MINNESOTA DEPARTMENT OF TRANSPORTATION

CITY OF COLUMBIA HEIGHTS

2024 SAFE ROUTES TO SCHOOL

CONSTRUCTION PLAN FOR CONCRETE WALK, SIGNING AND PAVEMENTS MARKINGS, ADA IMPROVEMENTS

LOCATED ON	MONROE ST.	FROM	47 1/2TH AVE NE	TO	49TH AVE NE
LOCATED ON	47TH AVE.	FROM	FILLMORE ST NE	TO	JOHNSON ST NE
LOCATED ON	49TH AVE.	FROM	MADISON ST.	TO	JOHNSON ST NE
LOCATED ON	47 1/2TH AVE.	FROM	0' NORTH OF 47 1/2TH AVE.	TO	416' NORTH OF 47 1/2 AVE.

STATE PROJ. NO. 113-591-001
CITY PROJ. NO. 1807

END S.P. 113-591-001
SIDEWALK 2 STA. 58+91.5

PROJECT LOCATION:
MADISON ST.

BEGIN S.P. 113-591-001
SIDEWALK 2 STA. 50+23.9

END S.P. 113-591-001
SIDEWALK 1 STA. 34+36.2

PROJECT LOCATION:
JACKSON ST.

PROJECT LOCATION:
GRAND AVE.

PROJECT LOCATION:
FILMORE ST. (SOUTH)

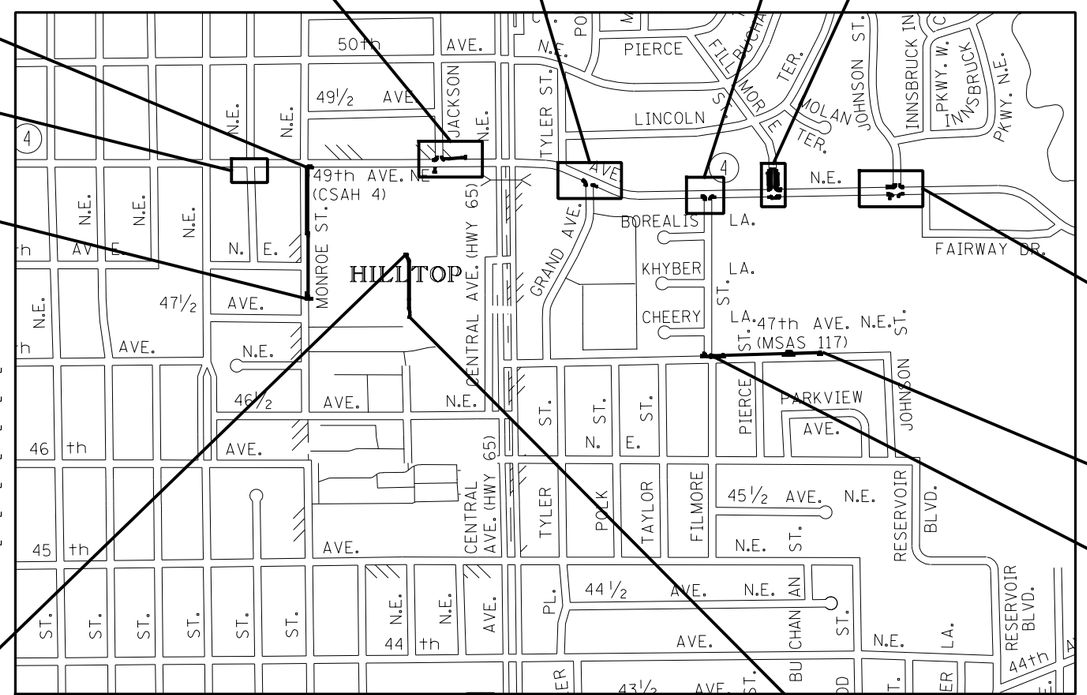
PROJECT LOCATION:
FILMORE ST. (NORTH)

PROJECT LOCATION:
JOHNSON ST.

END S.P. 113-591-001
SIDEWALK 3 STA. 17+06.8

BEGIN S.P. 113-591-001
SIDEWALK 3 STA. 10+00.0

BEGIN S.P. 113-591-001
SIDEWALK 1 STA. 30+20.0



SCALE

INDEX MAP	500'
GENERAL LAYOUT	200'
PLAN	40'
PROFILE	100' HORIZ / 10' VERT
INTERSECTION DETAILS	20'
CROSS SECTIONS	20' HORIZ

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

MINN. PROJ. NO. TA 0224(116)

GOVERNING SPECIFICATIONS

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

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING THE LATEST "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

INDEX

THIS PLAN CONTAINS 83 SHEETS

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 Joshua Colas

DATE 5/28/2024 LIC. NO. 55897 PRINT NAME JOSHUA A. COLAS

Joseph MacPherson
Digitally signed by Joseph MacPherson
Date: 2024.05.28 12:47:16 -05'00'
APPROVED ..... 20 .....
ANOKA COUNTY ENGINEER

Sulmaan Khan
Digitally signed by Sulmaan Khan
DN: cn=Sulmaan Khan, c=US, o=City of Columbia Heights, ou=Engineering, email=skhan@columbiaheightsmn.gov
Date: 2024.05.28 12:43:44 -05'00'
APPROVED ..... 20 .....
CITY ENGINEER, CITY OF COLUMBIA HEIGHTS

OFFICE OF LAND MANAGEMENT APPROVAL ..... 20 .....
DIRECTOR, LAND MANAGEMENT

..... 20 .....
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY

..... 20 .....
APPROVED FOR STATE AND FEDERAL AID FUNDING: STATE AID ENGINEER

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".

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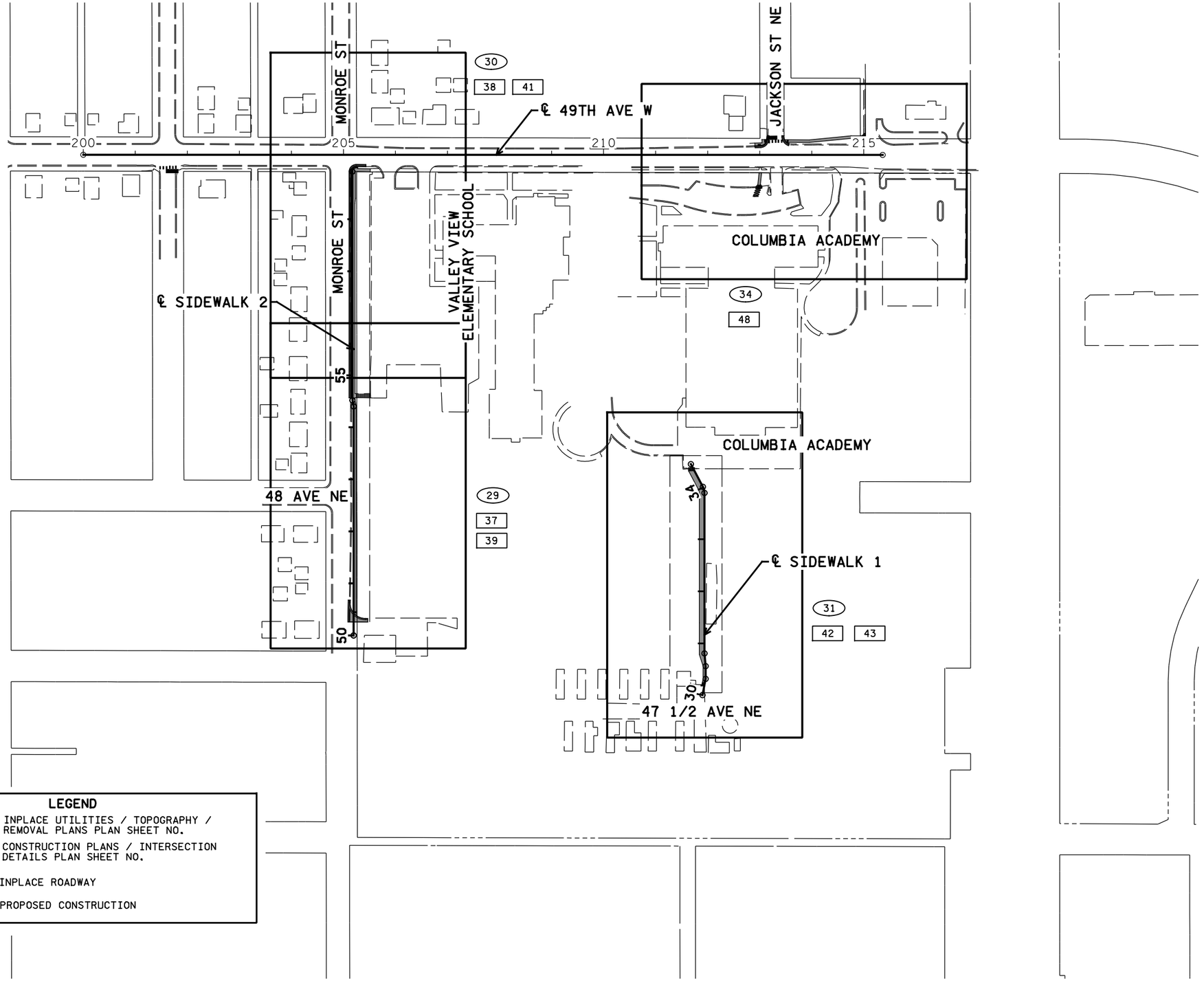
PLAN SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
CONC. RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY LINE
RIVER OR CREEK (NAME)
DRY RUN
DRAINAGE DITCH (SIZE)
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
MAIL BOX (MB)
SPRINGS
MARSH
TIMBER / ORCHARD / BRUSH / NURSERY (TIMBER)
CATCH BASIN (C.B.)
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT (G)
SAND PIT (S)
BORROW PIT (B)
ROCK QUARRY (Q)

UTILITY SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLES / ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER, (SANITARY)
SEWER, (STORM)
SEWER MANHOLE
HANDHOLE



LEGEND

XXX — INPLACE UTILITIES / TOPOGRAPHY / REMOVAL PLANS PLAN SHEET NO.

XXX — CONSTRUCTION PLANS / INTERSECTION DETAILS PLAN SHEET NO.

INPLACE ROADWAY

PROPOSED CONSTRUCTION

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO. 17109

SRF

CITY OF COLUMBIA HEIGHTS

GENERAL LAYOUT

SP 113-591-001

SHEET 2 OF 83

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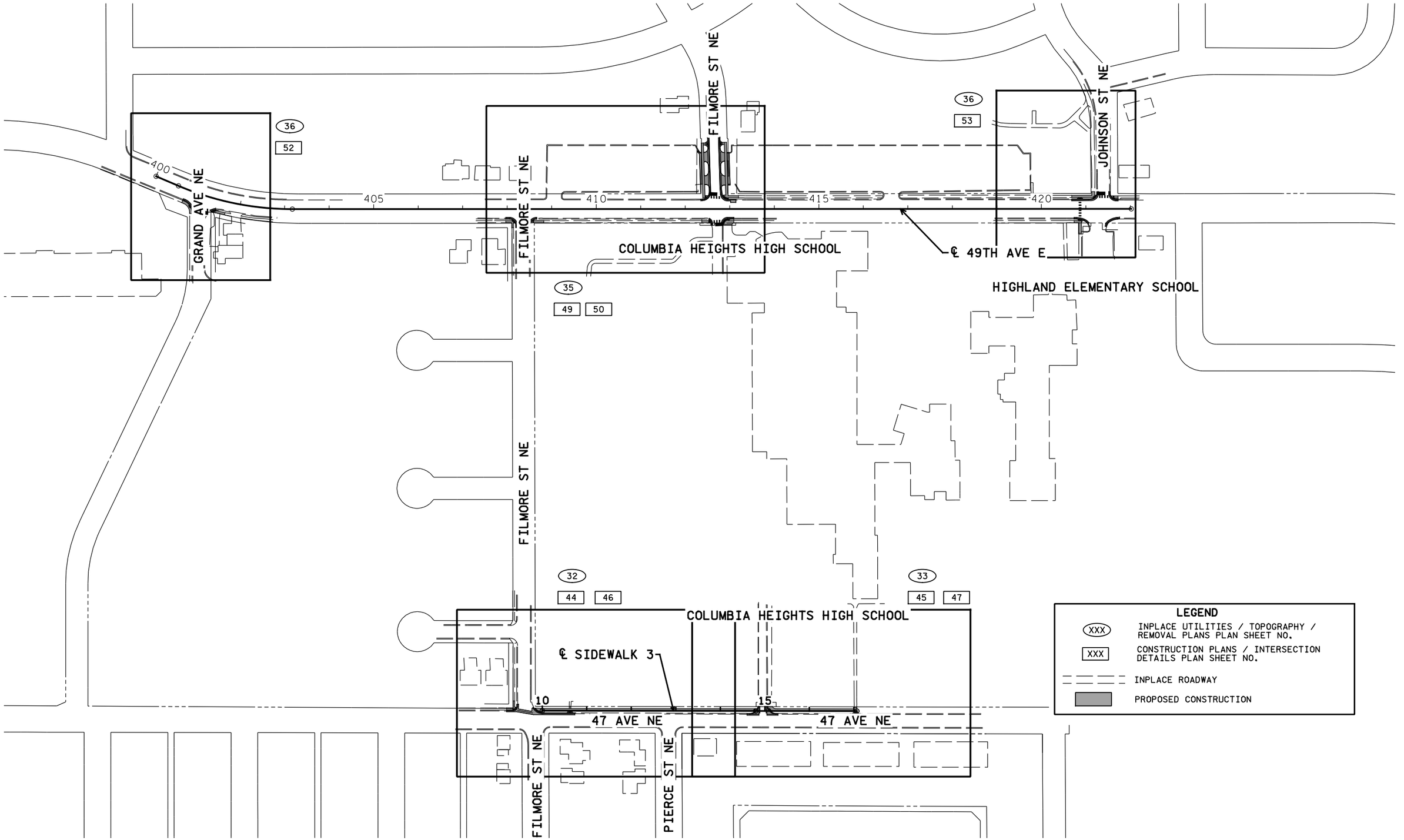

NO	DATE	BY	CKD	APPR	REVISION

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CITY OF COLUMBIA HEIGHTS

GENERAL LAYOUT

SP 113-591-001

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STATEMENT OF ESTIMATED QUANTITIES

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	PROJECT TOTAL ESTIMATED QUANTITY	SP 113-591-001 ROADWAY	SP 113-591-001 STORM
			2021.501	MOBILIZATION	LUMP SUM	1	1	
		58	2102.518	PAVEMENT MARKING REMOVAL	SQ FT	270	270	
		50	2104.502	REMOVE CASTING	EACH	1	1	
		30	2104.502	REMOVE DRAINAGE STRUCTURE	EACH	1	1	
		58	2104.502	REMOVE SIGN	EACH	2	2	
		58	2104.502	SALVAGE SIGN	EACH	24	24	
	C	7	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	66	66	
	C	7	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	1943	1943	
	C	7	2104.503	REMOVE CURB & GUTTER	LIN FT	1291	1291	
	C	7	2104.504	REMOVE CONCRETE WALK	SQ YD	406	406	
	C	7	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	233	233	
	C	7	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	142	142	
	C	7	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	296	296	
	C	7	2104.518	REMOVE BITUMINOUS WALK	SQ FT	98	98	
	A	6	2105.607	COMMON EXCAVATION (P)	CU YD	1148	1148	
	A	6	2106.507	COMMON EMBANKMENT (CV) (P)	CU YD	651	651	
	G	9	2211.507	AGGREGATE BASE (CV) CLASS 5	CU YD	354	354	
	E	8	2360.509	TYPE SP 9.5 WEARING COURSE MIX (3,F)	TON	255	255	
		50	2501.503	12" RC PIPE CULVERT DES 3006 CL V	LIN FT	10		10
		42,43,48	2502.601	IRRIGATION SYSTEM PROVISION	LUMP SUM	1	1	
		38	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	1		1
		50	2506.502	CASTING ASSEMBLY	EACH	3		3
		50	2506.502	ADJUST FRAME & RING CASTING	EACH	1		1
		38	2506.503	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	4.6		4.6
		50	2506.503	CONST DRAINAGE STRUCTURE DESIGN N	LIN FT	5.3		5.3
		50	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	1		1
	D	8	2521.518	4" CONCRETE WALK	SQ FT	8186	8186	
	D	8	2521.518	6" CONCRETE WALK	SQ FT	3189	3189	
	D	8	2521.602	DRILL & GROUT REINF BAR (EPOXY COATED)	EACH	164	164	
	D	8	2521.618	CONCRETE CURB RAMP WALK	SQ FT	2240	2240	
(3)	D	8	2531.503	CONCRETE CURB & GUTTER DESIGN SPECIAL	LIN FT	64	64	
	D	8	2531.503	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	186	186	
	D	8	2531.503	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	15	15	
	D	8	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	658	658	
	D	8	2531.503	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	480	480	
	D	8	2531.503	CONCRETE CURB & GUTTER DESIGN S512	LIN FT	265	265	
	D	8	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	141	141	
	D	8	2531.618	TRUNCATED DOMES	SQ FT	405	405	
(1)			2563.601	TRAFFIC CONTROL	LUMP SUM	1	1	
(2)			2563.601	ALTERNATE PEDESTRIAN ROUTE	LUMP SUM	1	1	
		58	2564.602	INSTALL SIGN	EACH	24	24	
	H	9	2573.502	STORM DRAIN INLET PROTECTION	EACH	13	13	
	H	9	2573.503	SILT FENCE, TYPE MS	LIN FT	372	372	
	F	9	2574.508	FERTILIZER TYPE 3	POUND	126	126	
	F	9	2575.505	SEEDING	ACRE	0.63	0.63	
	F	9	2575.508	SEED MIXTURE 25-151	POUND	126	126	
	F	9	2575.509	MULCH MATERIAL TYPE 3	TON	1.26	1.26	
	F	9	2575.523	WATER	M GALLON	58	58	
		58	2582.503	4" SOLID LINE PAINT	LIN FT	56	56	
		58	2582.503	24" SOLID LINE PREF THERMO GR IN	LIN FT	93	93	
		58	2582.518	CROSSWALK PREF THERMO GR IN ESR	SQ FT	684	684	

NOTES

(P) DENOTES PLAN QUANTITY

(1) TRAFFIC CONTROL LAYOUT FOR EACH "INSTALLATION LOCATION" SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD), INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

(2) PROVIDE ALTERNATE PEDESTRIAN ROUTES DURING CONSTRUCTION PER STANDARD PLAN 5-297.811. SEE SPECIAL PROVISIONS FOR REQUIREMENTS FOR ALL LOCATIONS WHERE WORK WILL REQUIRE THE CLOSURE OF SIDEWALK AND/OR PEDESTRIAN RAMPS DUE TO THE OCCUPATION, REMOVAL, OR REPLACEMENT OF PEDESTRIAN INFRASTRUCTURE.

(3) SEE STANDARD DETAIL ON SHEET NO. 5

NO	DATE	BY	CKD	APPR	REVISION

17109_est01.dgn

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Joshua Colas

Date 5/28/2024 License # 55897

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STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

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CITY OF COLUMBIA HEIGHTS

STATEMENT OF ESTIMATED QUANTITIES

SP 113-591-001

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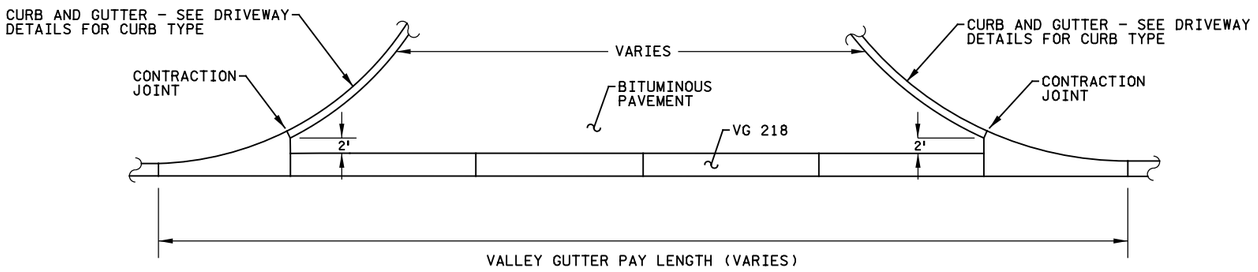
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

STANDARD PLATES

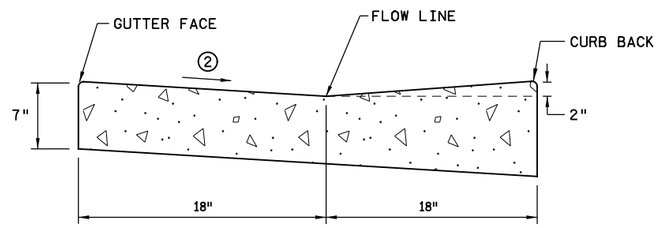
PLATE NO.	DESCRIPTION
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007F	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
4003B	30" PRECAST CATCH BASIN - DESIGN N
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010I	CONCRETE ADJUSTING RINGS
4011E	PRECAST CONCRETE BASE
4026B	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
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
4155A	ADA GRATE INLET CASTING - CASTING NO. 817
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)
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)



NO SCALE

NOTES:

② SLOPE 0.06 FT/FT NORMAL, UNLESS OTHERWISE SPECIFIED.



VALLEY GUTTER CURB VG 218

NO SCALE

NO	DATE	BY	CKD	APPR	REVISION

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DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

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CITY OF COLUMBIA HEIGHTS

TABULATIONS

SP 113-591-001

STANDARD PLATES AND DETAILS

SHEET 5 OF 83

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EARTHWORK TABULATION		
STATION	EXCAVATION TOTALS (EV)	EMBANKMENT TOTALS (CV)
	COMMON	COMMON
SIDEWALK 1	CU YD	CU YD
30+40.00		
30+68.00	9	17
31+00.00	16	45
31+52.00	26	66
32+00.00	19	25
32+44.00	18	28
33+00.00	60	30
33+56.00	167	25
34+20.00	220	34
TOTAL	**535**	**270**

EARTHWORK TABULATION		
STATION	EXCAVATION TOTALS (EV)	EMBANKMENT TOTALS (CV)
	COMMON	COMMON
SIDEWALK 2	CU YD	CU YD
50+80.00		
51+60.00	22	22
52+40.00	9	6
53+20.00	26	10
54+00.00	54	21
55+00.00	67	24
55+60.00	36	12
56+40.00	47	16
57+20.00	39	14
58+00.00	29	10
58+80.00	31	10
TOTAL	**360**	**145**

EARTHWORK TABULATION		
STATION	EXCAVATION TOTALS (EV)	EMBANKMENT TOTALS (CV)
	COMMON	COMMON
SIDEWALK 3	CU YD	CU YD
10+20.00		
10+80.00	7	5
11+60.00	18	12
12+40.00	19	14
13+20.00	19	17
14+00.00	19	19
14+40.00	10	11
15+60.00	30	33
16+00.00	10	10
16+40.00	10	9
16+80.00	11	6
TOTAL	**153**	**136**

EARTHWORK SUMMARY		A
ALIGNMENT / CROSS STREETS	EXCAVATION TOTALS (CV)	EMBANKMENT TOTALS (CV)
	COMMON	COMMON
	CU YD	CU YD
SP 113-591-001		
SIDEWALK 1	535	270
SIDEWALK 2	360	145
SIDEWALK 3	153	136
49TH AVE / JACKSON ST (NORTH EAST QUADRANT) (SOUTH WEST QUADRANT)	100	100
SUBTOTAL SP 113-591-001	**1148**	**651**
TOTALS	**1148**	**651**

NOTES:

NO	DATE	BY	CKD	APPR	REVISION

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Joshua Colas

Date 5/28/2024 License # 55897

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STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

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COMM. NO.17109

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CITY OF COLUMBIA HEIGHTS

EARTHWORK TABULATION AND SUMMARY

SP 113-591-001

SHEET 6 OF 83

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REMOVALS AND SAWING

C

ALIGNMENT / CROSS STREETS	STATION TO STATION / DIRECTIONAL QUADRANTS	SAWING CONCRETE PAVEMENT (FULL DEPTH)	SAWING BIT PAVEMENT (FULL DEPTH)	REMOVE CURB & GUTTER	REMOVE CONCRETE WALK	REMOVE CONCRETE DRIVEWAY PAVEMENT	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	REMOVE BITUMINOUS PAVEMENT	REMOVE BITUMINOUS WALK
		LIN FT	LIN FT	LIN FT	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD
SP 113-591-001									
SIDEWALK 1	10+00.0 - 14+31.3		34					4	60
SIDEWALK 2	50+00.0 - 58+68.6	41	525	270	30	64		27	9
SIDEWALK 3	10+00.0 - 17+06.7	6	359	220	37	67		74	29
49TH AVE / JACKSON ST	NORTH WEST		62	40	14			13	
49TH AVE / JACKSON ST	NORTH EAST		44	35	5			7	
49TH AVE / GRAND AVE	SOUTH WEST		43	34	18			9	
49TH AVE / GRAND AVE	SOUTH EAST		37	30	14			8	
49TH AVE / FILMORE STREET	SOUTH WEST		46	36	17			9	
49TH AVE / FILMORE STREET	SOUTH EAST		38	27	17			7	
49TH AVE / COLUMBIE HEIGHTS HIGH SCHOOL DRIVEWAY	SOUTH WEST		22	15	19			4	
49TH AVE / COLUMBIE HEIGHTS HIGH SCHOOL DRIVEWAY	SOUTH EAST		43	32	30			10	
49TH AVE / FILMORE STREET	NORTH WEST	19	237	183	53	49	79	36	
49TH AVE / FILMORE STREET	NORTH EAST		249	203	58	53	63	44	
49TH AVE / JOHNSON STREET	SOUTH WEST		41	34	32			9	
49TH AVE / JOHNSON STREET	SOUTH EAST		46	37	12			10	
49TH AVE / JOHNSON STREET	NORTH WEST		78	66	38			18	
49TH AVE / JOHNSON STREET	NORTH EAST		39	29	12			7	
SP 113-591-001 TOTAL		**66**	**1943**	**1291**	**406**	**233**	**142**	**296**	**98**
TOTAL		**66**	**1943**	**1291**	**406**	**233**	**142**	**296**	**98**

NO	DATE	BY	CKD	APPR	REVISION

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CITY OF COLUMBIA HEIGHTS

TABULATIONS

SP 113-591-001

GRUBBING / REMOVALS AND SAWING

SHEET 7 OF 83

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CURB & GUTTER AND WALKS — D

ALIGNMENT / CROSS STREETS	STATION TO STATION / DIRECTIONAL QUADRANTS	4" CONCRETE WALK	6" CONCRETE WALK	DRILL & GROUT REINF BAR (EPOXY COATED)	CONCRETE CURB RAMP WALK	CONCRETE CURB & GUTTER DESIGN SPECIAL	CONCRETE CURB & GUTTER DESIGN B418	CONCRETE CURB & GUTTER DESIGN B612	CONCRETE CURB & GUTTER DESIGN B618	CONCRETE CURB & GUTTER DESIGN B624	CONCRETE CURB & GUTTER DESIGN S512	6" CONCRETE DRIVEWAY PAVEMENT	TRUNCATED DOMES
		SQ FT	SQ FT	EACH	SQ FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	SQ FT
SP 113-591-001													
SIDEWALK 1	10+00.0 - 14+31.3				70								27
SIDEWALK 2	50+00.0 - 58+68.6	4627	535	18	135	29			470	53	6		39
SIDEWALK 3	10+00.0 - 17+06.7	2937	431	34	569	35			36	27	169	21	112
49TH AVE / JACKSON ST	NORTH WEST	108		12	176				12		39		27
49TH AVE / JACKSON ST	NORTH EAST	402	255	10	106					38			18
49TH AVE / GRAND AVE	SOUTH WEST			8	164		35						12
49TH AVE / GRAND AVE	SOUTH EAST		100	6	43		30						18
49TH AVE / FILMORE STREET	SOUTH WEST		106	8	37				36				15
49TH AVE / FILMORE STREET	SOUTH EAST		76	6	62				28				9
49TH AVE / COLUMBIE HEIGHTS HIGH SCHOOL DRIVEWAY	SOUTH WEST		59	4	38				15	1			9
49TH AVE / COLUMBIE HEIGHTS HIGH SCHOOL DRIVEWAY	SOUTH EAST			10	265				34				28
49TH AVE / FILMORE STREET	NORTH WEST		567	10	146		40	9		155		63	18
49TH AVE / FILMORE STREET	NORTH EAST		727	12	180		38			157		57	32
49TH AVE / JOHNSON STREET	SOUTH WEST	112	83	10	57					38			11
49TH AVE / JOHNSON STREET	SOUTH EAST							6	27	6			
49TH AVE / JOHNSON STREET	NORTH WEST		250	12	101		43				25		21
49TH AVE / JOHNSON STREET	NORTH EAST			4	91					5	26		9
SP 113-591-001 TOTAL		**8186**	**3189**	**164**	**2240**	**64**	**186**	**15**	**658**	**480**	**265**	**141**	**405**
TOTAL		**8186**	**3189**	**164**	**2240**	**64**	**186**	**15**	**658**	**480**	**265**	**141**	**405**

BITUMINOUS SUMMARY — E

ALIGNMENT / CROSS STREETS	STATION TO STATION / DIRECTIONAL QUADRANTS	(J-1) , (J-2) TYPE SP 9.5 WEARING COURSE MIX (3,F)
		TON
SP 113-591-001		
SIDEWALK 1 (J-3)	10+00.0 - 14+31.3	75
SIDEWALK 2	50+00.0 - 58+68.6	45
SIDEWALK 3	10+00.0 - 17+06.7	39
49TH AVE / JACKSON ST	NORTH WEST	4
49TH AVE / JACKSON ST	NORTH EAST	3
49TH AVE / GRAND AVE	SOUTH WEST	3
49TH AVE / GRAND AVE	SOUTH EAST	3
49TH AVE / FILMORE STREET	SOUTH WEST	4
49TH AVE / FILMORE STREET	SOUTH EAST	3
49TH AVE / COLUMBIA HEIGHTS HIGH SCHOOL DRIVEWAY	SOUTH WEST	1
49TH AVE / COLUMBIA HEIGHTS HIGH SCHOOL DRIVEWAY	SOUTH EAST	3
49TH AVE / FILMORE STREET	NORTH EAST	26
49TH AVE / FILMORE STREET	NORTH WEST	29
49TH AVE / JOHNSON STREET	SOUTH WEST	3
49TH AVE / JOHNSON STREET	SOUTH EAST	4
49TH AVE / JOHNSON STREET	NORTH EAST	7
49TH AVE / JOHNSON STREET	NORTH WEST	3
SP 113-591-001 TOTAL		**255**
TOTAL		**255**

NOTES:
- (J-1) ASSUME 7 INCH THICKNESS FOR BITUMIOUS PATCH. ACTUAL THICKNESS MAY VARY AFFECTING QUANTITIES
- (J-2) ASSUMES 113 LBS OF BITUMIOUS PER SQUARE YARD AREA
- (J-3) 3 INCH THICKNESS FOR BITUMINOUS SIDEWALK

NO	DATE	BY	CKD	APPR	REVISION
17109_tb03.dgn					

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807
DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

TABULATIONS

SP 113-591-001

CURB & GUTTER AND WALKS / BITUMINOUS

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TURF ESTABLISHMENT — F

ALIGNMENT	STATION TO STATION / DIRECTIONAL QUADRANTS	(F-4) FERTILIZER TYPE 3	(F-1) SEEDING	(F-1) , (F-4) SEED MIXTURE 25-151	(F-3) MULCH MATERIAL TYPE 3	(F-2) WATER
		POUND	ACRE	POUND	TON	M GALLON
SP 113-591-001						
SIDEWALK 1	10+00.0 - 14+31.3	40	0.2	40	0.4	18
SIDEWALK 2	50+00.0 - 58+68.6	40	0.2	40	0.4	18
SIDEWALK 3	10+00.0 - 17+06.7	20	0.1	20	0.2	9
49TH AVE / JACKSON ST	WHOLE QUADRANT	4	0.02	4	0.04	2
49TH AVE / GRAND AVE	WHOLE QUADRANT	2	0.01	2	0.02	1
49TH AVE / FILMORE STREET	WHOLE QUADRANT	2	0.01	2	0.02	1
49TH AVE / COLUMBIE HEIGHTS HIGH SCHOOL DRIVEWAY	WHOLE QUADRANT	2	0.01	2	0.02	1
49TH AVE / FILMORE STREET	WHOLE QUADRANT	12	0.06	12	0.12	6
49TH AVE / JOHNSON STREET	WHOLE QUADRANT	4	0.02	4	0.04	2
SP 113-591-001 TOTAL		**126**	**0.63**	**126**	**1.26**	**58**
TOTAL		**126**	**0.63**	**126**	**1.26**	**58**

NOTES:
(F-1) ALL DISTURBED AREAS SHALL BE SEEDED WITH SEED MIXTURE 25-151
(F-2) APPLIED AT RATE OF 29 MGAL PER ACRE OF SEEDING. ASSUMED APPLIED 3 TIMES OVER CONSTRUCTION SEASON
(F-3) APPLIED AT 2 TONNES PER ACRE OF SEEDING
(F-4) APPLIED AT 200 POUNDS PER ACRE OF SEEDING

AGGREGATE SUMMARY — G

ALIGNMENT	STATION TO STATION / DIRECTIONAL QUADRANTS	AGGREGATE BASE (CV) CLASS 5
		CU YD
SP 113-591-001		
SIDEWALK 1	10+00.0 - 14+31.3	60
SIDEWALK 2	50+00.0 - 58+68.6	100
SIDEWALK 3	10+00.0 - 17+06.7	81
49TH AVE / JACKSON ST	NORTH WEST	3
49TH AVE / JACKSON ST	NORTH EAST	15
49TH AVE / GRAND AVE	SOUTH WEST	4
49TH AVE / GRAND AVE	SOUTH EAST	3
49TH AVE / FILMORE STREET	SOUTH WEST	3
49TH AVE / FILMORE STREET	SOUTH EAST	3
49TH AVE / COLUMBIE HEIGHTS HIGH SCHOOL DRIVEWAY	SOUTH WEST	2
49TH AVE / COLUMBIE HEIGHTS HIGH SCHOOL DRIVEWAY	SOUTH EAST	6
49TH AVE / FILMORE STREET	NORTH WEST	27
49TH AVE / FILMORE STREET	NORTH EAST	30
49TH AVE / JOHNSON STREET	SOUTH WEST	6
49TH AVE / JOHNSON STREET	SOUTH EAST	1
49TH AVE / JOHNSON STREET	NORTH WEST	8
49TH AVE / JOHNSON STREET	NORTH EAST	2
SP 113-591-001 TOTAL		**354**
TOTAL		**354**

TEMPORARY EROSION CONTROL — H

ALIGNMENT	STATION TO STATION / DIRECTIONAL QUADRANTS	STORM DRAIN INLET PROTECTION	SILT FENCE, TYPE MS
		EACH	LIN FT
SP 113-591-001			
SIDEWALK 1	10+00.0 - 14+31.3		372
SIDEWALK 2	50+00.0 - 58+68.6	5	
49TH AVE / JACKSON ST	NORTH EAST	1	
49TH AVE / GRAND AVE	SOUTH WEST	1	
49TH AVE / GRAND AVE	SOUTH EAST	1	
49TH AVE / FILMORE STREET	SOUTH EAST	1	
49TH AVE / COLUMBIE HEIGHTS HIGH SCHOOL DRIVEWAY	SOUTH WEST	1	
49TH AVE / FILMORE STREET	NORTH EAST	2	
49TH AVE / JOHNSON STREET	NORTH WEST	1	
SP 113-591-001 TOTAL		**13**	**372**
TOTAL		**13**	**372**

NO	DATE	BY	CKD	APPR	REVISION
17109_tb04.dgn					

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: JOSHUA A. COLAS
Joshua Colas
Date 5/28/2024 License # 55897

STATE AID PROJECT NO.
STATE PROJECT NO. 113-591-001
CITY PROJECT NO. 1807

DRAWN BY J.BAUERS
DESIGNED BY A.ORTLEPP
CHECKED BY J.COLAS
COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS
TABULATIONS
SP 113-591-001
TURF ESTABLISHMENT / AGGREGATE

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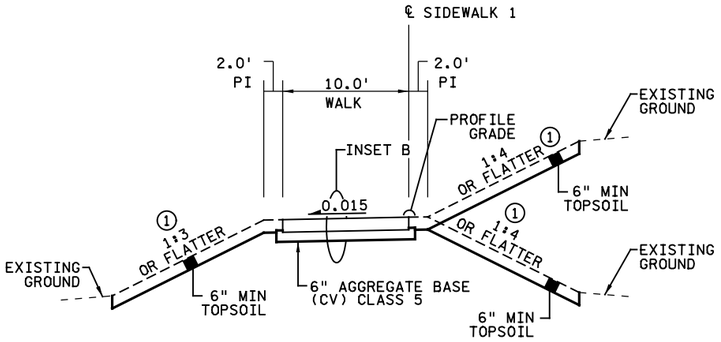
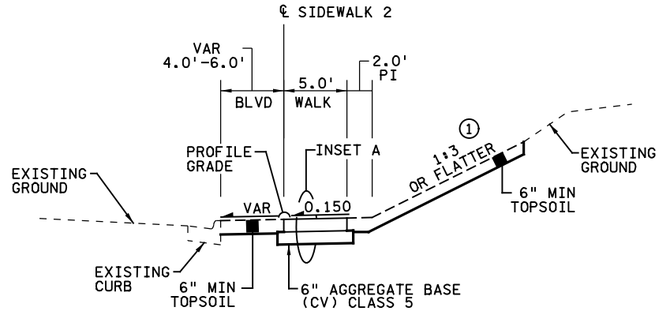


TYPICAL DETAIL NO. 1 - SIDEWALK 1

SIDEWALK 1 STA 10+10.0 TO STA 34+36.2



TYPICAL DETAIL NO. 2 - SIDEWALK 2

SIDEWALK 2 STA 50+23.9 TO STA 54+40.0

GENERAL NOTES:

ALL CROSS SLOPES ARE FOOT PER FOOT.

SEE CROSS SECTIONS FOR GRADING INFORMATION.

SEE INPLACE UTILITY / TOPOGRAPHY / REMOVAL PLAN SHEETS FOR RIGHT-OF-WAY AND EASEMENT INFORMATION.

SLOPE TOPSOIL PAID FOR AS COMMON EMBANKMENT (CV).

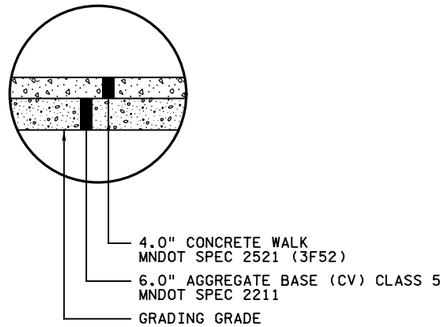
ALL SLOPES LISTED AS X:X ARE IN RISE TO RUN FORMAT.

COMMON EMBANKMENT USE QUALITY COMPACTION.

BITUMINOUS PAVING USE ORDINARY COMPACTION.

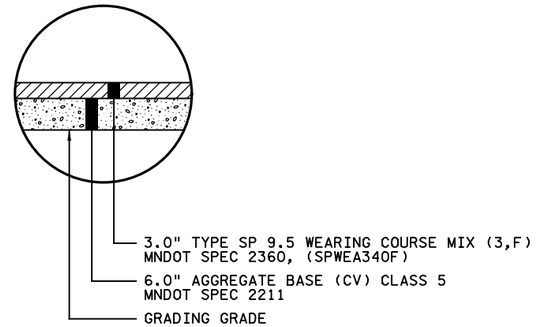
NOTES:

(1) SEE PROFILES AND CROSS SECTIONS FOR TIE IN GRADES AND ELEVATIONS.



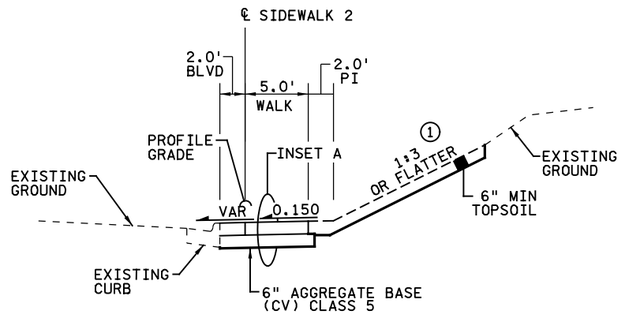
INSET A

CONCRETE WALK



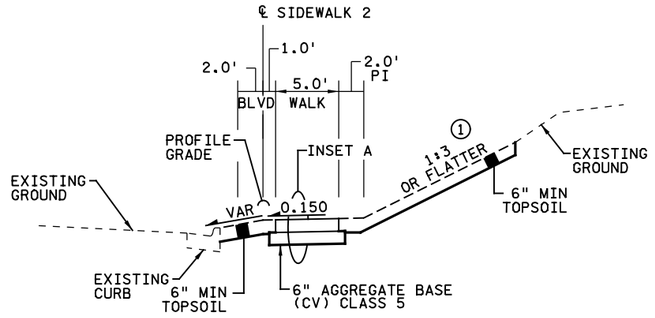
INSET B

BITUMINOUS WALK



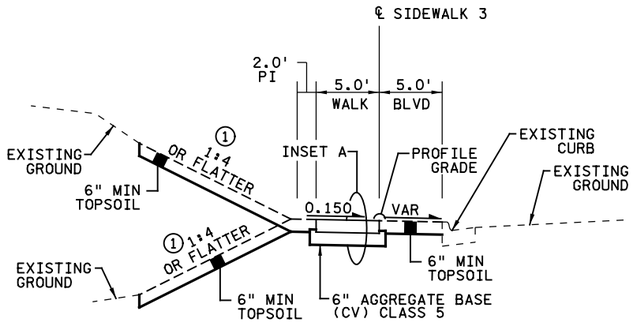
TYPICAL DETAIL NO. 3 - SIDEWALK 2

SIDEWALK 2 STA 54+80.0 TO STA 58+40.0



TYPICAL DETAIL NO. 4 - SIDEWALK 2

SIDEWALK 2 STA 58+40.0 TO STA 58+91.5



TYPICAL DETAIL NO. 5 - SIDEWALK 3

SIDEWALK 3 STA 10+00.0 TO STA 17+06.8

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

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SRF

CITY OF COLUMBIA HEIGHTS

TYPICAL SECTIONS

SP 113-591-001

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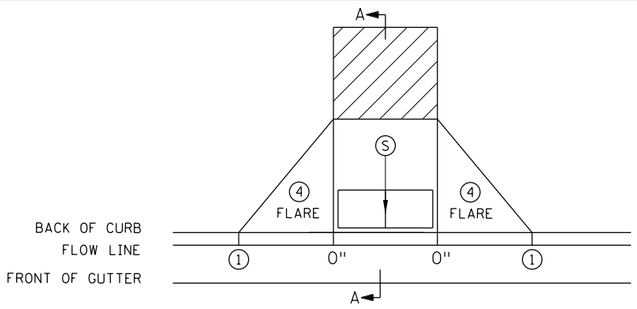
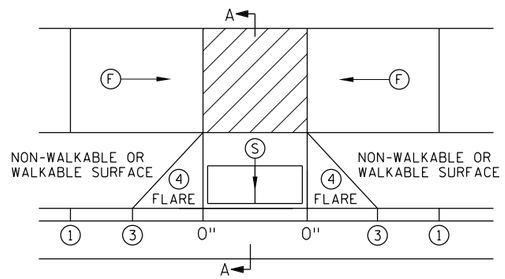
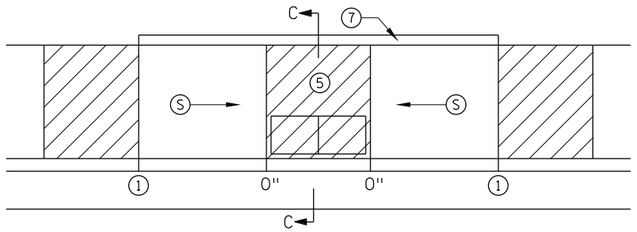


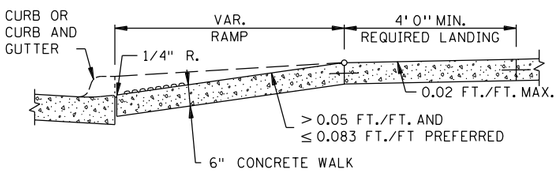
PERPENDICULAR



TIERED PERPENDICULAR

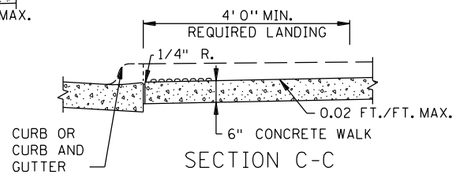


PARALLEL



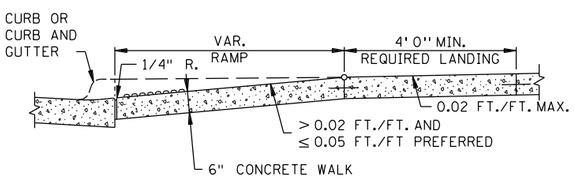
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



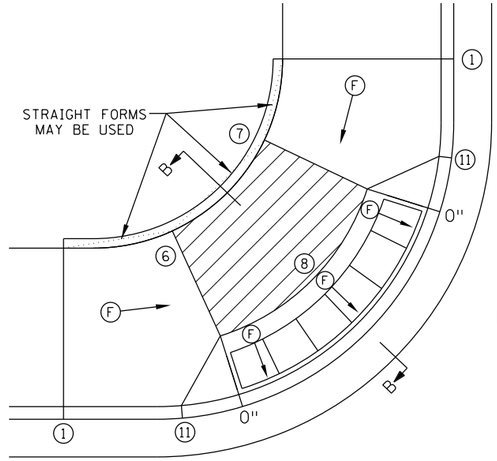
SECTION C-C

PARALLEL/DEPRESSED CORNER

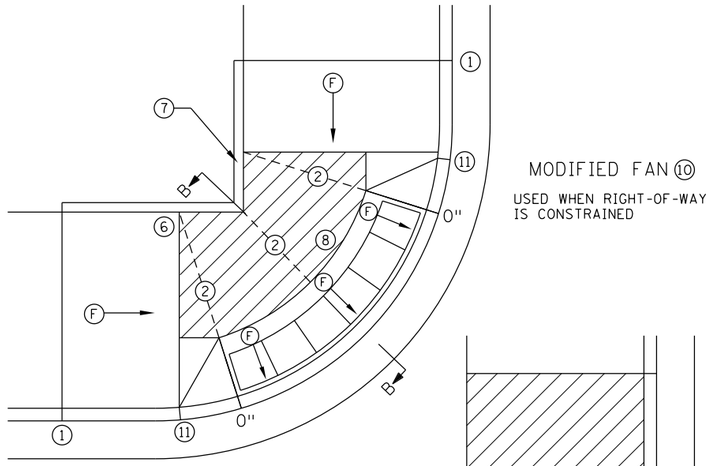


SECTION B-B

FAN

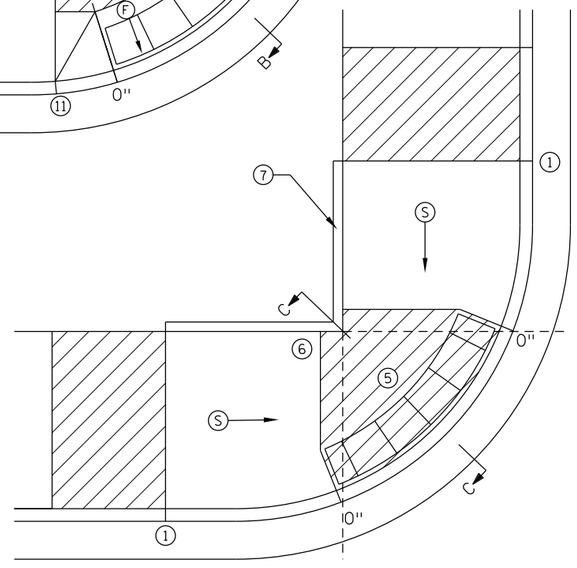


FAN (10)

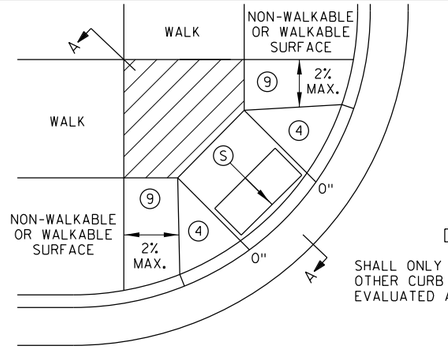


MODIFIED FAN (10)

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

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

NOTES:

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

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

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

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

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

TO ENSURE 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

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

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

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

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

X" CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | **1 OF 6**

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 11 OF 83 SHEETS

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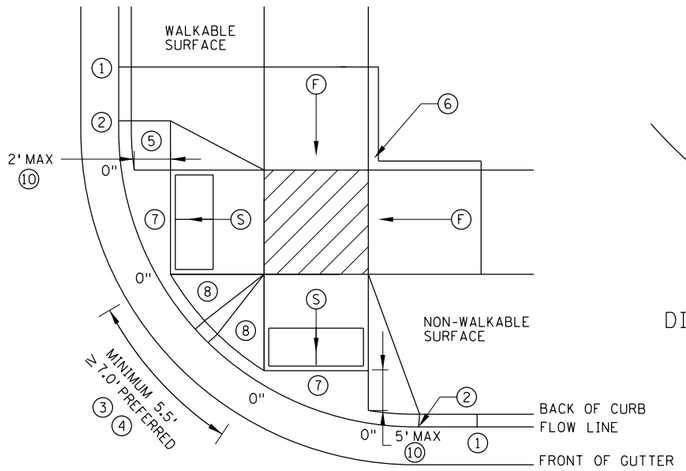
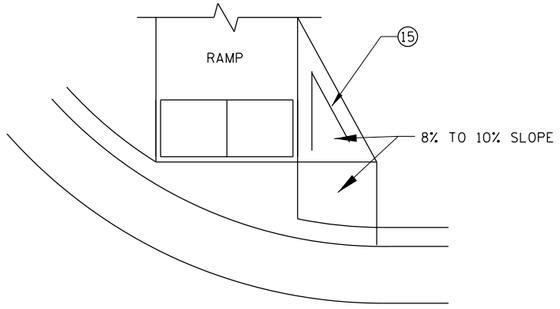
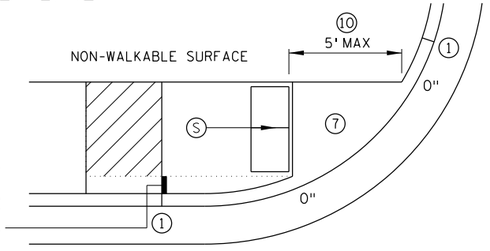


COMBINED DIRECTIONAL

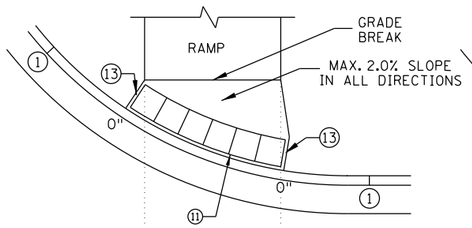


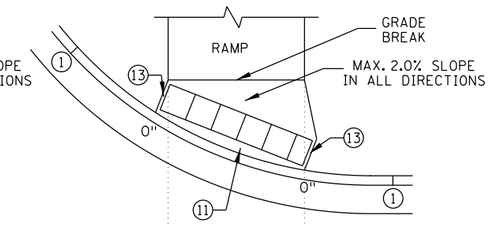
DIRECTIONAL RAMP WALKABLE FLARE

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.



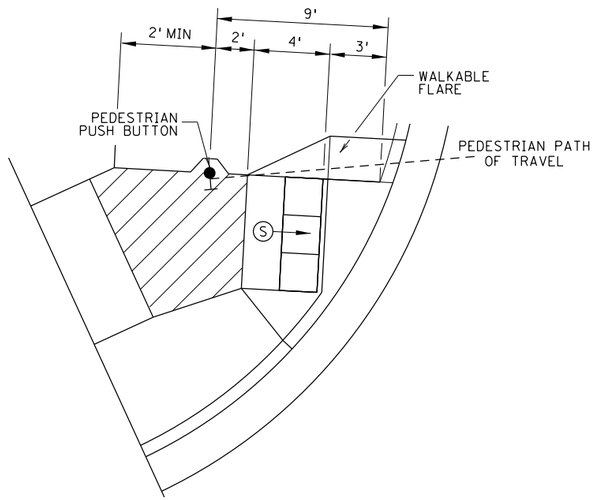
STANDARD ONE-WAY DIRECTIONAL ⑨





DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

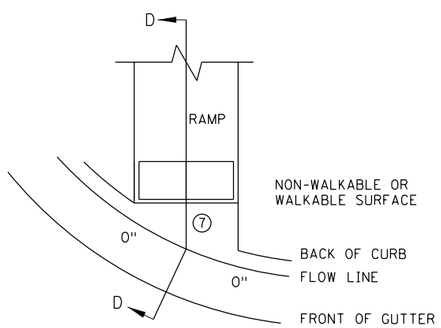
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

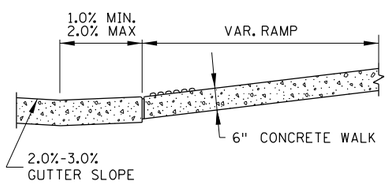


SEMI-DIRECTIONAL RAMP ③④⑨

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)





SECTION D-D

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%.

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

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN 5-297.250 | 2 OF 6

APPROVED: 11-04-2021
REVISED:

PEDESTRIAN CURB RAMP DETAILS

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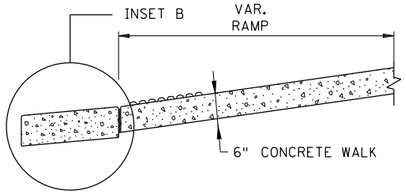
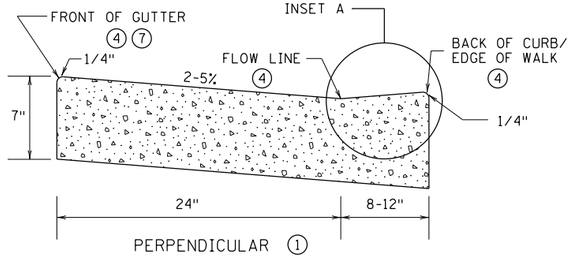
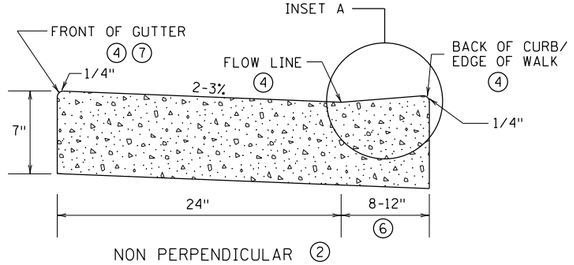
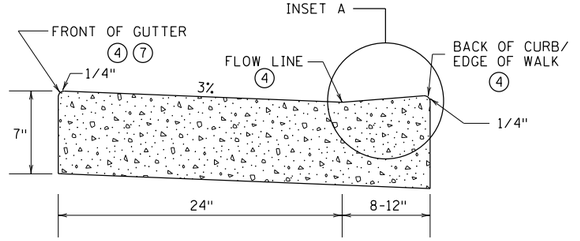




PERPENDICULAR (1)

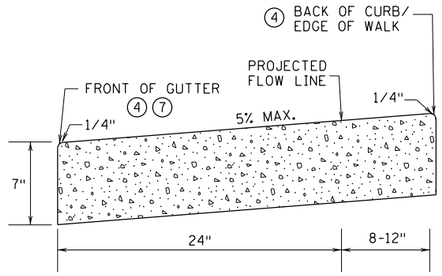


NON PERPENDICULAR (2)

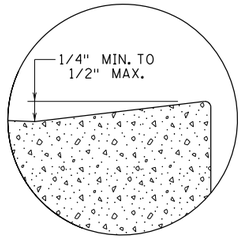


FOR CURB MACHINE PLACEMENT AROUND RADIUS (3)
(REGARDLESS OF RAMP TYPE)

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



INSET B
OUTFLOW GUTTER (8)



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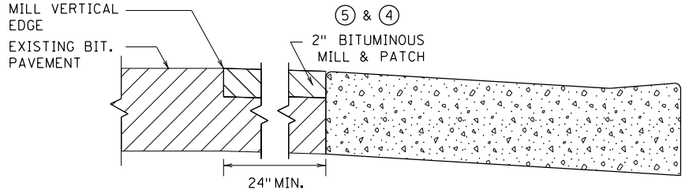
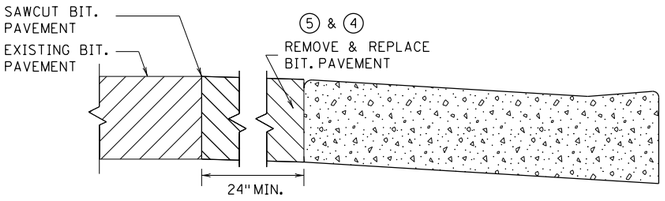
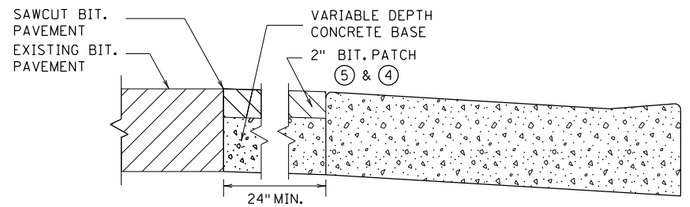
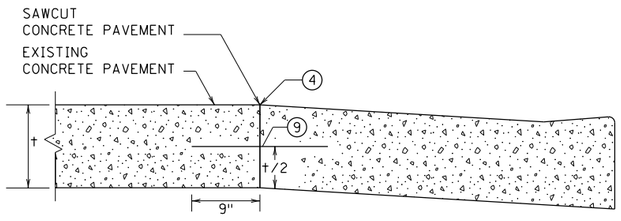




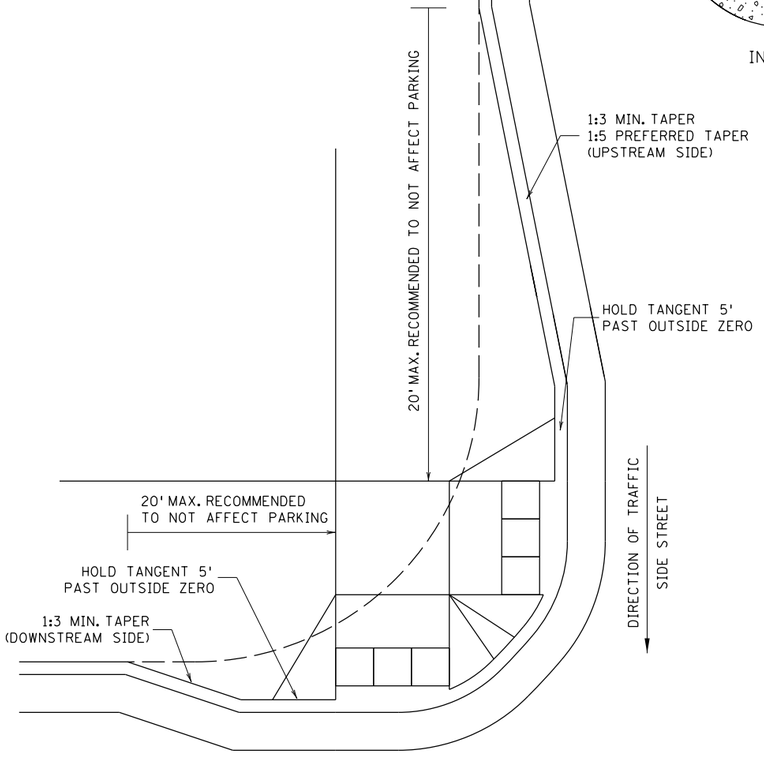




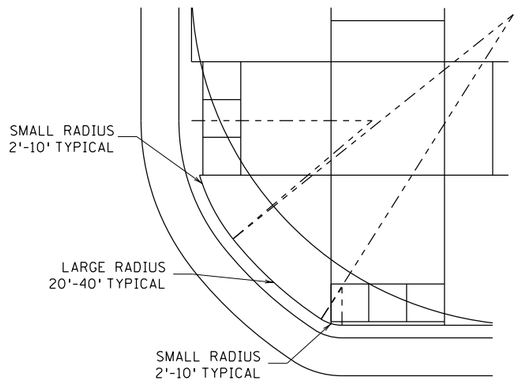
ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) (11)



COMBINED DIRECTIONAL (10)
(COMPOUND RADIUS)

NOTES:

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

NO PONDING SHALL BE PRESENT IN THE PAR.

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

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

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

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

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

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

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

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

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

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

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

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

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 3 OF 6

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 13 OF 83 SHEETS

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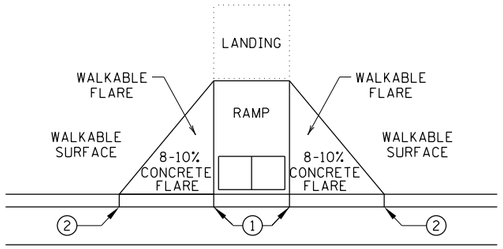
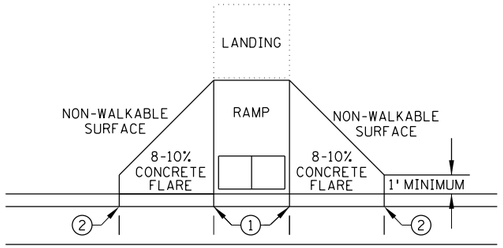
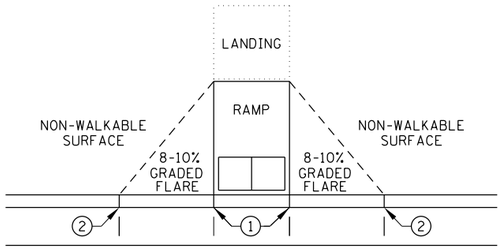


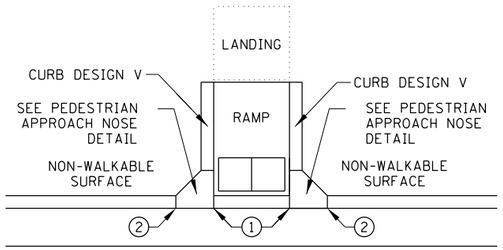
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

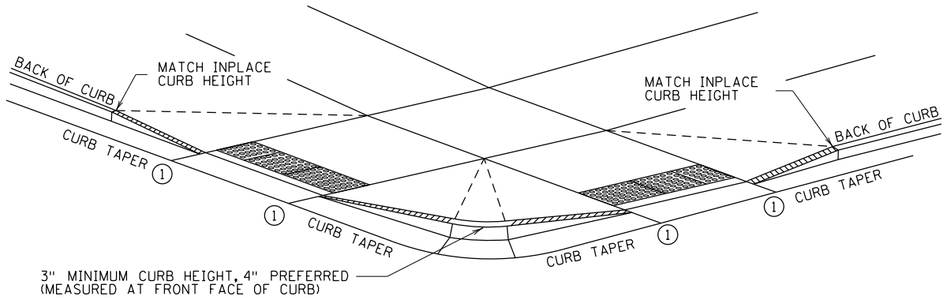


GRADED FLARES

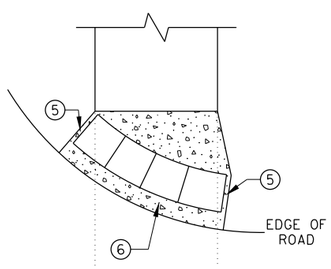


RETURNED CURB ④

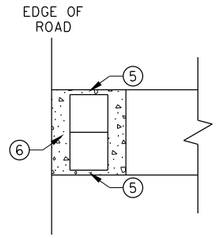
TYPICAL SIDE TREATMENT OPTIONS ③ ⑩



DETECTABLE EDGE WITH ⑦
CURB AND GUTTER

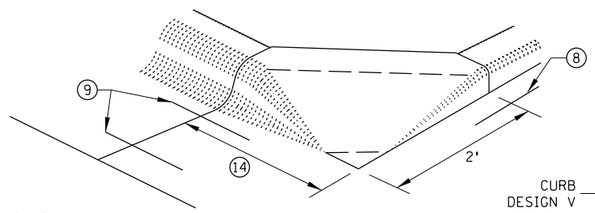


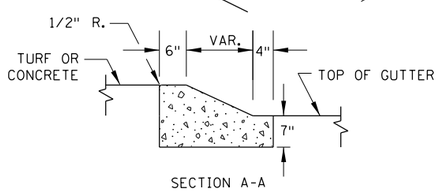
RADIAL DETECTABLE WARNING



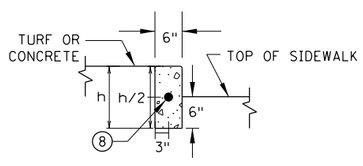
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

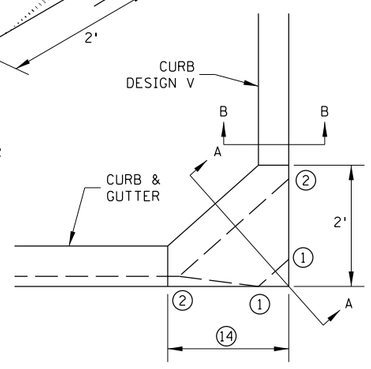




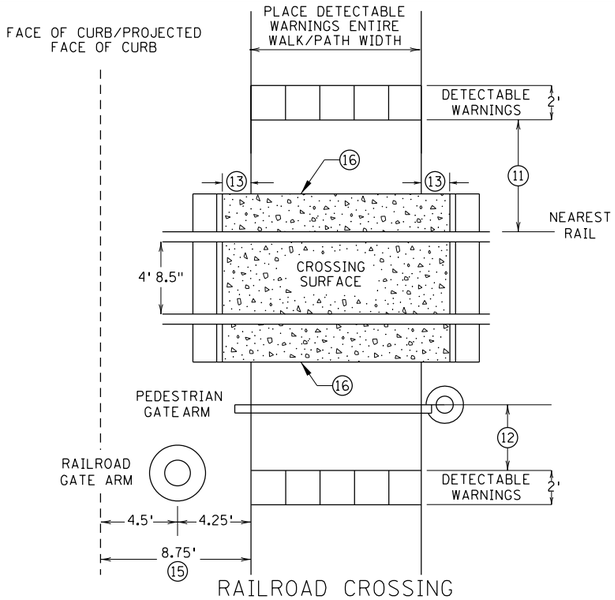
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

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.

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | **4 OF 6**

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

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5/28/2024
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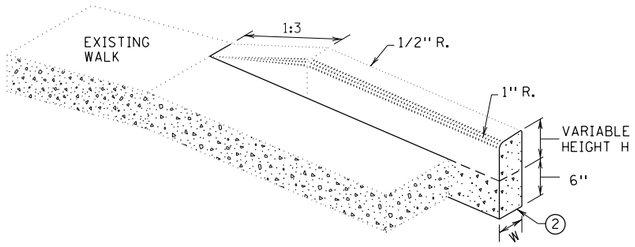
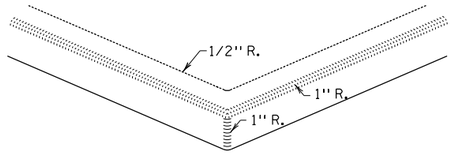
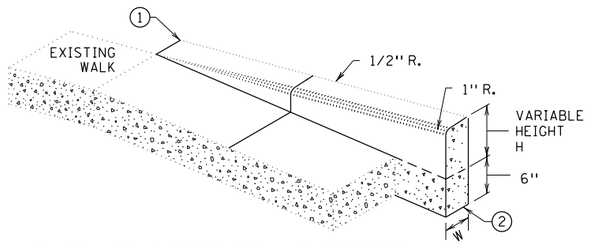


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

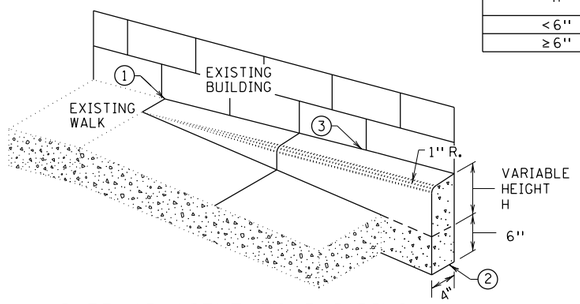


V CURB INTERSECTION

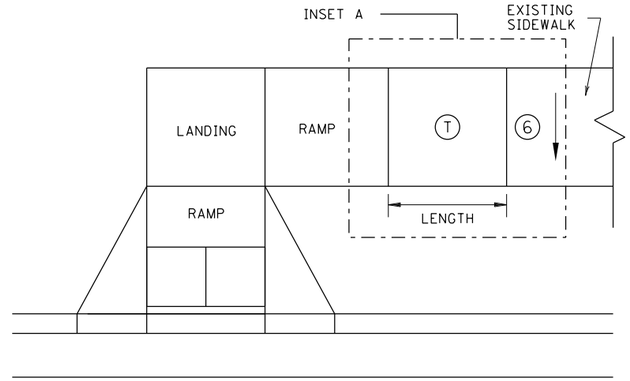
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



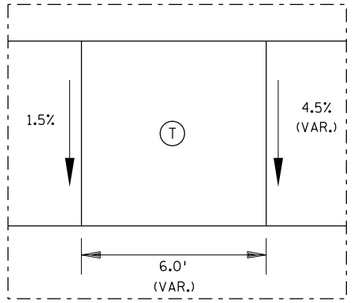
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



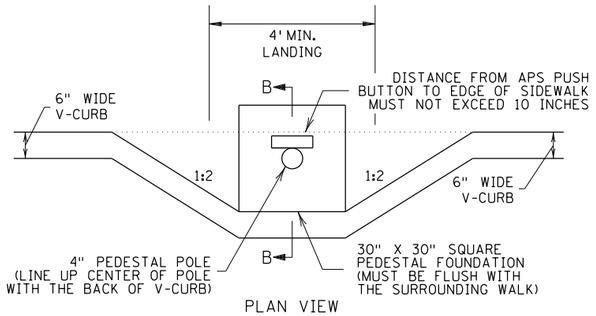
V CURB ADJACENT TO BUILDING
OR BARRIER



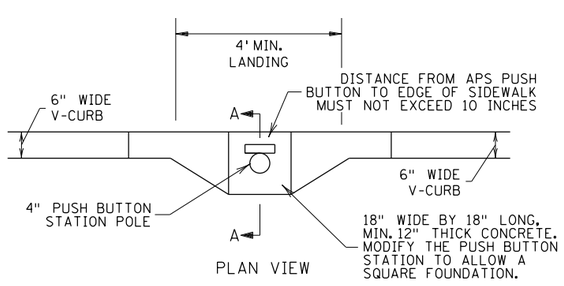
TRANSITION PANEL ④⑤



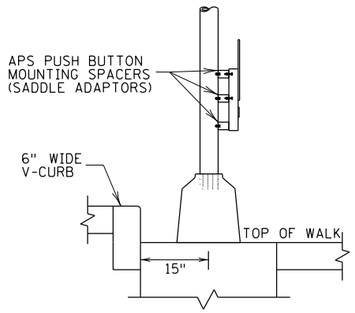
INSET A



PLAN VIEW

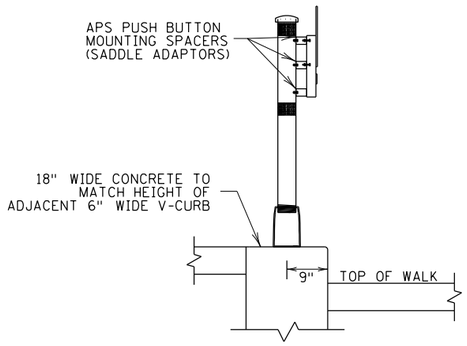


PLAN VIEW



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 ½" 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.

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 5 OF 6

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 15 OF 83 SHEETS

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5/28/2024
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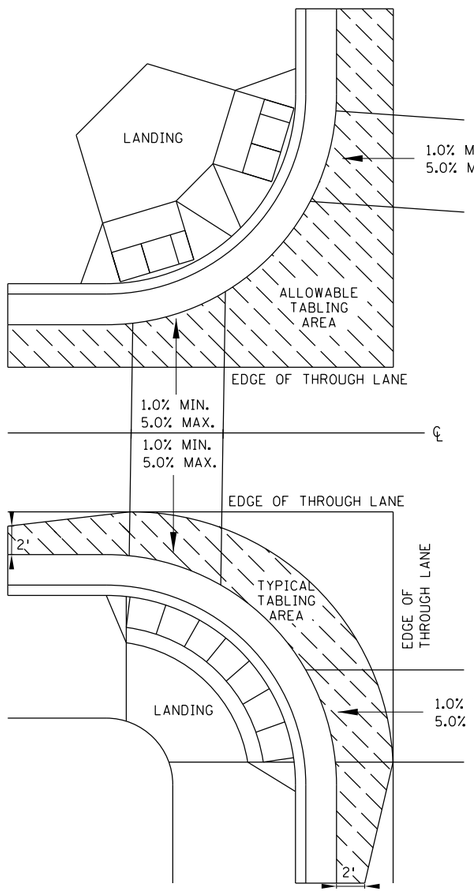
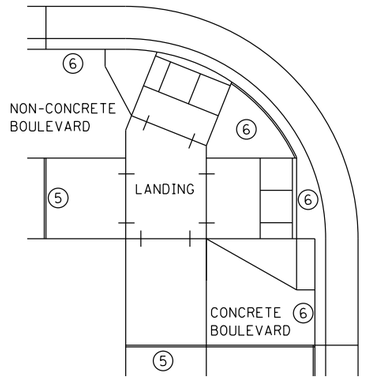
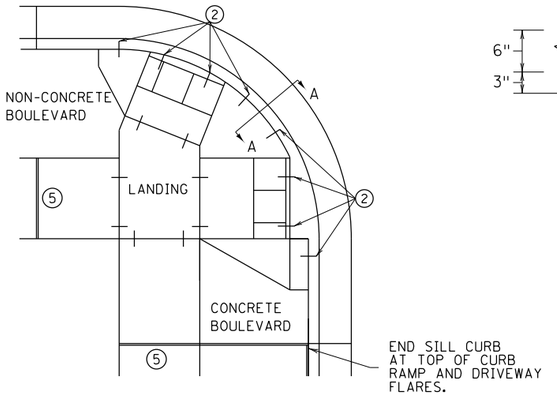


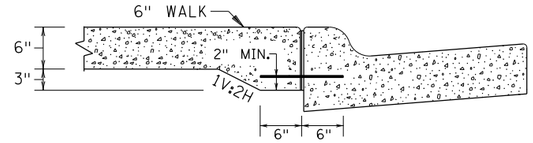
CURB LINE AND ROAD CROSSING ADJUSTMENTS



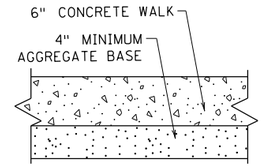
EXPANSION MATERIAL PLACEMENT
FOR CONCRETE ROADWAYS



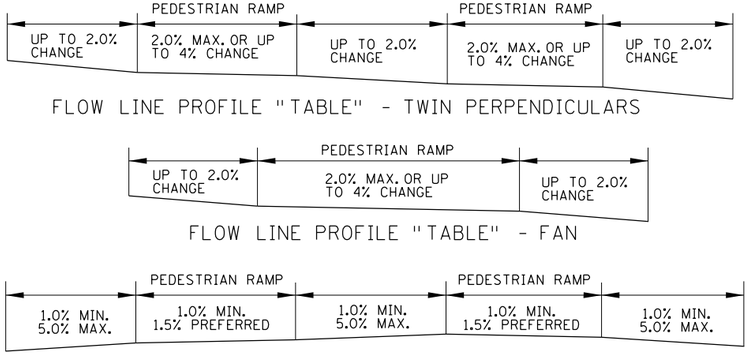
CURB LINE REINFORCEMENT ④
PLACEMENT ON BITUMINOUS ROADWAYS



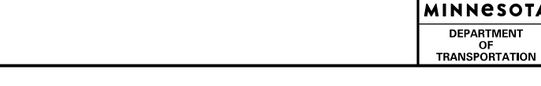
SECTION VIEW A-A
THICKENED SECTION
THROUGH CURB RAMP FLARES



TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER



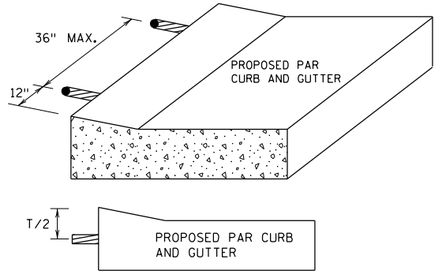
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



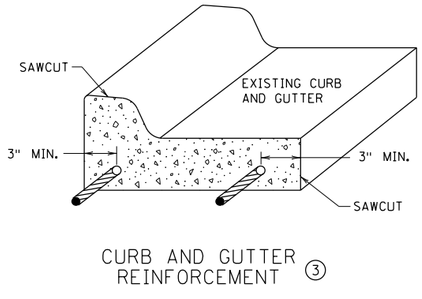
FLOW LINE PROFILE "TABLE" - FAN

FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

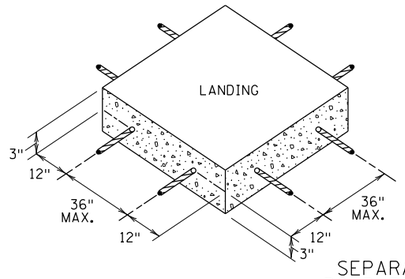
FLOW LINE PROFILE RAISE - FAN

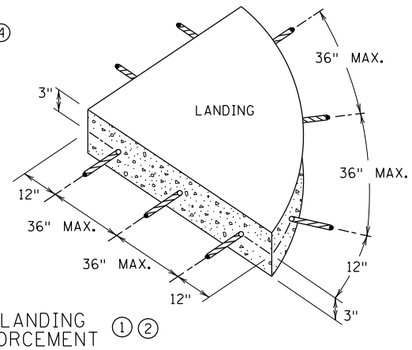


CURB RAMP REINFORCEMENT DETAILS ②④



CURB AND GUTTER
REINFORCEMENT ③





SEPARATE LANDING
POUR REINFORCEMENT ①②

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.

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN 5-297.250 | **6 OF 6**

APPROVED: 11-04-2021
REVISED:

PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 16 OF 83 SHEETS

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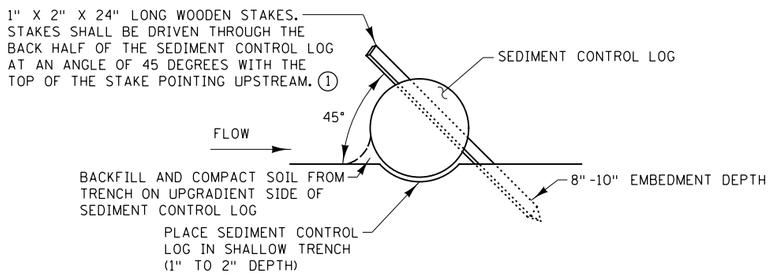
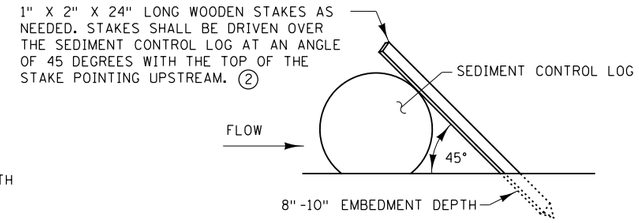
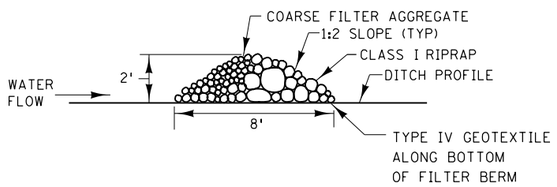


TYPES: STRAW, WOOD FIBER, OR COIR

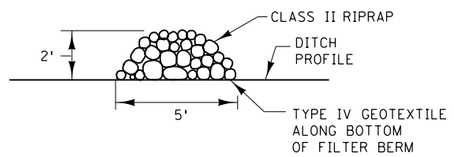


TYPES: WOOD CHIP, COMPOST, OR ROCK

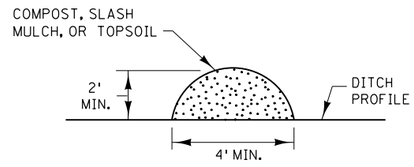
SEDIMENT CONTROL LOGS



TYPE 3 (ROCK WEEPER)

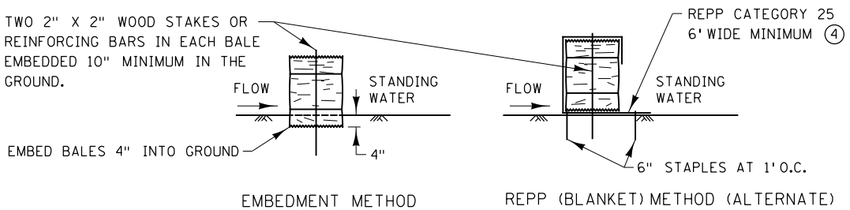


TYPE 5 (ROCK)



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

FILTER BERMS



EMBEDMENT METHOD

REPP (BLANKET) METHOD (ALTERNATE)

BALE BARRIERS(3)

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
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN 5-297.405 | **2 OF 8**

APPROVED: 1-8-2020
REVISED:

TEMPORARY SEDIMENT CONTROL

FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS

SHEET NO. 17 OF 83 SHEETS

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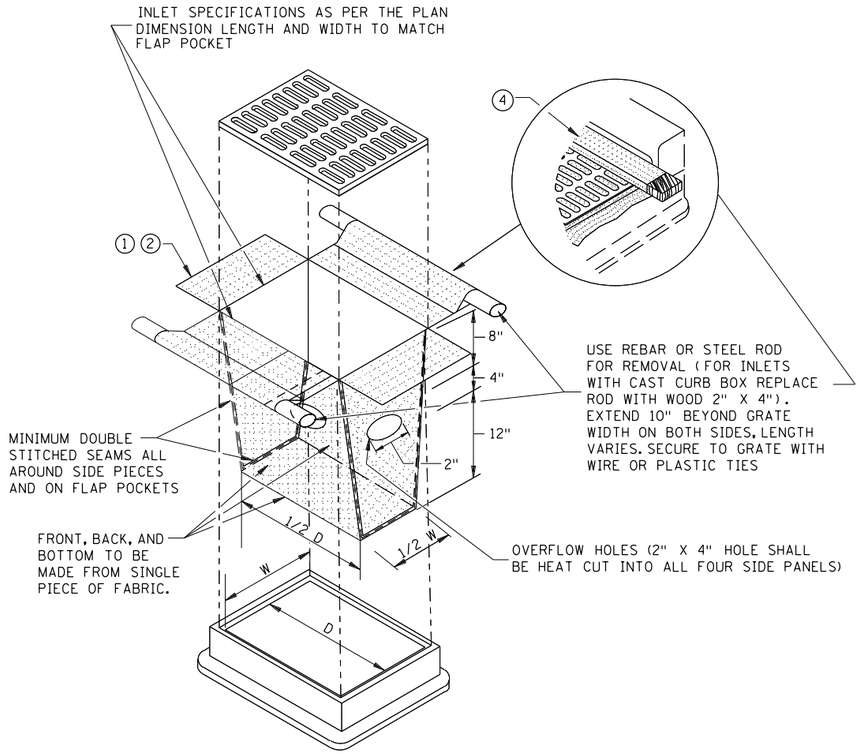
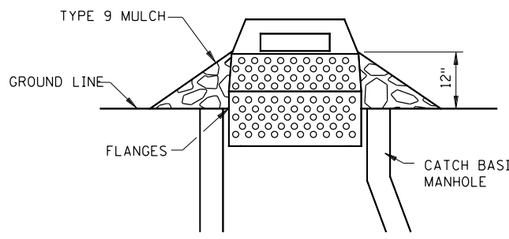


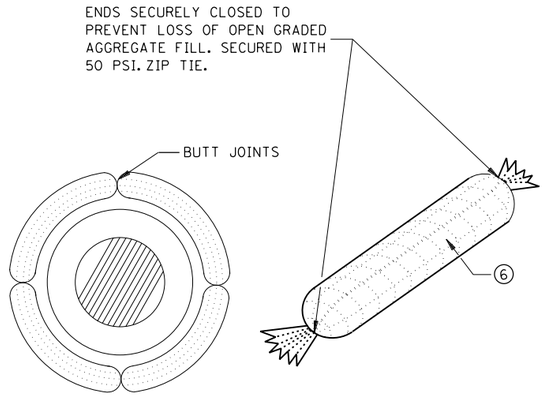
FILTER BAG INSERT ③

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

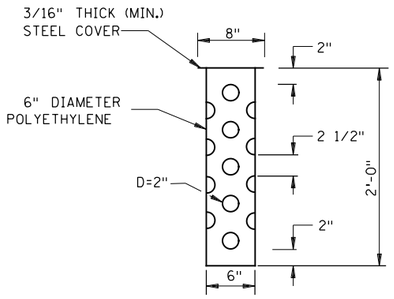


SEDIMENT CONTROL INLET HAT

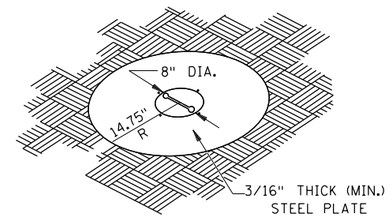
NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



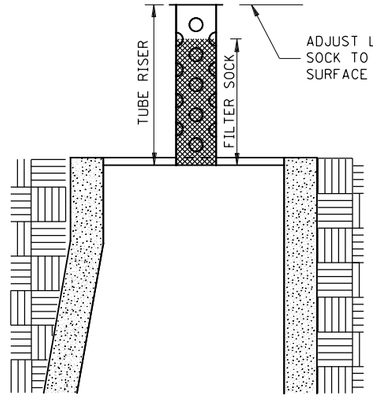
ROCK LOG/COMPOST LOG



TUBE RISER



PERSPECTIVE VIEW



SECTION
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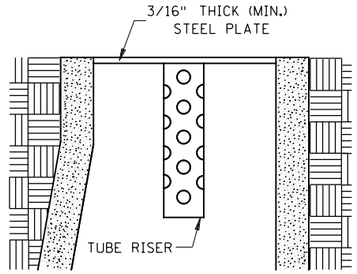
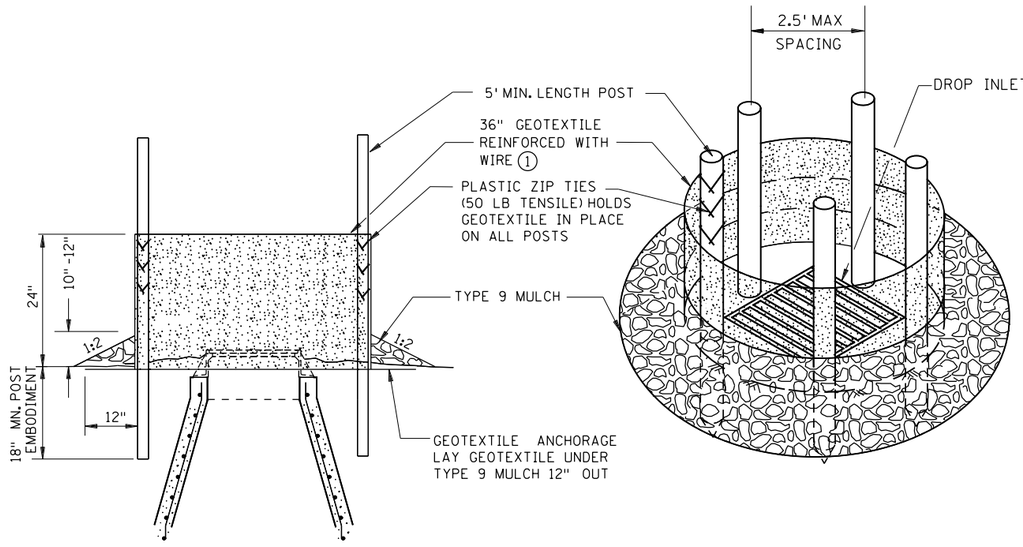


SECTION
(DOWN POSITION)

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM

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

NOTES:

SEE SPECS. 2573, 3137, & 3886.

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

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

REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 4 OF 8

APPROVED: 2-28-2017
REVISED:
STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

STORM DRAIN INLET PROTECTION

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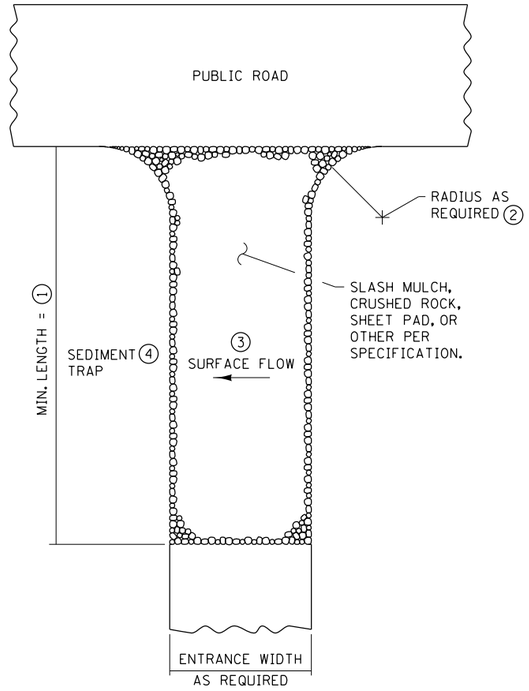
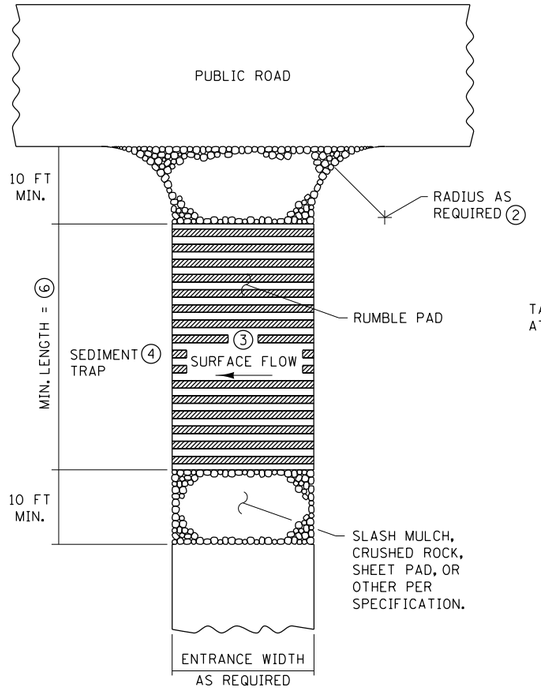
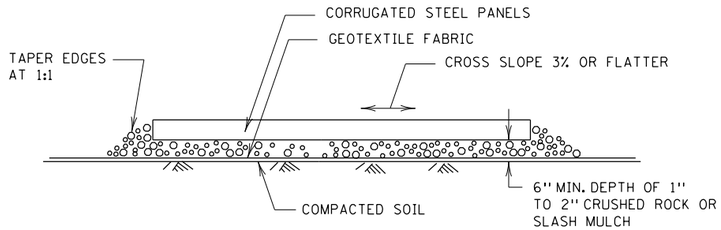


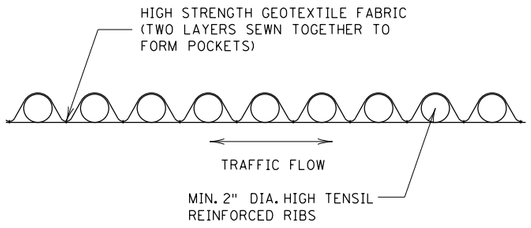
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



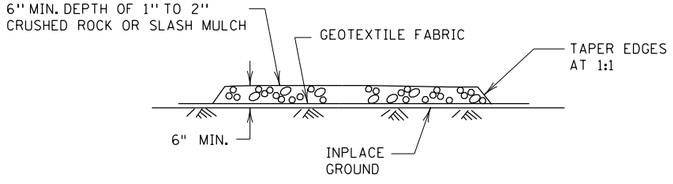
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

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

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

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

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

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

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

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

REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

APPROVED: 2-28-2017

REVISED:

STANDARD PLAN 5-297.405 | **5 OF 8**

TEMPORARY SEDIMENT CONTROL

STABILIZED CONSTRUCTION EXIT

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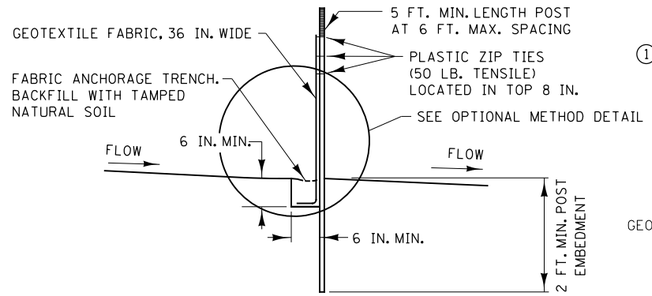
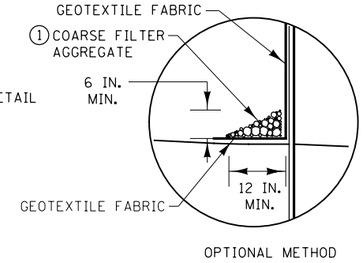
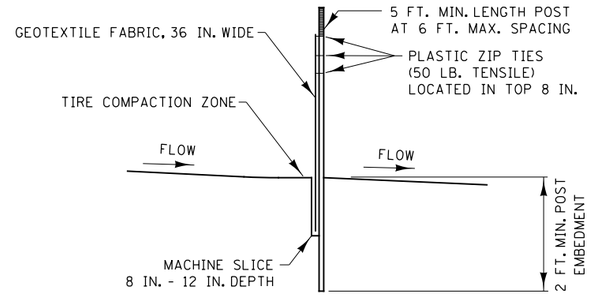




SILT FENCE TYPE HI ② (HAND INSTALLED)



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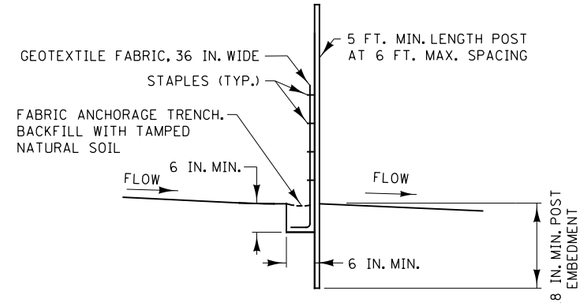

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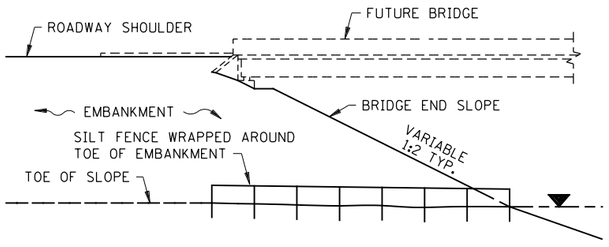
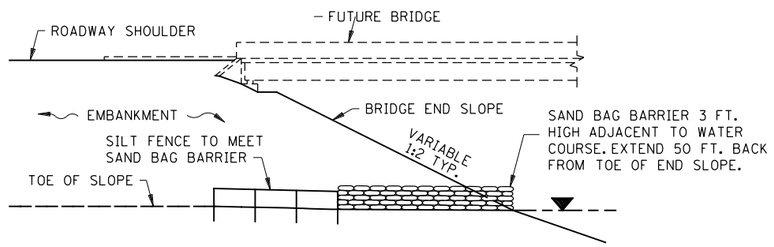
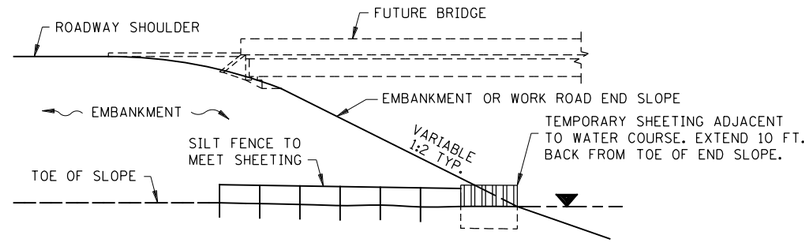


SILT FENCE ONLY ④



SILT FENCE WITH SAND BAGS ⑤



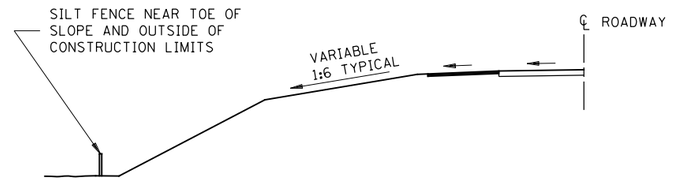
SILT FENCE WITH SHEETING ⑥

INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER

PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

SEE SPECS. 2573, 3149 & 3886.

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

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

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

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

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

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

REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 6 OF 8

APPROVED: 2-28-2017
REVISED:

STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

SILT FENCE

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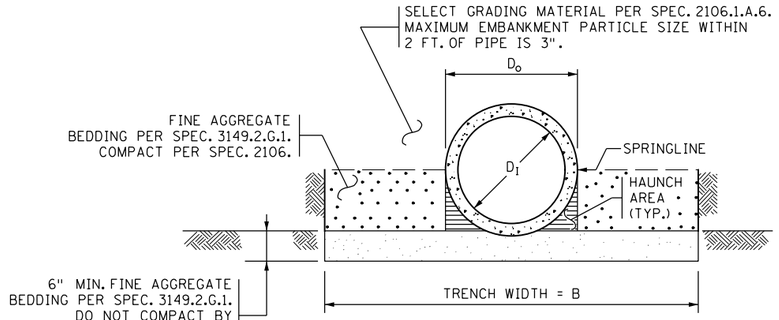
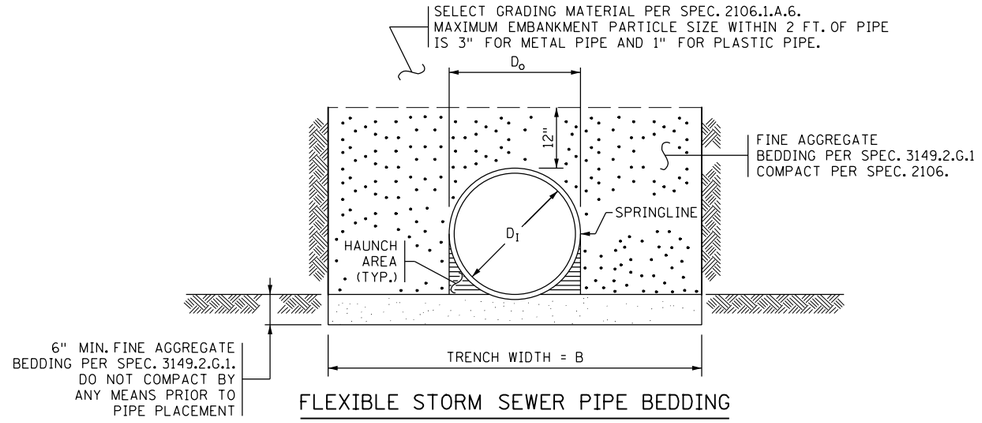


RIGID STORM SEWER PIPE BEDDING

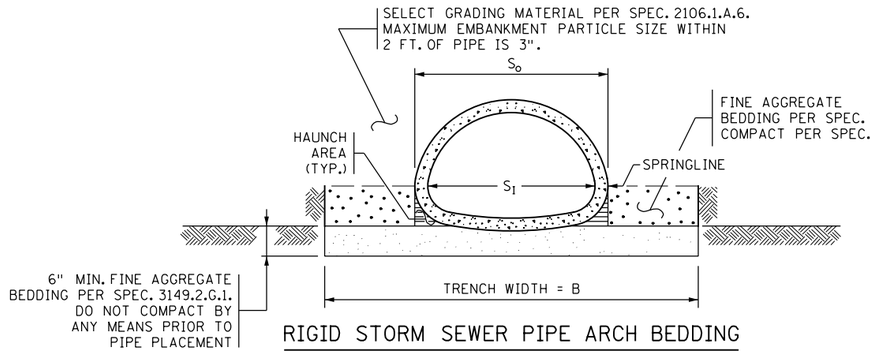
TRENCH BASE WIDTH (1)(2)	
PIPE DIA. D_I OR S_I	TRENCH WIDTH B
< 42"	D_o + 24"
42" TO 54"	1.5 x D_o
> 54"	D_o + 36"

PLASTIC PIPE
WITH H > 10 FT. (1)(2)

PIPE DIA.	TRENCH WIDTH (FEET)
12"	5'-2"
15"	5'-6"
18"	5'-9"
24"	6'-6"
30"	8'-0"
36"	9'-6"
42"	11'-0"
48"	12'-6"



FLEXIBLE STORM SEWER PIPE BEDDING



RIGID STORM SEWER PIPE ARCH BEDDING

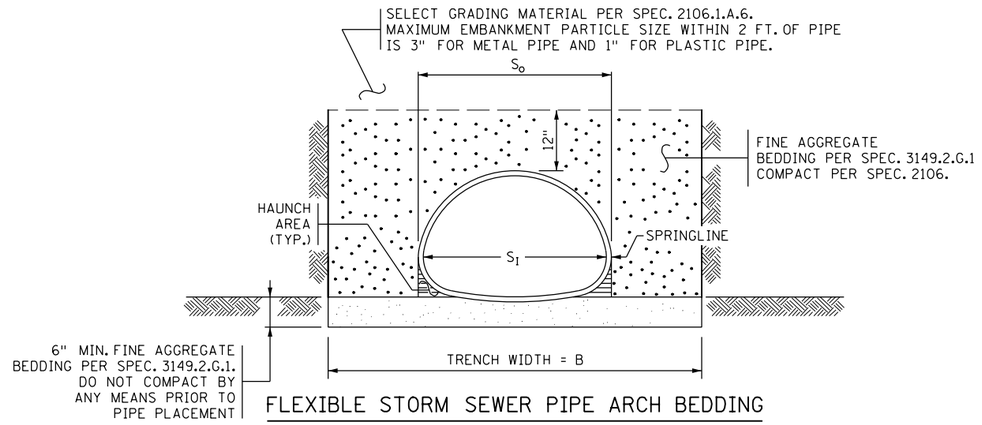
-LEGEND-

D_I = INSIDE DIAMETER OF ROUND PIPE (INCHES).
D_O = OUTSIDE DIAMETER OF ROUND PIPE (INCHES).
S_I = INSIDE SPAN OF PIPE-ARCH (INCHES).
S_O = OUTSIDE SPAN OF PIPE-ARCH (INCHES).
H = FILL COVER HEIGHT OVER PIPE (FEET).

= UNDISTURBED SOIL

= COMPACTED BEDDING

= LOOSE BEDDING, COMPACTED AFTER PIPE PLACEMENT



FLEXIBLE STORM SEWER PIPE ARCH BEDDING

CONSTRUCTION SEQUENCE

1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE. DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
2. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
3. FURNISH AND INSTALL PIPE TO GRADE.
4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL FINE AGGREGATE BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVE THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF HAUNCH UNDER THE PIPE). THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).
5. COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF SPEC. 2106 ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
6. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE SPRINGLINE FOR RIGID PIPE AND 12" ABOVE THE TOP OF THE PIPE FOR FLEXIBLE PIPE WHEN COMPACTED.
7. COMPLETE REMAINING BACKFILL.

NOTES

EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.

PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER OR SPAN.

PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2503.

WHEN RIPRAP IS REQUIRED AT THE APRON END, SEE STANDARD PLATE OR PLAN FOR RIPRAP INSTALLATION AND QUANTITIES. FOR APRONS WITHOUT RIPRAP PLACE 6" MIN. FINE AGGREGATE BEDDING UNDER APRONS. USE A TRENCH WIDTH EQUAL TO THE PIPE TRENCH WIDTH.

FINE AGGREGATE BEDDING INCLUDING THE COST OF EXCAVATION, PLACEMENT AND COMPACTION IS INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.

EXCAVATION AND BACKFILL WITH SELECT GRADING MATERIAL ARE NOT TABULATED SEPARATELY BUT ARE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.

RIGID PIPE INCLUDES CONCRETE. FLEXIBLE PIPE INCLUDES METAL, AND PLASTIC MATERIALS SUCH AS CORRUGATED POLYPROPYLENE (PP), CORRUGATED POLYETHYLENE (CP) AND POLYVINYL CHLORIDE (PVC).

(1) MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.

(2) USE PLASTIC PIPE TABLE FOR TRENCH WIDTHS WHEN FILL HEIGHT IS GREATER THAN 10 FT.

REVISION:

APPROVED: JANUARY 18, 2019
Kevin Western
STATE BRIDGE ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.442	1 OF 1
APPROVED: 01-18-2019	
REVISED:	

STATE DESIGN ENGINEER

STANDARD STORM SEWER BEDDING FOR RIGID AND FLEXIBLE PIPE

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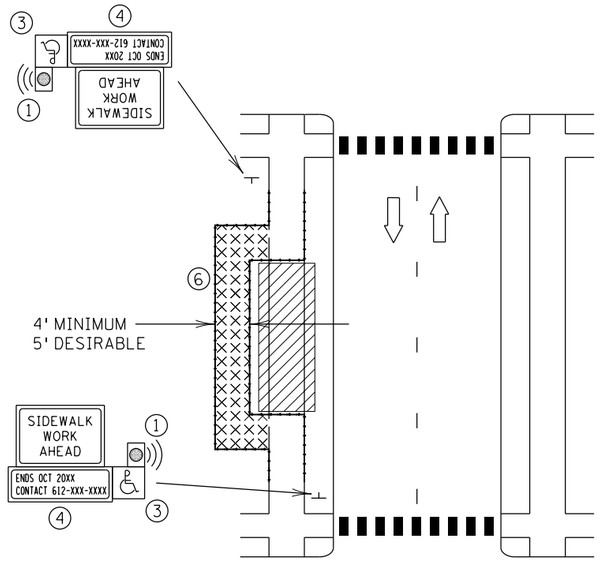
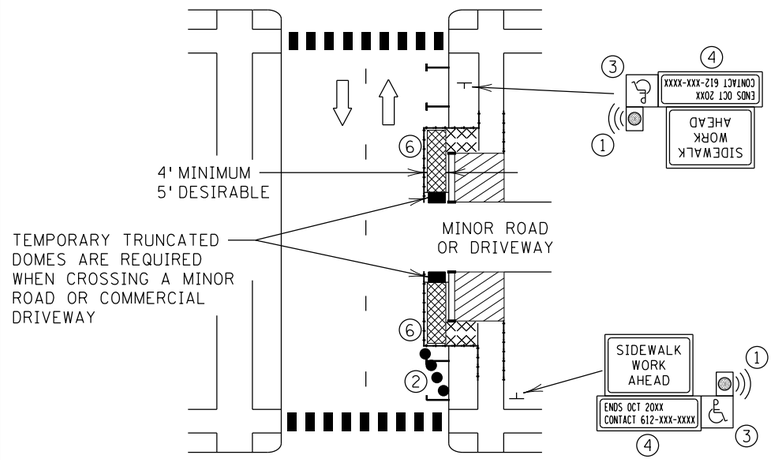


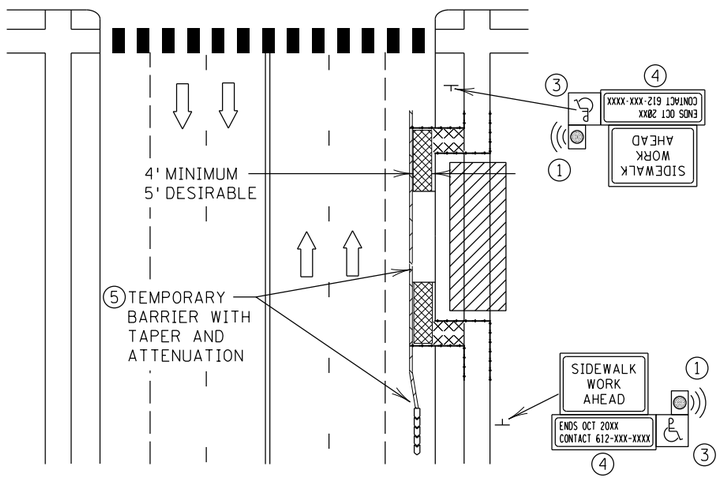
BYPASS TYPE A

BYPASS ON ADJACENT AVAILABLE RIGHT OF WAY



BYPASS TYPE B

SIDEWALK BYPASS USING PARKING OR SHOULDER ON LOW-SPEED ROADWAY



BYPASS TYPE C

SIDEWALK BYPASS USING SHOULDER OR PARKING LANE ON A MULTI-LANE OR HIGH-SPEED ROADWAY

NOTES:

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES. THE ALTERNATE PEDESTRIAN ROUTE (APR) MUST REMAIN OPEN AT ALL TIMES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK AS NECESSARY TO PROVIDE AN APR AT ALL TIMES FOR ROADWAYS WITH NO AVAILABLE DETOURS. 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 (¾" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR THE TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, AND OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS. IF NEEDED, PROVIDE SOIL STABILIZATION TO PREVENT EROSION AROUND TEMPORARY SURFACES. IF NEEDED, PROVIDE SOIL STABILIZATION TO PREVENT EROSION AROUND TEMPORARY SURFACES.

IF A 60" PEDESTRIAN WALKWAY WIDTH ISN'T PROVIDED FOR THE ROUTE, THEN A 60" BY 60" PASSING SPACE IS REQUIRED EVERY 200'. THE MINIMUM WIDTH OF THE WALKWAY IS 48".

COVER OR DEACTIVATE ANY PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS.

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

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

ANY PORTABLE SIGN OR BARRICADE PLACED OR STORED IN A PEDESTRIAN WALKWAY THAT COULD POSE A HAZARD TO A VISUALLY-IMPAIRED PEDESTRIAN SHALL HAVE A DETECTABLE EDGE TO GUIDE THE PEDESTRIAN AROUND THE HAZARD. FOR ADDITIONAL GUIDANCE, SEE THE "DETECTABLE EDGE FOR SIGN ON PORTABLE STAND" DETAIL ON STADARD PLAN 5-297.813.

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

2. PROVIDE THE APR ON THE SAME SIDE OF THE ROADWAY AS THE DISRUPTED ROUTE UTILIZING BYPASSES.

3. WHERE NOT FEASIBLE TO PROVIDE A SAME-SIDE APR, PROVIDE AN APR DETOUR ON THE OTHER SIDE OF THE ROADWAY.

   WHERE NOT FEASIBLE TO PROVIDE AN APR ON EITHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.

(1) CONSIDER PROVIDING AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE FOR PEDESTRIANS WITH VISUAL DISABILITIES.

(2) RECOMMENDED TAPER WHEN THE CLOSED AREA WAS PREVIOUSLY USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE IS 25' LONG USING FIVE EQUALLY-SPACED CHANNELIZING DEVICES.

(3) FOR FULLY-ACCESSIBLE WALKWAYS THROUGH WORKZONES, CONSIDER DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.

(4) 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 ON SIGNS FOR TEMPORARY PEDESTRIAN DETOURS.

(5) SEE THE MOST CURRENT EDTION OF THE MNDOT TEMPORARY BARRIER GUIDANCE MANUAL FOR GUIDANCE ON PLACEMENT AND USAGE OF TEMPORARY BARRIER.

(6) PROVIDE SOIL STABILIZATION AROUND TEMPORARY SURFACES TO PREVENT EROSION, IF NEEDED.

LEGEND

- SIGN
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TEMPORARY BARRIER
- DIRECTION OF TRAFFIC
- CHANNELIZER
- AUDIBLE MESSAGE DEVICE (AMD)
- TEMPORARY CURB RAMP WITH DETECTABLE EDGES
- TEMPORARY WALKWAY SURFACE

REVISION:

APPROVED: 03-18-2021

BRIAN SORENSON
STATE TRAFFIC ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.811 | **1 OF 2**

APPROVED: 03-18-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

ALTERNATE PEDESTRIAN ROUTE (APR) LAYOUTS

SHEET NO. 22 OF 83 SHEETS

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5/28/2024
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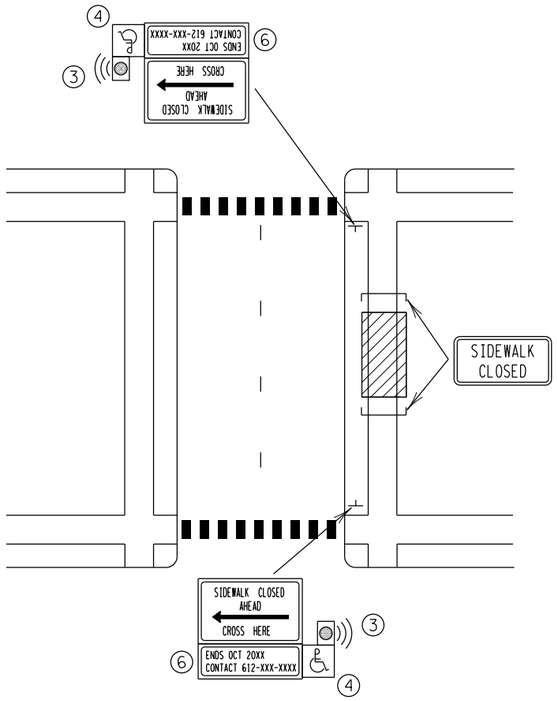
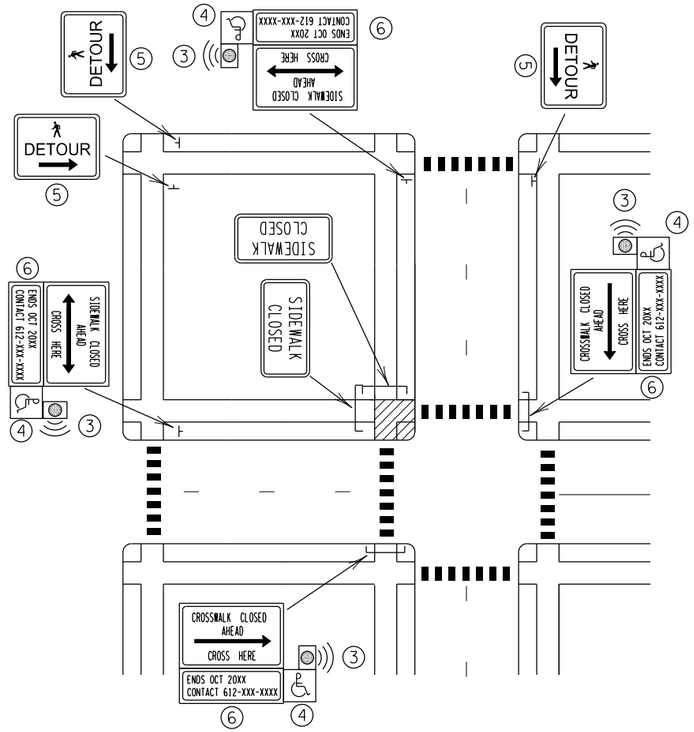
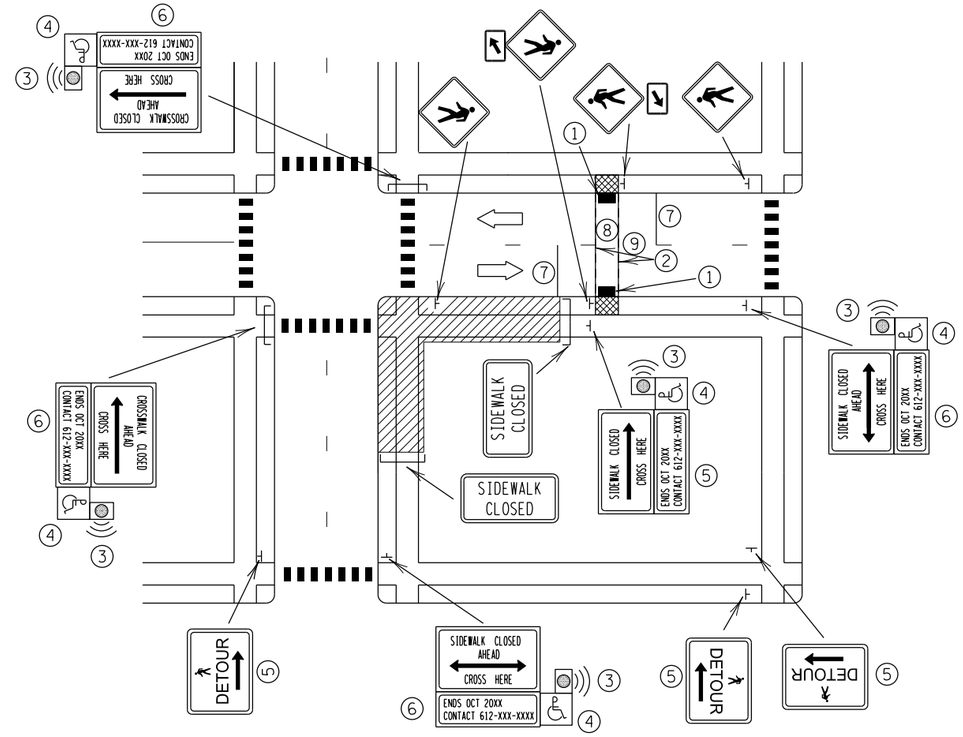


OTHER SIDE OF ROADWAY DETOUR
FOR MID-BLOCK CLOSURE



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

R1-6a

REVISION:

APPROVED: 03-18-2021
BRIAN SOBENSON
STATE TRAFFIC ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

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

APPROVED: 03-18-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

ALTERNATE PEDESTRIAN ROUTE (APR) LAYOUTS

SHEET NO. 23 OF 83 SHEETS

11:34:52 AM
5/28/2024
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HORIZONTAL CONTROL		
POINT NAME	Y	X
0207M	108490.665	505017.652
0207L	104111.293	505022.877

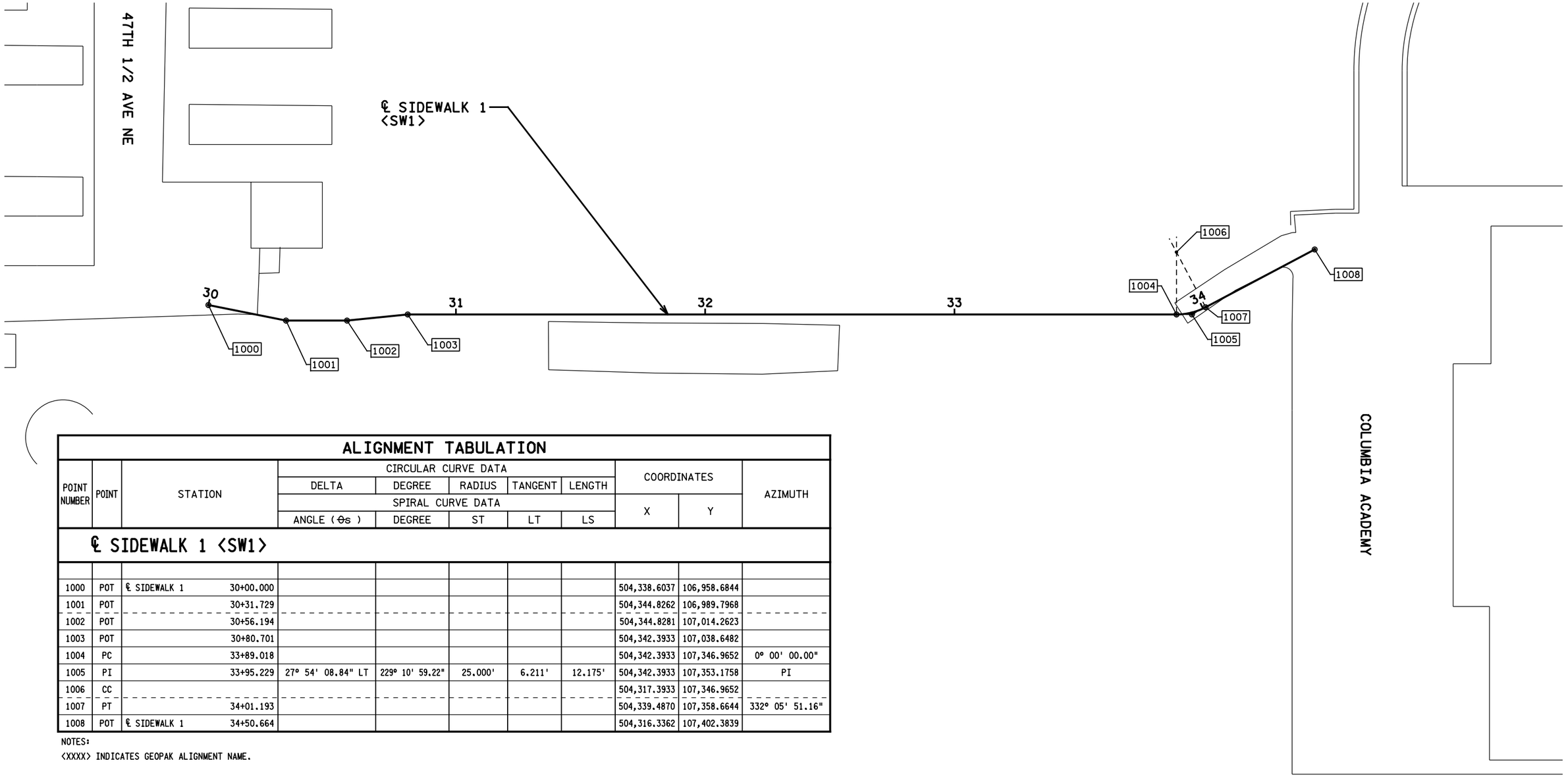
NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME

HORIZONTAL CONTROL

THE HORIZONTAL CONTROL SHOWN ON THIS PLAN IS IN US SURVEY FEET IN NAD83(1996), ANOKA COUNTY COORDINATES. FOR A REPORT DETAILING THIS CONTROL CONTACT MNDOT METRO SURVEYS.

0 20 40
SCALE IN FEET



ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	Y	AZIMUTH
			SPIRAL CURVE DATA ANGLE (~~θs~~)	DEGREE	ST	LT	LS			
℄ SIDEWALK 1 <SW1>										
1000	POT	℄ SIDEWALK 1 30+00.000						504,338.6037	106,958.6844	
1001	POT	30+31.729						504,344.8262	106,989.7968	
1002	POT	30+56.194						504,344.8281	107,014.2623	
1003	POT	30+80.701						504,342.3933	107,038.6482	
1004	PC	33+89.018						504,342.3933	107,346.9652	0° 00' 00.00"
1005	PI	33+95.229	27° 54' 08.84" LT	229° 10' 59.22"	25.000'	6.211'	12.175'	504,342.3933	107,353.1758	PI
1006	CC							504,317.3933	107,346.9652	
1007	PT	34+01.193						504,339.4870	107,358.6644	332° 05' 51.16"
1008	POT	℄ SIDEWALK 1 34+50.664						504,316.3362	107,402.3839	

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME.

NO	DATE	BY	CKD	APPR	REVISION

17109_a101.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS
DESIGNED BY A.ORTLEPP
CHECKED BY J.COLAS
COMM. NO. 17109

SRF

CITY OF COLUMBIA HEIGHTS
ALIGNMENT PLANS
SP 113-591-001

SHEET 24 OF 83

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5/28/2024
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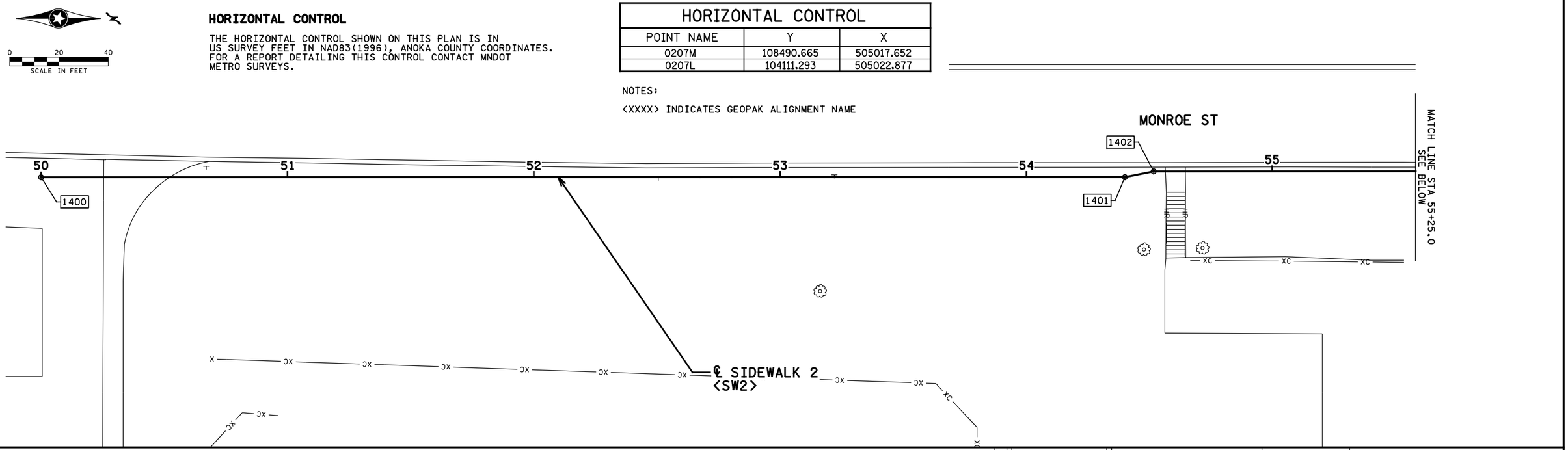
HORIZONTAL CONTROL

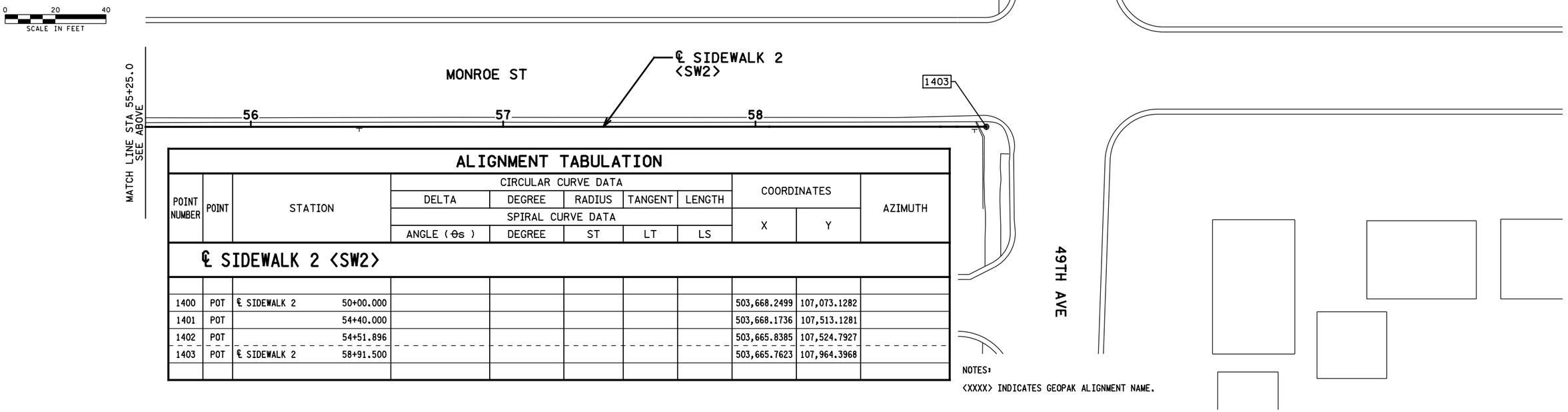
THE HORIZONTAL CONTROL SHOWN ON THIS PLAN IS IN US SURVEY FEET IN NAD83(1996), ANOKA COUNTY COORDINATES. FOR A REPORT DETAILING THIS CONTROL CONTACT MNDOT METRO SURVEYS.

HORIZONTAL CONTROL		
POINT NAME	Y	X
0207M	108490.665	505017.652
0207L	104111.293	505022.877

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME





ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA: DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES: X	Y	AZIMUTH
			SPIRAL CURVE DATA: ANGLE (~~Θs~~)	DEGREE	ST	LT	LS			
℄ SIDEWALK 2 <SW2>										
1400	POT	℄ SIDEWALK 2 50+00.000						503,668.2499	107,073.1282	
1401	POT	54+40.000						503,668.1736	107,513.1281	
1402	POT	54+51.896						503,665.8385	107,524.7927	
1403	POT	℄ SIDEWALK 2 58+91.500						503,665.7623	107,964.3968	

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME.

NO	DATE	BY	CKD	APPR	REVISION

17109_a102.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

ALIGNMENT PLANS

SP 113-591-001

SHEET 25 OF 83

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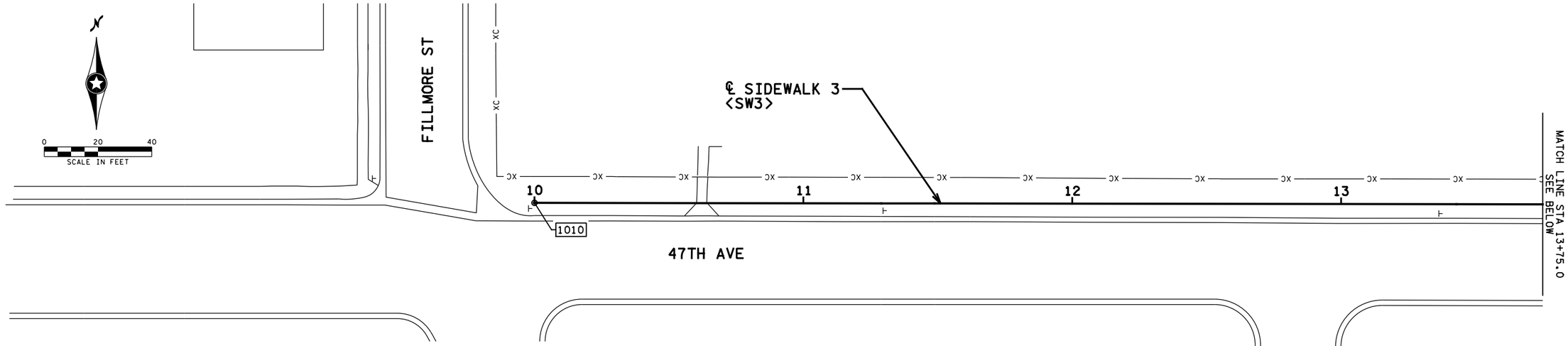


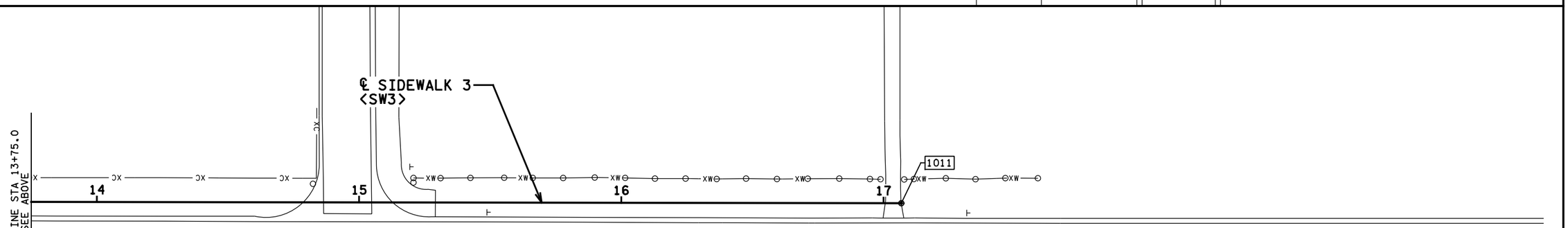
HORIZONTAL CONTROL		
POINT NAME	Y	X
0207M	108490.665	505017.652
0207L	104111.293	505022.877

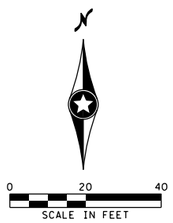
HORIZONTAL CONTROL

THE HORIZONTAL CONTROL SHOWN ON THIS PLAN IS IN US SURVEY FEET IN NAD83(1996), ANOKA COUNTY COORDINATES. FOR A REPORT DETAILING THIS CONTROL CONTACT MNDOT METRO SURVEYS.

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME





ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA: DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES: X	Y	AZIMUTH
			SPIRAL CURVE DATA: ANGLE (~~Θs~~)	DEGREE	ST	LT	LS			
℄ SIDEWALK 3 <SW3>										
1010	POT	℄ SIDEWALK 3 10+00.000						506,304.1994	106,699.9594	
1011	POT	℄ SIDEWALK 3 17+06.764						507,010.9627	106,699.0013	

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME.

NO	DATE	BY	CKD	APPR	REVISION
17109_a103.dgn					

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO. 17109

SRF

CITY OF COLUMBIA HEIGHTS

ALIGNMENT PLANS

SP 113-591-001

SHEET 26 OF 83

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5/28/2024
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ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH			
			SPIRAL CURVE DATA					X	Y	
			ANGLE (Θs)	DEGREE	ST	LT	LS			
℄ 49TH AVE W										
1500	POT	℄ 49TH AVE W 200+00.000						503,148.6045	107,996.4405	
1501	POT	℄ 49TH AVE W 215+36.197						504,684.8014	107,996.3204	

NOTES:

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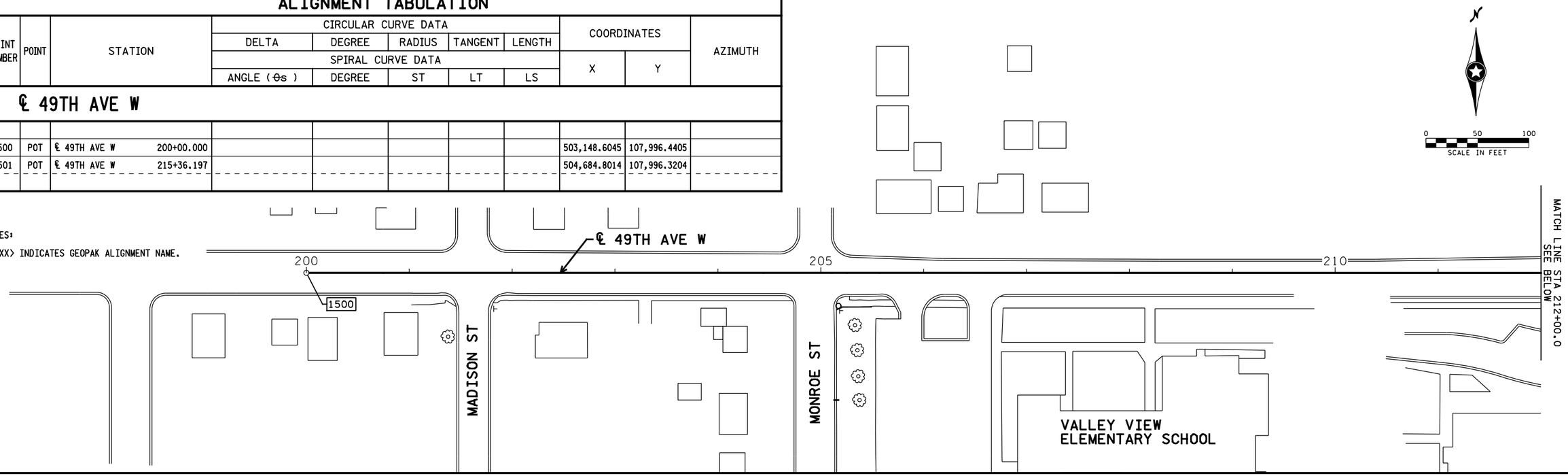

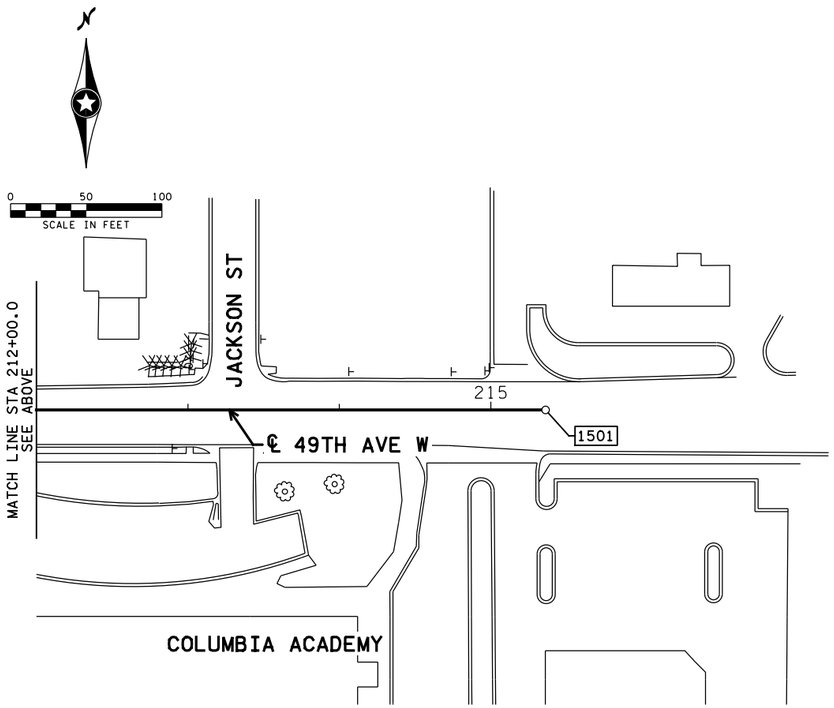

HORIZONTAL CONTROL

POINT NAME	Y	X
0207M	108490.665	505017.652
0207L	104111.293	505022.877

HORIZONTAL CONTROL

THE HORIZONTAL CONTROL SHOWN ON THIS PLAN IS IN US SURVEY FEET IN NAD83(1996), ANOKA COUNTY COORDINATES. FOR A REPORT DETAILING THIS CONTROL CONTACT MNDOT METRO SURVEYS.

NO	DATE	BY	CKD	APPR	REVISION

17109_a104.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

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CITY OF COLUMBIA HEIGHTS

ALIGNMENT PLANS

SP 113-591-001

SHEET 27 OF 83

11:34:56 AM
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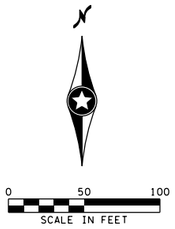

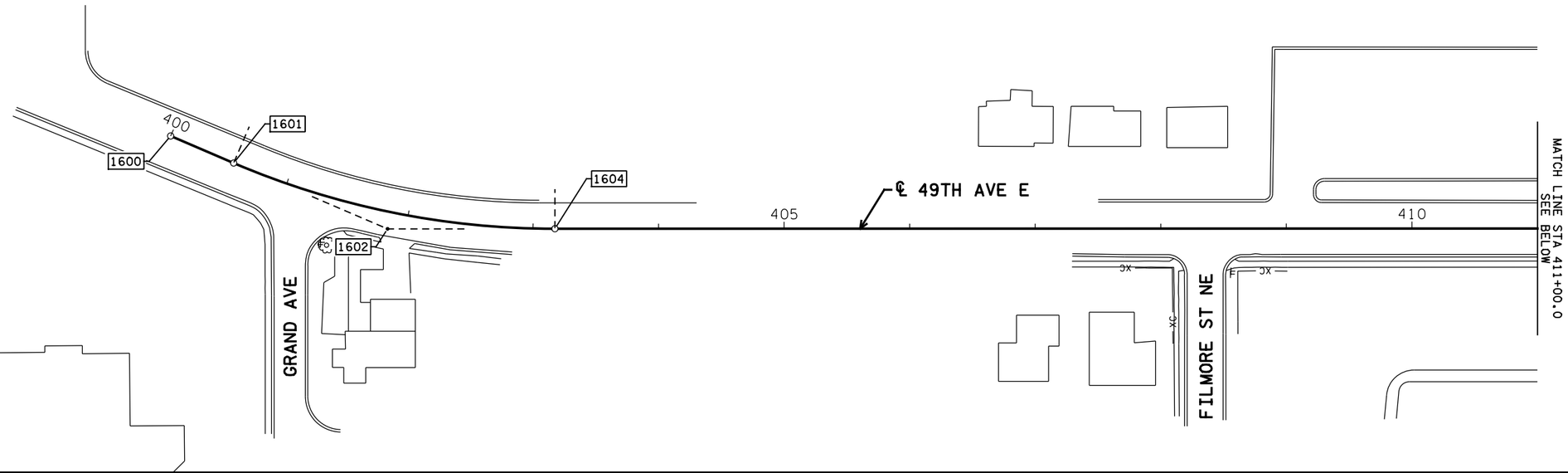

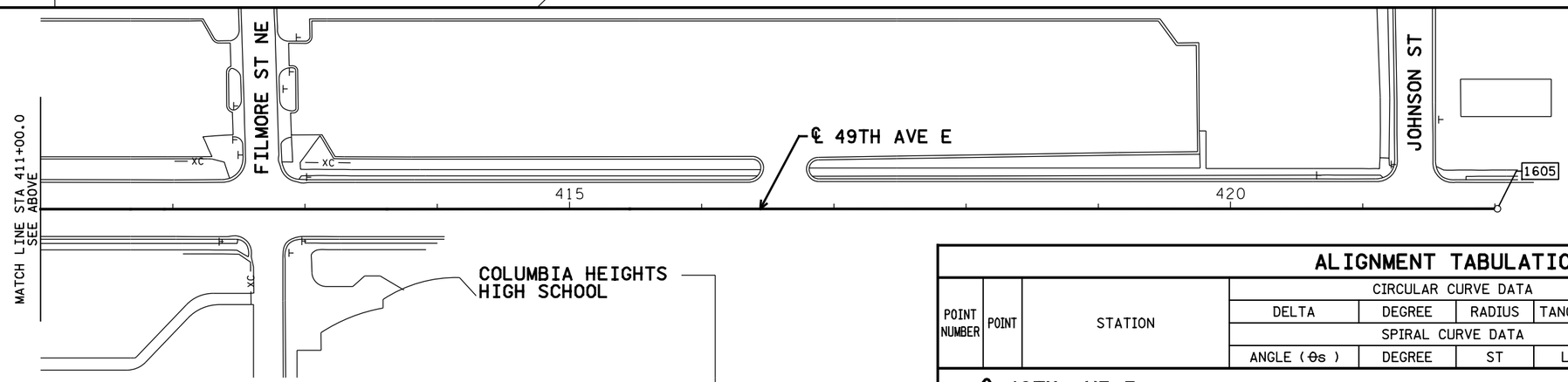

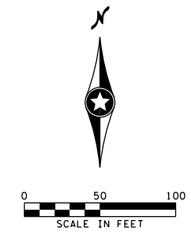

HORIZONTAL CONTROL		
POINT NAME	Y	X
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0207L	104111.293	505022.877

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NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME.

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA: DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES: X	Y	AZIMUTH
			SPIRAL CURVE DATA: ANGLE (Θs)	DEGREE	ST	LT	LS			
℄ 49TH AVE E										
1600	POT	℄ 49TH AVE E 400+00.000						505,436.8708	107,900.4521	
1601	PC	400+54.630						505,487.1016	107,878.9731	113° 09' 06.82"
1602	PI	401+87.876	23° 10' 09.96" LT	8° 48' 53.05"	650.000'	133.245'	262.849'	505,609.6159	107,826.5851	PI
1603	CC							505,742.6621	108,476.6259	
1604	PT	403+17.479						505,742.8611	107,826.6259	89° 58' 56.86"
1605	POT	℄ 49TH AVE E 422+01.857						507,627.2386	107,827.2027	

NO	DATE	BY	CKD	APPR	REVISION

17109_a105.dgn

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Print Name: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

ALIGNMENT PLANS

SP 113-591-001

SHEET 28 OF 83

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5/28/2024
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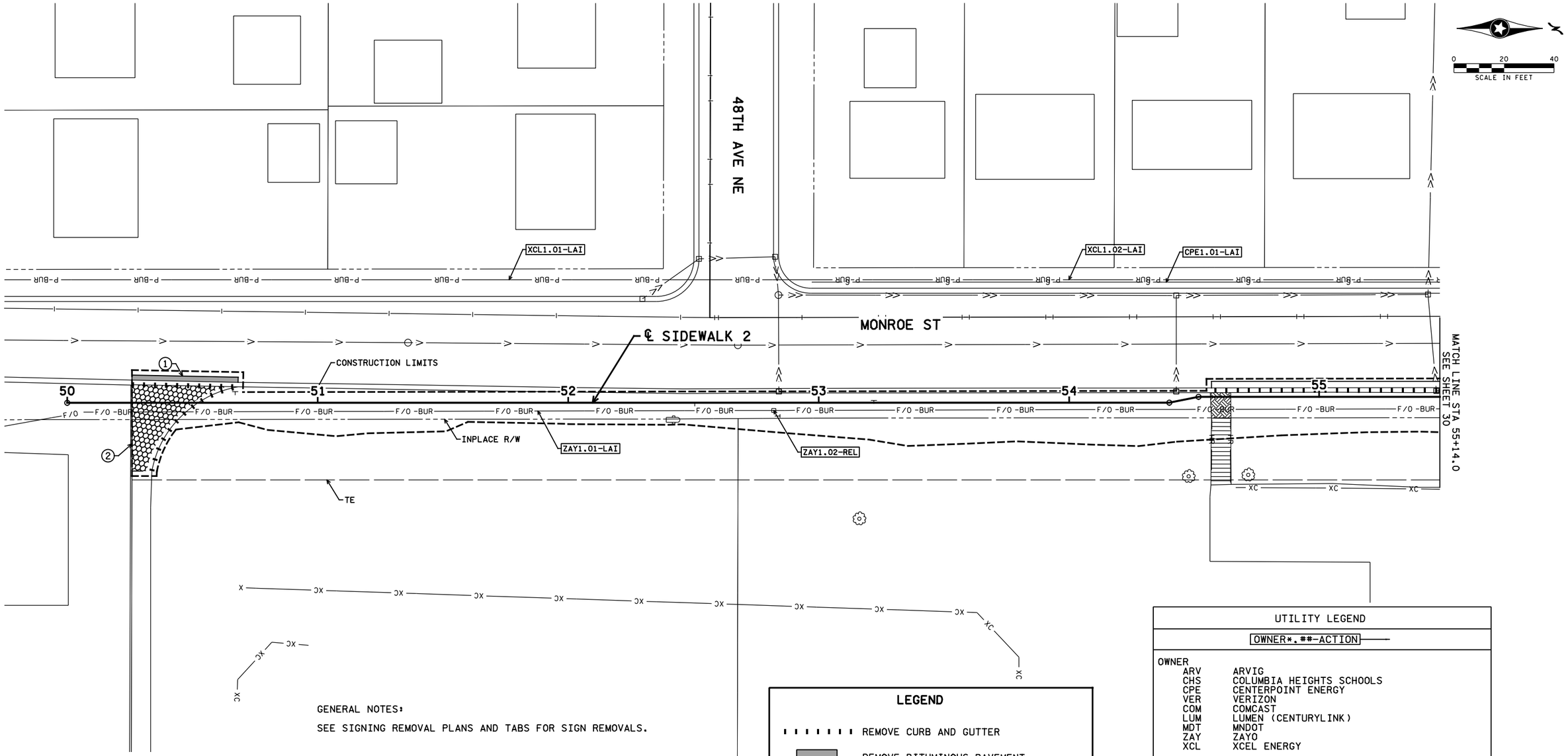

GENERAL NOTES:

SEE SIGNING REMOVAL PLANS AND TABS FOR SIGN REMOVALS.

NOTES:

1. SAWING BIT PAVEMENT (FULL DEPTH)
2. SAWING CONCRETE PAVEMENT (FULL DEPTH)

LEGEND

- REMOVE CURB AND GUTTER
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK

UTILITY LEGEND

OWNER*.##-ACTION

OWNER

ARV	ARVIG
CHS	COLUMBIA HEIGHTS SCHOOLS
CPE	CENTERPOINT ENERGY
VER	VERIZON
COM	COMCAST
LUM	LUMEN (CENTURYLINK)
MDT	MNDOT
ZAY	ZAYO
XCL	XCEL ENERGY

* = UTILITY PLAN SHEET NUMBER
\# = CONFLICT NUMBER ON SHEET

ACTION

LAI(X')	LEAVE AS IS(APPROXIMATE DEPTH FROM EXISTING GROUND)
ADJ(R/L/DC)	ADJUST (RAISE/LOWER/DURING CONSTRUCTION)
REL	RELOCATE
REM(DC)	REMOVE(DURING CONSTRUCTION)
OOS	OUT-OF-SERVICE

NO	DATE	BY	CKD	APPR	REVISION

17109_rem01.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

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STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

INPLACE UTILITIES / TOPOGRAPHY / REMOVAL PLANS

SP 113-591-001

SHEET 29 OF 83

11:34:59 AM
5/28/2024
H:\Projects\17000\17109\TechData\CADDesign\PlansCVFinalPlanC\17109_rem01.dgn

0 20 40
SCALE IN FEET

UTILITY LEGEND

OWNER*.##-ACTION

OWNER	
ARV	ARVIG
CHS	COLUMBIA HEIGHTS SCHOOLS
CPE	CENTERPOINT ENERGY
VER	VERIZON
COM	COMCAST
LUM	LUMEN (CENTURYLINK)
MDT	MNDOT
ZAY	ZAYO
XCL	XCEL ENERGY

* = UTILITY PLAN SHEET NUMBER
\# = CONFLICT NUMBER ON SHEET

ACTION	
LAI(X')	LEAVE AS IS(APPROXIMATE DEPTH FROM EXISTING GROUND)
ADJ(R/L/DC)	ADJUST (RAISE/LOWER/DURING CONSTRUCTION)
REL	RELOCATE
REM(DC)	REMOVE(DURING CONSTRUCTION)
OOS	OUT-OF-SERVICE

MONROE ST
℄ SIDEWALK 2
℄ 49TH AVE W
MONROE ST
CONSTRUCTION LIMITS
INPLACE R/W
MATCH LINE STA 55+14.0
SEE SHEET 29
56
57
58
204
205
206
207
XCL2.01-LAI
CPE2.01-LAI
ZAY2.01-LAI
ZAY2.02-REL
ZAY2.03-LAI
XCL2.02-LAI
LUM2.01-LAI
CPE2.02-LAI
COM2.01-LAI
LUM2.02-LAI
F/O -BUR
F/O -OH
P-BUR
XC
TE

LEGEND

- REMOVE CURB AND GUTTER
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK

NOTES:

SEE SHEET NO. 29 FOR GENERAL NOTES.

① SAWING BIT PAVEMENT (FULL DEPTH)

④ REMOVE DRAINAGE STRUCTURE

VALLEY VIEW
ELEMENTARY SCHOOL

NO	DATE	BY	CKD	APPR	REVISION

17109_rem02.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS
DESIGNED BY A.ORTLEPP
CHECKED BY J.COLAS
COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

INPLACE UTILITIES / TOPOGRAPHY / REMOVAL PLANS
SP 113-591-001

SHEET 30 OF 83

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5/28/2024
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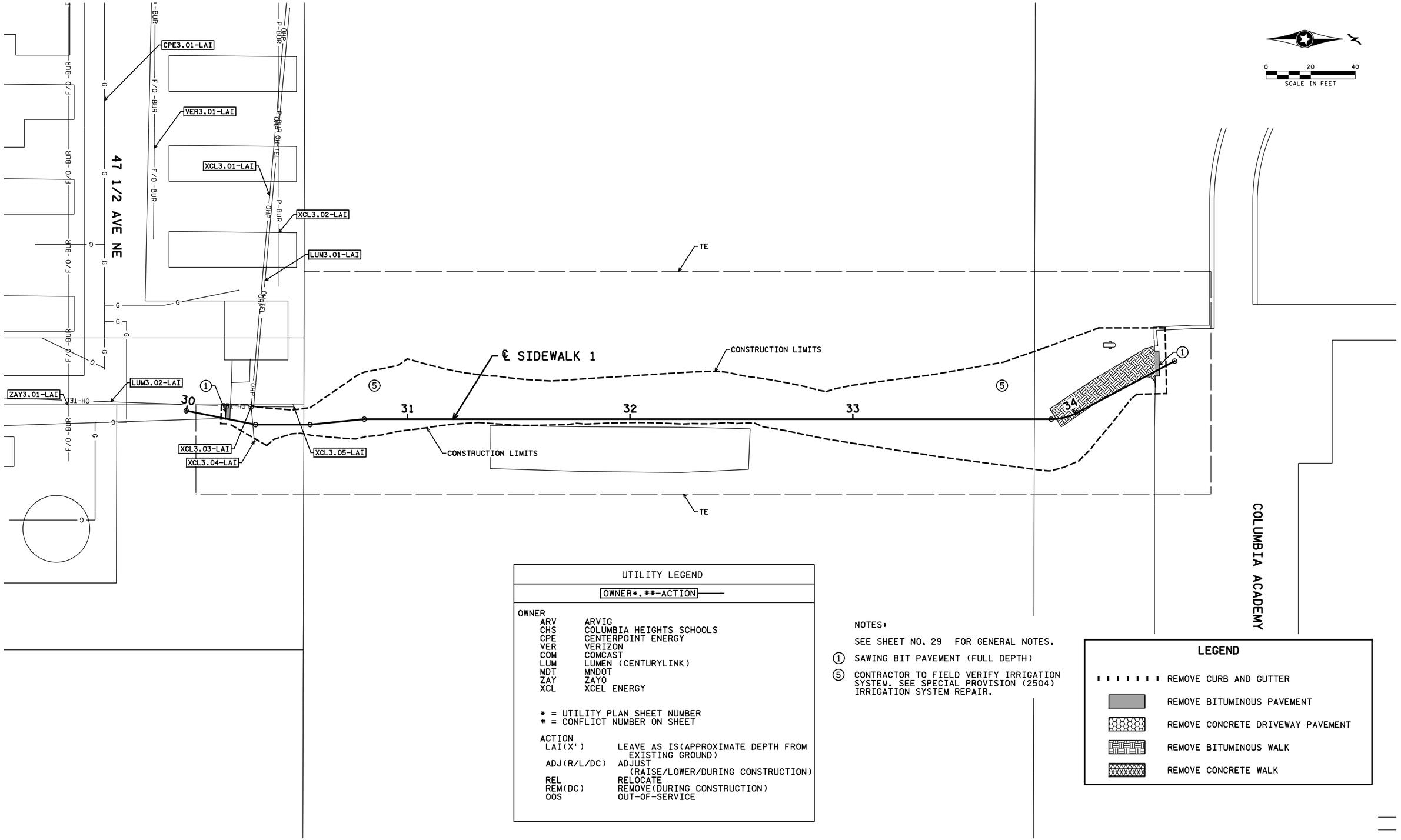

UTILITY LEGEND	
OWNER*.##-ACTION	
OWNER	
ARV	ARVIG
CHS	COLUMBIA HEIGHTS SCHOOLS
CPE	CENTERPOINT ENERGY
VER	VERIZON
COM	COMCAST
LUM	LUMEN (CENTURYLINK)
MDT	MNDOT
ZAY	ZAYO
XCL	XCEL ENERGY
* = UTILITY PLAN SHEET NUMBER	
# = CONFLICT NUMBER ON SHEET	
ACTION	
LAI(X')	LEAVE AS IS(APPROXIMATE DEPTH FROM EXISTING GROUND)
ADJ(R/L/DC)	ADJUST (RAISE/LOWER/DURING CONSTRUCTION)
REL	RELOCATE
REM(DC)	REMOVE(DURING CONSTRUCTION)
OOS	OUT-OF-SERVICE

NOTES:

SEE SHEET NO. 29 FOR GENERAL NOTES.

(1) SAWING BIT PAVEMENT (FULL DEPTH)

(5) CONTRACTOR TO FIELD VERIFY IRRIGATION SYSTEM. SEE SPECIAL PROVISION (2504) IRRIGATION SYSTEM REPAIR.

LEGEND

- REMOVE CURB AND GUTTER
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION

17109_rem03.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO. 17109

SRF

CITY OF COLUMBIA HEIGHTS

INPLACE UTILITIES / TOPOGRAPHY / REMOVAL PLANS

SP 113-591-001

SHEET 31 OF 83

11:35:01 AM
5/28/2024
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UTILITY LEGEND	
OWNER*.##-ACTION	
OWNER	
ARV	ARVIG
CHS	COLUMBIA HEIGHTS SCHOOLS
CPE	CENTERPOINT ENERGY
VER	VERIZON
COM	COMCAST
LUM	LUMEN (CENTURYLINK)
MDT	MNDOT
ZAY	ZAYO
XCL	XCEL ENERGY
* = UTILITY PLAN SHEET NUMBER	
# = CONFLICT NUMBER ON SHEET	
ACTION	
LAI(X')	LEAVE AS IS(APPROXIMATE DEPTH FROM EXISTING GROUND)
ADJ(R/L/DC)	ADJUST (RAISE/LOWER/DURING CONSTRUCTION)
REL	RELOCATE
REM(DC)	REMOVE(DURING CONSTRUCTION)
OOS	OUT-OF-SERVICE

NOTES:

SEE SHEET NO. 29 FOR GENERAL NOTES.

(1) SAWING BIT PAVEMENT (FULL DEPTH)

LEGEND

- REMOVE CURB AND GUTTER
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK

N

0 20 40

SCALE IN FEET

COLUMBIA HEIGHTS HIGH SCHOOL

FILMORE ST NE

XCL4.02-LAI

CPE4.01-LAI

COM4.02-LAI

LUM4.01-LAI

INPLACE UTILITY EASEMENT

INPLACE R/W

COM4.01-LAI

XCL4.01-LAI

CONSTRUCTION LIMITS

℄ SIDEWALK 3

CONSTRUCTION LIMITS

47TH AVE NE

CPE4.05-LAI

MATCH LINE STA 13+85.0 SEE SHEET 33

XCL5.04-LAI

CPE4.03-LAI

CPE4.02-LAI

XCL4.03-LAI

XCL4.04-LAI

CPE4.04-LAI

FILMORE ST NE

PIERCE ST NE

NO	DATE	BY	CKD	APPR	REVISION

17109_rem04.dgn

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Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807
DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

INPLACE UTILITIES / TOPOGRAPHY / REMOVAL PLANS

SP 113-591-001

SHEET 32 OF 83

11:35:03 AM
5/28/2024
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NOTES:

SEE SHEET NO. 29 FOR GENERAL NOTES.

① SAWING BIT PAVEMENT (FULL DEPTH)

② SAWING CONCRETE PAVEMENT (FULL DEPTH)

LEGEND

- REMOVE CURB AND GUTTER
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK

UTILITY LEGEND

OWNER*.##-ACTION

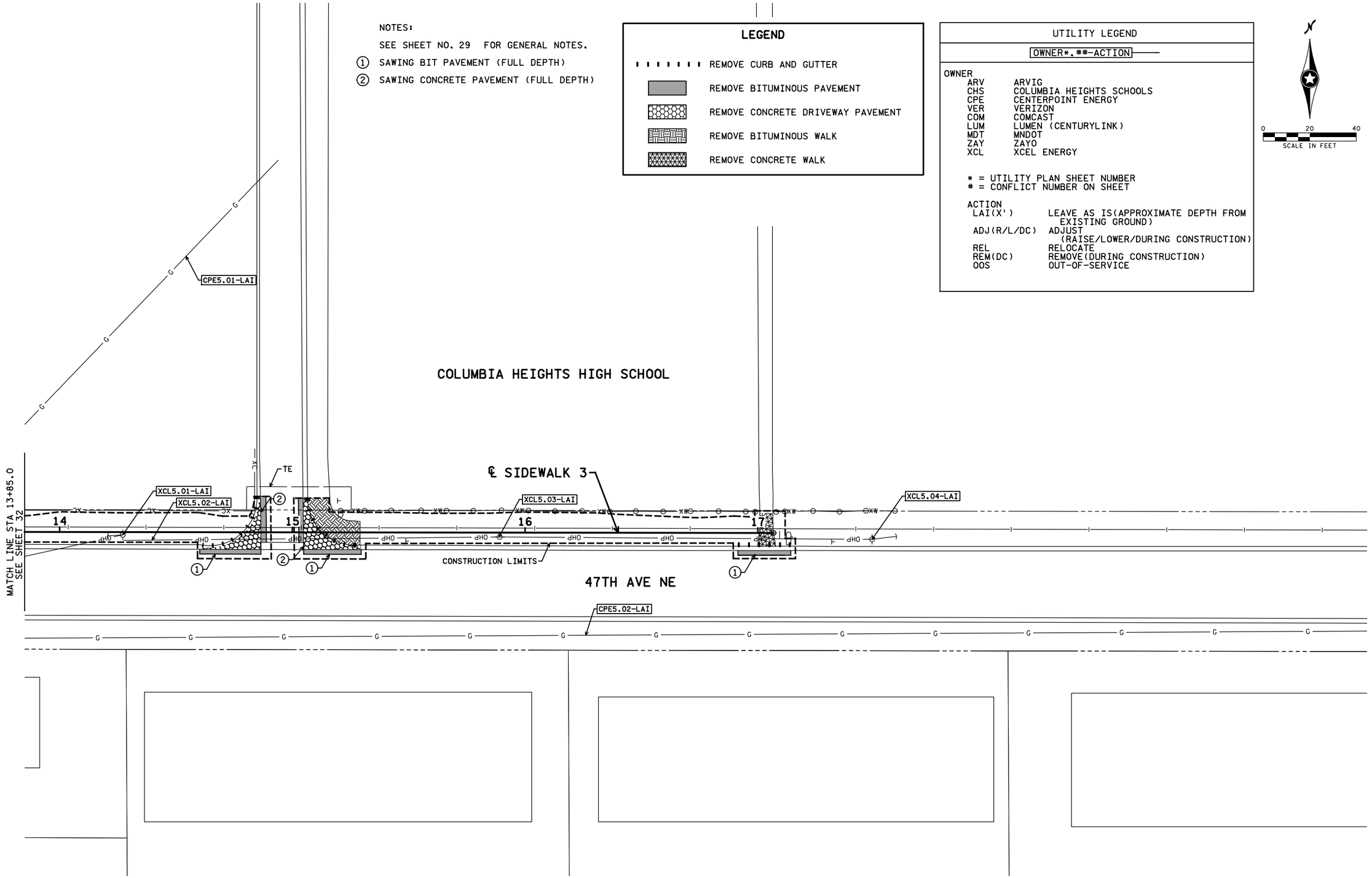
OWNER	
ARV	ARVIG
CHS	COLUMBIA HEIGHTS SCHOOLS
CPE	CENTERPOINT ENERGY
VER	VERIZON
COM	COMCAST
LUM	LUMEN (CENTURYLINK)
MDT	MNDOT
ZAY	ZAYO
XCL	XCEL ENERGY

* = UTILITY PLAN SHEET NUMBER
\# = CONFLICT NUMBER ON SHEET

ACTION	
LAI(X')	LEAVE AS IS(APPROXIMATE DEPTH FROM EXISTING GROUND)
ADJ(R/L/DC)	ADJUST (RAISE/LOWER/DURING CONSTRUCTION)
REL	RELOCATE
REM(DC)	REMOVE(DURING CONSTRUCTION)
OOS	OUT-OF-SERVICE

N

0 20 40
SCALE IN FEET



NO	DATE	BY	CKD	APPR	REVISION

17109_rem05.dgn

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Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

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CITY OF COLUMBIA HEIGHTS

INPLACE UTILITIES / TOPOGRAPHY / REMOVAL PLANS

SP 113-591-001

SHEET 33 OF 83

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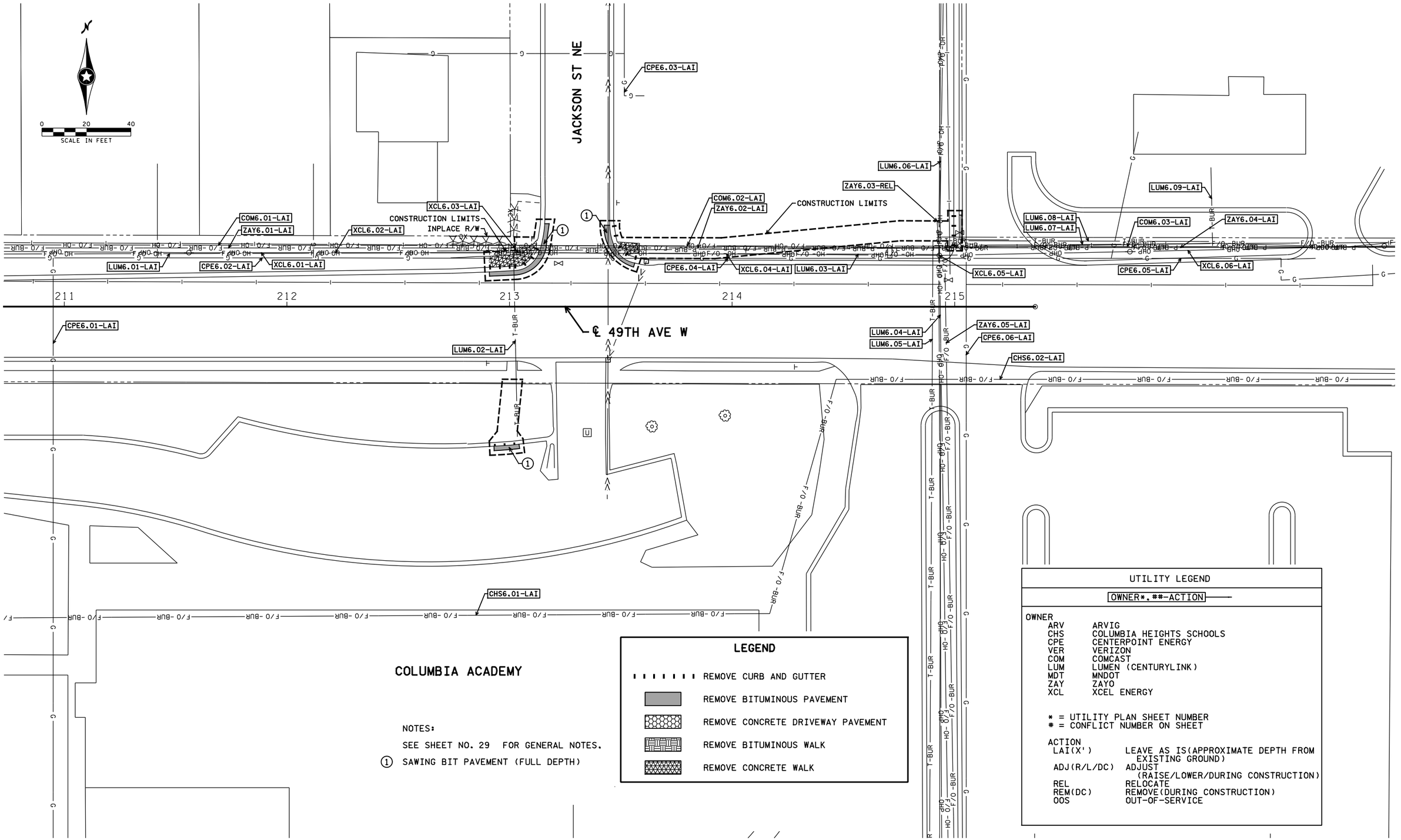

NO	DATE	BY	CKD	APPR	REVISION

17109_rem06.dgn

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Print Name: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO. 17109

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CITY OF COLUMBIA HEIGHTS

INPLACE UTILITIES / TOPOGRAPHY / REMOVAL PLANS

SP 113-591-001

SHEET 34 OF 83

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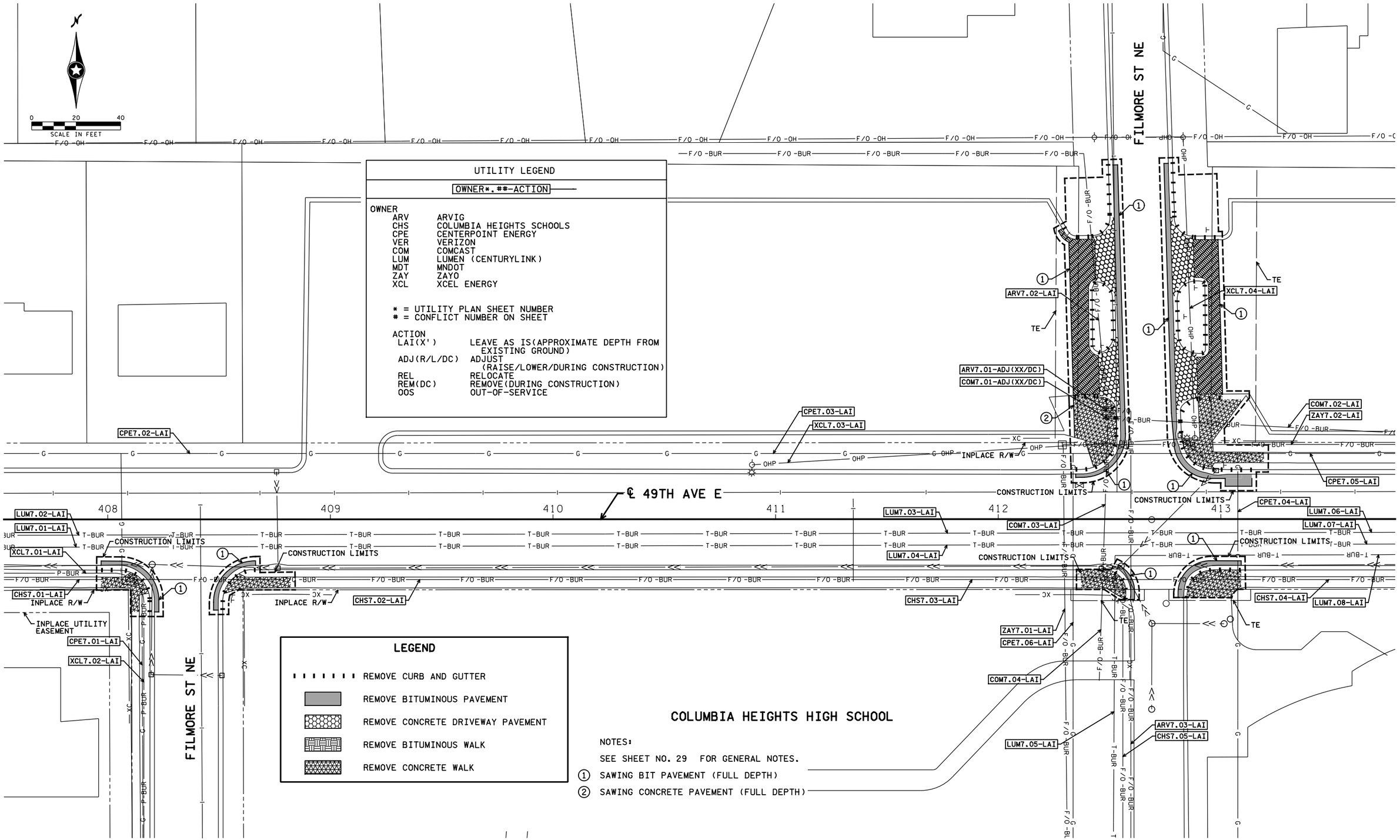

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17109_rem07.dgn					

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Print Name: JOSHUA A. COLAS
Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS
INPLACE UTILITIES / TOPOGRAPHY / REMOVAL PLANS
SP 113-591-001

SHEET 35 OF 83

NOTES:

SEE SHEET NO. 29 FOR GENERAL NOTES.

① SAWING BIT PAVEMENT (FULL DEPTH)

UTILITY LEGEND	
OWNER*.**-ACTION	
OWNER	
ARV	ARVIG
CHS	COLUMBIA HEIGHTS SCHOOLS
CPE	CENTERPOINT ENERGY
VER	VERIZON
COM	COMCAST
LUM	LUMEN (CENTURYLINK)
MDT	MNDOT
ZAY	ZAYO
XCL	XCEL ENERGY
* = UTILITY PLAN SHEET NUMBER	
# = CONFLICT NUMBER ON SHEET	
ACTION	
LAI(X')	LEAVE AS IS(APPROXIMATE DEPTH FROM EXISTING GROUND)
ADJ(R/L/DC)	ADJUST (RAISE/LOWER/DURING CONSTRUCTION)
REL	RELOCATE
REM(DC)	REMOVE(DURING CONSTRUCTION)
OOS	OUT-OF-SERVICE

LEGEND

- REMOVE CURB AND GUTTER
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK

0 20 40
SCALE IN FEET

℄ 49TH AVE E

GRAND AVE NE

JOHNSON ST NE

HIGHLAND ELEMENTARY SCHOOL

NO	DATE	BY	CKD	APPR	REVISION
17109_rem08.dgn					

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Print Name: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807
DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

INPLACE UTILITIES / TOPOGRAPHY / REMOVAL PLANS

SP 113-591-001

SHEET 36 OF 83

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5/28/2024
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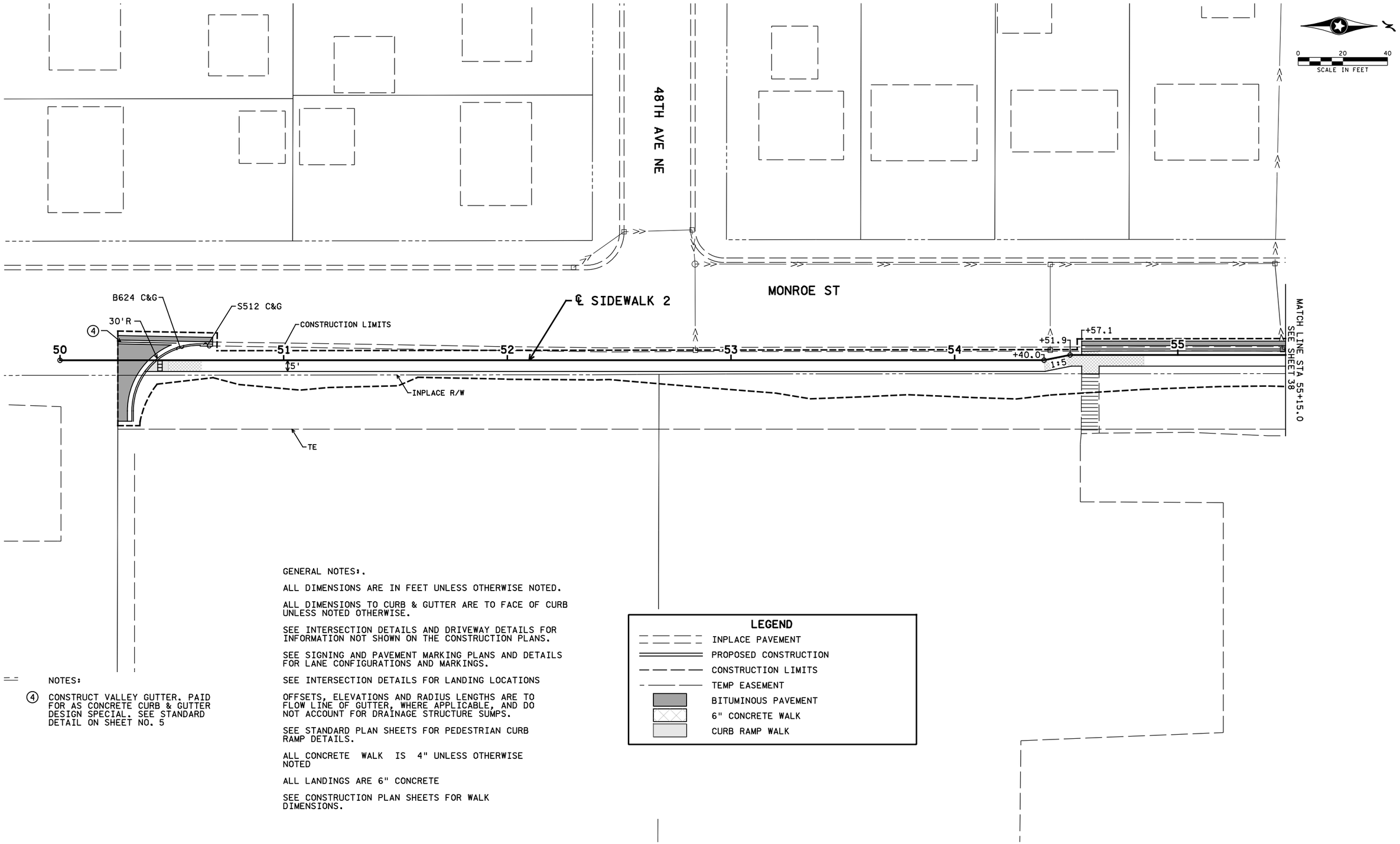

NOTES:

④ CONSTRUCT VALLEY GUTTER. PAID FOR AS CONCRETE CURB & GUTTER DESIGN SPECIAL. SEE STANDARD DETAIL ON SHEET NO. 5

GENERAL NOTES:.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

ALL DIMENSIONS TO CURB & GUTTER ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.

SEE INTERSECTION DETAILS AND DRIVEWAY DETAILS FOR INFORMATION NOT SHOWN ON THE CONSTRUCTION PLANS.

SEE SIGNING AND PAVEMENT MARKING PLANS AND DETAILS FOR LANE CONFIGURATIONS AND MARKINGS.

SEE INTERSECTION DETAILS FOR LANDING LOCATIONS

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

SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

ALL CONCRETE WALK IS 4" UNLESS OTHERWISE NOTED

ALL LANDINGS ARE 6" CONCRETE

SEE CONSTRUCTION PLAN SHEETS FOR WALK DIMENSIONS.

LEGEND

- INPLACE PAVEMENT
- PROPOSED CONSTRUCTION
- CONSTRUCTION LIMITS
- TEMP EASEMENT
- BITUMINOUS PAVEMENT
- 6" CONCRETE WALK
- CURB RAMP WALK

NO	DATE	BY	CKD	APPR	REVISION

17109_cp01.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 37 OF 83

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5/28/2024
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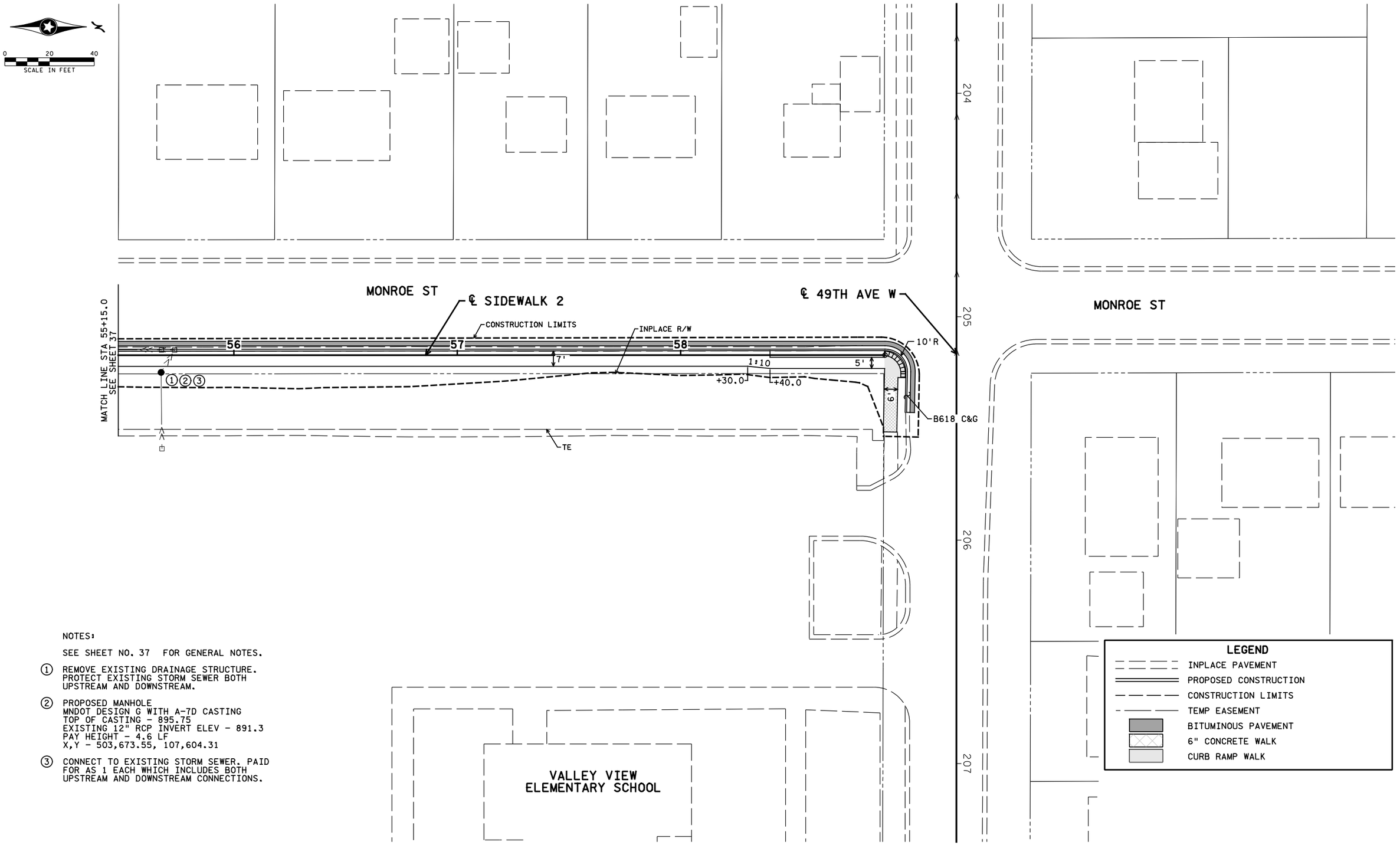

NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

① REMOVE EXISTING DRAINAGE STRUCTURE. PROTECT EXISTING STORM SEWER BOTH UPSTREAM AND DOWNSTREAM.

② PROPOSED MANHOLE
MNDOT DESIGN G WITH A-7D CASTING
TOP OF CASTING - 895.75
EXISTING 12" RCP INVERT ELEV - 891.3
PAY HEIGHT - 4.6 LF
X,Y - 503,673.55, 107,604.31

③ CONNECT TO EXISTING STORM SEWER. PAID FOR AS 1 EACH WHICH INCLUDES BOTH UPSTREAM AND DOWNSTREAM CONNECTIONS.

NO	DATE	BY	CKD	APPR	REVISION

17109_cp02.dgn

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Print Name: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
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COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 38 OF 83

11:35:11 AM
5/28/2024
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0 10 20
SCALE IN FEET

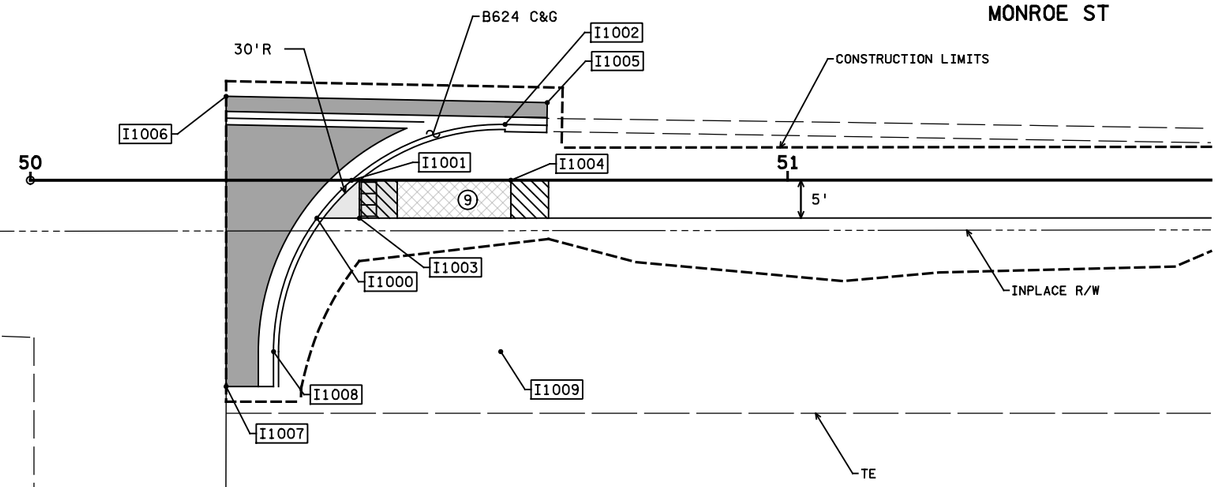
LEGEND

IXXXX	INTERSECTION POINT NUMBER		LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
(T)	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250)	□	EXISTING CATCH BASIN
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)	○	EXISTING MANHOLE
	CONSTRUCT CONCRETE CURB & GUTTER	◁	EXISTING MANHOLE
X"	CURB HEIGHT		6" CONCRETE WALK
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%		CURB RAMP WALK
			BITUMINOUS PAVEMENT

NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

(9) SLOPE EXCEEDS MAXIMUM 8.3% MATCH ROADWAY GRADE



POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT/CROSS STREETS	STATION/DIRECTIONAL QUADRANTS	OFFSET
I1000	503673.243	107110.961	EL. 907.48	SIDEWALK 1	50+37.83	5.00' RT.
I1001	503668.243	107115.538	EL. 907.38	SIDEWALK 1	50+42.41	0.00' RT.
I1002	503660.874	107135.818	EL. 905.49	SIDEWALK 1	50+62.69	7.37' LT.
I1003	503673.242	107116.571	EL. 907.37	SIDEWALK 1	50.43.44	5.00' RT.
I1004	503668.234	107136.570	EL. 905.68	SIDEWALK 1	50+63.44	0.00' RT.
I1005	503657.981	107141.386	EL. 905.35	SIDEWALK 1	50+68.26	10.26' LT.
I1006	503657.161	107098.972	EL. 909.84	SIDEWALK 1	50+25.84	11.12' LT.
I1007	503695.470	107098.975	EL. 911.34	SIDEWALK 1	50+25.84	27.22' RT.
I1008	503690.871	107105.238	EL. 909.93	SIDEWALK 1	50+32.11	22.63' RT.
I1009	503690.868	107135.238	30.0' R.	SIDEWALK 1	50+62.11	22.63' RT.

NO	DATE	BY	CKD	APPR	REVISION

17109_in01.dgn

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Joshua Colas

Date 5/28/2024 License # 55897

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STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 39 OF 83

11:35:25 AM
5/28/2024
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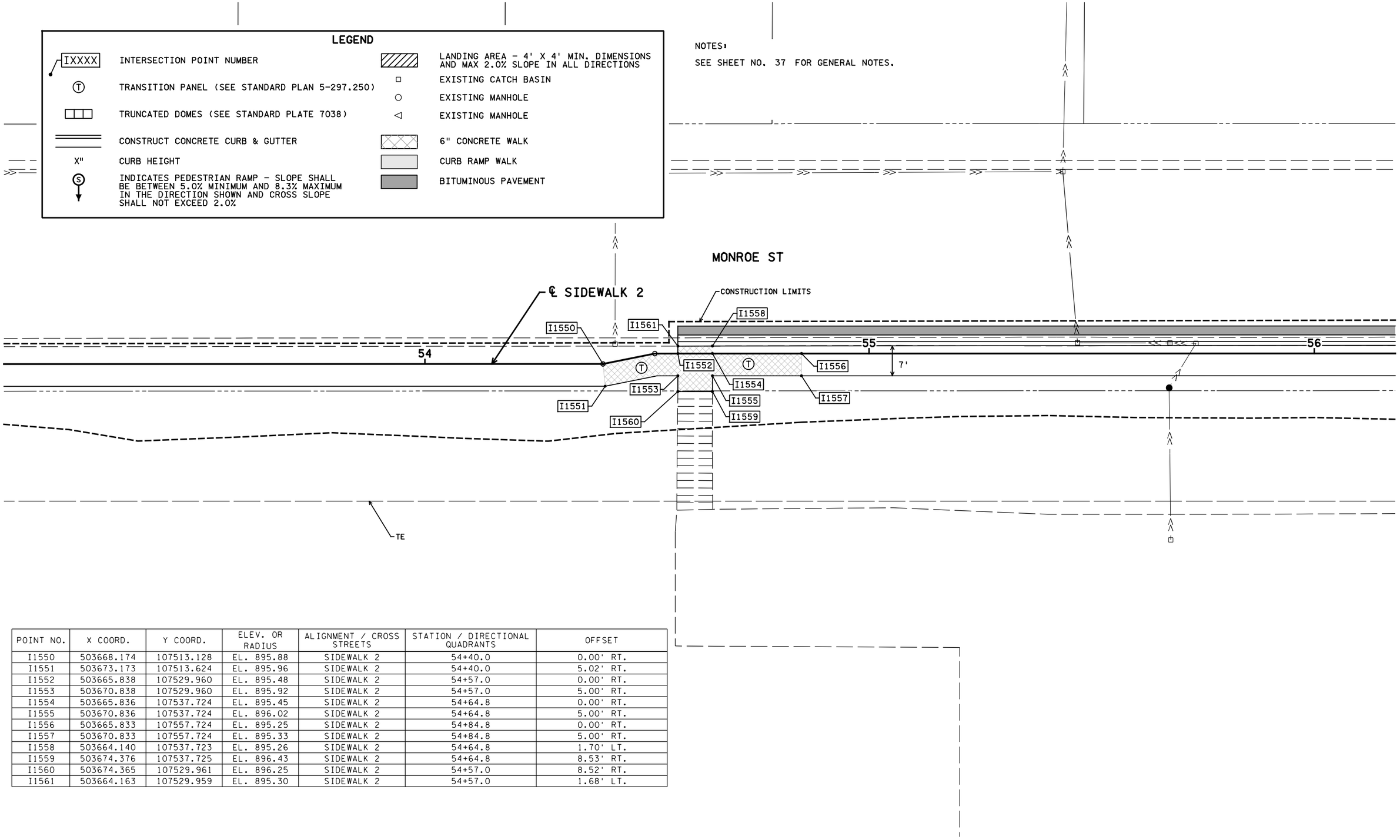
LEGEND

IXXXX	INTERSECTION POINT NUMBER		LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
T	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250)	□	EXISTING CATCH BASIN
		○	EXISTING MANHOLE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)	◁	EXISTING MANHOLE
	CONSTRUCT CONCRETE CURB & GUTTER		6" CONCRETE WALK
X"	CURB HEIGHT		CURB RAMP WALK
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%		BITUMINOUS PAVEMENT

NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.



POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1550	503668.174	107513.128	EL. 895.88	SIDEWALK 2	54+40.0	0.00' RT.
I1551	503673.173	107513.624	EL. 895.96	SIDEWALK 2	54+40.0	5.02' RT.
I1552	503665.838	107529.960	EL. 895.48	SIDEWALK 2	54+57.0	0.00' RT.
I1553	503670.838	107529.960	EL. 895.92	SIDEWALK 2	54+57.0	5.00' RT.
I1554	503665.836	107537.724	EL. 895.45	SIDEWALK 2	54+64.8	0.00' RT.
I1555	503670.836	107537.724	EL. 896.02	SIDEWALK 2	54+64.8	5.00' RT.
I1556	503665.833	107557.724	EL. 895.25	SIDEWALK 2	54+84.8	0.00' RT.
I1557	503670.833	107557.724	EL. 895.33	SIDEWALK 2	54+84.8	5.00' RT.
I1558	503664.140	107537.723	EL. 895.26	SIDEWALK 2	54+64.8	1.70' LT.
I1559	503674.376	107537.725	EL. 896.43	SIDEWALK 2	54+64.8	8.53' RT.
I1560	503674.365	107529.961	EL. 896.25	SIDEWALK 2	54+57.0	8.52' RT.
I1561	503664.163	107529.959	EL. 895.30	SIDEWALK 2	54+57.0	1.68' LT.

NO	DATE	BY	CKD	APPR	REVISION

17109_in04.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 40 OF 83

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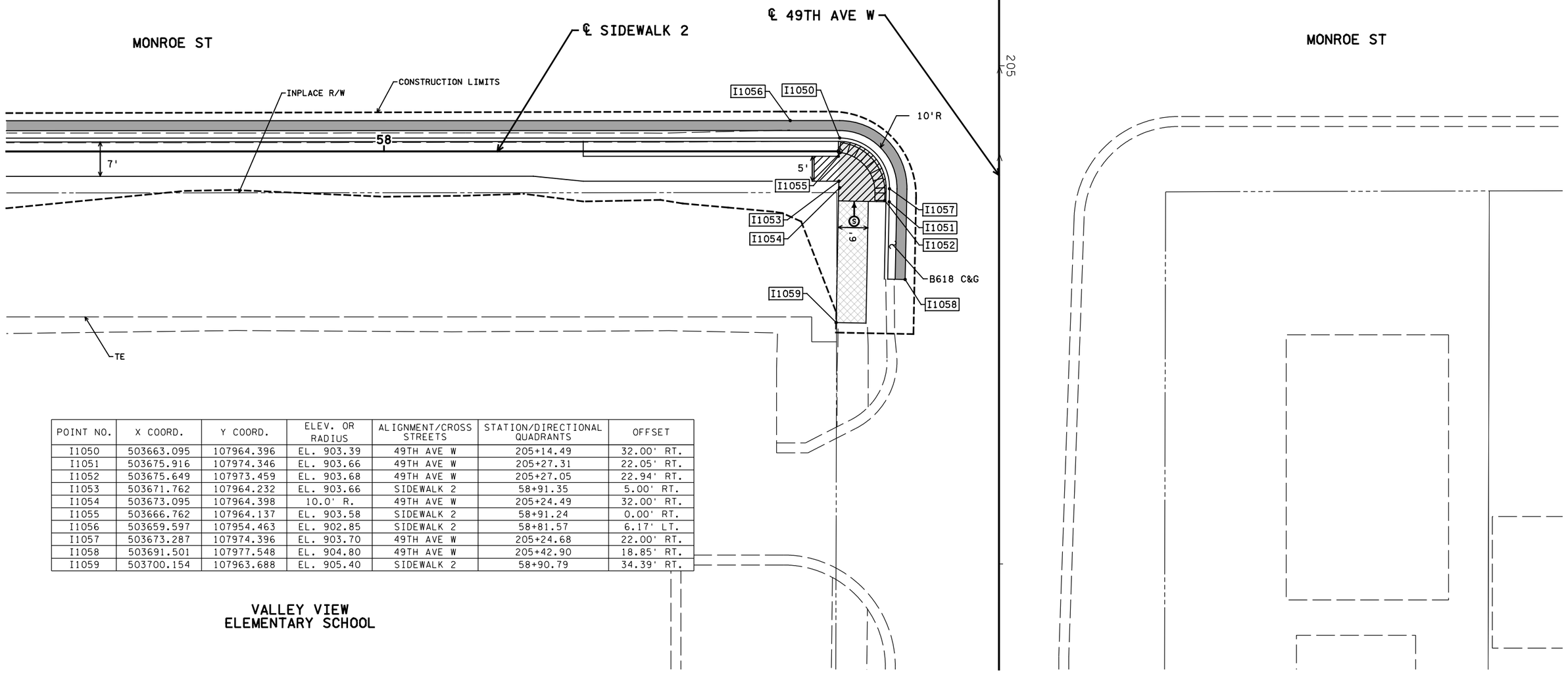
LEGEND

IXXXX	INTERSECTION POINT NUMBER		LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
T	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250)	□	EXISTING CATCH BASIN
		○	EXISTING MANHOLE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)	◁	EXISTING MANHOLE
	CONSTRUCT CONCRETE CURB & GUTTER		6" CONCRETE WALK
X"	CURB HEIGHT		CURB RAMP WALK
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%		BITUMINOUS PAVEMENT

NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.



POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT/CROSS STREETS	STATION/DIRECTIONAL QUADRANTS	OFFSET
I1050	503663.095	107964.396	EL. 903.39	49TH AVE W	205+14.49	32.00' RT.
I1051	503675.916	107974.346	EL. 903.66	49TH AVE W	205+27.31	22.05' RT.
I1052	503675.649	107973.459	EL. 903.68	49TH AVE W	205+27.05	22.94' RT.
I1053	503671.762	107964.232	EL. 903.66	SIDEWALK 2	58+91.35	5.00' RT.
I1054	503673.095	107964.398	10.0' R.	49TH AVE W	205+24.49	32.00' RT.
I1055	503666.762	107964.137	EL. 903.58	SIDEWALK 2	58+91.24	0.00' RT.
I1056	503659.597	107954.463	EL. 902.85	SIDEWALK 2	58+81.57	6.17' LT.
I1057	503673.287	107974.396	EL. 903.70	49TH AVE W	205+24.68	22.00' RT.
I1058	503691.501	107977.548	EL. 904.80	49TH AVE W	205+42.90	18.85' RT.
I1059	503700.154	107963.688	EL. 905.40	SIDEWALK 2	58+90.79	34.39' RT.

VALLEY VIEW
ELEMENTARY SCHOOL

NO	DATE	BY	CKD	APPR	REVISION

17109_in02.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS
DESIGNED BY A.ORTLEPP
CHECKED BY J.COLAS
COMM. NO.17109

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CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 41 OF 83

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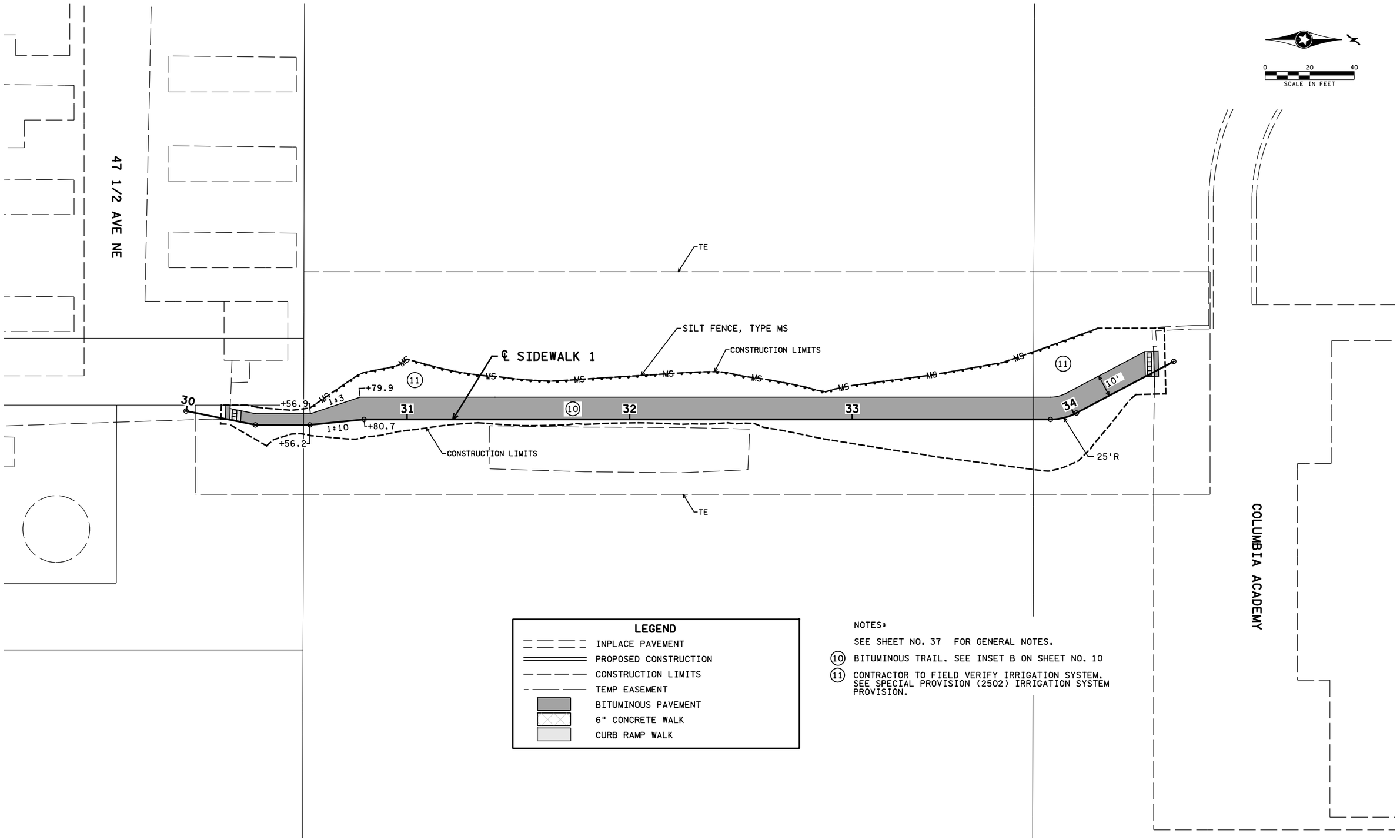

LEGEND

- INPLACE PAVEMENT
- PROPOSED CONSTRUCTION
- CONSTRUCTION LIMITS
- TEMP EASEMENT
- BITUMINOUS PAVEMENT
- 6" CONCRETE WALK
- CURB RAMP WALK

NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

(10) BITUMINOUS TRAIL. SEE INSET B ON SHEET NO. 10

(11) CONTRACTOR TO FIELD VERIFY IRRIGATION SYSTEM. SEE SPECIAL PROVISION (2502) IRRIGATION SYSTEM PROVISION.

NO	DATE	BY	CKD	APPR	REVISION

17109_cp03.dgn

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Print Name: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

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STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 42 OF 83

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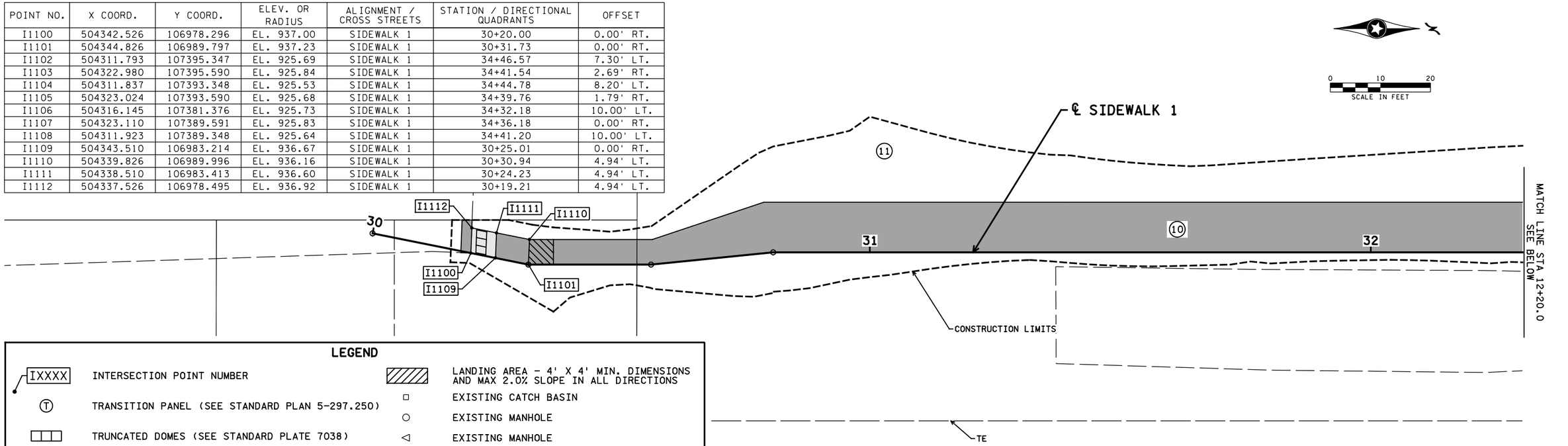
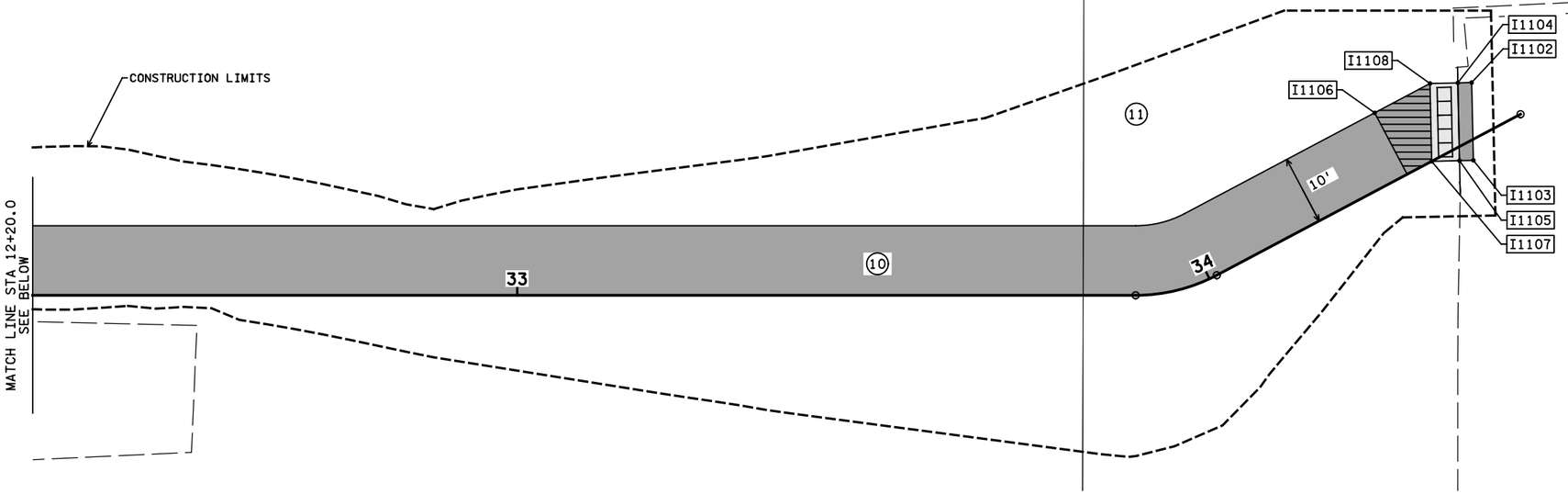
POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1100	504342.526	106978.296	EL. 937.00	SIDEWALK 1	30+20.00	0.00' RT.
I1101	504344.826	106989.797	EL. 937.23	SIDEWALK 1	30+31.73	0.00' RT.
I1102	504311.793	107395.347	EL. 925.69	SIDEWALK 1	34+46.57	7.30' LT.
I1103	504322.980	107395.590	EL. 925.84	SIDEWALK 1	34+41.54	2.69' RT.
I1104	504311.837	107393.348	EL. 925.53	SIDEWALK 1	34+44.78	8.20' LT.
I1105	504323.024	107393.590	EL. 925.68	SIDEWALK 1	34+39.76	1.79' RT.
I1106	504316.145	107381.376	EL. 925.73	SIDEWALK 1	34+32.18	10.00' LT.
I1107	504323.110	107389.591	EL. 925.83	SIDEWALK 1	34+36.18	0.00' RT.
I1108	504311.923	107389.348	EL. 925.64	SIDEWALK 1	34+41.20	10.00' LT.
I1109	504343.510	106983.214	EL. 936.67	SIDEWALK 1	30+25.01	0.00' RT.
I1110	504339.826	106989.996	EL. 936.16	SIDEWALK 1	30+30.94	4.94' LT.
I1111	504338.510	106983.413	EL. 936.60	SIDEWALK 1	30+24.23	4.94' LT.
I1112	504337.526	106978.495	EL. 936.92	SIDEWALK 1	30+19.21	4.94' LT.



LEGEND

IXXXX	INTERSECTION POINT NUMBER		LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
T	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250)		EXISTING CATCH BASIN
			EXISTING MANHOLE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)		EXISTING MANHOLE
	CONSTRUCT CONCRETE CURB & GUTTER		6" CONCRETE WALK
X"	CURB HEIGHT		CURB RAMP WALK
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%		BITUMINOUS PAVEMENT



NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

(10) BITUMINOUS TRAIL. SEE INSET B ON SHEET NO. 10

(11) CONTRACTOR TO FIELD VERIFY IRRIGATION SYSTEM. SEE SPECIAL PROVISION (2502) IRRIGATION SYSTEM PROVISION.

NO	DATE	BY	CKD	APPR	REVISION

17109_ln03.dgn

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Print Name: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 43 OF 83

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NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

④ CONSTRUCT VALLEY GUTTER. PAID FOR AS CONCRETE CURB & GUTTER DESIGN SPECIAL. SEE STANDARD DETAIL ON SHEET NO. 5

LEGEND

- INPLACE PAVEMENT
- PROPOSED CONSTRUCTION
- CONSTRUCTION LIMITS
- TEMP EASEMENT
- BITUMINOUS PAVEMENT
- 6" CONCRETE WALK
- CURB RAMP WALK

N

0 20 40
SCALE IN FEET

COLUMBIA HEIGHTS HIGH SCHOOL

FILMORE ST NE

INPLACE UTILITY EASEMENT

INPLACE R/W

B618 C&G

B618 C&G
B624 C&G

4'

5'

10

11

5'

13.8'

12

13

℄ SIDEWALK 3

MATCH LINE STA 13+85.0
SEE SHEET 45

CONSTRUCTION LIMITS

8'R

④ 23'R

CONSTRUCTION LIMITS

S512 C&G

47TH AVE NE

FILMORE ST NE

PIERCE ST NE

NO	DATE	BY	CKD	APPR	REVISION

17109_cp04.dgn

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Print Name: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 44 OF 83

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NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

⑤ 6" CONCRETE DRIVEWAY PAVEMENT

LEGEND

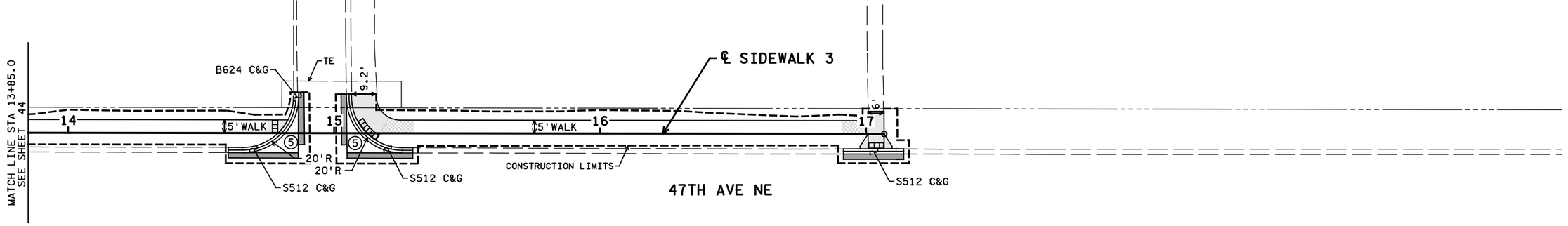
- INPLACE PAVEMENT
- PROPOSED CONSTRUCTION
- CONSTRUCTION LIMITS
- TEMP EASEMENT
- BITUMINOUS PAVEMENT
- 6" CONCRETE WALK
- CURB RAMP WALK

N

0 20 40

SCALE IN FEET

COLUMBIA HEIGHTS HIGH SCHOOL



NO	DATE	BY	CKD	APPR	REVISION
17109_cp05.dgn					

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Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
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COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 45 OF 83

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5/28/2024
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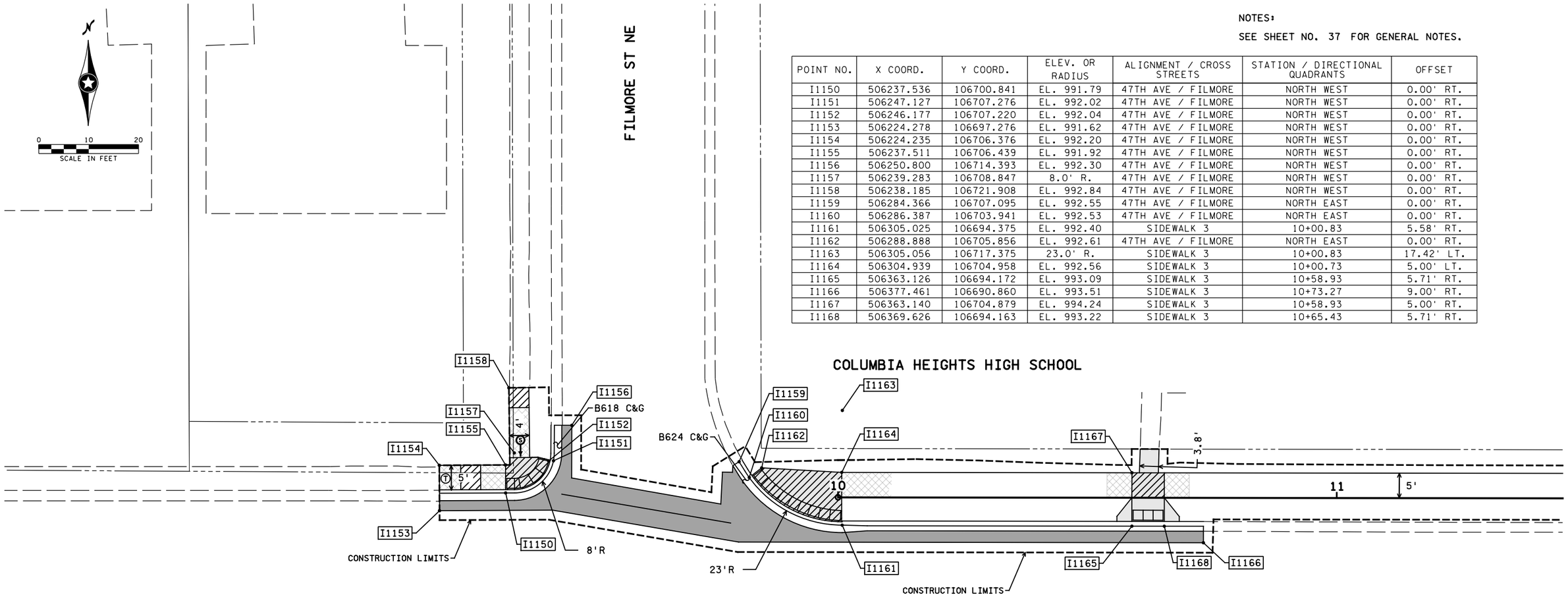
NOTES:

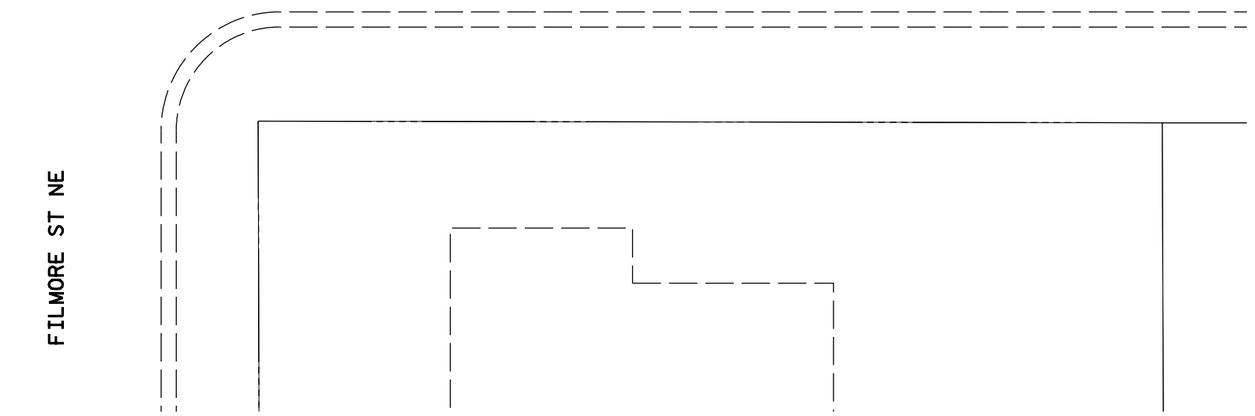
SEE SHEET NO. 37 FOR GENERAL NOTES.

POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1150	506237.536	106700.841	EL. 991.79	47TH AVE / FILMORE	NORTH WEST	0.00' RT.
I1151	506247.127	106707.276	EL. 992.02	47TH AVE / FILMORE	NORTH WEST	0.00' RT.
I1152	506246.177	106707.220	EL. 992.04	47TH AVE / FILMORE	NORTH WEST	0.00' RT.
I1153	506224.278	106697.276	EL. 991.62	47TH AVE / FILMORE	NORTH WEST	0.00' RT.
I1154	506224.235	106706.376	EL. 992.20	47TH AVE / FILMORE	NORTH WEST	0.00' RT.
I1155	506237.511	106706.439	EL. 991.92	47TH AVE / FILMORE	NORTH WEST	0.00' RT.
I1156	506250.800	106714.393	EL. 992.30	47TH AVE / FILMORE	NORTH WEST	0.00' RT.
I1157	506239.283	106708.847	8.0' R.	47TH AVE / FILMORE	NORTH WEST	0.00' RT.
I1158	506238.185	106721.908	EL. 992.84	47TH AVE / FILMORE	NORTH WEST	0.00' RT.
I1159	506284.366	106707.095	EL. 992.55	47TH AVE / FILMORE	NORTH EAST	0.00' RT.
I1160	506286.387	106703.941	EL. 992.53	47TH AVE / FILMORE	NORTH EAST	0.00' RT.
I1161	506305.025	106694.375	EL. 992.40	SIDEWALK 3	10+00.83	5.58' RT.
I1162	506288.888	106705.856	EL. 992.61	47TH AVE / FILMORE	NORTH EAST	0.00' RT.
I1163	506305.056	106717.375	23.0' R.	SIDEWALK 3	10+00.83	17.42' LT.
I1164	506304.939	106704.958	EL. 992.56	SIDEWALK 3	10+00.73	5.00' LT.
I1165	506363.126	106694.172	EL. 993.09	SIDEWALK 3	10+58.93	5.71' RT.
I1166	506377.461	106690.860	EL. 993.51	SIDEWALK 3	10+73.27	9.00' RT.
I1167	506363.140	106704.879	EL. 994.24	SIDEWALK 3	10+58.93	5.00' RT.
I1168	506369.626	106694.163	EL. 993.22	SIDEWALK 3	10+65.43	5.71' RT.



LEGEND

IXXXX	INTERSECTION POINT NUMBER		LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
T	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250)	□	EXISTING CATCH BASIN
		○	EXISTING MANHOLE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)	◁	EXISTING MANHOLE
	CONSTRUCT CONCRETE CURB & GUTTER		6" CONCRETE WALK
X"	CURB HEIGHT		CURB RAMP WALK
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%		BITUMINOUS PAVEMENT



NO	DATE	BY	CKD	APPR	REVISION

17109_in05.dgn

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Print Name: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

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CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 46 OF 83

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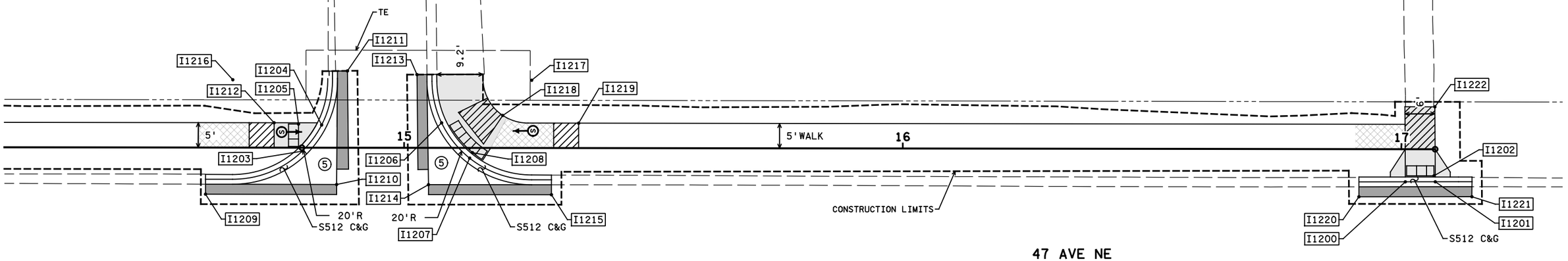
POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1200	507004.999	106692.452	EL. 1002.08	SIDEWALK 3	17+00.81	6.56' RT.
I1201	507010.999	106692.458	EL. 1002.10	SIDEWALK 3	17+06.76	6.54' RT.
I1202	507010.742	106693.666	EL. 1002.12	SIDEWALK 3	17+06.55	5.34' RT.
I1203	506783.789	106698.623	EL. 1001.15	SIDEWALK 3	14+79.59	0.69' RT.
I1204	506787.661	106703.869	EL. 1001.60	SIDEWALK 3	14+83.46	4.57' LT.
I1205	506783.026	106704.060	EL. 1001.16	SIDEWALK 3	14+78.82	4.75' LT.
I1206	506811.723	106704.299	EL. 1000.77	SIDEWALK 3	15+07.52	5.03' LT.
I1207	506817.345	106697.211	EL. 1000.85	SIDEWALK 3	15+13.15	2.05' RT.
I1208	506817.898	106698.318	EL. 1000.89	SIDEWALK 3	15+13.70	0.95' RT.
I1209	506764.374	106689.975	EL. 1001.07	SIDEWALK 3	14+60.49	9.36' RT.
I1210	506790.671	106691.915	EL. 1001.05	SIDEWALK 3	14+86.48	7.38' RT.
I1211	506792.829	106714.733	EL. 999.91	SIDEWALK 3	14+88.61	15.44' LT.
I1212	506778.128	106704.317	EL. 1001.51	SIDEWALK 3	14+73.92	5.00' LT.
I1213	506806.783	106713.992	EL. 1000.04	SIDEWALK 3	15+02.56	14.71' LT.
I1214	506809.085	106691.885	EL. 1001.14	SIDEWALK 3	15+04.90	7.39' RT.
I1215	506833.750	106689.858	EL. 1001.39	SIDEWALK 3	15+29.56	9.38' RT.
I1216	506769.847	106712.962	20.0' R.	SIDEWALK 3	14+65.63	13.63' LT.
I1217	506829.797	106712.862	20.0' R.	SIDEWALK 3	15+25.58	13.62' LT.
I1218	506823.981	106705.789	EL. 1000.65	SIDEWALK 3	15+19.77	6.53' LT.
I1219	506839.206	106704.233	EL. 1001.57	SIDEWALK 3	15+35.00	5.00' LT.
I1220	506995.686	106689.443	EL. 1002.12	SIDEWALK 3	16+91.50	9.58' RT.
I1221	507018.346	106689.461	EL. 1002.19	SIDEWALK 3	17+06.76	9.53' RT.
I1222	507010.915	106707.515	EL. 1002.45	SIDEWALK 3	17+06.70	8.51' LT.



COLUMBIA HEIGHTS HIGH SCHOOL

LEGEND

IXXXX	INTERSECTION POINT NUMBER
T	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250)
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONSTRUCT CONCRETE CURB & GUTTER
X"	CURB HEIGHT
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
□	EXISTING CATCH BASIN
○	EXISTING MANHOLE
◁	EXISTING MANHOLE
	6" CONCRETE WALK
	CURB RAMP WALK
	BITUMINOUS PAVEMENT

NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

⑤ 6" CONCRETE DRIVEWAY PAVEMENT

NO	DATE	BY	CKD	APPR	REVISION

17109_in06.dgn

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Joshua Colas

Date 5/28/2024 License # 55897

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SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 47 OF 83

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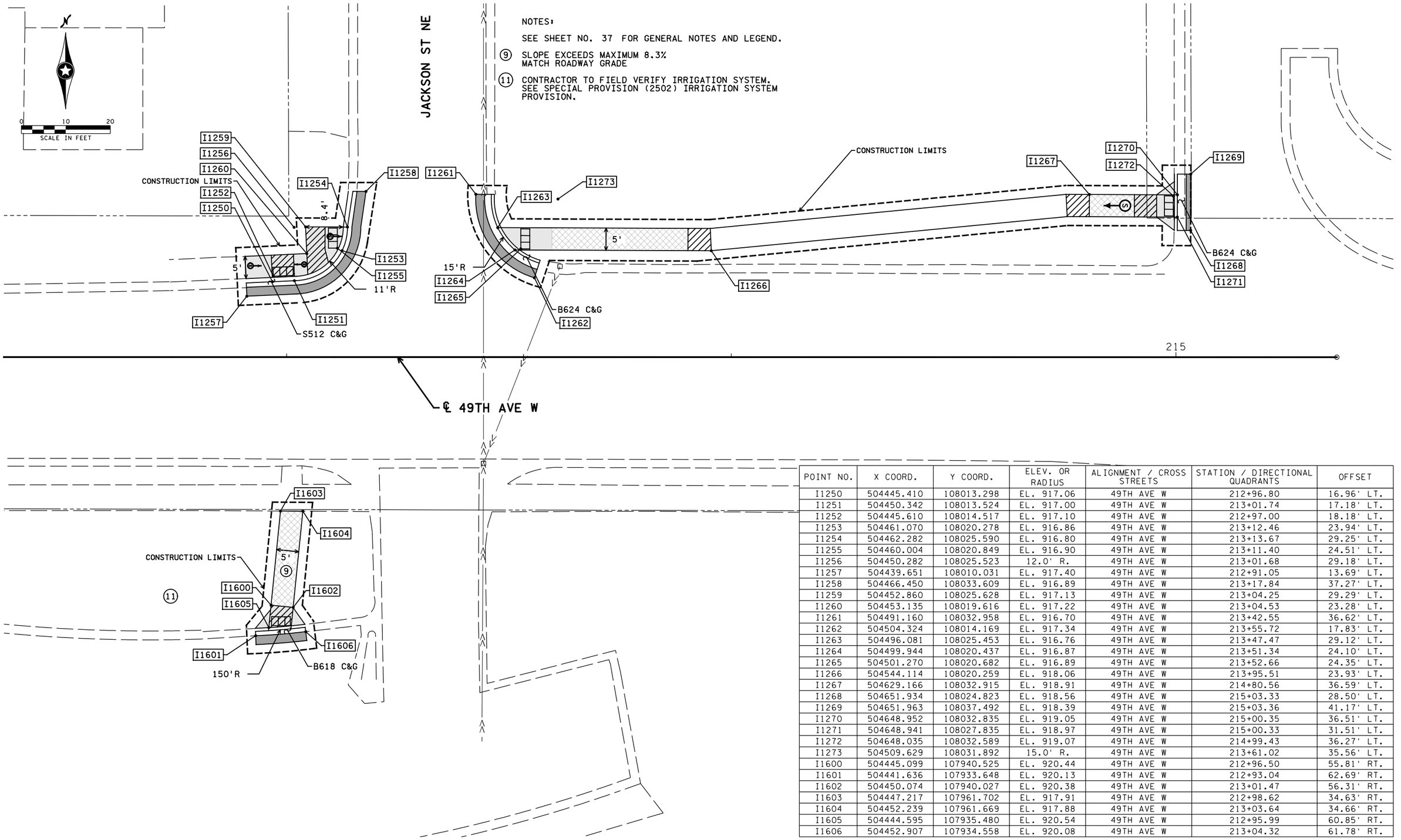

POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1250	504445.410	108013.298	EL. 917.06	49TH AVE W	212+96.80	16.96' LT.
I1251	504450.342	108013.524	EL. 917.00	49TH AVE W	213+01.74	17.18' LT.
I1252	504445.610	108014.517	EL. 917.10	49TH AVE W	212+97.00	18.18' LT.
I1253	504461.070	108020.278	EL. 916.86	49TH AVE W	213+12.46	23.94' LT.
I1254	504462.282	108025.590	EL. 916.80	49TH AVE W	213+13.67	29.25' LT.
I1255	504460.004	108020.849	EL. 916.90	49TH AVE W	213+11.40	24.51' LT.
I1256	504450.282	108025.523	12.0' R.	49TH AVE W	213+01.68	29.18' LT.
I1257	504439.651	108010.031	EL. 917.40	49TH AVE W	212+91.05	13.69' LT.
I1258	504466.450	108033.609	EL. 916.89	49TH AVE W	213+17.84	37.27' LT.
I1259	504452.860	108025.628	EL. 917.13	49TH AVE W	213+04.25	29.29' LT.
I1260	504453.135	108019.616	EL. 917.22	49TH AVE W	213+04.53	23.28' LT.
I1261	504491.160	108032.958	EL. 916.70	49TH AVE W	213+42.55	36.62' LT.
I1262	504504.324	108014.169	EL. 917.34	49TH AVE W	213+55.72	17.83' LT.
I1263	504496.081	108025.453	EL. 916.76	49TH AVE W	213+47.47	29.12' LT.
I1264	504499.944	108020.437	EL. 916.87	49TH AVE W	213+51.34	24.10' LT.
I1265	504501.270	108020.682	EL. 916.89	49TH AVE W	213+52.66	24.35' LT.
I1266	504544.114	108020.259	EL. 918.06	49TH AVE W	213+95.51	23.93' LT.
I1267	504629.166	108032.915	EL. 918.91	49TH AVE W	214+80.56	36.59' LT.
I1268	504651.934	108024.823	EL. 918.56	49TH AVE W	215+03.33	28.50' LT.
I1269	504651.963	108037.492	EL. 918.39	49TH AVE W	215+03.36	41.17' LT.
I1270	504648.952	108032.835	EL. 919.05	49TH AVE W	215+00.35	36.51' LT.
I1271	504648.941	108027.835	EL. 918.97	49TH AVE W	215+00.33	31.51' LT.
I1272	504648.035	108032.589	EL. 919.07	49TH AVE W	214+99.43	36.27' LT.
I1273	504509.629	108031.892	15.0' R.	49TH AVE W	213+61.02	35.56' LT.
I1600	504445.099	107940.525	EL. 920.44	49TH AVE W	212+96.50	55.81' RT.
I1601	504441.636	107933.648	EL. 920.13	49TH AVE W	212+93.04	62.69' RT.
I1602	504450.074	107940.027	EL. 920.38	49TH AVE W	213+01.47	56.31' RT.
I1603	504447.217	107961.702	EL. 917.91	49TH AVE W	212+98.62	34.63' RT.
I1604	504452.239	107961.669	EL. 917.88	49TH AVE W	213+03.64	34.66' RT.
I1605	504444.595	107935.480	EL. 920.54	49TH AVE W	212+95.99	60.85' RT.
I1606	504452.907	107934.558	EL. 920.08	49TH AVE W	213+04.32	61.78' RT.

NO	DATE	BY	CKD	APPR	REVISION

17109_InO7.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 48 OF 83

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LEGEND

IXXXX	INTERSECTION POINT NUMBER		LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
T	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250)		EXISTING CATCH BASIN
			EXISTING MANHOLE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)		EXISTING MANHOLE
	CONSTRUCT CONCRETE CURB & GUTTER		6" CONCRETE WALK
X"	CURB HEIGHT		CURB RAMP WALK
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%		BITUMINOUS PAVEMENT

NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

N

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SCALE IN FEET

℄ 49TH AVE E

CONSTRUCTION LIMITS

I1308 I1300 I1302 14'R

I1301

B618 C&G

5' S

I1306

4'

I1307

I1309

I1304 I1311 15'R

I1310

CONSTRUCTION LIMITS

B618 C&G

5' S

I1313 I1305 I1303 I1314

I1312

FILMORE ST NE

COLUMBIA HEIGHTS HIGH SCHOOL

POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1300	506237.786	107802.694	EL. 978.97	49TH AVE W	408+12.40	24.08' RT.
I1301	506243.622	107796.223	EL. 979.03	49TH AVE W	408+18.23	30.56' RT.
I1302	506237.521	107801.790	EL. 978.99	49TH AVE W	408+12.13	24.99' RT.
I1303	506277.733	107795.788	EL. 979.92	49TH AVE W	408+52.34	31.00' RT.
I1304	506281.428	107800.828	EL. 980.01	49TH AVE W	408+56.04	25.96' RT.
I1305	506282.777	107796.093	EL. 979.98	49TH AVE W	408+57.39	30.70' RT.
I1306	506235.665	107794.968	EL. 979.13	49TH AVE W	408+10.27	31.81' RT.
I1307	506230.824	107790.547	14.0' R.	49TH AVE W	408+05.43	36.23' RT.
I1308	506222.416	107808.097	EL. 977.76	49TH AVE W	407+97.03	18.68' RT.
I1309	506248.360	107785.206	EL. 977.42	49TH AVE W	408+22.97	41.57' RT.
I1310	506292.474	107800.949	EL. 980.39	49TH AVE W	408+67.08	25.85' RT.
I1311	506291.761	107808.142	EL. 980.79	49TH AVE W	408+66.37	18.65' RT.
I1312	506272.928	107786.040	EL. 979.85	49TH AVE W	408+47.53	40.75' RT.
I1313	506291.414	107789.636	15.0' R.	49TH AVE W	408+66.02	37.16' RT.
I1314	506276.414	107789.578	EL. 979.71	49TH AVE W	408+51.02	37.21' RT.

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO. 17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 49 OF 83

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LEGEND

IXXXX	INTERSECTION POINT NUMBER		LANDING AREA – 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
T	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250)	□	EXISTING CATCH BASIN
		○	EXISTING MANHOLE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)	◁	EXISTING MANHOLE
	CONSTRUCT CONCRETE CURB & GUTTER		6" CONCRETE WALK
X"	CURB HEIGHT		CURB RAMP WALK
S	INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%		BITUMINOUS PAVEMENT

NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

⑤ 6" CONCRETE DRIVEWAY PAVEMENT

⑥ ADJUST FRAME AND RING CASTING

⑦ PROPOSED CATCH BASIN
MNDOT DESIGN N WITH B-17 CASTING
TOP OF CASTING – 995.96
12" RCP INVERT ELEV – 990.6
PAY HEIGHT – 5.3 LF
X,Y – 506,733.34, 107,847.68

⑧ REMOVE EXISTING CASTING AND REPLACE WITH CASTING – MNDOT ADA – 1

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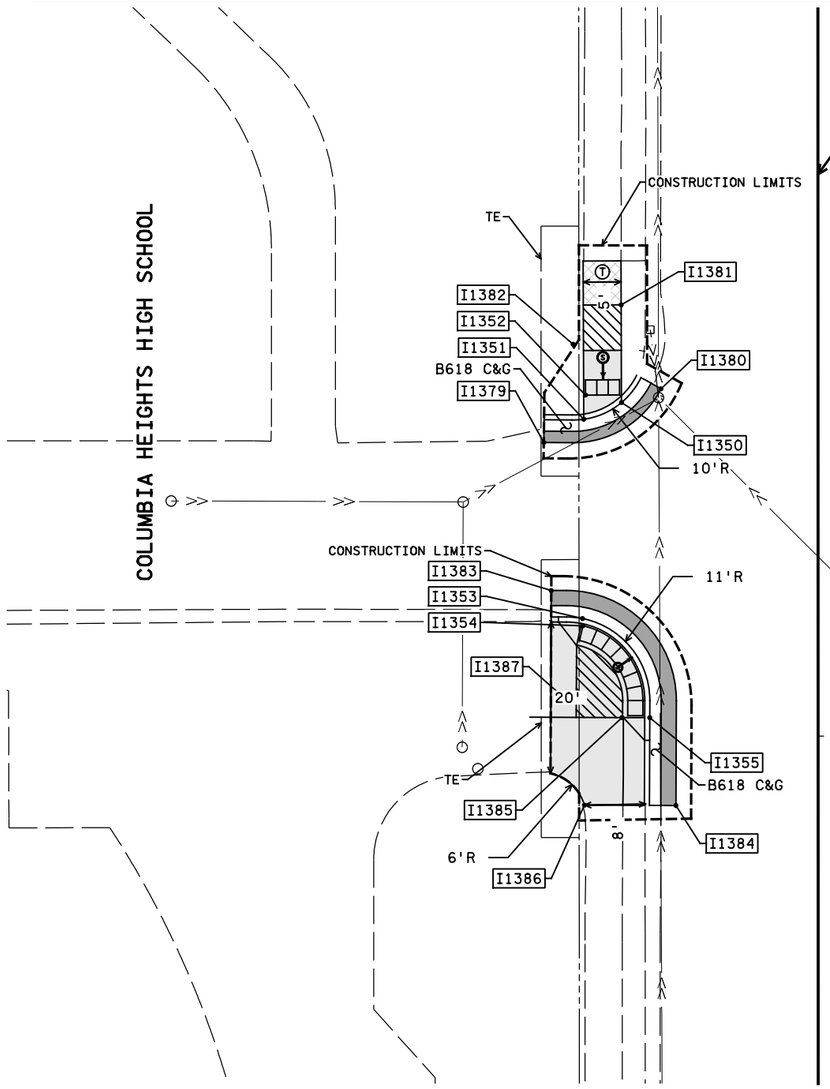

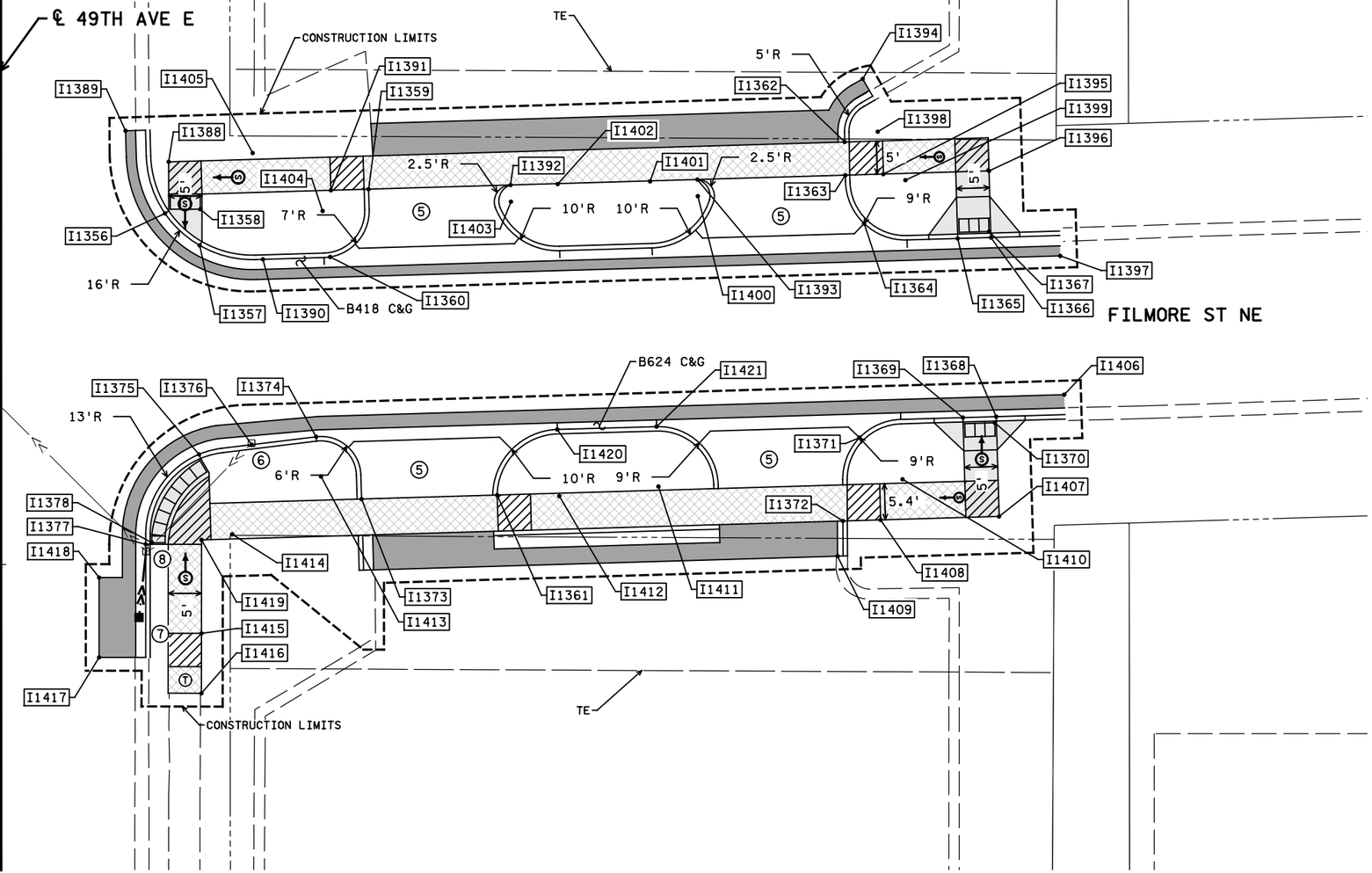

NO	DATE	BY	CKD	APPR	REVISION
17109_in09.dgn					

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 50 OF 83

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POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1350	506681.325	107800.967	EL. 994.33	49TH AVE E	412+55.94	25.95' RT.
I1351	506683.539	107795.974	EL. 994.41	49TH AVE E	412+58.15	30.94' RT.
I1352	506680.344	107796.213	EL. 994.46	49TH AVE E	412+54.95	30.70' RT.
I1353	506709.852	107795.811	EL. 995.19	49TH AVE E	412+84.46	31.11' RT.
I1354	506710.803	107795.851	EL. 995.21	49TH AVE E	412+85.41	31.07' RT.
I1355	506722.947	107804.695	EL. 995.48	49TH AVE E	412+97.56	22.23' RT.
I1356	506672.641	107851.571	EL. 994.17	49TH AVE E	412+47.27	24.66' LT.
I1357	506677.452	107856.784	EL. 994.24	49TH AVE E	412+52.08	29.87' LT.
I1358	506672.014	107856.871	EL. 994.29	49TH AVE E	412+46.64	29.96' LT.
I1359	506669.008	107882.163	EL. 995.80	49TH AVE E	412+43.64	55.25' LT.
I1360	506679.184	107876.394	EL. 995.23	49TH AVE E	412+53.82	49.48' LT.
I1361	506714.952	107901.484	EL. 997.36	49TH AVE E	412+89.59	74.56' LT.
I1362	506661.905	107953.707	EL. 998.03	49TH AVE E	412+36.56	126.80' LT.
I1363	506666.904	107953.811	EL. 997.95	49TH AVE E	412+41.56	126.90' LT.
I1364	506674.161	107956.625	EL. 997.79	49TH AVE E	412+48.82	129.71' LT.
I1365	506676.412	107970.687	EL. 998.56	49TH AVE E	412+51.07	143.77' LT.
I1366	506676.278	107975.683	EL. 998.64	49TH AVE E	412+50.94	148.77' LT.
I1367	506675.356	107975.408	EL. 998.66	49TH AVE E	412+50.02	148.50' LT.
I1368	506703.160	107976.474	EL. 998.57	49TH AVE E	412+77.82	149.55' LT.
I1369	506703.307	107971.476	EL. 998.49	49TH AVE E	412+77.97	144.56' LT.
I1370	506704.084	107976.251	EL. 998.59	49TH AVE E	412+78.75	149.33' LT.
I1371	506706.325	107955.935	EL. 998.53	49TH AVE E	412+80.98	129.01' LT.
I1372	506718.843	107953.444	EL. 998.93	49TH AVE E	412+93.50	126.52' LT.
I1373	506715.549	107881.121	EL. 996.53	49TH AVE E	412+90.18	54.20' LT.
I1374	506706.187	107874.286	EL. 995.45	49TH AVE E	412+80.82	47.37' LT.
I1375	506708.832	107856.682	EL. 995.32	49TH AVE E	412+83.46	29.76' LT.
I1376	506707.377	107864.605	EL. 995.14	49TH AVE E	412+82.01	37.68' LT.
I1377	506722.336	107848.675	EL. 995.52	49TH AVE E	412+96.96	21.75' LT.
I1378	506722.086	107849.592	EL. 995.54	49TH AVE E	412+96.71	22.67' LT.
I1379	506686.595	107790.709	EL. 994.56	49TH AVE E	412+61.20	36.21' RT.
I1380	506679.511	107806.169	EL. 994.18	49TH AVE E	412+54.12	20.74' RT.
I1381	506668.438	107800.923	EL. 994.50	49TH AVE E	412+43.05	25.97' RT.
I1382	506673.638	107794.571	10.0' R.	49TH AVE E	412+48.25	32.34' RT.
I1383	506706.151	107791.684	EL. 995.10	49TH AVE E	412+80.76	35.24' RT.
I1384	506734.548	107808.148	EL. 995.70	49TH AVE E	413+09.16	18.78' RT.
I1385	506722.929	107801.027	EL. 995.53	49TH AVE E	412+97.54	25.90' RT.
I1386	506734.501	107796.074	EL. 996.09	49TH AVE E	413.09.11	30.86' RT.
I1387	506720.587	107793.701	11.0' R.	49TH AVE E	412+95.19	33.22' RT.
I1388	506664.887	107852.127	EL. 994.31	49TH AVE E	412+39.51	25.22' LT.
I1389	506660.227	107845.651	EL. 993.84	49TH AVE E	412+34.85	18.74' LT.
I1390	506679.543	107866.300	EL. 994.85	49TH AVE E	412+54.17	39.39' LT.
I1391	506669.174	107876.497	EL. 995.71	49TH AVE E	412+43.81	49.59' LT.
I1392	506668.381	107903.488	EL. 996.44	49TH AVE E	412+43.02	76.58' LT.
I1393	506667.557	107931.562	EL. 997.28	49TH AVE E	412+42.21	104.65' LT.
I1394	506652.432	107956.415	EL. 998.34	49TH AVE E	412+27.09	129.51' LT.
I1395	506666.736	107959.518	EL. 998.05	49TH AVE E	412+41.39	132.61' LT.
I1396	506666.270	107975.391	EL. 999.00	49TH AVE E	412+40.93	148.48' LT.
I1397	506679.026	107986.100	EL. 999.10	49TH AVE E	412+53.69	159.19' LT.
I1398	506660.362	107958.676	5.0' R.	49TH AVE E	412+35.02	131.77' LT.
I1399	506667.639	107962.828	9.0' R.	49TH AVE E	412+42.30	135.92' LT.
I1400	506670.056	107931.635	2.5	49TH AVE E	412+44.71	104.73' LT.
I1401	506667.830	107924.473	10.0' R.	49TH AVE E	412+42.48	97.56' LT.
I1402	506668.238	107910.581	10.0' R.	49TH AVE E	412+42.88	83.67' LT.
I1403	506670.880	107903.561	2.5	49TH AVE E	412+45.52	76.65' LT.
I1404	506672.277	107875.256	7.0' R.	49TH AVE E	412+46.91	48.35' LT.
I1405	506663.581	107864.758	16.0' R.	49TH AVE E	412+38.21	37.85' LT.
I1406	506699.858	107986.712	EL. 999.22	49TH AVE E	412+74.53	159.79' LT.

POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1407	506718.154	107976.914	EL. 999.13	49TH AVE E	412+92.82	149.99' LT.
I1408	506718.676	107959.112	EL. 998.03	49TH AVE E	412+93.34	132.19' LT.
I1409	506724.124	107952.643	EL. 998.92	49TH AVE E	412+98.78	125.72' LT.
I1410	506712.577	107962.400	9.0' R.	49TH AVE E	412+87.24	135.48' LT.
I1411	506713.654	107925.721	9.0' R.	49TH AVE E	412+88.30	98.80' LT.
I1412	506715.092	107910.816	10.0' R.	49TH AVE E	412+89.74	83.89' LT.
I1413	506712.165	107875.019	6.0' R.	49TH AVE E	412+86.80	48.10' LT.
I1414	506720.835	107861.675	13.0' R.	49TH AVE E	412+95.46	34.75' LT.
I1415	506735.717	107857.060	EL. 996.54	49TH AVE E	413+10.34	30.13' LT.
I1416	506744.717	107857.052	EL. 996.77	49TH AVE E	413+19.34	30.12' LT.
I1417	506739.336	107841.675	EL. 996.29	49TH AVE E	413+13.96	14.74' LT.
I1418	506727.336	107841.675	EL. 995.69	49TH AVE E	413+01.96	14.75' LT.
I1419	506721.673	107857.074	EL. 995.69	49TH AVE E	412+96.30	30.15' LT.
I1420	506705.097	107910.523	EL. 996.48	49TH AVE E	412+79.74	83.60' LT.
I1421	506704.659	107925.438	EL. 997.13	49TH AVE E	412+79.31	98.52' LT.

NO	DATE	BY	CKD	APPR	REVISION

17109_In09A.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

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COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 51 OF 83

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5/28/2024
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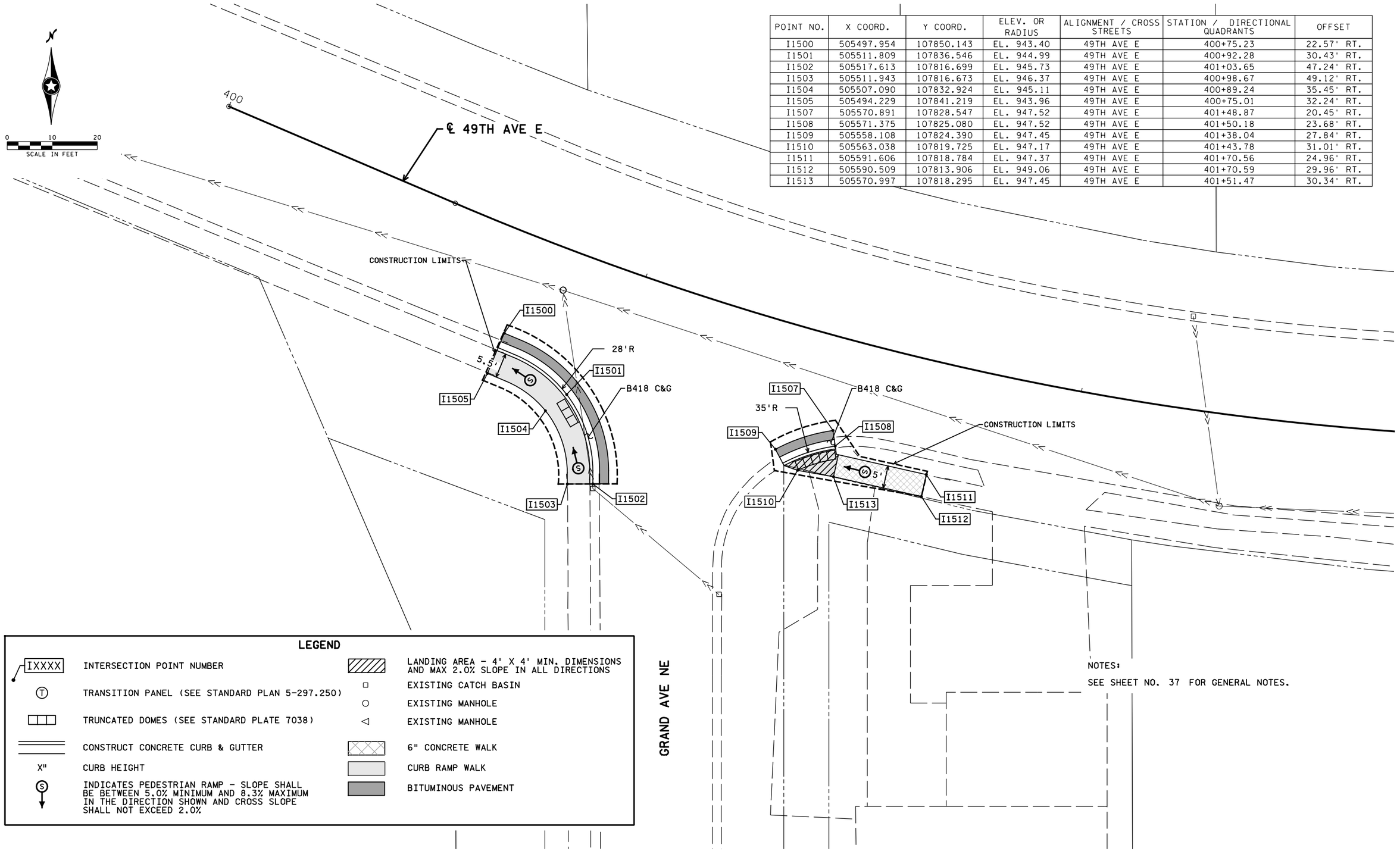
POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1500	505497.954	107850.143	EL. 943.40	49TH AVE E	400+75.23	22.57' RT.
I1501	505511.809	107836.546	EL. 944.99	49TH AVE E	400+92.28	30.43' RT.
I1502	505517.613	107816.699	EL. 945.73	49TH AVE E	401+03.65	47.24' RT.
I1503	505511.943	107816.673	EL. 946.37	49TH AVE E	400+98.67	49.12' RT.
I1504	505507.090	107832.924	EL. 945.11	49TH AVE E	400+89.24	35.45' RT.
I1505	505494.229	107841.219	EL. 943.96	49TH AVE E	400+75.01	32.24' RT.
I1507	505570.891	107828.547	EL. 947.52	49TH AVE E	401+48.87	20.45' RT.
I1508	505571.375	107825.080	EL. 947.52	49TH AVE E	401+50.18	23.68' RT.
I1509	505558.108	107824.390	EL. 947.45	49TH AVE E	401+38.04	27.84' RT.
I1510	505563.038	107819.725	EL. 947.17	49TH AVE E	401+43.78	31.01' RT.
I1511	505591.606	107818.784	EL. 947.37	49TH AVE E	401+70.56	24.96' RT.
I1512	505590.509	107813.906	EL. 949.06	49TH AVE E	401+70.59	29.96' RT.
I1513	505570.997	107818.295	EL. 947.45	49TH AVE E	401+51.47	30.34' RT.



LEGEND

IXXXX	INTERSECTION POINT NUMBER		LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
T	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250)	□	EXISTING CATCH BASIN
		○	EXISTING MANHOLE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)	◁	EXISTING MANHOLE
	CONSTRUCT CONCRETE CURB & GUTTER		6" CONCRETE WALK
X"	CURB HEIGHT		CURB RAMP WALK
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%		BITUMINOUS PAVEMENT

NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 52 OF 83

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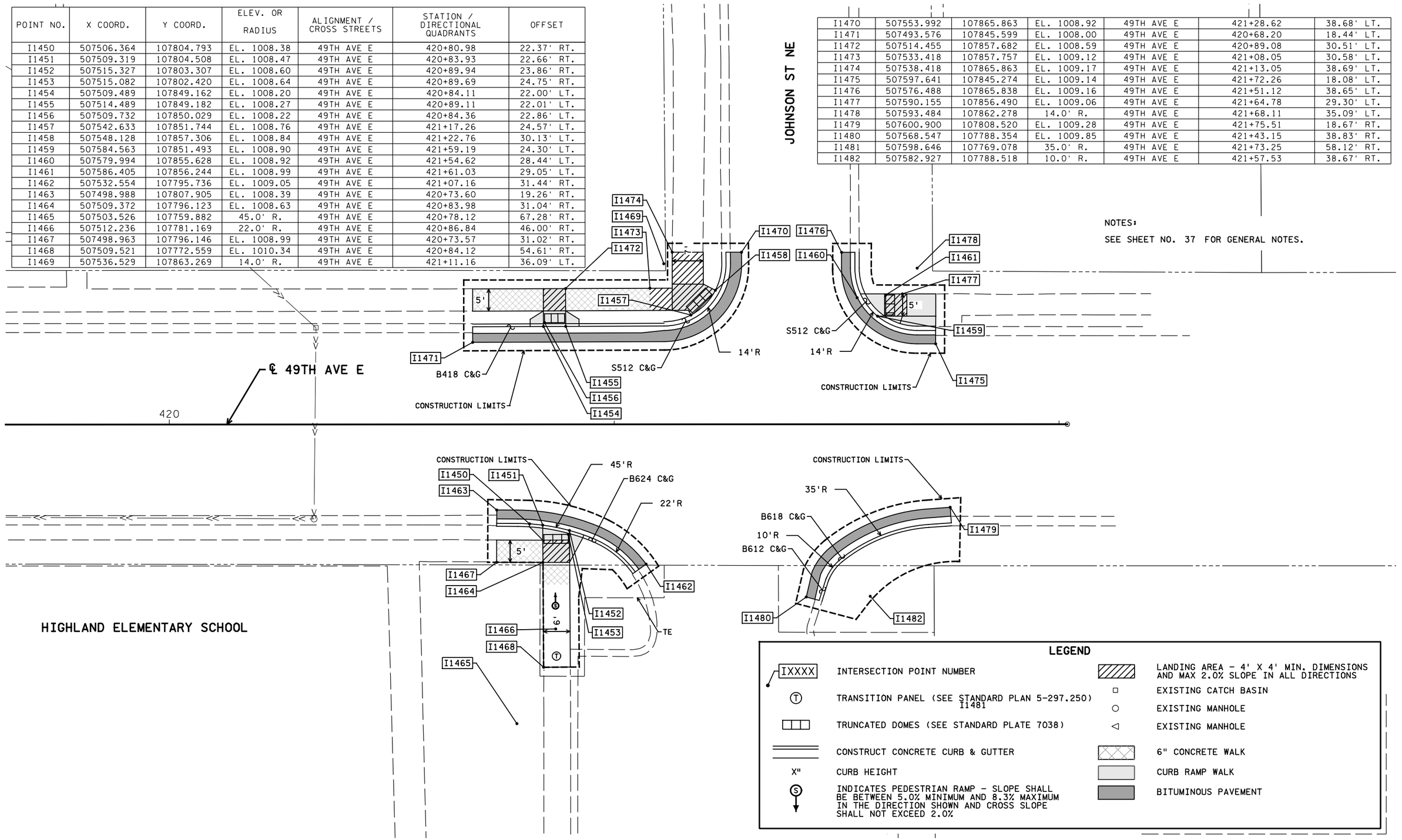
POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT / CROSS STREETS	STATION / DIRECTIONAL QUADRANTS	OFFSET
I1450	507506.364	107804.793	EL. 1008.38	49TH AVE E	420+80.98	22.37' RT.
I1451	507509.319	107804.508	EL. 1008.47	49TH AVE E	420+83.93	22.66' RT.
I1452	507515.327	107803.307	EL. 1008.60	49TH AVE E	420+89.94	23.86' RT.
I1453	507515.082	107802.420	EL. 1008.64	49TH AVE E	420+89.69	24.75' RT.
I1454	507509.489	107849.162	EL. 1008.20	49TH AVE E	420+84.11	22.00' LT.
I1455	507514.489	107849.182	EL. 1008.27	49TH AVE E	420+89.11	22.01' LT.
I1456	507509.732	107850.029	EL. 1008.22	49TH AVE E	420+84.36	22.86' LT.
I1457	507542.633	107851.744	EL. 1008.76	49TH AVE E	421+17.26	24.57' LT.
I1458	507548.128	107857.306	EL. 1008.84	49TH AVE E	421+22.76	30.13' LT.
I1459	507584.563	107851.493	EL. 1008.90	49TH AVE E	421+59.19	24.30' LT.
I1460	507579.994	107855.628	EL. 1008.92	49TH AVE E	421+54.62	28.44' LT.
I1461	507586.405	107856.244	EL. 1008.99	49TH AVE E	421+61.03	29.05' LT.
I1462	507532.554	107795.736	EL. 1009.05	49TH AVE E	421+07.16	31.44' RT.
I1463	507498.988	107807.905	EL. 1008.39	49TH AVE E	420+73.60	19.26' RT.
I1464	507509.372	107796.123	EL. 1008.63	49TH AVE E	420+83.98	31.04' RT.
I1465	507503.526	107759.882	45.0' R.	49TH AVE E	420+78.12	67.28' RT.
I1466	507512.236	107781.169	22.0' R.	49TH AVE E	420+86.84	46.00' RT.
I1467	507498.963	107796.146	EL. 1008.99	49TH AVE E	420+73.57	31.02' RT.
I1468	507509.521	107772.559	EL. 1010.34	49TH AVE E	420+84.12	54.61' RT.
I1469	507536.529	107863.269	14.0' R.	49TH AVE E	421+11.16	36.09' LT.
I1470	507553.992	107865.863	EL. 1008.92	49TH AVE E	421+28.62	38.68' LT.
I1471	507493.576	107845.599	EL. 1008.00	49TH AVE E	420+68.20	18.44' LT.
I1472	507514.455	107857.682	EL. 1008.59	49TH AVE E	420+89.08	30.51' LT.
I1473	507533.418	107857.757	EL. 1009.12	49TH AVE E	421+08.05	30.58' LT.
I1474	507538.418	107865.863	EL. 1009.17	49TH AVE E	421+13.05	38.69' LT.
I1475	507597.641	107845.274	EL. 1009.14	49TH AVE E	421+72.26	18.08' LT.
I1476	507576.488	107865.838	EL. 1009.16	49TH AVE E	421+51.12	38.65' LT.
I1477	507590.155	107856.490	EL. 1009.06	49TH AVE E	421+64.78	29.30' LT.
I1478	507593.484	107862.278	14.0' R.	49TH AVE E	421+68.11	35.09' LT.
I1479	507600.900	107808.520	EL. 1009.28	49TH AVE E	421+75.51	18.67' RT.
I1480	507568.547	107788.354	EL. 1009.85	49TH AVE E	421+43.15	38.83' RT.
I1481	507598.646	107769.078	35.0' R.	49TH AVE E	421+73.25	58.12' RT.
I1482	507582.927	107788.518	10.0' R.	49TH AVE E	421+57.53	38.67' RT.



NOTES:

SEE SHEET NO. 37 FOR GENERAL NOTES.

LEGEND

IXXXX	INTERSECTION POINT NUMBER		LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
Ⓣ	TRANSITION PANEL (SEE STANDARD PLAN 5-297.250) I1481	□	EXISTING CATCH BASIN
		○	EXISTING MANHOLE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)	◁	EXISTING MANHOLE
	CONSTRUCT CONCRETE CURB & GUTTER		6" CONCRETE WALK
X"	CURB HEIGHT		CURB RAMP WALK
Ⓢ	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%		BITUMINOUS PAVEMENT

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807
DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

CONSTRUCTION PLANS / INTERSECTION DETAILS

SP 113-591-001

SHEET 53 OF 83

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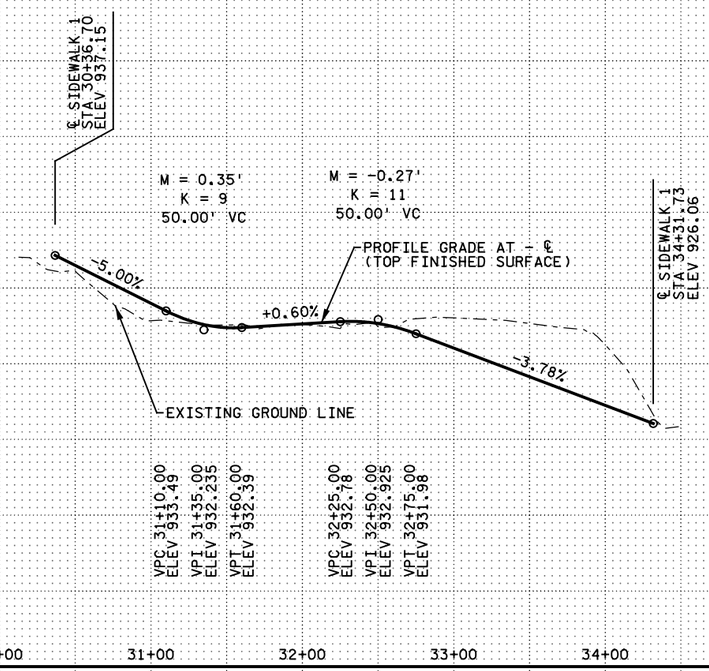
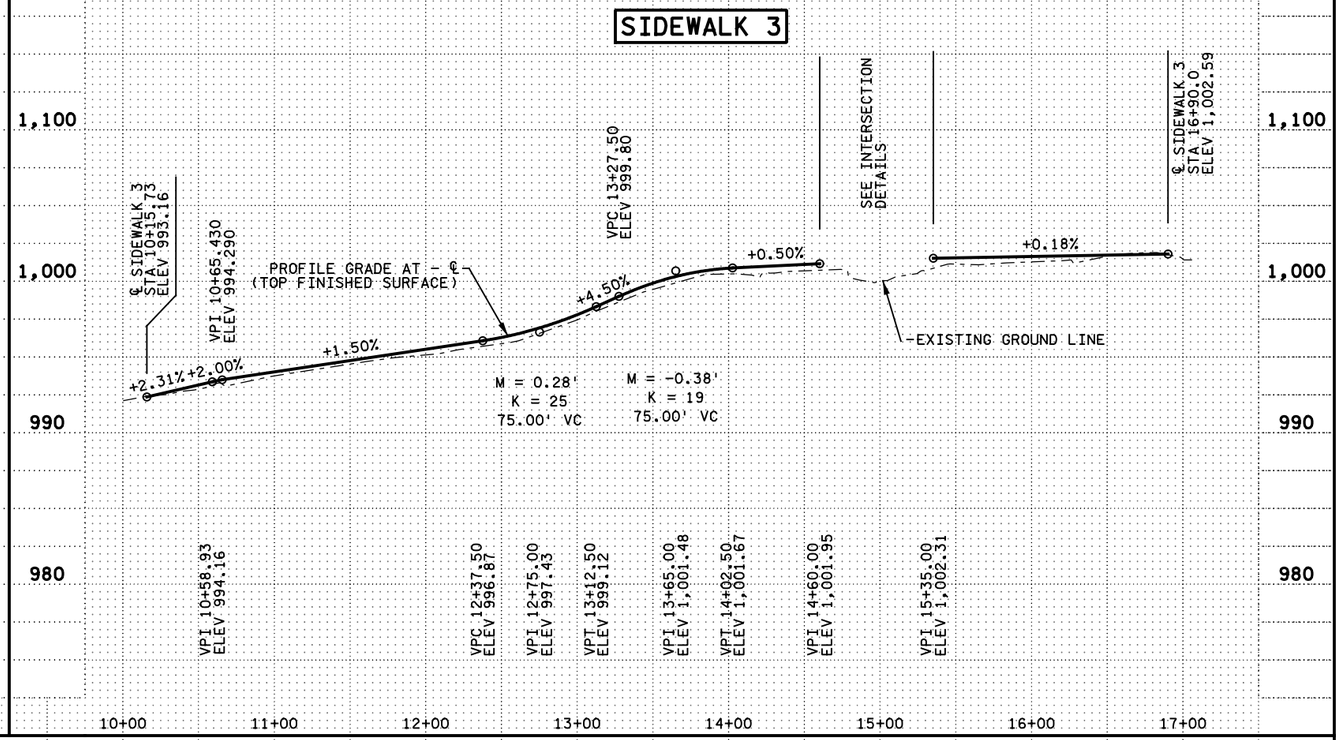
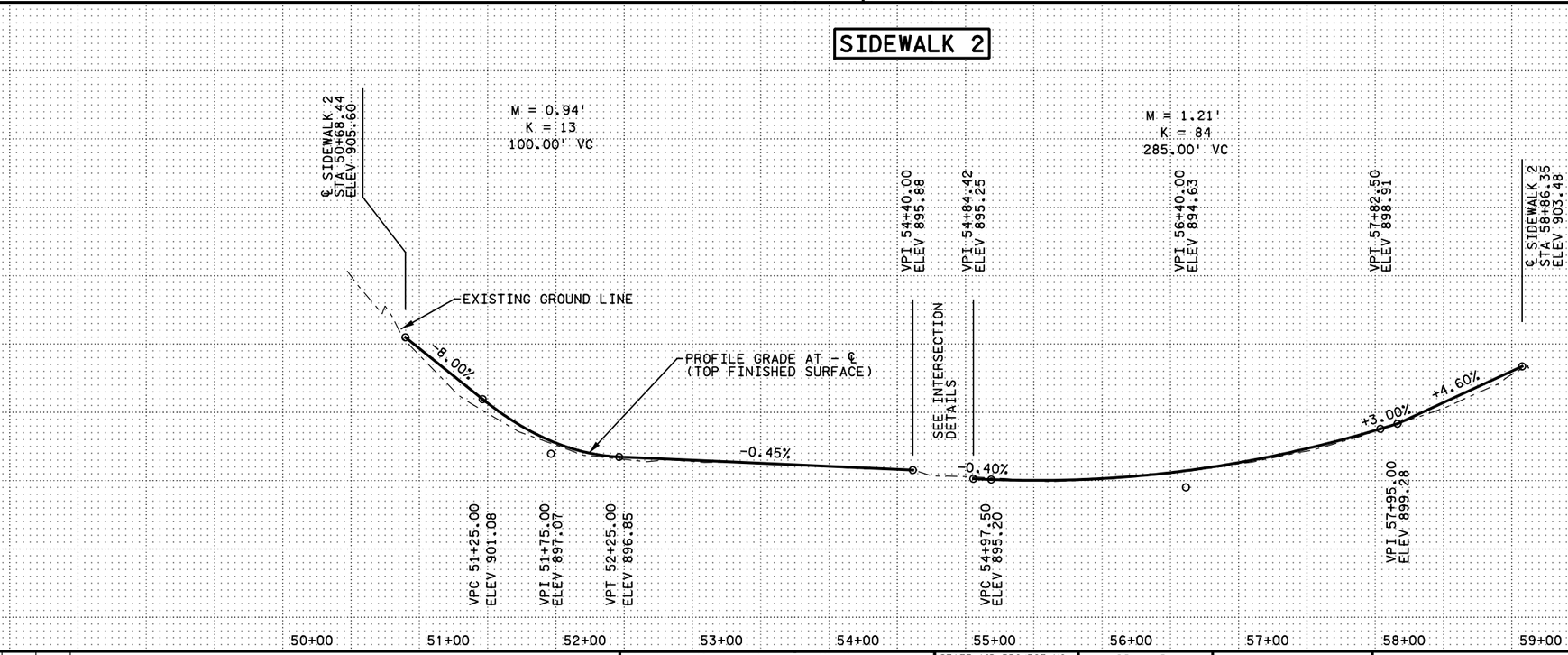
SIDEWALK 1



SIDEWALK 3



SIDEWALK 2



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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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.

STATE PROJECT NO.
113-591-001

CITY PROJECT NO.
1807

DRAWN BY
J.BAUERS

DESIGNED BY
A.ORTLEPP

CHECKED BY
J.COLAS

COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS

PROFILE

SP 113-591-001

SHEET
54
OF
83

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.
PERMANENT STORMWATER BEST MANAGEMENT PRACTICES (BMPS) ARE NOT REQUIRED FOR THIS PROJECT PER THE NPDES PERMIT. CITY REQUIREMENTS WOULD REQUIRE PERMANENT BMPS, BUT LIMITED RIGHT OF WAY AND SITE CONSTRAINTS PRECLUDES THE INCLUSION OF PERMANENT STORMWATER BMPS.

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.
SULLIVAN LAKE IS IMPAIRED FOR NUTRIENTS.
THE MISSISSIPPI RIVER IS IMPAIRED FOR NUTRIENTS AND HAS AN APPROVED TMDL. THE TMDL HAS NO REQUIREMENTS FOR CONSTRUCTION OR PERMANENT STORMWATER BMPS.

AREAS OF ENVIRONMENTAL SENSITIVITY
THERE ARE NO KNOWN AREAS OF ENVIRONMENTAL SENSITIVITY WITHIN OR ADJACENT TO THE PROJECT AREA.

LONG TERM MAINTENANCE AND OPERATION
MAINTENANCE STAFF FROM THE CITY OF COLUMBIA HEIGHTS IS RESPONSIBLE FOR THE LONG TERM MAINTENANCE AND OPERATION OF THE PERMANENT STORMWATER SYSTEM. THE CITY OF COLUMBIA HEIGHTS HAS AN MS4 SWPPP THAT IS AVAILABLE ONLINE OR UPON REQUEST.

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 MISSISSIPPI WATERSHED MANAGEMENT ORGANIZATION AND THE CITY OF COLUMBIA HEIGHTS 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 PARTIALLY WITHIN A MODERATE VULNERABILITY DWSMA BUT IS NOT WITHIN AN ERA OR KARST AREA.

SOIL TYPES
SOIL TYPES FOUND ON THIS PROJECT ARE VARIABLE AND HAVE BEEN HEAVILY DISTURBED BY PREVIOUS DEVELOPMENT ACTIVITIES. ANTICIPATED SOIL TYPES CAN PREDOMINANTLY BE CHARACTERIZED AS FINE SAND, LOAM, FINE SANDY LOAM AND SANDY CLAY LOAM.

LAND FEATURE CHANGES
TOTAL DISTURBED AREA: 1.24 ACRES
TOTAL EXISTING IMPERVIOUS SURFACE AREA: 0.07 ACRES
TOTAL PROPOSED IMPERVIOUS SURFACE AREA: 0.49 ACRES
TOTAL PROPOSED NET CHANGE IN IMPERVIOUS SURFACE AREA: 0.42 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 COLUMBIA HEIGHTS	LAUREN LETSCHE	763-706-3700
MINNESOTA POLLUTION CONTROL AGENCY	JOSH NORMAN	651-757-2389
MISSISSIPPI WMO	KEVIN REICH	612-746-4971
SRF WATER RESOURCES (OR SWPPP DESIGNER)	JEREMY NIELSEN	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
DRAINAGE STRUCTURES	SHEET NOS. 37 TO 53
TURF ESTABLISHMENT TABULATION	SHEET NOS. 9
STATEMENT OF ESTIMATED QUANTITIES	SHEET NOS. 4

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.

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: JEREMY NIELSEN
Date 5/28/2024 License # 45047

STATE AID PROJECT NO.
STATE PROJECT NO. 113-591-001
CITY PROJECT NO. 1807

DRAWN BY J.BAUERS
DESIGNED BY A.ORTLEPP
CHECKED BY J.COLAS
COMM. NO.17109

SRF

CITY OF COLUMBIA HEIGHTS
STORMWATER POLLUTION PREVENTION PLAN
SP 113-591-001

SHEET 55 OF 83

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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.

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: JEREMY NIELSEN

Date 5/28/2024 License # 45047

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY J.BAUERS

DESIGNED BY A.ORTLEPP

CHECKED BY J.COLAS

COMM. NO. 17109

SRF

CITY OF COLUMBIA HEIGHTS

STORMWATER POLLUTION PREVENTION PLAN

SP 113-591-001

SHEET 56 OF 83

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

STABILIZATION AND SEDIMENT CONTROL NOTES

1. THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS SHALL BE PLACED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ONSITE. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY REMOVAL WORK AND/OR GROUND DISTURBING ACTIVITIES AND SHALL BE MAINTAINED UNTIL THE POTENTIAL FOR EROSION HAS BEEN ELIMINATED. IF SEDIMENT CONTROLS ARE OVERLOADED (BASED ON FREQUENT FAILURE OR EXCESSIVE MAINTENANCE), ADDITIONAL UPGRADIENT OR REDUNDANT BMPS SHALL BE PLACED.

2. SEDIMENT CONTROL DEVICES SHALL BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. SEDIMENT CONTROL DEVICES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   A. PERIMETER CONTROL SHALL BE LOCATED ON THE CONTOUR TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS DOWN GRADIENT OF ALL EXPOSED SOILS AND PRIOR TO DISCHARGING TO SURFACE WATERS. THE BMP SHALL BE J-HOOKED AT A MAXIMUM OF 100 FOOT INTERVALS AND EACH SECTION SHALL CONTAIN NO MORE THAN 1/4 ACRE OF DRAINAGE AREA.
   B. SEDIMENT DAMAGE FROM STOCKPILES SHALL BE MINIMIZED BY PLACING A ROW OF SUPER DUTY SILT FENCE A MINIMUM 5 FEET FROM THE TOE. IF THERE IS NOT ADEQUATE PROJECT AREA TO PLACE THE SILT FENCE MORE THAN 5 FEET FROM THE TOE OF THE SLOPE, THE CONTRACTOR MAY SUBMIT AN ALTERNATIVE TO THE PROJECT ENGINEER FOR APPROVAL. DOWNGRADIENT PERIMETER CONTROL MUST BE INSTALLED PRIOR TO THE INITIATION OF STOCKPILING.
   C. DITCH CHECKS (IF REQUIRED) SHALL BE PLACED AS INDICATED ON THE PLANS DURING ALL PHASES OF CONSTRUCTION.
      1. TEMPORARY DITCH CHECKS (IF REQUIRED) SHALL CONSIST OF USING ROCK DITCH CHECKS, SEDIMENT CONTROL LOGS AND ROCK WEEPERS IN FRONT OF CULVERT INLETS. IN LIEU OF REMOVING TEMPORARY DITCH CHECKS, THE ROCK MAY BE PUSHED INTO THE GROUND.
      2. FILTER LOGS (IF REQUIRED) SHALL BE PLACED DURING PERMANENT TURF ESTABLISHMENT AT THE INTERVALS IDENTIFIED IN THE PLAN.
   D. FLOTATION SILT CURTAIN MAY BE USED AS PERIMETER CONTROL BUT ONLY FOR WORK ON THE SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE CONSTRUCTION IN THE AREA IS COMPLETE, AN UPLAND BMP SHALL BE PLACED IF EXPOSED SOILS CONTINUE TO DRAIN TO THE SURFACE WATER.
   E. TEMPORARY SEDIMENT BASINS ARE REQUIRED WHERE TEN OR MORE ACRES DRAIN TO A COMMON LOCATION (FIVE IF DRAINING TO A SPECIAL OR IMPAIRED WATER).
      1. BASIN VOLUME SHALL BE A MINIMUM OF 1,800 CUBIC FEET PER ACRE OF DRAINAGE AREA TO THE BASIN (3,600 CUBIC FEET PER ACRE IF NO CALCULATIONS ARE PERFORMED).
      2. OUTLET SHALL ALLOW COMPLETE DRAWDOWN FOR MAINTENANCE AND A STABILIZED OVERFLOW. THE OUTLET SHALL WITHDRAW WATER FROM THE SURFACE EXCEPT DURING FROZEN CONDITIONS. TEMPORARY POND OUTLETS OR TEMPORARY MODIFICATIONS TO PERMANENT POND OUTLETS TO COMPLY WITH NPDES PERMIT REQUIREMENTS FOR TEMPORARY SEDIMENT BASINS SHALL BE INCIDENTAL.
      3. IF A TEMPORARY BASIN OF THE REQUIRED SIZE IS INFEASIBLE THE REASONS SHALL BE DOCUMENTED IN THE SWPPP AND ALTERNATE BMPS SHALL BE PLACED.

3. PRESERVE A NATURAL BUFFER OF AT LEAST 50 FEET (100 FEET IF WITHIN 1 MILE OF AND DRAINS TO A SPECIAL OR IMPAIRED WATER) BETWEEN DISTURBED AREAS AND FLOWS TO A SURFACE WATER (NOT REQUIRED AT DITCHES OR STORMWATER CONVEYANCE CHANNELS, STORM DRAIN INLETS OR SEDIMENT BASINS). IF A BUFFER IS INFEASIBLE, PROVIDE AS LARGE A BUFFER AS POSSIBLE AND REDUNDANT SEDIMENT CONTROLS.

4. STORM SEWER INLETS SHALL BE PROTECTED AT ALL TIMES WITH THE APPROPRIATE INLET PROTECTION FOR EACH SPECIFIC PHASE OF CONSTRUCTION. PROVIDE INLET PROTECTION DEVICES WITH EMERGENCY OVERFLOW CAPABILITIES. SILT FENCE PLACED IN THE INLET GRATE IS NOT AN ACCEPTABLE INLET PROTECTION BMP FOR GRADING OPERATIONS (THIS BMP SHALL BE ACCEPTED ONLY FOR SHORT INTERVALS DURING MILLING OR PAVING OPERATIONS). INLET PROTECTION DEVICES MAY NEED TO BE PLACED MULTIPLE TIMES IN THE SAME LOCATION OVER THE LIFE OF THE CONTRACT. INLET PROTECTION DEVICES SHALL BE PAID FOR ONCE PER INLET REGARDLESS OF THE NUMBER OF TIMES THE BMP IS PLACED. ALL STORM SEWER INLET PROTECTION DEVICES SHALL BE KEPT IN GOOD FUNCTIONAL CONDITION AT ALL TIMES. IF THE PROJECT ENGINEER DEEMS AN INLET PROTECTION DEVICE TO BE NONFUNCTIONAL, IN POOR CONDITION, INEFFECTIVE OR NOT APPROPRIATE FOR THE CURRENT CONSTRUCTION ACTIVITIES IT SHALL BE REPLACED WITH A SUITABLE ALTERNATIVE AT NO COST TO THE OWNER.

STABILIZATION AND SEDIMENT CONTROL NOTES (CONT.)

5. PAVEMENT SURFACES SHALL BE SWEPT WITHIN 24 HOURS OF DISCOVERY OF SEDIMENT OR TRACKING ONTO PAVEMENT THAT DRAINS TO CURB, INLETS, DITCHES OR PONDS. PAVEMENT SHALL BE LIGHTLY WETTED PRIOR TO SWEEPING. THIS WORK IS INCIDENTAL.

6. OUTLETS INTO SURFACE WATERS SHALL BE STABILIZED WITH ENERGY DISSIPATION WITHIN 24 HOURS OF BEING CONSTRUCTED.

7. DITCHES AND EXPOSED SOILS SHALL BE KEPT IN AN EVEN ROUGH GRADED CONDITION IN ORDER TO BE ABLE TO APPLY EROSION CONTROL MULCHES AND BLANKETS.

8. INITIATE STABILIZATION OF ALL EXPOSED SOIL AND STOCKPILE AREAS IMMEDIATELY AFTER CONSTRUCTION ACTIVITY ON THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED AND WILL NOT RESUME FOR A PERIOD EXCEEDING 7 DAYS. TEMPORARY OR PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN NO MORE THAN 7 DAYS. ALL EXPOSED SOIL WITHIN 200 LINEAL FEET OF AND DRAINING TO A PUBLIC WATER WITH "WORK IN WATER RESTRICTIONS" AND DURING SPECIFIED FISH SPAWNING TIME FRAMES, SHALL BE STABILIZED WITHIN 24 HOURS. IN MANY INSTANCES, THIS SHALL REQUIRE STABILIZATION TO OCCUR MORE THAN ONCE DURING ROUGH GRADING. RAPID STABILIZATION METHOD 3 SHALL BE USED TO PROVIDE TEMPORARY COVER IN THESE AREAS AS APPROPRIATE. SUBSTITUTE SEED MIXTURE 21-112 OR 21-111 FOR THE SPECIFIED SEED MIXTURE AS APPROPRIATE FOR THE SEASON. SEE NPDES PERMIT FOR EXCEPTIONS.

9. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT DRAINS WATER FROM THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE CONSTRUCTION SITE, SHALL BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE OR POINT OF DISCHARGE TO ANY SURFACE WATER. STABILIZATION SHALL OCCUR WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, EXISTING GUTTER, STORM SEWER INLET, DRAINAGE DITCH, OR OTHER STORMWATER CONVEYANCE SYSTEM ACCORDING TO SPEC 1717.2. RAPID STABILIZATION METHOD 4 SHALL BE USED TO STABILIZE THESE AREAS (SUBSTITUTE SEED MIXTURE 21-112 OR 21-111 FOR THE SPECIFIED SEED MIXTURE AS APPROPRIATE FOR THE SEASON). THE REMAINDER OF THE DITCH SHALL BE STABILIZED WITHIN 14 DAYS (7 DAYS IF IT IS WITHIN 1 MILE OF AND DRAINS TO A SPECIAL OR IMPAIRED WATER)OF CONNECTING TO THE SURFACE WATER. PERMANENT EROSION CONTROL BLANKET OR RAPID STABILIZATION METHOD 4 (SUBSTITUTE SEED MIXTURE 21-112 OR 21-111 FOR THE SPECIFIED SEED MIXTURE AS APPROPRIATE FOR THE SEASON) SHALL BE USED TO STABILIZE THESE AREAS AS INDICATED IN THE PLANS. IN LOCATIONS WHERE THE DITCH SLOPE IS LESS THAN 2 PERCENT, DISC ANCHORED MULCH AND HYDRAULIC SOIL STABILIZERS MAY BE USED FOR DITCH BOTTOM STABILIZATION AS INDICATED IN THE PLANS OR WITH THE APPROVAL OF THE ENGINEER.

10. ALL EXPOSED SOIL AREAS SHALL BE STABILIZED PRIOR TO THE ONSET OF WINTER. ANY WORK STILL BEING PERFORMED SHALL BE SNOW MULCHED, SEEDED, OR BLANKETED WITHIN THE TIME FRAMES LISTED IN THE NPDES PERMIT.

11. ALL TOPSOIL BERMS SHALL BE STABILIZED AS FOLLOWS WITHIN 24 HOURS:
    A. BETWEEN APRIL 1 - AUGUST 31, SEED WITH SEED MIXTURE 21-111
    B. BETWEEN SEPTEMBER 1 AND MARCH 31, SEED WITH SEED MIXTURE 21-112 AND TOP WITH RAPID STABILIZATION 2.

12. TILLING FOR BEDS OR TREE HOLES SHALL BE PLANTED AND MULCHED WITH WOODCHIP WITHIN 7 DAYS OR STRAW MULCHED UNTIL PLANTING OPERATIONS CAN BE COMPLETED. FILTER LOGS SHALL BE PLACED, AS NEEDED, TO TRAP SEDIMENT ON THE LOWER EDGE OF BEDS OR TREE HOLES. FILTER LOGS SHALL BE LEFT TO PHOTO DEGRADE.

13. DISTURBANCE OF LAND MUST BE LIMITED TO WHAT CAN BE EFFECTIVELY INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE SWPPP.

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: JEREMY NIELSEN

Date 5/28/2024 License # 45047

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807
DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

STORMWATER POLLUTION PREVENTION PLAN

SP 113-591-001

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SIGNING & PERMANENT PAVEMENT MARKING PLAN

NOTES & GUIDELINES

GENERAL INFORMATION:

1. SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.
2. EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS, AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE MAINLINE RADIUS.
3. 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.
4. 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.

SIGNING & PERMANENT PAVEMENT MARKING PLAN INDEX

SYMBOLS & MATERIALS LEGEND

CROSSWALK BLOCK

STRIPING KEY

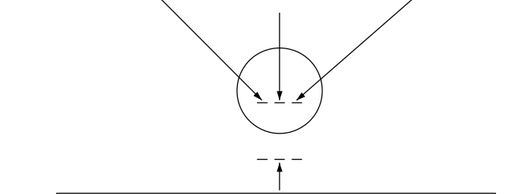
TRIANGLE-PAINT

OCTAGON-PREF THERMO

1ST DIGIT
WIDTH
4", 8", ETC.

2ND DIGIT
PATTERN
S - SOLID
B - BROKEN
T - DOTTED
D - DOUBLE SOLID
K - DOUBLE BROKEN
H - DOUBLE DOTTED

3RD DIGIT
COLOR
W - WHITE
Y - YELLOW
B - BLACK



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

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

SIGNING AND PAVEMENT MARKING QUANTITIES

ITEM NO	ITEM	UNIT	TOTAL QUANTITIES
2102	PAVEMENT MARKING REMOVAL	SQ FT	270
2104	REMOVE SIGN	EACH	2
2104	SALVAGE SIGN	EACH	24
2564	INSTALL SIGN	EACH	24
2582	4" SOLID LINE PAINT	LIN FT	56
2582	24" SOLID LINE PREFORM THERMO GROUND IN	LIN FT	93
2582	CROSSWALK PREFORM THERMOPLASTIC GROUND IN ENHANCED SKID RESISTANCE	SQ FT	684

GENERAL INFORMATION:
1. SEE ANOKA COUNTY DETAILS FOR SIGN STRUCTURE INSTALLATION AND PLACEMENT.
2. PLACE SIGNS AFTER FINAL GRADING IS COMPLETE.

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: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY K. SPENCE
DESIGNED BY K. SPENCE
CHECKED BY C. BAYER
COMM. NO. 17109

SRF

CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS
SP 113-591-001
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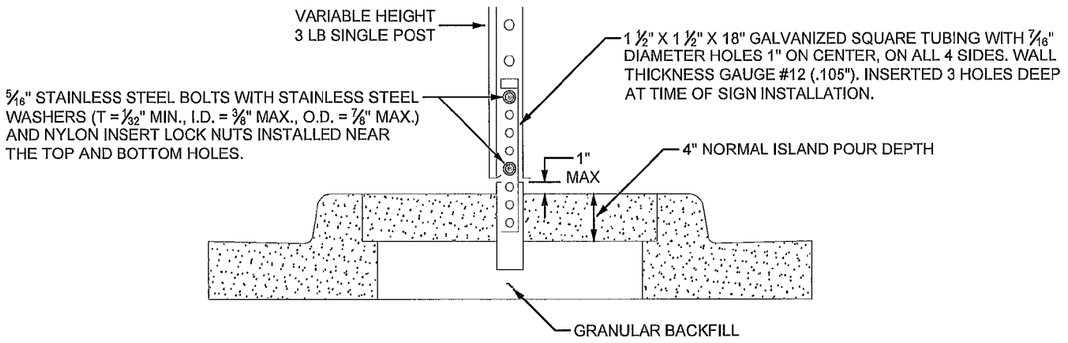
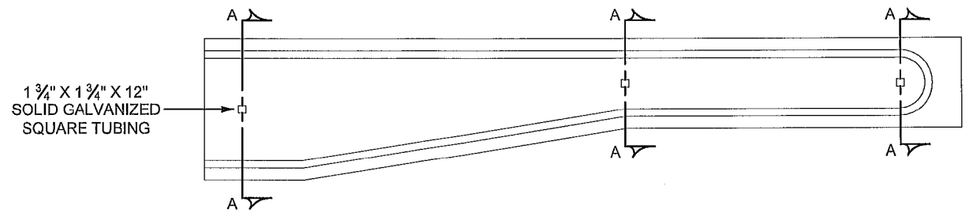
SIGN INSTALLATION TYPICALS

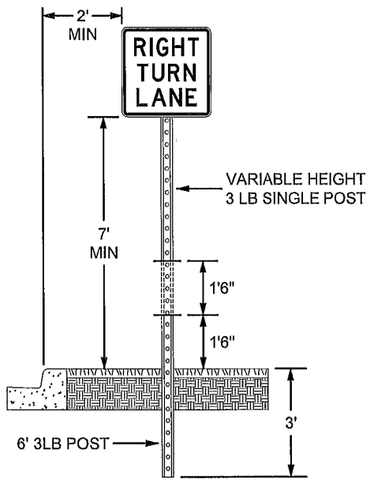
SECTION A-A



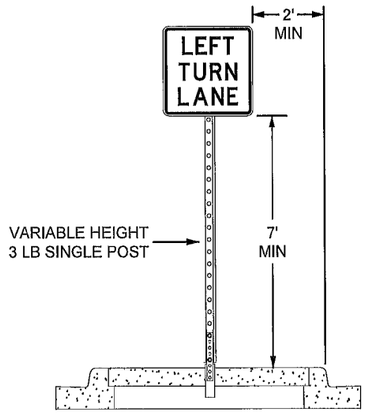


ISLAND MOUNT, BREAK-AWAY

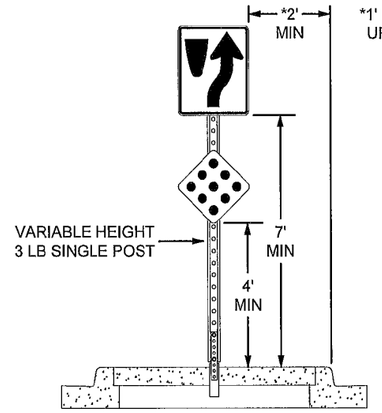
GROUND POST MOUNT SIGN INSTALLATION TYPICAL



ISLAND MOUNT, BREAK-AWAY SIGN INSTALLATION TYPICAL



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



SIGN NOTES:

- TELESPAR 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.

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: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

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STATE PROJECT NO.	113-591-001
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DRAWN BY	K. SPENCE
DESIGNED BY	K. SPENCE
CHECKED BY	C. BAYER
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

DETAILS

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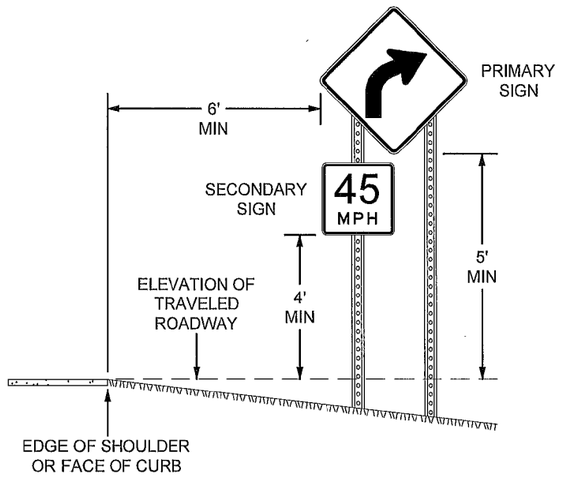
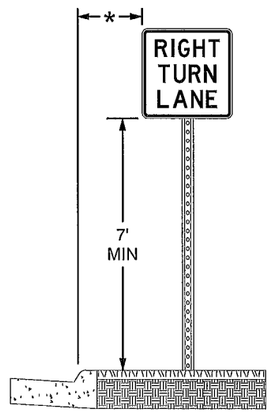
SIGN PLACEMENT TYPICALS

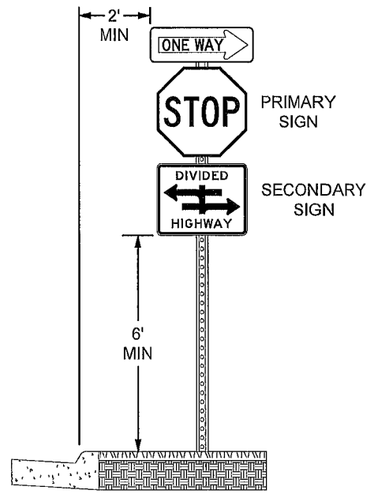
RURAL

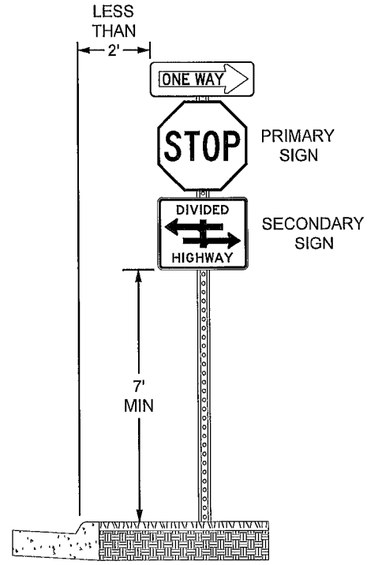


URBAN

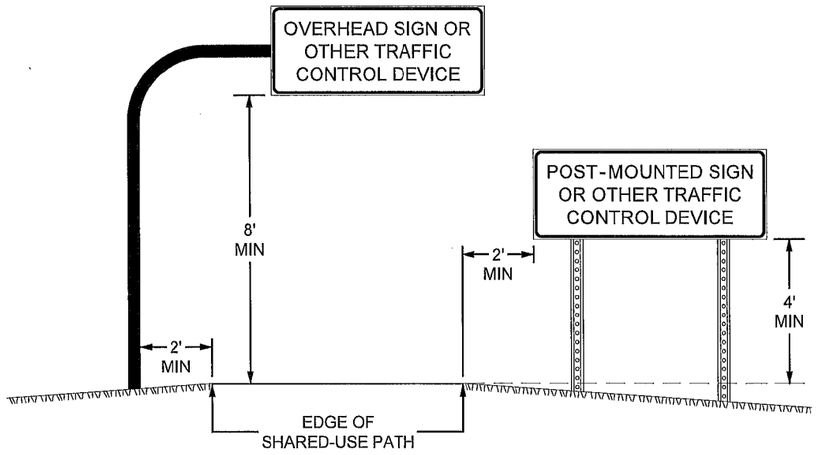


* 2' - NARROW BOULEVARD (≤ 8' WIDE)
6' - WIDE BOULEVARD





SHARED-USE PATH



NOTES:

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

NO	DATE	BY	CKD	APPR	REVISION

17109_ssd03.dgn

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: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	K. SPENCE
DESIGNED BY	K. SPENCE
CHECKED BY	C. BAYER
COMM. NO.	17109

SRF

CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

DETAILS

SHEET 60 OF 83

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5/28/2024
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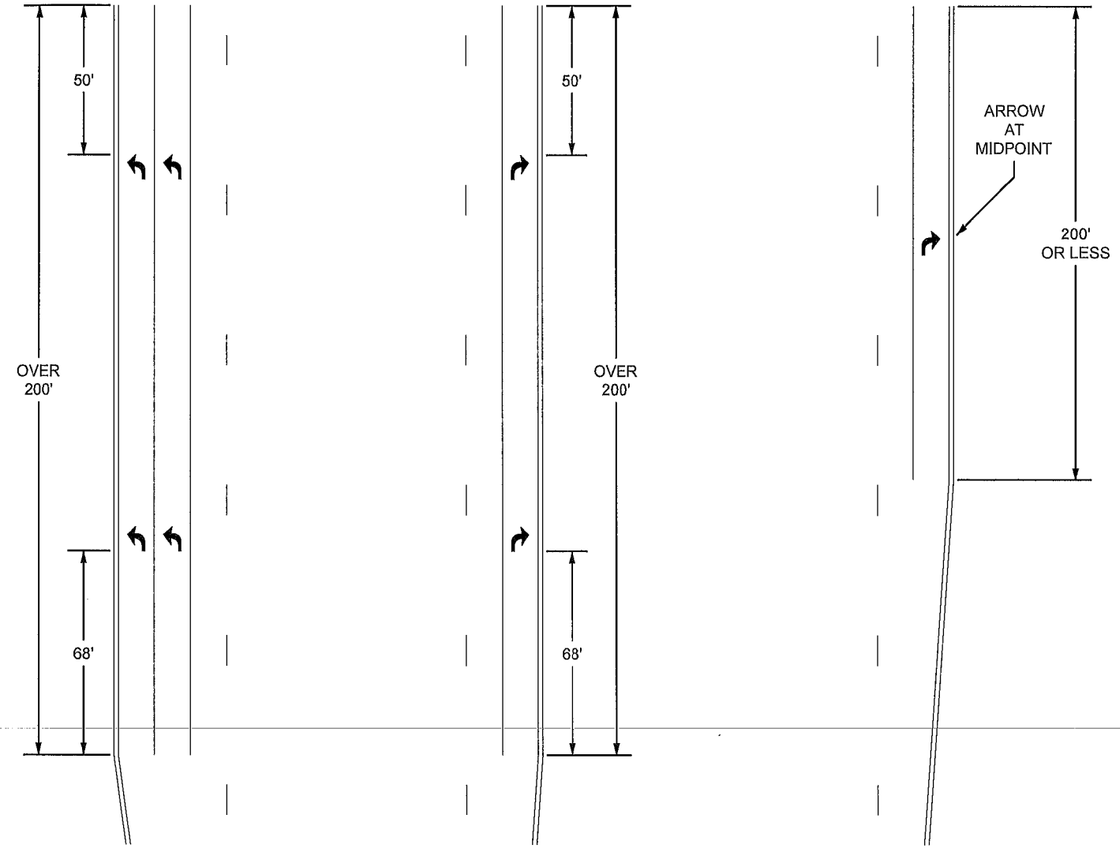
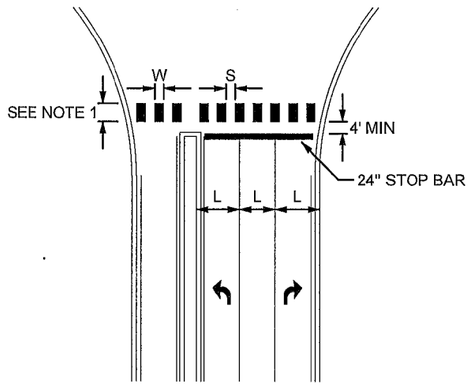
PAVEMENT MARKING TYPICALS

TURN LANE ARROW PLACEMENT

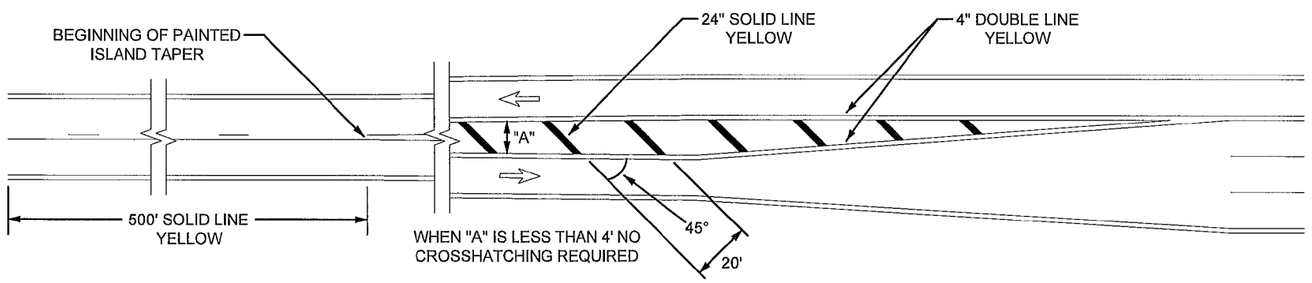


PEDESTRIAN CROSSWALK



(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.

NO	DATE	BY	CKD	APPR	REVISION

17109_ssd04.dgn

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Print Name: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY K. SPENCE

DESIGNED BY K. SPENCE

CHECKED BY C. BAYER

COMM. NO. 17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

DETAILS

SHEET 61 OF 83

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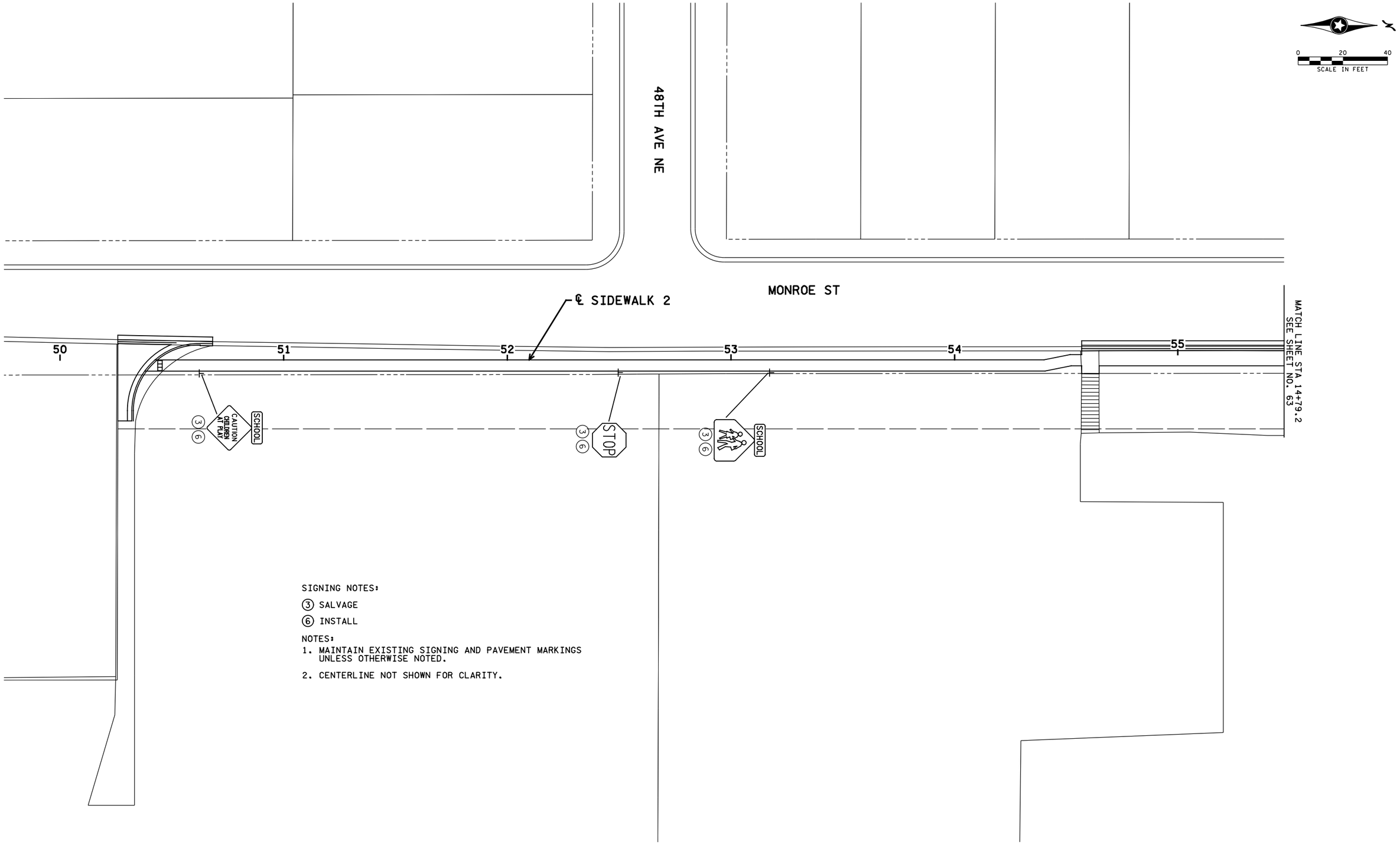

SIGNING NOTES:

(3) SALVAGE

(6) INSTALL

NOTES:

1. MAINTAIN EXISTING SIGNING AND PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
2. CENTERLINE NOT SHOWN FOR CLARITY.

NO	DATE	BY	CKD	APPR	REVISION

17109_sgn01.dgn

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Print Name: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	K. SPENCE
DESIGNED BY	K. SPENCE
CHECKED BY	C. BAYER
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

SHEET 62 OF 83

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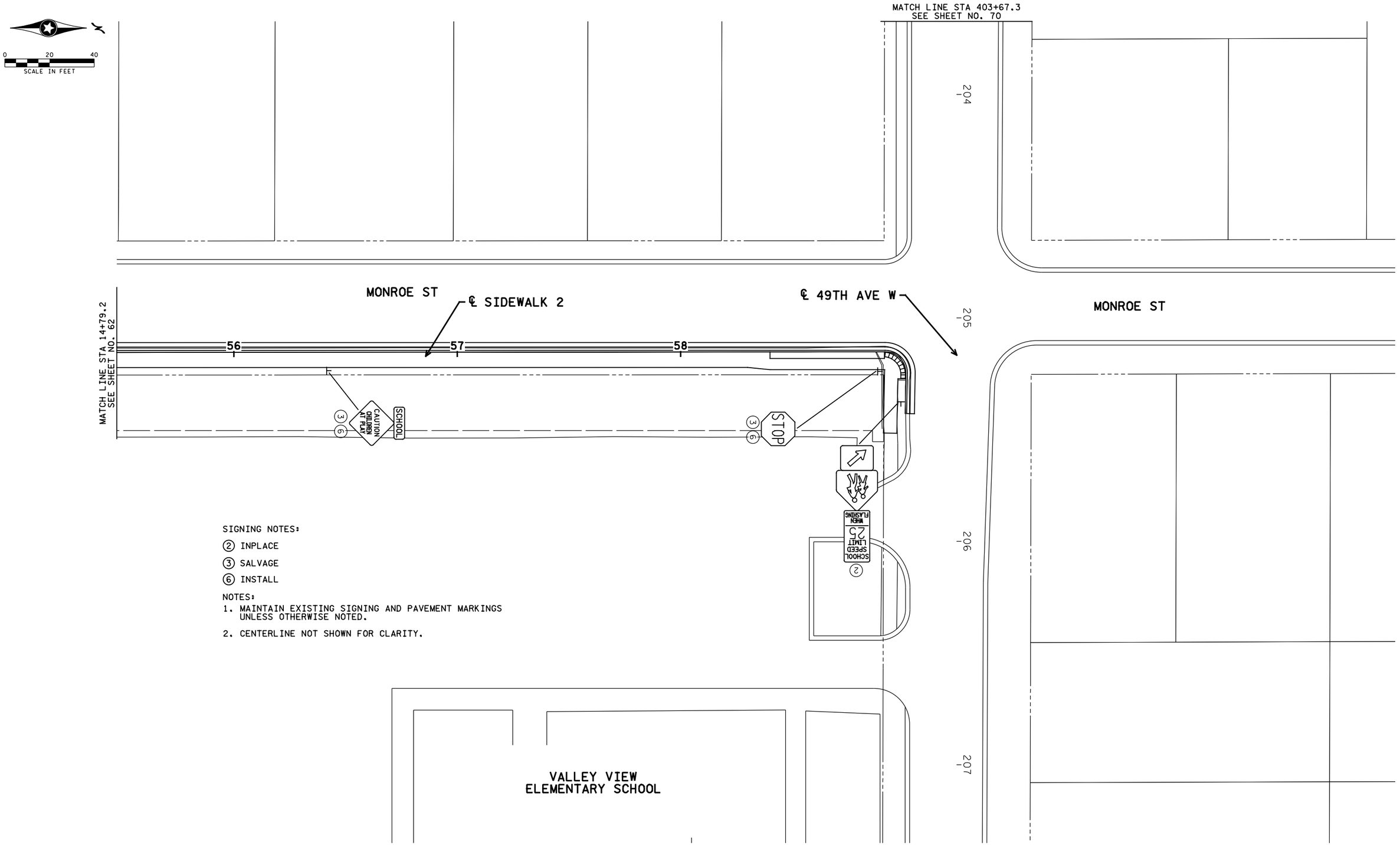

SIGNING NOTES:

② INPLACE

③ SALVAGE

⑥ INSTALL

NOTES:

1. MAINTAIN EXISTING SIGNING AND PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
2. CENTERLINE NOT SHOWN FOR CLARITY.

NO	DATE	BY	CKD	APPR	REVISION

17109_sgn02.dgn

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: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	K. SPENCE
DESIGNED BY	K. SPENCE
CHECKED BY	C. BAYER
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

SHEET 63 OF 83

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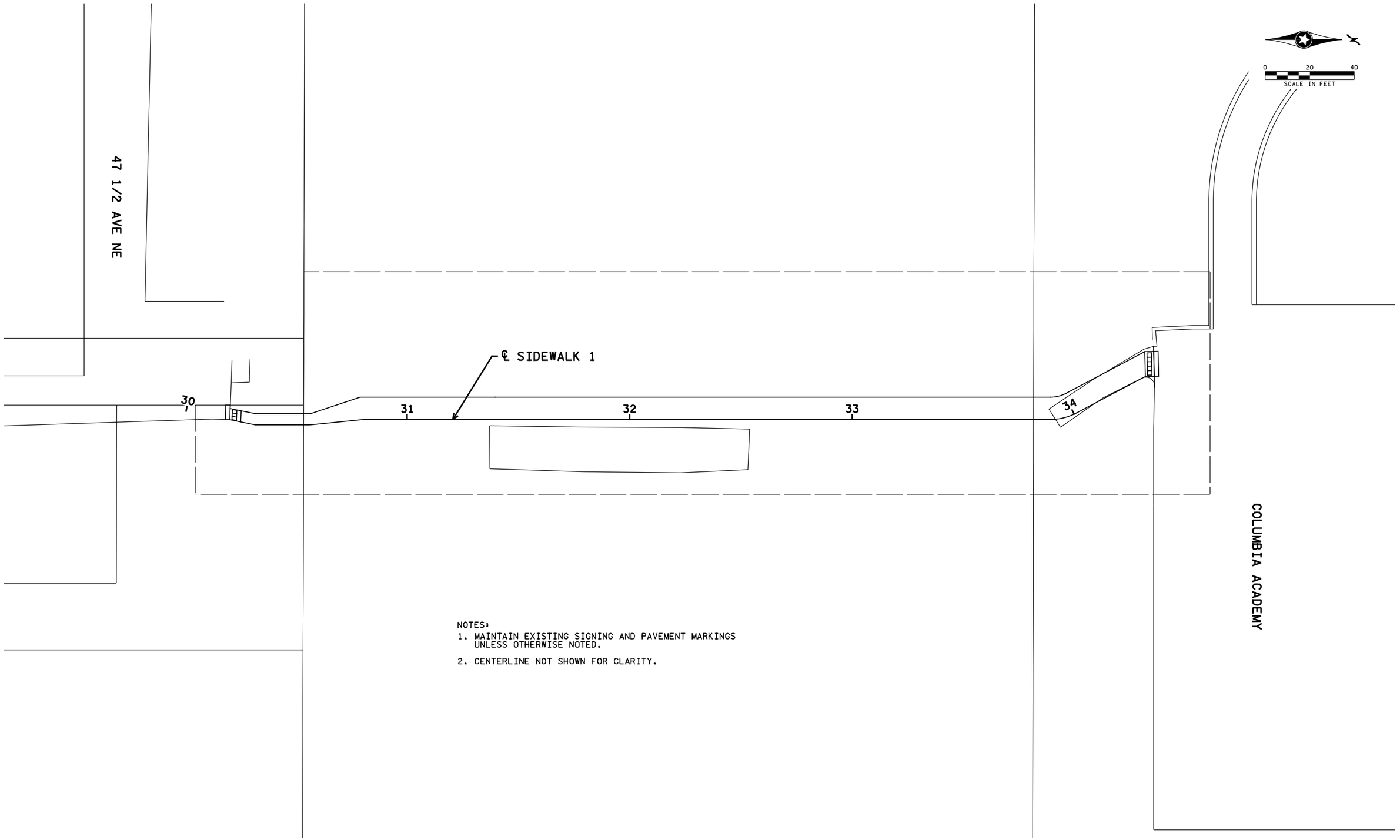

NOTES:

1. MAINTAIN EXISTING SIGNING AND PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
2. CENTERLINE NOT SHOWN FOR CLARITY.

NO	DATE	BY	CKD	APPR	REVISION
17109_sgn03.dgn					

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: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	K. SPENCE
DESIGNED BY	K. SPENCE
CHECKED BY	C. BAYER
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

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SIGNING NOTES:

③ SALVAGE

⑥ INSTALL

NOTES:

1. MAINTAIN EXISTING SIGNING AND PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
2. CENTERLINE NOT SHOWN FOR CLARITY.

N

0 20 40

SCALE IN FEET

FILMORE ST NE

COLUMBIA HEIGHTS HIGH SCHOOL

STOP 4-WAY ③⑥

NO PARKING ANYTIME ③⑥

NO PARKING ANYTIME ③⑥

4-WAY ③⑥

STOP

47TH AVE NE

FILLMORE ST NE

47TH AVE NE

10 11 12 13

MATCH LINE STA 13+88.4
SEE SHEET NO. 66

FILMORE ST NE

PIERCE ST NE

11:36:43 AM
5/28/2024
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17109_sgn04.dgn

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Print Name: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY K. SPENCE

DESIGNED BY K. SPENCE

CHECKED BY C. BAYER

COMM. NO. 17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

SHEET 65 OF 83

SIGNING NOTES:

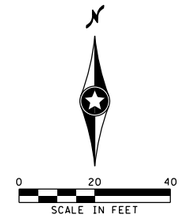
(2) INPLACE

(3) SALVAGE

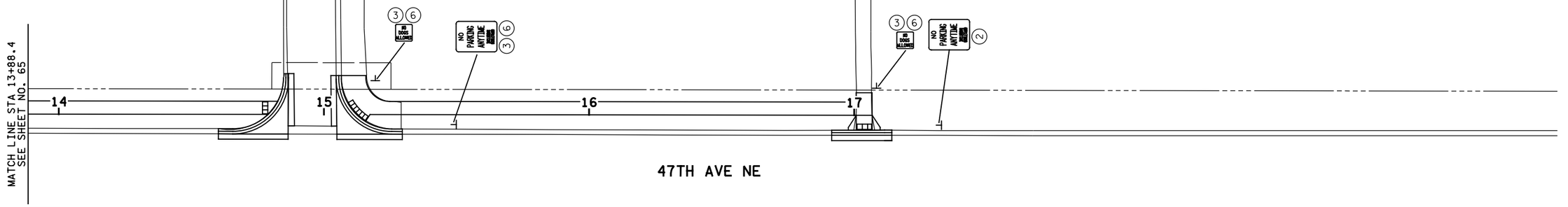
(6) INSTALL

NOTES:

1. MAINTAIN EXISTING SIGNING AND PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
2. CENTERLINE NOT SHOWN FOR CLARITY.



COLUMBIA HEIGHTS HIGH SCHOOL



NO	DATE	BY	CKD	APPR	REVISION

17109_sgn05.dgn

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Print Name: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.

STATE PROJECT NO. 113-591-001

CITY PROJECT NO. 1807

DRAWN BY K. SPENCE

DESIGNED BY K. SPENCE

CHECKED BY C. BAYER

COMM. NO. 17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

SHEET 66 OF 83

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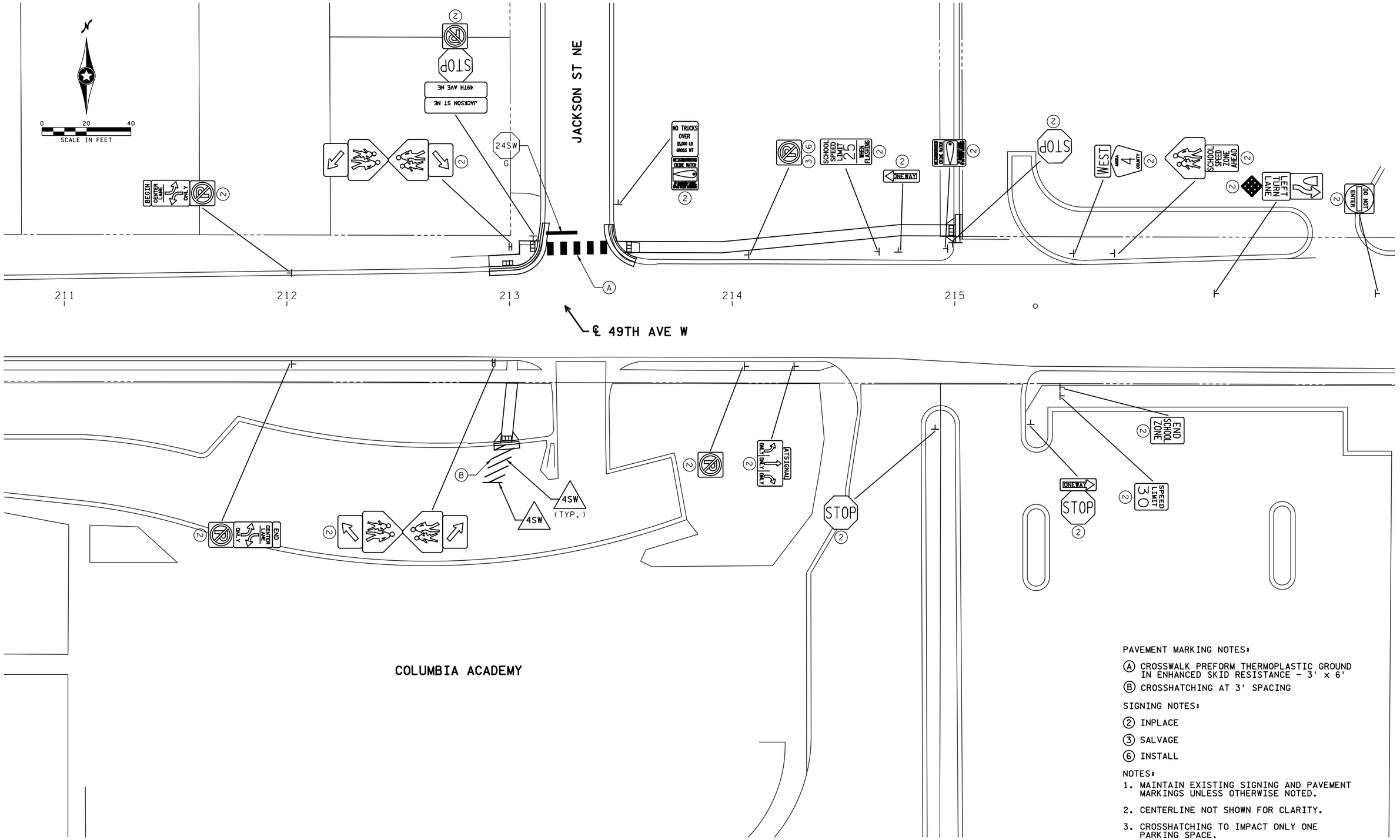

PAVEMENT MARKING NOTES:

(A) CROSSWALK PREFORM THERMOPLASTIC GROUND IN ENHANCED SKID RESISTANCE - 3' x 6'

(B) CROSSHATCHING AT 3' SPACING

SIGNING NOTES:

(2) INPLACE

(3) SALVAGE

(6) INSTALL

NOTES:

1. MAINTAIN EXISTING SIGNING AND PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
2. CENTERLINE NOT SHOWN FOR CLARITY.
3. CROSSHATCHING TO IMPACT ONLY ONE PARKING SPACE.

NO	DATE	BY	CKD	APPR	REVISION
17109_sgn06.dgn					

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Print Name: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	K. SPENCE
DESIGNED BY	K. SPENCE
CHECKED BY	C. BAYER
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

SHEET 67 OF 83

11:36:45 AM
5/28/2024
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PAVEMENT MARKING NOTES:

(A) CROSSWALK PREFORM THERMOPLASTIC GROUND IN ENHANCED SKID RESISTANCE – 3' x 6'

SIGNING NOTES:

(2) INPLACE

(3) SALVAGE

(6) INSTALL

NOTES:

1. MAINTAIN EXISTING SIGNING AND PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
2. CENTERLINE NOT SHOWN FOR CLARITY.

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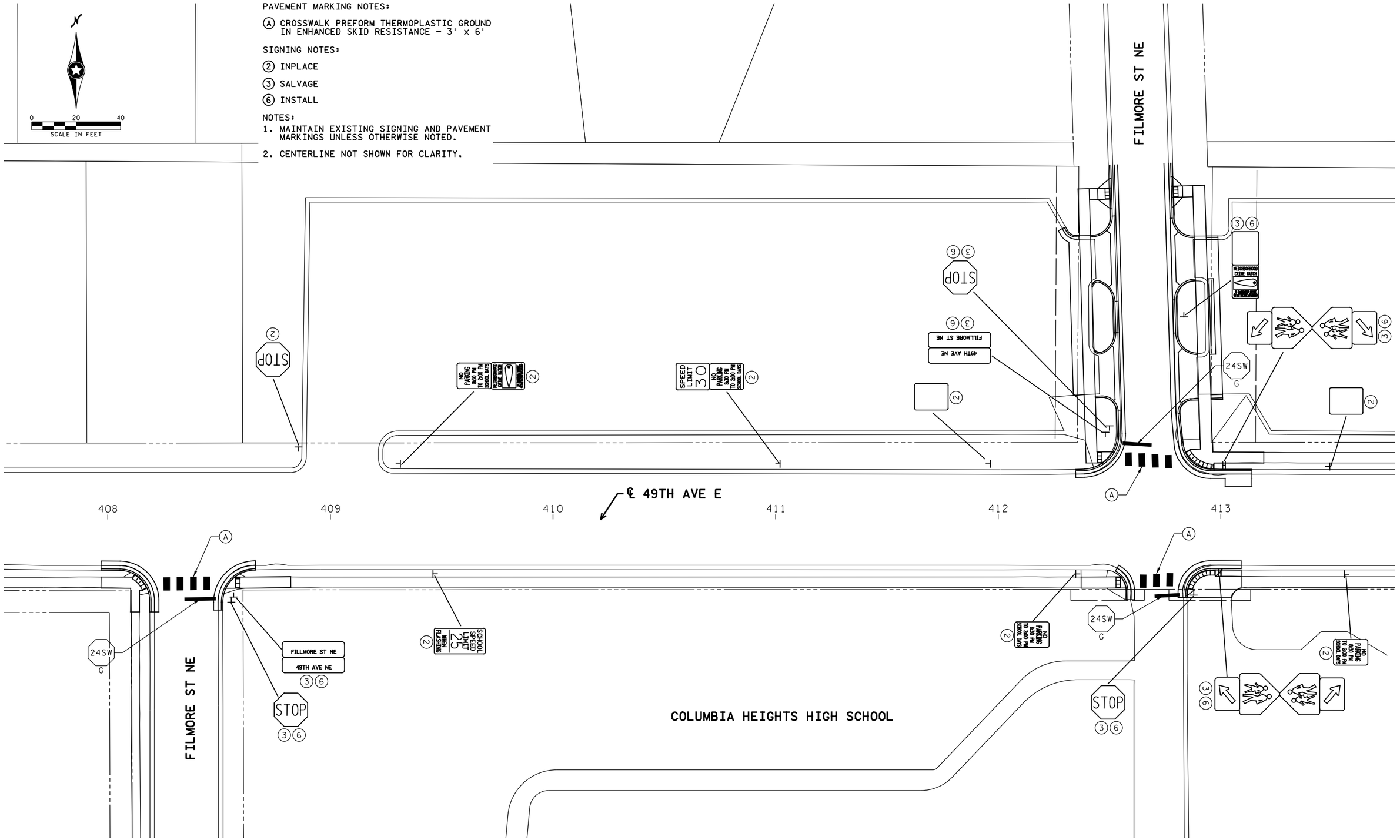

NO	DATE	BY	CKD	APPR	REVISION

17109_sgn07.dgn

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Print Name: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	K. SPENCE
DESIGNED BY	K. SPENCE
CHECKED BY	C. BAYER
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

SHEET 68 OF 83

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5/28/2024
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PAVEMENT MARKING NOTES:

Ⓐ CROSSWALK PREFORM THERMOPLASTIC GROUND IN ENHANCED SKID RESISTANCE - 3' x 6'

Ⓒ REMOVE EXISTING CROSSWALK

SIGNING NOTES:

② INPLACE

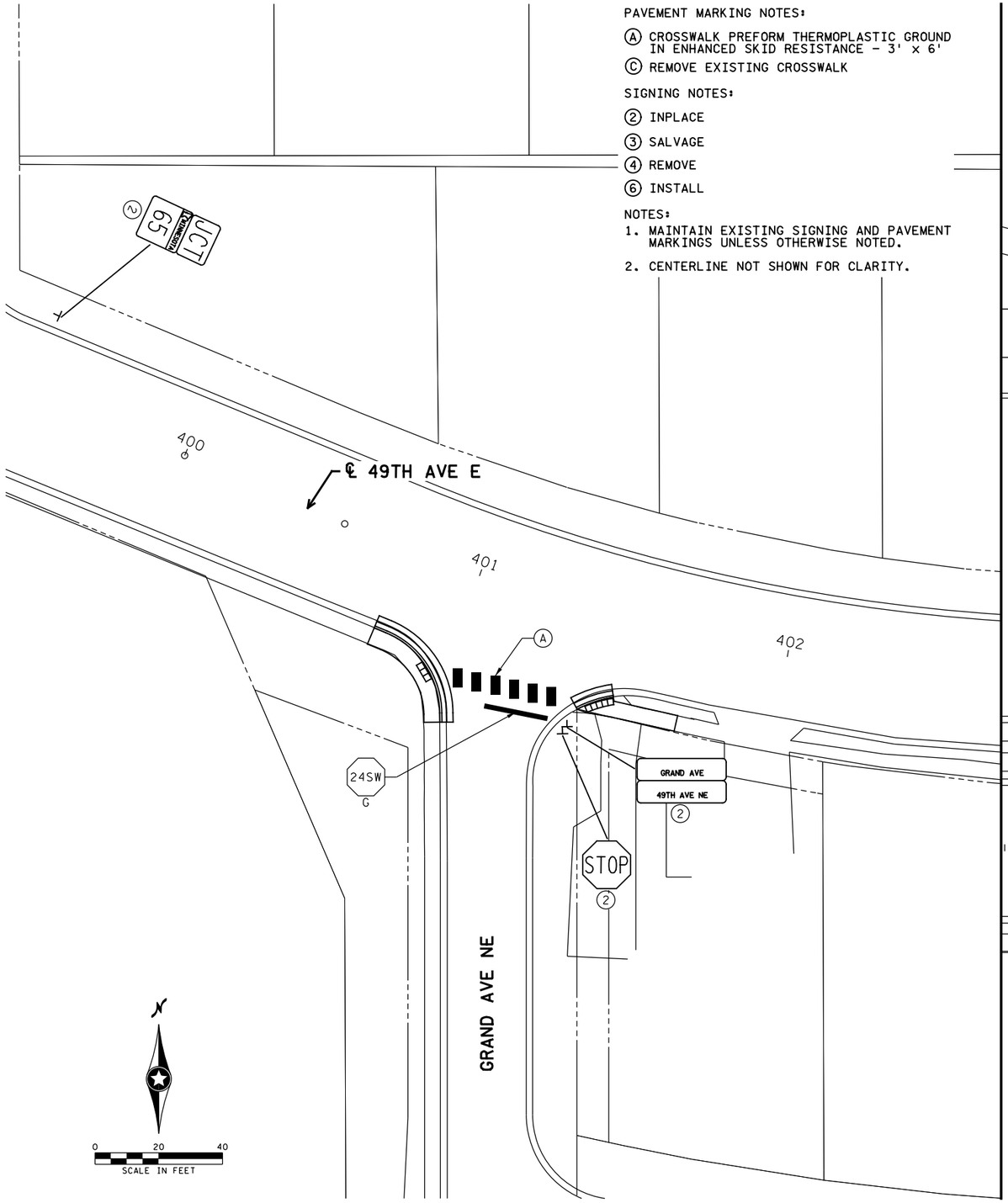
③ SALVAGE

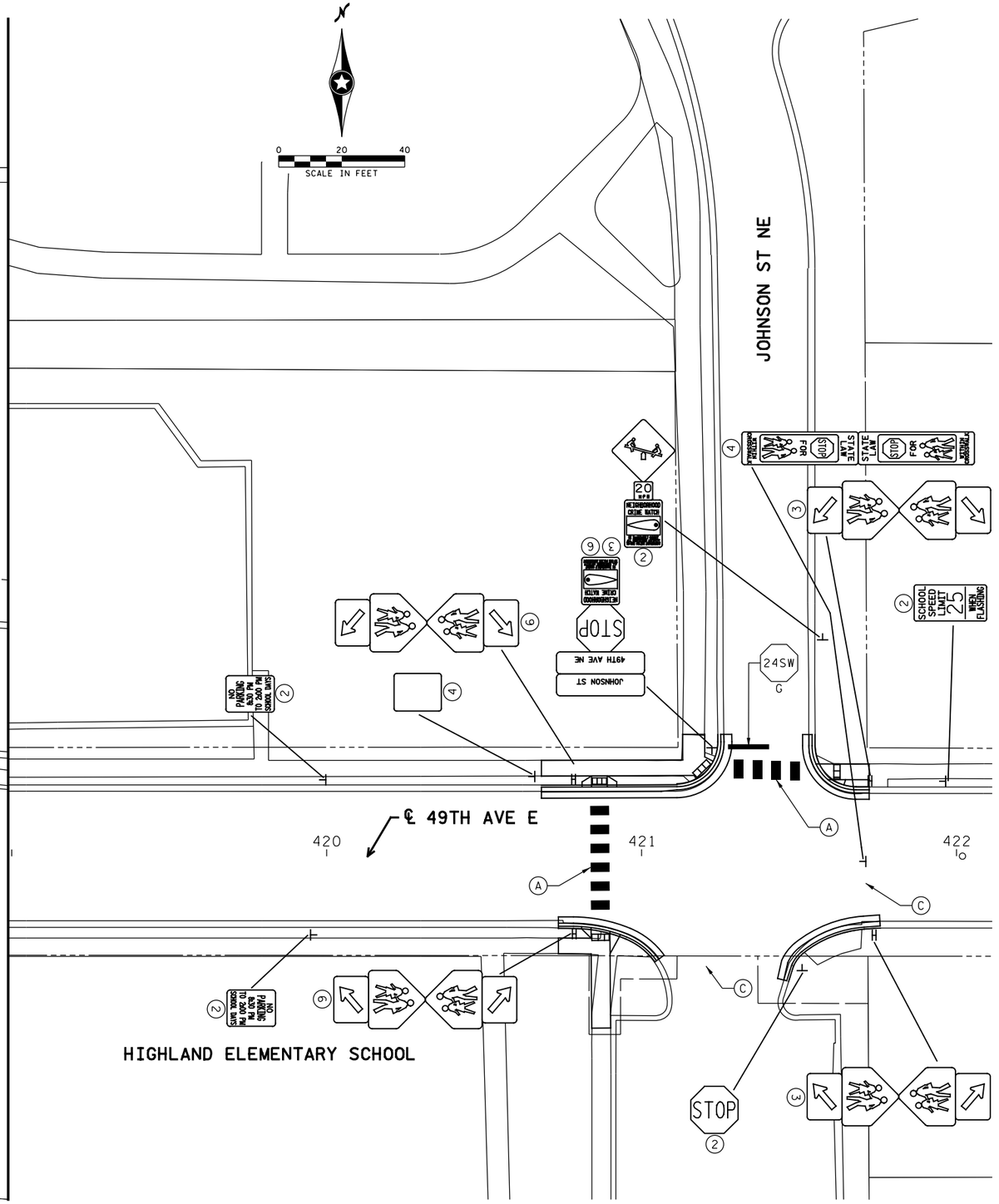
④ REMOVE

⑥ INSTALL

NOTES:

1. MAINTAIN EXISTING SIGNING AND PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
2. CENTERLINE NOT SHOWN FOR CLARITY.





NO	DATE	BY	CKD	APPR	REVISION

17109_sgn08.dgn

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Print Name: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	K. SPENCE
DESIGNED BY	K. SPENCE
CHECKED BY	C. BAYER
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

SHEET 69 OF 83

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5/28/2024
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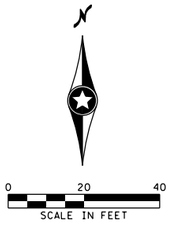

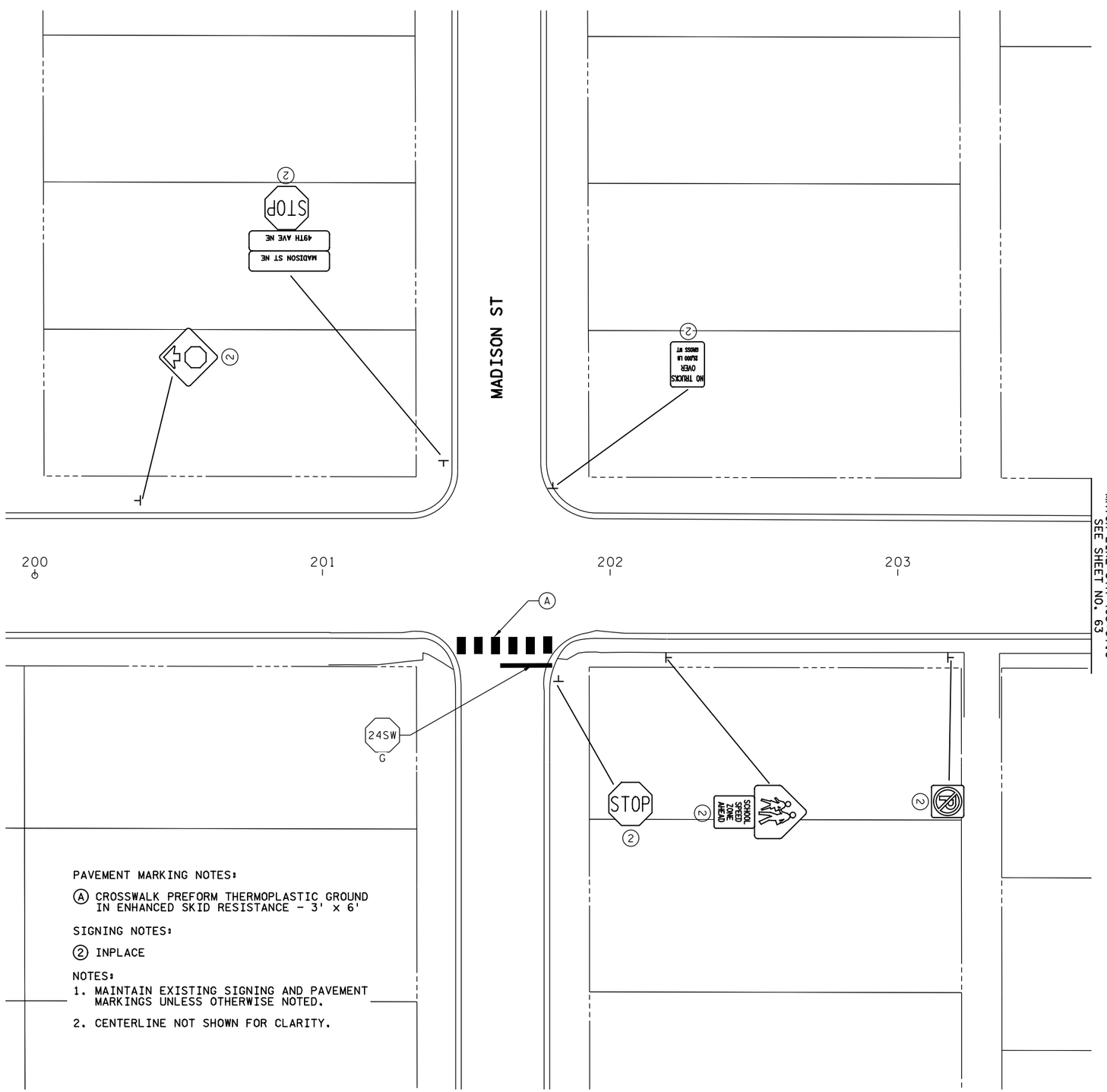

PAVEMENT MARKING NOTES:

(A) CROSSWALK PREFORM THERMOPLASTIC GROUND IN ENHANCED SKID RESISTANCE - 3' x 6'

SIGNING NOTES:

(2) INPLACE

NOTES:

1. MAINTAIN EXISTING SIGNING AND PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
2. CENTERLINE NOT SHOWN FOR CLARITY.

NO	DATE	BY	CKD	APPR	REVISION

17109_sgn09.dgn

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Print Name: CLAYTON W. BAYER

Clayton Bayer

Date 5/28/24 License # 57865

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	K. SPENCE
DESIGNED BY	K. SPENCE
CHECKED BY	C. BAYER
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

SIGNING AND PAVEMENT MARKING PLANS

SP 113-591-001

SHEET 70 OF 83

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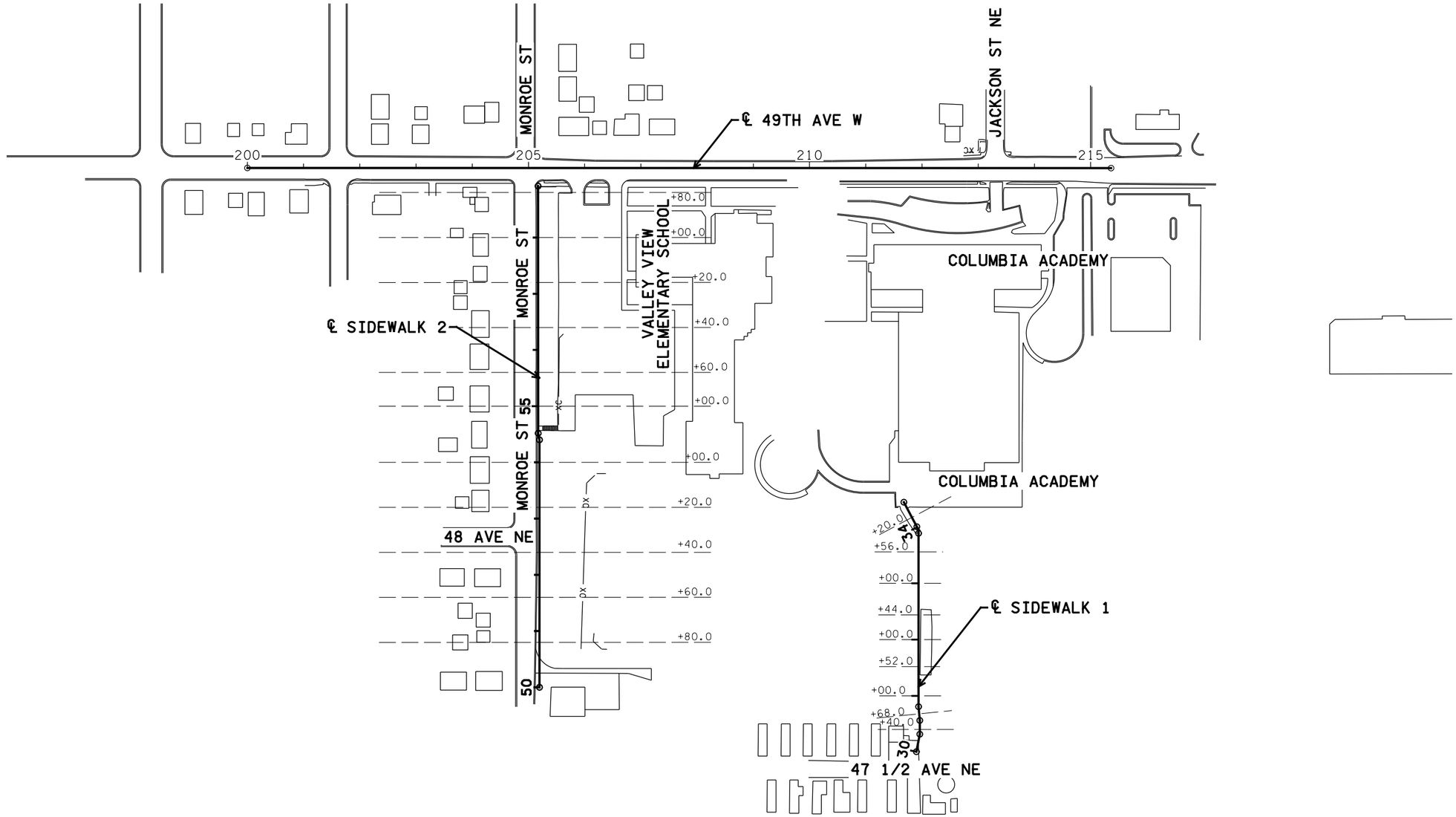

NO	DATE	BY	CKD	APPR	REVISION

17109_xs101.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

CROSS SECTION LAYOUT PLANS

SP 113-591-001

SHEET 71 OF 83

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5/28/2024
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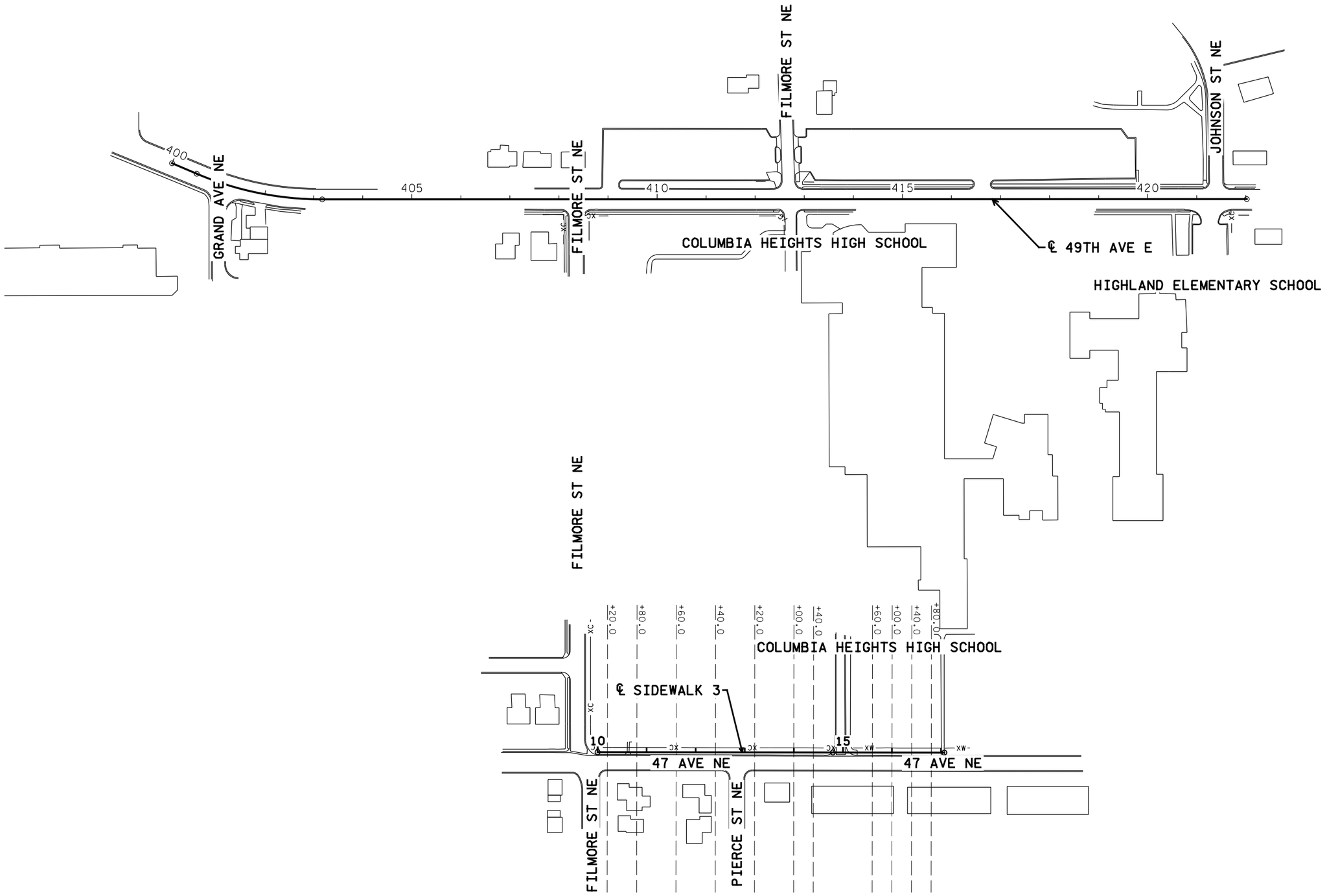

NO	DATE	BY	CKD	APPR	REVISION

17109_xs102.dgn

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: JOSHUA A. COLAS

Joshua Colas

Date 5/28/2024 License # 55897

STATE AID PROJECT NO.	
STATE PROJECT NO.	113-591-001
CITY PROJECT NO.	1807

DRAWN BY	J.BAUERS
DESIGNED BY	A.ORTLEPP
CHECKED BY	J.COLAS
COMM. NO.	17109

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CITY OF COLUMBIA HEIGHTS

CROSS SECTION LAYOUT PLANS

SP 113-591-001

SHEET 72 OF 83

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5/28/2024
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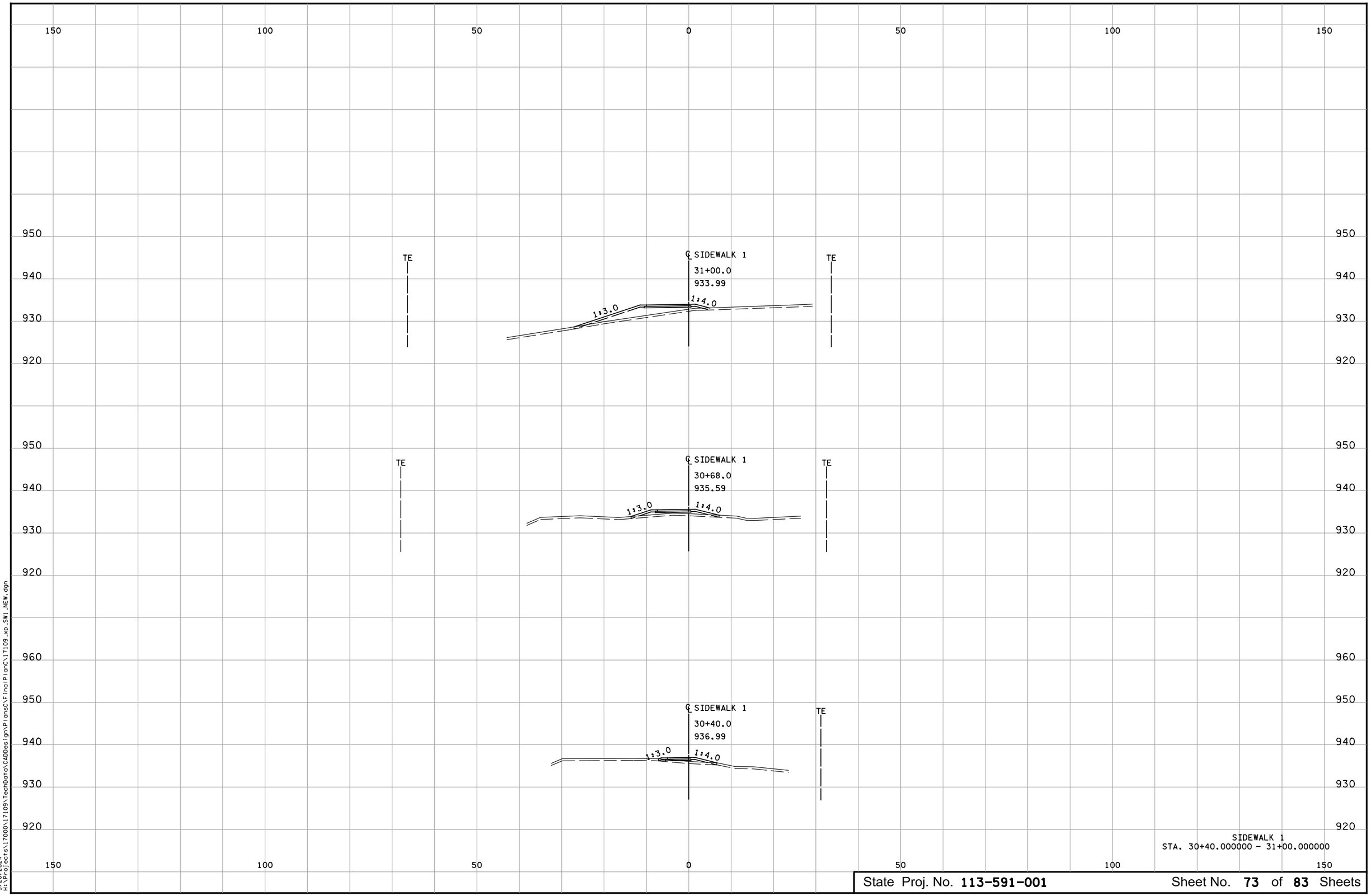

SIDEWALK 1
STA. 30+40.000000 - 31+00.000000

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5/28/2024
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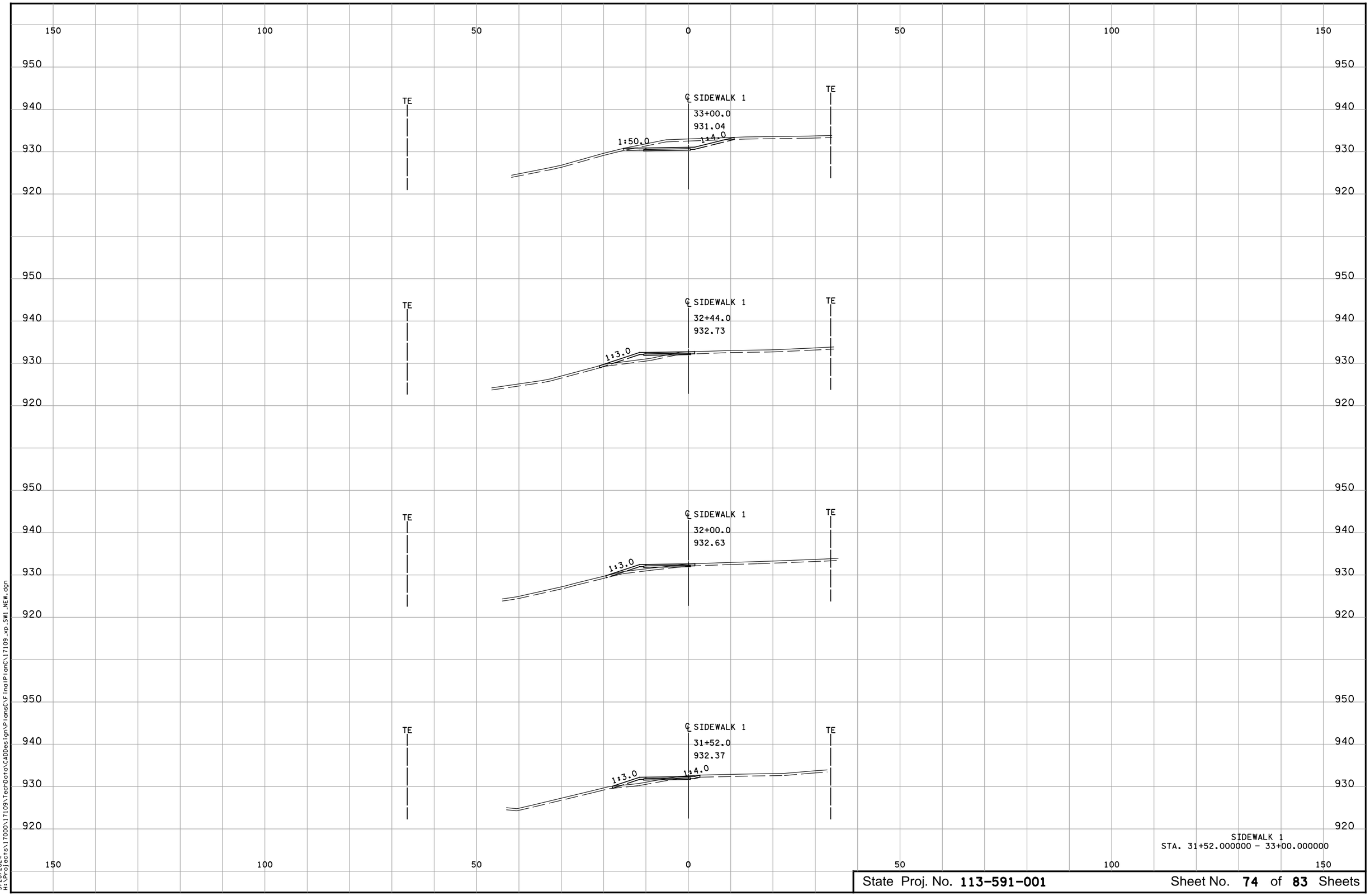

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5/28/2024
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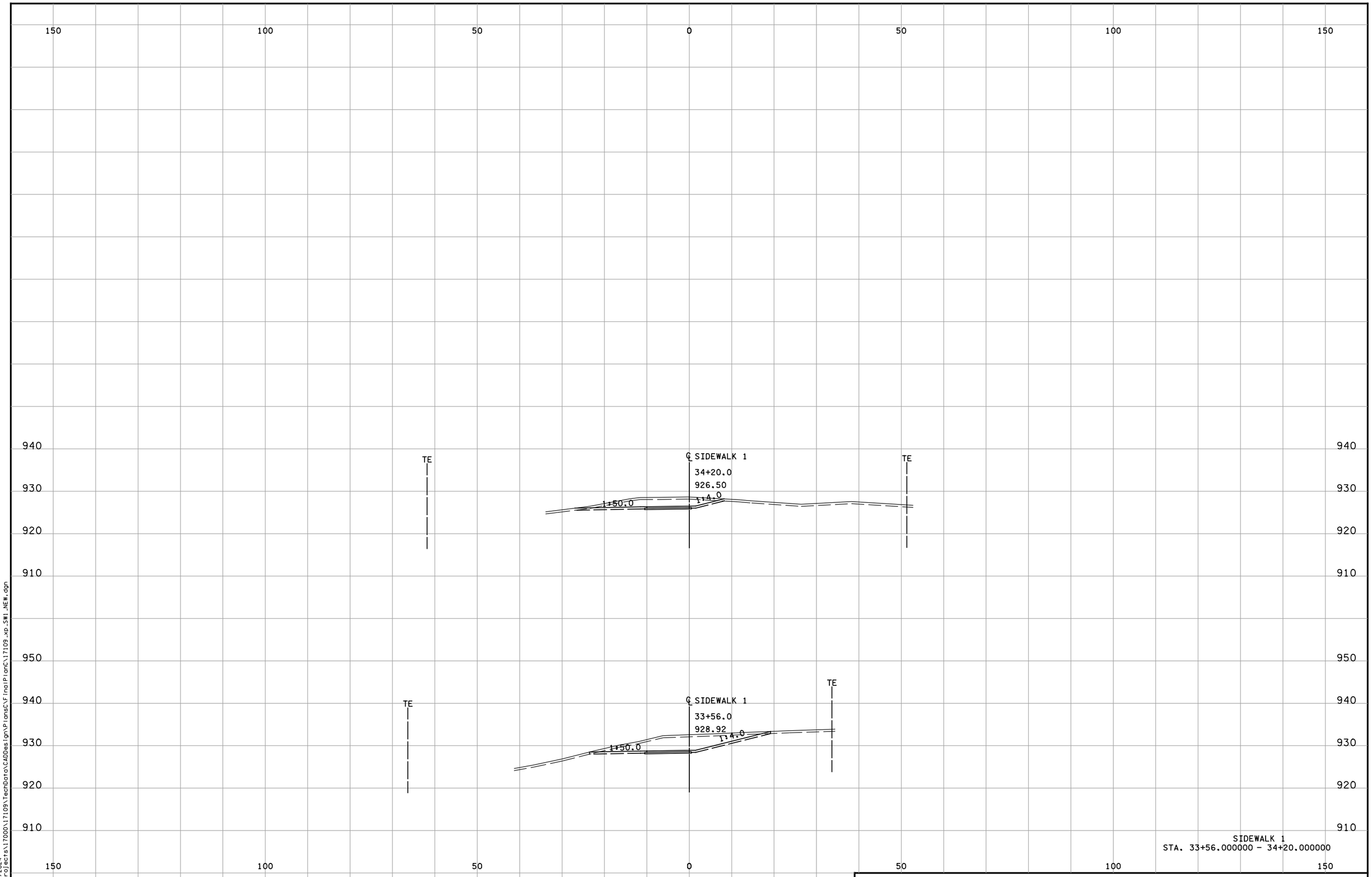

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5/28/2024
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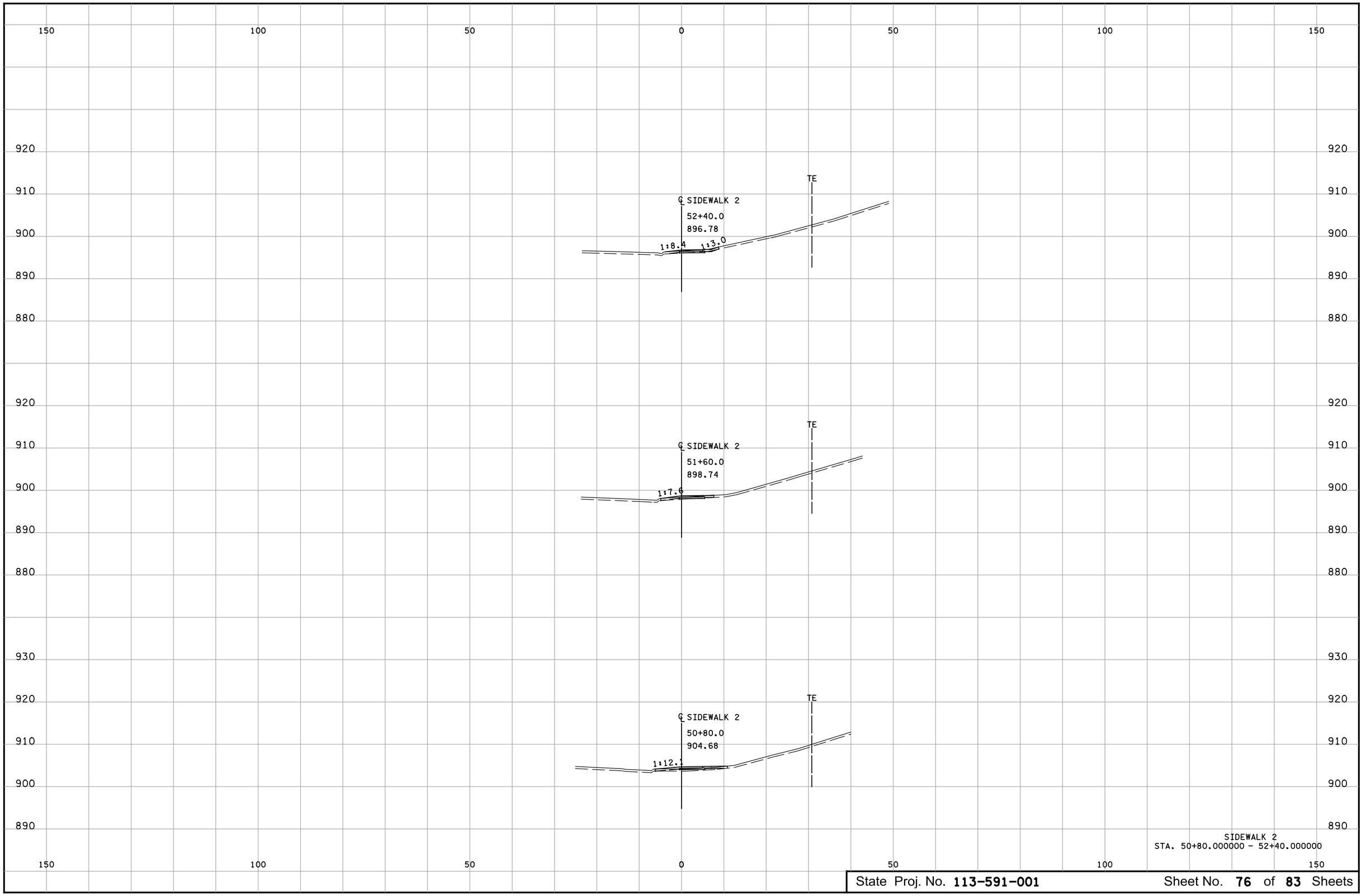
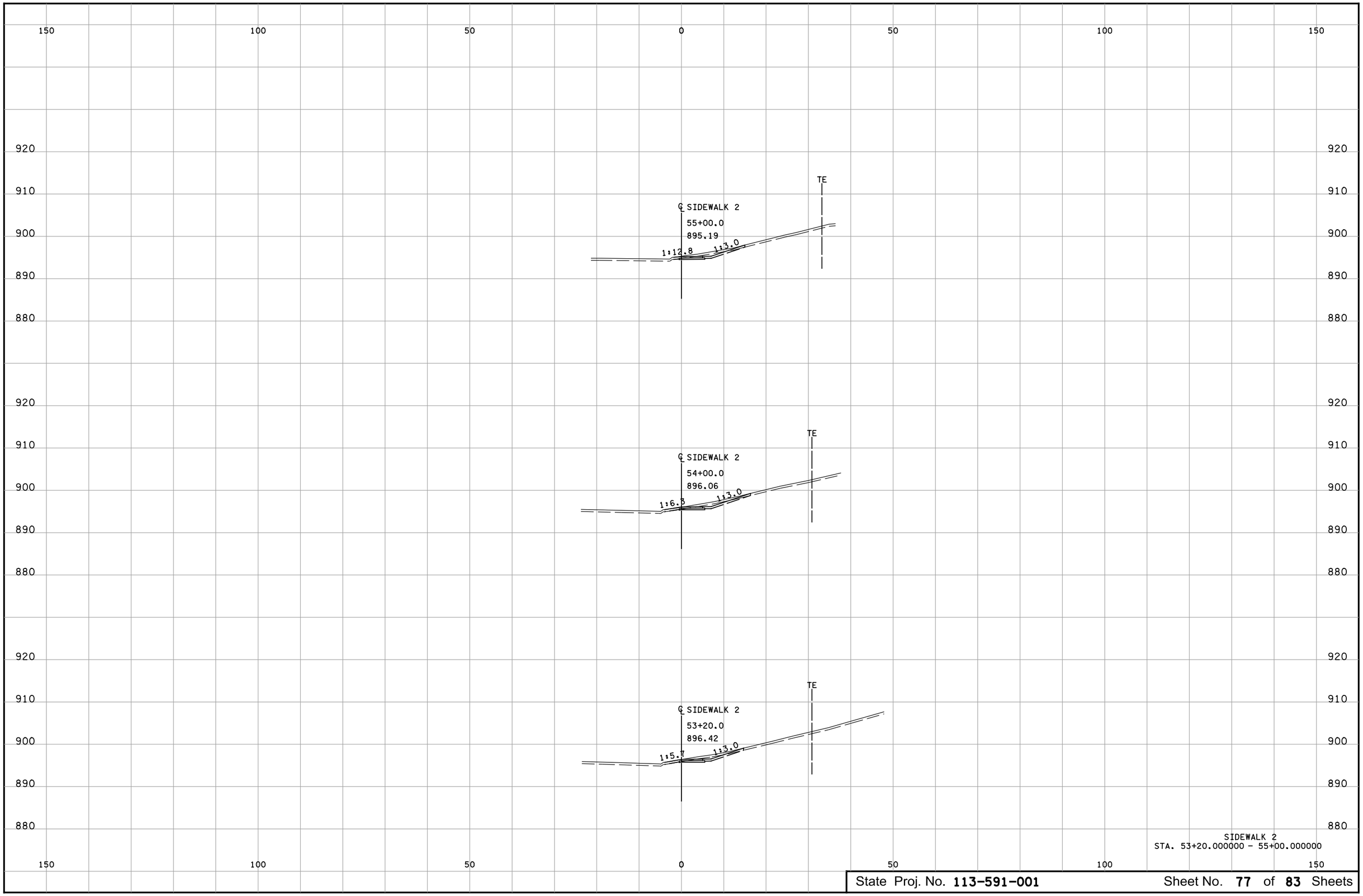
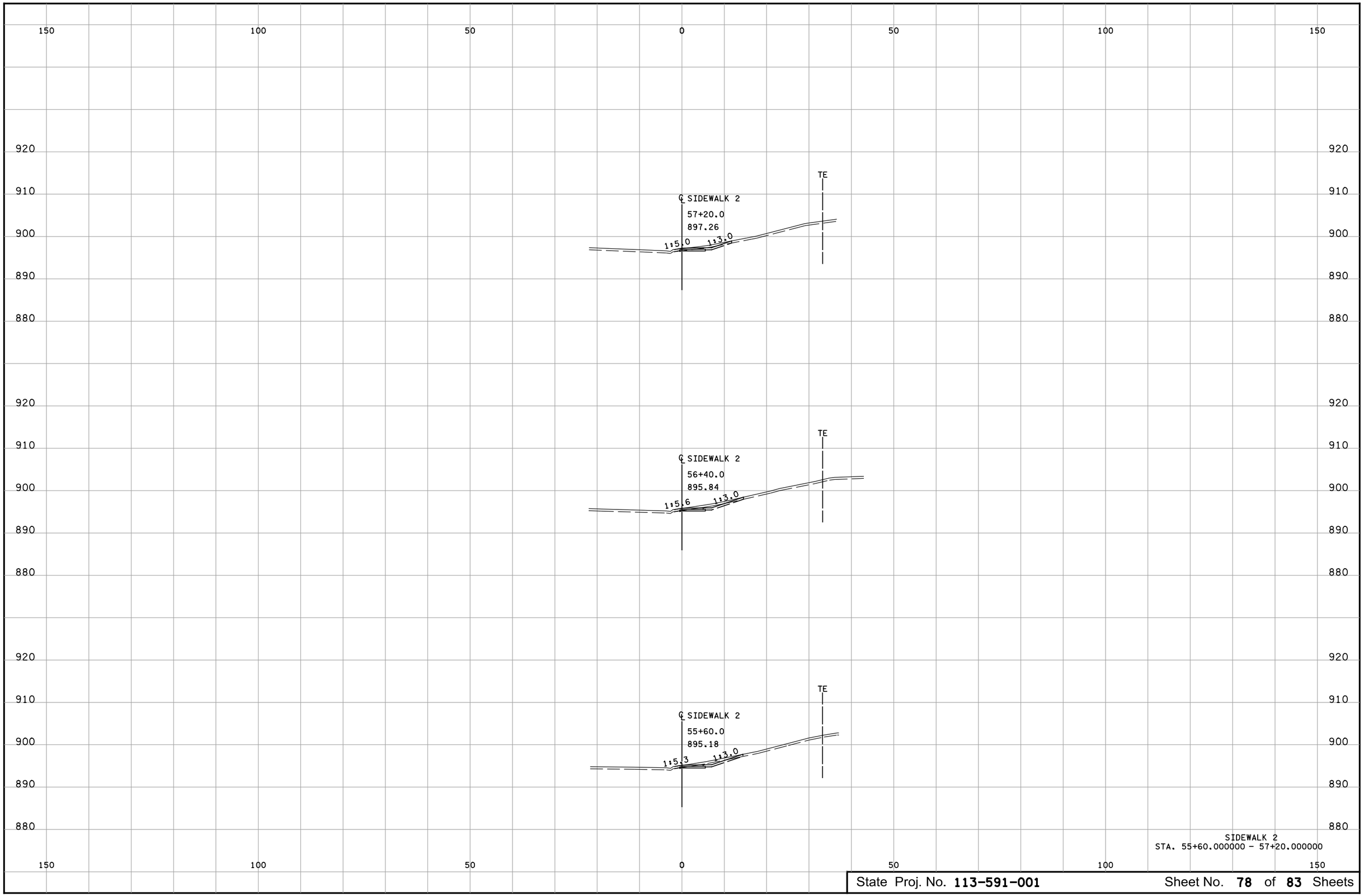
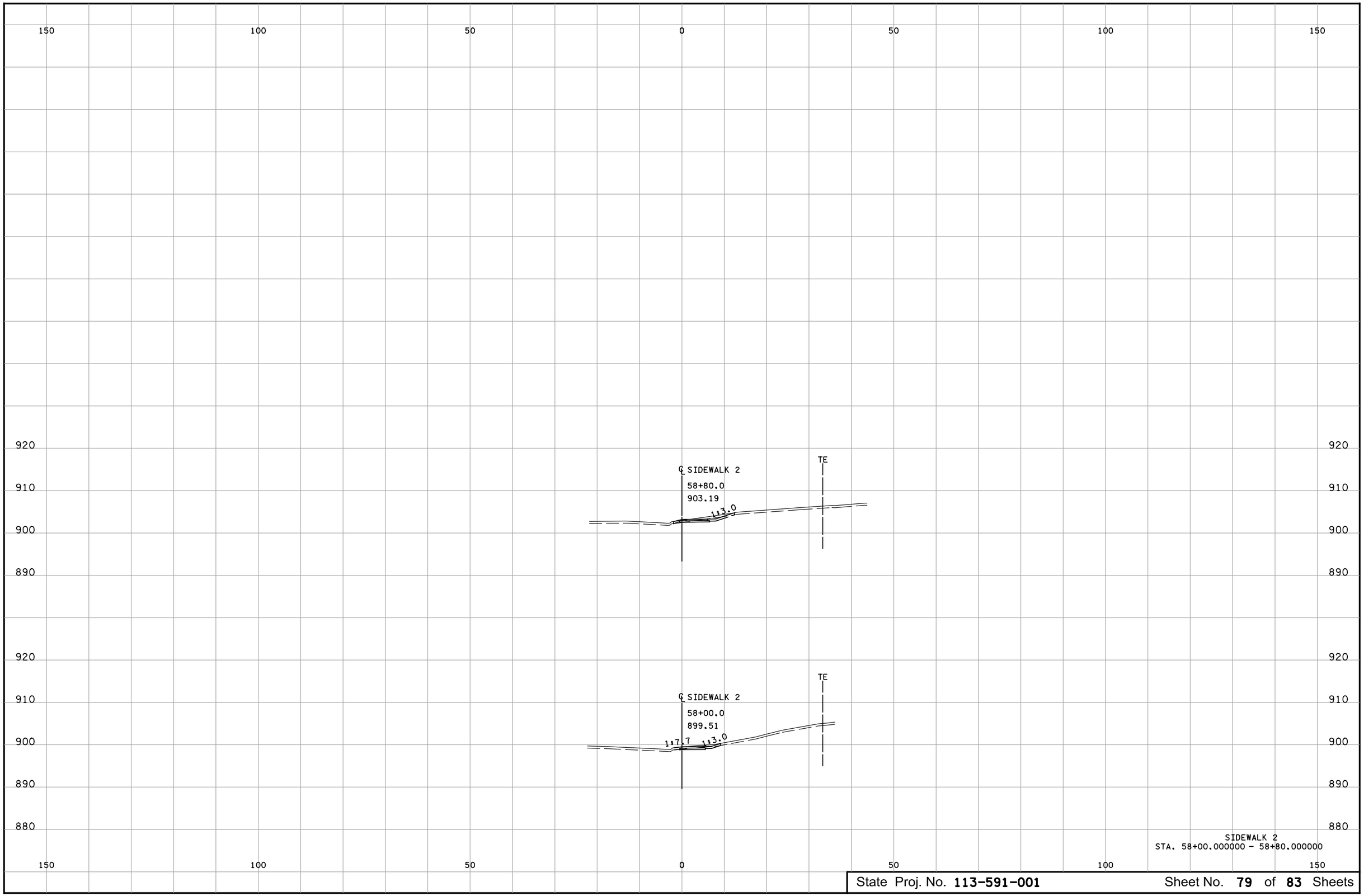


SIDEWALK 2
STA. 50+80.000000 – 52+40.000000


150
100
50
0
50
100
150
920
910
900
890
880
TE
℄ SIDEWALK 2
55+00.0
895.19
1:12.8
1:3.0
TE
℄ SIDEWALK 2
54+00.0
896.06
1:6.3
1:3.0
TE
℄ SIDEWALK 2
53+20.0
896.42
1:5.7
1:3.0
SIDEWALK 2
STA. 53+20.000000 - 55+00.000000


150
100
50
0
50
100
150
920
910
900
890
880
TE
℄ SIDEWALK 2
57+20.0
897.26
1:5.0
1:3.0
TE
℄ SIDEWALK 2
56+40.0
895.84
1:5.6
1:3.0
TE
℄ SIDEWALK 2
55+60.0
895.18
1:5.3
1:3.0
SIDEWALK 2
STA. 55+60.000000 - 57+20.000000

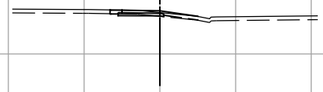


SIDEWALK 2
STA. 58+00.000000 - 58+80.000000

150 100 50 0 50 100 150

1010
1000
990
980

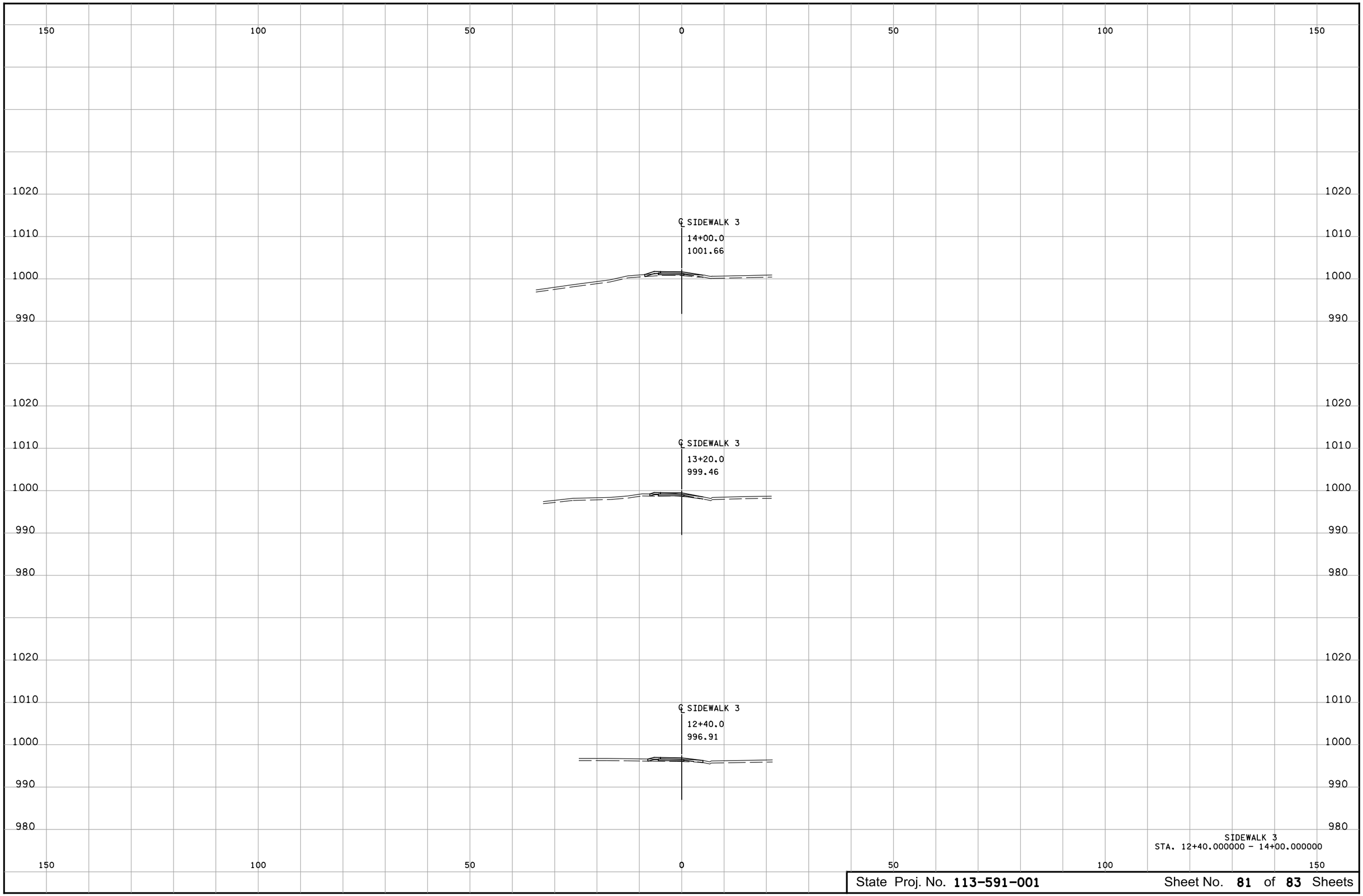
℄ SIDEWALK 3
11+60.0
995.71



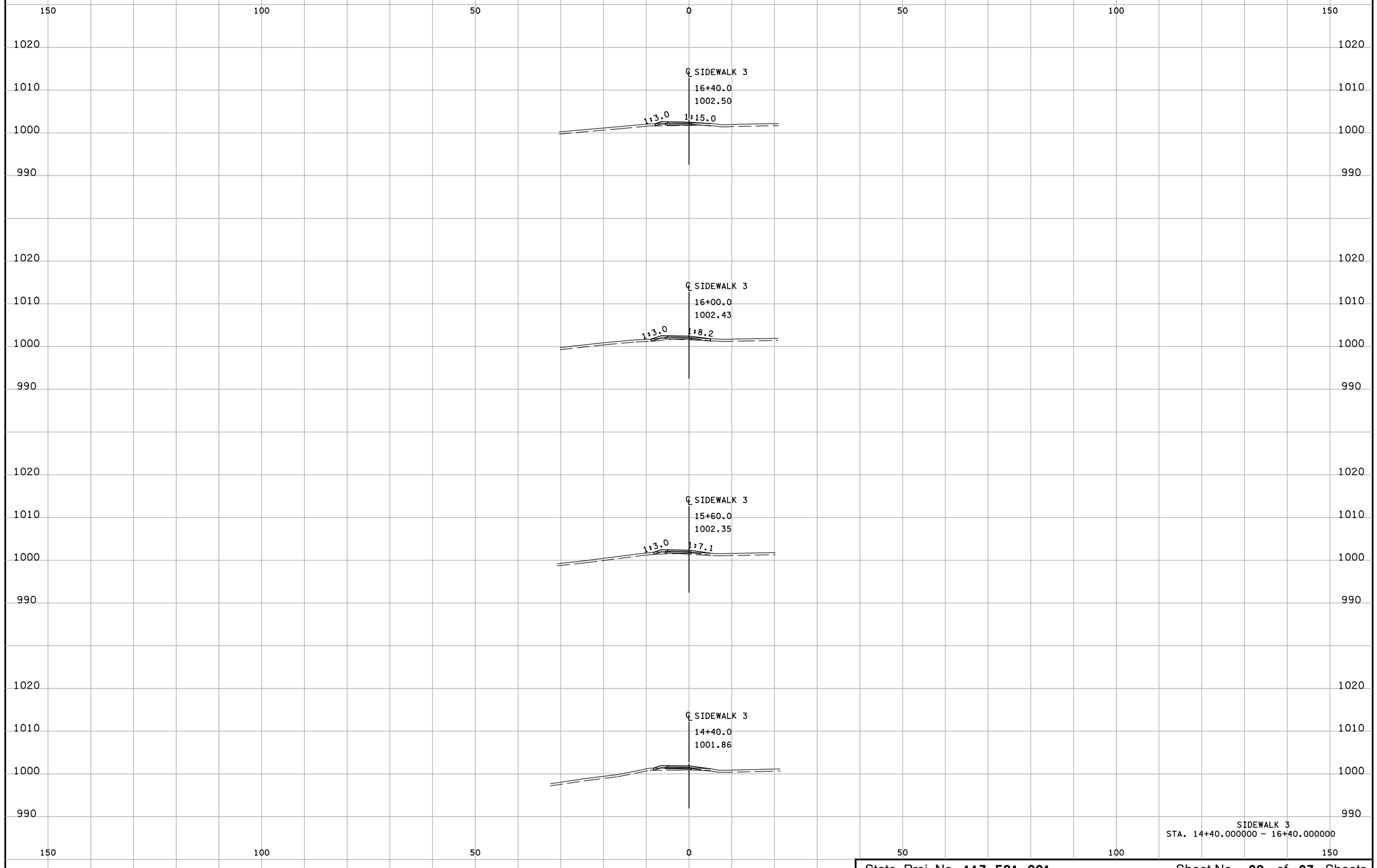
℄ SIDEWALK 3
10+80.0
994.51

℄ SIDEWALK 3
10+20.0
993.26

SIDEWALK 3
STA. 10+20.000000 - 11+60.000000



SIDEWALK 3
STA. 12+40.000000 - 14+00.000000



SIDEWALK 3
STA. 14+40.000000 - 16+40.000000

150 100 50 0 50 100 150

1020
1010
1000
990

℄ SIDEWALK 3
16+80.0
1002.57

SIDEWALK 3
STA. 16+80.000000 - 16+80.000000

150 100 50 0 50 100 150

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