

CITY OF RAMSEY

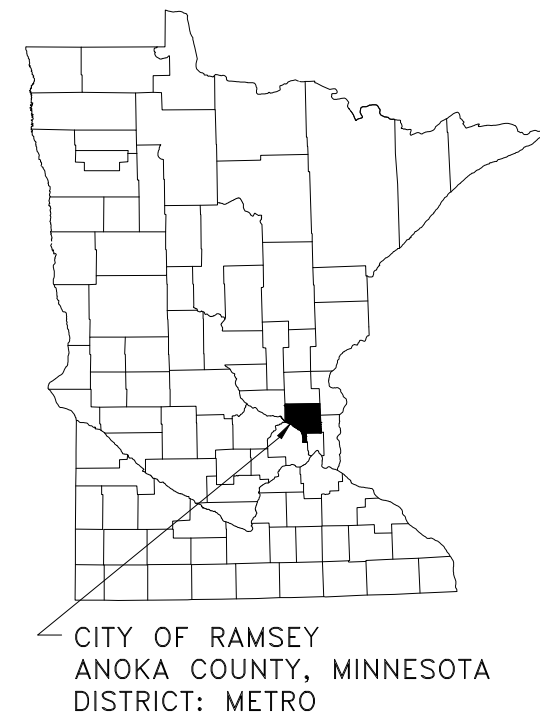
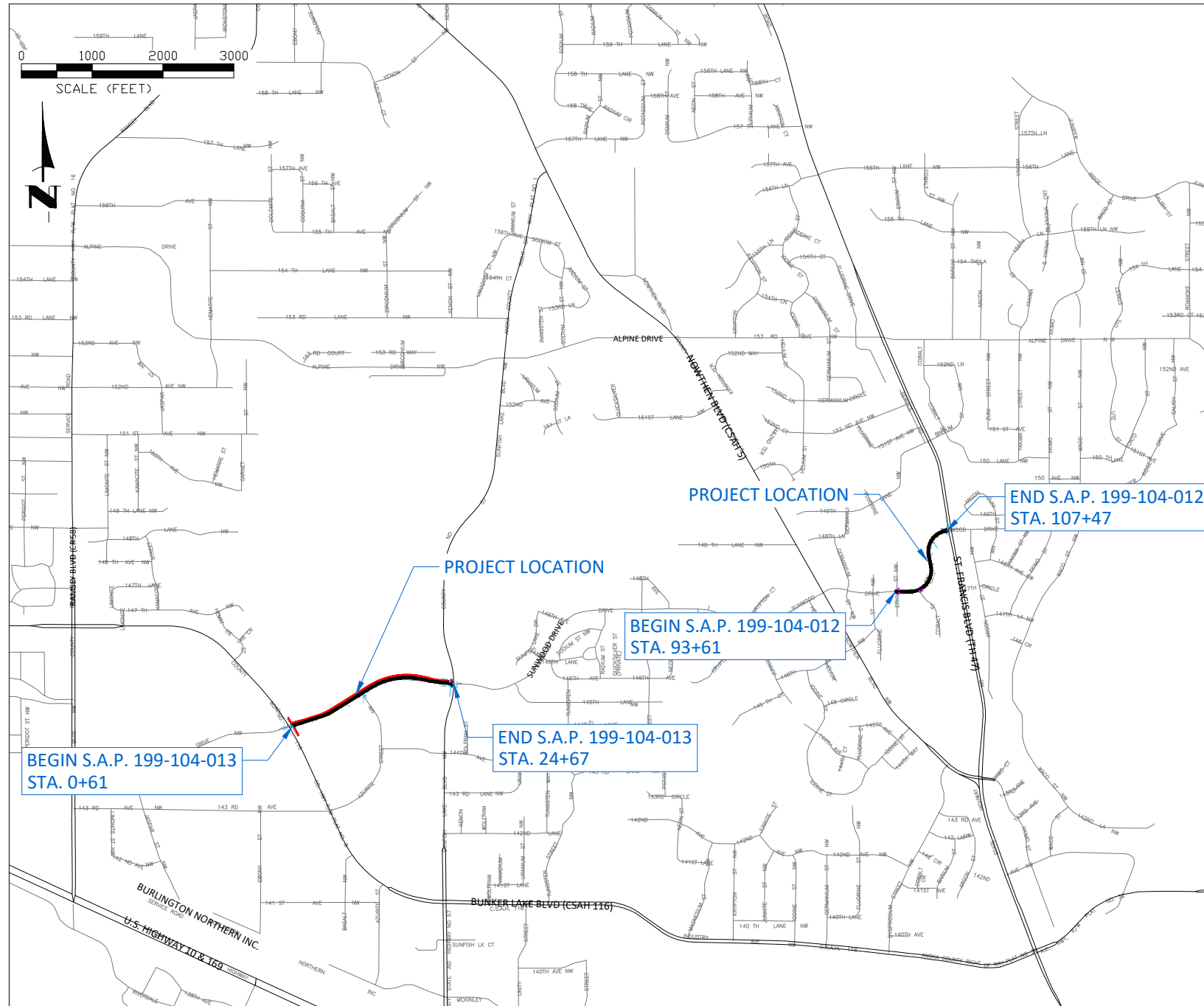
2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS, CITY IMPROVEMENT PROJECT NO. 21-05 STREET CONSTRUCTION PLANS FOR BITUMINOUS MILLING AND PAVING.

S.A.P. 199-104-012 & S.A.P. 199-104-013

S.A.P. 199-104-012 LOCATED ON SUNWOOD DRIVE BETWEEN ERKIUM STREET AND ST. FRANCIS BOULEVARD (TH 47)

S.A.P. 199-104-013 LOCATED ON SUNWOOD DRIVE BETWEEN BUNKER LAKE BOULEVARD (CSAH 116) AND SUNFISH LAKE BOULEVARD (CR 57)

FROM NW 1/4 OF THE SE 1/4 OF S27, T32, R25 TO NE 1/4 OF THE NW 1/4 OF S25, T32, R25



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



GOVERNING SPECIFICATIONS

THE 2018 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 17 SHEETS

SHEET NO.	DESCRIPTION
01	TITLE SHEET
02	STATEMENT OF ESTIMATED QUANTITIES
03	TYPICAL SECTION
04	CITY DETAILS
05 - 10	MINDOT PED RAMP DETAILS
11 - 13	BITUMINOUS MILL & OVERLAY - SUNWOOD DRIVE (CSAH 116 TO CR 57)
14 - 15	BITUMINOUS MILL & OVERLAY - SUNWOOD DRIVE (ERKIUM STREET TO TH 47)
16	PAVEMENT MARKING PLAN - SUNWOOD DRIVE (CSAH 116 TO CR 57)
17	PAVEMENT MARKING PLAN - SUNWOOD DRIVE (ERKIUM STREET TO TH 47)

Mar 11, 2021 - 2:47pm G:\Engineering\AutoCad Dwg\Projects N-Z\Overlays\21-05 2020 MSA Overlay Program\Plan Drawings\21-05 Title Sheet.dwg

PROJECT	STA. TO STA.	GROSS LENGTH	BRIDGE LENGTH	NET LENGTH	NET LENGTH (MILES)	ADT (2021)	ADT (2041)	DESIGN ESAL	R VALUE	TON DESIGN	DESIGN SPEED	DESIGN SPEED NOT MET	NUMBER OF LANES	WIDTH OF LANES	NUMBER OF SHOULDERS	WIDTH OF LANES	FUNCTIONAL CLASSIFICATION
S.A.P. 199-104-012 SUNWOOD DRIVE	93+61 TO 107+47	1386 FT	0 FT	1386 FT	0.26 MI	710	781	82000	60	9	30 MPH	N/A	2	12	2	8'	COLLECTOR
S.A.P. 199-104-013 SUNWOOD DRIVE	0+61 TO 24+67	2406 FT	0 FT	2406 FT	0.46 MI	1130	1243	131000	60	9	30 MPH	N/A	2	12	2	8'	COLLECTOR

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 199-104-012
SAP 199-104-013

DATE	REVISION
3/11/21	UPDATE NOTES & TYPICAL SECTION

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 57095 DATE 2/25/21
JOE FERIANCEK, P.E. LIC. NO.

APPROVED: *Bruce Woody* DATE 3/11/21
CITY ENGINEER, CITY OF RAMSEY

Julie Dresel For DATE 3/15/2021
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

Julie Dresel For DATE 3/15/2021
STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING

SHEET 01 OF 17SHEETS

21-05 2021 MSA PAVEMENT OVERLAY IMPROVEMENTS									
STATEMENT OF ESTIMATED QUANTITIES									
NOTES	ITEM NO.	MNDOT SPEC NO.	ITEM DESCRIPTION	UNIT	TOTAL	PARTICIPATING S.A.P. 199-104-012		PARTICIPATING S.A.P. 199-104-013	
						STREET	STORM	STREET	STORM
	1	2021.501	MOBILIZATION	LS	1	0.4		0.6	
1	2	2104.503	REMOVE CONCRETE CURB AND GUTTER	LF	299	149		150	
1	3	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	8			8	
1	4	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	199	147		52	
1	5	2104.504	REMOVE CONCRETE VALLEY GUTTER	SY	39	39			
1	6	2104.504	REMOVE CONCRETE WALK	SY	69	42		27	
1	7	2232.504	MILL BITUMINOUS SURFACE (2.0")	SY	15622	5762		9860	
2	8	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	1094	404		690	
3	9	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 2.0"	TON	1719	634		1085	
	10	2503.602	GROUT CATCH BASIN	EA	20		11		9
	11	2503.602	RESET CATCH BASIN	EA	5		1		4
	12	2504.602	ADJUST VALVE BOX	EA	13	3		10	
	13	2506.502	ADJUST FRAME AND RING CASTING	EA	17	6		11	
5	14	2521.504	6" CONCRETE WALK	SY	69	42		27	
5	15	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LF	299	149		150	
5	16	2531.504	7" CONCRETE VALLEY GUTTER	SY	39	39			
	17	2531.618	TRUNCATED DOMES	SF	128	72		56	
4	18	2563.601	TRAFFIC CONTROL	LS	1	0.4		0.6	
6	19	2574.507	TOPSOIL (LV)	CY	12	7		5	
	20	2575.504	SODDING TYPE LAWN	SY	77	45		32	
	21	2582.503	24" SOLID LINE PAINT (EPOXY)	LF	31	31			
	22	2582.503	4" BROKEN LINE PAINT (EPOXY)	LF	480			480	
	23	2582.503	4" DOUBLE SOLID LINE PAINT (EPOXY)	LF	1425	1425			
	24	2582.503	4" SOLID LINE PAINT (EPOXY)	LF	7249	2648		4601	
	25	2582.518	CROSSWALK PAINT (EPOXY)	SF	256	256			
	26	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	
4026 A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108 F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
7038 A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100 H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
8000 J	CHANNELIZERS (3 SHEETS)

PAY ITEM NOTES:

- REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
- ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 0.07 GAL/SY.
- ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 110 LB/SY-IN.
- 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.
- FINISH WITH CLEAR CURING COMPOUND.
- CV TO LV CONVERSION FACTOR = 1.3.

GENERAL NOTES:

- 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.
- 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.

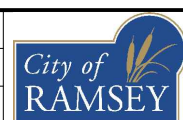
STRIPING TABULATIONS											
S.A.P. 199-104-013											
DESCRIPTION	DIRECTION	STATION		PAVEMENT MESSAGE (EPOXY)		4" SOLID LINE (EPOXY)	4" DOUBLE SOLID LINE (EPOXY)	4" BROKEN LINE (EPOXY)	24" SOLID LINE (EPOXY)		
		START	END	CROSS WALK	LEFT TURN	WHITE	YELLOW	YELLOW	YELLOW		
				SF	EA*	LF	LF	LF	LF		
8' SHOULDER	WB	0+65	24+29			2368					
8' SHOULDER	EB	0+73	10+87			1017					
CENTERLINE		0+76	24+36					480			
8' SHOULDER	EB	12+09	24+31			1216					
S.A.P. 199-104-013 TOTALS						4601		480			
S.A.P. 199-104-012											
DESCRIPTION	DIRECTION	STATION		PAVEMENT MESSAGE (EPOXY)		4" SOLID LINE (EPOXY)	4" DOUBLE SOLID LINE (EPOXY)	4" BROKEN LINE (EPOXY)	24" SOLID LINE (EPOXY)		
		START	END	CROSS WALK	LEFT TURN	WHITE	YELLOW	YELLOW	YELLOW		
				SF	EA*	LF	LF	LF	LF		
2'X8'		94+17	94+17	112							
8' SHOULDER	EB	94+31	96+89			262					
CENTERLINE		94+32	96+89				257				
8' SHOULDER	WB	94+32	107+36			1349					
8' SHOULDER	EB	97+51	105+16			769					
CENTERLINE		97+51	104+24				672				
CENTERLINE		104+24	105+98				175				
CENTERLINE		104+24	105+98				177				
CENTER MEDIAN HATCHING		104+53	105+59						31		
CENTERLINE		105+98	107+36				144				
FOG LINE	EB	105+98	107+36			130					
14' LEFT TURN LANE	EB	105+98	107+36			138					
TURN LANE SYMBOL	EB	106+21	106+21		1						
2'X8'		107+43	107+43	144							
S.A.P. 199-104-012 TOTAL						256	1	2648	1425	31	
PROJECT TOTALS						256	1	7249	1425	480	31
						* TURN LANE SYMBOL 15.00 SF					

DATE	REVISION
3/11/21	UPDATE NOTES

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
 JOE FERIANCEK
 Date: 2/25/21 Lic. No. 57095

DESIGNED BY:	JJF
DRAWN BY:	JJF
CHECKED BY:	LLL
DATE:	2/24/21
FILE:	21-05

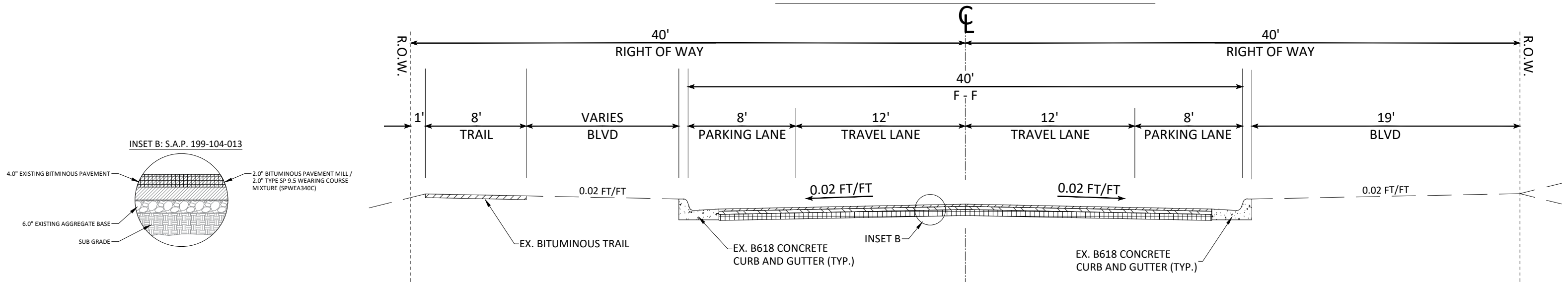


CITY OF RAMSEY
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
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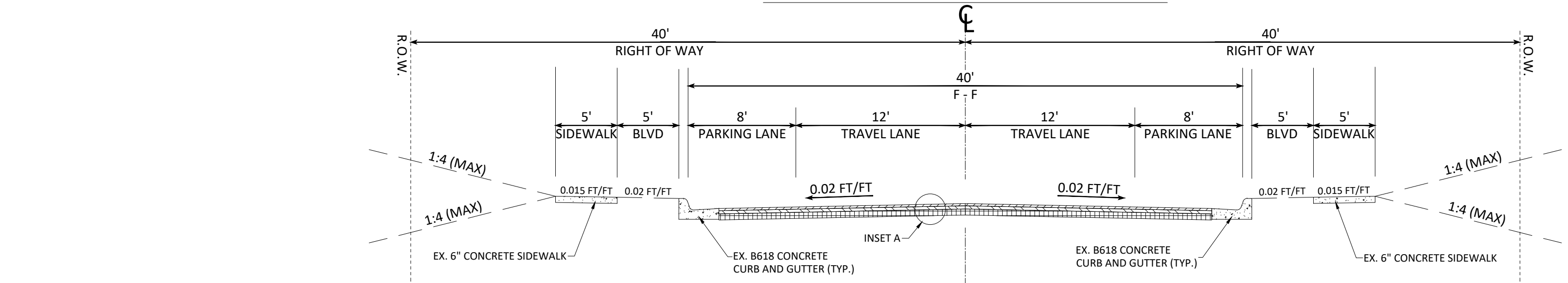
S.A.P. 199-104-012 & S.A.P. 199-104-013
 STATEMENT OF ESTIMATED QUANTITIES

2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
 CITY PROJECT NO. 21-05
 CITY OF RAMSEY, MINNESOTA

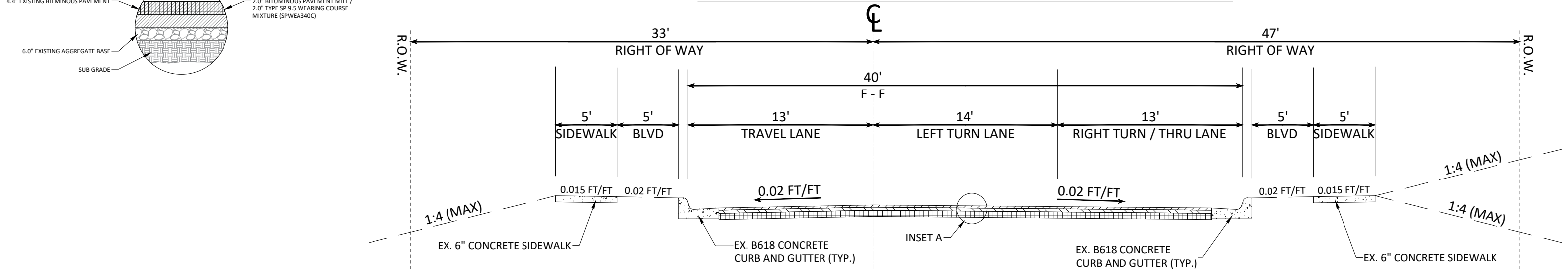
SUNWOOD DRIVE STA. 0+61 TO 24+67



SUNWOOD DRIVE STA. 93+61 TO 105+98



SUNWOOD DRIVE TURN LANE STA. 105+95 TO 107+47



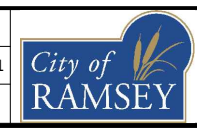
DATE	REVISION
3/11/21	ADD TYPICAL SECTION

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Joe Feriancek
 JOE FERIANCEK
 Date: 2/25/21 Lic. No. 57095

DESIGNED BY: JJF
 DRAWN BY: JJF
 CHECKED BY: LLL

DATE: 3/11/21
 FILE: 21-05



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S.A.P. 199-104-012 & S.A.P. 199-104-013
 TYPICAL SECTION

2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
 CITY PROJECT NO. 21-05
 CITY OF RAMSEY, MINNESOTA

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

APPROVED: 1 - 2016
 City of RAMSEY
 STANDARD DETAILS: SANITARY MANHOLE
 CITY PLATE No. SEW-1

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

NOTE: SUBMOUNTABLE CURB & GUTTER
 1. CATCH BASIN CASTING SHALL BE NEENAH R-3087 WITH GRATED BACK (BICYCLE 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.

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

APPROVED: 3 - 2017
 City of RAMSEY
 STANDARD DETAILS: RESET CATCH BASIN CASTING
 CITY PLATE No. STO-13

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

APPROVED: 3 - 2017
 City of RAMSEY
 STANDARD DETAILS: CROSS GUTTER
 CITY PLATE No. STR-2

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

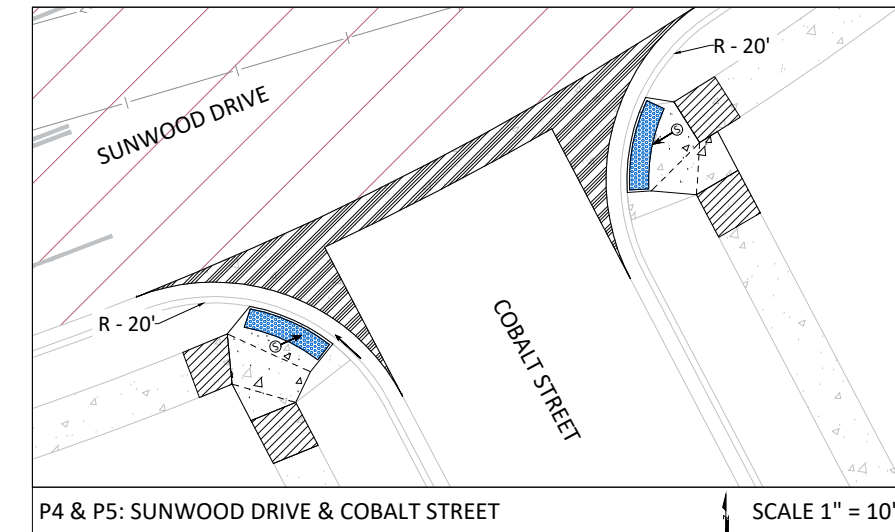
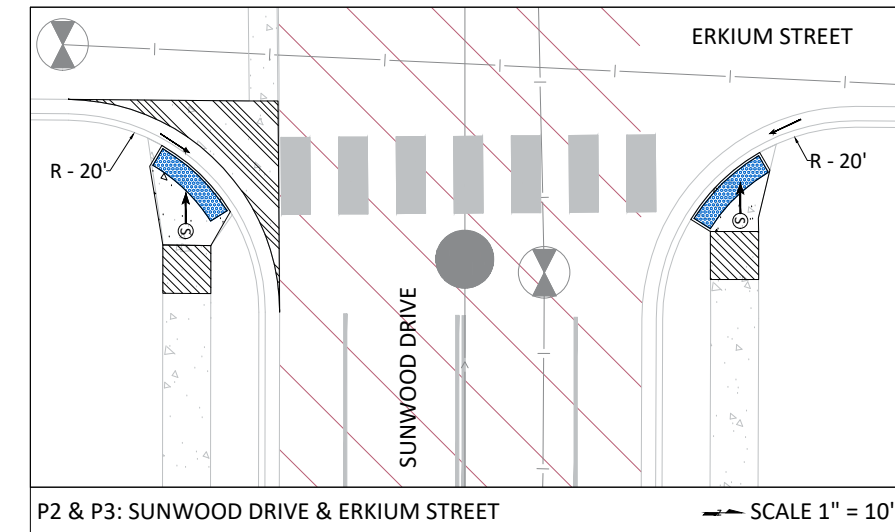
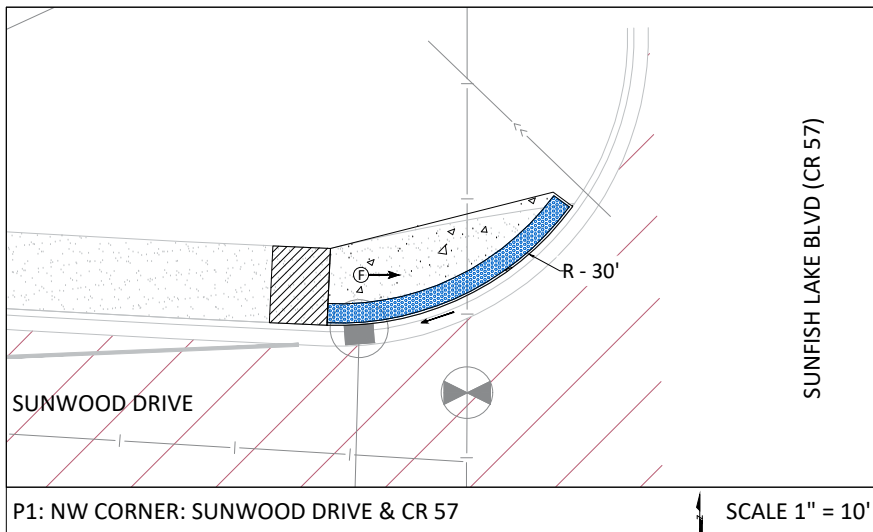
APPROVED: 6 - 2016
 City of RAMSEY
 STANDARD DETAILS: STREET PATCHING STANDARDS
 CITY PLATE No. STR-25

TABLE A
 MODIFIED CLASS 5
 SPECIFICATIONS

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

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

APPROVED: 2 - 2019
 City of RAMSEY
 STANDARD DETAILS: RESIDENTIAL DRIVEWAY - RURAL SECTION
 CITY PLATE No. STR-33



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%.
- (E) 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

DATE	REVISION

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

JOE FERIANCEK
 Date: 2/25/21 Lic. No. 57095

DESIGNED BY: JJF
 DRAWN BY: JJF
 CHECKED BY: LLL

DATE: 2/24/21
 FILE: 21-05

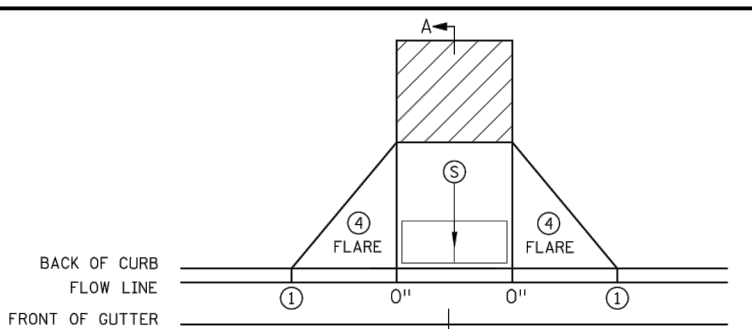
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 CITY DETAILS

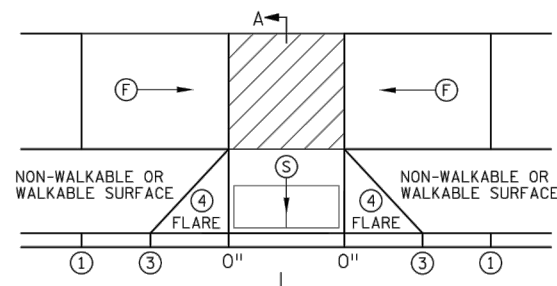
2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
 CITY PROJECT NO. 21-05
 CITY OF RAMSEY, MINNESOTA

PLOTTED/REVISED: 4-APR-2018

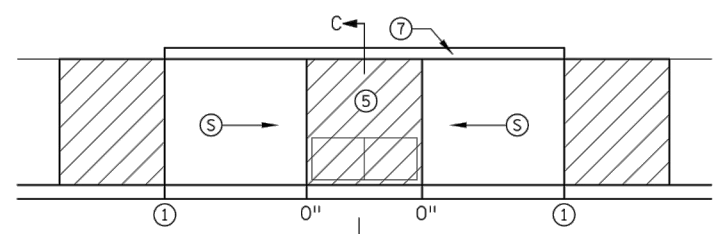
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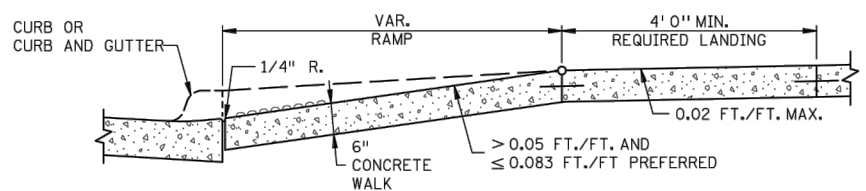
PERPENDICULAR



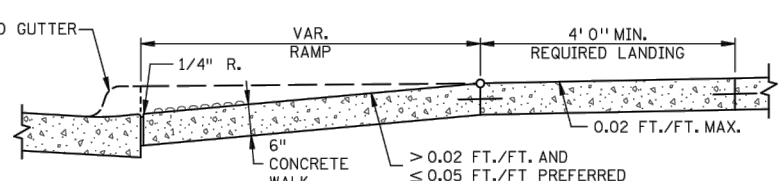
TIERED PERPENDICULAR



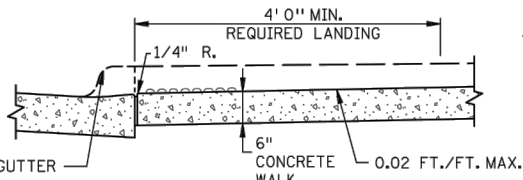
PARALLEL



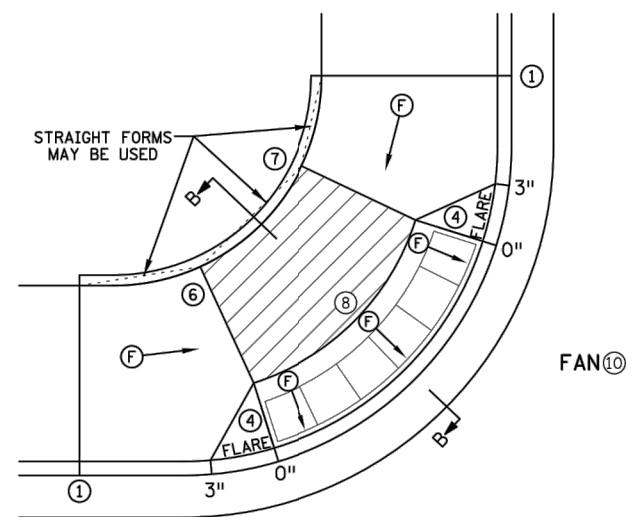
SECTION A-A
 PERPENDICULAR/TIERED/DIAGONAL



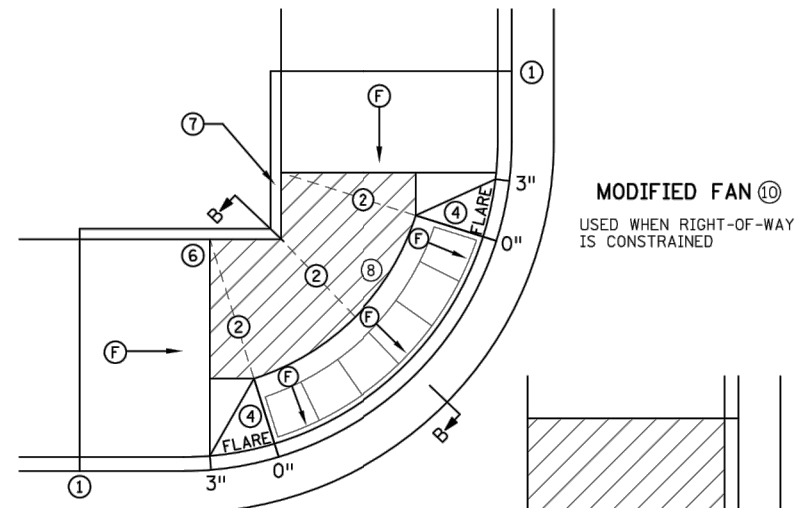
SECTION B-B
 FAN



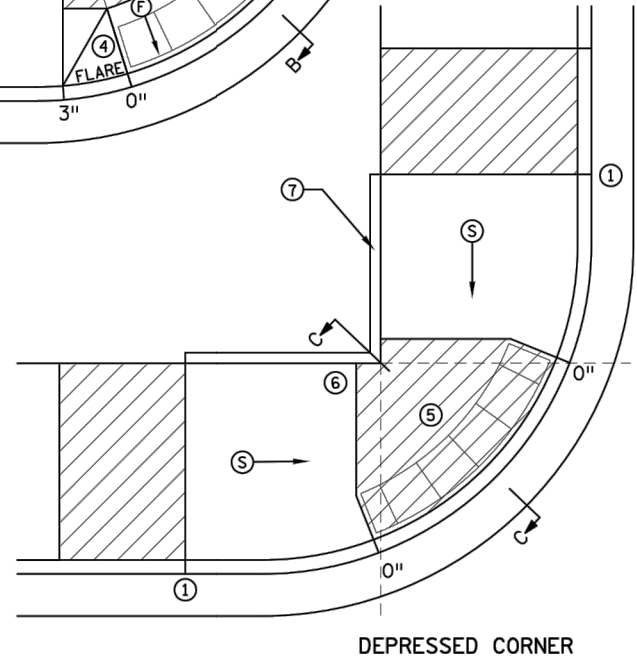
SECTION C-C
 PARALLEL/DEPRESSED CORNER



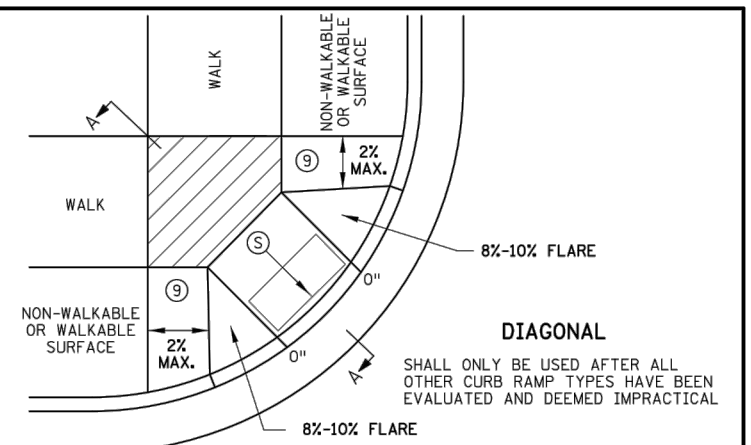
FAN 10



MODIFIED FAN 10
 USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

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 INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).
 - 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 ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF 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, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
 - 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 SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
 - 8 A 7' MIN TOP RADIUS GRADE BREAK 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.

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

REVISION:
 APPROVED: JANUARY 23, 2017
 OPERATIONS ENGINEER

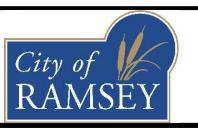
MINNESOTA DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.250 1 OF 6
 APPROVED: 1-23-2017
 REVISION:
 STATE PROJ. NO. (T.H.) SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS

DATE	REVISION

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

DESIGNED BY: JJF
 DRAWN BY: JJF
 CHECKED BY: LLL
 DATE: 2/24/21
 FILE: 21-05



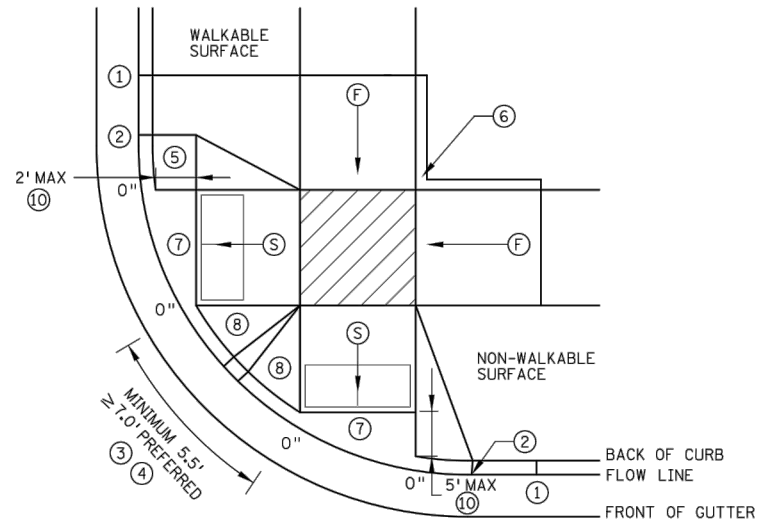
CITY OF RAMSEY
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

S.A.P. 199-104-012 & S.A.P. 199-104-013
 MNDOT PED RAMP DETAILS

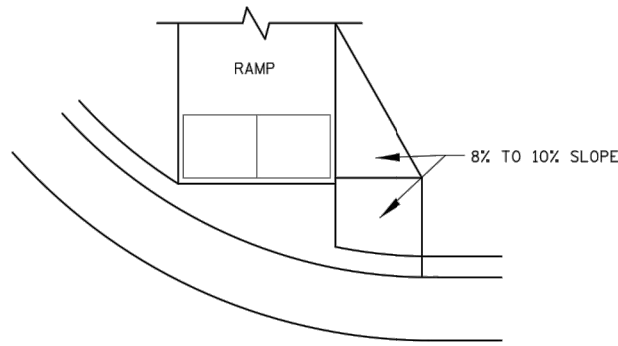
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 CITY PROJECT NO. 21-05
 CITY OF RAMSEY, MINNESOTA

PLOTTED/REVISED: 4-APR-2018

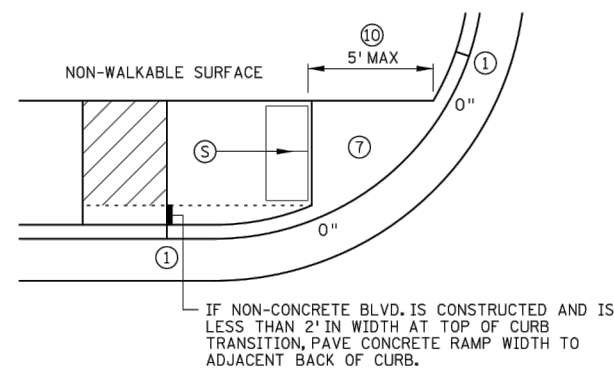
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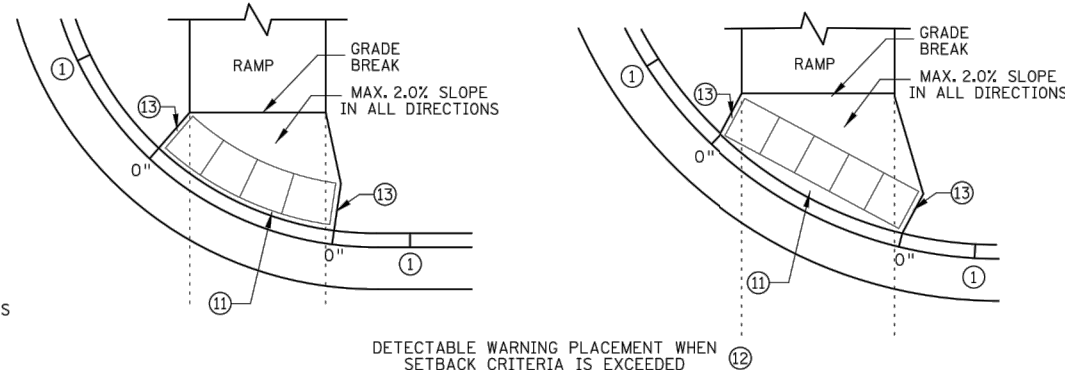
COMBINED DIRECTIONAL ⑨



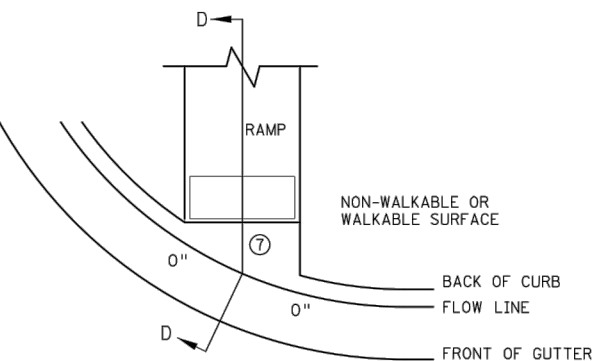
DIRECTIONAL RAMP WALKABLE FLARE



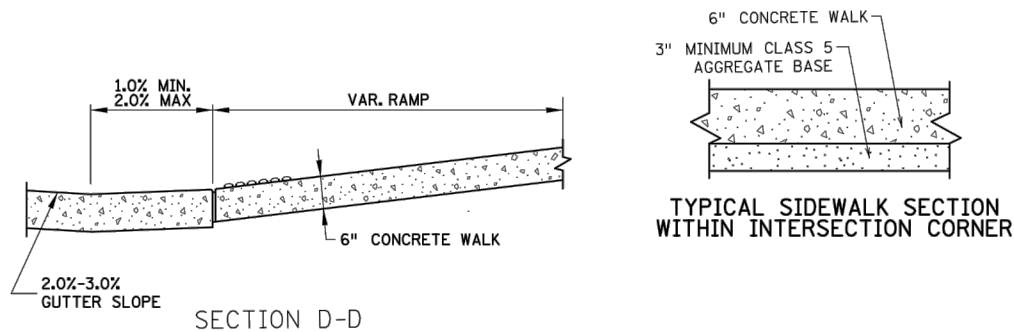
STANDARD ONE-WAY DIRECTIONAL ⑨



ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



CURB FOR DIRECTIONAL RAMPS ⑭



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

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 ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF 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 SHOULD 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.

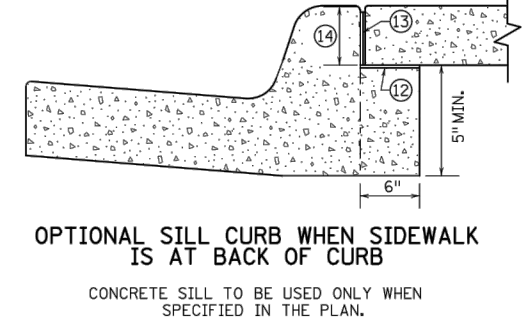
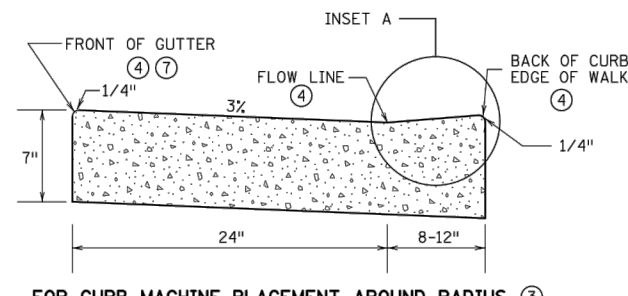
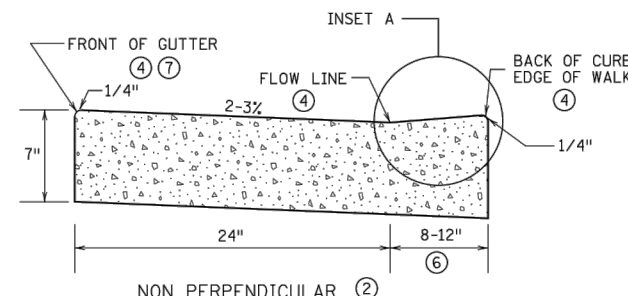
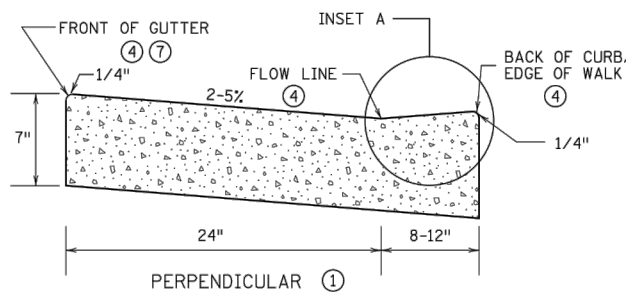
LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.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

REVISION:
APPROVED: JANUARY 23, 2017
[Signature]
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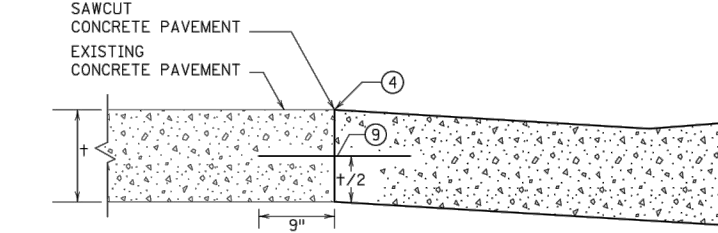
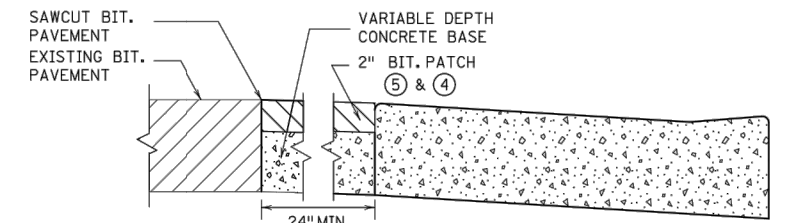
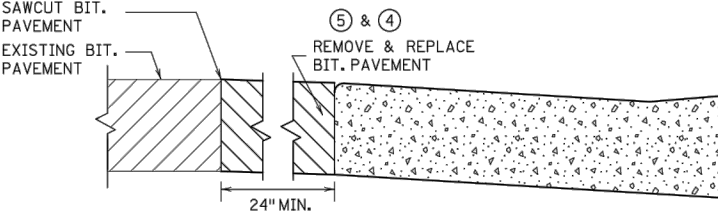
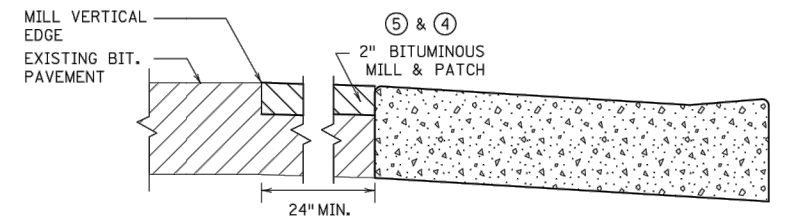
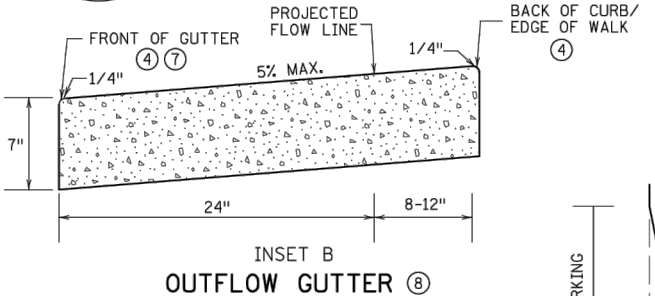
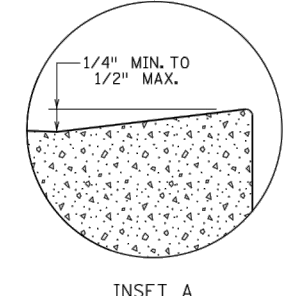
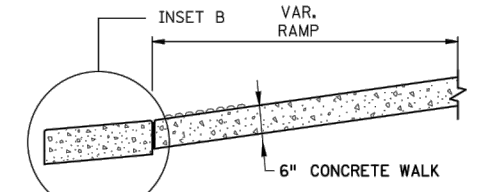
m MINNESOTA DEPARTMENT OF TRANSPORTATION	STANDARD PLAN 5-297.250	2 OF 6	PEDESTRIAN CURB RAMP DETAILS	
	APPROVED: 1-23-2017 [Signature] STATE DESIGN ENGINEER	REVISED:	STATE PROJ. NO.	(T.H.) SHEET NO. OF SHEETS

PLOTTED/REVISED: 4-APR-2018

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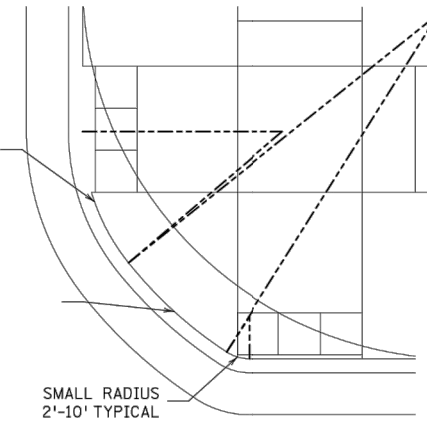
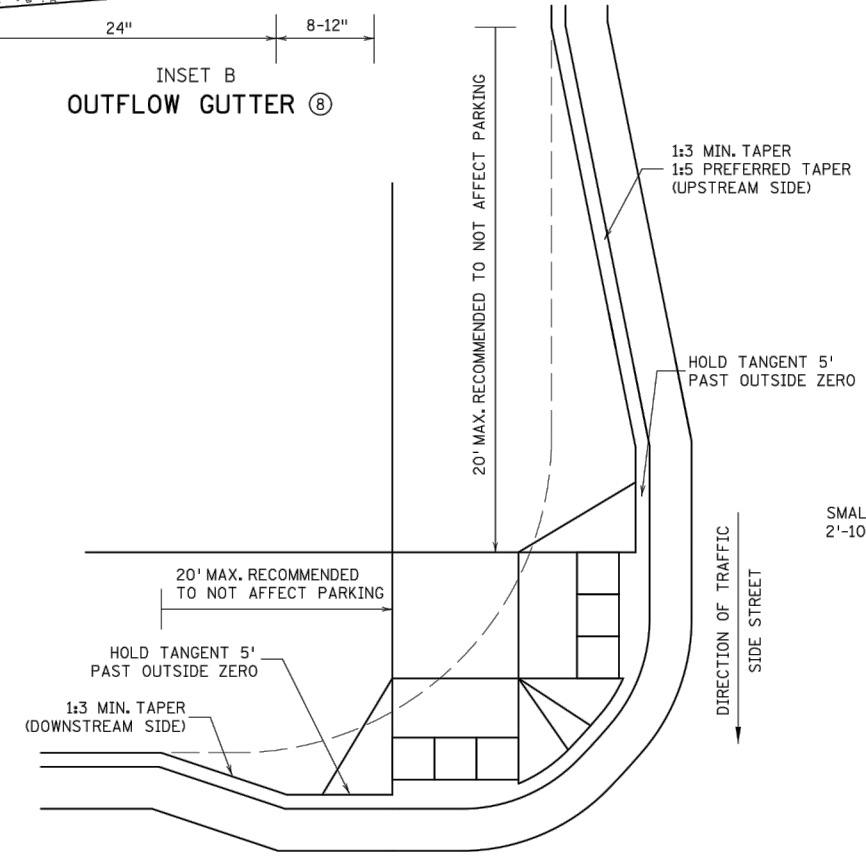


PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



ONLY ALLOWED PER ENGINEER'S APPROVAL

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



- NOTES:**
- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR. ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
 - ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
 - ② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
 - ③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
 - ④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
 - ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
 - ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
 - ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
 - ⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
 - ⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1" MINIMUM FROM ALL JOINTS.
 - ⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
 - ⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.
 - ⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.
 - ⑬ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.
 - ⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

REVISION:
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DIRECTION OF TRAFFIC
MAIN STREET



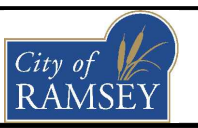
STANDARD PLAN 5-297.250 3 OF 6
APPROVED: 1-23-2017
REVISOR:
[Signature]
STATE DESIGN ENGINEER
STATE PROJ. NO.

PEDESTRIAN CURB RAMP DETAILS
(T.H.) SHEET NO. OF SHEETS

DATE	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
Date _____ Lic. No. _____

DESIGNED BY: JJF	DATE: 2/24/21
DRAWN BY: JJF	FILE: 21-05
CHECKED BY: LLL	



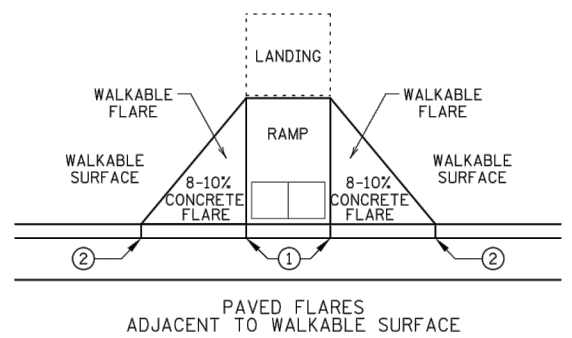
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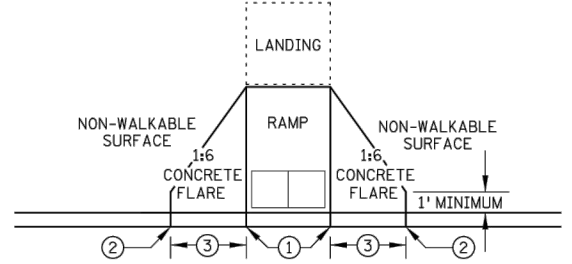
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PLOTTED/REVISED: 4-APR-2018

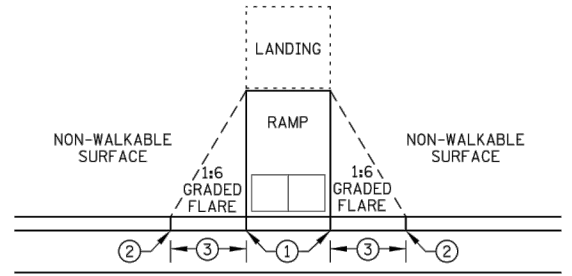
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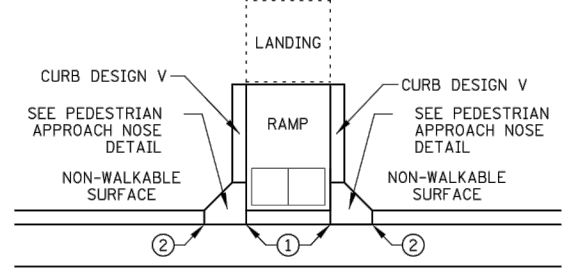
PAVED FLARES ADJACENT TO WALKABLE SURFACE



PAVED FLARES ADJACENT TO NON-WALKABLE SURFACE

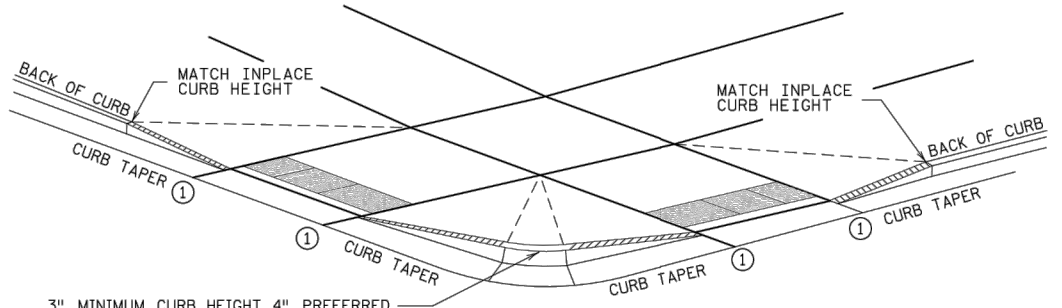


GRADED FLARES



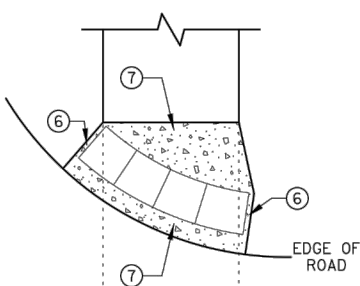
RETURNED CURB ⑤

TYPICAL SIDE TREATMENT OPTIONS ④ ⑪

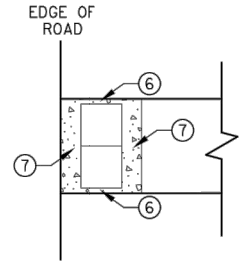


3" MINIMUM CURB HEIGHT, 4" PREFERRED (MEASURED AT FRONT FACE OF CURB)
 FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH ⑧ CURB AND GUTTER

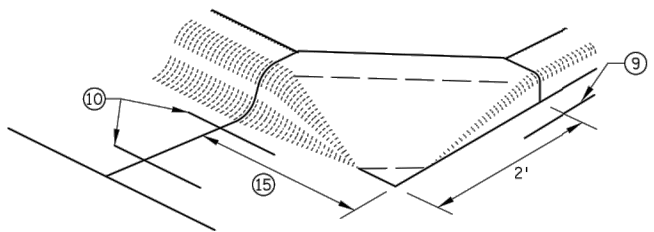


RADIAL DETECTABLE WARNING

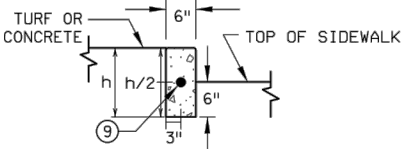


RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

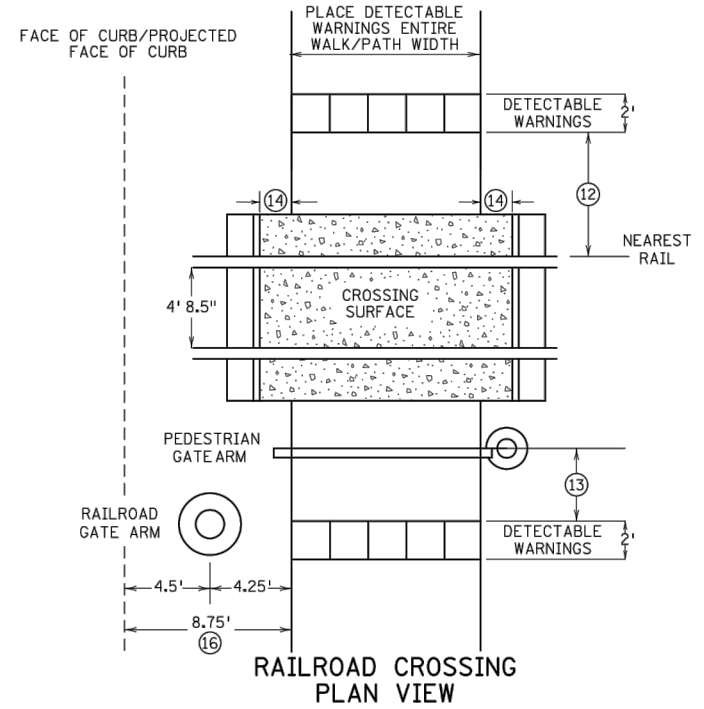


SECTION A-A



SECTION B-B

PEDESTRIAN APPROACH NOSE DETAIL (FOR RETURNED CURB SIDE TREATMENT)



RAILROAD CROSSING PLAN VIEW

- NOTES:
- 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.
 - ② FULL CURB HEIGHT.
 - ③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.
 - ④ 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.
 - ⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.
 - ⑥ 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.
 - ⑦ 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.
 - ⑧ 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.
 - ⑨ 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.
 - ⑩ 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.
 - ⑪ 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.
 - ⑫ 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.
 - ⑬ 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 ⑫.
 - ⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
 - ⑮ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
 - ⑯ 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.

REVISION:
APPROVED: JANUARY 23, 2017
<i>[Signature]</i> OPERATIONS ENGINEER

	STANDARD PLAN 5-297.250	4 OF 6
	APPROVED: 1-23-2017 REVISION:	
STATE PROJ. NO.	(T.H.)	SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS

DATE	REVISION

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

Date _____ Lic. No. _____

DESIGNED BY:	JJF
DRAWN BY:	JJF
CHECKED BY:	LLL
DATE:	2/24/21
FILE:	21-05

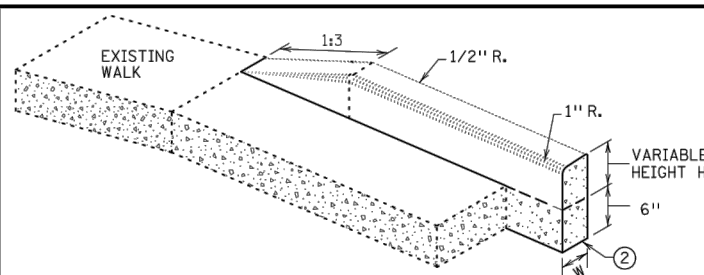
CITY OF RAMSEY
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

S.A.P. 199-104-012 & S.A.P. 199-104-013
 MNDOT PED RAMP DETAILS

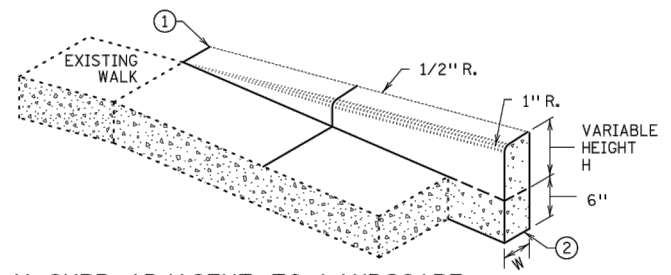
2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
 CITY PROJECT NO. 21-05
 CITY OF RAMSEY, MINNESOTA

PLOTTED/REVISED: 4-APR-2018

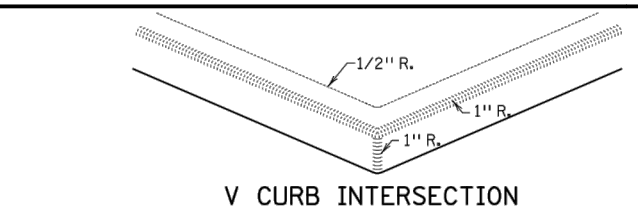
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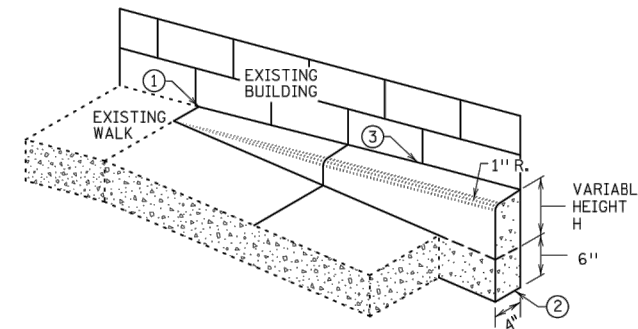
V CURB ADJACENT TO LANDSCAPE
 CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
 CURB OUTSIDE SIDEWALK LIMITS

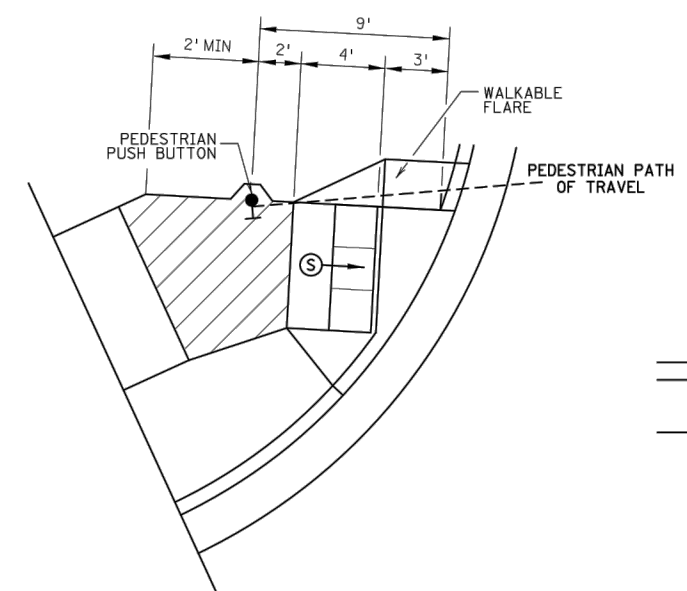


V CURB INTERSECTION



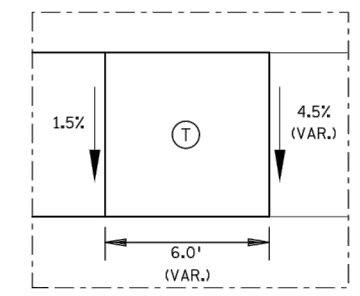
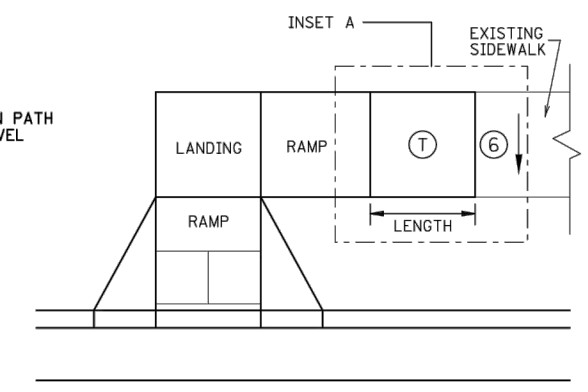
V CURB ADJACENT TO BUILDING
 OR BARRIER

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

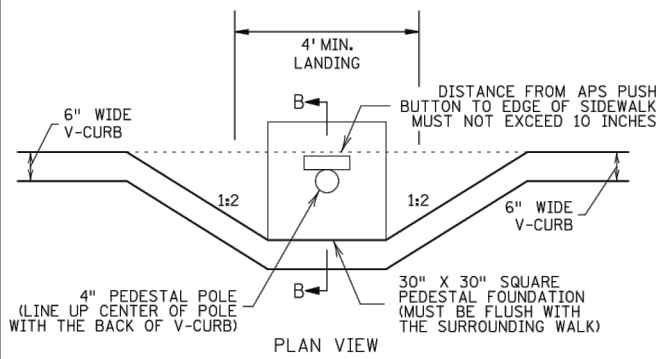


SEMI-DIRECTIONAL RAMP (3,4,9)

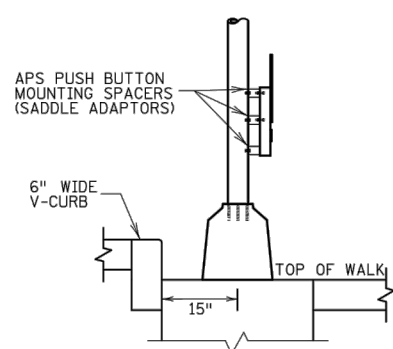
3' DOME SETBACK, 4' LONG RAMP AND
 PUSH BUTTON 9' FROM THE BACK OF CURB
 PRIMARILY USED FOR APS APPLICATIONS
 WHERE THE PAR DOES NOT CONTINUE PAST
 THE PUSH BUTTON (DEAD-END SIDEWALK)



TRANSITION PANEL (4,5)

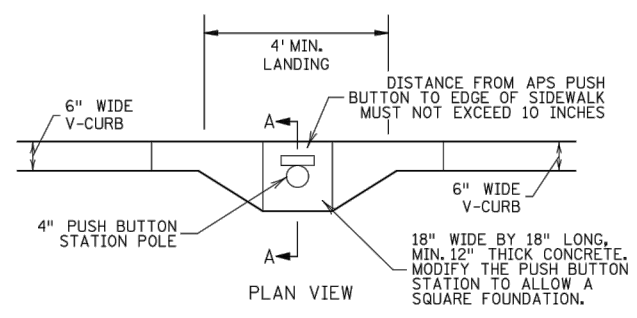


PLAN VIEW

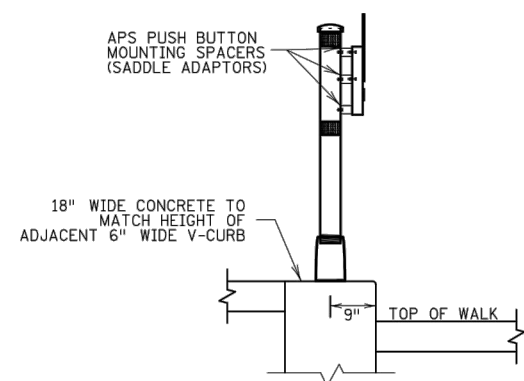


SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



PLAN VIEW



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

- A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.
- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.
- WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
- 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.
- TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
- 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: JANUARY 23, 2017
OPERATIONS ENGINEER



STANDARD PLAN 5-297.250 5 OF 6
 APPROVED: 1-23-2017
 REVISION:
 STATE PROJ. NO. (T.H.)

PEDESTRIAN CURB RAMP DETAILS

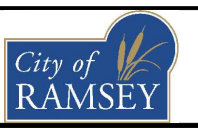
SHEET NO. OF SHEETS

DATE	REVISION

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Date _____ Lic. No. _____

DESIGNED BY: JJF	DATE: 2/24/21
DRAWN BY: JJF	FILE: 21-05
CHECKED BY: LLL	



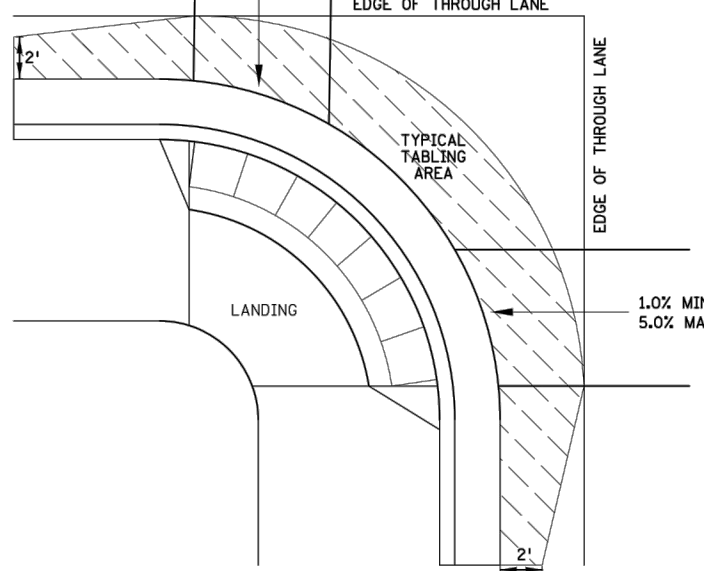
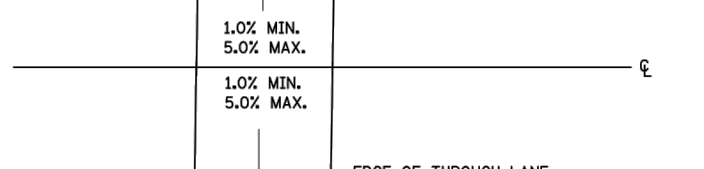
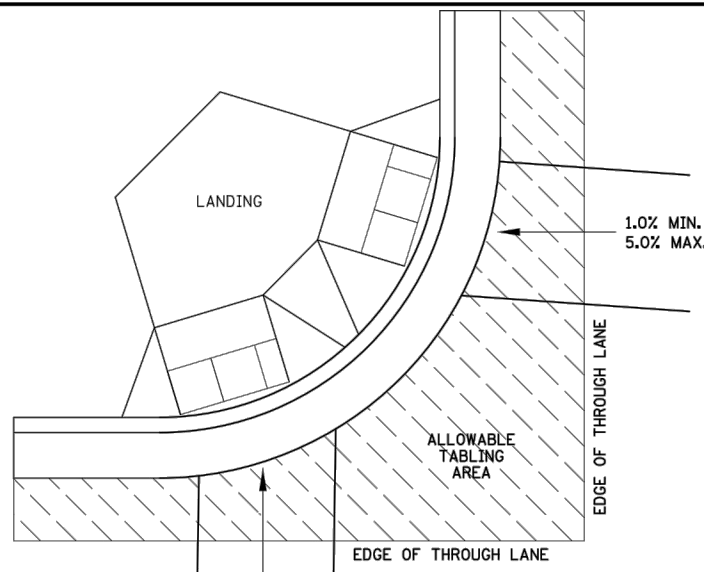
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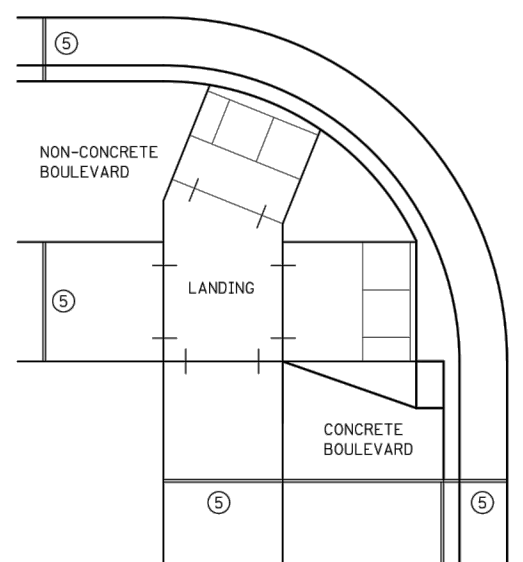
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 CITY PROJECT NO. 21-05
 CITY OF RAMSEY, MINNESOTA

PLOTTED/REVISED: 4-APR-2018

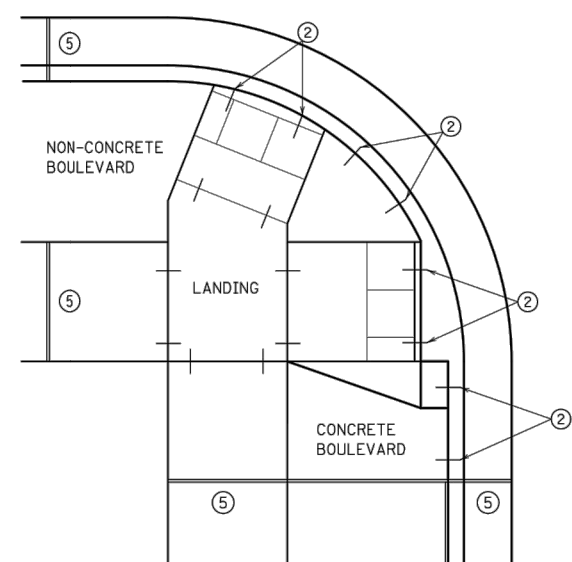
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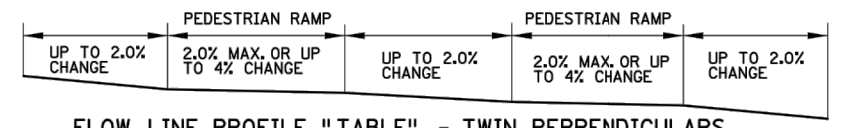
CURB LINE AND ROAD CROSSING ADJUSTMENTS



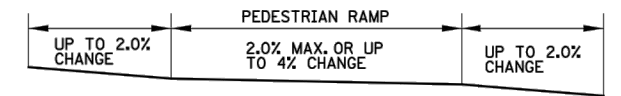
EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS



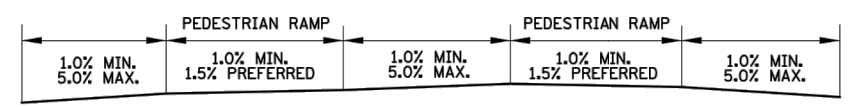
OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS



FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



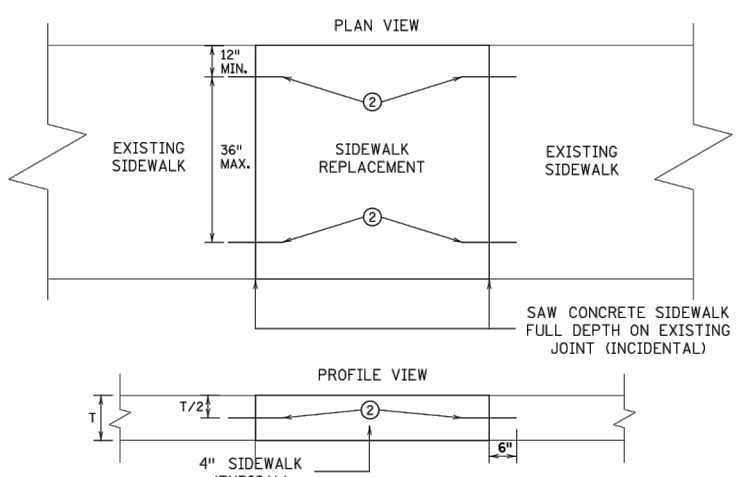
FLOW LINE PROFILE "TABLE" - FAN



FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

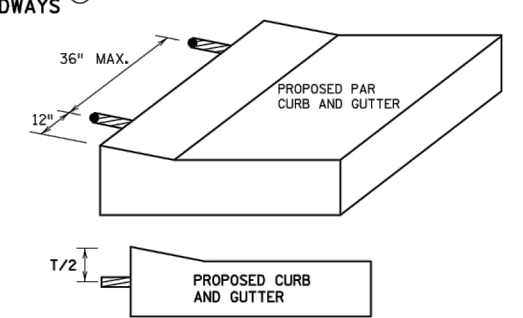


FLOW LINE PROFILE RAISE - FAN

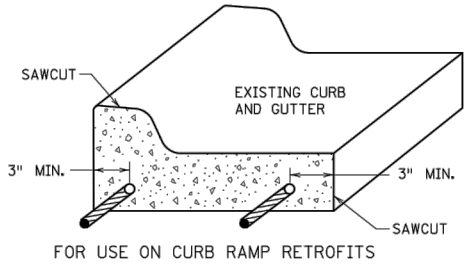


OPTIONAL SIDEWALK REINFORCEMENT

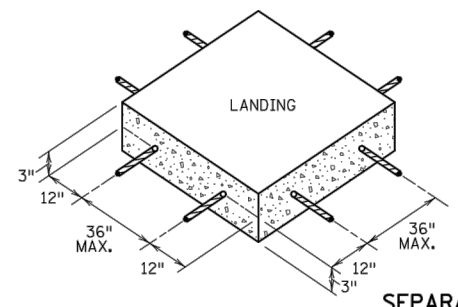
SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



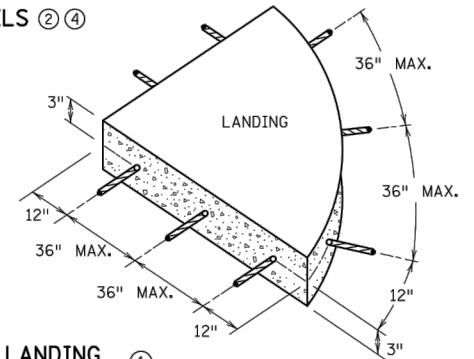
OPTIONAL CURB LINE REINFORCEMENT DETAILS 2 4



CURB AND GUTTER REINFORCEMENT 3



SEPARATE LANDING POUR REINFORCEMENT 1



"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 AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
- 3) DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.
- 4) THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
- 5) 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

REVISION:
APPROVED: JANUARY 23, 2017
<i>[Signature]</i> OPERATIONS ENGINEER

	STANDARD PLAN 5-297.250	6 OF 6	PEDESTRIAN CURB RAMP DETAILS	
		APPROVED: 1-23-2017 REVISED:		

DATE	REVISION

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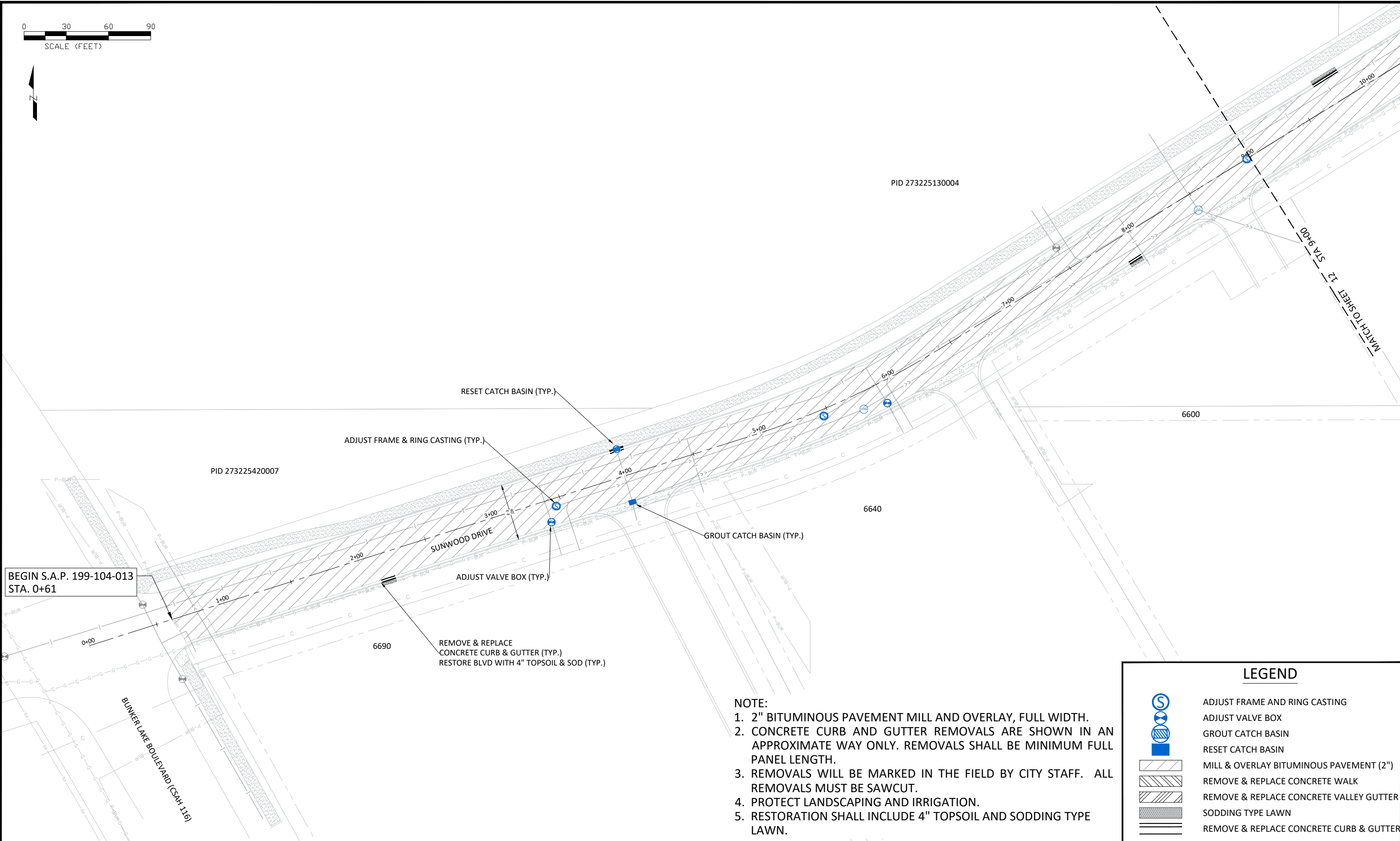
Date: _____ Lic. No. _____

DESIGNED BY: JJF	DATE: 2/24/21
DRAWN BY: JJF	FILE: 21-05
CHECKED BY: LLL	

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

S.A.P. 199-104-012 & S.A.P. 199-104-013
 MNDOT PED RAMP DETAILS

2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
 CITY PROJECT NO. 21-05
 CITY OF RAMSEY, MINNESOTA



BEGIN S.A.P. 199-104-013
STA. 0+61

PID 273225420007

PID 273225130004

6600

6640

6690

LEGEND

- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- GROUT CATCH BASIN
- RESET CATCH BASIN
- MILL & OVERLAY BITUMINOUS PAVEMENT (2")
- REMOVE & REPLACE CONCRETE WALK
- REMOVE & REPLACE CONCRETE VALLEY GUTTER
- SODDING TYPE LAWN
- REMOVE & REPLACE CONCRETE CURB & GUTTER

NOTE:

1. 2" BITUMINOUS PAVEMENT MILL AND OVERLAY, FULL WIDTH.
2. CONCRETE CURB AND GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS SHALL BE MINIMUM FULL PANEL LENGTH.
3. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
4. PROTECT LANDSCAPING AND IRRIGATION.
5. RESTORATION SHALL INCLUDE 4" TOPSOIL AND SODDING TYPE LAWN.

DATE	REVISION

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Joe Feriancek
JOE FERIANCEK
Date 2/25/21 Lic. No. 57095

DESIGNED BY:	JJF	DATE:	2/24/21
DRAWN BY:	JJF	FILE:	21-05
CHECKED BY:	LLL		

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RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

S.A.P. 199-104-013
BITUMINOUS MILL & OVERLAY
STA. 0+61 TO 9+00

2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
CITY PROJECT NO. 21-05
CITY OF RAMSEY, MINNESOTA



PID 273225140003

14730

SUNWOOD DRIVE

MATCH TO SHEET 13 STA 17+50

ADJUST FRAME & RING CASTING (TYP.)
ADJUST VALVE BOX (TYP.)

REMOVE & REPLACE
CONCRETE CURB & GUTTER (TYP.)
RESTORE BLVD WITH 4" TOPSOIL & SOD (TYP.)










GROUT CATCH BASIN (TYP.)

RESET CATCH BASIN (TYP.)

PID 273225140005

MATCH TO SHEET 11 STA 9+00

LEGEND

-  ADJUST FRAME AND RING CASTING
-  ADJUST VALVE BOX
-  GROUT CATCH BASIN
-  RESET CATCH BASIN
-  MILL & OVERLAY BITUMINOUS PAVEMENT (2")
-  REMOVE & REPLACE CONCRETE WALK
-  REMOVE & REPLACE CONCRETE VALLEY GUTTER
-  SODDING TYPE LAWN
-  REMOVE & REPLACE CONCRETE CURB & GUTTER

NOTE:

1. 2" BITUMINOUS PAVEMENT MILL AND OVERLAY, FULL WIDTH.
2. CONCRETE CURB AND GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS SHALL BE MINIMUM FULL PANEL LENGTH.
3. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
4. PROTECT LANDSCAPING AND IRRIGATION.
5. RESTORATION SHALL INCLUDE 4" TOPSOIL AND SODDING TYPE LAWN.

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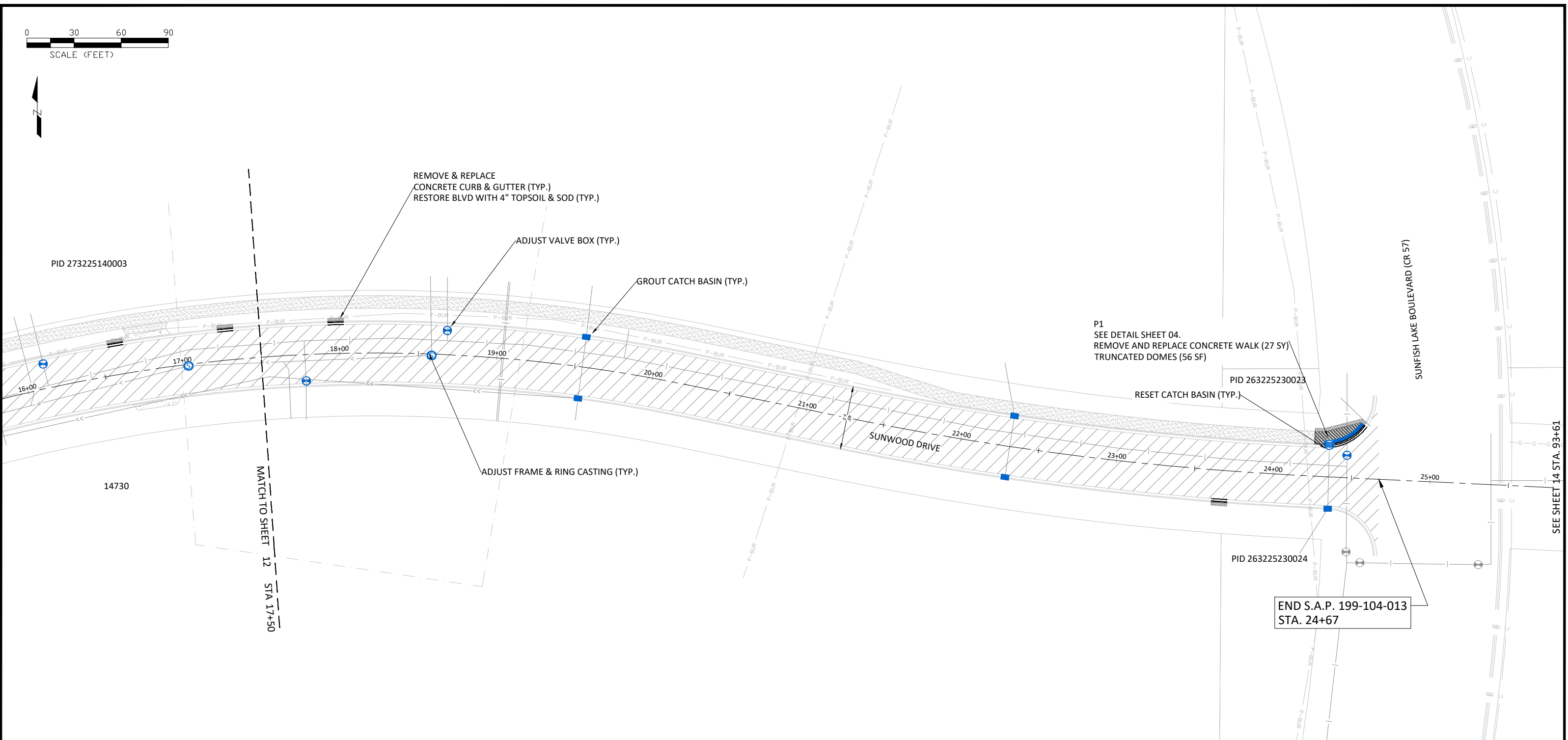
Joe Feriancek
JOE FERIANCEK
Date 2/25/21 Lic. No. 57095

DESIGNED BY:	JJF	DATE:	2/24/21
DRAWN BY:	JJF	FILE:	21-05
CHECKED BY:	LLL		

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(763) 427-1410 FAX (763) 433-9898

S.A.P. 199-104-013
BITUMINOUS MILL & OVERLAY
STA. 9+00 TO 17+50

2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
CITY PROJECT NO. 21-05
CITY OF RAMSEY, MINNESOTA



P1
SEE DETAIL SHEET 04.
REMOVE AND REPLACE CONCRETE WALK (27 SY)
TRUNCATED DOMES (56 SF)

PID 263225230023

RESET CATCH BASIN (TYP.)

PID 263225230024

END S.A.P. 199-104-013
STA. 24+67

MATCH TO SHEET 12
STA 17+50

SEE SHEET 14 STA. 93+61

LEGEND

- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- GROUT CATCH BASIN
- RESET CATCH BASIN
- MILL & OVERLAY BITUMINOUS PAVEMENT (2")
- REMOVE & REPLACE CONCRETE WALK
- REMOVE & REPLACE CONCRETE VALLEY GUTTER
- SODDING TYPE LAWN
- REMOVE & REPLACE CONCRETE CURB & GUTTER

- NOTE:**
1. 2" BITUMINOUS PAVEMENT MILL AND OVERLAY, FULL WIDTH.
 2. CONCRETE CURB AND GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS SHALL BE MINIMUM FULL PANEL LENGTH.
 3. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
 4. PROTECT LANDSCAPING AND IRRIGATION.
 5. RESTORATION SHALL INCLUDE 4" TOPSOIL AND SODDING TYPE LAWN.

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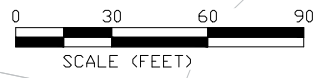
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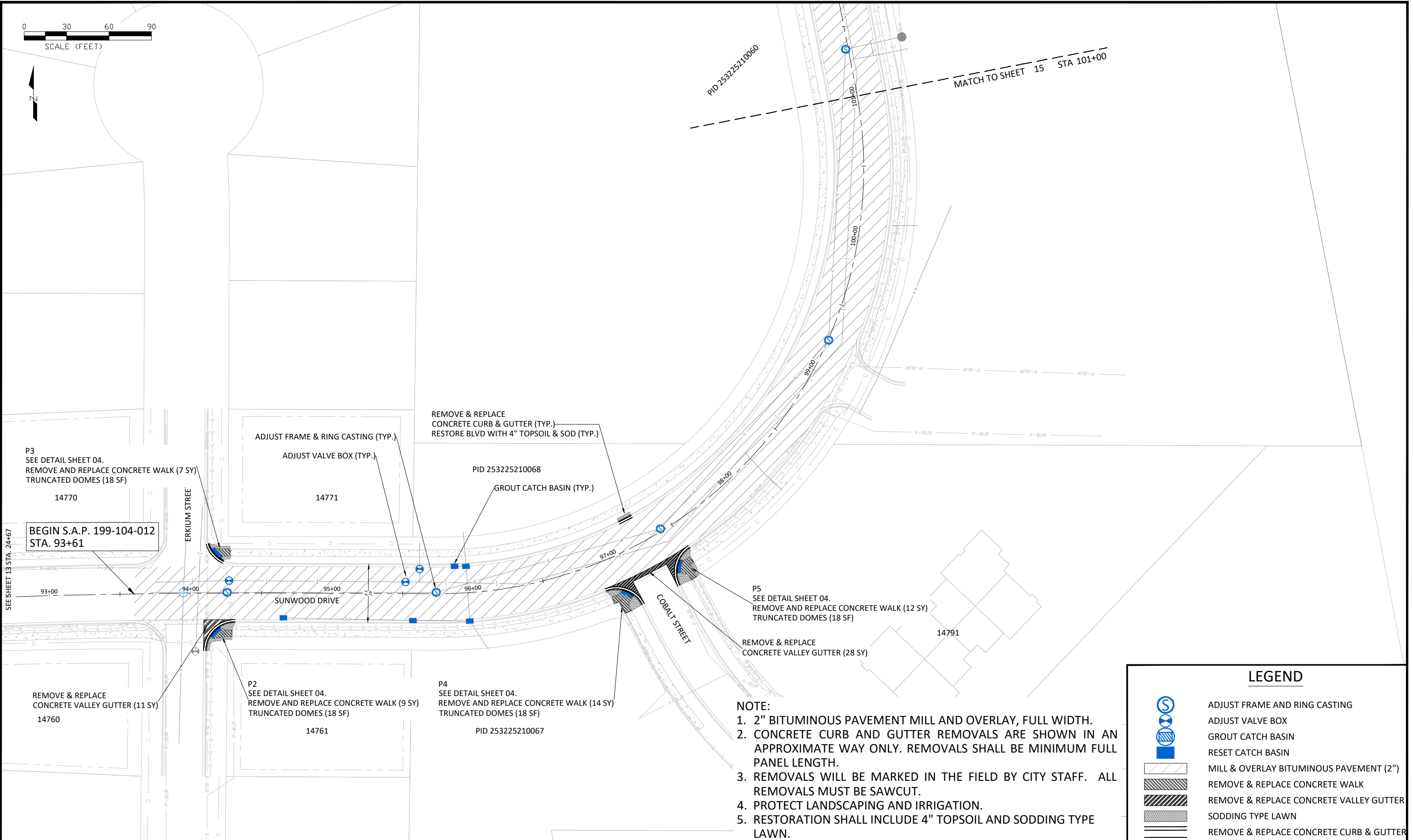
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2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
CITY PROJECT NO. 21-05
CITY OF RAMSEY, MINNESOTA



PID 253225210060
 MATCH TO SHEET 15 STA 101+00



P3
 SEE DETAIL SHEET 04.
 REMOVE AND REPLACE CONCRETE WALK (7 SY)
 TRUNCATED DOMES (18 SF)

ADJUST FRAME & RING CASTING (TYP.)
 ADJUST VALVE BOX (TYP.)

REMOVE & REPLACE
 CONCRETE CURB & GUTTER (TYP.)
 RESTORE BLVD WITH 4" TOPSOIL & SOD (TYP.)

PID 253225210068
 GROUT CATCH BASIN (TYP.)

P5
 SEE DETAIL SHEET 04.
 REMOVE AND REPLACE CONCRETE WALK (12 SY)
 TRUNCATED DOMES (18 SF)

REMOVE & REPLACE
 CONCRETE VALLEY GUTTER (28 SY)

BEGIN S.A.P. 199-104-012
 STA. 93+61

REMOVE & REPLACE
 CONCRETE VALLEY GUTTER (11 SY)

P2
 SEE DETAIL SHEET 04.
 REMOVE AND REPLACE CONCRETE WALK (9 SY)
 TRUNCATED DOMES (18 SF)

P4
 SEE DETAIL SHEET 04.
 REMOVE AND REPLACE CONCRETE WALK (14 SY)
 TRUNCATED DOMES (18 SF)

NOTE:
 1. 2" BITUMINOUS PAVEMENT MILL AND OVERLAY, FULL WIDTH.
 2. CONCRETE CURB AND GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS SHALL BE MINIMUM FULL PANEL LENGTH.
 3. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
 4. PROTECT LANDSCAPING AND IRRIGATION.
 5. RESTORATION SHALL INCLUDE 4" TOPSOIL AND SODDING TYPE LAWN.

LEGEND	
	ADJUST FRAME AND RING CASTING
	ADJUST VALVE BOX
	GROUT CATCH BASIN
	RESET CATCH BASIN
	MILL & OVERLAY BITUMINOUS PAVEMENT (2")
	REMOVE & REPLACE CONCRETE WALK
	REMOVE & REPLACE CONCRETE VALLEY GUTTER
	SODDING TYPE LAWN
	REMOVE & REPLACE CONCRETE CURB & GUTTER

DATE	REVISION

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

Joe Feriancek
 JOE FERIANCEK
 Date 2/25/21 Lic. No. 57095

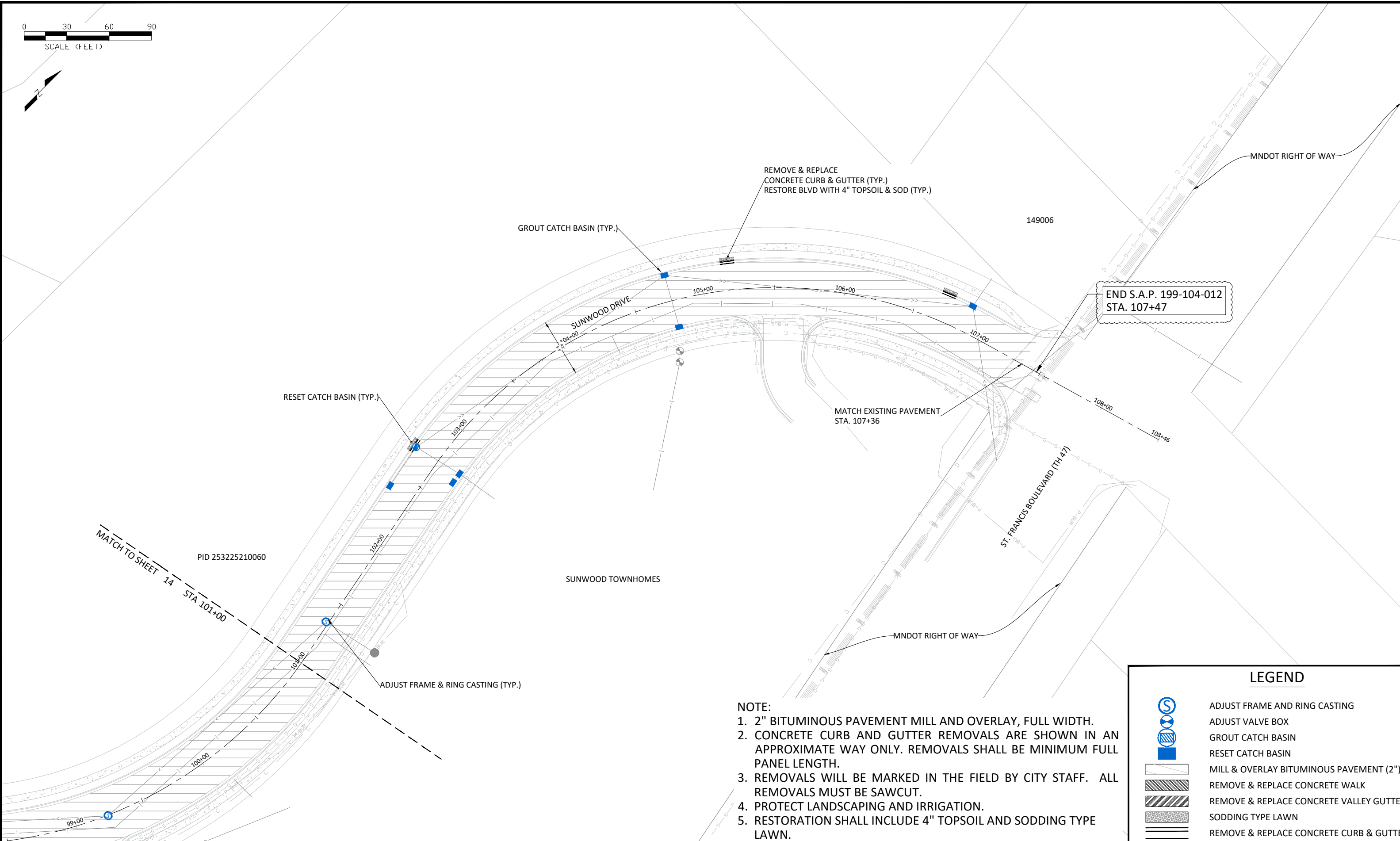
DESIGNED BY: JJF
 DRAWN BY: JJF
 CHECKED BY: LLL

DATE: 2/24/21
 FILE: 21-05

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

S.A.P. 199-104-012
 BITUMINOUS MILL & OVERLAY
 STA. 93+61 TO 101+00

2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
 CITY PROJECT NO. 21-05
 CITY OF RAMSEY, MINNESOTA



END S.A.P. 199-104-012
STA. 107+47

MATCH TO SHEET 14
STA 101+00
PID 253225210060

- NOTE:**
1. 2" BITUMINOUS PAVEMENT MILL AND OVERLAY, FULL WIDTH.
 2. CONCRETE CURB AND GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS SHALL BE MINIMUM FULL PANEL LENGTH.
 3. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
 4. PROTECT LANDSCAPING AND IRRIGATION.
 5. RESTORATION SHALL INCLUDE 4" TOPSOIL AND SODDING TYPE LAWN.

LEGEND

- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- GROUT CATCH BASIN
- RESET CATCH BASIN
- MILL & OVERLAY BITUMINOUS PAVEMENT (2")
- REMOVE & REPLACE CONCRETE WALK
- REMOVE & REPLACE CONCRETE VALLEY GUTTER
- SODDING TYPE LAWN
- REMOVE & REPLACE CONCRETE CURB & GUTTER

DATE	REVISION
3/11/21	UPDATE PROJECT END STATION.

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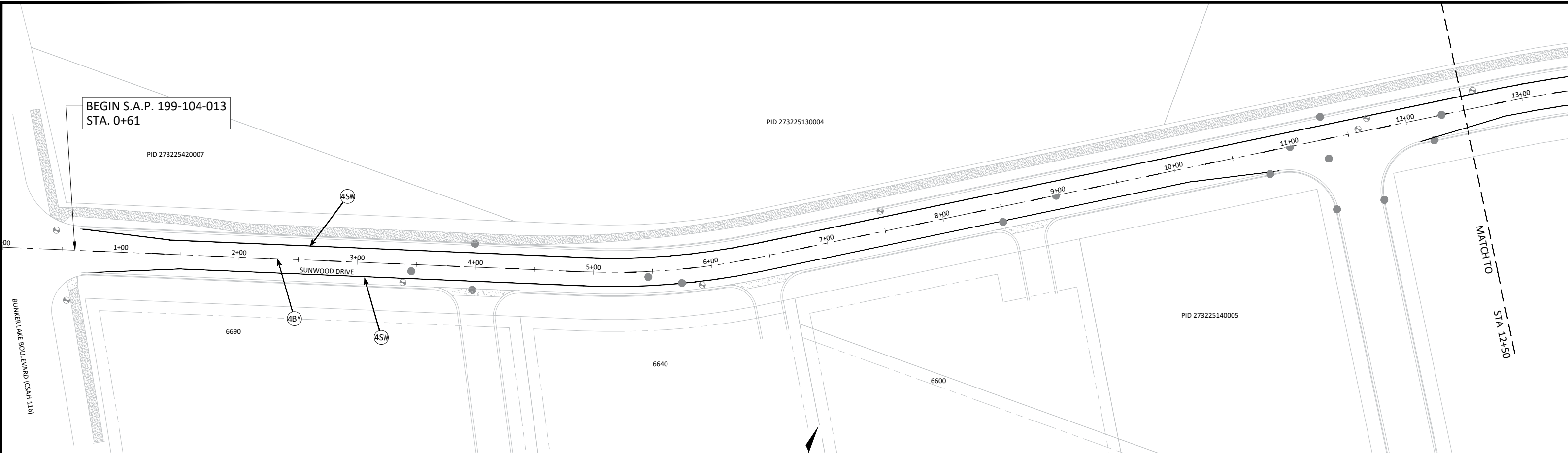
Joe Feriancek
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Date 2/25/21 Lic. No. 57095

DESIGNED BY:	JJF	DATE:	2/24/21
DRAWN BY:	JJF	FILE:	21-05
CHECKED BY:	LLL		

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RAMSEY, MN 55303
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S.A.P. 199-104-012
BITUMINOUS MILL & OVERLAY
STA. 101+00 TO 107+47

2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
CITY PROJECT NO. 21-05
CITY OF RAMSEY, MINNESOTA



LEGEND

PAVEMENT MARKING

CROSSWALK MARKING

TURN ARROW

STRIPING KEY & LEGEND

CIRCLE - EPOXY

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

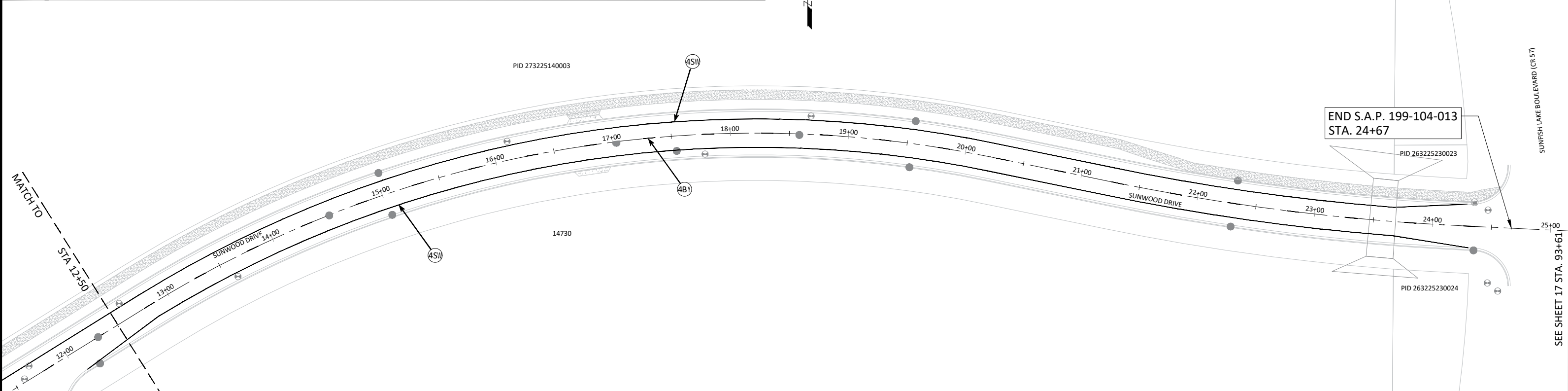
2ND DIGIT PATTERN S-SOLID B-BROKEN D-DOUBLE

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

EXAMPLE: (4SW) = 4" SOLID WHITE - EPOXY

SCALE (FEET)

0 40 80 120



DATE	REVISION

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Joe Feriancek

JOE FERIANCEK
Date 2/25/21 Lic. No. 57095

DESIGNED BY: JJF

DRAWN BY: JJF DATE: 2/24/21

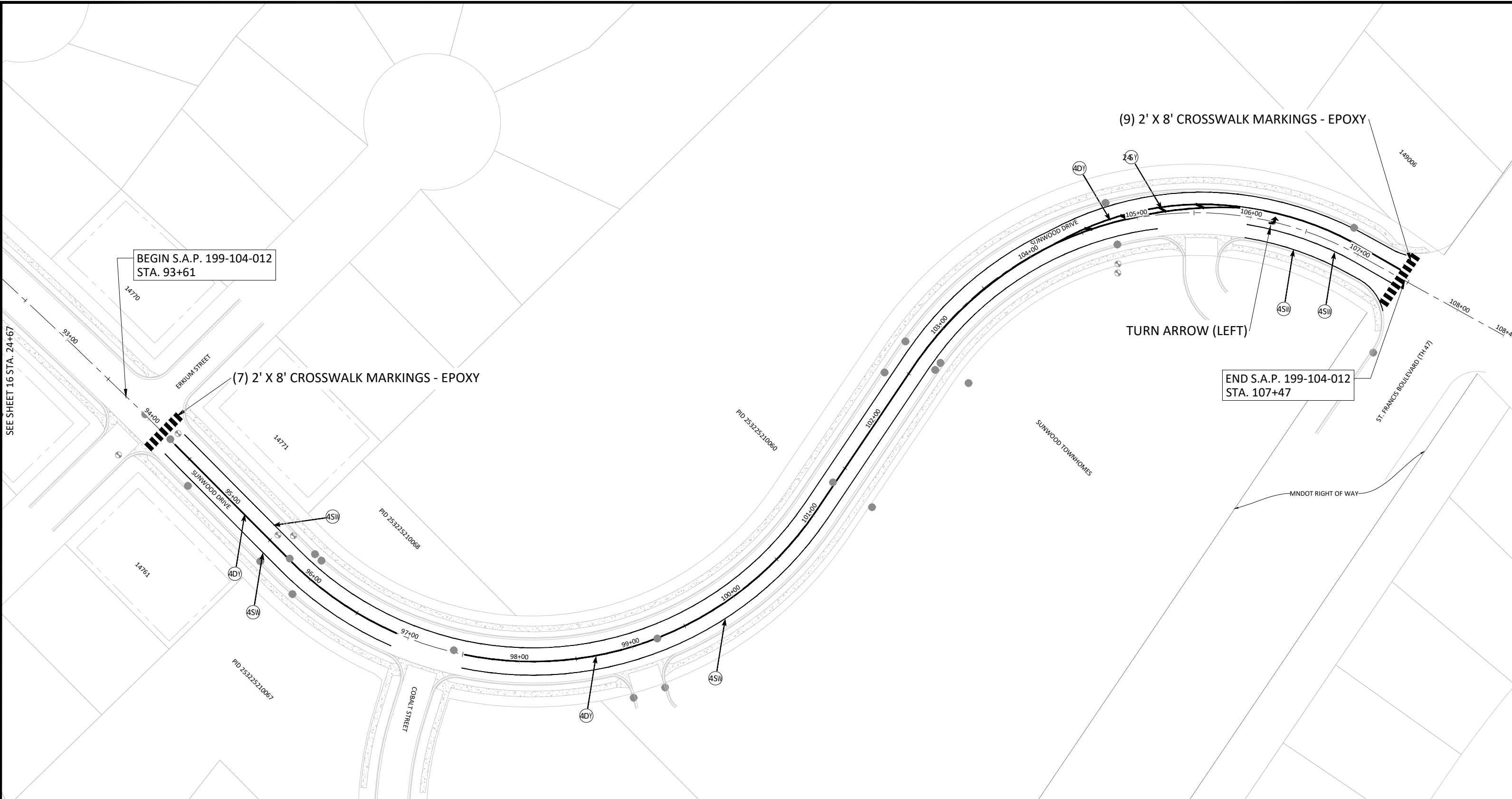
CHECKED BY: LLL FILE: 21-05

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

S.A.P. 199-104-013
PAVEMENT MARKING PLAN
STA. 0+61 TO 24+67

2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
CITY PROJECT NO. 21-05
CITY OF RAMSEY, MINNESOTA

SHEET 16 OF 17 SHEETS



LEGEND

PAVEMENT MARKING

CROSSWALK MARKING

TURN ARROW

STRIPING KEY & LEGEND

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

2ND DIGIT PATTERN S-SOLID B-BROKEN D-DOUBLE

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

EXAMPLE: 4S1 = 4" SOLID WHITE - EPOXY

CIRCLE - EPOXY

SCALE (FEET)

0 40 80 120

DATE	REVISION
3/11/21	UPDATE PROJECT END STATION.

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Joe Feriancek

JOE FERIANCEK
Date 2/25/21 Lic. No. 57095

DESIGNED BY:	JJF	DATE:	2/24/21
DRAWN BY:	JJF	FILE:	21-05
CHECKED BY:	LLL		

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

S.A.P. 199-104-013
PAVEMENT MARKING PLAN
STA. 93+61 TO 107+36

2021 MUNICIPAL STATE AID PAVEMENT OVERLAYS
CITY PROJECT NO. 21-05
CITY OF RAMSEY, MINNESOTA