

CITY OF RAMSEY

FIRE STATION No.1 PARKING LOT IMPROVEMENTS

CITY IMPROVEMENT PROJECT NO. 21-10

GOVERNING SPECIFICATIONS

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

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

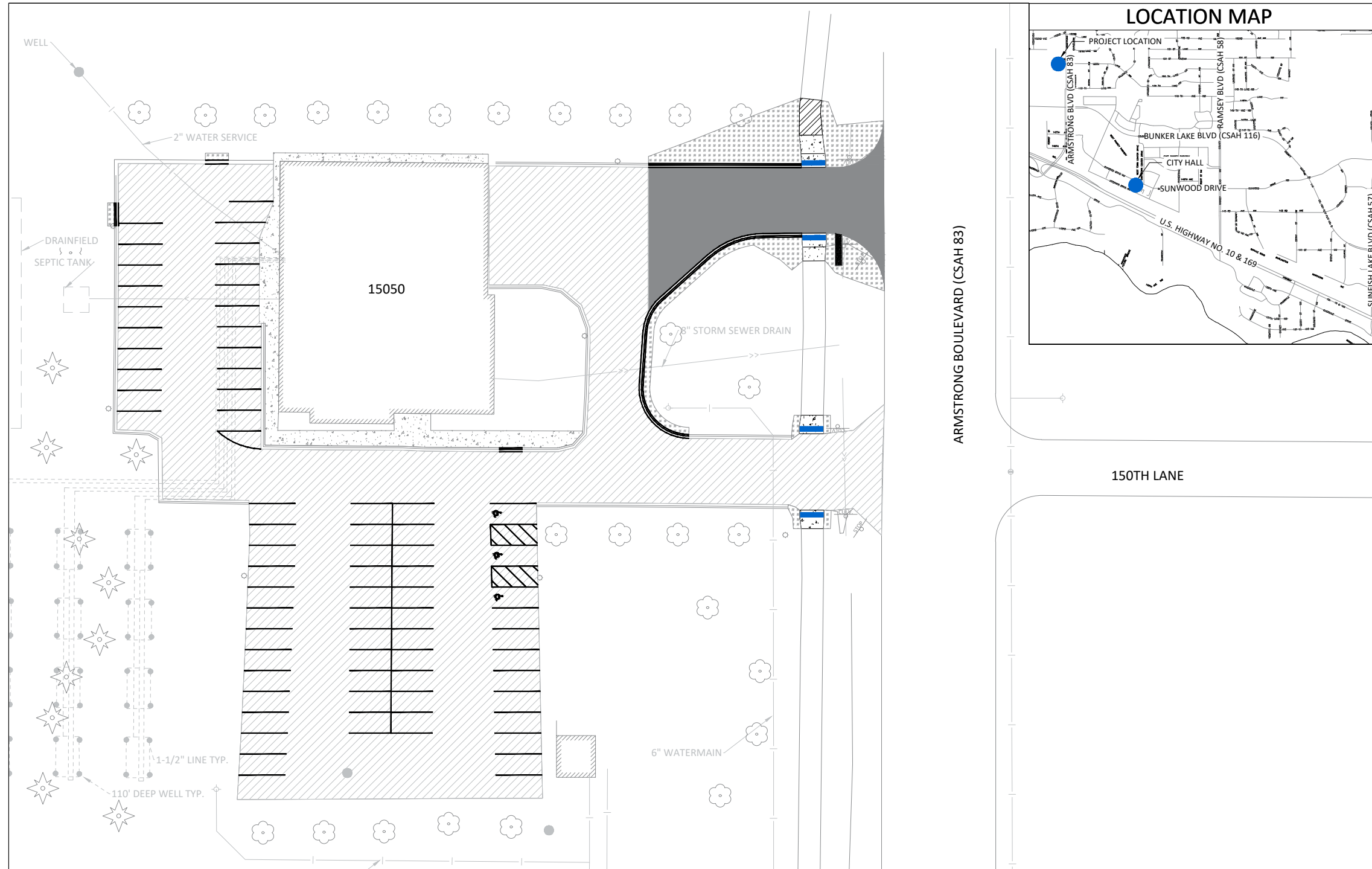
ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

SHEET INDEX

THIS PLAN CONTAINS 12 SHEETS

SHEET No.	DESCRIPTION
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01	TITLE SHEET
02	STATEMENT OF ESTIMATED QUANTITIES
03	REMOVALS
04	SITE PLAN
05	GRADING PLAN
06	CITY DETAILS
07-12	MNDOT PEDESTRIAN DETAILS



LOCATION MAP



LEGEND

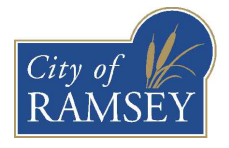
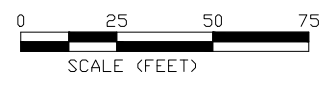
	LIGHT POLE		EASEMENT
	TREE		RIGHT OF WAY
	SHRUB		OVERHEAD ELECTRIC
	SIGN		BURIED ELECTRIC
	VALVE		GAS
	UTILITY PEDESTAL		TELECOMMUNICATIONS
	HAND HOLE		OVERHEAD TELECOMMUNICATIONS
	REMOVE TREE		FIBER OPTIC LINE
	3'X2' CATCH BASIN		STORM SEWER
	MANHOLE		SANITARY SEWER
	INLET PROTECTION		WATERMAIN
	HYDRANT		SAWCUT PAVEMENT
	VALVE		TREE LINE
	BITUMINOUS PAVEMENT		FENCE
	GRAVEL SURFACE		LANDSCAPING
	MILL BIT. PAVEMENT		RETAINING WALL
	REMOVE BIT. PAVEMENT		5' CONTOUR LINE
	SEEDING AREA		1' CONTOUR LINE
	CONCRETE PAVEMENT		SILT FENCE

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

JOE FERIANCEK, P.E. 57095 DATE 11/23/21
 CIVIL ENGINEER II LIC. NO.

DATE	REVISION

Nov 23, 2021 - 2:35pm G:\Engineering\AutoCad Dwg\Projects A-M\Fire Station No.1 Parking Lot Improvements 21-10\Plan Drawings\21-10 Title Sheet.dwg



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

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



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

21-10 FIRE STATION No.1 PARKING LOT IMPROVEMENTS

STATEMENT OF ESTIMATED QUANTITIES

NOTE	ITEM No.	MNDOT No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
	1	2021.501	MOBILIZATION	LS	1
	2	2104.502	SALVAGE SIGN	EA	3
1	3	2104.503	REMOVE CONCRETE CURB AND GUTTER	LF	235
1	4	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	390
1	5	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	67
1	6	2104.504	REMOVE BITUMINOUS PAVEMENT	SY	461
1	7	2104.504	REMOVE CONCRETE WALK	SY	6
11	8	2105.607	COMMON EXCAVATION (EV)	CY	65
2, 10	9	2211.507	AGGREGATE BASE CLASS 5 MODIFIED (CV)	CY	100
1	10	2231.604	BITUMINOUS PATCH	SY	129
1	11	2232.504	MILL BITUMINOUS SURFACE (1.0")	SY	4117
4	12	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	318
5	13	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,C) 2.0"	TON	46
5	14	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 1.5"	TON	374
	15	2521.504	4" CONCRETE WALK	SY	6
	16	2521.504	6" CONCRETE WALK	SY	47
	17	2531.503	CONCRETE CURB & GUTTER DESIGN B612	LF	228
	18	2531.503	CONCRETE CURB & GUTTER DESIGN FLAT	LF	10
	19	2531.604	CONCRETE FLUME	SY	4
	20	2531.618	TRUNCATED DOMES	SF	80
9	21	2563.601	TRAFFIC CONTROL	LS	1
	22	2573.503	SILT FENCE	LF	60
3	23	2574.507	TOPSOIL (LV)	CY	40
6	24	2574.508	FERTILIZER TYPE 3	LBS	6
	25	2575.505	SEEDING	ACRE	0.06
8	26	2575.508	HYDRAULIC MULCH MATRIX	LBS	240
7	27	2575.508	SEED MIXTURE 25-151	LBS	8
	28	2582.503	4" SOLID LINE PAINT (EPOXY)	LF	1640
	29	2582.518	PAVEMENT MESSAGE PAINT (HANDICAP SYMBOL) (EPOXY)	SF	36

PAY ITEM NOTES:


1. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
2. LV TO CV CONVERSION FACTOR = 1.25.
3. LV TO CV CONVERSION FACTOR = 1.30.
4. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 0.07 GAL/SY.
5. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 110 LB/SY-IN.
6. ESTIMATED QUANTITY BASED ON 100 LB/ACRE.
7. ESTIMATED QUANTITY BASED ON 120 LB/ACRE.
8. ESTIMATED QUANTITY BASED ON 4000 LB/ACRE.
9. 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.
10. RECLAMATION MATERIAL FROM THE CITY STOCKPILE LOCATED AT THE CITY OF RAMSEY PUBLIC WORKS CAMPUS, 14100 JASPER STREET MAY BE USED AS AGGREGATE BASE CLASS 5 MODIFIED.
11. THE EXCAVATION REQUIRED FOR PLACEMENT OF NEW AGGREGATE BASE MATERIAL SHALL BE PAID FOR AS COMMON EXCAVATION.

GENERAL NOTES:

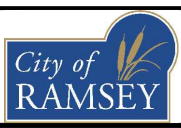
1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL 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 INSTALLATION IS TO BE PERFORMED BY CITY OF RAMSEY PUBLIC WORKS DEPARTMENT.

DATE	REVISION

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


JOE FERIANCEK
 Date 11/23/21 Lic. No. 57095

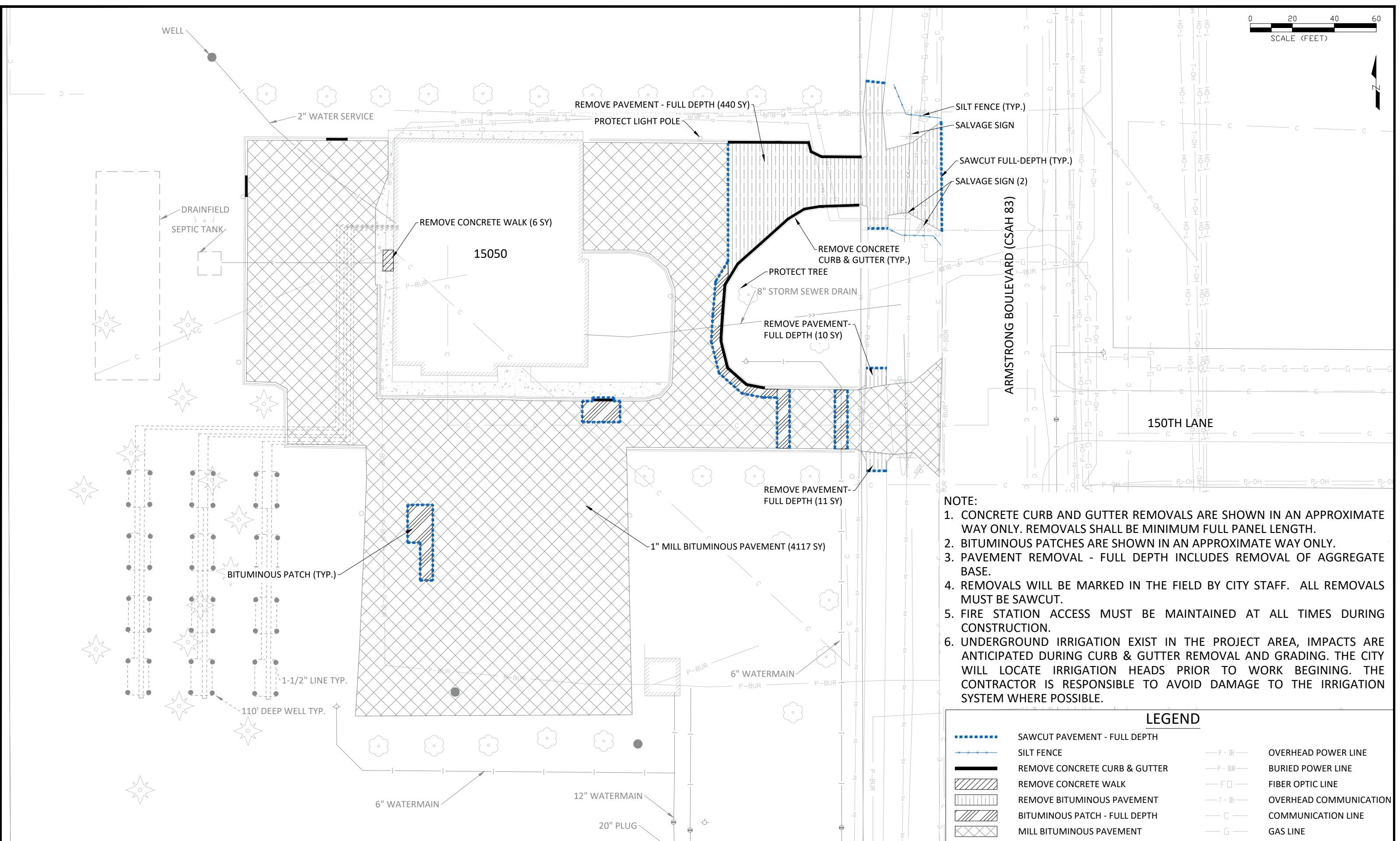
DESIGNED BY:	JJF	DATE:	11/23/21
DRAWN BY:	JJF	FILE:	21-10
CHECKED BY:	JJF		



CITY OF RAMSEY
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
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STATEMENT OF ESTIMATED QUANTITIES

FIRE STATION No.1 PARKING LOT IMPROVEMENTS
CITY PROJECT NO. 21-10
 CITY OF RAMSEY, MINNESOTA



- NOTE:**
1. CONCRETE CURB AND GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS SHALL BE MINIMUM FULL PANEL LENGTH.
 2. BITUMINOUS PATCHES ARE SHOWN IN AN APPROXIMATE WAY ONLY.
 3. PAVEMENT REMOVAL - FULL DEPTH INCLUDES REMOVAL OF AGGREGATE BASE.
 4. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
 5. FIRE STATION ACCESS MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
 6. UNDERGROUND IRRIGATION EXIST IN THE PROJECT AREA, IMPACTS ARE ANTICIPATED DURING CURB & GUTTER REMOVAL AND GRADING. THE CITY WILL LOCATE IRRIGATION HEADS PRIOR TO WORK BEGINING. THE CONTRACTOR IS RESPONSIBLE TO AVOID DAMAGE TO THE IRRIGATION SYSTEM WHERE POSSIBLE.

LEGEND	
	SAWCUT PAVEMENT - FULL DEPTH
	SILT FENCE
	REMOVE CONCRETE CURB & GUTTER
	REMOVE CONCRETE WALK
	REMOVE BITUMINOUS PAVEMENT
	BITUMINOUS PATCH - FULL DEPTH
	MILL BITUMINOUS PAVEMENT
	OVERHEAD POWER LINE
	BURIED POWER LINE
	FIBER OPTIC LINE
	OVERHEAD COMMUNICATION
	COMMUNICATION LINE
	GAS LINE

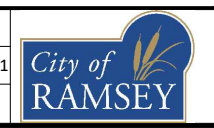
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Joe Feriancek
JOE FERIANCEK
Date 11/23/21 Lic. No. 57095

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

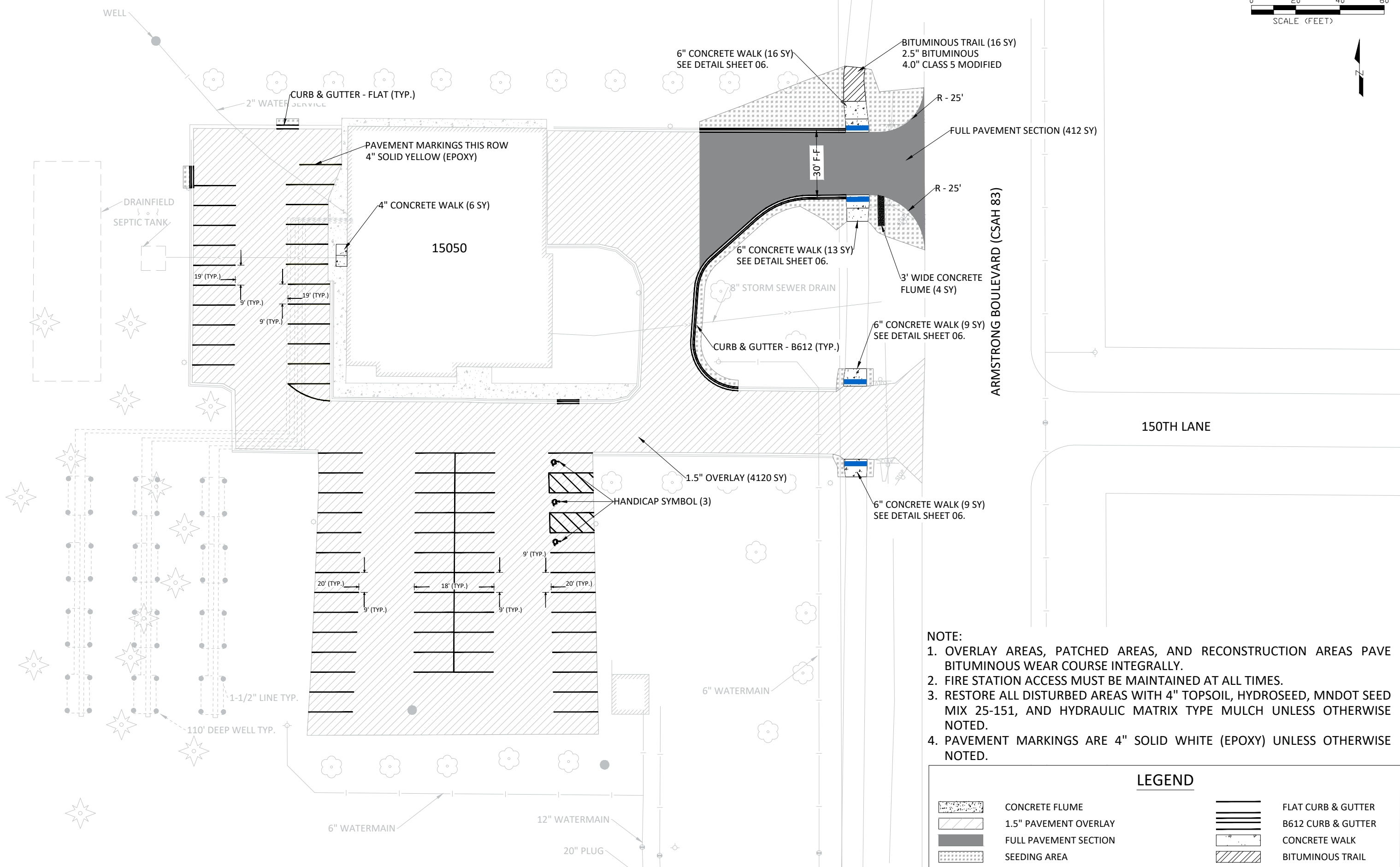
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REMOVALS

FIRE STATION No.1 PARKING LOT IMPROVEMENTS
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CITY OF RAMSEY, MINNESOTA



- NOTE:**
1. OVERLAY AREAS, PATCHED AREAS, AND RECONSTRUCTION AREAS PAVE BITUMINOUS WEAR COURSE INTEGRALLY.
 2. FIRE STATION ACCESS MUST BE MAINTAINED AT ALL TIMES.
 3. RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL, HYDROSEED, MNDOT SEED MIX 25-151, AND HYDRAULIC MATRIX TYPE MULCH UNLESS OTHERWISE NOTED.
 4. PAVEMENT MARKINGS ARE 4" SOLID WHITE (EPOXY) UNLESS OTHERWISE NOTED.

LEGEND	
	CONCRETE FLUME
	1.5" PAVEMENT OVERLAY
	FULL PAVEMENT SECTION
	SEEDING AREA
	FLAT CURB & GUTTER
	B612 CURB & GUTTER
	CONCRETE WALK
	BITUMINOUS TRAIL

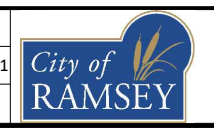
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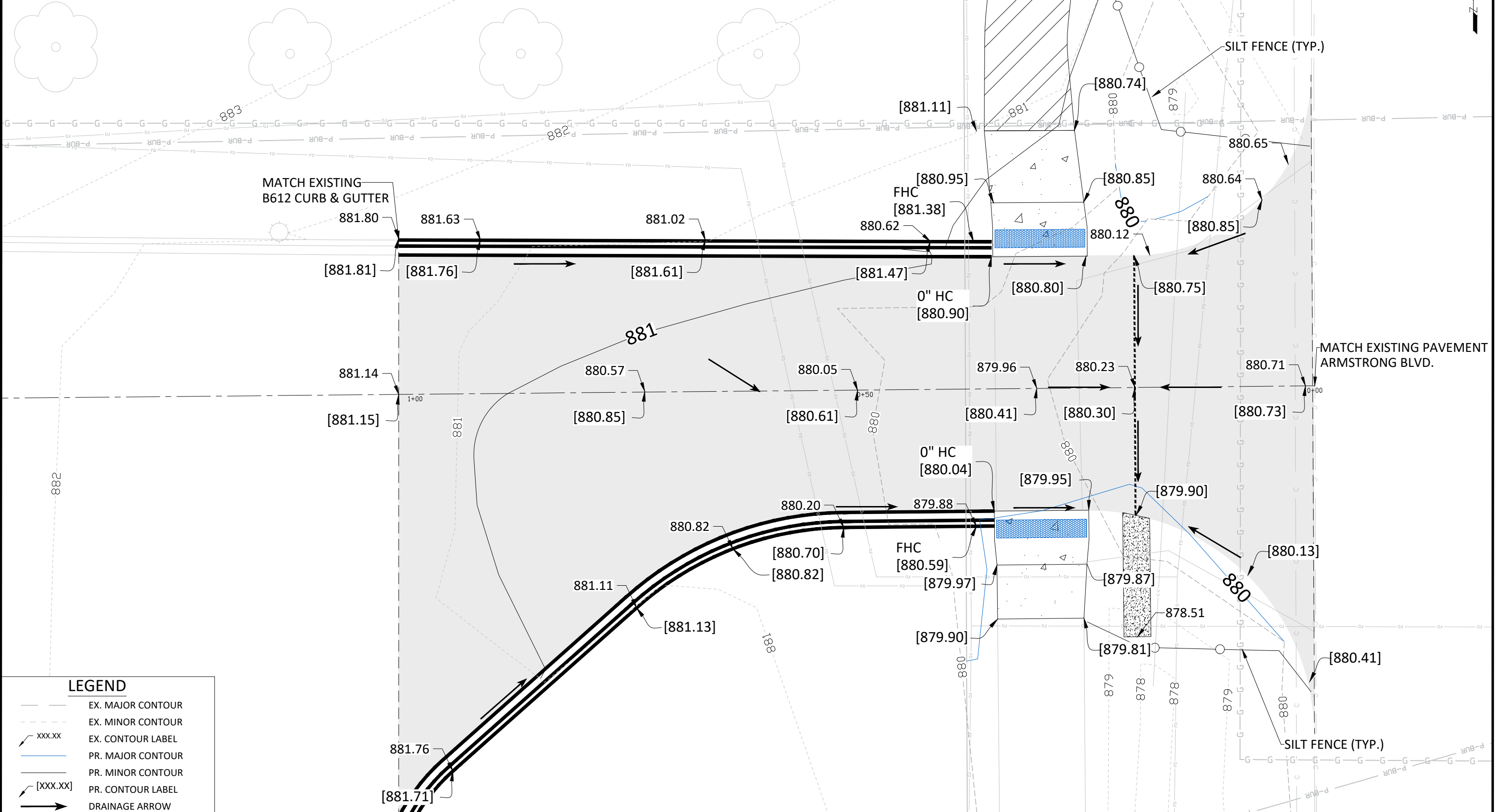
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SITE PLAN

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CITY PROJECT NO. 21-10
CITY OF RAMSEY, MINNESOTA



LEGEND	
	EX. MAJOR CONTOUR
	EX. MINOR CONTOUR
	EX. CONTOUR LABEL
	PR. MAJOR CONTOUR
	PR. MINOR CONTOUR
	PR. CONTOUR LABEL
	DRAINAGE ARROW

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GRADING PLAN

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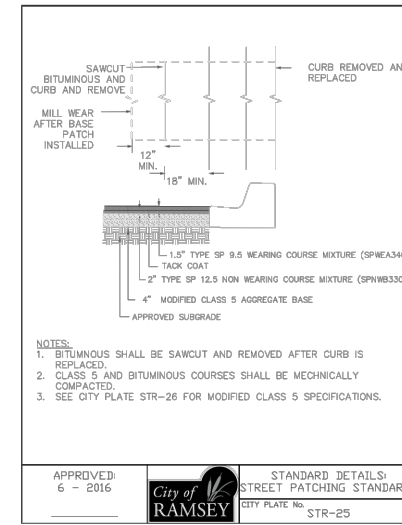
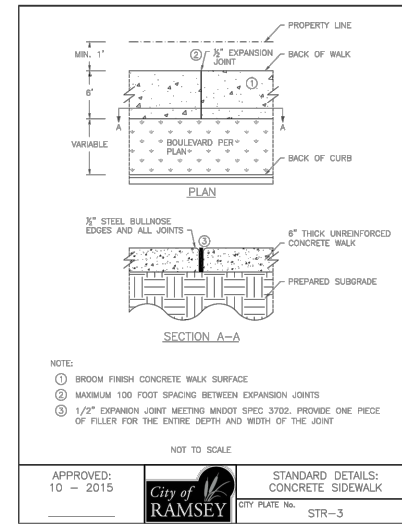
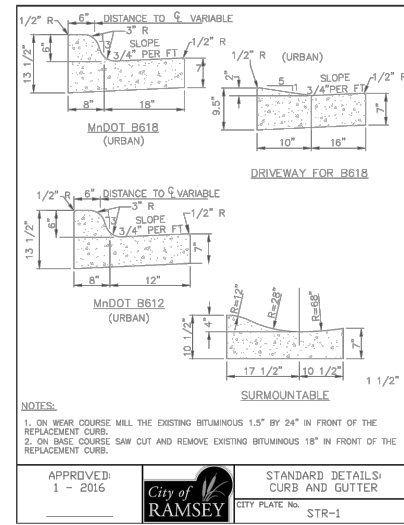
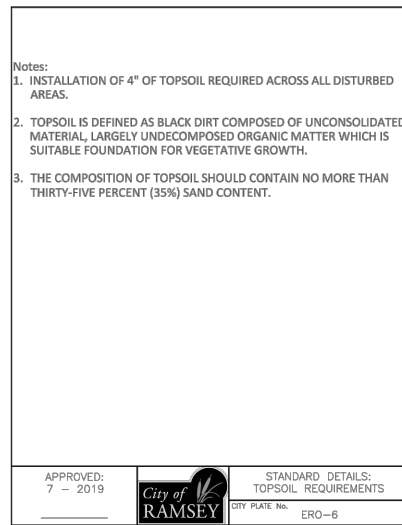
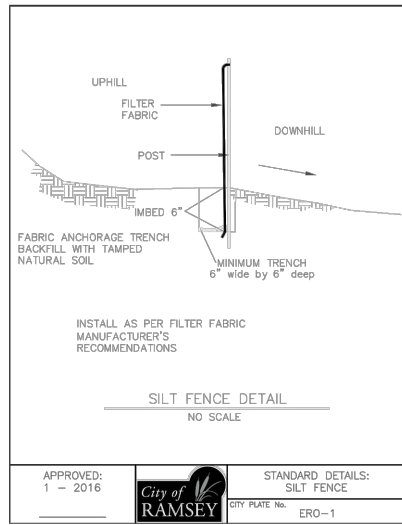
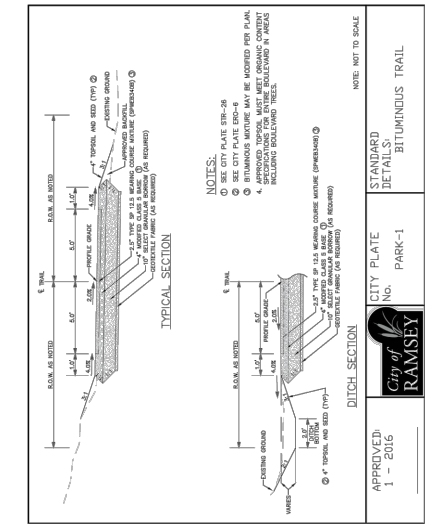


TABLE A
MODIFIED CLASS 5 SPECIFICATIONS

	% 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

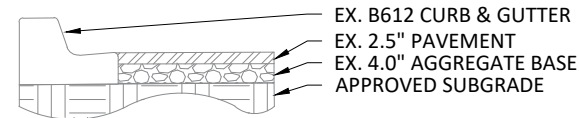
APPROVED: 2 - 2003
City of RAMSEY
STANDARD DETAILS: MODIFIED CLASS 5 SPECIFICATIONS
CITY PLATE No. STR-26



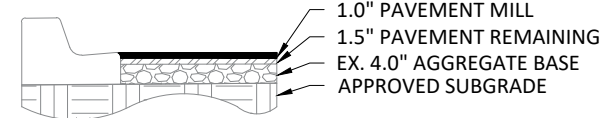
PED RAMP LEGEND

- Ⓢ 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%.
- ▨ LANDING AREA - 4'X4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- ← DRAINAGE FLOW ARROW

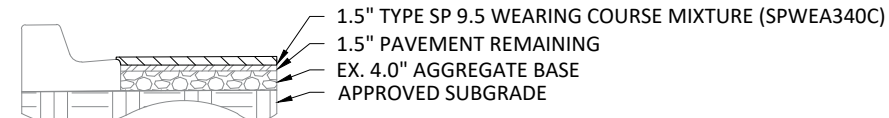
EXISTING PAVEMENT SECTION



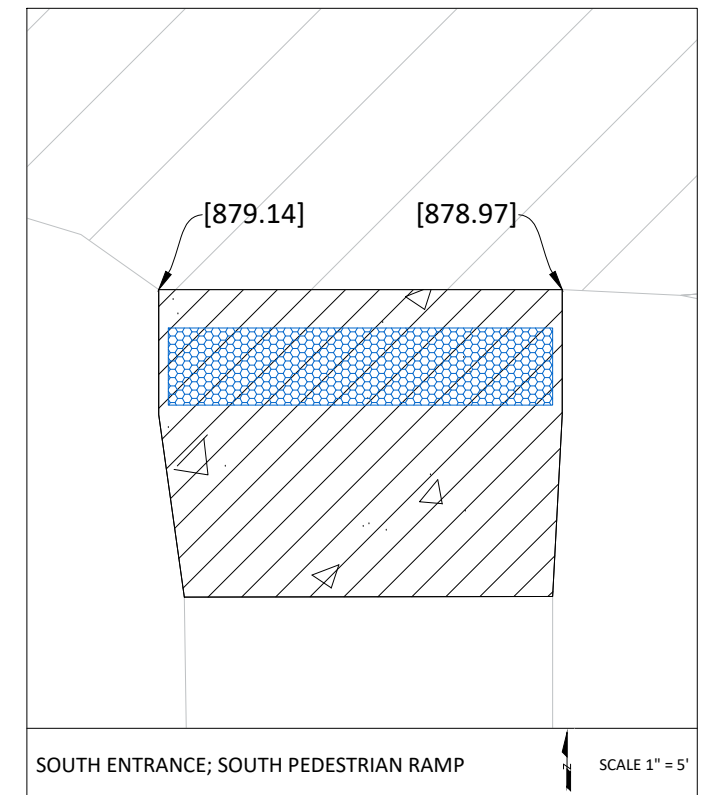
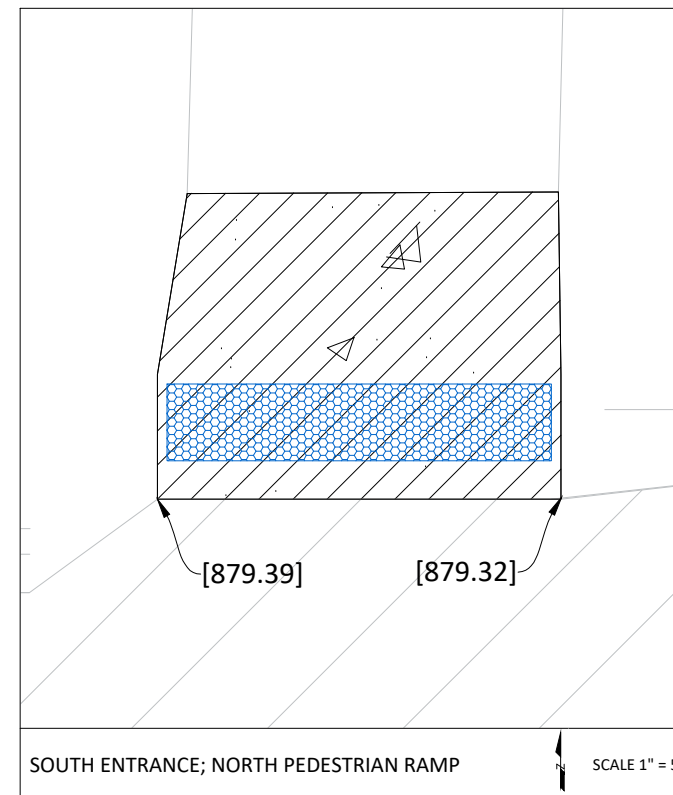
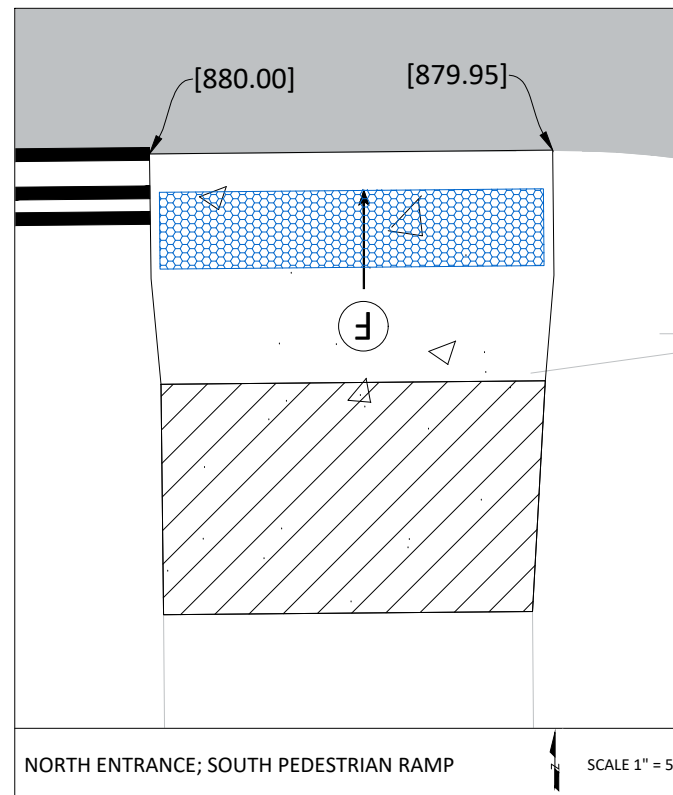
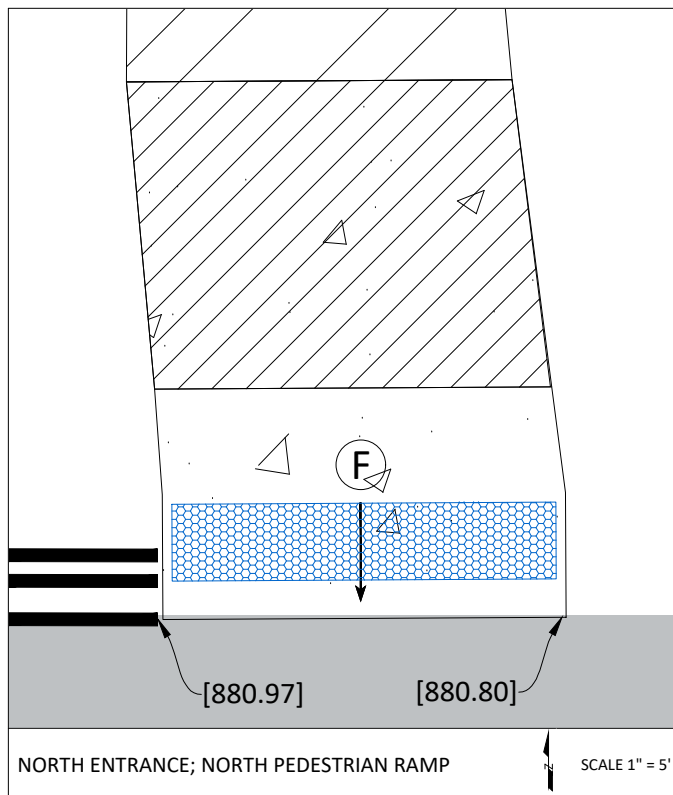
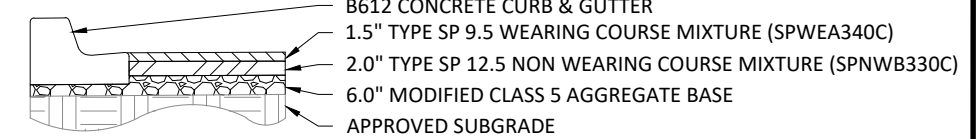
PROPOSED PAVEMENT MILL



PROPOSED PAVEMENT OVERLAY



PROPOSED FULL PAVEMENT SECTION



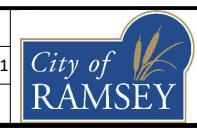
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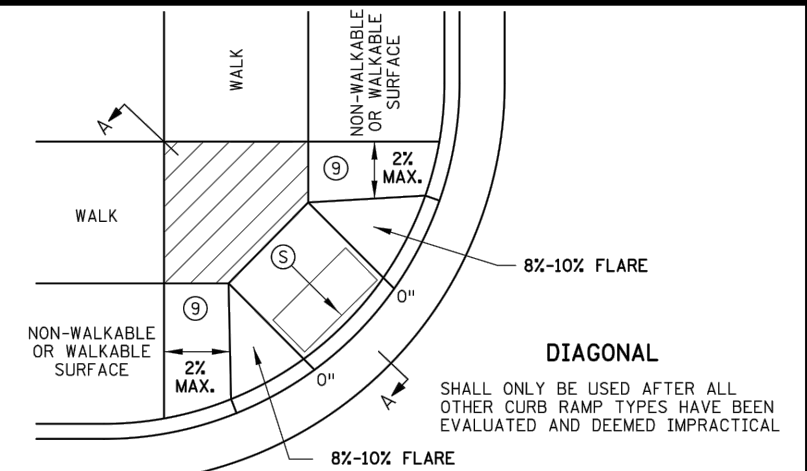
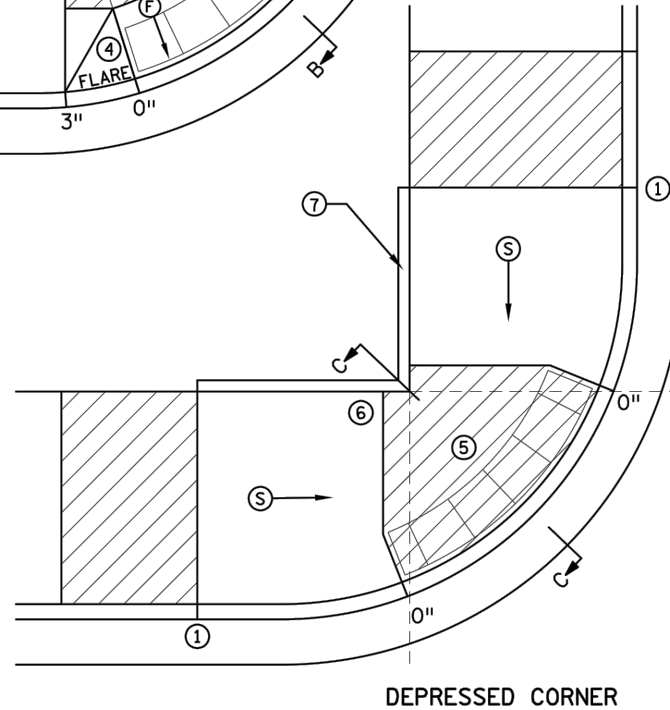
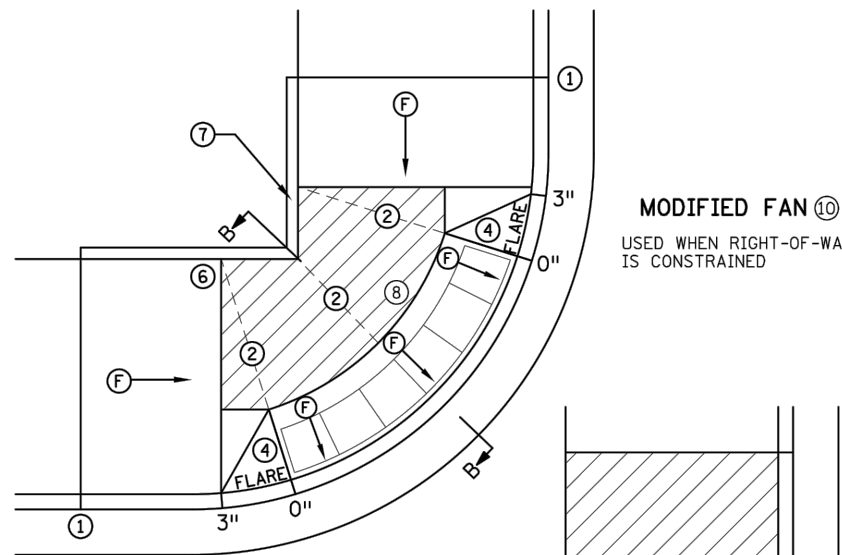
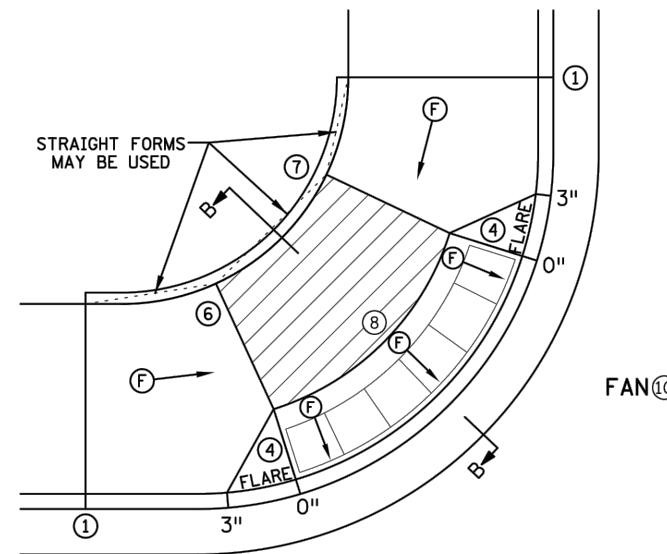
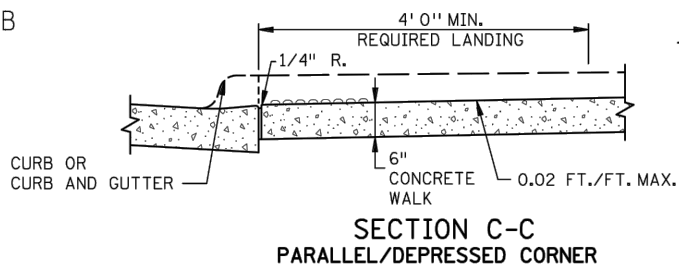
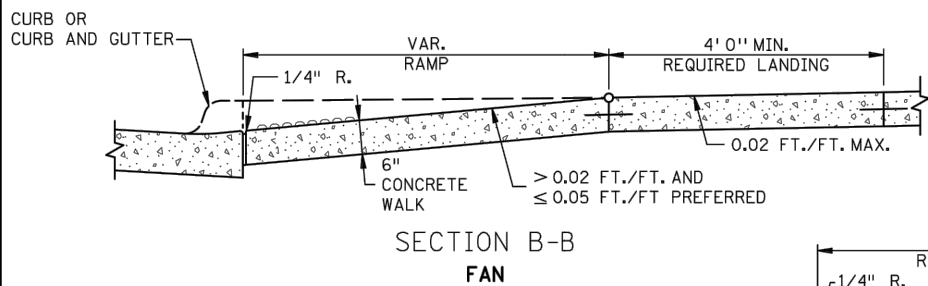
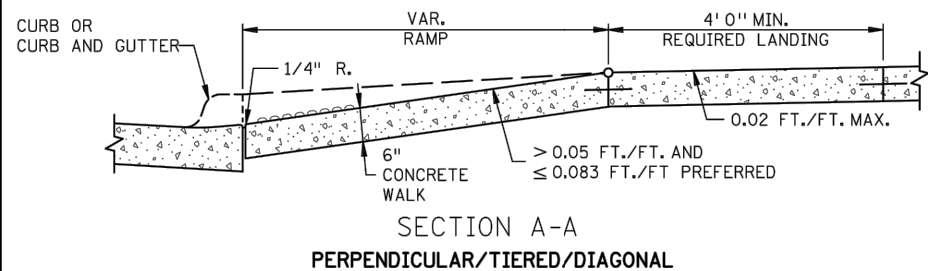
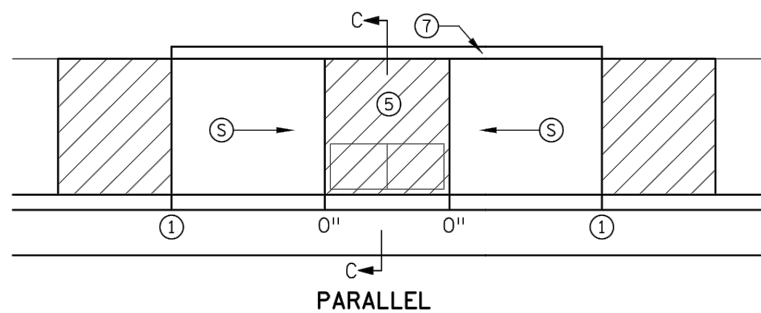
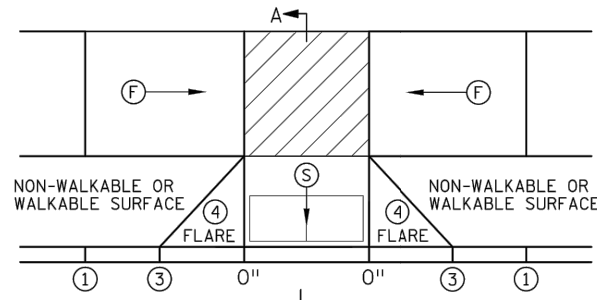
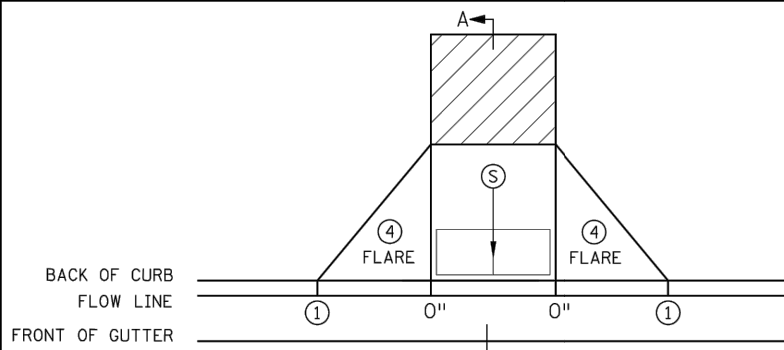
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CITY DETAILS

FIRE STATION No.1 PARKING LOT IMPROVEMENTS
CITY PROJECT NO. 21-10
CITY OF RAMSEY, MINNESOTA

PLOTTED/REVISED: 4-APR-2018

I/PLOT NAME: s250.J.spr
PATH & FILENAME: OT\S\DesignStandards\Development\New Border\200_Ser\as250.J.spr.dgn



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

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

REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

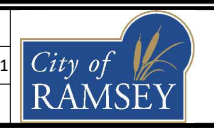
MINNESOTA DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.250 1 OF 6
APPROVED: 1-23-2017
REVISOR: [Signature]
STATE PROJ. NO. (T.H.) SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS
MNDOT PEDESTRIAN DETAILS
FIRE STATION No.1 PARKING LOT IMPROVEMENTS
CITY PROJECT NO. 21-10
CITY OF RAMSEY, MINNESOTA

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 FERIANECK
Date 11/23/21 Lic. No. 57095

DESIGNED BY: JJF
DRAWN BY: JJF DATE: 11/23/21
CHECKED BY: JJF FILE: 21-10

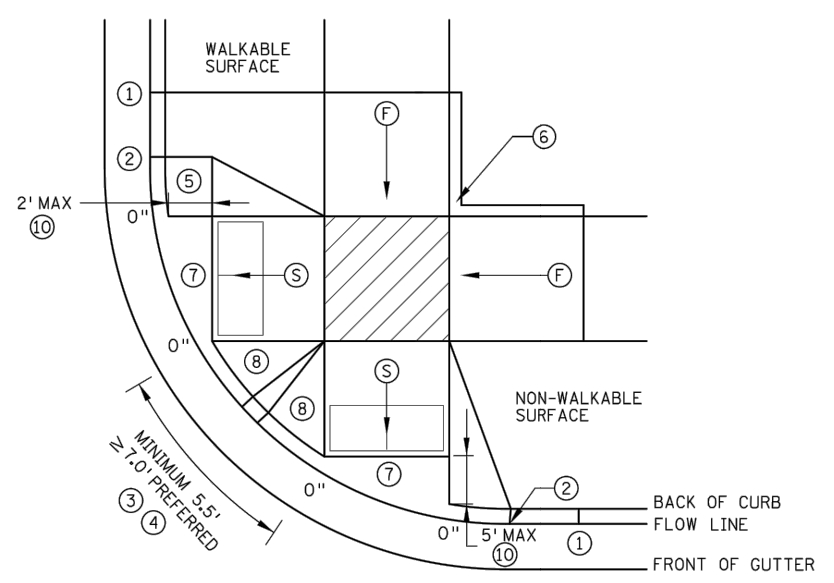


CITY OF RAMSEY
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RAMSEY, MN 55303
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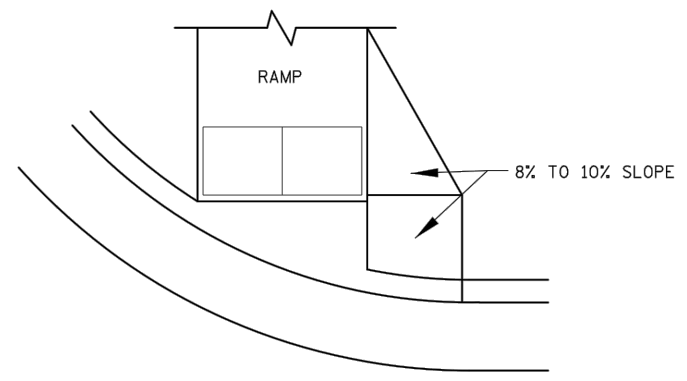
MNDOT PEDESTRIAN DETAILS

FIRE STATION No.1 PARKING LOT IMPROVEMENTS
CITY PROJECT NO. 21-10
CITY OF RAMSEY, MINNESOTA

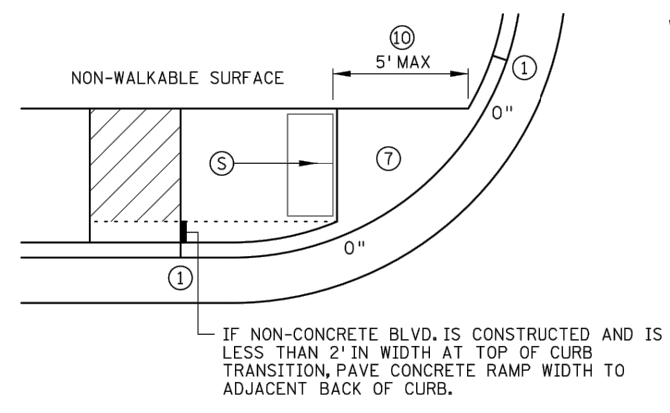
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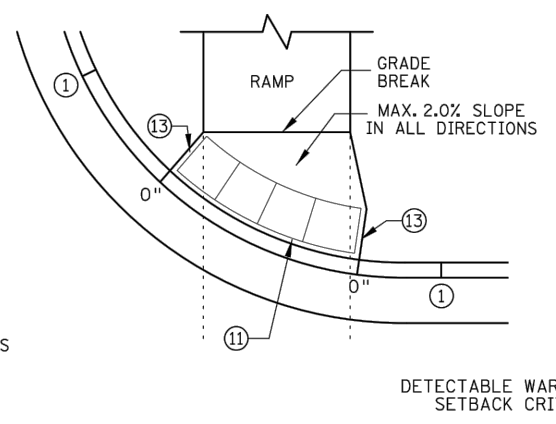
COMBINED DIRECTIONAL ⑨



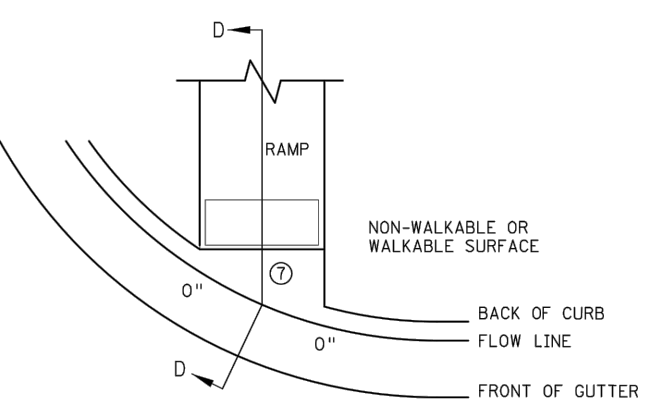
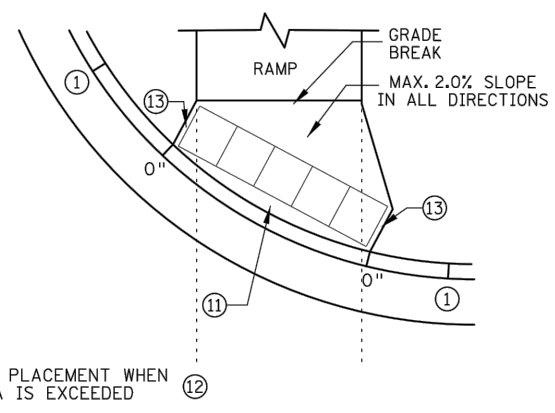
DIRECTIONAL RAMP WALKABLE FLARE



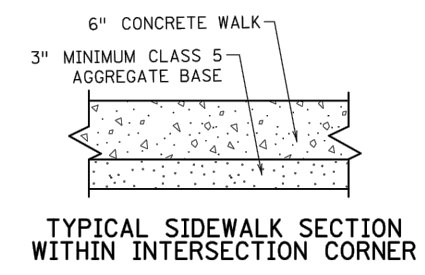
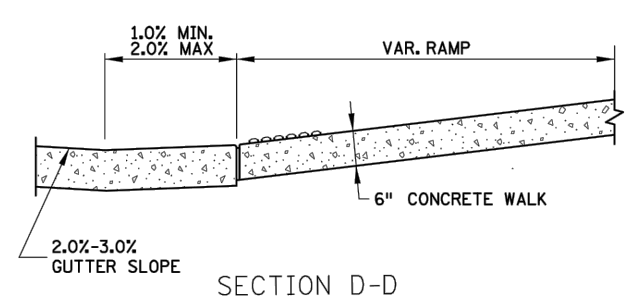
STANDARD ONE-WAY DIRECTIONAL ⑨



ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



CURB FOR DIRECTIONAL RAMPS ⑭



- NOTES:**
- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
 - INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
 - SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
 - ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.
 - TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).
 - TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
 - WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
 - ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
 - 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
 - RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.
- ① MATCH FULL CURB HEIGHT.
 - ② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
 - ③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
 - ④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
 - ⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.
 - ⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
 - ⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
 - ⑧ 8% TO 10% WALKABLE FLARE.
 - ⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
 - ⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
 - ⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
 - ⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
 - ⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
 - ⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
Ⓢ	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%.
Ⓣ	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: JANUARY 23, 2017
OPERATIONS ENGINEER

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

DATE	REVISION

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

JOE FERIANCEK
 Date 11/23/21 Lic. No. 57095

DESIGNED BY: JJF	DATE: 11/23/21
DRAWN BY: JJF	FILE: 21-10
CHECKED BY: JJF	

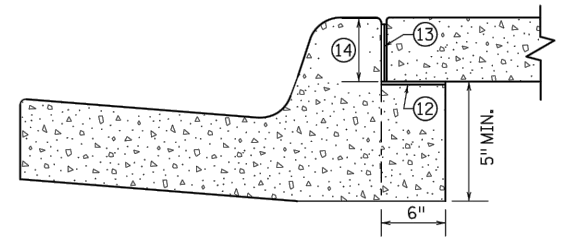
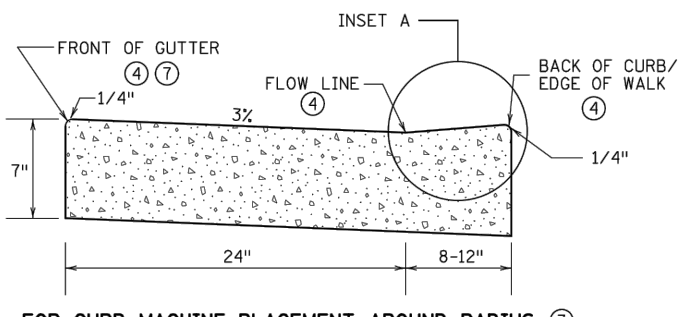
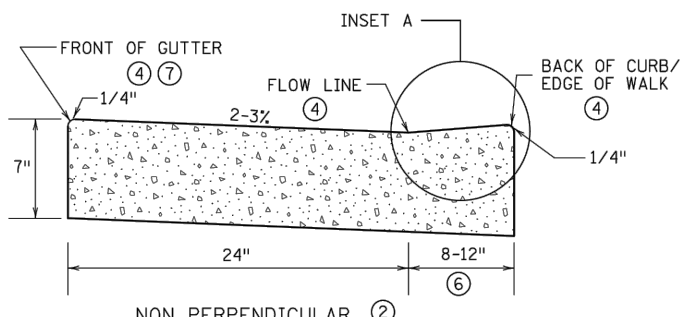
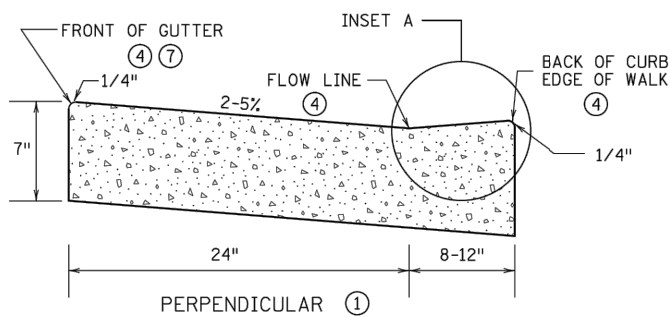
CITY OF RAMSEY
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN DETAILS

FIRE STATION No.1 PARKING LOT IMPROVEMENTS
 CITY PROJECT NO. 21-10
 CITY OF RAMSEY, MINNESOTA

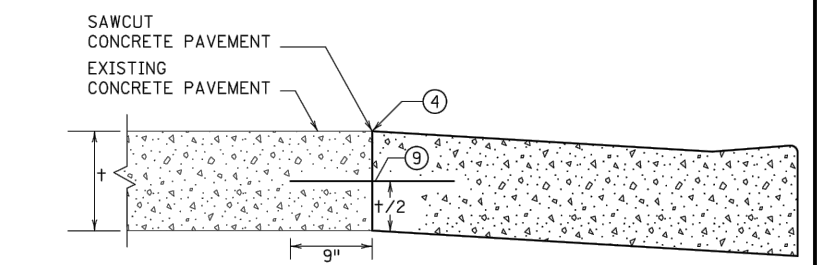
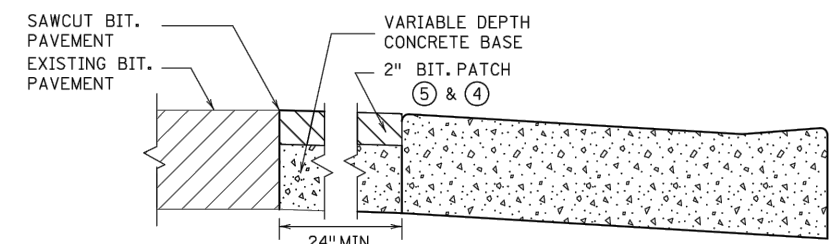
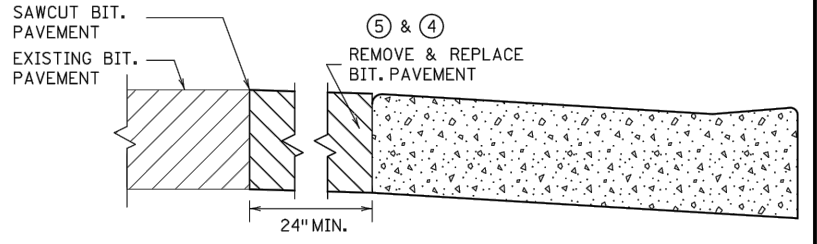
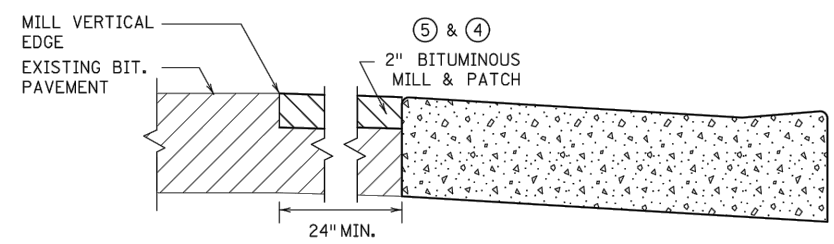
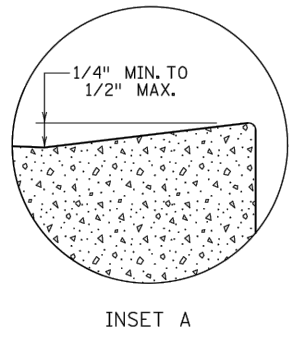
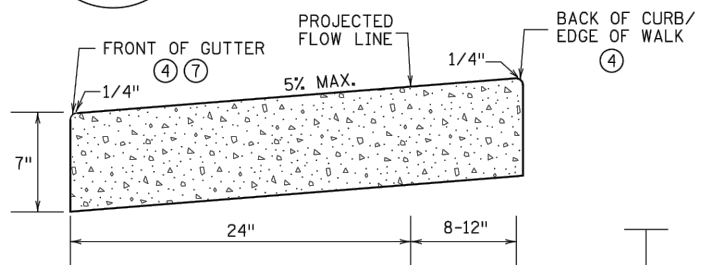
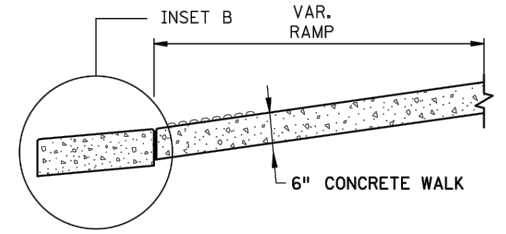
PLOTTED/REVISED: 4-APR-2018

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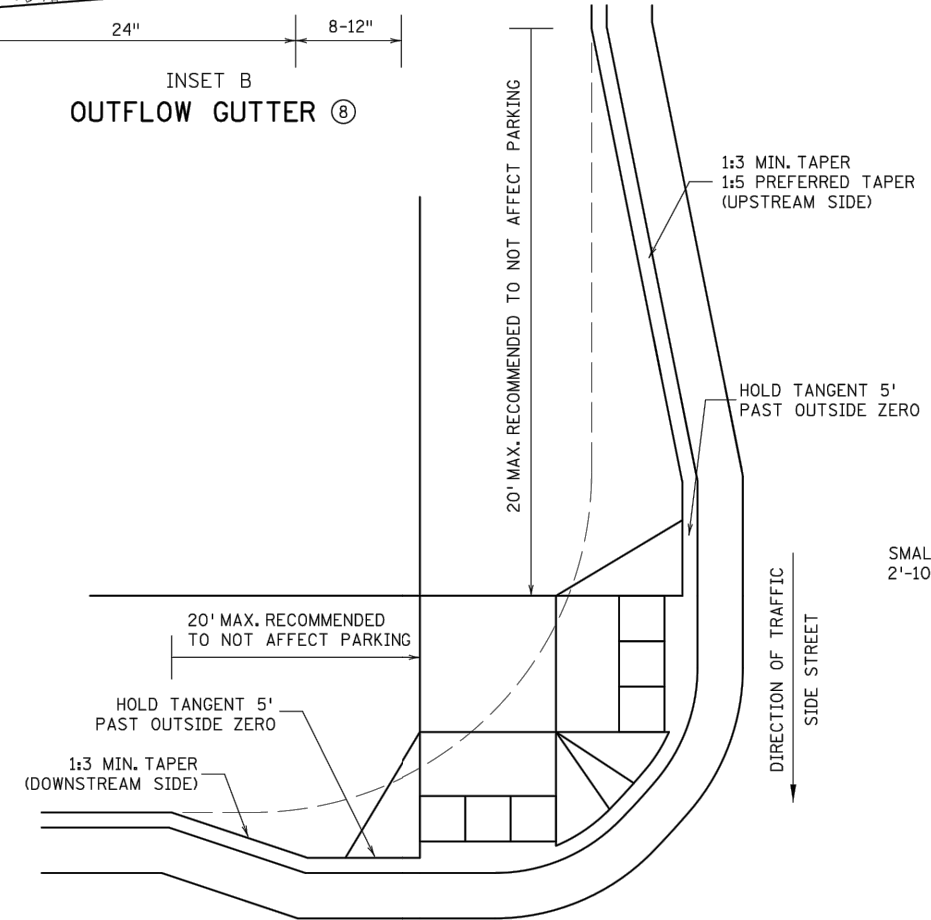
OPTIONAL SILL CURB WHEN SIDEWALK IS AT BACK OF CURB
CONCRETE SILL TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



ONLY ALLOWED PER ENGINEER'S APPROVAL

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



COMBINED DIRECTIONAL (COMPOUND RADIUS) 10

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

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

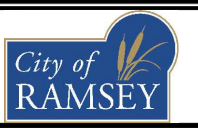
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		APPROVED: 1-23-2017		
DEPARTMENT OF TRANSPORTATION	STATE DESIGN ENGINEER	STATE PROJ. NO.	(T.H.)	SHEET NO. OF SHEETS

DATE	REVISION

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

JOE FERIANECK
Date 11/23/21 Lic. No. 57095

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



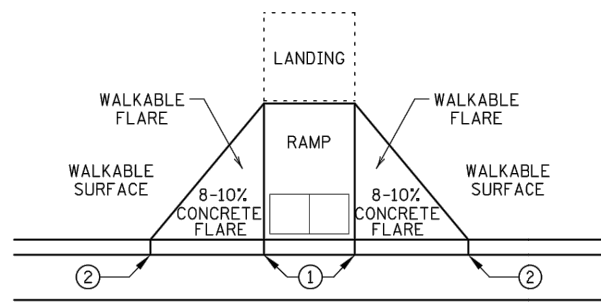
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MNDOT PEDESTRIAN DETAILS

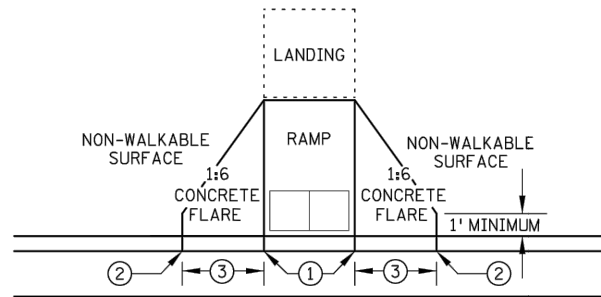
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CITY PROJECT NO. 21-10
CITY OF RAMSEY, MINNESOTA

PLOTTED/REVISED: 4-APR-2018

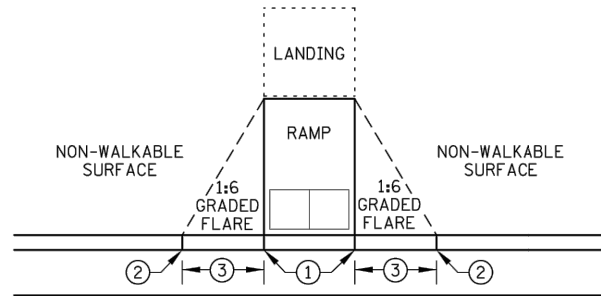
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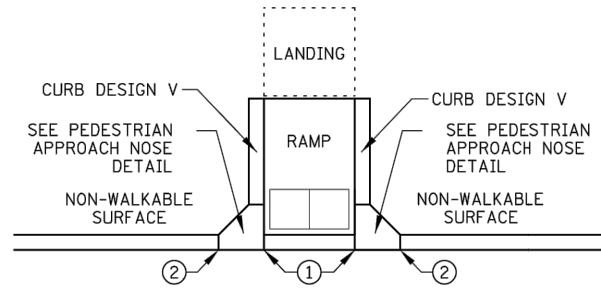
PAVED FLARES
 ADJACENT TO WALKABLE SURFACE



PAVED FLARES
 ADJACENT TO NON-WALKABLE SURFACE

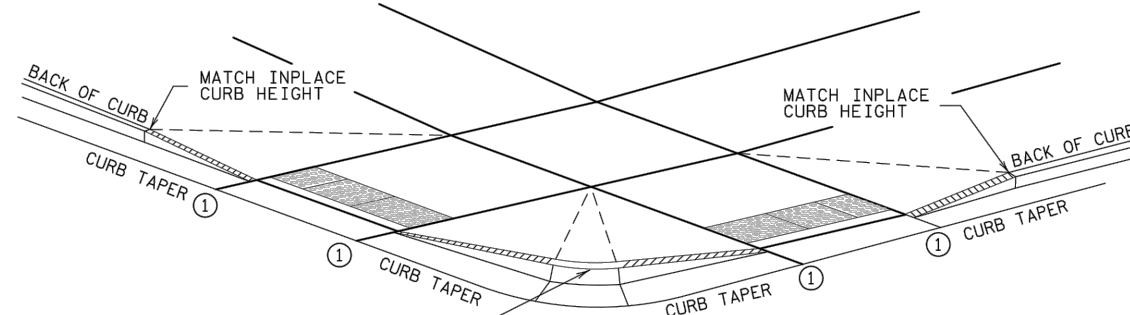


GRADED FLARES



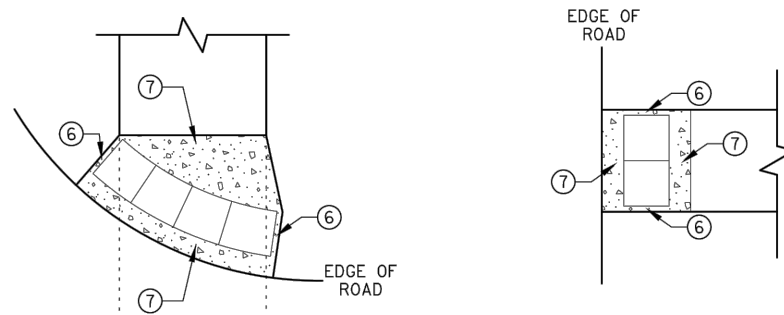
RETURNED CURB ⑤

TYPICAL SIDE TREATMENT OPTIONS ④ ⑪



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

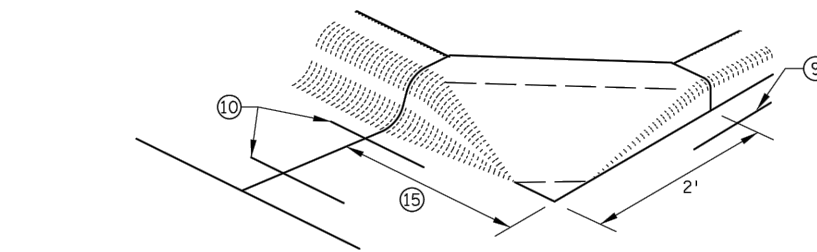
DETECTABLE EDGE WITH ⑧
 CURB AND GUTTER



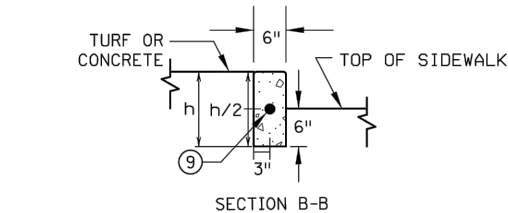
RADIAL DETECTABLE WARNING

RECTANGULAR DETECTABLE WARNING

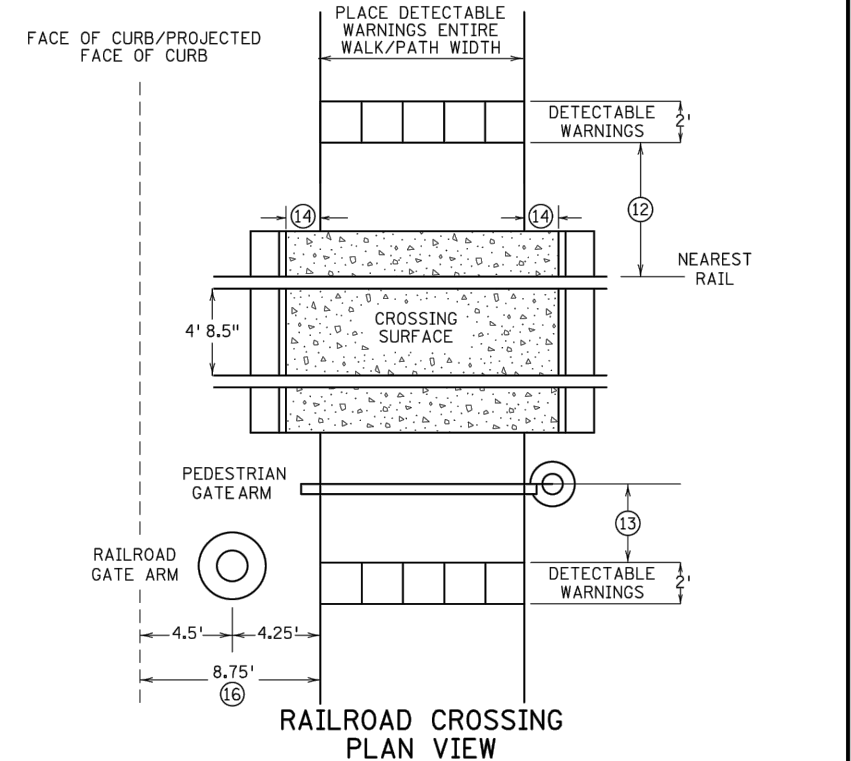
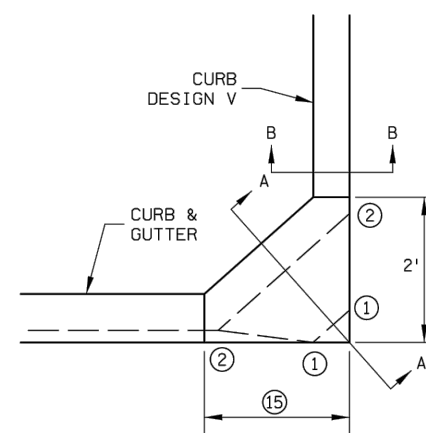
DETECTABLE EDGE WITHOUT CURB AND GUTTER



SECTION A-A



SECTION B-B



RAILROAD CROSSING
 PLAN VIEW

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

REVISION:
 APPROVED: JANUARY 23, 2017
 OPERATIONS ENGINEER

PEDESTRIAN APPROACH
 NOSE DETAIL
 (FOR RETURNED CURB
 SIDE TREATMENT)



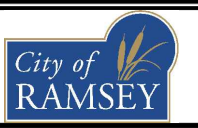
STANDARD PLAN 5-297.250 4 OF 6
 APPROVED: 1-23-2017
 REVISED:
 STATE PROJ. NO.

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

DATE	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
 JOE FERIANECK
 Date 11/23/21 Lic. No. 57095

DESIGNED BY: JJF
 DRAWN BY: JJF
 CHECKED BY: JJF
 DATE: 11/23/21
 FILE: 21-10



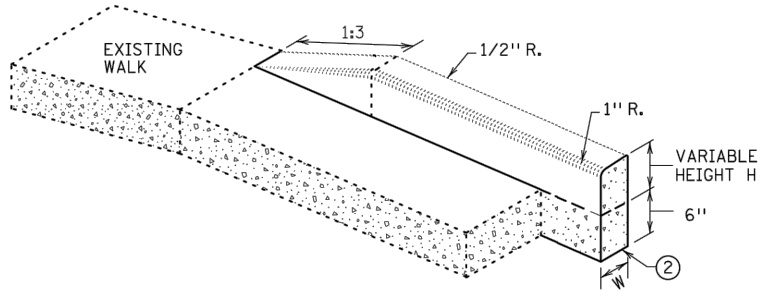
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 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN DETAILS

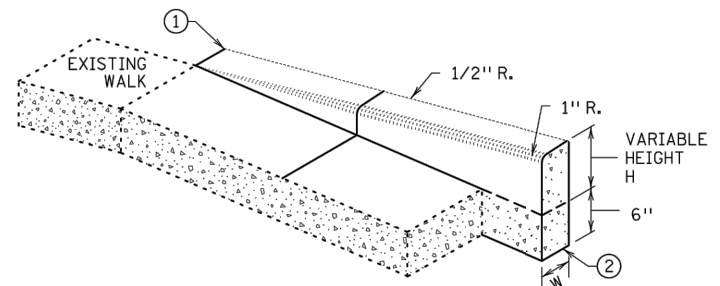
FIRE STATION No.1 PARKING LOT IMPROVEMENTS
 CITY PROJECT NO. 21-10
 CITY OF RAMSEY, MINNESOTA

PLOTTED/REVISED: 4-APR-2018

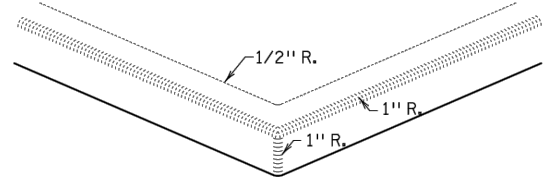
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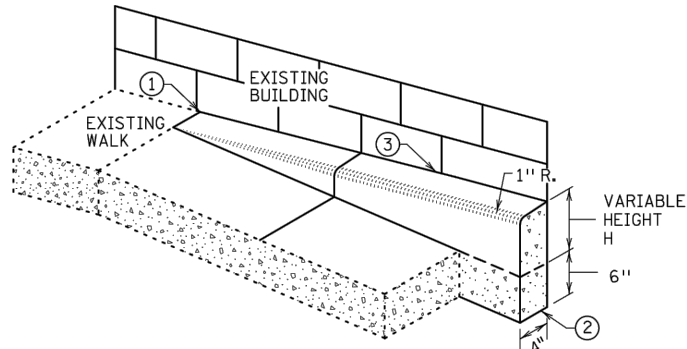
V CURB ADJACENT TO LANDSCAPE
 CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
 CURB OUTSIDE SIDEWALK LIMITS

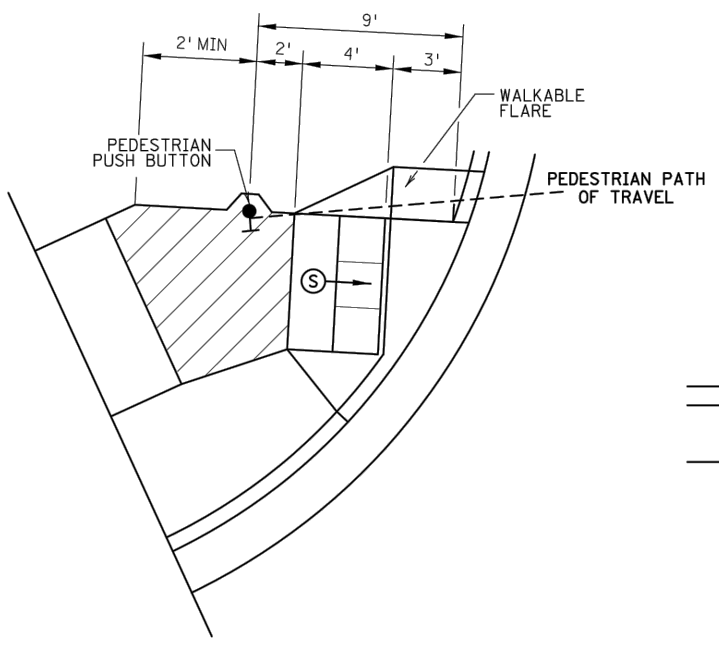


V CURB INTERSECTION

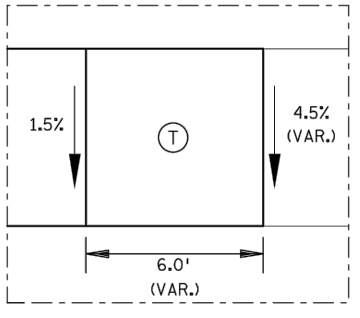
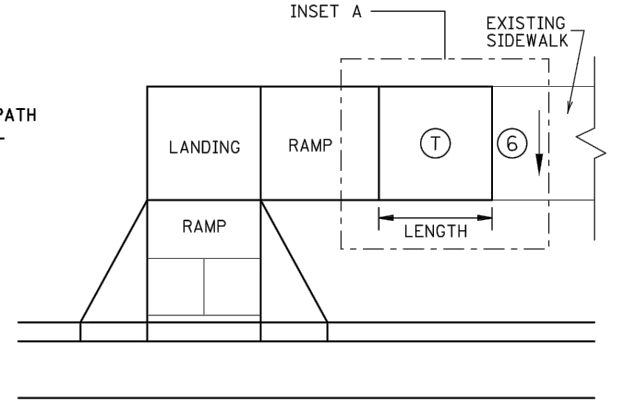


V CURB ADJACENT TO BUILDING
 OR BARRIER

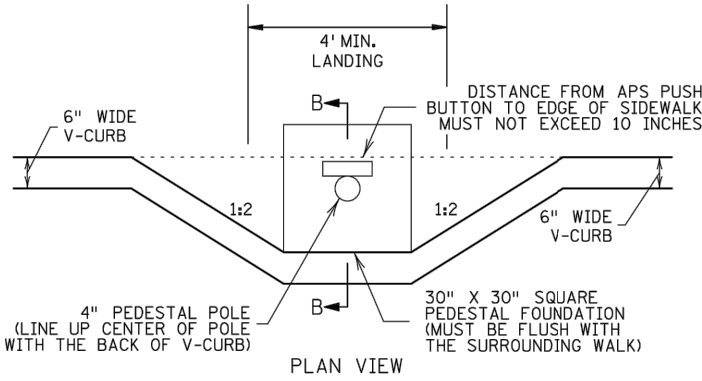
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



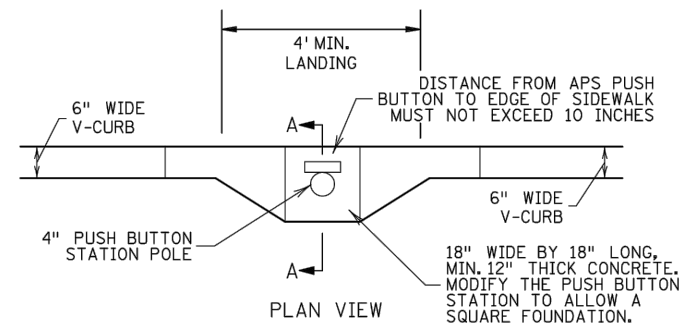
SEMI-DIRECTIONAL RAMP (3,4,9)
 3' DOME SETBACK, 4' LONG RAMP AND
 PUSH BUTTON 9' FROM THE BACK OF CURB
 PRIMARILY USED FOR APS APPLICATIONS
 WHERE THE PAR DOES NOT CONTINUE PAST
 THE PUSH BUTTON (DEAD-END SIDEWALK)



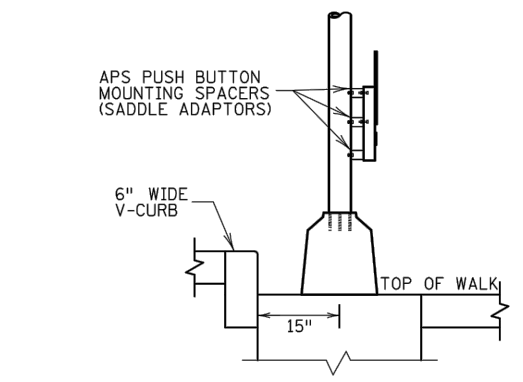
TRANSITION PANEL (4,5)



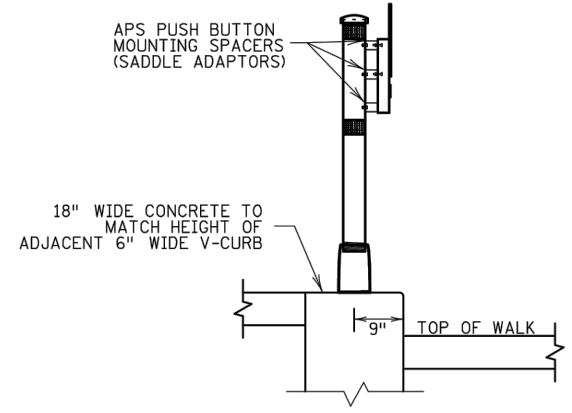
PLAN VIEW



PLAN VIEW



SECTION B-B



SECTION A-A

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)

PUSH BUTTON STATION (V-CURB)

REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

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 EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
- 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.

③ 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.



STANDARD PLAN 5-297.250 5 OF 6

APPROVED: 1-23-2017
 REVISED:
 STATE DESIGN ENGINEER

STATE PROJ. NO.

PEDESTRIAN CURB RAMP DETAILS

(T.H.) SHEET NO. OF SHEETS

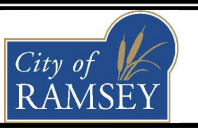
DATE	REVISION

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

JOE FERIANECK
 Date 11/23/21 Lic. No. 57095

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

DATE: 11/23/21
 FILE: 21-10



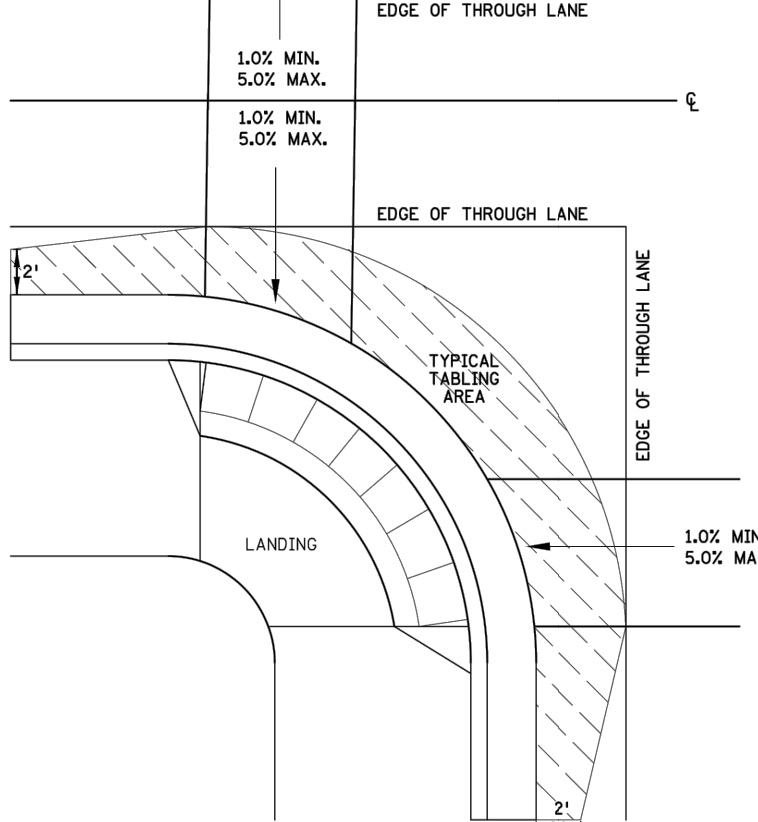
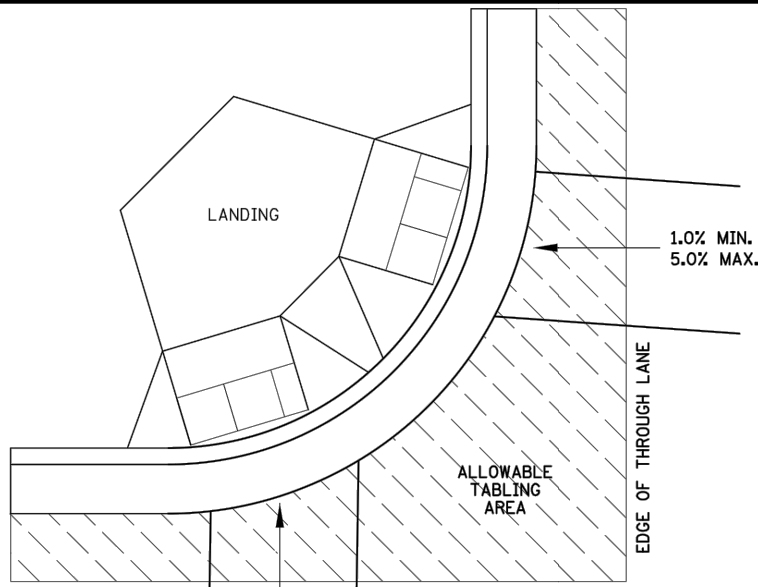
CITY OF RAMSEY
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN DETAILS

FIRE STATION No.1 PARKING LOT IMPROVEMENTS
 CITY PROJECT NO. 21-10
 CITY OF RAMSEY, MINNESOTA

PLOTTED/REVISED: 4-APR-2018

I/PLOT NAME: s250_6.spr
PATH & FILENAME: OT S\DesignStandards\Development\New Border\200_Ser\as250_6.spr.dgn



CURB LINE AND ROAD CROSSING ADJUSTMENTS

"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:

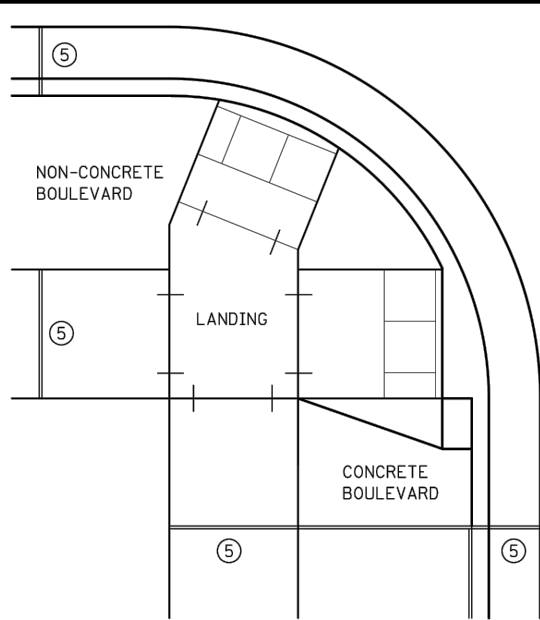
- 1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
- 2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
- 3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
- 4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

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.

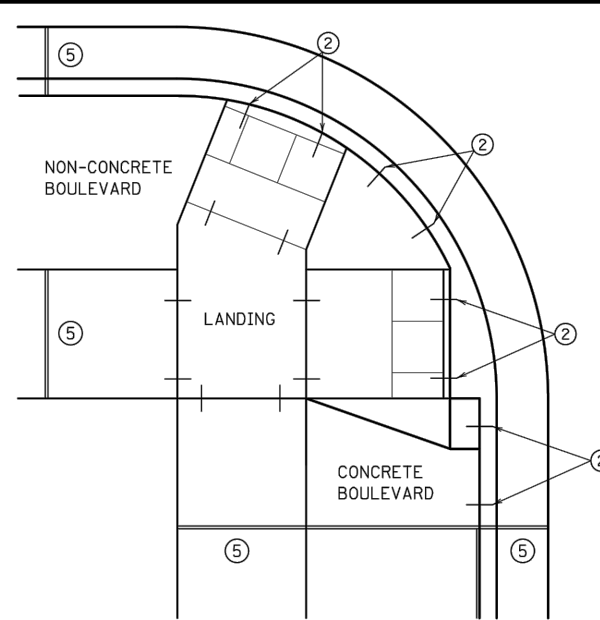
RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

- 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

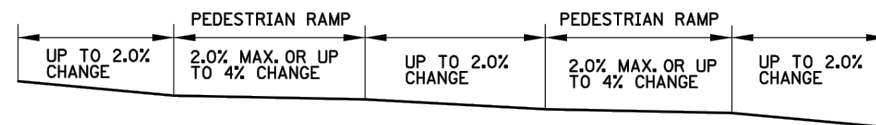
REVISION:
APPROVED: JANUARY 23, 2017
<i>[Signature]</i> OPERATIONS ENGINEER



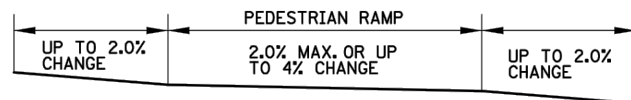
EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS



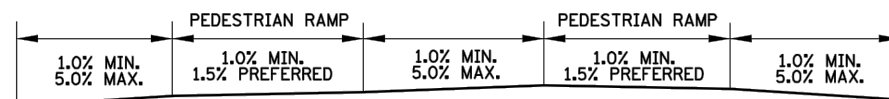
OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS ④



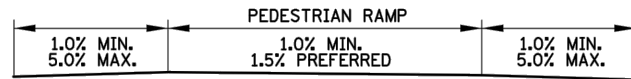
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



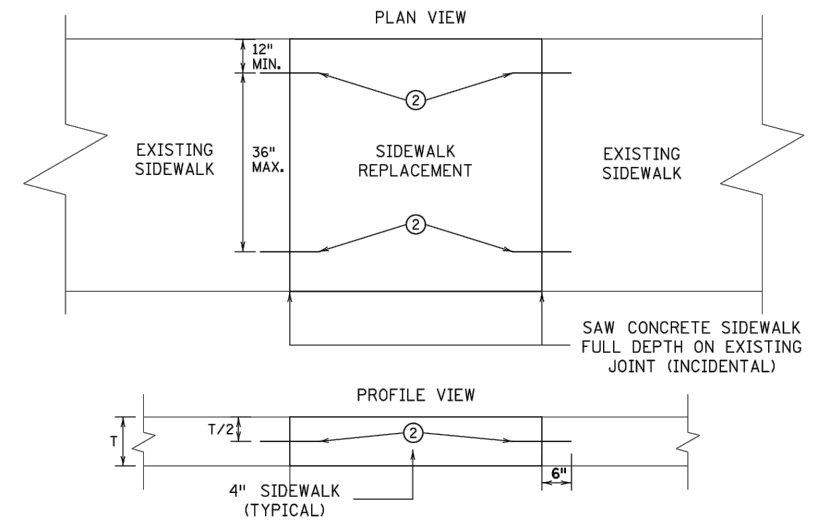
FLOW LINE PROFILE "TABLE" - FAN



FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

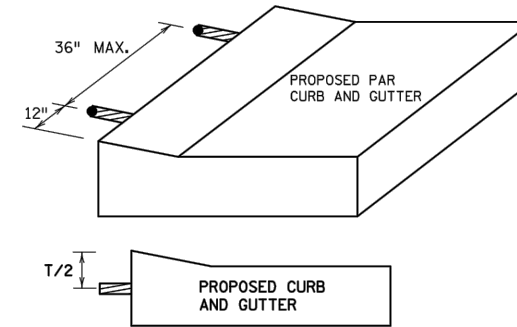


FLOW LINE PROFILE RAISE - FAN

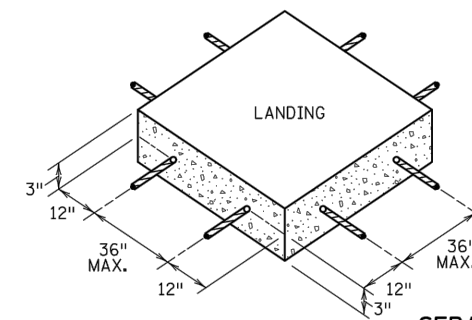


OPTIONAL SIDEWALK REINFORCEMENT

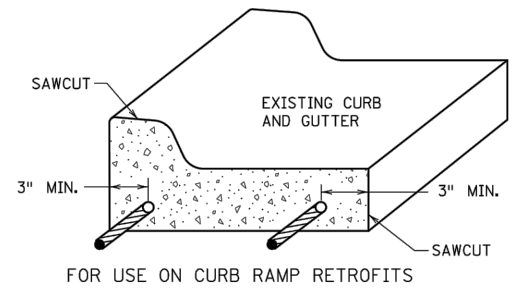
SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



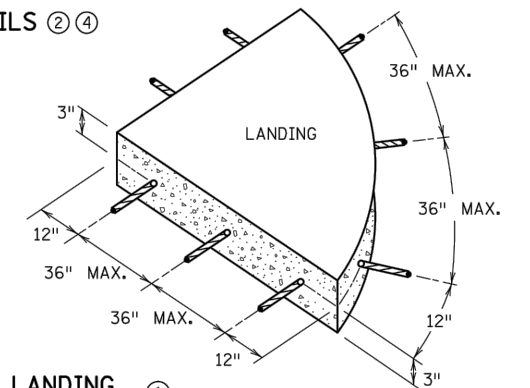
OPTIONAL CURB LINE REINFORCEMENT DETAILS ② ④



SEPARATE LANDING POUR REINFORCEMENT ①



CURB AND GUTTER REINFORCEMENT ③



NOTES:

- ① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- ② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
- ③ DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.
- ④ THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
- ⑤ 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.



STANDARD PLAN 5-297.250

6 OF 6

PEDESTRIAN CURB RAMP DETAILS

APPROVED: 1-23-2017

REVISED:

[Signature]
STATE DESIGN ENGINEER

STATE PROJ. NO.

(T.H.)

SHEET NO. OF

SHEETS

DATE	REVISION

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

JOE FERIANECK
Date 11/23/21 Lic. No. 57095

DESIGNED BY:	JJF
DRAWN BY:	JJF
CHECKED BY:	JJF
DATE:	11/23/21
FILE:	21-10



CITY OF RAMSEY
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RAMSEY, MN 55303
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MNDOT PEDESTRIAN DETAILS

FIRE STATION No.1 PARKING LOT IMPROVEMENTS
CITY PROJECT NO. 21-10
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