENSITY
 - DELAYED GALL. - IMMEDIATE EXTEND
 - GARRY OVER (STRETCH)
 - ADVISORY DETECTOR
 - SAMPLING DETECTOR
 - SPECIAL DETECTOR (COUNT)



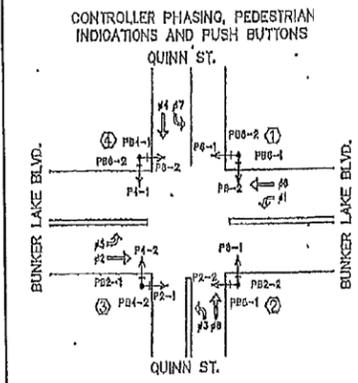
A CONTROLLER AND CABINET CABINET FOUNDATION EXTENDED INTO H.H.9: METERED SIGNAL SERVICE
 1 1/4" R.S.C.
 3-1/c#8
 EXTENDED INTO H.H.7:
 4" R.S.C.
 6-12/c#12
 4-3/c#12
 2-3/c#20
 10-2/c#14

(***) 1-6 Pr.#19-INPLACE (REMOVE)
 (***) 1-12 SM FIBER-OPTIC CABLE-F & I

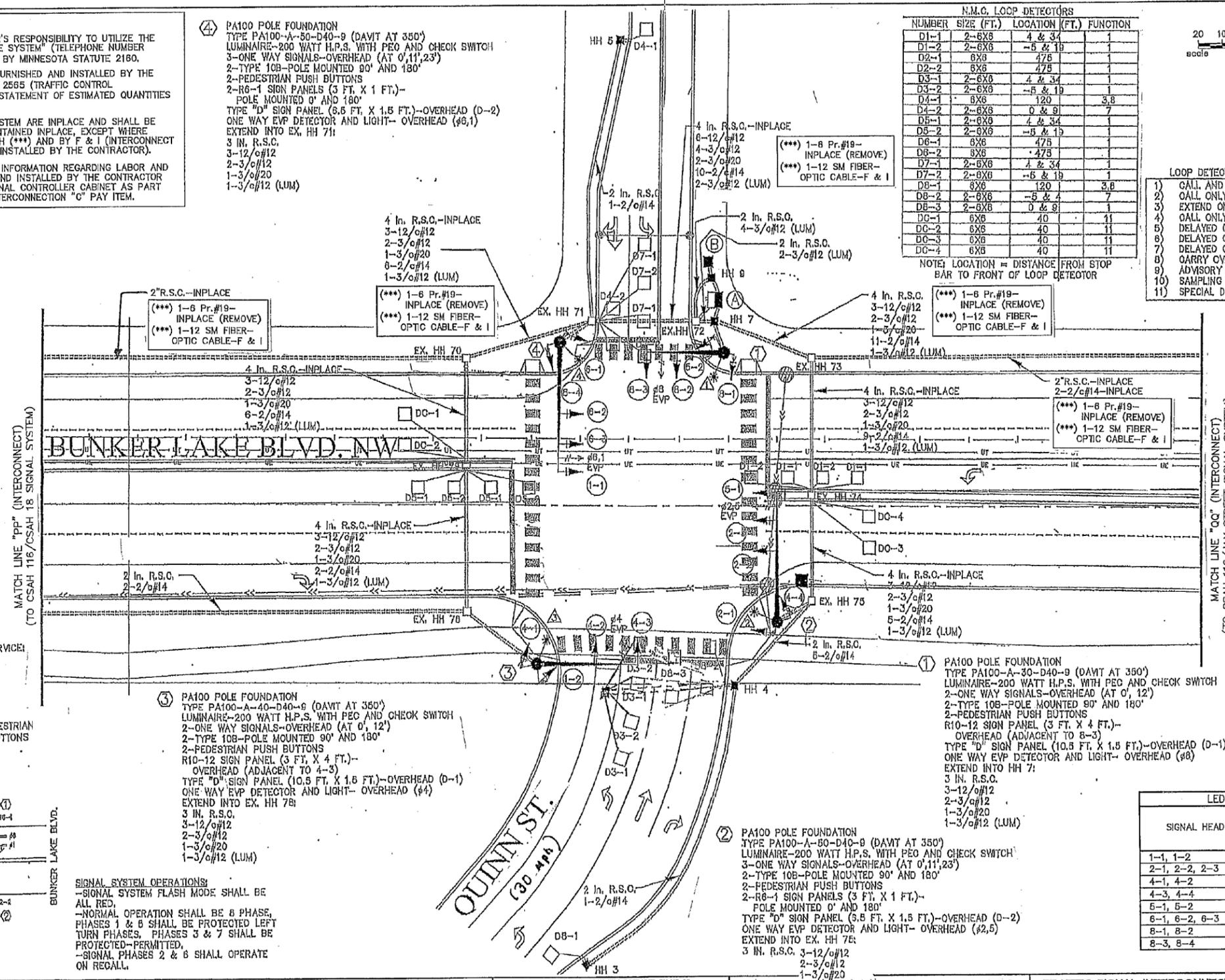
EXTENDED INTO H.H.72:
 4" R.S.C.
 6-12/c#12
 4-3/c#12
 2-3/c#20
 11-2/c#14

(***) 1-6 Pr.#19-INPLACE (REMOVE)
 (***) 1-12 SM FIBER-OPTIC CABLE-F & I

B SERVICE CABINET CABINET FOUNDATION EXTEND INTO H.H.9:
 2 IN. R.S.C.
 METERED SIGNAL SERVICE:
 3-1/c#8
 UNMETERED STREET LIGHT SERVICE:
 4-3/c#12 (LUM)
 STUB OUT 2 IN. R.S.C. (FOR SERVICE BY CONNEXUS)

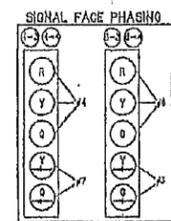


SIGNAL SYSTEM OPERATIONS:
 -SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 -NORMAL OPERATION SHALL BE 8 PHASE, PHASES 1 & 8 SHALL BE PROTECTED LEFT TURN PHASES. PHASES 3 & 7 SHALL BE PROTECTED-PERMITTED.
 -SIGNAL PHASES 2 & 6 SHALL OPERATE ON RECALL.



MATCH LINE "PP" (INTERCONNECT) (TO CSAH 116/CSAH 18 SIGNAL SYSTEM)

MATCH LINE "QQ" (INTERCONNECT) (TO CSAH 116/JAY STREET SIGNAL SYSTEM)



LED SIGNAL HEADS

SIGNAL HEAD	ALL 12"		
	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2, 2-3	○	○	○
4-1, 4-2	○	○	○
4-3, 4-4	○	○	←
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	○	○	○
8-1, 8-2	○	○	○
8-3, 8-4	○	○	←

C.P. 14-62-00

DESIGN TEAM

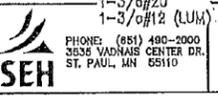
NO.	BY	DATE

REVISIONS

NO.	BY	DATE	DESCRIPTION

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.

John M. Gray
 Name: John M. Gray, PE
 Lto. No. 22457



ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT "C"
 INTERSECTION LAYOUT
 CSAH 116 (BUNKER LAKE BLVD NW)
 AT QUINN STREET NW

FILE NO.
 ANOKA 133655

DATE
 08/25/2015

31

52

NO. DATE BY CKD APPR REVISION

NO.	DATE	BY	CKD	APPR	REVISION

02/20/2025 8:23:14 AM
 NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn

DRAWN BY SPH **DATE** 11/19/2024

DESIGN BY SPH **DATE** 11/19/2024

CHECKED BY CO **DATE** 02/20/2025

ANOKA COUNTY HIGHWAY DEPT.

QUINN ST.

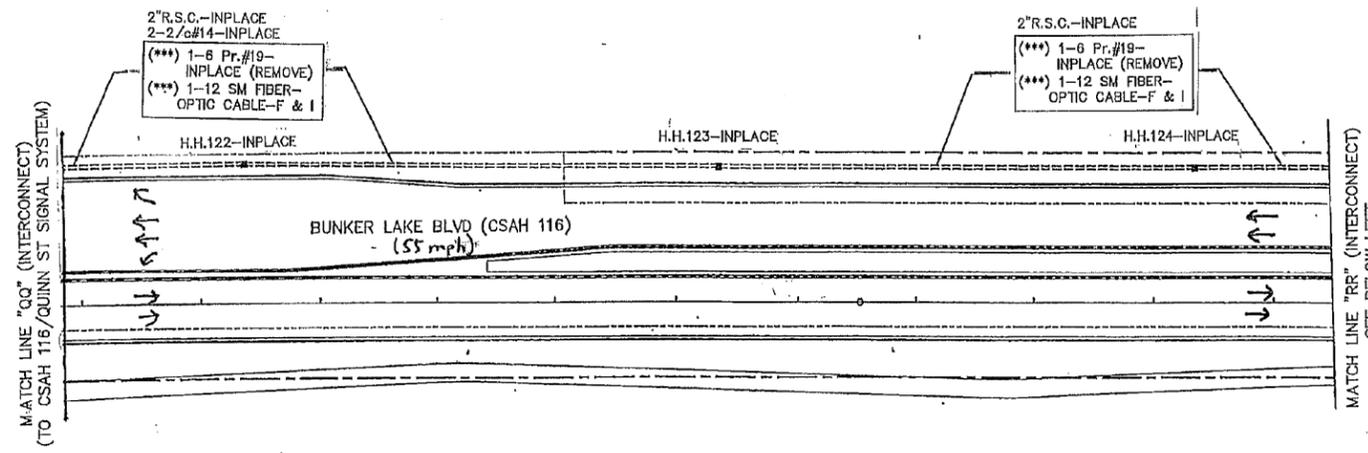
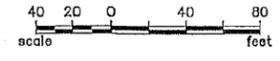
EXISTING SIGNAL PLANS

STATE AID PROJECT 002-617-025

Sheet 58 of 65 Sheets

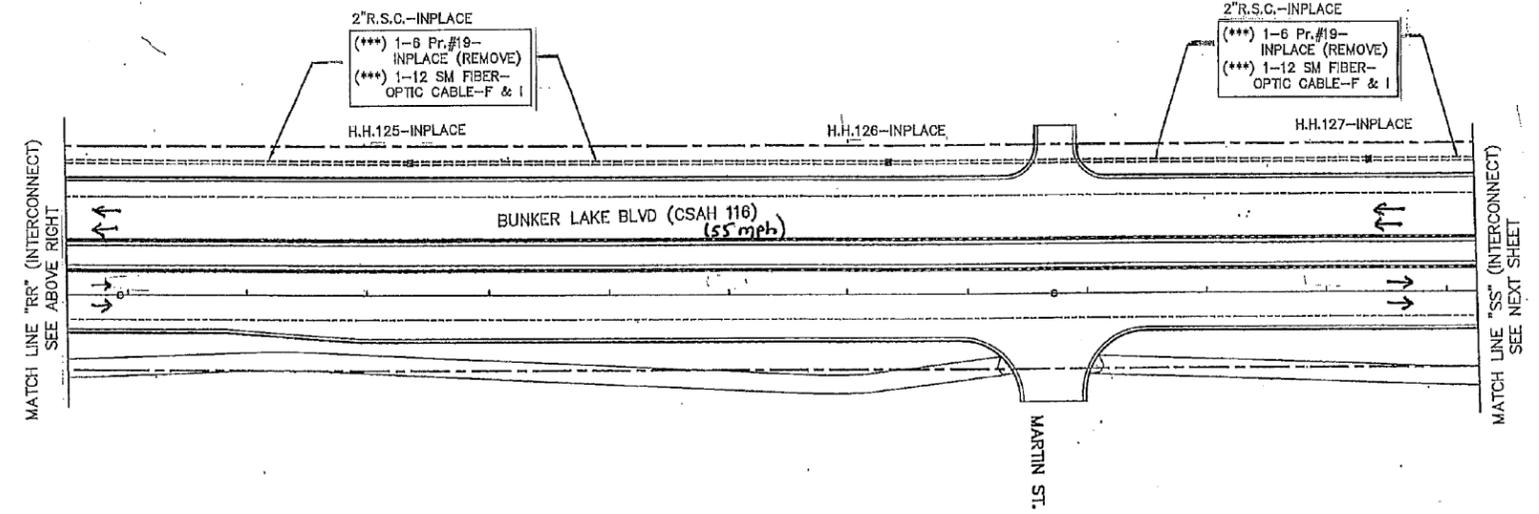
FOR REFERENCE PURPOSES ONLY

218



INTERCONNECT NOTES:

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2180.
- 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECT "C" PAY ITEM.



S:\VA\ANOKA\CAD\WORK\SERIALS\2015\INTERCONNECT\2015\INTERCONNECT.dwg 08/17/2015

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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.

John M. Gray
Name: John M. Gray, PE
Date: August 25, 2015
Lic. No.: 22487

SEH
PHONE: (651) 490-2000
3535 WADSWORTH CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT "C" INTERSECTION LAYOUT
CSAH 116 (BUNKER LAKE BLVD NW) (QUINN STREET TO JAY STREET)

C.P. 14-62-00
FILE NO. ANOKC 133655
DATE 08/25/2015
33
52

NO.	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:23:17 AM

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn

DRAWN BY: SPH DATE 11/19/2024
DESIGN BY: SPH DATE 11/19/2024
CHECKED BY: CO DATE 02/20/2025

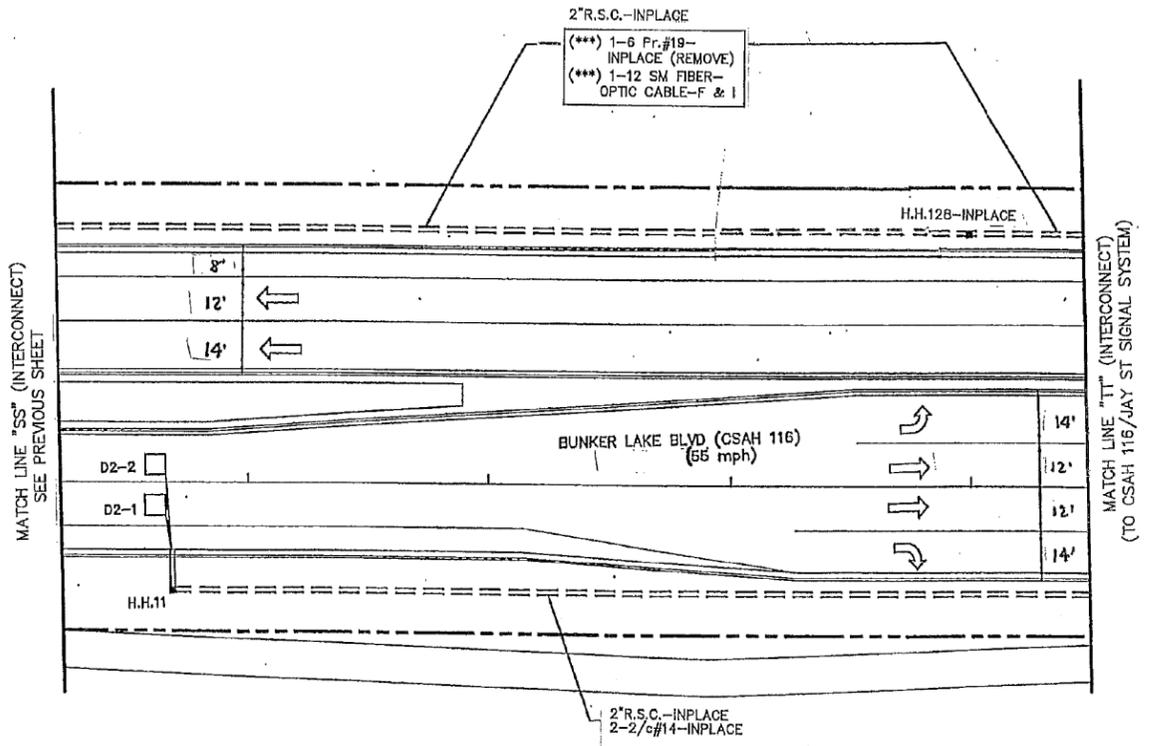
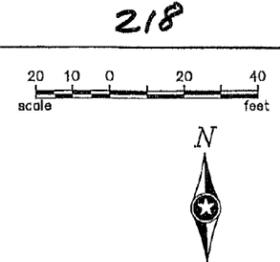
ANOKA COUNTY
HIGHWAY DEPT.

ANOKA COUNTY
HIGHWAY DEPT.

QUINN ST.
STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
Sheet 59 of 65 Sheets

FOR REFERENCE PURPOSES ONLY



INTERCONNECT NOTES:

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

S:\A\ANOKA\COUNTY SIGNALS\2015\INTERCONNECT\2015\INTERCONNECT.dwg
08/17/2015

DRAWN BY: JMG			
DESIGNER: JMG			
CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE

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

John M. Gray
Name: John M. Gray, PE
Date: August 25, 2015 Lts. No. 22457



ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT 'C' INTERSECTION LAYOUT
CSAH 116 (BUNKER LAKE BLVD NW) (QUINN STREET TO JAY STREET)

C.P. 14-62-00

FILE NO. ANOKC 133655	34
DATE 08/25/2015	52

FOR REFERENCE PURPOSES ONLY

NO.	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:23:20 AM
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn							

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DESIGN BY: SPH	DATE: 11/19/2024
CHECKED BY: CO	DATE: 02/20/2025

ANOKA COUNTY HIGHWAY DEPT.

ANOKA COUNTY HIGHWAY DEPT.

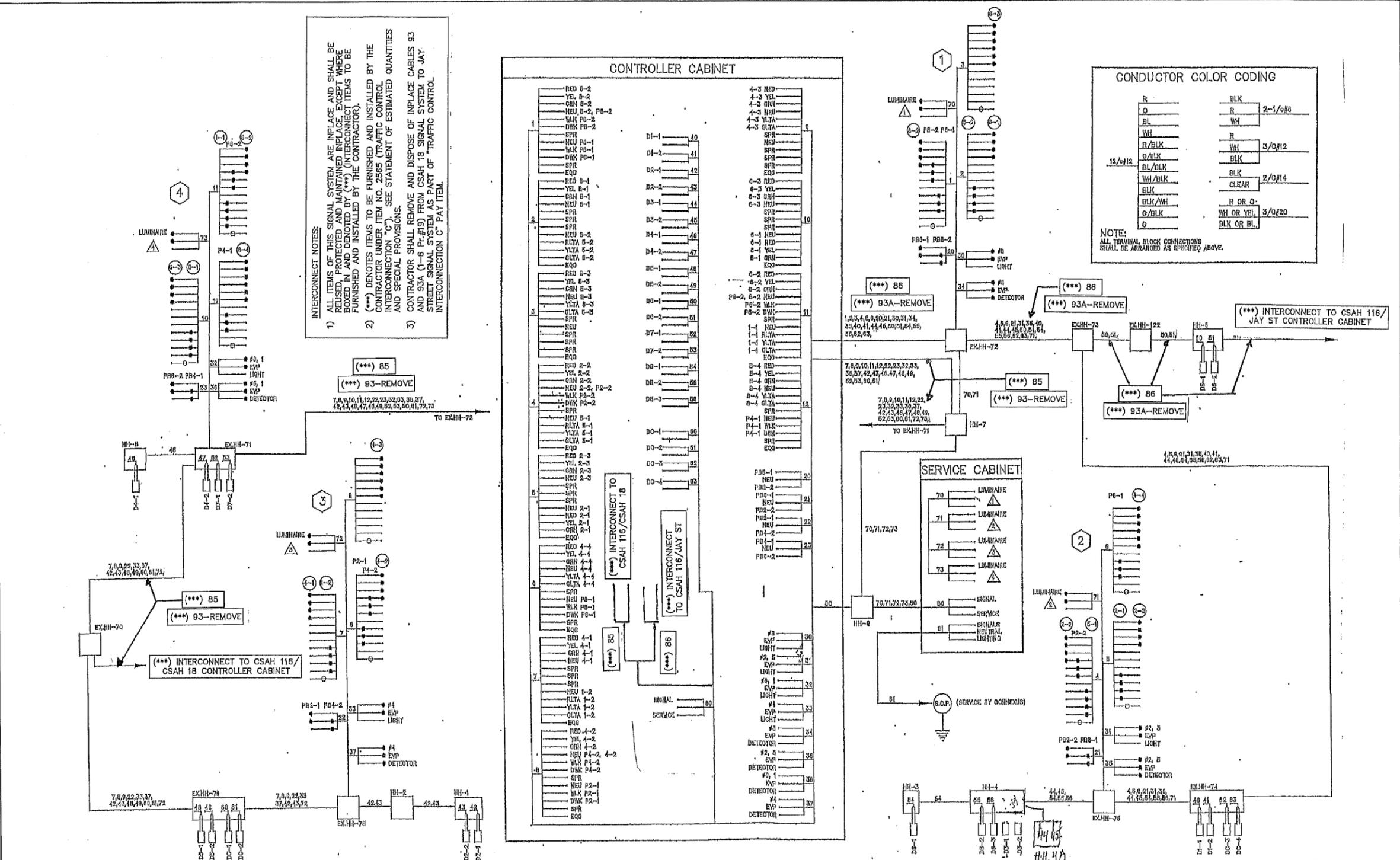
QUINN ST.
STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
Sheet 60 of 65 Sheets

FOR REFERENCE PURPOSES ONLY

INTERCONNECT NOTES:

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE IN PLACE AND SHALL BE RELIABLY PROTECTED AND MAINTAINED IN PLACE UNLESS OTHERWISE NOTED IN AND DENOTED BY (***) (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION 'C'). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) CONTRACTOR SHALL REMOVE AND DISPOSE OF IN PLACE CABLES S3 AND 93A (1-6 P2-#19) FROM CSAH 18 SIGNAL SYSTEM TO JAY STREET SIGNAL SYSTEM AS PART OF "TRAFFIC CONTROL INTERCONNECTION C" PAY ITEM.



C.P. 14-62-00

DRAWN BY: JMG	NO.	BY	DATE
DESIGNER: JMG			
CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE

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.

John M. Gray
 Name: John M. Gray, PE
 Date: August 25, 2015
 Lic. No.: 22457

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 PHONE: (651) 490-2000
 3335 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

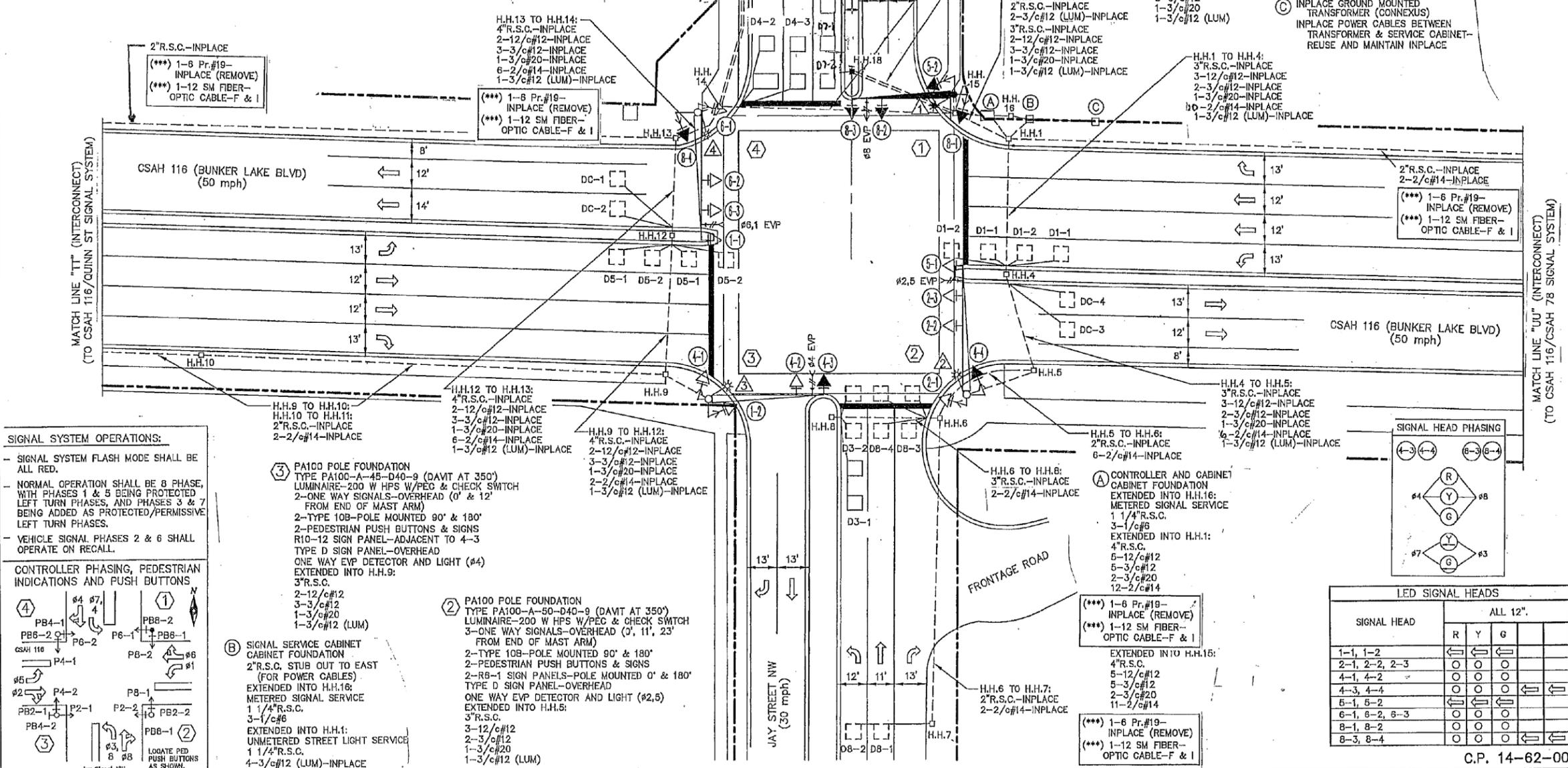
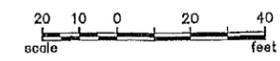
TRAFFIC SIGNAL INTERCONNECT 'C' FIELD WIRING DIAGRAM
 CSAH 116 (BUNKER LAKE BLVD NW) AT QUINN STREET NW

FILE NO. ANOKC 133655	32
DATE 08/25/2015	52

NO.	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:23:23 AM
NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn							
DRAWN BY: SPH DATE 11/19/2024				ANOKA COUNTY HIGHWAY DEPT.			
DESIGN BY: SPH DATE 11/19/2024				QUINN ST.			
CHECKED BY: CO DATE 02/20/2025				STATE AID PROJECT 002-617-025			
							Sheet 61 of 65 Sheets

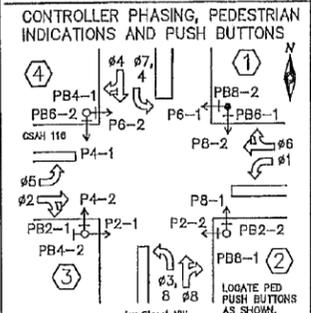
INTERCONNECT NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN & DENOTED BY BOTH (***) AND BY F & I (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES, AND PHASES 3 & 7 BEING ADDED AS PROTECTED/PERMISSIVE LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 & 6 SHALL OPERATE ON RECALL.



DESIGN TEAM	NO.	BY	DATE
JMG			
JMG			
JMG			

REVISIONS	NO.	BY	DATE

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.

John M. Gray, PE
 Name: John M. Gray, PE
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 Date: AUGUST 25, 2015

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ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT 'C'
 INTERSECTION LAYOUT
 CSAH 116 (BUNKER LAKE BLVD NW)
 AT JAY STREET NW

FILE NO. ANOKC 133695
 DATE 08/25/2015
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NO.	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:23:25 AM

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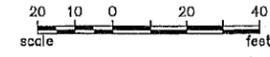
ANOKA COUNTY HIGHWAY DEPT.

JAY ST.
 STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 62 of 65 Sheets

FOR REFERENCE PURPOSES ONLY

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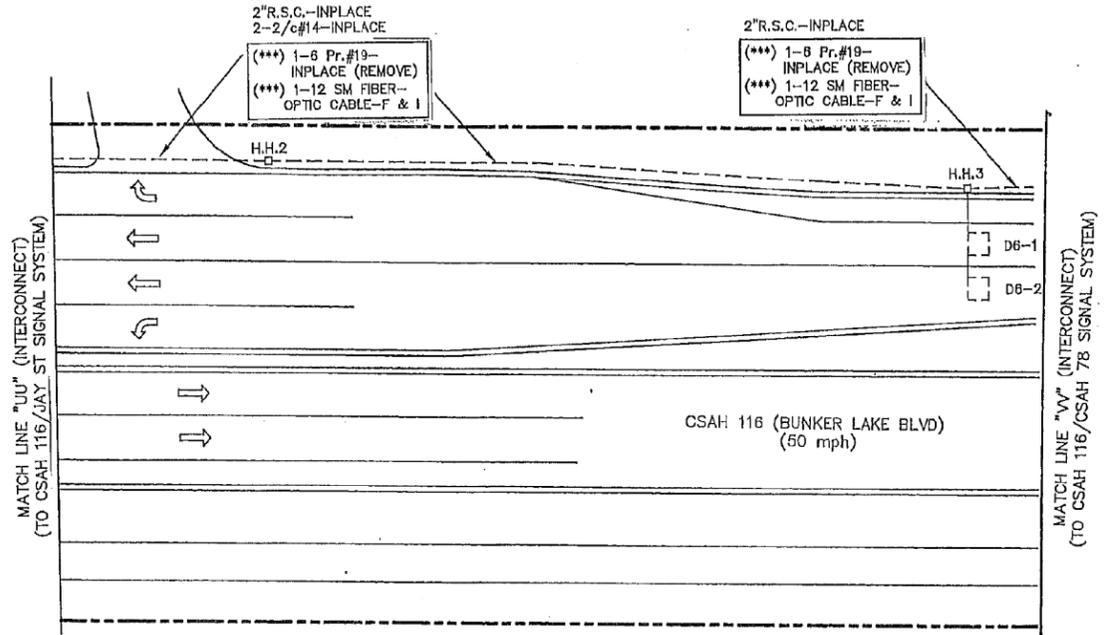


(CSAH 116/JAY ST)

NMC LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	AS SHOWN	1
D1-2	2-6x6	AS SHOWN	1
D2-1	6x6	475	1
D2-2	6x6	475	1
D3-1	2-8x8	AS SHOWN	1
D3-2	2-8x8	AS SHOWN	1
D4-1	6x6	120'	3,8
D4-2	2-6x6	5' & 20'	7
D4-3	2-6x6	5' & 20'	7
D6-1	2-6x6	AS SHOWN	1
D6-2	2-6x6	AS SHOWN	1
D6-1	6x6	475	1
D6-2	6x6	475	1
D7-1	2-6x6	20' & 50'	1
D7-2	2-6x6	5' & 35'	1
D8-1	6x6	120'	3,8
D8-2	6x6	120'	7
D8-3	2-6x6	AS SHOWN	7
D8-4	2-6x6	AS SHOWN	7
DC-1	6x6	50'	11
DC-2	6x6	50'	11
DC-3	6x6	60'	11
DC-4	6x6	50'	11

- FUNCTIONS:
 1) CALL AND EXTEND
 3) EXTEND ONLY
 7) DELAYED CALL IMMEDIATE EXTEND
 8) CARRY OVER (STRETCH)
 11) COUNT DETECTOR

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.



- INTERCONNECT NOTES:**
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
 - (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

C.P. 14-62-00

S:\VIA\MINNCO\COMMON\SIGPLAN\2015\INTERCONNECT\VERTICALS.DWG 08/17/2015

DRAWN BY: JMG	DESIGNER: JMG	CHECKED BY: JMG
DESIGN TEAM	NO.	BY
	DATE	REVISIONS

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.

John I. Gray
 Name: John I. Gray, PE
 Date: August 25, 2015
 Lic. No.: 22457

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ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT 'C' INTERSECTION LAYOUT
 CSAH 116 (BUNKER LAKE BLVD NW) (JAY STREET TO CSAH 116)

FILE NO. ANOKO 133955	37
DATE 08/26/2015	52

NO	DATE	BY	CKD	APPR	REVISION	02/20/2025	8:23:28 AM

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn

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ANOKA COUNTY HIGHWAY DEPT.

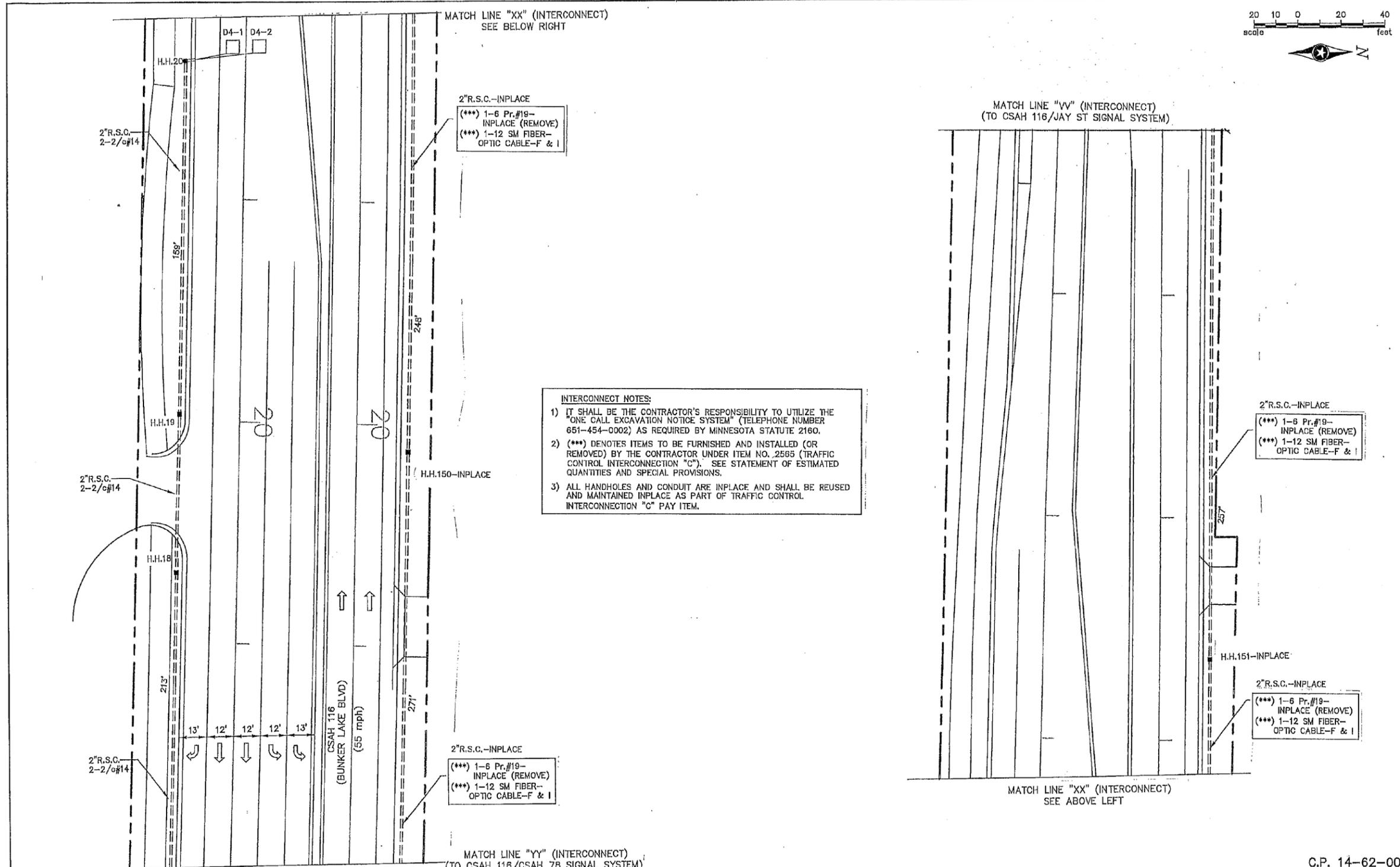
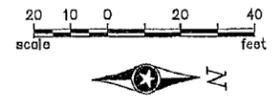
ANOKA COUNTY HIGHWAY DEPT.

JAY ST.
 STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 63 of 65 Sheets

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INTERCONNECT NOTES:

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- 2) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED) BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) ALL HANDHOLES AND CONDUIT ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AS PART OF TRAFFIC CONTROL INTERCONNECTION "C" PAY ITEM.

SEALED AND SIGNED FOR ANOKA COUNTY SIGNAL SYSTEMS INTERCONNECTIVITY CENTER/DESIGNING 08/17/2015

DRAWN BY: JMG	DESIGNER: JMG	CHECKED BY: JMG
DESIGN TEAM	NO.	BY
	DATE	REVISIONS

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.

John M. Grey, PE
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 Date: August 26, 2015
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ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

TRAFFIC SIGNAL INTERCONNECT "C" INTERSECTION LAYOUT
 CSAH 116 (BUNKER LAKE BLVD NW) (JAY STREET TO CSAH 116)

C.P. 14-62-00
 FILE NO. ANOKC 133655
 DATE 08/25/2015
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DESIGN BY	SPH	DATE	11/19/2024
CHECKED BY	CO	DATE	02/20/2025

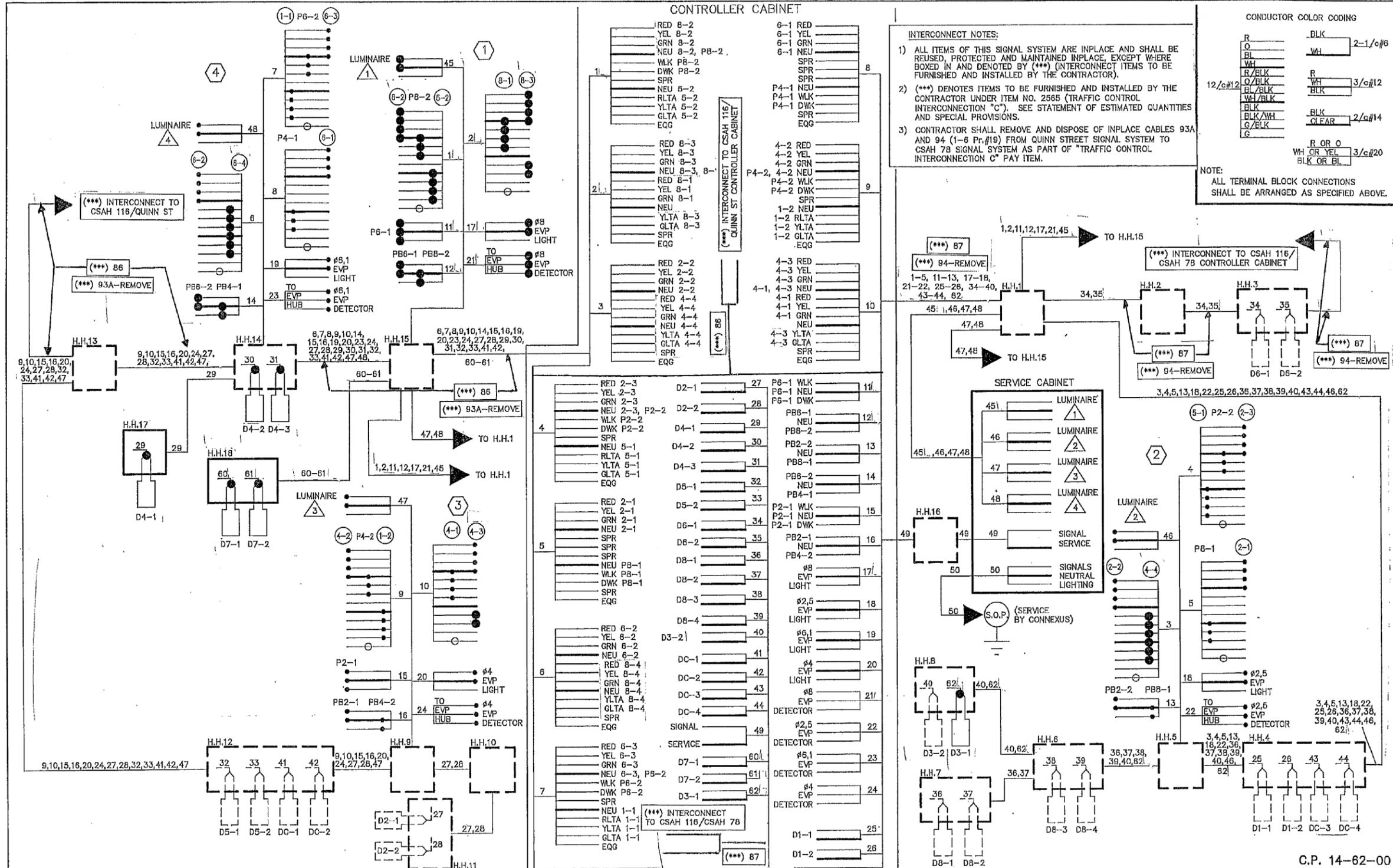
ANOKA COUNTY HIGHWAY DEPT.

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JAY ST.
 STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 64 of 65 Sheets

FOR REFERENCE PURPOSES ONLY



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 DESIGNER: JMG
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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

John M. Gray
 Name: John M. Gray, PE
 Date: August 25, 2015
 Lic. No.: 22457



ANOKA COUNTY,
 MINNESOTA
 CITY OF ANDOVER

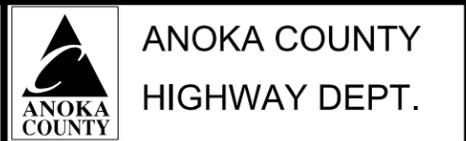
TRAFFIC SIGNAL INTERCONNECT "C"
 FIELD WIRING DIAGRAM
 CSAH 116 (BUNKER LAKE BLVD NW)
 AT JAY STREET NW

C.P. 14-62-00
 FILE NO. ANOKC 133655
 DATE 08/26/2015
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NO.	DATE	BY	CKD	APPR	REVISION	

NAME: P:\25-01-00\CSAH_116_300 W. HANSON-500 W. CSAH 9\Plan\SIGNAL PLANS.dgn

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JAY ST.
 STATE AID PROJECT 002-617-025

EXISTING SIGNAL PLANS
 Sheet 65 of 65 Sheets