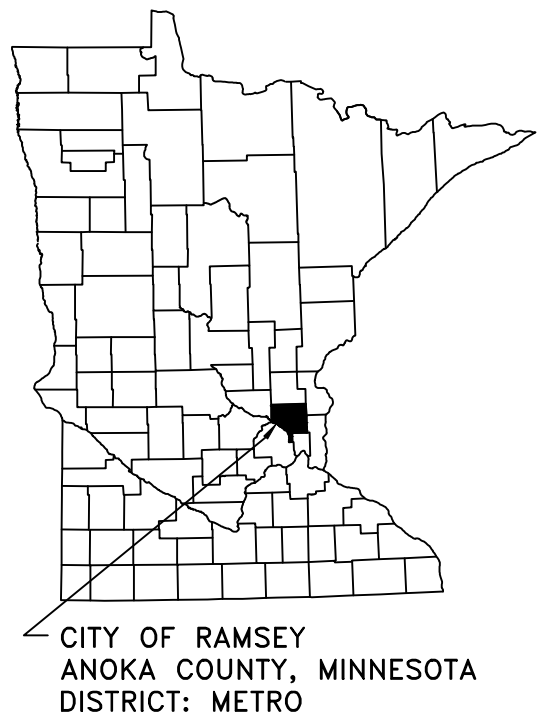
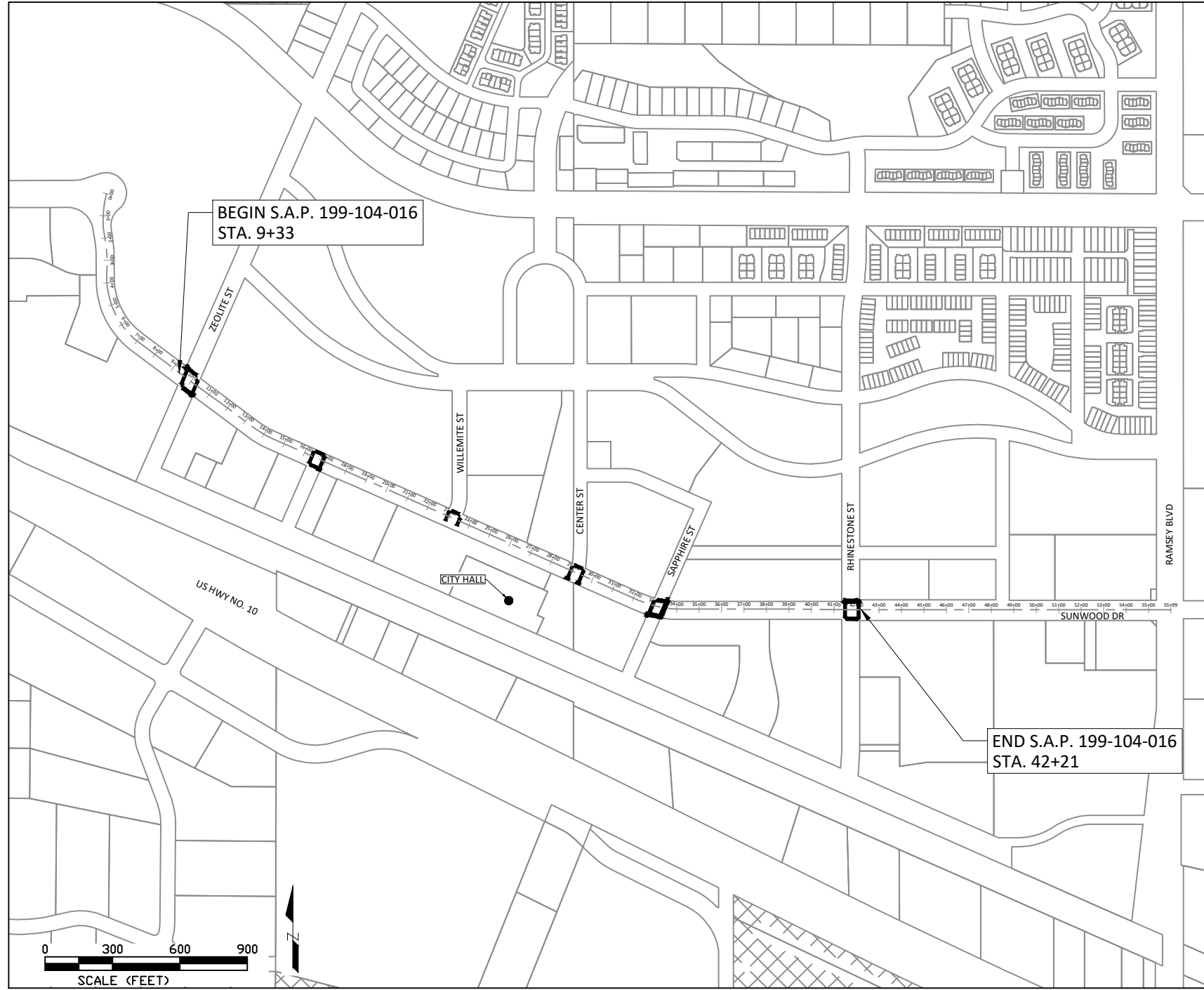


CITY OF RAMSEY

SUNWOOD DRIVE CROSSWALK REPAIRS

CITY IMPROVEMENT PROJECT NO. 25-08 SAP 199-104-016

S.A.P. LOCATED ON SUNWOOD DRIVE BETWEEN ZEOLITE STREET AND RHINESTONE STREET
 FROM SW 1/4 OF THE NW 1/4 OF S28, T32, R25 TO NW 1/4 OF THE SE 1/4 OF S28, 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 2025 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

THE 2023 EDITION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA "STANDARD SPECIFICATIONS" SHALL GOVERN FOR UTILITY INSTALLATIONS.

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 42 SHEETS

SHEET No.	DESCRIPTION
01	TITLE SHEET
02	STATEMENT OF ESTIMATED QUANTITIES
03	TYPICAL SECTION
04	CITY DETAILS
05 - 10	MINDOT PEDESTRIAN RAMP DETAILS
11 - 18	MINDOT CONCRETE REINFORCEMENT DETAILS
19 - 20	SWPPP
21 - 25	EROSION CONTROL
26 - 31	REMOVALS
32 - 37	STREET CONSTRUCTION
38 - 40	PAVEMENT MARKINGS
41 - 42	TRAFFIC CONTROL

LEGEND

	SANITARY MANHOLE		EASEMENT - DRAINAGE & UTILITY
	STORM SEWER MANHOLE		SECTION LINE
	CATCH BASIN MANHOLE		LOT LINE
	CATCH BASIN		ELECTRIC LINE
	CULVERT END SECTION		ELECTRIC LINE - BURIED
	HYDRANT		ELECTRIC LINE - OVERHEAD
	VALVE		GAS LINE
	TREE - CONIFEROUS		TELECOMMUNICATION LINE
	TREE - DECIDUOUS		TELECOMM - OVERHEAD
	SHRUB		FIBER OPTIC LINE
	LIGHT POLE		LANDSCAPE
	SIGN		RETAINING WALL
	MAILBOX		TREE SAVE FENCE
	PEDESTAL - TELECOM		SILT FENCE
	PEDESTAL - ELECTRIC		WATERMAIN
	HAND HOLE		SANITARY SEWER
	BITUMINOUS PAVEMENT		STORM SEWER
	CONCRETE PAVEMENT		DRAIN TILE
	DRIVE - BITUMINOUS		LANDSCAPE - ROCK
	DRIVE - CONCRETE		LANDSCAPE - MULCH
	DRIVE - GRAVEL		LANDSCAPE - RIP RAP
	CONCRETE WALK		
	VALLEY GUTTER		
	SEEDING AREA		
	CURB & GUTTER		
	SAWCUT FULL DEPTH		
	REMOVE CONCRETE PAVEMENT		
	REMOVE CONCRETE WALK		
	REMOVE CONCRETE CURB & GUTTER		

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 01/02/26
 JOE FERIANCEK, P.E. LIC. NO.

APPROVED: _____ DATE _____
 CITY ENGINEER, CITY OF RAMSEY

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

STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING

NO.	PROJECT	STA. TO STA.	GROSS LENGTH	BRIDGE LENGTH	NET LENGTH	NET LENGTH (MILES)	ADT (2025)	ADT (2045)	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
①	S.A.P. 199-104-016 SUNWOOD DRIVE	9+33 TO 42+21	3,288 FT	0 FT	3,288 FT	0.62 MI	6,440	8,160	1,299,000	70	10	30	N/A	2	11'-12'	2	10'-12'	COLLECTOR

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

DATE	REVISION

SAP 199-104-016

Dec 31, 2025 - 11:16am C:\Engineering\AutoCad Dwg\Projects N-Z\Sunwood Dr. Crosswalk Repairs 25-08\Plan Drawings\25-08 Title & SEQ.dwg

25-08 2025 SUNWOOD DRIVE CROSSWALK REPAIRS

STATEMENT OF ESTIMATED QUANTITIES

				S.A.P. 199-104-016	
				PARTICIPATING STREET	
NOTE	ITEM No.	MNDOT No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
	1	2021.501	MOBILIZATION	LS	1
1	2	2104.503	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LF	35
1	3	2104.503	SAWING CONCRETE PAVEMENT - FULL DEPTH	LF	3730
1, 10	4	2104.503	REMOVE CONCRETE CURB & GUTTER	LF	480
1, 9	5	2104.504	REMOVE 7" CONCRETE PAVEMENT	SY	1900
2, 7	6	2105.607	COMMON EXCAVATION (EV)	CY	8
	7	2112.604	SUBGRADE PREPARATION	SY	1900
	8	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	10
	9	2130.523	WATER	MGAL	5
2, 8	10	2211.507	AGGREGATE BASE CLASS 5 - MODIFIED (CV)	CY	55
	11	2301.508	SUPPLEMENTAL REINFORCEMENT BARS (EPOXY COATED)	LB	2750
	12	2504.602	ADJUST VALVE BOX	EA	1
	13	2506.502	ADJUST FRAME AND RING CASTING	EA	2
6	14	2521.518	6" CONCRETE WALK	SY	280
6	15	2301.504	7" CONCRETE PAVEMENT	SY	1900
	16	2301.602	DRILL & GROUT REINF BAR (EPOXY COATED)	EA	1060
	17	2301.602	DRILL & GROUT DOWEL BAR (EPOXY COATED)	EA	2650
6	18	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LF	480
	19	2531.618	TRUNCATED DOMES	SF	310
4	20	2563.601	TRAFFIC CONTROL	LS	1
	21	2563.601	ALTERNATE PEDESTRIAN ROUTE	LS	1
	22	2573.501	STORM DRAIN INLET PROTECTION	EA	18
	23	2575.504	SODDING TYPE LAWN	SY	70
3, 5	24	2574.507	TOPSOIL (LV)	CY	10
	25	2582.518	CROSSWALK MARKING MULTI-COMP	SF	5340
	26	2582.518	PAINT CONCRETE CURB (YELLOW)	LF	60

PAY ITEM NOTES:

1. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
2. EV TO CV CONVERSION FACTOR = 1.25.
3. EV TO CV CONVERSION FACTOR = 1.30.
4. 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, ANY DETOUR ROUTES AS NECESSARY.
5. STOCKPILING OF ANY SALVAGED TOPSOIL USED IS INCIDENTAL TO THE TOPSOIL PAY ITEM.
6. FINISH WITH WHITE CURING COMPOUND
7. COMMON EXCAVATION INCLUDES TOPSOIL MATERIAL REMOVED IN AREAS DISTURBED OUTSIDE OF ROADWAYS AS WELL AS APPROXIMATELY 2" OF MATERIAL BELOW CONCRETE WALK BEING REPLACED IN ORDER TO ACHIEVE A 6" CONCRETE PAVEMENT THICKNESS.
8. AGGREGATE BASE QUANTITY WAS DETERMINED BASED ON APPROXIMATELY 1" OF MATERIAL IN CONCRETE PAVEMENT SECTIONS. SINCE STREETS ARE GENERALLY BEING REPLACED TO EXISTING ELEVATION, AGGREGATE BASE MATERIAL SHOULD ONLY BE ADDED IF NECESSARY TO ACHIEVE PROPER GRADE.
9. CONCRETE PAVEMENT REMOVALS ARE GENERALLY EXISTING COLORED CONCRETE AREAS PLUS 1-FOOT.
10. PAVEMENT REMOVAL ADJACENT TO CURB REMOVALS, BEYOND WHAT IS SHOWN ON REMOVAL SHEETS, IS INCIDENTAL TO THE REMOVE CURB & GUTTER PAY ITEM.

GENERAL NOTES:

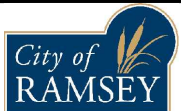
1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL 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.
4. STREETS ARE GENERALLY BEING REPLACED TO THEIR ORIGINAL ELEVATION. THIS IS PROPOSED TO BE ACHIEVED BY REMOVING 7 INCHES OF THE EXISTING COLORED CONCRETE PAVEMENT, SHAPE AND COMPACT EXISTING 5 INCHES OF AGGREGATE BASE MATERIAL, REPLACEMENT OF CONCRETE CURB & GUTTER, AND PLACEMENT OF 7" OF CONCRETE PAVEMENT.
5. TOPSOIL AND RESTORATION NUMBERS WERE DETERMINED BASED ON 2' OF DISTURBANCE FROM THE EDGE OF CONCRETE WALK AND CURB BEING REPLACED.
6. CONSTRUCTION LIMITS ARE THE EXTENT OF HATCHED AREAS ON STREET CONSTRUCTION PLANS.

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 01/02/26 Lic. No. 57095

DESIGNED BY:	LWC	DATE:	01/02/26
DRAWN BY:	LWC	FILE:	25-08
CHECKED BY:	JJF		

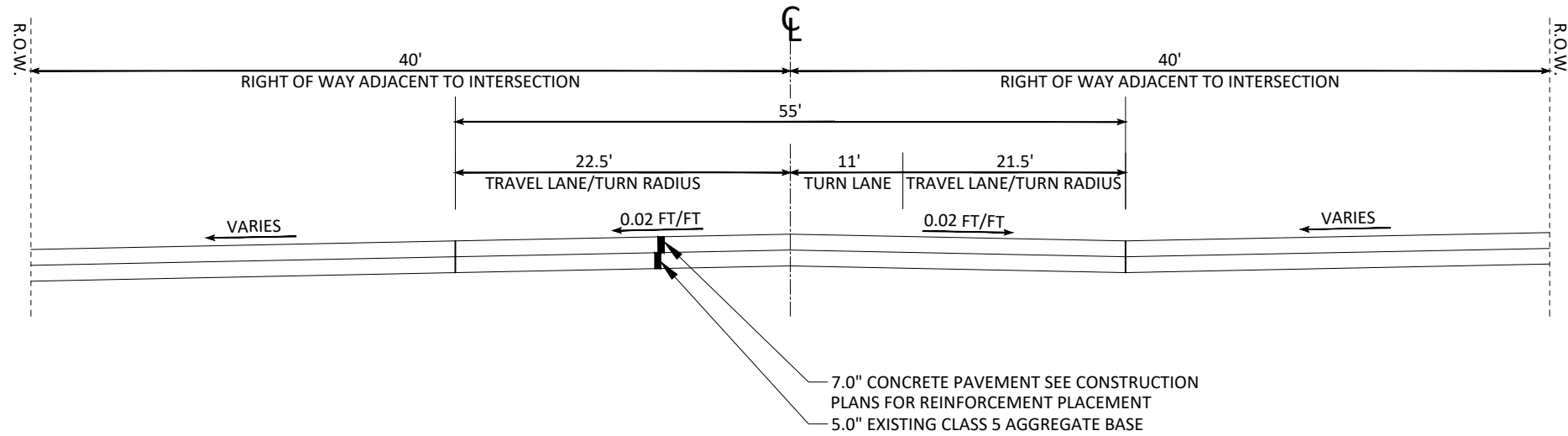


CITY OF RAMSEY
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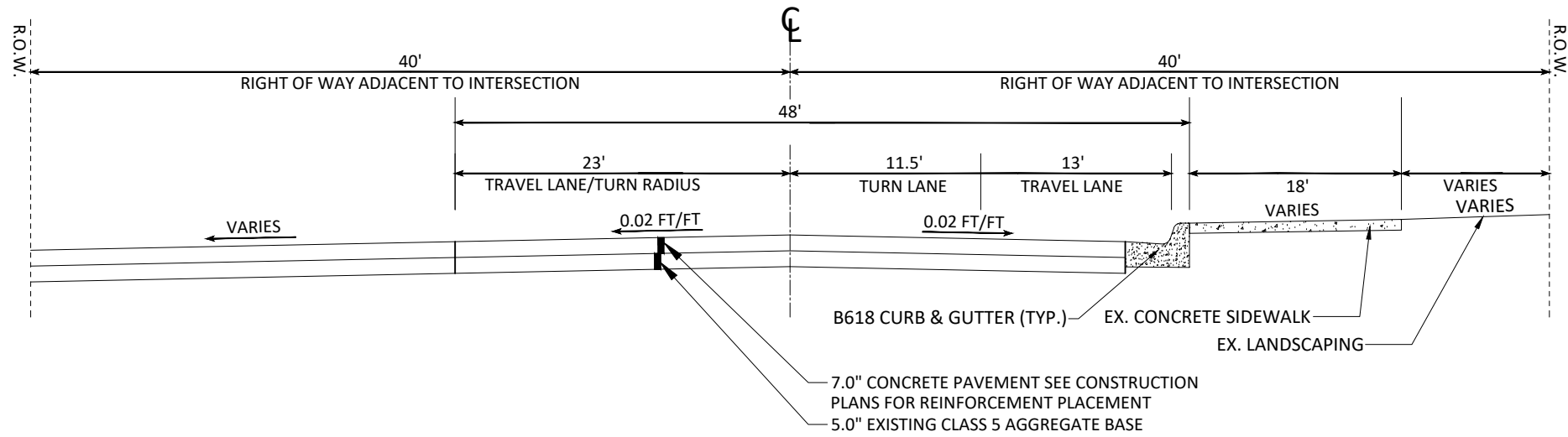
STATEMENT OF ESTIMATED QUANTITIES

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA

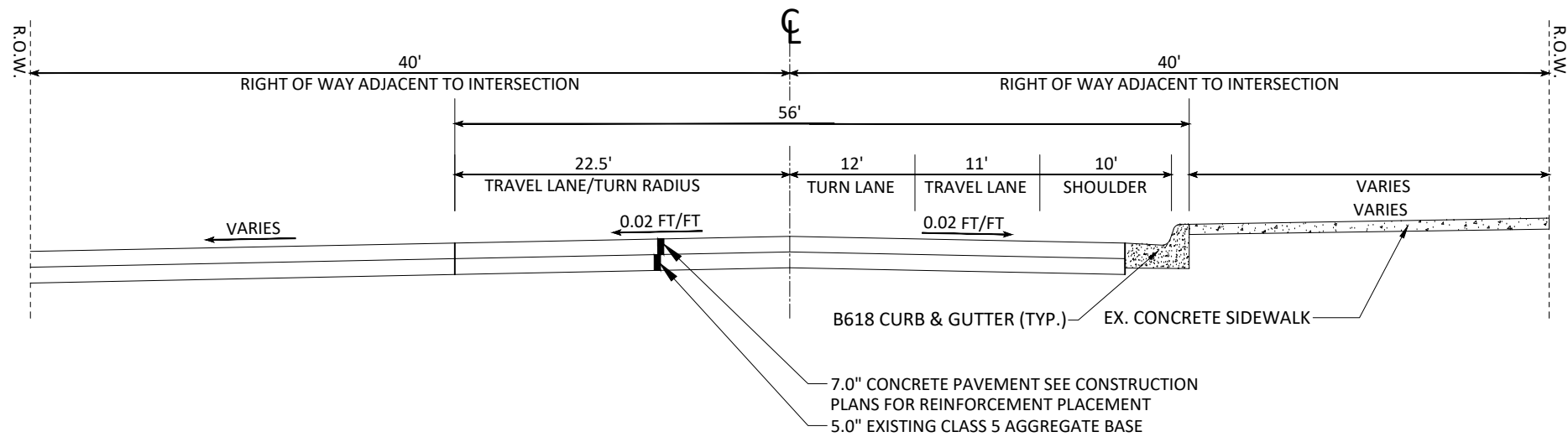
TYPICAL SECTION (ZEOLITE ST, YOLITE ST, SAPPHIRE ST, RHINESTONE ST)



TYPICAL SECTION (WILLEMITE ST)



TYPICAL SECTION (CENTER ST)



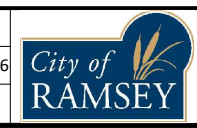
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Joe Feriancek
 JOE FERIANCEK
 Date: 01/02/26 Lic. No. 57095

DESIGNED BY: LWC
 DRAWN BY: LWC
 CHECKED BY: JJF

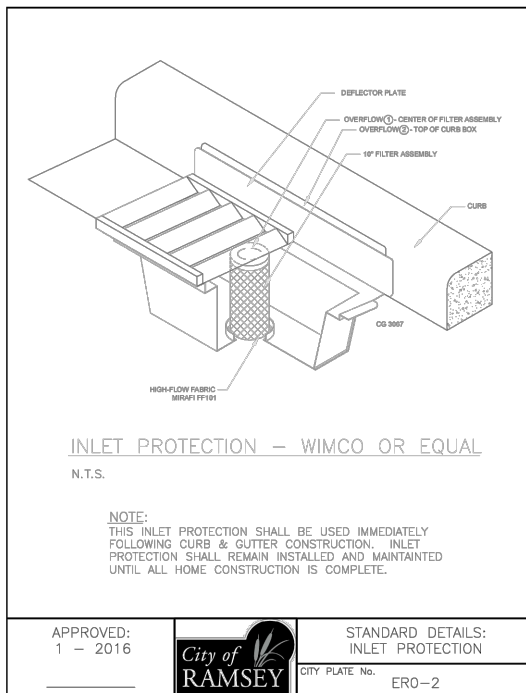
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CITY OF RAMSEY
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 RAMSEY, MN 55303
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TYPICAL SECTION

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 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
CITY PLATE No. ERO-6

STANDARD DETAILS:
TOPSOIL REQUIREMENTS

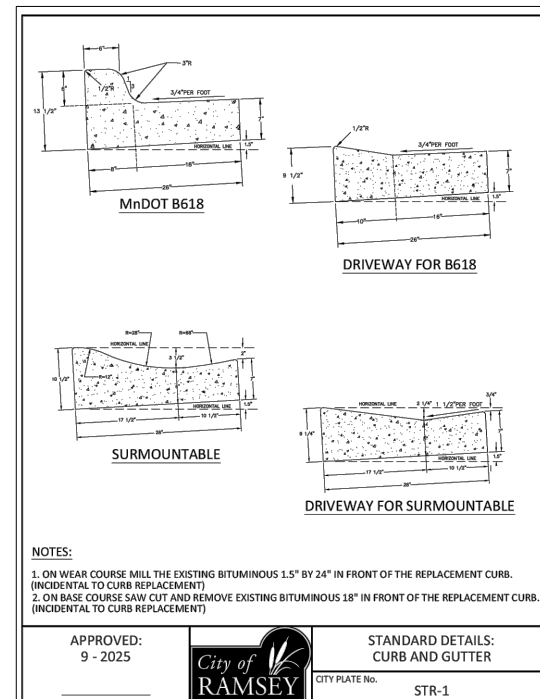


TABLE A
MODIFIED CLASS 5
SPECIFICATIONS

% 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

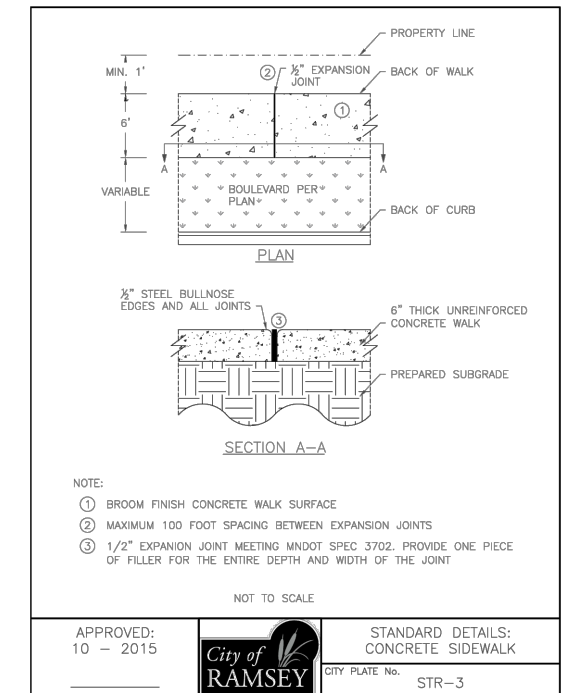
NOTES:

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
CITY PLATE No. STR-26

STANDARD DETAILS:
MODIFIED CLASS 5 SPECIFICATIONS



STANDARD PLATES

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

1070 N	SUPPLEMENTAL PAVEMENT REINFORCEMENT
1103 M	TYPICAL DOWEL BAR ASSEMBLY
7038 A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100 H	CONCRETE CURB AND GUTTER (DESIGN B)
8000 K	TEMPORARY CHANNELIZERS - (3 SHEETS)

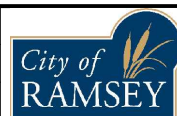
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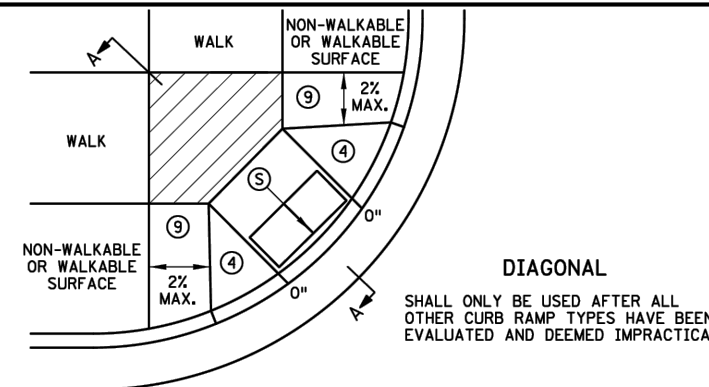
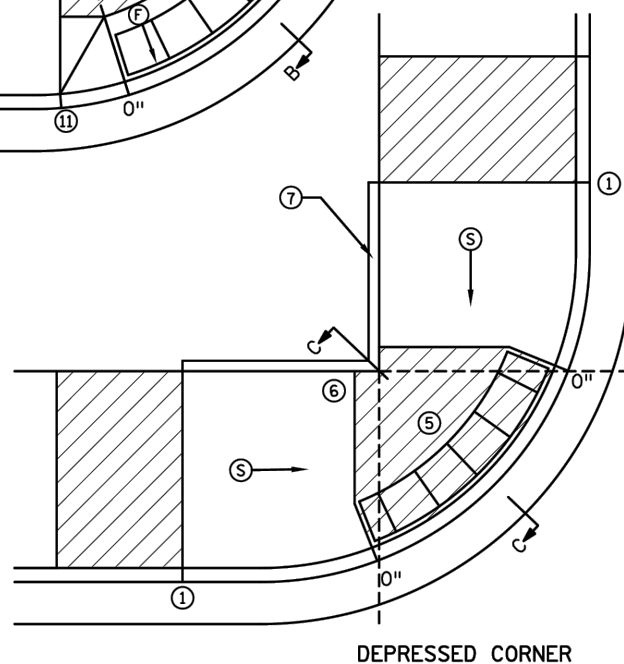
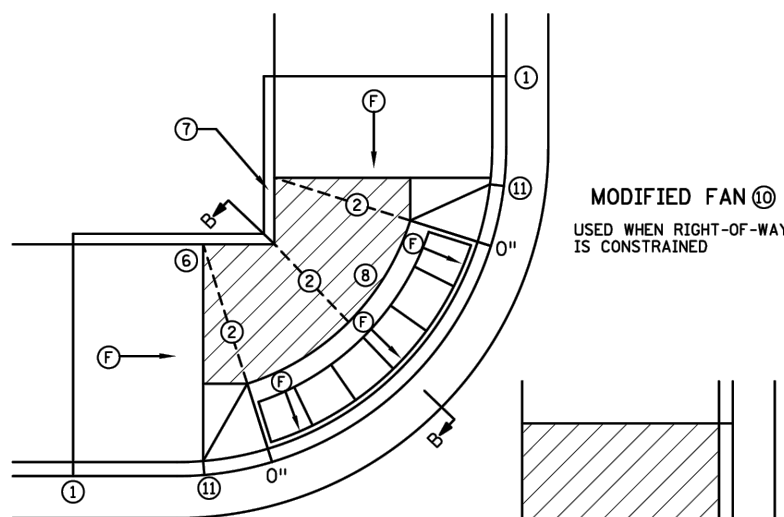
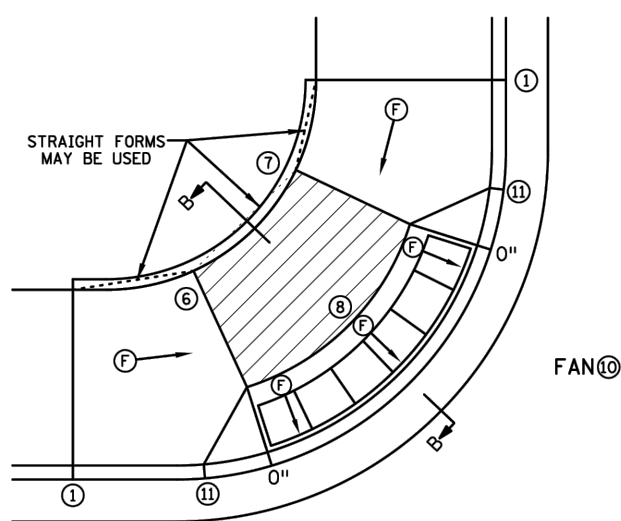
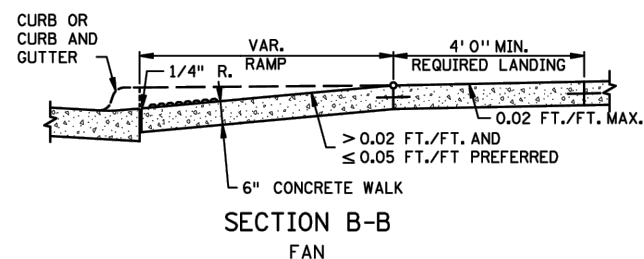
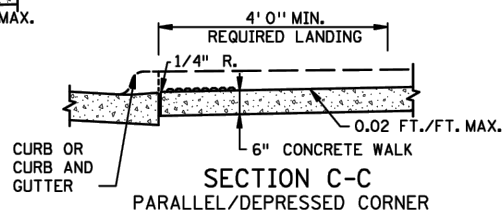
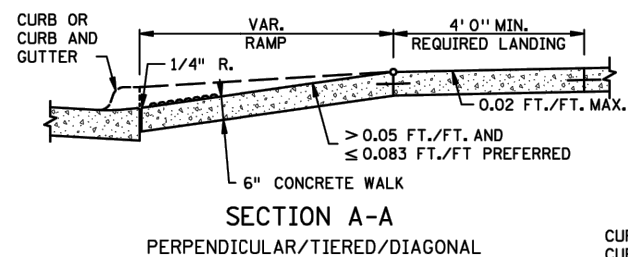
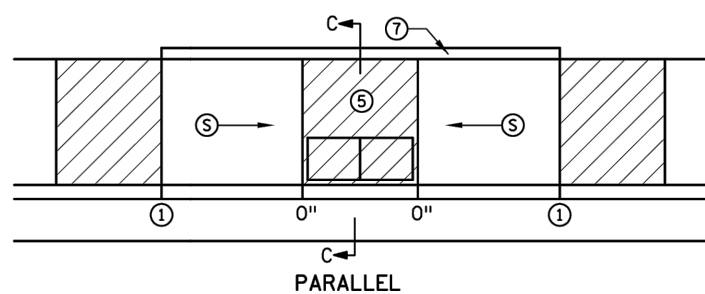
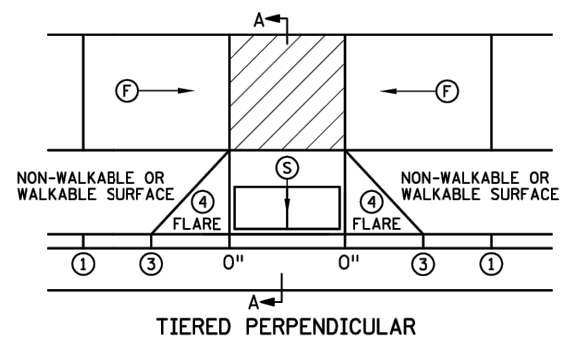
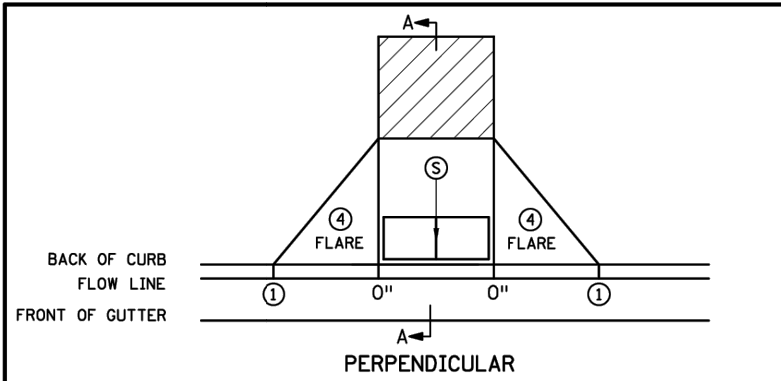
DATE: 01/02/26
FILE: 25-08



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

CITY DETAILS

SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA



NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.
 - INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
 - SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
 - ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH, EXCEPT AS STATED IN (6) BELOW.
 - TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.
 - WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.
 - ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
 - 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
 - WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
 - RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
- 1 MATCH FULL HEIGHT CURB.
 - 2 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
 - 3 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
 - 4 SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
 - 5 DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
 - 6 THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
 - 7 WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE, V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
 - 8 A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
 - 9 PAVE FULL WALK WIDTH.
 - 10 "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.
 - 11 INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
(X)	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
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA
DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.250 1 OF 6
APPROVED: 11-04-2021
REVISOR:
THOMAS STUBRICKI
STATE DESIGN ENGINEER
STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS

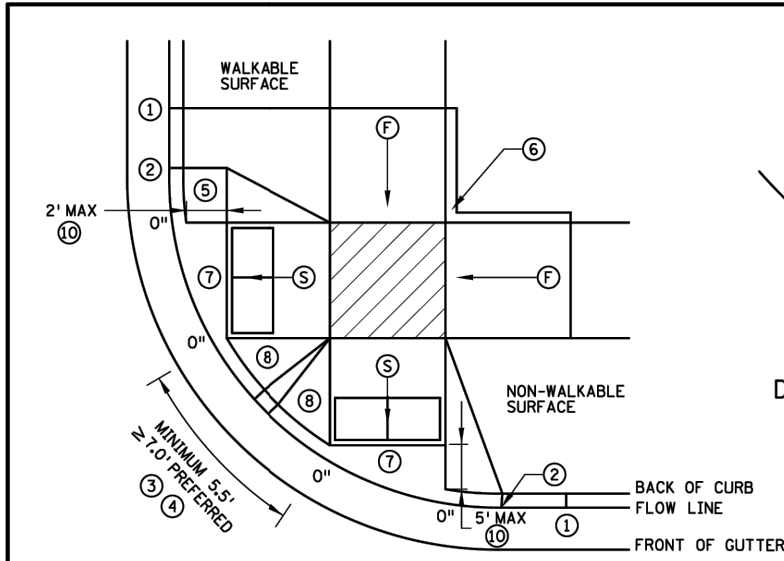
DATE	REVISION

DESIGNED BY: ---	DATE: ---
DRAWN BY: ---	FILE: 25-08
CHECKED BY: ---	

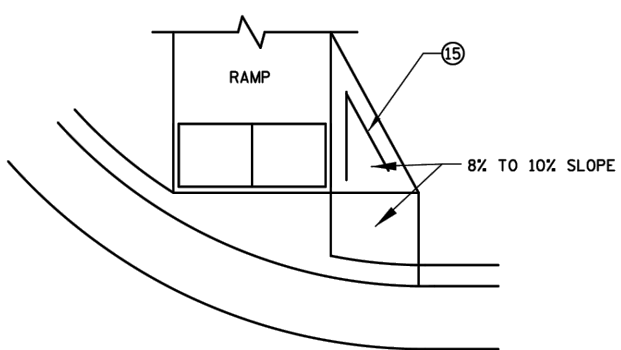
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7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN RAMP DETAILS

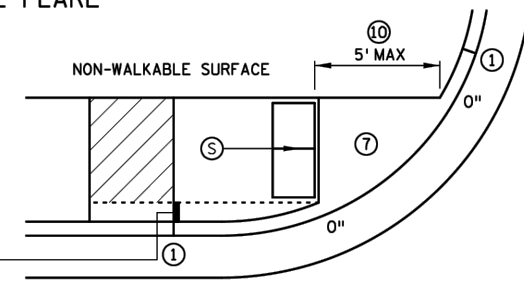
SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA



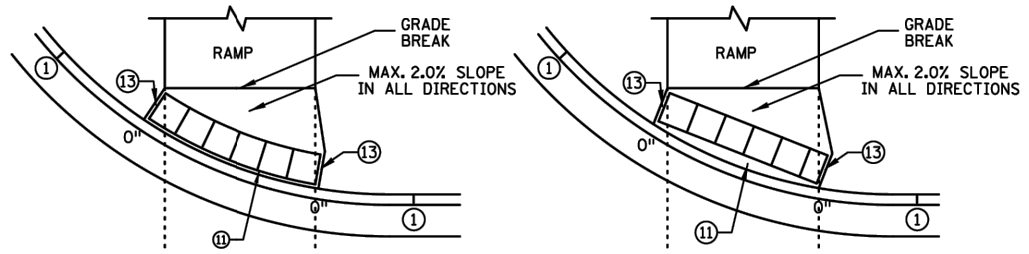
COMBINED DIRECTIONAL



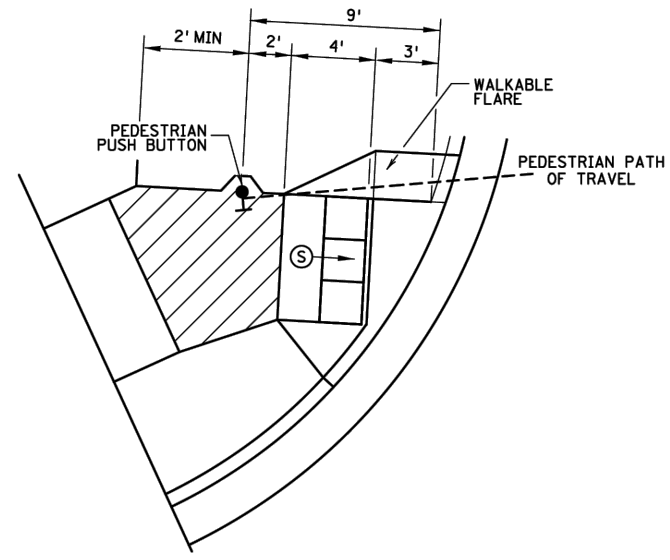
DIRECTIONAL RAMP WALKABLE FLARE



STANDARD ONE-WAY DIRECTIONAL ③

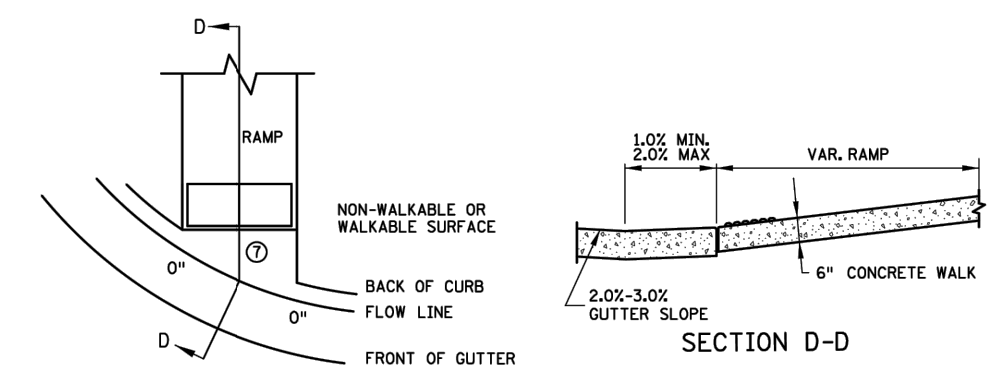


DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



SEMI-DIRECTIONAL RAMP ③④⑨

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



CURB FOR DIRECTIONAL RAMPS ⑭

NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.
- TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).
- TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
- WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
- RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.
- ① MATCH FULL CURB HEIGHT.
- ② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
- ③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
- ④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
- ⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.
- ⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- ⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- ⑧ 8% TO 10% WALKABLE FLARE.
- ⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- ⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- ⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- ⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
- ⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.
- ⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

LEGEND	
⑤	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%.
⑥	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 PAR.
X"	CURB HEIGHT

REVISION:
APPROVED: 11-04-2021
Jeffrey Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

STANDARD PLAN 5-297.250 2 OF 6
MINNESOTA DEPARTMENT OF TRANSPORTATION
APPROVED: 11-04-2021
REVISOR:
THOMAS STYBRICKI
STATE DESIGN ENGINEER

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

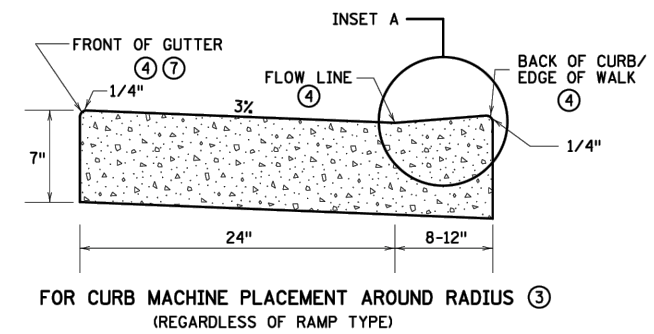
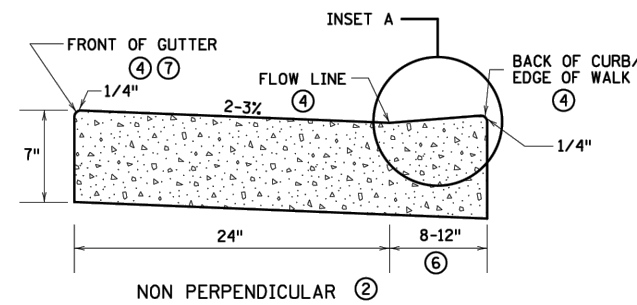
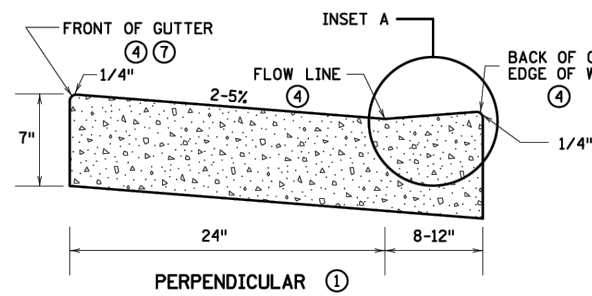
DATE	REVISION

DESIGNED BY: ---
DRAWN BY: ---
CHECKED BY: ---
DATE: 25-08

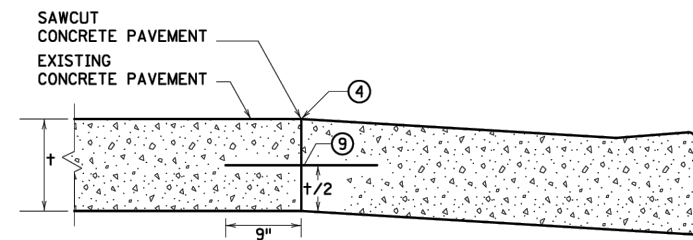
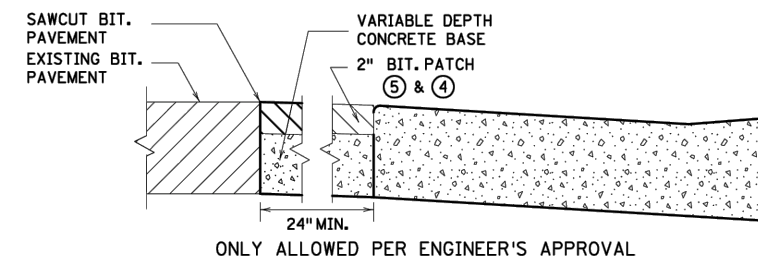
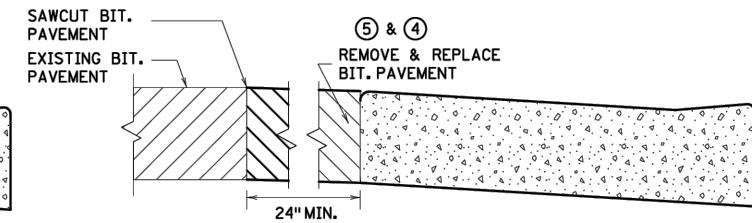
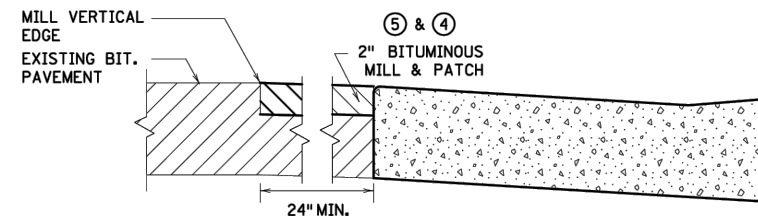
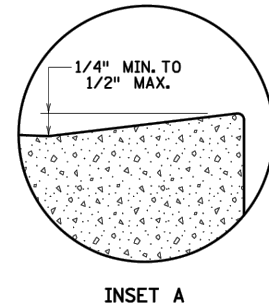
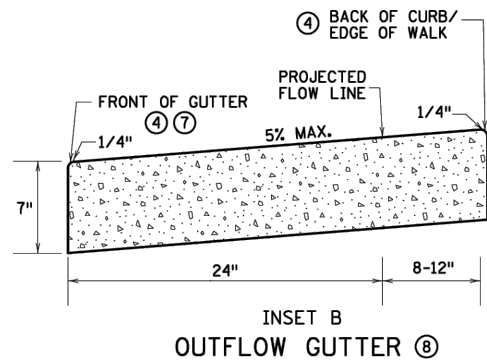
CITY OF RAMSEY
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MNDOT PEDESTRIAN RAMP DETAILS

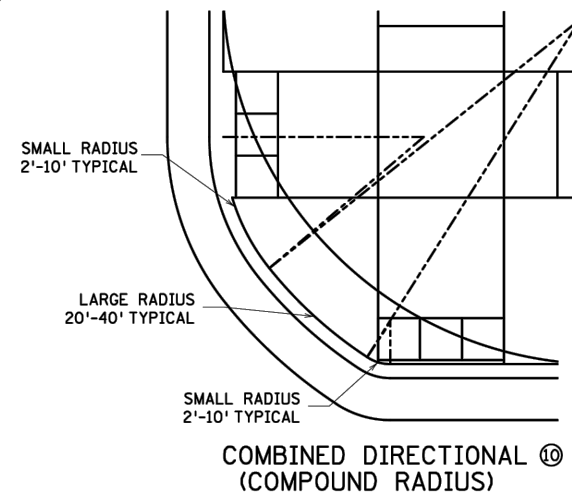
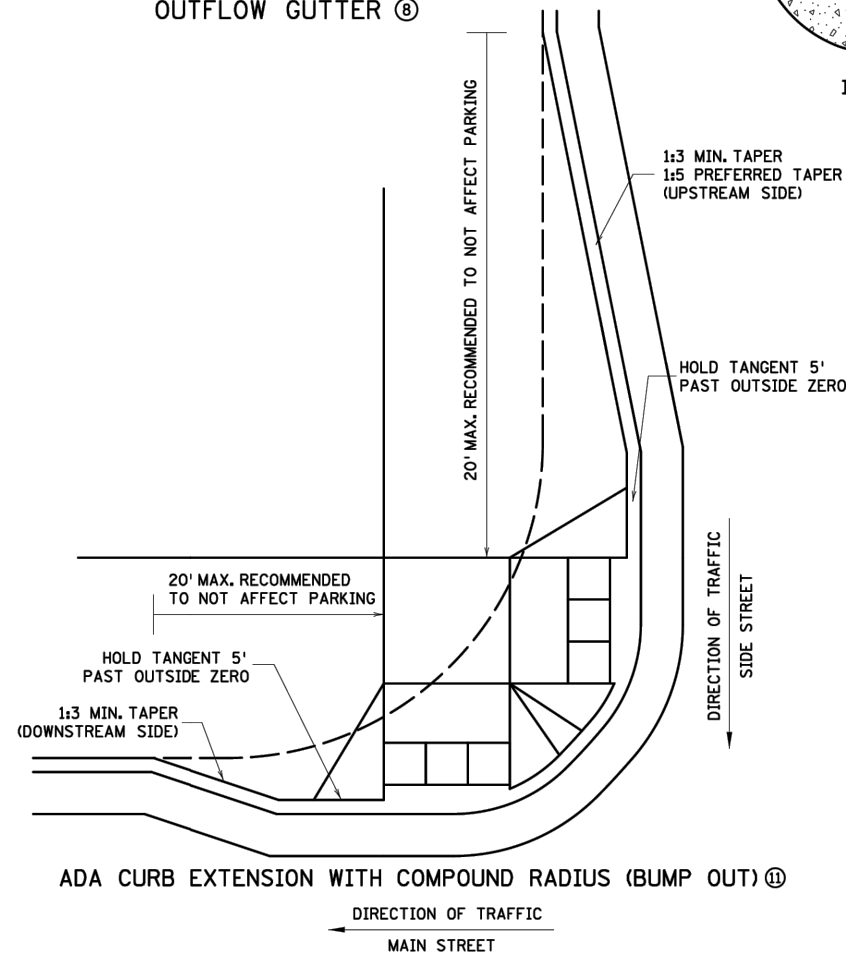
SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA



PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



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.

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



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

PEDESTRIAN CURB RAMP DETAILS
 STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

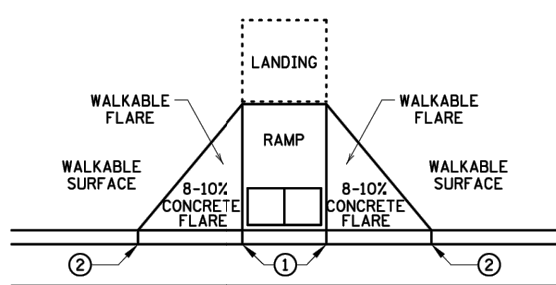
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DESIGNED BY: ---	DATE: ---
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CHECKED BY: ---	

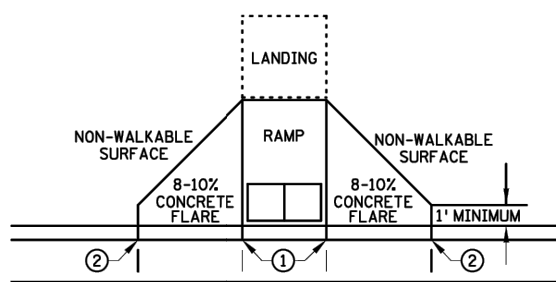
CITY OF RAMSEY
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MNDOT PEDESTRIAN RAMP DETAILS

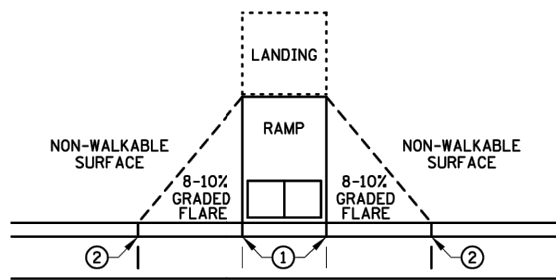
SUNWOOD DRIVE CROSSWALK REPAIRS
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 CITY OF RAMSEY, MINNESOTA



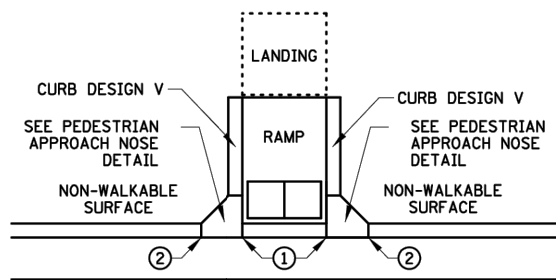
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

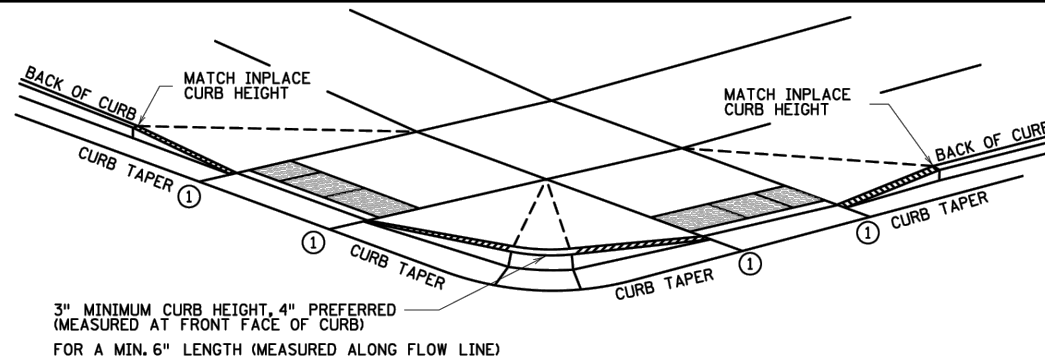


GRADED FLARES

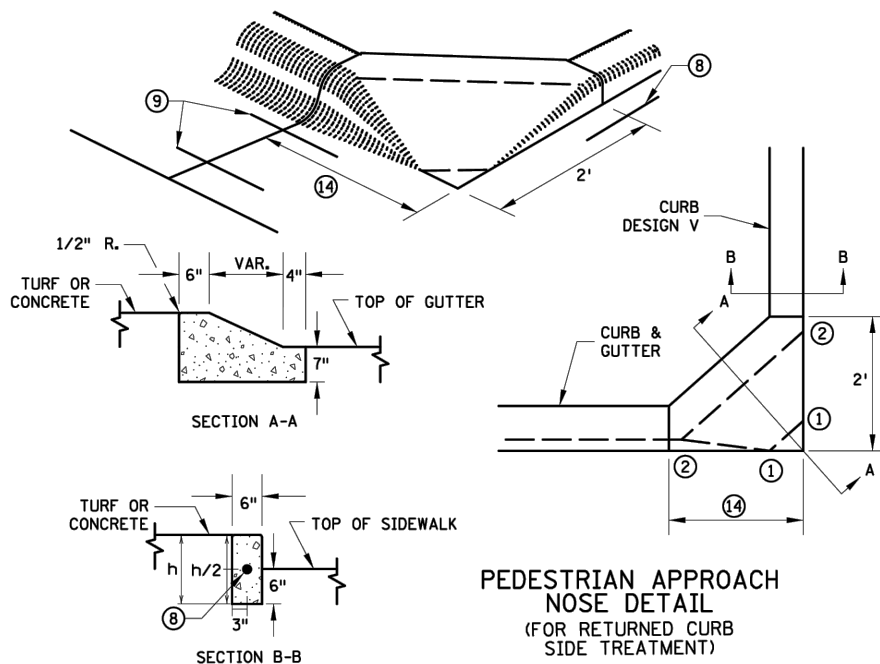
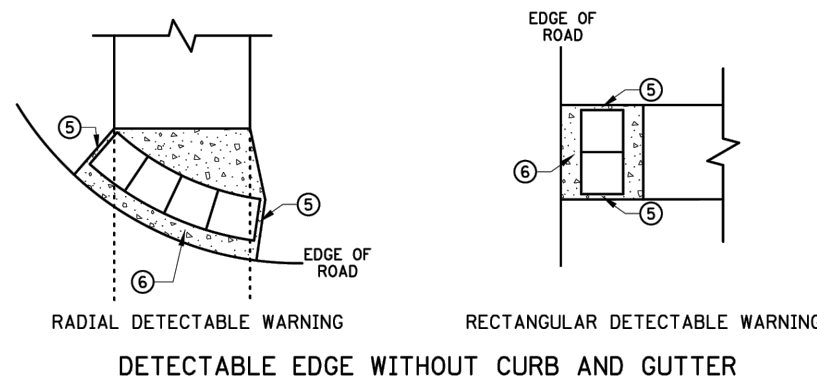


RETURNED CURB ④

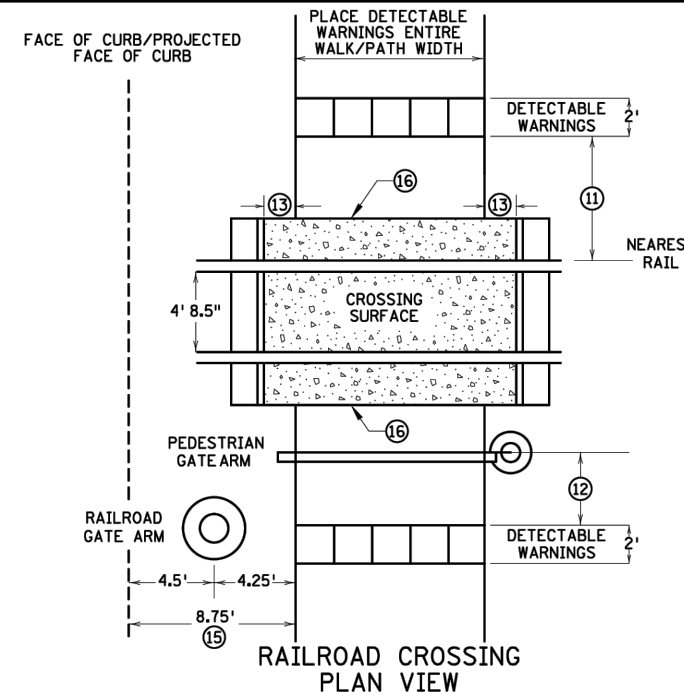
TYPICAL SIDE TREATMENT OPTIONS ③ ⑩



DETECTABLE EDGE WITH ⑦
CURB AND GUTTER



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
JEFFREY PERKINS
OPERATIONS DIVISION

m
MINNESOTA
DEPARTMENT
OF
TRANSPORTATION

STANDARD PLAN 5-297.250 4 OF 6
APPROVED: 11-04-2021
REVISOR:
THOMAS STYBRICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS
STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

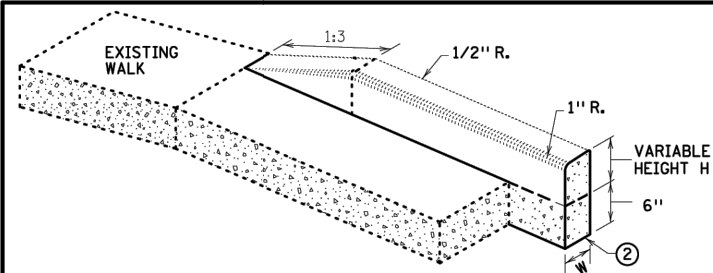
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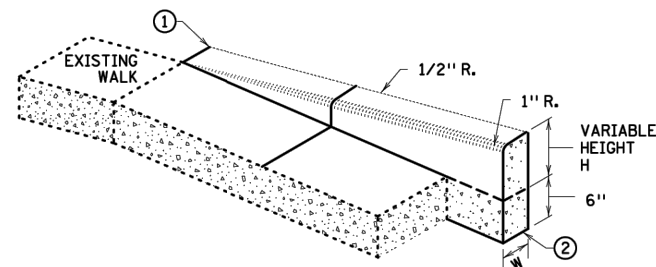
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MNDOT PEDESTRIAN RAMP DETAILS

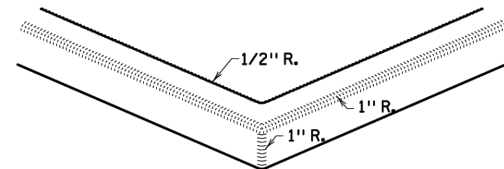
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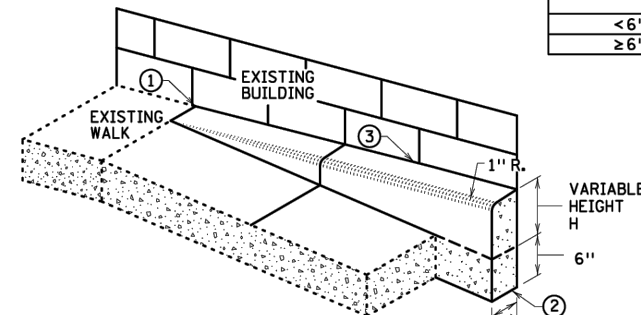
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

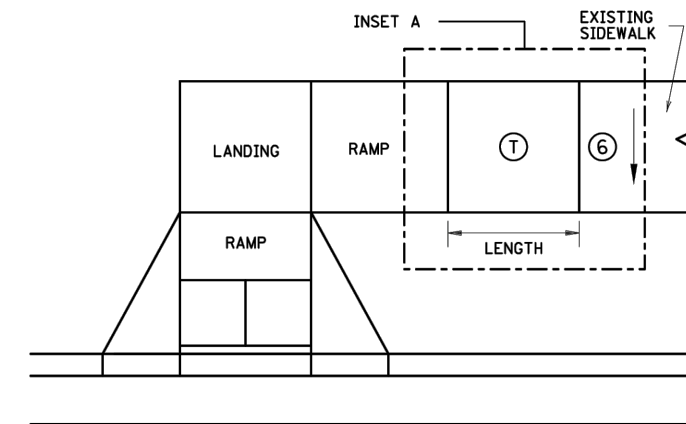


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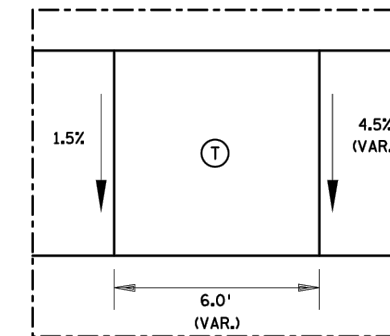


V CURB ADJACENT TO BUILDING
OR BARRIER

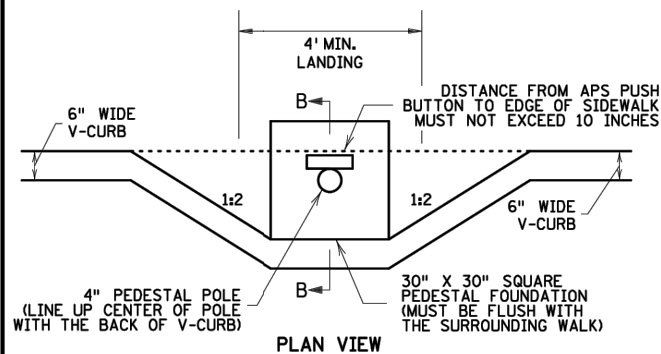
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
<6"	4"
≥6"	6"



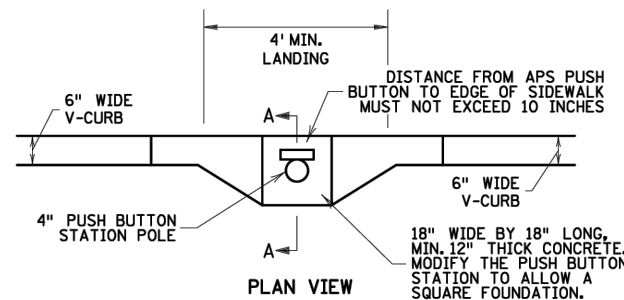
TRANSITION PANEL ④ ⑤



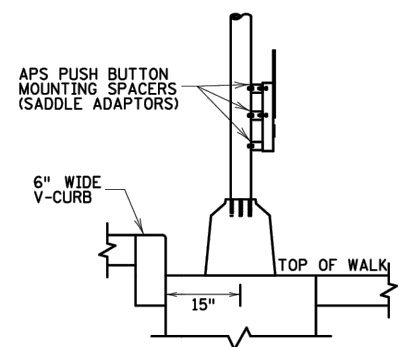
INSET A



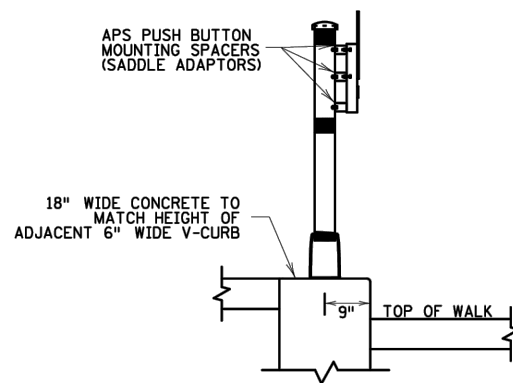
PLAN VIEW



PLAN VIEW



SECTION B-B
SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A
PUSH BUTTON STATION (V-CURB)

NOTES:

- A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.
- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.
- WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
- ④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
- ⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
- ⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

- THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
- ⑤ 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%.
- ④ 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.
- ① 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
JEFFREY PERKINS
OPERATIONS DIVISION



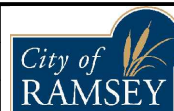
STANDARD PLAN 5-297.250 5 OF 6
APPROVED: 11-04-2021
REVISED:
THOMAS STYBRICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

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

DATE	REVISION

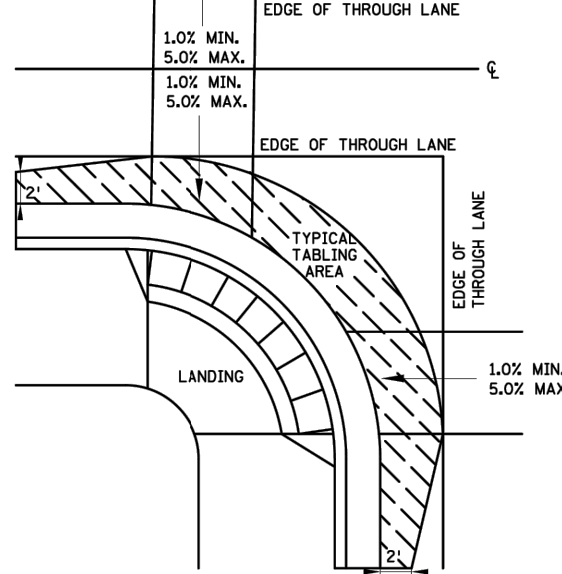
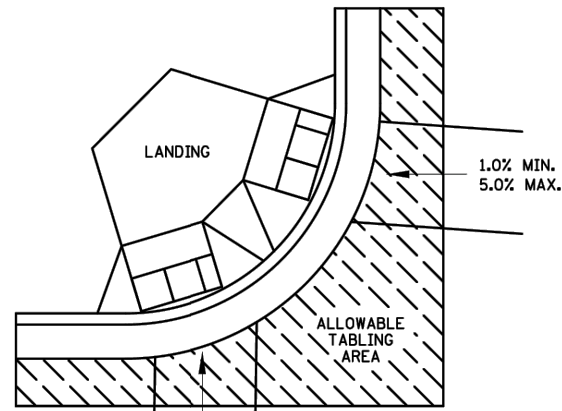
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DATE: 25-08



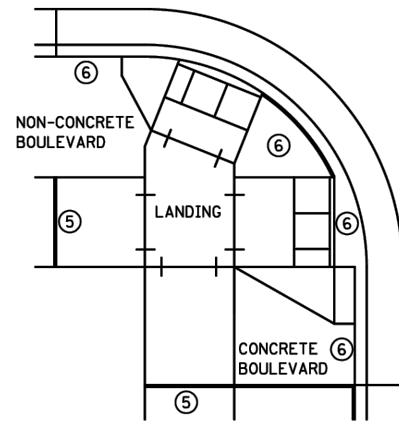
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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MNDOT PEDESTRIAN RAMP DETAILS

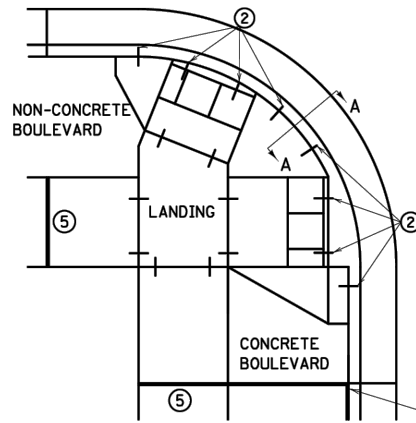
SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA



CURB LINE AND ROAD CROSSING ADJUSTMENTS

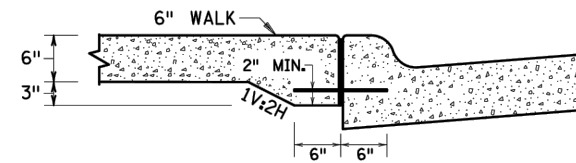


EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS

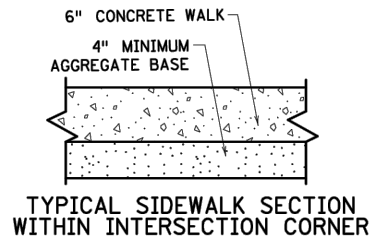


CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS

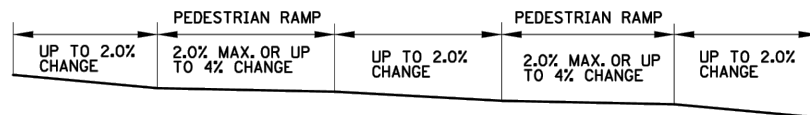
END SILL CURB AT TOP OF CURB RAMP AND DRIVEWAY FLARES.



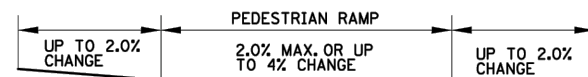
SECTION VIEW A-A THICKENED SECTION THROUGH CURB RAMP FLARES



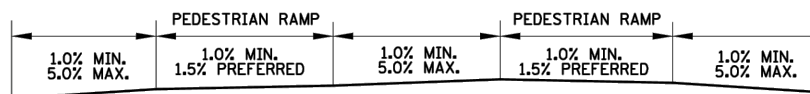
TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER



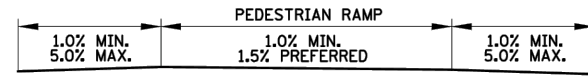
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



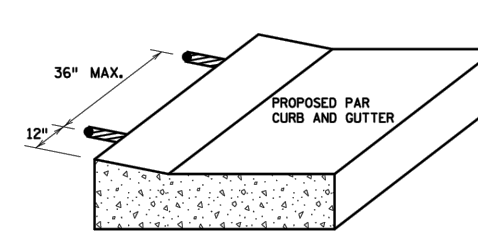
FLOW LINE PROFILE "TABLE" - FAN



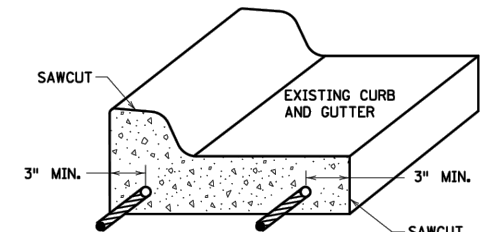
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



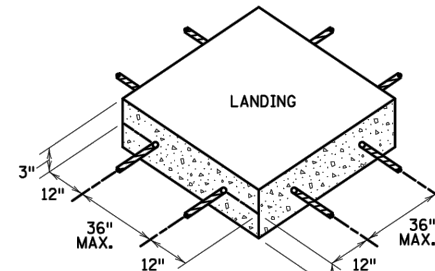
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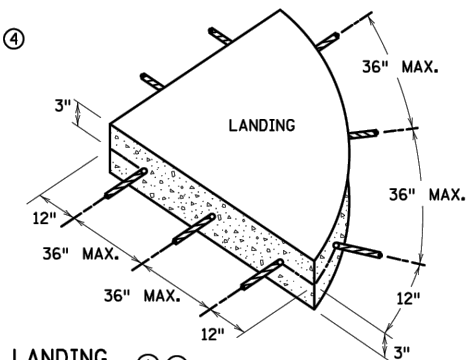
CURB RAMP REINFORCEMENT DETAILS



CURB AND GUTTER REINFORCEMENT



SEPARATE LANDING POUR REINFORCEMENT



GENERAL NOTES:

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

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

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

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

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

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

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

NOTES:

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

REVISION:
APPROVED: 11-04-2021
<i>Jeffrey Perkins</i> JEFFREY PERKINS OPERATIONS DIVISION



STANDARD PLAN 5-297.250	6 OF 6
APPROVED: 11-04-2021	REVISION:
STATE PROJ. NO.	(TH) SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS

DATE	REVISION

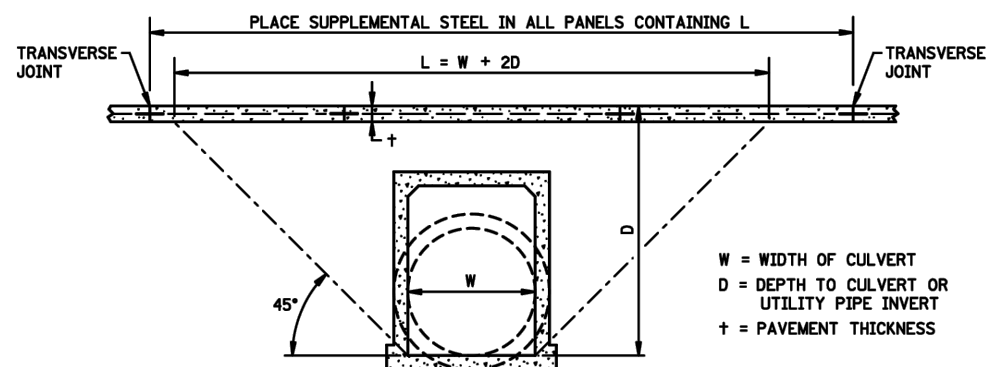
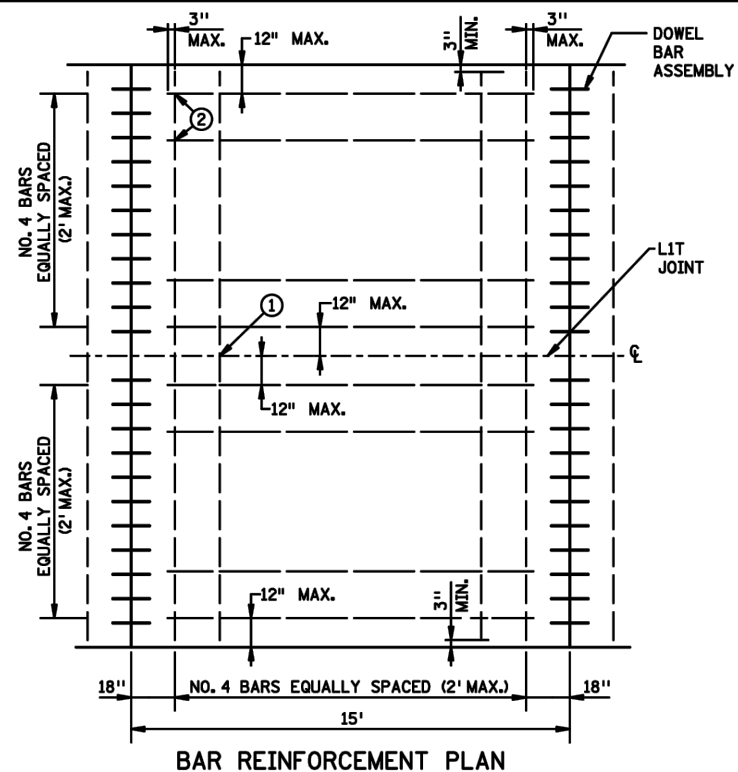
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CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN RAMP DETAILS

SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA



NOTE: SEE PLANS FOR LOCATIONS WHERE REINFORCEMENT OR EXTRA REINFORCEMENT IS REQUIRED.

NOTES:

CONCRETE PANELS DO NOT NEED SUPPLEMENTAL REINFORCEMENT OVER EXISTING (UNDISTURBED) CULVERTS OR UTILITY PIPES. THIS INCLUDES CONCRETE OVERLAYS UNLESS THE INPLACE PAVEMENT EXHIBITS DIFFERENTIAL SETTLEMENT ISSUES, THEN REINFORCE THE NEW CONCRETE PAVEMENT.

DURING CONSTRUCTION, IF THE ENGINEER DETERMINES AN INCREASED POTENTIAL FOR DIFFERENTIAL SETTLEMENT, THEN REINFORCE THE NEW CONCRETE PAVEMENT.

SUPPLEMENTAL REINFORCEMENT IS REQUIRED IN THE MAINLINE AND OUTSIDE SHOULDER PANELS OVER NEW CULVERTS OR UTILITY PIPES CROSSING THE PAVEMENT IN THE TRANSVERSE DIRECTION AS SHOWN IN THE CROSS SECTION ABOVE. SUPPLEMENTAL REINFORCEMENT IS NOT REQUIRED IN THE INSIDE SHOULDER PANELS.

CONTACT THE MNDOT CONCRETE ENGINEERING UNIT FOR USE IN ANY OTHER SITUATIONS.

PROVIDE EPOXY-COATED REINFORCEMENT BARS COMPLYING WITH SPEC. 3301.

PLACE THE SUPPLEMENTAL STEEL ON CHAIRS AT A DEPTH OF $\pm/2 \pm 1"$.

- ① TIE BARS (FOR LIT JOINT) NOT REQUIRED IF TRANSVERSE BARS ARE CONTINUOUS THROUGH LONGITUDINAL JOINT.
- ② TIE ALL PERIPHERAL INTERSECTIONS AND A SUFFICIENT NUMBER OF INTERMEDIATE INTERSECTIONS TO PREVENT SHIFTING.

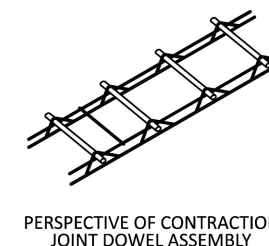
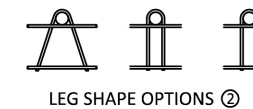
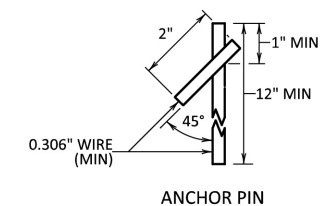
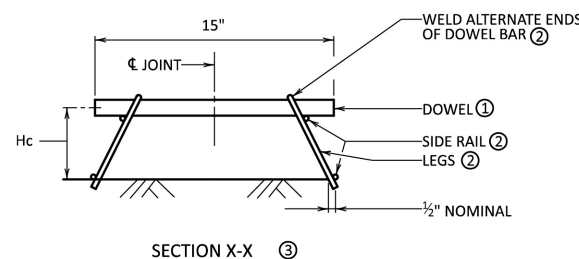
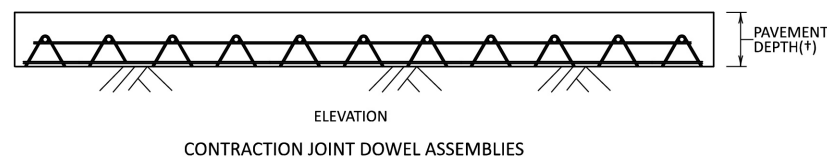
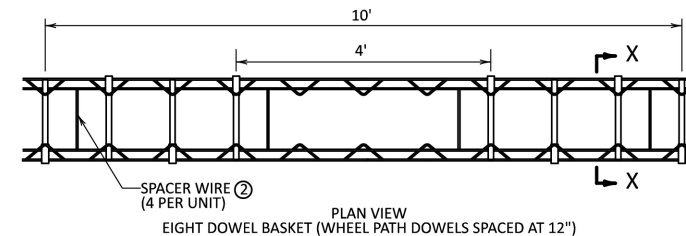
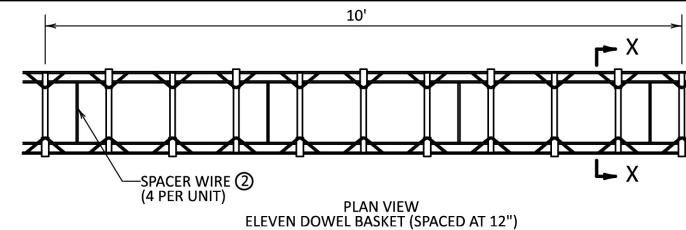
APPROVED 09-30-2022

Tom Styrbicki
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**SUPPLEMENTAL PAVEMENT
REINFORCEMENT**

SPECIFICATION
REFERENCE
2301

STANDARD
PLATE
NO.
1070N



NOTES:

- ① DOWEL BARS:
-PROVIDE DOWEL BARS, 15" IN LENGTH, IN ACCORDANCE WITH SPEC 3302 AND THE CONTRACT.
-CUT ENDS WITH STRAIGHT SURFACE AND DEBURR.
-SEE DOWEL BAR TABLE FOR DOWEL BAR DIAMETERS.
-COAT ENTIRE DOWEL BAR ASSEMBLY WITH BOND BREAKER MATERIAL MEETING THE REQUIREMENTS OF SPEC 3302.

- ② DOWEL BAR ASSEMBLY:
-SIDE RAILS (0.306" DIAMETER MINIMUM).
-V-LEG OR U-LEG (0.243" DIAMETER MINIMUM).
-J-LEG (0.306" DIAMETER MINIMUM).
-SPACER WIRES (0.177" DIAMETER MAXIMUM).
-ANCHOR PINS STEM AND HOOK WIRE (0.306" DIAMETER MINIMUM).
-WELD ALL WIRE INTERSECTIONS.
-WELD ALTERNATE ENDS OF DOWEL BAR OR MECHANICALLY ATTACH DOWEL BAR.
-SUBMIT SHOP DRAWINGS OF CONSTRUCTION JOINT DOWEL ASSEMBLY FOR APPROVAL TO THE CONCRETE ENGINEER; ONE SHOP DRAWING IS REQUIRED FOR EACH METHOD USED TO FASTEN DOWEL BARS TO ASSEMBLY.

- ③ FABRICATION TOLERANCES:
- $\pm 1/4"$ PER LINEAR FOOT UNLESS OTHERWISE SPECIFIED.
-MANUFACTURE BASKETS SO THAT THE DOWELS ARE HORIZONTAL AND PARALLEL FROM EACH OTHER AND PERPENDICULAR TO THE BASKET
- $\pm 3/8"$ PER LINEAR FOOT.
-ON CENTER SHOULD BE $\pm 1/2"$.
-HEIGHT (Hc) TO CENTER $\pm 1/2"$.

DOWEL BAR TABLE ① ③		
† PAVEMENT DEPTH (INCHES)	DOWEL BAR DIAMETER (INCHES)	Hc HEIGHT TO CENTER (INCHES)
7 - 7½	1	3
8 - 10	1½	4
≥ 10½	1½	5

APPROVED: 01-29-2025

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**TYPICAL DOWEL BAR ASSEMBLY
CONSTRUCTION JOINT**

SPECIFICATION
REFERENCE
2301
3302

STANDARD
PLATE NO.
1103M

1 OF 1

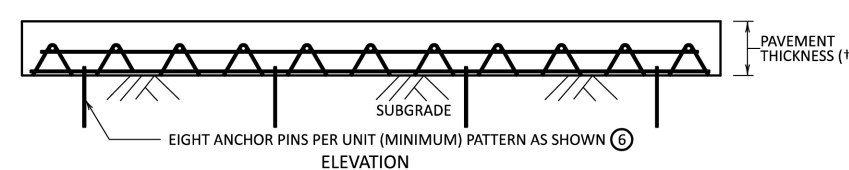
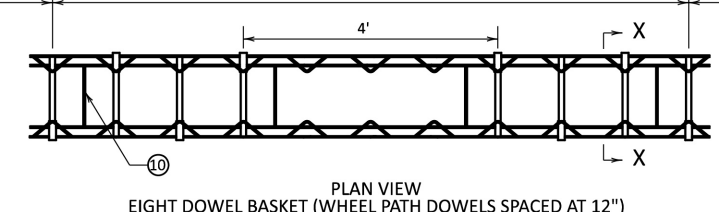
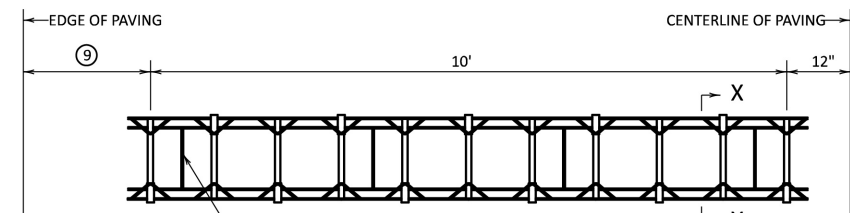
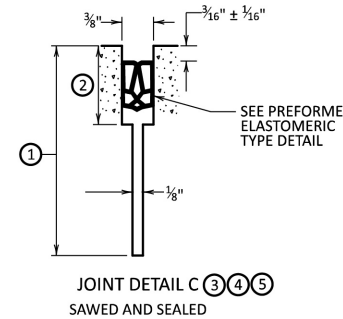
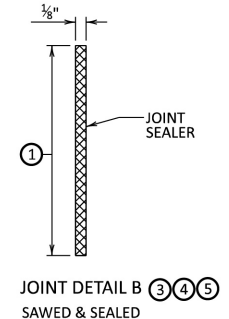
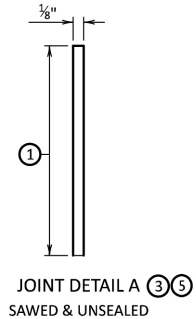
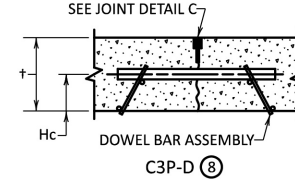
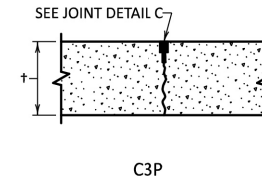
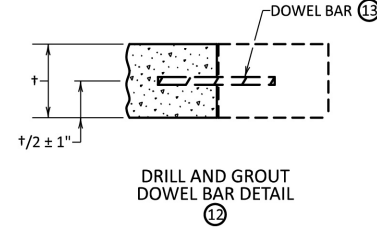
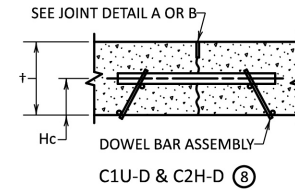
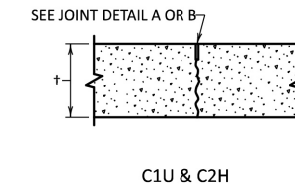
DATE	REVISION

DESIGNED BY: ---	DATE: ---
DRAWN BY: ---	FILE: 25-08
CHECKED BY: ---	

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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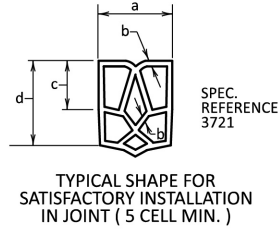
MNDOT CONCRETE REINFORCEMENT DETAILS

SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA



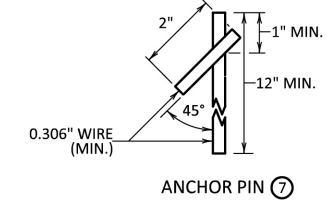
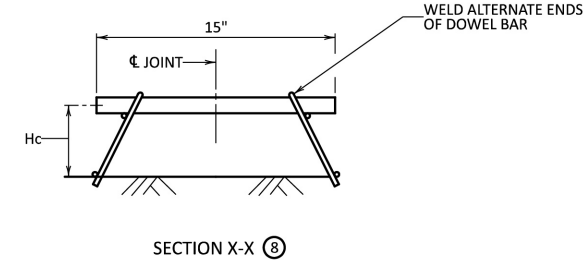
CONTRACTION JOINT DOWEL BAR ASSEMBLIES FOR 12' LANES OR GREATER (11)

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



PREFORMED ELASTOMERIC TYPE DETAIL (2)

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



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

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

NOTES:

- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE/RAMP PAVEMENT.
- SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO USE AND SPECIAL REINFORCEMENT REQUIREMENTS.
- (1) JOINT DEPTH AND TOLERANCE: $t/3 \pm 1/4"$.
- (2) JOINT TO FIT THE JOINT DESIGN WIDTH. "a" DIMENSION APPLIES AT ANY POINT THROUGHOUT "c" DEPTH. SHARP CORNERS NOT PERMITTED. PROVIDE CORNERS WITH SUITABLE FILLET.
- (3) WHEN WET-CUT SAWING, CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING. WHEN EARLY-ENTRY SAWING, USE AIR BLASTING TO REMOVE SAWING RESIDUE.
- (4) CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING. TOP OF JOINT SEALER 3725 FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE.
- (5) JOINT WIDTH TOLERANCE IS $+1/16"$ TO $-1/32"$.
- (6) EVENLY SPACE A MINIMUM OF EIGHT ANCHOR PINS (FOUR PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE IN ACCORDANCE WITH SPEC. 2301.
- (7) ANCHOR PIN REQUIREMENTS FOR CONCRETE PAVEMENT ON GRADE CONSTRUCTION. FOR CONCRETE OVERLAYS, ANCHOR PIN REQUIREMENT AS APPROVED BY THE ENGINEER.
- (8) TOLERANCES:
 - PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE, $\pm 1/8"$ IN 15".
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT, $\pm 1/4"$ IN 15".
 - SAW CONTRACTION JOINTS PERPENDICULAR TO THE CENTERLINE OF THE PAVEMENT AND CENTERED ON THE DOWEL BAR, $\pm 3"$.
 - HEIGHT (Hc) TO CENTER OF DOWEL BAR: $\pm 1/2"$.

- (9) DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
 - 3' 0" FOR 14' 0" LANE.
 - 2' 6" FOR 13' 6" LANE.
 - 2' 0" FOR 13' 0" LANE.
 - 1' 0" FOR 12' 0" LANE.
- (10) CONTRACTOR OPTION TO CUT AND BEND SPACER WIRES AFTER STAKING.
- (11) REMOVE ONE DOWEL BAR PER FOOT OF LANE WIDTH REDUCTION LESS THAN 12'.
- (12) DRILL THE HOLE 1/8" WIDER THAN THE NOMINAL OUTSIDE DIAMETER OF THE BAR TO A DEPTH OF 9". INJECT A MnDOT-APPROVED EPOXY OR NON-SHRINK GROUT IN THE BACK OF THE DRILL HOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- (13) PROVIDE DOWEL BAR, 18" LONG, SPACED AT 12" ON CENTER.

	LEAD EXPERT OFFICE CURT TURGEON DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH	PAVEMENT JOINTS CONTRACTION (DESIGN C)	APPROVED: 01-30-2025 THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.221	1 OF 5
	STANDARD PLAN		STATE PROJ. NO.	SHEET NO.	
		TRUNK HWY.		TOTAL SHEETS	

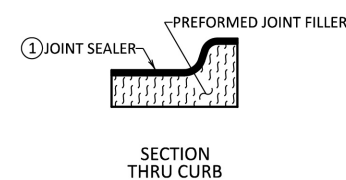
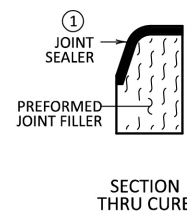
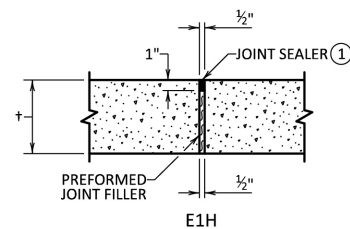
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DESIGNED BY: ---	DATE: ---
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MNDOT CONCRETE REINFORCEMENT DETAILS

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE			
JOINT REFERENCE	PREFORMED JOINT FILLER SPEC.	JOINT SEALER SPEC.	JOINT WIDTH
E1H	3702	3725	1/2"

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

NOTES:

PROVIDE PREFORMED JOINT FILLER MATERIAL IN ACCORDANCE WITH SPEC. 3702.

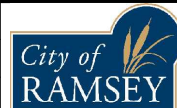
FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

① JOINT SEALER SPEC. 3725. CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE.

	LEAD EXPERT OFFICE CURT TURGEON DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH	PAVEMENT JOINTS EXPANSION (DESIGN E)	APPROVED: 01-30-2025 THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.221	2 OF 5
	STANDARD PLAN			STATE PROJ. NO.	SHEET NO.
			TRUNK HWY.	TOTAL SHEETS	

DATE	REVISION

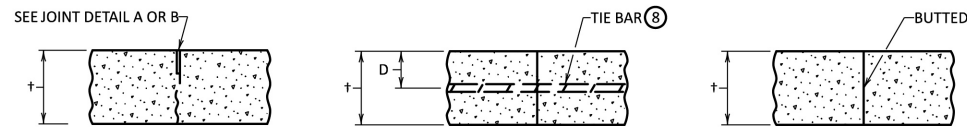
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MNDOT CONCRETE REINFORCEMENT DETAILS

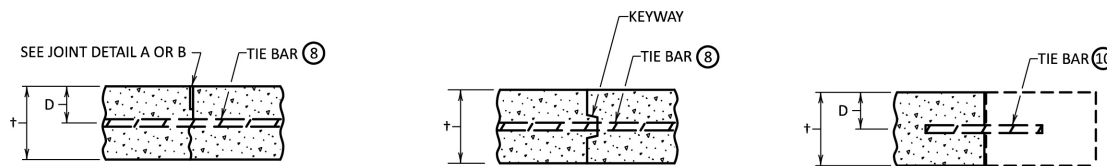
SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



L1U & L1H

L2TU ②③

L3U



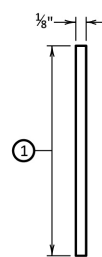
L1TU & L1TH ①⑧

L2KTU ②⑥

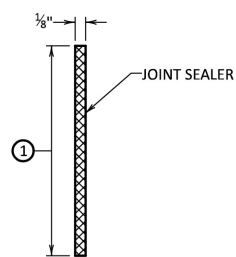
DRILL AND GROUT REINFORCEMENT BAR DETAIL ⑧⑩

LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE					
JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1TU		A	UNSEALED	3/8"
L1H	L1TH		B	3725	3/8"
	L2TU	L2KTU	NONE	UNSEALED	
L3U			NONE	UNSEALED	

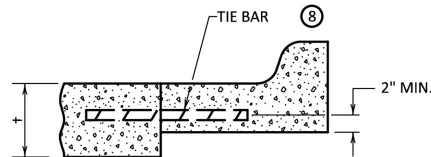
LEGEND		EXAMPLE
L	= LONGITUDINAL JOINT	L2KTU
NO.	= JOINT REFERENCE	
1	= PAVED CONSTRUCTION JOINT	
2	= TIED CONSTRUCTION JOINT	
3	= BUTTED CONSTRUCTION JOINT	
K	= KEYWAY	
T	= TIE BARS	
U	= UNSEALED	
H	= HOT POURED	



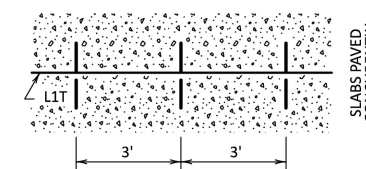
JOINT DETAIL A ③⑤
SAWED & UNSEALED



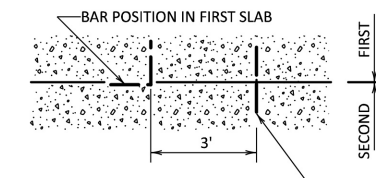
JOINT DETAIL B ④⑤
SAWED & SEALED



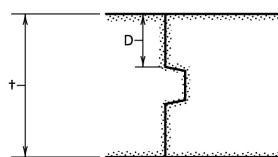
SECTION THRU CURB ⑦



L1T PAVING DETAIL



L2T & L2KT TIE BAR BENDING AND PAVING DETAIL ②



PAVEMENT KEYWAY DETAIL ⑥

FIXED FORM KEYWAY TABLE ⑥	
† PAVEMENT THICKNESS	D (MINIMUM DEPTH)
< 7"	2 1/2"
7" TO 7 1/2"	3"
8" TO 9 1/2"	4"
≥ 10"	5"

SLIPFORM KEYWAY TABLE ⑥	
† PAVEMENT THICKNESS	D (MINIMUM DEPTH)
< 10"	NO KEYWAY
≥ 10"	5"

NOTES:

- ① PROVIDE EPOXY-COATED TIE BARS COMPLYING WITH SPEC. 3301.
- ② FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ③ SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.
- ④ SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO USE AND SPECIAL REINFORCEMENT REQUIRED.
- ⑤ FOR LONGITUDINAL JOINTS SAWED WIDER THAN 3/8", CONTACT THE CONCRETE UNIT FOR SEALING RECOMMENDATIONS.
- ⑥ JOINT DEPTH AND TOLERANCE: $\pm 3 \pm 1/4"$.
- ⑦ BEND THE BARS 90 DEGREES WHEN INSERTED IN THE L2 JOINTS, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.
- ⑧ CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- ⑨ CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING WHEN SEALING IS REQUIRED.
- ⑩ JOINT WIDTH TOLERANCE IS $\pm 1/16"$ TO $-1/32"$.

- ⑥ CONTRACTOR'S OPTION TO USE KEYWAY WHEN:
 - PLACING FIXED FORM CONSTRUCTION.
 - PLACING SLIPFORM CONSTRUCTION WHEN $\pm \ge 10"$.
 USE OF KEYWAY FOR ANY OTHER APPLICATION REQUIRES APPROVAL BY THE ENGINEER. OTHER KEYWAY SHAPES MAY BE USED WITH THE APPROVAL OF THE CONCRETE ENGINEER.
- ⑦ WHEN CURB AND GUTTER IS NOT CONSTRUCTED AT THE SAME DEPTH AS ADJACENT CONCRETE, PLACE TIE BAR A MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.
- ⑧ PROVIDE NO. 4 TIE BAR, 30" LONG, SPACED AT 3' ON CENTER AT A DEPTH (D) BETWEEN $t/2$ AND $t/2$ PLUS 1".
- ⑨ DRILL THE HOLE 3/8" WIDER THAN THE NOMINAL OUTSIDE DIAMETER OF THE REINFORCEMENT BAR TO A DEPTH OF 9". INJECT A MnDOT-APPROVED EPOXY OR NON-SHRINK GROUT IN THE BACK OF THE DRILL HOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ⑩ PROVIDE NO. 4 TIE BAR, 18" LONG, SPACED AT 3' ON CENTER AT A DEPTH (D) BETWEEN $t/2$ AND $t/2$ PLUS 1".

	LEAD EXPERT OFFICE CURT TURGEON DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH	PAVEMENT JOINTS LONGITUDINAL (DESIGN L)	APPROVED: 01-30-2025 THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.221	3 OF 5
	STANDARD PLAN			STATE PROJ. NO.	SHEET NO.
			TRUNK HWY.	TOTAL SHEETS	

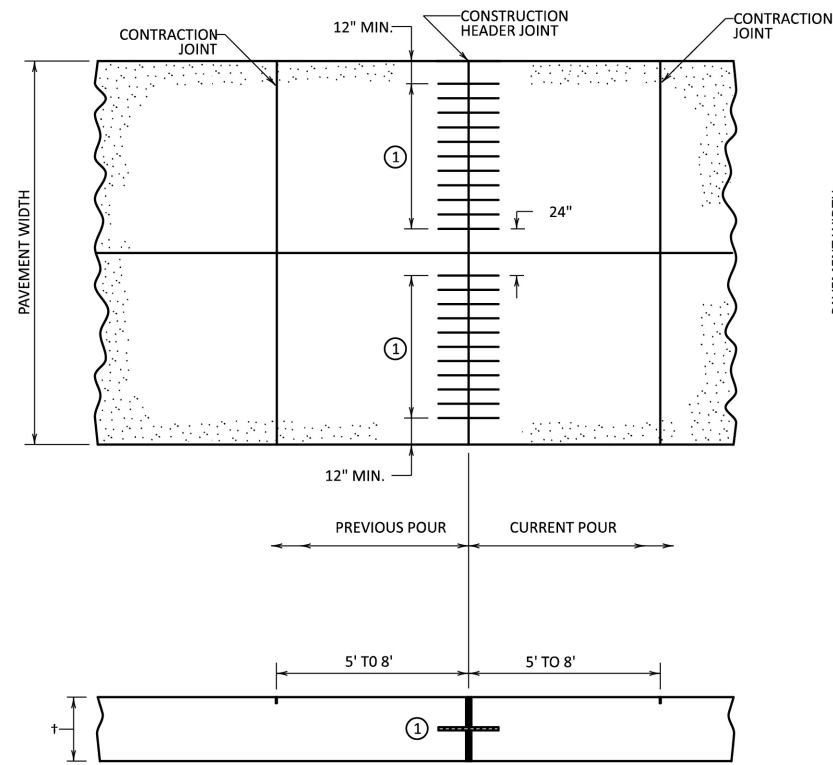
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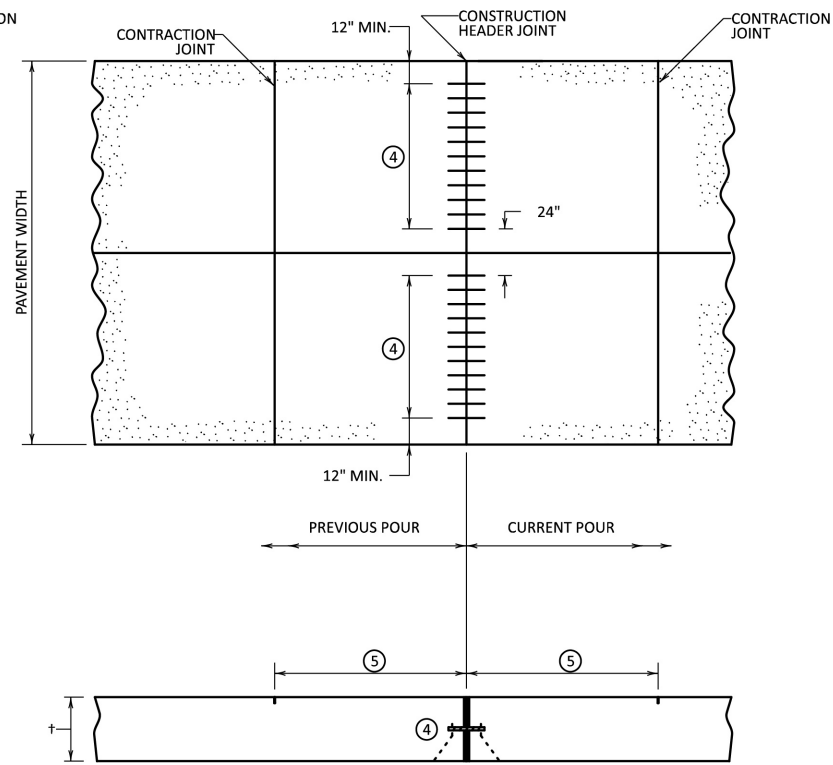
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MNDOT CONCRETE REINFORCEMENT DETAILS

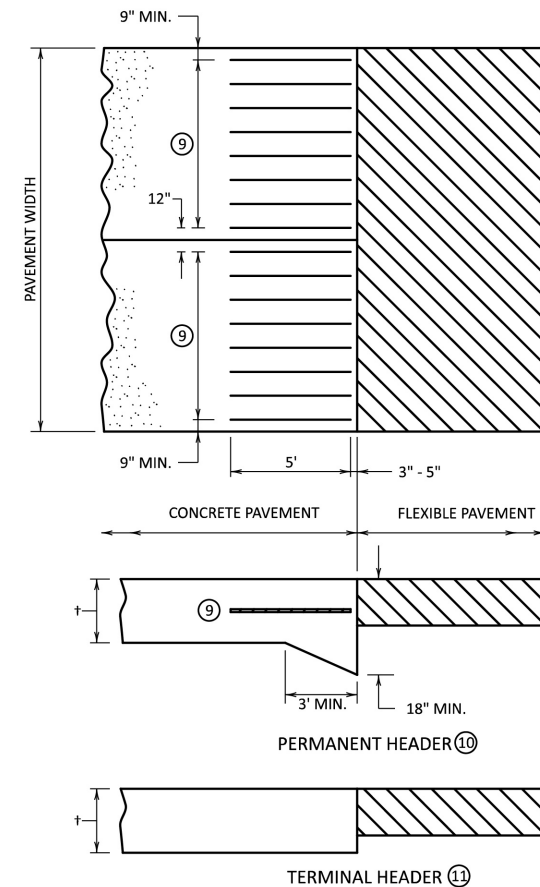
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 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



REINFORCEMENT BAR CONSTRUCTION HEADERS



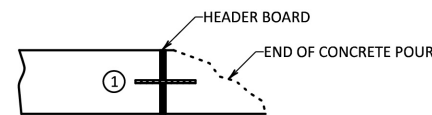
DOWEL BAR CONSTRUCTION HEADERS



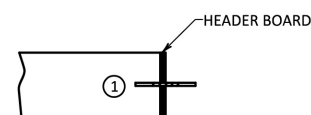
NOTES:

PROVIDE EPOXY-COATED TIE BARS COMPLYING WITH SPEC. 3301.

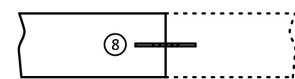
- ① PROVIDE NO. 4 REINFORCEMENT BARS, 30" LONG, SPREAD 12" ON CENTER AT DEPTH OF $t/2 \pm 1"$.
- ② PAVE PAST THE HEADER LOCATION. REMOVE END OF CONCRETE POUR. SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. INSERT THE REINFORCEMENT BARS AND FINISH THE CONCRETE BEHIND THE BOARD.
- ③ SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. PLACE THE CONCRETE BEHIND THE BOARD AND INSERT THE REINFORCEMENT BARS. CONSOLIDATE AND FINISH THE CONCRETE BEHIND THE HEADER BOARD.
- ④ PROVIDE DOWEL BARS IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
- ⑤ DISTANCE EQUAL TO OR LESS THAN THE DESIGNED CONTRACTION JOINT SPACING IN ACCORDANCE WITH THE CONTRACT.
- ⑥ PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION. SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PAVE PAST THE HEADER LOCATION AND FINISH CONCRETE BEHIND THE HEADER BOARD. THOROUGHLY REMOVE ALL CONCRETE FROM THE EXPOSED DOWELS.
- ⑦ PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION. SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PLACE, CONSOLIDATE, AND FINISH THE CONCRETE BEHIND THE HEADER BOARD.
- ⑧ DRILL AND GROUT 18" LONG DOWEL OR REINFORCEMENT BARS SPACED AT 12" ON CENTER AT A DEPTH OF $t/2 \pm 1"$. DRILL THE HOLE $1/8"$ GREATER THAN THE NOMINAL OUTSIDE DIAMETER OF THE BAR BEING PLACED TO A DEPTH OF 9". INJECT A MNDOT-APPROVED EPOXY OR NON-SHRINK GROUT IN THE BACK OF THE DRILL HOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - FOR DOWEL BAR HEADERS, USE DOWEL BARS HAVING A DIAMETER IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
 - FOR REINFORCEMENT BAR HEADERS, USE NO. 4 REINFORCEMENT BARS.
- ⑨ PROVIDE NO. 7 REINFORCEMENT BARS, 5' LONG, SPACED 18" ON CENTER AT DEPTH OF $t/2 \pm 1"$.
- ⑩ USE PERMANENT HEADER WHEN LONG SECTIONS OF CONCRETE (400' OR GREATER) ABUT BITUMINOUS. CONTACT THE CONCRETE UNIT WHEN FUTURE CONCRETE IS BEING CONSTRUCTED ADJACENT TO AN EXISTING PERMANENT HEADER.
- ⑪ USE TERMINAL HEADER WHEN SHORT SECTIONS OF CONCRETE (LESS THAN 400') ABUT BITUMINOUS (ON SIDE STREETS, FOR EXAMPLE).



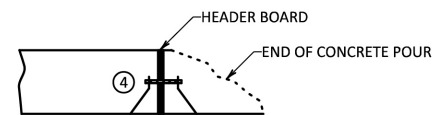
SLIPFORM PLACED REINFORCEMENT BAR HEADER ②



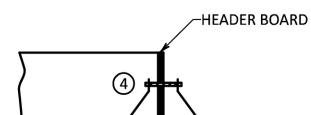
FIXED FORM PLACED REINFORCEMENT BAR HEADER ③



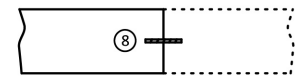
DRILL AND GROUT REINFORCEMENT BAR HEADER



SLIPFORM PLACED DOWEL BAR HEADER ⑥



FIXED FORM PLACED DOWEL BAR HEADER ⑦



DRILL AND GROUT DOWEL BAR HEADER

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	STANDARD PLAN			STATE PROJ. NO. TRUNK HWY.	SHEET NO. TOTAL SHEETS	

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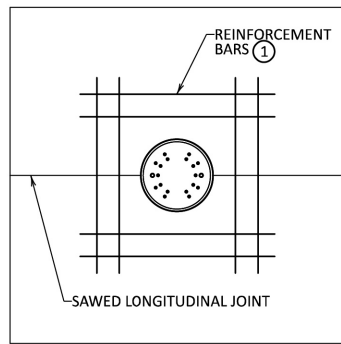
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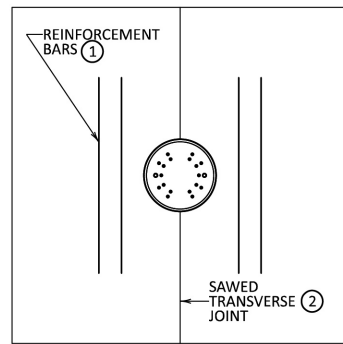
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MNDOT CONCRETE REINFORCEMENT DETAILS

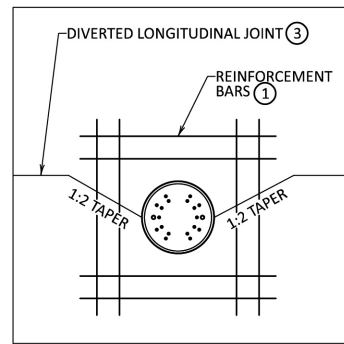
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 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



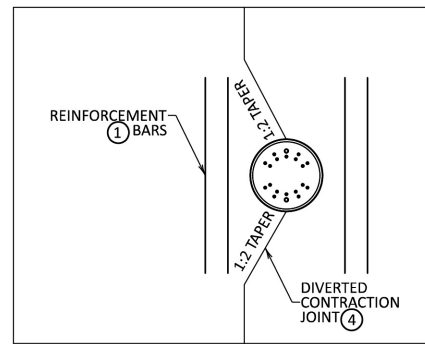
MANHOLE WITH LONGITUDINAL JOINT



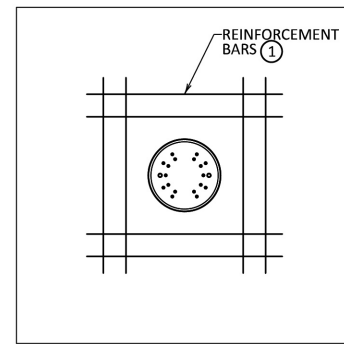
MANHOLE WITH CONTRACTION JOINT



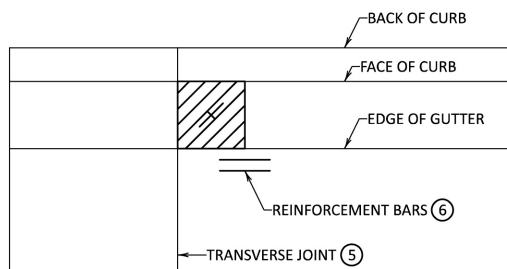
MANHOLE WITH DIVERTED LONGITUDINAL JOINT



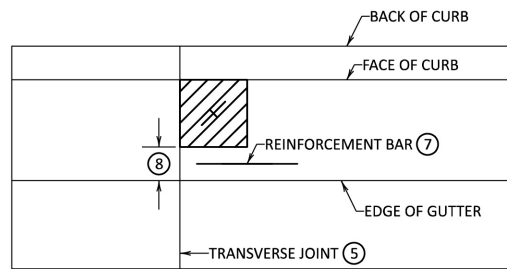
MANHOLE WITH DIVERTED CONTRACTION JOINT



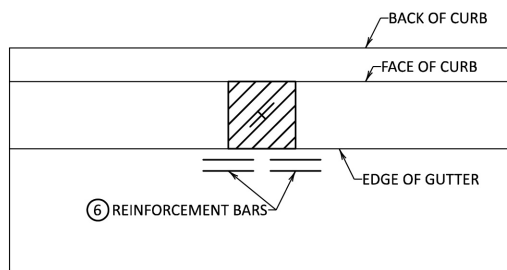
MANHOLE WITH NO JOINTS



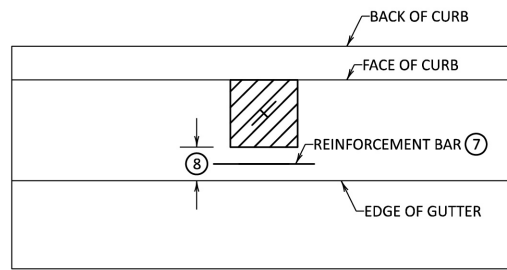
INLET WITH CONTRACTION JOINT



INLET WITH CONTRACTION JOINT (GUTTER WIDTHS GREATER THAN 24 ")



INLET WITHOUT CONTRACTION JOINT



INLET WITHOUT CONTRACTION JOINT (GUTTER WIDTHS GREATER THAN 24 ")

NOTES:

PROVIDE EPOXY-COATED REINFORCEMENT BARS COMPLYING WITH SPEC. 3301.

DO NOT FORM "BOX-OUTS" OF CASTINGS UNLESS APPROVED BY THE ENGINEER.

- ① PLACE NO. 4 REINFORCEMENT BARS AT 8" AND 16" FROM THE EDGE OF THE MANHOLE. PLACE REINFORCEMENT BARS ON CHAIRS AT A DEPTH OF $\pm/2 \pm 1/4"$.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE WHERE POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2' OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2', DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT BARS AROUND THE MANHOLE.
- ④ IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE CONTRACTION JOINT IS LESS THAN 4', DIVERT THE CONTRACTION JOINT AT A 2:1 TAPER TO THE CENTER OF THE MANHOLE. DO NOT DOWEL THE TAPER. IF THE DISTANCE IS 4' OR GREATER, DO NOT DIVERT THE JOINT. WHENEVER POSSIBLE, MOVING THE CONTRACTION JOINT TO A DISTANCE 4' OR GREATER IS PREFERRED OVER DIVERTING THE JOINT.
- ⑤ ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHERE PRACTICAL.
- ⑥ PLACE TWO NO. 4 x 18" REINFORCEMENT BARS SPACED 4" AND 10" FROM LONGITUDINAL JOINT.
- ⑦ PLACE NO. 4 x 36" REINFORCEMENT BAR BETWEEN INLET AND EDGE OF GUTTER.
- ⑧ FILL IN ANY GAP THAT IS 1" OR LESS USING BACKER ROD AND HOT POUR.

	LEAD EXPERT OFFICE CURT TURGEON DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH	PAVEMENT JOINTS UTILITY FIXTURES	APPROVED: 01-30-2025	 THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.221	5 OF 5
	STANDARD PLAN			STATE PROJ. NO. TRUNK HWY.	SHEET NO. TOTAL SHEETS	

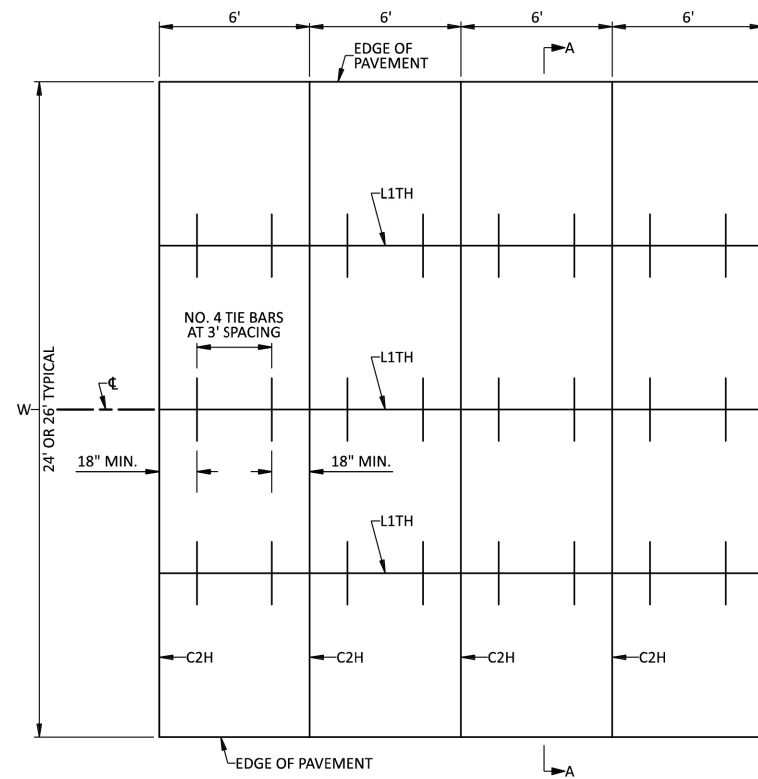
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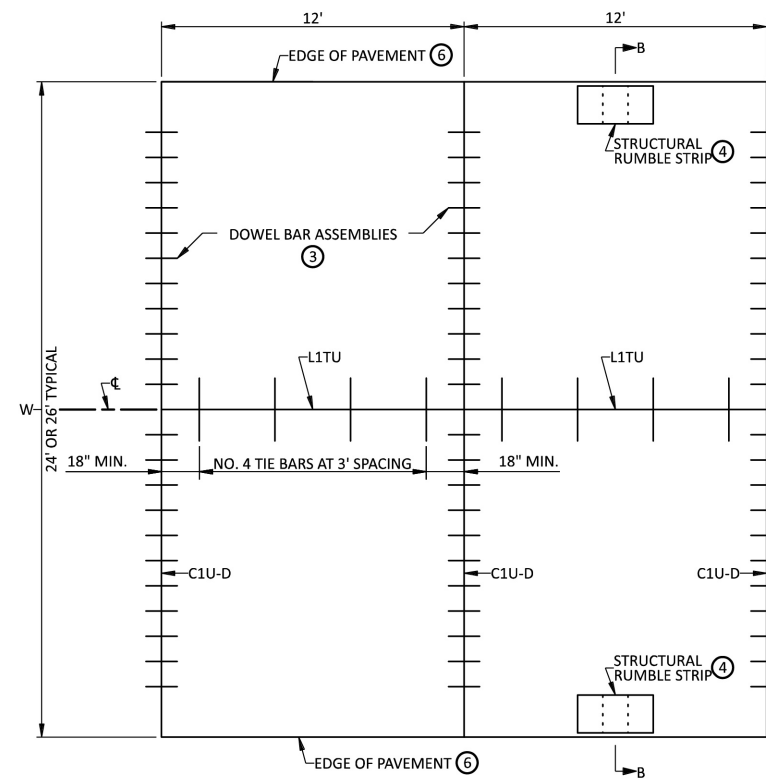
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MNDOT CONCRETE REINFORCEMENT DETAILS

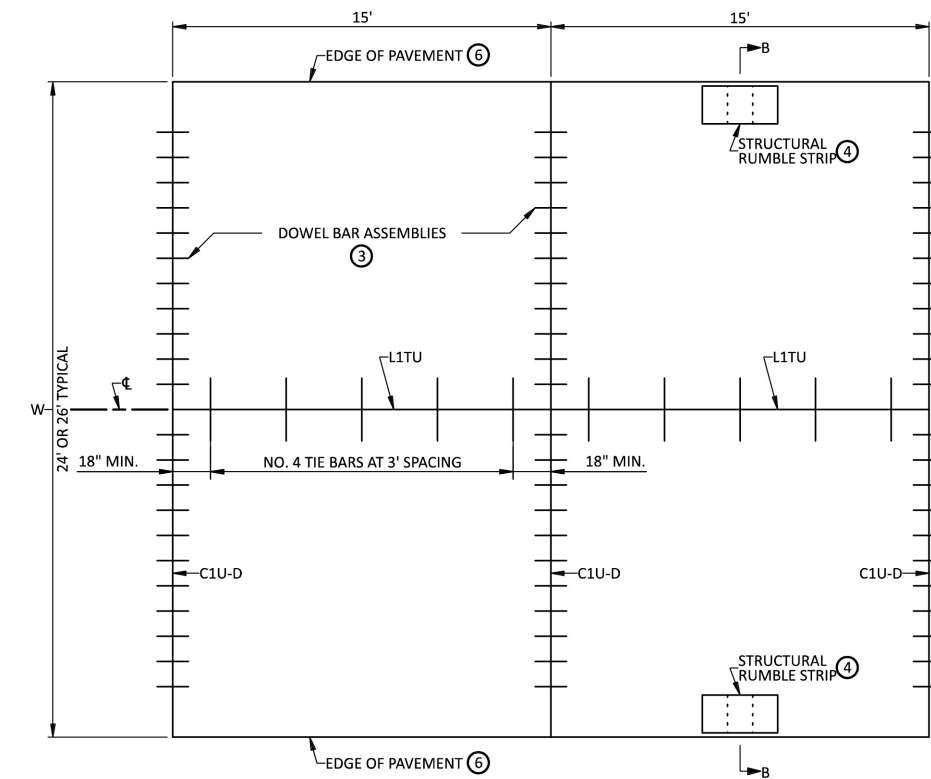
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 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



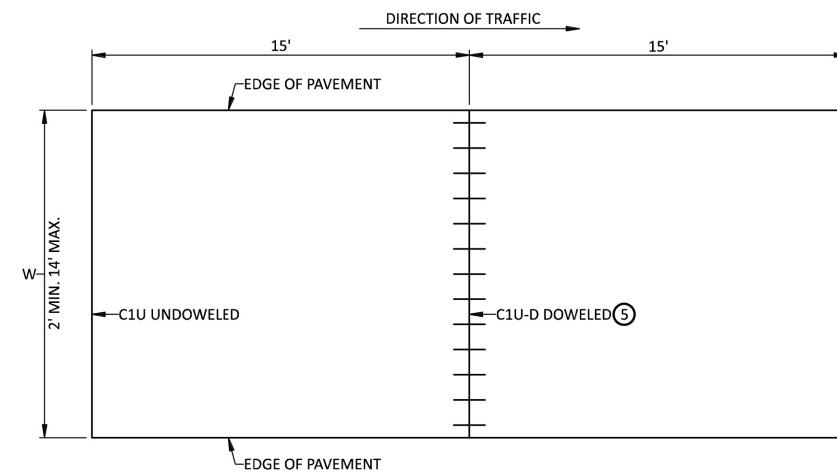
**MAINLINE PAVEMENT
UNDOWELED
(PAVEMENT THICKNESS LESS THAN 7")**



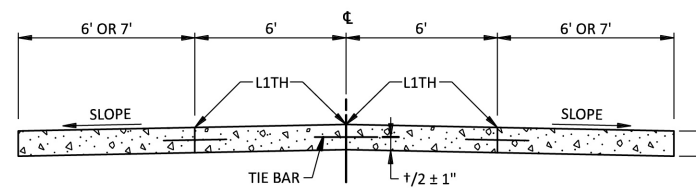
**MAINLINE PAVEMENT
DOWELED
(PAVEMENT THICKNESS FROM 7" TO 7 1/2")**



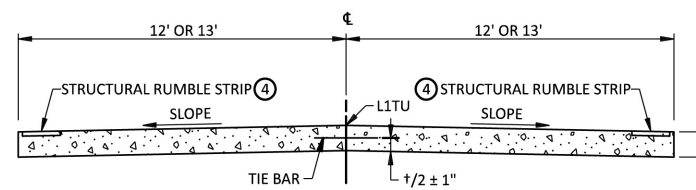
**MAINLINE PAVEMENT
DOWELED
(PAVEMENT THICKNESS 8" AND GREATER)**



**PAVEMENT 2' THRU 14' WIDTH
UNDOWELED OR DOWELED**
①②



SECTION A-A



SECTION B-B

NOTES:

- SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES, LANE WIDTHS AND PAVEMENT THICKNESS.
- PROVIDE EPOXY COATED TIE BARS COMPLYING WITH SPEC. 3301.
- FOR SUPPLEMENTAL PAVEMENT REINFORCEMENT, SEE STANDARD PLATE 1070.
- FOR DOWEL BAR ASSEMBLIES, SEE STANDARD PLATE 1103.
- FOR SAFETY EDGE DETAILS, SEE STANDARD PLAN 5-297.220.
- FOR PAVEMENT JOINT DETAILS, SEE STANDARD PLAN 5-297.221.

- ① ADD A LONGITUDINAL JOINT DOWN THE MIDDLE OF THE LANE WHEN THE PAVING WIDTH IS GREATER THAN 14'.
- ② IN PAVEMENT TAPER AREAS 6' WIDE OR LESS, PLACE A NO. 4 REINFORCEMENT BAR 4" FROM AND ALONG EACH SIDE OF THE TAPERING PANEL.
- ③ PROVIDE 11 DOWEL BARS PER BASKET FOR NEW/RECONSTRUCTED PAVEMENTS. PROVIDE 8 WHEEL PATH DOWEL BARS PER BASKET FOR CONCRETE OVERLAYS.
- ④ SEE PLANS FOR RUMBLE STRIP DETAILS. CONSTRUCT STRUCTURAL RUMBLE STRIPS (INCIDENTAL) IN THE PLASTIC CONCRETE WHERE THE PAVEMENT WIDTH (W) IS GREATER THAN 24' AND THERE IS NO OUTSIDE CONCRETE SHOULDER ADDED.
- ⑤ PROVIDE DOWELS WHEN PAVEMENT WIDTH IS GREATER THAN OR EQUAL TO 4'.
- ⑥ PROVIDE AN L1TU OR L2TU JOINT WHEN ADDING OUTSIDE CONCRETE SHOULDER.

	LEAD EXPERT OFFICE CURT TURGEON DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH	CONCRETE MAINLINE PAVEMENT TWO-LANE ROADWAY	APPROVED: 01-30-2025	 THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.217	1 OF 2
	STANDARD PLAN			STATE PROJ. NO.	SHEET NO.	
				TRUNK HWY.	TOTAL SHEETS	

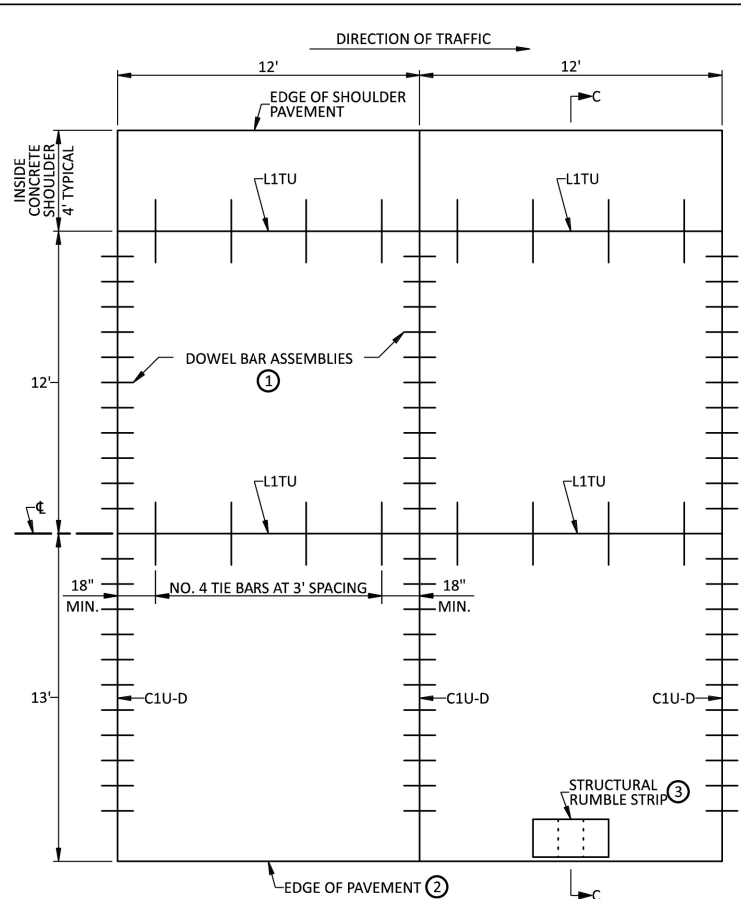
DATE	REVISION

DESIGNED BY: ---	DATE: ---
DRAWN BY: ---	FILE: 25-08
CHECKED BY: ---	

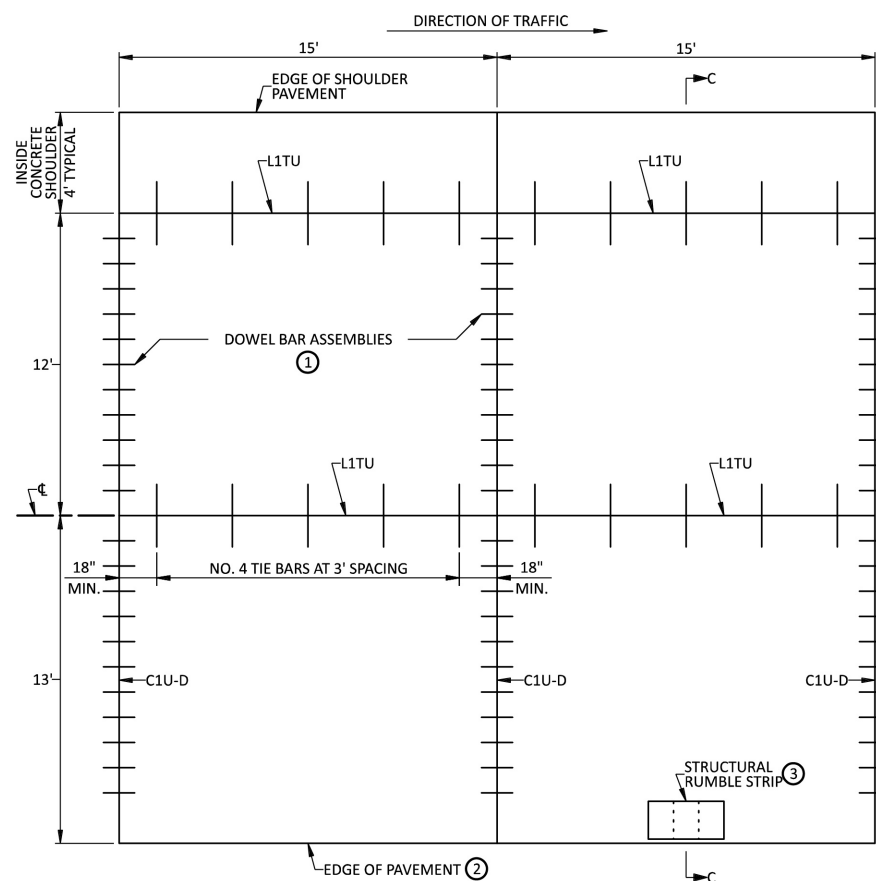
CITY OF RAMSEY
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

MNDOT CONCRETE REINFORCEMENT DETAILS

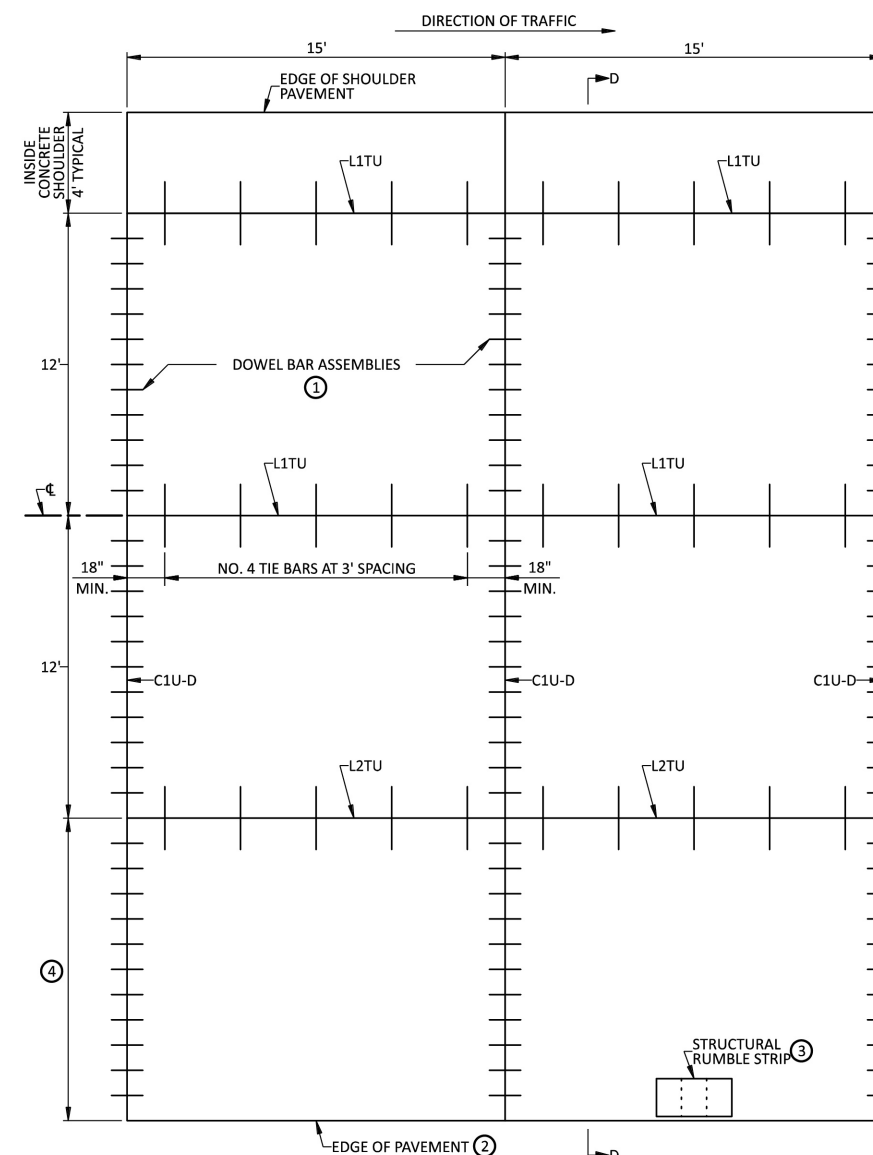
SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



**MAINLINE PAVEMENT WITH INSIDE CONCRETE SHOULDERS
(4 LANE DIVIDED)
DOWELED
(PAVEMENT THICKNESS FROM 7" TO 7½")**



**MAINLINE PAVEMENT WITH INSIDE CONCRETE SHOULDERS
(4 LANE DIVIDED)
DOWELED
(PAVEMENT THICKNESS 8" AND GREATER)**

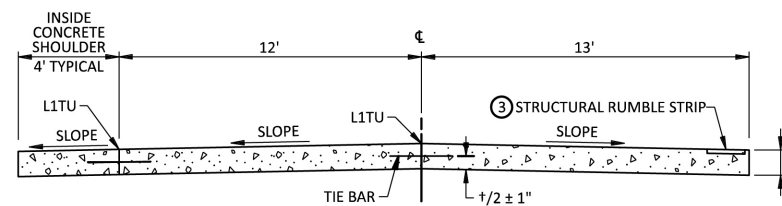


**MAINLINE PAVEMENT
(MULTIPLE LANE DIVIDED)
DOWELED**

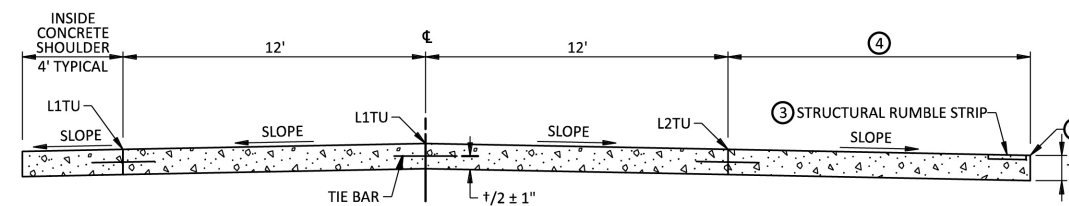
NOTES:

- SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES, LANE WIDTHS AND PAVEMENT THICKNESS.
- PROVIDE EPOXY COATED TIE BARS COMPLYING WITH SPEC. 3301.
- FOR SUPPLEMENTAL PAVEMENT REINFORCEMENT, SEE STANDARD PLATE 1070.
- FOR DOWEL BAR ASSEMBLIES, SEE STANDARD PLATE 1103.
- FOR SAFETY EDGE DETAILS, SEE STANDARD PLAN 5-297.220.
- FOR PAVEMENT JOINT DETAILS, SEE STANDARD PLAN 5-297.221.

- ① PROVIDE 11 DOWEL BARS PER BASKET ASSEMBLY FOR NEW/RECONSTRUCTED PAVEMENTS. PROVIDE 8 WHEEL PATH DOWEL BARS PER BASKET ASSEMBLY FOR CONCRETE OVERLAYS.
- ② PROVIDE AN L1TU OR L2TU JOINT WHEN ADDING AN OUTSIDE CONCRETE SHOULDER.
- ③ SEE PLANS FOR RUMBLE STRIP DETAILS. CONSTRUCT STRUCTURAL RUMBLE STRIPS (INCIDENTAL) IN THE PLASTIC CONCRETE WHEN THERE IS NO OUTSIDE CONCRETE SHOULDER OR CURB AND GUTTER ADDED.
- ④ 13'-WIDE LANE WHEN HMA SHOULDERS ARE USED, OTHERWISE 12'-WIDE LANE.



SECTION C-C



SECTION D-D

	LEAD EXPERT OFFICE CURT TURGEON DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH	CONCRETE MAINLINE PAVEMENT DIVIDED ROADWAY	APPROVED: 01-30-2025 THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.217	2 OF 2
	STATE PROJ. NO. TRUNK HWY.	SHEET NO. TOTAL SHEETS	STANDARD PLAN		

DATE	REVISION

DESIGNED BY: ---	DATE: ---
DRAWN BY: ---	FILE: 25-08
CHECKED BY: ---	

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

MNDOT CONCRETE REINFORCEMENT DETAILS

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

SUNWOOD DRIVE CROSSWALK REPAIRS

CITY OF RAMSEY ANOKA COUNTY, MINNESOTA

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:

Construction activities include; Site Grading, Temporary Erosion and Sediment Control, Roadway Construction, and Permanent Stabilization.

Project Description: This project consists of reconstructing 6 intersections on Sunwood Dr, replacing existing colored concrete sections with standard reinforced concrete and crosswalk markings. The project also includes the replacement of 10 pedestrian ramps adjacent to the intersections. The drainage for the existing streets use concrete curb & gutter and storm sewer which will remain the same. Outfall locations will remain the same. Runoff generally drains into storm sewer and East to the COR infiltration pond.

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	LOGAN CZECH	763-453-2531
CONTRACTOR:			
SITE 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:

- Names of trained personnel associated with this project.
- Dates of training, names of instructor(s) and entity providing training.
- Content of training course or workshop including the number of hours trained.
- 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 from the date of submittal of the NOT.

- The final SWPPP.
- Copies of all stormwater related permits required for the project.
- Records of all inspection and maintenance conducted during construction.
- Copies of all permanent operation and maintenance agreements; including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance.
- All required calculations for design of temporary and permanent BMP's.

IMPLEMENTATION SCHEDULE AND PHASING:

- Furnish & Install inlet protection.
- Removal of existing colored concrete and pedestrian ramps.
- Rough grade site.
- Furnish & install curb & gutter.
- Furnish & install pedestrian ramps.
- Furnish & install concrete pavement.
- Add additional temporary BMP's as necessary during construction based on inspection reports.
- 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:

- 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;
 - All drainage ditches, constructed to drain water from the site after construction is complete, must be stabilized to preclude erosion;
 - 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
 - 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.
- Final vegetation cover shall be in the Project Specifications.
- 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:

- 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.
- 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.
- 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:

- The expected amount, frequency, intensity and duration of precipitation.
- The nature of stormwater runoff and run-on at the site.
- Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
- The range of soil particle sizes expected to be present on the site.

RECEIVING WATERS:

Receiving 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?
MISSISSIPPI RIVER	RIVER	YES	YES	YES
Hg-F; Nutrients				

PROJECT AREAS:

Total project size (disturbed area) =	0.48 acres
Existing area of impervious surface =	0.46 acres
Post construction area of impervious surface =	0.46 acres
Impervious surface area increased =	0.00 acres
Planned construction start date:	May 2026
Planned construction completion date:	August 2026

PROJECT LOCATION:

County: ANOKA Township: 32 Range: 25 Section: 28 Latitude: 45.233552 Longitude: -93.462514

PERMANENT STORMWATER MANAGEMENT SYSTEM:

Type of storm water management used if more than 1 acre of new impervious surface is created:

- Wet Sedimentation Pond
- Infiltration / Filtration
- Regional Pond
- Permanent Stormwater Management Not Required

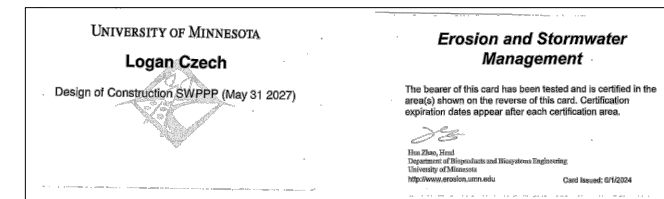
LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN:

DESCRIPTION	LOCATION
TEMPORARY EROSION CONTROL MEASURES	SHEETS No. 21 - 25
FINAL STABILIZATION	SHEETS No. 32 - 37
EROSION AND SEDIMENT CONTROL DETAILS	SHEET No. 04

EROSION AND SEDIMENT CONTROL QUANTITIES:

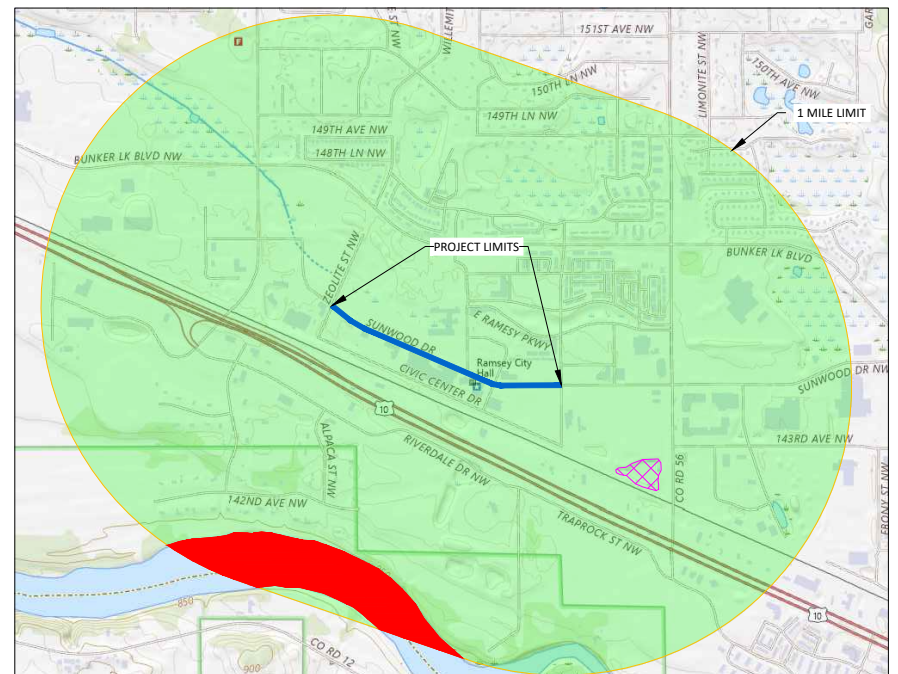
STORM DRAIN INLET PROTECTION	EA	16
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CERTIFICATION:



LEGEND

	PROJECT LIMITS		RECEIVING WATER
	1 MILE LIMIT		IMPAIRED WATER

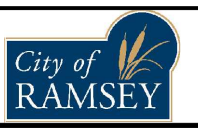


DATE	REVISION

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 01/02/26 Lic. No. 57095

DESIGNED BY:	LWC
DRAWN BY:	LWC
CHECKED BY:	JJF



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

SWPPP

SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA

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. Remove concrete pavement and pedestrian ramps.
6. Grade and compact base material.
7. Furnish & install curb & gutter.
8. Furnish & install pedestrian ramps.
9. Furnish & install concrete pavement.
10. Complete restoration per plan.
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:

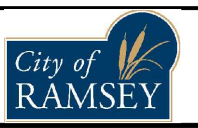
1. The permittee(s) (either the owner or operator, whoever is identified in the SWPPP) must routinely inspect the construction site once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5-inches in 24 hours. Following an inspection that occurs 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 ½ 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.
 - f. 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

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 01/02/26 Lic. No. 57095

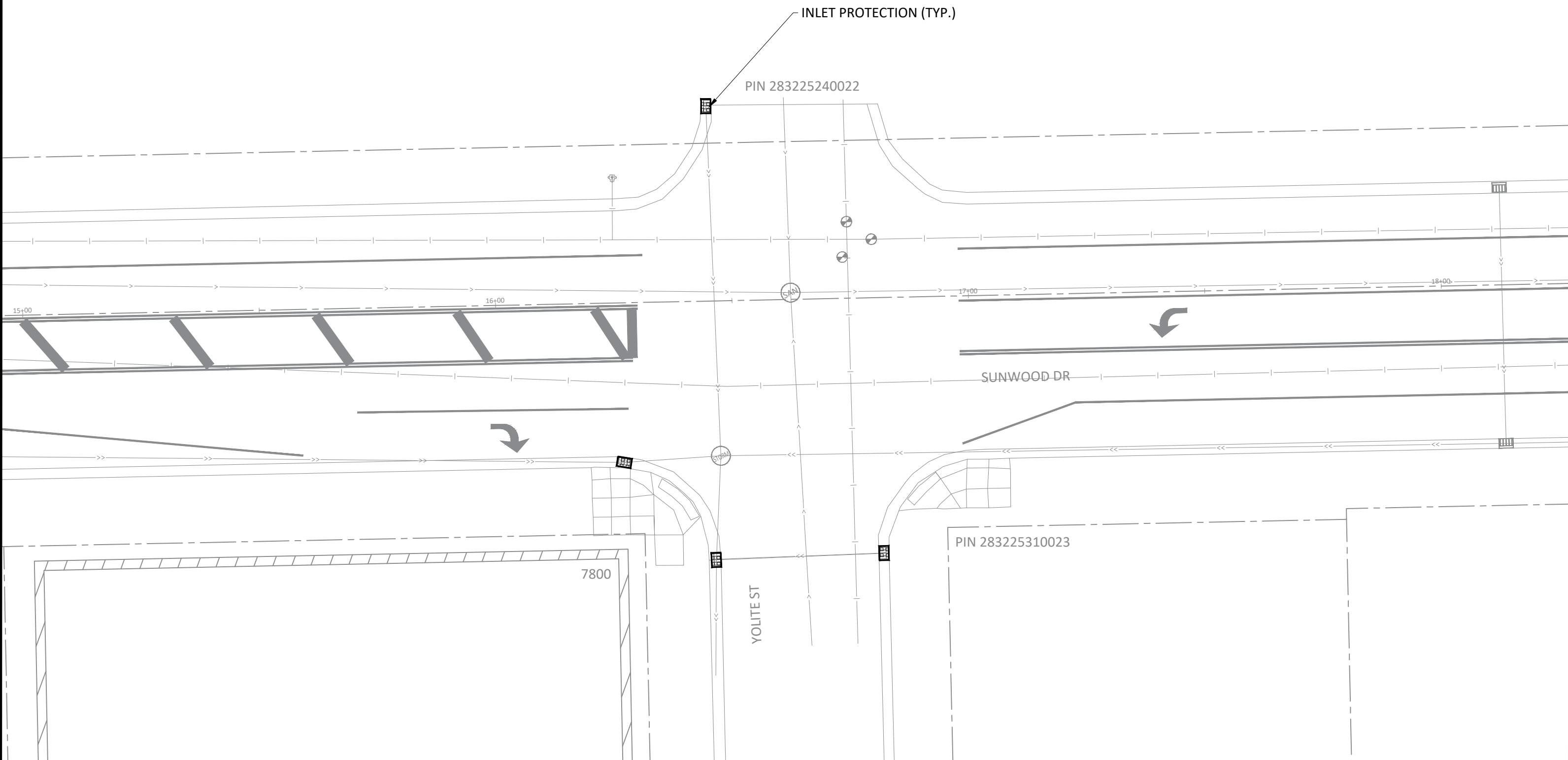
DESIGNED BY:	LWC	DATE:	01/02/26
DRAWN BY:	LWC	FILE:	25-08
CHECKED BY:	JJF		



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

SWPPP

SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



LEGEND



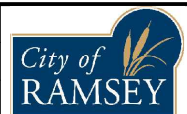
INLET PROTECTION

DATE	REVISION

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Joe Feriancek
 JOE FERIANCEK
 Date 01/02/26 Lic. No. 57095

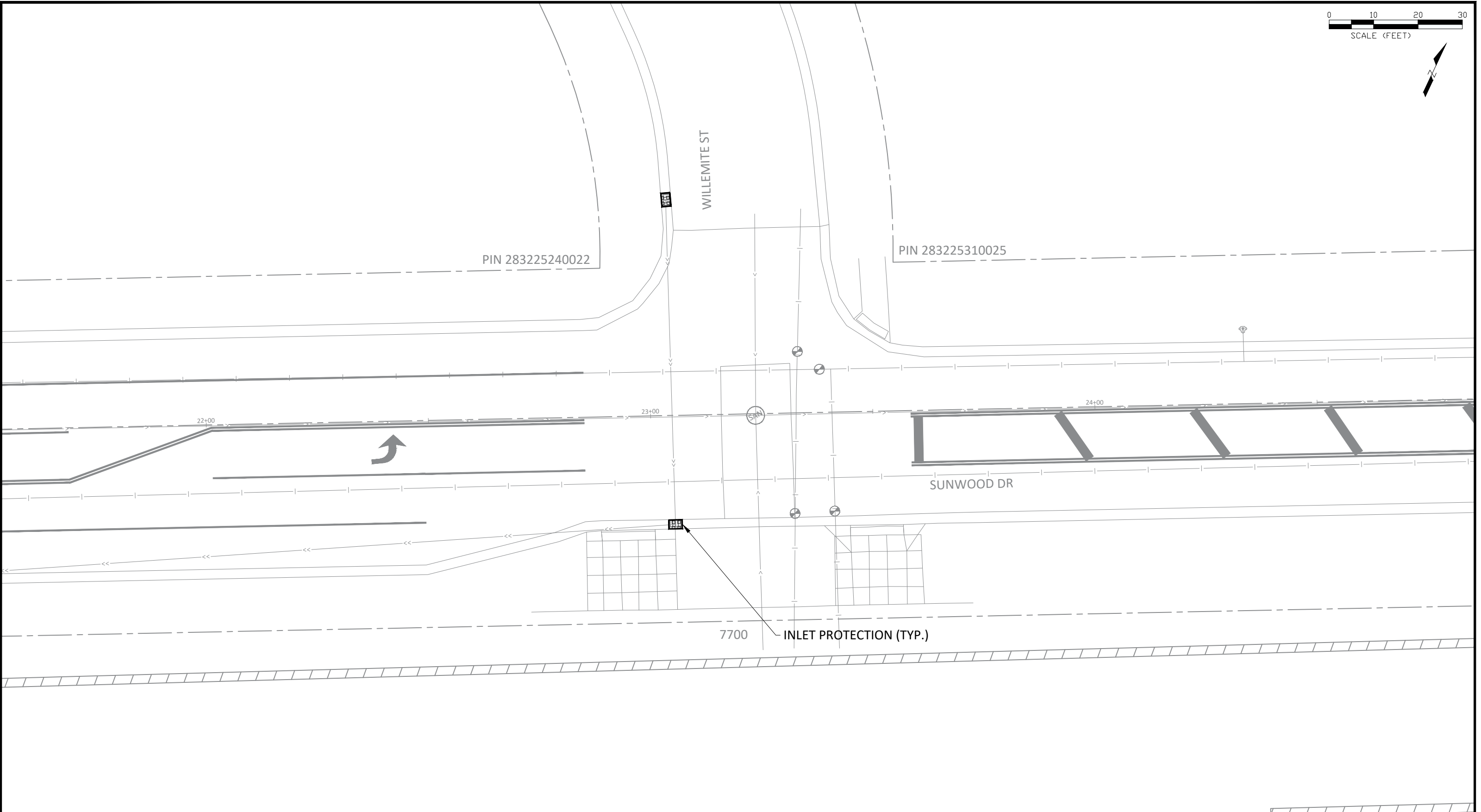
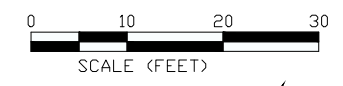
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CITY OF RAMSEY
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EROSION CONTROL

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



LEGEND

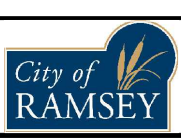
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EROSION CONTROL

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA

PIN 283225310024

CENTER ST

7551



INLET PROTECTION (TYP.)



29+00

30+00

SUNWOOD DR



7550

LEGEND



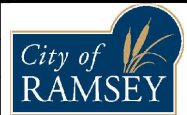
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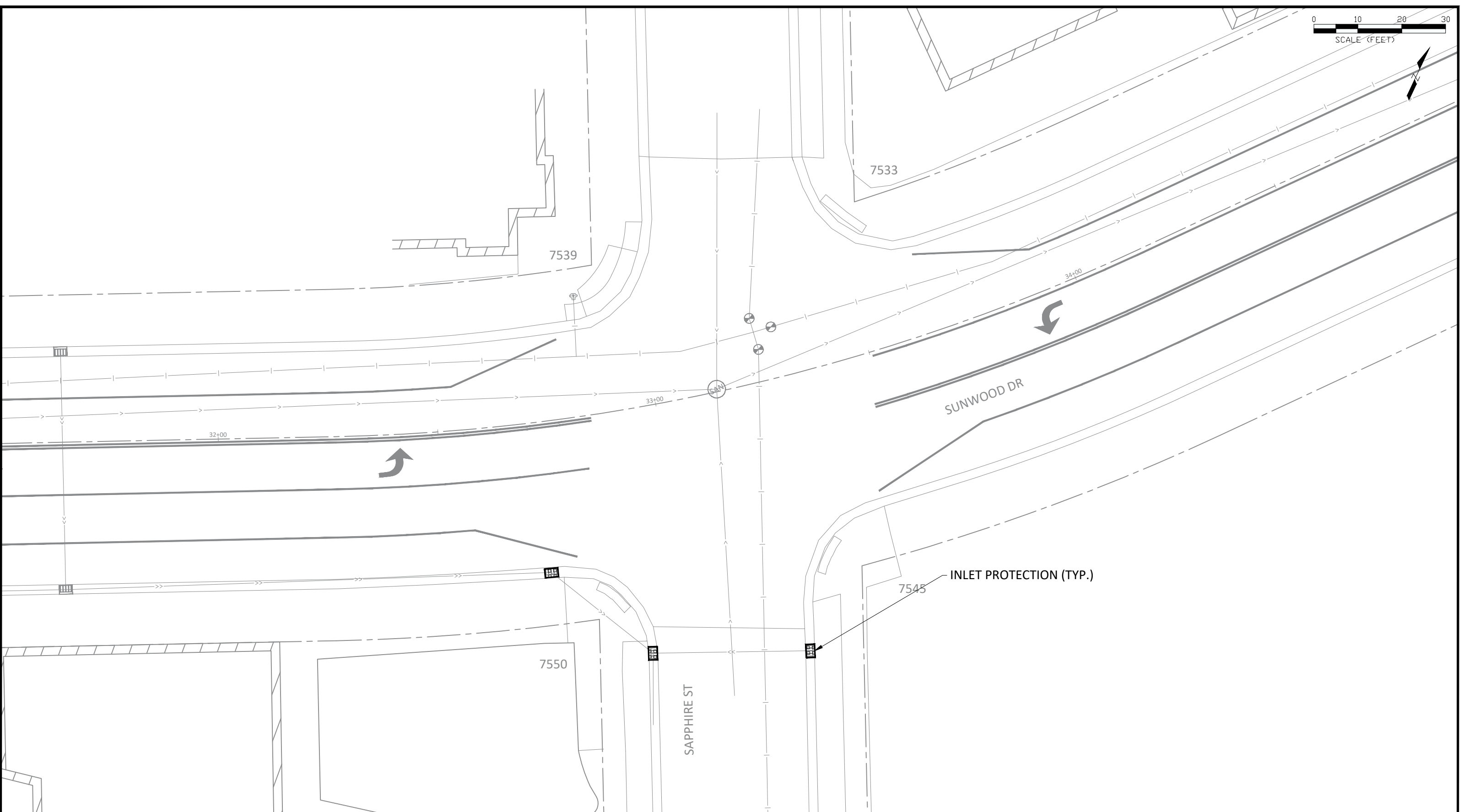
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 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



LEGEND



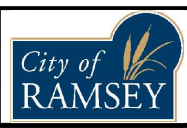
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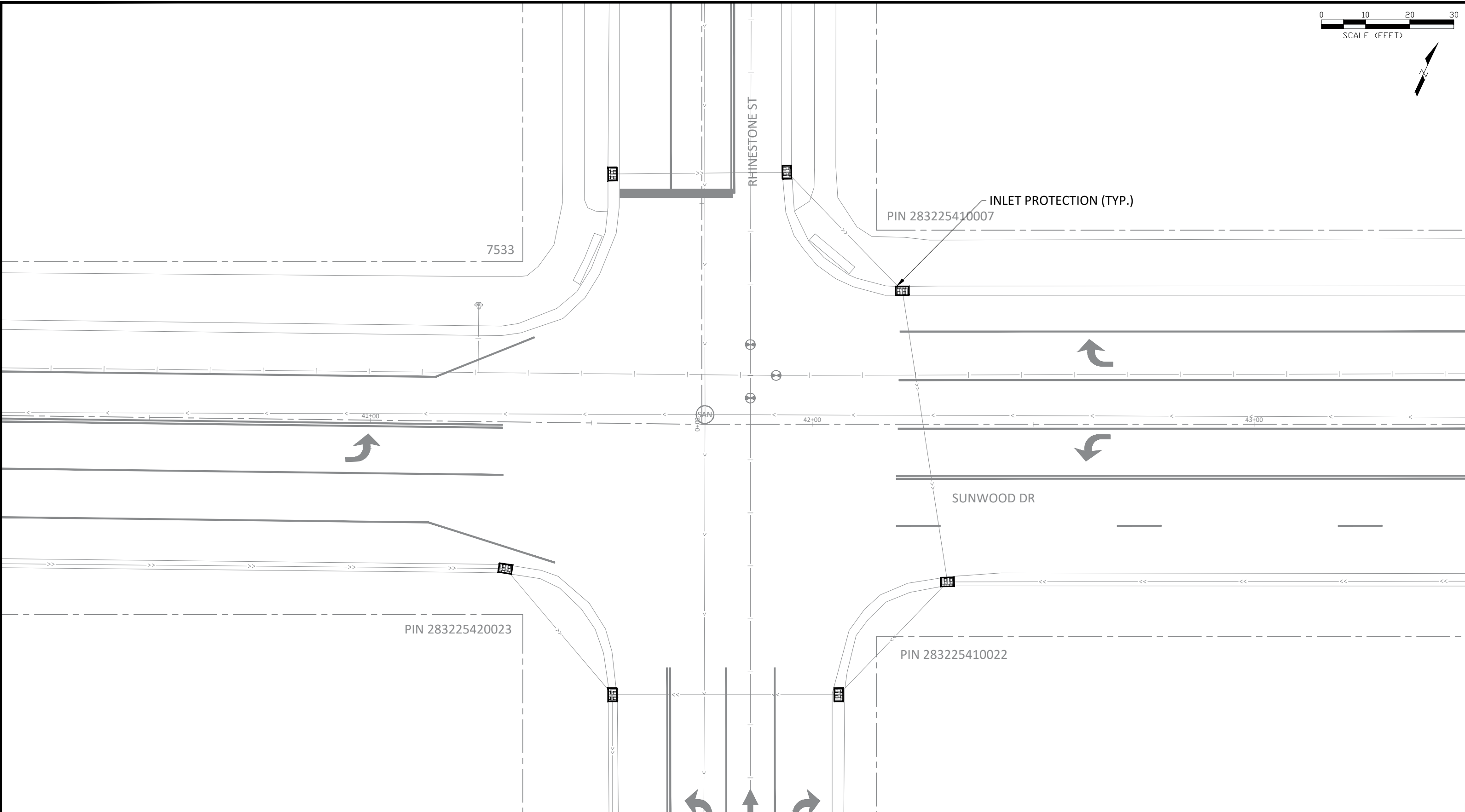
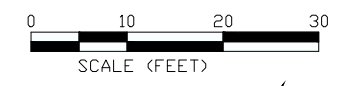
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SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



LEGEND



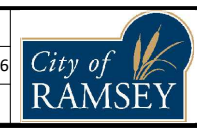
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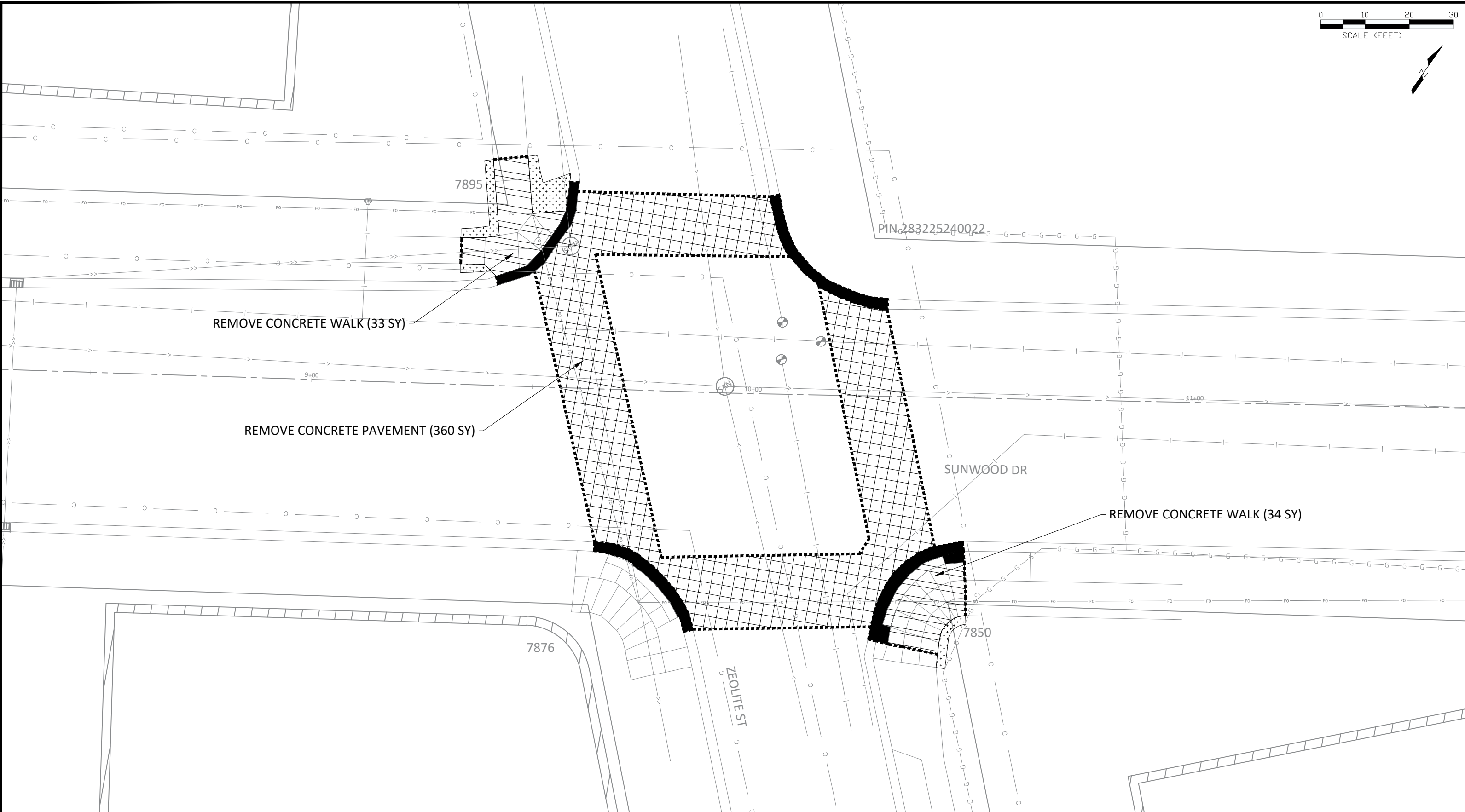
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EROSION CONTROL

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



REMOVE CONCRETE WALK (33 SY)

REMOVE CONCRETE PAVEMENT (360 SY)

REMOVE CONCRETE WALK (34 SY)

LEGEND

- | | | | | | | | | | |
|--|----------------------------|--|--------------------------|--|-------------------------------|--|--------------------|--|----------------|
| | SAWCUT - FULL DEPTH | | REMOVE CONCRETE PAVEMENT | | EASEMENT - DRAINAGE & UTILITY | | COMMUNICATION LINE | | SANITARY SEWER |
| | REMOVE CURB & GUTTER | | REMOVE CONCRETE WALK | | LOT LINE | | GAS LINE | | STORM SEWER |
| | REMOVE BITUMINOUS PAVEMENT | | COMMON EXCAVATION | | UNDERGROUND POWER | | FIBER OPTIC LINE | | WATER MAIN |
| | | | | | OVERHEAD POWER | | | | |

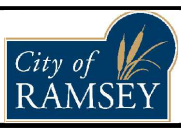
NOTE:
 1. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
 2. PROTECT LANDSCAPING AND IRRIGATION.
 3. EROSION CONTROL MUST BE IN-PLACE PRIOR TO REMOVALS.

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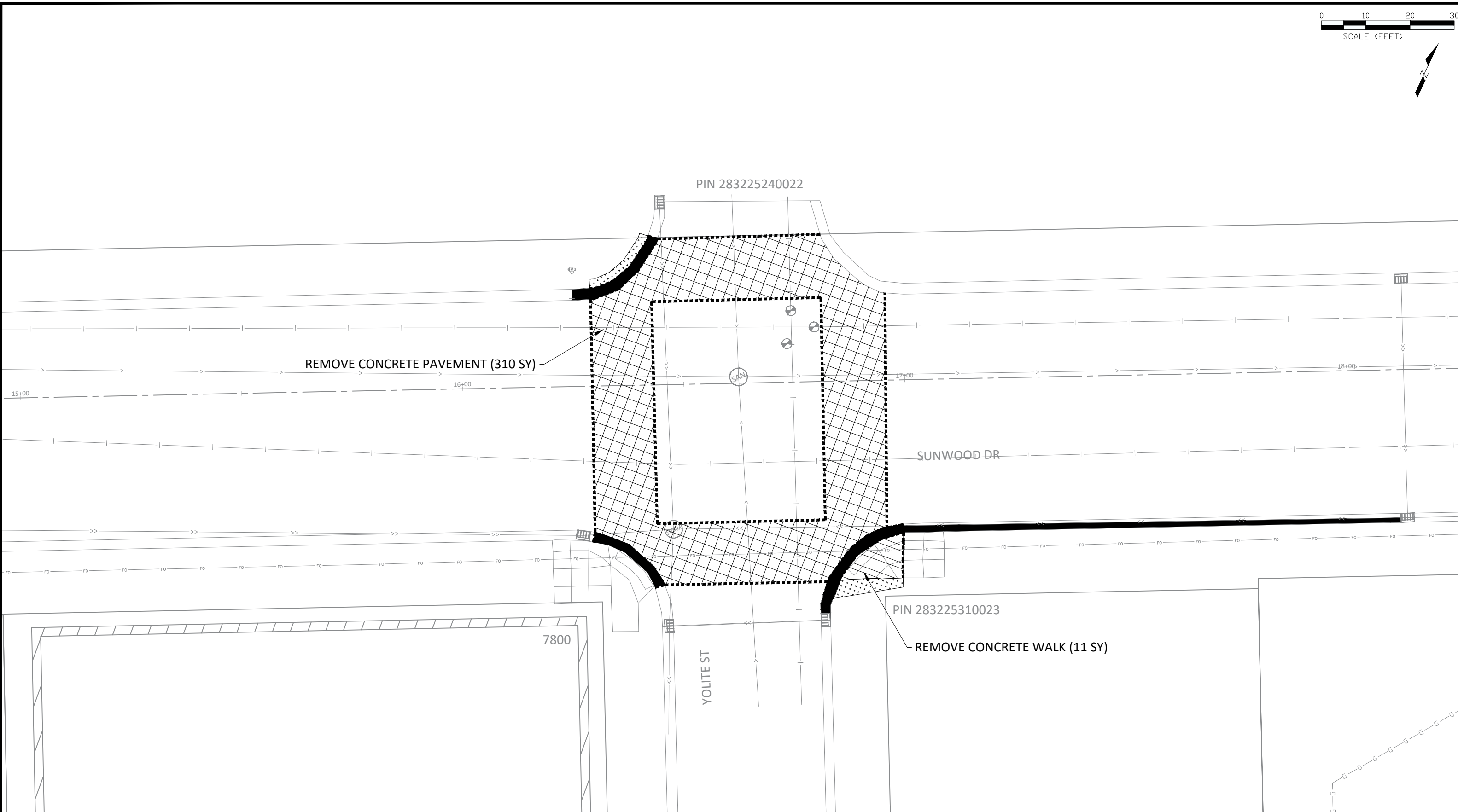
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REMOVALS

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



LEGEND

- | | | | | | | | | | |
|--|----------------------------|--|--------------------------|--|-------------------------------|--|--------------------|--|----------------|
| | SAWCUT - FULL DEPTH | | REMOVE CONCRETE PAVEMENT | | EASEMENT - DRAINAGE & UTILITY | | COMMUNICATION LINE | | SANITARY SEWER |
| | REMOVE CURB & GUTTER | | REMOVE CONCRETE WALK | | LOT LINE | | GAS LINE | | STORM SEWER |
| | REMOVE BITUMINOUS PAVEMENT | | COMMON EXCAVATION | | UNDERGROUND POWER | | FIBER OPTIC LINE | | WATER MAIN |
| | OVERHEAD POWER | | | | | | | | |

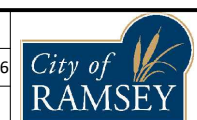
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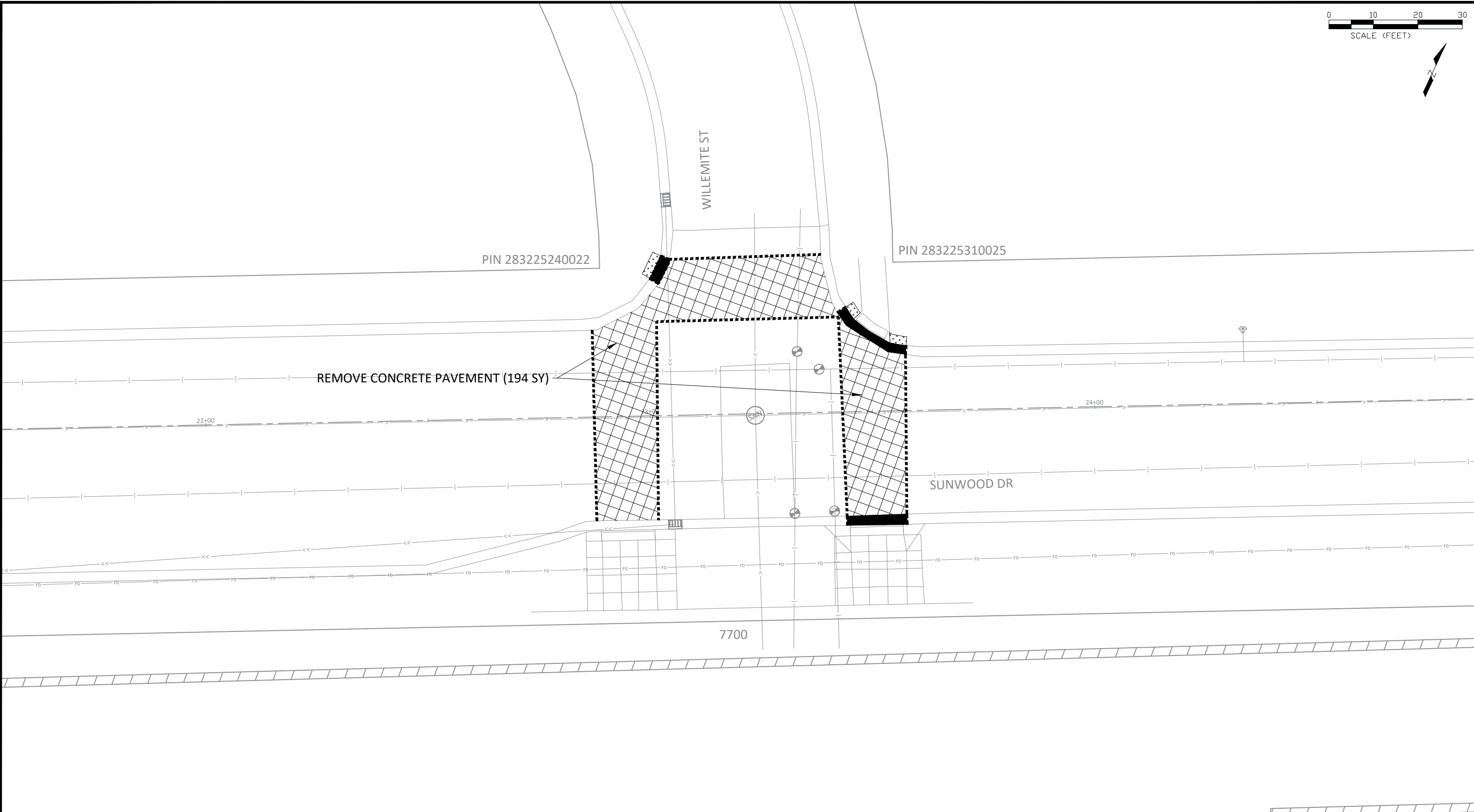
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REMOVALS

SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA



REMOVE CONCRETE PAVEMENT (194 SY)

LEGEND	REMOVE CONCRETE PAVEMENT	EASEMENT - DRAINAGE & UTILITY	COMMUNICATION LINE	SANITARY SEWER
REMOVE CONCRETE WALK	LOT LINE	GAS LINE	STORM SEWER	
REMOVE BITUMINOUS PAVEMENT	UNDERGROUND POWER	FIBER OPTIC LINE		
SAWCUT - FULL DEPTH	OVERHEAD POWER	WATER MAIN		
REMOVE CURB & GUTTER	COMMON EXCAVATION			

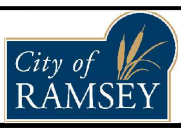
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REMOVALS

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA

PIN 283225310024

7551



CENTER ST

SUNWOOD DR

7550

REMOVE CONCRETE PAVEMENT (229 SY)

REMOVE CONCRETE WALK (22 SY)

REMOVE CONCRETE WALK (23 SY)

LEGEND

- REMOVE CONCRETE PAVEMENT
- REMOVE CONCRETE WALK
- SAWCUT - FULL DEPTH
- REMOVE CURB & GUTTER
- REMOVE BITUMINOUS PAVEMENT
- COMMON EXCAVATION
- EASEMENT - DRAINAGE & UTILITY
- LOT LINE
- UNDERGROUND POWER
- OVERHEAD POWER
- COMMUNICATION LINE
- GAS LINE
- FIBER OPTIC LINE
- WATER MAIN
- SANITARY SEWER
- STORM SEWER

- NOTE:**
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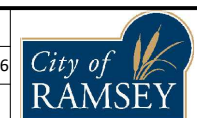
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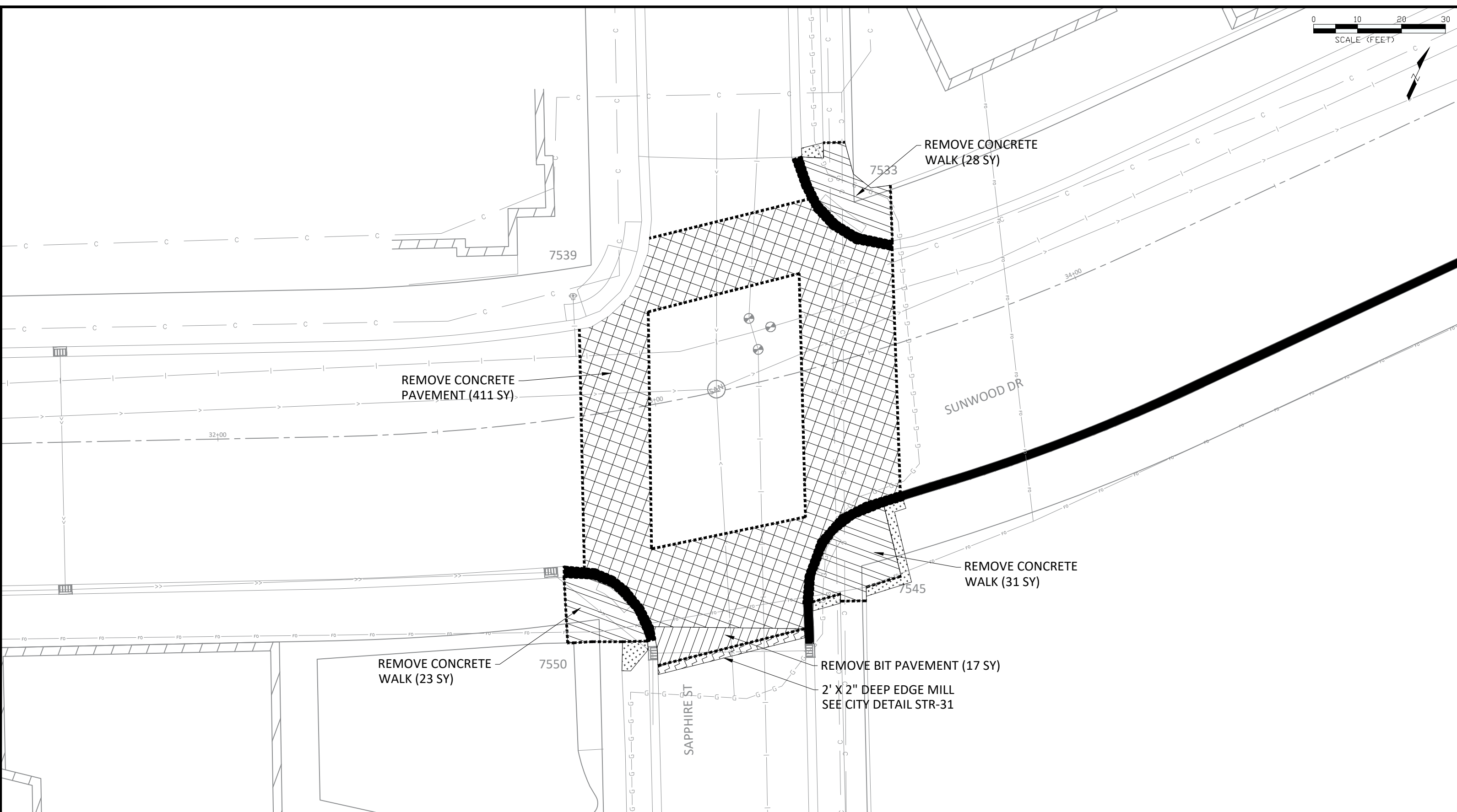
DATE: 01/02/26
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CITY OF RAMSEY
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 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

REMOVALS

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



LEGEND

- | | | | | | | | | | |
|--|----------------------|--|----------------------------|--|-------------------------------|--|--------------------|--|----------------|
| | SAWCUT - FULL DEPTH | | REMOVE CONCRETE PAVEMENT | | EASEMENT - DRAINAGE & UTILITY | | COMMUNICATION LINE | | SANITARY SEWER |
| | REMOVE CURB & GUTTER | | REMOVE CONCRETE WALK | | LOT LINE | | GAS LINE | | STORM SEWER |
| | | | REMOVE BITUMINOUS PAVEMENT | | UNDERGROUND POWER | | FIBER OPTIC LINE | | |
| | | | COMMON EXCAVATION | | OVERHEAD POWER | | WATER MAIN | | |

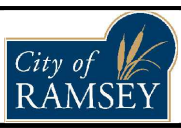
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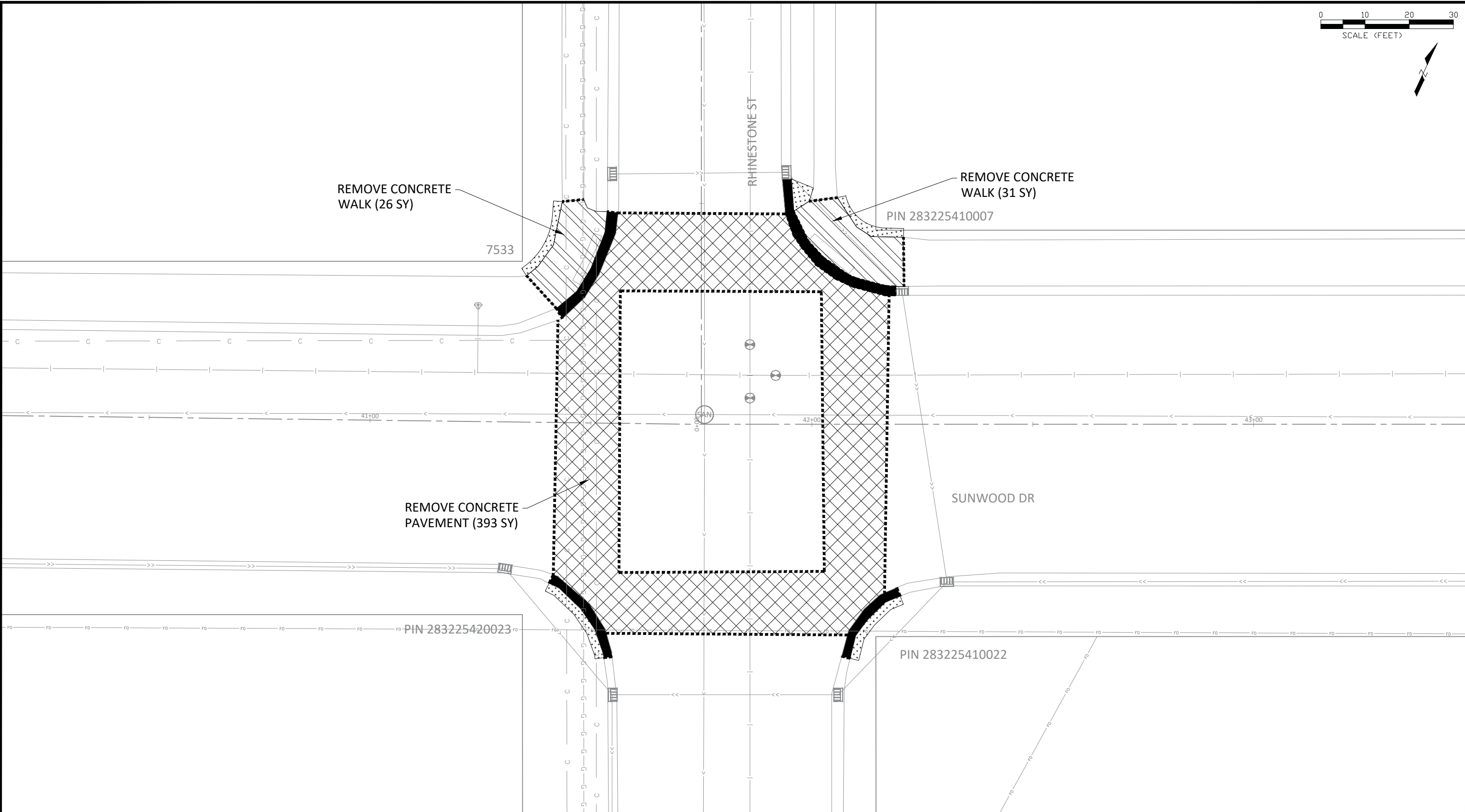
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REMOVALS

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



REMOVE CONCRETE WALK (26 SY)

REMOVE CONCRETE WALK (31 SY)

REMOVE CONCRETE PAVEMENT (393 SY)

LEGEND

- | | | | | | | | | | |
|--|----------------------|--|----------------------------|--|-------------------------------|--|--------------------|--|----------------|
| | SAWCUT - FULL DEPTH | | REMOVE CONCRETE PAVEMENT | | EASEMENT - DRAINAGE & UTILITY | | COMMUNICATION LINE | | SANITARY SEWER |
| | REMOVE CURB & GUTTER | | REMOVE CONCRETE WALK | | LOT LINE | | GAS LINE | | STORM SEWER |
| | | | REMOVE BITUMINOUS PAVEMENT | | UNDERGROUND POWER | | FIBER OPTIC LINE | | |
| | | | COMMON EXCAVATION | | OVERHEAD POWER | | WATER MAIN | | |

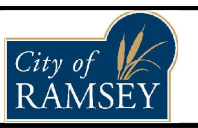
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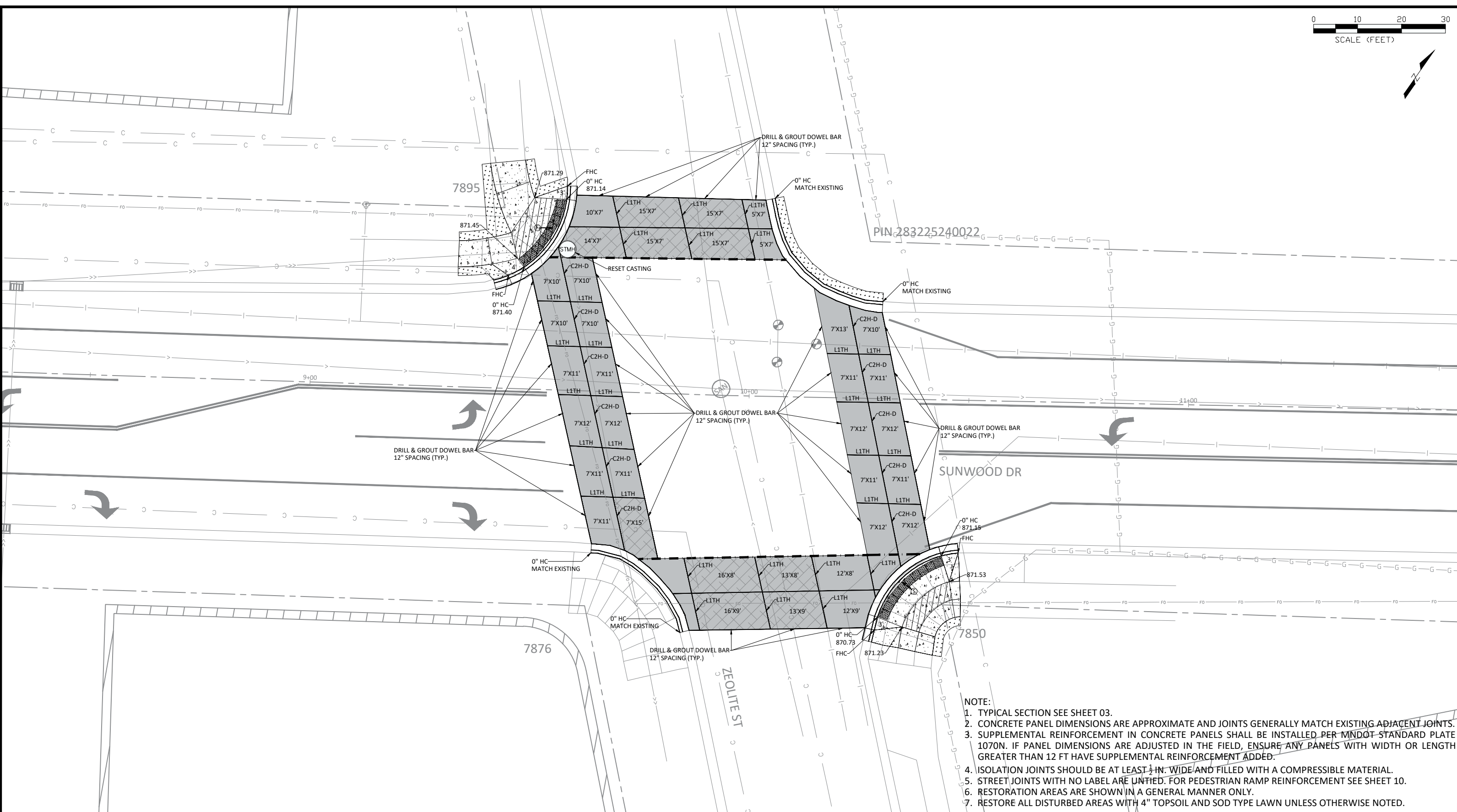
DESIGNED BY: LWC
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REMOVALS

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



- NOTE:**
1. TYPICAL SECTION SEE SHEET 03.
 2. CONCRETE PANEL DIMENSIONS ARE APPROXIMATE AND JOINTS GENERALLY MATCH EXISTING ADJACENT JOINTS.
 3. SUPPLEMENTAL REINFORCEMENT IN CONCRETE PANELS SHALL BE INSTALLED PER MNDOT STANDARD PLATE 1070N. IF PANEL DIMENSIONS ARE ADJUSTED IN THE FIELD, ENSURE ANY PANELS WITH WIDTH OR LENGTH GREATER THAN 12 FT HAVE SUPPLEMENTAL REINFORCEMENT ADDED.
 4. ISOLATION JOINTS SHOULD BE AT LEAST 1/4 IN. WIDE AND FILLED WITH A COMPRESSIBLE MATERIAL.
 5. STREET JOINTS WITH NO LABEL ARE UNFIED. FOR PEDESTRIAN RAMP REINFORCEMENT SEE SHEET 10.
 6. RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY.
 7. RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL AND SOD TYPE LAWN UNLESS OTHERWISE NOTED.

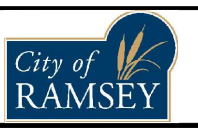
CONCRETE PAVEMENT	ISOLATION JOINT (UNFIED)	LANDING (<2% GRADE)	STORM SEWER	OVERHEAD POWER	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
CURB & GUTTER	SUPPLEMENTAL REINFORCEMENT	TRUNCATED DOME	FIBER OPTIC LINE	COMMUNICATION LINE	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%.
CONSTRUCTION JOINT	CONCRETE WALK	WATER MAIN	GAS LINE		
	SOD TYPE LAWN	SANITARY SEWER	UNDERGROUND POWER		

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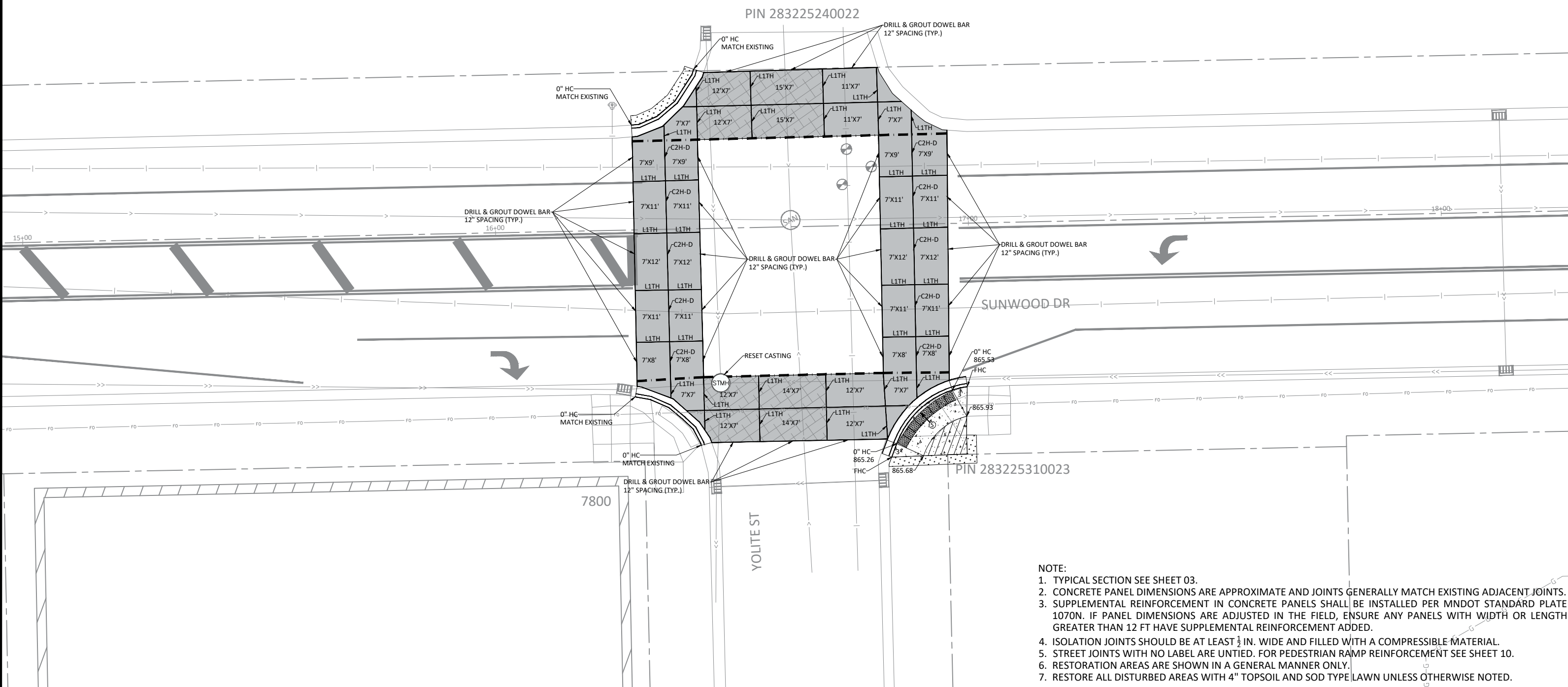
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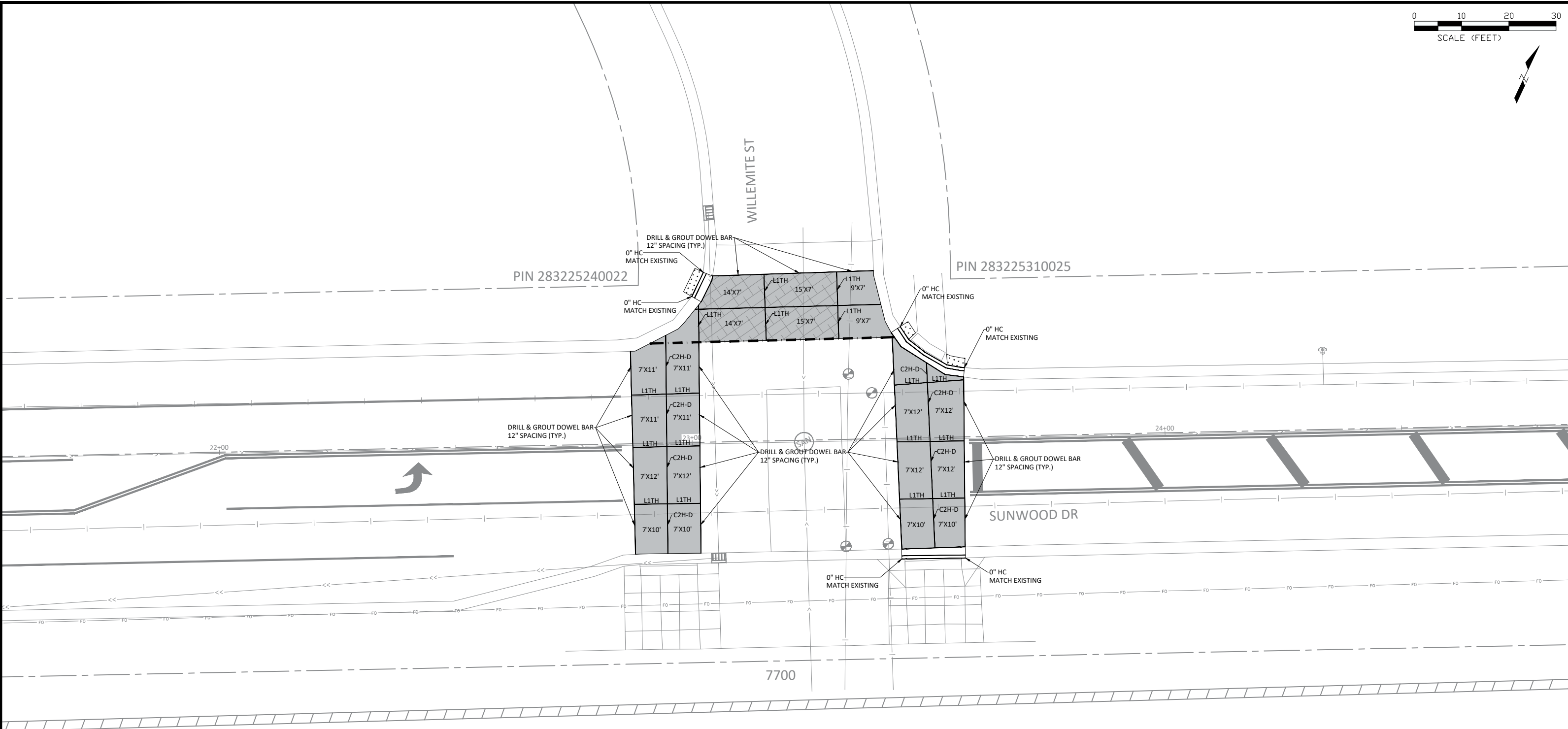
STREET CONSTRUCTION

SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA



- NOTE:**
1. TYPICAL SECTION SEE SHEET 03.
 2. CONCRETE PANEL DIMENSIONS ARE APPROXIMATE AND JOINTS GENERALLY MATCH EXISTING ADJACENT JOINTS.
 3. SUPPLEMENTAL REINFORCEMENT IN CONCRETE PANELS SHALL BE INSTALLED PER MNDOT STANDARD PLATE 1070N. IF PANEL DIMENSIONS ARE ADJUSTED IN THE FIELD, ENSURE ANY PANELS WITH WIDTH OR LENGTH GREATER THAN 12 FT HAVE SUPPLEMENTAL REINFORCEMENT ADDED.
 4. ISOLATION JOINTS SHOULD BE AT LEAST 1/2 IN. WIDE AND FILLED WITH A COMPRESSIBLE MATERIAL.
 5. STREET JOINTS WITH NO LABEL ARE UNTIED. FOR PEDESTRIAN RAMP REINFORCEMENT SEE SHEET 10.
 6. RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY.
 7. RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL AND SOD TYPE LAWN UNLESS OTHERWISE NOTED.

<p>LEGEND</p> <p>CONCRETE PAVEMENT</p> <p>CURB & GUTTER</p> <p>CONSTRUCTION JOINT</p>		<p>ISOLATION JOINT (UNTIED)</p> <p>SUPPLEMENTAL REINFORCEMENT</p> <p>CONCRETE WALK</p> <p>SOD TYPE LAWN</p>		<p>LANDING (<2% GRADE)</p> <p>TRUNCATED DOME</p> <p>WATER MAIN</p> <p>SANITARY SEWER</p>		<p>STORM SEWER</p> <p>FIBER OPTIC LINE</p> <p>GAS LINE</p> <p>UNDERGROUND POWER</p>		<p>OVERHEAD POWER</p> <p>COMMUNICATION LINE</p>		<p>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%.</p>		<p>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%.</p>	
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				DRAWN BY:	LWC	FILE:	25-08					<p>SHEET 33 OF 42 SHEETS</p>	



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 6. RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY.
 7. RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL AND SOD TYPE LAWN UNLESS OTHERWISE NOTED.

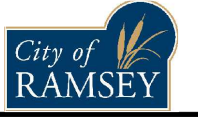
CONCRETE PAVEMENT	ISOLATION JOINT (UNTIED)	LANDING (<2% GRADE)	STORM SEWER	OVERHEAD POWER	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
CURB & GUTTER	SUPPLEMENTAL REINFORCEMENT	TRUNCATED DOME	FIBER OPTIC LINE	COMMUNICATION LINE	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%.
CONSTRUCTION JOINT	CONCRETE WALK	WATER MAIN	GAS LINE		
	SOD TYPE LAWN	SANITARY SEWER	UNDERGROUND POWER		

DATE	REVISION

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Joe Feriancek
JOE FERIANCEK
Date 01/02/26 Lic. No. 57095

DESIGNED BY:	LWC	DATE:	01/02/26
DRAWN BY:	LWC	FILE:	25-08
CHECKED BY:	JJF		



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

STREET CONSTRUCTION

SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA

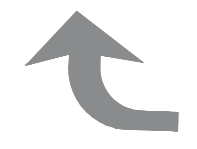
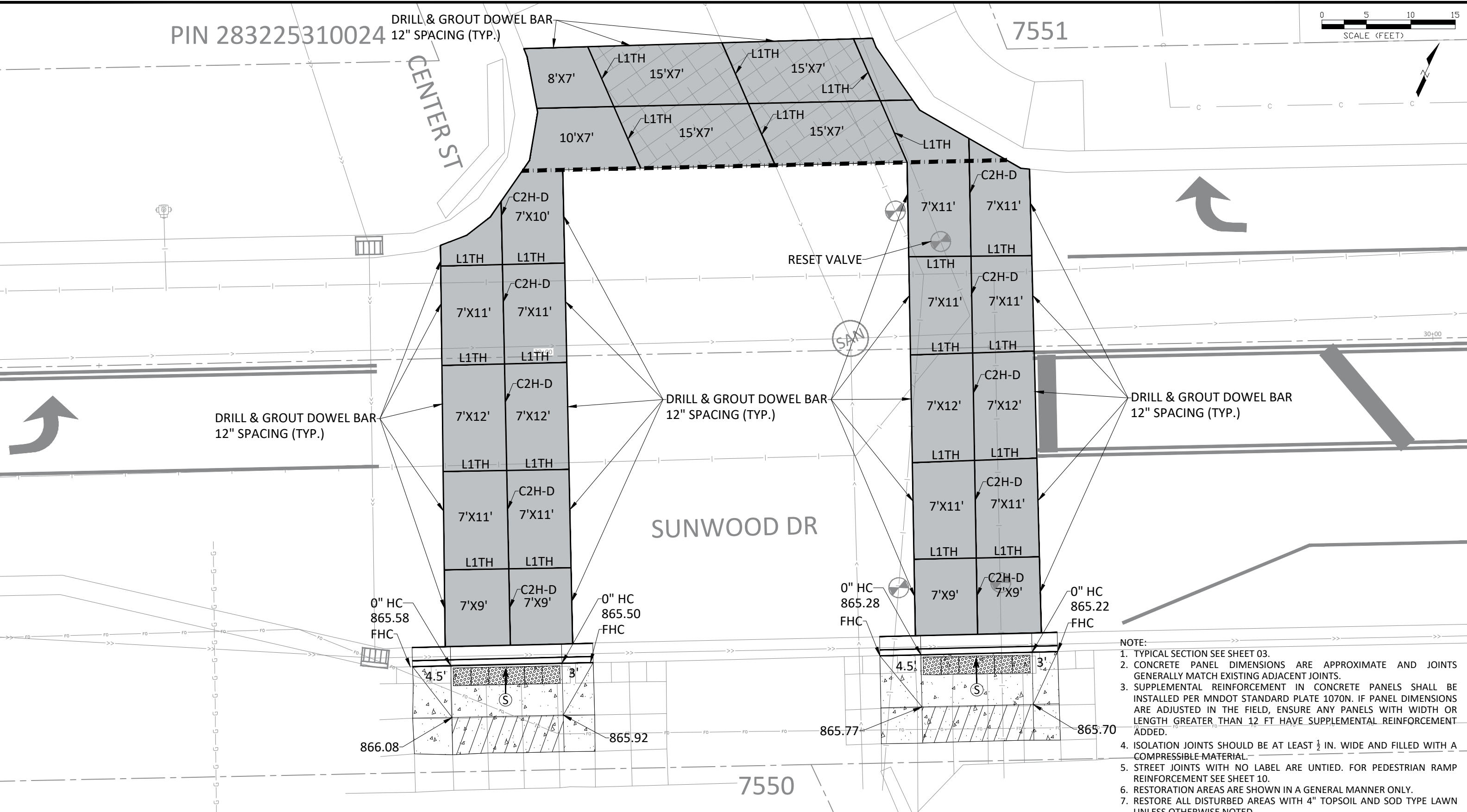
PIN 283225310024

DRILL & GROUT DOWEL BAR
12" SPACING (TYP.)

7551



CENTER ST



- NOTE:
1. TYPICAL SECTION SEE SHEET 03.
 2. CONCRETE PANEL DIMENSIONS ARE APPROXIMATE AND JOINTS GENERALLY MATCH EXISTING ADJACENT JOINTS.
 3. SUPPLEMENTAL REINFORCEMENT IN CONCRETE PANELS SHALL BE INSTALLED PER MNDOT STANDARD PLATE 1070N. IF PANEL DIMENSIONS ARE ADJUSTED IN THE FIELD, ENSURE ANY PANELS WITH WIDTH OR LENGTH GREATER THAN 12 FT HAVE SUPPLEMENTAL REINFORCEMENT ADDED.
 4. ISOLATION JOINTS SHOULD BE AT LEAST 1/2 IN. WIDE AND FILLED WITH A COMPRESSIBLE MATERIAL.
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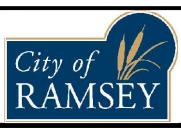
CONCRETE PAVEMENT	ISOLATION JOINT (UNTIED)	SUPPLEMENTAL REINFORCEMENT	LANDING (<2% GRADE)	STORM SEWER	OVERHEAD POWER
CURB & GUTTER	CONCRETE WALK	WATER MAIN	TRUNCATED DOME	FIBER OPTIC LINE	COMMUNICATION LINE
CONSTRUCTION JOINT	SOD TYPE LAWN	SANITARY SEWER	UNDERGROUND POWER	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.	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%.

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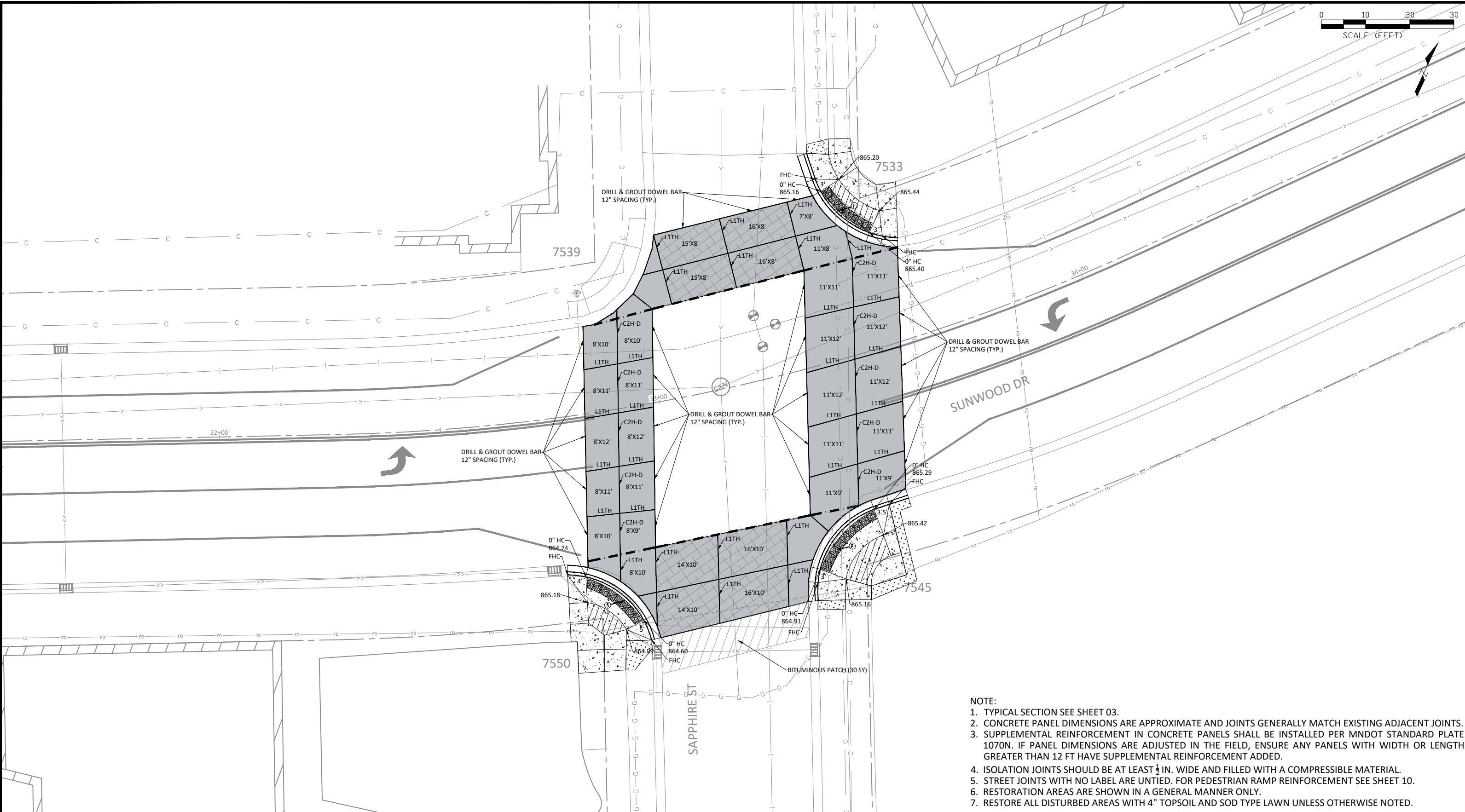


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STREET CONSTRUCTION

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SHEET 35 OF 42 SHEETS



- NOTE:**
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LEGEND		ISOLATION JOINT (UNTIED)	LANDING (<2% GRADE)	STORM SEWER	OVERHEAD POWER	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%.	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%.
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CURB & GUTTER	CONCRETE WALK	SANITARY SEWER	UNDERGROUND POWER				
CONSTRUCTION JOINT	SOD TYPE LAWN						

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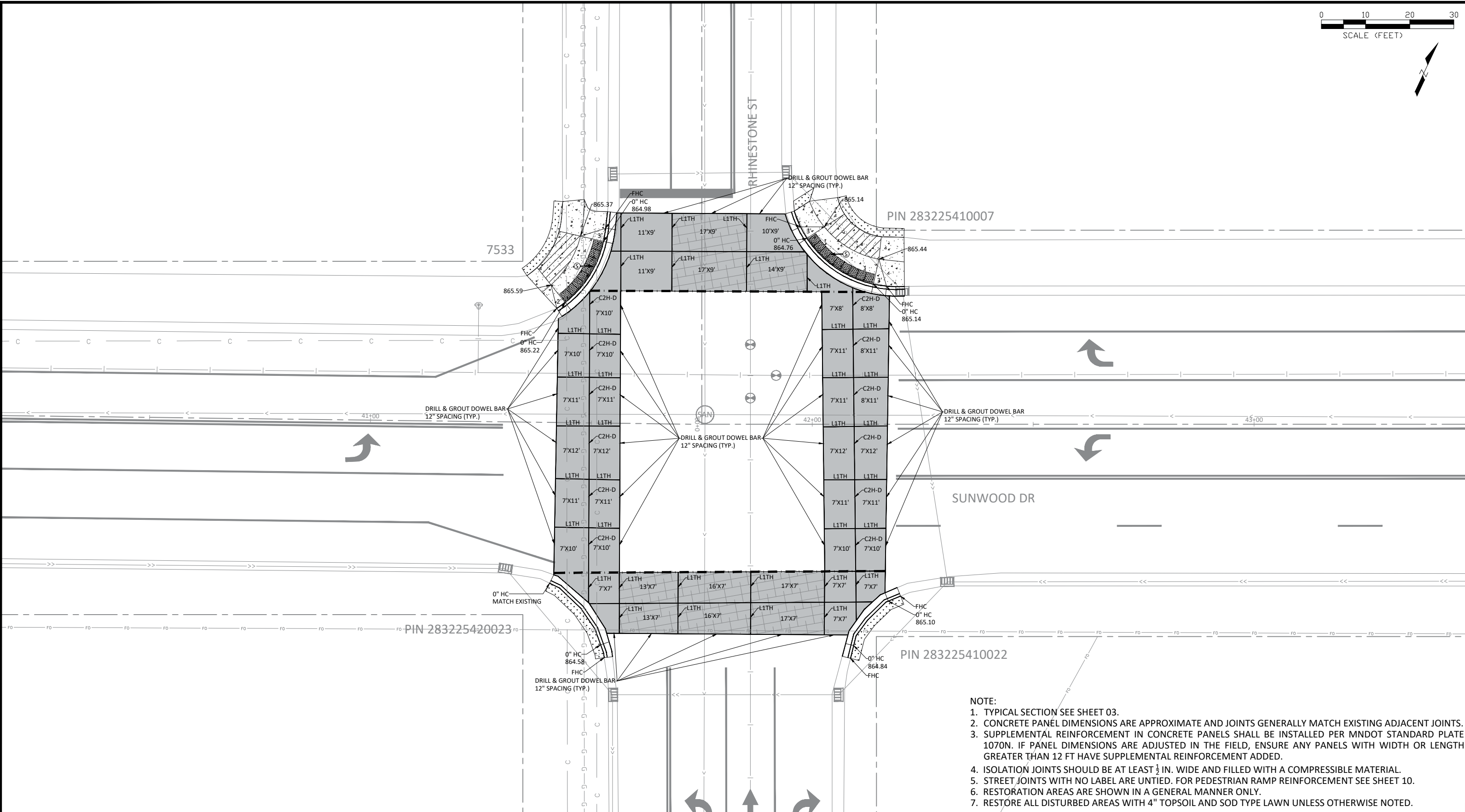
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SHEET 36 OF 42 SHEETS



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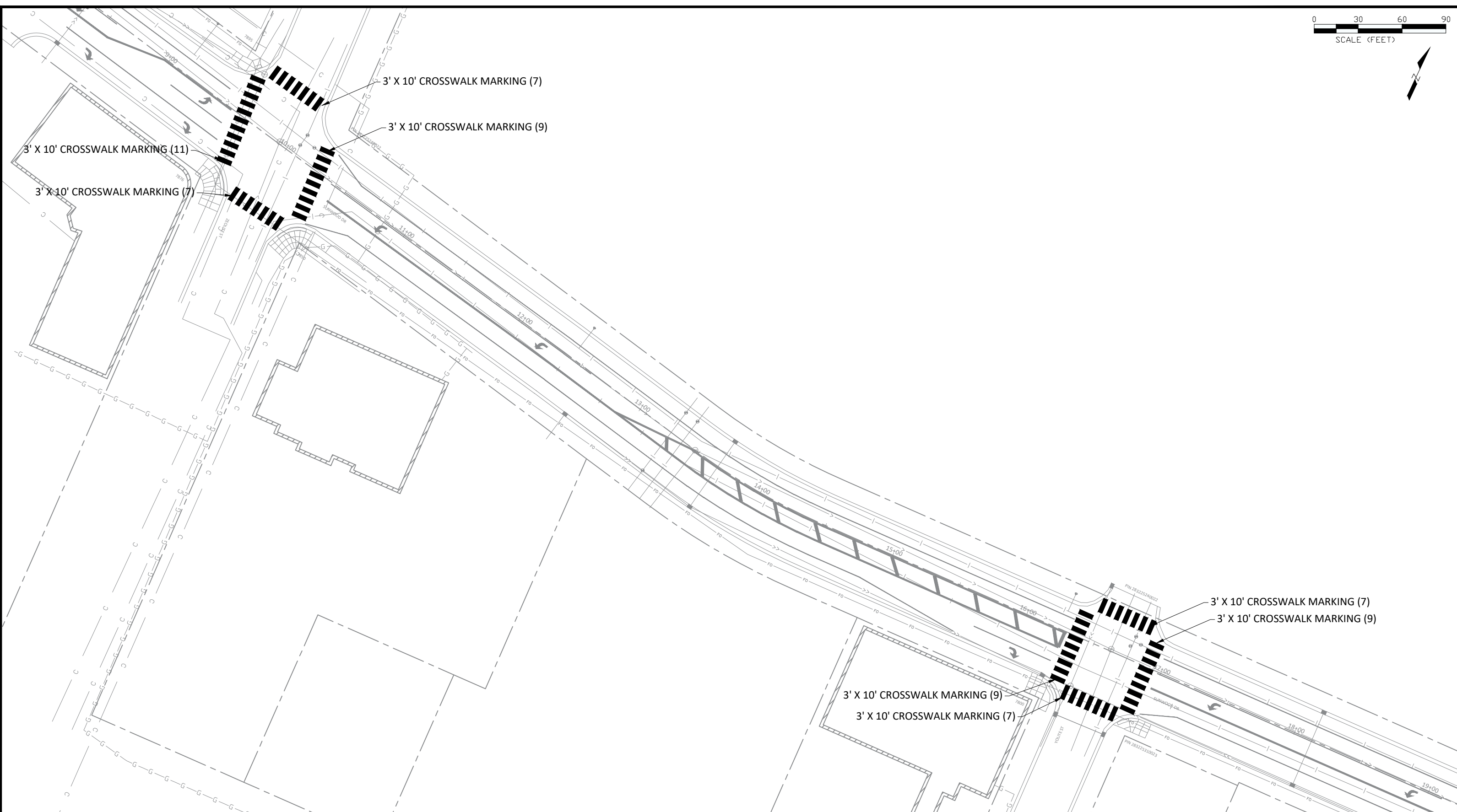
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SHEET 37 OF 42 SHEETS



LEGEND

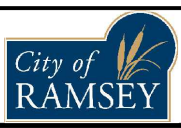
- CROSSWALK MARKING
- CURB PAINT

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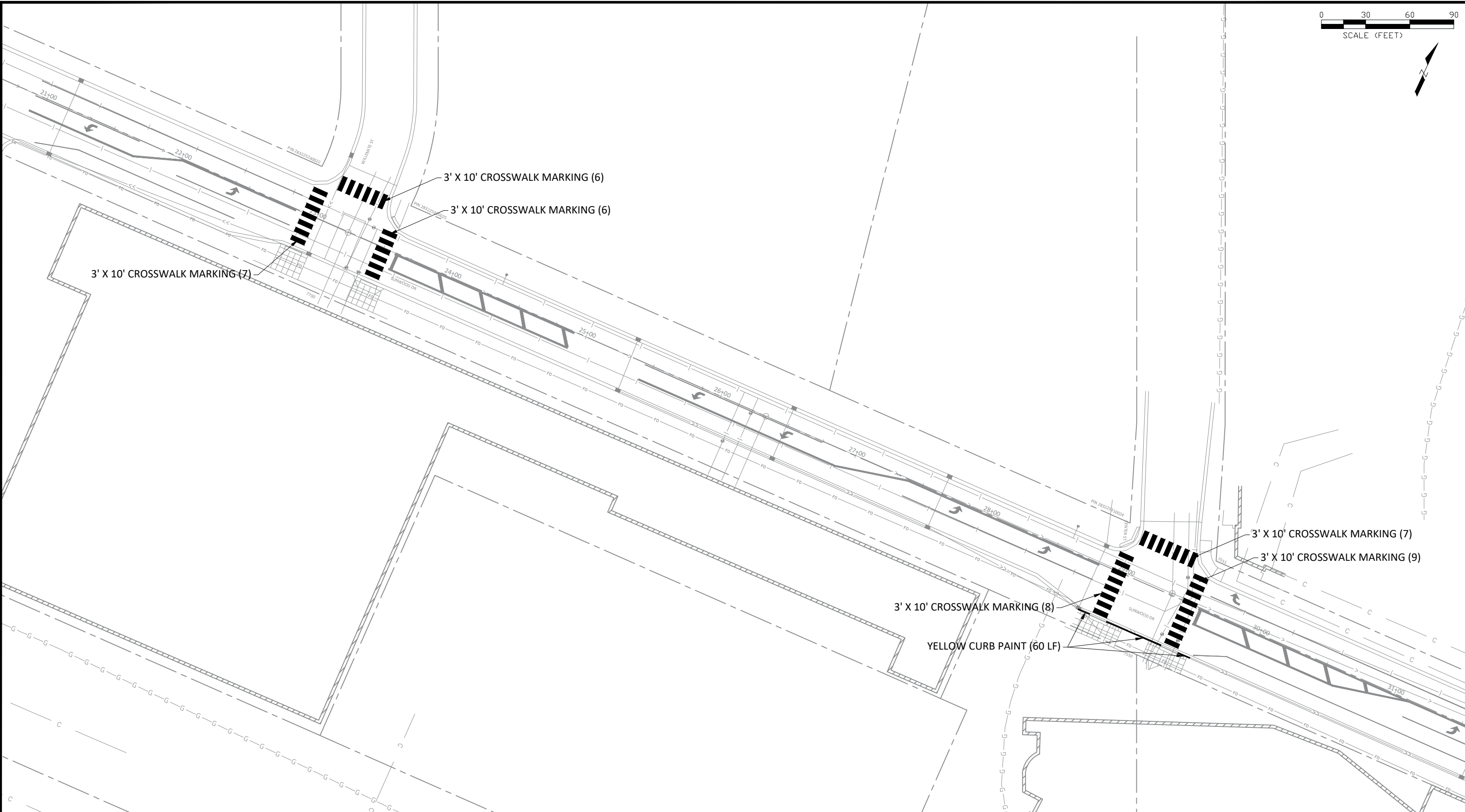
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PAVEMENT MARKING

SUNWOOD DRIVE CROSSWALK REPAIRS
 CITY PROJECT NO. 25-08 SAP 199-104-016
 CITY OF RAMSEY, MINNESOTA



LEGEND

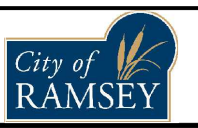
	CROSSWALK MARKING
	CURB PAINT

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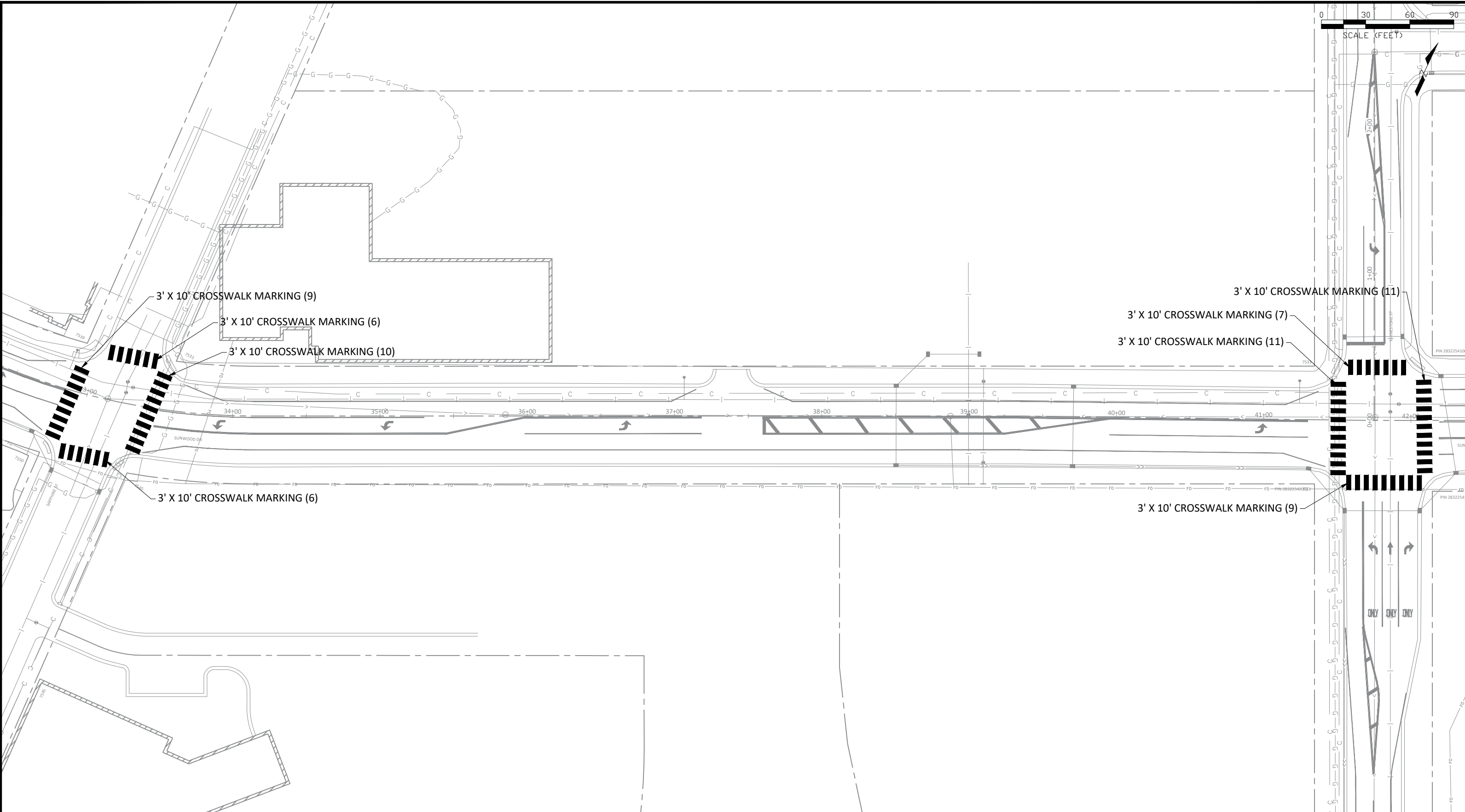
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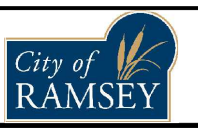
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TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

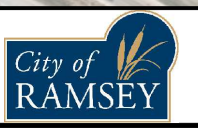
- AREA CLOSED TO TRAFFIC / WORK AREA
- DETOUR ROUTE
- TRAFFIC CONTROL SIGN
- TYPE III BARRICADE =
- DRUM-LIKE CHANNELIZER (TYPE B) =
- TYPE A FLASHING WARNING LIGHT

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TRAFFIC CONTROL - PHASE 1

SUNWOOD DRIVE CROSSWALK REPAIRS
CITY PROJECT NO. 25-08 SAP 199-104-016
CITY OF RAMSEY, MINNESOTA



TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

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- DETOUR ROUTE
- TRAFFIC CONTROL SIGN
- TYPE III BARRICADE =
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TRAFFIC CONTROL - PHASE 2

SUNWOOD DRIVE CROSSWALK REPAIRS
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