CITY OF RAMSEY

STREET CONSTRUCTION PLANS FOR BITUMINOUS RECLAMATION AND PAVING.
S.A.P. 199-105-006 & S.A.P. 199-111-003

S.A.P. 199-105-006 LOCATED ON SUNWOOD DRIVE BETWEEN TRUNK HIGHWAY 47 AND WACO STREET & S.A.P. 199-111-003 LOCATED ON WACO STREET BETWEEN SUNWOOD DRIVE AND 150TH AVENUE.
FROM NE 1/4 OF THE NW 1/4 OF S25, T32, R25 TO SE 1/4 OF THE SE 1/4 OF S24, T32, R25

CITY OF RAMSEY
ANOKA COUNTY, MINNESOTA
DISTRICT: METRO

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

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL 1-800-252-1166 OR 651-454-0002

GSOC

Call before you dig
811
651 454-0002 Metro
800 252-1166 Outstate
www.gopherstateonecall.org

NO.	PROJECT	STA. TO STA.	GROSS LENGTH	BRIDGE LENGTH	NET LENGTH	NET LENGTH (MILES)	ADT (2022)	ADT (2042)	DESIGN ESAL	R VALUE	TON DESIGN	DESIGN SPEED	DESIGN SPEED NOT MET	NUMBER OF LANES	WIDTH OF LANES	NUMBER OF PARKING LANES	WIDTH OF LANES	FUNCTIONAL CLASSIFICATION
①	S.A.P. 199-105-006 SUNWOOD DRIVE	0+51 TO 18+09	1758 FT	0 FT	1758 FT	0.33 MI	1750	1925	205,000	50	10	30	N/A	2	12'	2	10'	COLLECTOR
①	TRAIL SUNWOOD DRIVE	0+51 TO 18+08	1757 FT	0 FT	1757 FT	0.33 MI	N/A	N/A	N/A	50	N/A	20	N/A	1	8'	N/A	N/A	TRAIL
②	S.A.P. 199-111-003 WACO STREET	0+18 TO 8+33	815 FT	0 FT	815 FT	0.15 MI	520	1610	117,000	50	10	30	N/A	2	12'	2	10'	COLLECTOR
②	TRAIL CROSSING WACO STREET	7+19 TO 7+44	52 FT	0 FT	52 FT	0.01 MI	N/A	N/A	N/A	50	10	20	N/A	1	8'	N/A	N/A	TRAIL

GOVERNING SPECIFICATIONS

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

ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

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

SHEET INDEX

THIS PLAN CONTAINS 26 SHEETS

LEGEND

SANITARY MANHOLE	Easement - Drainage & Utility
STORM SEWER MANHOLE	Easement - Roadway
CATCH BASIN MANHOLE	LOT LINE
CATCH BASIN	ELECTRIC LINE
CATCH BASIN - GROUT	ELECTRIC LINE - BURIED
CATCH BASIN - RESET	ELECTRIC LINE - OVERHEAD
FLARED END SECTION	GAS LINE
CULVERT END SECTION	TELECOMMUNICATION LINE
HYDRANT	TELECOMM - OVERHEAD
VALVE	FIBER OPTIC LINE
TREE - CONIFEROUS	TREE LINE
TREE - DECIDUOUS	LANDSCAPE
SHRUB	RETAINING WALL
LIGHT POLE	FENCE
SIGN	SILT FENCE
MAILBOX	WATERMAIN
PEDESTAL - TELECOM	SANITARY SEWER
PEDESTAL - ELECTRIC	STORM SEWER
HAND HOLE	DRAIN TILE
DRIVE - BITUMINOUS	LANDSCAPE - ROCK
DRIVE - CONCRETE	LANDSCAPE - MULCH
DRIVE - GRAVEL	LANDSCAPE - RIP RAP
CONCRETE WALK	PR. DRIVE - BITUMINOUS
BITUMINOUS TRAIL	PR. DRIVE - CONCRETE
REMOVE BIT PAVE	PR. DRIVE - GRAVEL
REMOVE CONCRETE PAVE	PR. CONCRETE WALK
REMOVE GRAVEL SURFACE	PR. CONCRETE
MILL BIT PAVEMENT	PR. SEEDING AREA
RECLAIM BIT PAVEMENT	

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.

JOE FERIANCEK, P.E. — 57095 LIC. NO. — DATE 3/11/22

APPROVED: CITY ENGINEER, CITY OF RAMSEY — DATE 5/11/22

For — DATE 5/11/2022
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

For — DATE 5/11/2022
STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING

SHEET 01 OF 26 SHEETS

City of RAMSEY
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STOPPING SIGHT DISTANCE BASED ON:
3.5 FT - HEIGHT OF EYE
2.0 FT - HEIGHT OF OBJECT

DATUM:
VERTICAL: NAVD 88
HORIZONTAL: ANOKA COUNTY COORDINATES (1996 ADJUSTMENT)

SAP 199-105-006
SAP 199-111-003

DATE	REVISION
5/10/22	⚠ ADJUST START STATION
5/10/22	UPDATED S.E.Q.

22-01 SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NO.	MNDOT SPEC NO.	ITEM DESCRIPTION	UNIT	TOTAL	S.A.P. 199-105-006 PARTICIPATING STREET	S.A.P. 199-105-006 PARTICIPATING STORM	S.A.P. 199-105-006 NON-PARTICIPATING SANITARY	S.A.P. 199-111-003 PARTICIPATING STREET	S.A.P. 199-111-003 PARTICIPATING STORM	S.A.P. 199-111-003 NON-PARTICIPATING SANITARY
	1	2021.501	MOBILIZATION	LS	1	0.7			0.3		
1	2	2104.502	REMOVE CASTING	EA	6	2					4
1	3	2104.502	REMOVE STRUCTURE (STORM)	EA	7	6			1		
⚠ 1	4	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	558	418			140		
⚠ 1	5	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	196	128			68		
⚠ 1	6	2104.503	REMOVE CONCRETE CURB AND GUTTER	LF	562	442			120		
1	7	2104.503	REMOVE SEWER PIPE (STORM)	LF	236	228			8		
⚠ 1	8	2104.504	REMOVE BITUMINOUS PAVEMENT	SY	186	120			66		
⚠ 1	9	2104.504	REMOVE CONCRETE PAVEMENT	SY	33	19			14		
⚠	10	2106.607	COMMON EXCAVATION (EV)	CY	43	34			9		
⚠ 9	11	2106.607	HAUL & STOCKPILE RECLAIM MATERIAL (LV)	CY	1627	1105			522		
	12	2112.519	SUBGRADE PREPARATION	RDST	26	18			8		
⚠	13	2130.523	WATER	MGAL	106	72			34		
⚠ 2	14	2211.507	AGGREGATE BASE CLASS 5 MODIFIED (CV) 5.0"	CY	1641	1117			524		
⚠ 9	15	2215.504	FULL DEPTH RECLAMATION (9.0")	SY	11713	7955			3758		
⚠ 1	16	2232.504	MILL BITUMINOUS PAVEMENT 2.0"	SY	109	91			18		
⚠ 3	17	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	828	564			264		
⚠ 4	18	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,C)	TON	1323	899			424		
⚠ 4	19	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	1335	909			426		
4	20	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) DRIVEWAYS	TON	2				2		
4	21	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) TRAIL	TON	14	11			3		
10	22	2503.503	12" RC PIPE SEWER DESIGN 3006 CLASS III	LF	8					8	
10	23	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS III	LF	76		76				
10	24	2503.503	27" RC PIPE SEWER DESIGN 3006 CLASS III	LF	45		45				
	25	2503.602	CONNECT TO EXISTING SEWER (STORM)	EA	4		3			1	
	26	2503.602	GROUT CATCH BASIN	EA	5		3			2	
10	27	2503.602	INTERIOR CHIMNEY SEAL	EA	4						4
	28	2504.602	ADJUST VALVE BOX	EA	5	3			2		
	29	2504.602	VALVE BOX SECTION	EA	3	2			1		
	30	2506.502	ADJUST FRAME AND RING CASTING	EA	15	10			5		
	31	2506.502	CASTING ASSEMBLY (SANITARY)	EA	4						4
	32	2506.502	CASTING ASSEMBLY (STORM)	EA	9		8			1	
10	33	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 2'X3'	EA	3		2			1	
10	34	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	EA	1		1				
10	35	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	EA	2		2				
⚠	36	2521.504	6" CONCRETE WALK	SY	78	52			26		
⚠	37	2521.602	DRILL & GROUT REINF BAR (EPOXY COATED)	EA	52	37			15		
⚠	38	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LF	451	451					
	39	2531.503	CONCRETE CURB & GUTTER DESIGN D418	LF	110				110		
⚠	40	2531.504	CONCRETE PAVEMENT DRIVEWAYS 6.0"	SY	15				15		
⚠	41	2531.618	TRUNCATED DOMES	SF	92	52			40		
	42	2540.601	LANDSCAPE RESTORATION	LS	1	0.25			0.75		
8	43	2563.601	TRAFFIC CONTROL	LS	1	0.5			0.5		
⚠ 8	44	2563.601	ALTERNATE PEDESTRIAN ROUTE	LS	1	0.6			0.4		
	45	2573.502	STORM DRAIN INLET PROTECTION	EA	12	9			3		
	46	2573.503	SILT FENCE; TYPE MS	LF	40	40					
⚠	47	2574.507	TOPSOIL (LV)	CY	56	45			11		
5	48	2574.508	FERTILIZER TYPE 3	LBS	15	10			5		
	49	2575.504	SODDING TYPE LAWN	SY	10	5			5		
	50	2575.505	SEEDING	ACRE	0.09	0.07			0.02		
7	51	2575.508	HYDRAULIC MULCH MATRIX	LBS	360	280			80		
6	52	2575.508	SEED MIXTURE 25-151	LBS	15	10			5		
	53	2582.503	4" DOUBLE SOLID LINE PAINT (EPOXY)	LF	2220	1610			610		
⚠	54	2582.503	4" SOLID LINE PAINT (EPOXY)	LF	4285	3090			1195		
⚠	55	2582.518	CROSSWALK PAINT (EPOXY)	SF	360	168			192		
⚠	56	2582.518	PAVEMENT MESSAGE PAINT (EPOXY)	SF	15	15					

STANDARD PLATES

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

3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007F	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4011 E	PRECAST CONCRETE BASE
4020 J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4022A	MANHOLE OR CATCH BASIN COVER (3 FT. X 2 FT. OPENING)
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4108 F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
4180 J	MANHOLE OR CATCH BASIN STEP
7038 A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100 H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
⚠2 7102 K	CONCRETE CURB AND GUTTER (DESIGN D, DESIGN S, AND DESIGN R)
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)

PAY ITEM NOTES:

1. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
2. EV TO CV CONVERSION FACTOR = 1.25.
3. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 0.07 GAL/SY.
4. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 113 LB/SY-IN.
5. ESTIMATED QUANTITY BASED ON 100 LB/ACRE.
6. ESTIMATED QUANTITY BASED ON 120 LB/ACRE.
7. ESTIMATED QUANTITY BASED ON 4000 LB/ACRE.
8. LUMP SUM QUANTITY SHALL INCLUDE ALL COST REQUIRED FOR MAINTAINING ALL FLAGGING OPERATIONS AS NECESSARY, MAINTAINING PEDESTRIAN ACCESS ROUTES, ANY SIGNAGE AND BARRICADES AS NECESSARY.
9. EXCESS RECLAMATION MATERIAL SHALL BE HAULED FROM THE ONSITE STOCKPILE LOCATION TO THE CITY OF RAMSEY PUBLIC WORKS CAMPUS, 14100 JASPER STREET. THE EXPECTED RECLAMATION DEPTH IS 9 INCHES. THE TOP 4 INCHES ARE PROPOSED TO BE REMOVED.
10. THE EXCAVATION REQUIRED FOR UTILITY INSTALLATION IS INCIDENTAL TO THE UTILITY PAY ITEM.

GENERAL NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING IRRIGATION SYSTEMS WITHIN THE PROJECT CONSTRUCTION LIMITS BEFORE COMMENCING WORK. THE CONTRACTOR IS RESPONSIBLE FOR AVOIDING DAMAGE TO IRRIGATION SYSTEMS WHERE POSSIBLE.
3. PERMANENT SIGN REMOVAL AND INSTALLATION IS TO BE PERFORMED BY CITY OF RAMSEY PUBLIC WORKS DEPARTMENT.

DATE	REVISION
5/10/22	⚠ UPDATED BID ITEM
5/10/22	⚠ UPDATED STANDARD PLATE

May 11, 2022 - 10:55am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawing\22-01 Title Sheet.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STATEMENT OF ESTIMATED QUANTITIES

S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

PROPOSED STORM SEWER TABULATION

STRUCTURE	ALIGNMENT	STATION, OFFSET	RIM	INVERT	INVERT	PIPE	PIPE	PIPE	PIPE	STRUCTURE
			ELEV.	ELEV.	DIRECTION	DIA. (IN.)	MATERIAL	GRADE (%)	LENGTH (LF)	CONNECTED TO:
PR. CBMH 01	SUNWOOD DRIVE	6+92.56, R 21.2	866.57	857.68	E	27	RCP	-0.41	8	EX. STORM SEWER
				857.68	NW	27	RCP	0.35	37	PR. STMH 02
PR. STMH 02	SUNWOOD DRIVE	6+73.65, L 11.0	867.13	857.81	SE	27	RCP	-0.35	37	PR. CBMH 01
				857.81	W	29	ARCH RCP			EX. STORM SEWER
				862.45	NE	15	RCP	0.93	24	PR. CB 03
PR. CB 03	SUNWOOD DRIVE	6+93.99, L 22.8	866.67	862.67	SW	15	RCP	-0.93	24	PR. STMH 02
PR. CBMH 04	SUNWOOD DRIVE	6+18.61, R 19.3	866.98	863.50	W	15	RCP	-0.25	8	EX. STORM SEWER
				863.50	N	15	RCP	0.34	44	PR. CB 05
PR. CB 05	SUNWOOD DRIVE	6+18.84, L 24.2	866.66	863.65	S	15	RCP	-0.34	44	PR. CBMH 04
PR. CB 06	WACO STREET	5+10.74, L 21.0	877.61	874.01	E	12	RCP	-1.95	8	EX. STORM SEWER

CASTING & VALVE SCHEDULE

STRUCTURE	ALIGNMENT	STRUCTURE ID	STRUCTURE TYPE	UTILITY TYPE	PAY ITEM	CASTING TYPE	RIM ELEVATION	NOTE
STATION, OFFSET								
2+30.36, L 7.9	SUNWOOD DRIVE	N/A	MANHOLE	STORM SEWER	ADJUST FRAM & RING CASTING	EXISTING	870.63	ADJUST EXISTING CASTING, 0.02 BELOW FINISH GRADE
2+73.14, R 22.9	SUNWOOD DRIVE	N/A	CATCH BASIN MANHOLE	STORM SEWER	GROUT CATCH BASIN	EXISTING	869.40	GROUT EXISTING CATCH BASIN INCLUDING RINGS
2+73.60, L 21.6	SUNWOOD DRIVE	N/A	CATCH BASIN MANHOLE	STORM SEWER	GROUT CATCH BASIN	EXISTING	869.38	GROUT EXISTING CATCH BASIN INCLUDING RINGS
3+43.83, R 21.5	SUNWOOD DRIVE	N/A	CATCH BASIN MANHOLE	STORM SEWER	GROUT CATCH BASIN	EXISTING	868.57	GROUT EXISTING CATCH BASIN INCLUDING RINGS
4+74.47, R 38.8	SUNWOOD DRIVE	N/A	MANHOLE	STORM SEWER	CASTING ASSEMBY	R-1733	869.20	EXPOSE BURIED STRUCTURE, F&I CASTING
4+95.08, L 13.7	SUNWOOD DRIVE	N/A	MANHOLE	STORM SEWER	ADJUST FRAME & RING CASTING	EXISTING	867.85	ADJUST EXISTING CASTING, 0.02 BELOW FINISH GRADE
6+18.61, R 19.3	SUNWOOD DRIVE	PR. CMBH 04	48" CATCH BASIN MANHOLE	STORM SEWER	CASTING ASSEMBY	R-3246R	866.98	NEW CATCH BASIN MANHOLE, INSTALL CASTING TO MATCH EXISITNG CURB FLOW LINE
6+18.84, L 24.2	SUNWOOD DRIVE	PR. CB 05	2'X3' CATCH BASIN	STORM SEWER	CASTING ASSEMBY	R-3246R	866.66	NEW CATCH BASIN, INSTALL CASTING TO MATCH EXISTING CURB FLOW LINE
6+66.68, L 19.1	SUNWOOD DRIVE	N/A	WATER VALVE BOX	WATERMAIN	ADJUST VALVE BOX	EXISTING	866.96	ADJUST VALVE BOX TO 0.02 BELOW FINISH GRADE
6+73.65, L 11.0	SUNWOOD DRIVE	PR. STMH 02	60" MANHOLE	STORM SEWER	CASTING ASSEMBY	R-1733	867.13	NEW STORM SEWER MANHOLE, ADJUST CASTING TO 0.02 BELOW FINISH GRADE
6+92.56, R 21.2	SUNWOOD DRIVE	PR. CBMH 01	60" CATCH BASIN MANHOLE	STORM SEWER	CASTING ASSEMBY	R-3246R	866.57	NEW CATCH BASIN MANHOLE, INSTALL CASTING TO MATCH EXISITNG CURB FLOW LINE
6+93.99, L 22.8	SUNWOOD DRIVE	PR. CB 03	2'X3' CATCH BASIN	STORM SEWER	CASTING ASSEMBY	R-3246R	866.67	NEW CATCH BASIN, INSTALL CASTING TO MATCH EXISTING CURB FLOW LINE
10+77.06, R 20.3	SUNWOOD DRIVE	N/A	MANHOLE	STORM SEWER	ADJUST FRAME & RING CASTING	R-1733	876.11	ADJUST EXISTING CASTING, 0.02 BELOW FINISH GRADE
11+16.91, L 11.2	SUNWOOD DRIVE	N/A	WATER VALVE BOX	WATERMAIN	ADJUST VALVE BOX	EXISTING	875.63	ADJUST VALVE BOX TO 0.02 BELOW FINISH GRADE
14+06.80, L 19.0	SUNWOOD DRIVE	N/A	MANHOLE	STORM SEWER	CASTING ASSEMBY	R-1733	868.81	EXISTING MANHOLE HAD INCORRECT CASTING, REPLACING WITH NEW
14+25.35, R 21.9	SUNWOOD DRIVE	N/A	MANHOLE	STORM SEWER	CASTING ASSEMBY	R-1733	869.05	EXISTING MANHOLE HAD INCORRECT CASTING, REPLACING WITH NEW
17+98.88, L 9.9	SUNWOOD DRIVE	N/A	WATER VALVE BOX	WATERMAIN	ADJUST VALVE BOX	EXISTING	880.34	ADJUST VALVE BOX TO 0.02 BELOW FINISH GRADE
0+36.09, R 6.5	WACO STREET	N/A	WATER VALVE BOX	WATERMAIN	ADJUST VALVE BOX	EXISTING	881.63	ADJUST VALVE BOX TO 0.02 BELOW FINISH GRADE
1+08.54, L 8.1	WACO STREET	N/A	MANHOLE	SANITARY SEWER	CASTING ASSEMBY	R-1733	881.00	REPLACING EXISTING CASTING WITH NEW CASTING, INSTALL INTERIOR CHIMNEY SEAL
1+19.50, L 9.0	WACO STREET	N/A	MANHOLE	SANITARY SEWER	CASTING ASSEMBY	R-1733	880.79	REPLACING EXISTING CASTING WITH NEW CASTING, INSTALL INTERIOR CHIMNEY SEAL
1+21.40, R 12.1	WACO STREET	N/A	WATER VALVE BOX	WATERMAIN	ADJUST VALVE BOX	EXISTING	880.73	ADJUST VALVE BOX TO 0.02 BELOW FINISH GRADE
1+96.30, R 21.9	WACO STREET	N/A	CATCH BASIN MANHOLE	STORM SEWER	GROUT CATCH BASIN	EXISTING	879.93	GROUT EXISTING CATCH BASIN INCLUDING RINGS
4+25.19, L 0.8	WACO STREET	N/A	MANHOLE	SANITARY SEWER	CASTING ASSEMBY	R-1733	878.81	REPLACING EXISTING CASTING WITH NEW CASTING, INSTALL INTERIOR CHIMNEY SEAL
5+10.74, L 21.0	WACO STREET	PR. CB 06	2'X3' CATCH BASIN	STORM SEWER	CASTING ASSEMBY	R-3246R	877.61	NEW CATCH BASIN, INSTALL CASTING TO MATCH EXISTING CURB FLOW LINE
5+10.78, R 22.0	WACO STREET	N/A	CATCH BASIN MANHOLE	STORM SEWER	GROUT CATCH BASIN	EXISTING	877.67	GROUT EXISTING CATCH BASIN INCLUDING RINGS
7+17.16, R 1.5	WACO STREET	N/A	MANHOLE	SANITARY SEWER	CASTING ASSEMBY	R-1733	880.40	REPLACING EXISTING CASTING WITH NEW CASTING, INSTALL INTERIOR CHIMNEY SEAL

DESCRIPTION	ALIGNMENT	DIRECTION	STATION		PAVEMENT MESSAGE (EPOXY)		4" SOLID LINE (EPOXY)	4" DOUBLE SOLID LINE (EPOXY)
			START	END	CROSS WALK	LEFT TURN	WHITE	YELLOW
					SF	EA*	LF	LF
FOG LINE / SHOULDER	SUNWOOD	WB	0+51	6+19			575	
FOG LINE / SHOULDER	SUNWOOD	EB	0+55	2+66			210	
TURN LANE	SUNWOOD	WB	0+51	1+45			95	
CENTERLINE	SUNWOOD		0+51	2+68				215
PVT MSSG	SUNWOOD	WB	1+30			1		
CENTERLINE	SUNWOOD		1+49	2+68				120
CENTERLINE	SUNWOOD		3+28	6+26				300
SHOULDER	SUNWOOD	EB	3+35	6+18			285	
CENTERLINE	SUNWOOD		6+86	10+44				360
SHOULDER	SUNWOOD	EB	6+92	10+24			335	
SHOULDER	SUNWOOD	WB	6+94	14+01			710	
CROSSWALK	SUNWOOD		8+43	8+55	168			
CENTERLINE	SUNWOOD		11+07	14+05				300
SHOULDER	SUNWOOD	EB	11+13	13+89			280	
SHOULDER	SUNWOOD	EB	14+75	17+72			300	
CENTERLINE	SUNWOOD		14+77	17+93				315
SHOULDER	SUNWOOD	WB	14+83	17+78			300	
CENTERLINE	WACO		1+06	7+19				610
SHOULDER	WACO	NB	1+24	7+19			600	
SHOULDER	WACO	SB	1+25	7+19			595	
CROSSWALK	WACO		7+21	7+41	192			
TOTALS					360	1	4285	2220
					* TURN ARROWS 15.00 SQUARE FEET INSTALL AREA			

DATE	REVISION
5/10/22	UPDATE QUANTITIES DUE TO PROJECT START LOCATION ADJ.

May 11, 2022 - 10:37am
E:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Title Sheet.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	3/10/22
CHECKED BY:	JJF	FILE:	22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

TABULATIONS

S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L1	90.361	N79° 43' 56.34"E	(465224.5094,175068.9071)	(465313.4236,175085.0138)
L2	460.722	S88° 45' 41.60"E	(465373.3817,175089.7480)	(465833.9962,175079.7903)
L3	1188.529	N89° 33' 50.90"E	(465863.2166,175079.5856)	(467051.7113,175088.6269)
L4	913.592	N00° 16' 24.46"E	(467060.9309,175178.0926)	(467065.2912,176091.6746)

Curve Table: Alignments					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	300.000	60.246	N85° 29' 07.37"E	(465313.4236,175085.0138)	(465373.3817,175089.7480)
C2	1000.000	29.222	S89° 35' 55.35"E	(465833.9962,175079.7903)	(465863.2166,175079.5856)
C3	460.000	165.167	N10° 33' 34.98"E	(467030.8247,175016.5939)	(467060.9309,175178.0926)

DATE	REVISION
5/10/22	ADJUST PROJECT START STATION.

May 11, 2022 - 10:38am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Title Sheet.dwg

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Date 3/11/22 Lic. No. 57095

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CHECKED BY:	JJF	FILE: 22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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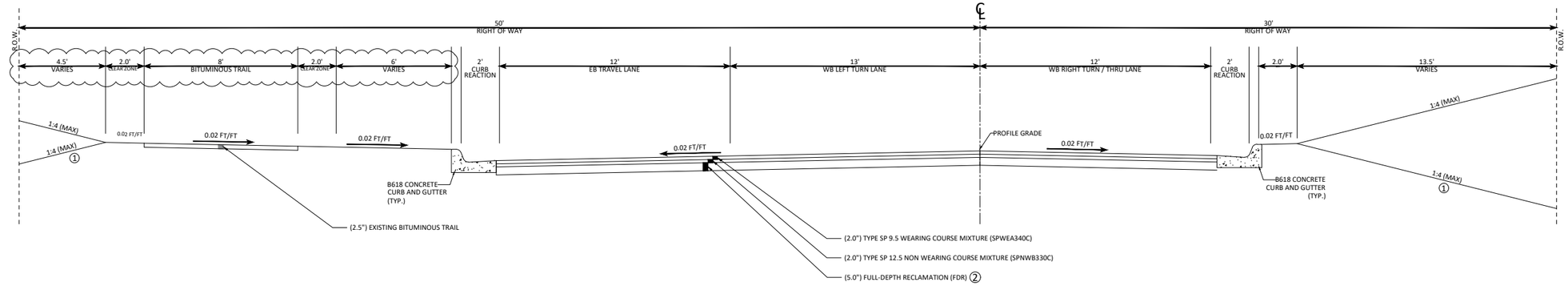
ALIGNMENT LAYOUT

S.A.P. 199-105-006 & S.A.P. 199-111-003

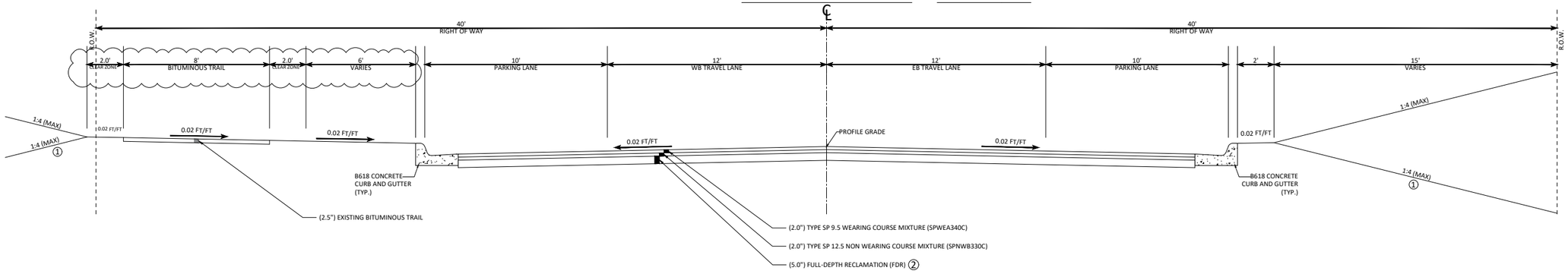
SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 04 OF 26 SHEETS

TYPICAL SECTION: SUNWOOD DRIVE TURN LANE STA. 0+51 TO 1+50



TYPICAL SECTION: SUNWOOD DRIVE STA. 1+50 TO 18+09



PAVEMENT DESIGN:
S.A.P. 199-105-006

20 YR DESIGN LANE BESALS:	205,000
DESIGN R-VALUE:	50

MINIMUM REQUIRED

MINIMUM BIT (GE)	7.00
MIN. AGG. BASE (GE)	3.53
TOTAL REQUIRED GE	10.53

PROPOSED DESIGN

WEARING COURSE (2.0")	4.50
NON-WEAR COURSE (2.0")	4.50
FDR UNSTABILIZED (5.0")	5.00
TOTAL DESIGN GE	14.00

PAVEMENT DESIGN:
S.A.P. 199-111-003

20 YR DESIGN LANE BESALS:	117,000
DESIGN R-VALUE:	50

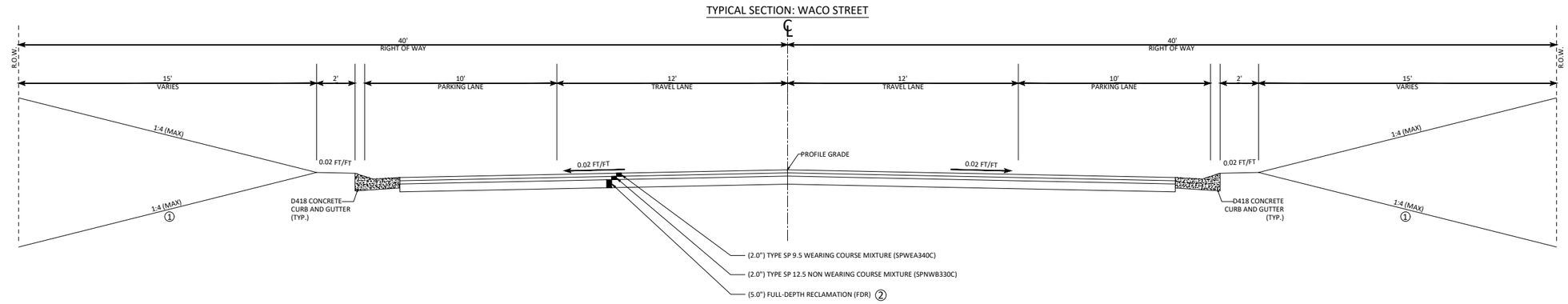
MINIMUM REQUIRED

MINIMUM BIT (GE)	7.00
MIN. AGG. BASE (GE)	3.88
TOTAL REQUIRED GE	10.00

PROPOSED DESIGN

WEARING COURSE (2.0")	4.50
NON-WEAR COURSE (2.0")	4.50
FDR UNSTABILIZED (5.0")	5.00
TOTAL DESIGN GE	14.00

TYPICAL SECTION: WACO STREET



REFERENCE NOTES:

1. GRADE TO MATCH EXISTING GROUND. ESTABLISH TURF USING A MINIMUM OF 4" TOPSOIL AND HYDROSEED WITH MNDOT SEED MIXTURE 25-151. SEE CITY DETAIL ERO-6 FOR TOPSOIL REQUIREMENTS.

2. CONTRACTOR SHALL SCARIFY AND COMPACT, ACCORDING TO THE SPECIFIED DENSITY METHOD, THE TOP 12 INCHES OF MATERIAL PRIOR TO PLACING CLASS 5 AGGREGATE BASE. THIS PROCESS SHALL BE INCIDENTAL TO THE SUBGRADE PREPARATION PAY ITEM.

NOTE: NOT TO SCALE

DATE	REVISION
5/10/22	2' CLEAR ZONE ADJACENT TO TRAIL

May 11, 2022 - 10:49am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Details.dwg

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CHECKED BY:	JJF	FILE: 22-01

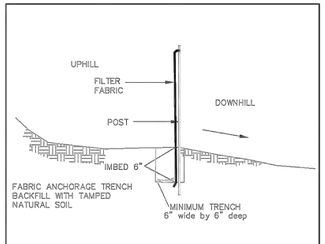
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

TYPICAL SECTION

S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

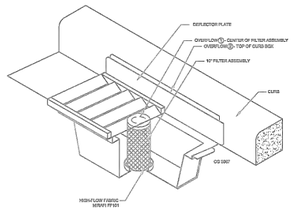
SHEET 05 OF 26 SHEETS



SILT FENCE DETAIL

NO SCALE

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: SILT FENCE
		CITY PLATE No. ERO–1



INLET PROTECTION – WIMCO OR EQUAL

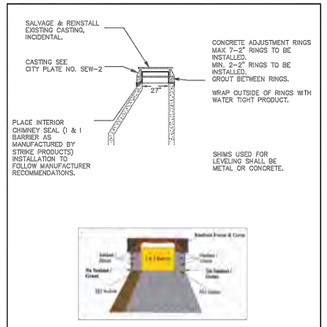
N.T.S.

NOTE:
THIS INLET PROTECTION SHALL BE USED IMMEDIATELY FOLLOWING CURB & GUTTER CONSTRUCTION. INLET PROTECTION SHALL REMAIN INSTALLED AND MAINTAINED UNTIL ALL HOME CONSTRUCTION IS COMPLETE.

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: INLET PROTECTION
		CITY PLATE No. ERO–2

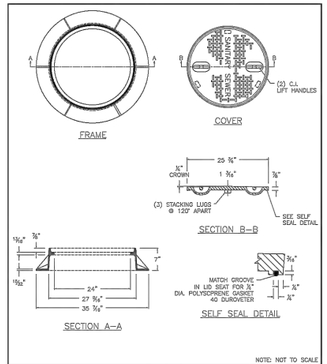
Notes:
1. INSTALLATION OF 4" OF TOPSOIL REQUIRED ACROSS ALL DISTURBED AREAS.
2. TOPSOIL IS DEFINED AS BLACK DIRT COMPOSED OF UNCONSOLIDATED MATERIAL, LARGELY UNDECOMPOSED ORGANIC MATTER WHICH IS SUITABLE FOUNDATION FOR VEGETATIVE GROWTH.
3. THE COMPOSITION OF TOPSOIL SHOULD CONTAIN NO MORE THAN THIRTY-FIVE PERCENT (35%) SAND CONTENT.

APPROVED: 7 – 2019	City of RAMSEY	STANDARD DETAILS: TOPSOIL REQUIREMENTS
		CITY PLATE No. ERO–6



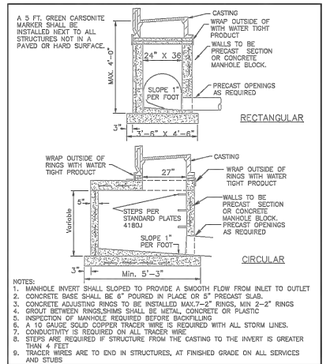
NOT TO SCALE

APPROVED: 1 – 2022	City of RAMSEY	STANDARD DETAILS: SANITARY MANHOLE ADJUSTING RINGS & CHIMNEY SEAL
		CITY PLATE No. SEW–7



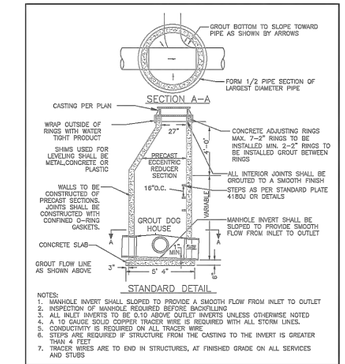
NOTE: NOT TO SCALE

APPROVED: 11 – 2015	City of RAMSEY	STANDARD DETAILS: WATER TIGHT CASTING
		CITY PLATE No. SEW–2



NOTES:
1. MANHOLE INVERT SHALL SLOPED TO PROVIDE A SMOOTH FLOW FROM INLET TO OUTLET
2. CONCRETE BASE SHALL BE 6" POURED IN PLACE OR 5" PRECAST SLAB.
3. CONCRETE ADJUSTING RINGS TO BE INSTALLED MAX 7–2" RINGS, MIN 2–2" RINGS
4. GROUT BETWEEN RINGS,SHIMS SHALL BE METAL, CONCRETE OR PLASTIC
5. INSPECTION OF MANHOLE REQUIRED BEFORE BACKFILLING
6. A 10 GAUGE SOLID COPPER TRACER WIRE IS REQUIRED WITH ALL STORM LINES.
7. CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE
8. STEPS ARE REQUIRED IF STRUCTURE FROM THE CASTING TO THE INVERT IS GREATER THAN 4 FEET
9. TRACER WIRES ARE TO END IN STRUCTURES, AT FINISHED GRADE ON ALL SERVICES AND STUBS

APPROVED: 4 – 2007	City of RAMSEY	STANDARD DETAILS: CATCH BASIN
		CITY PLATE No. STO–1

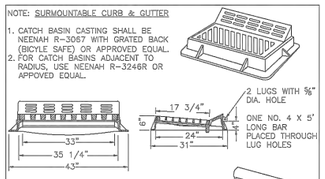


NOTES:
1. MANHOLE INVERT SHALL SLOPED TO PROVIDE A SMOOTH FLOW FROM INLET TO OUTLET
2. INSPECTION OF MANHOLE REQUIRED BEFORE BACKFILLING
3. ALL INLET INVERTS TO BE 0.10 ABOVE OUTLET INVERTS UNLESS OTHERWISE NOTED
4. A 10 GAUGE SOLID COPPER TRACER WIRE IS REQUIRED WITH ALL STORM LINES.
5. CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE
6. STEPS ARE REQUIRED IF STRUCTURE FROM THE CASTING TO THE INVERT IS GREATER THAN 4 FEET
7. TRACER WIRES ARE TO END IN STRUCTURES, AT FINISHED GRADE ON ALL SERVICES AND STUBS

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: STORM MANHOLE
		CITY PLATE No. STO–3

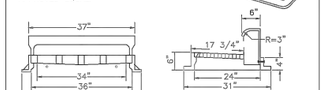
NOTE: SURMOUNTABLE CURB & GUTTER

1. CATCH BASIN CASTING SHALL BE NEENAH R–3067 WITH GRATED BACK (BICYLE SAFE) OR APPROVED EQUAL.
2. FOR CATCH BASINS ADJACENT TO RADIUS, USE NEENAH R–3246R OR APPROVED EQUAL.



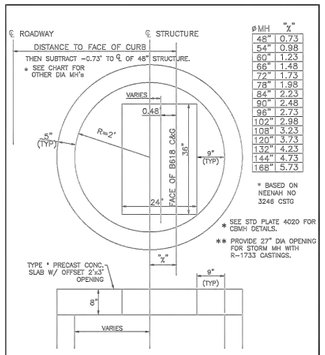
NOTE: B 618 CURB & GUTTER

1. CATCH BASIN CASTING SHALL BE NEENAH R–3246R OR APPROVED EQUAL.



STANDARD CATCHBASIN CASTING

APPROVED: 7 – 2016	City of RAMSEY	STANDARD DETAILS: STORMWATER CASTING
		CITY PLATE No. STO–4



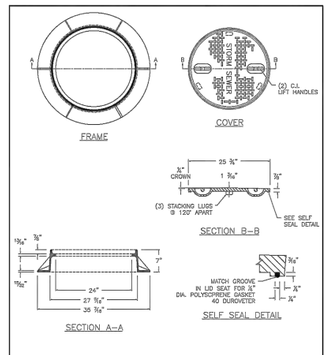
ØMH	"X"
48"	0.73
54"	0.98
60"	1.23
66"	1.48
72"	1.73
78"	1.98
84"	2.23
90"	2.48
96"	2.73
102"	2.98
108"	3.23
120"	3.73
132"	4.23
144"	4.73
168"	5.73

* BASED ON NEENAH NO 3248 CSTG

* SEE STD PLATE 4020 FOR CBMH DETAILS.

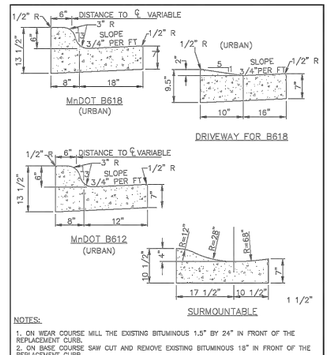
** PROVIDE 27" DIA OPENING FOR STORM MH WITH R–1733 CASTINGS.

APPROVED: 4 – 2005	City of RAMSEY	STANDARD DETAILS: SLAB TOP MANHOLE COVER
		CITY PLATE No. STO–5



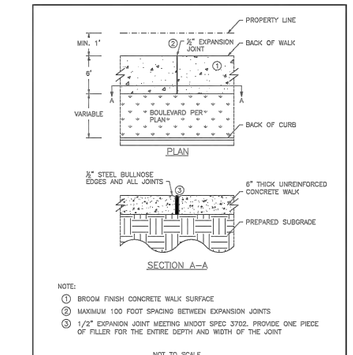
NOTE: NOT TO SCALE

APPROVED: 2 – 2019	City of RAMSEY	STANDARD DETAILS: WATER TIGHT CASTING
		CITY PLATE No. STO–14



NOTES:
1. ON WEAR COURSE MILL THE EXISTING BITUMINOUS 1.5" BY 24" IN FRONT OF THE REPLACEMENT CURB.
2. ON BASE COURSE SAW CUT AND REMOVE EXISTING BITUMINOUS 18" IN FRONT OF THE REPLACEMENT CURB.

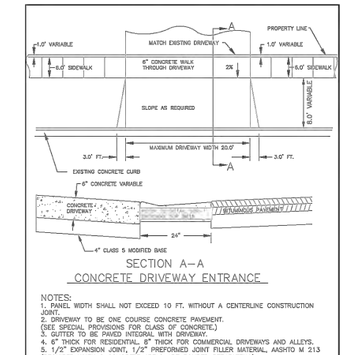
APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: CURB AND GUTTER
		CITY PLATE No. STR–1



NOTE:
① BROOM FINISH CONCRETE WALK SURFACE
② MAXIMUM 100 FOOT SPACING BETWEEN EXPANSION JOINTS
③ 1/2" EXPANSION JOINT MEETING MNDOT SPEC 3702. PROVIDE ONE PIECE OF FILLER FOR THE ENTIRE DEPTH AND WIDTH OF THE JOINT

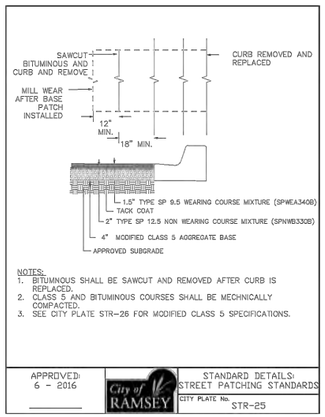
NOT TO SCALE

APPROVED: 10 – 2015	City of RAMSEY	STANDARD DETAILS: CONCRETE SIDEWALK
		CITY PLATE No. STR–3



NOTES:
1. PANEL WIDTH SHALL NOT EXCEED 10 FT. WITHOUT A CENTERLINE CONSTRUCTION JOINT.
2. DRIVEWAY TO BE ONE COURSE CONCRETE PAVEMENT. (SEE SPECIAL PROVISIONS FOR CLASS OF CONCRETE.)
3. GUTTER TO BE PAVED INTEGRAL WITH DRIVEWAY.
4. 6" THICK FOR RESIDENTIAL, 8" THICK FOR COMMERCIAL DRIVEWAYS AND ALLEYS.
5. 1/2" EXPANSION JOINT, 1/2" PREFORMED JOINT FILLER MATERIAL, AASHTO M 213 (REQUIRED WHEN 2 CONCRETE AREAS ARE POURED SEPARATELY.)

APPROVED: 2 – 2004	City of RAMSEY	STANDARD DETAILS: RESIDENTIAL DRIVEWAY
		CITY PLATE No. STR–19



NOTES:
1. BITUMINOUS SHALL BE SAWCUT AND REMOVED AFTER CURB IS REPLACED.
2. CLASS 5 AND BITUMINOUS COURSES SHALL BE MECHNICALLY COMPACTED.
3. SEE CITY PLATE STR–26 FOR MODIFIED CLASS 5 SPECIFICATIONS.

APPROVED: 6 – 2016	City of RAMSEY	STANDARD DETAILS: STREET PATCHING STANDARDS
		CITY PLATE No. STR–25

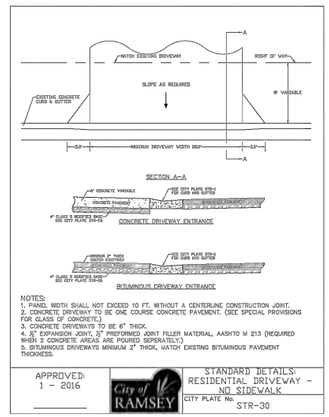
TABLE A
MODIFIED CLASS 5 SPECIFICATIONS

% PASSING

1"	100
3/4"	90 – 100
3/8"	50 – 80
No.4	35 – 70
No.10	20 – 60
No.40	10 – 35
No.200	5 – 10

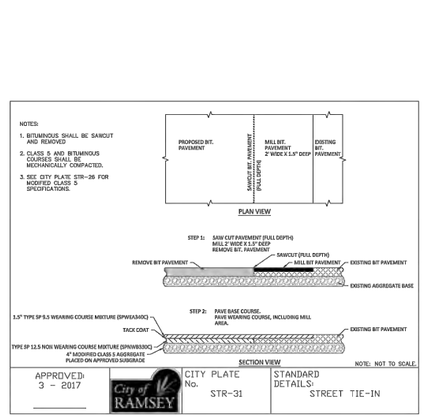
NOTES:
1. THE AGGREGATE BASE CONSTRUCTION WILL BE ACCEPTED FOR PAYMENT IN ACCORDANCE WITH THE PROVISIONS IN TABLE A.
2. IF THE AGGREGATE BASE FAILS TO MEET THE REQUIREMENTS OF TABLE A THE MATERIAL CAN BE CORRECTED IN PLACE OR REMOVED AND REPLACED WITH MATERIAL THAT MEET THE REQUIREMENTS OF TABLE A.
3. IN THE EVENT THAT RECYCLED MATERIAL IS USE IT MUST MEET MNDOT REQUIREMENTS FOR RECYCLED BASE.

APPROVED: 2 – 2003	City of RAMSEY	STANDARD DETAILS: MODIFIED CLASS 5 SPECIFICATIONS
		CITY PLATE No. STR–26



NOTES:
1. PANEL WIDTH SHALL NOT EXCEED 10 FT. WITHOUT A CENTERLINE CONSTRUCTION JOINT.
2. CONCRETE DRIVEWAY TO BE ONE COURSE CONCRETE PAVEMENT. (SEE SPECIAL PROVISIONS FOR CLASS OF CONCRETE.)
3. CONCRETE DRIVEWAYS TO BE 6" THICK.
4. ½" EXPANSION JOINT, ½" PREFORMED JOINT FILLER MATERIAL, AASHTO M 213 (REQUIRED WHEN 2 CONCRETE AREAS ARE POURED SEPERATELY.)
5. BITUMINOUS DRIVEWAYS MINIMUM 2" THICK, MATCH EXISTING BITUMINOUS PAVEMENT THICKNESS.

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: RESIDENTIAL DRIVEWAY – NO SIDEWALK
		CITY PLATE No. STR–30



APPROVED: 3 – 2017	City of RAMSEY	CITY PLATE No. STR–31	STANDARD DETAILS: STREET TIE–IN

DATE	REVISION
5/10/22	REMOVE UNNECESSARY DETAILS.

May 11, 2022 - 10:56am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Details.dwg

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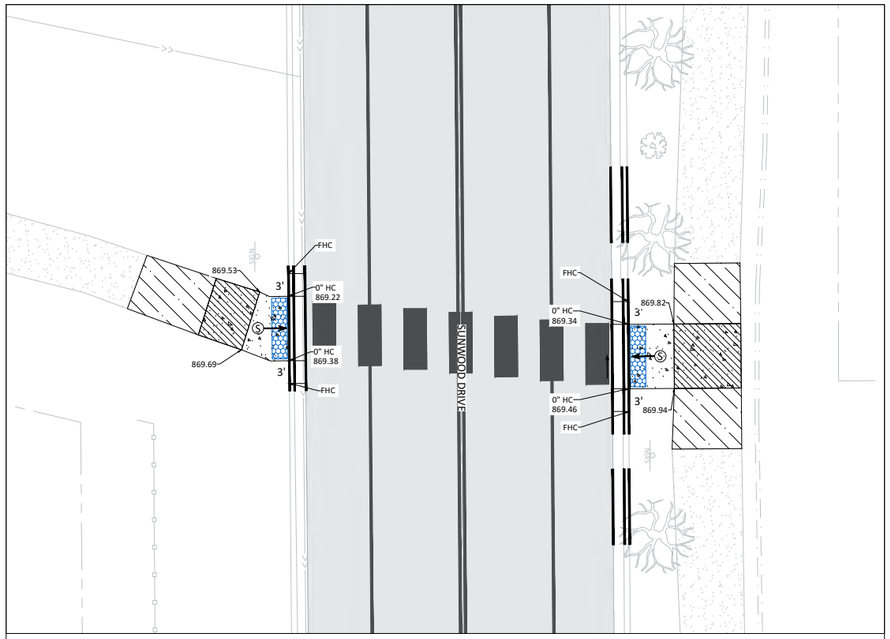
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CITY DETAILS

S.A.P. 199-105-006 & S.A.P. 199-111-003

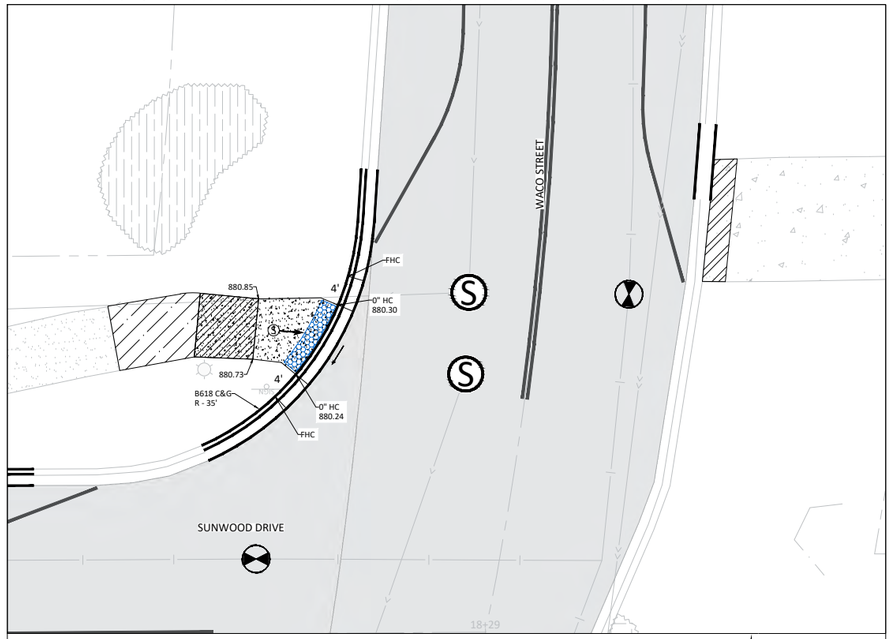
SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 06 OF 26 SHEETS



SUNWOOD DRIVE TRAIL CROSSING STATION 8+50

SCALE 1" = 20'

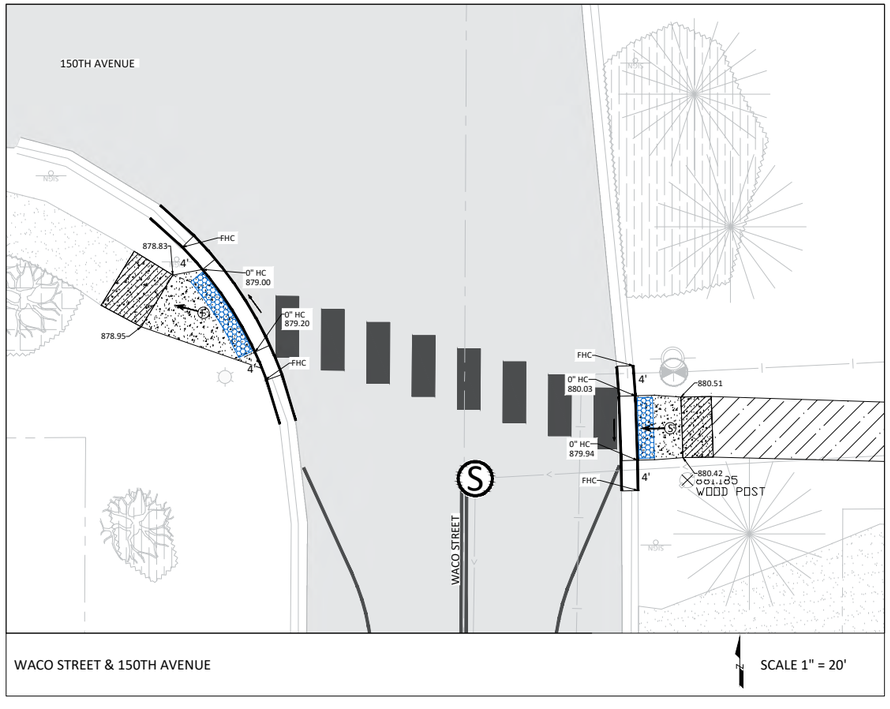


NW SUNWOOD DRIVE & WACO STREET

SCALE 1" = 20'

PED RAMP LEGEND

- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4'X4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- DRAINAGE FLOW ARROW



WACO STREET & 150TH AVENUE

SCALE 1" = 20'

DATE	REVISION
5/10/22	REVISE PEDESTRIAN RAMP LAYOUTS TO 20' SCALE. COMBINE LAYOUTS TO SHOW INTERSECTION. REMOVE PEDESTRIAN RAMPS AT SUNWOOD & TH 47

May 11, 2022 - 11:03am
E:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Details.dwg

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Date 3/11/22 Lic. No. 57095

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DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

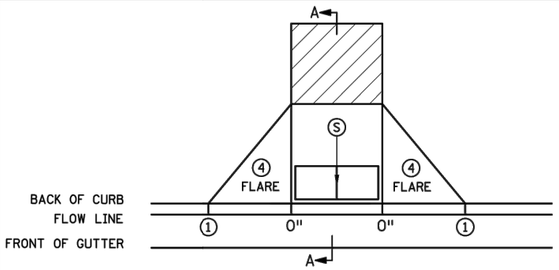
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CITY DETAILS

S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 07 OF 26 SHEETS



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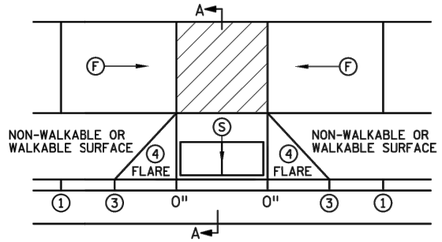

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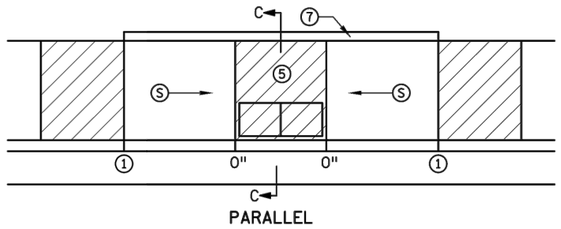
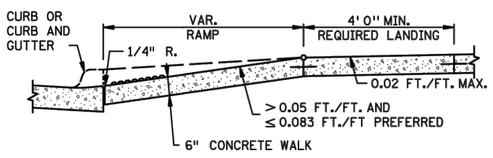
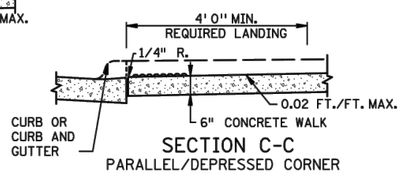


PARALLEL



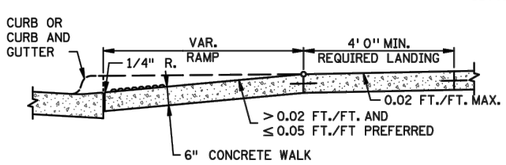
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



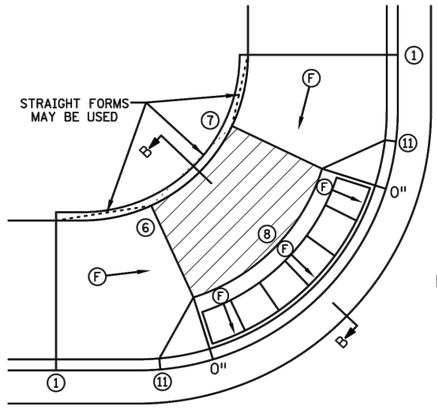
SECTION C-C

PARALLEL/DEPRESSED CORNER

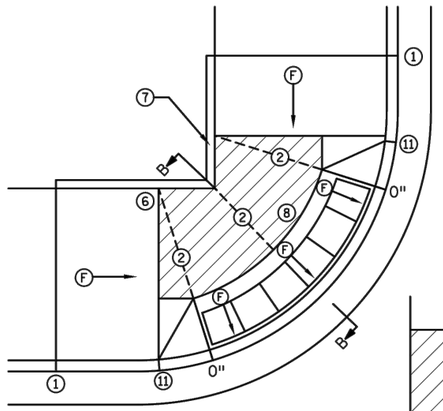


SECTION B-B

FAN

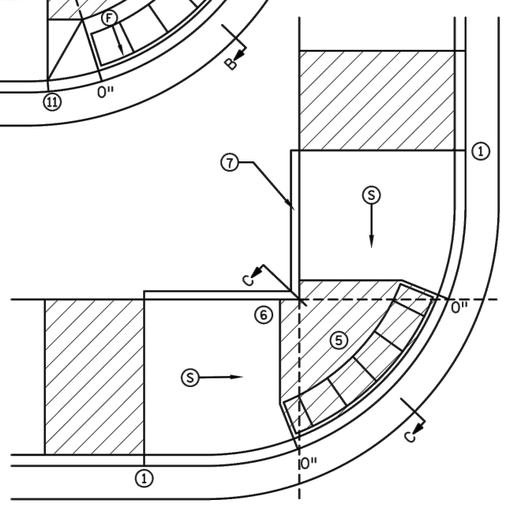


FAN⑩



MODIFIED FAN⑩

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



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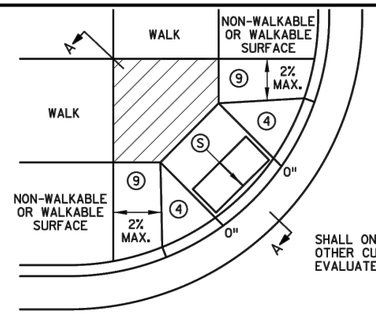


DIAGONAL

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

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

DATE	REVISION
5/10/22	UPDATED STANDARD PLANS TO LATEST EDITION

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

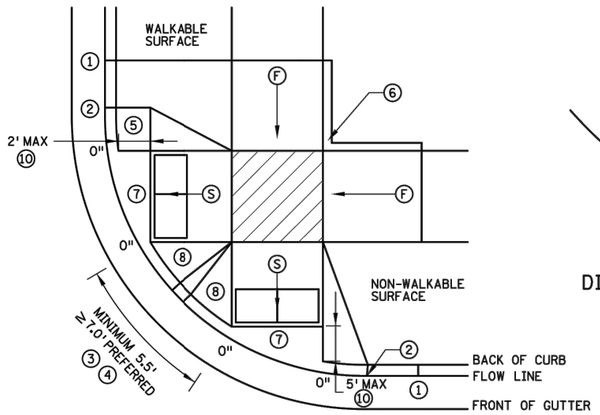
MNDOT PEDESTRIAN RAMP DETAILS

S.A.P. 199-105-006 & S.A.P. 199-111-003

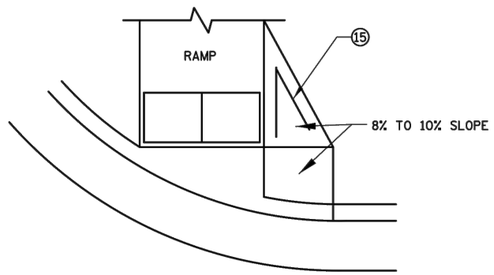
SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 08 OF 26 SHEETS

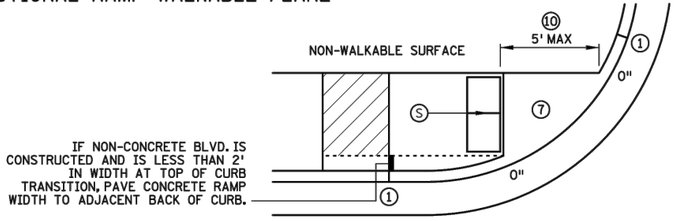
May 11, 2022 - 11:02am
E:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Details.dwg



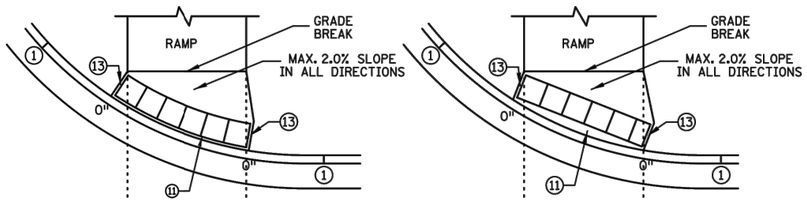
COMBINED DIRECTIONAL



DIRECTIONAL RAMP WALKABLE FLARE

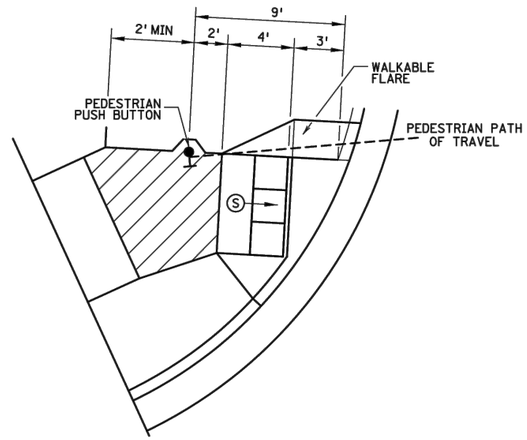


STANDARD ONE-WAY DIRECTIONAL ⑨



DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

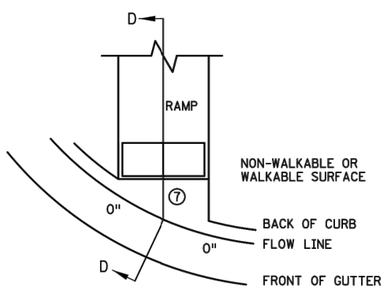
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

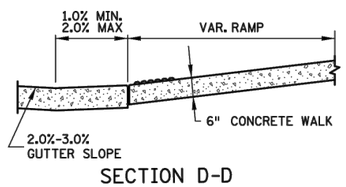


SEMI-DIRECTIONAL RAMP ③④⑨

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

STANDARD PLAN 5-297.250 | 2 OF 6

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (T.H.) SHEET NO. OF SHEETS

DATE	REVISION
5/10/22	UPDATED STANDARD PLANS TO LATEST EDITION

May 11, 2022 - 11:02am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Details.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	3/10/22
CHECKED BY:	JJF	FILE:	22-01

City of RAMSEY

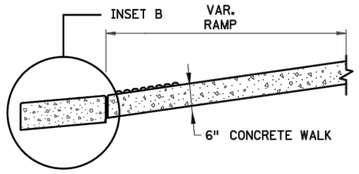
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

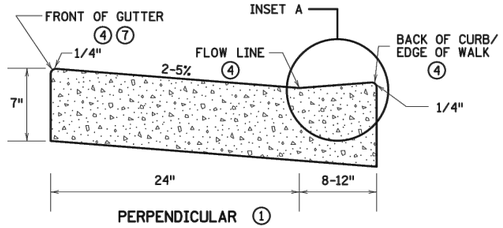
MNDOT PEDESTRIAN RAMP DETAILS

S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 09 OF 26 SHEETS





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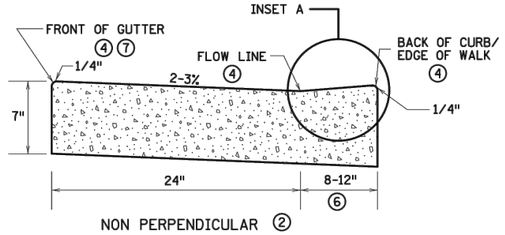
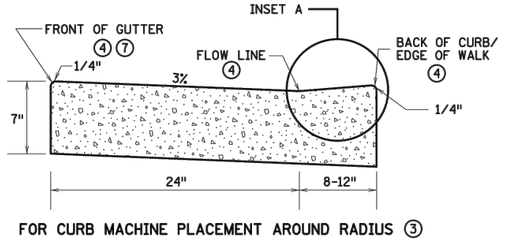
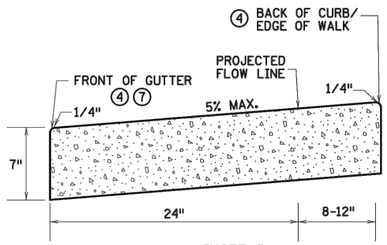


NON PERPENDICULAR ②

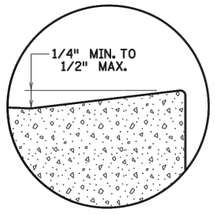


FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)

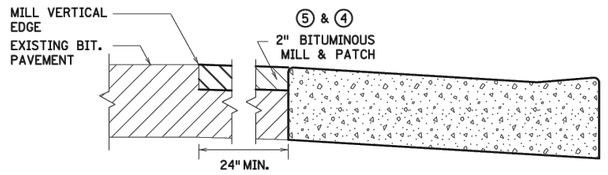
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

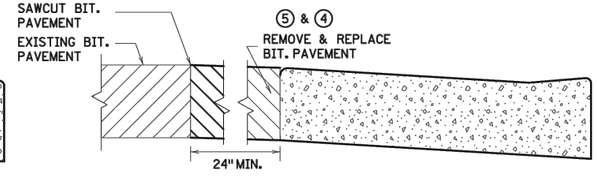


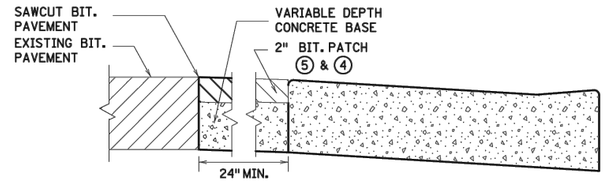
INSET B
OUTFLOW GUTTER ⑧



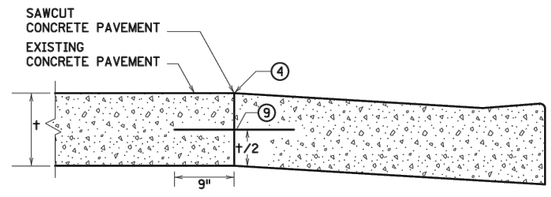
INSET A





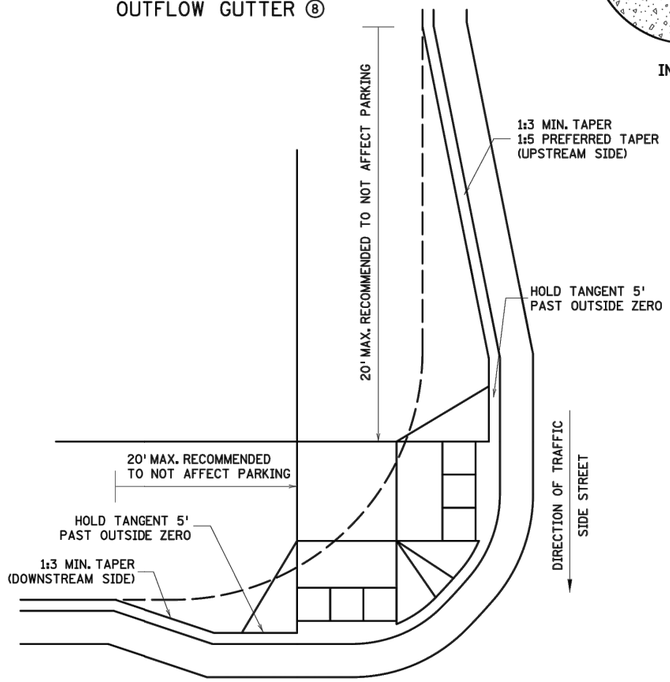


ONLY ALLOWED PER ENGINEER'S APPROVAL

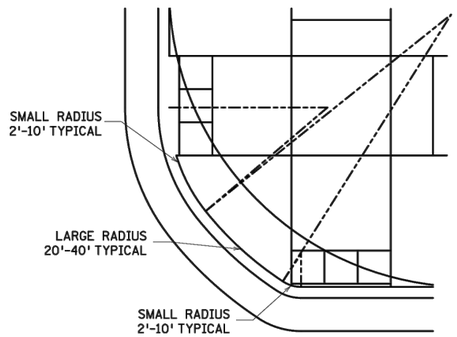


PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.
NO PONDING SHALL BE PRESENT IN THE PAR.
ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

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

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

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

DATE	REVISION
5/10/22	UPDATED STANDARD PLANS TO LATEST EDITION

May 11, 2022 - 11:04am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Details.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

City of RAMSEY

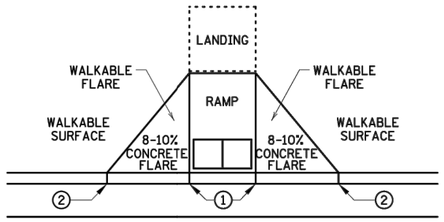
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN RAMP DETAILS

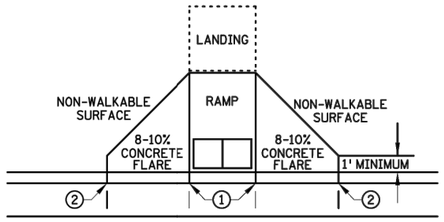
S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

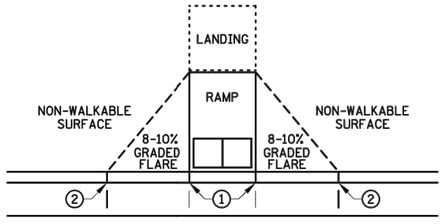
SHEET 10 OF 26 SHEETS



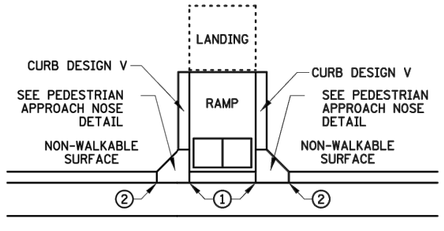
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

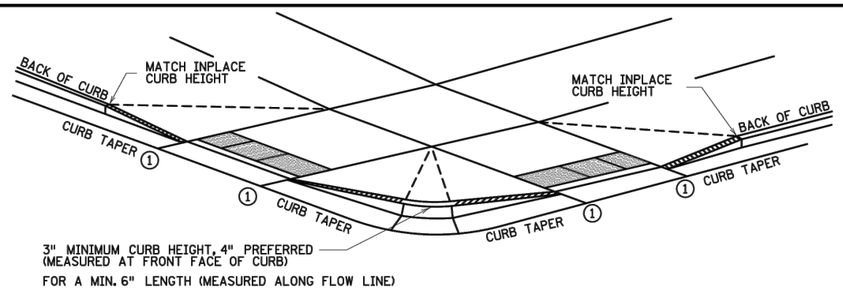


GRADED FLARES

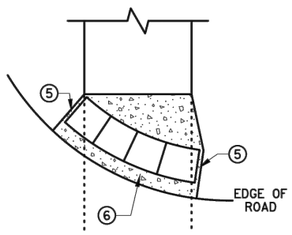


RETURNED CURB ④

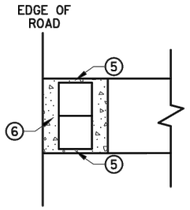
TYPICAL SIDE TREATMENT OPTIONS ③ ⑩



DETECTABLE EDGE WITH ⑦
CURB AND GUTTER

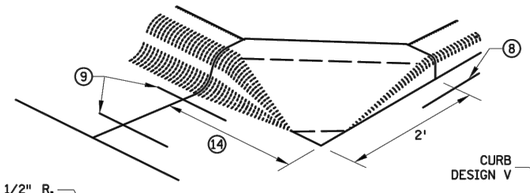


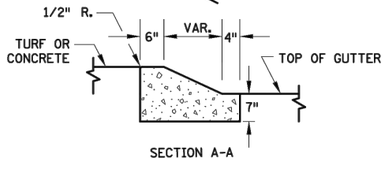
RADIAL DETECTABLE WARNING



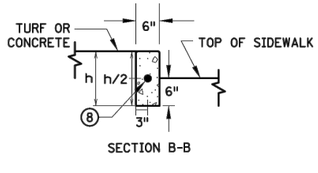
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

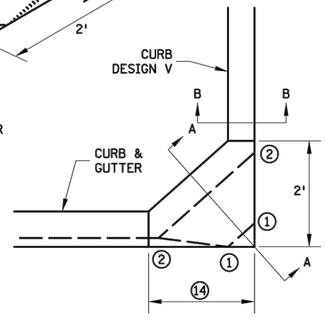




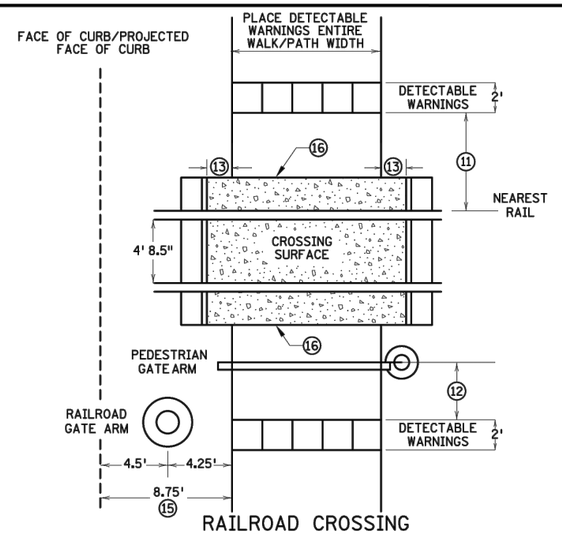
SECTION A-A



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

STATE PROJ. NO. | (TH) | SHEET NO. OF SHEETS

DATE	REVISION
5/10/22	UPDATED STANDARD PLANS TO LATEST EDITION

May 11, 2022 - 11:00am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Details.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

City of RAMSEY

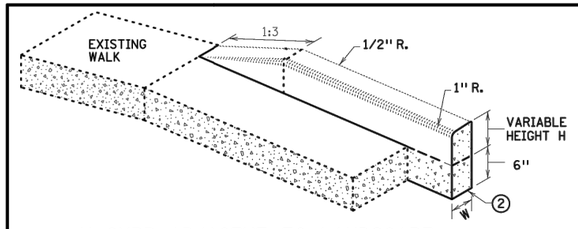
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN RAMP DETAILS

S.A.P. 199-105-006 & S.A.P. 199-111-003

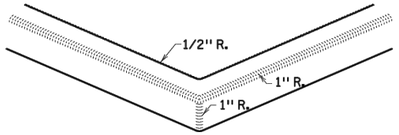
SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 11 OF 26 SHEETS



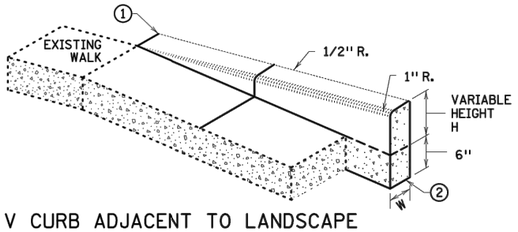
V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS



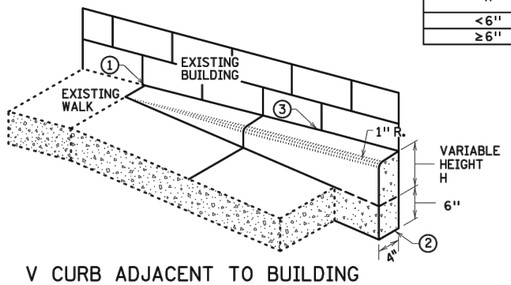
V CURB INTERSECTION

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

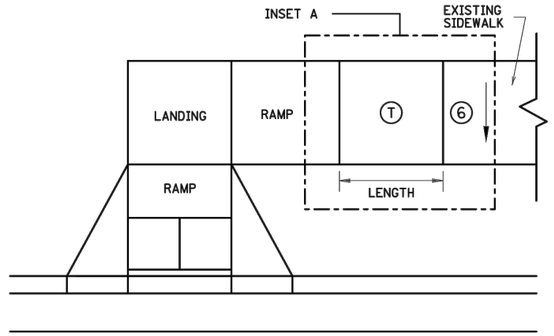


V CURB ADJACENT TO LANDSCAPE

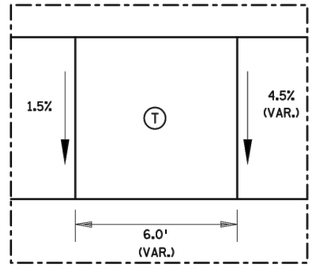
CURB OUTSIDE SIDEWALK LIMITS



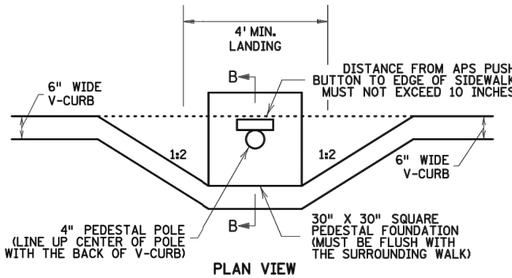
V CURB ADJACENT TO BUILDING OR BARRIER



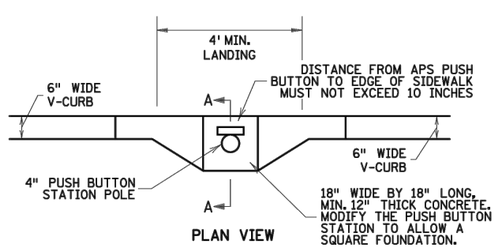
TRANSITION PANEL ④⑤



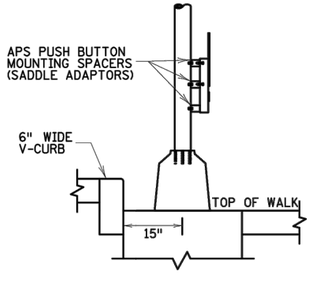
INSET A



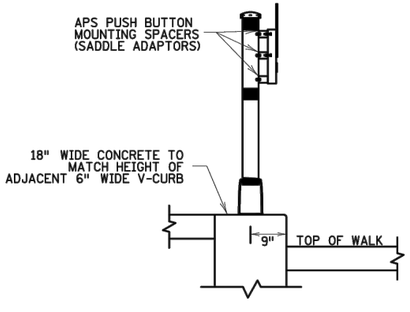
PLAN VIEW



PLAN VIEW



SECTION B-B



SECTION A-A

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)

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

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

DATE	REVISION
5/10/22	UPDATED STANDARD PLANS TO LATEST EDITION

May 11, 2022 - 11:05am
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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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

City of RAMSEY

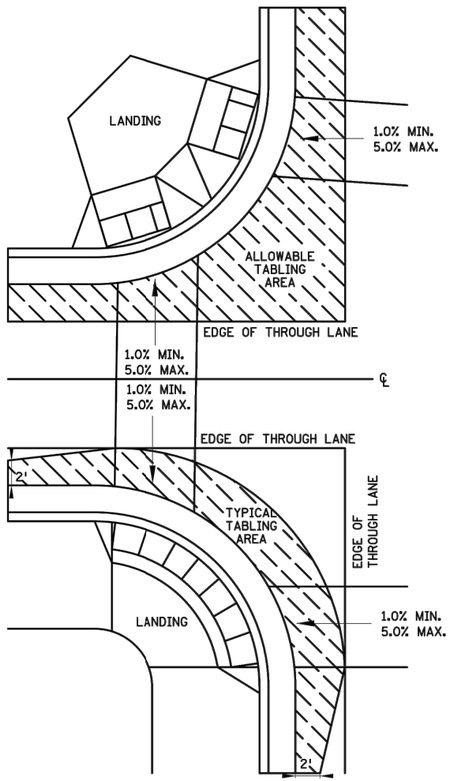
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN RAMP DETAILS

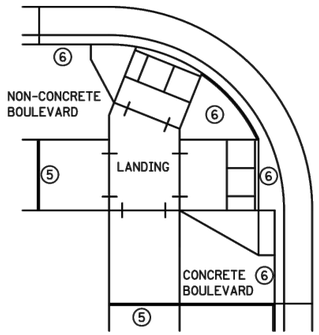
S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

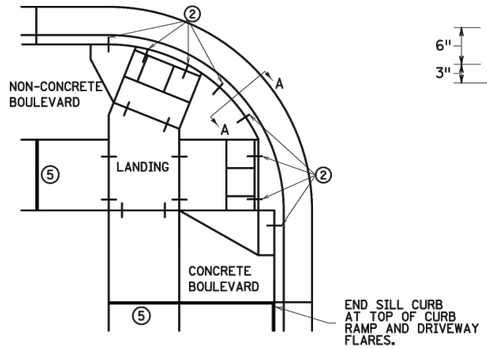
SHEET 12 OF 26 SHEETS



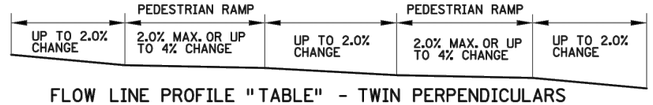
CURB LINE AND ROAD CROSSING ADJUSTMENTS



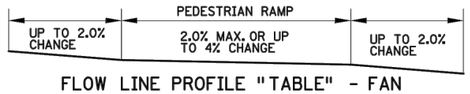
EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS



CURB LINE REINFORCEMENT ④ PLACEMENT ON BITUMINOUS ROADWAYS



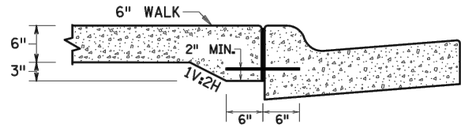
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



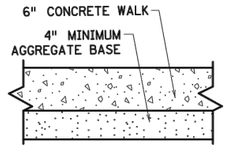
FLOW LINE PROFILE "TABLE" - FAN

FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

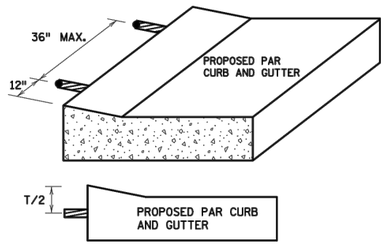
FLOW LINE PROFILE RAISE - FAN



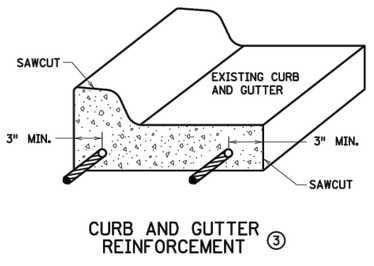
SECTION VIEW A-A
THICKENED SECTION
THROUGH CURB RAMP FLARES



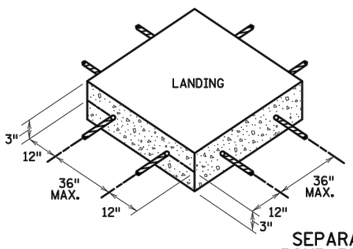
TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

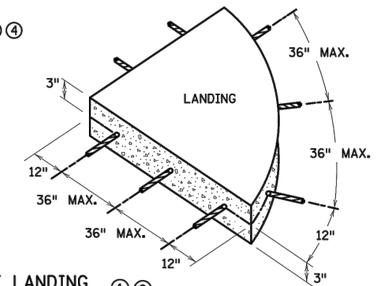


CURB RAMP REINFORCEMENT DETAILS ②④



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

STANDARD PLAN 5-297.250 | 6 OF 6

APPROVED: 11-04-2021
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

DATE	REVISION
5/10/22	UPDATED STANDARD PLANS TO LATEST EDITION

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN RAMP DETAILS

S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 13 OF 26 SHEETS

May 11, 2022 - 11:06am
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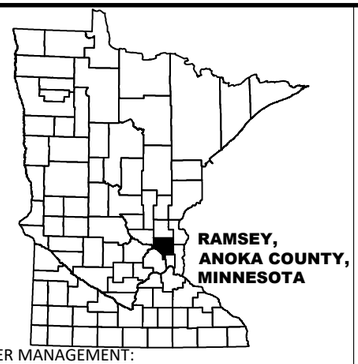
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
S.A.P. 199-105-006 & S.A.P. 199-111-003
CITY OF RAMSEY
ANOKA COUNTY, MINNESOTA



DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:
Construction activities include; Site Grading, Storm Sewer Construction, Temporary Erosion and Sediment Control, Roadway Construction, and Permanent Stabilization.
Project Description:This project consists of reconstruction of 0.49 miles of existing bituminous streets, using full-depth reclamation, replacing bituminous street to the existing grade, spot concrete curb and gutter replacement and minor storm sewer repairs. The drainage for the existing streets uses the curb and gutter to direct flow into storm water catch basins located at low points. Storm water pipes collect the runoff, with Waco Street and the eastern half of Sunwood Drive directed into the Rum River. The western half of Sunwood Drive is directed into a regional settling pond at the NE quadrant of Sunwood Drive and Trunk Highway 47. The settling pond overflows into a trunk sewer, which connects with the other runoff from this project, and into the same outlet to the Rum River at the intersection of Waco Street and Sunwood Drive. There is no change to the outfall location of the storm water runoff proposed with this project.

RESPONSIBLE PARTIES:

The Contractor and Owner must apply for coverage under the MPCA's General Storm Water Permit for Construction Activity as required by the National Pollution Discharge Elimination System (NPDES) Phase II program. Coverage under the permit will begin automatically 7 calendar days after the electronic submittal date or after the postmarked date of a complete application. (Longer time frames will apply to areas disturbing 50 acres or discharge within 1 mile of a special water).

	COMPANY	CONTACT PERSON	PHONE
OWNER:	CITY OF RAMSEY	BRUCE WESTBY, PE	763-433-9825
SWPPP DESIGNER:	CITY OF RAMSEY	JOE FERIANCEK, PE	763-433-9893
CONTRACTOR:			
STIE MANAGER:			
PARTY RESPONSIBLE FOR LONG TERM O&M:	CITY OF RAMSEY	BRUCE WESTBY, PE	763-433-9825

Individuals listed above, including the SWPPP preparer, individual overseeing implementation of, revising and amending the SWPPP, Individuals performing or supervising the installation, maintenance and repair of BMP's must be trained. At least one individual present on the permitted project, or available within 72 hours shall be trained in the applicable job duties. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Copies of the SWPPP preparer information is included in the Project Manual. The Contractor shall provide information for the individual(s) overseeing implementation, supervising installation, maintenance, and repair of BMP's to be included in the Project Manual prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

Documentation shall include:

a. Names of trained personnel associated with this project.
b. Dates of training, names of instructor(s) and entity providing training.
c. Content of training course or workshop including the number of hours trained.
d. As an alternative to a, b, and c listed above, a photocopy of the current Erosion and Stormwater Management card issued by the University of Minnesota can be attached to the SWPPP as suitable documentation of training.

DOCUMENTATION RETENTION:
The following documentation will be retained for a period of not less than 3-years form the date of submittal of the NOT.
1. The final SWPPP.
2. Copies of all stormwater related permits required for the project.
3. Records of all inspection and maintenance conducted during construction.
4. Copies of all permanent operation and maintenance agreements; including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance.
5. All required calculations for design of temporary and permanent BMP's.

IMPLEMENTATION SCHEDULE AND PHASING:
1. Furnish & Install perimeter sediment control and inlet protection.
2. Reclamation of existing bituminous pavement.
3. Rough grade site.
4. Furnish & install bituminous pavement.
5. Add additional temporary BMP's as necessary during construction based on inspection reports.
6. Submit Notice of Termination (NOT) to MPCA within 30 days of final stabilization.

FINAL STABILIZATION:
The permittee(s) must ensure final stabilization of the site. The permittee(s) must submit a NOT within 30 days after final stabilization is complete, or another owner/operator (permittee) has assumed control over all areas of the site which have not undergone final stabilization. Final stabilization can be achieved in one of the following ways:
1. All soil disturbing activities at the site have been completed and all soils must be stabilized by a uniform perennial vegetative cover with a density of 70 percent over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions and;
a. All drainage ditches, constructed to drain water from the site after construction is complete, must be stabilized to preclude erosion;
b. All temporary synthetic, and structural erosion prevention and sediment control BMP's (such as silt fence) must be removed as part of the site final stabilization; and
c. The permittee(s) must clean out all sediment from conveyances and from temporary sedimentation basins to be used as permanent water quality management basins. Sediment must be stabilized to prevent it from being washed back into the basin, conveyances or drainage ways discharging off-site or to surface waters. The cleanout of permanent basins must be sufficient to return the basin to design capacity.
2. Final vegetation cover shall be in the Project Specifications.
3. For residential construction only, final stabilization has been achieved when temporary erosion protection and down gradient perimeter control for individual lots has been completed and the residence has been transferred to the homeowner. Additionally, the permittee must distribute the MPCA "Homeowner fact sheet" to the homeowner to inform the homeowner of the need for, and benefits of, final stabilization.

SPECIAL ENVIRONMENTAL CONSIDERATIONS:

Was an environmental review required for this project or any part of a common plan of development or sale that includes all or any portion of this project?	NO
Does any portion of the site have the potential to affect threatened or endangered species?	NO
Does any portion of this site discharge to a Calcareous Fen and the letter of approval from the DNR is located in the Project Manual?	NO
Will any portion of this site potentially affect properties listed on the National Register of Historic Places or a Known or Discovered Archeological site?	NO
Have any Karst features been identified in the project vicinity?	NO
Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO

POLLUTION PREVENTION MANAGEMENT MEASURES:
The permittee(s) shall implement the following pollution prevention management measures on the site:
1. Solid waste: collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal regulations.
2. Hazardous materials: oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.
3. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.

GENERAL STORMWATER DISCHARGE REQUIREMENTS:
All requirements listed in Part 15 of the permit for the design of permanent stormwater treatment system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:
1. The expected amount, frequency, intensity and duration of precipitation.
2. The nature of stormwater runoff and run-on at the site.
3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
4. The range of soil particle sizes expected to be present on the site.

RECEIVING WATERS:
Recieving waters, including surface water, wetlands, Public Waters, and stormwater ponds are identified on the USGS 7.5min quad map within 1 mile of the project boundary. Receiving waters that are impaired, the impairment and WLA are listed as follows. All specific BMP's relative to construction activities listed in this permit for special and impaired waters have been incorporated into this plan. All specific BMP's listed in approved TMDLs and those BMP's listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (DITCH, POND, WETLAND, LAKE, ETC.)	APPENDIX A SPECIAL WATER?	FLOWS TO IMPAIRED WATER WITHIN 1 MILE?	USEPA APPROVED TMDL?
RUM RIVER	RIVER	YES	YES	YES
IMPAIRMENTS: NOT FOR CONSTRUCTION, MERCURY AND FISH CONSUMPTION				

PROJECT AREAS:

Total project size (disturbed area) =	2.56	acres
Existing area of impervious surface =	2.47	acres
Post construction area of impervious surface =	2.47	acres
New impervious surface area created =	0.00	acres

Planned construction start date: June 2022
Planned construction completion date: September 2022

PROJECT LOCATION:

County: ANOKA Township: 32 Range: 25 Section: 26 Latitude: 45.241132 Longitude: -93.394591

PERMANENT STORMWATER MANAGEMENT SYSTEM:
Type of storm water management used if more than 1 acre of new impervious surface is created:
a. Wet Sedimentation Pond
b. Infiltration / Filtration
c. Regional Pond
d. Permanent Stormwater Management Not Required

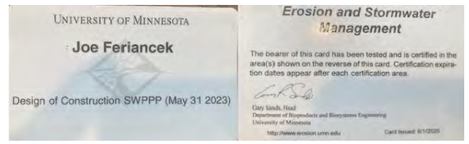
LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN:

DESCRIPTION	LOCATION
TEMPORARY EROSION CONTROL MEASURES	SHEETS No. 16
FINAL STABILIZATION	SHEETS No. 21 - 24
STORM SEWER TABULATION	SHEETS No. 03
EROSION AND SEDIMENT CONTROL DETAILS	SHEETS No. 06

EROSION AND SEDIMENT CONTROL QUANTITIES:

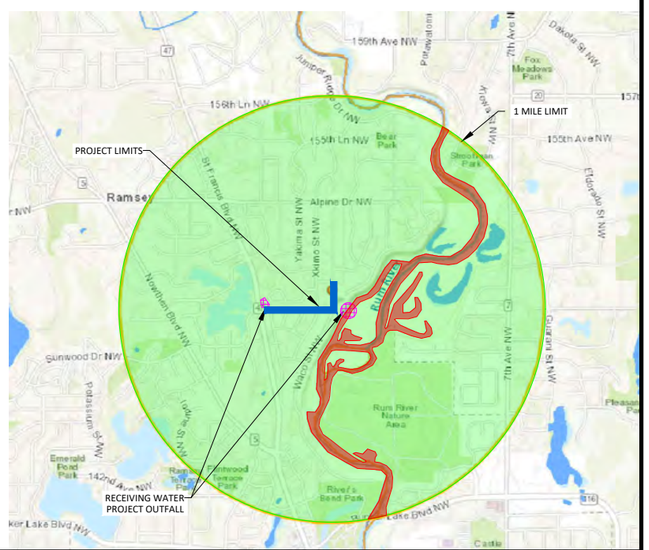
DESCRIPTION	QUANTITY
SILT FENCE TYPE MS	40 LF
STORM DRAIN INLET PROTECTION	12 EA.
HYDOMULCH	360 LBS.
SEEDING AREA	0.09 ACRES

CERTIFICATION:



LEGEND

PROJECT LIMITS
1 MILE LIMIT
RECEIVING WATER
IMPAIRED WATER



DATE	REVISION

May 31, 2022 - 11:07am
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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
JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	3/10/22
CHECKED BY:	JJF	FILE:	22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

SWPPP

S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 14 OF 26 SHEETS

SEQUENCE OF CONSTRUCTION:

Construction shall proceed in the following sequence:

1. Contractor shall schedule and conduct a pre-construction meeting with the City.
2. Contractor shall secure all necessary permits and licenses.
3. Furnish & install erosion control measures.
4. Maintain erosion control measures, i.e. silt fence, inlet protection.
5. Reclaim existing bituminous pavement and base.
6. Scarify, grade and compact 1' below reclaim section.
7. Re-install reclamation material as necessary, grade and compact reclamation material.
8. Furnish & install base course of bituminous pavement
9. Complete concrete curb and gutter repairs, install restoration per plan.
10. Furnish & install bituminous pavement.
11. Remove erosion control after vegetation is established.

ADDITIONAL STORMWATER POLLUTION PREVENTION, GRADING PLAN, AND SCHEDULE NOTES:

1. All slopes to be 1:4 unless approved by the city engineer.
2. Below grade structures shall be protected and meet drainage requirements per the city engineer.
3. Construction operation hours are from 7:00 a.m. - 10:00 p.m. Monday through Saturday.
4. Call Gopher State One Call for utility locations prior to any work at 1-800-252-1166.
5. Permittee may need to modify SWPPP if the general objectives of controlling pollutants is not being met.
6. Operator shall implement these and any other BMP's that may be required to meet the general permit requirements.
7. Site is not in karst area or pollution or remediation site.
8. Silt fence to be installed downhill from any grading activity.
9. If tracking onto adjacent streets occurs a street sweeper shall be used to clean streets within 8 hours or as directed by the engineer.
10. Dust control may be necessary during rough grading. No grading can take place if wind speed exceeds 25 mph.
11. Solid waste shall be collected and disposed of properly and must comply with MPCA disposal requirements.
12. Hazardous materials shall be stored properly to prevent spills and vandalism.
13. No engine degreasing is allowed on site. External washing of vehicles shall be limited to a defined area (bone yard) on site.
14. Permittee(s) shall adhere to all SWPPP specifications on the plan and other MPCA permit requirements.

EROSION PREVENTION PRACTICES:

1. The permittee(s) must plan for and implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion, so that the inspection and maintenance requirements are complied with. The location of areas not to be disturbed must be delineated (e.g. with flags, stakes, signs, silt fence, etc.) on the development site before work begins.
2. All exposed soil areas must be stabilized as soon as practical, but in no case later than 7 days after the construction area has temporarily or permanently ceased.
   These areas include constructed stormwater management pond side slopes, and any exposed soil areas with a positive slope to a stormwater conveyance system, such as a curb and gutter system, storm sewer inlet, temporary or permanent drainage ditch or other natural or man made systems that discharge to a surface water.
3. The normal wetted perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge to any surface water. Stabilization must be completed within 24 hours of connecting to a surface water.
4. Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours of connection to a surface water.
5. All disturbed areas, except roadways, building areas, parking areas, islands and sidewalk, shall be restored with minimum 4 inches topsoil, seeded and mulched within 7 days of completion of site grading. Seeding shall be in accordance with MnDOT Specification 2575. Where side slopes exceed or equal 1:3 and running slope is greater than 1:50, a polypropylene netting or wood fiber blanket shall be provided and staked over the mulched area. Seed and mulch types and applications rates are per plan and specification.
6. Refer to restoration plan for areas to be seeded or sodded for erosion control.

DEWATERING AND BASIN DRAINING:

1. Dewatering or basin draining (e.g. pumped discharges, trench/ditch cuts for drainage) related to the construction activity that may have turbid or sediment laden discharge water must be discharged to a temporary or permanent sedimentation basin on the project site whenever possible. If the water cannot be discharged to a sedimentation basin prior to entering the surface water, it must be treated with the appropriate BMP's, such that the discharge does not adversely affect the receiving water or downstream landowners. The permittee(s) must ensure that discharge points are adequately protected from erosion and scour. The discharge must be dispersed over natural rock rip rap, sand bags, plastic sheeting or other accepted energy dissipation measures. Adequate sedimentation control measures are required for discharge water that contains suspended solids.
2. All water from dewatering or basin draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in wetlands causing significant adverse impact to the wetland.

SEDIMENT CONTROL PRACTICES:

1. Sediment control practices must minimize sediment from entering surface waters, including curb and gutter systems and storm sewer inlets.
   a. Temporary or permanent drainage ditches and sediment basins that are designed as part of a treatment system (e.g. ditches with rock check dams) require sediment control practices only as appropriate for site conditions.
   b. If the down gradient treatment system is overloaded, additional upgradient sediment control practices must be installed to eliminate the overloading, and the SWPPP must be amended to identify these additional practices.
   c. In order to maintain sheet flow and minimize rills and/or gullies, there shall be no unbroken slope length of greater than 75 feet for slopes with a grade of 1:3 or steeper.
2. Sediment control practices must be established on all down gradient perimeters before any upgradient land disturbing activities begin. These practices shall remain in place until final stabilization has been established.
3. The timing of the installation of sediment control practices may be adjusted to accommodate short-term activities such as clearing or grubbing, or passage of vehicles. Any short-term activity must be completed as quickly as possible and the sediment control practices must be installed immediately after the activity is completed. However, sediment control practices must be installed before the next precipitation event even if the activity is not complete.
4. All storm drain inlets must be protected by appropriate BMP's during construction until all sources with potential for discharging to the inlet have been stabilized.
5. Temporary soil stockpiles must have silt fence or other effective sediment controls, and cannot be placed in surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches.
6. Stockpile areas which remain on the site for more than seven days shall be seeded, mulched, and surrounded by silt fence.
7. Vehicle tracking of sediment from the construction site must be minimized by BMP's such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such BMPs are not adequate to prevent sediment from being tracked onto the street.
8. The permittee must install temporary sedimentation basins as required.

INSPECTIONS AND MAINTENANCE:

1. The permittee(s) (either the owner or operator, whoever is identified in the SWPPP) must routinely inspect the construction site once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5-inches in 24 hours. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within 7 days.
2. All inspections and maintenance conducted during construction must be recorded in writing and these records must be retained with the SWPPP. Records of each inspection and maintenance activity shall include:

a. Date and time of inspections;
b. Name of persons conducting inspections;
c. Accurate findings of inspections, including the specific location where corrective actions are needed;
d. Corrective actions taken (including dates, times, and party completing maintenance activities);
e. Date of all rainfall events greater than ½ inches in 24 hours, and the amount of rainfall for each event. Permittee(s) must obtain rainfall amounts by either a properly maintained rain gauge installed onsite, a weather station that is within one (1) mile of your location, or a weather reporting system that provides site specific rainfall data from radar summaries;
f. If permittee(s) observe a discharge (i.e., color, odor, settled or suspended solids, oil sheen, and other obvious indicators of pollutant(s);
g. Any amendments to the SWPPP proposed as a result of the inspection must be documented as required in Section 6 of the general permit within seven (7) calendar days.

3. Where parts of the construction site have undergone final stabilization, but work remains on other parts of the site, inspections of the stabilized areas may be reduced to once per month. Where work has been suspended due to frozen ground conditions, the required inspections and maintenance must take place within 24 hours after runoff occurs at the site or 24 hours prior to resuming construction, whichever occurs first.
4. All erosion prevention and sediment control BMP's must be inspected to ensure integrity and effectiveness. All nonfunctional BMP's must be repaired, replaced, or supplemented with functional BMP's. The permittee(s) must investigate and comply with the following inspection and maintenance requirements:

a. All silt fence must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches ⅓ of the height of the fence. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access.
b. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches ½ the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access.
c. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment being deposited by erosion. The permittee(s) must remove all deltas and sediment deposited in surface waters, including drainage ways, catch basins, and other drainage systems, and restabilize the areas where sediment removal results in exposed soil. The removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The permittee shall use all reasonable efforts to obtain access. If precluded, removal and stabilization must take place within seven (7) calendar days of obtaining access. The permittee is responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work.
d. Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces within 3 hours after notification by the City that sweeping is required.
   e.The permittee(s) are responsible for the operation and maintenance of temporary and permanent water quality management BMP's as well as all erosion prevention and sediment control BMP's, for the duration of the construction work at the site. The permittee(s) are responsible until another permittee has assumed control over all areas of the site that have not been finally stabilized or the site has undergone final stabilization, and a NOT has been submitted to the MPCA.
e. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g. fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

5. All infiltration areas must be inspected to ensure that no sediment from ongoing construction activities is reaching the infiltration area and these areas are protected from compaction due to construction equipment driving across the infiltration area.
6. Storm sewer pipes and structures to be inspected and cleaned out.

DATE	REVISION

May 11, 2022 - 11:08am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 SWPPP.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

SWPPP

S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

0 60 120 180
SCALE (FEET)

N

END S.A.P. 199-111-003
STA. 8+33

150TH AVENUE

14990
14980
14970
14960
14950
14940
14931

WACO STREET

8+00
7+00
6+00
5+00
4+00
3+00
2+00
1+00
0+00

INLET PROTECTION (2)

INLET PROTECTION

INLET PROTECTION (2)

XKIMOS STREET

ST. FRANCIS BOULEVARD (TH 47)

INLET PROTECTION (3)

INLET PROTECTION (4)

5250
5200
5190
5180
5170
5160

ZUNI STREET

SUNWOOD DRIVE

1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 18+29

BEGIN S.A.P. 199-105-006
STA. 0+51

END S.A.P. 199-105-006
STA. 18+09

BEGIN S.A.P. 199-111-003
STA. 0+18

14880
14881
14880
14881
14884
14887
14882
14885

ARGON STREET

YAKIMA STREET

SILT FENCE (TYP.)

LEGEND

- INLET PROTECTION
- SILT FENCE

DATE	REVISION
5/10/22	ADJUST PROJECT START STATION.

May 11, 2022 - 11:00am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Erosion Control.dwg

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JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	3/10/22
CHECKED BY:	JJF	FILE:	22-01

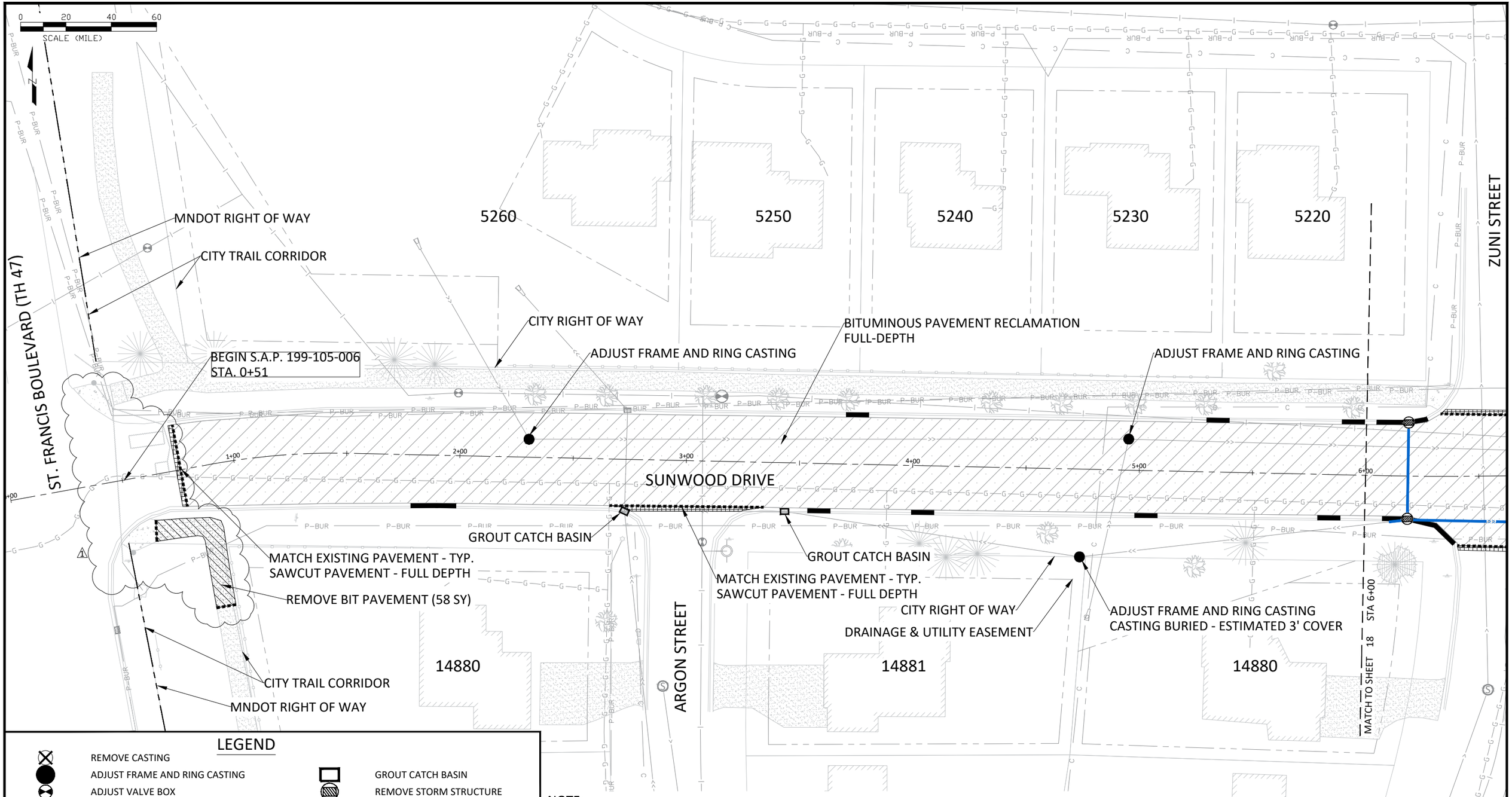
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EROSION CONTROL

S.A.P. 199-105-006 & S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 16 OF 26 SHEETS



LEGEND

- REMOVE CASTING
- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- RECLAMATION - FULL DEPTH
- REMOVE PAVEMENT - BITUMINOUS
- REMOVE PAVEMENT - CONCRETE
- MILL BITUMINOUS PAVEMENT - STREET TIE-IN
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT PAVEMENT - FULL DEPTH
- GROUT CATCH BASIN
- REMOVE STORM STRUCTURE
- REMOVE STORM SEWER PIPE
- BURIED POWER LINE
- FIBER OPTIC LINE
- COMMUNICATION LINE
- GAS LINE
- SIGNAL LOOP DETECTOR LINE

NOTE:
1. CONCRETE CURB AND GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS SHALL BE MINIMUM FULL PANEL LENGTH.
2. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
3. PROTECT LANDSCAPING AND IRRIGATION. PROPERTY OWNERS ARE TO LOCATE AND MOVE IRRIGATION BEFORE CONSTRUCTION.

DATE	REVISION
5/10/22	⚠ ADJUST PROJECT START STATION.

May 11, 2022 - 11:14am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Removals.dwg

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JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

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CHECKED BY:	JJF	FILE: 22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

REMOVALS
STA. 0+51 TO 6+00
S.A.P. 199-105-006

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

0 20 40 60
SCALE (MILE)

N

MATCH TO SHEET 17 STA 6+00

MATCH TO SHEET 19 STA 12+25

ZUNI STREET

5200 5190 5180 5170 5160 5150

SUNWOOD DRIVE

6+00 7+00 8+00 9+00 10+00 11+00 12+00

REMOVE CATCH BASIN

REMOVE STORM SEWER (43 LF)

MATCH EXISTING PAVEMENT - TYP.
SAWCUT PAVEMENT - FULL DEPTH

ADJUST VALVE BOX

REMOVE STORM SEWER (2 LF)

REMOVE STORM SEWER MANHOLE

REMOVE STORM SEWER (32 LF)

REMOVE CATCH BASIN

REMOVE CONCRETE PAVEMENT (8 SY)
REMOVE BIT PAVEMENT (25 SY)

RIGHT OF WAY

BITUMINOUS PAVEMENT RECLAMATION
FULL-DEPTH

ADJUST VALVE BOX

REMOVE STORM SEWER (43 LF)

REMOVE CATCH BASIN MANHOLE

REMOVE STORM SEWER (26 LF)

REMOVE STORM SEWER MANHOLE

REMOVE STORM SEWER (74 LF)

REMOVE CATCH BASIN
MANHOLE

REMOVE STORM SEWER (8 LF)

14881

MATCH EXISTING PAVEMENT - TYP.
SAWCUT PAVEMENT - FULL DEPTH

REMOVE BIT PAVEMENT (19 SY)

RIGHT OF WAY

14884

YAKIMA STREET

ADJUST FRAME AND RING CASTING

14887

MATCH EXISTING PAVEMENT - TYP.
SAWCUT PAVEMENT - FULL DEPTH

LEGEND

- REMOVE CASTING
- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- RECLAMATION - FULL DEPTH
- REMOVE PAVEMENT - BITUMINOUS
- REMOVE PAVEMENT - CONCRETE
- MILL BITUMINOUS PAVEMENT - STREET TIE-IN
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT PAVEMENT - FULL DEPTH
- GROUT CATCH BASIN
- REMOVE STORM STRUCTURE
- REMOVE STORM SEWER PIPE
- P - BUR — BURIED POWER LINE
- FO — FIBER OPTIC LINE
- C — COMMUNICATION LINE
- G — GAS LINE
- SIGNAL LOOP DETECTOR LINE

NOTE:
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3. PROTECT LANDSCAPING AND IRRIGATION. PROPERTY OWNERS ARE TO LOCATE AND MOVE IRRIGATION BEFORE CONSTRUCTION.

DATE	REVISION

May 11, 2022 - 11:16am
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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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

REMOVALS
STA. 6+00 TO 12+25
S.A.P. 199-105-006

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

0 20 40 60
SCALE (MILE)

N

MATCH TO SHEET 18 STA 12+25

MATCH TO SHEET 20 STA 2+50

XKIMO STREET

WACO STREET

14930

14931

14882

14885

14884

GROUT CATCH BASIN

REMOVE BIT PAVEMENT (9 SY)

REMOVE CONCRETE PAVEMENT (5 SY)

ADJUST VALVE BOX

REMOVE CASTING (2)

MATCH EXISTING PAVEMENT - TYP.
SAWCUT PAVEMENT - FULL DEPTH

CITY RIGHT OF WAY

REMOVE CONCRETE PAVEMENT (11 SY)
REMOVE BIT PAVEMENT (18 SY)

ADJUST VALVE BOX

REMOVE CASTING (2)

BITUMINOUS PAVEMENT RECLAMATION
FULL-DEPTH

CITY RIGHT OF WAY

RIGHT OF WAY

DRAINAGE & UTILITY EASEMENT

MATCH EXISTING PAVE
SAWCUT PAVEMENT - FULL DEPTH

END S.A.P. 199-105-006
STA. 18+09

ADJUST VALVE BOX

BEGIN S.A.P. 199-111-003
STA. 0+18

MATCH EXISTING PAVEMENT - TYP.
SAWCUT PAVEMENT - FULL DEPTH

13+00 14+00 15+00 16+00 17+00 18+00 18+29

1+00 2+00 0+00

P-BUR

LEGEND

- REMOVE CASTING
- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- RECLAMATION - FULL DEPTH
- REMOVE PAVEMENT - BITUMINOUS
- REMOVE PAVEMENT - CONCRETE
- MILL BITUMINOUS PAVEMENT - STREET TIE-IN
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT PAVEMENT - FULL DEPTH
- GROUT CATCH BASIN
- REMOVE STORM STRUCTURE
- REMOVE STORM SEWER PIPE
- P - BUR — BURIED POWER LINE
- FO — FIBER OPTIC LINE
- C — COMMUNICATION LINE
- G — GAS LINE
- SIGNAL LOOP DETECTOR LINE

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DATE	REVISION
5/10/22	CORRECT S.A.P. NUMBER TYPO

May 11, 2022 - 11:21am
X:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Removals.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

REMOVALS
STA. 12+25 TO 2+50
S.A.P. 199-105-006 & 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

0 20 40 60
SCALE (MILE)

N

MATCH TO SHEET 19
STA 2+50

14940 14950 14960 14970 14980 14990

14931 14941 14951 14961 14971 14981 14991

150TH AVENUE

WACO STREET

2+00 3+00 4+00 5+00 6+00 7+00 8+00

REMOVE CONCRETE PAVEMENT (9 SY)

CITY RIGHT OF WAY

REMOVE BIT PAVEMENT (7 SY)

REMOVE CATCH BASIN

REMOVE STORM SEWER (8 LF)

MATCH EXISTING PAVEMENT - TYP.
SAWCUT PAVEMENT - FULL DEPTH

REMOVE BIT PAVEMENT (17 SY)

BITUMINOUS PAVEMENT RECLAMATION
FULL-DEPTH

REMOVE CASTING

CITY RIGHT OF WAY

DRAINAGE & UTILITY EASEMENT

GROUT CATCH BASIN

REMOVE CASTING

REMOVE BIT PAVEMENT (33 SY)

END S.A.P. 199-111-003
STA. 8+33

MATCH EXISTING PAVEMENT - TYP.
SAWCUT PAVEMENT - FULL DEPTH

LEGEND

- REMOVE CASTING
- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- RECLAMATION - FULL DEPTH
- REMOVE PAVEMENT - BITUMINOUS
- REMOVE PAVEMENT - CONCRETE
- MILL BITUMINOUS PAVEMENT - STREET TIE-IN
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT PAVEMENT - FULL DEPTH
- GROUT CATCH BASIN
- REMOVE STORM STRUCTURE
- REMOVE STORM SEWER PIPE
- P - BUR — BURIED POWER LINE
- FO — FIBER OPTIC LINE
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- G — GAS LINE
- SIGNAL LOOP DETECTOR LINE

NOTE:
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3. PROTECT LANDSCAPING AND IRRIGATION. PROPERTY OWNERS ARE TO LOCATE AND MOVE IRRIGATION BEFORE CONSTRUCTION.

DATE	REVISION
5/10/22	CORRECT STATION TYPO

May 11, 2022 - 11:20am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Removals.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

REMOVALS
STA. 2+50 TO 8+33
S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

0 20 40 60
SCALE (FEET)

N

MNDOT RIGHT OF WAY

CITY TRAIL CORRIDOR

BEGIN S.A.P. 199-105-006
STA. 0+51

ST. FRANCIS BOULEVARD (TH 47)

5260

5250

5240

5230

5220

ZUNI STREET

DRAINAGE & UTILITY EASEMENT

CITY RIGHT OF WAY

45' B-B

1+00 2+00 3+00 4+00 5+00 6+00

SUNWOOD DRIVE

6" CONCRETE WALK (12 SY)

8' WIDE BIT. TRAIL (40 SY)

PROTECT FENCE

CITY TRAIL CORRIDOR

MNDOT RIGHT OF WAY

14880

ARGON STREET

MATCH EXISTING PAVEMENT - TYP.

INSTALL SOLID STORM CASTING
RIM ELEV. 869.20

14881

14880

STA 6+00

MATCH TO SHEET 22

LEGEND

- STORM SEWER PIPE
- CATCH BASIN
- CATCH BASIN MANHOLE
- STORM SEWER MANHOLE
- GROUT CATCH BASIN
- SANITARY SEWER MANHOLE
- WATERMAIN VALVE
- 6" THICK CONCRETE WALK
- CONCRETE DRIVEWAY
- BITUMINOUS DRIVEWAY
- BITUMINOUS TRAIL
- BITUMINOUS PAVEMENT
- SEEDING AREA
- B618 CONCRETE CURB & GUTTER
- D418 CONCRETE CURB & GUTTER
- MATCHLINE - EXISTING PAVEMENT

NOTE:
RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY. RESTORE ALL DISTURBED AREAS WITH 4" TOPOSIL & HYDROSEED UNLESS OTHERWISE NOTED.
CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. PAYMENT MADE UNDER LANDSCAPE RESTORATION.

DATE	REVISION
5/10/22	⚠ ADJUST PROJECT START STATION.

May 11, 2022 - 11:30am
G:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Street Construction.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	3/10/22
CHECKED BY:	JJF	FILE:	22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STREET IMPROVEMENTS
STA. 0+51 TO 6+00
S.A.P. 199-105-006

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 21 OF 26 SHEETS

0 20 40 60
SCALE (FEET)

N

ZUNI STREET

MATCH TO SHEET 21
STA 6+00

5200
5190
5180
5170
5160
5150

MATCH TO SHEET 23
STA 12+25

DRAINAGE & UTILITY EASEMENT

CITY RIGHT OF WAY

6" CONCRETE WALK (14 SY)
SEE DETAIL SHEET 07.

BIT. TRAIL (8 SY)

BIT. TRAIL (8 SY)

45' B-B

PR. CB 05
STA 6+18.84 24.2L
RIM 866.66
BUILD 3.01
INV. S (PR. CBMH 04) 863.65

PR. STMH 02
STA 6+73.65 11.0L
RIM 867.13
BUILD 9.32
INV. NE (PR. CB 03) 862.45
INV. SE (PR. CBMH 01) 857.81
INV. W () 857.81

PR. CB 03
STA 6+93.99 22.8L
RIM 866.67
BUILD 4.00
INV. SW (PR. STMH 02) 862.67

24' - 15" RCP @ 0.93%

37' - 27" RCP @ 0.35%

44' - 15" RCP @ 0.34%

8' - 15" RCP @ 0.25%

8' - 27" RCP @ 0.41%

SUNWOOD DRIVE

6+00 7+00 8+00 9+00 10+00 11+00 12+00

PR. CBMH 04
STA 6+18.61 19.3R
RIM 866.98
BUILD 3.48
INV. N (PR. CB 05) 863.50
INV. W () 863.50

PR. CBMH 01
STA 6+92.56 21.2R
RIM 866.57
BUILD 8.89
INV. NW (PR. STMH 02) 857.68
INV. E () 857.68

6" CONCRETE WALK (10 SY)
SEE DETAIL SHEET 07.

BIT. TRAIL (8 SY)

MATCH EXISTING PAVEMENT - TYP.

14881
14884
14887

YAKIMA STREET

LEGEND

- STORM SEWER PIPE
- CATCH BASIN
- CATCH BASIN MANHOLE
- STORM SEWER MANHOLE
- GROUT CATCH BASIN
- SANITARY SEWER MANHOLE
- WATERMAIN VALVE
- 6" THICK CONCRETE WALK
- CONCRETE DRIVEWAY
- BITUMINOUS DRIVEWAY
- BITUMINOUS TRAIL
- BITUMINOUS PAVEMENT
- SEEDING AREA
- B618 CONCRETE CURB & GUTTER
- D418 CONCRETE CURB & GUTTER
- MATCHLINE - EXISTING PAVEMENT

NOTE:
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DATE	REVISION

May 11, 2022 - 11:32am
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JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STREET IMPROVEMENTS
STA. 6+00 TO 12+25
S.A.P. 199-105-006

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 22 OF 26 SHEETS

0 20 40 60
SCALE (FEET)

N

MATCH TO SHEET 22 STA 12+25

MATCH TO SHEET 24 STA 2+50

14930

14931

14930

XKIMO STREET

45' B-B

45' B-B

BITUMINOUS DRIVEWAY (10 SY)
MATCH EXISTING

CONCRETE DRIVEWAY (6 SY)
MATCH EXISTING

SANITARY SEWER CASTING (2)

6" CONCRETE WALK (16 SY)
SEE DETAIL SHEET 07.

BIT. TRAIL (11 SY)

SOLID STORM SEWER CASTING (2)

13+00 14+00 15+00 16+00 17+00 18+00 18+29

SUNWOOD DRIVE

2+00

1+00

0+00

END S.A.P. 199-105-006
STA. 18+09

BEGIN S.A.P. 199-111-003
STA. 0+18

MATCH EXISTING PAVEMENT - TYP.

CITY RIGHT OF WAY

DRAINAGE & UTILITY EASEMENT

14882

14885

14884

WACO STREET

LEGEND

- STORM SEWER PIPE
- CATCH BASIN
- CATCH BASIN MANHOLE
- STORM SEWER MANHOLE (STMH)
- GROUT CATCH BASIN
- SANITARY SEWER MANHOLE (S)
- WATERMAIN VALVE
- 6" THICK CONCRETE WALK
- CONCRETE DRIVEWAY
- BITUMINOUS DRIVEWAY
- BITUMINOUS TRAIL
- BITUMINOUS PAVEMENT
- SEEDING AREA
- B618 CONCRETE CURB & GUTTER
- D418 CONCRETE CURB & GUTTER
- MATCHLINE - EXISTING PAVEMENT

NOTE:
RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY. RESTORE ALL DISTURBED AREAS WITH 4" TOPOSIL & HYDROSEED UNLESS OTHERWISE NOTED.
CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION.
PAYMENT MADE UNDER LANDSCAPE RESTORATION.

DATE	REVISION
5/10/22	CORRECT S.A.P. NUMBER TYPO

May 11, 2022 - 11:34am
G:\Engineering\Acad\Cad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Street Construction.dwg

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STREET IMPROVEMENTS
STA. 12+25 TO 2+50
S.A.P. 199-105-006 & 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 23 OF 26 SHEETS

0 20 40 60
SCALE (FEET)

N

MATCH TO SHEET 23 STA 2+50

14940 14950 14960 14970 14980 14990

150TH AVENUE

MATCH EXISTING PAVEMENT - TYP.

CONCRETE DRIVEWAY (9 SY)
MATCH EXISTING

BITUMINOUS DRIVEWAY (7 SY)
MATCH EXISTING

PR. CB 06
STA 18+22.23 435.2L
RIM 877.61
BUILD 3.60
INV. E () 874.01

45' B-B

8' - 12" RCP @ 1.95%

6" CONCRETE WALK (17 SY)
SEE DETAIL SHEET 07.

R - 40'

WACO STREET

2+00 3+00 4+00 5+00 6+00 7+00 8+00

SANITARY SEWER CASTING

SANITARY SEWER CASTING

END S.A.P. 199-111-003
STA. 8+33

CITY RIGHT OF WAY

DRAINAGE & UTILITY EASEMENT

6" CONCRETE WALK (9 SY)
SEE DETAIL SHEET 07.

BIT. TRAIL (21 SY)

14961 14971 14981 14991

LEGEND

- STORM SEWER PIPE
- CATCH BASIN
- CATCH BASIN MANHOLE
- STORM SEWER MANHOLE (STMH)
- GROUT CATCH BASIN
- SANITARY SEWER MANHOLE
- WATERMAIN VALVE
- 6" THICK CONCRETE WALK
- CONCRETE DRIVEWAY
- BITUMINOUS DRIVEWAY
- BITUMINOUS TRAIL
- BITUMINOUS PAVEMENT
- SEEDING AREA
- B618 CONCRETE CURB & GUTTER
- D418 CONCRETE CURB & GUTTER
- MATCHLINE - EXISTING PAVEMENT

NOTE:
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DATE	REVISION

May 11, 2022 - 11:35am
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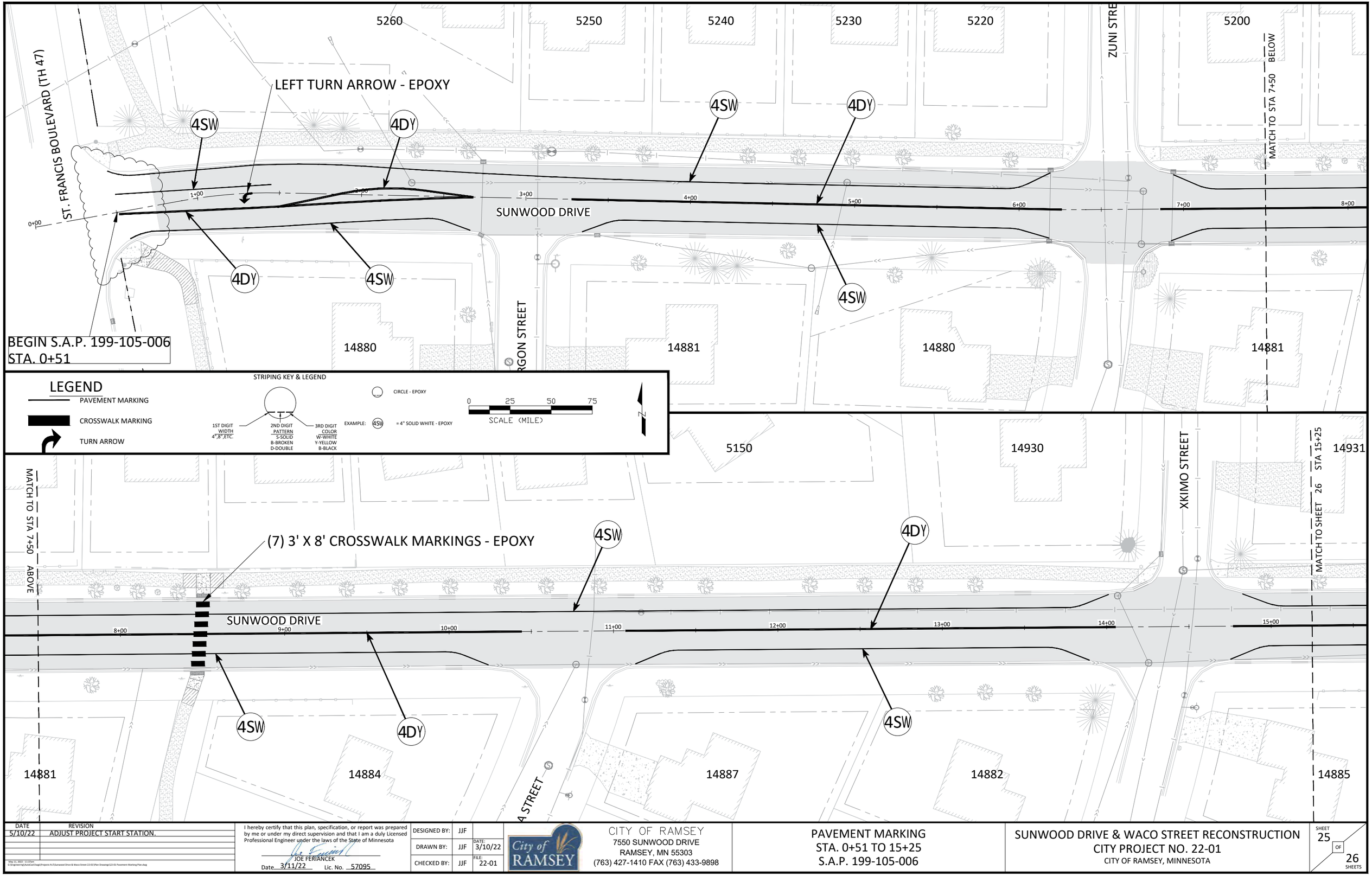
JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STREET IMPROVEMENTS
STA. 2+50 TO 8+33
S.A.P. 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA



DATE	REVISION
5/10/22	ADJUST PROJECT START STATION.

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

JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

May 11, 2022 - 11:37am
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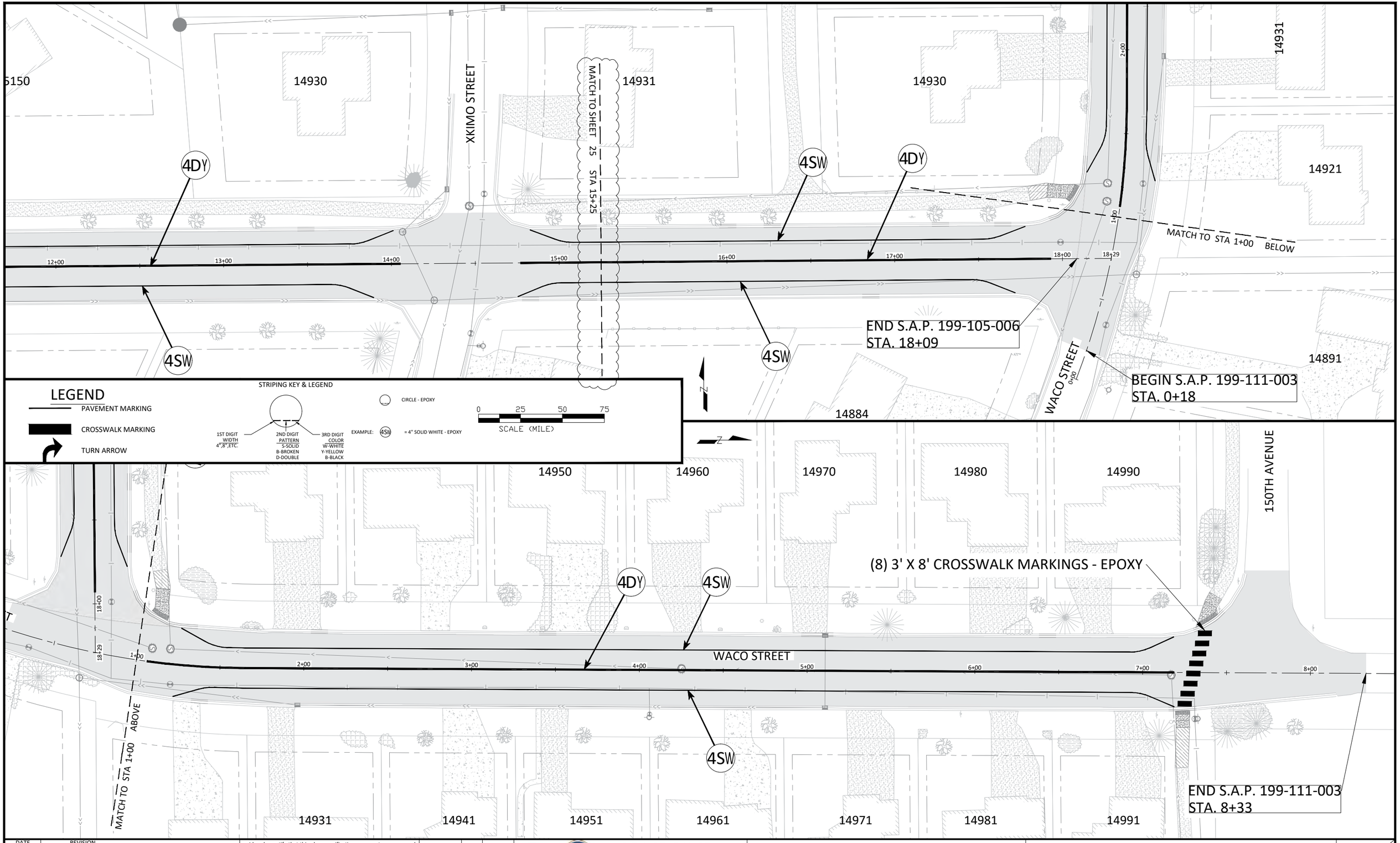
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

PAVEMENT MARKING
STA. 0+51 TO 15+25
S.A.P. 199-105-006

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 25 OF 26 SHEETS



DATE	REVISION
5/10/22	ADJUST MATCH LINE STATIONING

May 11, 2022 - 11:42am
E:\Engineering\AutoCad Dwgs\Projects N-Z\Sunwood Drive & Waco Street 22-01\Plan Drawings\22-01 Pavement Marking Plan.dwg

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JOE FERIANCEK
Date 3/11/22 Lic. No. 57095

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/10/22
CHECKED BY:	JJF	FILE: 22-01

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

PAVEMENT MARKING
STA. 15+25 TO 8+33
S.A.P. 199-105-006 & 199-111-003

SUNWOOD DRIVE & WACO STREET RECONSTRUCTION
CITY PROJECT NO. 22-01
CITY OF RAMSEY, MINNESOTA

SHEET 26 OF 26 SHEETS