

MINNESOTA DEPARTMENT OF TRANSPORTATION CITY OF FRIDLEY, ANOKA COUNTY, MINNESOTA

CONSTRUCTION PLAN FOR ROUNDABOUT, GRADING, BITUMINOUS SURFACING, DRAINAGE, LIGHTING AND ADA IMPROVEMENTS

SP 002-606-013, SP 127-020-034 LOCATED ON CSAH 6 FROM 860 FEET WEST OF CSAH 35 TO CSAH 35
 SP 002-606-013, SP 127-020-034 LOCATED ON CSAH 35 FROM 940 FEET SOUTH OF CSAH 6 TO 940 FEET NORTH OF CSAH 6
 SP 127-304-002, CP 24-25-106 LOCATED ON CR 106 FROM CSAH 6 TO 1,240 FEET EAST OF CSAH 35

**(CSAH 6) STATE PROJ. NO. 002-606-013
STATE PROJ. NO. 127-020-034**

GROSS LENGTH 927.65 FEET 0.176 MILES
 BRIDGES-LENGTH FEET MILES
 EXCEPTIONS-LENGTH FEET MILES
 NET LENGTH 927.65 FEET 0.176 MILES
 REF. POINT TO REF. POINT
 LENGTH AND DESCRIPTION BASED UPON (☉ EB CSAH 6)

**(CSAH 35) STATE PROJ. NO. 002-606-013
STATE PROJ. NO. 127-020-034**

GROSS LENGTH 1,878.48 FEET 0.356 MILES
 BRIDGES-LENGTH FEET MILES
 EXCEPTIONS-LENGTH FEET MILES
 NET LENGTH 1,878.48 FEET 0.356 MILES
 REF. POINT TO REF. POINT
 LENGTH AND DESCRIPTION BASED UPON (☉ NB CSAH 35)

**(CR 106) STATE PROJ. NO. 127-304-002
COUNTY PROJ. NO. 24-25-106**

GROSS LENGTH 1,174.64 FEET 0.222 MILES
 BRIDGES-LENGTH FEET MILES
 EXCEPTIONS-LENGTH FEET MILES
 NET LENGTH 1,174.64 FEET 0.222 MILES
 REF. POINT TO REF. POINT
 LENGTH AND DESCRIPTION BASED UPON (☉ EB CR 106)

MINN. PROJ. NO. HSIP 0224 (159)

GOVERNING SPECIFICATIONS

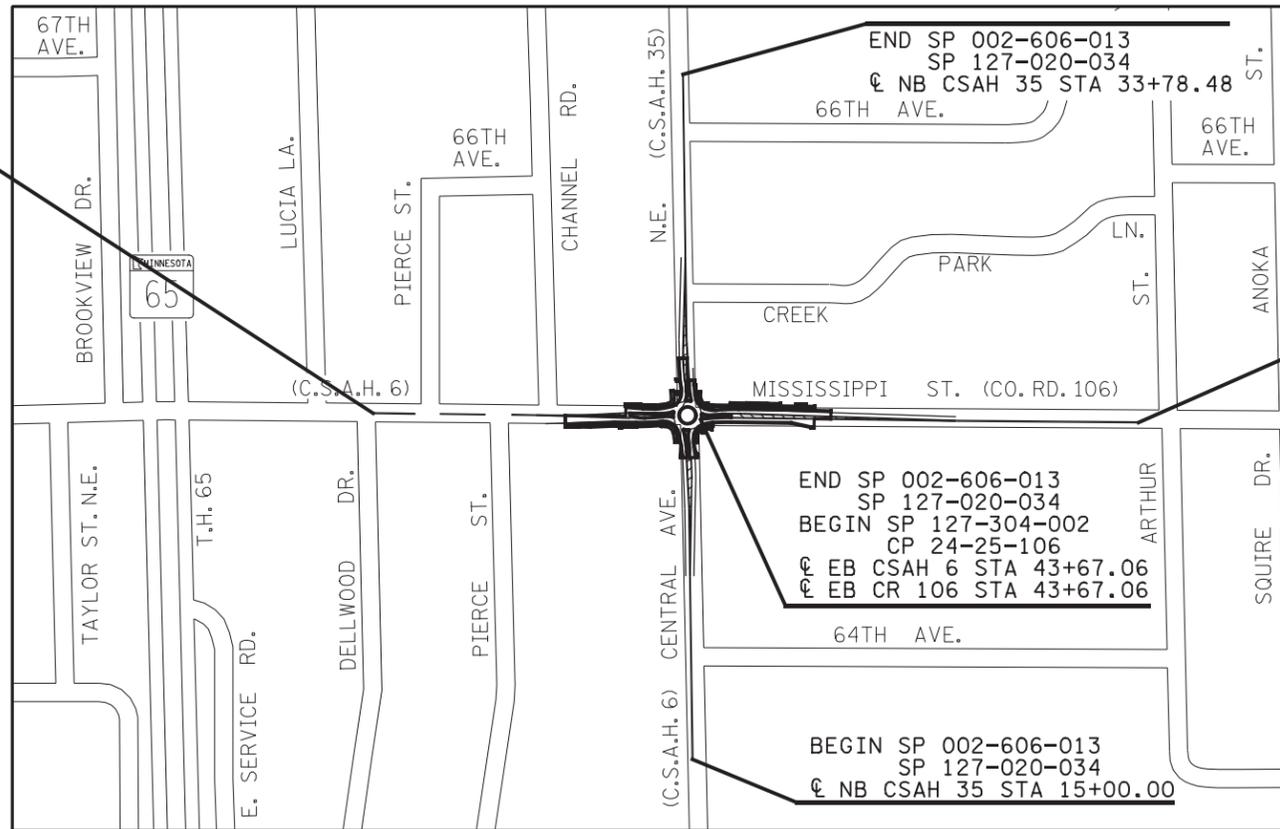
THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

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X1-X11	CROSS SECTIONS

BEGIN SP 002-606-013
SP 127-020-034
☉ EB CSAH 6 STA 34+39.41



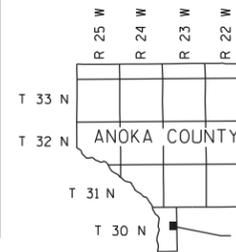
END SP 127-304-002
CP 24-25-106
☉ EB CR 106
STA 55+41.70

END SP 002-606-013
SP 127-020-034
BEGIN SP 127-304-002
CP 24-25-106
☉ EB CSAH 6 STA 43+67.06
☉ EB CR 106 STA 43+67.06

BEGIN SP 002-606-013
SP 127-020-034
☉ NB CSAH 35 STA 15+00.00

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

SCALES	
INDEX MAP	500'
PLAN	60'
PROFILE HORIZ.	100'
CROSS SECTION	20'



PROJECT LOCATION
TOWNSHIP: 30 N
RANGE: 24 W
SECTION(S): 13



PROJECT LOCATION
COUNTY : ANOKA
DISTRICT : METRO

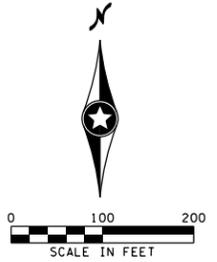
FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL
STATE PROJ. NO. CHARGE IDENTIFIER

DESIGN DESIGNATION FOR:	CSAH 6 SP 002-606-013 SP 127-020-034	CSAH 35 SP 002-606-013 SP 127-020-034	CR 106 SP 127-304-002 CP 24-25-106	TRAIL SP 002-606-013 SP 127-020-034
R-VALUE	12	12	12	X
ADT (Current Year) 2025 =	4,000	5,000	4,000	X
ADT (Future Year) 2045 =	6,400 (2045)	7,600 (2045)	6,400 (2045)	X
PAVEMENT DESIGN	10 TON	10 TON	10 TON	X
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL	MINOR ARTERIAL	MAJOR COLLECTOR	X
NO. OF TRAFFIC LANES	2	2	2	X
NO. OF PARKING LANES	N/A	N/A	N/A	X
ESALS (20)	751,000 (20 YRS.)	603,000 (20 YRS.)	751,000 (20 YRS.)	X
Design Speed	35 MPH	35 MPH	35 MPH	20 MPH
Based on Sight Distance	STOPPING	STOPPING	STOPPING	STOPPING
Height of eye / Height of Object	3.5' / 2.0'	3.5' / 2.0'	3.5' / 2.0'	4.5' / 0.0'
Design Speed not achieved at:	ROUNDABOUT	ROUNDABOUT	ROUNDABOUT	X

SRF 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 Zach Heimer Digitally signed by Zach Heimer Date: 2024.06.12 12:44:46-05'00'
 DATE 06/12/2024 LIC. NO. 58755 PRINT NAME ZACHARIAH F. HEIMER

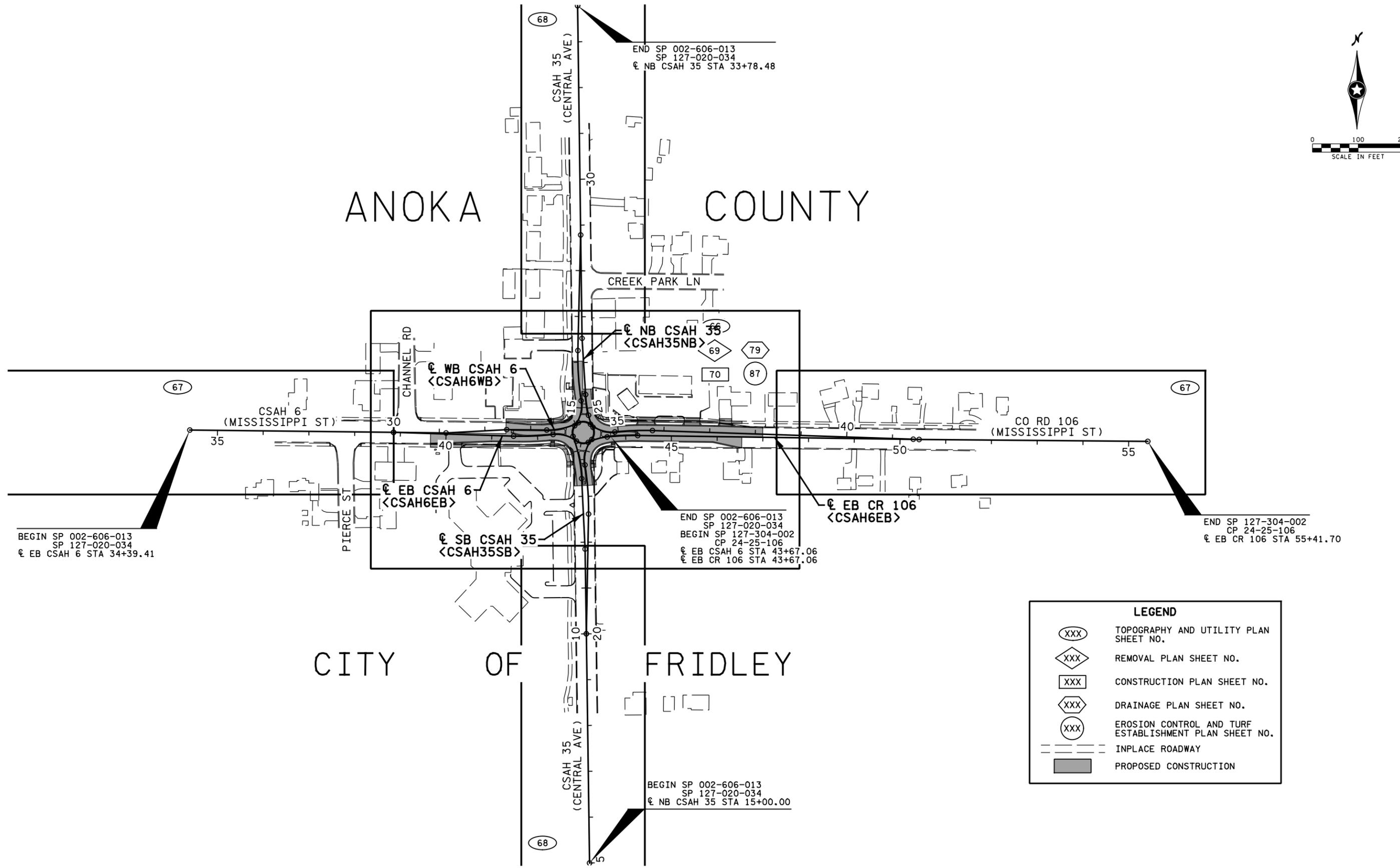
APPROVED Joseph MacPherson Digitally signed by Joseph MacPherson Date: 2024.06.12 16:08:25 -05'00' ANOKA COUNTY ENGINEER 20
 APPROVED James Kosluchar Digitally signed by James Kosluchar Date: 2024.06.21 14:36:59 -05'00' CITY ENGINEER, CITY OF FRIDLEY 20

APPROVED Dan Erickson Digitally signed by Dan Erickson Date: 2024.07.01 10:34:16 -05'00' DISTRICT STATE AID ENGINEER; REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY 20
 For Dan Erickson Digitally signed by Dan Erickson Date: 2024.07.01 10:34:37 -05'00' APPROVED FOR STATE AND FEDERAL AID FUNDING; STATE AID ENGINEER 20



ANOKA COUNTY

CITY OF FRIDLEY



LEGEND

- XXX TOPOGRAPHY AND UTILITY PLAN SHEET NO.
- REMOVAL PLAN SHEET NO.
- XXX CONSTRUCTION PLAN SHEET NO.
- XXX DRAINAGE PLAN SHEET NO.
- XXX EROSION CONTROL AND TURF ESTABLISHMENT PLAN SHEET NO.
- INPLACE ROADWAY
- PROPOSED CONSTRUCTION

BEGIN SP 002-606-013
SP 127-020-034
☉ EB CSAH 6 STA 34+39.41

END SP 002-606-013
SP 127-020-034
☉ NB CSAH 35 STA 33+78.48

END SP 002-606-013
SP 127-020-034
BEGIN SP 127-304-002
CP 24-25-106
☉ EB CSAH 6 STA 43+67.06
☉ EB CR 106 STA 43+67.06

END SP 127-304-002
CP 24-25-106
☉ EB CR 106 STA 55+41.70

BEGIN SP 002-606-013
SP 127-020-034
☉ NB CSAH 35 STA 15+00.00

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 06/12/2024 License # 58755

STATE PROJECT NO. 002-606-013	DRAWN BY S. MARTINS
STATE PROJECT NO. 127-020-034	DESIGNED BY Z. HEIMER
STATE PROJECT NO. 127-304-002	CHECKED BY K. JULLIE
COUNTY PROJECT NO. 24-25-106	COMM. NO. 16588



ANOKA COUNTY, MINNESOTA

GENERAL LAYOUT

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET
2
OF
102

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	PROJECT TOTAL ESTIMATED QUANTITY	PARTICIPATING - FEDERAL					
							ROADWAY				DRAINAGE	
							ANOKA COUNTY CSAH 6 SP 002-606-013 (A) ESTIMATED QUANTITY	CITY OF FRIDLEY CSAH 6 SP 127-020-034 (B) ESTIMATED QUANTITY	ANOKA COUNTY CR 106 CP 24-25-106 (C) ESTIMATED QUANTITY	CITY OF FRIDLEY CR 106 SP 127-304-002 (D) ESTIMATED QUANTITY	DRAINAGE SP 002-606-013 SP 127-020-034 (E) ESTIMATED QUANTITY	DRAINAGE CP 24-25-106 SP 127-304-002 (F) ESTIMATED QUANTITY
			2021.501	MOBILIZATION	LUMP SUM	1	0.56	0.05	0.22	0.02	0.10	0.05
(1)			2102.503	PAVEMENT MARKING REMOVAL	LIN FT	2627	2127		500			
	N	12	2104.502	REMOVE GATE VALVE & BOX	EACH	3		3				
	P	12	2104.502	REMOVE DRAINAGE STRUCTURE	EACH	1			1			
	S	91 - 93	2104.502	REMOVE SIGN	EACH	33	30		3			
	H	9	2104.502	REMOVE MAIL BOX SUPPORT	EACH	1			1			
	S	91 - 93	2104.502	SALVAGE SIGN	EACH	4	3		1			
(2)	H	9	2104.502	SALVAGE MAIL BOX SUPPORT	EACH	1			1			
	C	8	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	100	100					
	C	8	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	560	300					
	C	8	2104.503	REMOVE CURB & GUTTER	LIN FT	1470	840					
	C	8	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	90	40		50			
(3)	C	8	2104.504	REMOVE CONCRETE PAVEMENT	SQ YD	480	480					
	C	8	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	80	30		50			
	C	8	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	4000	2150		1850			
	C	8	2104.518	REMOVE BITUMINOUS WALK	SQ FT	460	460					
	C	8	2104.518	REMOVE CONCRETE WALK	SQ FT	4050	3040		1010			
	A	6	2106.507	EXCAVATION - COMMON (P)	CU YD	734	472		262			
	A	6	2106.507	EXCAVATION - SUBGRADE (P)	CU YD	2043	1300		743			
	A	6	2106.507	SELECT GRANULAR EMBANKMENT (CV) (P)	CU YD	2050	1307		743			
	A	6	2106.507	COMMON EMBANKMENT (CV) (P)	CU YD	379	223		156			
	D	8	2108.504	GEOTEXTILE FABRIC TYPE 5	SQ YD	3060	1910		1150			
(5)			2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	100	100					
(4)			2123.610	1.5 CU YD BACKHOE	HOUR	100	100					
(6)			2130.523	WATER	M GALLON	100	100					
(9)	D	8	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	880	543	33		281	23	
(10)	F	9	2211.507	AGGREGATE BASE (CV) CLASS 5 (DRIVEWAYS)	CU YD	35	7			28		
			2231.509	BITUMINOUS PATCHING MIXTURE	TON	20	20					
(7)			2301.502	DOWEL BAR	EACH	115	115					
(8)	E	8	2301.604	CONCRETE PAVEMENT 10.0" (SPECIAL)	SQ YD	170	170					
	D	8	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	146	88			58		
(11)	D	8	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,B)	TON	19	19					
(12)	F	9	2360.509	TYPE SP 9.5 WEARING COURSE MIX (3,B)	TON	16	2			14		
	D	8	2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	530	320			210		
	D	8	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	700	420			280		
(14)	L	9	2502.503	4" PERF TP PIPE DRAIN	LIN FT	520	520					
	J	80	2503.503	15" RC PIPE SEWER DES 3006 CL V	LIN FT	505				505		
	J	80	2503.503	18" RC PIPE SEWER DES 3006 CL V	LIN FT	289				23		266
	J	80	2503.503	21" RC PIPE SEWER DES 3006 CL V	LIN FT	99						99
	J	80	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	1						1
	N	12	2504.602	ADJUST GATE VALVE & BOX	EACH	1		1				
		70	2504.602	10" GATE VALVE & BOX	EACH	3		3				
	J	80	2504.604	4" INSULATION	SQ YD	28				28		
	K	80	2506.502	CASTING ASSEMBLY	EACH	17				14		3
	Q	12	2506.502	ADJUST FRAME & RING CASTING	EACH	4		3		1		
	J	80	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	36.1				27.6		8.5
	J	80	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	46.2				36.7		9.5
	E	8	2521.518	4" CONCRETE WALK	SQ FT	3190	2260			930		
	E	8	2521.518	6" CONCRETE WALK	SQ FT	1130	880			250		
(13)	E	8	2521.602	DRILL & GROUT REINF BAR (EPOXY COATED)	EACH	70	53			17		

FUNDING NOTES:
(A) 100% COUNTY (SP 002-606-013)
(B) 100% CITY (SP 127-020-034)
(C) 100% COUNTY (CP 24-25-106)
(D) 100% CITY (SP 127-304-002)
(E) DRAINAGE
54% COUNTY (SP 002-606-013),
46% CITY (SP 127-020-034)
(F) DRAINAGE
54% COUNTY (CP 24-25-106),
46% CITY (SP 127-304-002)

NOTES

- (1) TO BE USED OUTSIDE OF THE CONSTRUCTION LIMITS IN LANE TRANSITION AREAS TO OBLITERATE CONFLICTING PAVEMENT MARKINGS.
(2) CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF TEMPORARY MAIL SERVICE AND FINAL MAIL BOX PLACEMENT.
(3) 6" BITUMINOUS PAVEMENT OVER 8" CONCRETE PAVEMENT (ASSUMED TO BE REINFORCED) AND LOCATED IN MIDDLE 18' OF CSAH 35.
(4) TO BE USED AS DIRECTED BY THE ENGINEER.
(5) TO BE USED AS SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER.
(6) TO BE USED FOR DUST CONTROL AND/OR AS DIRECTED BY THE ENGINEER.
(7) SEE MISCELLANEOUS DETAILS FOR JOINTING DETAILS.
(8) COLORED CONCRETE. INTEGRAL RED (FS 31136).
(9) INCLUDES AGGREGATE UNDER BITUMINOUS PAVEMENT, TRAIL, CURB & GUTTER, CONCRETE WALK, AND CONCRETE PAVEMENT.
(10) TO BE USED UNDER DRIVEWAYS.
(11) TO BE USED FOR BITUMINOUS TRAILS.
(12) TO BE USED FOR BITUMINOUS DRIVEWAYS.
(13) TO BE USED IN PEDESTRIAN RAMP LANDINGS PER MNDOT STANDARD PLAN 5-297.250.
(14) SEE TYPICAL SECTIONS "DETAIL A" FOR INSTALLATION REQUIREMENTS.
(15) SEE TABULATION FOR COLOR.
(P) PLAN QUANTITY

BASIS FOR QUANTITIES

UNIT WEIGHT FOR BITUMINOUS 2360 MIX:..... 113 LBS PER SQ YD PER INCH
BITUMINOUS TACK COAT - NEW SURFACES:..... 0.05 GALLONS PER SQ YD
SEED MIXTURE 25-131 APPLICATION RATE:..... 120 LBS PER ACRE
FERTILIZER TYPE 3 APPLICATION RATE:..... 350 LBS PER ACRE
HYDRAULIC MULCH MATRIX APPLICATION RATE:..... 2,100 LBS PER ACRE
RAPID STABILIZATION METHOD 3:..... 6 M GAL PER ACRE

NO	DATE	BY	CKD	APPR	REVISION
	01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: ZACHARIAH F. HEIMER

Date: 01/07/2025 License #: 58755

STATE PROJECT NO. 002-606-013
STATE PROJECT NO. 127-020-034
STATE PROJECT NO. 127-304-002
COUNTY PROJECT NO. 24-25-106
DRAWN BY S. MARTINS
DESIGNED BY Z. HEIMER
CHECKED BY K. JULLIE
COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
STATEMENT OF ESTIMATED QUANTITIES
SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 3R OF 102

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NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	PROJECT TOTAL ESTIMATED QUANTITY	PARTICIPATING - FEDERAL					
							ROADWAY				DRAINAGE	
							ANOKA COUNTY CSAH 6 SP 002-606-013 (A)	CITY OF FRIDLEY CSAH 6 SP 127-020-034 (B)	ANOKA COUNTY CR 106 CP 24-25-106 (C)	CITY OF FRIDLEY CR 106 SP 127-304-002 (D)	DRAINAGE SP 002-606-013 SP 127-020-034 (E)	DRAINAGE CP 24-25-106 SP 127-304-002 (F)
ESTIMATED QUANTITY	ESTIMATED QUANTITY											
(8)	E	8	2521.618	6" CONCRETE WALK SPECIAL	SQ FT	1970	1700		270			
	E	8	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	180	85	85	5	5		
	E	8	2531.503	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	1320	355.00	355	305	305		
	E	8	2531.503	CONCRETE CURB & GUTTER DESIGN D412	LIN FT	36	14	14	4	4		
	E	8	2531.503	CONCRETE CURB & GUTTER DESIGN R424	LIN FT	1160	1040		120			
	F	9	2531.504	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	140	30		110			
	E	8	2531.618	TRUNCATED DOMES	SQ FT	128	96		32			
	R	44	2533.503	PORTABLE PRECAST CONC BARRIER DES 8337	LIN FT	300	260		40			
	R	44	2533.503	RELOCATE PORT PRECAST CONC BAR DES 8337	LIN FT	280	20		260			
(2)	H	9	2540.602	INSTALL MAIL BOX SUPPORT	EACH	1			1			
	H	9	2540.602	MAIL BOX SUPPORT	EACH	3	1		2			
	U	88	2545.502	LIGHTING UNIT TYPE 9-30	EACH	6	2	2	1	1		
	U	88	2545.502	LIGHT FOUNDATION DESIGN E	EACH	6	2	2	1	1		
	U	88	2545.502	SERVICE CABINET -TYPE L1	EACH	1	1					
	U	88	2545.502	SERVICE EQUIPMENT	EACH	1	1					
	U	88	2545.502	EQUIPMENT PAD B	EACH	1	1					
	U	88	2545.503	2" RIGID STEEL CONDUIT	LIN FT	11	6	5				
	U	88	2545.503	1.5" NON-METALLIC CONDUIT	LIN FT	779	390	389				
	U	88	2545.503	UNDERGROUND WIRE 1/C 2 AWG	LIN FT	170	85	85				
	U	88	2545.503	UNDERGROUND WIRE 1/C 8 AWG	LIN FT	3512	1668	1667	89	88		
			2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.56	0.05	0.22	0.02	0.1	0.05
			2563.601	ALTERNATE PEDESTRIAN ROUTE	LUMP SUM	1	1					
R	44		2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	40	40	1				
R	44		2563.615	TEMPORARY IMPACT ATTENUATOR	ASSEMBLY	7	6		1			
R	44		2563.615	RELOCATE TEMPORARY IMPACT ATTENUATOR	ASSEMBLY	2			2			
S	91		2564.602	INSTALL SIGN	EACH	4	3		1			
S	91		2564.602	DELINEATOR / MARKER PANEL	EACH	4	3		1			
S	91		2564.618	SIGN	SQ FT	309	246		63			
	87		2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1	0.75		0.25			
G	9		2573.502	STORM DRAIN INLET PROTECTION	EACH	20	15		5			
G	9		2573.503	SILT FENCE, TYPE MS	LIN FT	300	300					
G	9		2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	LIN FT	740	340		400			
G	9		2574.505	SOIL BED PREPARATION	ACRE	0.6	0.4		0.2			
G	9		2574.508	FERTILIZER TYPE 3	POUND	210	140		70			
G	9		2575.505	SEEDING	ACRE	0.6	0.4		0.2			
G	9		2575.508	SEED MIXTURE 25-151	POUND	65	40		25			
G	9		2575.508	HYDRAULIC MULCH MATRIX	POUND	1260	840		420			
G	9		2575.523	RAPID STABILIZATION METHOD 3	M GALLON	3.6	2.4		1.2			
(15)	R	44	2581.503	4" REMOVABLE PREFORM PAVEMENT MARKING TAPE WR	LIN FT	14810	12430		2380			
(15)	R	44	2581.503	6" REMOVABLE PREFORM PAVEMENT MARKING TAPE WR	LIN FT	8750	5990		2760			
(15)	R	44	2581.503	24" REMOVABLE PREFORM PAVEMENT MARKING TAPE WR	LIN FT	50	50					
(15)	T	98	2582.503	MOBILE RETROREFLECTOMETER MEASUREMENTS	LIN FT	9090	6260		2830			
(15)	T	98	2582.503	4" SOLID LINE MULTI COMP	LIN FT	990	600		390			
(15)	T	98	2582.503	24" SOLID LINE MULTI COMP	LIN FT	110	50		60			
(15)	T	98	2582.503	4" DBLE SOLID LINE MULTI COMP	LIN FT	3410	2130		1280			
(15)	T	98	2582.503	4" SOLID LINE PREF THERMO GR IN	LIN FT	2860	2160		700			
(15)	T	98	2582.503	24" SOLID LINE PREF THERMO GR IN	LIN FT	320	210		110			
(15)	T	98	2582.503	12" DOTTED LINE PREF THERMO GR IN	LIN FT	60	60					
(15)	T	98	2582.503	4" DOUBLE SOLID LINE PREF THERMO GR IN	LIN FT	1500	1040		460			
	T	98	2582.518	CROSSWALK PREF THERMO GR IN	SQ FT	320	240		80			
			2582.602	MOBILE RETROREFLECTOMETER MEASUREMENTS	EACH	110	72		38			

FUNDING NOTES:
(A) 100% COUNTY (SP 002-606-013)
(B) 100% CITY (SP 127-020-034)
(C) 100% COUNTY (CP 24-25-106)
(D) 100% CITY (SP 127-304-002)
(E) DRAINAGE
54% COUNTY (SP 002-606-013),
46% CITY (SP 127-020-034)
(F) DRAINAGE
54% COUNTY (CP 24-25-106),
46% CITY (SP 127-304-002)

- NOTES
- TO BE USED OUTSIDE OF THE CONSTRUCTION LIMITS IN LANE TRANSITION AREAS TO OBLITERATE CONFLICTING PAVEMENT MARKINGS.
 - CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF TEMPORARY MAIL SERVICE AND FINAL MAIL BOX PLACEMENT.
 - 6" BITUMINOUS PAVEMENT OVER 8" CONCRETE PAVEMENT (ASSUMED TO BE REINFORCED) AND LOCATED IN MIDDLE 18' OF CSAH 35.
 - TO BE USED AS DIRECTED BY THE ENGINEER.
 - TO BE USED AS SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER.
 - TO BE USED FOR DUST CONTROL AND/OR AS DIRECTED BY THE ENGINEER.
 - SEE MISCELLANEOUS DETAILS FOR JOINTING DETAILS.

- COLORED CONCRETE, INTEGRAL RED (FS 31136).
- INCLUDES AGGREGATE UNDER BITUMINOUS PAVEMENT, TRAIL, CURB & GUTTER, CONCRETE WALK, AND CONCRETE PAVEMENT.
- TO BE USED UNDER DRIVEWAYS.
- TO BE USED FOR BITUMINOUS TRAILS.
- TO BE USED FOR BITUMINOUS DRIVEWAYS.
- TO BE USED IN PEDESTRIAN RAMP LANDINGS PER MNDOT STANDARD PLAN 5-297.250.
- SEE TYPICAL SECTIONS "DETAIL A" FOR INSTALLATION REQUIREMENTS.
- SEE TABULATION FOR COLOR.
- PLAN QUANTITY

BASIS FOR QUANTITIES

UNIT WEIGHT FOR BITUMINOUS 2360 MIX:..... 113 LBS PER SQ YD PER INCH
BITUMINOUS TACK COAT - NEW SURFACES:..... 0.05 GALLONS PER SQ YD
SEED MIXTURE 25-131 APPLICATION RATE:..... 120 LBS PER ACRE
FERTILIZER TYPE 3 APPLICATION RATE:..... 350 LBS PER ACRE
HYDRAULIC MULCH MATRIX APPLICATION RATE:..... 2,100 LBS PER ACRE
RAPID STABILIZATION METHOD 3:..... 6 M GAL PER ACRE

01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: ZACHARIAH F. HEIMER <i>Zach Heimer</i> Date: 01/07/2025 License #: 58755	STATE PROJECT NO. 002-606-013	DRAWN BY S. MARTINS	ANOKA COUNTY, MINNESOTA STATEMENT OF ESTIMATED QUANTITIES SP 002-606-013, SP 127-020-034, SP 127-304-002	SHEET 4R OF 102
						STATE PROJECT NO. 127-020-034	DESIGNED BY Z. HEIMER		
						STATE PROJECT NO. 127-304-002	CHECKED BY K. JULLIE		
						COUNTY PROJECT NO. 24-25-106	COMM. NO. 16588		



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

STANDARD PLATES	
PLATE NO.	DESCRIPTION
1070N	SUPPLEMENTAL PAVEMENT REINFORCEMENT
1103L	TYPICAL DOWEL BAR ASSEMBLY (2 SHEETS)
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007F	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
4010I	CONCRETE ADJUSTING RINGS
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
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) *** CASTING NO. 715 AND 716
4125D	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) *** CASTING NO. 806
4132G	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) - CASTING NO. 805
4134A	CURB BOX CASTING FOR CATCH BASIN (FOR DESIGN B CURBS)- CASTING NO. 825
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
4180J	MANHOLE OR CATCH BASIN STEP
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
7102K	CONCRETE CURB AND GUTTER (DESIGN D, DESIGN S, AND DESIGN R)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113A	CONCRETE APPROACH NOSE DETAIL
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
8106D	EQUIPMENT PAD B
8127E	LIGHT FOUNDATION - DESIGN E PRECAST/CAST-IN-PLACE (40 FT. POLE OR LESS) (2 SHEETS)
8129A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)
8337D	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER - TYPE F (3 SHEETS)
9350C	MAILBOX SUPPORT - SWING-AWAY TYPE (3 SHEETS)

THE FOLLOWING STANDARD PLATES SHALL APPLY ON THIS PROJECT.

CITY OF FRIDLEY STANDARD PLATES	
PLATE NO.	DESCRIPTION
BED-2	BEDDING METHODS FOR DIP
GEN-2	MAILBOX INSTALLATION
GEN-2A	MAILBOX INSTALLATION
STO-18	CATCH BASIN AND MANHOLE ADJUSTMENT
WAT-1	GATE VALVE AND BOX

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013	DRAWN BY S. MARTINS
STATE PROJECT NO. 127-020-034	DESIGNED BY Z. HEIMER
STATE PROJECT NO. 127-304-002	CHECKED BY K. JULLIE
COUNTY PROJECT NO. 24-25-106	COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 STANDARD PLATES AND INDEX OF TABULATIONS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 5 OF 102

EARTHWORK SUMMARY					A
ALIGNMENT	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)		
	COMMON	SUBGRADE	COMMON	SELECT GRANULAR	
	CU YD	CU YD	CU YD	CU YD	
SP 002-606-013, SP 127-020-034	(A)	(A)	(A)	(A)	
EB CSAH 6 STA 39+67.00 TO STA 42+38.29 (SUBTOTAL A)	224	496	96	496	
ROUNDABOUT STA 50+00.00 TO STA 51+50.80	126	448	59	450	
NB CSAH 35 STA 23+25.00 TO STA 23+80.72 (SUBTOTAL A)	36	137	33	141	
NB CSAH 35 STA 24+99.84 TO STA 26+03.00 (SUBTOTAL B)	86	219	35	220	
SP 002-606-013, SP 127-020-034 TOTAL	472	1300	223	1307	
CP 24-25-106, SP 127-304-002	(C)	(C)	(C)	(C)	
EB CR 106 STA 43+67.06 TO STA 46+99.00 (SUBTOTAL B)	262	743	156	743	
CP 24-25-106, SP 127-304-002 TOTAL	262	743	156	743	
PROJECT TOTALS	734	2043	379	2050	

NOTES:

1. THE EXCAVATION - COMMON QUANTITY INCLUDES TOPSOIL STRIPPING.
2. EXISTING PAVEMENT DEPTHS ARE ASSUMED TO BE APPROXIMATELY AS FOLLOWS:
CSAH 35 MAINLINE - 6" BITUMINOUS PAVEMENT.
MIDDLE 18' OF CSAH 35 - 6" BITUMINOUS PAVEMENT OVER 8" CONCRETE PAVEMENT.
CSAH 6 - 6" BITUMINOUS PAVEMENT.
PAVEMENT REMOVAL HAS BEEN SUBTRACTED FROM THE COMMON EXCAVATION AND/OR SUBGRADE EXCAVATION QUANTITIES.
3. TOPSOIL IS INCLUDED IN COMMON EMBANKMENT.
4. PLACING, HAULING AND DISPOSING OF EXCAVATED MATERIALS IS CONSIDERED INCIDENTAL.
5. ALL STOCKPILE AREAS SHALL BE APPROVED BY THE ENGINEER.
6. SOILS NOT USED ON THE PROJECT SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE OF THE RIGHT OF WAY. NO DIRECT COMPENSATION WILL BE PAID FOR THE PREPARATION OF AN ACCEPTABLE DISPOSAL PLAN OR FOR OFF-PROJECT DISPOSAL OF MATERIALS. DISPOSAL SITES SHALL BE LEFT IN A WELL GRADED CONDITION WITH ALL SOLID WASTES AND BOULDERS ADEQUATELY COVERED.
7. UNLESS DIRECTED BY THE PROJECT ENGINEER, ANY MATERIAL THAT IS FOUND TO BE UNNECESSARY FOR THE CONSTRUCTION OF THE ROADWAY EMBANKMENT AND DISPOSAL OF SAME BECOMES NECESSARY, ON OR OFF THE PROJECT, THE DISPOSAL AND ALL RELATED ITEMS WILL BE CONSIDERED INCIDENTAL.

FUNDING NOTES:
(A) 100% COUNTY (SP 002-606-013)
(C) 100% COUNTY (CP 24-25-106)

EARTHWORK TABULATION					B
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)		
	COMMON	SUBGRADE	COMMON	SELECT GRANULAR	
	CU YD	CU YD	CU YD	CU YD	
CSAH 6 EB CSAH 6 EB CR 106					
39+67.00					
40+00.00	20	47	2	47	
40+25.00	13	34	3	34	
40+50.00	12	32	5	32	
40+75.00	12	31	6	31	
41+00.00	10	29	6	29	
41+31.00	27	59	11	59	
41+50.00	25	50	9	50	
41+75.00	30	63	15	63	
42+00.00	29	61	16	61	
42+25.00	29	59	16	59	
42+38.29	17	31	7	31	
SUBTOTAL (A)	224	496	96	496	
43+67.06					
44+00.00	17	76	32	76	
44+25.00	10	57	20	57	
44+50.00	14	57	11	57	
44+75.00	19	58	11	58	
45+00.00	21	58	13	58	
45+25.00	24	58	12	58	
45+50.00	31	58	8	58	
45+75.00	33	58	9	58	
46+00.00	28	59	13	59	
46+25.00	24	63	10	63	
46+50.00	21	69	8	69	
46+75.00	13	48	6	48	
46+99.00	7	24	3	24	
SUBTOTAL (B)	262	743	156	743	
TOTAL	486	1239	252	1239	

EARTHWORK TABULATION					B
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)		
	COMMON	SUBGRADE	COMMON	SELECT GRANULAR	
	CU YD	CU YD	CU YD	CU YD	
CSAH 35 NB CSAH 35					
23+25.00					
23+50.00	17	64	11	65	
23+80.72	19	73	22	76	
SUBTOTAL (A)	36	137	33	141	
24+99.84					
25+25.00	40	65	16	65	
25+41.00	16	39	5	39	
25+50.00	5	19	2	19	
25+75.00	12	49	6	49	
26+03.00	13	47	6	48	
SUBTOTAL (B)	86	219	35	220	
TOTAL	122	356	68	361	

EARTHWORK TABULATION					B
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)		
	COMMON	SUBGRADE	COMMON	SELECT GRANULAR MOD	
	CU YD	CU YD	CU YD	CU YD	
ROUNDABOUT RAB					
50+00.00					
50+12.50	3	39	5	40	
50+25.00	5	37	6	37	
50+37.50	10	36	9	36	
50+50.00	12	39	5	39	
50+62.50	13	37	4	37	
50+75.00	18	35	4	35	
50+87.50	16	36	4	36	
51+00.00	11	35	3	35	
51+12.50	13	36	2	36	
51+25.00	12	40	4	40	
51+37.50	8	39	7	39	
51+50.80	5	39	6	40	
TOTAL	126	448	59	450	

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: ZACHARIAH F. HEIMER
Zach Heimer
Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
DRAWN BY S. MARTINS
DESIGNED BY Z. HEIMER
STATE PROJECT NO. 127-020-034
CHECKED BY K. JULLIE
STATE PROJECT NO. 127-304-002
COUNTY PROJECT NO. 24-25-106
COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
EARTHWORK TABULATIONS AND SUMMARY
SP 002-606-013, SP 127-020-034, SP 127-304-002

CONSTRUCTION AND SOILS NOTES

GRADING, BASE AND SURFACE

1. TOP OF THE GRADING GRADE IS DEFINED AS THE BOTTOM OF THE PROPOSED CLASS 5 AGGREGATE BASE.
2. TEST ROLLING OF THE SUBGRADE WILL BE REQUIRED AS SPECIFIED BY SPEC. 2111.2 (INCIDENTAL).
3. STRIP SOD AND TOPSOIL FROM AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 6".
4. COMPACTION OF THE GRADING AND AGGREGATE ITEMS ON BYPASSES AND OTHER TEMPORARY WORK SHALL BE BY THE "SPECIFIED DENSITY" METHOD REQUIREMENTS AS INDICATED IN SPEC. 2211.
5. WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING, WHICHEVER IS DEEPER, THEN 1V:20H TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION, UNLESS OTHERWISE NOTED.
6. TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.
7. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER (INCIDENTAL).
8. NO EXTRA PAYMENT WILL BE MADE FOR MOVING, PLACING, OR TEMPORARY STOCKPILING OF EXCAVATION AND/OR EMBANKMENT MATERIAL.
9. PROVIDE A UNIFORM TACK COAT AS DOCUMENTED IN THE MOST CURRENT SPEC. 2357 - BITUMINOUS TACK COAT REQUIREMENTS
10. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPEC. 2503. BEDDING AND BACKFILL SHALL CONSIST OF UNIFORM COMMON EMBANKMENT MATCHING ADJACENT SOILS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
11. EXCESS GRANULAR MATERIAL MUST BE DEEMED EXCESS BY THE ENGINEER BEFORE BEING REMOVED FROM THE PROJECT.
12. NO OVER-EXCAVATION WILL BE ALLOWED ON THIS PROJECT.
13. OBTAIN COMPACTION ON ALL BITUMINOUS PORTIONS OF CONSTRUCTION IN ACCORDANCE WITH THE "MAXIMUM DENSITY METHOD" REQUIREMENTS.
14. BITUMINOUS MATERIAL MUST BE REMOVED FROM THE PROJECT AND CANNOT BE USED AS EMBANKENMENT.

REMOVALS

15. THE EXISTING PAVEMENT THICKNESSES ARE ASSUMED TO BE AS FOLLOWS:

 CSAH 35 6" BITUMINOUS PAVEMENT OVER 8" CONCRETE PAVEMENT (ASSUMED TO BE REINFORCED)
 AND IN THE MIDDLE 18 FEET OF CSAH 35

 CSAH 6 6" BITUMNIOUS PAVEMENT

 THE CONTRACTOR SHALL INVESTIGATE AND MAKE THEIR OWN DETERMINATION.

 (INFORMATION TAKEN FROM THE PROJECT SOIL BORINGS AND/OR RECORD DRAWINGS).
16. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND MAY BE RECYCLED OR DISPOSED OF OFF THE RIGHT OF WAY.

CONSTRUCTION AND SOILS NOTES

EROSION CONTROL AND TURF ESTABLISHMENT

17. TEMPORARY EROSION CONTROL DEVICES AND THEIR SUGGESTED LOCATIONS HAVE BEEN SHOWN IN THE PLANS ALONG WITH PAY ITEMS FOR THEIR USE. THIS DOES NOT HOWEVER RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO CONDUCT CONSTRUCTION IN A MANNER THAT WILL CONTROL EROSION. WILL CONTROL EROSION. RESPONSIBILITY FOR CONTROLLING EROSION AND MAINTENANCE OF EROSION CONTROL AS SET IN MNDOT SPECIFICATIONS 1717 1803, 2101, 2106, 2573, 2575, AND IS AMENDED BY THE SPECIAL PROVISIONS.
18. PLACE A MINIMUM OF 6 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.
19. INLET PROTECTION WILL BE INSTALLED AT ALL CATCH INLETS WITHIN THE PROJECT AREA PER STANDARD DETAILS.
20. IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY STABILIZATION BMPS MUST BE SCHEDULED TO OCCUR WITHIN THAT 7 DAY TIME FRAME.
21. ALL STOCKPILES MUST HAVE DOWN GRADIENT PERIMETER SEDIMENT CONTROL IMPLEMENTED AND MAINTAINED AT ALL TIMES. STOCKPILES TO RECEIVE TEMPORARY STABILIZATION IF UNWORKED FOR 7 DAYS.
22. STOCKPILES MAY NOT BE PLACED WITHIN ANY DRAINAGE OR CURB LINE UNLESS PROPER BYPASS IS INSTALLED PRIOR TO STOCKPILE PLACEMENT.
23. CONTRACTOR TO INSTALL SEDIMENT CONTROL LOGS DOWN GRADIENT FROM ANY EXPOSED AREAS.
24. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
25. A ROCK CONSTRUCTION ENTRANCE WILL BE PLACED AT ALL ENTRANCES THAT LEAD TO THE PROJECT SITE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE APPROVED STANDARD DETAILS.
26. ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES. ADJACENT STREET AND CURB LINE TO BE SWEEPED FREE OF DEBRIS AT THE END OF EACH WORK DAY, OR AS OFTEN AS NEEDED TO ENSURE PUBLIC SAFETY.
27. SLURRY FROM CONCRETE OPERATIONS MUST BE VACUUMED UP IMMEDIATELY. NO CONCRETE WASHOUT SHALL COME IN CONTACT WITH THE GROUND AND MUST BE PROPERLY DISPOSED OF. ALL HAZARDOUS MATERIALS MUST BE KEPT UNDER COVER AND WITHIN PROPER CONTAINMENT WHEN NOT IN USE.
28. ADDITIONAL EROSION AND SEDIMENT CONTROL MAY BE ADDED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE ENGINEER.
29. SEEDING REQUIREMENTS ON THIS PROJECT ARE AS FOLLOWS:

 A. ON PERMANENT SLOPES FLATTER THAN 1:3 USE:
 SEED MIXTURE 25-151 @ 120 POUNDS PER ACRE
 FERTILIZER TYPE 3 @ 350 POUNDS PER ACRE
 HYDRAULIC MULCH MATRIX @ 2100 POUNDS PER ACRE
 SEE EROSION CONTROL AND TURF ESTABLISHMENT PLANS FOR LOCATIONS.

MISCELLANEOUS

30. WHERE SEDIMENT DEPOSITS IN WATERS OF THE STATE THE MATERIAL MUST BE REMOVED IN 7 DAYS.
31. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACCOMODATING AND MAINTAINING PEDESTRIAN MOVEMENTS THROUGHOUT CONSTRUCTION (INCIDENTAL).

UTILITIES

33. THE CONTRACTOR IS HERBY REMINDED OF THEIR RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES WHICH MAY HAVE FACILITIES IN THE AREA CONTACT MUST BE MADE THROUGH GOPHER STATE ONE CALL IN ACCORDANCE WITH MN STATUTE.
34. UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE CONTRACTOR OF THE CONSTRUCTION STARTING DATE, AND TWO WEEKS PRIOR TO EACH STAGE OF CONSTRUCTION.
35. ALL PRIVATELY OWNED UTILITY MANHOLES TO BE RESET BY OTHERS.
36. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS FOR EXISTING MANHOLES PRIOR TO ANY STORM SEWER CONSTRUCTION.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER

 Date: 06/12/2024 License # 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 CONSTRUCTION AND SOILS NOTES
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 7 OF 102

NO	DATE	BY	CKD	APPR	REVISION

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REMOVALS AND SAWING											C
ALIGNMENT	STATION TO STATION	REMOVE							SAWING		
		CURB & GUTTER	BITUMINOUS WALK	CONCRETE WALK	CONCRETE PAVEMENT (C-1)	BITUMINOUS PAVEMENT	BITUMINOUS DRIVEWAY PAVEMENT	CONCRETE DRIVEWAY PAVEMENT	CONCRETE PAVEMENT (FULL DEPTH)	BIT PAVEMENT (FULL DEPTH)	
		LIN FT	SQ FT	SQ FT	SQ YD	SQ YD	SQ YD	SQ YD	LIN FT	LIN FT	
SP 002-606-013 & SP 127-020-034		(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	
EB CSAH 6	34+39.41 TO 42+38.29	350		2120		990		40		210	
ROUNDAABOUT	50+00.00 TO 51+50.80	230	130	890	220	810	20			30	
NB CSAH 35	15+00.00 TO 23+80.72	110	140		110	150	10		20	40	
NB CSAH 35	24+99.84 TO 33+78.48	150	190	30	150	200			80	20	
SP 002-606-013 & SP 127-020-034 TOTAL		840	460	3040	480	2150	30	40	100	300	
CP 24-25-106 & SP 127-304-002		(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	
EB CR106	43+67.06 TO 55+41.70	630		1010		1850	50	50		260	
CP 24-25-106 & SP 127-304-002 TOTAL		630		1010		1850	50	50		260	
PROJECT TOTALS		1470	460	4050	480	4000	80	90	100	560	

NOTES:
 - SAWING OF CONCRETE CURB & GUTTER IS INCIDENTAL.
 (C-1) LOCATED IN MIDDLE 18' OF CSAH 35, ASSUMED 6" BITUMINOUS PAVEMENT OVER 8" CONCRETE PAVEMENT.

AGGREGATE AND BITUMINOUS SUMMARY								D	
ALIGNMENT	STATION TO STATION	AGGREGATE BASE (CV) CLASS 5 (D-1)		BITUMINOUS MATERIAL FOR TACK COAT	TYPE SP 9.5 WEARING COURSE MIX (2,B)	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TYPE SP 12.5 NON-WEAR COURSE MIX (3,B)	GEOTEXTILE FABRIC TYPE 5	
		CU YD	(A)		(B)	SPWEA230B	SPWEB340C		SPNWB330B
						TON	TON		TON
SP 002-606-013 & SP 127-020-034		(A)	(B)	(A)	(A)	(A)	(A)	(A)	
EB CSAH 6	34+39.41 TO 42+38.29	196	14	33		160	120	650	
ROUNDAABOUT	50+00.00 TO 51+50.80	217	9	32	11	150	120	810	
NB CSAH 35	15+00.00 TO 23+80.72	55	5	9	2	40	30	180	
NB CSAH 35	24+99.84 TO 33+78.48	75	5	14	6	70	50	270	
SP 002-606-013 & SP 127-020-034 TOTAL		543	33	88	19	420	320	1910	
CP 24-25-106 & SP 127-304-002		(C)	(D)	(C)	(C)	(C)	(C)	(C)	
EB CR106	43+67.06 TO 55+41.70	281	23	58		280	210	1150	
CP 24-25-106 & SP 127-304-002 TOTAL		281	23	58		280	210	1150	
PROJECT TOTALS		880		146	19	700	530	3060	

NOTES:
 (D-1) INCLUDES AGGREGATE UNDER BITUMINOUS PAVEMENT, TRAIL, CURB & GUTTER, CONCRETE WALK, AND CONCRETE PAVEMENT.

BASIS OF QUANTITIES:
 - BITUMINOUS DENSITY: 113 LBS/SY/IN
 - TACK COAT BETWEEN BITUMINOUS LIFTS: 0.05 GAL/SY

CONCRETE SUMMARY												E			
ALIGNMENT	STATION TO STATION	4" CONCRETE WALK	6" CONCRETE WALK	6" CONCRETE WALK SPECIAL (E-1)	CONCRETE CURB & GUTTER DESIGN				CONCRETE PAVEMENT 10.0" (SPECIAL) (E-1)	DRILL & GROUT REINF BAR (EPOXY COATED)	TRUNCATED DOMES				
					B618		B624					D412		R424	
					SQ FT	SQ FT	SQ FT	LIN FT				LIN FT	LIN FT	LIN FT	SQ YD
SP 002-606-013 & SP 127-020-034		(A)	(A)	(A)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(A)			
EB CSAH 6	34+39.41 TO 42+38.29	1750	260	690	70	70	120	120			200		16	32	
ROUNDAABOUT	50+00.00 TO 51+50.80	500	10	610			120	120	14	14	650		170		
NB CSAH 35	15+00.00 TO 23+80.72	10	350	240	15	15	45	45			110			17	32
NB CSAH 35	24+99.84 TO 33+78.48		260	160			70	70			80			20	32
SP 002-606-013 & SP 127-020-034 TOTAL		2260	880	1700	85	85	355	355	14	14	1040	170	53	96	
CP 24-25-106 & SP 127-304-002		(C)	(C)	(C)	(C)	(D)	(C)	(D)	(C)	(D)	(C)		(C)	(C)	
EB CR106	43+67.06 TO 55+41.70	930	250	270	5	5	305	305	4	4	120		17	32	
CP 24-25-106 & SP 127-304-002 TOTAL		930	250	270	5	5	305	305	4	4	120		17	32	
PROJECT TOTALS		3190	1130	1970	180		1320		36		1160	170	70	128	

NOTES:
 (E-1) COLOR SHALL BE INTEGRAL RED (FS COLOR 31136)

FUNDING NOTES:
 (A) 100% COUNTY (SP 002-606-013)
 (B) 100% CITY (SP 127-020-034)
 (C) 100% COUNTY (CP 24-25-106)
 (D) 100% CITY (SP 127-304-002)

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 TABULATIONS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 8 OF 102

DRIVEWAY TABULATION							F
ALIGNMENT	STATION	LT/RT/ MEDIAN	HOUSE NUMBER	TYPE SP 9.5 WEARING COURSE MIX (3,B)	8" CONCRETE DRIVEWAY PAVEMENT	AGGREGATE BASE (CV) CLASS 5 (DRIVEWAYS)	
				SPWEB340B			
				TON	SQ YD	CU YD	
SP 002-606-013 & SP 127-020-304				(A)	(A)	(A)	
EB CSAH 6	40+19.6	RT	6490		30	5	
EB CSAH 6	43+63.0	RT	6491	1		1	
NB CSAH 35	23+23.6	RT	6491	1		1	
SP 002-606-013 & SP 127-020-304 TOTAL				2	30	7	
CP 24-25-106 & SP 127-304-002				(C)	(C)	(C)	
WB CSAH 6	35+61.6	LT	6501	6	40	11	
WB CSAH 6	36+60.6	LT	6501	5	40	10	
WB CSAH 6	37+34.0	LT	1341	3	30	7	
CP 24-25-106 & SP 127-304-002 TOTAL				14	110	28	
PROJECT TOTALS				16	140	35	

TURF ESTABLISHMENT & EROSION CONTROL											G
ALIGNMENT	STATION TO STATION	RAPID STABILIZATION METHOD 3	HYDRAULIC MULCH MATRIX	SOIL BED PREPARATION	SEEDING	SEED MIXTURE 25-151	FERTILIZER TYPE 3	STORM DRAIN INLET PROTECTION	SILT FENCE, TYPE MS	SEDIMENT CONTROL LOG TYPE WOOD FIBER	
		M GALLON	POUND	ACRE	ACRE	POUND	POUND	EACH	LIN FT	LIN FT	
SP 002-606-013 & SP 127-020-034		(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	
EB CSAH 6	34+39.41 TO 42+38.29	0.6	210	0.1	0.1	10	35	5	240	110	
ROUNDAABOUT	50+00.00 TO 51+50.80	0.6	210	0.1	0.1	10	35	4	30	40	
NB CSAH 35	15+00.00 TO 23+80.72	0.6	210	0.1	0.1	10	35	2	30	40	
NB CSAH 35	24+99.84 TO 33+78.48	0.6	210	0.1	0.1	10	35	4		150	
SP 002-606-013 & SP 127-020-034 TOTAL		2.4	840	0.4	0.4	40	140	15	300	340	
CP 24-25-106 & SP 127-304-002		(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	
EB CR106	43+67.06 TO 55+41.70	1.2	420	0.2	0.2	25	70	5		400	
CP 24-25-106 & SP 127-304-002 TOTAL		1.2	420	0.2	0.2	25	70	5		400	
PROJECT TOTALS		3.6	1260	0.6	0.6	65	210	20	300	740	

MAIL BOX SCHEDULE											H
HOUSE NUMBER	STREET	EXISTING SIDE OF ROAD	PROPOSED SIDE OF ROAD	MAIL BOX			SUPPORT				
				NON CONFORMING	SALVAGE EXISTING	INSTALL OLD	NON CONFORMING	SALVAGE AND INSTALL	DISPOSE OF EXISTING	F&I NEW PER MNDOT STD PLATE 9350B	
6491	(A) CENTRAL	RT	RT		X	X	X			X	X
1314	(C) MISSISSIPPI	RT	RT		X	X	X			X	X
1340	(C) MISSISSIPPI	RT	RT		X	X	X			X	X
	(C) MISSISSIPPI	LT	LT	SUPPORT ONLY					X		
1341	(C) MISSISSIPPI	LT	LT		X	X		X			

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
2104.502	REMOVE MAIL BOX SUPPORT	1	EACH
2104.502	SALVAGE MAIL BOX SUPPORT	1	EACH
2540.602	INSTALL MAIL BOX SUPPORT	1	EACH
2540.602	MAIL BOX SUPPORT	3	EACH

GENERAL NOTES:

- SALVAGE AND REINSTALL CONFORMING MAIL BOX SUPPORTS PER SCHEDULE, SALVAGE AND REINSTALL NEWSPAPER BOXES AS NECESSARY TO RESTORE TO PRECONSTRUCTION CONDITIONS.
- MAIL BOX SUPPORTS AND MAIL BOXES REMOVED SHALL BE OFFERED TO THE HOMEOWNER. IF THE HOMEOWNER DOES NOT DESIRE TO KEEP NON-CONFORMING SUPPORT AND MAILBOX, THE CONTRACTOR SHALL DISPOSE OF IT OFF SITE. IF THE HOMEOWNER DESIRES TO HAVE THE EXISTING MAIL BOX INSTALLED ON THE NEW SUPPORT, THE CONTRACTOR SHALL INSTALL IT ACCORDINGLY. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO SUPPORT INSTALLATION.
- SALVAGE NEWSPAPER BOXES/TUBES AND REINSTALL PER MNDOT STD PLATE 3650B, INCIDENTAL.

SUBDRAIN				L
ALIGNMENT	STATION TO STATION	4" PERF TP PIPE DRAIN (L-1)		
		LIN FT		
SP 002-606-013 & SP 127-020-034		(A)		
EB CSAH 6	34+39.41 TO 42+38.29	360		
ROUNDAABOUT	50+00.00 TO 51+50.80	54		
NB CSAH 35	15+00.00 TO 23+80.72	106		
NB CSAH 35	24+99.84 TO 33+78.48	106		
SP 002-606-013 & SP 127-020-034 TOTAL		520		
PROJECT TOTALS		520		

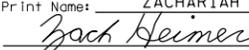
NOTES:

- (L-1) WITH GEOTEXTILE WRAP TYPE 1, MNDOT SPEC. 3733 (INCIDENTAL).

FUNDING NOTES:

- (A) 100% COUNTY (SP 002-606-013)
- (C) 100% COUNTY (CP 24-25-106)

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: ZACHARIAH F. HEIMER  Date: 06/12/2024 License #: 58755					STATE PROJECT NO. 002-606-013 STATE PROJECT NO. 127-020-034 STATE PROJECT NO. 127-304-002 COUNTY PROJECT NO. 24-25-106	DRAWN BY S. MARTINS DESIGNED BY Z. HEIMER CHECKED BY K. JULLIE COMM. NO. 16588	ANOKA COUNTY, MINNESOTA TABULATIONS SP 002-606-013, SP 127-020-034, SP 127-304-002	SHEET 9 OF 102
NO DATE BY CKD APPR REVISION ...F InoIP\anC\16588.tb03.dgn								

UTILITIES

THE FOLLOWING LIST SHOWS THE UTILITY COMPANIES INVOLVED ON THIS PROJECT.

ARVIG COMMUNICATIONS SYSTEMS LUMEN (CENTURY LINK) COMCAST COMMUNICATIONS CITY OF FRIDLEY	CENTERPOINT ENERGY XCEL ENERGY ZAYO BANDWIDTH
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GENERAL NOTES:

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES".

THE "LEAVE AS IS" AND "RELOCATE" NOTES ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS OTHERWISE NOTED.

UTILITY WORK APPLIES TO THE CONSTRUCTION/EXCAVATION AREA LIMITS ONLY.

ALL POWER LINES ARE DISTRIBUTION UNLESS NOTED OTHERWISE.

THE CONTRACTOR IS HEREBY REMINDED OF HIS RESPONSIBILITY TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE PROJECT AREA.

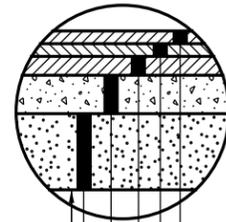
EXISTING UTILITIES (LUMEN)							M
ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
NB CSAH 35	21+66 TO 21+69	25' RT	BURIED FIBER	X			
NB CSAH 35	21+66 TO 22+28	17' RT TO 15' RT	OVERHEAD TEL	X			
NB CSAH 35	21+69 TO 21+90	25' RT TO 6' RT	BURIED FIBER	X			
NB CSAH 35	21+69 TO 22+11	25' RT TO 24' RT	BURIED FIBER	X			
NB CSAH 35	21+90 TO 22+11	6' RT TO 24' RT	BURIED FIBER	X			
NB CSAH 35	21+90	6' RT	TEL MH	X			
NB CSAH 35	22+11 TO 23+86	24' RT TO 31' RT	BURIED FIBER	X			
NB CSAH 35	22+28 TO 23+54	15' RT TO 20' RT	OVERHEAD TEL	X			
NB CSAH 35	23+54 TO 24+86	20' RT TO 14' RT	OVERHEAD TEL	X			
NB CSAH 35	23+86 TO 24+16	31' RT TO 26' RT	BURIED FIBER	X			
NB CSAH 35	23+94 TO 24+16	40' LT TO 26' RT	BURIED FIBER	X			
NB CSAH 35	24+16 TO 24+29	26' RT TO 39' RT	BURIED FIBER	X			
NB CSAH 35	24+16 TO 24+19	26' RT TO 2' RT	BURIED FIBER	X			
NB CSAH 35	24+16 TO 25+27	26' RT TO 28' RT	BURIED FIBER	X			
NB CSAH 35	24+19 TO 25+06	2' RT TO 7' RT	BURIED FIBER	X			
NB CSAH 35	24+19	2' RT	TEL MH		X		(M-1)
NB CSAH 35	24+68 TO 24+80	38' RT TO 17' RT	OVERHEAD TEL	X			
NB CSAH 35	24+85 TO 26+40	16' RT TO 26' RT	OVERHEAD TEL	X			
NB CSAH 35	24+86 TO 26+41	14' RT TO 24' RT	OVERHEAD TEL	X			
NB CSAH 35	25+06 TO 25+27	7' RT TO 28' RT	BURIED FIBER	X			
NB CSAH 35	25+27 TO 26+55	28' RT TO 33' RT	BURIED FIBER	X			
NB CSAH 35	26+41 TO 26+55	26' RT	OVERHEAD TEL	X			
NB CSAH 35	26+41 TO 26+55	24' RT	OVERHEAD TEL	X			
EB CSAH 6	38+00 TO 38+19	34' RT	OVERHEAD TEL	X			
EB CSAH 6	38+19 TO 39+64	34' RT	OVERHEAD TEL	X			
EB CSAH 6	39+64 TO 39+68	34' RT TO 121' RT	OVERHEAD TEL	X			
EB CSAH 6	39+83 TO 39+84	42' RT TO 35' RT	BURIED FIBER	X			
EB CSAH 6	39+83	42' RT	TEL PED	X			
EB CSAH 6	39+84	35' RT	TEL HH	X			
EB CSAH 6	39+84 TO 40+84	35' RT TO 32' RT	BURIED FIBER	X			
EB CSAH 6	40+81 TO 42+15	42' LT	BURIED FIBER	X			
EB CSAH 6	40+81 TO 40+84	42' LT TO 32' RT	BURIED FIBER	X			
EB CSAH 6	40+84 TO 42+82	32' RT TO 27' RT	BURIED FIBER	X			
EB CSAH 6	40+91 TO 41+05	103' RT TO 31' RT	BURIED FIBER	X			
EB CSAH 6	42+15 TO 42+18	42' LT TO 69' LT	BURIED FIBER	X			
EB CSAH 6	43+53 TO 45+29	28' RT TO 30' RT	BURIED FIBER	X			
EB CSAH 6	43+63 TO 44+75	45' LT TO 35' LT	OVERHEAD TEL	X			
EB CSAH 6	44+75 TO 45+88	35' LT TO 38' LT	OVERHEAD TEL	X			
EB CSAH 6	45+29 TO 45+84	30' RT TO 28' RT	BURIED FIBER	X			
EB CSAH 6	45+29	30' RT	TEL PED	X			
EB CSAH 6	45+32 TO 45+89	29' RT TO 40' LT	OVERHEAD TEL	X			
EB CSAH 6	45+84 TO 46+94	28' RT TO 26' RT	BURIED FIBER	X			
EB CSAH 6	45+84 TO 45+87	28' RT TO 40' LT	BURIED FIBER	X			
EB CSAH 6	45+84	28' RT	TEL PED	X			
EB CSAH 6	45+86 TO 45+87	70' LT TO 40' LT	BURIED FIBER	X			
EB CSAH 6	45+87	40' LT	TEL PED	X			
EB CSAH 6	45+88 TO 47+02	38' LT TO 22' LT	OVERHEAD TEL	X			
EB CSAH 6	45+90 TO 45+91	70' LT TO 42' LT	OVERHEAD TEL	X			
EB CSAH 6	46+94 TO 47+82	26' RT	BURIED FIBER	X			
EB CSAH 6	46+94 TO 46+95	26' RT TO 55' RT	BURIED FIBER	X			
EB CSAH 6	46+94	26' RT	TEL PED	X			
EB CSAH 6	47+02 TO 47+82	22' LT TO 23' LT	OVERHEAD TEL	X			

NOTES:

(M-1) 144" X 72" X 76" CONCRETE VAULT. MANHOLE CASTING TO BE ADJUSTED TO FINISHED GRADE. (BY OTHERS).

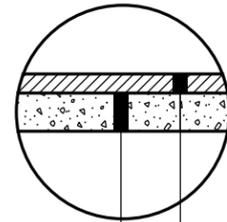
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	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>ZACHARIAH F. HEIMER</u> Date: <u>06/12/2024</u> License # <u>58755</u>	STATE PROJECT NO. 002-606-013 STATE PROJECT NO. 127-020-034 STATE PROJECT NO. 127-304-002 COUNTY PROJECT NO. 24-25-106	DRAWN BY S. MARTINS DESIGNED BY Z. HEIMER CHECKED BY K. JULLIE COMM. NO. 16588		ANOKA COUNTY, MINNESOTA EXISTING UTILITY TABULATIONS SP 002-606-013, SP 127-020-034, SP 127-304-002	SHEET 10 OF 102
NO DATE BY CKD APPR _____ REVISION						



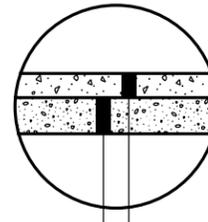
2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) (SPWEB340C)
 2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) (SPWEB340C)
 3.0" TYPE SP 12.5 NON-WEARING COURSE MIXTURE (3,B) (SPNWB330B)
 6.0" AGGREGATE BASE (CV) CLASS 5
 18" SELECT GRANULAR EMBANKMENT (CV)
 GEOTEXTILE FABRIC TYPE 5 (SEE TYPICAL SECTIONS FOR LOCATIONS)

INSET A
 CSAH 6 (MISSISSIPPI ST NE)
 CSAH 35 (CENTRAL AVE NE)



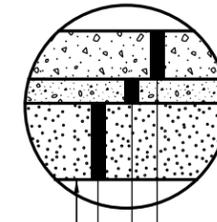
2.5" TYPE SP 9.5 WEARING COURSE MIXTURE (2,B) (SPWEA230B)
 6.0" AGGREGATE BASE (CV) CLASS 5

INSET B
 BITUMINOUS TRAIL



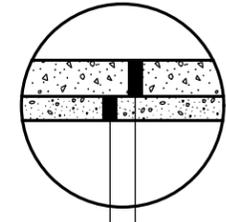
4" CONCRETE WALK
 6" AGGREGATE BASE (CV) CLASS 5

INSET C
 4" CONCRETE WALK



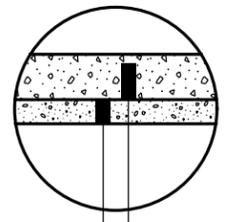
10.0" CONCRETE PAVEMENT (SPECIAL)
 5" AGGREGATE BASE (CV) CLASS 5
 18" SELECT GRANULAR EMBANKMENT (CV)
 GEOTEXTILE FABRIC TYPE 5 (SEE TYPICAL SECTIONS FOR LOCATIONS)

INSET D
 CENTER ISLAND CONCRETE
 CONCRETE COLOR SHALL BE INTEGRAL RED (FS COLOR 31136)



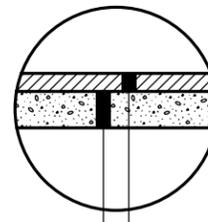
6" CONCRETE WALK
 4" AGGREGATE BASE (CV) CLASS 5

INSET E
 6" CONCRETE WALK (PED RAMPS & LANDINGS)



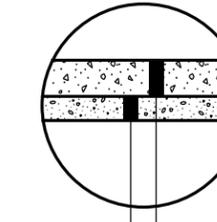
8" CONCRETE DRIVEWAY PAVEMENT
 4" AGGREGATE BASE (CV) CLASS 5 (DRIVEWAYS)

INSET F
 CONCRETE DRIVEWAY APRONS



3" TYPE SP 9.5 WEARING COURSE MIXTURE (3,B) (SPWEB340B)
 6" AGGREGATE BASE (CV) CLASS 5 (DRIVEWAYS)

INSET G
 BITUMINOUS DRIVEWAYS



6" CONCRETE WALK - SPECIAL
 4" AGGREGATE BASE (CV) CLASS 5

INSET H
 6" CONCRETE WALK SPECIAL (SPLITTER ISLANDS)
 CONCRETE COLOR SHALL BE INTEGRAL RED (FS COLOR 31136)

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NO	DATE	BY	CKD	APPR	REVISION

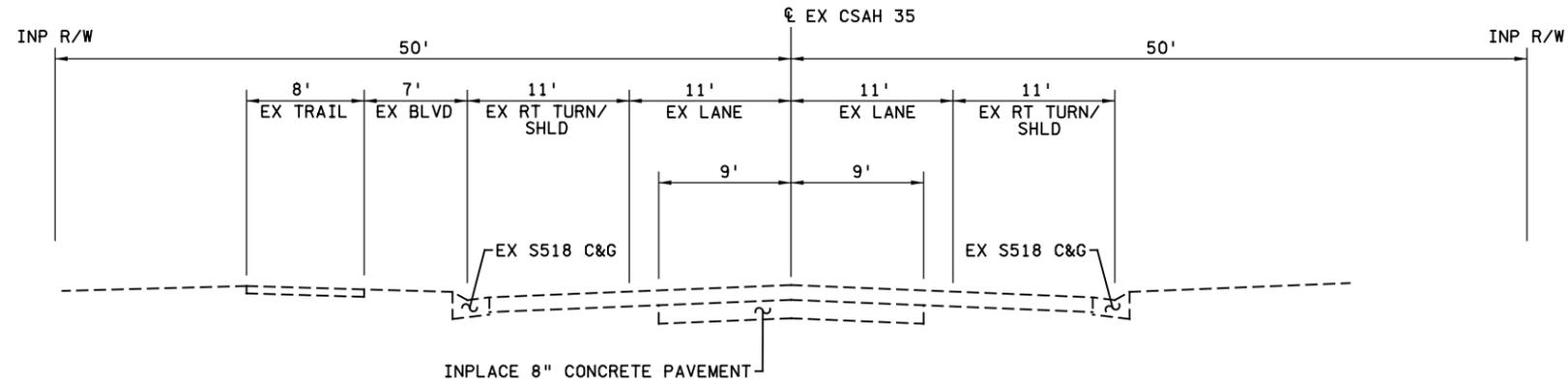
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588

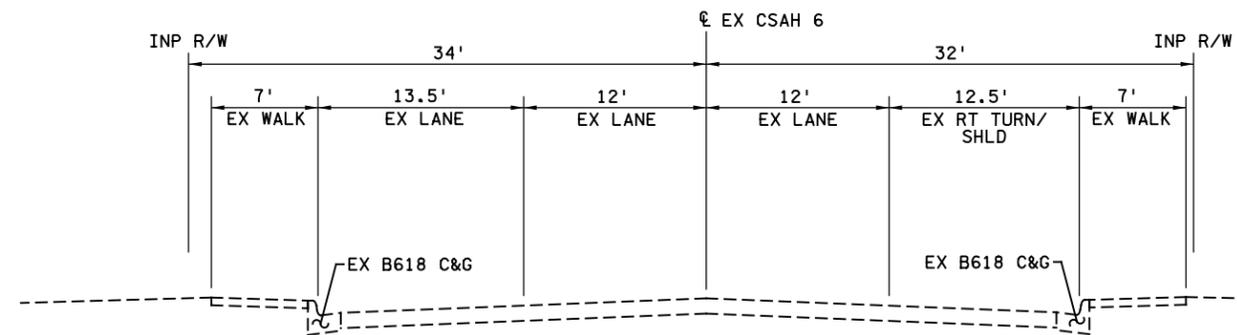


ANOKA COUNTY, MINNESOTA
 TYPICAL SECTIONS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 13 OF 102



EXISTING TYPICAL SECTION 2 - CSAH 35 (CENTRAL AVE NE)
 NB CSAH 35 STA 23+23.6 TO STA 26+03.2



EXISTING TYPICAL SECTION 1 - CSAH 6 (MISSISSIPPI ST NE)
 EB CSAH 6 STA 39+66.0 TO STA 46+99.7

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

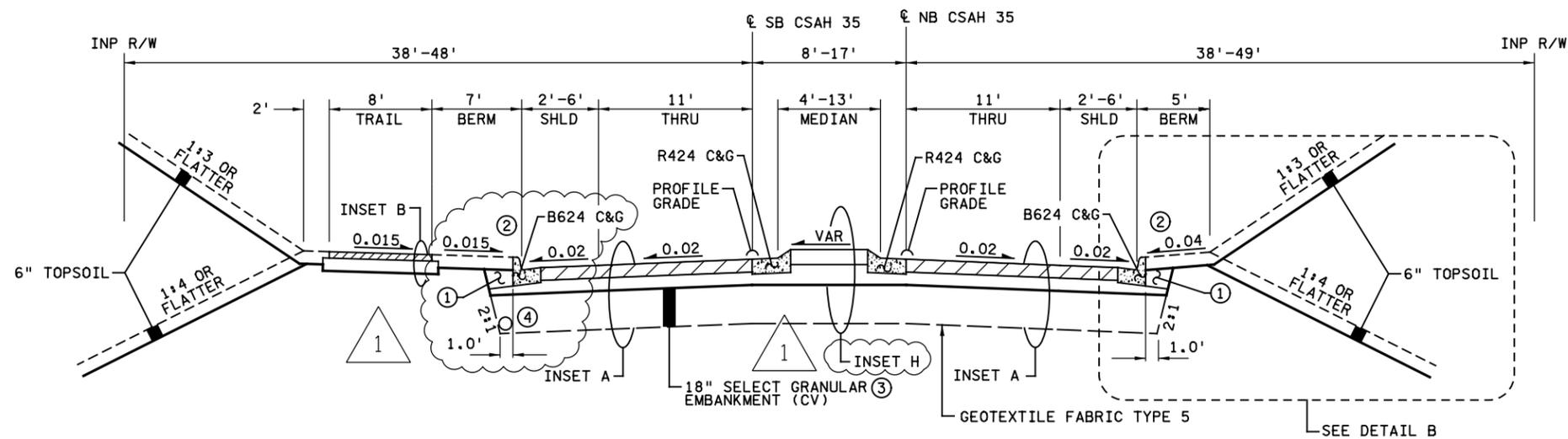
STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 TYPICAL SECTIONS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET
 14
 OF
 102

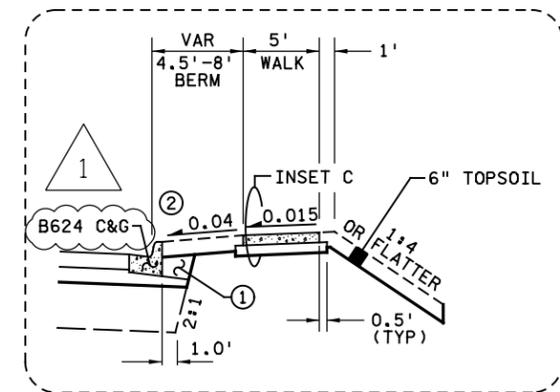


TYPICAL SECTION 2 - CSAH 35 (CENTRAL AVE NE)

NB CSAH 35 STA 23+27.2 TO STA 24+01.4
 NB CSAH 35 STA 24+84.1 TO STA 25+37.6

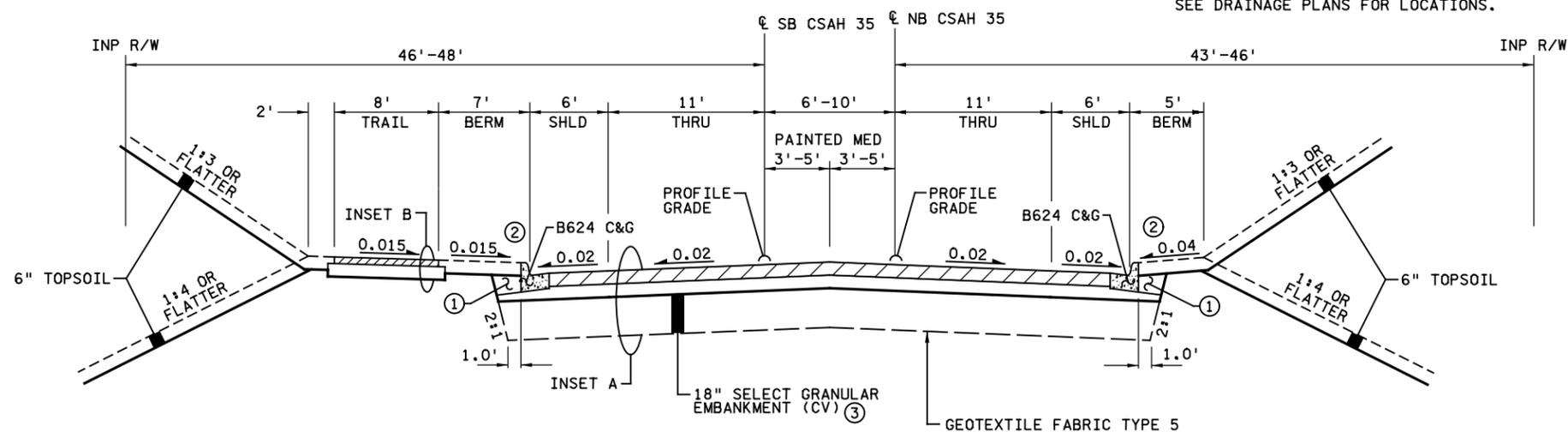
NOTES:

- ① BACKFILL WITH SELECT GRADING MATERIAL.
- ② 1.5' OBSTACLE FREE CLEAR ZONE FROM FACE OF CURB (TYP.).
- ③ EXCAVATION SUBGRADE (CUT SECTIONS ONLY).
- ④ 4" PERF TP PIPE DRAIN MNDOT SPEC 2502, WITH GEOTEXTILE WRAP TYPE 1 MNDOT SPEC 3733. (INCIDENTAL). SEE STANDARD PLANS FOR SUBSURFACE DRAINS. SEE DRAINAGE PLANS FOR LOCATIONS.



DETAIL B

NB CSAH 35 STA 23+68.1 TO STA 24+01.4
 NB CSAH 35 STA 24+84.1 TO STA 25+08.3



TYPICAL SECTION 1 - CSAH 35 (CENTRAL AVE NE)

NB CSAH 35 STA 23+23.6 TO STA 23+27.2
 NB CSAH 35 STA 25+37.6 TO STA 26+03.2

GENERAL NOTES:

- CROSS SLOPES ARE FT./FT.
- ALL SLOPES LISTED AS X:X ARE IN THE RISE TO RUN FORMAT.
- SEE SHEET NO. 13 FOR PAVEMENT INSETS.
- SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
- SEE CONSTRUCTION AND SOILS NOTES FOR ADDITIONAL INFORMATION.
- DIMENSIONS TO CURB AND GUTTER ARE TO FACE OF CURB.

GRADE MEDIANS AS SHOWN IN THE CROSS SECTIONS AND AS INDICATED BY THE ENGINEER TO DRAIN.

01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. DETAIL AND INSET REVISIONS
----------	-----	-----	-----	---

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 01/07/2025 License #: 58755

STATE PROJECT NO. 002-606-013

STATE PROJECT NO. 127-020-034

STATE PROJECT NO. 127-304-002

COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS

DESIGNED BY Z. HEIMER

CHECKED BY K. JULLIE

COMM. NO. 16588

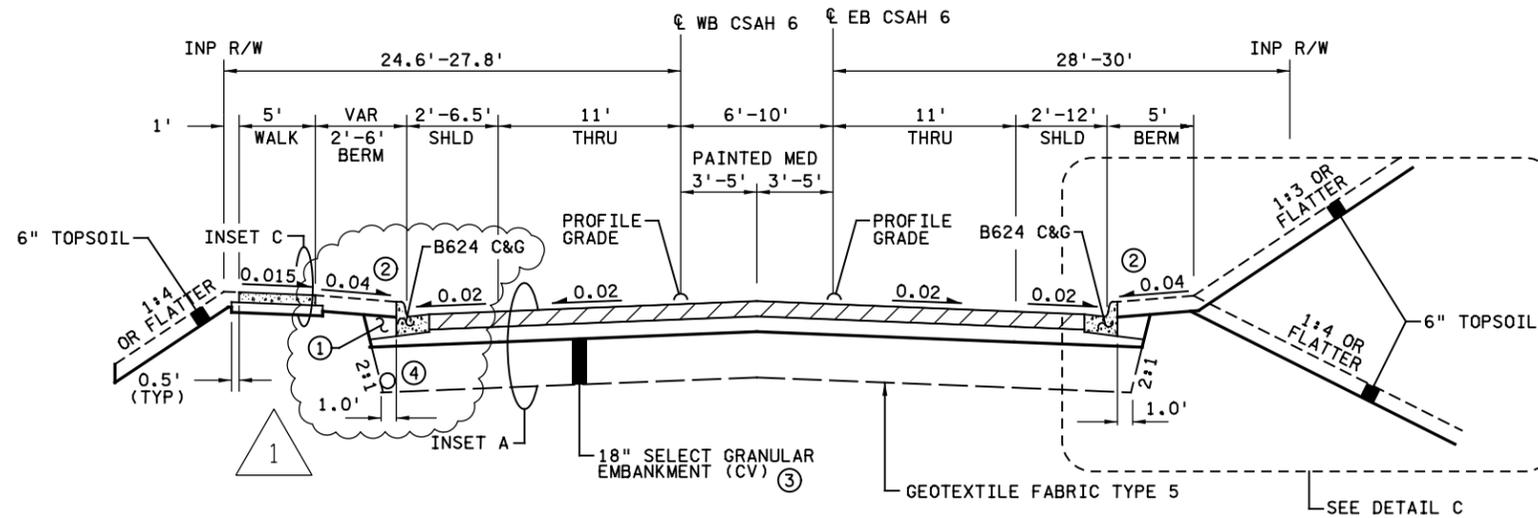


ANOKA COUNTY, MINNESOTA

TYPICAL SECTIONS

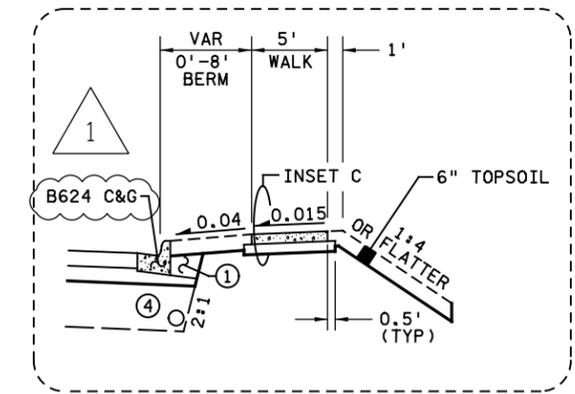
SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 15R OF 102



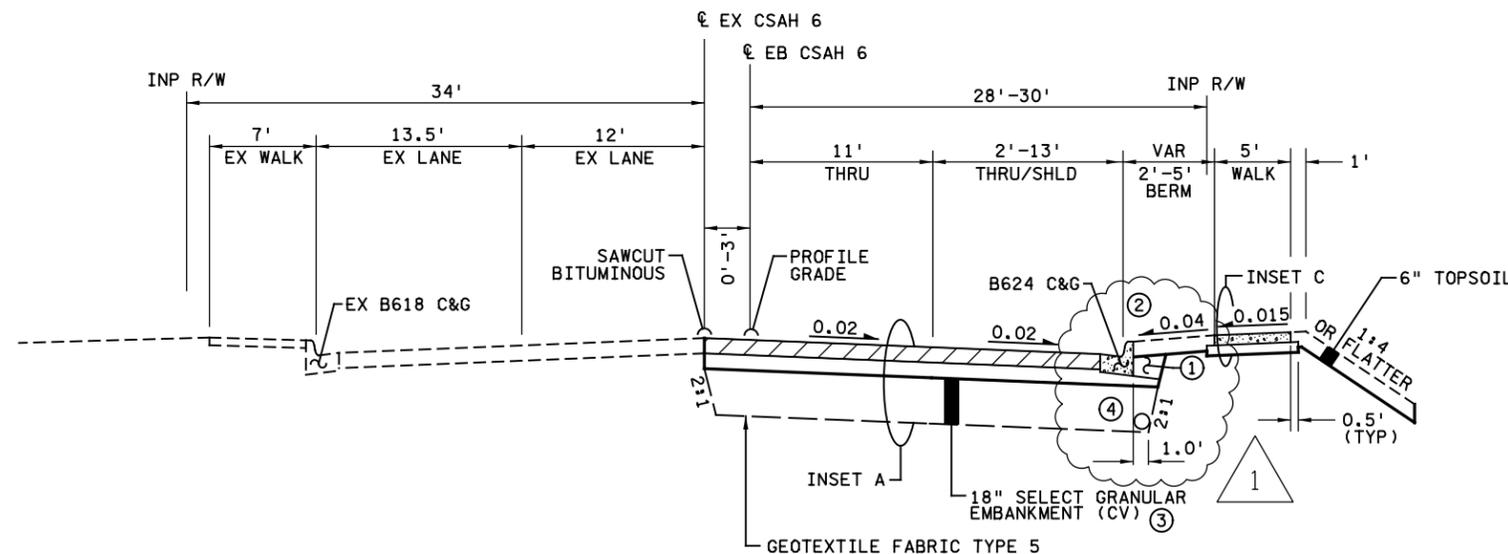
TYPICAL SECTION 4 - CSAH 6 (MISSISSIPPI ST NE)

EB CSAH 6 STA 41+30.8 TO STA 41+42.3
 EB CSAH 6 STA 44+26.2 TO STA 46+99.7



DETAIL C

EB CSAH 6 STA 39+66.0 TO STA 41+42.3



TYPICAL SECTION 3 - CSAH 6 (MISSISSIPPI ST NE)

EB CSAH 6 STA 39+66.0 TO STA 41+30.8

NOTES:

- ① BACKFILL WITH SELECT GRADING MATERIAL.
- ② 1.5' OBSTACLE FREE CLEAR ZONE FROM FACE OF CURB (TYP.)
- ③ EXCAVATION SUBGRADE (CUT SECTIONS ONLY).
- ④ 4" PERFORATED PIPE DRAIN MNDOT SPEC 2502, WITH GEOTEXTILE WRAP TYPE 1 MNDOT SPEC 3733. (INCIDENTAL). SEE STANDARD PLANS FOR SUBSURFACE DRAINS. SEE DRAINAGE PLANS FOR LOCATIONS.

GENERAL NOTES:

CROSS SLOPES ARE FT./FT.
 ALL SLOPES LISTED AS X:X ARE IN THE RISE TO RUN FORMAT.
 SEE SHEET NO. 13 FOR PAVEMENT INSETS.
 SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 SEE CONSTRUCTION AND SOILS NOTES FOR ADDITIONAL INFORMATION.
 DIMENSIONS TO CURB AND GUTTER ARE TO FACE OF CURB.

GRADE MEDIANS AS SHOWN IN THE CROSS SECTIONS AND AS INDICATED BY THE ENGINEER TO DRAIN.

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01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. DETAIL AND INSET REVISIONS
NO	DATE	BY	CKD	APPR
				REVISION

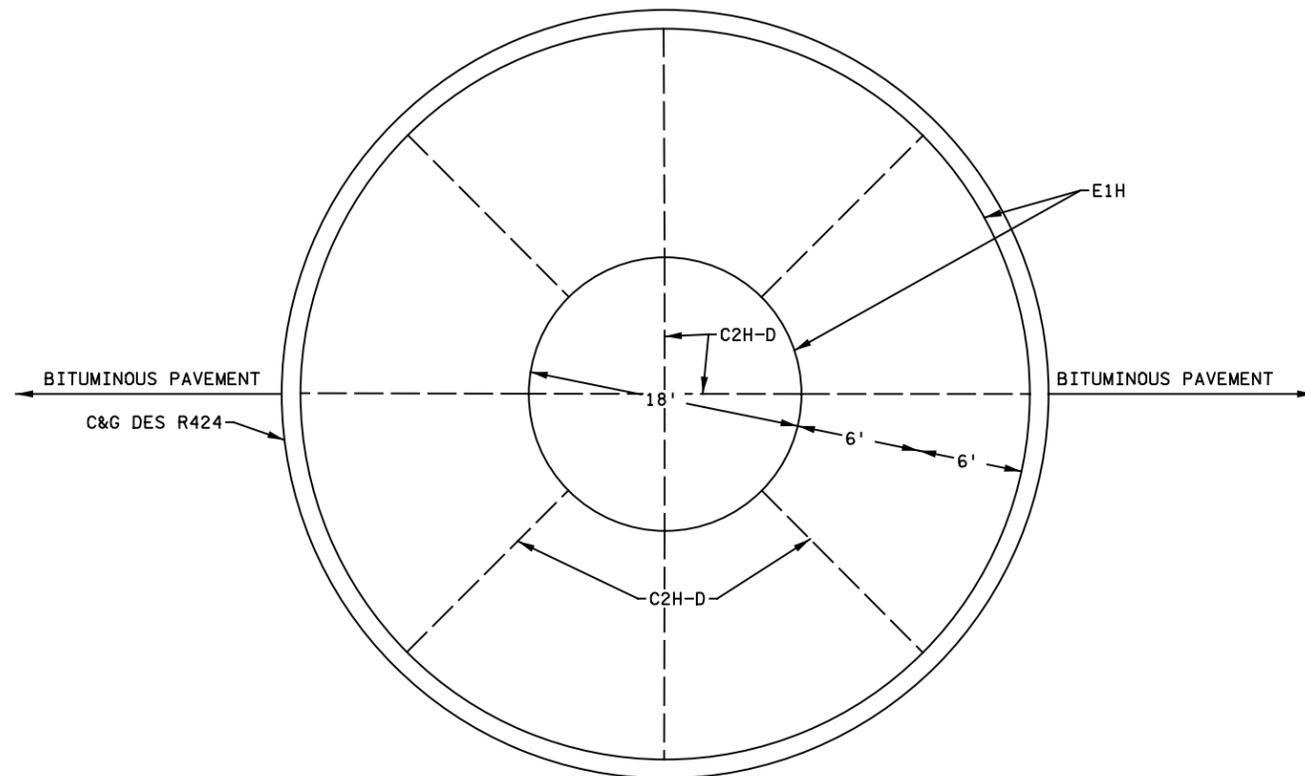
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 01/07/2025 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 TYPICAL SECTIONS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

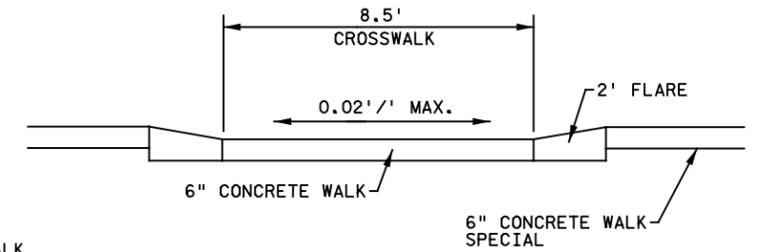
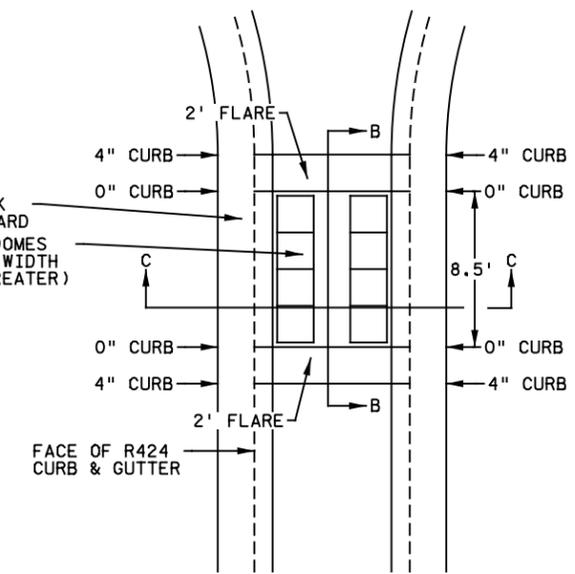
SHEET 16R OF 102



- NOTES:
1. SEE STANDARD PLANS FOR JOINT REQUIREMENTS.
 2. 10.0" NON-REINFORCED CONCRETE PAVEMENT.
 3. C2H-D JOINT SHOULD EXTEND THROUGH CURB AND GUTTER

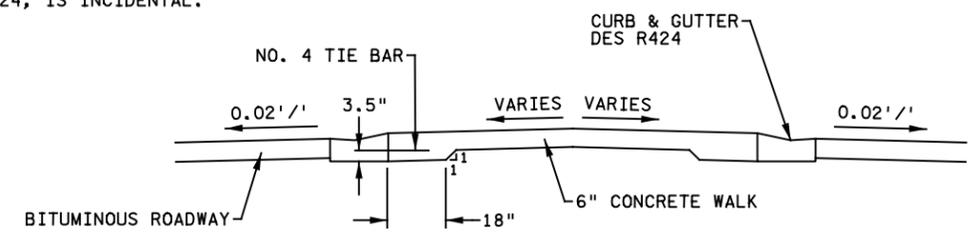
PAVEMENT REINFORCEMENT FOR CENTER OF ROUNDABOUTS

GUTTER SLOPE THROUGH CROSSWALK SHALL COMPLY WITH MNDOT STANDARD PLAN 5-297.250



SECTION B-B
NOT TO SCALE

- NOTES:
1. CROSSING TO BE PAID FOR AS 6" CONCRETE WALK.
 2. FLARES TO BE PAID FOR AS 6" CONCRETE WALK SPECIAL.
 3. TRUNCATED DOMES SHALL BE PLACED ONLY IF MEDIAN IS 6' WIDE OR GREATER, AND AT EACH SIDE OF THE CROSSWALK, PAID FOR AS SQ. FT. OF TRUNCATED DOMES.
 4. TIE BARS: USE NO. 4 BARS, 2' LONG AT 3' SPACING.
 5. REINFORCEMENT BARS ARE CONSIDERED INCIDENTAL.
 6. ADDITIONAL CONCRETE PAVEMENT DEPTH, ADJACENT TO CONCRETE CURB DESIGN R424, IS INCIDENTAL.



SECTION C-C
NOT TO SCALE

DEPRESSED MEDIAN CURB AT CROSSWALK

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588

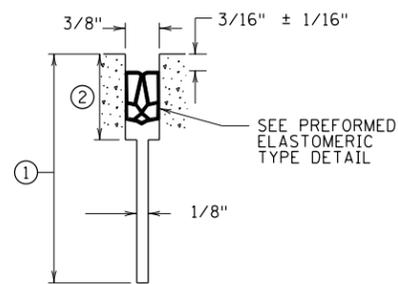
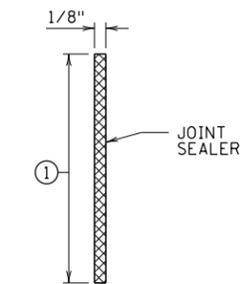
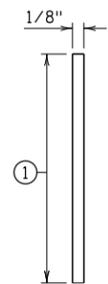
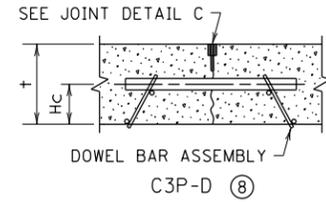
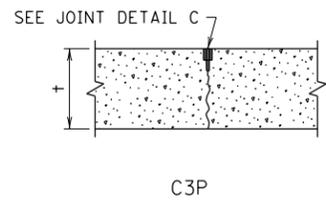
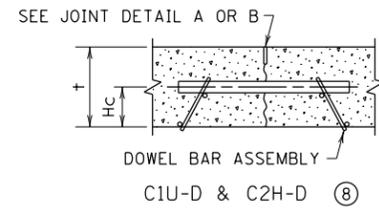
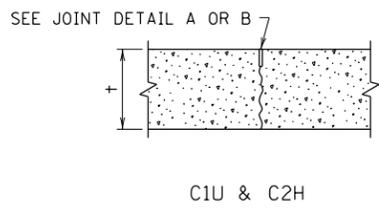


ANOKA COUNTY, MINNESOTA

MISCELLANEOUS DETAILS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 18 OF 102

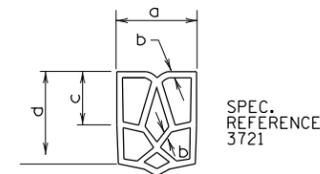


JOINT DETAIL A (3)(5)
SAWED & UNSEALED

JOINT DETAIL B (4)(5)
SAWED & SEALED

JOINT DETAIL C (4)(5)
SAWED AND SEALED

REQUIRED DIMENSIONS (2)	
JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	1 1/16" USE IN ALL 3/8" JOINTS
a	0.69" + 0.13" - 0.05"
b	0.08" ± 0.02"
c	0.25" MIN.
d	0.63" MIN.

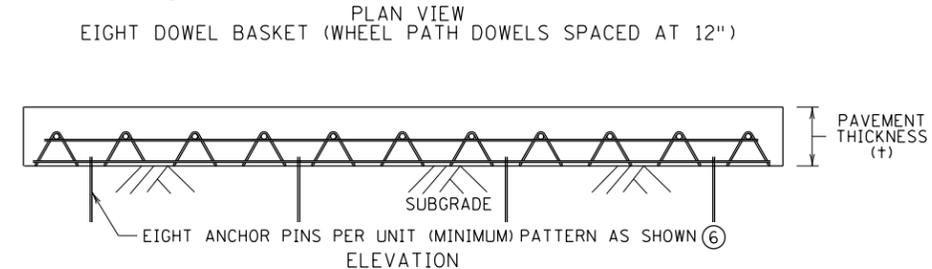
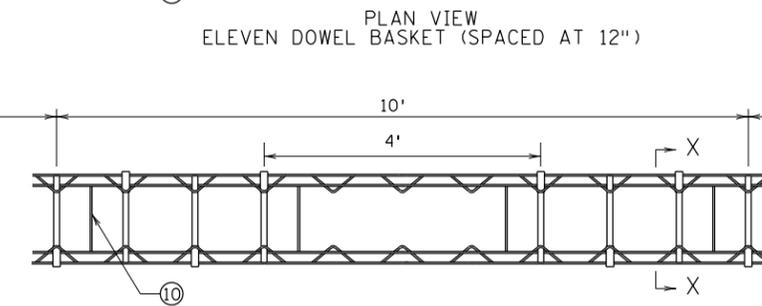
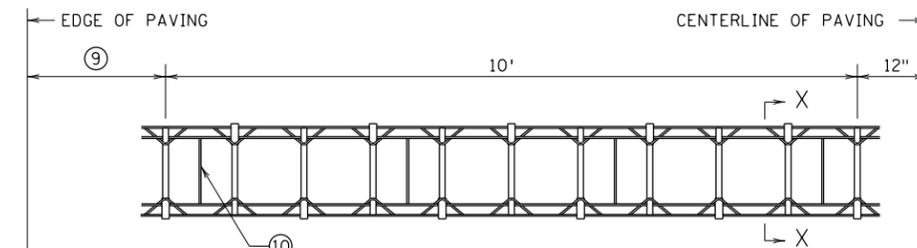


TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

PREFORMED ELASTOMERIC TYPE DETAIL (2)

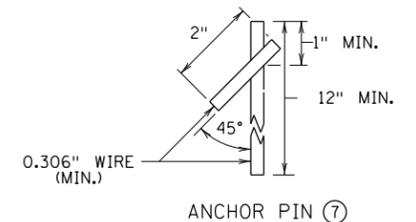
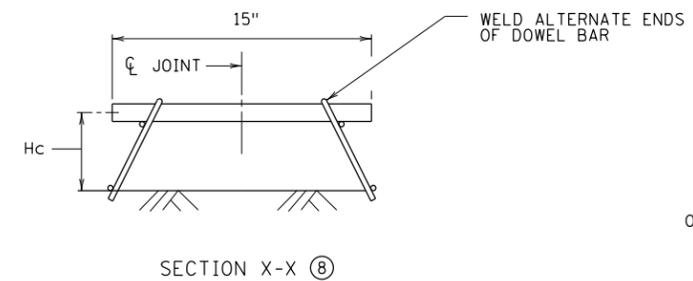
CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE				
JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
C1U	C1U-D	A	UNSEALED	1/8"
C2H	C2H-D	B	3725	1/8"
C3P	C3P-D	C	3721	3/8"

LEGEND		EXAMPLE	
C	= CONTRACTION JOINT	C2H-D	
NO.	= JOINT REFERENCE		
U	= UNSEALED		
H	= HOT Poured		
P	= PREFORMED		
-D	= DOWEL BARS		



CONTRACTION JOINT DOWEL BAR ASSEMBLIES

DOWEL BAR TABLE		
+ PAVEMENT THICKNESS (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER OF DOWEL BAR (IN.)
7 - 7 1/2	1	3
8 - 10	1 1/4	4
≥ 10 1/2	1 1/2	5



NOTES:

- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE/RAMP PAVEMENT.
- SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
- (1) JOINT DEPTH AND TOLERANCE: $\pm 3 \pm 1/4"$.
- (2) JOINT DEPTH 1/4" MORE THAN THE PREFORMED SEALER WHEN COMPRESSED TO FIT THE JOINT DESIGN WIDTH. "a" DIMENSION APPLIES AT ANY POINT THROUGHOUT "c" DEPTH. SHARP CORNERS NOT PERMITTED. PROVIDE CORNERS WITH SUITABLE FILLET.
- (3) CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- (4) CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING, WHEN SEALING IS REQUIRED.
- (5) JOINT WIDTH TOLERANCE IS $\pm 1/16"$ TO $-1/32"$.
- (6) EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.
- (7) ANCHOR PIN REQUIREMENTS FOR CONCRETE PAVEMENT ON GRADE CONSTRUCTION. FOR CONCRETE OVERLAYS, ANCHOR PIN REQUIREMENT AS APPROVED BY THE ENGINEER.
- (8) TOLERANCES:
 - PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE $\pm 1/8"$ IN 15".
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT $\pm 1/4"$ IN 15"
 - SAW CONTRACTION JOINTS PERPENDICULAR TO THE CENTERLINE OF THE PAVEMENT AND CENTERED ON THE DOWEL BAR $\pm 3"$.
 - HEIGHT (Hc) TO CENTER OF DOWEL BAR $\pm 1/2"$.
- (9) DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
 - 3' 0" FOR 14' 0" LANE.
 - 2' 6" FOR 13' 6" LANE.
 - 2' 0" FOR 13' 0" LANE.
 - 1' 0" FOR 12' 0" LANE.
- (10) CONTRACTOR OPTION TO CUT AND BEND SPACER WIRES AFTER STAKING.

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LEAD EXPERT OFFICE

GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH



STANDARD PLAN 5-297.221

1 OF 4

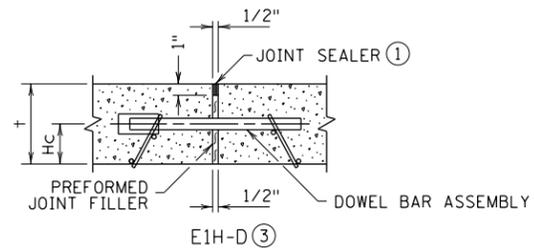
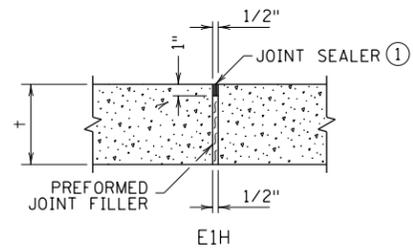
THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 10-03-2022
REVISED:

SP 002-606-013, SP 127-020-034
SP 127-304-002

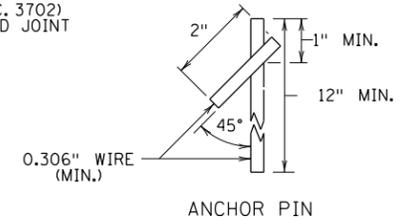
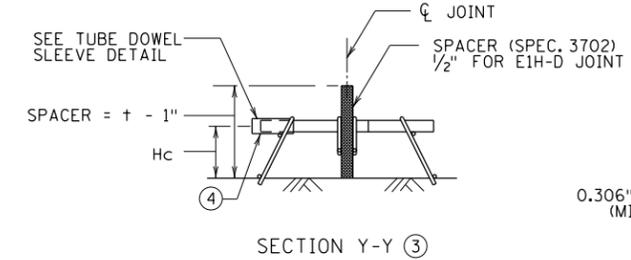
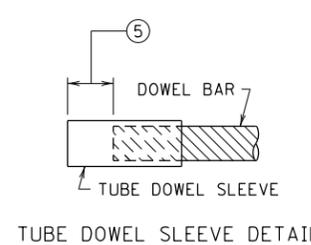
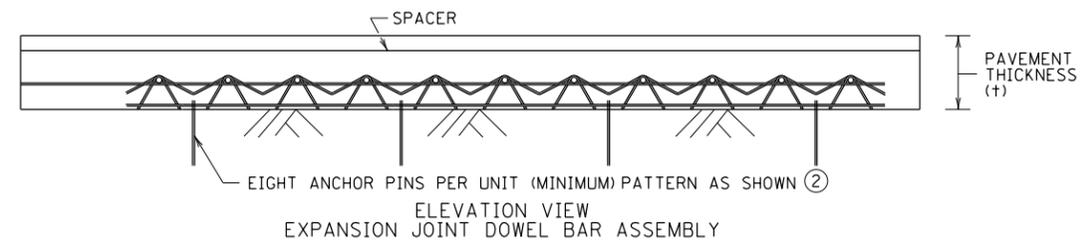
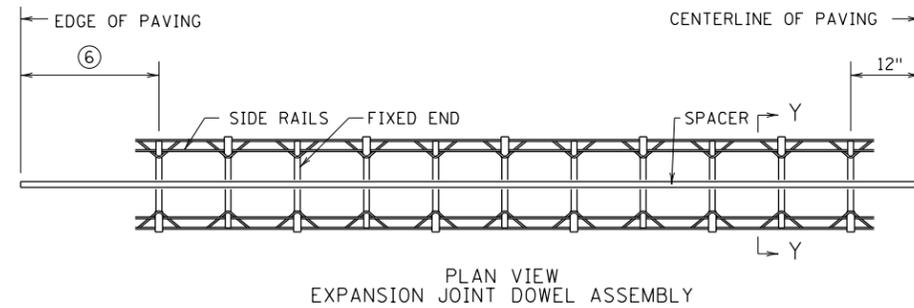
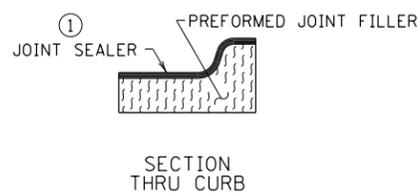
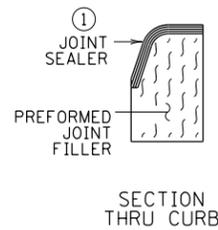
PAVEMENT JOINTS
CONTRACTION (DESIGN C)

SHEET NO. 19 OF 102 SHEETS



EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE				
JOINT REFERENCE		PREFORMED JOINT FILLER SPEC.	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
E1H	E1H-D	3702	3725	1/2"

LEGEND	EXAMPLE
E = EXPANSION JOINT	E1H-D
NO. = JOINT REFERENCE	
H = HOT POURED	
-D = DOWEL BARS	



DOWEL BAR TABLE		
† PAVEMENT THICKNESS (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER OF DOWEL BAR (IN.)
7 - 7 1/2	1	3
8 - 10	1 1/4	4
≥ 10 1/2	1 1/2	5

NOTES:

- WHEN USING THE EXPANSION JOINT DOWEL ASSEMBLY, CONTACT THE CONCRETE OFFICE.
- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.
- PROVIDE PREFORMED JOINT FILLER MATERIAL IN ACCORDANCE WITH SPEC. 3702.
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ① JOINT SEALER SPEC. 3725. CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE.
- ② EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.
- ③ TOLERANCES:
 - PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE ± 1/8" IN 15".
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT ± 1/4" IN 15"
 - HEIGHT (Hc) TO CENTER OF DOWEL BAR ± 1/2".
- ④ PLACE METAL INSTALLATION SHIELDS FOR EXPANSION JOINTS PARALLEL TO THE PAVEMENT SURFACE AND THE PAVEMENT CENTERLINE WITHIN A TOLERANCE OF 1/4" WITHIN THE LENGTH OF BAR.
- ⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE IS 1" MINIMUM.
- ⑥ DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
 - 3' 0" FOR 14' 0" LANE.
 - 2' 6" FOR 13' 6" LANE.
 - 2' 0" FOR 13' 0" LANE.
 - 1' 0" FOR 12' 0" LANE.

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LEAD EXPERT OFFICE

GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.221 **2 OF 4**

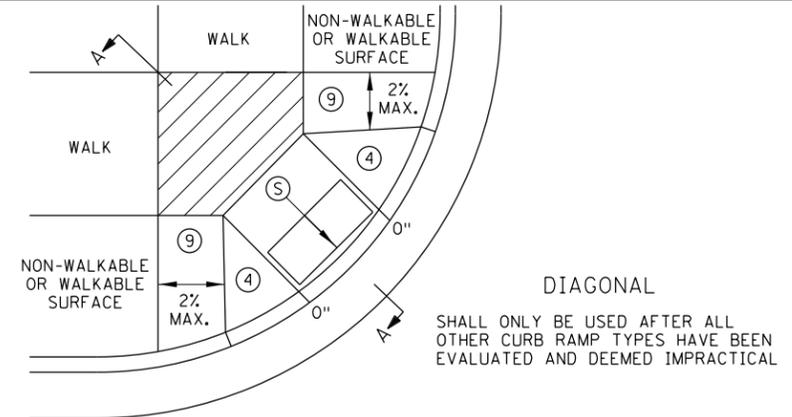
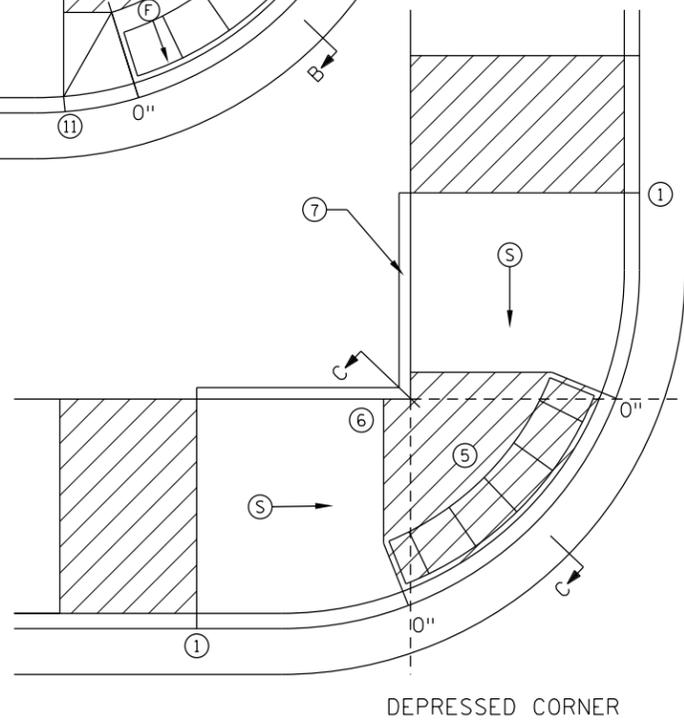
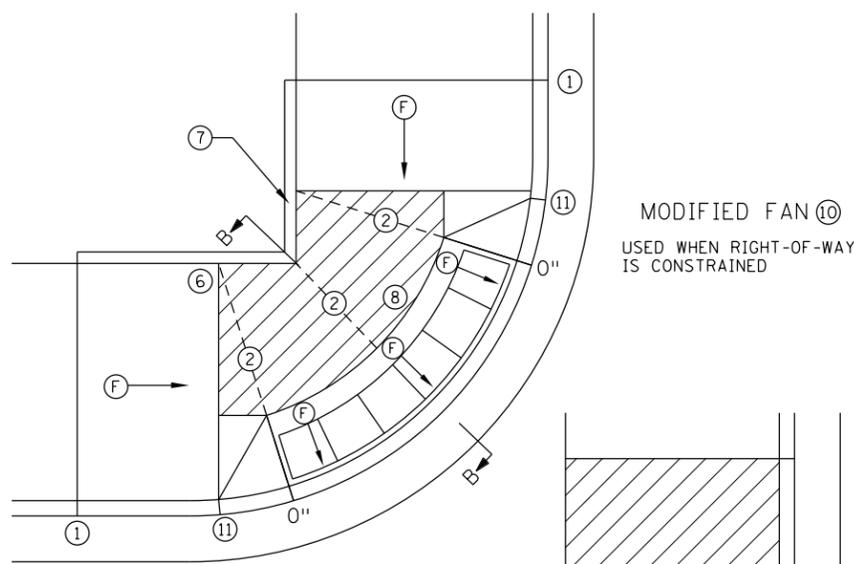
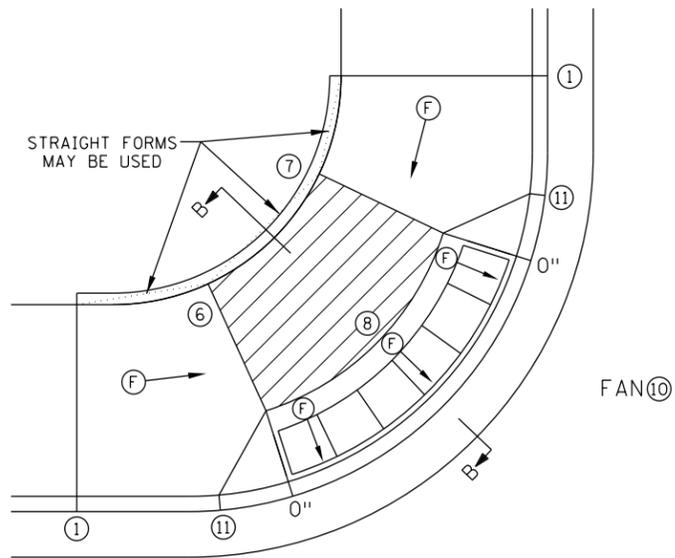
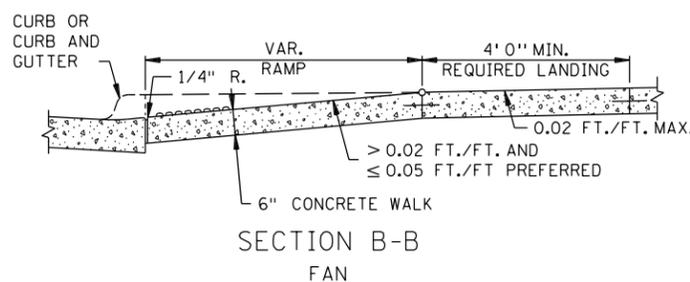
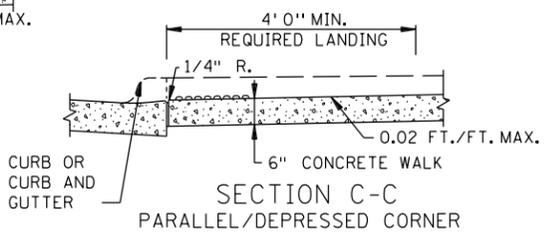
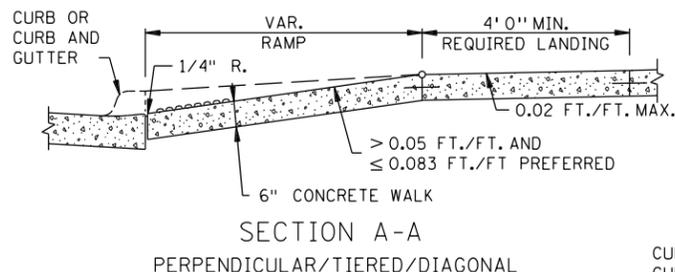
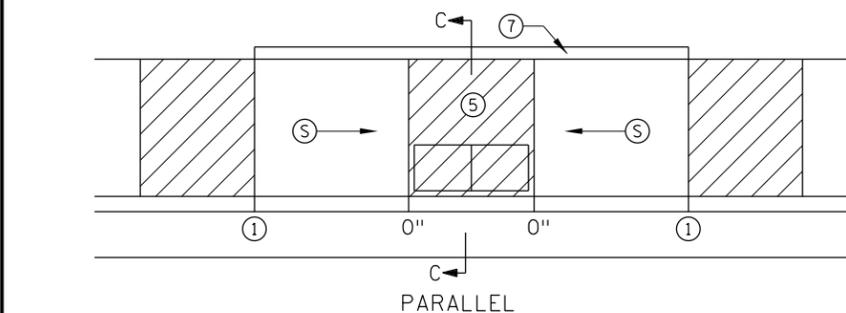
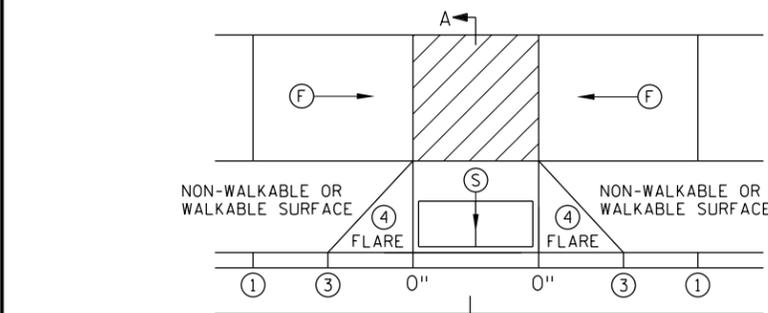
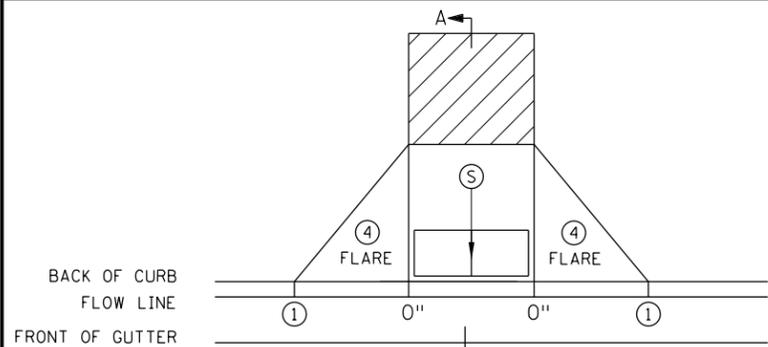
APPROVED: 10-03-2022
REVISED:

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

PAVEMENT JOINTS
EXPANSION (DESIGN E)

SP 002-606-013, SP 127-020-034
SP 127-304-002

SHEET NO. 20 OF 102 SHEETS



NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN ⑥ BELOW.)
- TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
- WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
- RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

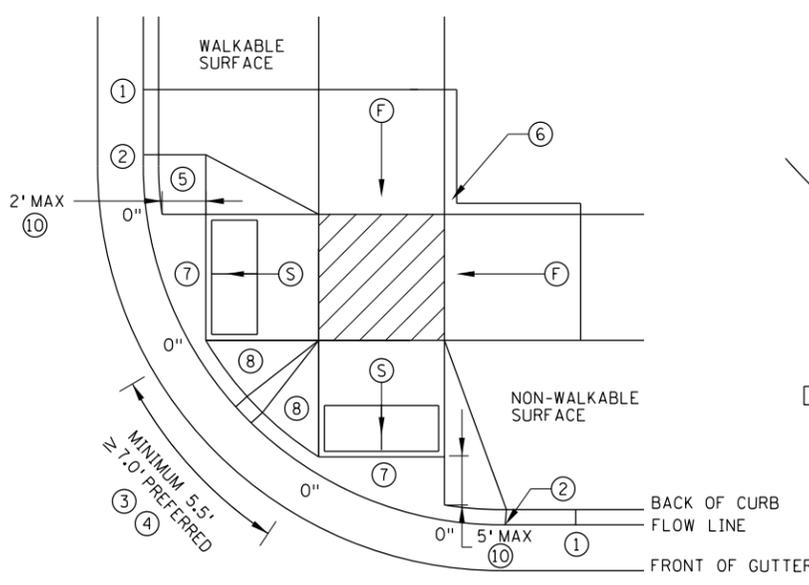
- ① MATCH FULL HEIGHT CURB.
- ② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
- ③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
- ④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
- ⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
- ⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
- ⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- ⑧ A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
- ⑨ PAVE FULL WALK WIDTH.
- ⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.
- ⑪ INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
(Hatched Box)	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X"	CURB HEIGHT

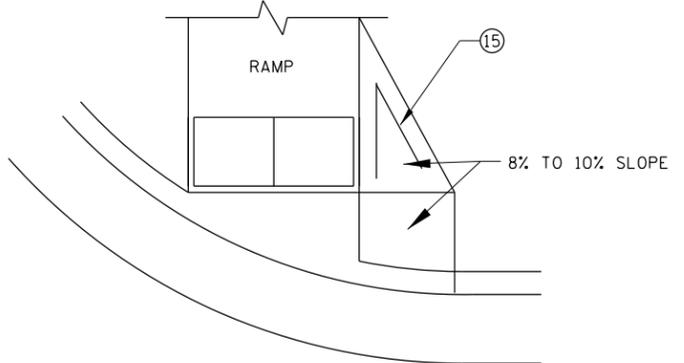
REVISION:
APPROVED: 11-04-2021
Jeff J. Perkins
OPERATIONS DIVISION

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DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.250
1 OF 6
APPROVED: 11-04-2021
REVISOR:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

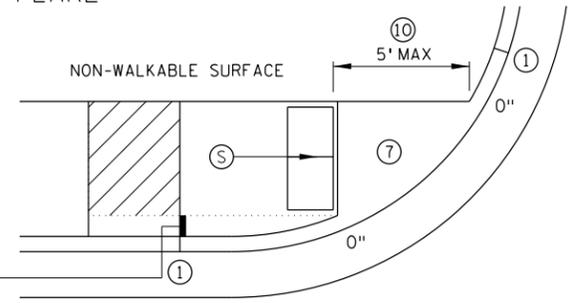


COMBINED DIRECTIONAL

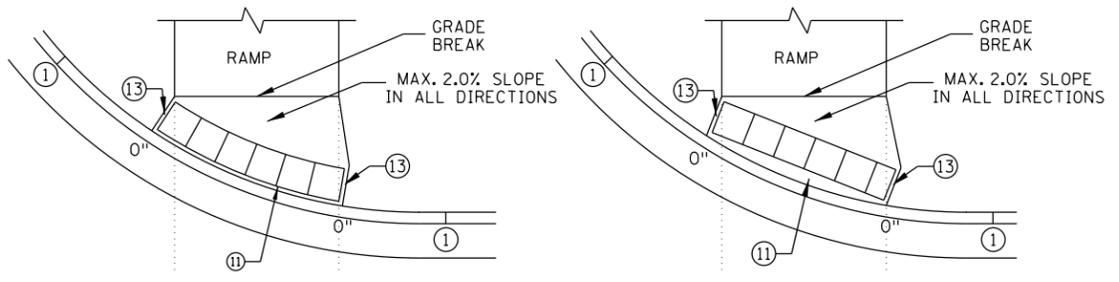


DIRECTIONAL RAMP WALKABLE FLARE

IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.

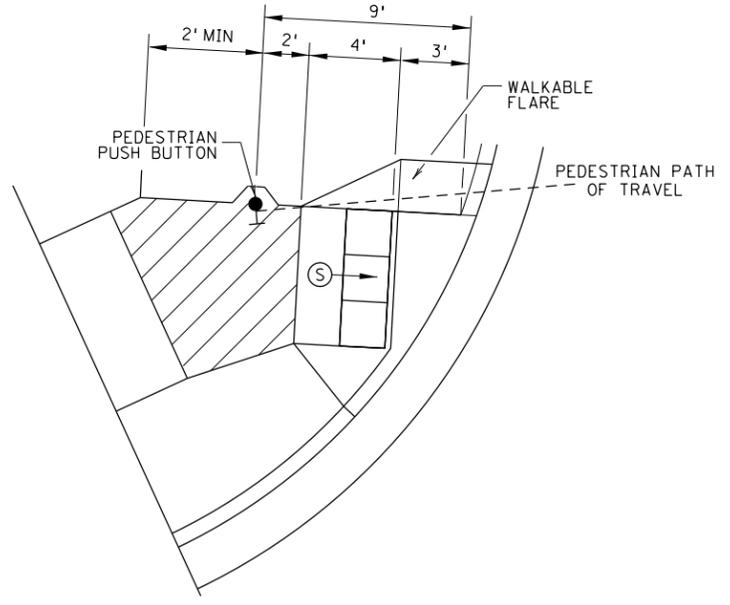


STANDARD ONE-WAY DIRECTIONAL ⑩



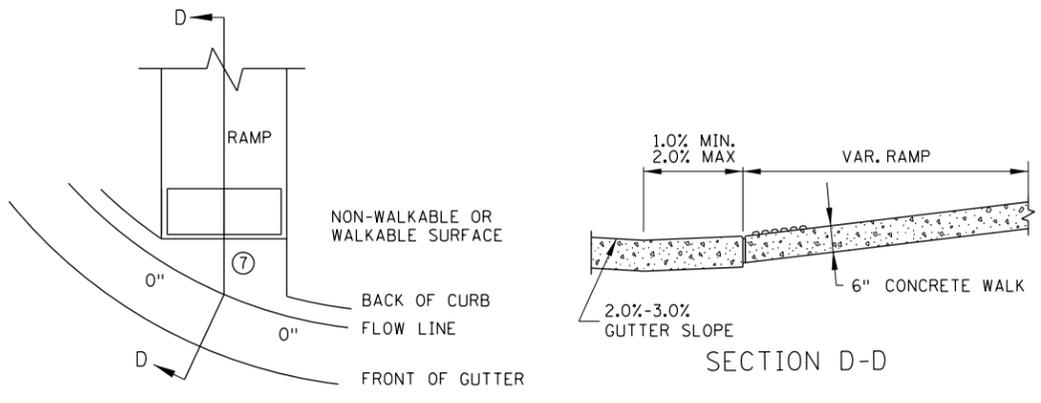
DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



SEMI-DIRECTIONAL RAMP ③④⑨

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB
 PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)



CURB FOR DIRECTIONAL RAMPS ⑭

NOTES:

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

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

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

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

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

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

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

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

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

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

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

- ① MATCH FULL CURB HEIGHT.
- ② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
- ③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
- ④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
- ⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.
- ⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- ⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- ⑧ 8% TO 10% WALKABLE FLARE.
- ⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- ⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- ⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- ⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
- ⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.
- ⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
(Hatched Box)	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
X"	CURB HEIGHT

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REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins
 JEFF PERKINS
 OPERATIONS DIVISION

m MINNESOTA
 DEPARTMENT OF TRANSPORTATION

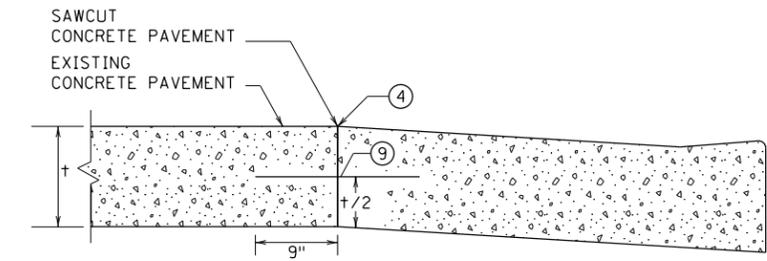
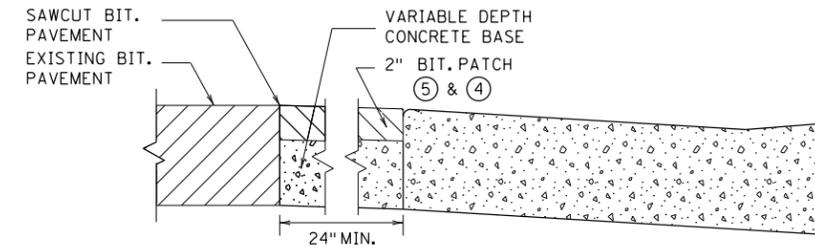
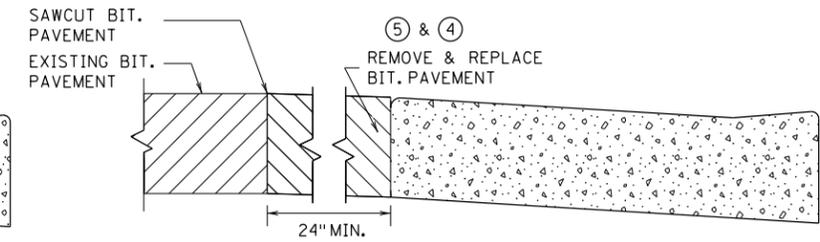
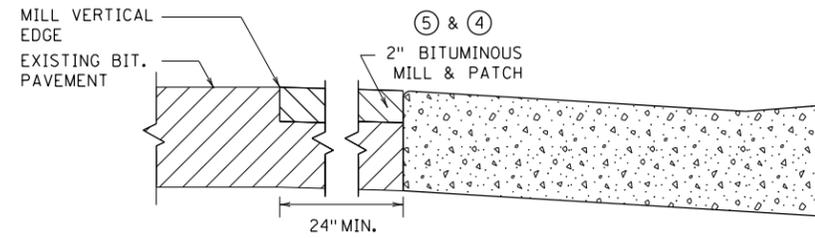
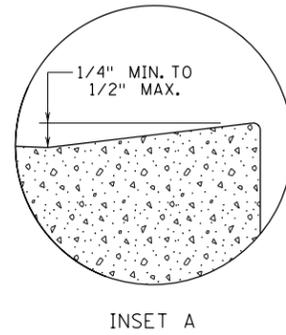
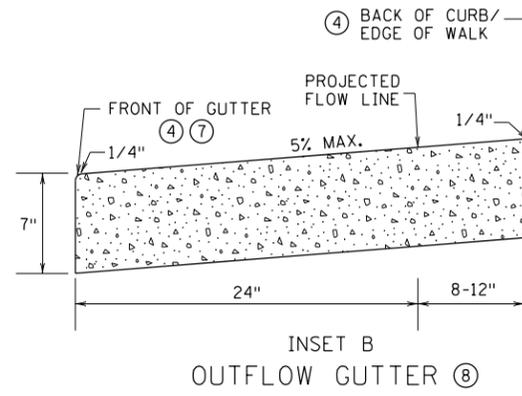
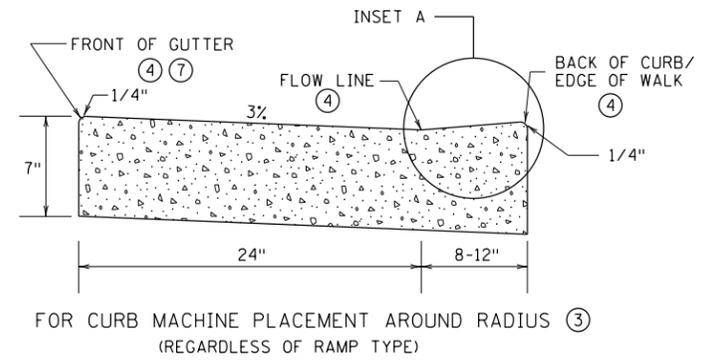
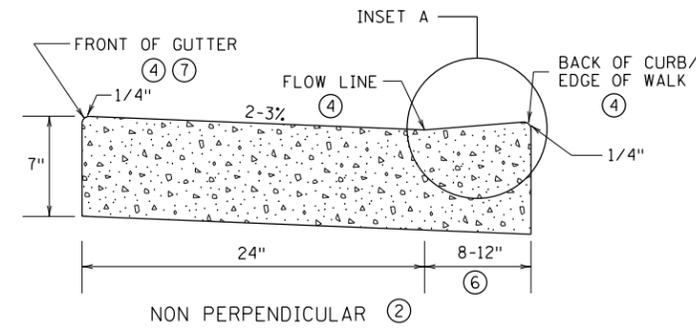
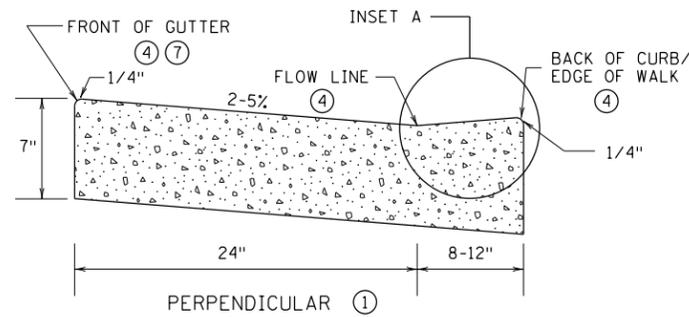
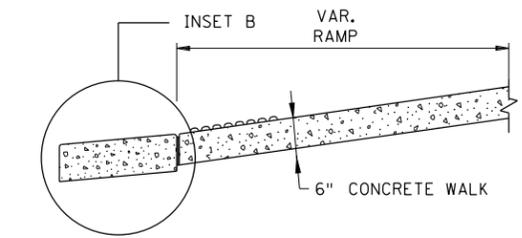
STANDARD PLAN 5-297.250 2 OF 6

APPROVED: 11-04-2021
 REVISOR:

Tom Styrbicki
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

SP 002-606-013, SP 127-020-034
 SP 127-304-002

PEDESTRIAN CURB RAMP DETAILS

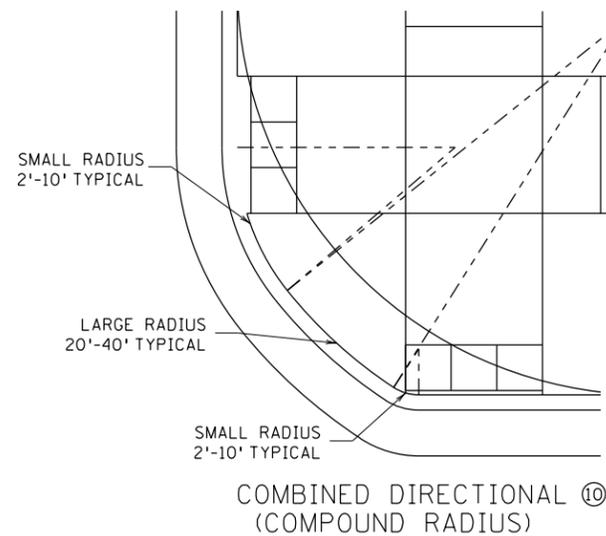
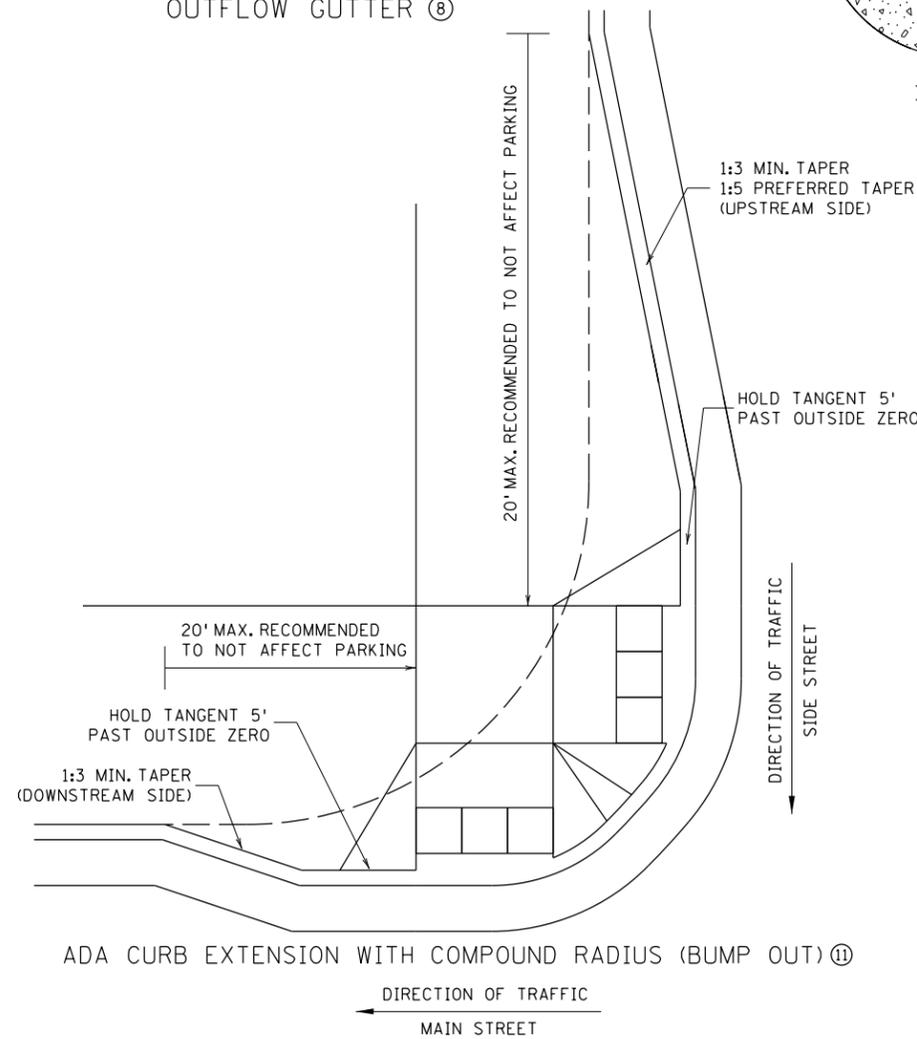


ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER FOR USE ON CURB RAMP RETROFITS

NOTES:

- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR.
- ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
- ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
- ② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
- ③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
- ④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
- ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
- ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
- ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
- ⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
- ⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.
- ⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
- ⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.



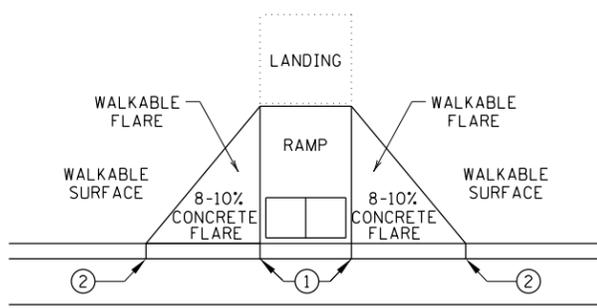
REVISION:
 APPROVED: 11-04-2021
 Jeff J. Perkins
 OPERATIONS DIVISION



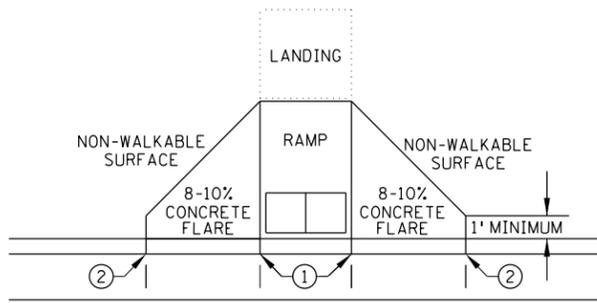
STANDARD PLAN 5-297.250 3 OF 6
 APPROVED: 11-04-2021
 REVISION:
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

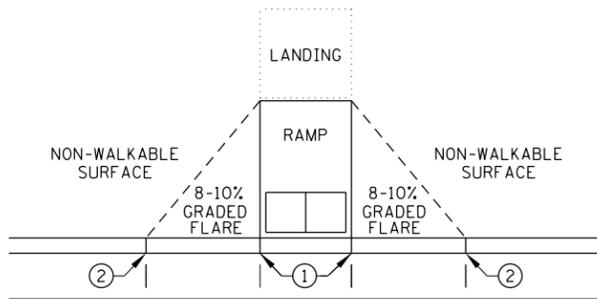
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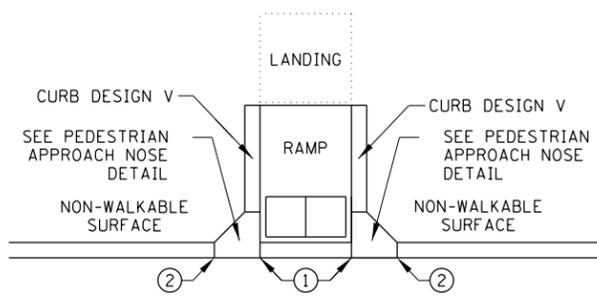
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

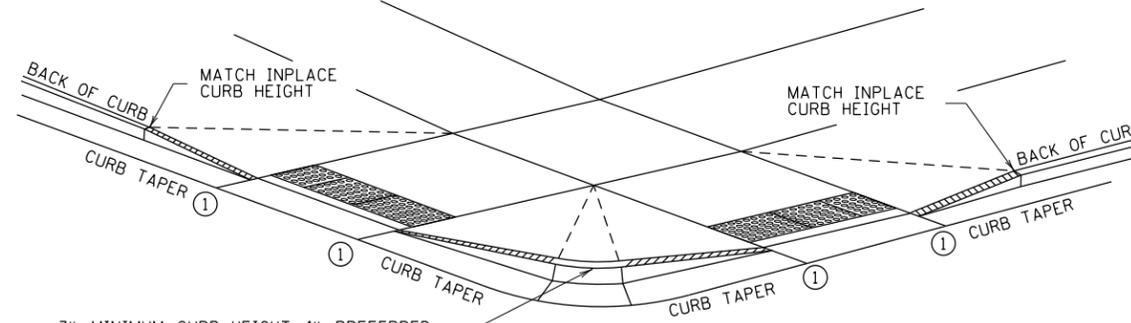


GRADED FLARES



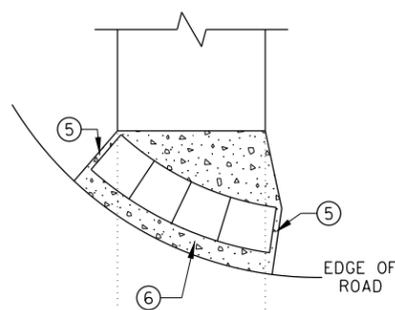
RETURNED CURB ④

TYPICAL SIDE TREATMENT OPTIONS ③ ⑩

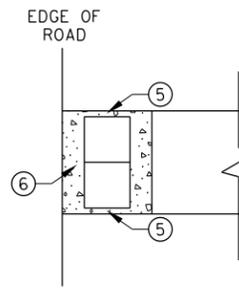


3" MINIMUM CURB HEIGHT, 4" PREFERRED
(MEASURED AT FRONT FACE OF CURB)
FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH CURB AND GUTTER ⑦

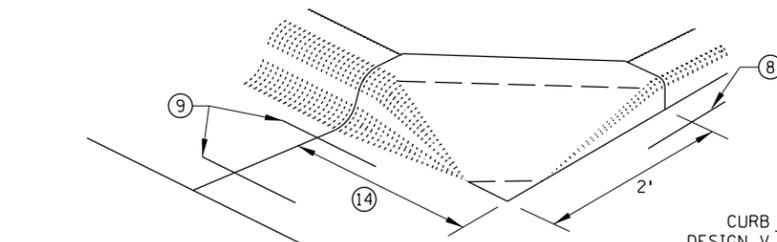


RADIAL DETECTABLE WARNING

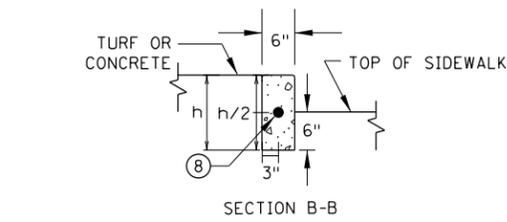


RECTANGULAR DETECTABLE WARNING

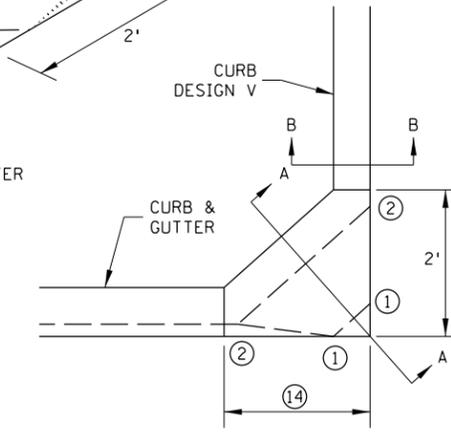
DETECTABLE EDGE WITHOUT CURB AND GUTTER



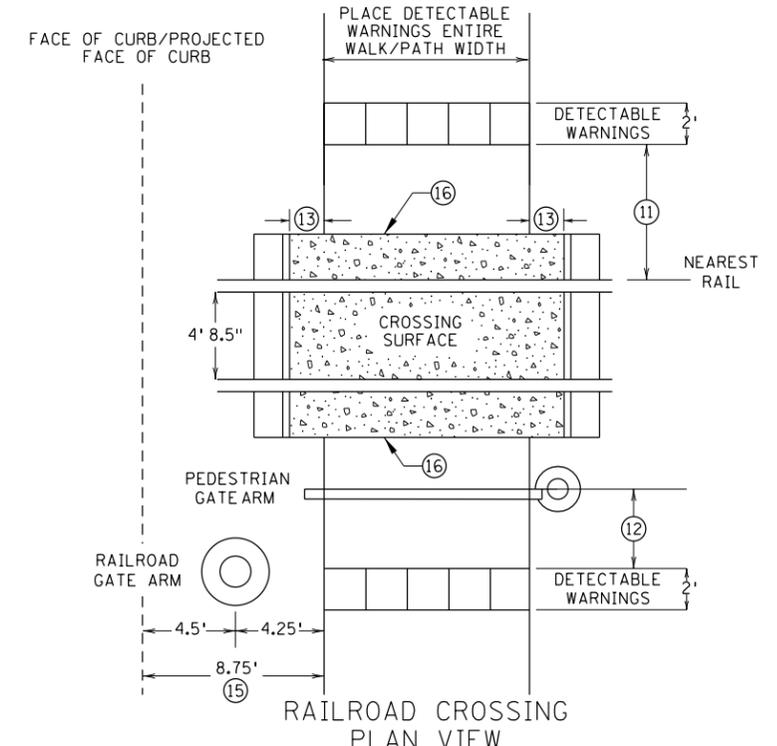
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH NOSE DETAIL
(FOR RETURNED CURB SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

- NOTES:
- INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.
 - SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
 - A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
 - CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.
 - ① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.
 - ② FULL CURB HEIGHT.
 - ③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
 - ④ TYPICALLY USED FOR MEDIANS AND ISLANDS.
 - ⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
 - ⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
 - ⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS, AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
 - ⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
 - ⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
 - ⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.
 - ⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
 - ⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.
 - ⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
 - ⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
 - ⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.
 - ⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

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STANDARD PLAN 5-297.250 4 OF 6

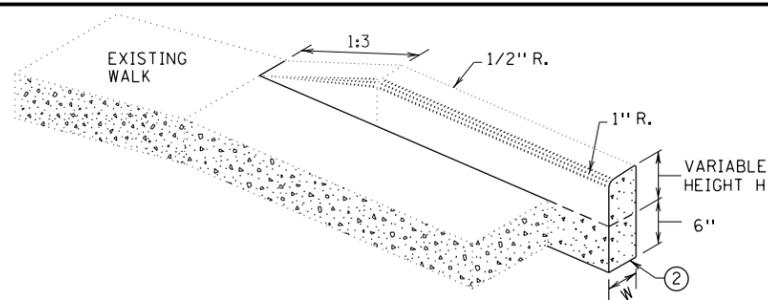
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REVISED:

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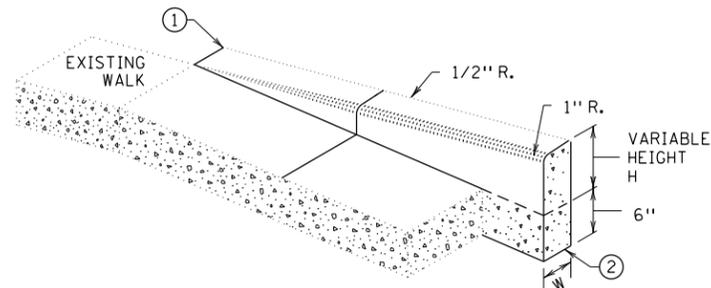
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PEDESTRIAN CURB RAMP DETAILS

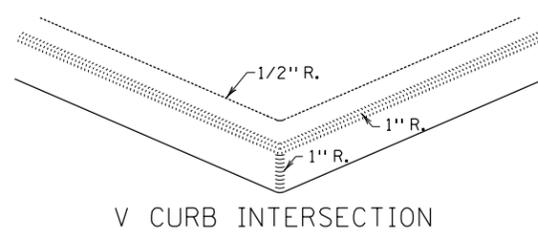
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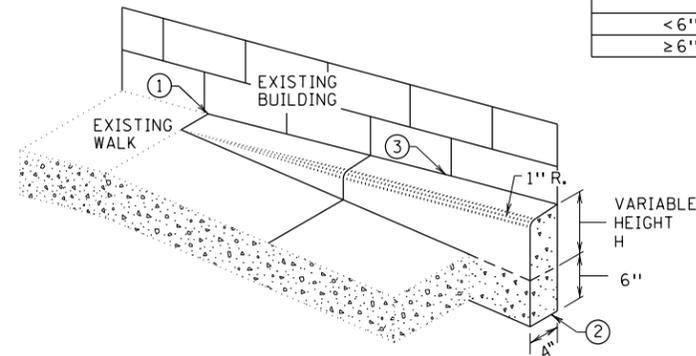
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

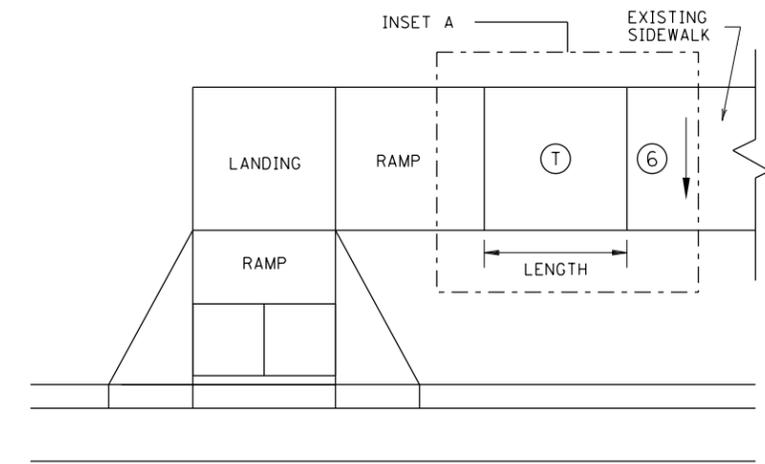


V CURB INTERSECTION

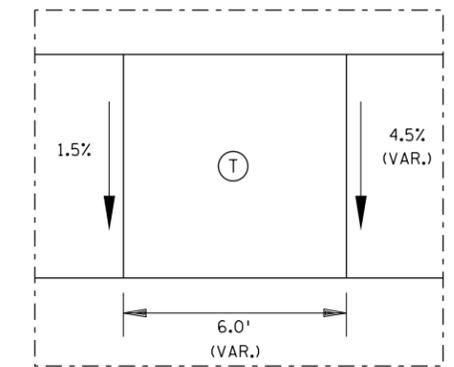


V CURB ADJACENT TO BUILDING
OR BARRIER

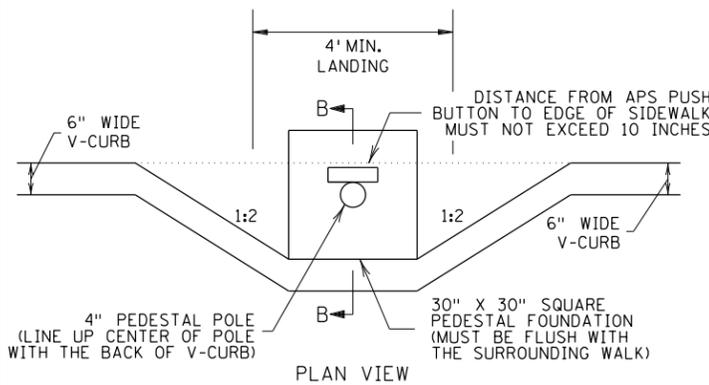
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



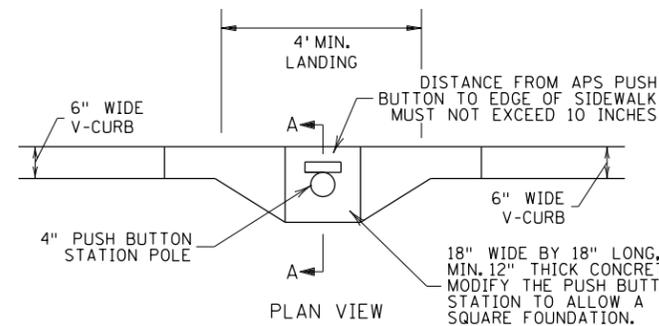
TRANSITION PANEL ④ ⑤



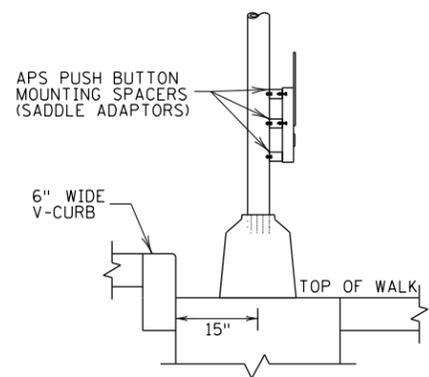
INSET A



PLAN VIEW

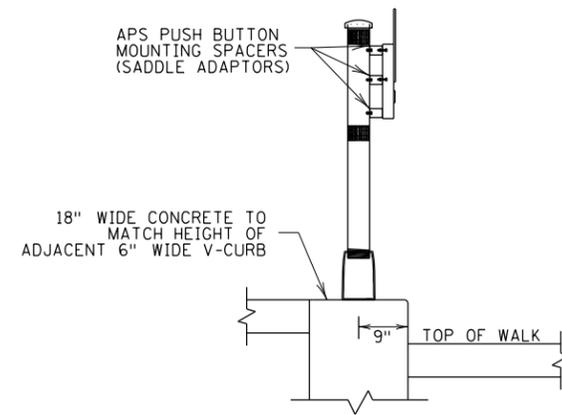


PLAN VIEW



SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

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

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

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

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

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

- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
- ④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
- ⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
- ⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

- THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
- Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
 - ▨ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
 - Ⓣ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

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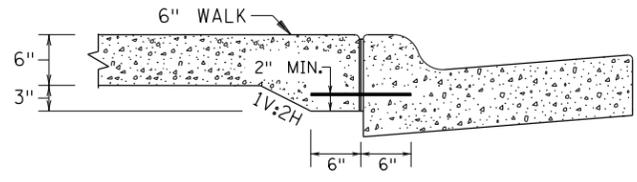
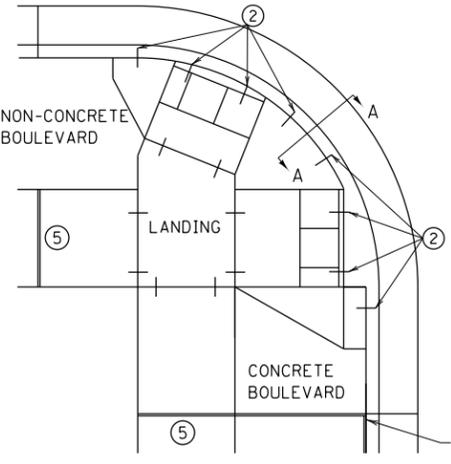
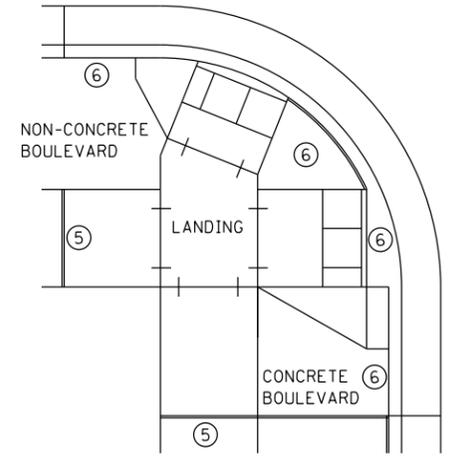
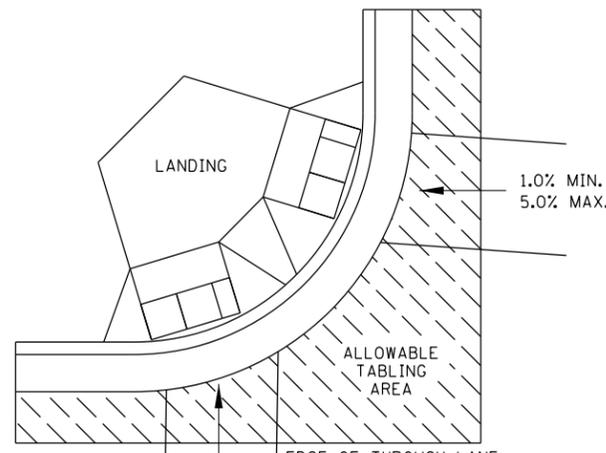
STANDARD PLAN 5-297.250 5 OF 6
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REVISOR:
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PEDESTRIAN CURB RAMP DETAILS

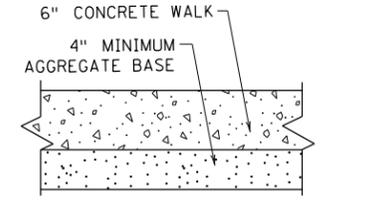
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SECTION VIEW A-A
THICKENED SECTION
THROUGH CURB RAMP FLARES

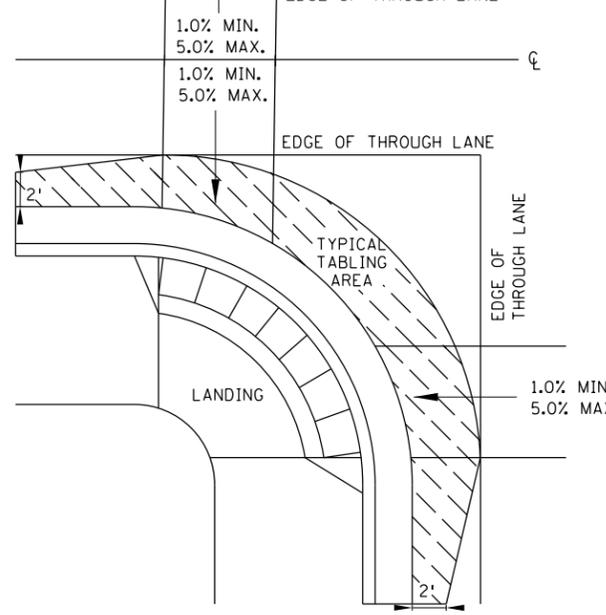


TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

END SILL CURB
AT TOP OF CURB
RAMP AND DRIVEWAY
FLARES.

EXPANSION MATERIAL PLACEMENT
FOR CONCRETE ROADWAYS

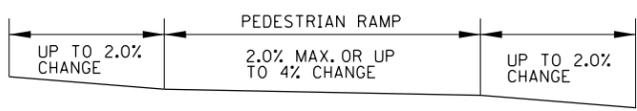
CURB LINE REINFORCEMENT
PLACEMENT ON BITUMINOUS ROADWAYS



CURB LINE AND ROAD CROSSING ADJUSTMENTS



FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



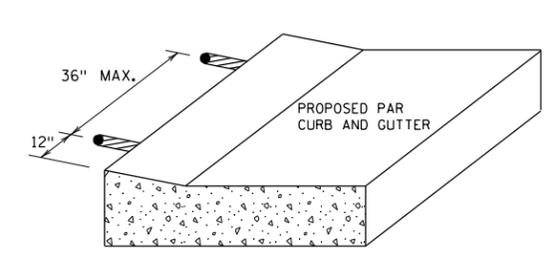
FLOW LINE PROFILE "TABLE" - FAN



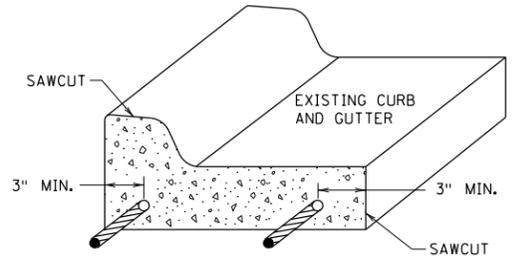
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



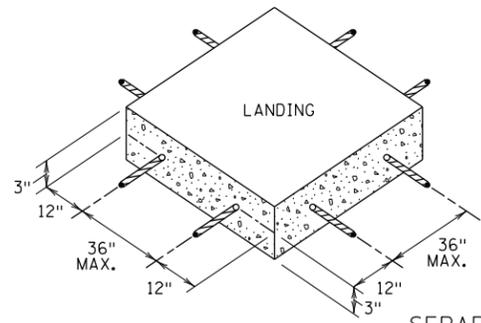
FLOW LINE PROFILE RAISE - FAN



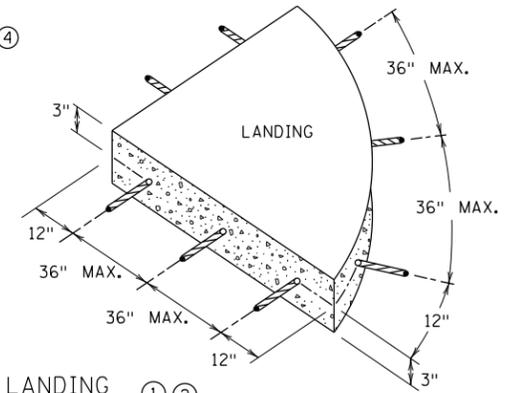
CURB RAMP REINFORCEMENT DETAILS



CURB AND GUTTER
REINFORCEMENT



SEPARATE LANDING
POUR REINFORCEMENT



GENERAL NOTES:

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

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

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

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

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

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

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

NOTES:

- ① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- ② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.
- ③ DRILL AND GROUT 2 - NO. 4 X 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.
- ④ THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.
- ⑤ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.
- ⑥ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

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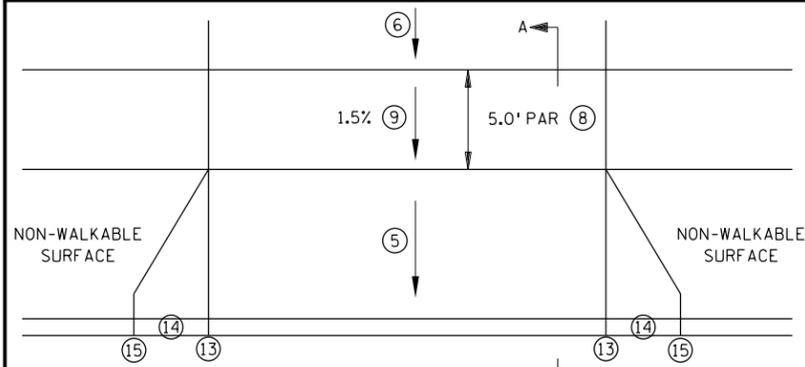
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PEDESTRIAN CURB RAMP DETAILS

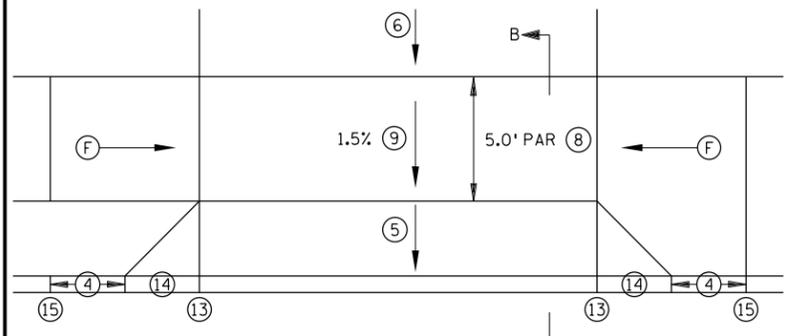
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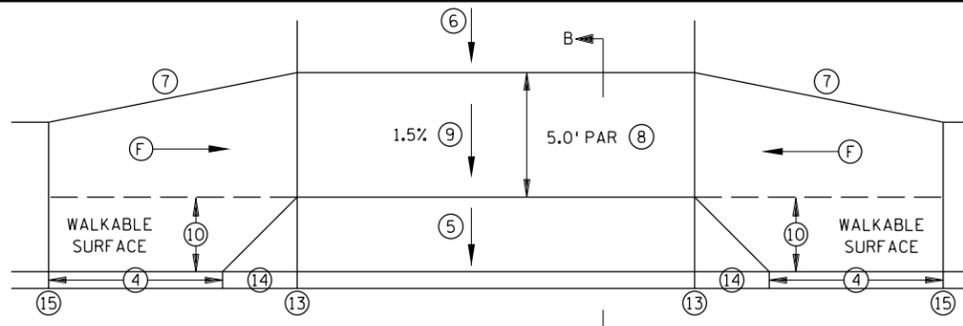
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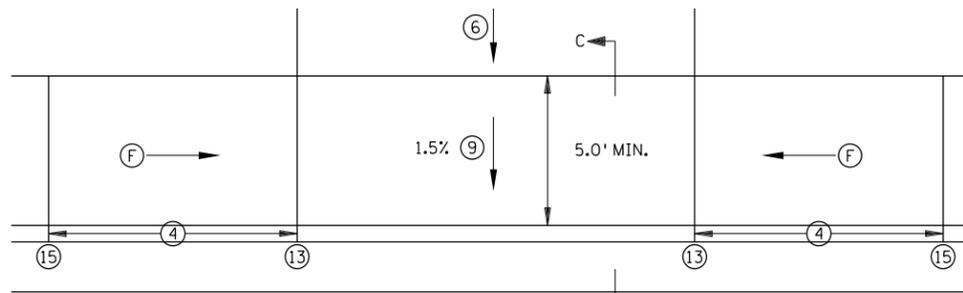
PERPENDICULAR DRIVEWAY ①



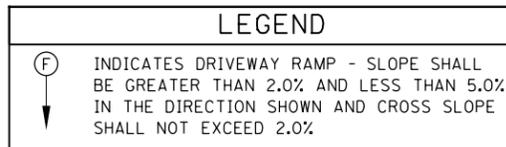
TIERED PERPENDICULAR DRIVEWAY ②



TIERED PERPENDICULAR OFFSET DRIVEWAY ②



PARALLEL DRIVEWAY ③



NOTES:

ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.

IN URBAN ROADWAY SECTIONS, 6" CURB HEIGHT SHOULD BE USED WHEN 6' OR GREATER BOULEVARD WIDTH IS PROPOSED. WHEN BOULEVARD IS LESS THAN 6' WIDE, 4" CURB HEIGHT SHOULD BE USED.

MAINTAIN EXISTING DRAINAGE PATTERNS FLOWING TO PUBLIC RIGHT OF WAY.

ACQUIRE ADEQUATE L3 TO ALLOW FOR A CONTINUOUS PAR PROFILE (UNIFORM TYPICAL SIDEWALK SECTION) THROUGH THE DRIVEWAY APRON.

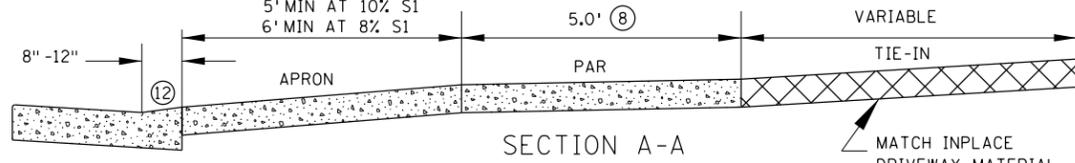
IN NO CASE SHALL SIDEWALK PROFILES EXCEED 5.0%, EXCEPT SIDEWALK PROFILES CAN MATCH ROADWAY GRADE IF ROADWAY GRADE IS GREATER THAN 5.0%. RAMPS FOR DRIVEWAYS ARE REQUIRED TO FOLLOW THE ABOVE SIDEWALK CRITERIA.

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

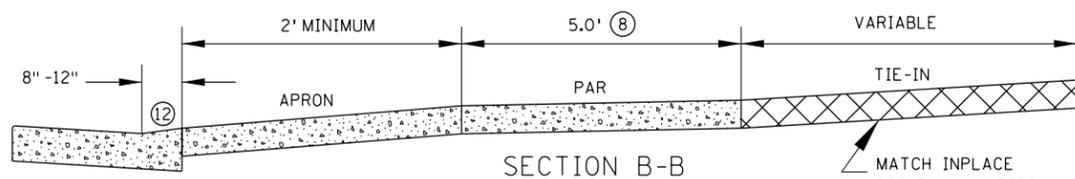
DRIVEWAY TYPES FROM MOST PREFERRED TO LEAST PREFERRED ARE AS FOLLOWS: PERPENDICULAR, TIERED PERPENDICULAR, TIERED PERPENDICULAR OFFSET & PARALLEL.

- ① PERPENDICULAR DRIVEWAYS ARE THE STANDARD AND STARTING POINT FOR ALL DRIVEWAY DESIGN AND CONSTRUCTION. SHOULD BE USED TO ACHIEVE CONTINUOUS PAR PROFILE THROUGH THE DRIVEWAY. OBTAINING A PERPENDICULAR DRIVEWAY DESIGN BECOMES MORE CRITICAL WITH STEEP ROADWAY PROFILES.
- ② TO BE USED WHEN PERPENDICULAR DRIVEWAY DESIGN CANNOT BE ACHIEVED, THE DRIVEWAY PAR IS BELOW ROADWAY CURB HEIGHT. THIS DRIVEWAY TYPE CAN BE USED FOR BOTH PAVED (AS SHOWN) AND GRASS BOULEVARDS.
- ③ TO BE USED WHEN PERPENDICULAR AND TIERED PERPENDICULAR DRIVEWAY DESIGN CANNOT BE ACHIEVED. CAN BE USED FOR STEEP NEGATIVE SLOPED DRIVEWAYS. DW CURB TYPE 2 SHOULD BE USED TO RAISE PAR ABOVE GUTTER AND REDUCE "ROLLER COASTER" EFFECT. 4" HIGH ROADWAY CURB SHOULD BE USED TO REDUCE "ROLLER COASTER" EFFECT ESPECIALLY WHEN MULTIPLE DRIVEWAYS ARE PRESENT.
- ④ TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- ⑤ 8% STANDARD, 10% MAX. FOR COMMERCIAL AND 12% MAX. FOR RESIDENTIAL. SEE GENERAL NOTES ON SHEET 2 FOR MORE INFORMATION.
- ⑥ S3 8% MAXIMUM, IF THE SLOPE IS EXCEEDED OR CONTINUED FOR MORE THAN 5'; ANALYZE VEHICLE TEMPLATES FOR VERTICAL CLEARANCE. IF EXISTING DRIVEWAY IS NEGATIVELY DRAINING, S3 CAN BECOME SLIGHTLY MORE NEGATIVE TO ACHIEVE PERPENDICULAR DRIVEWAY DESIGN IF THE VERTICAL CLEARANCE IS ACHIEVED IN VEHICLE TEMPLATES.
- ⑦ 1:3 MIN. 1:5 PREFERRED FOR DRIVEWAY RETROFIT PROJECTS. 1:10 PREFERRED FOR SIDEWALK REPLACEMENT PROJECTS.
- ⑧ 5.0' MIN. PAR WIDTH IS THE STANDARD THROUGH DRIVEWAYS. IF FEASIBLE WIDEN DRIVEWAY PAR WIDTH TO MATCH APPROACHING SIDEWALK PAR WIDTHS. IN VERTICALLY CONSTRAINED AREAS PAR WIDTHS CAN INCREMENTALLY BE REDUCED TO 4.5' OR 4' MIN AFTER ALL OTHER OPTIONS HAVE BEEN APPLIED.
- ⑨ THE PEDESTRIAN ACCESS ROUTE, MAY NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
- ⑩ SIDEWALK OFFSET TO BE LESS THAN OR EQUAL TO HALF THE APPROACHING SIDEWALK WIDTH.
- ⑪ INTEGRAL DRIVEWAY APRON TO BE POURED MONOLITHICALLY/INTEGRAL WITH THE CURB AND GUTTER. SEE SHEET 2 FOR MORE INFORMATION.
- ⑫ SEE SHEET 2 FOR CURB TYPE INFORMATION.
- ⑬ 0" CURB IS AT FLOW LINE. SEE DRIVEWAY TABLE FOR BACK OF CURB HEIGHTS.
- ⑭ 3' LONG AT 8-10% PREFERRED FOR INITIAL CURB TAPER. REDUCE CURB TAPER SLOPE IF NECESSARY TO MATCH ADJACENT SIDEWALK GRADES.
- ⑮ MATCH FULL CURB HEIGHT.
- ⑯ 1:2 TAPER RATE ON INTEGRAL DRIVEWAY APRONS.
- ⑰ SEE SHEET 4 FOR WHEN 6" WALK IS REQUIRED.

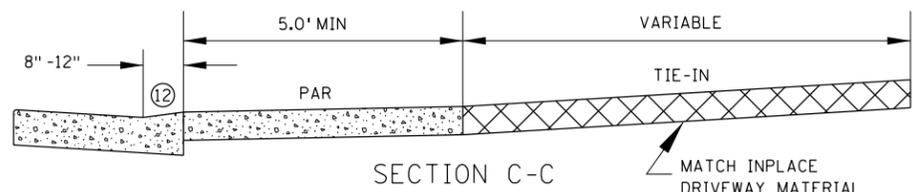
WITH 4" CURB HEIGHT;
3' MIN AT 10% S1
4' MIN AT 8% S1
WITH 6" CURB HEIGHT;
5' MIN AT 10% S1
6' MIN AT 8% S1



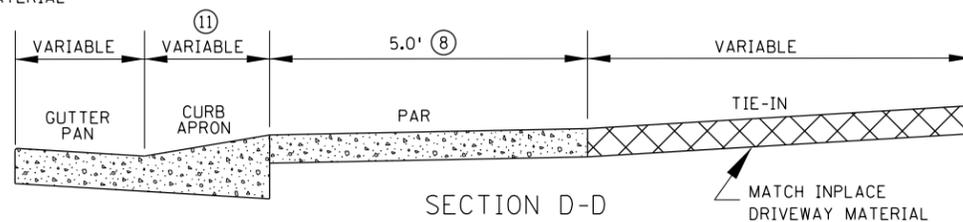
SECTION A-A



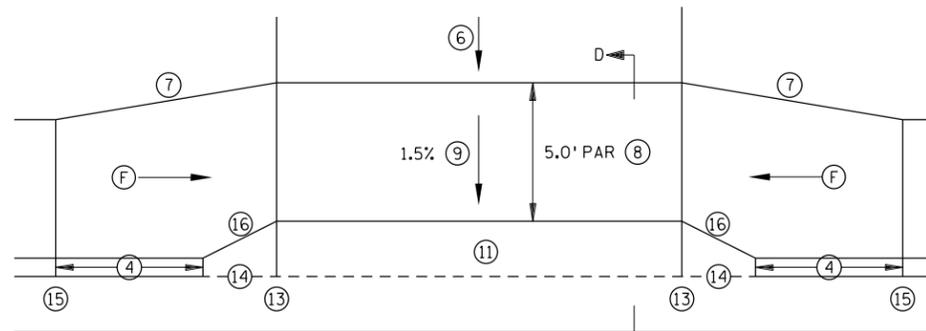
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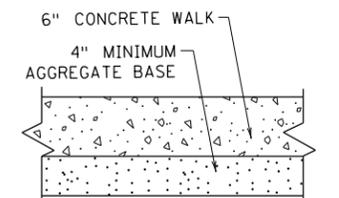
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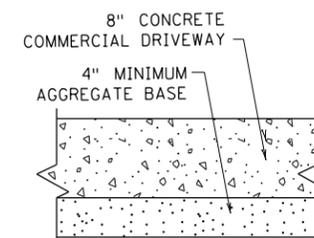
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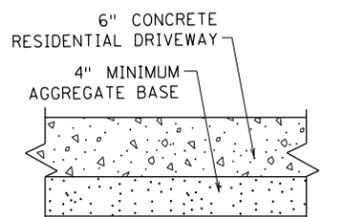
INTEGRAL DRIVEWAY APRON



TYPICAL SIDEWALK SECTION ⑰



8" CONCRETE COMMERCIAL DRIVEWAY
4" MINIMUM AGGREGATE BASE



6" CONCRETE RESIDENTIAL DRIVEWAY
4" MINIMUM AGGREGATE BASE

TYPICAL DRIVEWAY SECTIONS

REVISION:
APPROVED: 11-04-2021
Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION



STANDARD PLAN 5-297.254 1 OF 4
APPROVED: 11-04-2021
REVISOR:
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

DRIVEWAY AND SIDEWALK DETAILS

SP 002-606-013, SP 127-020-034
SP 127-304-002

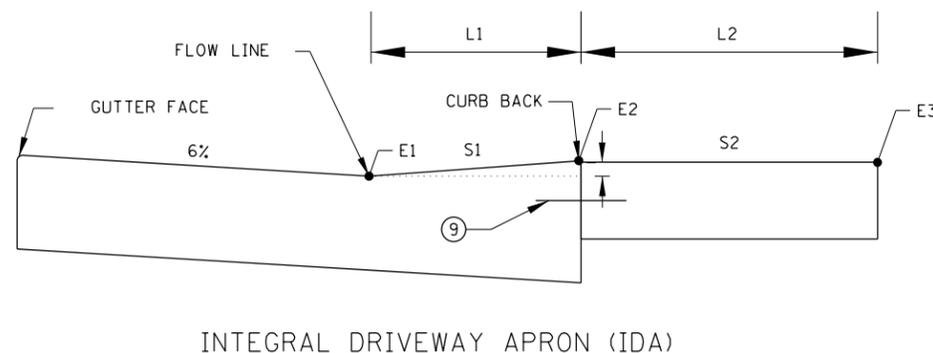
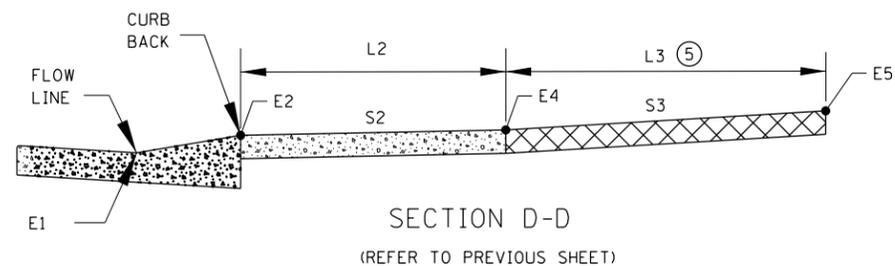
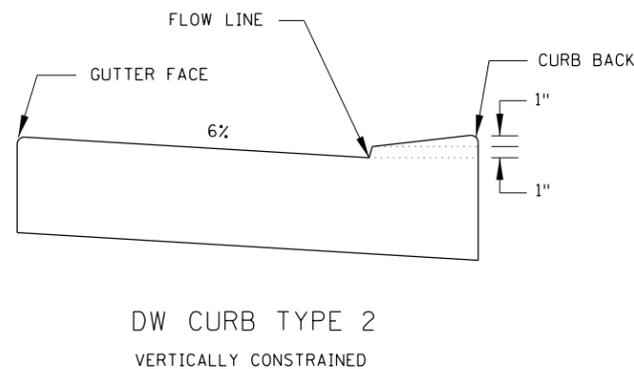
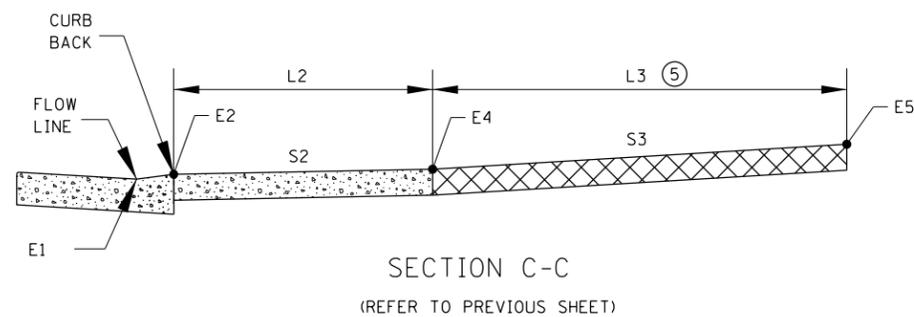
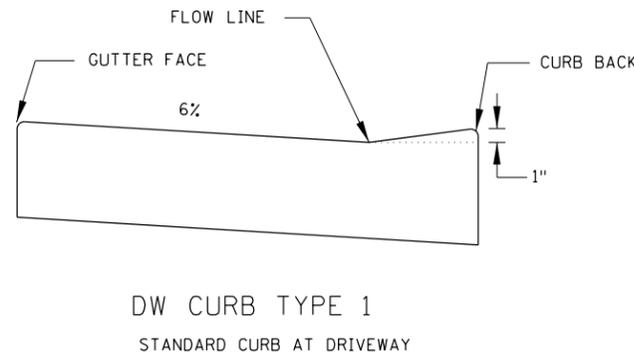
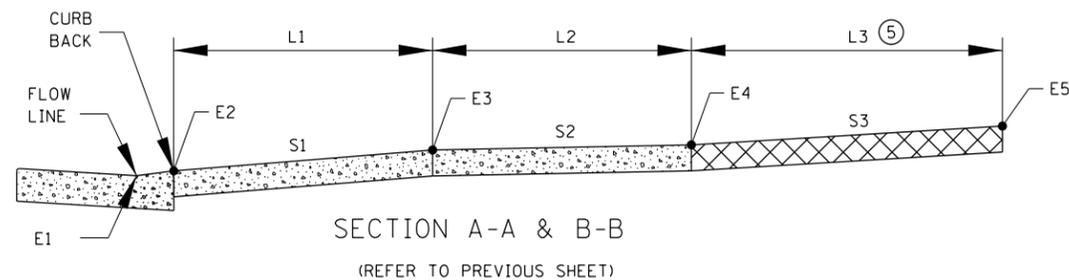
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DRIVEWAY TABULATION ①

ALIGNMENT	STATION	SIDE	DRIVEWAY TYPE ②	CURB TYPE ③	E1	E2	L1	S1	E3	L2	S2 ④	E4	L3 ⑤	S3	EXISTING ⑥	E5	COMMENTS
							FT	%		FT	%		FT	%	%		
WB CSAH 6	35+61.6	LT	PERPENDICULAR	DW CURB TYPE 1	889.93	890.02	5.0	10.0	890.52	5.0	1.5	890.60	6.3	0.2	9.7	890.61	
WB CSAH 6	36+60.6	LT	PERPENDICULAR	DW CURB TYPE 1	887.32	887.41	5.0	10.0	887.91	5.0	1.5	887.99	6.4	12.6	14.3	888.79	
WB CSAH 6	37+34.0	LT	PERPENDICULAR	DW CURB TYPE 1	885.58	885.67	5.0	2.0	885.77	5.0	1.5	885.85	5.0	0.9	6.0	885.89	
EB CSAH 6	40+19.6	RT	TIERED PERPENDICULAR	DW CURB TYPE 1	894.78	894.82	2.8	2.0	894.88	5.0	1.0	894.93	2.0	-11.3	-6.1	894.70	
EB CSAH 6	43+63.0	RT	NA														REMOVE EXISTING DRIVEWAY APRON
NB CSAH 35	23+23.6	RT	NA														REMOVE EXISTING DRIVEWAY APRON

NOTES:

- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
- DW CURB TYPE 1 SHALL BE USED WHEN THE DRIVEWAY ACTS AS A PEDESTRIAN RAMP. THE MAX. APRON SLOPE MUST ADHERE TO ADA CRITERIA AS WELL. DW CURB TYPE 1 SHOULD BE USED IF THERE IS ON STREET PARKING.
- WHERE ROADWAY DRAINAGE IS A CONCERN (NEGATIVE SLOPED APRON) DW CURB TYPE 2 CAN BE USED TO HELP KEEP THE WATER ON PUBLIC RIGHT OF WAY.
- S1 8% STANDARD, 10% MAX. COMMERCIAL AND 12% MAX. RESIDENTIAL. IF EXISTING GRADES ARE STEEPER DO NOT MAKE GRADES APPRECIABLY WORSE BY USING BEST PRACTICES SUCH AS DRIVEWAY CURB HEIGHTS, EXTENDING L3 AND/OR STEEPEN S3.
- S3 8% MAXIMUM, IF THIS SLOPE IS EXCEEDED OR CONTINUED FOR MORE THAN 5', ANALYZE VEHICLE TEMPLATES FOR VERTICAL CLEARANCE. SEE FACILITY DESIGN GUIDE, CHAPTER 6, FOR GEOMETRIC DESIGNS OF DRIVEWAYS.
- ① EXAMPLE SHOWN TO BE INCLUDED IN PLAN FOR EACH DRIVEWAY THAT HAS PAR THROUGH IT.
- ② REFERS TO THE FOLLOWING TYPES; PERPENDICULAR DRIVEWAY, TIERED PERPENDICULAR OFFSET DRIVEWAY, TIERED PERPENDICULAR DRIVEWAY, PARALLEL DRIVEWAY, AND INTEGRAL DRIVEWAY APRON.
- ③ DW CURB TYPE 1 IS THE STANDARD AND SHALL BE THE STARTING POINT FOR ALL PERPENDICULAR AND TIERED DRIVEWAYS. DW CURB TYPE 2 SHALL ONLY BE USED AFTER UTILIZING BEST PRACTICES SUCH AS MAXIMIZING S1, S3, AND L3.
- ④ SHOULD BE DESIGNED AT 1.5%.
- ⑤ ACQUIRE ADEQUATE L3 TO ALLOW FOR CONTINUOUS PAR PROFILE (UNIFORM SIDEWALK SECTION) THROUGH THE DRIVEWAY APRON.
- ⑥ PROVIDE INPLACE TIE-IN SLOPE INFORMATION AT BACK OF PROPOSED WALK (S3 AREA).
- ⑦ INFORMATION TO BE INCORPORATED INTO DRIVEWAY TABLE WHEN INTEGRAL DRIVEWAY APRON IS USED. OTHER CURB HEIGHTS & CURB APRON LENGTHS CAN BE USED.
- ⑧ L1 & S1 FOR INTEGRAL DRIVEWAY APRON IS TO FLOWLINE. 12.5% IS MAXIMUM PREFERRED SLOPE.
- ⑨ TIE ADJACENT SECTIONS. CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. DRILL AND GROUT OR CAST IN-PLACE THROUGH HOLES IN THE FORMS NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINT.



CURB TYPE	L1	E2	S1 ⑧
	FT		%
IDA 216	1.33	+0.16	12.5
IDA 220	1.67	+0.16	10
IDA 324	2	+0.24	12.5
IDA 432	2.67	+0.33	12.5

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REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.254 2 OF 4

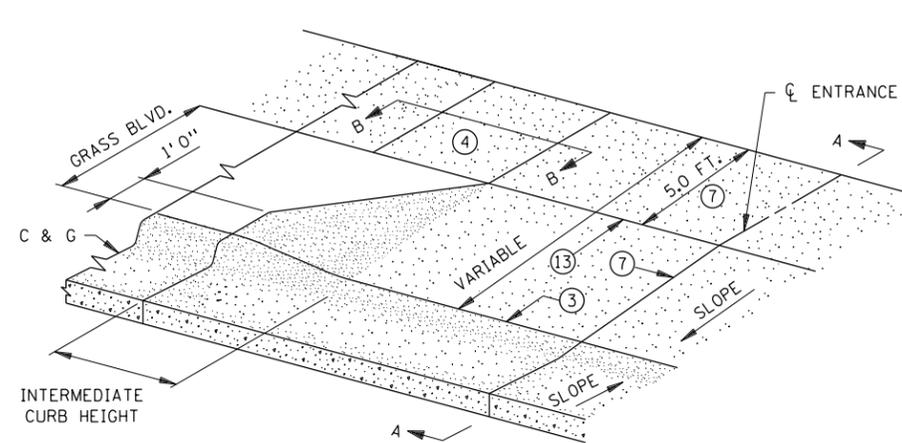
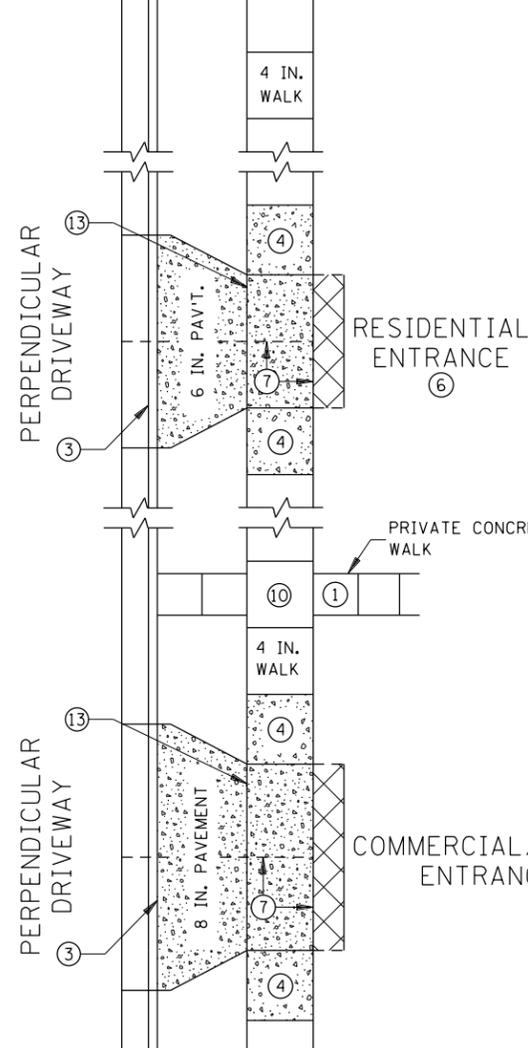
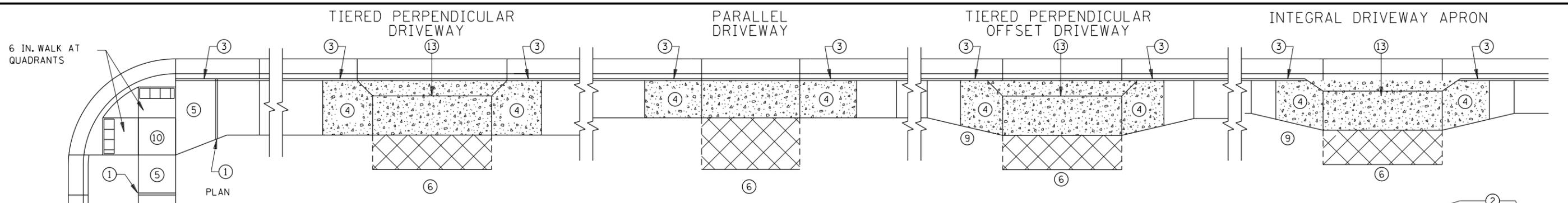
APPROVED: 11-04-2021
REVISOR:

Tom Styrbicki
THOMAS STYRBICKI
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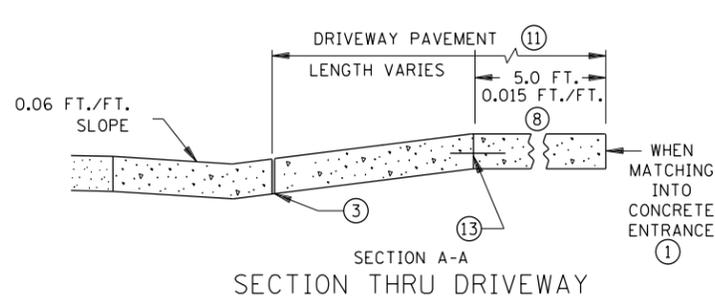
DRIVEWAY AND SIDEWALK DETAILS

SP 002-606-013, SP 127-020-034
SP 127-304-002

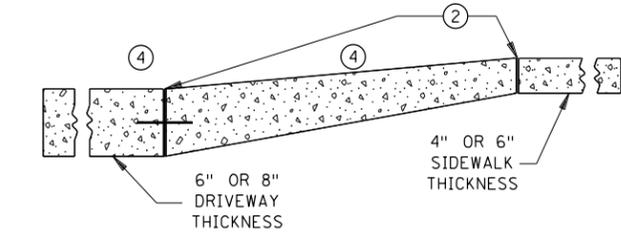
SHEET NO. 28 OF 102 SHEETS



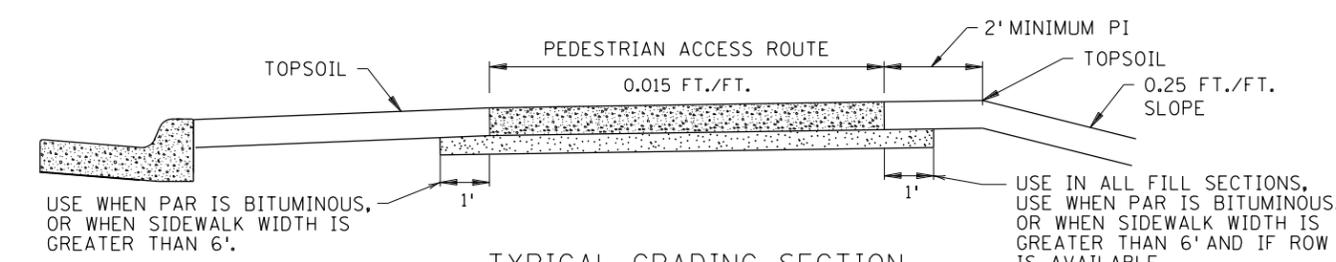
HALF PLAN PERSPECTIVE
PERPENDICULAR DRIVEWAYS WITH GRASS BOULEVARDS



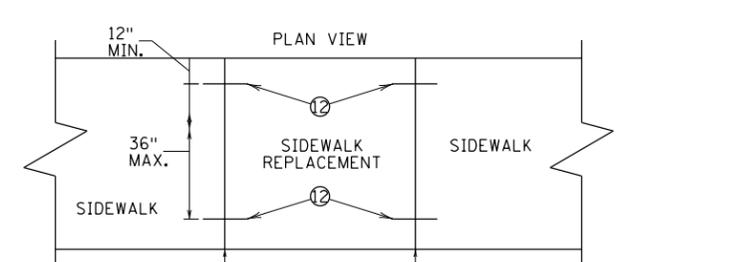
SECTION A-A
SECTION THRU DRIVEWAY



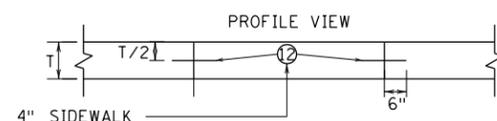
SECTION B-B
SECTION THRU SIDEWALK
THICKNESS TRANSITION



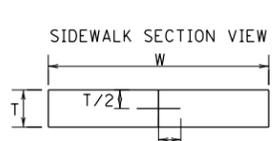
TYPICAL GRADING SECTION
(NOT USED WHEN CONFINED BY CURB, BUILDING, WALL, ETC.)



PLAN VIEW
SAW CONCRETE SIDEWALK FULL DEPTH ON EXISTING JOINT (INCIDENTAL)



PROFILE VIEW
TRANSVERSE SIDEWALK TIE BAR REINFORCEMENT RETROFITS ONLY



SIDEWALK SECTION VIEW
LONGITUDINAL SIDEWALK REINFORCEMENT JOINTS

SIDEWALK LONGITUDINAL JOINT TIE BAR TABLE

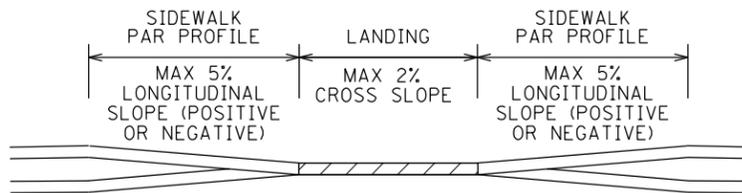
SIDEWALK WIDTH, W	SIDEWALK THICKNESS, T	TIE BAR SIZE	LENGTH	SPACING
> 7'	4"	No. 4	12"	24"
>10'	6"	No. 4	12"	36"

FOR 4" CONCRETE ONLY: CAST IN PLACE BARS MUST BE SUPPORTED WITH P-STAKES OR REINFORCEMENT BASKETS FOR FULL WIDTH CONCRETE PLACEMENTS.
FOR 6" CONCRETE ONLY: DRILL AND GROUT OR CAST IN PLACE THROUGH HOLES IN THE FORMS REQUIRED FOR STAGED ADJACENT CONCRETE PLACEMENTS.

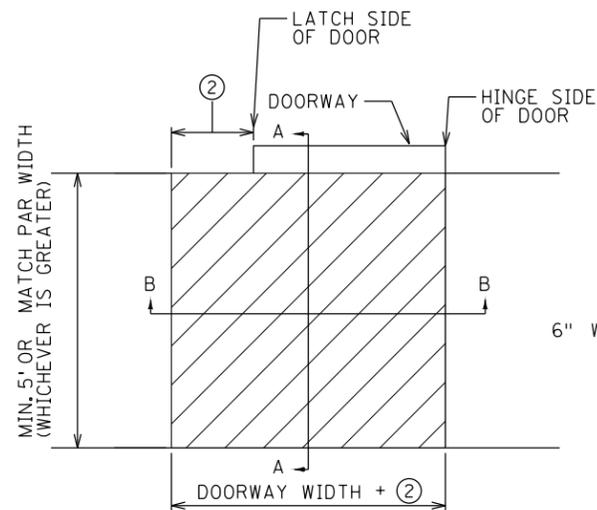
- NOTES:
- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
 - TO MINIMIZE SIDEWALK "ROLLER COASTER" EFFECT IT IS DESIRABLE TO KEEP THE PAR ELEVATION CONTINUOUS OR AT LEAST IN THE UPPER HALF OF CURB HEIGHT. 4" HIGH CURB SHOULD BE USED INSTEAD OF 6" HIGH CURB TO HELP THIS PROBLEM WHEN APPLICABLE.
 - 4" HIGH ADJACENT CURB IS PREFERRED WHEN BOULEVARDS 4' OR LESS ARE PRESENT MEASURED FROM THE BACK OF CURB. WHEN THE DRIVEWAY IS SLOPING DOWN FROM THE ROADWAY (NEGATIVE) 4" HIGH ADJACENT CURB SHOULD ALSO BE USED.
 - SEE FACILITY DESIGN GUIDE, CHAPTER 6, FOR GEOMETRIC DESIGN OF DRIVEWAYS.
 - ① CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. DRIVEWAY EXPANSION SHALL BE PLACED AT TOP OR BOTTOM OF TRANSITION PANEL.
 - ② CONSTRUCT WITH EXPANSION MATERIAL MNDOT PER SPEC. 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. MAXIMUM ONE EXPANSION PER DRIVEWAY PLACED AT EITHER TOP OR BOTTOM OF CONCRETE THICKNESS TRANSITION. IF MULTIPLE DRIVEWAYS EXIST PLACE ONE EXPANSION BETWEEN EACH DRIVEWAY. IF NO DRIVEWAY EXIST PLACE A MAXIMUM OF ONE EXPANSION PER 150' OF SIDEWALK RUN.
 - ③ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.
 - ④ TRANSITION DRIVEWAY THICKNESS TO WALK THICKNESS. IF THERE IS A CONSTRUCTION JOINT AND NO EXPANSION IS USED, INSTALL TIE BARS.
 - ⑤ TRANSITION CURB RAMP THICKNESS TO WALK THICKNESS.
 - ⑥ MATCH INPLACE DRIVEWAY WIDTH, MATERIAL TYPE AND THICKNESS.
 - ⑦ FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS. CONCRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 : 1 LENGTH X WIDTH. 81 SF FOR 6" CONCRETE DRIVEWAY WITH 9'X9' MAXIMUM PANEL SIZE. 144 SF FOR 8" CONCRETE DRIVEWAY WITH 12'X12' MAXIMUM PANEL SIZE. MATCH DRIVEWAY APRON AND SIDEWALK JOINTS.
 - ⑧ THE PEDESTRIAN ACCESS ROUTE CROSS-SLOPE, SHALL NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
 - ⑨ 1:10 MIN. SIDEWALK OFFSET TAPER REQUIRED FOR SIDEWALK REPLACEMENT PROJECTS. 1:3 MIN. AND 1:5 MIN. PREFERRED SIDEWALK OFFSET TAPER FOR DRIVEWAY REPLACEMENT.
 - ⑩ LANDING REQUIRED, SEE NEXT SHEET FOR MORE INFORMATION.
 - ⑪ CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SECTIONS SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. ENGINEER'S APPROVAL REQUIRED FOR MONOLITHIC PLACEMENTS.
 - ⑫ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. BARS TO BE ADJUSTED TO MATCH SIDEWALK GRADES. TO BE PAID BY EACH.
 - ⑬ DRILL AND GROUT OR CAST IN-PLACE THROUGH HOLES IN THE FORMS NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

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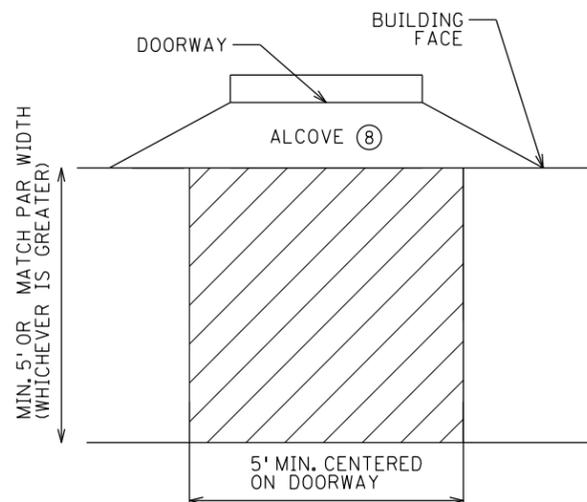
MINNESOTA DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.254 3 OF 4
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THOMAS STYRBICKI STATE DESIGN ENGINEER
SP 002-606-013, SP 127-020-034
SP 127-304-002
DRIVEWAY AND SIDEWALK DETAILS
SHEET NO. 29 OF 102 SHEETS



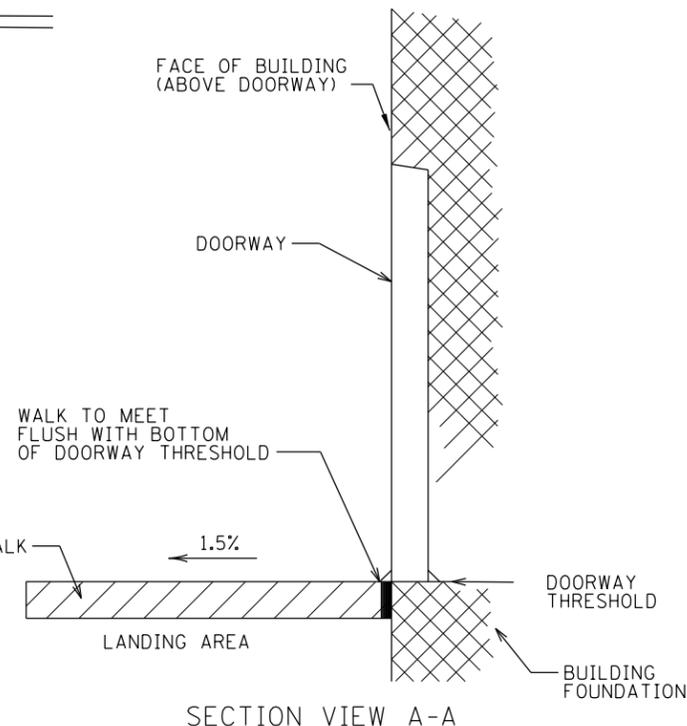
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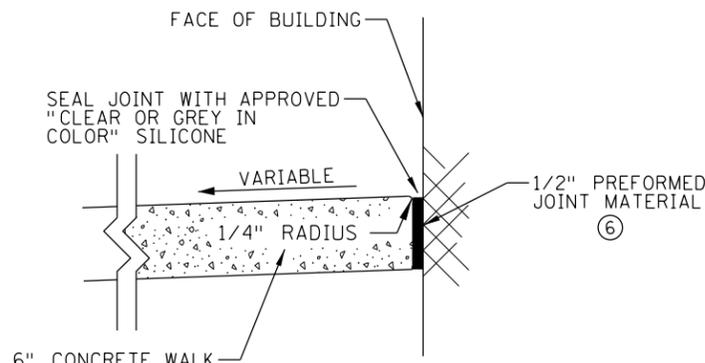
PLAN VIEW DOORWAY



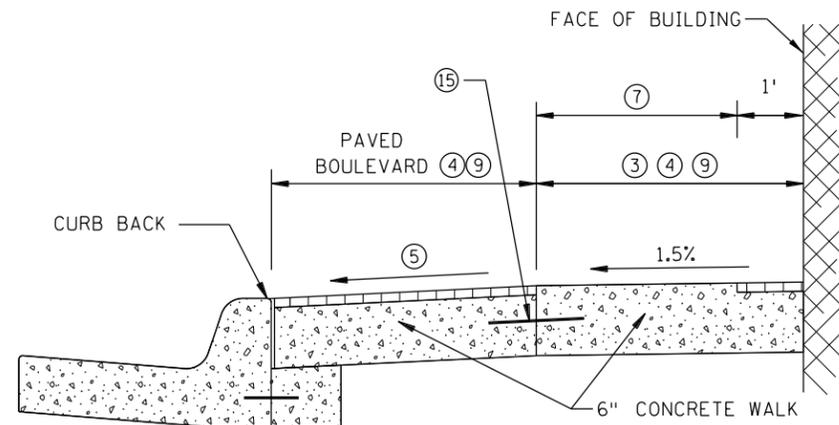
PLAN VIEW DOORWAY WITH ALCOVE
SIDEWALK LANDING REQUIREMENTS ①



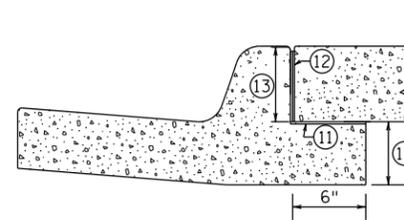
SECTION VIEW A-A



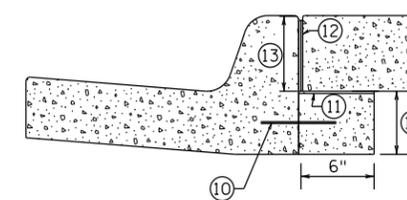
BUILDING JOINT SEAL (INCIDENTAL)



DOWNTOWN SIDEWALK TYPICAL SECTION



SLIP FORM SILL



FIXED FORM SILL

SILL CURB SHOULD BE USED AT ALL LOCATIONS WHEN CONCRETE WALK IS AT BACK OF CURB, INCLUDING PAVED BOULEVARD.
SILL CURB SHALL NOT BE USED IN CURB RAMP AND DRIVEWAY AREAS, INCLUDING CONCRETE FLARES.
SILL CURB WITH 4" WALK CAN USE FIXED OR SLIP FORM OPTIONS.

NOTES:

- ① 6" WALK IS REQUIRED:
 - 1) IN ALL SIDEWALK LOCATIONS WHERE VARIABLE SLOPED CONCRETE BOULEVARDS ARE PAVED, SUCH AS COMMERCIAL (STORE FRONT, DOWNTOWN) AREAS.
 - 2) ANYTIME DRILL AND REINFORCEMENT IS USED TO TIE LONGITUDINAL JOINTS TOGETHER.
 - 3) TO ELIMINATE LONGITUDINAL JOINT WHEN INCREASING PANEL SIZE OVER 36SF.
 - 4) AT LOCATIONS WHERE MAINTENANCE EQUIPMENT WILL SUBJECT CONCRETE TO HEAVY LOADS.
- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
FIELD ADJUST SIDEWALK PROFILES TO MEET ALL DOORWAY THRESHOLDS.
SIDEWALK MUST MAINTAIN POSITIVE DRAINAGE AWAY FROM THE BUILDING TO THE ROADWAY.
SEE SPECIAL PROVISIONS FOR SILICONE SPECIFICATIONS.
- ① LANDING CRITERIA IS REQUIRED FOR ALL DOORS, STEPS, AND PRIVATE WALKS. FEASIBILITY DECREASES WITH NARROWER BOULEVARDS AND STEEPER SIDEWALK PROFILES.
 - ② 18" MIN. WHEN DOOR SWINGS OUTWARD FROM BUILDING. 12" MIN WHEN DOOR SWINGS INWARD FROM BUILDING.
 - ③ 6' MIN. PAR REQUIRED WHEN ADJACENT TO BUILDINGS.
 - ④ 2/3 PAR TO 1/3 BOULEVARD SHOULD BE USED WHEN FEASIBLE. HOLD UNIFORM BOULEVARD WIDTH. 4' PREFERRED MINIMUM BOULEVARD.
 - ⑤ 1%-5% FOR THE MAJORITY OF THE BLOCK, WITH EXCEPTIONS UP TO 8% IN CONSTRAINED AREAS.
 - ⑥ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
 - ⑦ TO MINIMIZE VIBRATION AND ROLLING RESISTANCE, AREA SHALL BE FREE OF PAVERS, STAMPED CONCRETE, AND/OR EXCESSIVE JOINTING.
 - ⑧ 2% MAX. PER BUILDING CODE. IF GREATER THAN 2%, FLATTEN AS FEASIBLE.
 - ⑨ FORM CONTRACTION JOINTS AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANEL SIZE. CONCRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 : 1 LENGTH X WIDTH.
 - ⑩ DRILL AND GROUT NO. 4 X 8" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. TIE BARS SHALL BE EMBEDDED 4" WITH 2" MINIMUM CONCRETE COVER AND ARE INCIDENTAL TO SILL PLACEMENT.
 - ⑪ FURNISH AND INSTALL THE FULL WIDTH OF THE TOP OF SILL A MINIMUM 2ML THICK POLYTHENE SHEETING.
 - ⑫ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.
 - ⑬ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.
 - ⑭ 6" WALK: 5" MIN. FOR B424; 7" MIN. FOR B624
4" WALK: 7" MIN. FOR B424; 9" MIN. FOR B624
 - ⑮ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

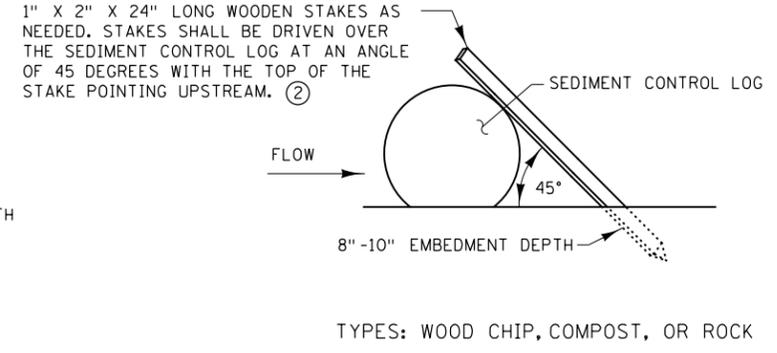
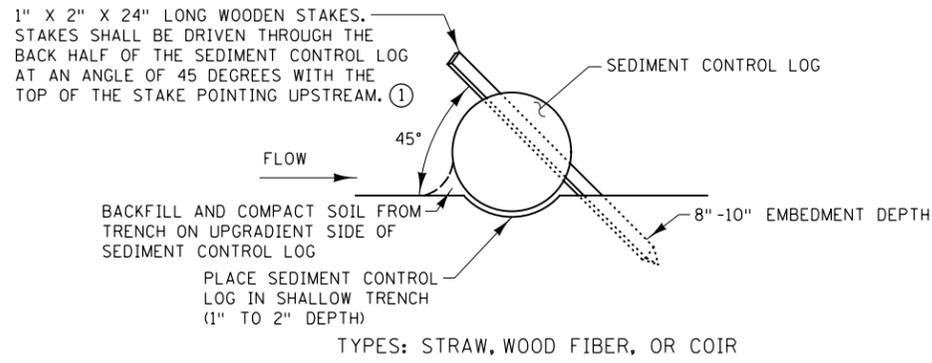
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APPROVED: 11-04-2021
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OPERATIONS DIVISION

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DEPARTMENT OF TRANSPORTATION
Tom Styrbicki
THOMAS STYRBICKI
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STANDARD PLAN 5-297.254
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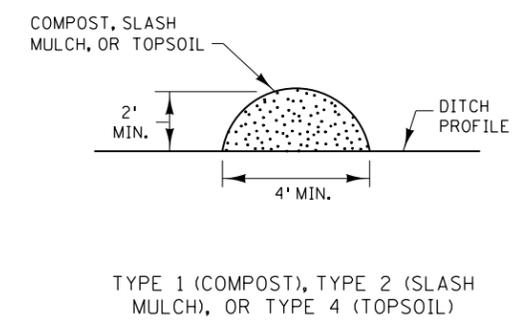
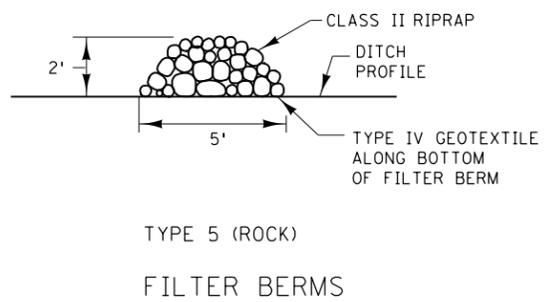
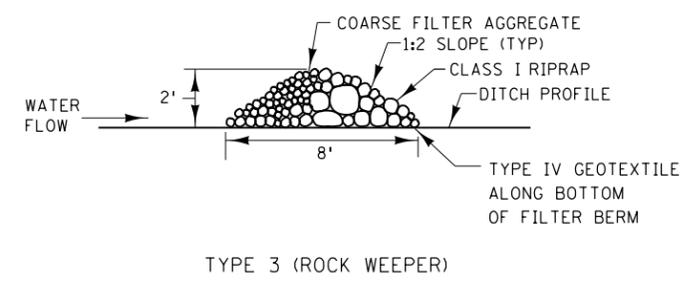
DRIVEWAY AND SIDEWALK DETAILS

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SP 127-304-002

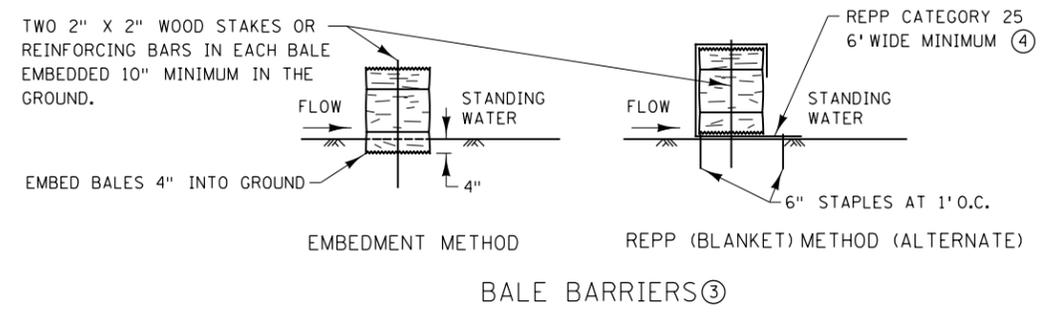
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SEDIMENT CONTROL LOGS



FILTER BERMS



NOTES:

- REPP = ROLLED EROSION PREVENTION PRODUCT.
SEE SPECS. 2573, 3149, 3874, 3882, 3885, 3886, AND 3897.
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1' FOR DITCH CHECKS OR 2' FOR OTHER APPLICATIONS.
 - ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
 - ③ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6" MAXIMUM DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14" X 18" X 36" LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
 - ④ INSTEAD OF TRENCHING, PLACE BALE ON THE REPP (BLANKET) AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

REVISION:

APPROVED: JANUARY 8, 2020

Marni Karnowski
MARNI KARNOWSKI
CHIEF ENVIRONMENTAL OFFICER

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 2 OF 8

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 1-8-2020
REVISED:

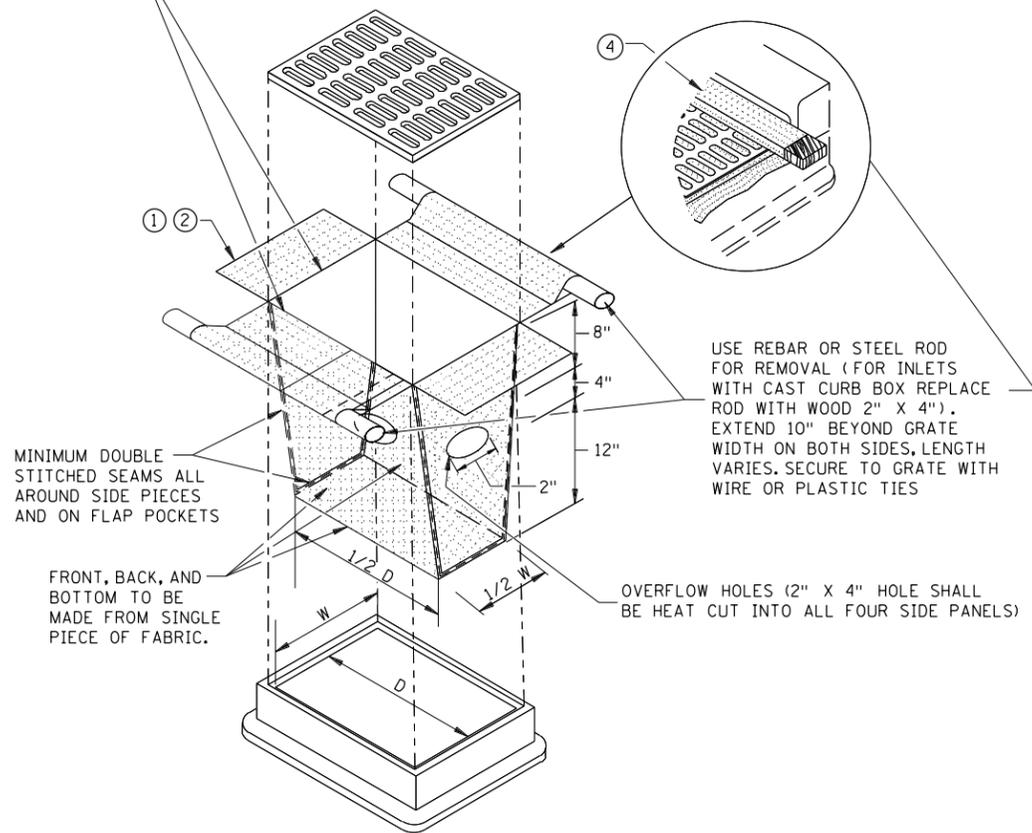
SP 002-606-013, SP 127-020-034
SP 127-304-002

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

SHEET NO. 33 OF 102 SHEETS

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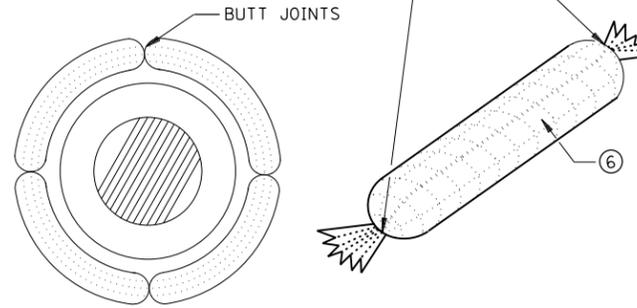
INLET SPECIFICATIONS AS PER THE PLAN
DIMENSION LENGTH AND WIDTH TO MATCH
FLAP POCKET



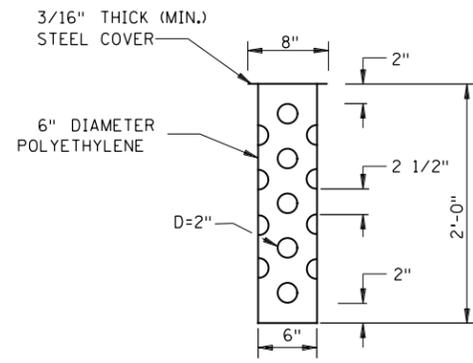
FILTER BAG INSERT ③

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

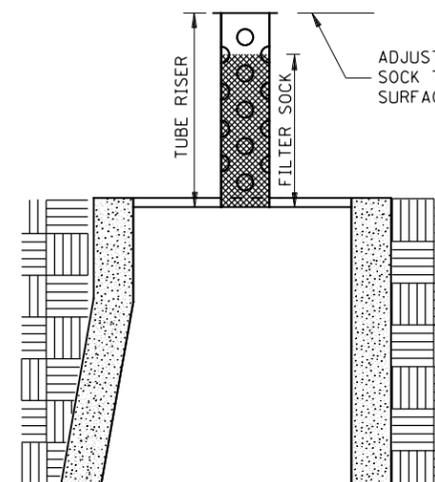
ENDS SECURELY CLOSED TO PREVENT LOSS OF OPEN GRADED AGGREGATE FILL. SECURED WITH 50 PSI. ZIP TIE.



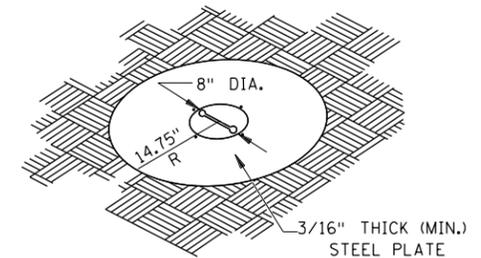
ROCK LOG/COMPOST LOG



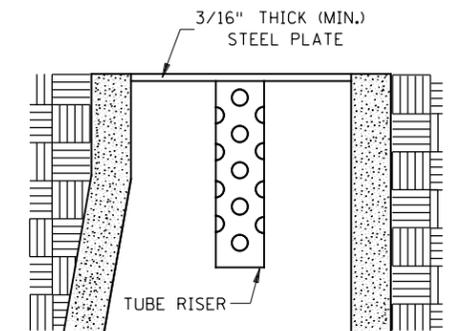
TUBE RISER



SECTION (UP POSITION)

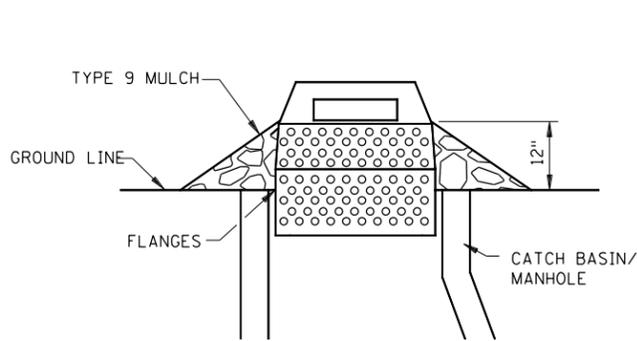


PERSPECTIVE VIEW



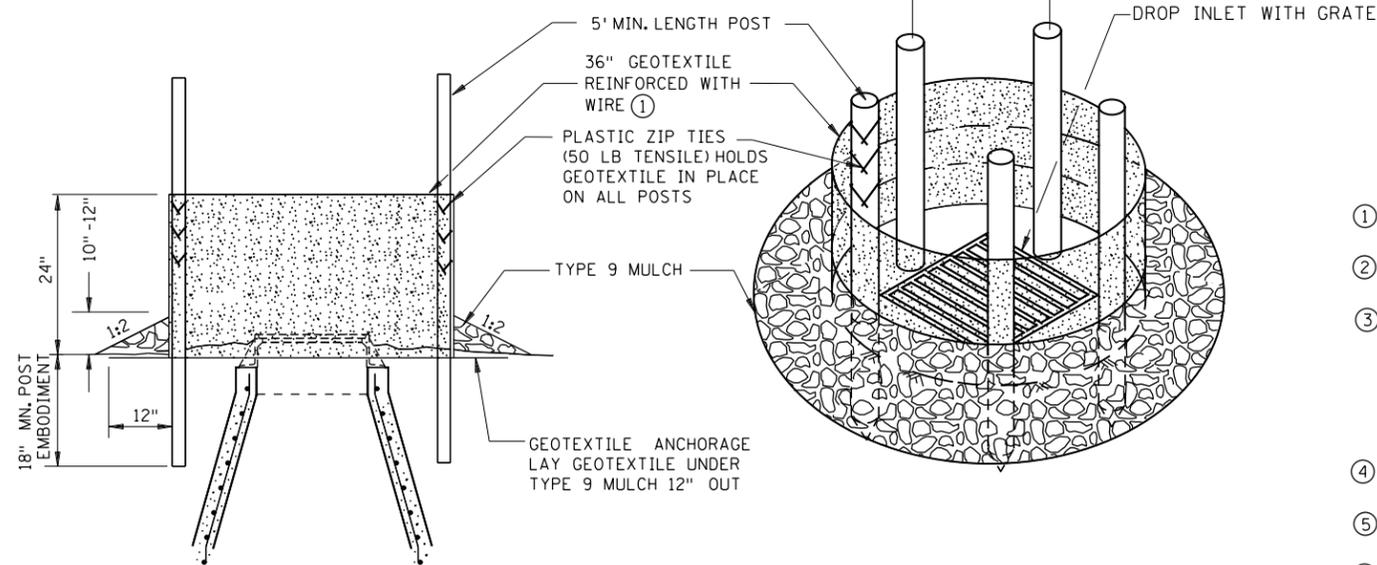
SECTION (DOWN POSITION)

POP-UP HEAD



SEDIMENT CONTROL INLET HAT

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



SILT FENCE RING AND ROCK FILTER BERM

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

NOTES:

- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

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REVISION:
APPROVED: 2-28-2017
<i>[Signature]</i> CHIEF ENVIRONMENTAL OFFICER



STANDARD PLAN 5-297.405

4 OF 8

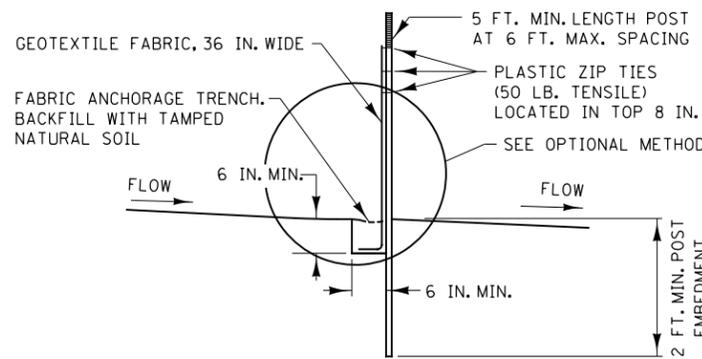
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STATE DESIGN ENGINEER

APPROVED: 2-28-2017
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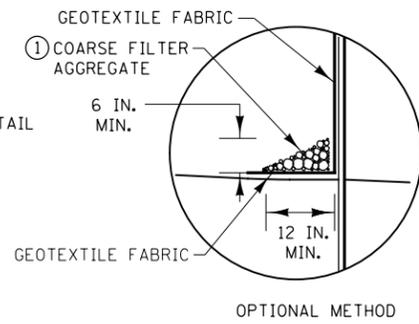
SP 002-606-013, SP 127-020-034
SP 127-304-002

**TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION**

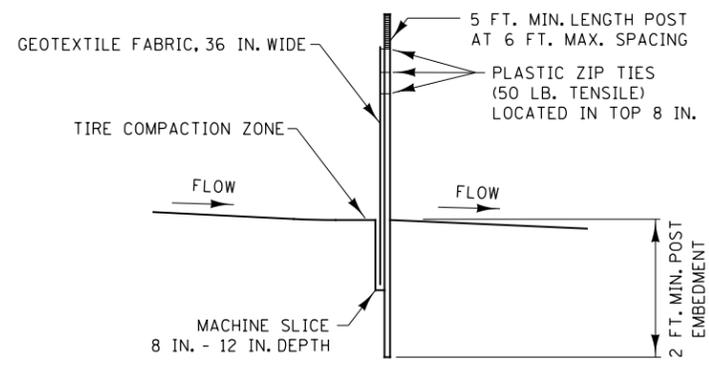
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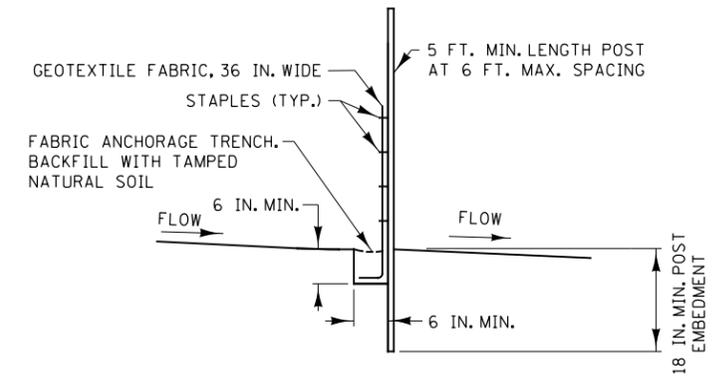
**SILTS FENCE TYPE HI ②
(HAND INSTALLED)**



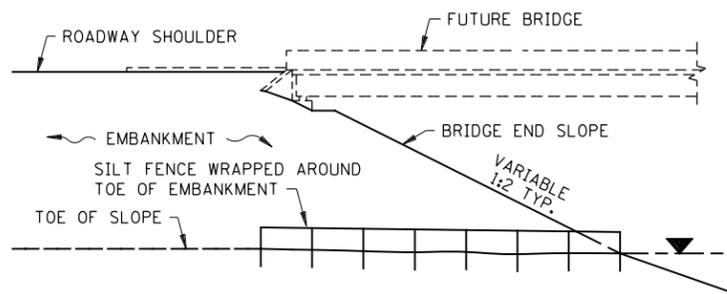
OPTIONAL METHOD



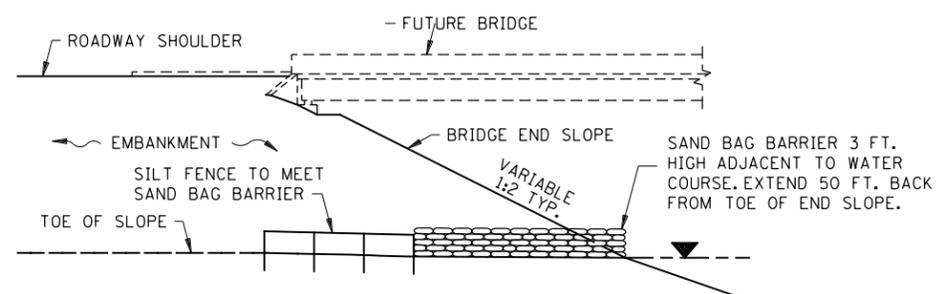
**SILTS FENCE TYPE MS ②
(MACHINE SLICED)**



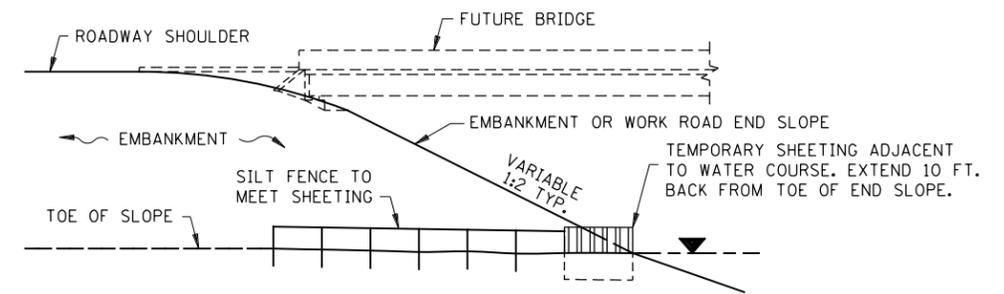
**SILTS FENCE TYPE PA ③
(PREASSEMBLED)**



SILTS FENCE ONLY ④

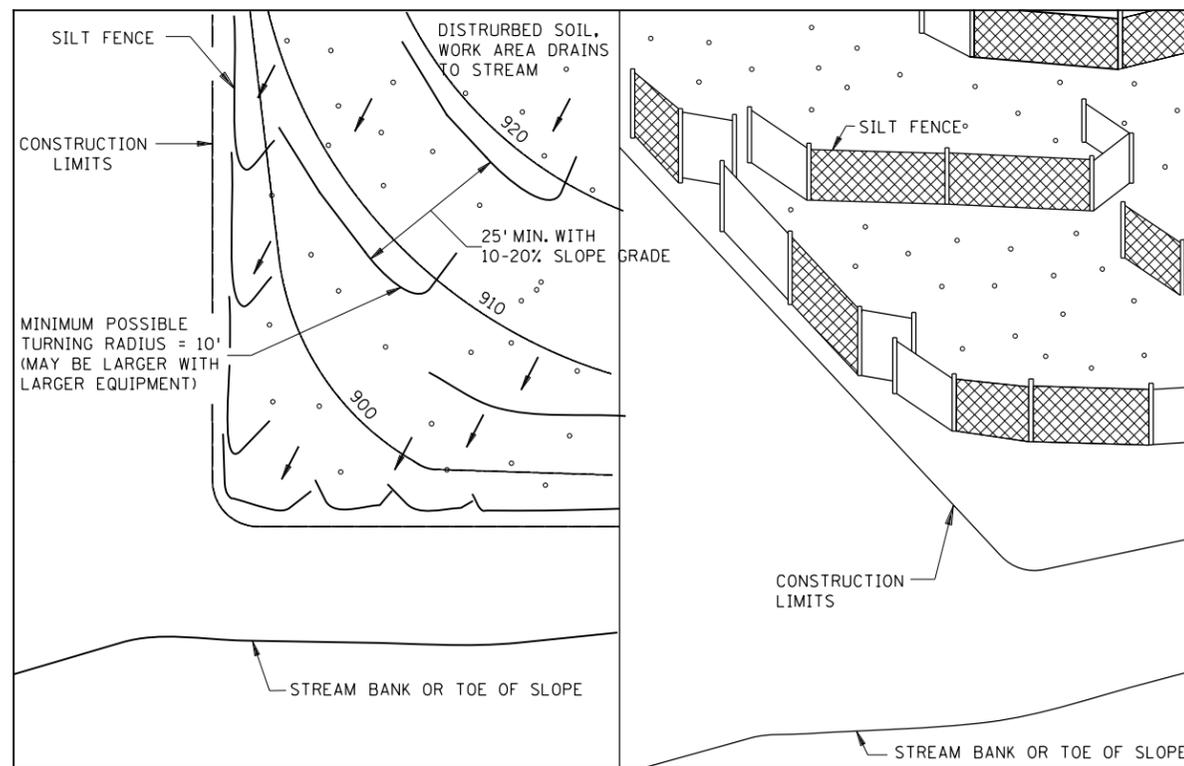


SILTS FENCE WITH SAND BAGS ⑤



SILTS FENCE WITH SHEETING ⑥

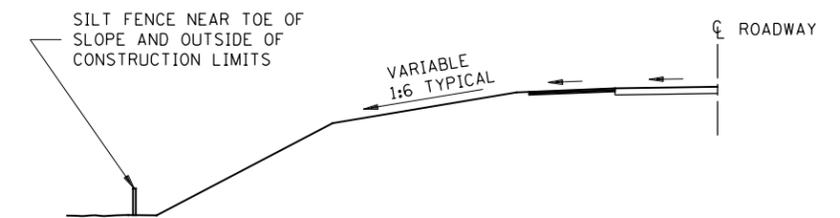
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

- SEE SPECS. 2573, 3149 & 3886.
- ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.
- ② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.
- ③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.
- ④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1/2 ACRE.
- ⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1 ACRE.
- ⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:
APPROVED: 2-28-2017
[Signature]
CHIEF ENVIRONMENTAL OFFICER

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STANDARD PLAN 5-297.405

6 OF 8

APPROVED: 2-28-2017
REVISED:

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STATE DESIGN ENGINEER

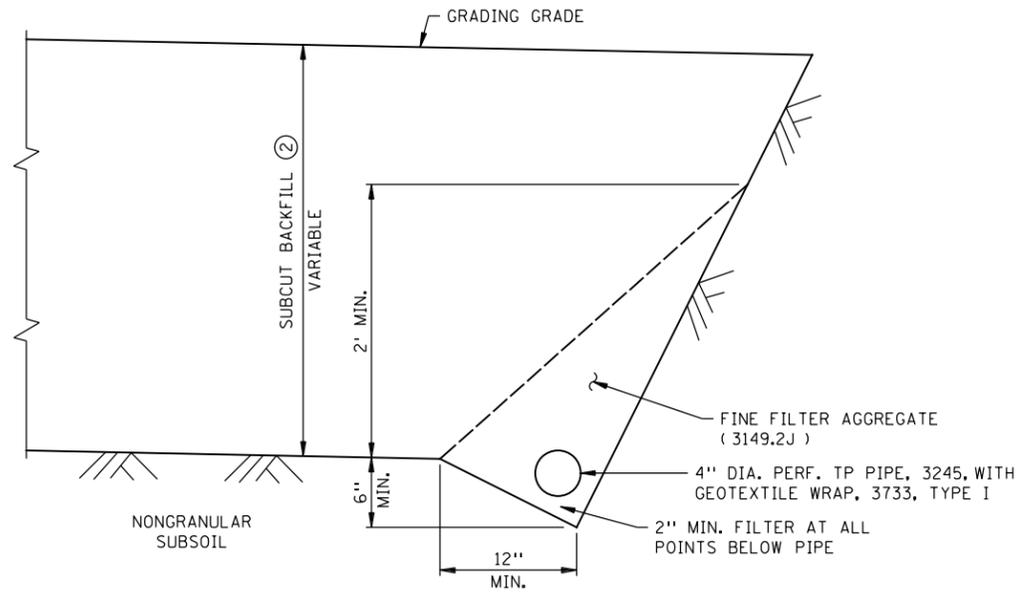
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SP 127-304-002

TEMPORARY SEDIMENT CONTROL

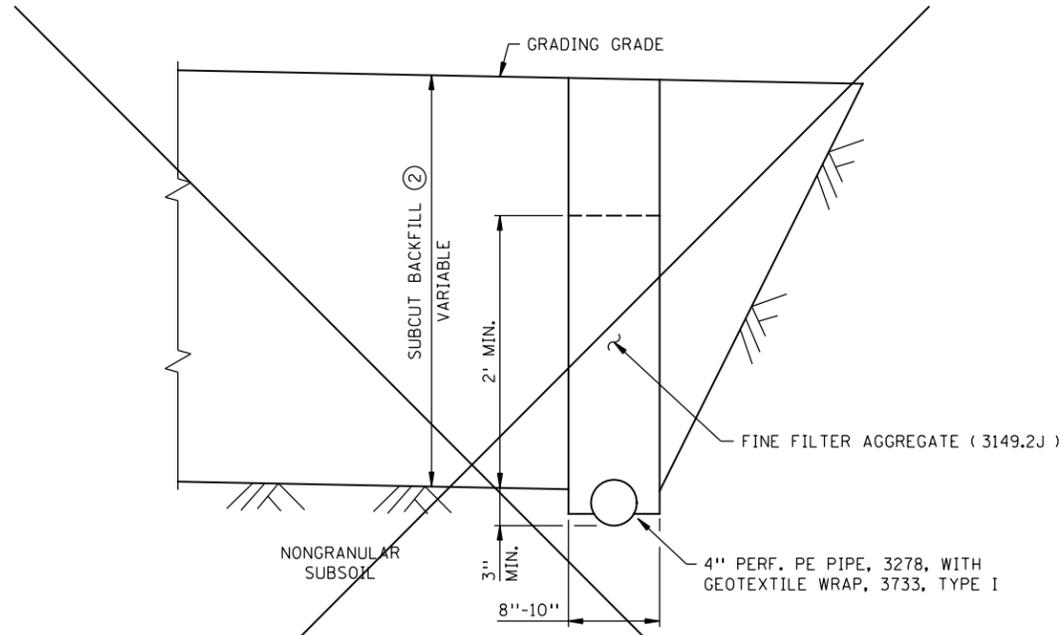
SILTS FENCE

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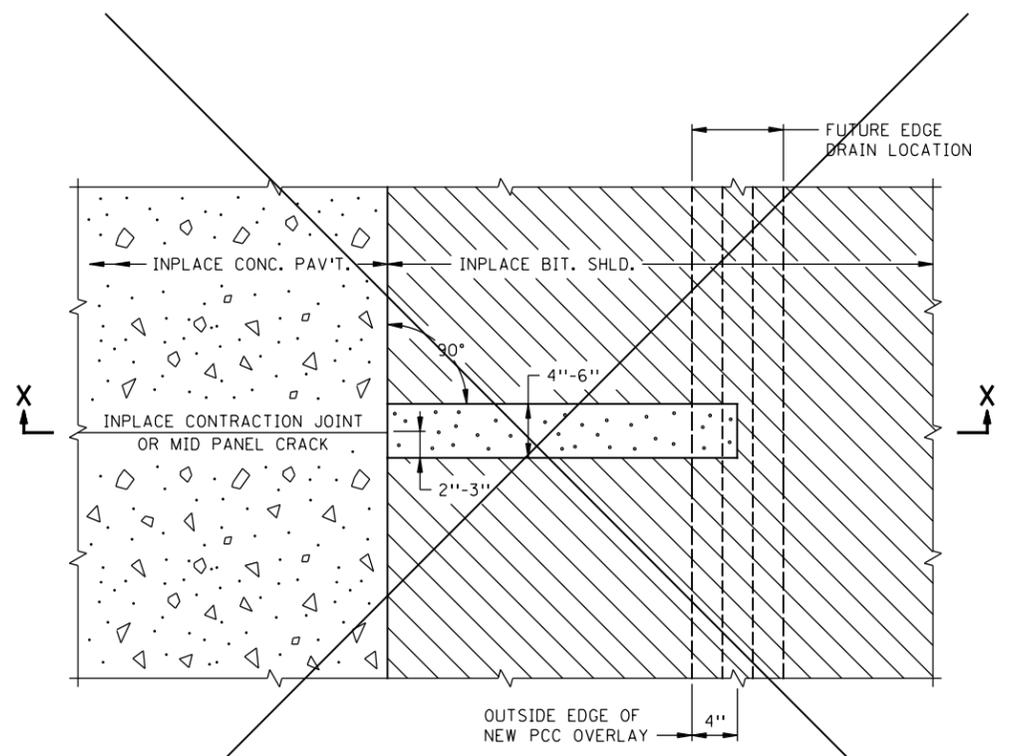
TYPICAL SECTION (OPTION NO. 1) ①



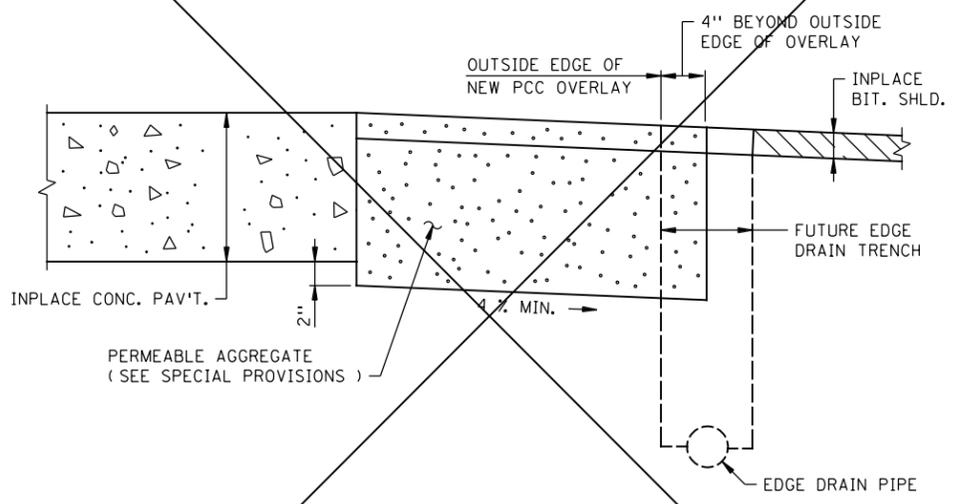
TYPICAL SECTION (OPTION NO. 2) ①

SUBSURFACE DRAIN, SUBCUT DRAIN TYPE

- NOTES:**
- ① MAY NEED TO BE MODIFIED FOR SPECIFIC PROJECTS. SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS. OPTION NO. 2 MAY ONLY BE USED WHEN PIPE IS TO BE PLACED BY MACHINE TRENCHER.
 - ② GRANULAR, SELECT GRANULAR OR SELECT GRANULAR MODIFIED. (AS SHOWN IN DESIGN RECOMMENDATION LETTER).



PLAN VIEW



SECTION X-X
INTERCEPTOR DRAIN DETAIL ①

NOTE:
① SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

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MODIFIED
REVISION:
APPROVED: 8-6-2014
<i>[Signature]</i>
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

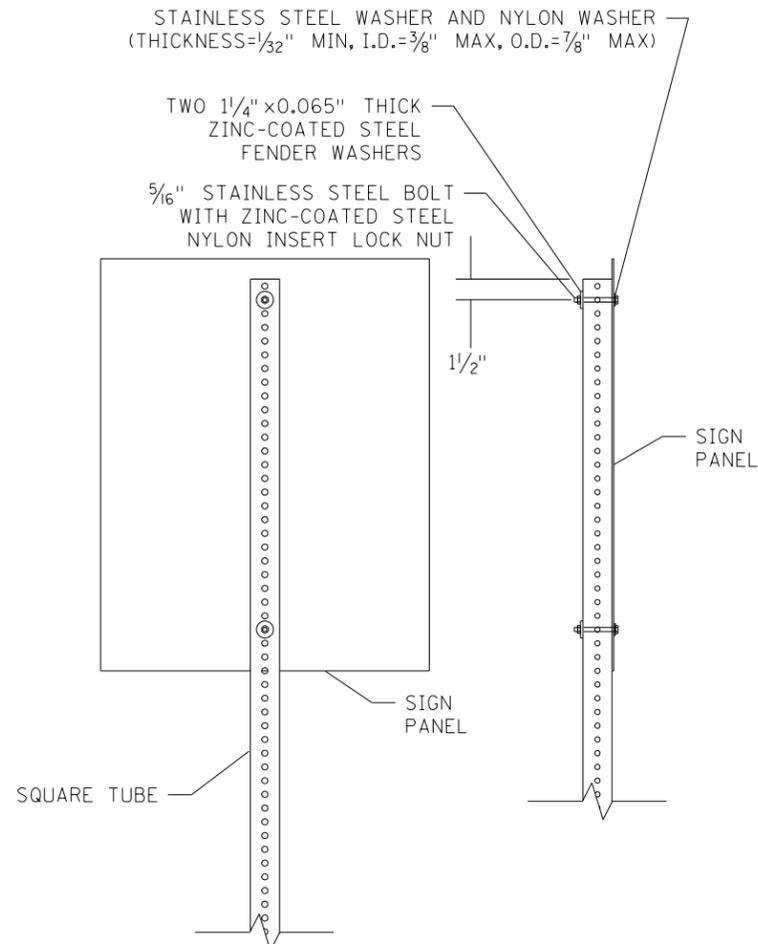
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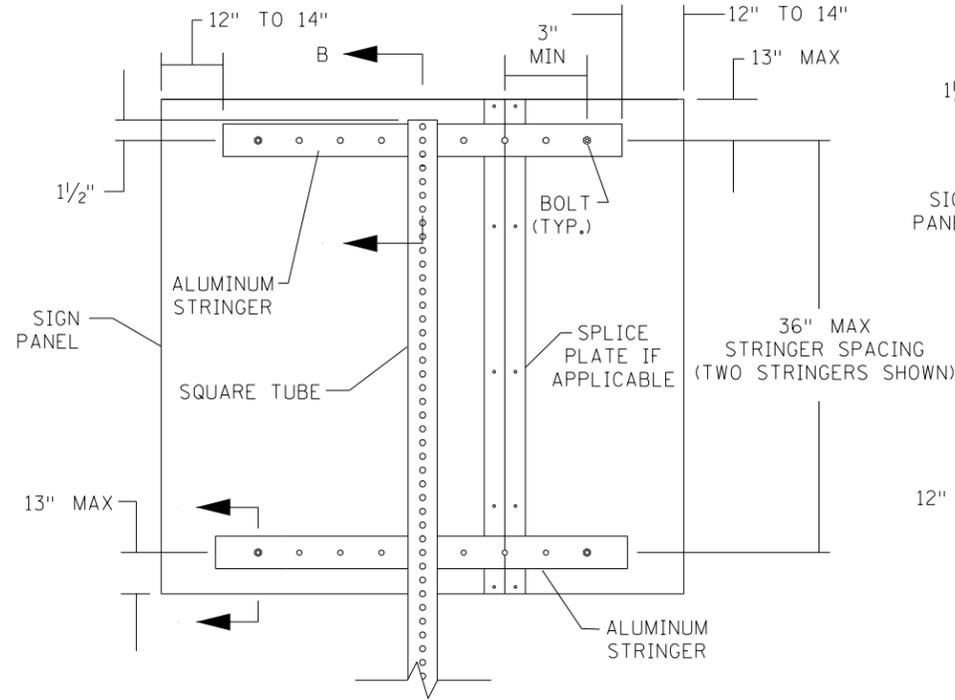
MODIFIED	STANDARD PLAN 5-297.430	1 OF 1
APPROVED: 8-6-2014	<i>[Signature]</i>	
REVISD:	STATE DESIGN ENGINEER	

SP 002-606-013, SP 127-020-034
SP 127-304-002

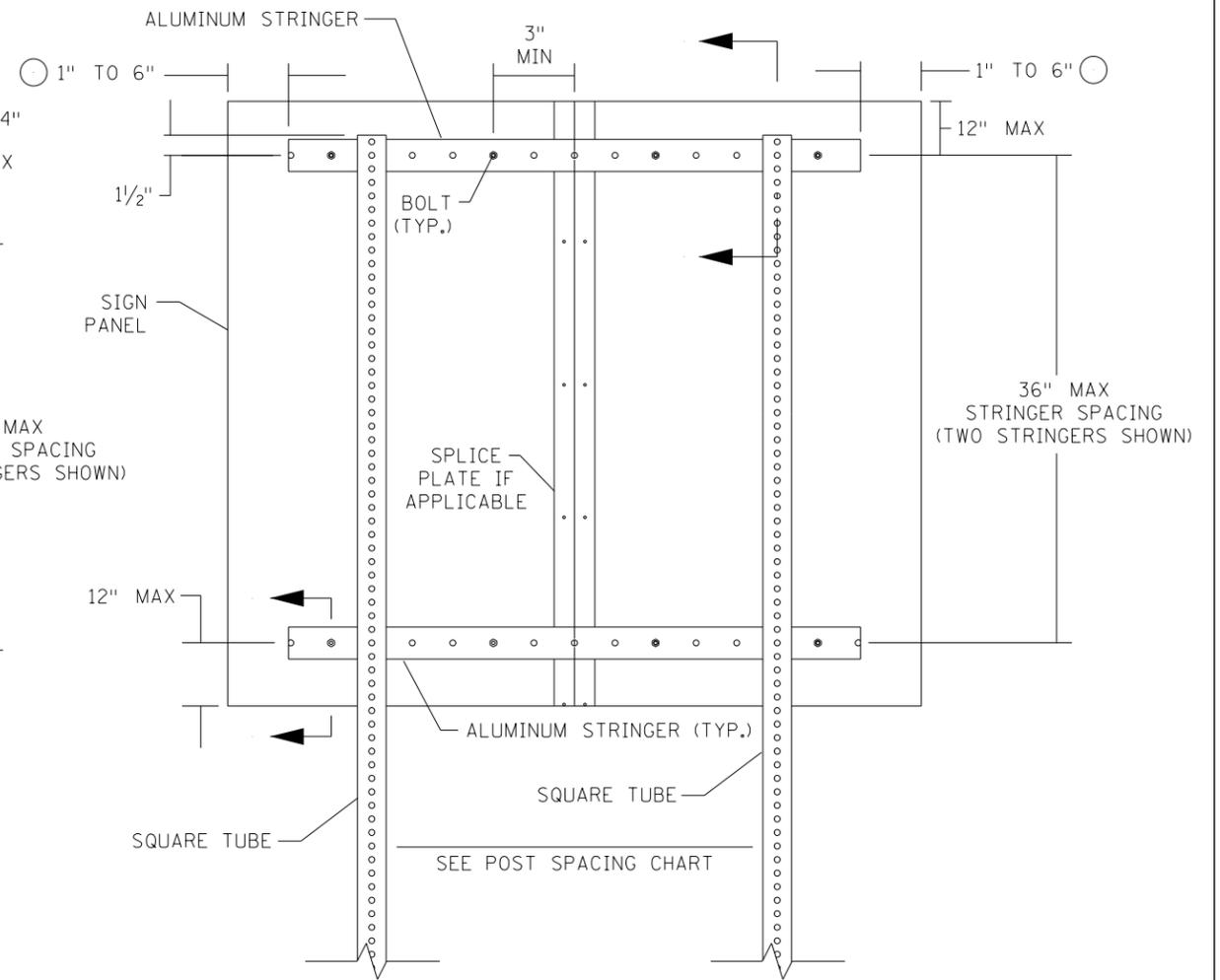
SUBSURFACE DRAINS



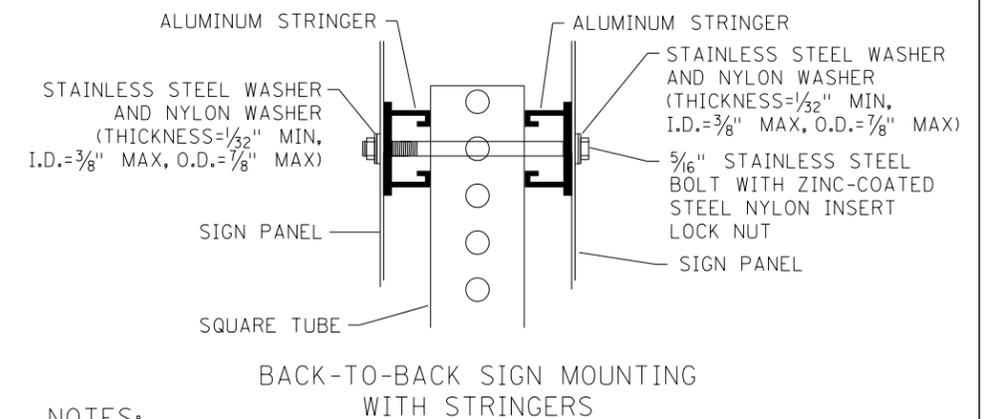
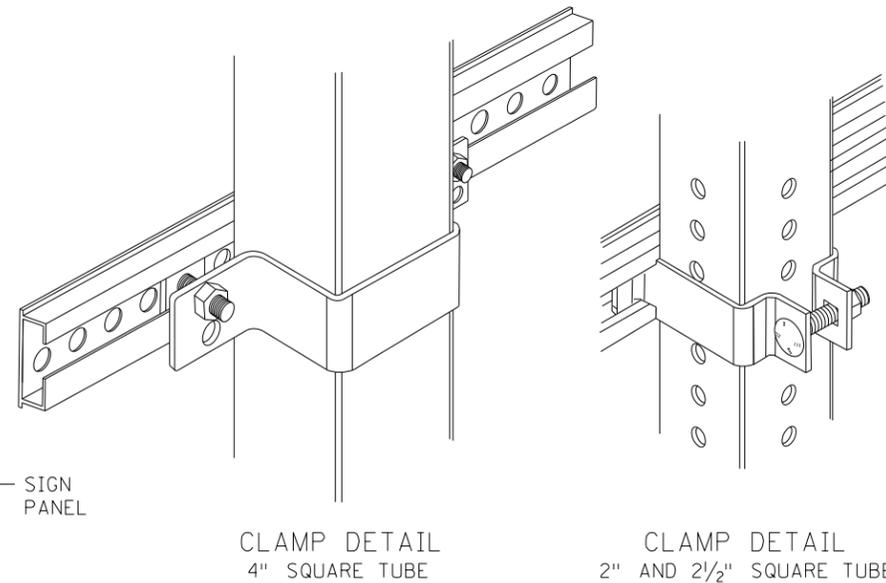
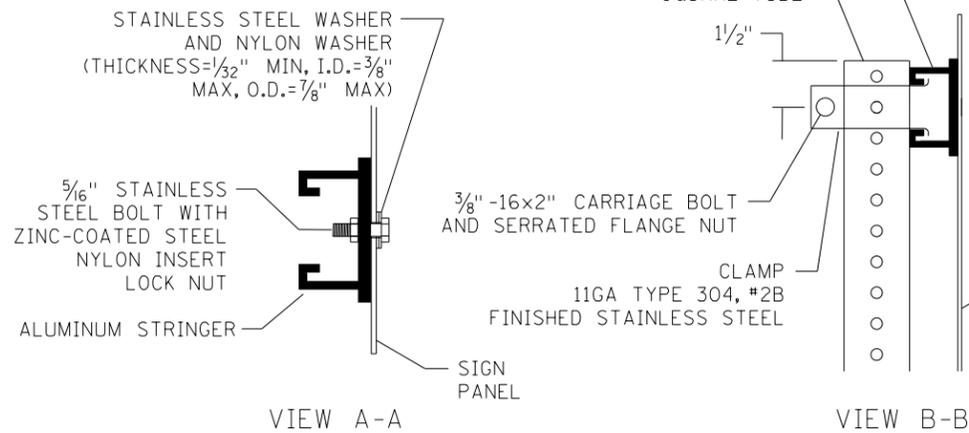
FOR SIGN PANELS UP TO 30" WIDE



FOR SIGN PANELS 36" WIDE OR GREATER ON ONE POST



FOR SIGN PANELS ON TWO OR MORE POSTS



NOTES:

BOLT SIGN PANELS TO STRINGERS OR RISER POSTS AT NO GREATER THAN 24" SPACING OR ACCORDING TO THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR MOUNTING HOLES (PUNCH CODES) INFORMATION.

CENTER STRINGERS ON SIGN PANEL.

○ IF POST SPACING REQUIRES PLACEMENT OF A POST WITHIN THIS AREA, EXTEND STRINGERS AS NEEDED TO ACCOMMODATE THE STRINGER TO POST CLAMP.

LEAD EXPERT OFFICE

BRIAN SORENSON
STATE TRAFFIC ENGINEER
OFFICE OF TRAFFIC ENGINEERING

SQUARE-TUBE SIGN MOUNTING DETAILS

APPROVED: 08-09-2023
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN
5-297.718

1 OF 3

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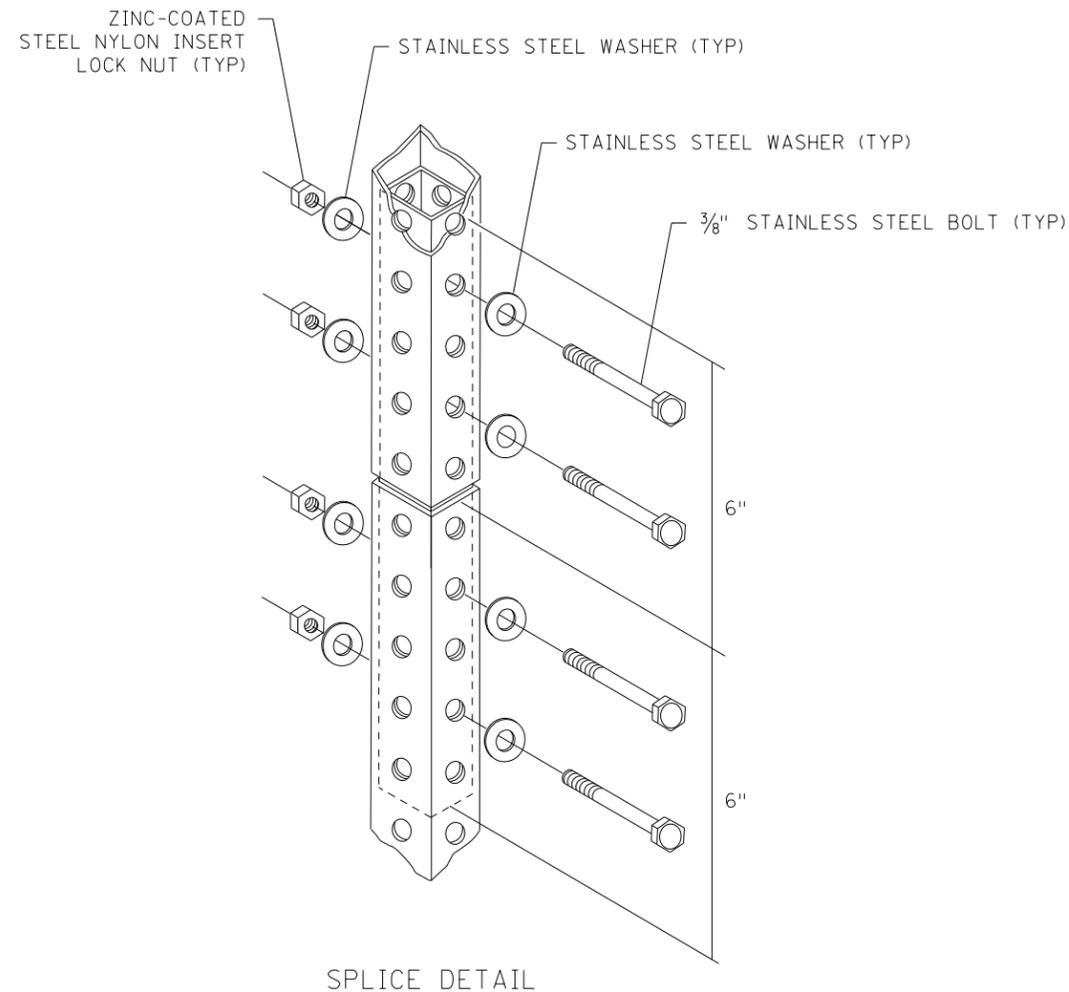


STANDARD PLAN

SP 002-606-013, SP 127-020-034
SP 127-304-002

SHEET NO. 38A

TOTAL SHEETS 102



SPLICE DETAIL

PANEL WIDTH (IN)	SQUARE TUBE POST SPACING							
	2 POSTS (IN)	3 POSTS (IN)	4 POSTS (IN)	5 POSTS (IN)	6 POSTS (IN)	7 POSTS (IN)	8 POSTS (IN)	
42	15							
48	21							
54	30							
60	36							
66	36							
72	42							
78	42							
84	48							
90	48	42						
96	48	42						
102	54	42						
108	54	42						
114	60	42						
120	60	48						
126	66	48						
132	66	48	42					
138	72	48	42					
144	72	48	42					
150	78	54	42					
156	78	54	42					
162	84	54	42					
168	84	60	48					
174	90	60	48	42				
180	90	60	48	42				
186	96	66	48	42				
192	96	66	48	42				
198	102	66	54	42				
204	102	72	54	42				
210	108	72	54	42				
216	108	72	54	48	42			
222	114	78	60	48	42			
228	114	78	60	48	42			
234	120	78	60	48	42			
240	120	84	60	48	42			
246		84	66	54	42			
252		84	66	54	42			
258		90	66	54	42	42		
264		90	66	54	48	42		
270		90	72	54	48	42		
276		96	72	60	48	42		
282		96	72	60	48	42		
288		96	72	60	48	42		
294		102	78	60	54	42		
300		102	78	60	54	42	42	
306		102	78	66	54	42	42	
312		108	78	66	54	48	42	
318		108	84	66	54	48	42	
324		108	84	66	54	48	42	
330		114	84	66	60	48	42	
336		114	84	72	60	48	42	

DISTANCES ARE CENTER-TO-CENTER OF POSTS

NOTES:

NO MORE THAN ONE SPLICE PER POST.

WHEN USED, THE SPLICE MUST BE PLACED AT LEAST 8' ABOVE GROUND. THE PREFERRED PLACEMENT LOCATION IS BEHIND THE SIGN PANEL.

INTERIOR POST STUD SHALL BE ONE SIZE SMALLER FOR TIGHT FIT. IF RISER POST IS 2 1/2", INTERIOR POST IS 2 3/8". IF RISER POST IS 2", INTERIOR POST IS 1 3/4".

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LEAD EXPERT OFFICE
 BRIAN SORENSON
 STATE TRAFFIC ENGINEER
 OFFICE OF TRAFFIC ENGINEERING



SQUARE-TUBE SIGN MOUNTING DETAILS

APPROVED: 08-09-2023
 REVISED:

Thomas Styrbicki
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

STANDARD PLAN
 5-297.718

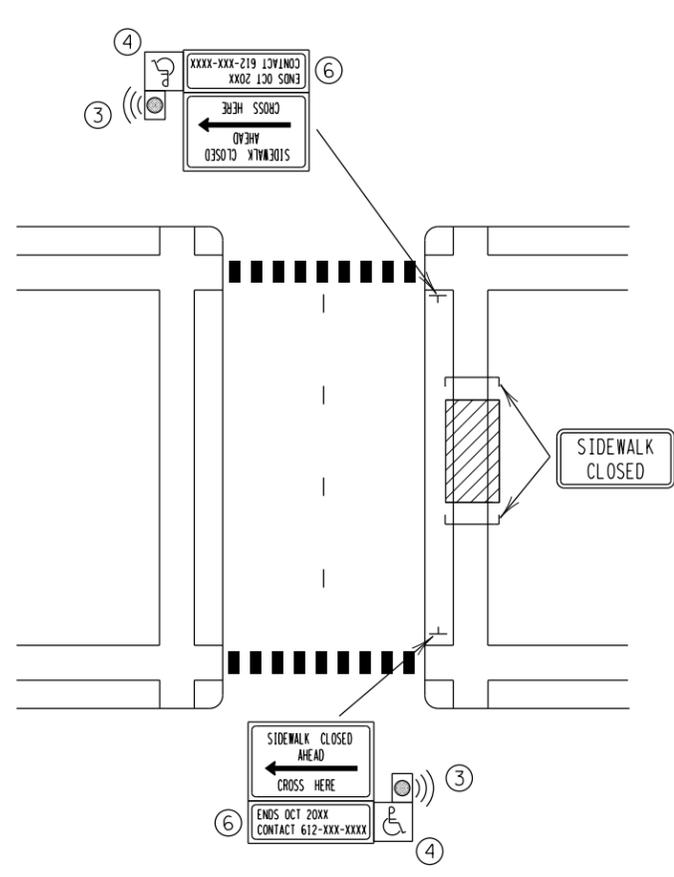
2 OF 3

STANDARD PLAN

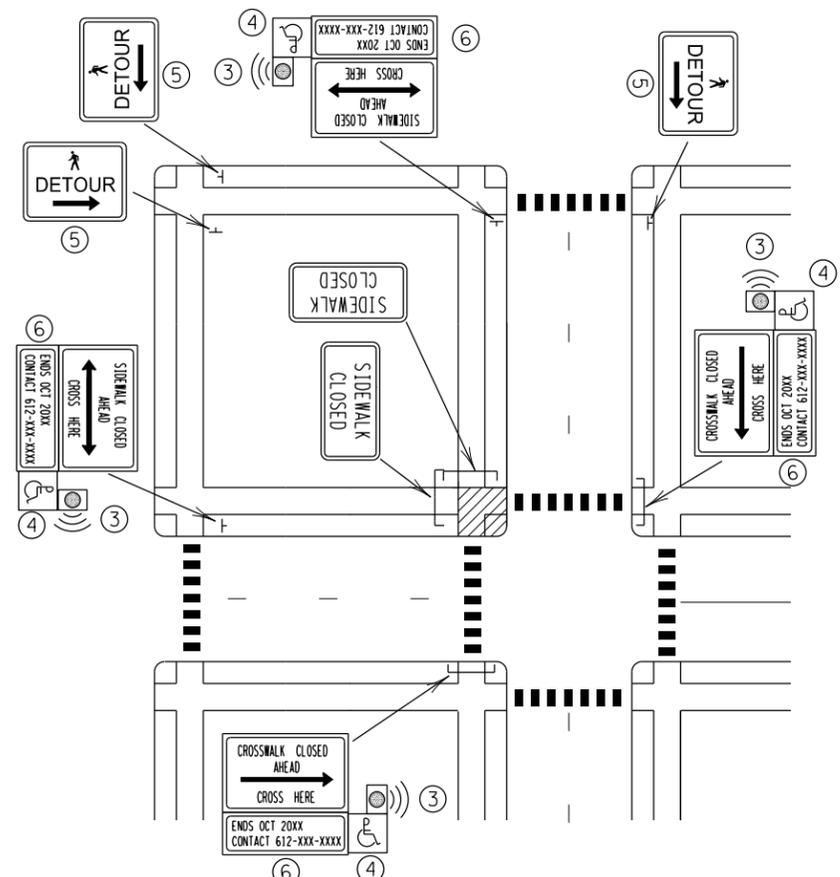
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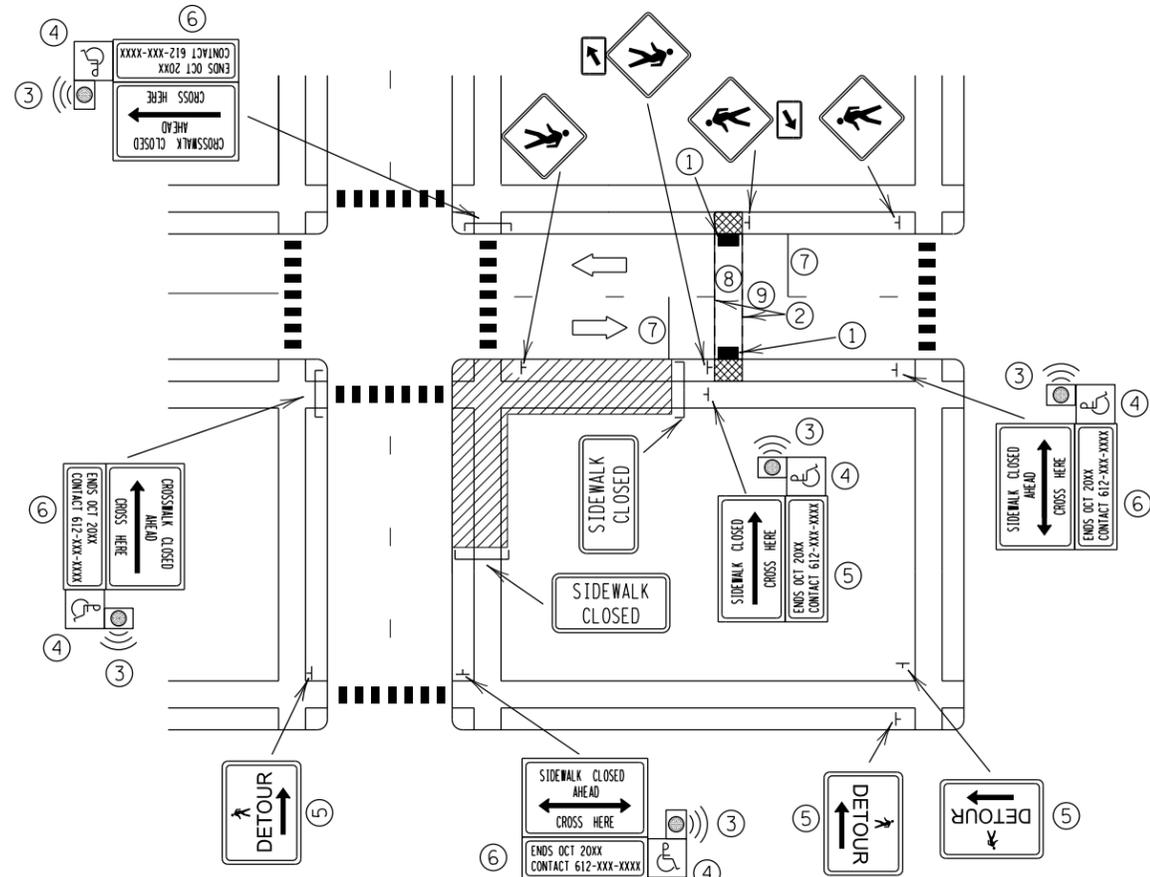
TOTAL SHEETS 102



OTHER SIDE OF ROADWAY DETOUR FOR MID-BLOCK CLOSURE



ONE QUADRANT CLOSED



OTHER SIDE OF STREET DETOUR OR DETOUR WITH TRAILBLAZING SIGNS FOR CORNER SIDEWALK CLOSURE WITH OPTIONAL TEMPORARY CROSSWALK

NOTES:
 WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES. THE MINIMUM TEMPORARY WALKWAY WIDTH SHOULD BE THE WIDTH OF THE EXISTING FACILITY. IF THE EXISTING FACILITY HAS A WIDTH GREATER THAN 60", THE WIDTH OF THE TEMPORARY FACILITY MAY BE 60". IF THE WIDTH OF THE DETOUR IS LESS THAN 60", A 60"-WIDE PASSING SPACE IS REQUIRED EVERY 200'.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER TRAILBLAZING SIGNS OR DEVICES MAY BE NEEDED FOR ADEQUATE ROUTING. STAGE WORK AS NECESSARY TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE A FIRM, STABLE, FREE-DRAINING, NON-SLIP, TEMPORARY WALKWAY SURFACE REGARDLESS OF WEATHER CONDITIONS. SUPPORT THE TEMPORARY WALKWAY SURFACE WITH A SOLID BASE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND. THE TEMPORARY WALKWAY SURFACE WILL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, AND OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR THE TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, OR OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS. IF NEEDED, PROVIDE SOIL STABILIZATION TO PREVENT EROSION AROUND TEMPORARY SURFACES.

COVER OR DEACTIVATE ANY PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS.

APR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

POST-MOUNTED SIGNS ADJACENT TO SIDEWALKS SHALL HAVE 7' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SIDEWALK SURFACE. SHARED-USE PATHS SHALL HAVE 8' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SHARED-USE PATH SURFACE.

ANY PORTABLE SIGN OR BARRICADE PLACED OR STORED IN A PEDESTRIAN WALKWAY THAT COULD BE A HAZARD TO A VISUALLY-IMPAIRED PEDESTRIAN SHALL HAVE A DETECTABLE EDGE TO GUIDE THE PEDESTRIAN AROUND THE HAZARD. FOR ADDITIONAL GUIDANCE SEE THE "TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) DEVICES" STANDARD PLAN, "DETECTABLE EDGE FOR SIGN ON PORTABLE STAND" DETAIL.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE ROADWAY AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME-SIDE APR, PROVIDE AN APR DETOUR ON THE OTHER SIDE OF THE ROADWAY.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON EITHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.

- ① TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
- ② TEMPORARY PAVEMENT MARKINGS FOR CROSSWALKS MAY USE CROSSWALK BLOCKS, TWO TRANSVERSE LINES OR TWO STRIPS OF 18" PREFORMED MARKING MATERIAL TO FORM 36" WIDE CROSSWALK BLOCKS.
- ③ PROVIDE AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE FOR PEDESTRIANS WITH VISUAL DISABILITIES.

- ④ FOR FULLY ACCESSIBLE WALKWAYS THROUGH WORKZONES, CONSIDER DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.
- ⑤ USE PEDESTRIAN DETOUR TRAILBLAZING SIGNS IF THE PEDESTRIAN DETOUR IS NOT LOCATED ACROSS THE ROADWAY FROM THE SIDEWALK CLOSURE.
- ⑥ TYPICAL SIGN MESSAGE FOR AN ALTERNATE PEDESTRIAN ROUTE SHOULD INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24/7 QUESTIONS OR REPORTING HAZARDS. TYPICAL INFORMATION INCLUDED IN AN AUDIBLE MESSAGE CAN BE FOUND IN "TPAR - AUDIBLE MESSAGE CONTENT GUIDELINES" AVAILABLE ON THE MNDOT TRAFFIC ENGINEERING WEBSITE ON THE PEDESTRIAN ACCOMMODATIONS THROUGH WORK ZONES WEB PAGE. ADDITIONALLY, A SUMMARY OF THE MESSAGE CONTENT GUIDELINES CAN BE FOUND WITHIN THE PEDESTRIAN ACCOMMODATIONS THROUGH WORK ZONES DESIGN GUIDANCE DOCUMENT.
- ⑦ LOCATE STOP BAR 20' TO 50' BEFORE THE CROSSWALK. RESTRICT PARKING BETWEEN THE STOP BAR AND THE CROSSWALK. ON TWO-WAY ROADWAYS, RESTRICT PARKING BOTH BEFORE AND AFTER THE CROSSWALK FOR BOTH DIRECTIONS.
- ⑧ CONSIDER LIGHTING AT MID-BLOCK CROSSINGS IN ORDER TO ILLUMINATE PEDESTRIANS, IF NOT ALREADY LIT.
- ⑨ CONSIDER THE ADDITION OF R1-6a SIGNS AS MOTORISTS ARE NOT EXPECTING MID-BLOCK CROSSING.

LEGEND

- SIGN
- DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ⊞ AUDIBLE MESSAGE DEVICE (AMD)
- ▩ SIDEWALK BARRICADE
- ▧ TEMPORARY CURB RAMP WITH DETECTABLE EDGES

STATE LAW STOP R1-6a

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REVISION:

APPROVED: 03-18-2021

Brian Sobenson
 BRIAN SOBENSON
 STATE TRAFFIC ENGINEER

m MINNESOTA
 DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.811 **2 OF 2**

APPROVED: 03-18-2021
 REVISED:

Thomas Styrbicki
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

ALTERNATE PEDESTRIAN ROUTE (APR) LAYOUTS

SP 002-606-013, SP 127-020-034
 SP 127-304-002

SHEET NO. 40 OF 102 SHEETS

NOTES:

TPAR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

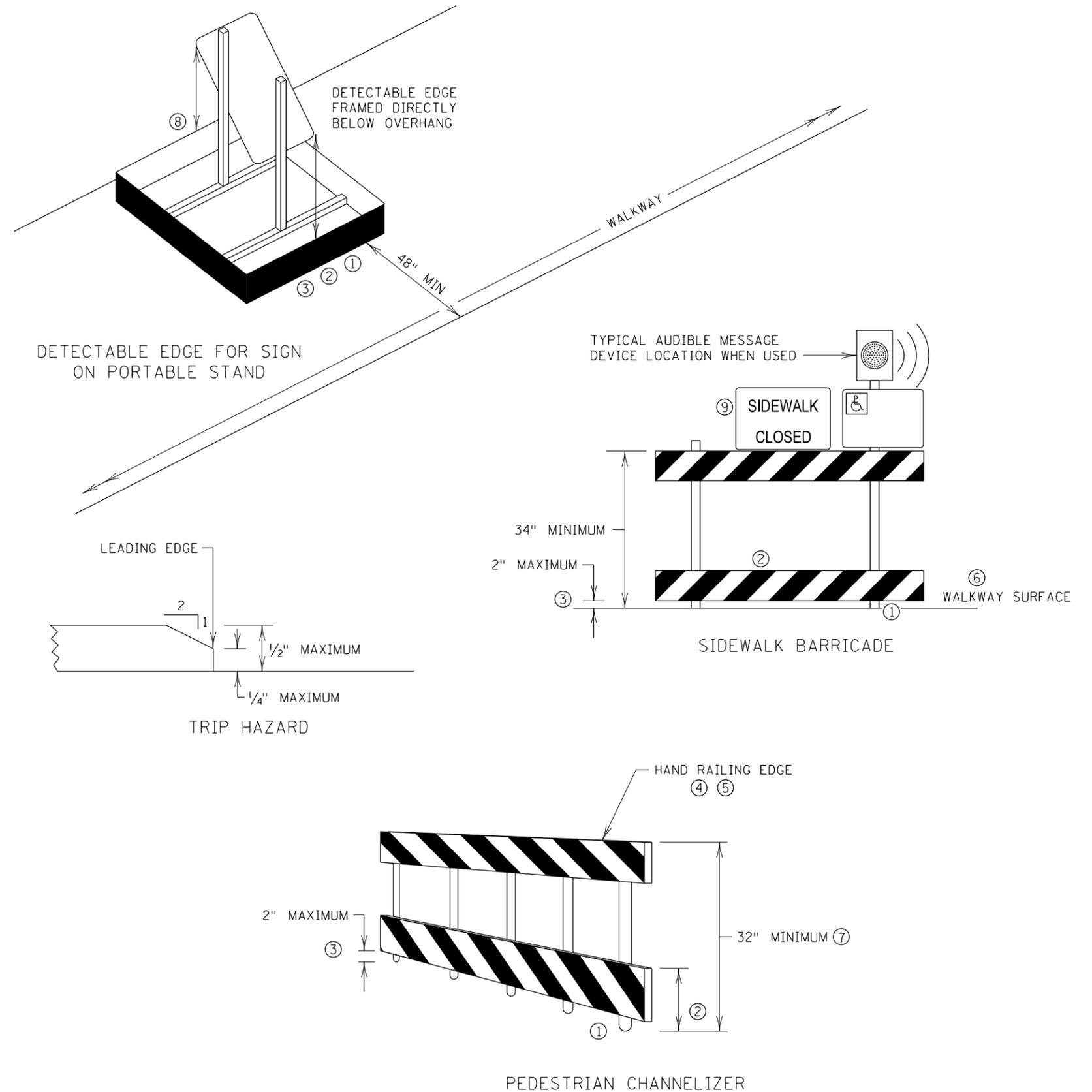
RAILINGS OR OTHER OBJECTS MAY PROTRUDE A MAXIMUM OF 4" INTO THE WALKWAY CLEAR SPACE WHEN LOCATED A MINIMUM OF 27" ABOVE THE WALKWAY SURFACE.

USE CRASHWORTHY TEMPORARY BARRIERS WHEN USED AS A PEDESTRIAN CHANNELIZERS.

PLACE SIDEWALK BARRICADES ACROSS THE ENTIRE WIDTH OF THE WALKWAYSURFACE, WHEN USED.

USE INTERLOCKING DEVICES TO CHANNELIZE PEDESTRIAN FLOW TO PREVENT GAPS THAT COULD ALLOW PEDESTRIANS TO STRAY FROM THE CHANNELIZED PATH.

- ① PROVIDE DETECTABLE EDGE TO ANY TRIPPING HAZARD IN THE WALKWAY. LOCATE BALLAST BEHIND THE DETECTABLE EDGE OR INTEGRAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHOULD NOT EXTEND INTO THE 48" MINIMUM WALKWAY CLEAR SPACE. ANY SUPPORT THAT EXTENDS INTO THE WALKWAY SHALL NOT EXCEED 1/2" HEIGHT ABOVE THE WALKWAY SURFACE; IF GREATER THAN 1/4", BEVEL AS SHOWN IN THE TRIP HAZARD DETAIL.
- ② PROVIDE CONTINUOUS DETECTABLE EDGES EXTENDING AT LEAST 6" ABOVE THE WALKWAY SURFACE. MARK DETECTABLE EDGES WITH A COLOR THAT CONTRASTS WITH THE WALKWAY SURFACE. PLACE THE DETECTABLE EDGE AROUND ANY PORTABLE SIGN STAND IN THE WALKWAY AREA WHERE THE SIGN POSES A HAZARD TO A VISUALLY-IMPAIRED PEDESTRIAN.
- ③ DEVICES AND DETECTABLE EDGES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2" IS ALLOWED FOR DRAINAGE PURPOSES.
- ④ USE HAND AND GUIDE RAILS WHEN REQUIRED. INSTALL TOP RAIL OR TOP SURFACE IN A VERTICAL PLANE PERPENDICULAR TO THE WALKWAY, ABOVE THE DETECTABLE EDGE. PROVIDE CONTINUOUS RAIL AT A HEIGHT OF 34" TO 38" ABOVE THE WALKWAY SURFACE. USE RAIL SUPPORTS THAT MINIMIZE CONTACT WITH PEDESTRIAN'S HANDS AND FINGERS. SEE "PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG) 2005" FOR ADDITIONAL GUIDANCE ON USE OF HAND AND GUIDE RAILS.
- ⑤ USE DEVICES FREE OF SHARP OR ROUGH EDGES, AND USE ROUNDED FASTENERS (BOLTS) TO PREVENT HARM TO A PEDESTRIAN'S HANDS, ARMS, AND CLOTHING.
- ⑥ REGARDLESS OF WEATHER CONDITIONS PROVIDE FIRM, STABLE, FREE-DRAINING, AND NON-SLIP TEMPORARY WALKWAY SURFACES. TEMPORARY WALKWAY SURFACES SHALL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, OR OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR A TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, AND OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS.
- ⑦ PROVIDE 32" HIGH OR GREATER LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS.
- ⑧ AN EDGE OF THE FRAMING MAY BE REMOVED IF IT IS NOT NEEDED FOR PEDESTRIAN GUIDANCE. STABILITY OF THE DETECTABLE EDGE SHOULD BE MAINTAINED.
- ⑨ TYPICAL. SEE SIGNING PLAN FOR DETAILS.



PEDESTRIAN CHANNELIZER DEVICE USING A PORTABLE CONCRETE BARRIER

PEDESTRIAN CHANNELIZER

REVISION:

APPROVED: 03-18-2021

Brian Sobason
BRIAN SOBASON
STATE TRAFFIC ENGINEER



STANDARD PLAN 5-297.813

1 OF 2

Thomas Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 03-18-2021
REVISED:

SP 002-606-013, SP 127-020-034
SP 127-304-002

TEMPORARY PEDESTRIAN ACCESS
ROUTE (TPAR) DEVICES

CHANNELIZERS, SIDEWALK BARRICADES, AND PORTABLE STANDS

SHEET NO. 41 OF 102 SHEETS

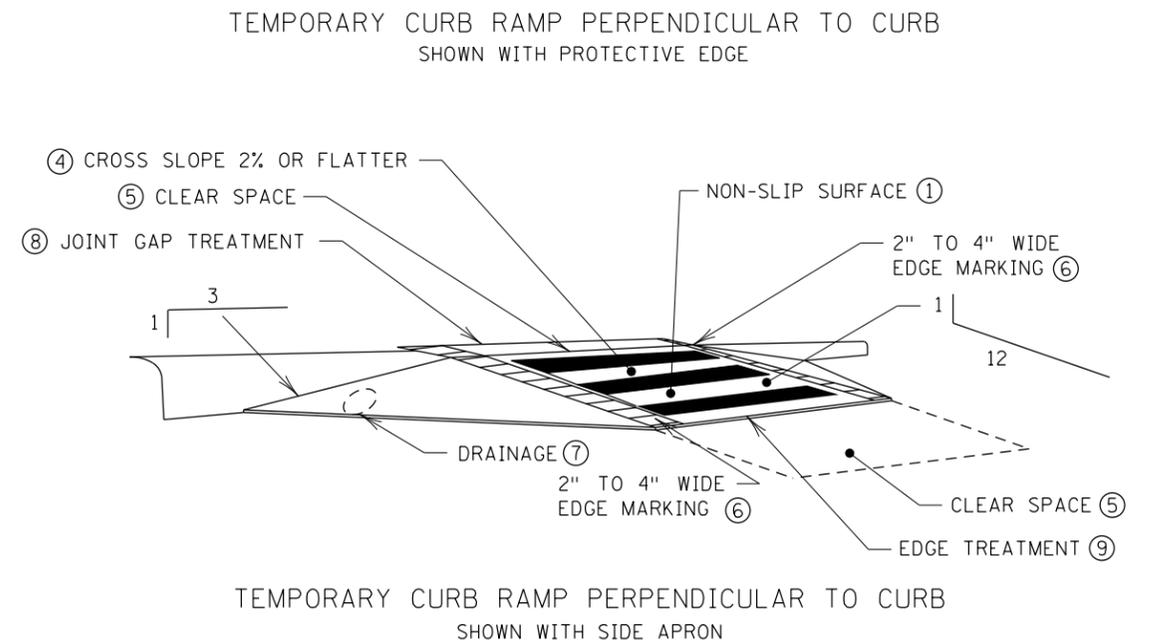
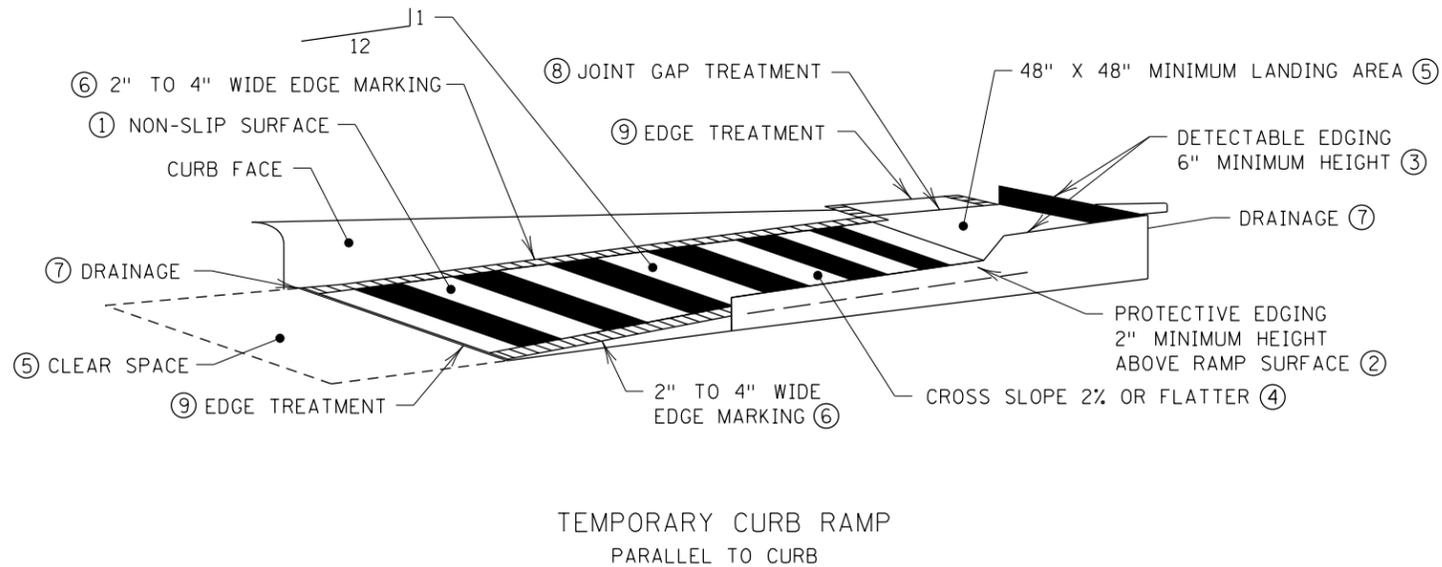
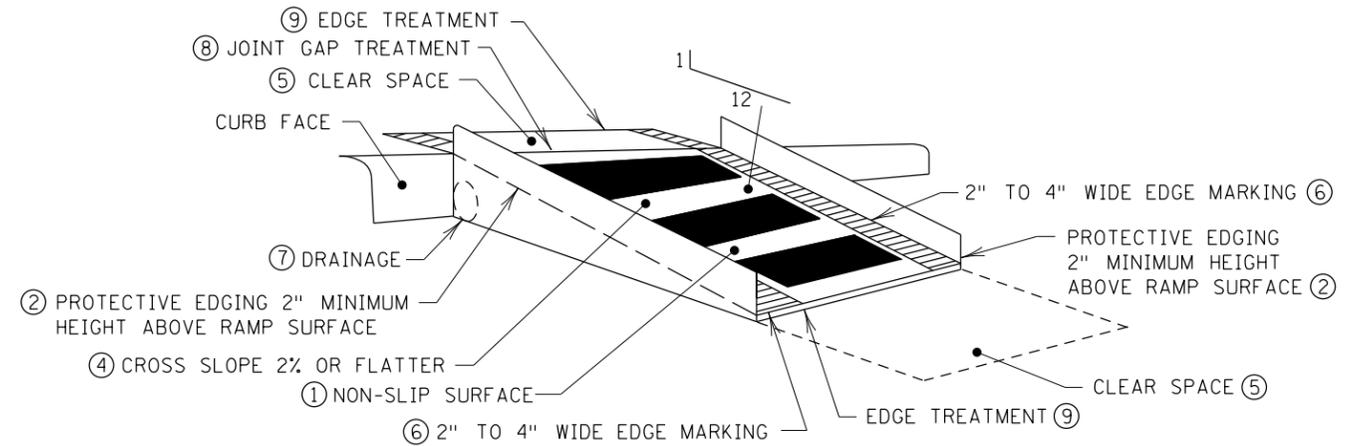
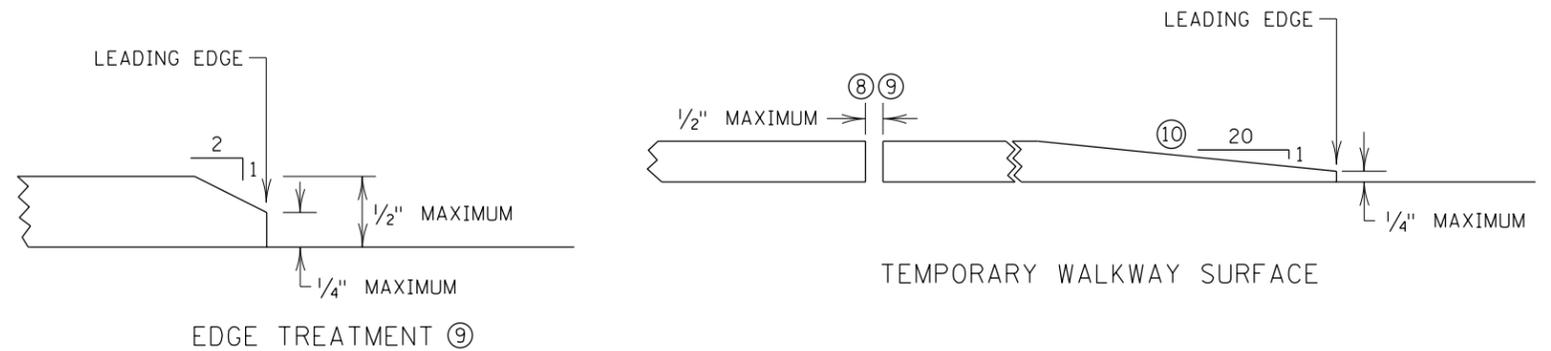
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NOTES:

CONSTRUCT SLOPES AS INDICATED OR FLATTER, BUT NOT STEEPER.

TPAR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

- ① CONSTRUCT CURB RAMPS AT LEAST 48" WIDE WITH A FIRM, STABLE, AND SLIP-RESISTANT SURFACE.
- ② PLACE PROTECTIVE EDGING WITH A 2" MINIMUM HEIGHT WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1V:3H. CONSIDER PROTECTIVE EDGING WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ PLACE DETECTABLE EDGING WITH 6" MINIMUM HEIGHT AND CONTRASTING COLOR ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION.
- ④ CONSTRUCT CURB RAMPS AND LANDINGS WITH A 2% OR FLATTER CROSS SLOPE.
- ⑤ PROVIDE A CLEAR SPACE OF AT LEAST 48" X 48" ABOVE AND BELOW THE CURB RAMP.
- ⑥ MARK THE CURB RAMP WALKWAY EDGE WITH A 2" TO 4" WIDE MARKING OF CONTRASTING COLOR. THE MARKING IS OPTIONAL WHERE COLOR-CONTRASTING EDGING IS USED.
- ⑦ DO NOT IMPEDE WATER FLOW IN THE GUTTER SYSTEM.
- ⑧ NO LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL EXCEED 1/2" WIDTH.
- ⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". USE VERTICAL LATERAL EDGES UP TO 1/4" HIGH, AND BEVELED AT 1V:2H FOR LATERAL EDGES BETWEEN 1/4" AND 1/2" HEIGHT.
- ⑩ BEVEL THE EDGE OF TEMPORARY WALKWAY SURFACES 1/2" OR THINNER AT 1V:2H. FOR THICKER WALKWAY SURFACE BEVEL EDGE 1V:20H OR FLATTER.



REVISION:
APPROVED: 03-18-2021
<i>Brian Sobason</i> BRIAN SOBASON STATE TRAFFIC ENGINEER



STANDARD PLAN 5-297.813	2 OF 2
<i>Tom Styrbicki</i> THOMAS STYRBICKI STATE DESIGN ENGINEER	APPROVED: 03-18-2021 REVISED:

TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) DEVICES
TEMPORARY CURB RAMPS AND WALKWAY SURFACES

SP 002-606-013, SP 127-020-034
SP 127-304-002

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NOTES & GUIDELINES

GENERAL INFORMATION:

- ALL DISTANCES ARE APPROXIMATE.
- SIGNING:**
- ALL TEMPORARY SIGNS ARE REQUIRED TO BE CRASHWORTHY PER THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE 2016 (MASH-2016). TEMPORARY SIGN STRUCTURES THAT ARE CRASHWORTHY UNDER THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 (NCHRP-350) MAY BE USED PROVIDED THE DEVICES WERE ACQUIRED BY THE CONTRACTOR PRIOR TO DECEMBER 31ST, 2019. THE MINNESOTA TYPE "C" AND "D" BRACED LEG U-CHANNEL (KNEE BRACE) SIGN SUPPORT IS NOT ALLOWED.
 - THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING UNTIL THE FINAL SIGNING IS PLACED.
 - WHEN MULTIPLE GROUND MOUNTED SIGN STRUCTURES ARE PLACED ADJACENT TO EACH OTHER THERE SHOULD BE NO MORE THAN 2 POSTS WITHIN 84" OF EACH OTHER. WHEN THIS SPACING CAN NOT BE MAINTAINED, THEN SIGN STRUCTURES SHALL BE OFFSET, AND STAGGERED WITH A MINIMUM OF 4' BETWEEN SIGN STRUCTURES BOTH Laterally and Longitudinally.
 - WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO ROAD USERS INCLUDING BIKES AND PEDESTRIANS IS REDUCED ENOUGH TO CAUSE A HAZARD, DELINEATE THE SIGN/BARRICADE WITH APPROPRIATE DEVICES.
 - TEMPORARY SIGNS SHALL BE PLACED SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY APPROACHING ROAD USERS. OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS, AND BUILDINGS.
 - TEMPORARY SIGNS SHALL BE PLACED AND ORIENTED APPROXIMATELY AS SHOWN IN THE PLAN, AT RIGHT ANGLES TO DIRECTION OF AND FACING THE TRAFFIC THEY ARE INTENDED TO SERVE, UNLESS OTHERWISE SPECIFIED.
 - LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "MINNESOTA TEMPORARY TRAFFIC CONTROL FIELD MANUAL" PAGES (6K-qj) THRU (6K-ql) UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
 - AFTER REMOVAL OF SIGN AND/OR SIGN BASE, BACK FILL, COMPACT, AND LEVEL SOIL TO MATCH SURROUNDING SOIL.

PAVEMENT MARKING:

- MASK OR REMOVE ANY CONFLICTING PAVEMENT MARKINGS AS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER.
- SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.

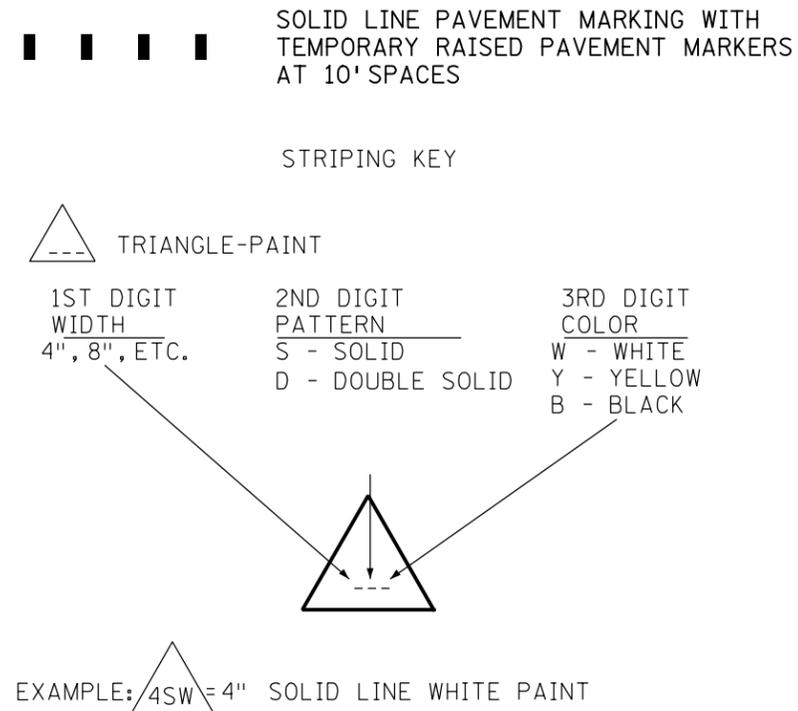
BARRIER & DELINEATION:

- PLACE AND MAINTAIN PORTABLE BARRIER DELINEATORS ANY TIME TRAFFIC IS WITHIN 10' OF BARRIER. DELINEATORS WILL EACH HAVE A MINIMUM OF 24 SQ IN. OF RETROREFLECTIVE SURFACE ON BOTH SIDES PLACED AT 25' SPACING ON TOP OF THE BARRIER. SIDE MOUNTED PORTABLE BARRIER DELINEATORS WILL HAVE A MINIMUM OF 12 SQ. IN. OF RETROREFLECTIVE SURFACE AREA AND BE PLACED AT 12.5' SPACING. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE A MINIMUM OF 6 SQ IN. OF RETROREFLECTIVE SURFACE AREA AND BE PLACED ON BOTH SIDES AT 6.25' SPACING. TEMPORARY BARRIER DELINEATOR COLOR SHALL MATCH APPLICABLE PAVEMENT MARKING.

CONSTRUCTION INFORMATION SIGNING:

- THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN WHICH ARE TO BE USED AS FOLLOWS:
 PLACE THE G20-X1 ADVANCE CLOSURE NOTICE SIGN(S) 10 DAYS PRIOR TO THE PLANNED CLOSURE DATE.
 PLACE G20-X2 ADVANCE NOTICE SIGNS 10 DAYS PRIOR TO THE WORK STARTING DATE. ONCE WORK BEGINS, COVER THE START DATE LEGEND WITH SUGGESTED PLAQUE CONTAINED IN THIS PLAN. IF NO ALTERNATE MESSAGE IS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER, DISPLAY THE CORRECT ESTIMATED FINISH DATE, MONTH, OR SEASON.
 IF CONSTRUCTION INFORMATION SIGNING IS NO LONGER VISIBLE TO THE MOTORING PUBLIC ONCE WORK BEGINS, MOVE SAID SIGNING TO A SITE IN ADVANCE OF THE WORK ZONE OR CLOSURE AS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER.
 PLACE PORTABLE CHANGEABLE MESSAGE SIGNS 10 DAYS PRIOR TO THE WORK STARTING ON EACH LEG OF THE INTERSECTION.

PAVEMENT MARKING SYMBOLS AND MATERIALS LEGEND



INDEX

TRAFFIC CONTROL SHEET NO.	DESCRIPTIONS
43	TEMPORARY TRAFFIC CONTROL TITLE SHEET
43	STAGING NARRATIVE
44	TRAFFIC CONTROL & SIGN TABULATION
45	TEMPORARY SQUARE TUBE GROUND MOUNTED SIGN PLACEMENT
46	TEMPORARY SIGN COVERING
47	NCHRP 350 COMPLIANT INSTALLATION DETAILS
48 - 59	STAGING PLANS
60 - 61	DETOURS

STAGING NARRATIVE

- STAGE 1**
CONSTRUCTION
- CONSTRUCT THE WESTBOUND LANE OF CSAH 6 (MISSISSIPPI ST) TO THE PROPOSED CONDITION, INCLUDING STORM SEWER TRUNK LINE.
 - CONSTRUCT THE NORTHBOUND LANE OF CSAH 35 (CENTRAL AVE) TO THE PROPOSED CONDITION.
 - STABILIZE SITE AS PER THE EROSION CONTROL PLAN.
- TRAFFIC
- SHIFT CSAH 6 TO EB SHOULDER AND THRU LANE.
 - SHIFT SB CSAH 35 TO SB SHOULDER.
 - CLOSE NB CSAH 35 AND DETOUR.
- STAGE 2**
CONSTRUCTION
- CONSTRUCT THE EASTBOUND LANE OF CSAH 6 (MISSISSIPPI ST) TO THE PROPOSED CONDITION, INCLUDING STORM SEWER.
 - CONSTRUCTION THE SOUTHBOUND LANE OF CSAH 35 (CENTRAL AVE) TO THE PROPOSED CONDITION.
 - STABILIZE SITE AS PER THE EROSION CONTROL PLAN.
- TRAFFIC
- CLOSE NB CSAH 35 AND DETOUR.
 - SHIFT SB CSAH 35 TO NB SHOULDER.
 - CLOSE EB CSAH 6 AND DETOUR.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	AREA CLOSED TO TRAFFIC / WORK AREA
	TRAFFIC CONTROL SIGN
	TYPE III BARRICADE =
	DRUM-LIKE CHANNELIZER (TYPE B) =
	TYPE A FLASHING WARNING LIGHT
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: ZACHARIAH F. HEIMER Date: 06/12/2024 License #: 58755					STATE PROJECT NO. 002-606-013 STATE PROJECT NO. 127-020-034 STATE PROJECT NO. 127-304-002 COUNTY PROJECT NO. 24-25-106	DRAWN BY S. MARTINS DESIGNED BY Z. HEIMER CHECKED BY K. JULLIE COMM. NO. 16588			ANOKA COUNTY, MINNESOTA TRAFFIC CONTROL AND STAGING PLANS SP 002-606-013, SP 127-020-034, SP 127-304-002 TITLE SHEET	SHEET 43 OF 102
NO	DATE	BY	CKD	APPR	REVISION					

G SERIES			
SIGN	CODE NO.	COLOR	SIZE (IN)
	G20-X2	BLACK ON ORANGE	96 X 84
	G20-2	BLACK ON ORANGE	36 X 18

TRAFFIC CONTROL					R
ITEM	UNIT	QUANTITY			
		WHITE	YELLOW	TOTAL	
PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337	LIN FT			300	
RELOCATE PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337	LIN FT			280	
TRAFFIC CONTROL	LUMP SUM			1	
PORTABLE CHANGEABLE MESSAGE SIGN	UDAY			40	
TEMPORARY IMPACT ATTENUATOR	AMBY			7	
RELOCATE TEMPORARY IMPACT ATTENUATOR	AMBY			2	
4" REMOVABLE PREFORMED PAVEMENT MARKING TAPE (WR)	LIN FT		14810	14810	
6" REMOVABLE PREFORMED PAVEMENT MARKING TAPE (WR)	LIN FT	3940	4810	8750	
24" REMOVABLE PREFORMED PAVEMENT MARKING TAPE (WR)	LIN FT	50		50	



W SERIES			
SIGN	CODE NO.	COLOR	SIZE (IN)
	W20-2	BLACK ON ORANGE	36 X 36
	W20-3	BLACK ON ORANGE	36 X 36
	W16-3P	BLACK ON ORANGE	30 X 24
	W1-4R	BLACK ON ORANGE	30 X 30
	W1-4L	BLACK ON ORANGE	30 X 30
	W20-1	BLACK ON ORANGE	36 X 36
	W4-2L	BLACK ON ORANGE	36 X 36
	W20-X5	BLACK ON ORANGE	36 X 36
	W14-3	BLACK ON YELLOW	64 X 64 X 48
	W14-1	BLACK ON YELLOW	30 X 30
	W13-1P	BLACK ON ORANGE	18 X 18

M SERIES			
SIGN	CODE NO.	COLOR	SIZE (IN)
	M1-6M	WHITE AND YELLOW ON BLUE	24 X 24
	M4-8	BLACK ON ORANGE	24 X 12
	M3-1	BLACK ON WHITE	24 X 12
	M5-1R	BLACK ON WHITE	21 X 15
	M5-1L	BLACK ON WHITE	21 X 15
	M6-1R	BLACK ON WHITE	21 X 15
	M6-1L	BLACK ON WHITE	21 X 15
	M6-3	BLACK ON WHITE	21 X 15
	M4-8A	BLACK ON ORANGE	24 X 18
	M3-2	BLACK ON WHITE	24 X 12
	M3-3	BLACK ON WHITE	24 X 12

R SERIES			
SIGN	CODE NO.	COLOR	SIZE (IN)
	R5-1	RED ON WHITE	30 X 30
	R1-1	WHITE ON RED	30 X 30
	R6-1L	BLACK ON WHITE	36 X 12
	R3-1	BLACK AND RED ON WHITE	24 X 24
	R6-1R	BLACK ON WHITE	36 X 12
	R3-2	BLACK AND RED ON WHITE	24 X 24
	R4-7	BLACK ON WHITE	24 X 30
	R5-1A	RED ON WHITE	36 X 24

BARRICADE MOUNTED SIGNS			
SIGN	CODE NO.	COLOR	SIZE (IN)
	R11-3A	BLACK ON WHITE	60 X 30
	R11-2M	BLACK ON WHITE	48 X 30
	R11-4	BLACK ON WHITE	60 X 30
	M4-10R	BLACK ON ORANGE	48 X 18
	W1-6L	BLACK ON ORANGE	48 X 24
	W1-6R	BLACK ON ORANGE	48 X 24
	R5-1	RED ON WHITE	30 X 30

GENERAL NOTES:

- SIGN STRUCTURE TABULATIONS INDICATE SQUARE TUBE GROUND MOUNTED SIGN STRUCTURES THAT ARE MASH-16 COMPLIANT.
- USE PRODUCTS FROM THE BASES FOR SQUARE TUBE SIGN STRUCTURES APPROVED/QUALIFIED PRODUCTS LIST FOR THE INDICATED SQUARE TUBE RISER POST SIZE. PLACE PER THE MANUFACTURER'S SPECIFICATIONS.
- ALUMINUM STRINGERS SHALL BE USED FOR SIGNS 36 INCHES AND WIDER. SEE MANUFACTURER'S SPECIFICATIONS FOR SQUARE TUBE MOUNTING DETAILS. STRINGERS ON SINGLE POST ASSEMBLIES ARE REQUIRED TO BE AT LEAST 9 INCHES IN FROM THE EDGE OF THE SIGN.
- UNLESS OTHERWISE INDICATED, USE 2-1/2 INCH RISER POSTS FOR GROUND MOUNTED SIGN STRUCTURES.

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NO	DATE	BY	CKD	APPR	REVISION
	01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. REVISED STRIPING TYPE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 01/07/2025 License #: 58755

STATE PROJECT NO. 002-606-013

STATE PROJECT NO. 127-020-034

STATE PROJECT NO. 127-304-002

COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS

DESIGNED BY Z. HEIMER

CHECKED BY K. JULLIE

COMM. NO. 16588



ANOKA COUNTY, MINNESOTA

TRAFFIC CONTROL AND STAGING PLANS

SP 002-606-013, SP 127-020-034, SP 127-304-002

TEMPORARY TRAFFIC CONTROL & SIGN TABULATION

SHEET 44R OF 102

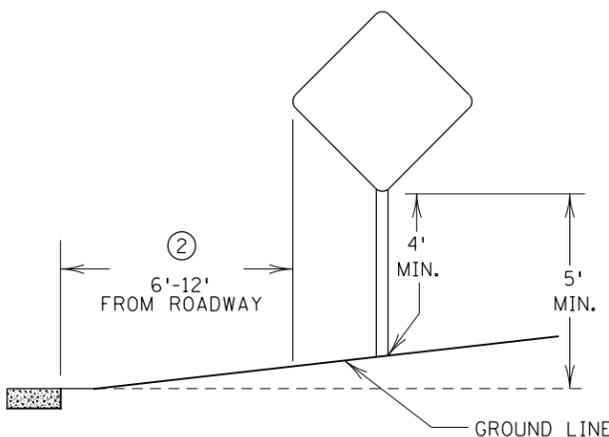
GENERAL NOTES:

1. GROUND MOUNTED SQUARE TUBE SIGN STRUCTURES PLACED WITHIN 50' OF THE RADIUS END OF AN INTERSECTION SHALL BE PLACED ON ONE 2" OR 2-1/2" POST.
2. FOR 2" SQUARE TUBE RISER POST IN SOIL, USE FIN BASE PLACED PER MANUFACTURER'S SPECIFICATIONS. USE A 2" X 2" PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST. PLACE 3/8" STAINLESS STEEL BOLT THROUGH THE 5TH HOLE DOWN FROM THE TOP OF THE BASE. RISER POST SHALL REST ON THE BOLT.
3. FOR 2-1/2" SQUARE TUBE RISER POST IN SOIL, USE SLIP BASE PLACED PER MANUFACTURER'S SPECIFICATIONS USING A 10 GAUGE, 2-1/2" X 2-1/2" PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST WITH A 10 GAUGE 2-3/16" X 2-3/16" PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE INTERNAL INSERT.

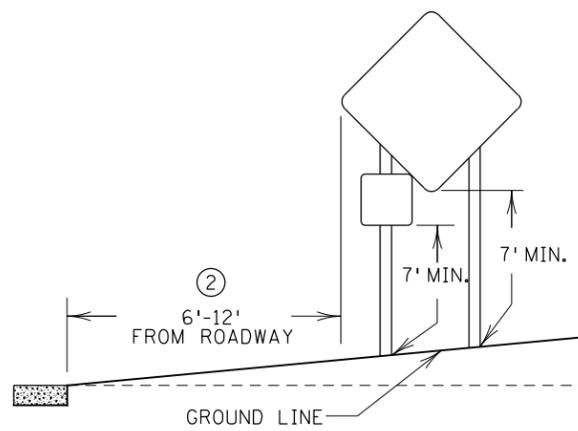
SPECIFIC NOTES:

- ① IF ANY PART OF A SIGN OR SIGN ASSEMBLY EXTENDS MORE THAN 4" INTO THE PEDESTRIAN FACILITY, THE MINIMUM HEIGHT TO BOTTOM OF THE SIGN OR SIGN ASSEMBLY SHALL BE 7'.
- ② 6' - 12' FROM EDGE OF ROADWAY, MUST BE A MINIMUM OF 6' FROM EDGE OF PAVED SHOULDER (WHEN PRESENT).
- ③ IF GROUND MOUNTED TEMPORARY SIGN OR SIGN ASSEMBLY IS PLACED ON 2-1/2" SQUARE TUBE RISER POST(S), THE MINIMUM CLEARANCE FROM THE GROUND LINE TO THE BOTTOM OF THE LOWEST SIGN ON THE ASSEMBLY SHALL BE 7', OR AS SHOWN IN DETAIL, WHICHEVER IS GREATER.
- ④ 5' MINIMUM IN RURAL. 7' MINIMUM IN BUSINESS, COMMERCIAL, OR RESIDENTIAL AREAS.
- ⑤ WHEN MULTIPLE GROUND MOUNTED SIGN STRUCTURES ARE PLACED ADJACENT TO EACH OTHER THERE SHOULD BE NO MORE THAN 2 POSTS WITHIN 84" OF EACH OTHER. WHEN THIS SPACING CAN NOT BE MAINTAINED, THEN SIGN STRUCTURES SHALL BE OFFSET, AND STAGGERED WITH A MINIMUM OF 4' BETWEEN SIGN STRUCTURES BOTH Laterally AND LONGITUDINALLY. EXAMPLE SHOWS DETOUR SIGNAGE, BUT THIS REQUIREMENT APPLIES TO ALL SIGNAGE.
- ⑥ INPLACE AND/OR OTHER CONSTRUCTION SIGNING.

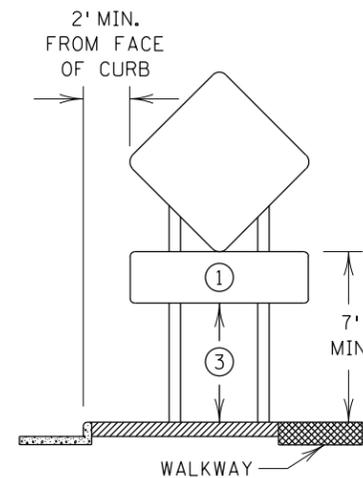
NOT TO SCALE



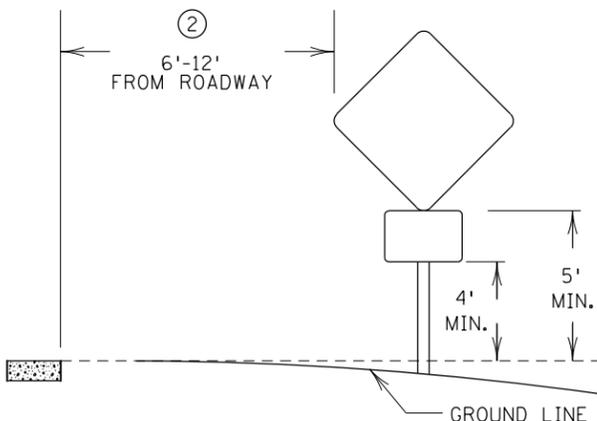
TYPICAL RURAL DESIGN AND 2" RISER POST



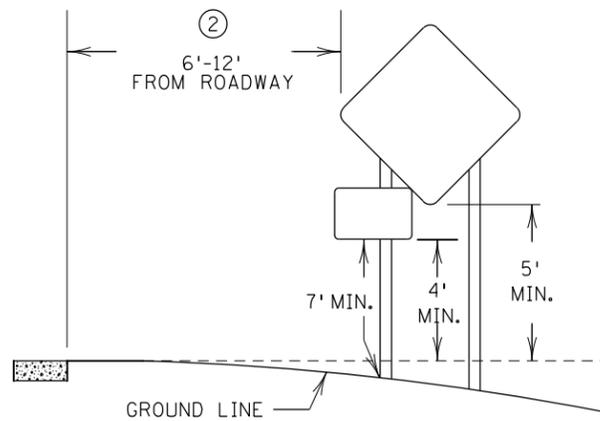
TYPICAL RURAL DESIGN WITH SUPPLEMENTAL PLAQUE AND 2-1/2" RISER POST



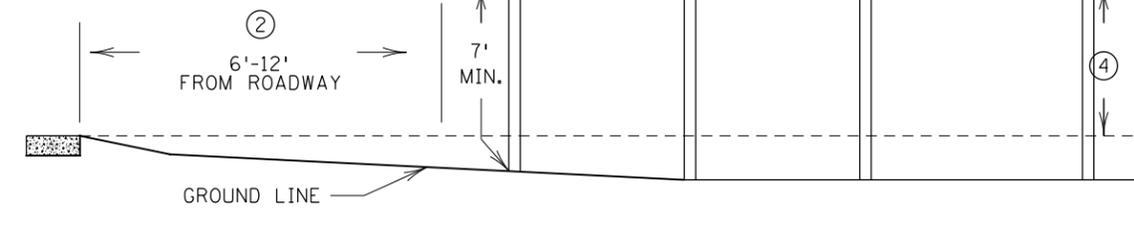
BUSINESS, COMMERCIAL, OR RESIDENTIAL AREA



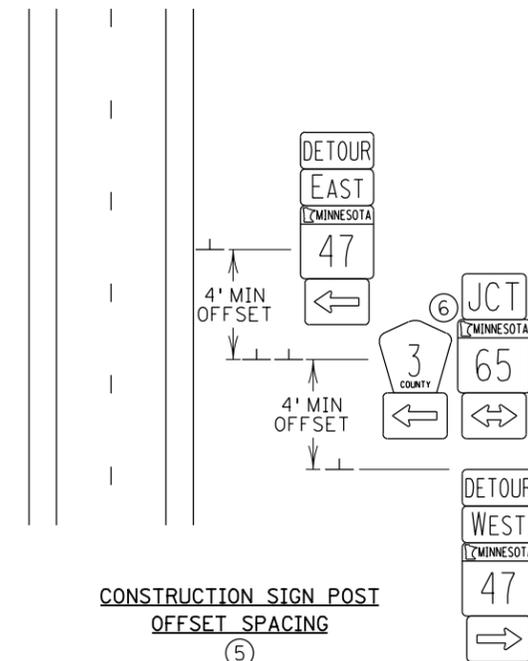
TYPICAL RURAL DESIGN WITH SUPPLEMENTAL PLAQUE AND 2" RISER POST



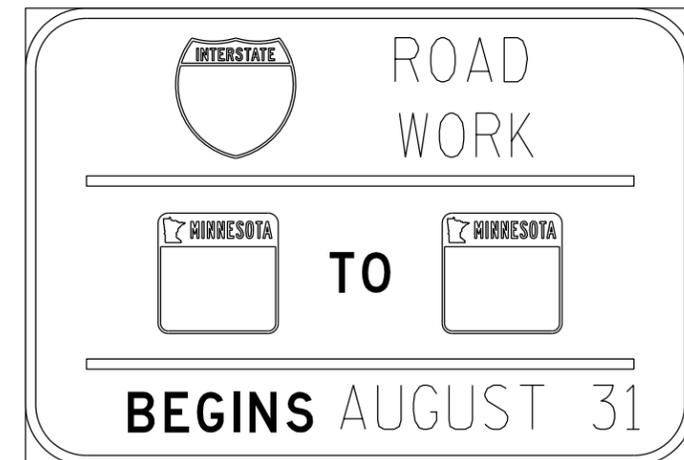
TYPICAL RURAL DESIGN 2-1/2" RISER POST



TYPICAL G20-X2 DESIGN



CONSTRUCTION SIGN POST OFFSET SPACING



TEMPORARY SQUARE TUBE GROUND MOUNTED SIGN PLACEMENT

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

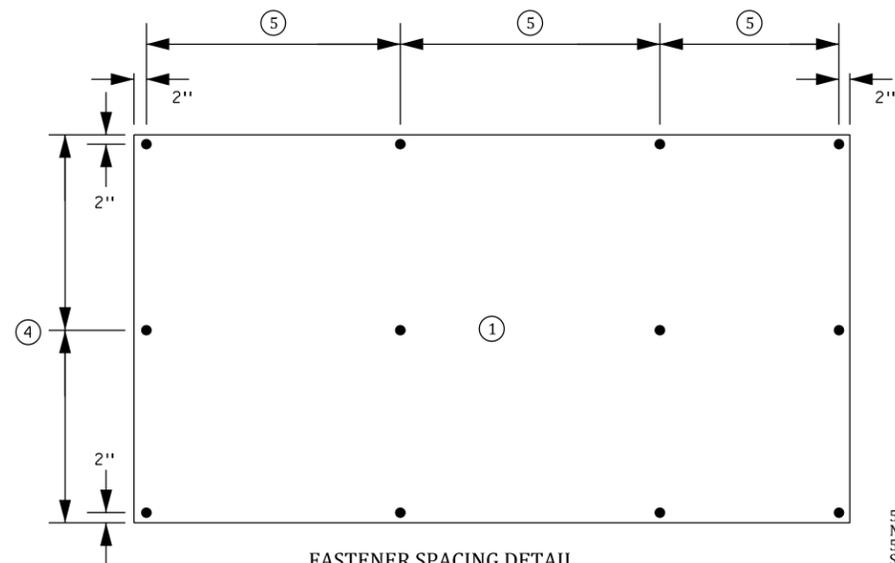
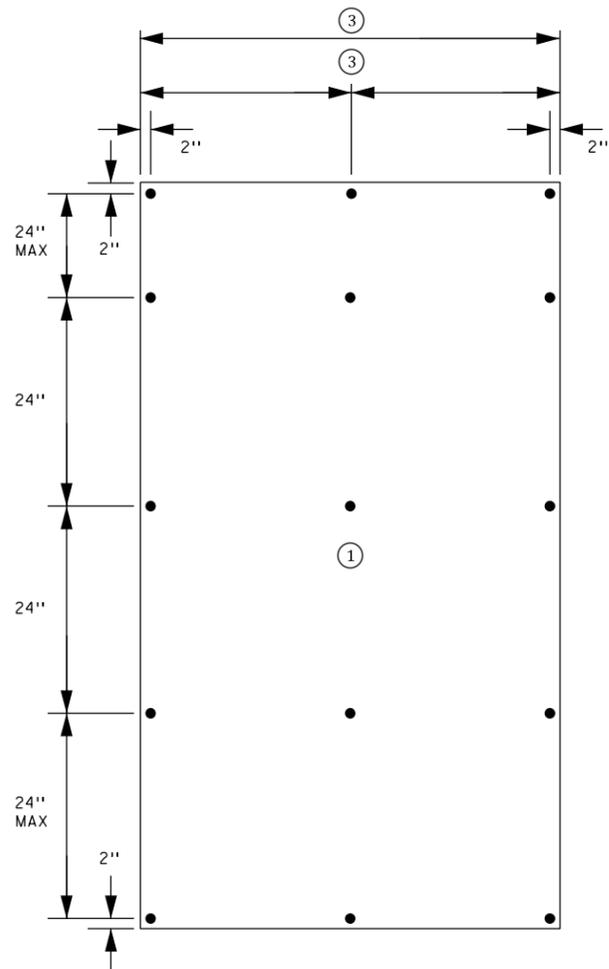
STATE PROJECT NO. 002-606-013	DRAWN BY S. MARTINS
STATE PROJECT NO. 127-020-034	DESIGNED BY Z. HEIMER
STATE PROJECT NO. 127-304-002	CHECKED BY K. JULLIE
COUNTY PROJECT NO. 24-25-106	COMM. NO. 16588



ANOKA COUNTY, MINNESOTA	
TRAFFIC CONTROL AND STAGING PLANS	
SP 002-606-013, SP 127-020-034, SP 127-304-002	
DETAILS	

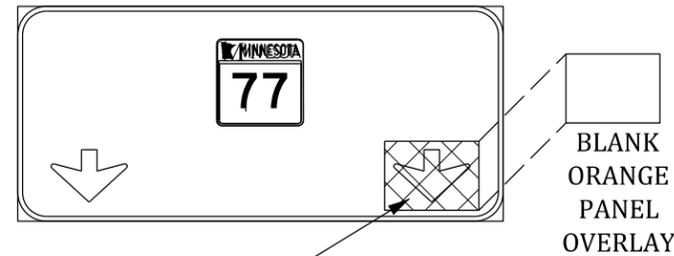
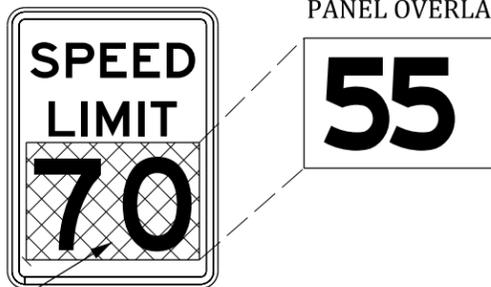
SHEET 45 OF 102

**FASTENER SPACING DETAIL
HORIZONTAL PLACEMENT**

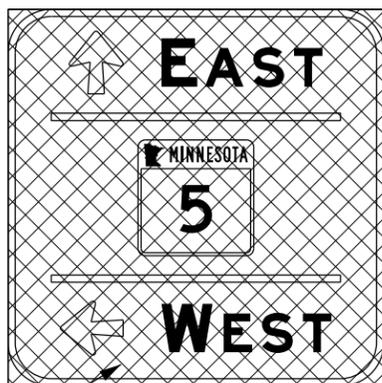


**FASTENER SPACING DETAIL
VERTICAL PLACEMENT**

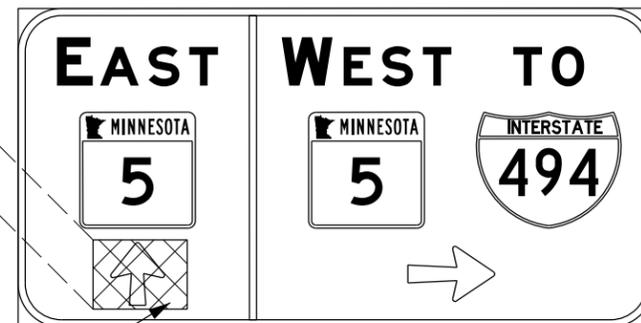
R2-1
BLACK ON WHITE
PANEL OVERLAY



BLANK
NON-REFLECTIVE
GREEN
COVER



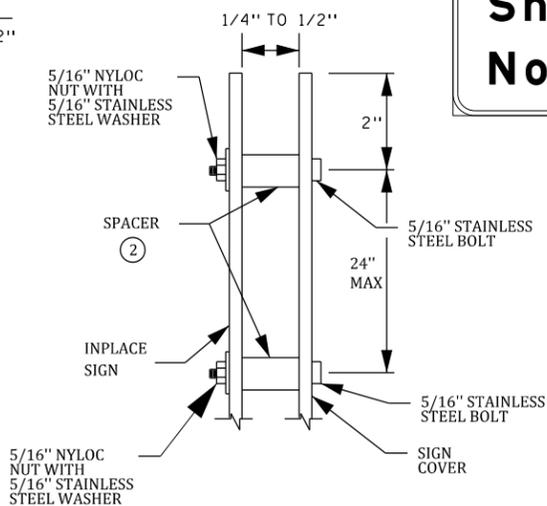
BLACK ON
ORANGE
PANEL
OVERLAY



BLACK ON
ORANGE
PANEL
OVERLAY



SPACER DETAIL



GENERAL NOTES:

- SIGN COVERS ARE USED TO COVER THE ENTIRE PANEL OF A INPLACE SIGN. THE COVER SHALL BE BLANK, GREEN IN COLOR, AND MADE OF A RIGID NON-REFLECTIVE MATERIAL (SHEET ALUMINUM, PLYWOOD, CORRUGATED PLASTIC). OTHER MATERIALS MAY BE USED AS APPROVED BY THE ENGINEER.
- SIGN PANEL OVERLAYS ARE USED TO MODIFY THE MESSAGE OF AN INPLACE SIGN PANEL. THE PANEL OVERLAY SHALL BE MADE OF SHEET ALUMINUM WITH THE APPROPRIATE SHEETING MATERIAL AS SPECIFIED ON THE MNDOT SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS APL. THE MESSAGE SHALL FOLLOW THE REQUIREMENTS OF THE "MNDOT STANDARD SIGNS AND MARKINGS MANUAL" OR THE "FHWA STANDARD HIGHWAY SIGNS MANUAL" (AND SUPPLEMENTS). THE SIGN PANEL OVERLAY SHALL BE RECTANGULAR IN SHAPE AND FULLY COVER THE MESSAGE ELEMENT(S) BEING MODIFIED.

SIGN PANEL OVERLAY WITH A MESSAGE SHALL BE BLACK ON FLUORESCENT ORANGE ON ALL SIGNS, EXCEPT FOR REGULATORY SIGNS WHICH SHALL BE THE PROPER COLOR ON A WHITE BACKGROUND.

BLANK SIGN PANEL OVERLAYS SHALL BE FLUORESCENT ORANGE ON ALL SIGNS.

DO NOT COVER OR MODIFY THE "STOP" (R1-1), "YIELD" (R1-2), OR THE (W14-3) NO PASSING ZONE SIGNS, THESE SIGNS SHALL BE REMOVED IF THEY NO LONGER APPLY OR CONFLICT WITH WORK ZONE SIGNING.
- MINIMIZE DAMAGE TO THE INPLACE SIGN PANEL. DO NOT APPLY TAPE TO THE INPLACE SIGN SHEETING.
- SPACERS (SUCH AS PLASTIC OR RUBBER) SHALL BE A MATERIAL THAT WILL NOT HARM THE INPLACE SIGN SHEETING FACE.
- ATTACH SIGN COVER PANEL OR PANEL OVERLAY USING HARDWARE SHOWN IN THE SPACER DETAIL.
- IF SHEET METAL SCREWS ARE USED TO PLACE CORRUGATED PLASTIC AS A SIGN COVER PANEL, PLACE FENDER WASHERS BETWEEN THE SCREW HEADS AND THE CORRUGATED PLASTIC.
- REMOVE ALL COVERING MATERIAL, MOUNTING HARDWARE, AND FASTENERS WHEN SIGN COVER PANEL OR PANEL OVERLAY IS REMOVED.
- NO HANDLE OR OTHER LIFTING DEVICE SHALL BE LEFT ATTACHED TO ANY SIGN COVER PANEL AFTER PLACEMENT.

SPECIFIC NOTES:

- THE SIGN COVER OR PANEL OVERLAY SHALL FULLY COVER THE MESSAGE BEING COVERED OR MODIFIED.
- PLACE SIGN COVER AND PANEL OVERLAYS WITH SPACERS THAT PROVIDE A SPACING OF 1/4 IN TO 1/2 IN BETWEEN THE COVER MATERIAL AND THE INPLACE SIGN. THE SPACERS SHALL HAVE AN OUTSIDE DIAMETER BETWEEN 3/8 IN TO 7/8 IN. EACH FASTENER REQUIRES A SPACER.
- IF THE SIGN COVER OR PANEL OVERLAY IS GREATER THAN 48 IN WIDE, THE FASTENER SPACING SHALL BE NO GREATER THAN 24 IN. IF THE SIGN COVER OR PANEL OVERLAY IS LESS THAN 24 IN WIDE, DO NOT PLACE A CENTER FASTENER (UNLESS REQUIRED BY SPECIFIC NOTE 4).
- VERTICAL SPACING FOR FASTENERS IS 50% OF THE SIGN COVER OR PANEL OVERLAY. IF THE SIGN COVER OR PANEL OVERLAY IS LESS THAN 24 IN HIGH, DO NOT PLACE A CENTER FASTENER (UNLESS REQUIRED PER SPECIFIC NOTE 5).
- HORIZONTAL SPACING FOR FASTENERS SHALL NOT BE LESS THAN 15 IN OR MORE THAN 24 IN.

ASSEMBLY NOTES:

- DRILL 11/32 IN HOLES ON THE SIGN COVER OR PANEL OVERLAY IN ACCORDANCE WITH HELD FASTENER SPACING DETAILS.
- ATTACH PLASTIC SPACERS TO SIGN COVER OR PANEL OVERLAY WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
- POSITION THE COVER OR OVERLAY MATERIAL OVER THE SIGN OR MESSAGE TO BE MODIFIED.
- DRILL ALL THE OUTSIDE HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH THE COVER OR OVERLAY MATERIAL WITH APPROPRIATE FASTENERS.
- DRILL ALL THE INNER HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH WITH APPROPRIATE FASTENERS.

TEMPORARY SIGN COVERING AND MODIFICATION DETAIL

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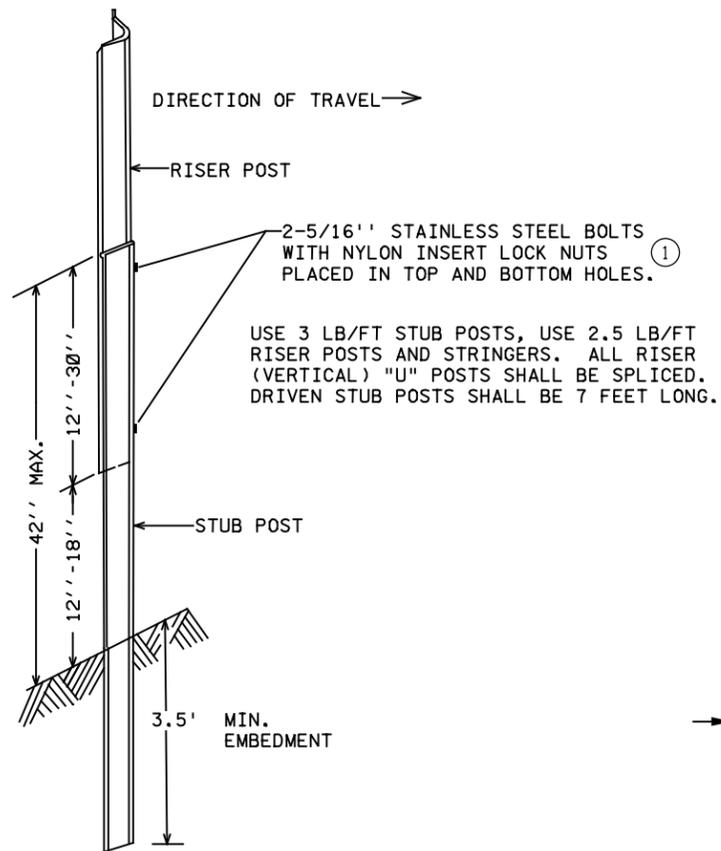
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Print Name: ZACHARIAH F. HEIMER
Zach Heimer
Date: 06/12/2024 License #: 58755

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STATE PROJECT NO. 127-020-034
STATE PROJECT NO. 127-304-002
COUNTY PROJECT NO. 24-25-106
DRAWN BY S. MARTINS
DESIGNED BY Z. HEIMER
CHECKED BY K. JULIE
COMM. NO. 16588

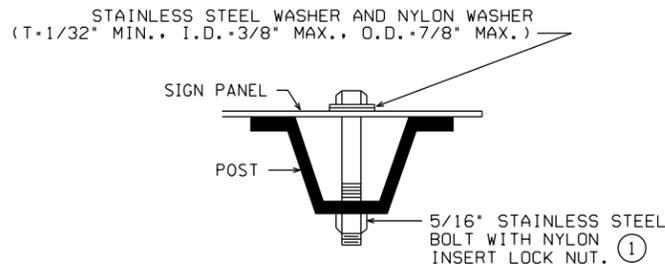


ANOKA COUNTY, MINNESOTA
TRAFFIC CONTROL AND STAGING PLANS
SP 002-606-013, SP 127-020-034, SP 127-304-002
DETAILS

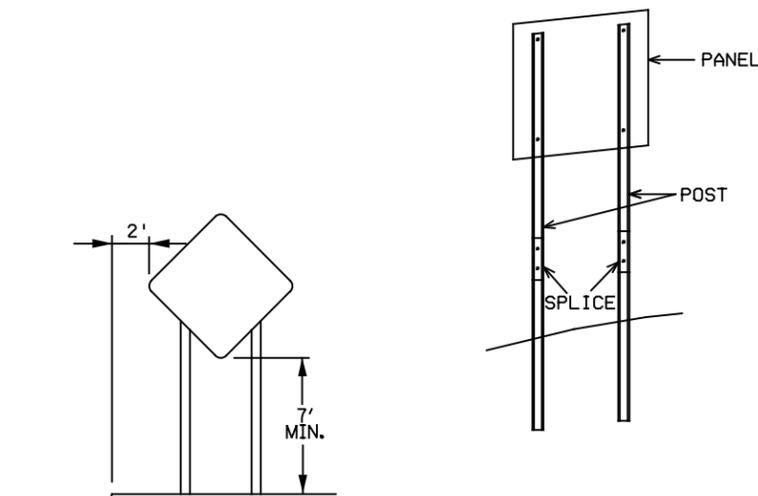
SHEET
46
OF
102



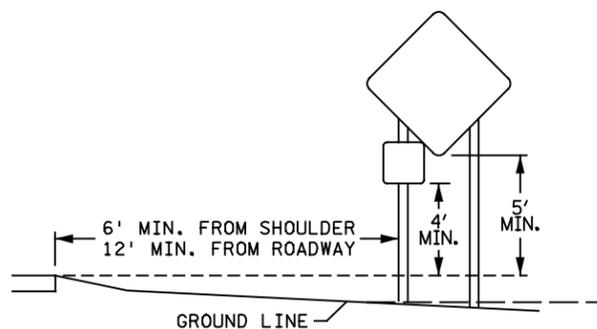
"U" POST BREAKAWAY SPLICE



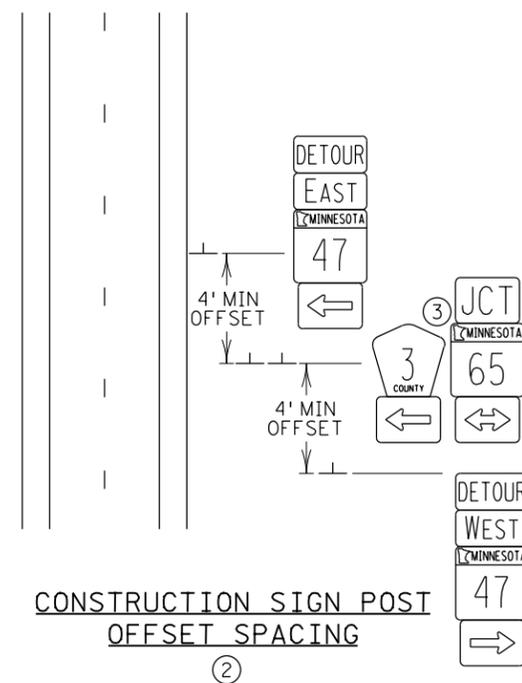
U-POST MOUNTING



TYPICAL BUSINESS, COMMERCIAL, AND RESIDENTIAL DESIGN



TYPICAL RURAL DESIGN



CONSTRUCTION SIGN POST OFFSET SPACING

GENERAL NOTES:

- SIGNS TO BE PLACED ON DRIVEN U-POSTS SHALL BE PLACED IN ACCORDANCE WITH TABLE 1. IF THE TTC PLAN PLACES POST MOUNTED TEMPORARY SIGNS ADJACENT TO EXISTING STRUCTURES THERE SHALL BE NO MORE THAN TWO U-POST WITHIN 84 INCHES OF EACH OTHER ALIGNED IN THE SAME PLANE SO AS NOT TO COMPROMISE THAT STRUCTURE'S AND THE NEW DEVICE'S CRASHWORTHINESS. IF IT IS NOT POSSIBLE TO MAINTAIN THIS SPACING THEN THE POST MOUNTED TEMPORARY SIGNS SHALL BE PLACED OFFSET, AND STAGGERED WITH A MIN OF 4' BETWEEN THE SIGN STRUCTURES. SIGN PANELS SHALL BE PLACED ON SIGN STRUCTURES TO MEET THE 5' MIN DEPICTED ON THE TYPICAL RURAL DESIGN DETAIL, AND THE 7' MIN DEPICTED ON THE TYPICAL BUSINESS, COMMERCIAL, OR RESIDENTIAL AREA DESIGN DETAIL ON THIS SHEET.
- ANY SIGN PANEL LARGER THAN WHAT IS LISTED ON TABLE 1 SHALL BE INSTALLED ON SQUARE TUBE.
- SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR PUNCHING HOLES.
- A 48" X 48" WARNING SIGN INSTALLED ON TWO U-CHANNEL POSTS MAY BE SUPPLEMENTED WITH UP TO ONE 24" X 12" CARDINAL DIRECTION PLAQUE AND ONE 30" X 24" ROUTE MARKER, PROVIDED SUPPLEMENTAL SIGNS ARE MOUNTED IN THE UPPER TRAFFIC SIDE CORNER OF THE WARNING SIGN(S).

SPECIFIC NOTES:

- FOR TEMPORARY CONSTRUCTION SIGN FRAMING, THE CONTRACTOR MAY USE GRADE 5 ZINC PLATED BOLTS IN LIEU OF STAINLESS STEEL BOLTS FOR ALL BOLTED CONNECTIONS
- WHEN MULTIPLE GROUND MOUNTED SIGN STRUCTURES ARE PLACED ADJACENT TO EACH OTHER THERE SHOULD BE NO MORE THAN 2 POSTS WITHIN 84' OF EACH OTHER. WHEN THIS SPACING CAN NOT BE MAINTAINED, THEN SIGN STRUCTURES SHALL BE OFFSET, AND STAGGERED WITH A MINIMUM OF 4' BETWEEN SIGN STRUCTURES BOTH Laterally AND LONGITUDINALLY. EXAMPLE SHOWS DETOUR SIGNAGE, BUT THIS REQUIREMENT APPLIES TO ALL SIGNAGE.
- INPLACE AND/OR OTHER CONSTRUCTION SIGNING.

TABLE 1

		WIDTH IN INCHES													
		12	18	24	30	36	42	48	54	60	66	72	78	84	90
HEIGHT IN INCHES	12	1	1	1	1	1	1	1	1	1	2/42	2/42	2/42	2/48	2/54
	18	1	1	1	1	1	1	1	1	2/42	2/42	2/42	2/42	2/48	2/54
	24	1	1	1	1	1	1	2/30	2/36	2/42	2/42	2/42	2/42	2/48	2/54
	30	1	1	1	1	1	2/24	2/30	2/36	2/42	2/42	2/42	2/42	2/48	2/54
	36	1	1	1	1	2/18	2/24	2/30	2/36	2/42	2/42	2/42			
	42	1	1	1	2/12	2/18	2/24	2/30	2/36	2/42	2/42				
	48	1	1	1	2/12	2/18	2/24	2/30	2/36	2/42					
	54	1	1	2/12	2/12	2/18	2/24	2/30							
	60	1	1	2/12	2/12	2/18	2/24								
	66			2/12	2/12	2/18									
72			2/12	2/12											
78			2/12	2/12											
84			2/12												
90			2/12												

NUMBER OF POST(S)/SPACING
 REQUIRES SQUARE TUBE POSTS

NCHRP 350 COMPLIANT GROUND MOUNTED TEMPORARY SIGN INSTALLATION DETAILS

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

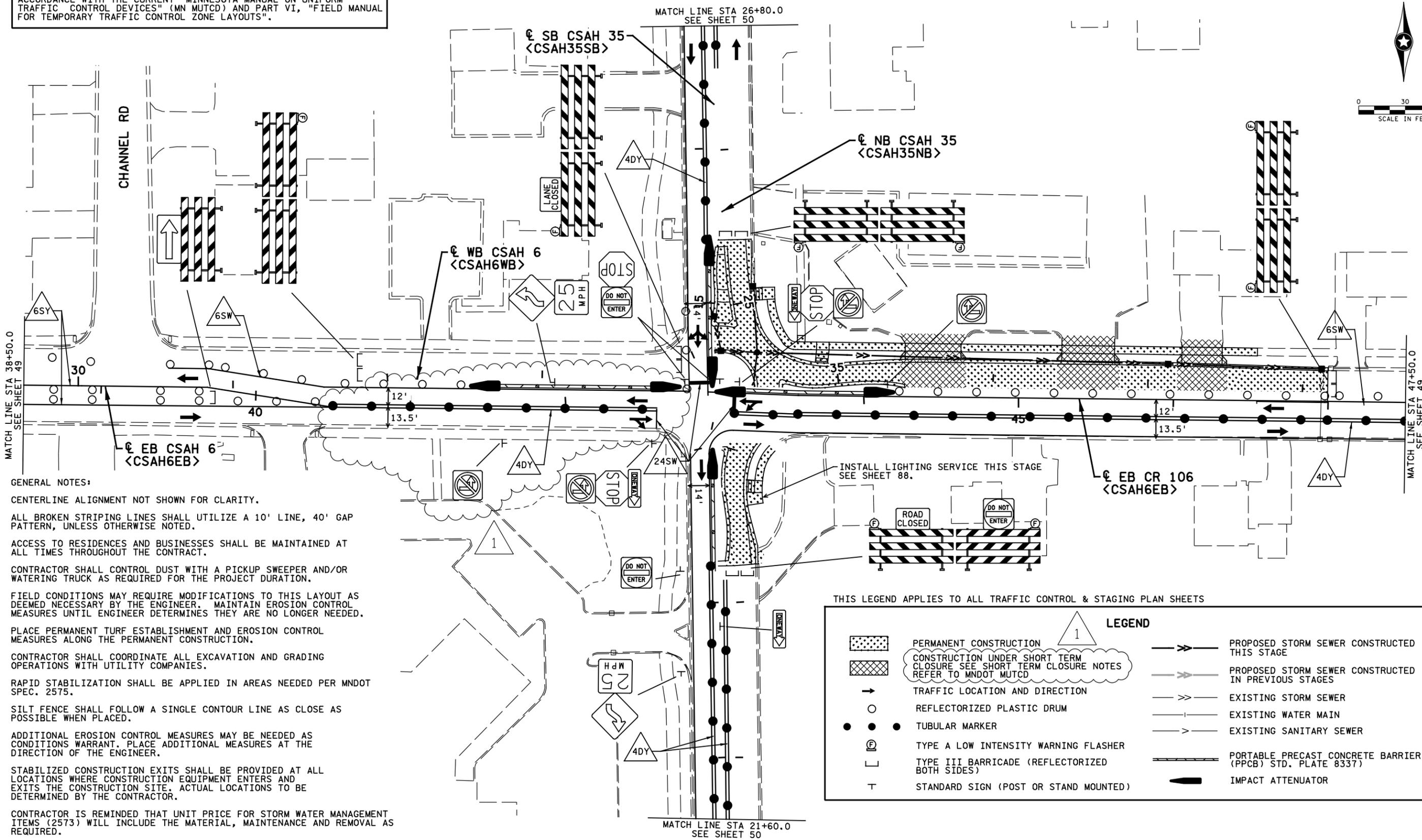
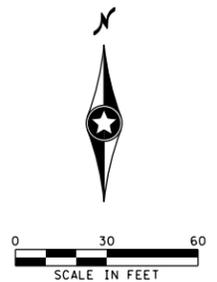
STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
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ANOKA COUNTY, MINNESOTA
 TRAFFIC CONTROL AND STAGING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002
 DETAILS

SHEET 47 OF 102

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".



GENERAL NOTES:

- CENTERLINE ALIGNMENT NOT SHOWN FOR CLARITY.
- ALL BROKEN STRIPING LINES SHALL UTILIZE A 10' LINE, 40' GAP PATTERN, UNLESS OTHERWISE NOTED.
- ACCESS TO RESIDENCES AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE CONTRACT.
- CONTRACTOR SHALL CONTROL DUST WITH A PICKUP SWEEPER AND/OR WATERING TRUCK AS REQUIRED FOR THE PROJECT DURATION.
- FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL ENGINEER DETERMINES THEY ARE NO LONGER NEEDED.
- PLACE PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE ALL EXCAVATION AND GRADING OPERATIONS WITH UTILITY COMPANIES.
- RAPID STABILIZATION SHALL BE APPLIED IN AREAS NEEDED PER MNDOT SPEC. 2575.
- SILT FENCE SHALL FOLLOW A SINGLE CONTOUR LINE AS CLOSE AS POSSIBLE WHEN PLACED.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED AS CONDITIONS WARRANT. PLACE ADDITIONAL MEASURES AT THE DIRECTION OF THE ENGINEER.
- STABILIZED CONSTRUCTION EXITS SHALL BE PROVIDED AT ALL LOCATIONS WHERE CONSTRUCTION EQUIPMENT ENTERS AND EXITS THE CONSTRUCTION SITE. ACTUAL LOCATIONS TO BE DETERMINED BY THE CONTRACTOR.
- CONTRACTOR IS REMINDED THAT UNIT PRICE FOR STORM WATER MANAGEMENT ITEMS (2573) WILL INCLUDE THE MATERIAL, MAINTENANCE AND REMOVAL AS REQUIRED.

THIS LEGEND APPLIES TO ALL TRAFFIC CONTROL & STAGING PLAN SHEETS

LEGEND	
	PERMANENT CONSTRUCTION
	CONSTRUCTION UNDER SHORT TERM CLOSURE SEE SHORT TERM CLOSURE NOTES REFER TO MNDOT MUTCD
	TRAFFIC LOCATION AND DIRECTION
	REFLECTORIZED PLASTIC DRUM
	TUBULAR MARKER
	TYPE A LOW INTENSITY WARNING FLASHER
	TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
	STANDARD SIGN (POST OR STAND MOUNTED)
	PROPOSED STORM SEWER CONSTRUCTED THIS STAGE
	PROPOSED STORM SEWER CONSTRUCTED IN PREVIOUS STAGES
	EXISTING STORM SEWER
	EXISTING WATER MAIN
	EXISTING SANITARY SEWER
	PORTABLE PRECAST CONCRETE BARRIER (PPCB) STD. PLATE 8337
	IMPACT ATTENUATOR

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01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. REVISED STRIPING TYPE
NO	DATE	BY	CKD	APPR
				REVISION

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Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 01/07/2025 License #: 58755

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COUNTY PROJECT NO. 24-25-106

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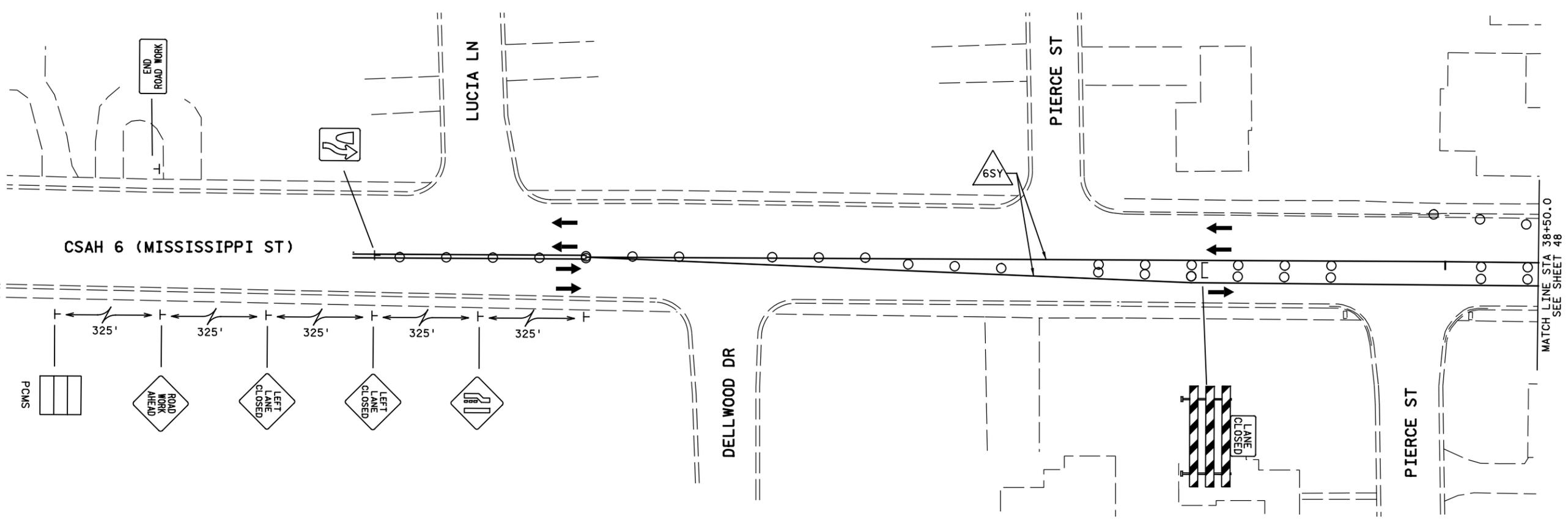
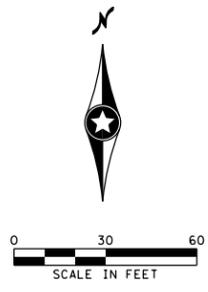
ANOKA COUNTY, MINNESOTA

STAGING PLANS

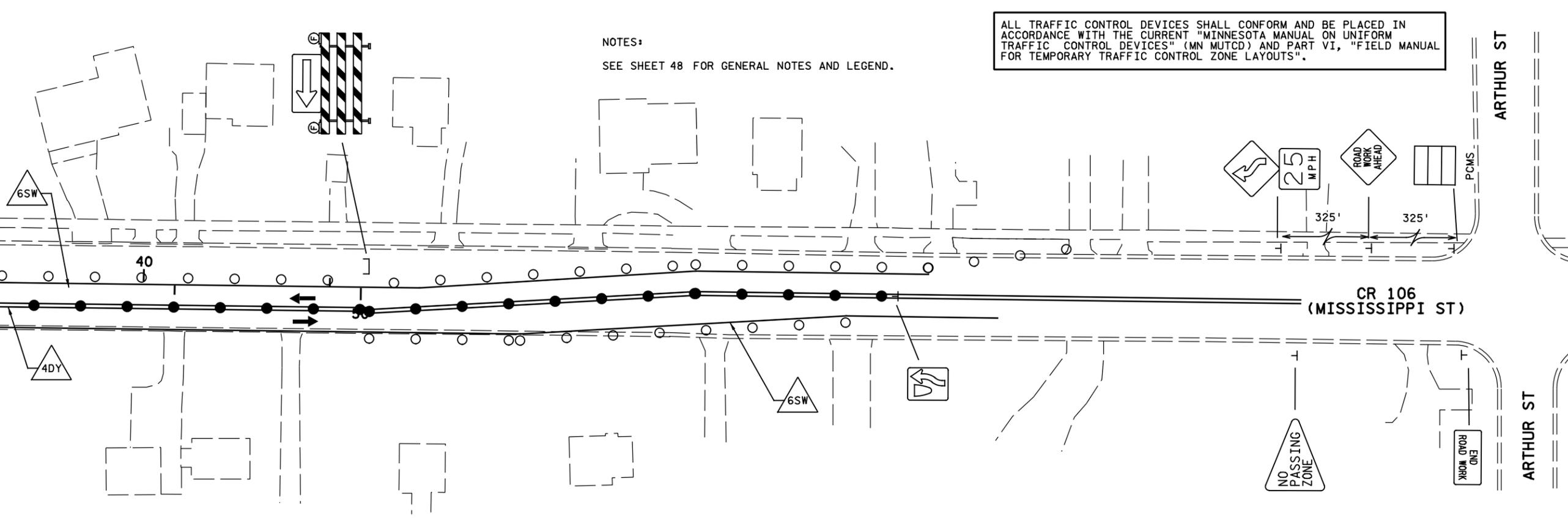
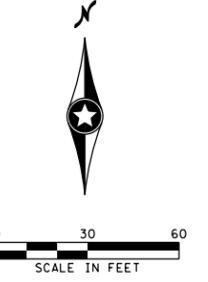
SP 002-606-013, SP 127-020-034, SP 127-304-002

STAGE 1

SHEET 48R OF 102



MATCH LINE STA 38+50.0
SEE SHEET 48



NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

MATCH LINE STA 47+50.0
SEE SHEET 48

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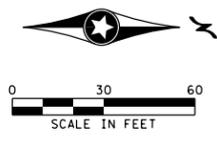
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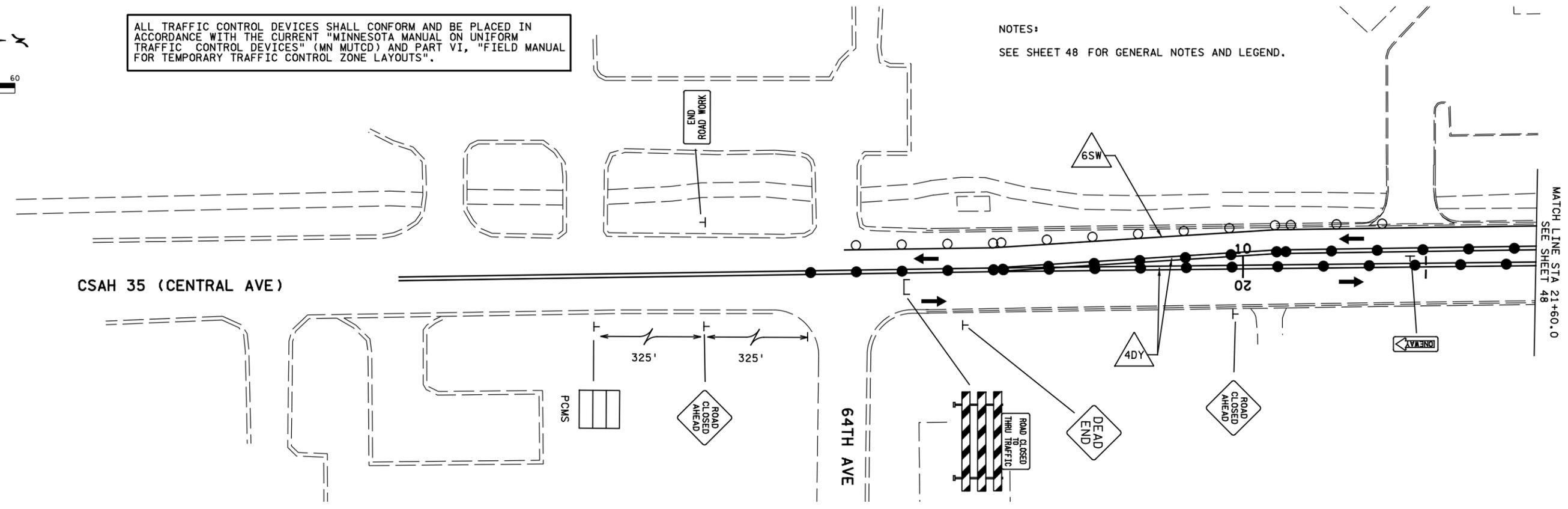
ANOKA COUNTY, MINNESOTA
STAGING PLANS
SP 002-606-013, SP 127-020-034, SP 127-304-002
STAGE 1

SHEET 49 OF 102

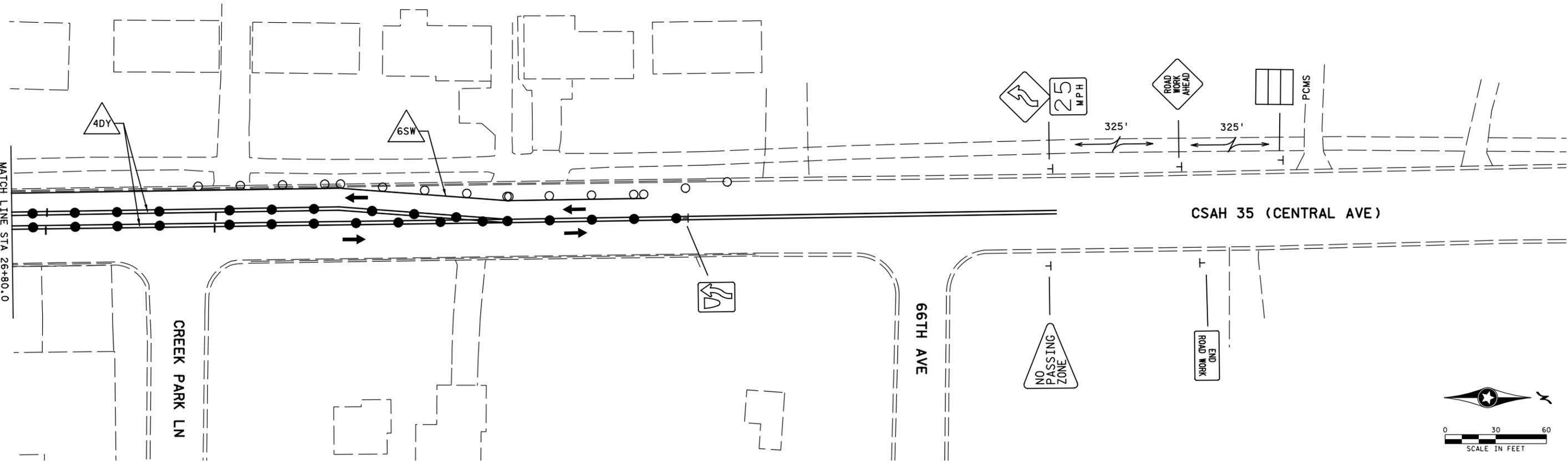


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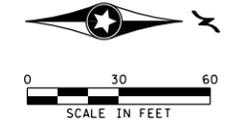
NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.



MATCH LINE STA 21+60.0
SEE SHEET 48



MATCH LINE STA 26+80.0
SEE SHEET 48



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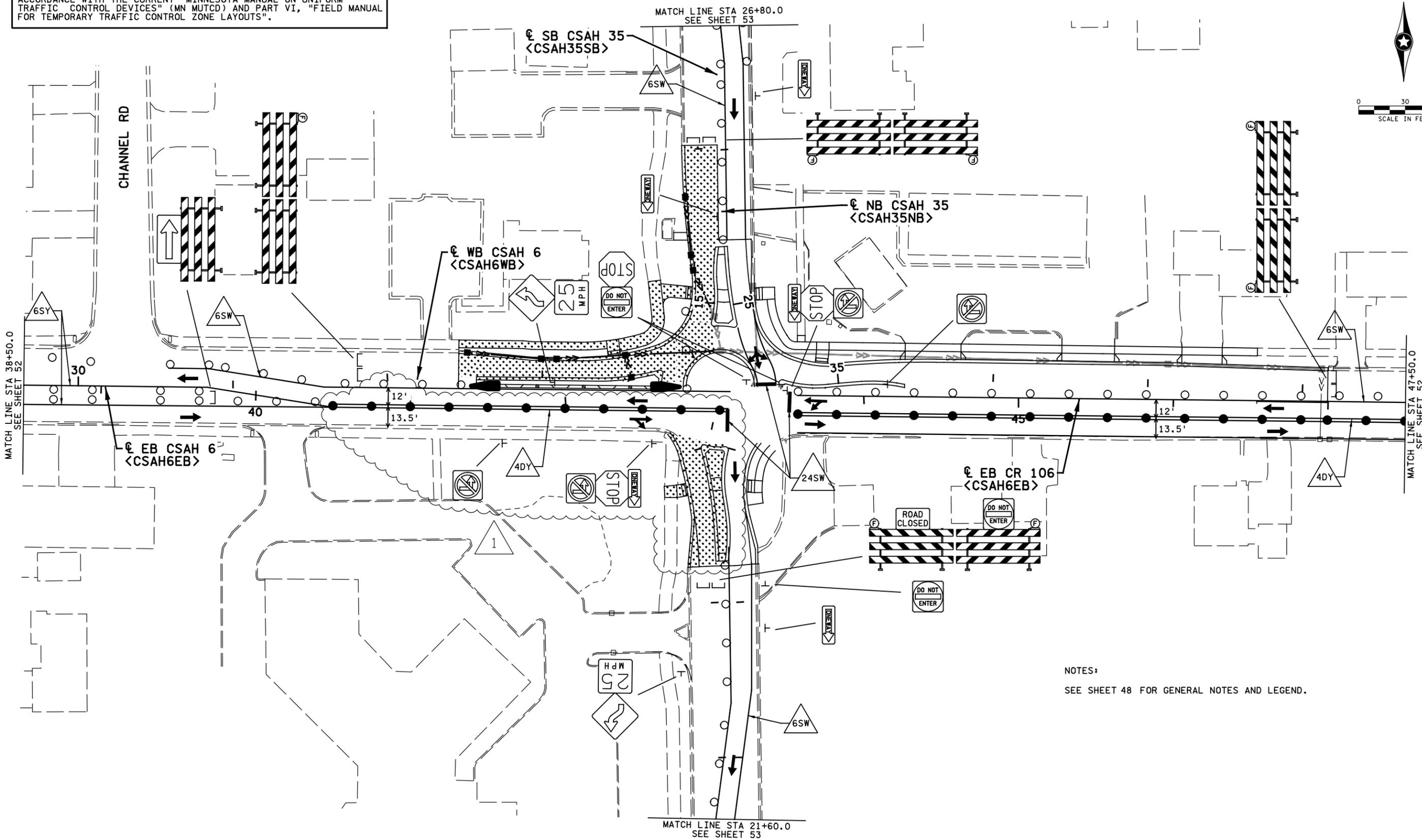
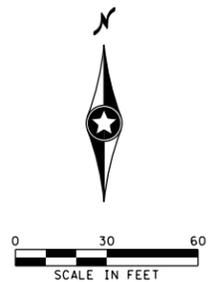
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STAGING PLANS
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STAGE 1

SHEET 50 OF 102

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".



NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.

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01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. REVISED STRIPING TYPE
NO	DATE	BY	CKD	APPR
				REVISION

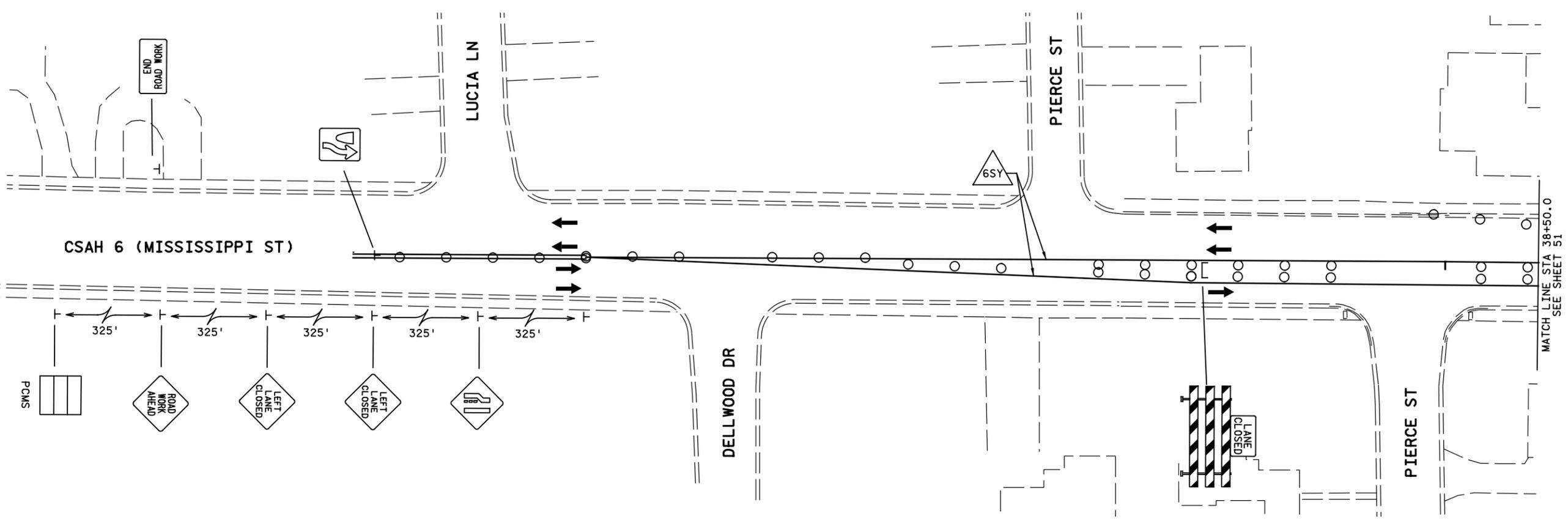
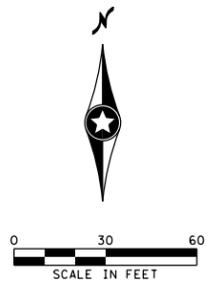
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 01/07/2025 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588

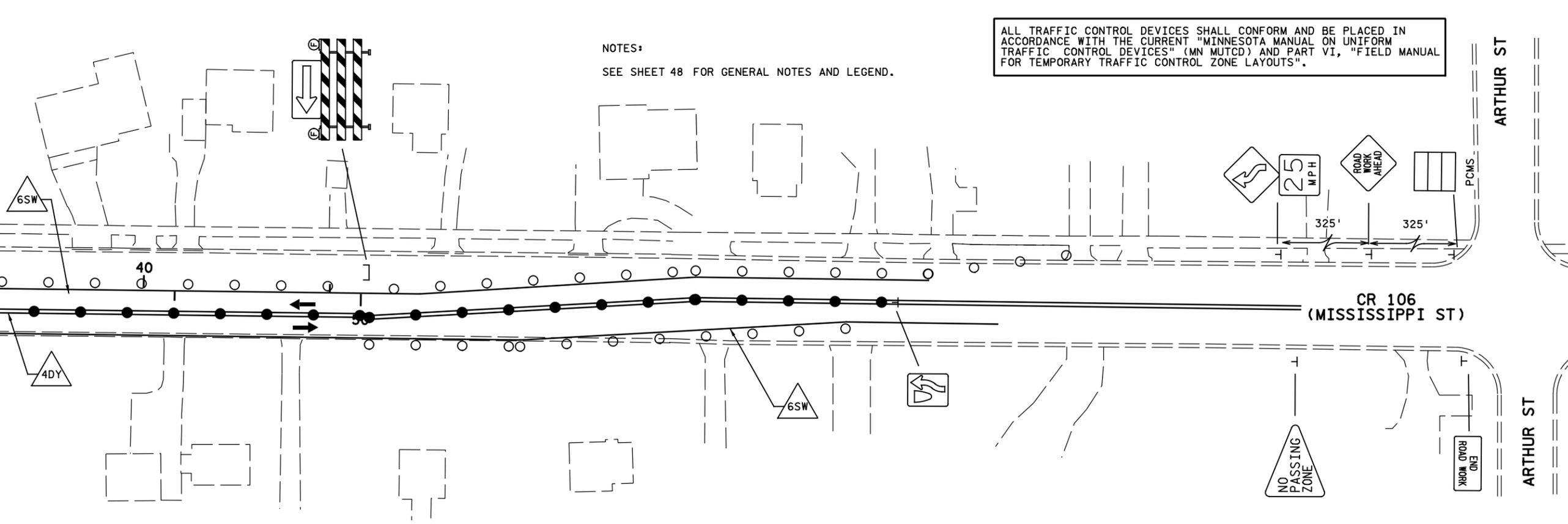
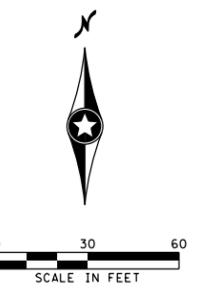


ANOKA COUNTY, MINNESOTA
 STAGING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002
 STAGE 1B

SHEET 51R OF 102



MATCH LINE STA 38+50.0
SEE SHEET 51



NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

MATCH LINE STA 47+50.0
SEE SHEET 51

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NO	DATE	BY	CKD	APPR	REVISION

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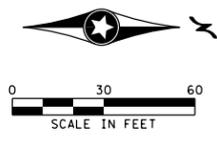
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COUNTY PROJECT NO. 24-25-106
DRAWN BY S. MARTINS
DESIGNED BY Z. HEIMER
CHECKED BY K. JULLIE
COMM. NO. 16588



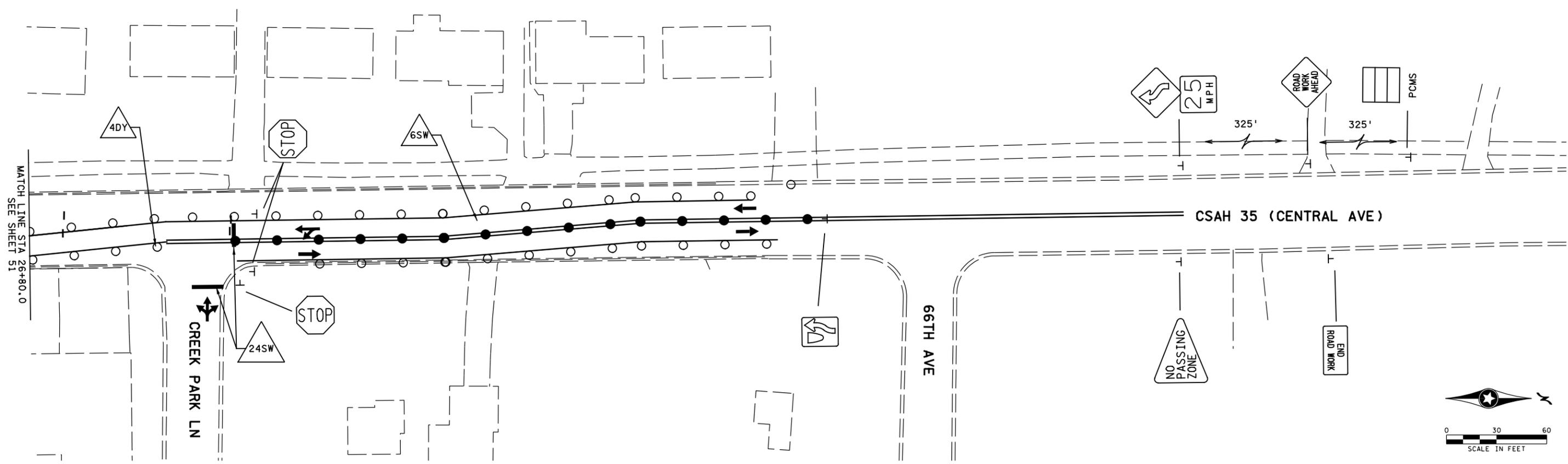
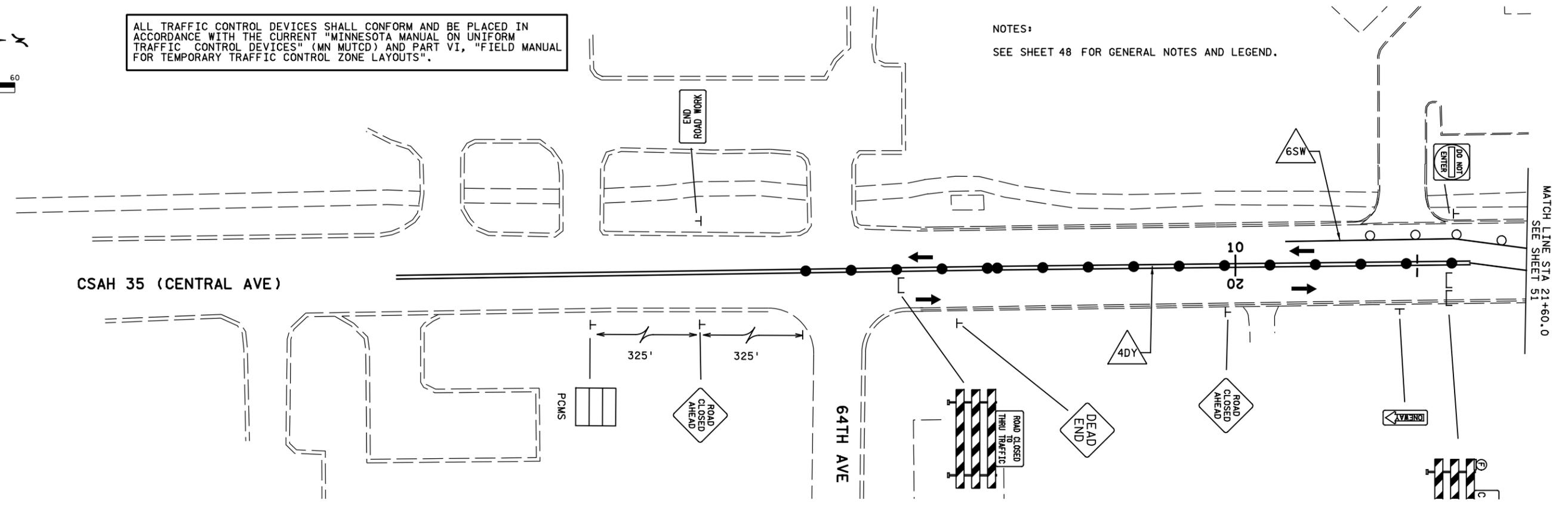
ANOKA COUNTY, MINNESOTA
STAGING PLANS
SP 002-606-013, SP 127-020-034, SP 127-304-002
STAGE 1B

SHEET 52 OF 102



ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.



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NO	DATE	BY	CKD	APPR	REVISION
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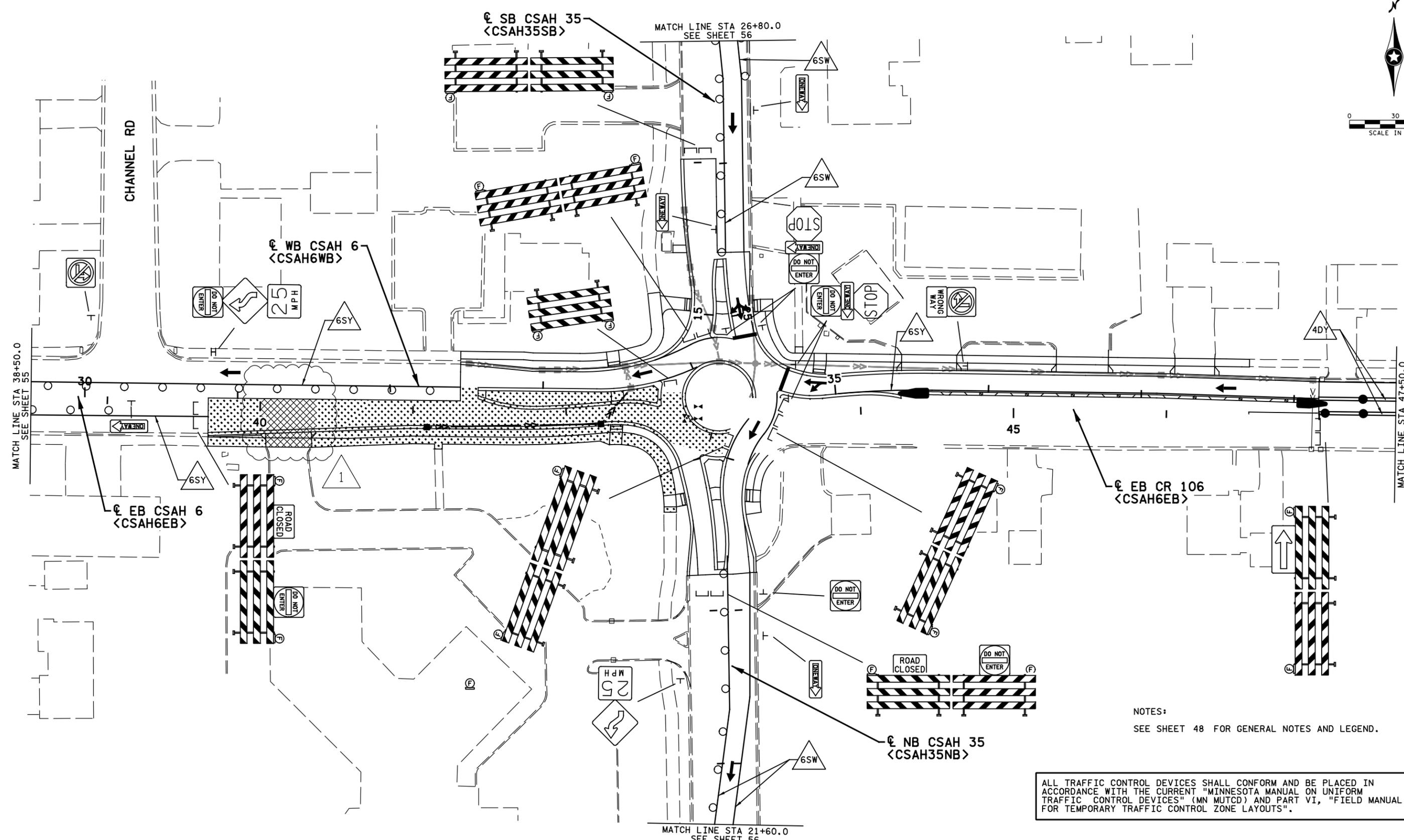
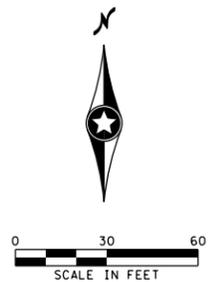
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ANOKA COUNTY, MINNESOTA
 STAGING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002
 STAGE 1B

SHEET 53 OF 102



NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.

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01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. REVISED DRIVEWAY TO CONSTRUCT UNDER TRAFFIC
NO	DATE	BY	CKD	APPR

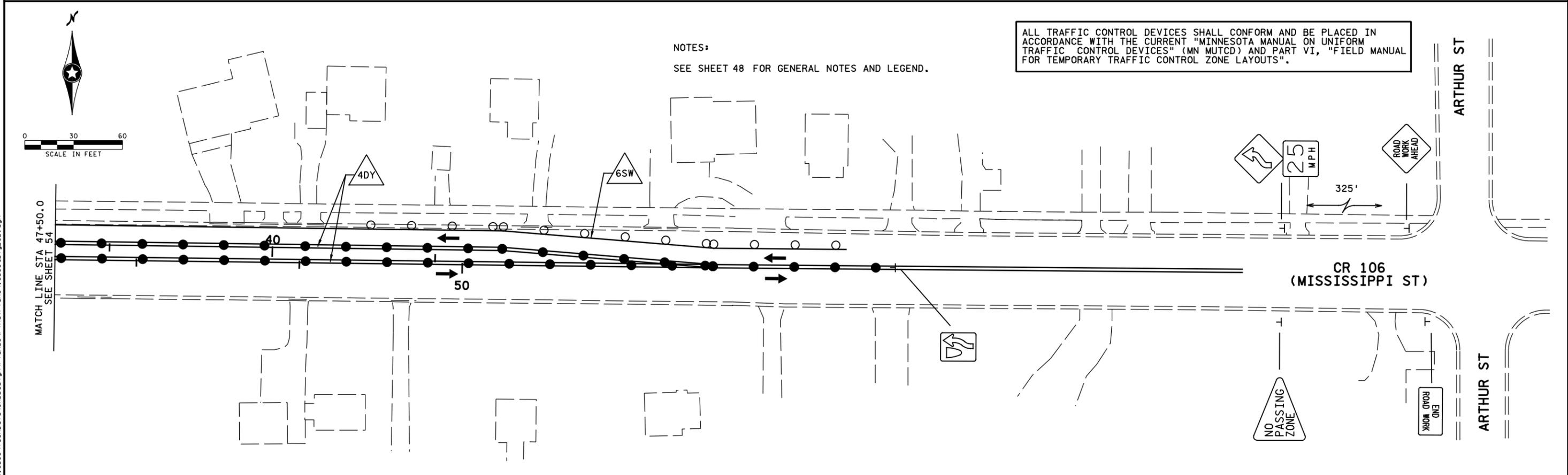
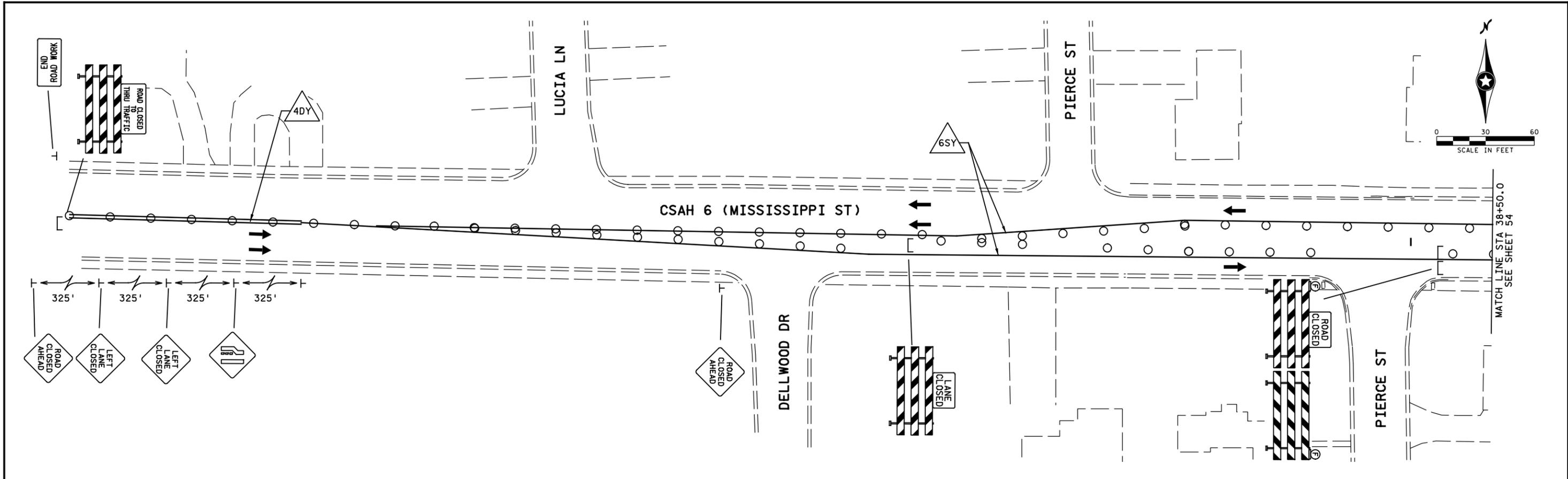
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STATE PROJECT NO. 127-020-034
DESIGNED BY Z. HEIMER
STATE PROJECT NO. 127-304-002
CHECKED BY K. JULLIE
COUNTY PROJECT NO. 24-25-106
COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
STAGING PLANS
SP 002-606-013, SP 127-020-034, SP 127-304-002
STAGE 2

SHEET 54R OF 102



NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

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Zach Heimer
 Date: 06/12/2024 License #: 58755

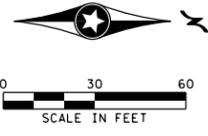
STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
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 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 STAGING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002
 STAGE 2

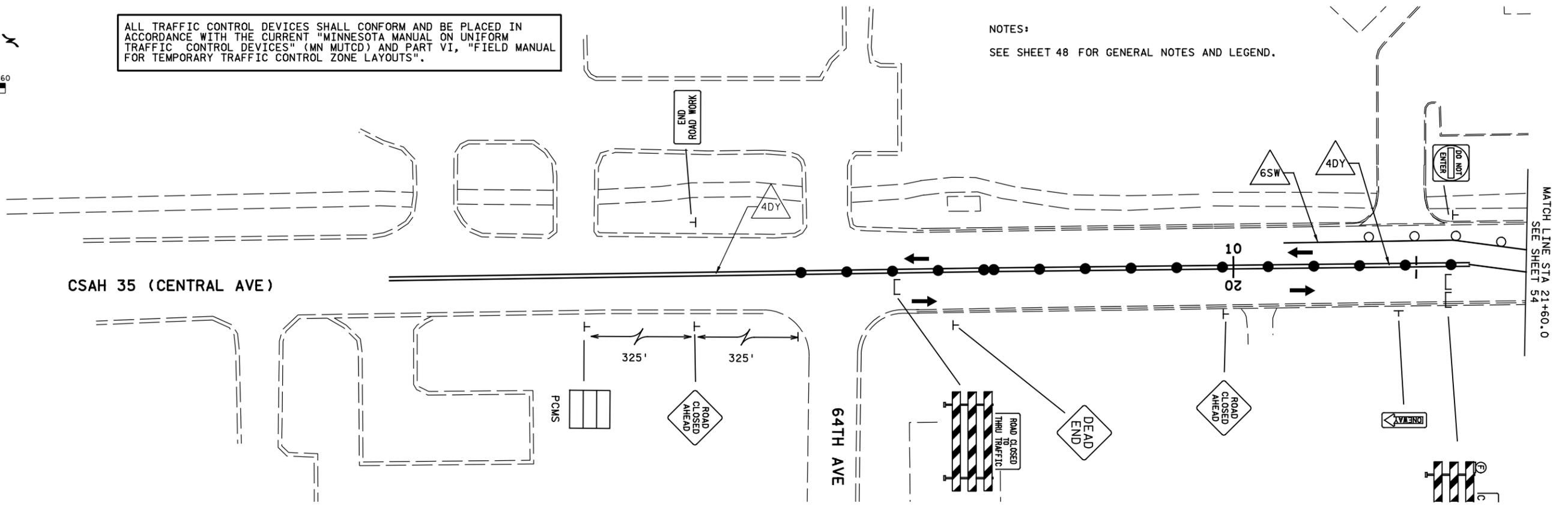
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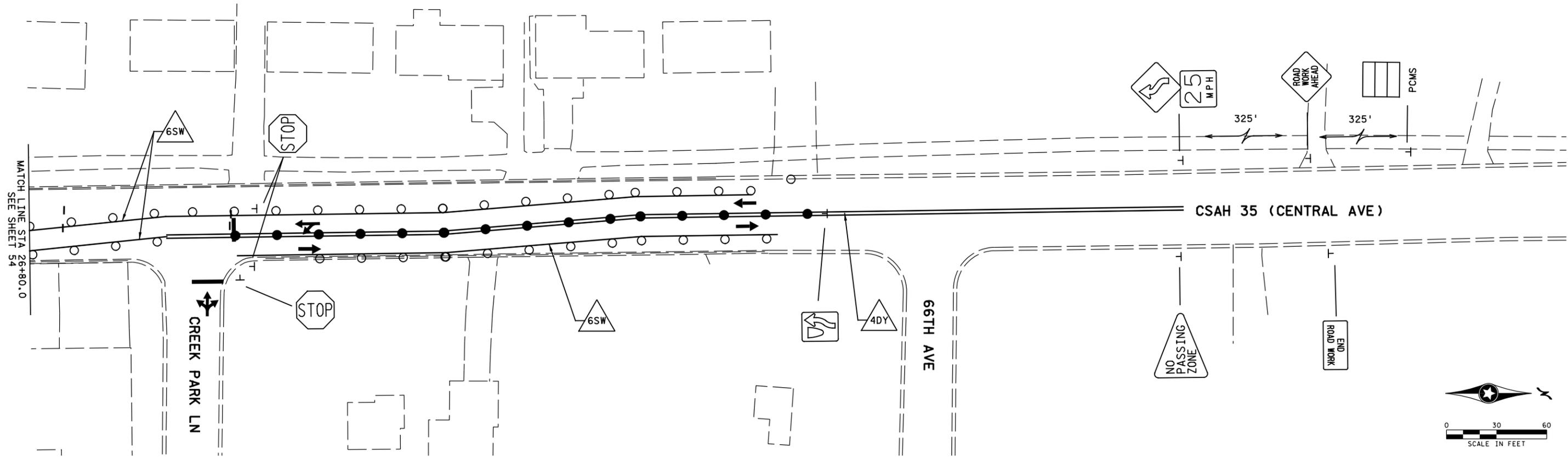


ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.



MATCH LINE STA 21+60.0
SEE SHEET 54



MATCH LINE STA 26+80.0
SEE SHEET 54



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NO	DATE	BY	CKD	APPR	REVISION

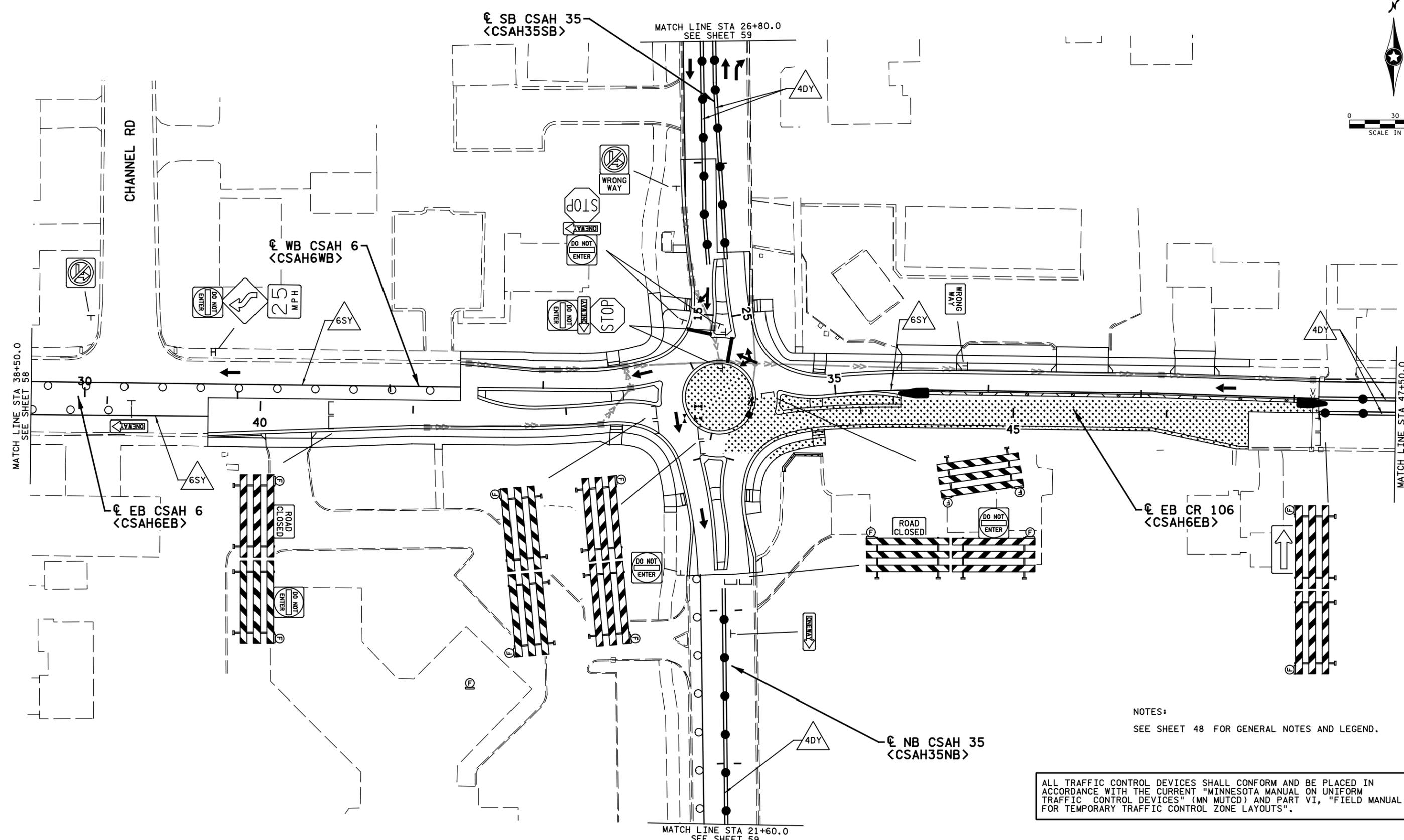
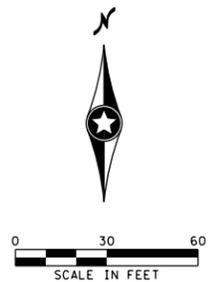
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Zach Heimer
Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
STATE PROJECT NO. 127-020-034
STATE PROJECT NO. 127-304-002
COUNTY PROJECT NO. 24-25-106
DRAWN BY S. MARTINS
DESIGNED BY Z. HEIMER
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ANOKA COUNTY, MINNESOTA
STAGING PLANS
SP 002-606-013, SP 127-020-034, SP 127-304-002
STAGE 2

SHEET 56 OF 102



NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.

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NO	DATE	BY	CKD	APPR	REVISION

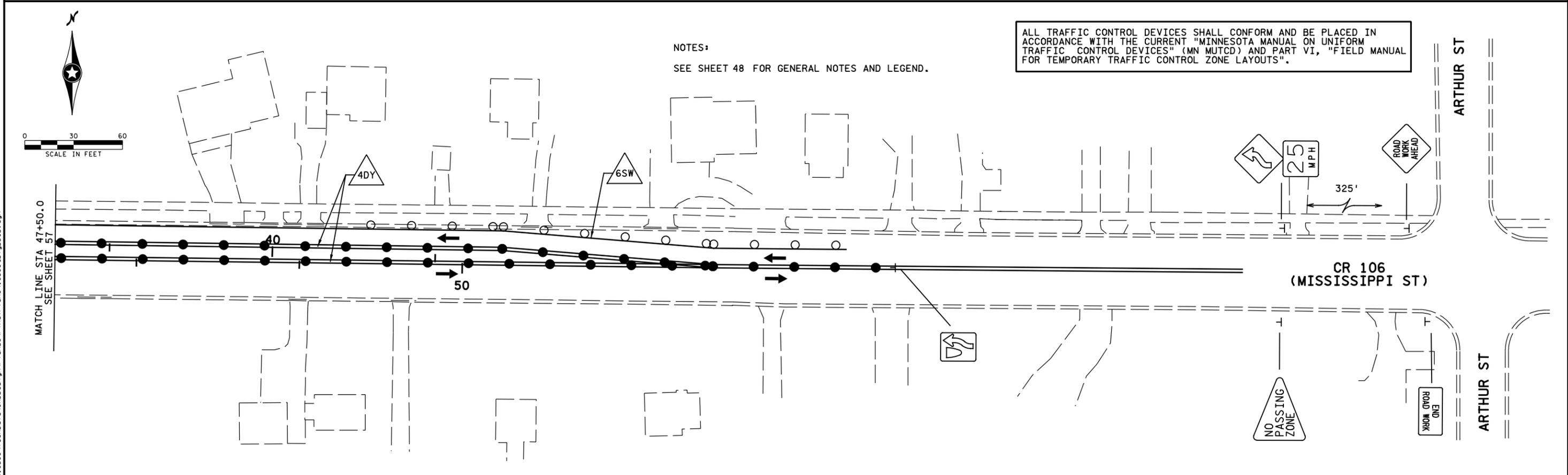
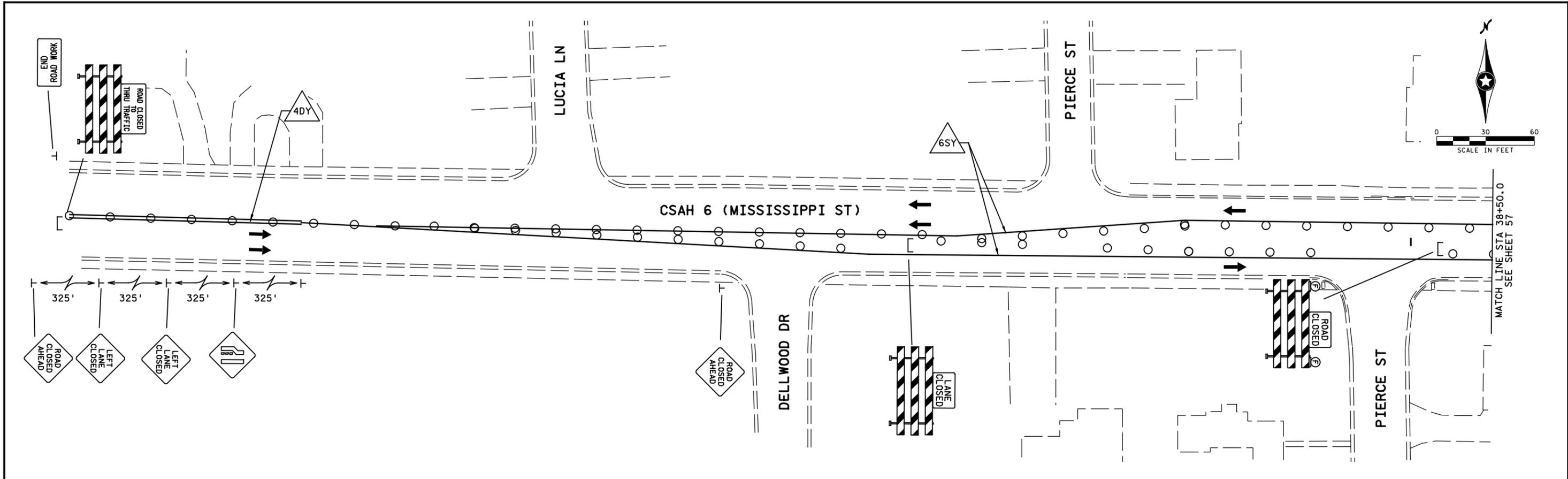
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Print Name: ZACHARIAH F. HEIMER
Zach Heimer
Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
DRAWN BY S. MARTINS
DESIGNED BY Z. HEIMER
STATE PROJECT NO. 127-020-034
CHECKED BY K. JULLIE
STATE PROJECT NO. 127-304-002
COUNTY PROJECT NO. 24-25-106
COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
STAGING PLANS
SP 002-606-013, SP 127-020-034, SP 127-304-002
STAGE 2B

SHEET 57 OF 102



NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

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Zach Heimer
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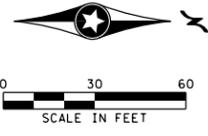
STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
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ANOKA COUNTY, MINNESOTA
 STAGING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002
 STAGE 2B

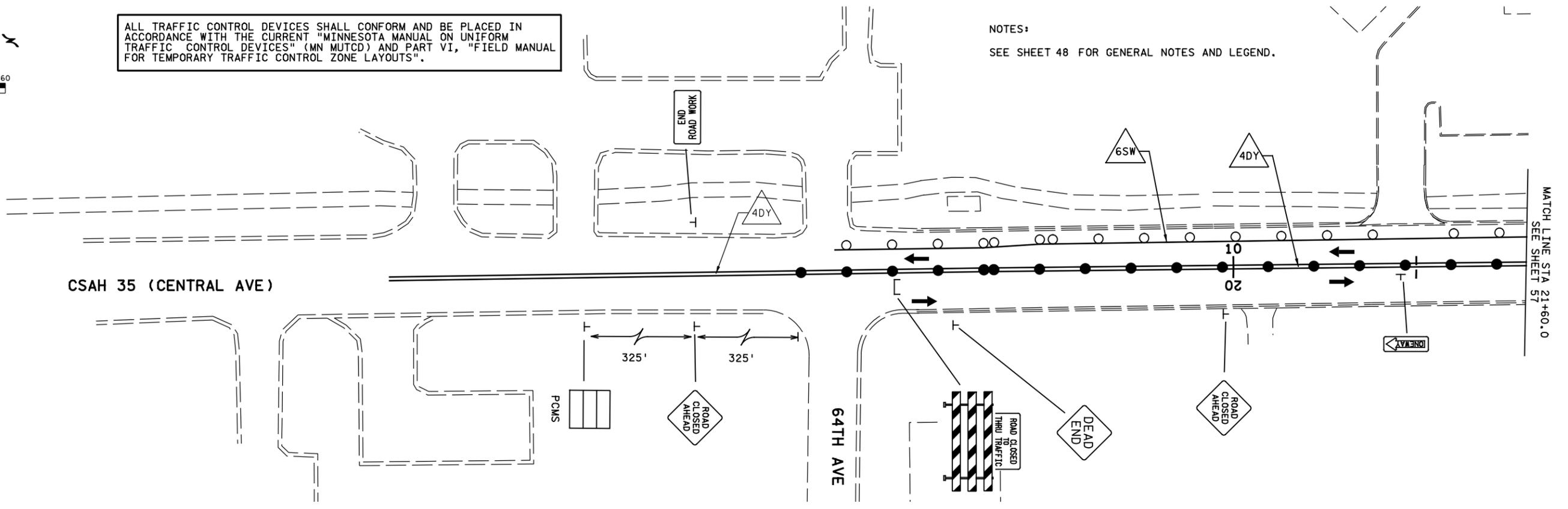
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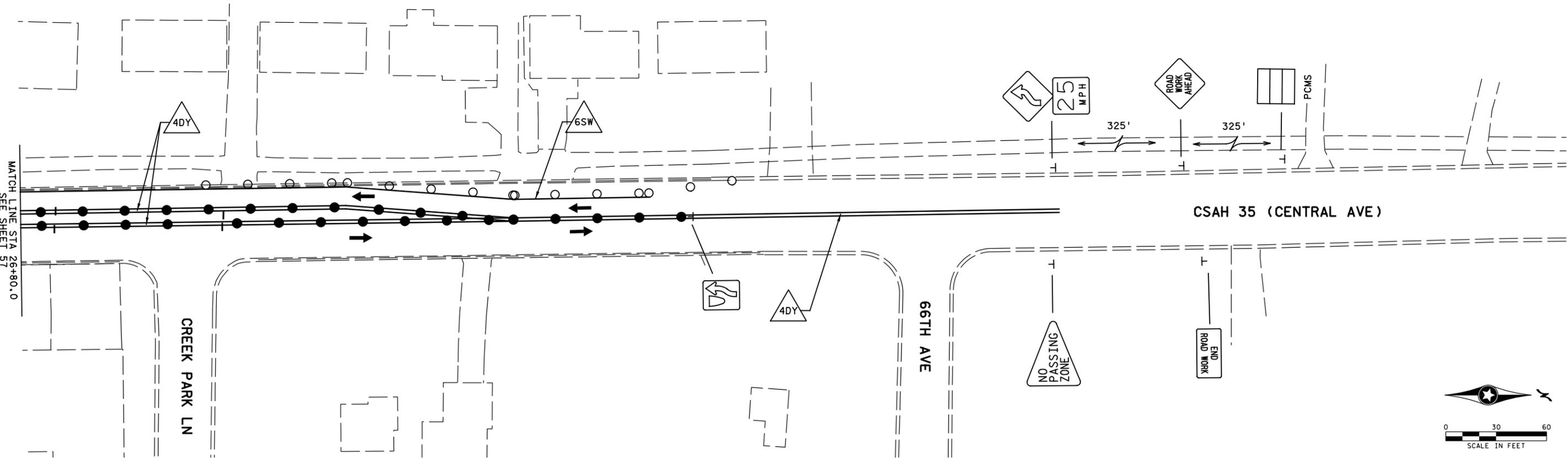


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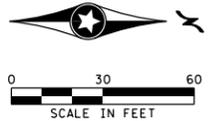
NOTES:
SEE SHEET 48 FOR GENERAL NOTES AND LEGEND.



MATCH LINE STA 21+60.0
SEE SHEET 57



MATCH LINE STA 26+80.0
SEE SHEET 57



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NO	DATE	BY	CKD	APPR	REVISION

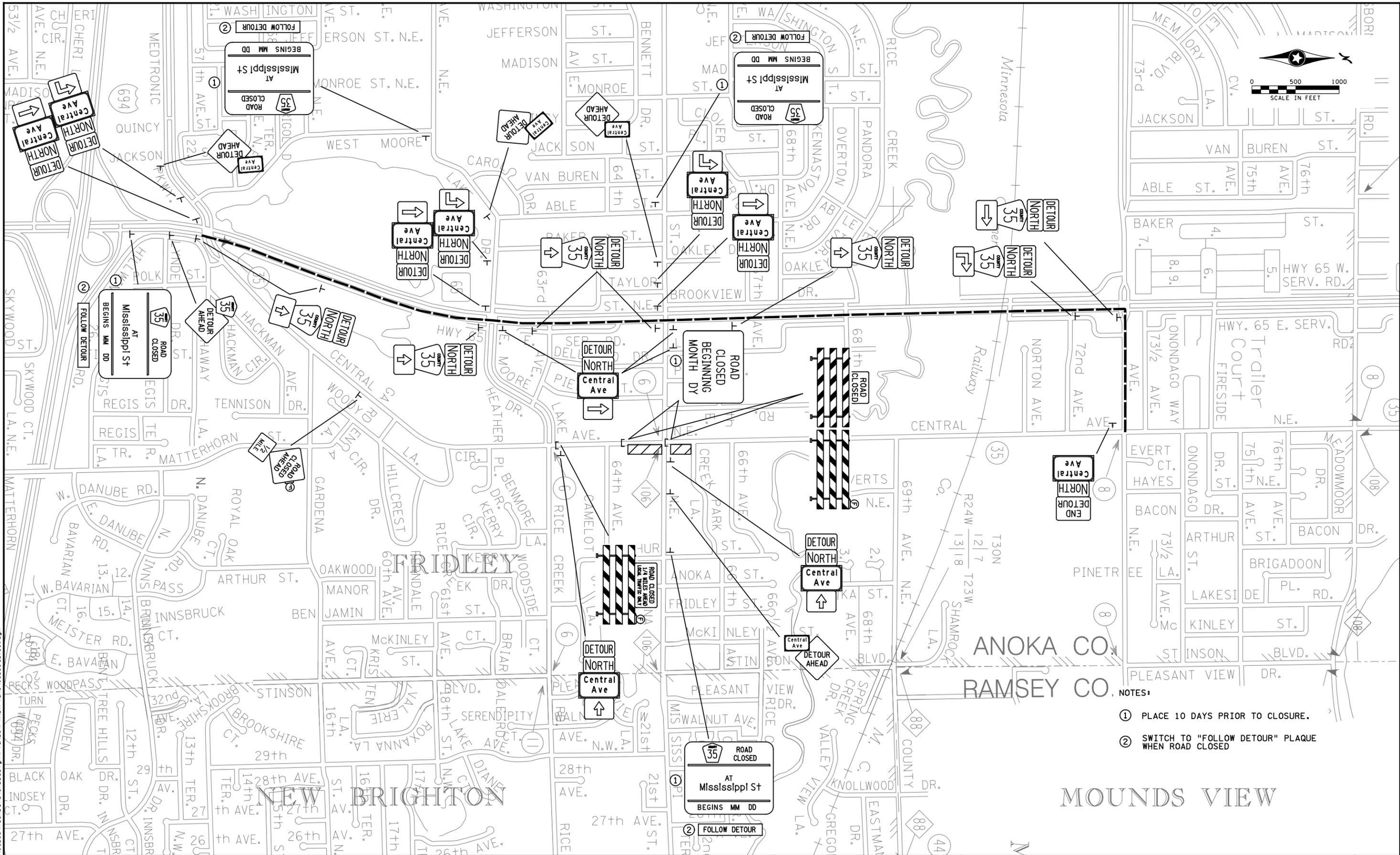
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STATE PROJECT NO. 127-020-034
STATE PROJECT NO. 127-304-002
COUNTY PROJECT NO. 24-25-106
DRAWN BY S. MARTINS
DESIGNED BY Z. HEIMER
CHECKED BY K. JULIE
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ANOKA COUNTY, MINNESOTA
STAGING PLANS
SP 002-606-013, SP 127-020-034, SP 127-304-002
STAGE 2B

SHEET 59 OF 102



- NOTES:
- ① PLACE 10 DAYS PRIOR TO CLOSURE.
 - ② SWITCH TO "FOLLOW DETOUR" PLAQUE WHEN ROAD CLOSED

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013

STATE PROJECT NO. 127-020-034

STATE PROJECT NO. 127-304-002

COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS

DESIGNED BY Z. HEIMER

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COMM. NO. 16588



ANOKA COUNTY, MINNESOTA

DETOUR PLANS

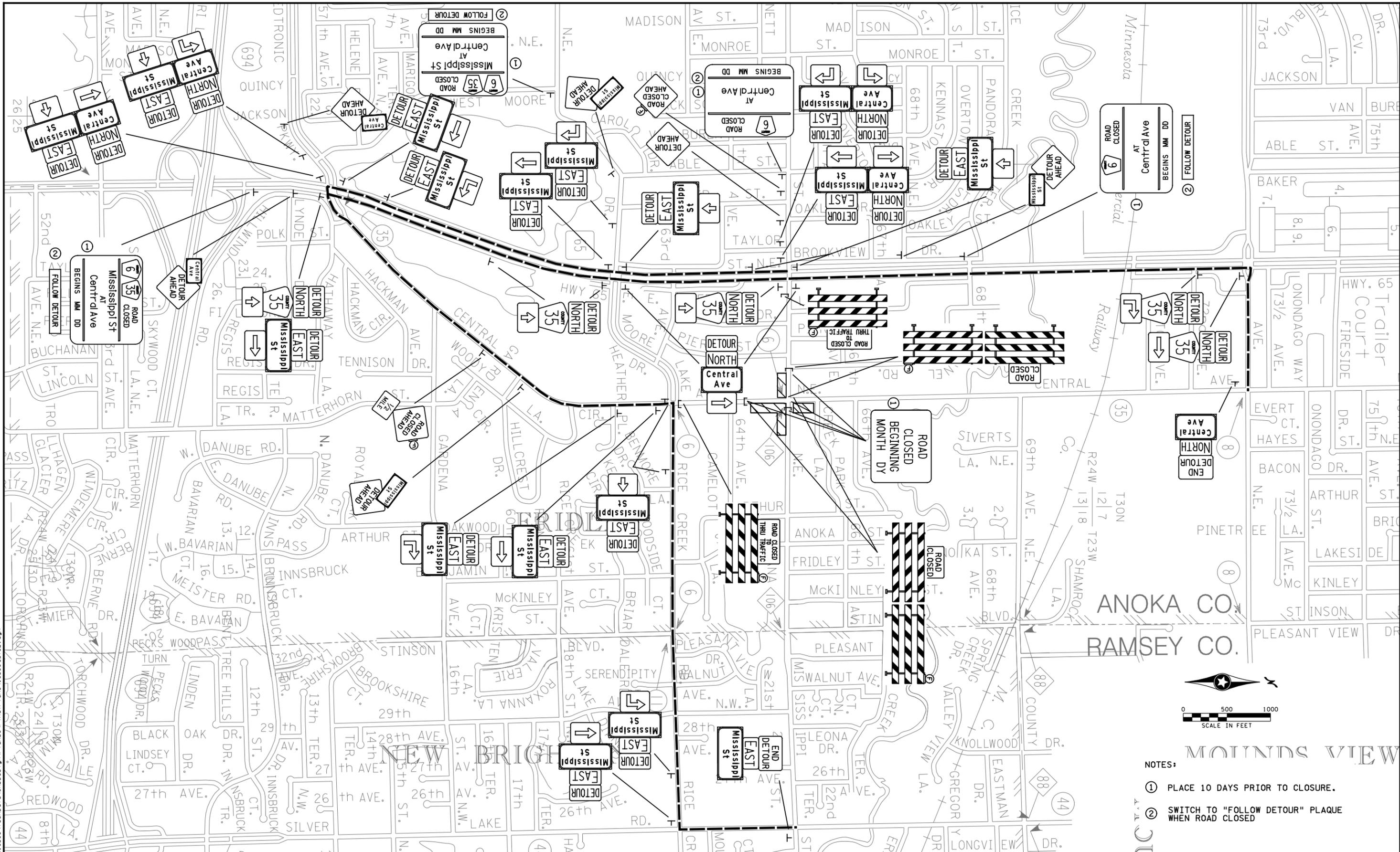
SP 002-606-013, SP 127-020-034, SP 127-304-002

STAGE 1

SHEET 60 OF 102

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NO	DATE	BY	CKD	APPR	REVISION



- NOTES:
- ① PLACE 10 DAYS PRIOR TO CLOSURE.
 - ② SWITCH TO "FOLLOW DETOUR" PLAQUE WHEN ROAD CLOSED

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Date: 06/12/2024 License #: 58755

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 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

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ANOKA COUNTY, MINNESOTA

DETOUR PLANS

SP 002-606-013, SP 127-020-034, SP 127-304-002

STAGE 2

SHEET 61 OF 102

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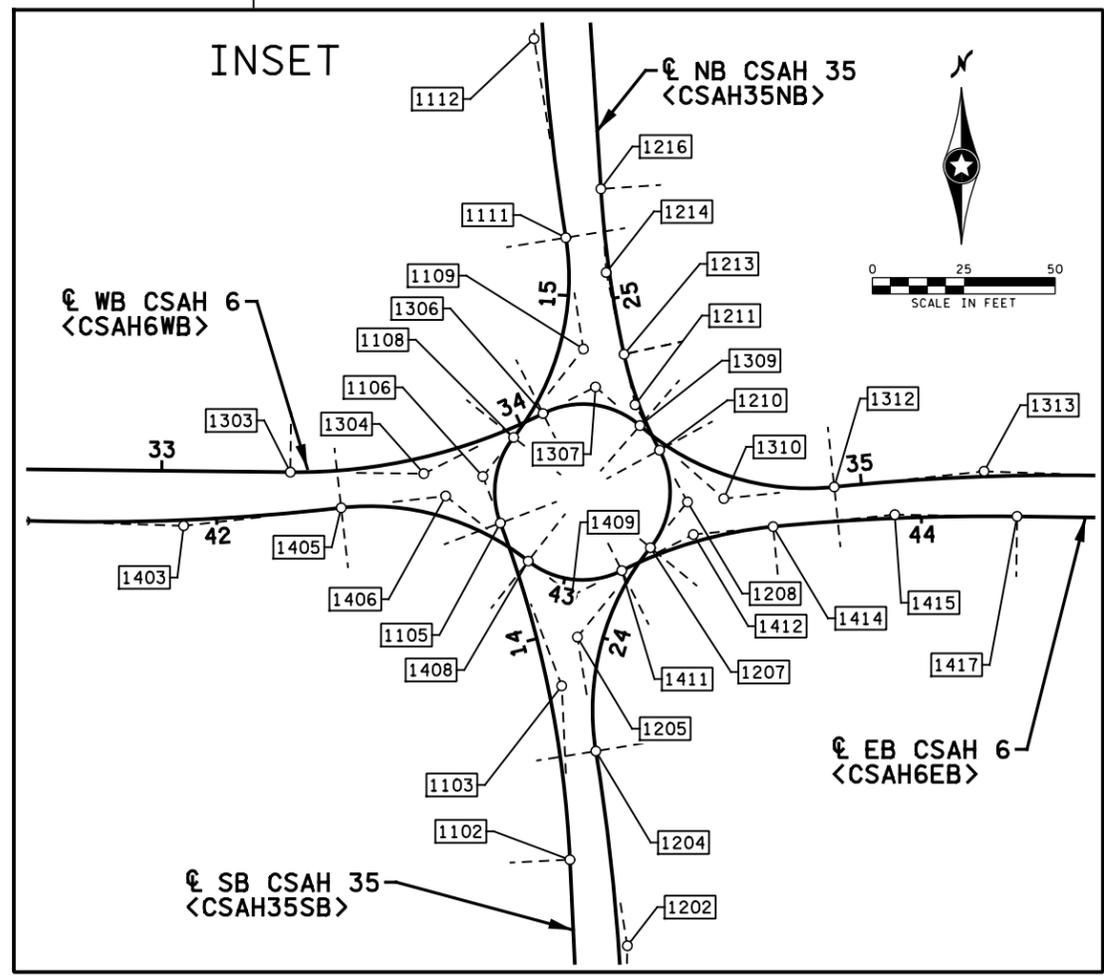
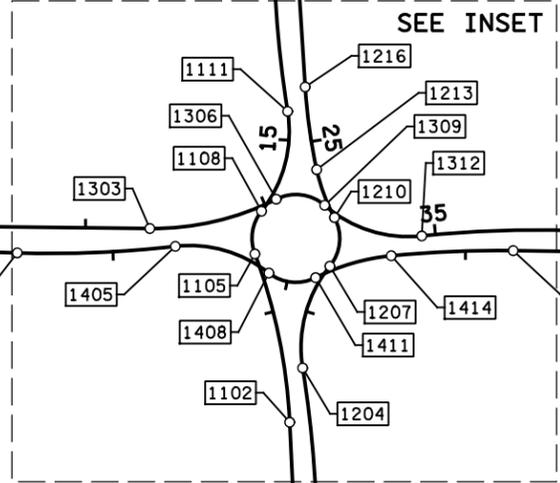
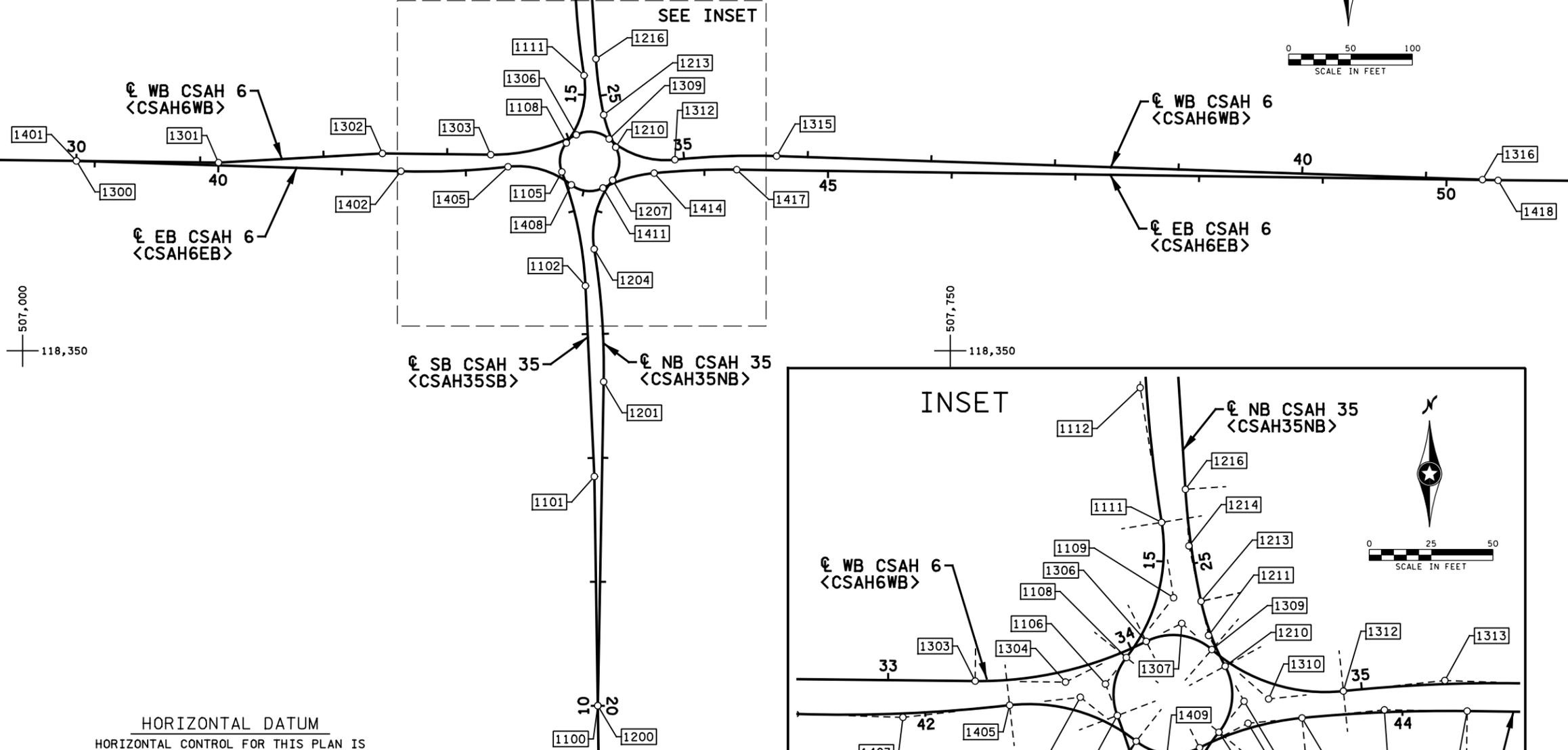
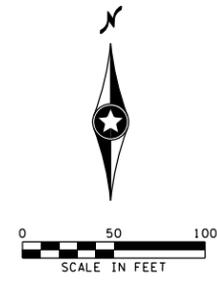
NO	DATE	BY	CKD	APPR	REVISION

507,000
118,650

507,750
118,650

507,000
118,350

507,750
118,350



HORIZONTAL DATUM
HORIZONTAL CONTROL FOR THIS PLAN IS
ANOKA COUNTY COORDINATE SYSTEM
NAD 83 (2011 ADJUSTMENT)

VERTICAL DATUM
VERTICAL CONTROL FOR THIS PLAN IS
BASED ON NGVD 88 DATUM

LEGEND
1000 ALIGNMENT POINT NUMBER
(DETAILS FOUND ON ALIGNMENT TABULATIONS SHEETS)

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Zach Heimer
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STATE PROJECT NO. 002-606-013
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STATE PROJECT NO. 127-304-002
COUNTY PROJECT NO. 24-25-106

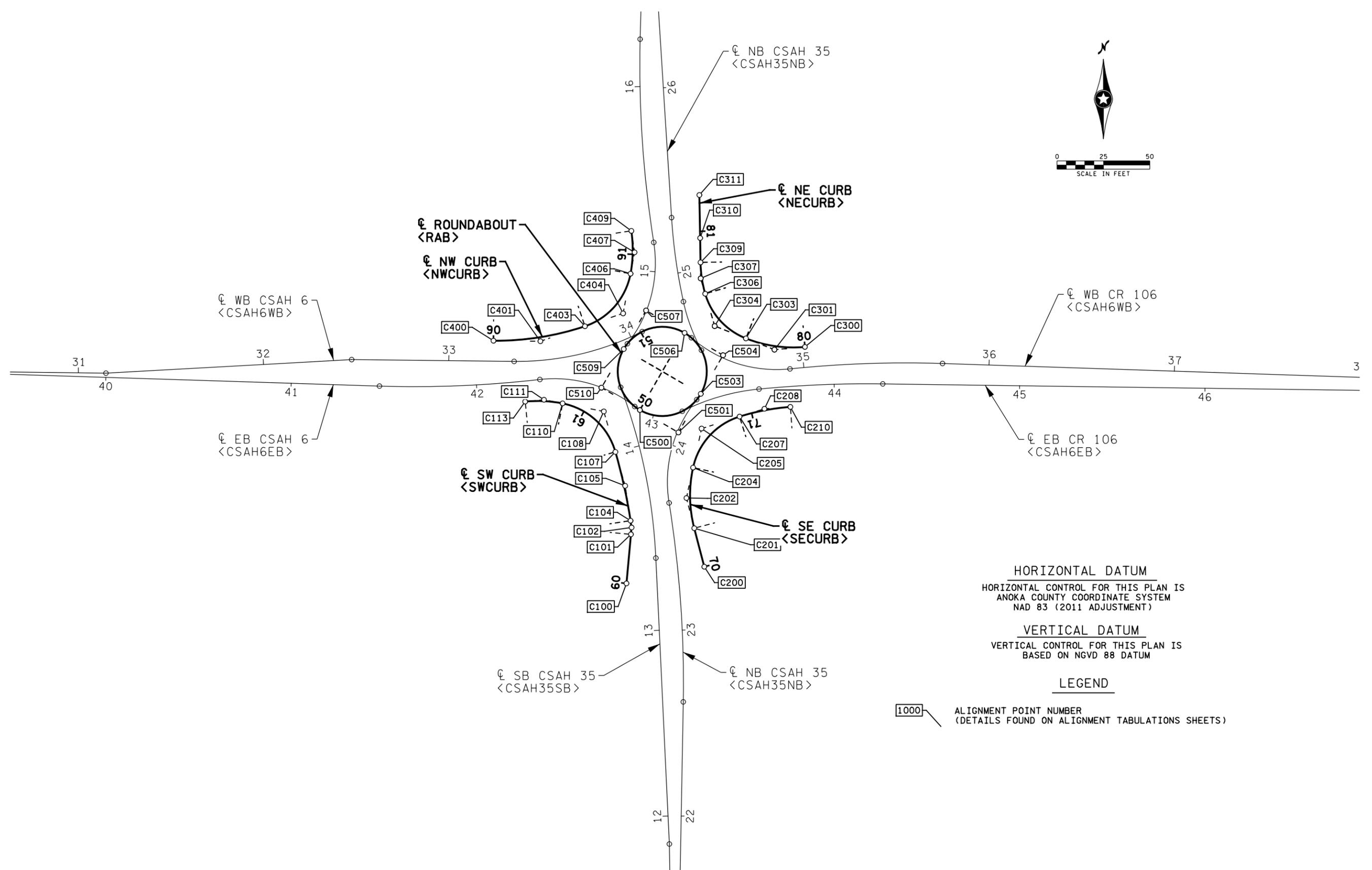
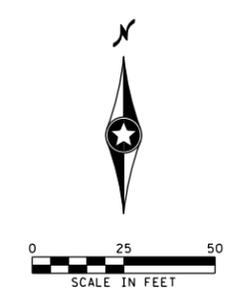
DRAWN BY S. MARTINS
DESIGNED BY Z. HEIMER
CHECKED BY K. JULLIE
COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
ALIGNMENT PLANS
SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 62 OF 102

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6/12/2024
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HORIZONTAL DATUM
 HORIZONTAL CONTROL FOR THIS PLAN IS
 ANOKA COUNTY COORDINATE SYSTEM
 NAD 83 (2011 ADJUSTMENT)

VERTICAL DATUM
 VERTICAL CONTROL FOR THIS PLAN IS
 BASED ON NGVD 88 DATUM

LEGEND

1000 ALIGNMENT POINT NUMBER
 (DETAILS FOUND ON ALIGNMENT TABULATIONS SHEETS)

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Zach Heimer

Date: 06/12/2024 License #: 58755

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 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

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 DESIGNED BY Z. HEIMER
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ANOKA COUNTY, MINNESOTA

ALIGNMENT PLANS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 63 OF 102

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
ANGLE (Θs)	DEGREE	ST	LT	LS	X	Y				
☉ EB CSAH 6 <CSAH6EB>										
1400	POT	☉ EB CSAH 6	34+39.412					506,597.8675	118,508.2631	
1401	POT		38+85.132					507,043.5579	118,503.1285	
1402	PC		41+47.645					507,305.9406	118,494.8562	91° 48' 20.89"
1403	PI		41+91.048	8° 16' 30.14" LT	9° 32' 57.47"	600.000'	43.403'	86.656'		PI
1404	CC	☉						507,324.8477	119,094.5583	
1405	PRC		42+34.301					507,392.4496	118,498.3788	83° 31' 50.75"
1406	PI		42+63.048	44° 39' 11.13" RT	81° 51' 04.01"	70.000'	28.747'	54.554'		PI
1407	CC	☉						507,400.3365	118,428.8245	
1408	PRC		42+88.855					507,443.6095	118,483.8467	128° 11' 01.89"
1409	PI		43+04.097	64° 50' 18.08" LT	238° 43' 56.69"	24.000'	15.242'	27.159'		PI
1410	CC	☉						507,458.4460	118,502.7114	
1411	PRC		43+16.014					507,469.2127	118,481.2619	63° 20' 43.81"
1412	PI		43+37.942	21° 03' 13.99" RT	48° 33' 20.68"	118.000'	21.927'	43.360'		PI
1413	CC	☉						507,522.1486	118,375.8020	
1414	PCC		43+59.375					507,510.6325		84° 23' 57.80"
1415	PI		43+92.834	6° 23' 01.21" RT	9° 32' 57.47"	600.000'	33.459'	66.850'		PI
1416	CC	☉						507,569.1886	117,896.1029	
1417	PT		44+26.224					507,577.3885	118,496.0469	90° 46' 59.01"
1418	POT		50+41.703					508,192.8096	118,487.6355	
1419	POT	☉ EB CSAH 6	55+41.703					508,692.7908	118,483.2961	

☉ WB CSAH 6 <CSAH6WB>										
A PT ON ☉ EB CSAH 6 POT		38+85.131=								
1300	POT	☉ WB CSAH 6	30+00.000					507,043.5579	118,503.1285	
1301	POT		31+14.868					507,158.4184	118,501.8053	
1302	POT		32+47.554					507,290.9038	118,509.1058	
1303	PC		33+35.178					507,378.5222	118,508.1306	90° 38' 15.60"
1304	PI		33+71.695	27° 21' 52.46" LT	38° 11' 49.87"	150.000'	36.517'	71.640'		PI
1305	CC	☉						507,380.1915	118,658.1213	
1306	PRC		34+06.819					507,447.6523	118,524.1472	63° 16' 23.14"
1307	PI		34+22.911	67° 41' 10.98" RT	238° 43' 56.69"	24.000'	16.093'	28.352'		PI
1308	CC	☉						507,458.4460	118,502.7114	
1309	PRC		34+35.171					507,474.1786	118,520.8356	
1310	PI		34+65.552	46° 55' 23.89" LT	81° 51' 04.01"	70.000'	30.381'	57.328'		130° 57' 34.12"
1311	CC	☉						507,520.0654	118,573.6977	
1312	PRC		34+92.499					507,527.3384	118,504.0766	84° 02' 10.22"
1313	PI		35+33.744	7° 51' 53.53" RT	9° 32' 57.47"	600.000'	41.245'	82.361'		PI
1314	CC	☉						507,589.6788	117,907.3239	
1315	PT		35+74.859					507,609.5828	118,506.9937	91° 54' 03.76"
1316	POT		41+45.759=					508,180.1682	118,488.0550	
A PT ON ☉ EB CSAH 6 POT		50+29.051								

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
ANGLE (Θs)	DEGREE	ST	LT	LS	X	Y				
☉ NB CSAH 35 <CSAH35NB>										
1199	POT	☉ NB CSAH 35	15+00.000						507,472.1301	117,563.7017
1200	POT		20+00.000						507,465.0443	118,063.6515
1201	PC		22+61.385						507,469.7775	118,324.9939
1202	PI		23+15.239	10° 15' 28.23" LT	9° 32' 57.47"	600.000'	53.854'	107.420'	507,470.7527	118,378.8389
1203	CC	☉							506,869.8759	118,335.8589
1204	PRC		23+68.805						507,462.1237	118,431.9969
1205	PI		24+00.329	48° 29' 17.18" RT	81° 51' 04.01"	70.000'	31.524'	59.239'	507,457.0726	118,463.1136
1206	CC	☉							507,531.2193	118,443.2131
1207	PRC		24+28.045						507,477.0256	118,487.5193
1208	PI		24+44.133	67° 40' 03.80" LT	238° 42' 22.25"	24.003'	16.089'	28.348'	507,487.2090	118,499.9753
1209	CC	☉							507,458.4429	118,502.7117
1210	PRC		24+56.392						507,479.5568	118,514.1279
1211	PI		24+70.489	16° 03' 00.18" RT	57° 18' 10.67"	99.987'	14.097'	28.009'	507,472.8520	118,526.5282
1212	CC	☉							507,567.5107	118,561.6841
1213	PCC		24+84.401						507,469.8370	118,540.2988
1214	PI		24+86.200	8° 43' 03.50" RT	19° 05' 49.62"	300.023'	22.869'	45.649'	507,464.9458	118,562.6383
1215	CC	☉							507,762.9176	118,604.4678
1216	PT		25+30.050						507,463.4971	118,585.4610
1217	POT		26+52.953						507,455.7110	118,708.1170
1218	POT	☉ NB CSAH 35	33+78.479						507,445.9801	119,433.5779

☉ SB CSAH 35 <CSAH35SB>										
A PT ON ☉ NB CSAH 35 POT		20+00.000=								
1100	POT	☉ SB CSAH 35	10+00.000						507,465.0443	118,063.6515
1101	POT		11+84.932						507,462.2621	118,248.5630
1102	PC		13+38.875						507,455.0177	118,402.3352
1103	PI		13+86.382	17° 59' 48.03" LT	19° 05' 54.94"	300.000'	47.506'	94.230'	507,452.7821	118,449.7890
1104	CC	☉							507,155.3501	118,388.2175
1105	PRC		14+33.106						507,435.9945	118,494.2304
1106	PI		14+46.704	59° 04' 24.35" RT	238° 43' 56.69"	24.000'	13.599'	24.745'	507,431.1890	118,506.9518
1107	CC	☉							507,458.4460	118,502.7114
1108	PRC		14+57.850						507,439.6320	118,517.6122
1109	PI		14+88.622	47° 27' 36.93" LT	81° 51' 04.01"	70.000'	30.772'	57.984'	507,458.7372	118,541.7347
1110	CC	☉							507,384.7579	118,561.0729
1111	PRC		15+15.834						507,453.8806	118,572.1208
1112	PI		15+70.846	10° 28' 37.89" RT	9° 32' 57.47"	600.000'	55.012'	109.717'	507,445.1982	118,626.4431
1113	CC	☉							508,046.3607	118,666.8170
1114	PT		16+25.551						507,446.5388	118,681.4386
1115	POT	☉ SB CSAH 35	18+77.810=						507,452.6862	118,933.6229
A PT ON ☉ NB CSAH 35 POT		28+78.479								

NOTES:
 ① ALIGNMENT POINT IS NOT SHOWN ON ALIGNMENT PLAN VIEW.
 <XXXX> INDICATES GEOPAK ALIGNMENT NAME.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 ALIGNMENT TABULATIONS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 64 OF 102

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NO	DATE	BY	CKD	APPR	REVISION

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
			SPIRAL CURVE DATA								
ANGLE (Θs)	DEGREE	ST	LT	LS							
⊕ ROUNDABOUT <RAB>											
C500	PC	⊕ ROUNDABOUT 50+00.000							507,446.4036	118,481.9514	120° 07' 01.60"
C501	PI	50+24.000	90° 00' 00.00" LT	238° 43' 56.69"	24.000'	24.000'	37.699'	507,467.1636	118,469.9089	PI	
C502	CC	①						507,458.4460	118,502.7114		
C503	PCC	50+37.699						507,479.2061	118,490.6689	30° 07' 01.60"	
C504	PI	50+61.699	90° 00' 00.00" LT	238° 43' 56.69"	24.000'	24.000'	37.699'	507,491.2485	118,511.4290	PI	
C505	CC	①						507,458.4460	118,502.7114		
C506	PCC	50+75.398						507,470.4885	118,523.4714	300° 07' 01.60"	
C507	PI	50+99.398	90° 00' 00.00" LT	238° 43' 56.69"	24.000'	24.000'	37.699'	507,449.7284	118,535.5139	PI	
C508	CC	①						507,458.4460	118,502.7114		
C509	PCC	51+13.097						507,437.6860	118,514.7539	210° 07' 01.60"	
C510	PI	51+37.097	90° 00' 00.00" LT	238° 43' 56.69"	24.000'	24.000'	37.699'	507,425.6435	118,493.9938	PI	
C511	CC	①						507,458.4460	118,502.7114		
C512	PT	⊕ ROUNDABOUT 51+50.796=						507,446.4036	118,481.9514	120° 07' 01.60"	
A PT ON ⊕ ROUNDABOUT POC		50+00.000									

⊕ SW CURB <SWCURB>

A PT 16.50' LT ⊕ SB CSAH 35 POT13+26.048=											
C100	POT	⊕ SW CURB 60+00.000							507,439.1396	118,388.7461	
C101	PC	60+26.470							507,441.5763	118,415.1041	5° 16' 54.61"
C102	PI	60+30.178	14° 05' 31.11" LT	190° 59' 09.35"	30.000'	3.708'	7.379'	507,441.9176	118,418.7963	PI	
C103	CC	①						507,411.7037	118,417.8657		
C104	PCC	60+33.849						507,441.3497	118,422.4605	351° 11' 23.50"	
C105	PI	60+52.817	7° 14' 07.79" LT	19° 05' 54.94"	300.000'	18.968'	37.885'	507,438.4446	118,441.2045	PI	
C106	CC	①						507,144.8893	118,376.5123		
C107	PCC	60+71.734						507,433.2019	118,459.4332	343° 57' 15.71"	
C108	PI	60+94.387	62° 57' 11.33" LT	154° 51' 12.45"	37.000'	22.653'	40.653'	507,426.9406	118,481.2035	PI	
C109	CC	①						507,397.6433	118,449.2063		
C110	PCC	61+12.387						507,404.7041	118,485.5264	281° 00' 04.39"	
C111	PI	61+22.602	16° 36' 17.86" LT	81° 51' 04.01"	70.000'	10.215'	20.287'	507,394.6768	118,487.4757	PI	
C112	CC	①						507,391.3460	118,416.8127		
C113	PT	⊕ SW CURB 61+32.674						507,384.5106	118,486.4782	264° 23' 46.53"	
A PT 11.00' RT ⊕ EB CSAH 6 POC 42+25.237=											

⊕ SE CURB <SECURB>

A PT 14.38' RT ⊕ NB CSAH 35 POC23+32.771=											
C200	POT	⊕ SE CURB 70+00.000							507,481.1287	118,397.7243	
C201	PC	70+21.393							507,475.7264	118,418.4240	345° 22' 23.36"
C202	PI	70+38.152	26° 55' 37.78" RT	81° 51' 04.01"	70.000'	16.758'	32.898'	507,471.4945	118,434.6394	PI	
C203	CC	①						507,543.4578	118,436.1006		
C204	PCC	70+54.291						507,475.0647	118,451.0131	12° 18' 01.14"	
C205	PI	70+75.781	60° 17' 49.69" RT	154° 51' 12.45"	37.000'	21.490'	38.938'	507,479.6429	118,472.0099	PI	
C206	CC	①						507,511.2153	118,443.1308		
C207	PCC	70+93.229						507,500.1493	118,478.4372	72° 35' 50.83"	
C208	PI	71+07.272	13° 20' 58.00" RT	47° 44' 47.34"	120.000'	14.043'	27.959'	507,513.5496	118,482.6372	PI	
C209	CC	①						507,536.0392	118,363.9299		
C210	PT	⊕ SE CURB 71+21.188=						507,527.5575	118,483.6298	85° 56' 48.83"	
A PT 11.00' RT ⊕ EB CSAH 6 POC 43+75.580											

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
			SPIRAL CURVE DATA								
ANGLE (Θs)	DEGREE	ST	LT	LS							
⊕ NE CURB <NECURB>											
A PT 11.00' LT ⊕ WB CSAH 6 POC 35+01.590=											
C300	PC	⊕ NE CURB 80+00.000									
C301	PI	80+16.520	26° 33' 24.89" RT	81° 51' 04.01"	70.000'	16.520'	32.445'	507,518.9559	118,514.4419	PI	
C302	CC	①						507,529.1927	118,585.6325		
C303	PCC	80+32.445						507,503.5817	118,520.4859	291° 27' 40.40"	
C304	PI	80+50.566	52° 11' 14.01" RT	154° 51' 12.45"	37.000'	18.121'	33.701'	507,486.7172	118,527.1158	PI	
C305	CC	①						507,517.1190	118,554.9205		
C306	PCC	80+66.146						507,481.6155	118,544.5039	343° 38' 54.41"	
C307	PI	80+74.751	15° 33' 13.85" RT	90° 56' 44.45"	63.000'	8.604'	17.102'	507,479.1932	118,552.7600	PI	
C308	CC	①						507,542.0673	118,562.2403		
C309	PT	80+83.249						507,479.0735	118,561.3632	359° 12' 08.27"	
C310	POT	80+96.354						507,478.8910	118,574.4670		
C311	POT	⊕ NE CURB 81+19.493=						507,478.4692	118,597.6024		
A PT 15.71' RT ⊕ NB CSAH 35 POC 25+41.219											

⊕ NW CURB <NWCURB>

A PT 11.00' LT ⊕ WB CSAH 6 POC 33+23.938=											
C400	PC	⊕ NW CURB 90+00.000									
C401	PI	90+25.324	19° 09' 54.38" LT	38° 11' 49.87"	150.000'	25.324'	50.174'	507,392.7269	118,518.9732	PI	
C402	CC	①						507,369.0742	118,669.2457		
C403	PCC	90+50.174						507,416.7380	118,527.0200	71° 28' 21.23"	
C404	PI	90+71.916	60° 52' 42.48" LT	154° 51' 12.45"	37.000'	21.742'	39.314'	507,437.3530	118,533.9286	PI	
C405	CC	①						507,404.9809	118,562.1023		
C406	PCC	90+89.488						507,441.3502	118,555.2999	10° 35' 38.74"	
C407	PI	91+01.153	18° 55' 23.14" LT	81° 51' 04.01"	70.000'	11.666'	23.119'	507,443.4950	118,566.7667	PI	
C408	CC	①						507,372.5434	118,568.1694		
C409	PT	⊕ NW CURB 91+12.607=						507,441.8051	118,578.3094	351° 40' 15.60"	
A PT 11.00' LT ⊕ SB CSAH 35 POC 15+23.707											

NOTES:
 ① ALIGNMENT POINT IS NOT SHOWN ON ALIGNMENT PLAN VIEW.
 <XXXX> INDICATES GEOPAK ALIGNMENT NAME.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



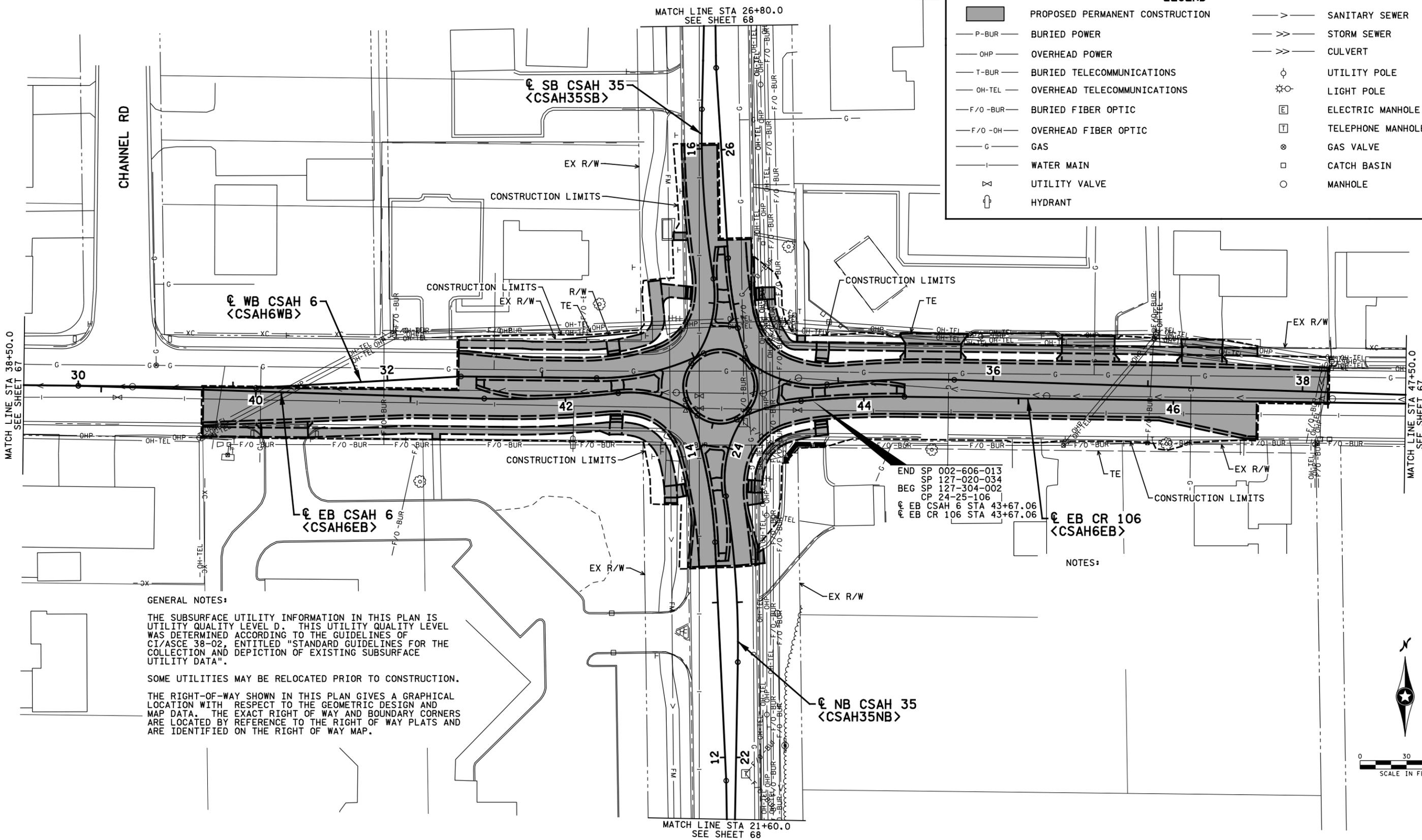
ANOKA COUNTY, MINNESOTA
 ALIGNMENT TABULATIONS
 SP 002-606-013, SP 127-020-034, SP 127-304-002
 CURB ALIGNMENTS

SHEET 65 OF 102

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NO	DATE	BY	CKD	APPR	REVISION

LEGEND	
	PROPOSED PERMANENT CONSTRUCTION
	BURIED POWER
	OVERHEAD POWER
	BURIED TELECOMMUNICATIONS
	OVERHEAD TELECOMMUNICATIONS
	BURIED FIBER OPTIC
	OVERHEAD FIBER OPTIC
	GAS
	WATER MAIN
	UTILITY VALVE
	HYDRANT
	SANITARY SEWER
	STORM SEWER
	CULVERT
	UTILITY POLE
	LIGHT POLE
	ELECTRIC MANHOLE
	TELEPHONE MANHOLE
	GAS VALVE
	CATCH BASIN
	MANHOLE



GENERAL NOTES:

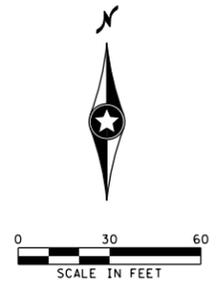
THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

SOME UTILITIES MAY BE RELOCATED PRIOR TO CONSTRUCTION.

THE RIGHT-OF-WAY SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

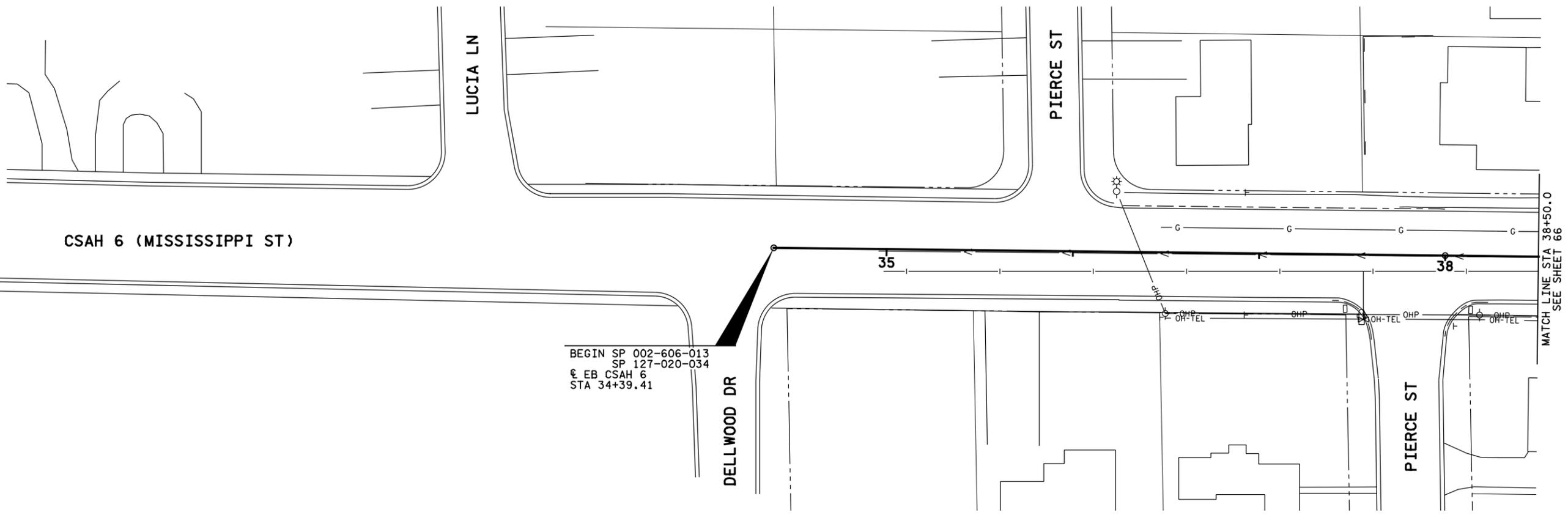
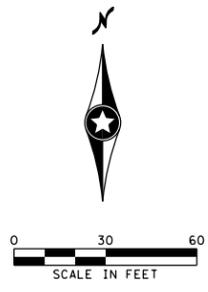
END SP 002-606-013
 SP 127-020-034
 BEG SP 127-304-002
 CP 24-25-106
 EB CSAH 6 STA 43+67.06
 EB CR 106 STA 43+67.06

NOTES:



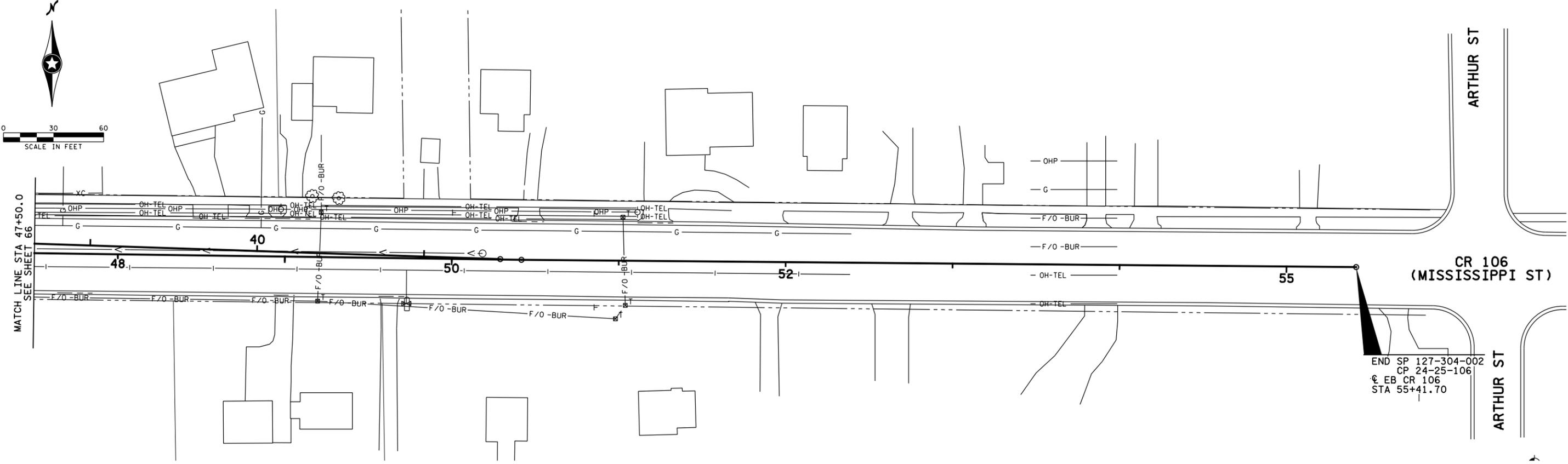
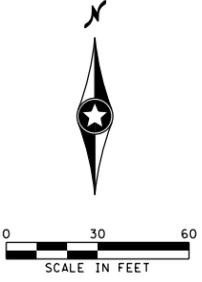
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: ZACHARIAH F. HEIMER <i>Zach Heimer</i> Date: 06/12/2024 License #: 58755					STATE PROJECT NO. 002-606-013 STATE PROJECT NO. 127-020-034 STATE PROJECT NO. 127-304-002 COUNTY PROJECT NO. 24-25-106		DRAWN BY S. MARTINS DESIGNED BY Z. HEIMER CHECKED BY K. JULLIE COMM. NO. 16588		ANOKA COUNTY, MINNESOTA TOPOGRAPHY AND UTILITY PLANS SP 002-606-013, SP 127-020-034, SP 127-304-002		SHEET 66 OF 102											
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NO	DATE	BY	CKD	APPR	REVISION																	



BEGIN SP 002-606-013
 SP 127-020-034
 EB CSAH 6
 STA 34+39.41

MATCH LINE STA 38+50.0
 SEE SHEET 66



END SP 127-304-002
 CP 24-25-106
 EB CR 106
 STA 55+41.70

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NO	DATE	BY	CKD	APPR	REVISION

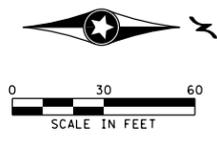
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

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ANOKA COUNTY, MINNESOTA
 TOPOGRAPHY AND UTILITY PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 67 OF 102



BEGIN SP 002-606-013
 SP 127-020-034
 @ NB CSAH 35
 STA 15+00.00

CSAH 35 (CENTRAL AVE)

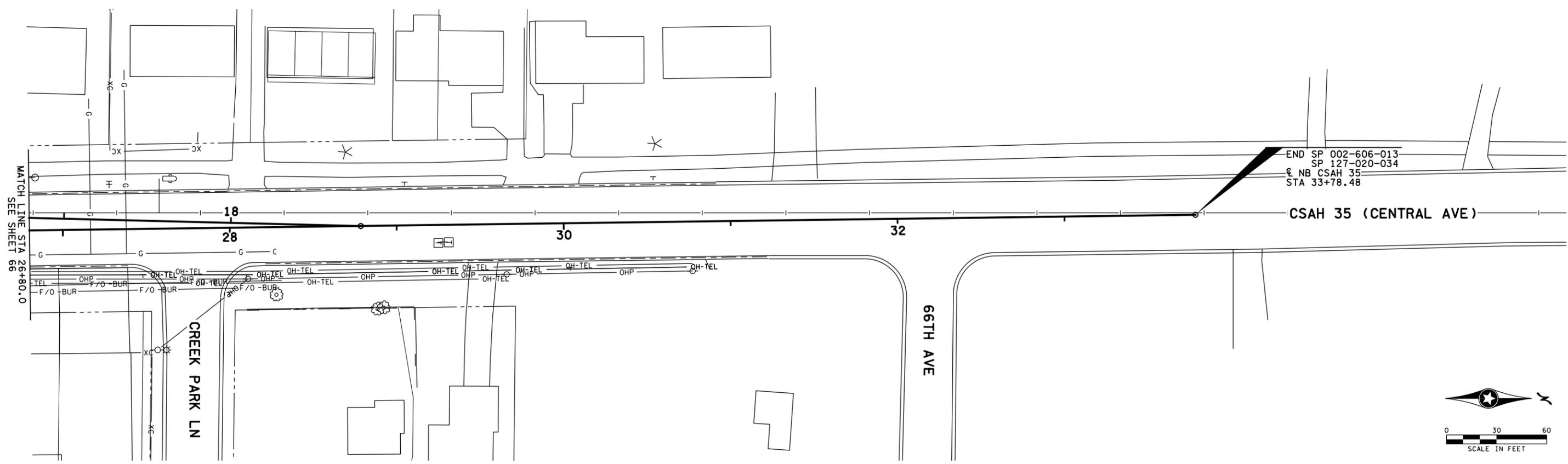
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MATCH LINE STA 21+60.0
 SEE SHEET 66

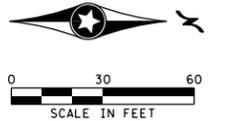
64TH AVE



END SP 002-606-013
 SP 127-020-034
 @ NB CSAH 35
 STA 33+78.48

CSAH 35 (CENTRAL AVE)

MATCH LINE STA 26+80.0
 SEE SHEET 66



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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

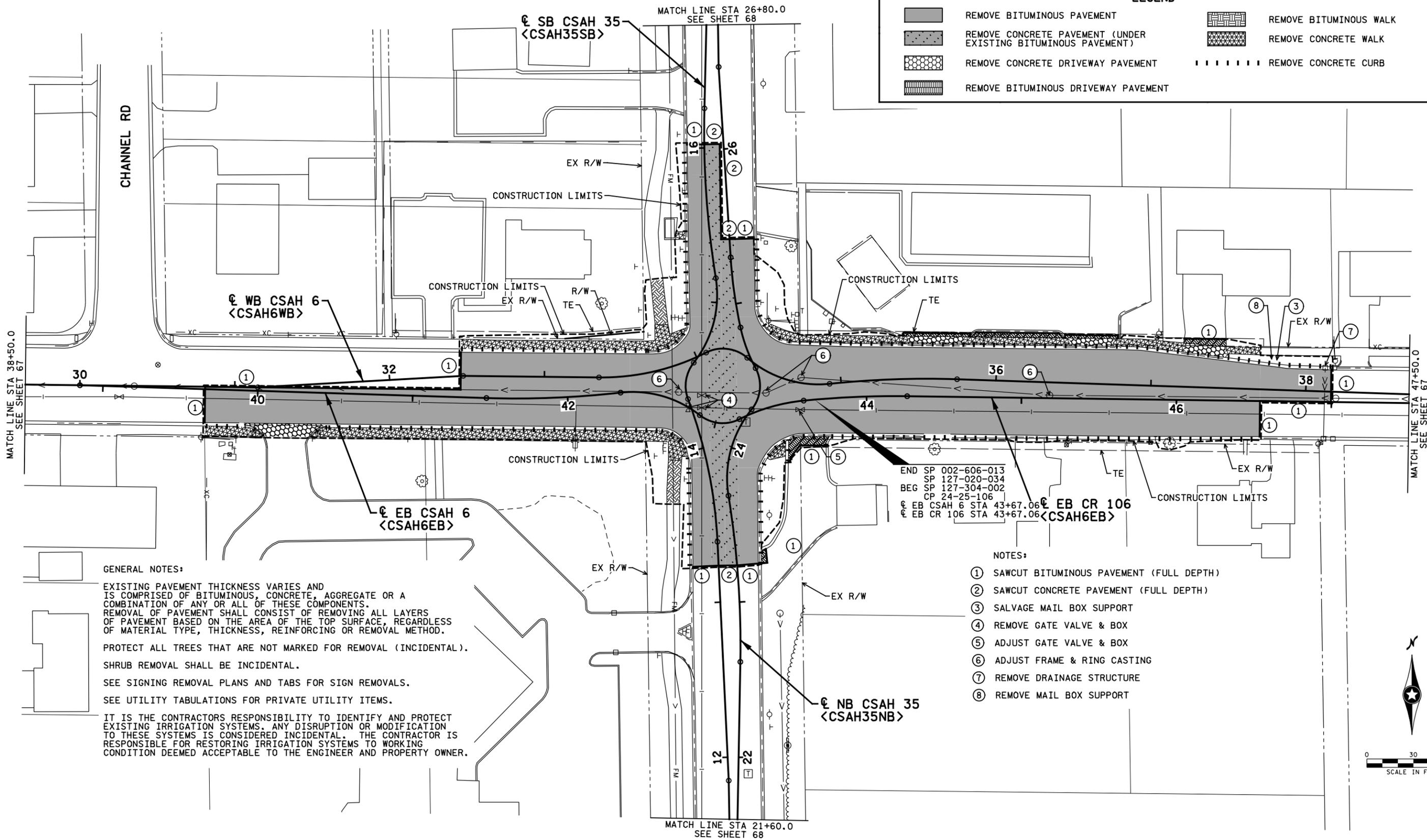
DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 TOPOGRAPHY AND UTILITY PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 68 OF 102

LEGEND	
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE PAVEMENT (UNDER EXISTING BITUMINOUS PAVEMENT)
	REMOVE CONCRETE DRIVEWAY PAVEMENT
	REMOVE BITUMINOUS DRIVEWAY PAVEMENT
	REMOVE BITUMINOUS WALK
	REMOVE CONCRETE WALK
	REMOVE CONCRETE CURB



GENERAL NOTES:

EXISTING PAVEMENT THICKNESS VARIES AND IS COMPRISED OF BITUMINOUS, CONCRETE, AGGREGATE OR A COMBINATION OF ANY OR ALL OF THESE COMPONENTS. REMOVAL OF PAVEMENT SHALL CONSIST OF REMOVING ALL LAYERS OF PAVEMENT BASED ON THE AREA OF THE TOP SURFACE, REGARDLESS OF MATERIAL TYPE, THICKNESS, REINFORCING OR REMOVAL METHOD.

PROTECT ALL TREES THAT ARE NOT MARKED FOR REMOVAL (INCIDENTAL).

SHRUB REMOVAL SHALL BE INCIDENTAL.

SEE SIGNING REMOVAL PLANS AND TABS FOR SIGN REMOVALS.

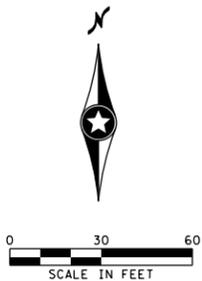
SEE UTILITY TABULATIONS FOR PRIVATE UTILITY ITEMS.

IT IS THE CONTRACTORS RESPONSIBILITY TO IDENTIFY AND PROTECT EXISTING IRRIGATION SYSTEMS. ANY DISRUPTION OR MODIFICATION TO THESE SYSTEMS IS CONSIDERED INCIDENTAL. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING IRRIGATION SYSTEMS TO WORKING CONDITION DEEMED ACCEPTABLE TO THE ENGINEER AND PROPERTY OWNER.

END SP 002-606-013
 SP 127-020-034
 BEG SP 127-304-002
 CP 24-25-106
 EB CSAH 6 STA 43+67.06
 EB CR 106 STA 43+67.06
 EB CSAH 6B

NOTES:

- ① SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- ② SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
- ③ SALVAGE MAIL BOX SUPPORT
- ④ REMOVE GATE VALVE & BOX
- ⑤ ADJUST GATE VALVE & BOX
- ⑥ ADJUST FRAME & RING CASTING
- ⑦ REMOVE DRAINAGE STRUCTURE
- ⑧ REMOVE MAIL BOX SUPPORT



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013

STATE PROJECT NO. 127-020-034

STATE PROJECT NO. 127-304-002

COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS

DESIGNED BY Z. HEIMER

CHECKED BY K. JULLIE

COMM. NO. 16588



ANOKA COUNTY, MINNESOTA

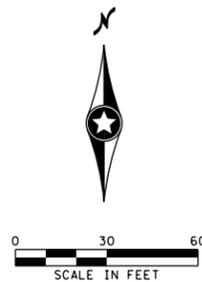
REMOVAL PLANS

SP 002-606-013, SP 127-020-034, SP 127-304-002

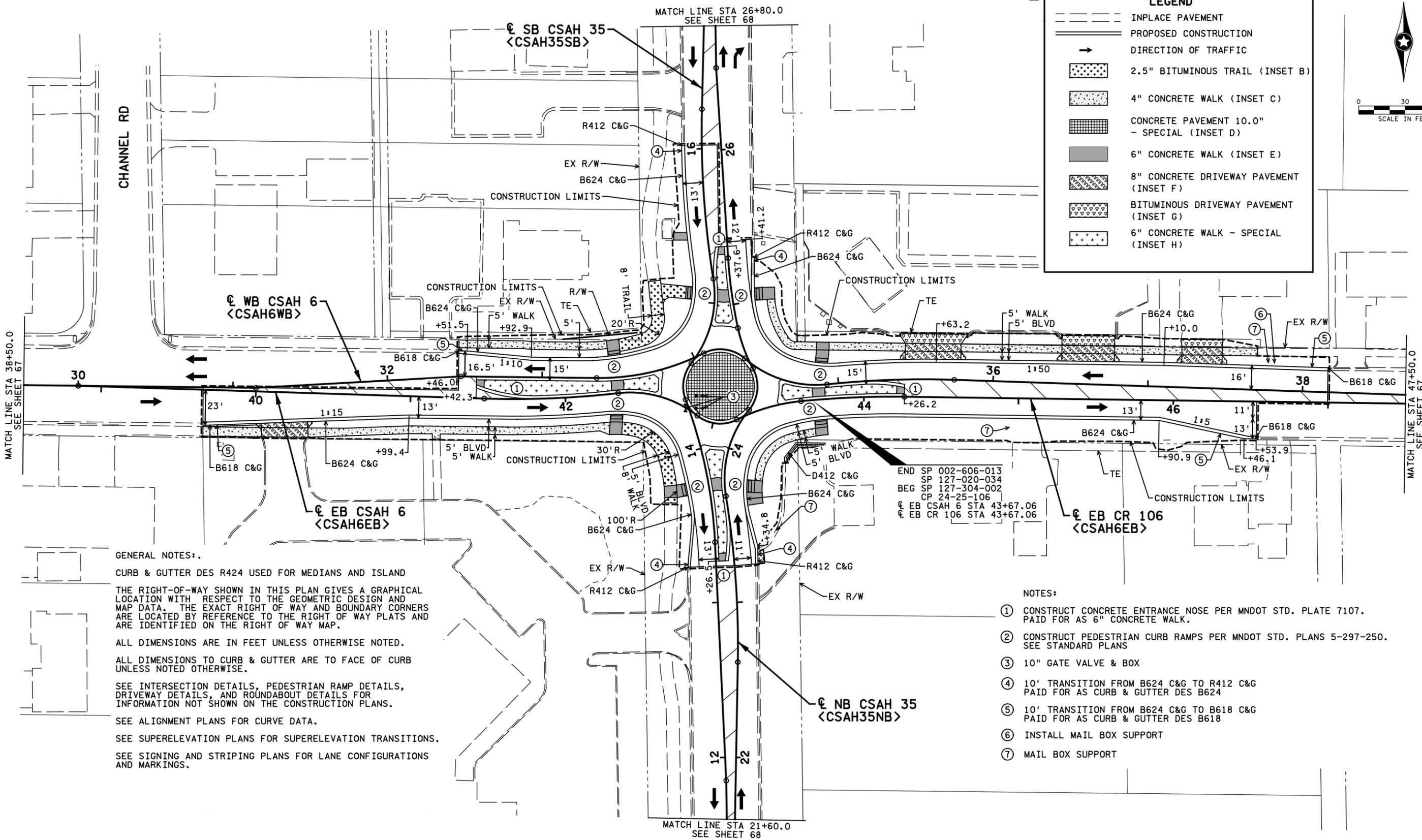
SHEET 69 OF 102

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NO	DATE	BY	CKD	APPR	REVISION



LEGEND	
	INPLACE PAVEMENT
	PROPOSED CONSTRUCTION
	DIRECTION OF TRAFFIC
	2.5" BITUMINOUS TRAIL (INSET B)
	4" CONCRETE WALK (INSET C)
	CONCRETE PAVEMENT 10.0" - SPECIAL (INSET D)
	6" CONCRETE WALK (INSET E)
	8" CONCRETE DRIVEWAY PAVEMENT (INSET F)
	BITUMINOUS DRIVEWAY PAVEMENT (INSET G)
	6" CONCRETE WALK - SPECIAL (INSET H)



GENERAL NOTES:

- CURB & GUTTER DES R424 USED FOR MEDIANS AND ISLAND
- THE RIGHT-OF-WAY SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.
- ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS TO CURB & GUTTER ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
- SEE INTERSECTION DETAILS, PEDESTRIAN RAMP DETAILS, DRIVEWAY DETAILS, AND ROUNDABOUT DETAILS FOR INFORMATION NOT SHOWN ON THE CONSTRUCTION PLANS.
- SEE ALIGNMENT PLANS FOR CURVE DATA.
- SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
- SEE SIGNING AND STRIPING PLANS FOR LANE CONFIGURATIONS AND MARKINGS.

NOTES:

- ① CONSTRUCT CONCRETE ENTRANCE NOSE PER MNDOT STD. PLATE 7107. PAID FOR AS 6" CONCRETE WALK.
- ② CONSTRUCT PEDESTRIAN CURB RAMPS PER MNDOT STD. PLANS 5-297-250. SEE STANDARD PLANS
- ③ 10" GATE VALVE & BOX
- ④ 10' TRANSITION FROM B624 C&G TO R412 C&G PAID FOR AS CURB & GUTTER DES B624
- ⑤ 10' TRANSITION FROM B624 C&G TO B618 C&G PAID FOR AS CURB & GUTTER DES B618
- ⑥ INSTALL MAIL BOX SUPPORT
- ⑦ MAIL BOX SUPPORT

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Zach Heimer

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STATE PROJECT NO. 127-304-002

COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS

DESIGNED BY Z. HEIMER

CHECKED BY K. JULLIE

COMM. NO. 16588



ANOKA COUNTY, MINNESOTA

CONSTRUCTION PLANS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET
70
OF
102

GENERAL NOTES:

OFFSETS, ELEVATIONS AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT ACCOUNT FOR DRAINAGE STRUCTURE SUMPS.

SEE STANDARD PLAN SHEETS AND PEDESTRIAN CURB RAMP DETAIL SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

ALL OUTSIDE CURB AND GUTTER TO BE B624 UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS.

SEE CONSTRUCTION PLAN SHEETS FOR LANE AND WALK DIMENSIONS.

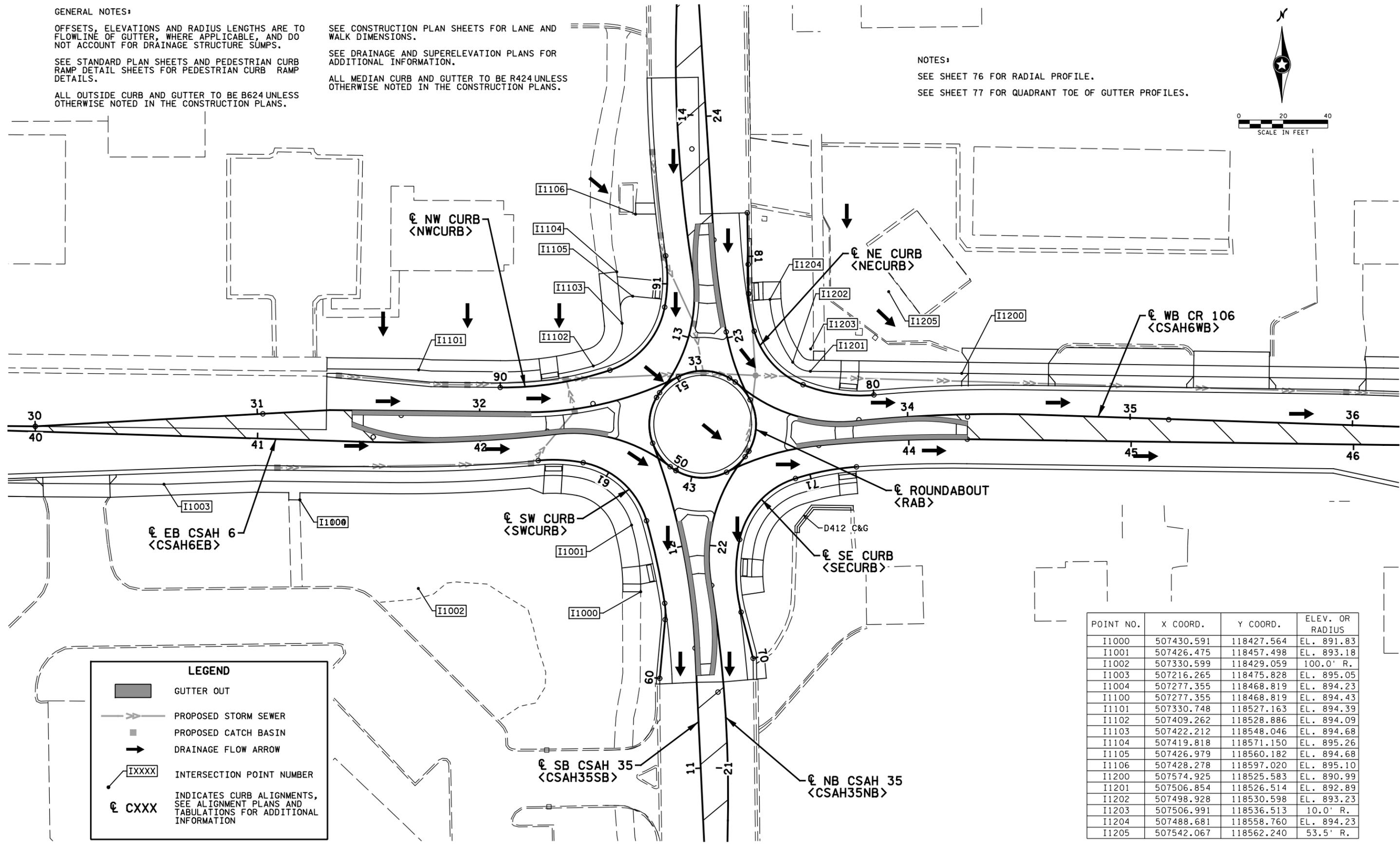
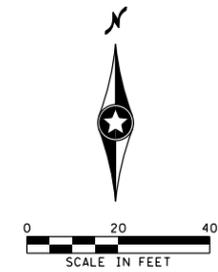
SEE DRAINAGE AND SUPERELEVATION PLANS FOR ADDITIONAL INFORMATION.

ALL MEDIAN CURB AND GUTTER TO BE R424 UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS.

NOTES:

SEE SHEET 76 FOR RADIAL PROFILE.

SEE SHEET 77 FOR QUADRANT TOE OF GUTTER PROFILES.



LEGEND

- GUTTER OUT
- PROPOSED STORM SEWER
- PROPOSED CATCH BASIN
- DRAINAGE FLOW ARROW
- INTERSECTION POINT NUMBER
- INDICATES CURB ALIGNMENTS, SEE ALIGNMENT PLANS AND TABULATIONS FOR ADDITIONAL INFORMATION

POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS
I1000	507430.591	118427.564	EL. 891.83
I1001	507426.475	118457.498	EL. 893.18
I1002	507330.599	118429.059	100.0' R.
I1003	507216.265	118475.828	EL. 895.05
I1004	507277.355	118468.819	EL. 894.23
I1100	507277.355	118468.819	EL. 894.43
I1101	507330.748	118527.163	EL. 894.39
I1102	507409.262	118528.886	EL. 894.09
I1103	507422.212	118548.046	EL. 894.68
I1104	507419.818	118571.150	EL. 895.26
I1105	507426.979	118560.182	EL. 894.68
I1106	507428.278	118597.020	EL. 895.10
I1200	507574.925	118525.583	EL. 890.99
I1201	507506.854	118526.514	EL. 892.89
I1202	507498.928	118530.598	EL. 893.23
I1203	507506.991	118536.513	10.0' R.
I1204	507488.681	118558.760	EL. 894.23
I1205	507542.067	118562.240	53.5' R.

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NO	DATE	BY	CKD	APPR	REVISION

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Zach Heimer

Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013

STATE PROJECT NO. 127-020-034

STATE PROJECT NO. 127-304-002

COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS

DESIGNED BY Z. HEIMER

CHECKED BY K. JULLIE

COMM. NO. 16588



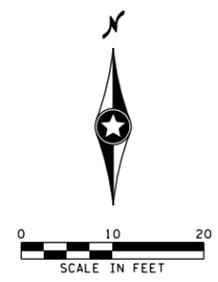
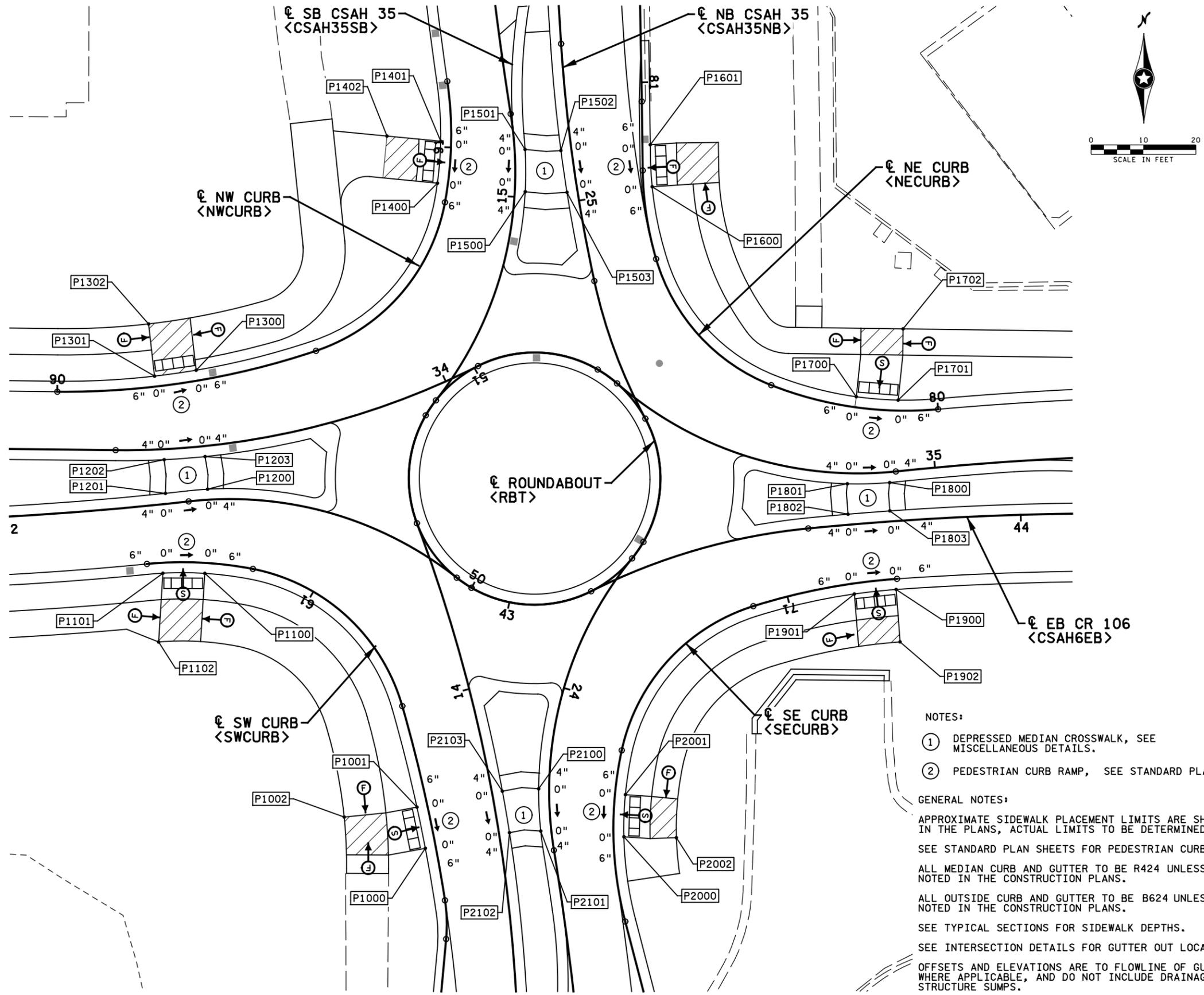
ANOKA COUNTY, MINNESOTA

INTERSECTION DETAILS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 71 OF 102

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LEGEND	
PXXXX	CONTROL POINTS AT GUTTER FLOW LINE
[Symbol]	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
X"	CURB HEIGHT
[Symbol]	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
[Symbol]	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
[Symbol]	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
[Symbol]	DIRECTION OF CURBLINE FLOW
[Symbol]	PROPOSED CATCH BASIN
[Symbol]	PROPOSED MANHOLE (STORM)

POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS
P1000	507437.608	118432.365	EL. 891.86
P1001	507436.003	118440.204	EL. 892.07
P1002	507422.133	118438.305	EL. 892.31
P1100	507395.553	118484.682	EL. 893.04
P1101	507387.539	118484.706	EL. 893.09
P1102	507386.728	118471.619	EL. 893.58
P1200	507396.069	118500.698	EL. 893.35
P1201	507388.039	118499.906	EL. 893.38
P1202	507387.793	118506.311	EL. 893.48
P1203	507395.594	118506.904	EL. 893.45
P1300	507393.889	118523.341	EL. 893.50
P1301	507385.966	118522.213	EL. 893.51
P1302	507384.824	118532.147	EL. 894.18
P1400	507439.912	118558.927	EL. 894.01
P1401	507440.532	118566.905	EL. 894.15
P1402	507430.292	118567.898	EL. 894.56
P1500	507456.659	118557.303	EL. 894.03
P1501	507456.631	118565.343	EL. 894.19
P1502	507463.467	118565.133	EL. 894.04
P1503	507464.617	118557.191	EL. 893.90
P1600	507480.869	118558.251	EL. 893.54
P1601	507480.506	118566.244	EL. 893.70
P1700	507519.810	118518.283	EL. 891.92
P1701	507527.786	118517.647	EL. 891.76
P1702	507528.732	118531.209	EL. 892.39
P1800	507526.158	118501.956	EL. 892.14
P1801	507518.091	118501.725	EL. 892.30
P1802	507518.230	118495.942	EL. 892.28
P1803	507526.206	118496.566	EL. 892.13
P1900	507527.394	118481.613	EL. 891.83
P1901	507519.437	118480.756	EL. 891.98
P1902	507528.149	118471.641	EL. 892.30
P2000	507475.475	118434.566	EL. 891.77
P2001	507475.766	118442.565	EL. 891.93
P2002	507485.483	118434.375	EL. 892.24
P2100	507459.221	118443.688	EL. 892.29
P2101	507459.618	118435.643	EL. 892.13
P2102	507453.652	118435.337	EL. 892.21
P2103	507452.299	118443.222	EL. 892.37

- NOTES:
- ① DEPRESSED MEDIAN CROSSWALK, SEE MISCELLANEOUS DETAILS.
 - ② PEDESTRIAN CURB RAMP, SEE STANDARD PLANS.

GENERAL NOTES:

APPROXIMATE SIDEWALK PLACEMENT LIMITS ARE SHOWN IN THE PLANS, ACTUAL LIMITS TO BE DETERMINED IN THE FIELD.

SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

ALL MEDIAN CURB AND GUTTER TO BE R424 UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS.

ALL OUTSIDE CURB AND GUTTER TO BE B624 UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS.

SEE TYPICAL SECTIONS FOR SIDEWALK DEPTHS.

SEE INTERSECTION DETAILS FOR GUTTER OUT LOCATIONS.

OFFSETS AND ELEVATIONS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT INCLUDE DRAINAGE STRUCTURE SUMPS.

NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013

STATE PROJECT NO. 127-020-034

STATE PROJECT NO. 127-304-002

COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS

DESIGNED BY Z. HEIMER

CHECKED BY K. JULLIE

COMM. NO. 16588

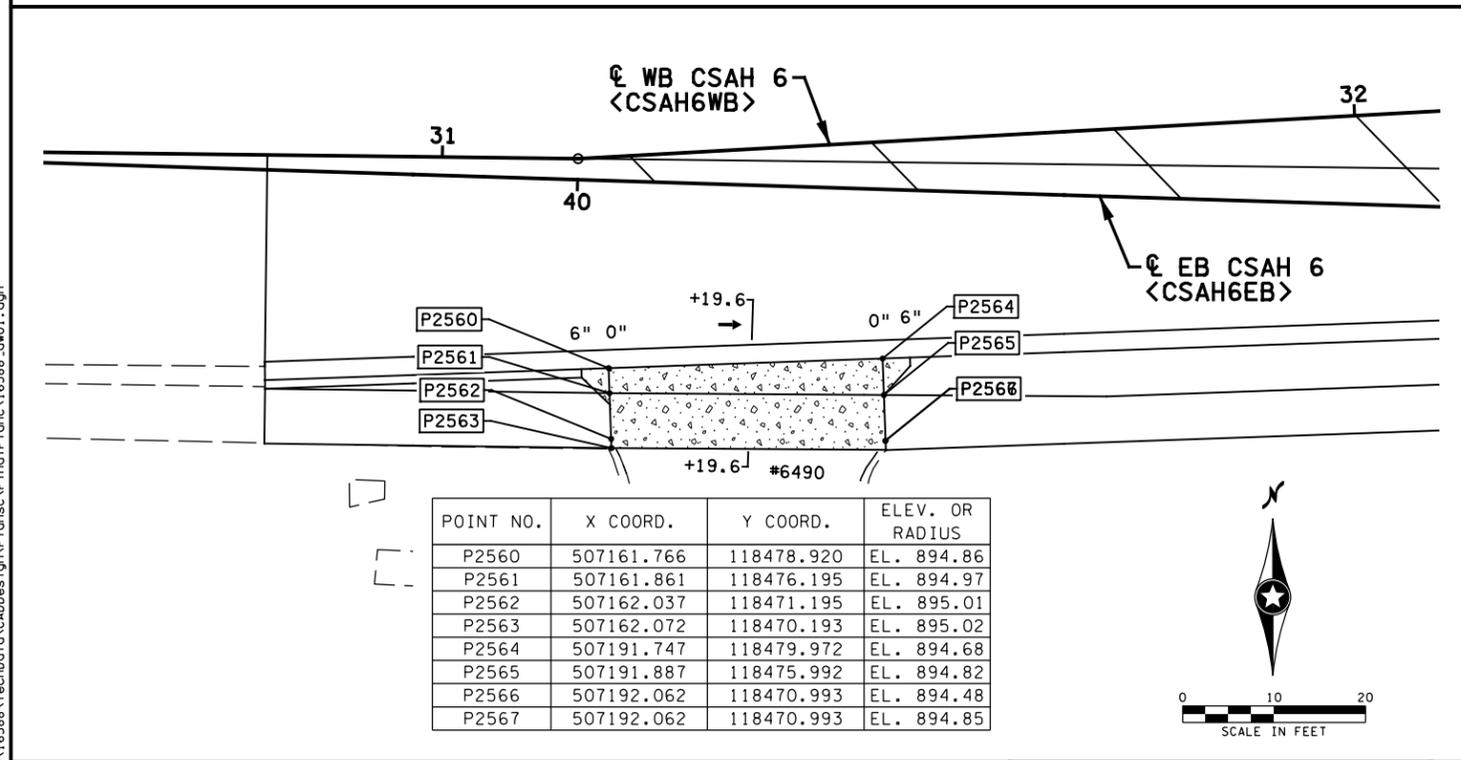
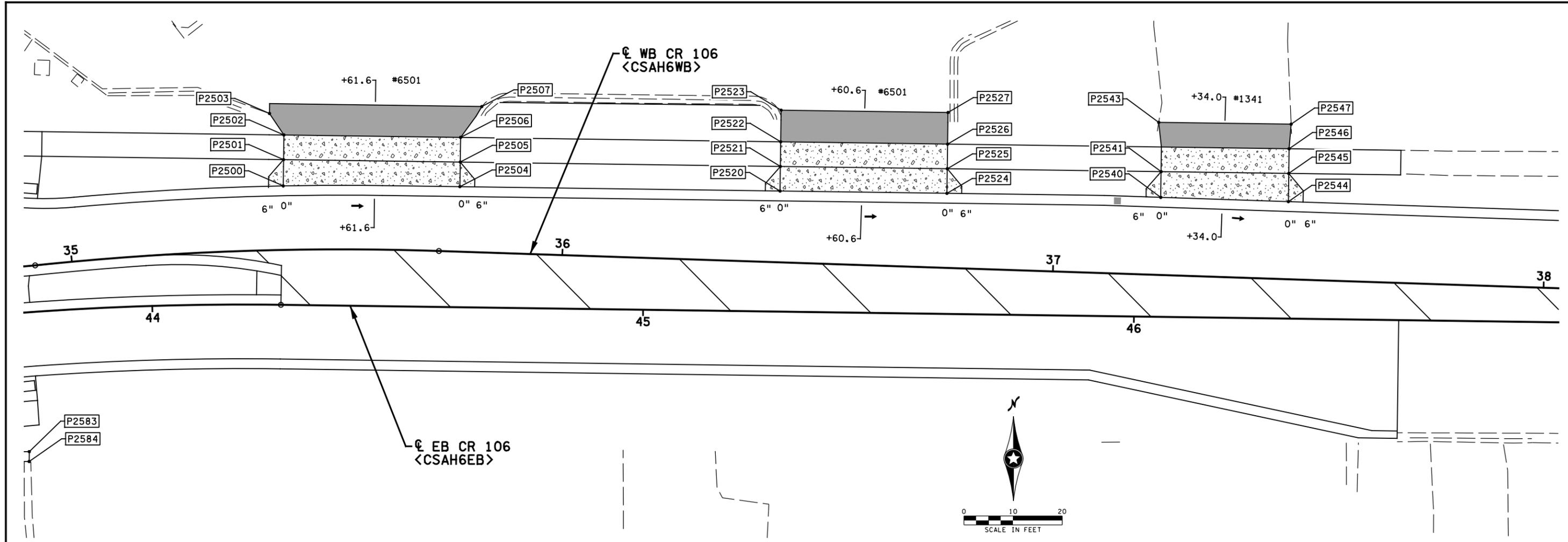


ANOKA COUNTY, MINNESOTA

PEDESTRIAN CURB RAMP DETAILS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 72 OF 102



POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS
P2560	507161.766	118478.920	EL. 894.86
P2561	507161.861	118476.195	EL. 894.97
P2562	507162.037	118471.195	EL. 895.01
P2563	507162.072	118470.193	EL. 895.02
P2564	507191.747	118479.972	EL. 894.68
P2565	507191.887	118475.992	EL. 894.82
P2566	507192.062	118470.993	EL. 894.48
P2567	507192.062	118470.993	EL. 894.85

POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS
P2500	507577.852	118520.210	EL. 890.40
P2501	507577.925	118525.542	EL. 890.99
P2502	507577.994	118530.542	EL. 891.07
P2503	507575.053	118534.914	EL. 890.63
P2504	507613.853	118520.051	EL. 889.48
P2505	507613.922	118525.050	EL. 890.07
P2506	507613.990	118530.050	EL. 890.14
P2507	507618.317	118536.323	EL. 890.44
P2520	507679.063	118519.160	EL. 887.76
P2521	507679.131	118524.159	EL. 888.35
P2522	507679.200	118529.158	EL. 888.43
P2523	507679.287	118535.576	EL. 889.03
P2524	507713.060	118518.695	EL. 888.86
P2525	507713.128	118523.694	EL. 887.45
P2526	507713.196	118528.693	EL. 887.53
P2527	507713.284	118535.111	EL. 888.10
P2540	507756.619	118517.875	EL. 885.81
P2541	507756.691	118523.099	EL. 886.20
P2543	507756.200	118533.107	EL. 886.10
P2544	507782.610	118517.012	EL. 885.37
P2545	507782.688	118522.744	EL. 885.50
P2546	507782.757	118527.743	EL. 885.57
P2547	507783.174	118532.738	EL. 886.20

LEGEND

- PXXXX DRIVEWAY CONTROL POINTS
- ===== CONSTRUCT CONCRETE CURB & GUTTER
- X" CURB HEIGHT
- 8" CONCRETE DRIVEWAY PAVEMENT
SEE INSET F ON SHEET NO. 13
- BITUMINOUS DRIVEWAY PAVEMENT
SEE INSET G ON SHEET NO. 13
- DIRECTION OF CURBLINE FLOW
- PROPOSED CATCH BASIN

GENERAL NOTES:

SEE STANDARD PLAN SHEETS FOR DRIVEWAY DETAILS.

ALL CURB AND GUTTER TO BE B624 UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS.

SEE TYPICAL SECTIONS FOR SIDEWALK DEPTHS.

OFFSETS AND ELEVATIONS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT INCLUDE DRAINAGE STRUCTURE SUMPS.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

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COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS

DESIGNED BY Z. HEIMER

CHECKED BY K. JULLIE

COMM. NO. 16588



ANOKA COUNTY, MINNESOTA

DRIVEWAY DETAILS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET

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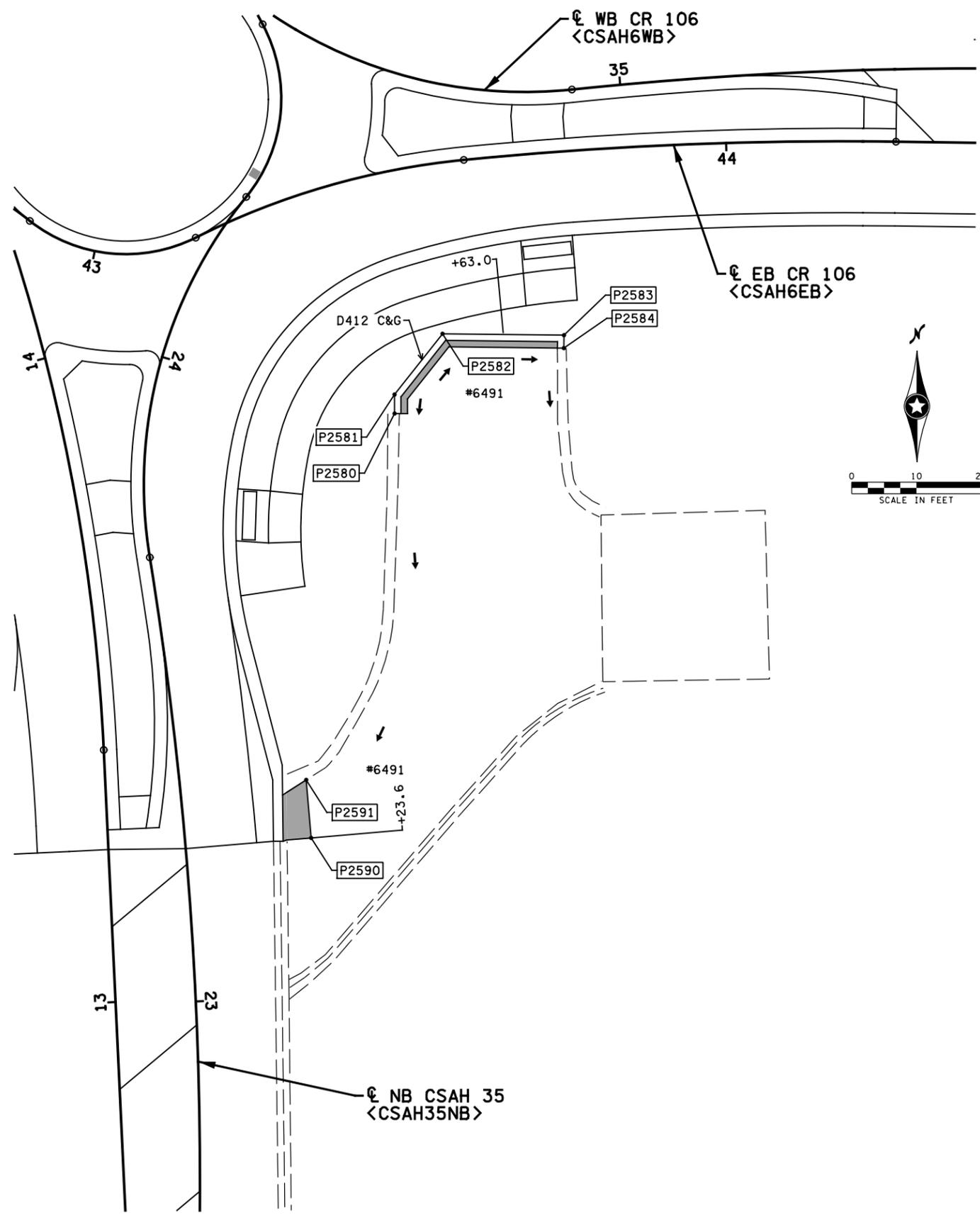
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NO	DATE	BY	CKD	APPR	REVISION

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POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS
P2580	507499.943	118454.160	EL. 891.83
P2581	507499.943	118457.085	EL. 891.89
P2582	507507.359	118466.448	EL. 891.80
P2583	507526.122	118466.235	EL. 891.51
P2584	507526.099	118464.235	EL. 891.49
P2590	507487.062	118388.789	EL. 890.55
P2591	507486.295	118397.733	EL. 890.81



LEGEND

	DRIVEWAY CONTROL POINTS
	CONSTRUCT CONCRETE CURB & GUTTER
	CURB HEIGHT
	8" CONCRETE DRIVEWAY PAVEMENT SEE INSET F ON SHEET NO. 13
	BITUMINOUS DRIVEWAY PAVEMENT SEE INSET G ON SHEET NO. 13
	DIRECTION OF CURBLINE FLOW
	PROPOSED CATCH BASIN

GENERAL NOTES:

- SEE STANDARD PLAN SHEETS FOR DRIVEWAY DETAILS.
- ALL CURB AND GUTTER TO BE B624 UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS.
- SEE TYPICAL SECTIONS FOR SIDEWALK DEPTHS.
- OFFSETS AND ELEVATIONS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT INCLUDE DRAINAGE STRUCTURE SUMPS.

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COUNTY PROJECT NO. 24-25-106	COMM. NO. 16588



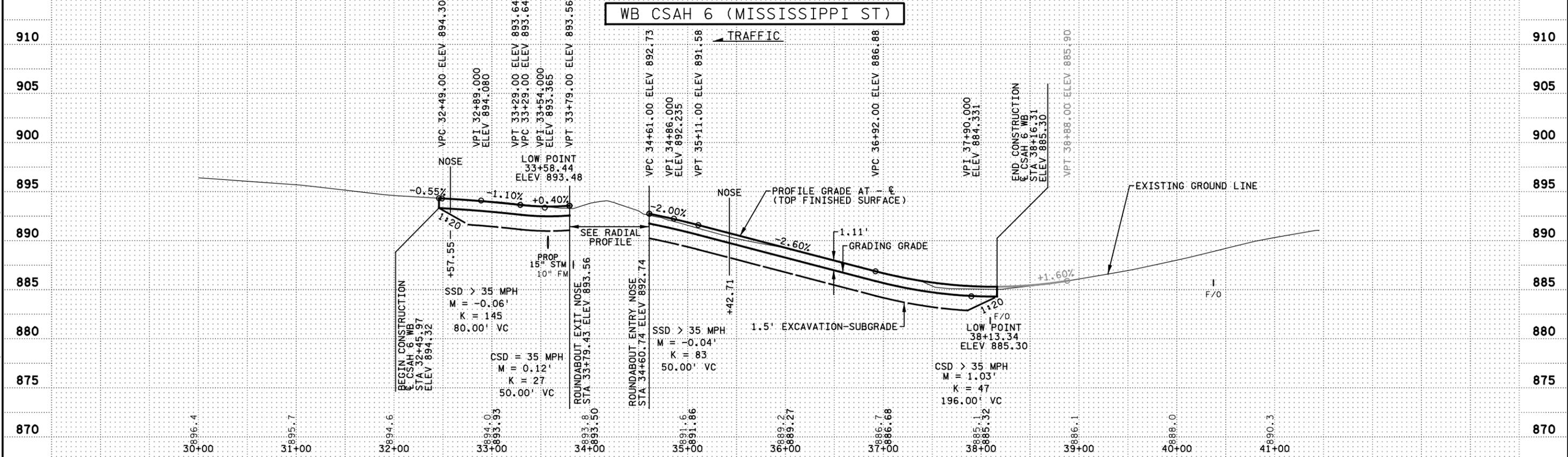
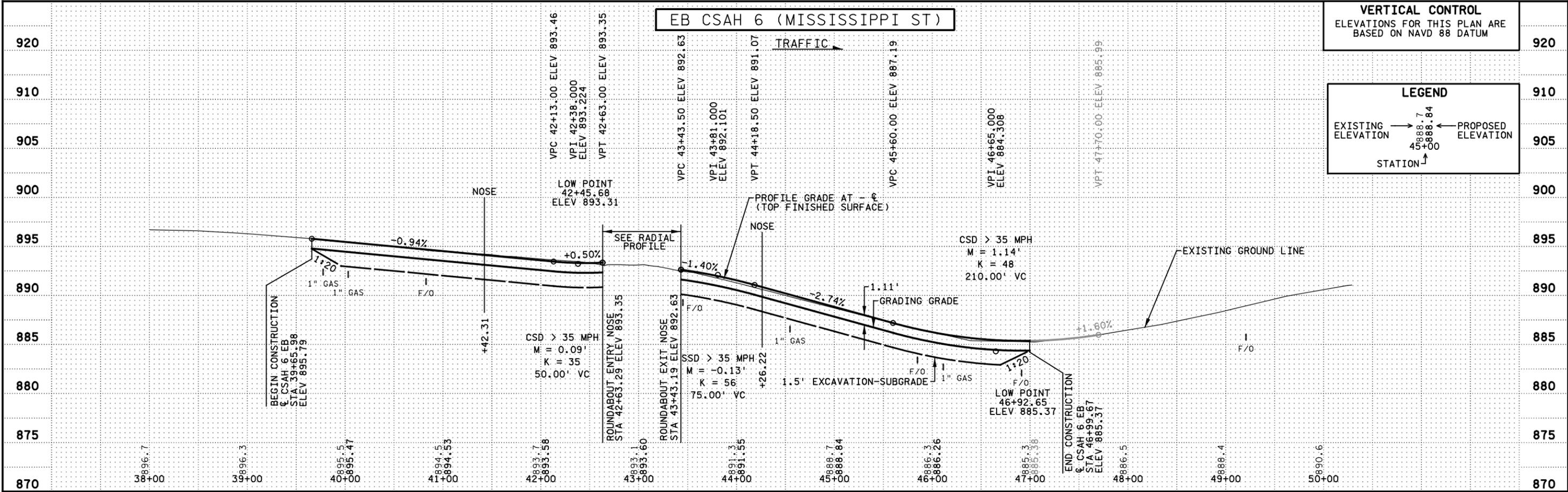
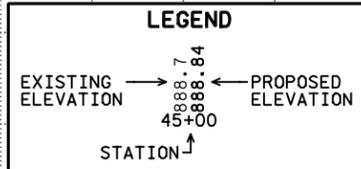
ANOKA COUNTY, MINNESOTA

DRIVEWAY DETAILS

SP 002-606-013, SP 127-020-034, SP 127-304-002

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102

VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE
BASED ON NAVD 88 DATUM



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 PROFILES
 SP 002-606-013, SP 127-020-034, SP 127-304-002

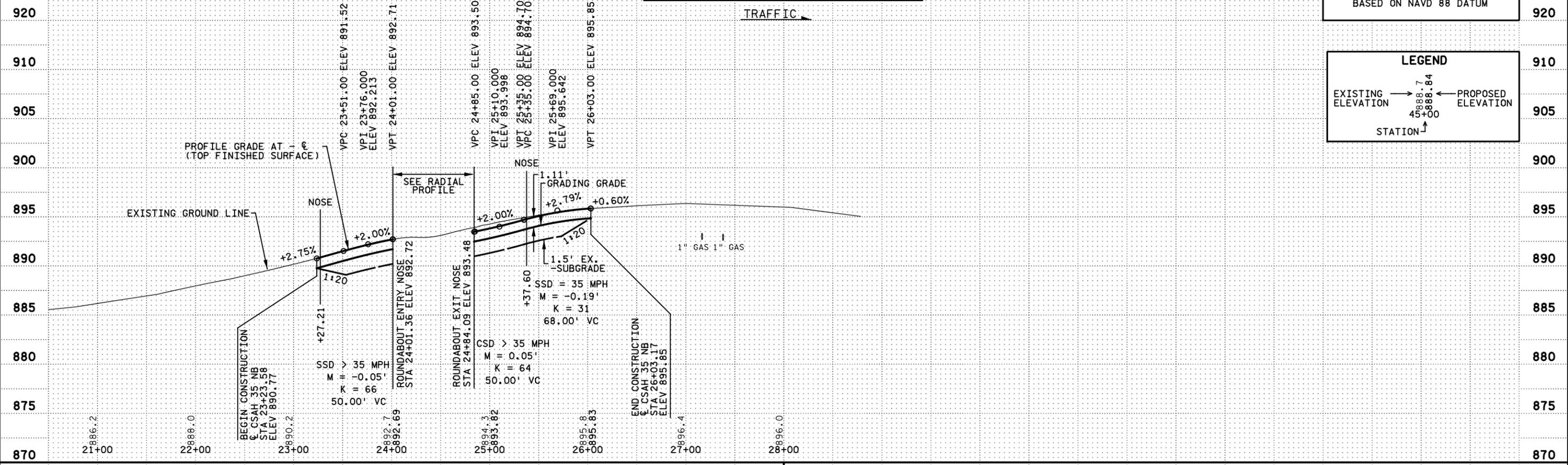
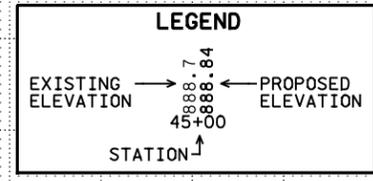
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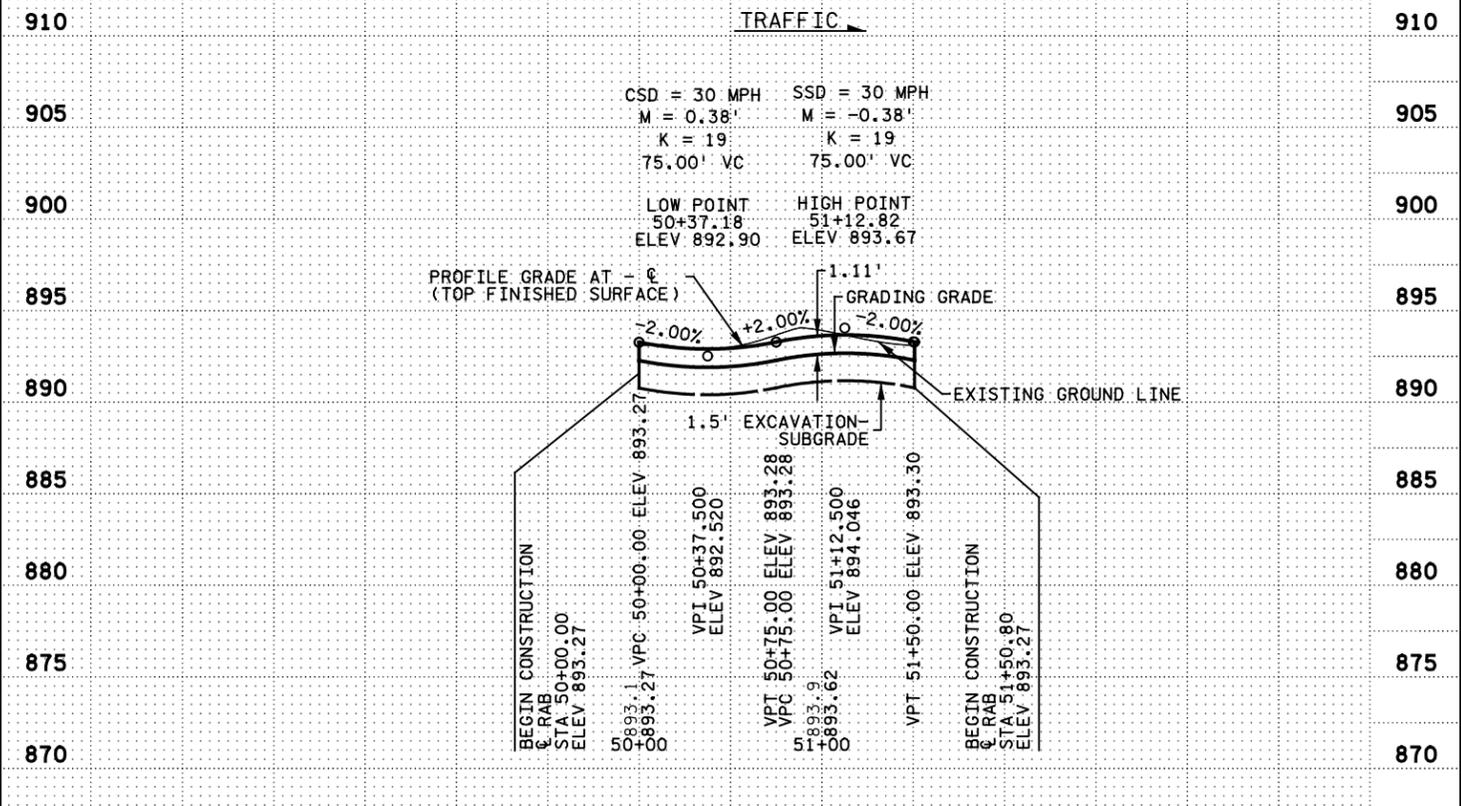
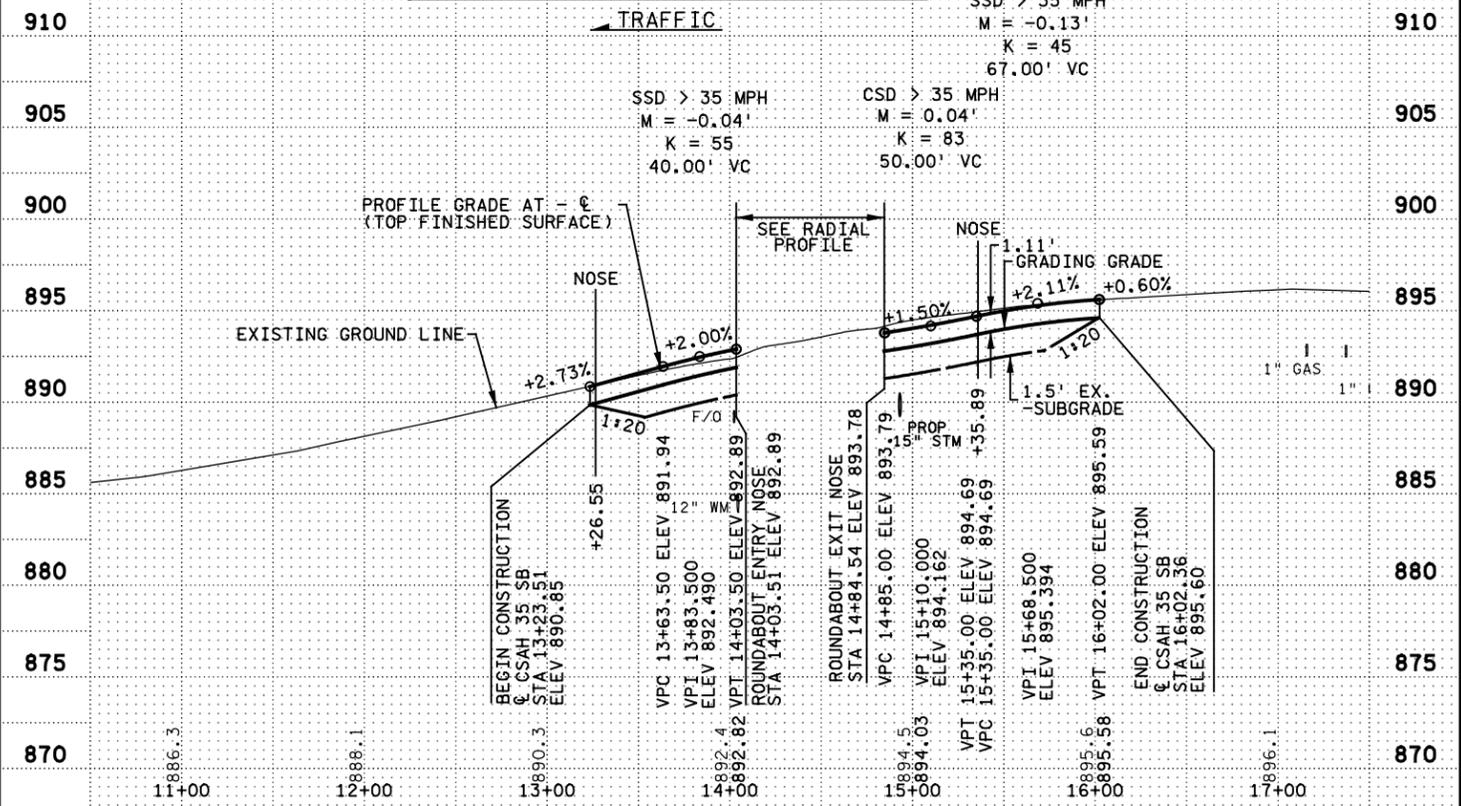
NB CSAH 35 (CENTRAL AVE)

VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE
BASED ON NAVD 88 DATUM



SB CSAH 35 (CENTRAL AVE)

RADIAL PROFILE (ROUNDAABOUT)



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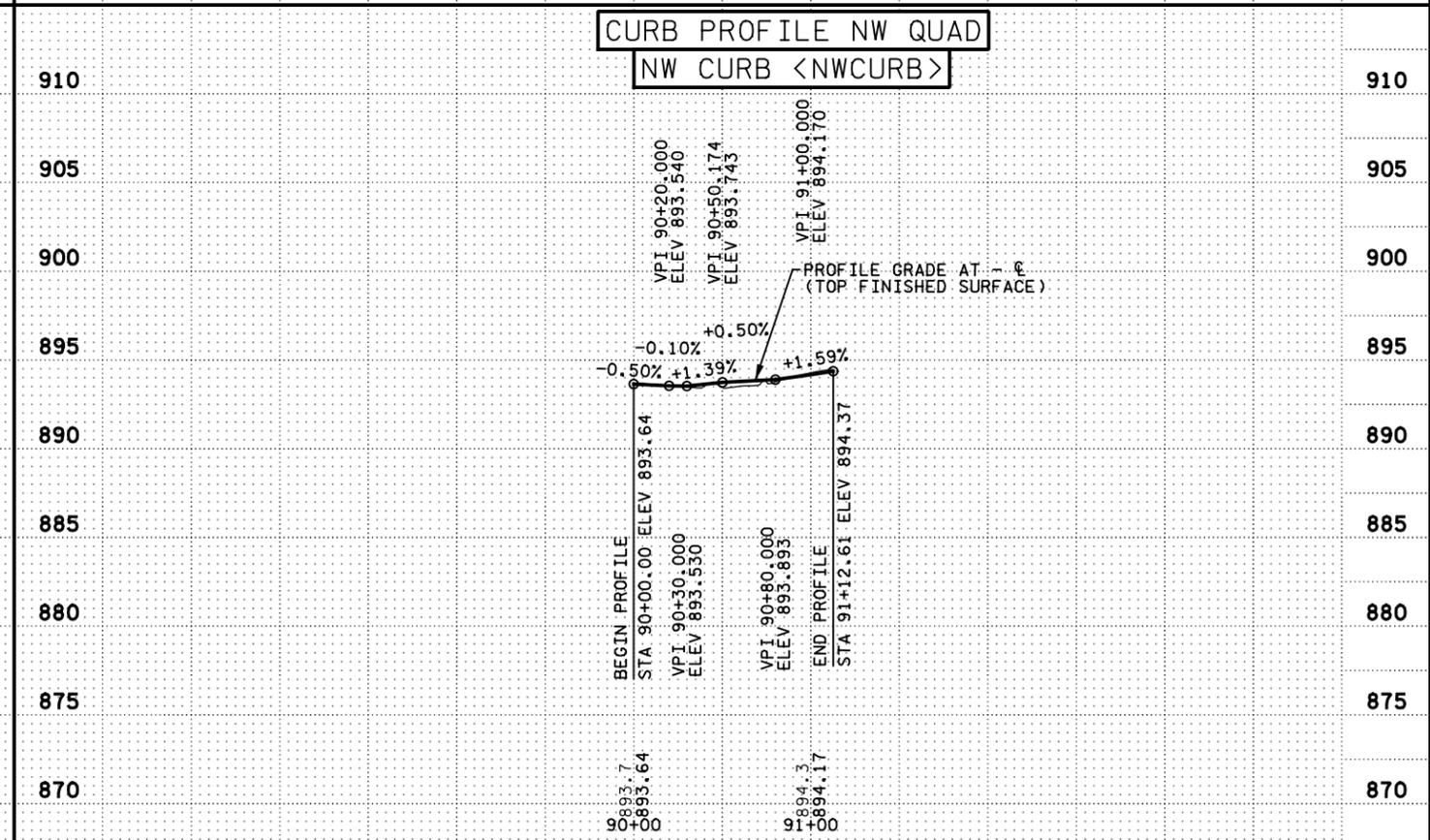
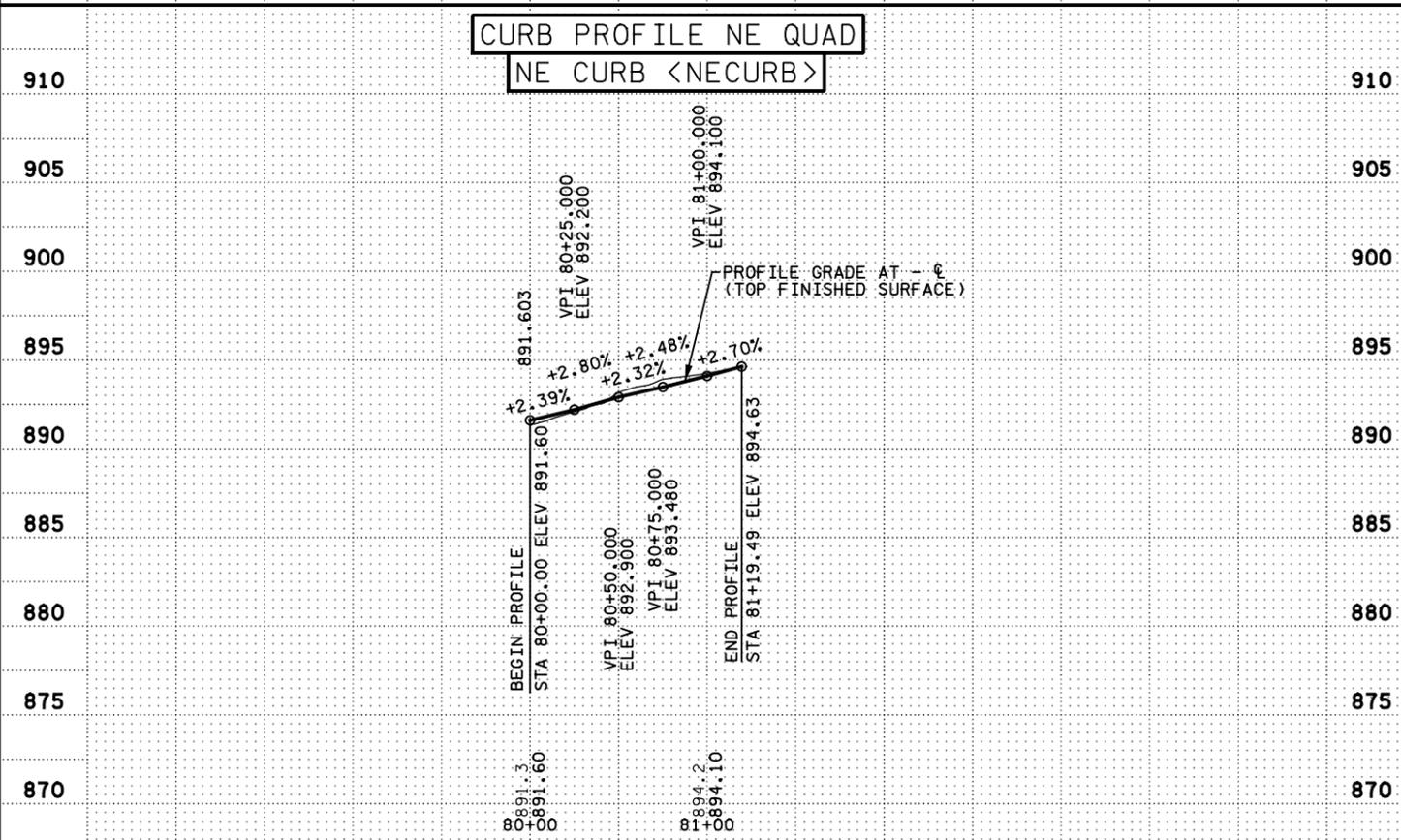
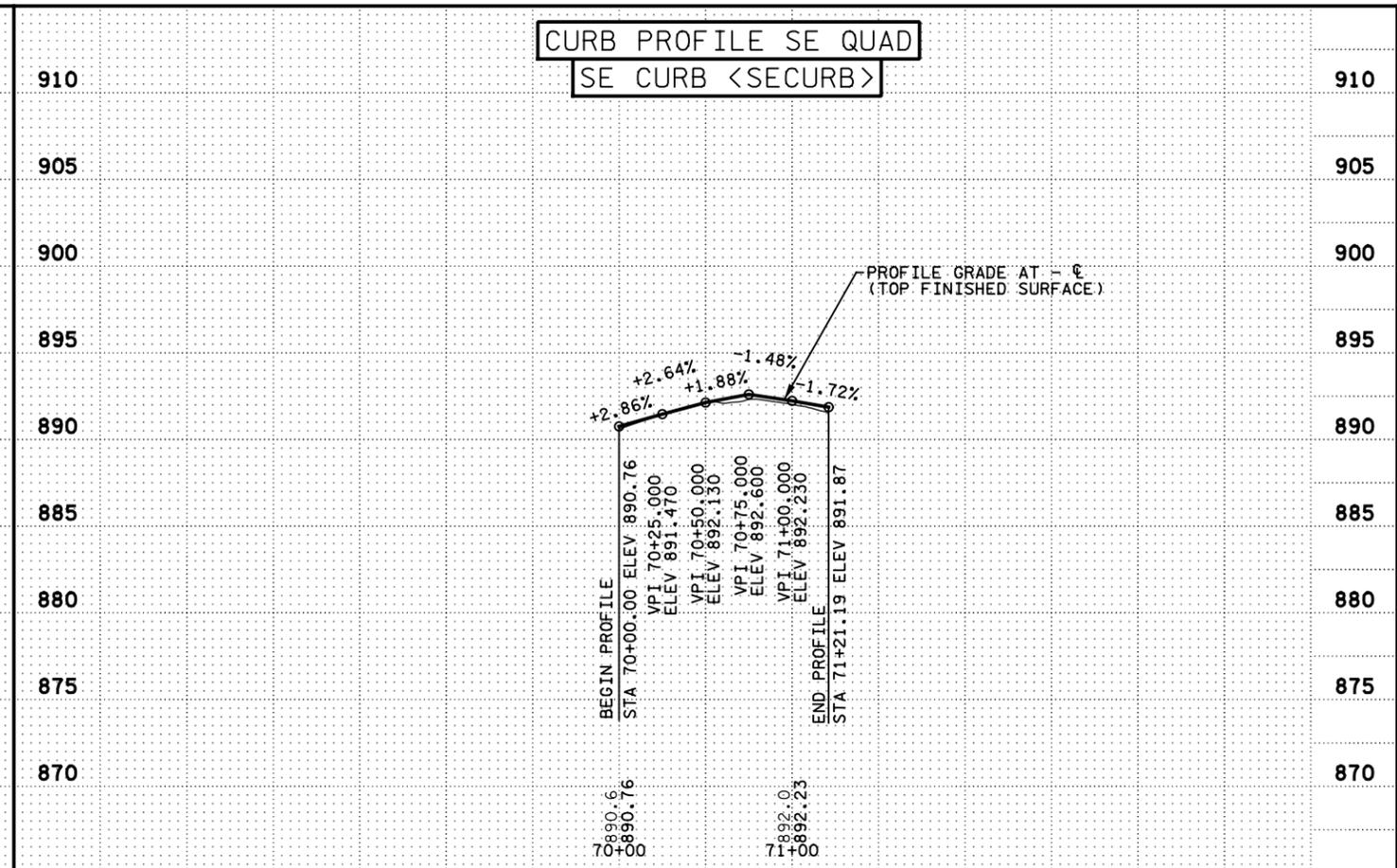
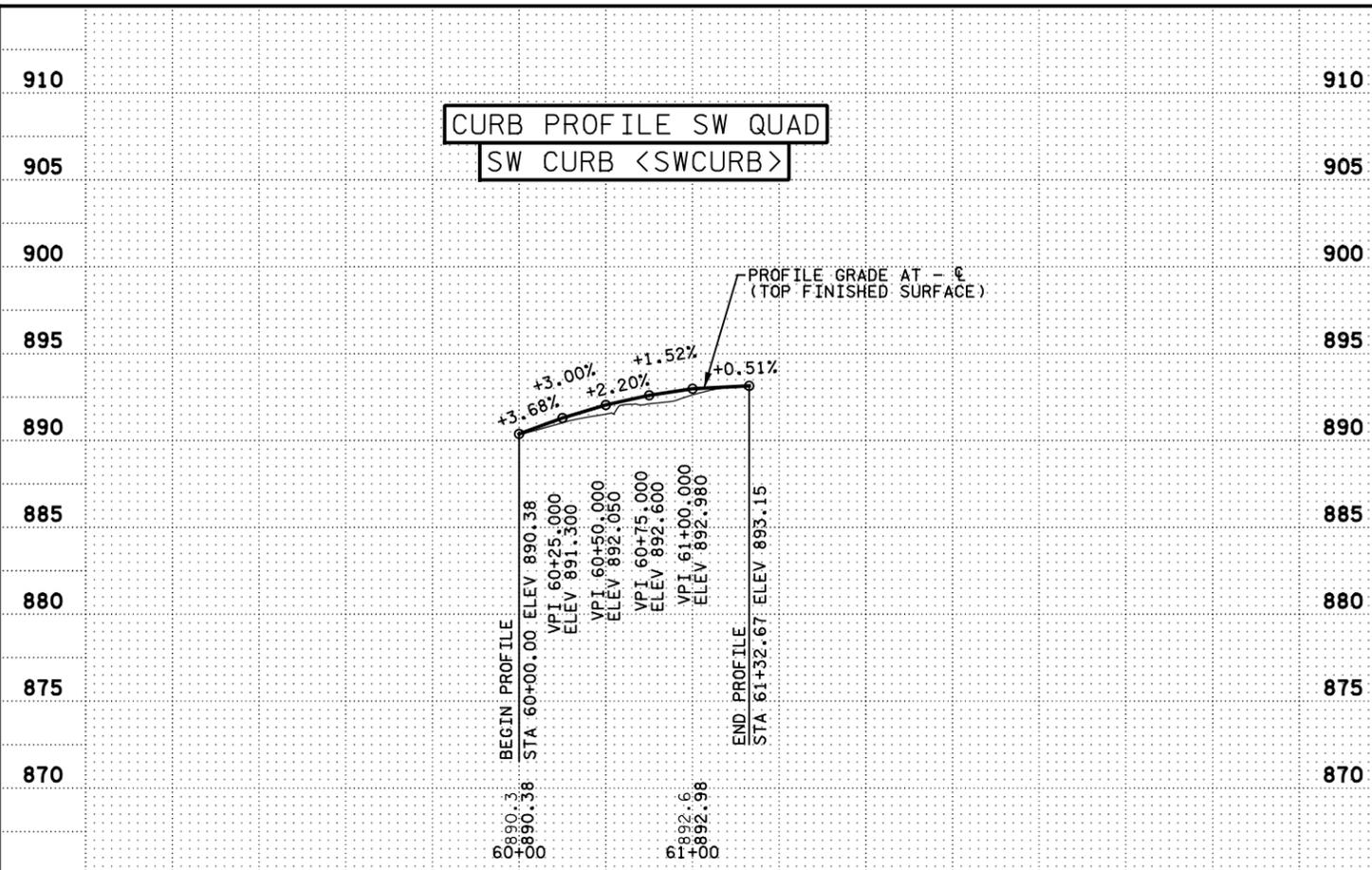
ANOKA COUNTY, MINNESOTA

PROFILES

SP 002-606-013, SP 127-020-034, SP 127-304-002

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Zach Heimer

Date: 06/12/2024 License # 58755

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 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

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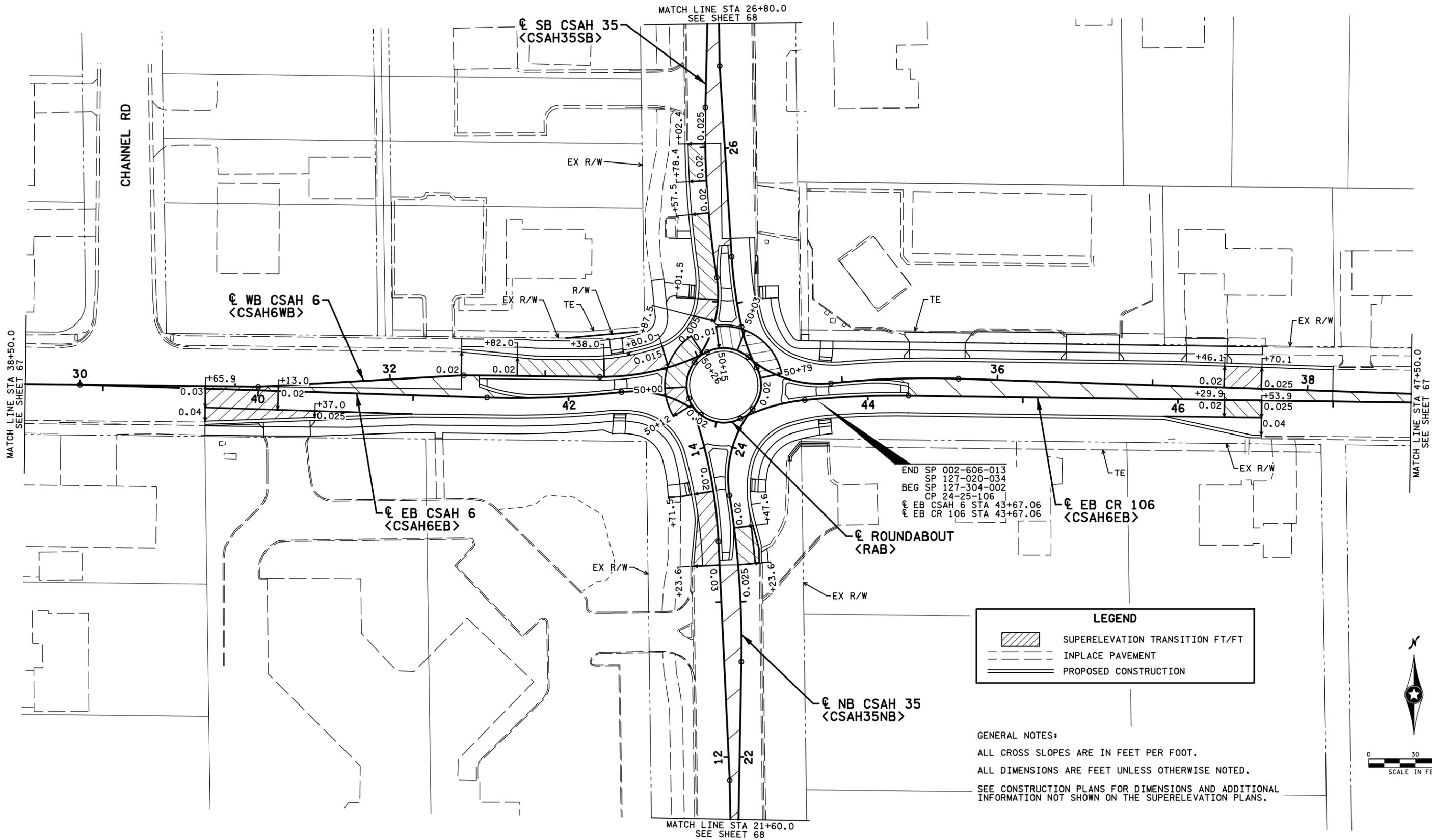


ANOKA COUNTY, MINNESOTA

PROFILES

SP 002-606-013, SP 127-020-034, SP 127-304-002

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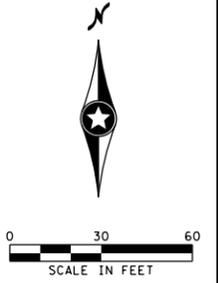


END SP 002-606-013
 SP 127-020-034
 BEG SP 127-304-002
 CP 24-25-106
 E EB CSAH 6 STA 43+67.06
 E EB CR 106 STA 43+67.06

LEGEND

- SUPERELEVATION TRANSITION FT/FT
- INPLACE PAVEMENT
- PROPOSED CONSTRUCTION

GENERAL NOTES:
 ALL CROSS SLOPES ARE IN FEET PER FOOT.
 ALL DIMENSIONS ARE FEET UNLESS OTHERWISE NOTED.
 SEE CONSTRUCTION PLANS FOR DIMENSIONS AND ADDITIONAL INFORMATION NOT SHOWN ON THE SUPERELEVATION PLANS.



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Zach Heimer
 Date: 06/12/2024 License #: 58755

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ANOKA COUNTY, MINNESOTA
 SUPERELEVATION PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

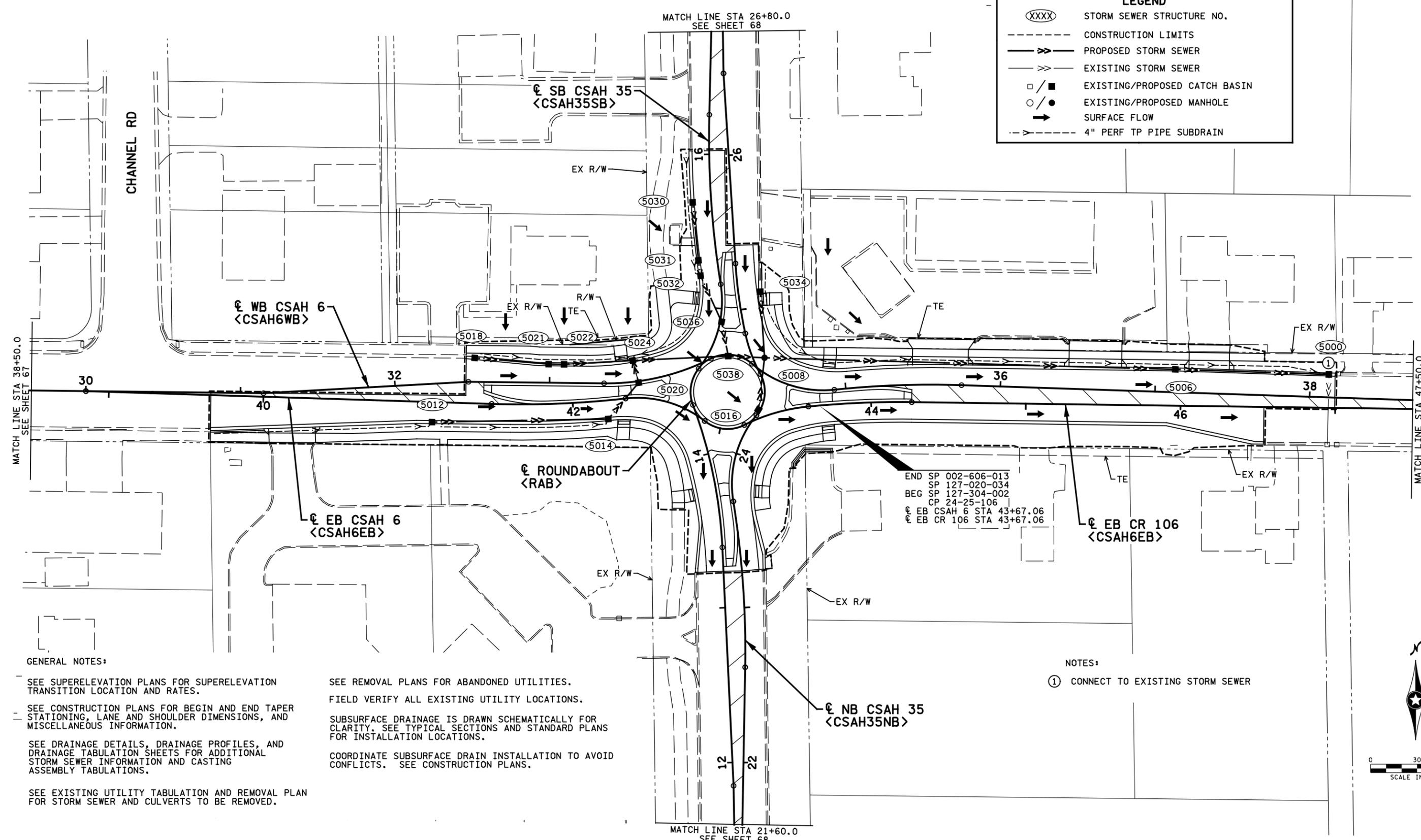
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NO	DATE	BY	CKD	APPR	REVISION

LEGEND

- (XXXX) STORM SEWER STRUCTURE NO.
- - - - CONSTRUCTION LIMITS
- >— PROPOSED STORM SEWER
- - - - EXISTING STORM SEWER
- / ■ EXISTING/PROPOSED CATCH BASIN
- / ● EXISTING/PROPOSED MANHOLE
- SURFACE FLOW
- - - - 4" PERF TP PIPE SUBDRAIN



END SP 002-606-013
 SP 127-020-034
 BEG SP 127-304-002
 CP 24-25-106
 E EB CSAH 6 STA 43+67.06
 E EB CR 106 STA 43+67.06

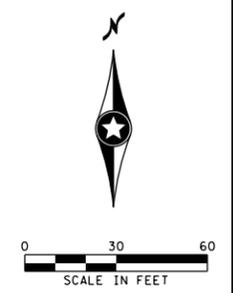
GENERAL NOTES:

- SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITION LOCATION AND RATES.
- SEE CONSTRUCTION PLANS FOR BEGIN AND END TAPER STATIONING, LANE AND SHOULDER DIMENSIONS, AND MISCELLANEOUS INFORMATION.
- SEE DRAINAGE DETAILS, DRAINAGE PROFILES, AND DRAINAGE TABULATION SHEETS FOR ADDITIONAL STORM SEWER INFORMATION AND CASTING ASSEMBLY TABULATIONS.
- SEE EXISTING UTILITY TABULATION AND REMOVAL PLAN FOR STORM SEWER AND CULVERTS TO BE REMOVED.

- SEE REMOVAL PLANS FOR ABANDONED UTILITIES. FIELD VERIFY ALL EXISTING UTILITY LOCATIONS.
- SUBSURFACE DRAINAGE IS DRAWN SCHEMATICALLY FOR CLARITY. SEE TYPICAL SECTIONS AND STANDARD PLANS FOR INSTALLATION LOCATIONS.
- COORDINATE SUBSURFACE DRAIN INSTALLATION TO AVOID CONFLICTS. SEE CONSTRUCTION PLANS.

NOTES:

- ① CONNECT TO EXISTING STORM SEWER



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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ANDREW TOAY

Andrew Toay

Date: 06/12/2024 License #: 56747

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

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ANOKA COUNTY, MINNESOTA

DRAINAGE PLANS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET
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					DRAINAGE TABULATION							J		
FLOWS FROM STR. OR APRON	STRUCTURE LOCATION			FLOWS TO STR. OR APRON	CASTING ASSEMBLY TYPE (1)	NEW STRUCTURE CONSTRUCTION (2)		STEPS REQ'D (3)	PIPE SEWER RC (DESIGN 3006)			POLYSTYRENE INSULATION (4)	CONNECT TO EX. STORM SEWER (5)	NOTES
						4020	SD		15"	18"	21"			
	INLET POINT NO.	ALIGNMENT NAME	STATION			OFFSET FT	OUTLET POINT NO.		48	48	LIN FT			
5000	WB CSAH 6	38+11.94	14.75 L	6000	B - 17		4.0	Y					1	(5) (F)
5006	WB CSAH 6	37+12.65	14.75 L	5000	B - 9		4.5	Y		99				(F)
5008	WB CSAH 6	34+39.23	8.06 L	5006	A - 7D	9.5		Y		266				(F)
5012	EB CSAH 6	41+09.40	12.90 R	5014	B - 9		4.0	Y	114		7.1			(E)
5014	EB CSAH 6	42+21.93	12.00 R	5020	B - 9		3.6		31		7.1			(E)
5016	ROUNDABOUT	50+37.66	1.00 L	5008	B - 8	4.5		Y	34					(6) (E)
5018	WB CSAH 6	32+51.39	15.50 L	5021	B - 9		3.8		48					(E)
5020	WB CSAH 6	33+57.48	1.00 R	5024	B - 8		4.1	Y	15					(E)
5021	WB CSAH 6	32+99.25	12.00 L	5022	B - 9		3.9		10					(E)
5022	WB CSAH 6	33+09.20	12.00 L	5024	B - 9		4.0	Y	44					(E)
5024	WB CSAH 6	33+55.43	13.73 L	5038	B - 17		4.2	Y	62		7.1			(E)
5030	SB CSAH 35	15+69.78	12.00 L	5031	B - 9	4.6		Y	38					(E)
5031	SB CSAH 35	15+32.90	12.00 L	5032	B - 9	4.6		Y	10					(E)
5032	SB CSAH 35	15+23.09	12.01 L	5036	B - 9	4.6		Y	33		7.1			(E)
5034	NB CSAH 35	25+09.93	14.16 R	5008	B - 9	4.6		Y	43					(E)
5036	SB CSAH 35	14+91.64	1.00 R	5038	B - 8	4.6		Y	23					(E)
5038	ROUNDABOUT	50+87.64	1.00 L	5008	B - 9	9.2		Y		23				(E)
SP (E) DRAINAGE SUBTOTAL THIS SHEET					14	36.7	27.6		505	23	28.4			
SP (F) DRAINAGE SUBTOTAL THIS SHEET					3	9.5	8.5			266	99		1	

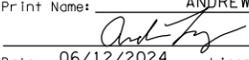
GENERAL NOTES:
 STA., OFFSETS, AND COORDINATES ARE GIVEN TO THE END OF APRON OR CENTER OF CASTING ASSEMBLY
 CASTING SUMP = 0.10 FT FOR CATCH BASIN CASTINGS, AND 0.20 FT FOR DROP INLET CASTINGS. SUMP HAS BEEN INCLUDED IN TOP OF CASTING ELEVATIONS.
 ROTATE STRUCTURES SUCH THAT MAJORITY OF STRUCTURE IS BEHIND CURB LINE UNLESS DIRECTED BY THE ENGINEER OR ALTERNATE ROTATION IS REQUIRED TO AVOID CONFLICTS (SEE DRAINAGE DETAILS).

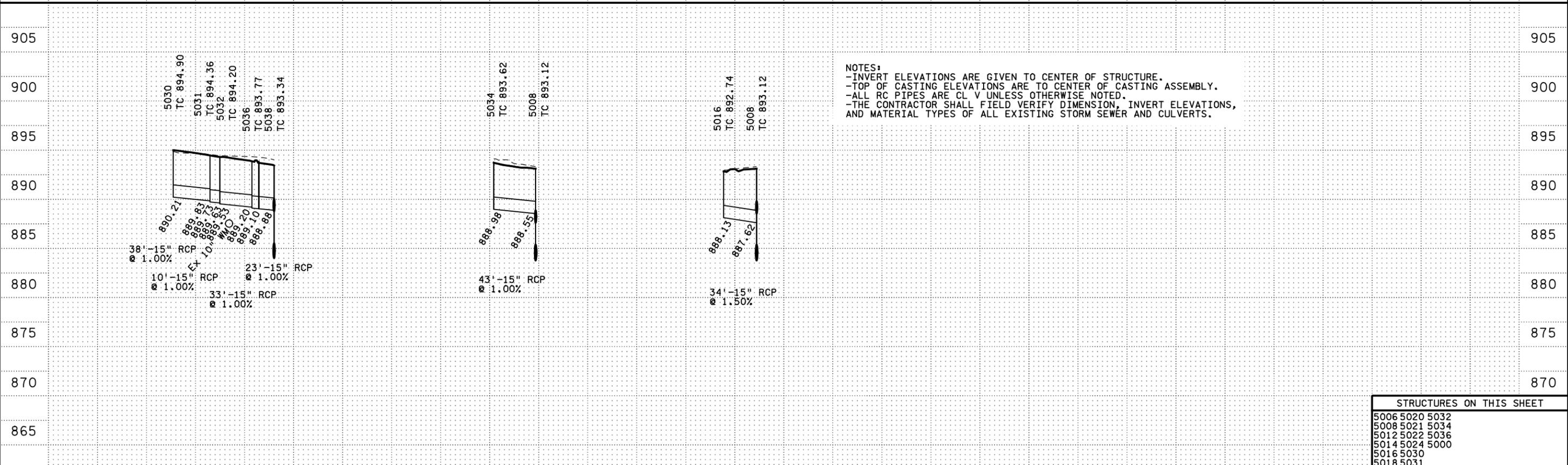
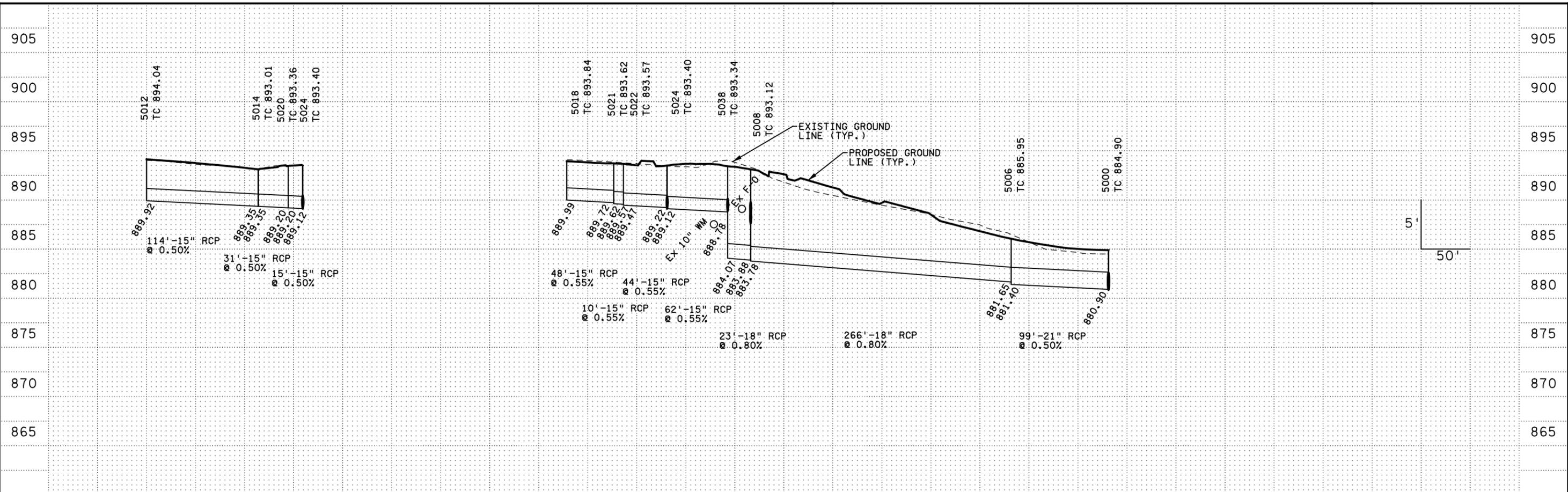
- (1) SEE DRAINAGE DETAILS FOR CASTING KEY AND SUMMARY TABULATION.
 PIPE BEDDING SHALL BE PER MNDOT STANDARD PLAN 5-297.442 UNLESS OTHERWISE NOTED.
 ITEMS IN EACH ROW ARE PAID UNDER THE SP OR SAP AS INDICATED BY THE NOTES BELOW:
 (E) PAID FOR UNDER 54% COUNTY (SP 002-606-013) & 46% CITY (SP 127-020-034)
 (F) PAID FOR UNDER 54% COUNTY (CP 24-25-106) & 46% CITY (SP 127-304-002)
- (2) SEE APPLICABLE MNDOT STANDARD PLATES FOR DETAILS OF DRAINAGE STRUCTURE DESIGN, EXCEPT AS NOTED BELOW.
 STRUCTURE DESIGN SD-XX SHALL BE CONSTRUCTED IN ACCORDANCE WITH MNDOT STD. PLATE 4024 WITH THE FOLLOWING EXCEPTIONS:
 STRUCTURE DIAMETER SHALL BE XX IN. FOR SD-XX AND DEPTH SHALL BE AS REQUIRED IN THE DRAINAGE TABULATION.
 WALL AND BASE SLAB THICKNESS AND ALL REINFORCEMENT SHALL BE IN ACCORDANCE WITH MNDOT STD. PLATE 4020.
 PAY HEIGHTS CALCULATED PER MNDOT SPEC 2506. PAY HEIGHT IS MEASURED AS THE DIFFERENCE IN ELEVATION BETWEEN THE BOTTOM OF THE CASTING AND THE FLOW LINE ELEVATION OF THE OUTLET PIPE, PLUS 0.70 FEET FOR THE DEPTH OF THE CONCRETE BASE.
- (3) STEPS REQUIRED WHEN DEPTH FROM TOP OF CASTING TO STRUCTURE INVERT IS GREATER THAN 4 FT.
- (4) INSULATE ALL CROSSINGS HAVING LESS THAN 2 FT OF CLEARANCE TO WATERMAIN OR 1 FT OF CLEARANCE TO SANITARY SEWER OR STORM SEWER WITH 8 FT x 8 FT x 4 IN POLYSTYRENE INSULATION.
- (5) CONNECT TO EXISTING STORM SEWER. FIELD VERIFY LOCATIONS AND ELEVATIONS.

CASTING ASSEMBLIES SUMMARY						K
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING (K-1)	CURB BOX	STANDARD PLATE NO.	QUANTITY (EACH)	REMARKS
A - 7D	700-7			4101	1	MANHOLE
		715	N/A	4110		
B - 8	805			4132	3	CATCH BASIN
		815	N/A	4153		
B - 9	805			4132	11	CATCH BASIN
		816	N/A	4154		
B - 17	806			4125	2	CATCH BASIN
		816		4154		
			825	4134		
PROJECT TOTALS:					17	

NOTES:
 (K-1) USE BENT BOLT WITH 816 GRATE.

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STRUCTURES ON THIS SHEET	
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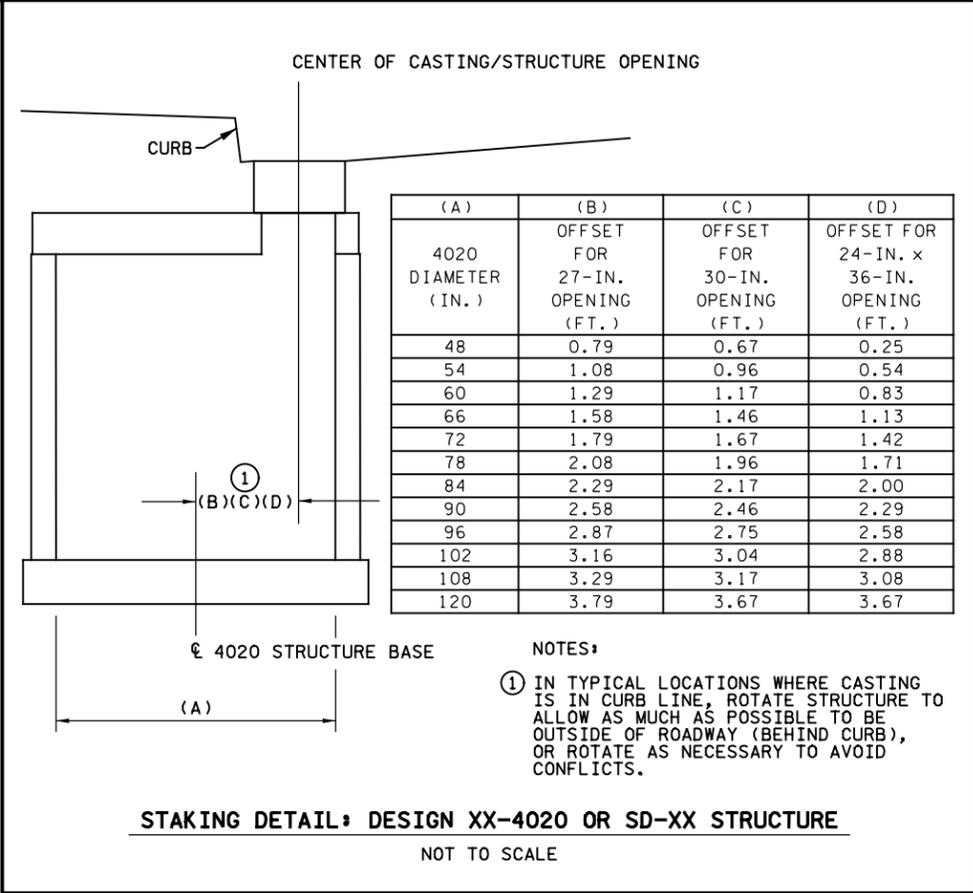
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ANOKA COUNTY, MINNESOTA
 DRAINAGE PROFILES
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 81 OF 102



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Date 06/12/2024 License # 56747

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ANOKA COUNTY, MINNESOTA

DRAINAGE DETAILS

SP 002-606-013, SP 127-020-034, SP 127-304-002

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STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 1 OF 3)

PROJECT DESCRIPTION/LOCATION AND SCOPE

SEE COVER SHEET FOR LOCATION MAP, PROJECT NUMBERS AND DESCRIPTION OF PROJECT SCOPE.

SPECIAL AND IMPAIRED WATERS

THE FOLLOWING SPECIAL/IMPAIRED WATERS ARE LOCATED WITHIN ONE MILE OF THE PROJECT LIMITS AND RECEIVE RUNOFF FROM THE PROJECT SITE.

- EAST MOORE LAKE IS IMPAIRED FOR NUTRIENTS AND HAS AN APPROVED TMDL.
- RICE CREEK IS IMPAIRED FOR FISH AND INVERTEBRATE BIOASSESSMENTS AND HAS AN APPROVED TMDL FOR E. COLI

AREAS OF ENVIRONMENTAL SENSITIVITY

ALL AREAS OF ENVIRONMENTAL SENSITIVITY, INCLUDING WETLANDS, ARE LABELED AS "AREAS OF ENVIRONMENTAL SENSITIVITY" IN THE PLANS.

LONG TERM MAINTENANCE AND OPERATION

MAINTENANCE STAFF FROM CITY OF FRIDLEY ARE RESPONSIBLE FOR THE LONG TERM MAINTENANCE AND OPERATION OF THE PERMANENT STORMWATER SYSTEMS.

SWPPP DEVELOPMENT AND MAINTENANCE

THIS SWPPP WAS PREPARED BY PERSONNEL WHO ARE CERTIFIED IN THE DESIGN OF CONSTRUCTION SWPPPS. COPIES OF THE CERTIFICATIONS ARE AVAILABLE UPON REQUEST.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A CERTIFIED EROSION AND SEDIMENT CONTROL SUPERVISOR WHO SHALL BE RESPONSIBLE FOR FINALIZING, CERTIFYING, AND MAINTAINING THE SWPPP DOCUMENT AND OVERSEEING THE IMPLEMENTATION OF THE SWPPP. SEE PAGE 2 OF THE SWPPP NARRATIVE FOR ADDITIONAL REQUIREMENTS.

IN ADDITION, EACH CONTRACTOR OR SUBCONTRACTOR THAT PLACES EROSION OR SEDIMENT CONTROL DEVICES AS LISTED IN MNDOT SPECIFICATION 2573 SHALL PROVIDE AT LEAST ONE CERTIFIED INSTALLER AS INDICATED IN THE MNDOT SPECIFICATION.

THE SWPPP SHALL BE AMENDED WITHIN 7 DAYS WHEN:

- A. THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASON HAVING A SIGNIFICANT EFFECT ON DISCHARGE OF POLLUTANTS.
 - B. INSPECTIONS INDICATE THE SWPPP IS NOT EFFECTIVE.
 - C. A WATER QUALITY STANDARD CHANGES AND THE MPCA DETERMINES THE SWPPP SHALL BE AMENDED TO COMPLY.
- A DESCRIPTION OF ANY CHANGE TO THE SWPPP, ALONG WITH THE DATE AND NAME OF THE REVISION SHALL BE RECORDED AND INCLUDED WITH THE SWPPP AND RETAINED ON SITE. THE OWNER SHALL RETAIN ALL RECORDS AFTER COMPLETION OF THE PROJECT.

SITE PLANS

THE CONTRACTOR SHALL PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR CONCRETE MANAGEMENT, CONCRETE SLURRY APPLICATION AREAS, WORK IN AND NEAR AREAS OF ENVIRONMENTAL SENSITIVITY, DEWATERING AREAS, AREAS IDENTIFIED AS "SITE MANAGEMENT PLAN AREAS" AND AS REQUESTED BY THE PROJECT ENGINEER. SUBMIT ALL SITE MANAGEMENT PLANS IN WRITING AND ALLOW A MINIMUM OF 10 CALENDAR DAYS FOR REVIEW BY THE PROJECT ENGINEER. WORK SHALL NOT BE ALLOWED TO COMMENCE IF A SITE MANAGEMENT PLAN IS REQUIRED UNTIL ACCEPTANCE HAS BEEN GRANTED BY THE PROJECT ENGINEER.

ENVIRONMENTAL REVIEW

THE REQUIREMENTS OF COON CREEK WATERSHED DISTRICT AND THE CITY OF FRIDLEY ARE SATISFIED BY THE TEMPORARY MEASURES INCLUDED. THERE ARE NO ADDITIONAL STORMWATER MITIGATION MEASURES REQUIRED AS A RESULT OF AN ENVIRONMENTAL, ARCHAEOLOGICAL OR AGENCY REVIEW.

DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA), EMERGENCY RESPONSE AREA (ERA) AND KARST REGIONS
THE PROJECT IS LOCATED WITHIN A DWSMA WITH VULNERABILITY DESIGNATED AS MEDIUM

SOIL TYPES

SOIL TYPES FOUND ON THIS PROJECT ARE PREDOMINANTLY SANDY URBAN SOILS. LOAMY SAND.

SEE SPECIAL PROVISIONS FOR ADDITIONAL WATER RELATED PERMITS SUCH AS WATERSHED DISTRICT PERMITS, WETLAND PERMITS, ARMY CORPS OF ENGINEERS OR DNR PUBLIC WATERS WORK PERMIT.

FOR PUBLIC WATERS IN WHICH THE DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" NO WORK SHALL OCCUR IN LAKES FROM APRIL 1 - JUNE 30, IN NON-TROUT STREAMS FROM MARCH 15 - JUNE 15 OR IN TROUT STREAMS FROM SEPTEMBER 1 - APRIL 1. SEE DNR PERMIT FOR ADDITIONAL INFORMATION.

LAND FEATURE CHANGES

- TOTAL DISTURBED AREA: 1.30 ACRES
- TOTAL EXISTING IMPERVIOUS SURFACE AREA: 1.21 ACRES
- TOTAL PROPOSED IMPERVIOUS SURFACE AREA: 1.07 ACRES
- TOTAL PROPOSED NET CHANGE IN IMPERVIOUS SURFACE AREA: -0.15 ACRES

PROJECT CONTACTS

THE OWNER AND CONTRACTOR ARE RESPONSIBLE FOR THE IMPLEMENTATION OF THE SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs BEFORE, DURING AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION HAS BEEN FILED.

ORGANIZATION	CONTACT NAME	PHONE
CITY OF FRIDLEY	JIM KOSLUCHAR	763-572-3550
ANOKA COUNTY	CHRIS OSTERHUS	763-324-3189
MINNESOTA DEPARTMENT OF NATURAL RESOURCES	PATTY FOWLER	612-708-7732
MINNESOTA POLLUTION CONTROL AGENCY	JOSH NORMAN	651-757-2389
RICE CREEK WATERSHED DISTRICT	PATRICK HUGHES	763-398-3080
MNDOT RESIDENT ENGINEER	JASON SWENSON	651-234-7539
SRF WATER RESOURCES (OR SWPPP DESIGNER)	ANDREW TOAY	763-475-0010

MPCA DUTY OFFICER 24 HOUR EMERGENCY NOTIFICATION: 651-649-5451
800-422-0798

LOCATION OF SWPPP REQUIREMENTS

THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MANY PLACES WITHIN THE PLAN SET AS WELL AS IN THE SPECIAL PROVISIONS, MNDOT SPEC BOOK (2020 EDITION), CONSTRUCTION DIARIES OR ON FILE WITH THE PROJECT OWNER. THE NOTES AND TABLE BELOW ARE INTENDED TO BE A QUICK REFERENCE FOR THE CONTRACTOR AND PROJECT ENGINEER TO USE IN THE FIELD. THERE MAY BE ADDITIONAL REQUIRED SWPPP ELEMENTS INCLUDED ON THE PROJECT THAT ARE NOT LISTED ON THIS SHEET. IN ADDITION, THE MINNESOTA NPDES/SDS CONSTRUCTION STORMWATER GENERAL PERMIT (NPDES PERMIT) SHOULD BE REVIEWED AND CONSULTED BY THE EROSION AND SEDIMENT CONTROL SUPERVISOR.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	LOCATION
TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND STAGING	SHEET NOS. 87
PERMANENT EROSION AND SEDIMENT CONTROL MEASURES	SHEET NOS. 87
DIRECTION OF FLOW	SHEET NOS. 79
FINAL STABILIZATION	SHEET NOS. 87
SOILS AND CONSTRUCTION NOTES	SHEET NOS. 7
DRAINAGE STRUCTURES	SHEET NOS. 79
DRAINAGE TABULATION	SHEET NOS. 80
STORM SEWER PROFILE SHEETS	SHEET NOS. 81
STORM SEWER TABULATION	SHEET NOS. 80
EROSION AND SEDIMENT CONTROL DETAILS	SHEET NOS. NA
EROSION CONTROL TABULATION	SHEET NOS. 9
TURF ESTABLISHMENT TABULATION	SHEET NOS. 9
STATEMENT OF ESTIMATED QUANTITIES	SHEET NOS. 3
WATER RESOURCES NOTES	SHEET NOS. NA

SITE MAPS AND DESIGN CALCULATIONS

IN ADDITION TO WHAT IS LOCATED WITHIN THIS PLAN, SITE MAPS AND BMP DESIGN CALCULATIONS ARE AVAILABLE UPON REQUEST. PLEASE CONTACT THE PROJECT ENGINEER WITH ANY QUESTIONS REGARDING THE SITE MAPS OR CALCULATIONS.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: ANDREW TOAY
Andrew Toay
Date: 06/12/2024 License #: 56747

STATE PROJECT NO. 002-606-013
STATE PROJECT NO. 127-020-034
STATE PROJECT NO. 127-304-002
COUNTY PROJECT NO. 24-25-106

DRAWN BY NEG
DESIGNED BY NEG
CHECKED BY AET
COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
STORMWATER POLLUTION PREVENTION PLAN
SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 83 OF 102

NO	DATE	BY	CKD	APPR	REVISION

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STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 2 OF 3)

GENERAL SWPPP NOTES FOR CONSTRUCTION ACTIVITY

1. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION STORMWATER PERMIT AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA (MPCA WEBSITE USING E-SERVICES). THE CONTRACTOR SHALL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP SHALL BE IMPLEMENTED AND STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE, THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, AND THE NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA. THE SWPPP MUST BE AVAILABLE ON SITE, OR ELECTRONICALLY, DURING NORMAL WORKING HOURS WITH PERSONNEL WHO HAVE OPERATIONAL CONTROL OVER THE APPLICABLE PORTION OF THE SITE, INCLUDING ALL CHANGES TO THE SWPPP, INSPECTIONS, AND MAINTENANCE RECORDS.
2. THE CONTRACTOR SHALL PREPARE A WRITTEN, NOT ORAL, WEEKLY SCHEDULE OF PROPOSED EROSION CONTROL ACTIVITIES FOR THE PROJECT ENGINEER'S APPROVAL AS PER MNDOT SPEC. 1717.2.
3. BURNING OF ANY MATERIAL IS NOT ALLOWED WITHIN PROJECT BOUNDARY.
4. THE CONTRACTOR SHALL PLACE STABILIZED CONSTRUCTION EXITS, AS NECESSARY, TO PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES AND IN COMPLIANCE WITH THE NPDES PERMIT. STABILIZED CONSTRUCTION EXITS SHALL BE SUFFICIENTLY SIZED AND MAINTAINED TO PREVENT TRACK OUT. IF STABILIZED CONSTRUCTION EXITS ALONE DON'T PROVIDE ADEQUATE PREVENTION OF SEDIMENT TRACKING, STREET SWEEPING MUST BE USED IN ADDITION. STABILIZED CONSTRUCTION EXITS SHALL BE INCIDENTAL.
5. ALL TOPSOIL IN DISTURBED AREAS SHALL BE REMOVED AND STOCKPILED FOR LATER PLACEMENT. AVOID COMPACTION AS MUCH AS IS FEASIBLE IN ALL AREAS WHERE COMPACTION IS NOT REQUIRED FOR CONSTRUCTION. COMPACTION SHALL BE AVOIDED IN ALL AREAS DESIGNATED FOR INFILTRATION.
6. DO NOT DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS OBTAIN WRITTEN PERMISSION PRIOR TO PROCEEDING. PRESERVE ALL BUFFERS (IF ANY) SHOWN ON THE PLANS.
7. DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS AND ROUTE STORMWATER AROUND UNSTABILIZED AREAS OF THE SITE WHENEVER POSSIBLE. PROVIDE EROSION CONTROL AND VELOCITY DISSIPATION DEVICES AS NEEDED TO PREVENT EROSION AND NUISANCE CONDITIONS.
8. PROVIDE STABILIZATION IN ANY TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES.
9. TEMPORARY DEWATERING ACTIVITIES MAY BE REQUIRED. THEREFORE, IT IS POSSIBLE THAT A PERMIT FOR THE TEMPORARY APPROPRIATION OF WATERS OF THE STATE FROM MNDNR SHALL BE REQUIRED FOR THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THIS PERMIT IF REQUIRED (FORMS ARE AVAILABLE FROM THE MNDNR WEBSITE). ALL TEMPORARY DEWATERING SHALL BE DISCHARGED TO AN APPROVED LOCATION FOR TREATMENT PRIOR TO DISCHARGE TO THE RECEIVING WATER. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT SITE MANAGEMENT PLANS TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK ACCORDING TO SPEC 1717.2. FOR ANY DEWATERING ACTIVITIES THAT LAST LONGER THEN A FEW MINUTES, VISUAL INSPECTION AND PHOTOGRAPHS MUST BE TAKEN AT THE START OF DEWATERING ACTIVITIES, AND AT LEAST ONCE EVERY 24 HOURS DURING OPERATION. IF NUISANCE CONDITIONS RESULT FROM THE DISCHARGE, DEWATERING ACTIVITIES MUST CEASE IMMEDIATELY AND CORRECTIVE ACTIONS MUST OCCUR BEFORE DEWATERING CAN RESUME. TEMPORARY DEWATERING SHALL BE INCIDENTAL.
10. BASIN DRAINING ACTIVITIES OF TURBID OR SEDIMENT LADEN WATER SHALL BE DISCHARGED TO TEMPORARY SEDIMENT BASINS WHENEVER POSSIBLE. IN THE EVENT THAT IT IS NOT POSSIBLE TO DISCHARGE THE SEDIMENT LADEN WATER TO A TEMPORARY SEDIMENT BASIN THE WATER SHALL BE TREATED SO THAT IT DOES NOT CAUSE A NUISANCE CONDITION IN THE RECEIVING WATERS OR TO DOWNSTREAM LANDOWNERS.
11. IT IS NOT ANTICIPATED THAT POLYMERS, FLOCCULANTS OR OTHER SEDIMENTATION TREATMENT CHEMICALS SHALL BE USED. HOWEVER, IF THE USE OF SUCH CHEMICALS BECOMES NECESSARY TO COMPLY WITH PERMIT REQUIREMENTS, IT SHALL BE IN ACCORDANCE WITH THE NPDES PERMIT.
12. CONSTRUCTION PHASING MUST INCORPORATE STORMWATER MANAGEMENT PRINCIPLES AS THE CONSTRUCTION PROGRESSES. UNLESS INFEASIBLE, TEMPORARY OR PERMANENT WET SEDIMENTATION BASINS SHOULD BE CONSTRUCTED IN FIRST CONSTRUCTION PHASE AND STORMWATER ROUTED TO THOSE BASINS.

POLLUTION PREVENTION NOTES

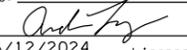
1. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS REGARDING POLLUTION PREVENTION MANAGEMENT DURING CONSTRUCTION, WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, PROVIDING THE FOLLOWING (ITEMS LISTED ARE INCIDENTAL):
 - A. WASHOUT AREAS FOR CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS FOR USE BY ALL SUBCONTRACTORS AND MATERIAL TESTING PERSONNEL. LOCATION OF WASHOUT AREAS SHALL BE IDENTIFIED BY SIGNAGE AND SHALL BE AT LEAST 200 FT FROM SITE MANAGEMENT PLAN REQUIREMENT AREAS (IF APPLICABLE) OR AREAS OF ENVIRONMENTAL SENSITIVITY, AND UTILIZE A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER THAT PREVENTS RUNOFF ONTO ADJACENT SOILS. AN ENGINEERED COLLECTION SYSTEM CAN ALSO BE USED IF IT IS APPROVED BY THE PROJECT ENGINEER.
 - B. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE PROJECT ENGINEER FOR A CHEMICAL STORAGE AREA AND SHALL DESIGNATE AN AREA FOR FUELING AND MINOR MAINTENANCE OF CONSTRUCTION VEHICLES (INCLUDING WASHING) WITH MEANS TO CAPTURE ANY FUEL SPILLS. RUNOFF SHALL BE CONTAINED IN A TEMPORARY SEDIMENT BASIN OR OTHER EFFECTIVE CONTROL AND ALL WASTE GENERATED SHALL BE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE.
 - C. SOLID WASTE COLLECTION AND REMOVAL
 - D. SECONDARY CONTAINMENT FOR STORAGE OF HAZARDOUS MATERIALS
 - E. SECURED HAZARDOUS WASTE STORAGE CONTAINERS
 - F. CHEMICAL SPILL KITS (SHALL BE PROVIDED AT EACH LOCATION WHERE CHEMICALS ARE USED OR STORED AND ANY LOCATION WHERE VEHICLES ARE FUELED OR MAINTAINED).
 - G. PORTABLE RESTROOM FACILITIES THAT ARE ANCHORED TO PREVENT TIPPING

POLLUTION PREVENTION NOTES (CONT.)

2. CHEMICALS SHALL BE KEPT IN A SECURE STORAGE AREA WITH RESTRICTED ACCESS IN SEALED CONTAINERS WHEN NOT IN USE. RETURN ALL CHEMICALS TO THE DESIGNATED STORAGE AREA BY THE END OF THE DAY UNLESS INFEASIBLE. CHEMICAL STORAGE CONTAINERS SHALL HAVE SECONDARY CONTAINMENT WHEN BEING USED OR STORED ON THE PROJECT SITE, AND PRODUCTS OR CHEMICALS THAT MAY LEACH POLLUTANTS SHALL BE UNDER COVER (PLASTIC SHEETING OR TEMPORARY ROOF). CHEMICAL SPILLS OF ANY KIND (OIL, FUEL, FERTILIZER, ETC.) SHALL BE CLEANED UP AND REMOVED FROM THE SITE IMMEDIATELY. THE CONTRACTOR SHALL HAVE A SPILL KIT ON SITE AT ALL TIMES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING AND FOLLOWING A WRITTEN DISPOSAL PLAN FOR ALL HAZARDOUS WASTE MATERIALS. THE PLAN SHALL INCLUDE HOW THE MATERIAL SHALL BE DISPOSED OF AND THE LOCATION OF THE DISPOSAL SITE AND SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO WORK ON SITE. LEAKS, SPILLS, OR OTHER RELEASES SHALL BE RESPONDED TO IN ACCORDANCE WITH MPCA SPILL CONTAINMENT AND REMEDIAL ACTION PROCEDURES.
4. THE CONTRACTOR SHALL USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS GRINDINGS, CUTTINGS, MILLINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS, AND ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.
5. THE CONTRACTOR SHALL USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT CONCRETE DUST, PARTICLES, SAW CUT SLURRY, PLANING WASTE AND OTHER CONCRETE WASTES FROM LEAVING PUBLIC RIGHT OF WAY, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS OR ENTERING STORMWATER CONVEYANCE SYSTEM INCLUDING INLETS AND CURB FLOW LINES. ONSITE RELEASE OF CONCRETE SLURRY IS PERMISSIBLE IF MINNESOTA POLLUTION CONTROL GUIDANCE FOR ROAD CONSTRUCTION CONCRETE SLURRY AND THE REQUIREMENTS OF THE SPECIAL PROVISIONS ARE FOLLOWED.

EROSION CONTROL SUPERVISOR, INSPECTIONS AND MAINTENANCE NOTES

1. IN ACCORDANCE WITH SPEC. 2573.3 A1, THE CONTRACTOR SHALL PROVIDE A CERTIFIED EROSION CONTROL SUPERVISOR IN GOOD STANDING WHO IS KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS. PROVIDE PROOF OF CERTIFICATION (UNIVERSITY OF MINNESOTA - CONSTRUCTION SITE MANAGEMENT) AT THE PRECONSTRUCTION MEETING. WORK SHALL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED. THE EROSION CONTROL SUPERVISOR IS INCIDENTAL.
2. THE EROSION CONTROL SUPERVISOR SHALL WORK WITH THE PROJECT ENGINEER TO OVERSEE THE IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE, DURING AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA.
3. THE EROSION CONTROL SUPERVISOR IS RESPONSIBLE FOR COMPLYING WITH ALL THE INSPECTION AND MAINTENANCE REQUIREMENTS STATED IN THE NPDES PERMIT. INSPECTIONS OF THE ENTIRE CONSTRUCTION SITE SHALL OCCUR A MINIMUM OF ONCE EVERY SEVEN DAYS (3 DAYS FOR PROHIBITED WATERS) DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS (IN NO CASE SHALL THE TIME BETWEEN INSPECTIONS EXCEED 7 DAYS; 3 DAYS FOR PROHIBITED WATERS). RAINFALL AMOUNTS SHALL BE OBTAINED USING A PROPERLY MAINTAINED RAIN GAUGE ONSITE OR BY A WEATHER STATION THAT IS WITHIN ONE MILE. THE EROSION CONTROL SUPERVISOR SHALL THOROUGHLY INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS TO ENSURE INTEGRITY AND EFFECTIVENESS OF EACH BMP.
4. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION SHALL BE RECORDED IN WRITING WITHIN 24 HOURS AND THESE RECORDS SHALL BE RETAINED WITH THE SWPPP. INSPECTION REPORTS SHALL BE SUBMITTED TO THE PROJECT ENGINEER AND SWPPP DESIGNER IN A FORMAT APPROVED BY THE ENGINEER. INSPECTION RECORDS SHALL INCLUDE:
 - A. DATE AND TIME OF INSPECTIONS;
 - B. NAME OF PERSONS CONDUCTING INSPECTIONS;
 - C. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS;
 - D. CORRECTIVE ACTIONS TAKEN INCLUDING DATES, TIMES, AND THE PARTY COMPLETING MAINTENANCE ACTIVITIES;
 - E. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCH IN 24 HOURS;
 - F. LOCATION, DESCRIPTION AND PHOTO OF ANY DISCHARGES OFF THE PROJECT SITE.
 - G. DOCUMENTS AND CHANGES MADE TO THE SWPPP.
 - H. ALL PHOTOGRAPHS OF DEWATERING ACTIVITIES AND DOCUMENTATION OF NUISANCE CONDITIONS.
5. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS (INSPECTIONS MAY BE REDUCED UNDER CERTAIN CONDITIONS AS COVER IS ESTABLISHED AND CONDITIONS CHANGE AS DESCRIBED IN THE NPDES PERMIT):
 - A. SILT FENCE SHALL BE REPAIRED, REPLACED OR SUPPLEMENTED WHEN IT BECOMES NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT OF THE SILT FENCE.
 - B. INLET PROTECTION DEVICES SHOULD BE REPAIRED WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT AND/OR DEPTH OF THE DEVICE.
 - C. TEMPORARY SEDIMENT BASINS SHALL HAVE THE SEDIMENT REMOVED ONCE THE SEDIMENT HAS REACHED 1/2 THE STORAGE VOLUME WITHIN 72 HOURS OF DISCOVERY.
 - D. REMOVE ANY SEDIMENT DEPOSITED IN SURFACE WATERS. SEDIMENT SHALL BE REMOVED AND ANY AREA DISTURBED BY THE REMOVAL RESTABILIZED WITHIN 7 DAYS OF DISCOVERY. A SITE MANAGEMENT PLAN IS REQUIRED FOR WORK IN ANY SURFACE WATER AND APPROPRIATE AUTHORITIES SHALL BE CONTACTED PRIOR TO COMMENCING WORK.
 - E. TRACKED SEDIMENT SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OF TRACKING ONTO PAVED SURFACES.
 - F. ALL NONFUNCTIONAL BMPS SHALL BE REPAIRED, REPLACED, OR SUPPLEMENTED BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY (UNLESS NOTED OTHERWISE ABOVE).
 - G. REINSTALL AS QUICKLY AS POSSIBLE ANY BMP REMOVED TO ACCOMMODATE SHORT TERM ACTIVITIES.
 - H. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION, AND THE NOTICE OF TERMINATION HAS BEEN SUBMITTED TO THE MPCA IN ACCORDANCE WITH THE NPDES PERMIT. SEDIMENT REMOVAL AND MAINTENANCE OF BMPS IS INCIDENTAL.
6. CLEAN OUT ALL PERMANENT STORMWATER BASINS REGARDLESS OF WHETHER USED AS A TEMPORARY SEDIMENT BASIN OR SEDIMENT TRAP TO THE DESIGN CAPACITY AFTER ALL UPGRADIENT LAND DISTURBING ACTIVITY IS COMPLETED.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ANDREW TOAY

 Date: 06/12/2024 License #: 56747

STATE PROJECT NO. 002-606-013	DRAWN BY NEG
STATE PROJECT NO. 127-020-034	DESIGNED BY NEG
STATE PROJECT NO. 127-304-002	CHECKED BY AET
COUNTY PROJECT NO. 24-25-106	COMM. NO. 16588



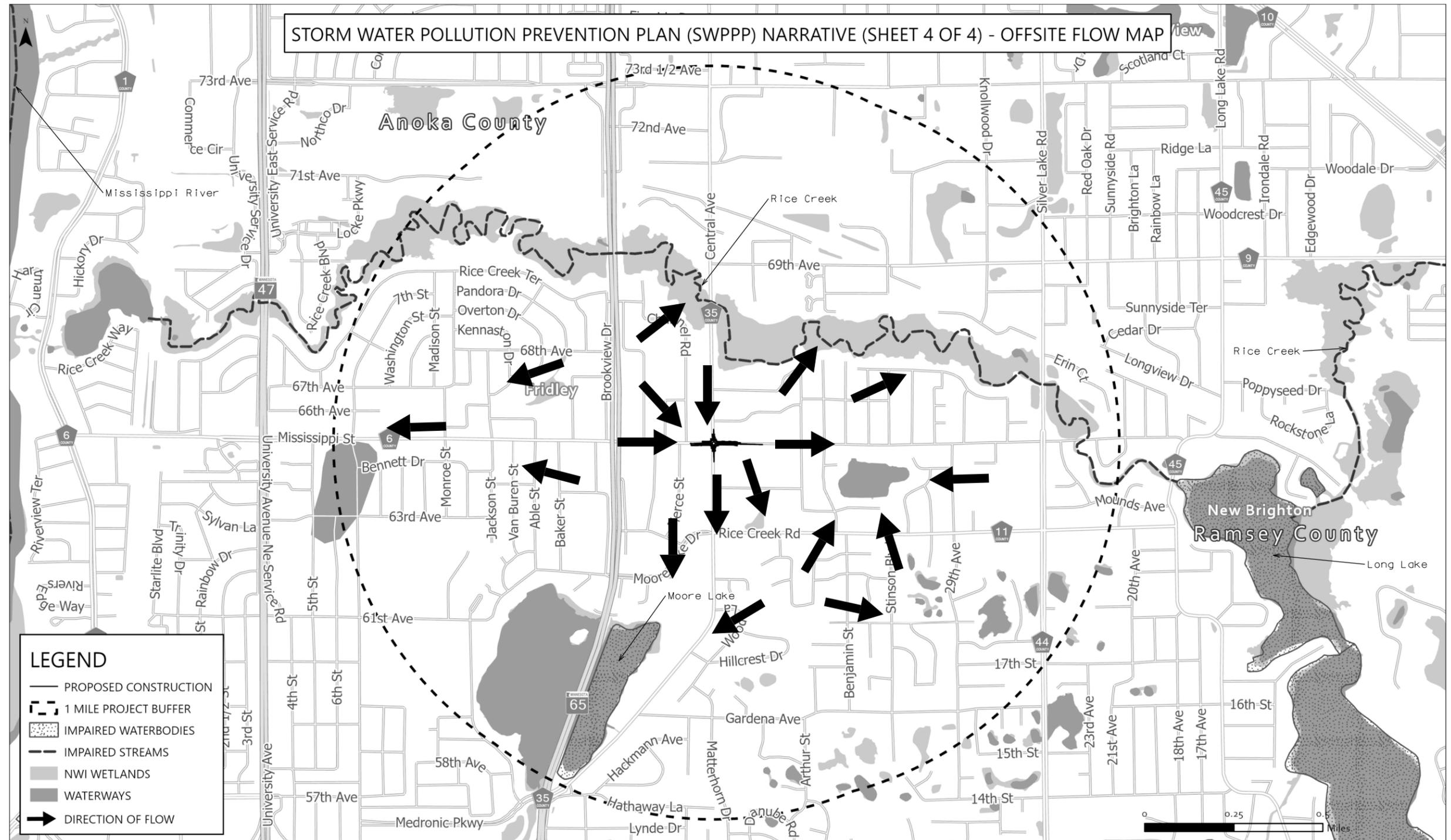
ANOKA COUNTY, MINNESOTA
 STORMWATER POLLUTION PREVENTION PLAN
 SP 002-606-013, SP 127-020-034, SP 127-304-002

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STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 4 OF 4) - OFFSITE FLOW MAP



LEGEND

- PROPOSED CONSTRUCTION
- - - 1 MILE PROJECT BUFFER
- ▨ IMPAIRED WATERBODIES
- - - IMPAIRED STREAMS
- ▨ NWI WETLANDS
- ▨ WATERWAYS
- ➔ DIRECTION OF FLOW

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NO	DATE	BY	CKD	APPR	REVISION

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: **ANDREW TOAY**

Andrew Toay

Date: 06/12/2024 License #: 56747

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 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

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 DESIGNED BY: NEG
 CHECKED BY: AET
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA

STORMWATER POLLUTION PREVENTION PLAN

SP 002-606-013, SP 127-020-034, SP 127-304-002

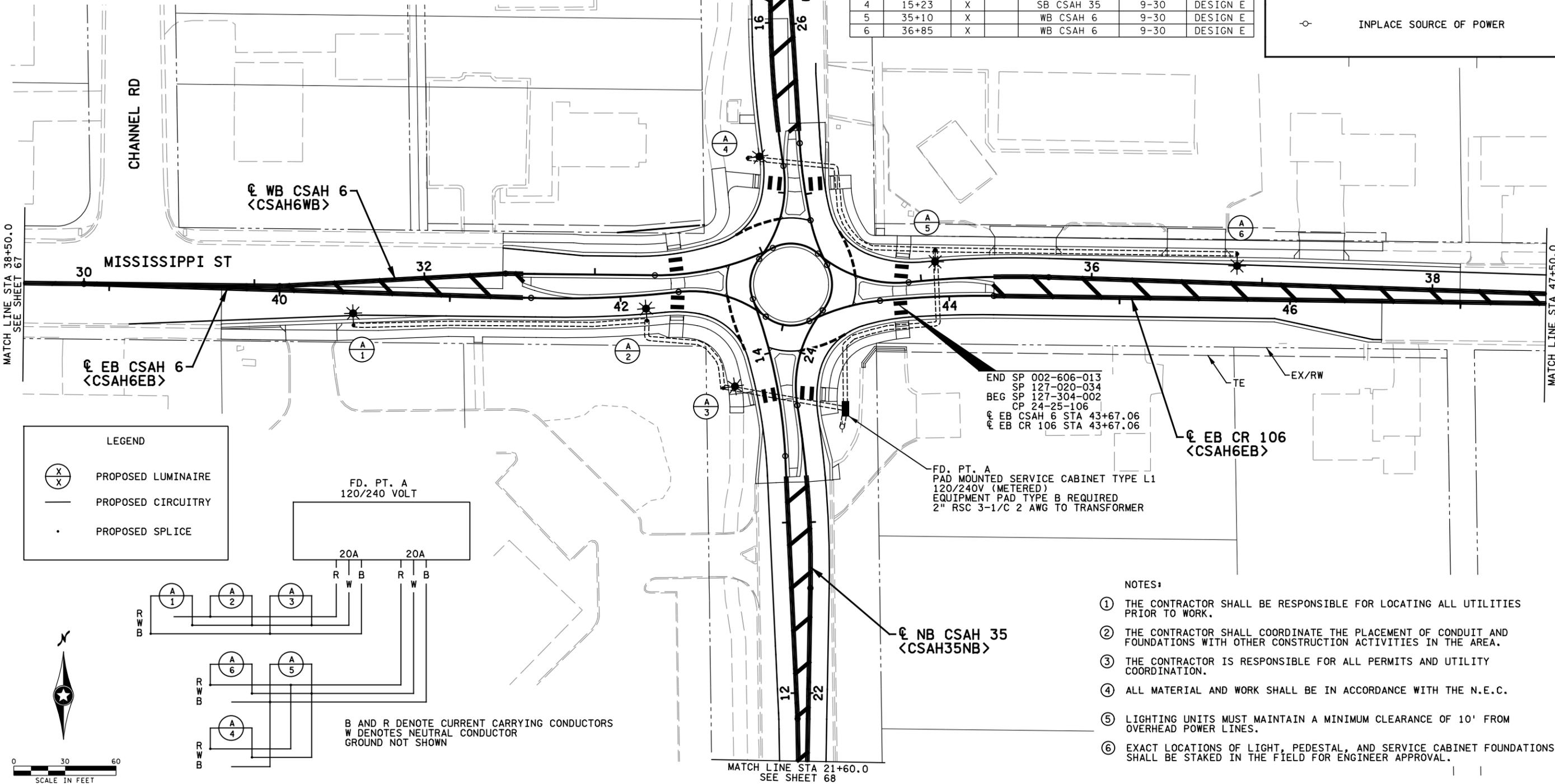
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STREET LIGHTING TABULATION			U
ITEM	ITEM DESCRIPTION	UNIT	TOTAL
2545.502	LIGHTING UNIT TYPE 9-30	EACH	6
2545.502	LIGHTING FOUNDATION DESIGN E	EACH	6
2545.502	SERVICE CABINET - TYPE 1	EACH	1
2545.502	EQUIPMENT PAD B	EACH	1
2545.503	2" RIGID STEEL CONDUIT	LIN FT	11
2545.503	1.5" NON-METALLIC CONDUIT	LIN FT	779
2545.503	UNDERGROUND WIRE 1/C 2 AWG	LIN FT	170
2545.503	UNDERGROUND WIRE 1/C 8 AWG	LIN FT	3512

FEEDPOINT A						
LIGHTING STANDARDS AND FOUNDATIONS						
NO.	STATION	LT	RT	LOCATION	TYPE	FOUNDATION
1	40+44		X	EB CSAH 6	9-30	DESIGN E
2	42+14		X	EB CSAH 6	9-30	DESIGN E
3	13+85	X		SB CSAH 35	9-30	DESIGN E
4	15+23	X		SB CSAH 35	9-30	DESIGN E
5	35+10	X		WB CSAH 6	9-30	DESIGN E
6	36+85	X		WB CSAH 6	9-30	DESIGN E

LEGEND

- LIGHTING UNIT TYPE 9-30
- 1.5" NMC WITH 3-1 8 AWG AND 1-1/2 8 AWG GR. (UNLESS OTHERWISE NOTED)
- SERVICE PEDESTAL CABINET TYPE L1
- INPLACE SOURCE OF POWER

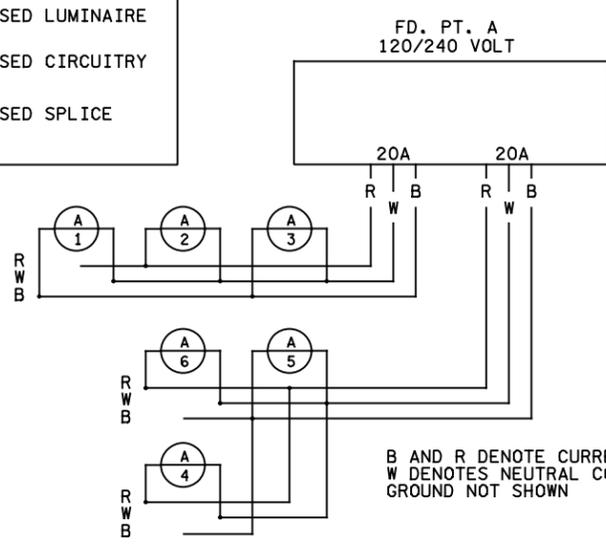


END SP 002-606-013
 SP 127-020-034
 BEG SP 127-304-002
 CP 24-25-106
 <EB CSAH 6 STA 43+67.06
 <EB CR 106 STA 43+67.06

FD. PT. A
 PAD MOUNTED SERVICE CABINET TYPE L1
 120/240V (METERED)
 EQUIPMENT PAD TYPE B REQUIRED
 2" RSC 3-1/2 2 AWG TO TRANSFORMER

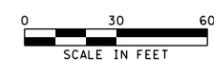
LEGEND

- PROPOSED LUMINAIRE
- PROPOSED CIRCUITRY
- PROPOSED SPLICE



B AND R DENOTE CURRENT CARRYING CONDUCTORS
 W DENOTES NEUTRAL CONDUCTOR
 GROUND NOT SHOWN

- NOTES:
- ① THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO WORK.
 - ② THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF CONDUIT AND FOUNDATIONS WITH OTHER CONSTRUCTION ACTIVITIES IN THE AREA.
 - ③ THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND UTILITY COORDINATION.
 - ④ ALL MATERIAL AND WORK SHALL BE IN ACCORDANCE WITH THE N.E.C.
 - ⑤ LIGHTING UNITS MUST MAINTAIN A MINIMUM CLEARANCE OF 10' FROM OVERHEAD POWER LINES.
 - ⑥ EXACT LOCATIONS OF LIGHT, PEDESTAL, AND SERVICE CABINET FOUNDATIONS SHALL BE STAKED IN THE FIELD FOR ENGINEER APPROVAL.



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota.
 Print Name: STEVE MCHENRY
 Date: 06/12/2024 License #: 46710

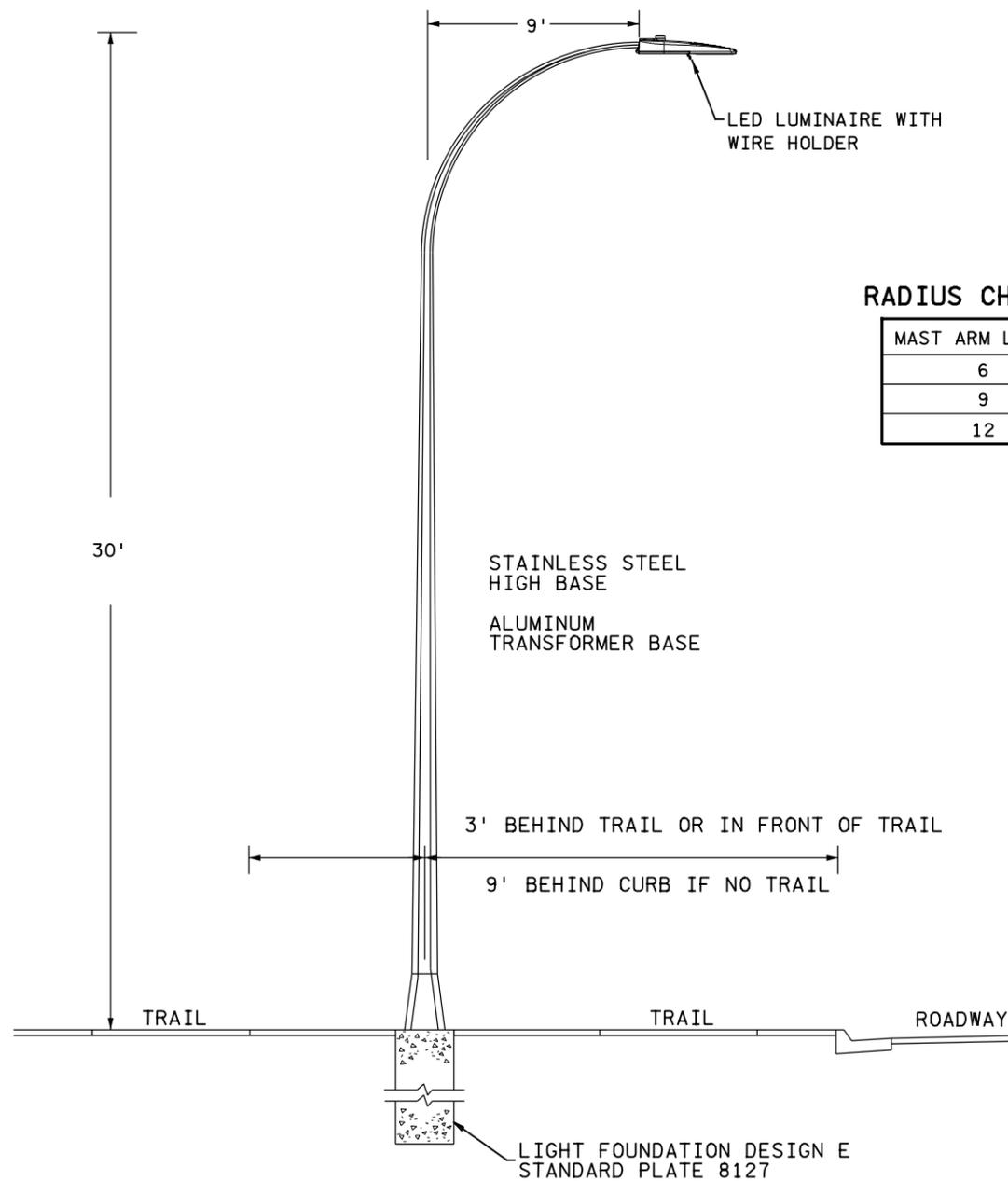
STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY R. THORNG
 DESIGNED BY R. THORNG
 CHECKED BY S. MCHENRY
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 LIGHTING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

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RADIUS CHART (ENGLISH)

MAST ARM LENGTH	RADIUS
6	5
9	8
12	10

**LIGHTING UNIT TYPE 9-30
PLACEMENT DETAIL**
(NON-BREAKAWAY, NOT TO SCALE)

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota.
 Print Name: STEVE MCHENRY
Steve Mchenry
 Date: 06/12/2024 License # 46710

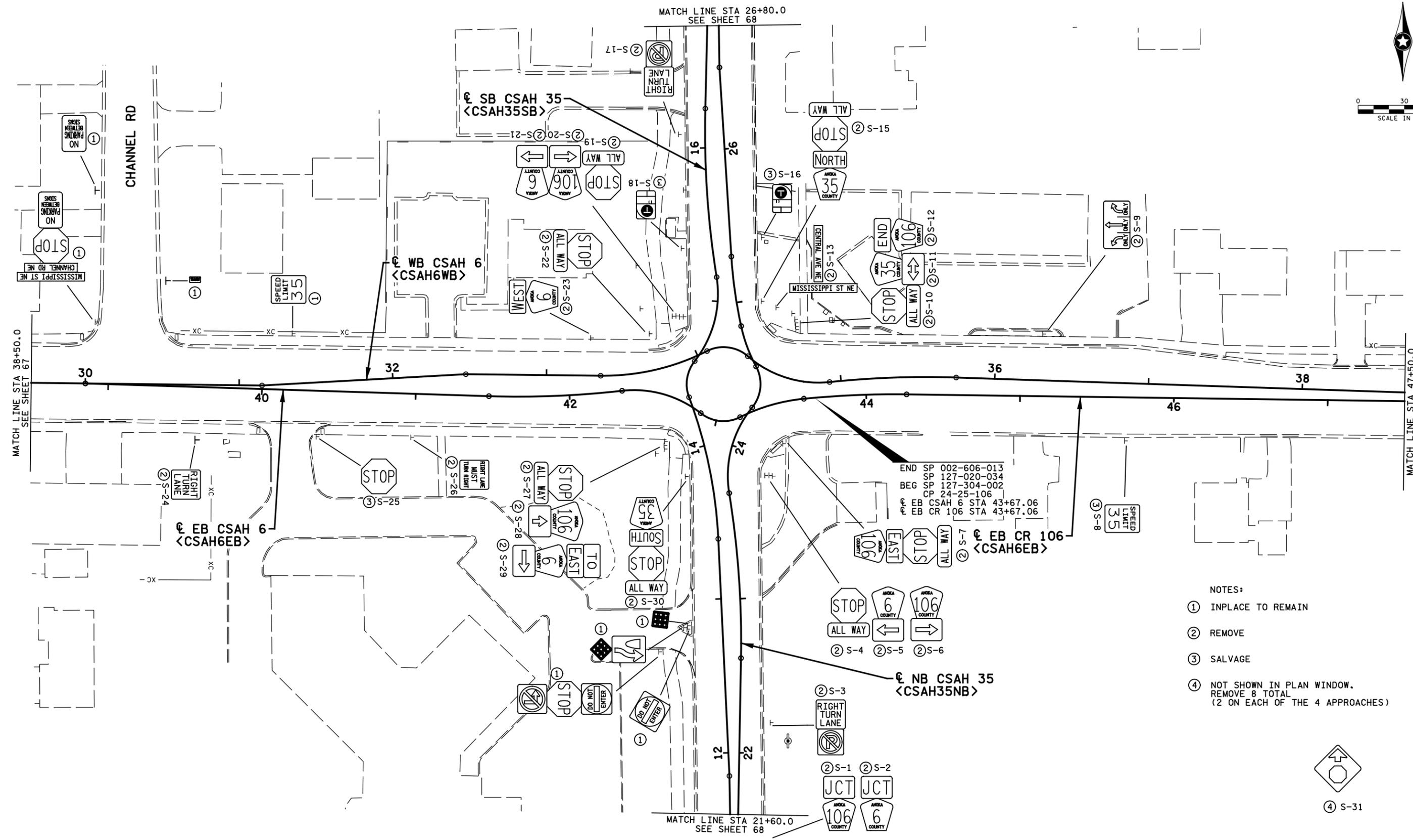
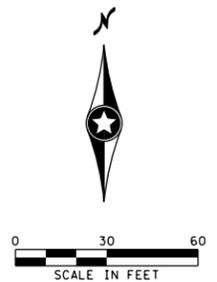
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 COUNTY PROJECT NO.
24-25-106

DRAWN BY
R. THORNG
 DESIGNED BY
R. THORNG
 CHECKED BY
S. MCHENRY
 COMM. NO. 16588



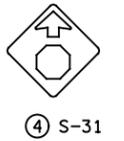
ANOKA COUNTY, MINNESOTA
 LIGHTING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET
89
OF
102



END SP 002-606-013
 SP 127-020-034
 BEG SP 127-304-002
 CP 24-25-106
 EB CSAH 6 STA 43+67.06
 EB CR 106 STA 43+67.06

- NOTES:
- ① INPLACE TO REMAIN
 - ② REMOVE
 - ③ SALVAGE
 - ④ NOT SHOWN IN PLAN WINDOW.
REMOVE 8 TOTAL
(2 ON EACH OF THE 4 APPROACHES)



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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA

SIGNING REMOVAL PLANS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 90 OF 102

SIGN AND DELINEATOR / MARKER

SIGN NUMBER	PANEL				SUPPORT		REMOVE SIGN	SIGN	SALVAGE SIGN	INSTALL SIGN	DELINEATOR / MARKER PANEL
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE (3)	NUMBER OF POSTS					
			INCHES	FEET							
(A) S-1	M2-1	JCT (COLOR)	x				1				
	M1-6M	ANOCA COUNTY 106	x								
(A) S-2	M2-1	JCT (COLOR)	x				1				
	M1-6M	ANOCA COUNTY 6	x								
(A) S-3	R3-7R	RIGHT LANE MUST TURN RIGHT	x				1				
	R8-3	NO PARKING	x								
(A) S-4	R1-1	STOP	x				1				
	R1-3P	ALL WAY PLAQUE	x								
(A) S-5	M1-6M	ANOCA COUNTY 6	x				1				
	M6-1L	ARROW LEFT (COLOR)	x								
(A) S-6	M1-6M	ANOCA COUNTY 106	x				1				
	M6-1R	ARROW RIGHT (COLOR)	x								
(A) S-7	R1-1	STOP	x				1				
	R1-3P	ALL WAY PLAQUE	x								
	M3-2	EAST (COLOR)	x								
	M1-6M	ANOCA COUNTY 106	x								
(C) S-8	R2-8	SPEED LIMIT 35 MPH	24 x 30						1	1	
(C) S-9	R3-8ACA	L-T-R	x				1				
(A) S-10	R1-1	STOP	x				1				
	R1-3P	ALL WAY PLAQUE	x								
(A) S-11	M1-6M	ANOCA COUNTY 35	x				1				
	M6-4	DOUBLE ARROW (COLOR)	x								
(A) S-12	M4-6	END (COLOR)	x				1				
	M1-6M	ANOCA COUNTY 106	x								
(A) S-13		CENTRAL AVE NE	x				1				
		MISSISSIPPI ST NE	x								
S-14	NOT USED										
(A) S-15	R1-1	STOP	x				1				
	R1-3P	ALL WAY PLAQUE	x								
	M3-1	NORTH (COLOR)	x								
	M1-6M	ANOCA COUNTY 35	x								
(A) S-16		METRO TRANSIT BUS STOP	x						1	1	
(A) S-17	R3-7R	RIGHT LANE MUST TURN RIGHT	x				1				
	R8-3	NO PARKING	x								
(A) S-18		METRO TRANSIT BUS STOP	x						1	1	
(A) S-19	R1-1	STOP	x				1				
	R1-3P	ALL WAY PLAQUE	x								
(A) S-20	M1-6M	ANOCA COUNTY 106	x				1				
	M6-1L	ARROW LEFT (COLOR)	x								
(A) S-21	M1-6M	ANOCA COUNTY 6	x				1				
	M6-1R	ARROW RIGHT (COLOR)	x								
(A) S-22	R1-1	STOP	x				1				
	R1-3P	ALL WAY PLAQUE	x								
(A) S-23	M3-4	WEST (COLOR)	x				1				
	M1-6M	ANOCA COUNTY 6	x								
(A) S-24	R3-7R	RIGHT LANE MUST TURN RIGHT	x				1				
(A) S-25	R1-1	STOP	36 x 36						1	1	
(A) S-26	R3-7R	RIGHT LANE MUST TURN RIGHT	x				1				
(A) S-27	R1-1	STOP	x				1				
	R1-3P	ALL WAY PLAQUE	x								
(A) S-28	M1-6M	ANOCA COUNTY 106	x				1				
	M6-3	ARROW UP (COLOR)	x								
	M4-5	TO (COLOR)	x								
(A) S-29	M3-2	EAST (COLOR)	x				1				
	M1-6M	ANOCA COUNTY 6	x								
	M6-1R	ARROW RIGHT (COLOR)	x								
(A) S-30	R1-1	STOP	x				1				
	R1-3P	ALL WAY PLAQUE	x								
	M3-3	SOUTH (COLOR)	x								
	M1-6M	ANOCA COUNTY 35	x								
(A)(C) S-31	W3-1	STOP AHEAD	x				8				
	M3-4	WEST (COLOR)	24 x 12						2.00		
(A) S-32	M1-6M	ANOCA COUNTY 6	24 x 24	7	U-SOIL	1			4.00		
	M5-3	CURVED STEM (COLOR)	21 x 15						2.19		

SPECIFIC NOTE(S):
 (1) MOUNT BACK TO BACK.
 (2) INSTALL WITH OBJECT MARKER OM1-2

FUNDING NOTES:
 (A) 100% COUNTY (SP 002-606-013)
 (C) 100% COUNTY (CP 24-25-106)

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 06/12/2024 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOCA COUNTY, MINNESOTA
 SIGNING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002
 SIGNING TABULATION

SHEET
 91
 OF
 102

SIGN AND DELINEATOR / MARKER

SIGN NUMBER	PANEL					SUPPORT		REMOVE SIGN	SIGN	SALVAGE SIGN	INSTALL SIGN	DELINEATOR / MARKER PANEL
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE (3)	NUMBER OF POSTS						
			INCHES	FEET								
(A) S-33	M3-2	EAST (COLOR)	24 x 12	7	U-SOIL	1		2.00				
	M1-6M	ANOKA COUNTY 106	24 x 24					4.00				
	M6-2R	ARROW RIGHT (COLOR)	21 x 15					2.19				
(A) S-34	W3-2	YIELD AHEAD	30 x 30	7	U-SOIL	1		6.25				
(A) S-35	W16-8P	STREET NAME PLAQUE (MISSISSIPPI ST)	30 x 8	7	U-SOIL	1		1.67				
	W2-6	ROUNDABOUT	30 x 30					6.25				
	W13-1P	15 MPH PLAQUE	18 x 18					2.25				
(A) S-36	R8-3	NO PARKING	24 x 24	7	U-SOIL			4.00				
(1)(2)(A) S-37	R3-4	NO U-TURN	24 x 24	7	S-CONC	1		4.00				
	R4-7	KEEP RIGHT	24 x 30					5.00				
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18									
(A) S-38	R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	U-SOIL	1		3.00			1	
(A) S-39	R6-1R	ONE WAY RIGHT	36 x 12	7	U-SOIL	1		3.00				
	R1-2	YIELD	36 x 36 x 36					3.90				
(A) S-40	M3-2	EAST (COLOR)	24 x 12	7	U-SOIL	1		2.00				
	M1-6M	ANOKA COUNTY 106	24 x 24					4.00				
	M6-2R	ARROW RIGHT (COLOR)	21 x 15					2.19				
(C) S-41	W11-2	PEDESTRIAN CROSSING	30 x 30	7	U-SOIL	1		6.25				
	W16-7PL	DOWN ARROW LEFT PLAQUE (COLOR)	24 x 12					2.00				
(C) S-42	M3-2	EAST (COLOR)	24 x 12	7	U-SOIL	1		2.00				
	M1-6M	CR 106	24 x 24					4.00				
	R8-3	NO PARKING	24 x 24					4.00				
(C) S-43	M3-3	SOUTH (COLOR)	24 x 12	7	U-SOIL	1		2.00				
	M1-6M	ANOKA COUNTY 35	24 x 24					4.00				
	M5-3	CURVED STEM (COLOR)	21 x 15					2.19				
(C) S-44	M3-1	NORTH (COLOR)	24 x 12	7	U-SOIL	1		2.00				
	M1-6M	ANOKA COUNTY 35	24 x 24					4.00				
	M6-2R	ARROW RIGHT (COLOR)	21 x 15					2.19				
(C) S-45	W3-2	YIELD AHEAD	30 x 30	7	U-SOIL	1		6.25				
(C) S-46	W16-8P	STREET NAME PLAQUE (CENTRAL AVE)	30 x 8	7	U-SOIL	1		1.67				
	W2-6	ROUNDABOUT	30 x 30					6.25				
	W13-1P	15 MPH PLAQUE	18 x 18					2.25				
(1)(2)(C) S-47	R3-4	NO U-TURN	24 x 24	7	S-CONC	1		4.00				
	R4-7	KEEP RIGHT	24 x 30					5.00				
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18									
(C) S-48	R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	U-SOIL	1		3.00			1	
(A) S-49	R6-1R	ONE WAY RIGHT	36 x 12	7	U-SOIL	1		3.00				
	R1-2	YIELD	36 x 36 x 36					3.90				
(A) S-50	M3-1	NORTH (COLOR)	24 x 12	7	U-SOIL	1		2.00				
	M1-6M	ANOKA COUNTY 35	24 x 24					4.00				
	M6-2R	ARROW RIGHT (COLOR)	21 x 15					2.19				
(A) S-51	W11-2	PEDESTRIAN CROSSING	30 x 30	7	U-SOIL	1		6.25				
	W16-7PL	DOWN ARROW LEFT PLAQUE (COLOR)	24 x 12					2.00				
(A) S-52	M3-1	NORTH (COLOR)	24 x 12	7	U-SOIL	1		2.00				
	M1-6M	ANOKA COUNTY 35	24 x 24					4.00				
	M3-2	EAST (COLOR)	24 x 12					2.00				
(A) S-53	M1-6M	ANOKA COUNTY 106	24 x 24	7	U-SOIL	1		4.00				
	M5-3	CURVED STEM (COLOR)	21 x 15					2.19				
	M3-4	WEST (COLOR)	24 x 12					2.00				
(A) S-54	M1-6M	ANOKA COUNTY 6	24 x 24	7	U-SOIL	1		4.00				
	M6-2R	ARROW RIGHT (COLOR)	21 x 15					2.19				
	W3-2	YIELD AHEAD	30 x 30					6.25				
(A) S-56	W16-8P	STREET NAME PLAQUE (MISSISSIPPI ST)	30 x 8	7	U-SOIL	1		1.67				
	W2-6	ROUNDABOUT	30 x 30					6.25				
	W13-1P	15 MPH PLAQUE	18 x 18					2.25				
(A) S-57	R8-3	NO PARKING	24 x 24	7	U-SOIL			4.00				
	R3-4	NO U-TURN	24 x 24					4.00				
	R4-7	KEEP RIGHT	24 x 30					5.00				
(1)(2)(A) S-58	OM1-2	TYPE 1 OBJECT MARKER	18 x 18	7	S-CONC	1					1	
	R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36									
	R6-1R	ONE WAY RIGHT	36 x 12					3.00				
(A) S-59	R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	U-SOIL	1		3.00				
(A) S-60	R6-1R	ONE WAY RIGHT	36 x 12	7	U-SOIL	1		3.00				
	R1-2	YIELD	36 x 36 x 36					3.90				

SPECIFIC NOTE(S):
 (1) MOUNT BACK TO BACK.
 (2) INSTALL WITH OBJECT MARKER OM1-2

FUNDING NOTES:
 (A) 100% COUNTY (SP 002-606-013)
 (C) 100% COUNTY (CP 24-25-106)

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NO	DATE	BY	CKD	APPR	REVISION
	01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. REVISED CONCRETE MOUNTING

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ZACHARIAH F. HEIMER
Zach Heimer
 Date: 01/07/2025 License #: 58755

STATE PROJECT NO. 002-606-013
 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 SIGNING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002
 SIGNING TABULATION

SHEET
92R
OF
102

SIGN AND DELINEATOR / MARKER											S
SIGN NUMBER	PANEL				SUPPORT		REMOVE SIGN	SIGN	SALVAGE SIGN	INSTALL SIGN	DELINEATOR / MARKER PANEL
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE (3)	NUMBER OF POSTS					
			INCHES	FEET							
							EACH	SQ FT	EACH	EACH	EACH
(A) S-61	M3-4	WEST (COLOR)	24 x 12	7	U-SOIL	1		2.00			
	M1-6M	ANOKA COUNTY 6	24 x 24					4.00			
	M6-2R	ARROW RIGHT (COLOR)	21 x 15					2.19			
(A) S-62	W11-2	PEDESTRIAN CROSSING	30 x 30	7	U-SOIL	1		6.25			
	W16-7PL	DOWN ARROW LEFT PLAQUE (COLOR)	24 x 12	7				2.00			
(A) S-63	M3-4	WEST (COLOR)	24 x 12	7	U-SOIL	1		2.00			
	M1-6M	ANOKA COUNTY 6	24 x 24					4.00			
	M3-1	NORTH (COLOR)	24 x 12					2.00			
(A) S-64	M1-6M	ANOKA COUNTY 35	24 x 24	7	U-SOIL	1		4.00			
	M5-3	CURVED STEM (COLOR)	21 x 15					2.19			
	M3-3	SOUTH (COLOR)	24 x 12					2.00			
(A) S-65	M1-6M	ANOKA COUNTY 35	24 x 24	7	U-SOIL	1		4.00			
	M6-2R	ARROW RIGHT (COLOR)	21 x 15					2.19			
	W3-2	YIELD AHEAD	30 x 30					7			
(A) S-67	W16-8P	STREET NAME PLAQUE (CENTRAL AVE)	30 x 8	7	U-SOIL	1		1.67			
	W2-6	ROUNDBOUT	30 x 30					6.25			
	W13-1P	15 MPH PLAQUE	18 x 18					2.25			
(1)(2)(A) S-68	R3-4	NO U-TURN	24 x 24	7	S-CONC	1		4.00			
	R4-7	KEEP RIGHT	24 x 30					5.00			
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18					4			
(A) S-69	R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	U-SOIL	1		3.00			
(A) S-70	R6-1R	ONE WAY RIGHT	36 x 12	7	U-SOIL	1		3.00			
	R1-2	YIELD	36 x 36 x 36					3.90			
(A) S-71	M3-3	SOUTH (COLOR)	24 x 12	7	U-SOIL	1		2.00			
	M1-6M	ANOKA COUNTY 35	24 x 24					4.00			
	M6-2R	ARROW RIGHT (COLOR)	21 x 15					2.19			
(A) S-72	W11-2	PEDESTRIAN CROSSING	30 x 30	7	U-SOIL	1		6.25			
	W16-7PL	DOWN ARROW LEFT PLAQUE (COLOR)	24 x 12	7				2.00			
(A) S-73	M3-3	SOUTH (COLOR)	24 x 12	7	U-SOIL	1		2.00			
	M1-6M	ANOKA COUNTY 35	24 x 24					4.00			
SP 002-606-013 & SP 127-020-034 TOTAL							30	246	3	3	3
SP 127-304-002 TOTAL							3	63	1	1	1
PROJECT TOTAL							33	309	4	4	4

SPECIFIC NOTE(S):
 (1) MOUNT BACK TO BACK.
 (2) INSTALL WITH OBJECT MARKER OM1-2

FUNDING NOTES:
 (A) 100% COUNTY (SP 002-606-013)
 (C) 100% COUNTY (CP 24-25-106)

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01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. REVISED CONCRETE MOUNTING
NO	DATE	BY	CKD	APPR
				REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: ZACHARIAH F. HEIMER

Zach Heimer

Date: 01/07/2025 License #: 58755

STATE PROJECT NO. 002-606-013
 DRAWN BY S. MARTINS

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 DESIGNED BY Z. HEIMER

STATE PROJECT NO. 127-304-002
 CHECKED BY K. JULLIE

COUNTY PROJECT NO. 24-25-106
 COMM. NO. 16588



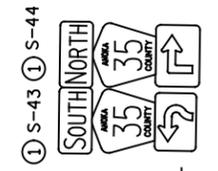
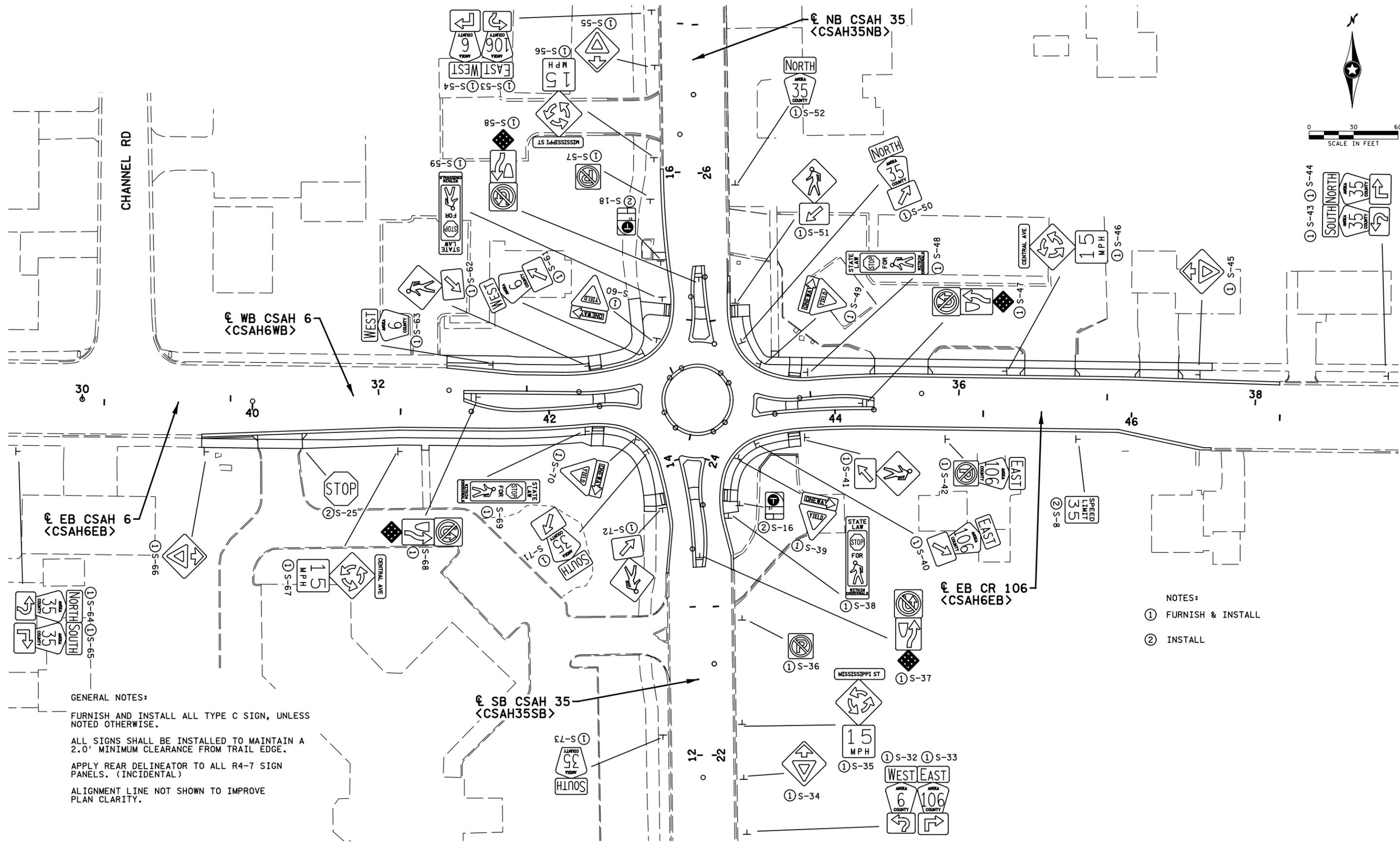
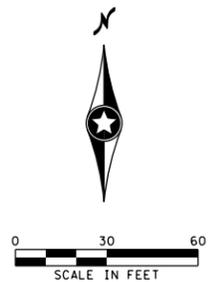
ANOKA COUNTY, MINNESOTA

SIGNING PLANS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SIGNING TABULATION

SHEET
93R
OF
102



- NOTES:
- ① FURNISH & INSTALL
 - ② INSTALL

GENERAL NOTES:

- FURNISH AND INSTALL ALL TYPE C SIGN, UNLESS NOTED OTHERWISE.
- ALL SIGNS SHALL BE INSTALLED TO MAINTAIN A 2.0' MINIMUM CLEARANCE FROM TRAIL EDGE.
- APPLY REAR DELINEATOR TO ALL R4-7 SIGN PANELS. (INCIDENTAL)
- ALIGNMENT LINE NOT SHOWN TO IMPROVE PLAN CLARITY.

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NO	DATE	BY	CKD	APPR	REVISION

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Zach Heimer

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STATE PROJECT NO. 002-606-013

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COUNTY PROJECT NO. 24-25-106

DRAWN BY S. MARTINS

DESIGNED BY Z. HEIMER

CHECKED BY K. JULLIE

COMM. NO. 16588



ANOKA COUNTY, MINNESOTA

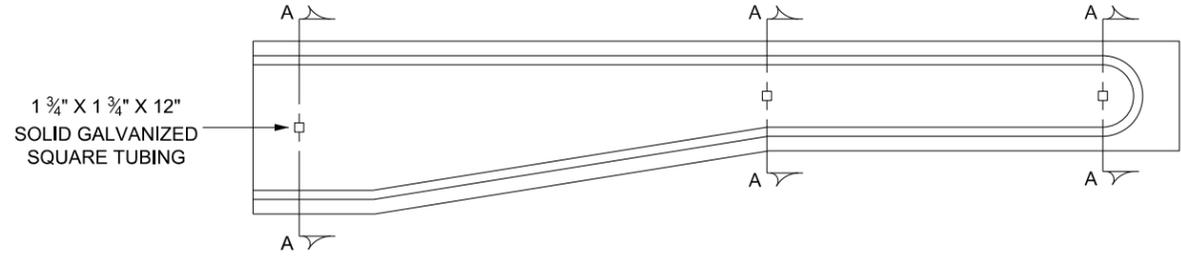
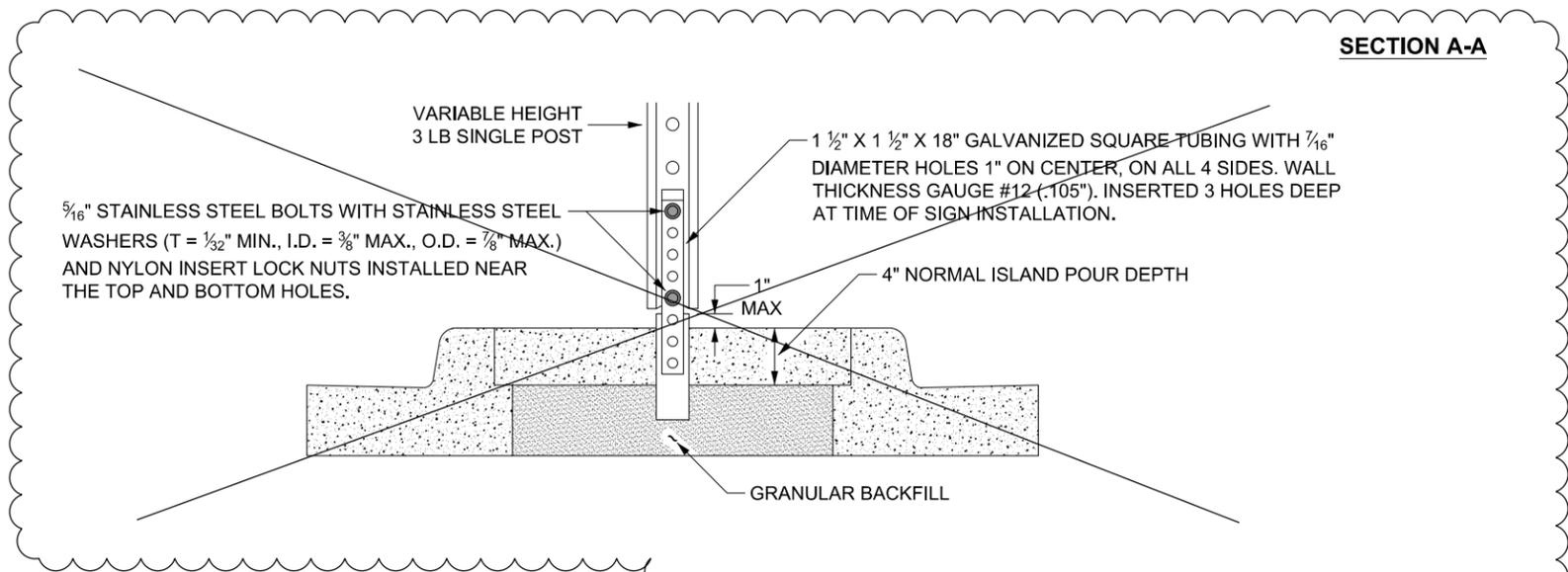
SIGNING PLANS

SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 94 OF 102

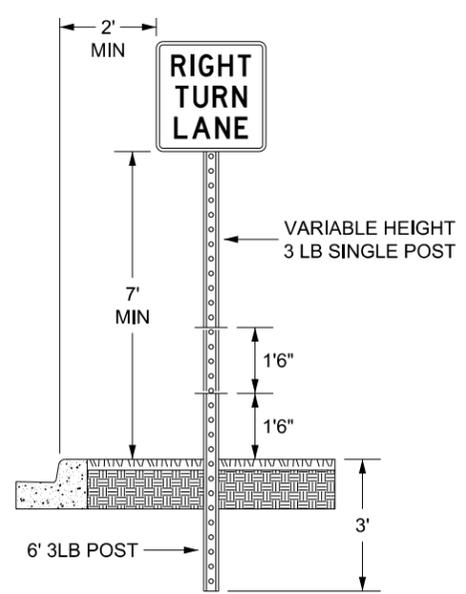
SIGN INSTALLATION TYPICALS

SECTION A-A

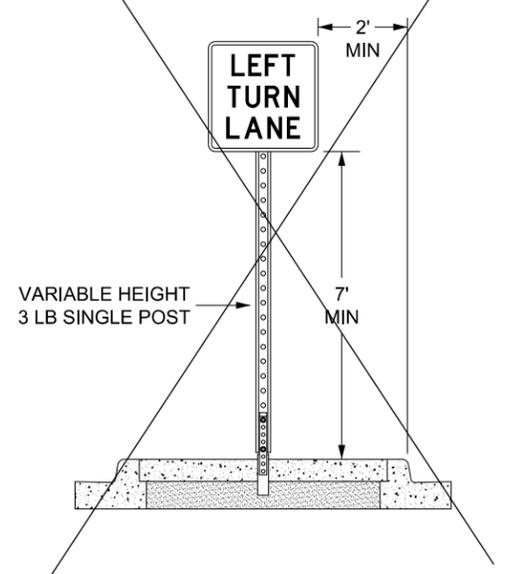


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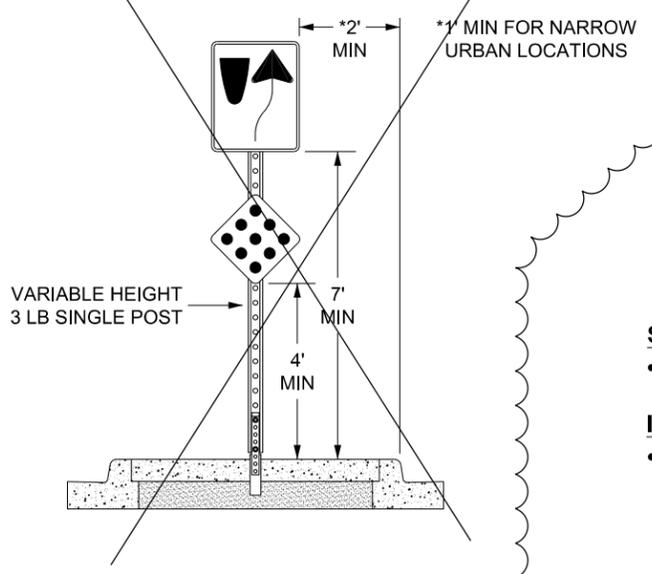
GROUND POST MOUNT



ISLAND MOUNT, BREAK-AWAY



ISLAND MOUNT, BREAK-AWAY KEEP RIGHT/CLUSTER



SIGN NOTES:

- TELES PAR INSERT NOT TO BE INSERTED MORE THAN 3 MOUNTING HOLES DEEP INTO BASE. TYPICAL ON ALL SIGN INSTALLATIONS.

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.

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01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. REVISED CONCRETE POST MOUNTING
NO	DATE	BY	CKD	APPR

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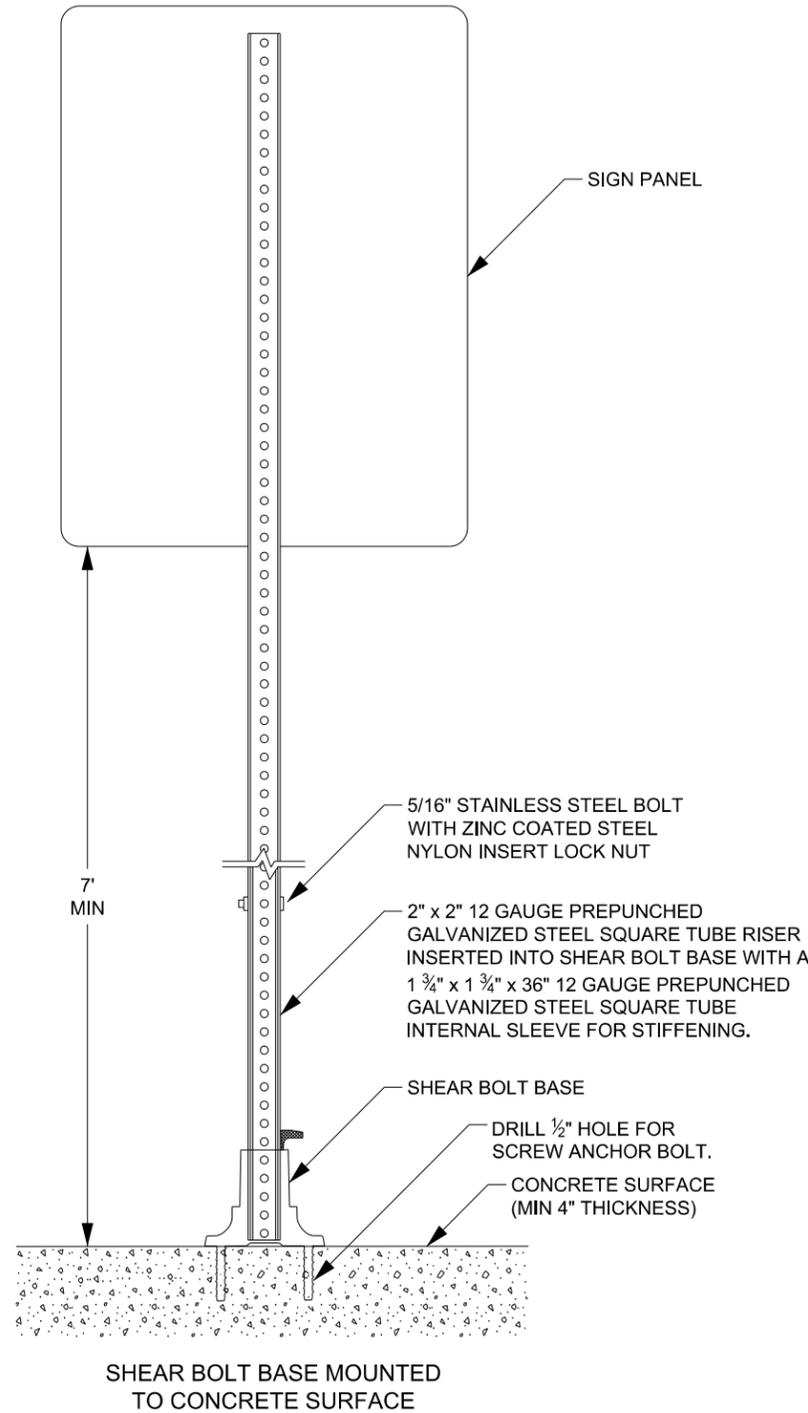
STATE PROJECT NO. 002-606-013	DRAWN BY S. MARTINS
STATE PROJECT NO. 127-020-034	DESIGNED BY Z. HEIMER
STATE PROJECT NO. 127-304-002	CHECKED BY K. JULIE
COUNTY PROJECT NO. 24-25-106	COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
SIGNING DETAILS
SP 002-606-013, SP 127-020-034, SP 127-304-002

SIGN INSTALLATION TYPICALS

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

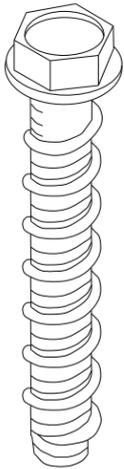


SIGN NOTES:

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):

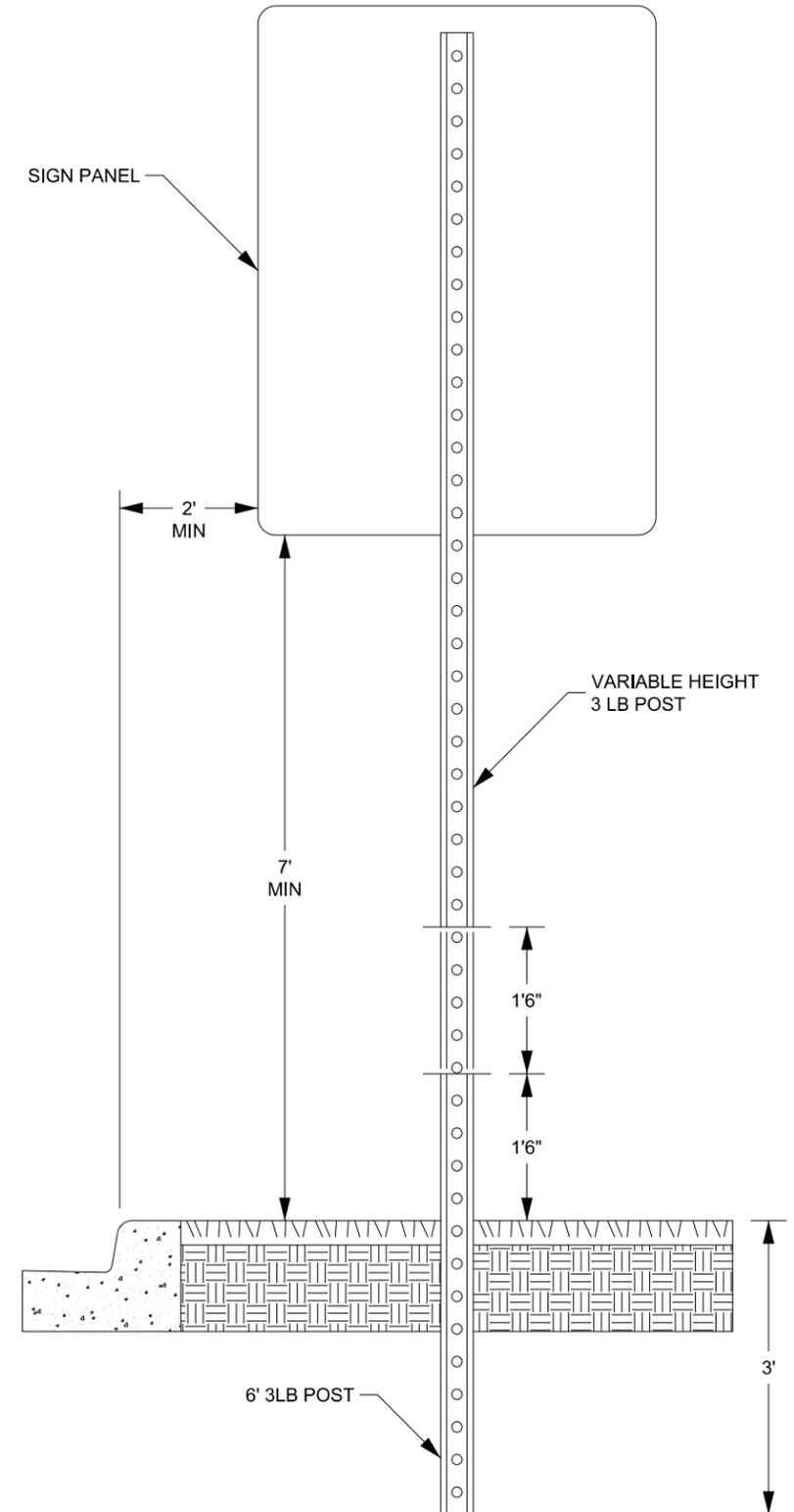
- THE MINIMUM HEIGHT MEASURED VERTICALLY FROM THE SHARED-USE PATHWAY TO THE BOTTOM OF THE SIGN SHALL BE 7 FEET. IF A SECONDARY SIGN IS MOUNTED BELOW THE PRIMARY SIGN AND IS MOUNTED LESS THAN 7 FEET, IT SHALL NOT PROJECT MORE THAN 4 INCHES INTO THE SHARED-USE PATHWAY.



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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01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. REVISED CONCRETE POST MOUNTING
NO	DATE	BY	CKD	APPR

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Zach Heimer
 Date: 01/07/2025 License #: 58755

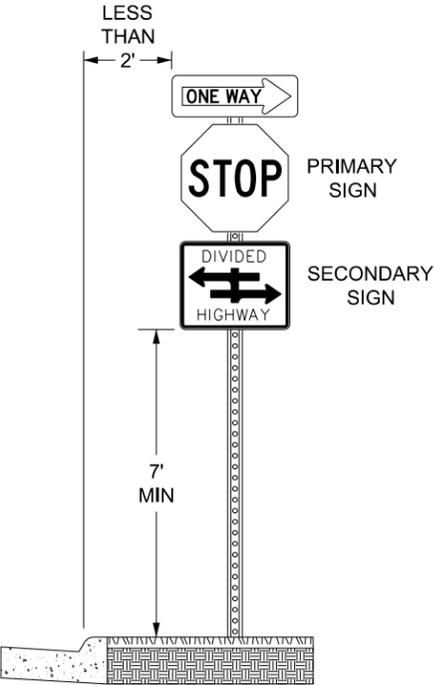
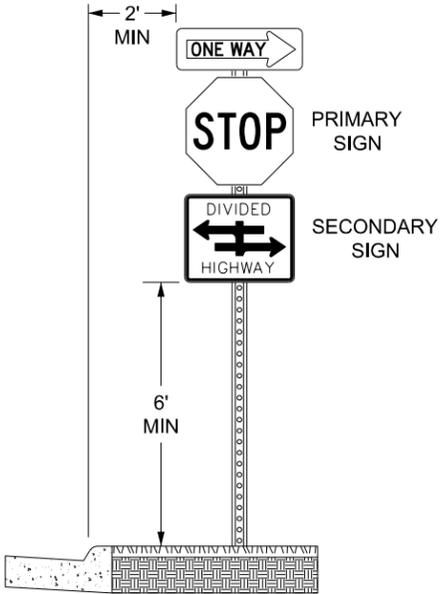
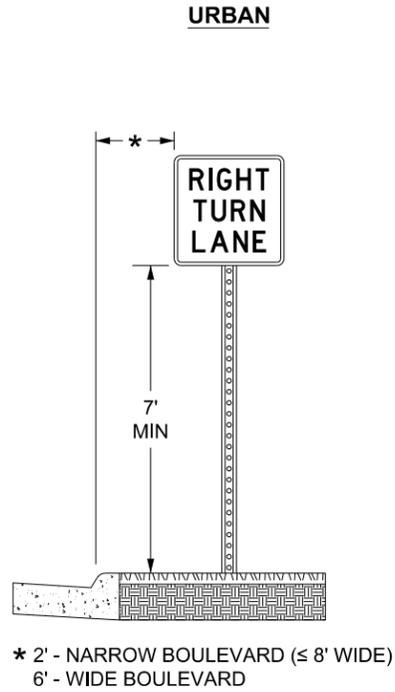
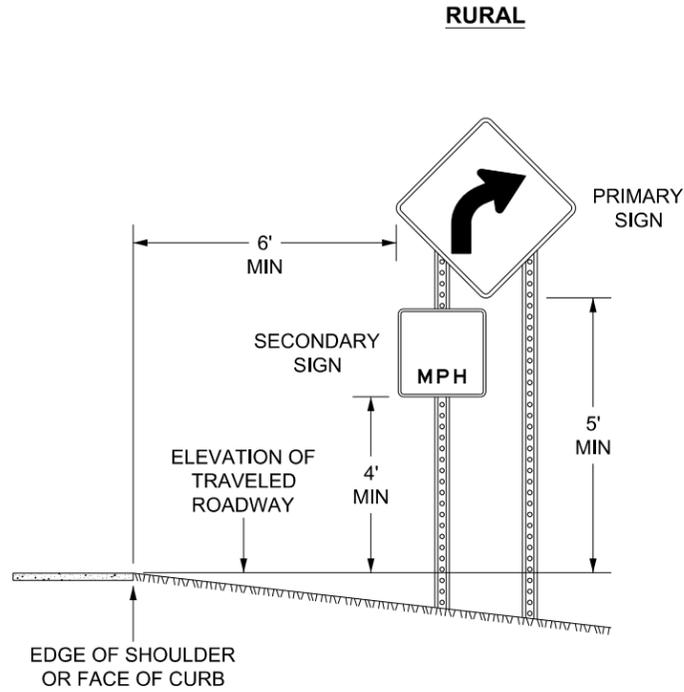
STATE PROJECT NO. 002-606-013	DRAWN BY S. MARTINS
STATE PROJECT NO. 127-020-034	DESIGNED BY Z. HEIMER
STATE PROJECT NO. 127-304-002	CHECKED BY K. JULLIE
COUNTY PROJECT NO. 24-25-106	COMM. NO. 16588



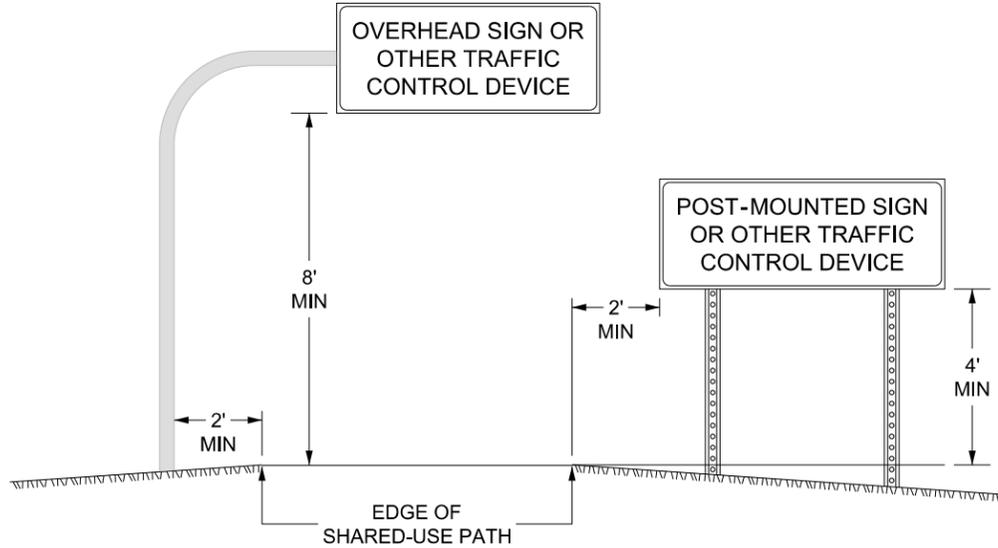
ANOKA COUNTY, MINNESOTA
 SIGNING DETAILS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

**SHEET
95A
OF
102**

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.

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Zach Heimer

Date: 06/12/2024 License #: 58755

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STATE PROJECT NO. 127-304-002	CHECKED BY K. JULLIE
COUNTY PROJECT NO. 24-25-106	COMM. NO. 16588



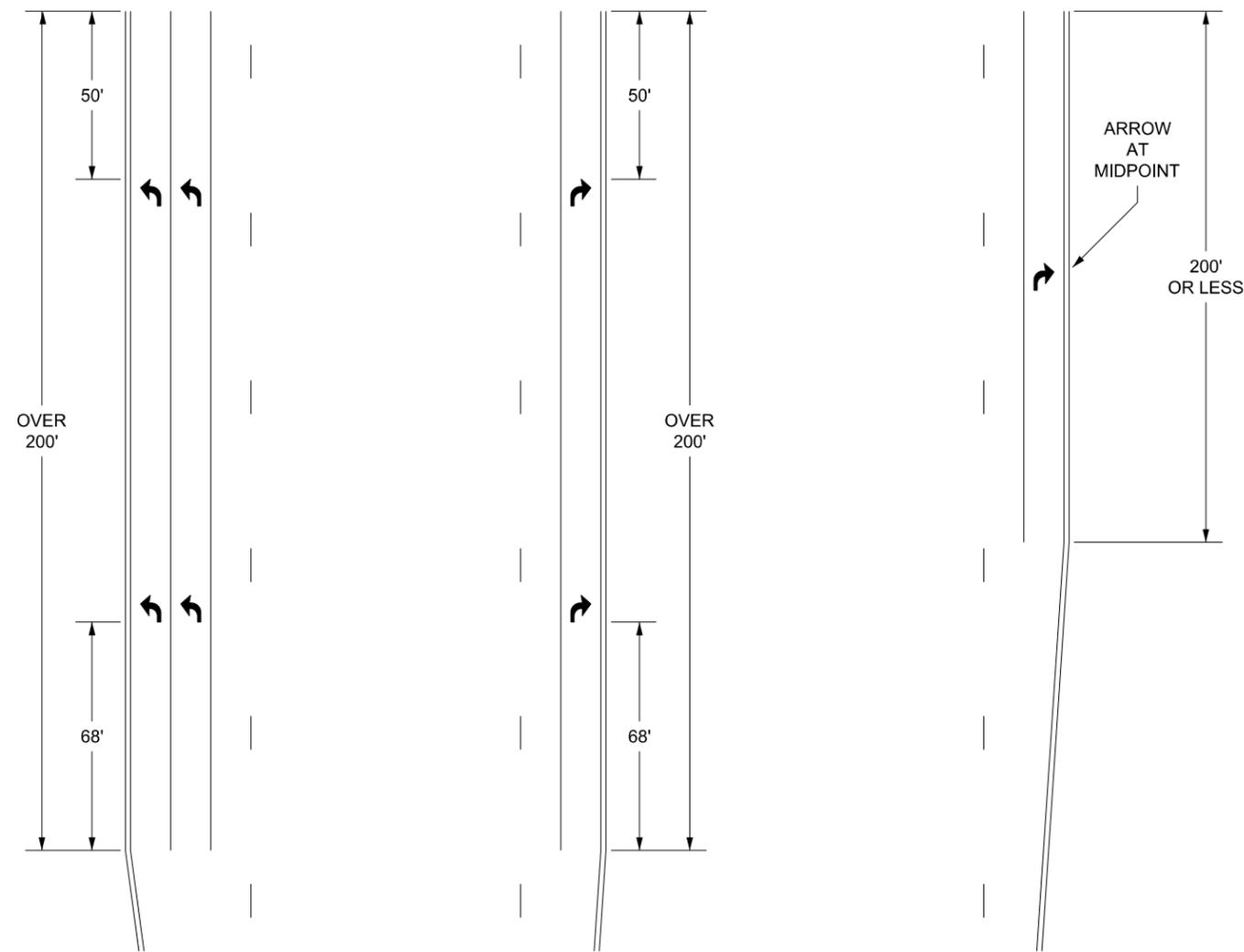
ANOKA COUNTY, MINNESOTA

SIGNING DETAILS

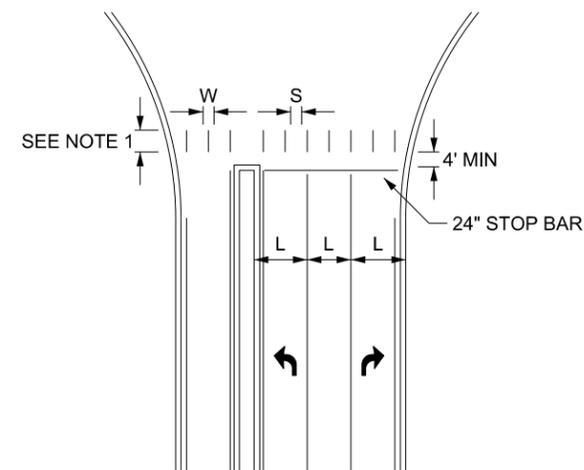
SP 002-606-013, SP 127-020-034, SP 127-304-002

PAVEMENT MARKING TYPICALS

TURN LANE ARROW PLACEMENT

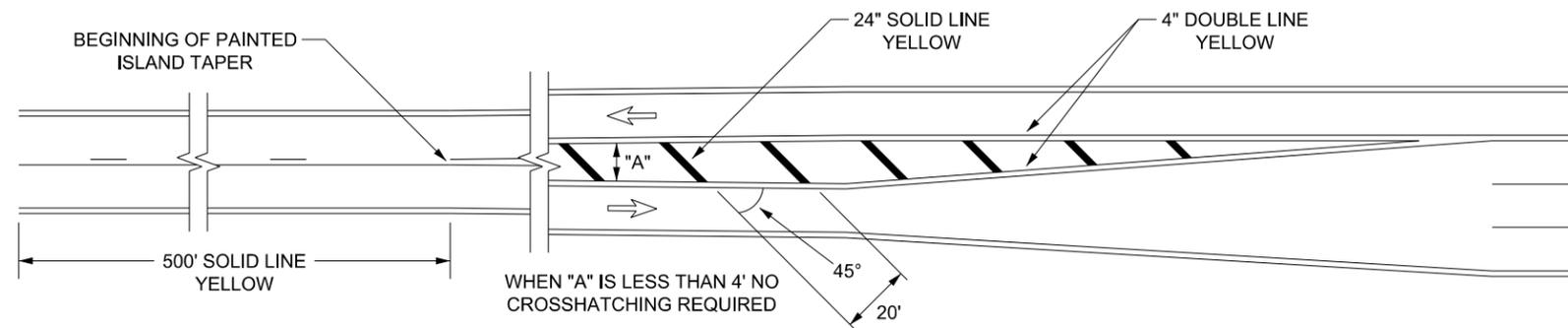


PEDESTRIAN CROSSWALK



(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'

LEFT TURN ISLAND MARKINGS



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.

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Zach Heimer
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 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 PAVEMENT MARKING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002
 PAVEMENT MARKING DETAILS

SHEET 97 OF 102

PERMANENT PAVEMENT MARKING PLAN

NOTES & GUIDELINES

GENERAL INFORMATION:

- SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.
- EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS, AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE MAINLINE RADIUS.
- DO NOT APPLY THE PAVEMENT MARKINGS WHEN WEATHER AND OTHER CONDITIONS CAUSE A FILM OF DUST OR DEBRIS TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL IS APPLIED.
- THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

CONTRAST MARKINGS

- CONTRAST MARKINGS ARE DEFINED AS STANDARD LINEAR PAVEMENT MARKINGS, CROSSWALK MARKINGS AND PAVEMENT MESSAGES WITH 1.5 INCH NON REFLECTIVE BLACK BORDERS.

PERMANENT PAVEMENT MARKING PLAN INDEX

98 PAVEMENT MARKING TITLE SHEET AND TABULATION
99 - 101 PAVEMENT MARKING PLANS

SYMBOLS & MATERIALS LEGEND

— — — — — BROKEN LINE-50' CYCLE (10' LINE, 40' GAP)
 DOTTED LINE-6' CYCLE (3' LINE, 3' GAP),
 UNLESS SHOWN OTHERWISE IN THE PLAN

█ CROSSWALK BLOCK PREF THERMO GR IN

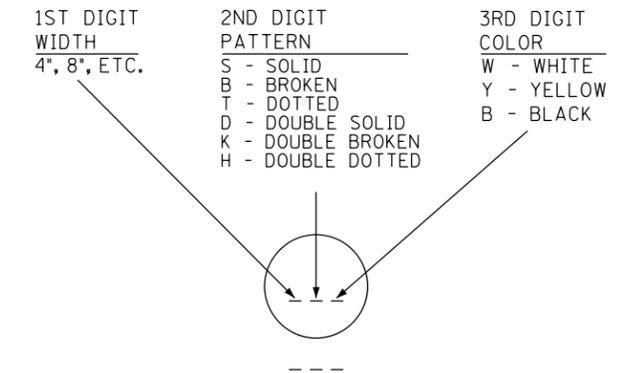
↩ PAVEMENT MESSAGE (LEFT ARROW)

STRIPING KEY

○ --- CIRCLE-MULTI COMP □ --- BOX-PREF THERMO

PAVEMENT MARKING TABULATION

ALIGNMENT	STATION TO STATION	PREFORM THERMOPLASTIC GROUND IN						MULTI - COMPONENT		
		4" SOLID LINE		4" DOUBLE SOLID LINE	24" SOLID LINE	12" DOTTED LINE	CROSSWALK	4" SOLID LINE	4" DBLE SOLID LINE	24" SOLID LINE
		WHITE	YELLOW	YELLOW	YELLOW	WHITE		WHITE	YELLOW	YELLOW
		LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ FT	LIN FT	LIN FT	LIN FT
SP 002-606-013 & SP 127-020-034		(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
EB CSAH 6	34+39.41 TO 42+38.29	430	190	520	60		80		310	
ROUNDAABOUT	50+00.00 TO 51+50.80	380	300			60				
NB CSAH 35	15+00.00 TO 23+80.72	400	110	290	80		80	370	870	10
NB CSAH 35	24+99.84 TO 33+78.48	270	80	230	70		80	230	950	40
SP 002-606-013 & SP 127-020-034 TOTAL		1480	680	1040	210	60	240	600	2130	50
CP 24-25-106 & SP 127-304-002		(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)
EB CR106	43+67.06 TO 55+41.70	580	120	460	110		80	390	1280	60
CP 24-25-106 & SP 127-304-002 TOTAL		580	120	460	110	80	80	390	1280	60
PROJECT TOTALS		2060	800	1500	320	60	320	990	3410	110



FUNDING NOTES:
 (A) 100% COUNTY (SP 002-606-013)
 (C) 100% COUNTY (CP 24-25-106)

G=GROUND IN W=WET REFLECTIVE
 C=CONTRAST E=ENHANCED SKID RESISTANCE

EXAMPLE: 4SW = 4" SOLID LINE WHITE PREF THERMO
GW = GROUND IN, CONTRAST, WET REFLECTIVE

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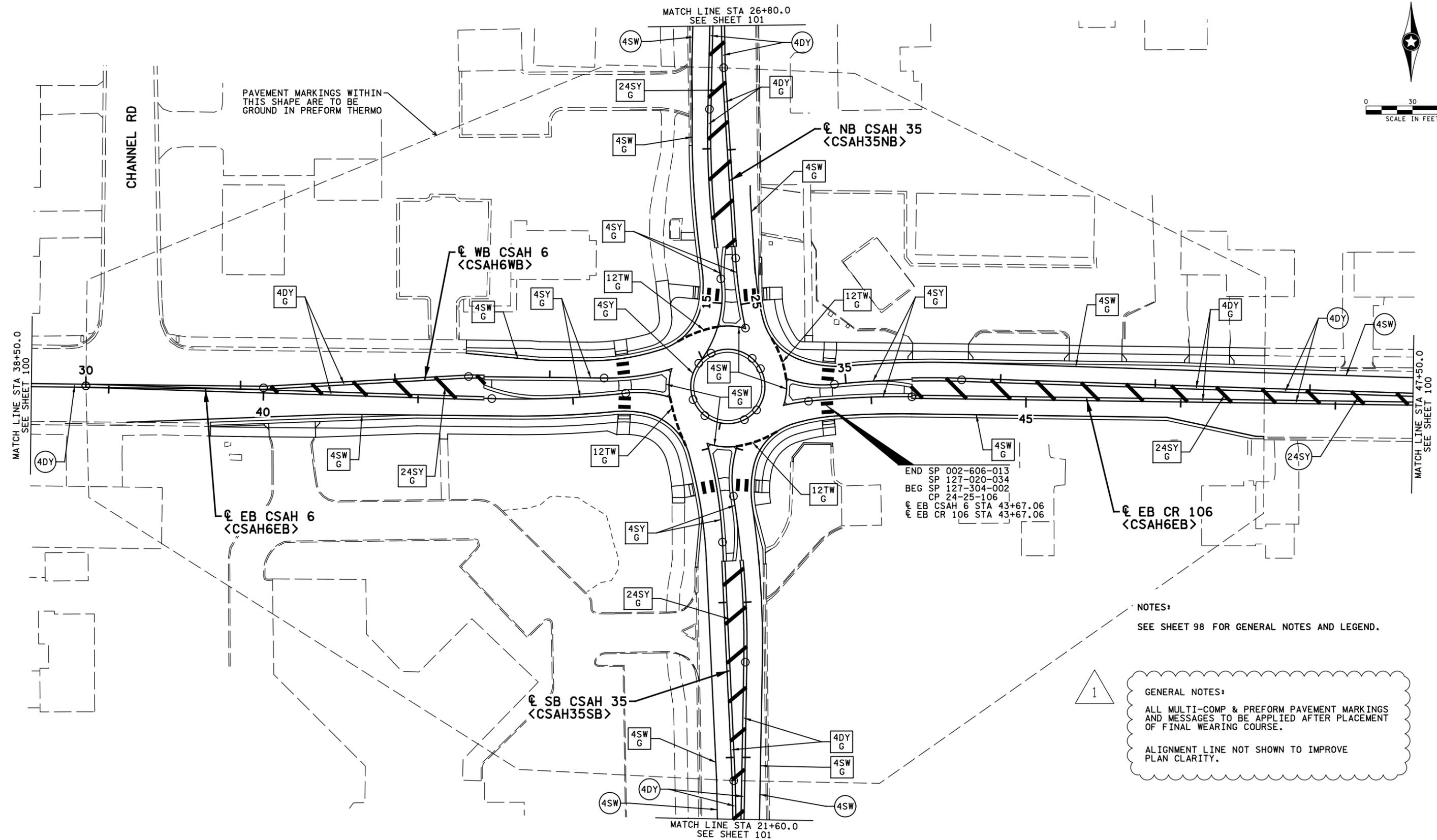
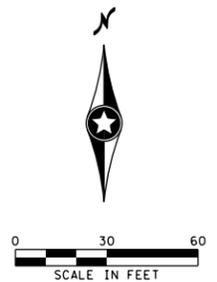
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 COUNTY PROJECT NO. 24-25-106
 DRAWN BY S. MARTINS
 DESIGNED BY Z. HEIMER
 CHECKED BY K. JULLIE
 COMM. NO. 16588



ANOKA COUNTY, MINNESOTA
 PAVEMENT MARKING PLANS
SP 002-606-013, SP 127-020-034, SP 127-304-002
 TITLE SHEET AND TABULATION

SHEET 98 OF 102



END SP 002-606-013
 SP 127-020-034
 BEG SP 127-304-002
 CP 24-25-106
 EB CSAH 6 STA 43+67.06
 EB CR 106 STA 43+67.06

NOTES:
 SEE SHEET 98 FOR GENERAL NOTES AND LEGEND.

GENERAL NOTES:
 ALL MULTI-COMP & PREFORM PAVEMENT MARKINGS AND MESSAGES TO BE APPLIED AFTER PLACEMENT OF FINAL WEARING COURSE.
 ALIGNMENT LINE NOT SHOWN TO IMPROVE PLAN CLARITY.

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01/07/25	ZFH	KMJ	ZFH	ADDENDUM #1. DELETED INCEDNTAL MARKING REMOVAL NOTE
NO	DATE	BY	CKD	APPR
				REVISION

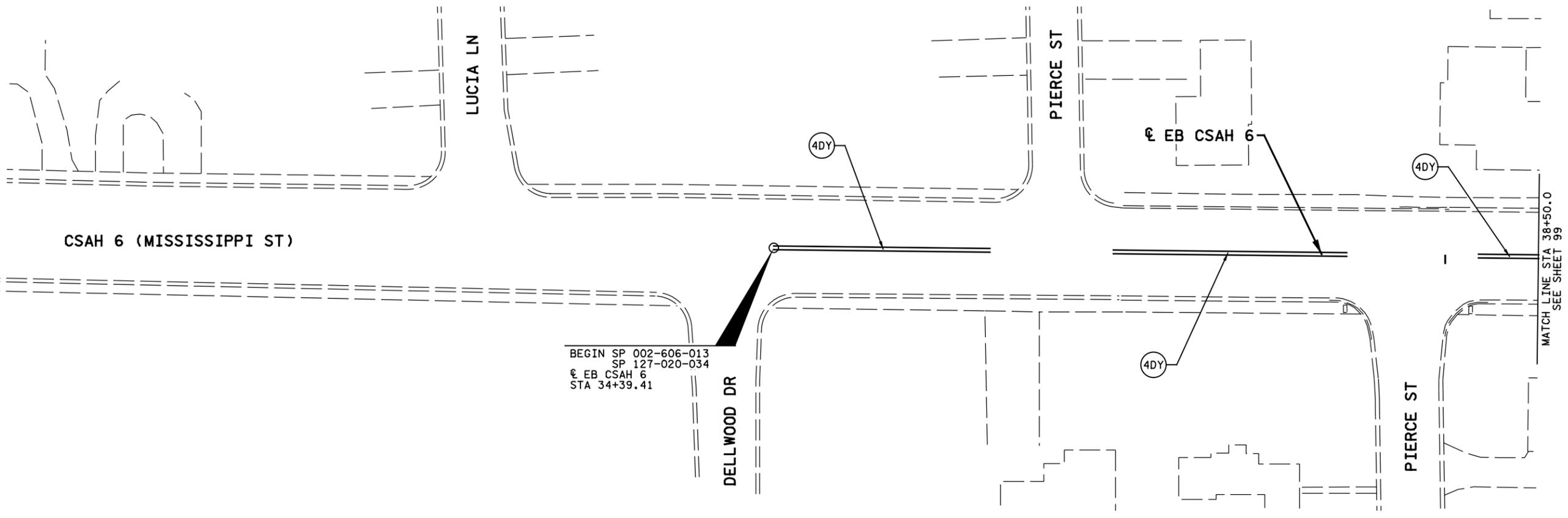
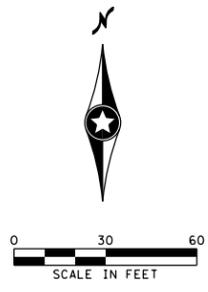
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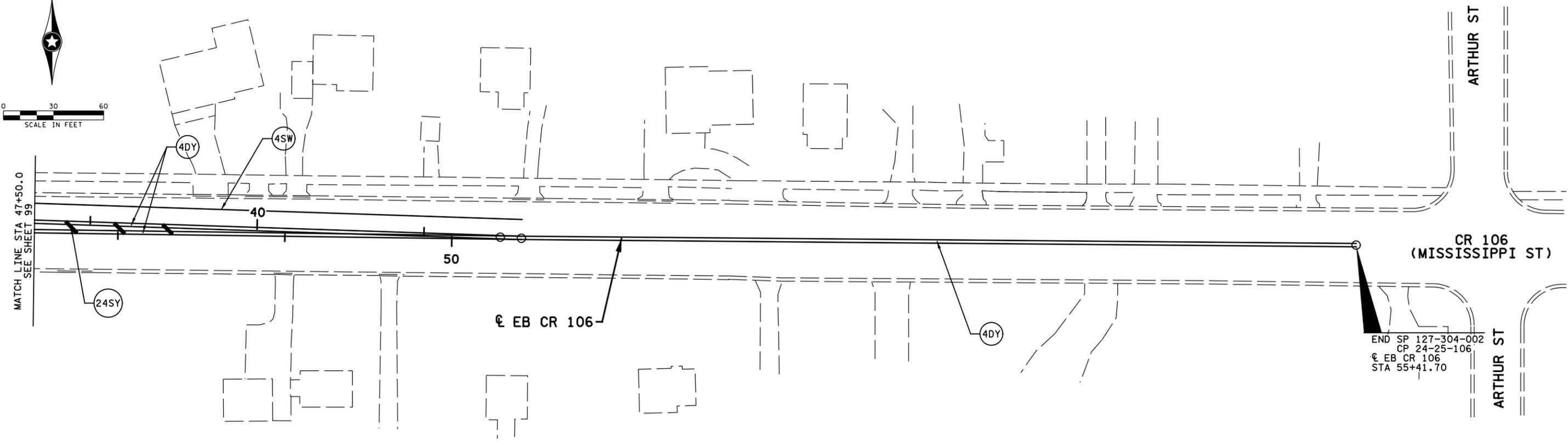
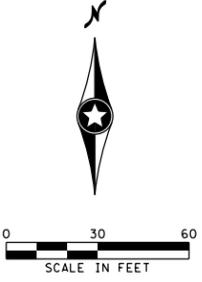
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 PAVEMENT MARKING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 99R OF 102



BEGIN SP 002-606-013
 SP 127-020-034
 EB CSAH 6
 STA 34+39.41

MATCH LINE STA 38+50.0
 SEE SHEET 99



END SP 127-304-002
 CP 24-25-106
 EB CR 106
 STA 55+41.70

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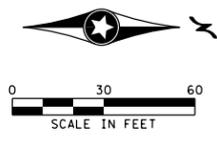
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 STATE PROJECT NO. 127-020-034
 STATE PROJECT NO. 127-304-002
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ANOKA COUNTY, MINNESOTA
 PAVEMENT MARKING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 100 OF 102



BEGIN SP 002-606-013
 SP 127-020-034
 @ NB CSAH 35
 STA 15+00.00

CSAH 35 (CENTRAL AVE)

4DY

@ NB CSAH 35

4SW

4SW

4DY

10

20

MATCH LINE STA 21+60.0
 SEE SHEET 99

64TH AVE

MATCH LINE STA 26+80.0
 SEE SHEET 99

4SW

24SY

4DY

@ NB CSAH 35

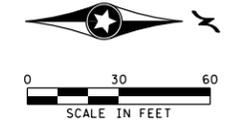
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 STA 33+78.48

CSAH 35 (CENTRAL AVE)

4DY

66TH AVE

CREEK PARK LN



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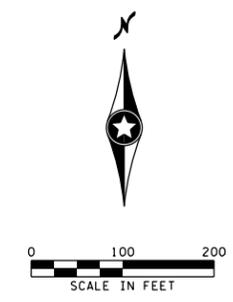
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 COUNTY PROJECT NO. 24-25-106

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ANOKA COUNTY, MINNESOTA
 PAVEMENT MARKING PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

SHEET 101 OF 102



END SP 002-606-013
 SP 127-020-034
 € NB CSAH 35 STA 33+78.48

END SP 002-606-013
 SP 127-020-034
 BEGIN SP 127-304-002
 CP 24-25-106
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 € EB CR 106 STA 43+67.06

END SP 127-304-002
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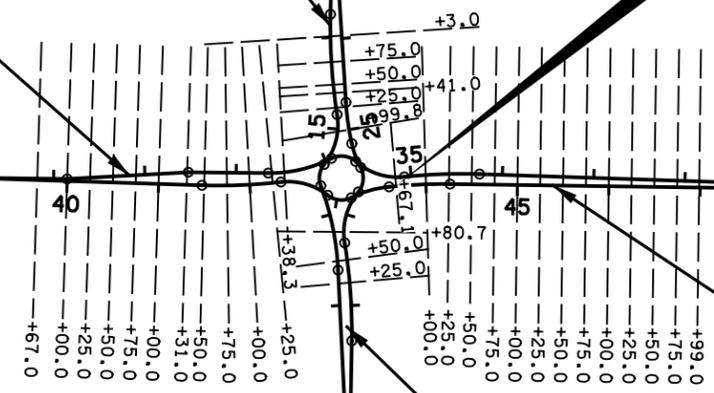
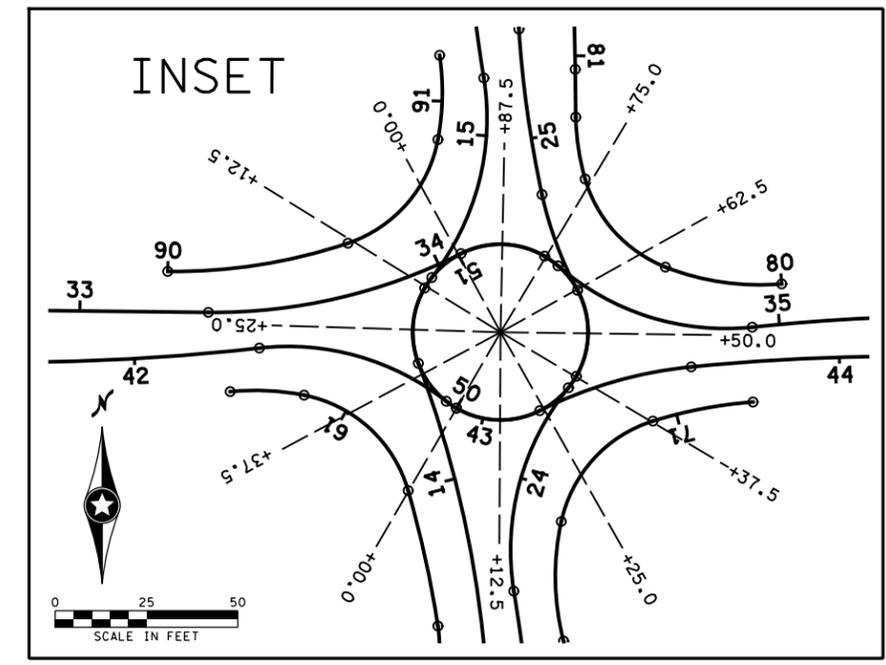
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€ SB CSAH 35
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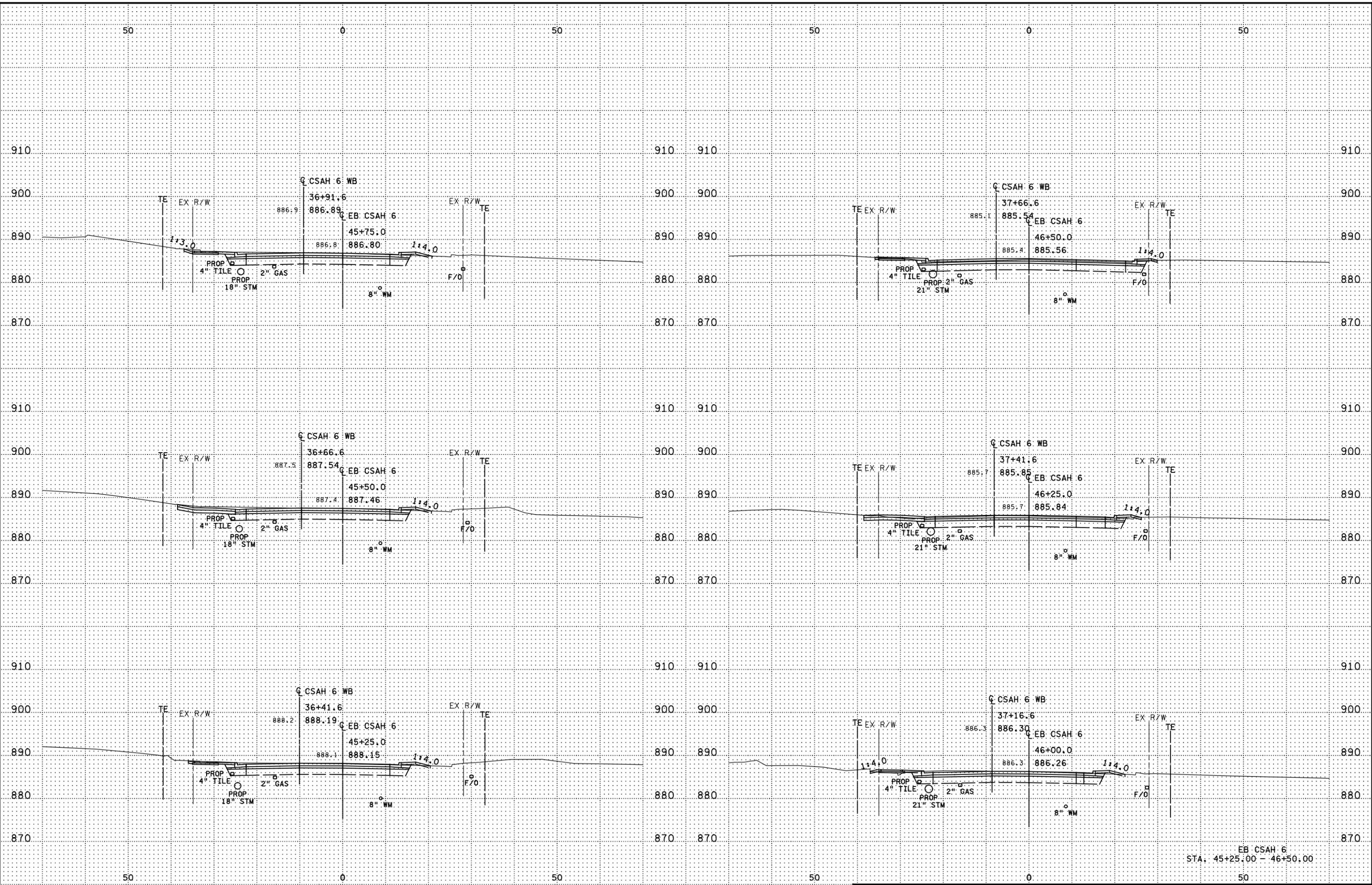
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 STATE PROJECT NO. 127-304-002
 COUNTY PROJECT NO. 24-25-106
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ANOKA COUNTY, MINNESOTA
 CROSS SECTION LAYOUT PLANS
 SP 002-606-013, SP 127-020-034, SP 127-304-002

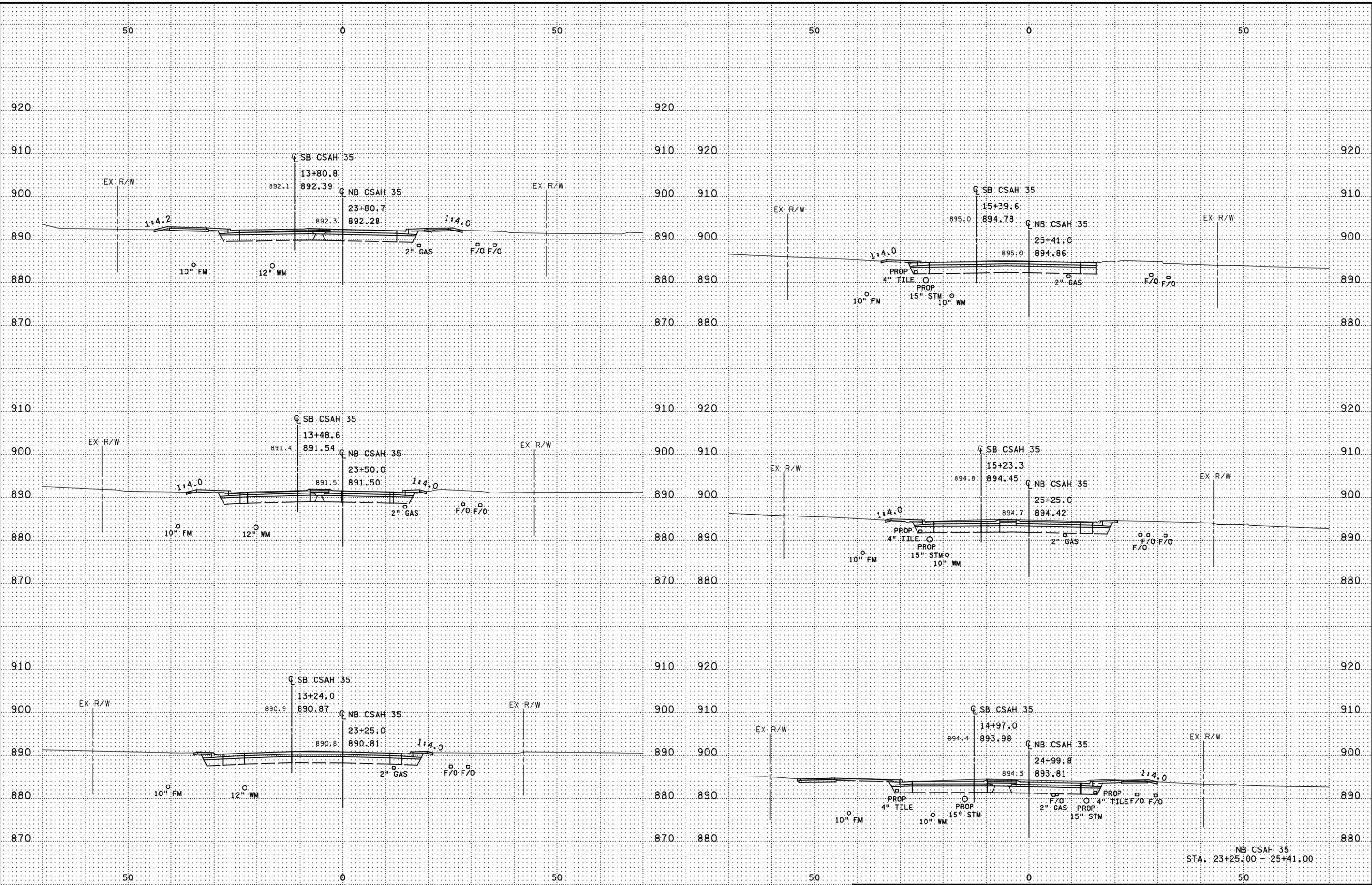
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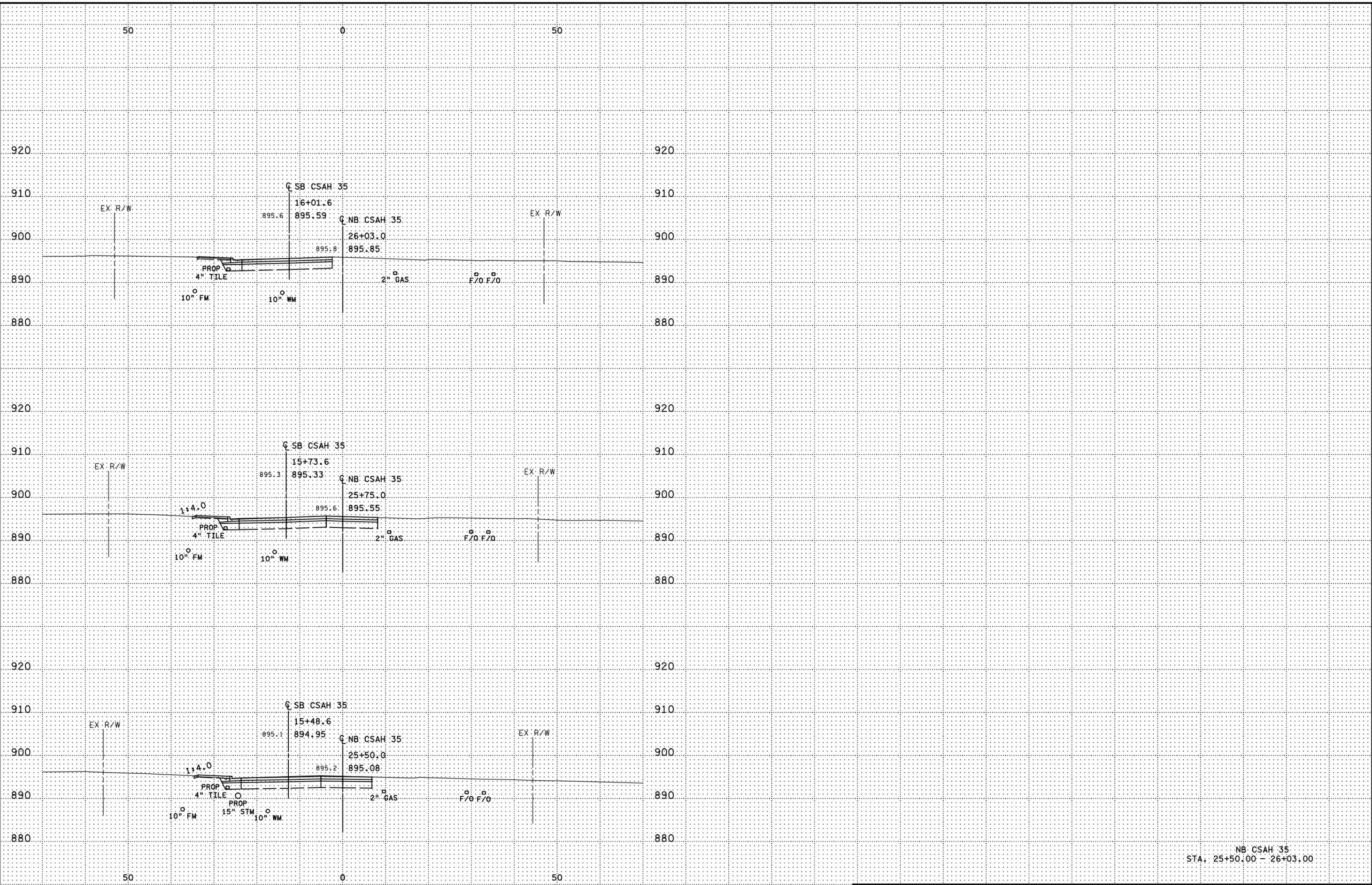
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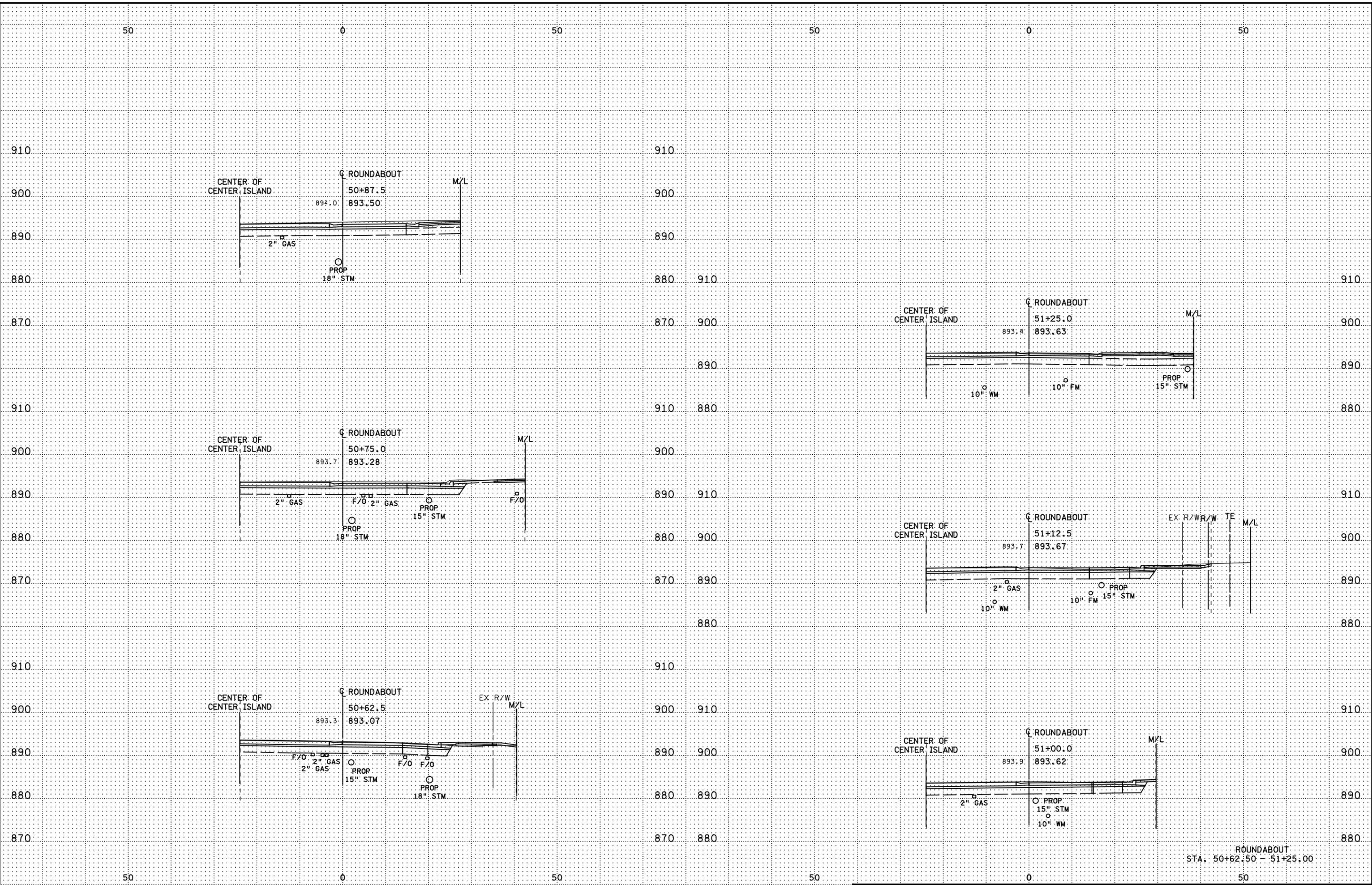
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