



ANOKA COUNTY TRANSPORTATION DIVISION

1440 BUNKER LAKE BLVD NW

ANDOVER, MN 55304

763-324-3176

highwaypermits@co.anoka.mn.us

**RIGHT OF WAY
PERMIT NUMBER**

23-157

CSAH

CR

**APPLICATION FOR PERMIT FOR INSTALLATION OF UTILITIES OR PLACING OBSTRUCTIONS ON THE COUNTY HIGHWAY SYSTEM
ALL APPLICANTS MUST BE REGISTERED PRIOR TO PERMIT APPROVAL**

WORK TO START ON

WORK TO BE COMPLETED ON

DURATION OF JOB

ARE YOU BEING ASKED TO RELOCATE DUE TO A COUNTY PROJECT?

ANOKA COUNTY PROJECT NUMBER

APPLICANT NAME

CONTACT PERSON

ADDRESS

CITY

PHONE NUMBER

EMAIL

COMPANY OR INDIVIDUAL PERFORMING WORK

CONTACT PERSON

PHONE NUMBER

EMAIL

ADDRESS OF WORK SITE

CITY

NATURE OF WORK

TC

METHOD OF INSTALLATION/CONSTRUCTION

SURFACE TO BE DISTURBED

SITE PLAN

WILL TRAFFIC BE OBSTRUCTED?

TRAFFIC CONTROL PLAN

DITCH

TO BE
SUBMITTED
VIA EMAIL

TO BE
SUBMITTED
VIA EMAIL

GRAVEL

BITUMINOUS

CONCRETE

NONE

DEPTH FROM SURFACE

SIZE AND KIND OF PIPE/CABLE

NUMBER OF EXCAVATIONS

SIZE OF EXCAVATIONS

LOCATION OF EXCAVATIONS

ADDITIONAL DOCUMENTS

TO BE SUBMITTED VIA EMAIL - CITY/MNDOT PERMITS, PHOTOS OF AREA, ETC.

*THIS PERMIT COVERS THE RIGHT OF WAY IN ANOKA COUNTY ONLY
ACHD reserves the right to make changes to these special conditions.*



Anoka County

MINNESOTA

Respectful. Innovative. Fiscally Responsible

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GENERAL INFORMATION

ONE PERMIT MUST BE APPROVED FOR EACH COUNTY ROAD ON WHICH WORK WILL BE PERFORMED PRIOR TO ANY WORK WITHIN THE RIGHT OF WAY BY ANY UTILITY/CONTRACTOR. EMERGENCY CONDITIONS WHICH THREATEN THE SAFETY OF THE PUBLIC AND REQUIRE IMMEDIATE REPAIR ARE EXCEPTIONS TO THIS RULE. UNDER THOSE CIRCUMSTANCES, THE UTILITY/CONTRACTOR, IS PERMITTED TO BEGIN AND/OR COMPLETE THE NECESSARY REPAIRS. ACTD SHALL BE NOTIFIED OF EMERGENCY REPAIRS AS SOON AS FEASIBLE AND A WRITTEN PERMIT IS TO BE COMPLETED WITHIN TWO BUSINESS DAYS OF OCCURRENCE.

A LICENSE-PERMIT BOND IS GENERALLY REQUIRED OF THE CONTRACTOR AS PART OF THE REGISTRATION PROCESS. THE AMOUNT OF WHICH WILL BE DETERMINED BY THE NATURE OF THE UTILITY WORK.

A SKETCH OR DRAWING SHALL ACCOMPANY EACH PERMIT APPLICATION WHICH WILL SHOW THE LOCATION OF THE PROPOSED WORK/UTILITY WITH REFERENCE TO THE COUNTY HIGHWAY CENTER LINE AND RIGHT OF WAY LINE. A COMPLETE SET OF PLANS IS REQUIRED FOR ALL SEWER/WATER PROJECTS.

IT SHALL BE THE RESPONSIBILITY OF THE APPLICANT TO DETERMINE WHICH OF THE SPECIAL CONDITIONS APPLY TO EACH PERMIT.

THE ANOKA COUNTY TRANSPORTATION DIVISION (ACTD) RESERVES THE RIGHT TO REVOKE ANY UTILITY PERMIT AND HALT WORK, IF, UPON INSPECTION OF ANY JOB SITE, THE SPECIAL CONDITIONS ARE NOT MET, AND/OR A HAZARD EXISTS FOR THE APPLICANT OR PUBLIC SAFETY IS THREATENED. **THE FAILURE TO COMPLY WITH THE TERMS AND CONDITIONS OF ANY APPLICABLE FEDERAL, STATE, REGIONAL, AND LOCAL LAWS, RULES AND REGULATIONS, INCLUDING ANY PROVISION OF ANOKA COUNTY'S RIGHT-OF-WAY ORDINANCE SHALL BE CAUSE FOR IMMEDIATE REVOCATION OF A PERMIT.**

THE APPLICANT SHALL NOTIFY ACTD IMMEDIATELY UPON COMPLETION OF PROJECT SO THAT THE ACTD CAN INSPECT THE SITE TO DETERMINE WHETHER OR NOT RESTORATION HAS BEEN SATISFACTORILY COMPLETED.

THE UNDERSIGNED, HEREBY ACCEPTS THE TERMS AND CONDITIONS OF THIS PERMIT AND THE REGULATIONS OF ANOKA COUNTY, AND AGREES TO FULLY COMPLY THEREWITH TO THE SATISFACTION OF THE ACTD. THE COUNTY OF ANOKA, ITS OFFICIALS, EMPLOYEES, AND AGENTS, SHALL BE HELD HARMLESS, BY THE APPLICANT/PERMITTEE, FROM ANY DEMANDS, CLAIMS, LAWSUITS, OR DAMAGES RELATING TO THE WORK DESCRIBED IN THIS PERMIT.

APPLICANT'S SIGNATURE

DATE

AUTHORIZATION OF PERMIT

IN CONSIDERATION OF THE APPLICANT'S AGREEMENT TO COMPLY IN ALL RESPECTS WITH THE REGULATIONS OF THE ACTD COVERING SUCH OPERATIONS, PERMISSION IS HEREBY GRANTED FOR THE WORK TO BE DONE AS DESCRIBED IN THE ABOVE APPLICATION. SAID WORK TO BE DONE IN ACCORDANCE WITH THE GENERAL CONDITIONS LISTED ABOVE AND THE SPECIAL CONDITIONS REQUIRED AS HEREBY STATED. IT IS EXPRESSLY UNDERSTOOD THAT THIS PERMIT IS CONDITIONED UPON REPLACEMENT OR RESTORATION OF THE COUNTY HIGHWAY AND ITS RIGHT OF WAY TO THEIR ORIGINAL OR TO A SATISFACTORY CONDITION. IT IS FURTHER UNDERSTOOD THAT THIS PERMIT IS ISSUED SUBJECT TO THE APPROVAL OF LOCAL CITY OR TOWNSHIP AUTHORITIES HAVING JOINT SUPERVISION OVER SAID STREET OR HIGHWAY.

APPROVED BY:

DATE

05/15/2023

TITLE: Associate Traffic Technician

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SPECIAL CONDITIONS

TRAFFIC CONTROL

- 1) DETOURS
 - a) DETAILED DETOUR LAYOUTS SHALL BE SUBMITTED TO THE TRAFFIC ENGINEER FOR APPROVAL.
 - b) NO DETOURS SHALL BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ANOKA COUNTY TRAFFIC ENGINEER.
 - c) TEN DAYS NOTICE MUST BE GIVEN PRIOR TO THE INSTALLATION OF ANY DETOUR.
 - d) IT SHALL BE THE RESPONSIBILITY OF THE APPLICANT TO NOTIFY ANOKA COUNTY CENTRAL COMMUNICATIONS, LOCAL GOVERNMENT BODIES, AND ANY AFFECTED BUS COMPANIES TEN DAYS PRIOR TO ANY ROAD CLOSURES/DETOURS.
 - e) IMMEDIATELY UPON COMPLETION OF WORK AND/OR DETOURS, ALL POSTS, BARRICADES, AND SIGNS SHALL BE REMOVED FROM THE RIGHT OF WAY.
- 2) TRAFFIC CONTROL DEVICES
 - a) ALL TRAFFIC CONTROL DEVICES, BARRICADES, FLASHERS, ETC., SHALL BE FURNISHED BY THE APPLICANT AND SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – FIELD MANUAL OF THE SAME MANUAL.

CONSTRUCTION REQUIREMENTS

- 1) OPEN CUTTING OF BITUMINOUS OR CONCRETE SURFACED ROADS WILL BE ALLOWED ONLY AT THE DISCRETION OF THE COUNTY ENGINEER.
- 2) NEITHER SUPPLIES NOR EXCAVATION MATERIALS SHALL BE PLACED ON THE BITUMINOUS OR CONCRETE SURFACE AT ANY TIME.
- 3) NO TRENCHES WILL BE ALLOWED TO REMAIN OPEN OVERNIGHT.
- 4) MATERIALS REMOVED FROM THE TRENCH SHALL BE USED AS BACKFILL INSOFAR AS THEY ARE SUITABLE. ALL BACKFILL MATERIAL SHALL CONFORM TO MNDOT SPECIFICATIONS FOR COMPACTION. THE USE OF HEAVY EQUIPMENT ON TOP OF TRENCH, SLAPPING WITH BACKHOE BUCKET AND/OR BACKCASTING TO ACHIEVE COMPACTION IS PROHIBITED. ANY ADDITIONAL MATERIAL REQUIRED TO BACK FILL TO THE ORIGINAL GRADE SHALL BE FURNISHED BY THE APPLICANT AT NO EXPENSE TO THE ACTD. ALL THE BASE AND SURFACE COURSES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN BEFORE OPERATIONS BEGAN. THE APPLICANT SHALL BE RESPONSIBLE FOR AND RESTORE ANY SETTLEMENT.
- 5) ALL CULVERTS, DITCHES, SHOULDERS, AND BACKSLOPES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UNLESS OTHERWISE DIRECTED BY THE ACTD. SHOULDERS WHICH HAVE BEEN PREVIOUSLY CONSTRUCTED OR RECONSTRUCTED WITH SPECIAL MATERIALS SHALL BE REPLACED IN KIND. RESTORATION OF SIGNS, GUARDRAILS, GUARDPOSTS, ETC., ARE THE SOLE RESPONSIBILITY OF THE APPLICANT AND SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
- 6) ALL ROADWAY MAINTENANCE REQUIRED WITHIN THE LIMITS OF THE UTILITY PROJECT THAT IS RELATED TO THE APPLICANT'S ACTIVITIES SHALL BE THE SOLE RESPONSIBILITY OF THE APPLICANT FOR ONE YEAR AFTER COMPLETION OF THE PROJECT. UPON COMPLETION OF THE RESTORATION WORK, THE APPLICANT SHALL REQUEST A FINAL INSPECTION BY THE ACTD. THE ACTD'S APPROVED COMPLETION DATE SHALL BE THE STARTING DATE OF THE APPLICANT'S ONE YEAR RESPONSIBILITY.

HORIZONTAL BORING AND JACKING

- 1) ALL HARD SURFACE ROADWAYS SHALL BE JACKED OR BORED.
- 2) ALL CROSSINGS OF ANOKA COUNTY MAINTAINED ROADBEDS SHALL BE MADE BY BORING INSIDE A CASING OR CARRIER PIPE, OR BY JACKING UNLESS OTHERWISE DIRECTED BY THE ANOKA COUNTY ENGINEER. THE AUGER SHALL LEAD THE CASING OR CARRIER PIPE BY AT LEAST SIX INCHES WHENEVER POSSIBLE AND NEVER LEAD THE CARRIER PIPE BY MORE THAN ONE INCH.
- 3) THE USE OF PNEUMATIC DEVICES TO FACILITATE THE ROADBED CROSSINGS WILL BE ALLOWED IN MOST CASES WITH PRIOR APPROVAL. IN THE EVENT APPROVAL IS NOT GRANTED AND APPLICANT USES A PNEUMATIC DEVICE TO CROSS A ROADBED AND ENCOUNTERS AN OBSTRUCTION AND/OR UNSTABLE SUBBASE MATERIAL WHICH MAKES FORWARD OR REVERSE MOTION OF PNEUMATIC DEVICE IMPOSSIBLE, SAID PNEUMATIC DEVICE THEN BECOMES PART OF THE ROADWAY SUBBASE AND PERMISSION TO EXCAVATE TO RETRIEVE DEVICE WILL NOT BE GRANTED.
- 4) IF A PNEUMATIC DEVICE IS USED FOR THE WORK PERMITTED HEREIN, THE INSTALLATION MUST BE KEPT TO A MINIMUM OF FOUR FEET BELOW THE SURFACE OF THE ROADWAY IF THE PNEUMATIC DEVICE IS LESS THAN TWO INCHES IN DIAMETER, AND A MINIMUM OF FIVE FEET BELOW THE SURFACE OF THE ROADWAY IF THE PNEUMATIC DEVICE IS TWO INCHES IN DIAMETER OR LARGER.

BITUMINOUS RESTORATION

- 1) THE LOCATIONS AND DIMENSIONS OF ALL OPENINGS TO BE MADE IN THE BITUMINOUS SURFACE SHALL BE APPROVED BY THE ACTD PRIOR TO ANY CUTTING OR ANY SURFACE OPENING OPERATIONS.
- 2) ALL OPENINGS IN BITUMINOUS SURFACES SHALL BE CUT IN A STRAIGHT LINE WITH THE SIDES SMOOTH AND VERTICAL. NO RAGGED EDGES WILL BE PERMITTED. CUTTING SHALL BE DONE WITH A CONCRETE SAW.
- 3) ALL NECESSARY DUST CONTROL OPERATIONS SHALL BE CARRIED OUT BY THE APPLICANT AT NO EXPENSE TO ANOKA COUNTY.
- 4) THE MINIMUM REQUIREMENT FOR SUBGRADE REPLACEMENT SHALL BE THE UPPER TWELVE INCHES OF MATERIAL AND SHALL MEET MNDOT SPECIFICATIONS FOR CLASS FIVE PLACED IN SIX INCH LAYERS COMPACTED TO ONE HUNDRED PERCENT OF OPTIMUM DENSITY.
- 5) ALL MANHOLE CASINGS, GATE VALVES, AND OTHER UTILITY STRUCTURES SHALL BE SET ONE QUARTER INCH BELOW THE TOP OF THE FINISHED SURFACE.
- 6) BITUMINOUS TACK COAT MATERIALS AND APPLICATION THEREOF SHALL CONFORM TO MNDOT SPECIFICATION 2357.
- 7) ALL BITUMINOUS SURFACING SHALL BE REPLACED AS SOON AS PRACTICAL AFTER THE BASE CONSTRUCTION. ALL BITUMINOUS SURFACING SHALL BE MACHINE LAID. ANY EXCEPTIONS MUST BE APPROVED BY THE ACTD. BITUMINOUS SURFACING SHALL BE REPLACED TO ORIGINAL PAVEMENT DEPTH OR TO A MINIMUM OF SIX INCHES OF BITUMINOUS MIXTURE (2360), WHICHEVER IS GREATER. BITUMINOUS MIXTURES MUST BE PLACED IN LIFTS NOT EXCEEDING THREE INCHES IN THICKNESS FOR BASE AND BINDER COURSES AND NOT EXCEEDING TWO INCHES FOR THE WEAR COURSE.
- 8) ALL SURFACE RESTORATION REGARDLESS OF SIZE SHALL CONFORM TO EXISTING GRADES.
- 9) ANY UNNECESSARY OR NEGLIGENT DAMAGE TO BITUMINOUS SURFACE IN CONJUNCTION WITH THE INSTALLATION AND/OR REPAIR OF A UTILITY SHALL BE CUT OUT AND REPLACED IN KIND AS DIRECTED BY THE ACTD.

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CONCRETE RESTORATION

- 1) CURB AND GUTTER, SIDEWALKS, AND DRIVEWAYS SHALL BE RESTORED IN ACCORDANCE WITH MNDOT SPECIFICATIONS 2531 AND 2521.

UTILITY LINES

- 1) THERE SHALL BE ONLY A SINGLE POLE LINE ON THE COUNTY RIGHT OF WAY ON EITHER SIDE OF THE CENTER LINE THEREOF.
- 2) EXACT LOCATIONS OF LONGITUDINAL INSTALLATIONS ON COUNTY HIGHWAYS SHALL BE LOCATED AS DIRECTED BY THE ACTD.

SECTION CORNER MONUMENTS

- 1) UTILITY LOCATIONS SHALL NOT INTERFERE WITH THE LOCATION OF ANY SECTION, QUARTER, WITNESS, OR RIGHT OF WAY MONUMENTS. FOR ASSISTANCE IN LOCATIONS, CONTACT THE ANOKA COUNTY SURVEYOR'S OFFICE.
- 2) THE APPLICANT SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY EXISTING PROPERTY IRONS DISTURBED DURING CONSTRUCTION.
- 3) THE APPLICANT SHALL NOTIFY THE ANOKA COUNTY SURVEYOR'S OFFICE THREE WORKING DAYS IN ADVANCE OF ANY ANTICIPATED DISTURBANCE OF ANY SECTION, QUARTER, WITNESS, OR RIGHT OF WAY MONUMENTS.
- 4) ANY MONUMENT DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE RESET BY THE ANOKA COUNTY SURVEYOR'S OFFICE AT THE EXPENSE OF THE APPLICANT.

ATTACHING TO BRIDGES/STRUCTURES

- 1) NO UTILITY IS PERMITTED TO BE HUNG FROM, OR OTHERWISE ATTACHED TO ANY BRIDGE OR STRUCTURE WITHOUT HAVING DETAILED PLANS APPROVED BY THE ANOKA COUNTY ENGINEER. THESE PLANS ARE TO SHOW APPROACHES TO THE STRUCTURE, METHOD OF INSTALLATION, TYPE, AND DIMENSION OF HOUSING FOR THE UTILITY.

INITIAL

Special Conditions for Advance Notification for Commencement and Completion of Work

Permit Holder: Permit Number: 23-157
Contractor Contact: CSAH/CR:
Permit Active: Permit Expire:

All subcontractors, installers, and crew shall possess a copy of all documents in relation to the approved permit prior to the commencement of work and be kept on site. This includes, but it not limited to the following:

- Approved Permit
- Notification Sheet
- Any/all traffic control layouts/plans

Special Conditions

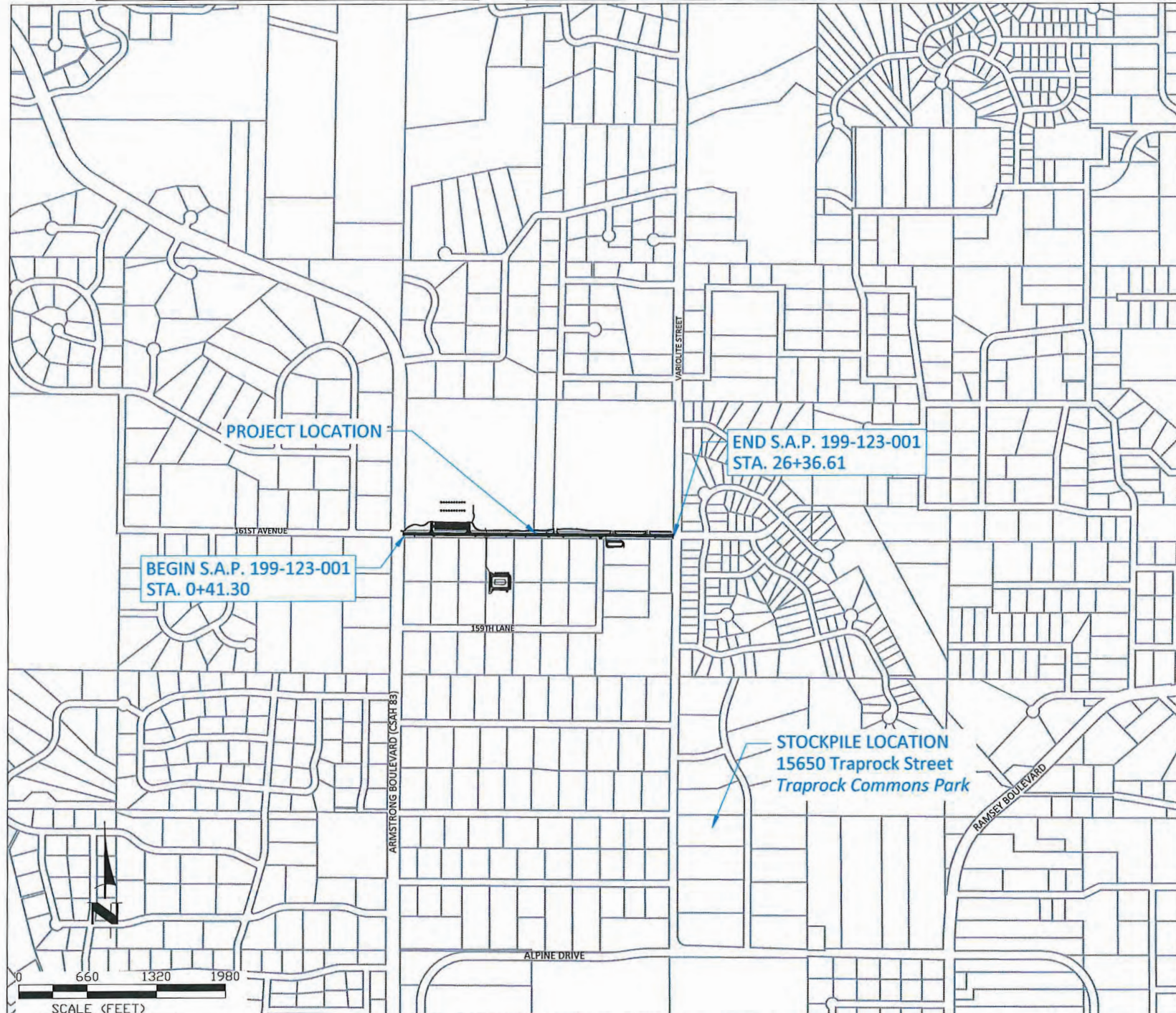
- Shall notify Andrea Schmid at 763-324-3128 or andrea.schmid@co.anoka.mn.us
 - At least 36 hours prior to the commencement of work
 - When there is any change to traffic control set up (ex: stage 1 to stage 2)
 - When work is complete – including restorations
- All traffic control shall be in accordance with the most current version of the MnDOT Temporary Traffic Control Manual
- All traffic control devices shall be removed, signs turned, laid down, or covered at the end of each work day, or when no work is taking place unless written approval stating otherwise
- All traffic control devices shall be removed when work is complete
- Shall use a shoulder closure (Layout 8) if any portion of the shoulder is encroached
- No closures without prior approval from ACHD
- No work during inclement weather or when plows are out in any capacity
- No parking/work on the sidewalk or trail without prior authorization from the city
- Shall contact the Anoka County Signal Department at 651-801-8969 for work with or near signals
- TC signage on CSAH 83

CITY OF RAMSEY

STREET CONSTRUCTION PLANS FOR STREET RECONSTRUCTION, UTILITY CONSTRUCTION, GRADING.

S.A.P. 199-123-001

S.A.P. LOCATED ON 161ST AVENUE BETWEEN ARMSTRONG BOULEVARD (CSAH 5) AND VARIOLITE STREET
FROM SW 1/4 OF THE NW 1/4 OF S16, T32, R25 TO SE 1/4 OF THE NW 1/4 OF S16, T32, R25



CITY OF RAMSEY
ANOKA COUNTY, MINNESOTA
DISTRICT: METRO

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

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



GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE "SUPPLEMENTAL SPECIFICATIONS" DATED SEPTEMBER 2022 SHALL GOVERN.

THE 2018 EDITION OF THE CITY ENGINEERS ASSOCIATE 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 56 SHEETS

SHEET NO.	DESCRIPTION
01	TITLE SHEET
02	STATEMENT OF ESTIMATED QUANTITIES
03-04	TABULATIONS
05	ALIGNMENT LAYOUT
06	SHEET INDEX
08-09	CITY DETAILS
10-15	MNDOT PEDESTRIAN RAMP DETAILS
16	INTERSECTION DETAILS
17-18	SWPPP
19-24	GRADING & EROSION CONTROL
25-29	EXISTING CONDITIONS & REMOVALS
30-33	STREET & STORM SEWER
34-35	STORM SEWER LEADS
36-37	SANITARY SEWER & WATERMAIN
38-42	RESTORATION
45-56	CROSS SECTIONS

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	---	FIBER OPTIC LINE
⊙	SHRUB	---	TREE LINE
⊙	LIGHT POLE	---	LANDSCAPE
⊙	SIGN	---	RETAINING WALL
⊙	MAILBOX	---	TREE SAVE FENCE
⊙	PEDESTAL - TELECOM	---	SILT FENCE
⊙	PEDESTAL - ELECTRIC	---	WATERMAIN
⊙	HAND HOLE	---	SANITARY SEWER
▭	DRIVE - BITUMINOUS	---	STORM SEWER
▭	DRIVE - CONCRETE	---	DRAIN TILE
▭	DRIVE - GRAVEL	---	LANDSCAPE - ROCK
▭	CONCRETE WALK	---	LANDSCAPE - MULCH
▭	BITUMINOUS TRAIL	---	LANDSCAPE - RIP RAP
▭	REMOVE BIT PAVE	---	PR. DRIVE - BITUMINOUS
▭	REMOVE CONCRETE PAVE	---	PR. DRIVE - CONCRETE
▭	REMOVE GRAVEL SURFACE	---	PR. DRIVE - GRAVEL
▭	MILL BIT PAVEMENT	---	PR. CONCRETE WALK
▭	RECLAIM BIT PAVEMENT	---	PR. CONCRETE
▭		---	PR. SEEDING AREA

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

JOE FERIANCEK, P.E. 57095 LIC. NO. DATE 3/01/23

APPROVED: *Dan Erickson* DATE 3/1/23
CITY ENGINEER, CITY OF RAMSEY

Dan Erickson Digitally signed by Dan Erickson
Date: 2023.03.28 13:34:34 -05'00'

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

for Dan Erickson Digitally signed by Dan Erickson
Date: 2023.03.28 13:35:02 -05'00' DATE

STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING

SHEET 01 OF 56 SHEETS

PROJECT	STA. TO STA.	GROSS LENGTH	BRIDGE LENGTH	NET LENGTH	NET LENGTH (MILES)	ADT (2023)	ADT (2043)	DESIGN ESAL	R VALUE	TON DESIGN	DESIGN SPEED	DESIGN SPEED NOT MET	NUMBER OF LANES	WIDTH OF LANES	NUMBER OF SHOULDERS	WIDTH OF LANES	FUNCTIONAL CLASSIFICATION
S.A.P. 199-123-001 161ST AVENUE	0+41.30 TO 26+36.61	2595 FT	0 FT	2595 FT	0.49 MI	1,050	2,400	193,000	50	10	30 MPH	STA. 0+41.30 STA. 26+36.61 STOP CONDITION	2	12'	N/A	N/A	COLLECTOR
TRAIL 161ST AVENUE TRAIL	0+00 TO 26+60.65 NORTH SIDE	2661	0 FT	2661 FT	0.50 MI	N/A	N/A	N/A	50	N/A	20 MPH	STA. 0+00,3+00,7+00 STOPS CONDITIONS PED CROSSING	1	8' - 10'	N/A	N/A	TRAIL

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

ROADWAY STOPPING SIGHT DISTANCE BASED ON:
3.5 FT - HEIGHT OF EYE
2.0 FT - HEIGHT OF OBJECT
TRAIL STOPPING SIGHT DISTANCE BASED ON:
4.5 FT - HEIGHT OF EYE
0.0 FT - HEIGHT OF OBJECT

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

DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
3/24/23	UPDATE TRAIL ALIGNMENT

SAP 199-123-001

23-01 161ST AVENUE RECONSTRUCTION

STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NO.	MNDOT SPEC NO.	ITEM DESCRIPTION	UNIT	TOTAL	S.A.P. 199-123-001						
						PARTICIPATING			NON-PARTICIPATING			
						STREET	TRAIL	STORM	TRAIL	PARKING LOT	WATER	SANITARY
	1	2021.501	MOBILIZATION	LS	1.00	0.37	0.09	0.25	0.01	0.10	0.09	0.09
1	2	2101.502	CLEARING	EA	16		8	8				
1	3	2101.502	GRUBBING	EA	16		8	8				
1	4	2101.505	CLEARING	ACRE	0.31			0.31				
1	5	2101.505	GRUBBING	ACRE	0.31			0.31				
1	6	2104.502	REMOVE BASKETBALL HOOP	EA	2					2		
11	7	2104.502	SALVAGE MAIL BOX SUPPORT	EA	8		8					
1	8	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	238	155	28			55		
1	9	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	79	79						
1	10	2104.503	REMOVE CONCRETE CURB AND GUTTER	LF	6	6						
1	11	2104.504	REMOVE BITUMINOUS PAVEMENT	SY	3111	40	309			2762		
1	12	2104.504	REMOVE CONCRETE PAVEMENT	SY	69	69						
	13	2104.602	LANDSCAPE RESTORATION	EA	12	12						
2, 15, 17	14	2106.507	EXCAVATION - CHANNEL & PONDING (EV)	CY	7219			7219				
2, 15	15	2106.507	EXCAVATION - COMMON (EV)	CY	886	374	241		241	30		
2, 15	16	2106.507	EXCAVATION - SUBGRADE (EV)	CY	1768	873	426		66	403		
13, 14	17	2106.607	HAUL & STOCKPILE RECLAIM MATERIAL (LV)	CY	2025	2025						
	18	2108.504	GEOTEXTILE FABRIC TYPE 4	SY	68			68				
	19	2112.519	SUBGRADE PREPARATION - ROADWAY	RDST	26	26						
	20	2112.604	SUBGRADE PREPARATION	SY	5445		2343		367	2735		
	21	2123.61	STREET SWEEPER (WITH PICKUP BROOM)	HOOR	45	45						
	22	2130.523	WATER	MGAL	52	52						
2, 14	23	2211.507	AGGREGATE BASE CLASS 5 MODIFIED (CV)	CY	2687	1863	376		51	397		
13	24	2215.504	FULL DEPTH RECLAMATION	SY	8974	8974						
	25	2232.504	MILL BITUMINOUS PAVEMENT 2.0"	SY	26	26						
	26	2301.604	CONCRETE PAVEMENT DRIVEWAYS 6.0"	SY	80	80						
4	27	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	721	533				188		
5	28	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,C)	TON	860	860						
5	29	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,F) - PARKING LOT	TON	303					303		
5	30	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	860	860						
5	31	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) DRIVEWAYS	TON	5	5						
5	32	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) TRAIL	TON	365		316		49			
5	33	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,F) PARKING LOT	TON	227					227		
	34	2501.502	18" RC PIPE APRON	EA	1			1				
	35	2501.502	30" RC PIPE APRON	EA	1			1				
	36	2501.602	TRASH GUARD FOR 18" RC PIPE APRON	EA	1			1				
	37	2501.602	TRASH GUARD FOR 30" RC PIPE APRON	EA	1			1				
	38	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS III	LF	378			378				
	39	2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS III	LF	80			80				
	40	2503.503	30" RC PIPE SEWER DESIGN 3006 CLASS III	LF	699			699				
	41	2503.602	CONNECT TO EXISTING SANITARY SEWER	EA	2						2	
16	42	2503.603	6" PVC PIPE SEWER SDR 26	LF	153						153	
16	43	2503.603	8" PVC PIPE SEWER SDR 26	LF	1180						1180	
	44	2503.603	CLEAN & TELEWISE PIPE SEWER	LF	1333						1333	
16	45	2504.602	6" PIPE PLUG	EA	2						2	
16	46	2504.602	6" GATE VALVE & BOX	EA	5					5		
16	47	2504.602	8" GATE VALVE & BOX	EA	2					2		
	48	2504.602	ADJUST VALVE BOX	EA	7					7		
16	49	2504.602	CONNECT TO EXISTING WATERMAIN	EA	2					2		
16	50	2504.602	HYDRANT (8.5' BURY)	EA	2					2		
16	51	2504.603	6" WATERMAIN DUCTILE IRON CL 53	LF	144					144		
16	52	2504.603	8" WATERMAIN DUCTILE IRON CL 52	LF	1170					1170		
6, 16	53	2504.608	WATERMAIN FITTINGS	LBS	431					431		
	54	2506.502	ADJUST FRAME AND RING CASTING	EA	5						5	
	55	2506.502	CASTING ASSEMBLY (SANITARY)	EA	4						4	
	56	2506.502	CASTING ASSEMBLY (STORM)	EA	12			12				
	57	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 2'X3'	EA	3			3				
	58	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 27-4020	EA	1			1				
	59	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	EA	4			4				
	60	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	EA	2			2				
	61	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 72-4020	EA	2			2				
16	62	2506.503	CONSTRUCT SANITARY SEWER MANHOLE	LF	56.7						56.7	
	63	2511.507	RANDOM RIP RAP CLASS III	CY	20			20				
	64	2521.504	6" CONCRETE WALK	SY	124		102		22			
	65	2521.602	DRILL & GROUT REINF BAR (EPOXY COATED)	EA	88		72		16			
	66	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LF	4799	4799						
	67	2531.503	CONCRETE CURB & GUTTER DESIGN B612	LF	1389	429				960		
	68	2531.604	7" CONCRETE DRAINAGE FLUME	SY	4	4						
	69	2531.604	7" CONCRETE VALLEY GUTTER	SY	232	232						
	70	2531.618	TRUNCATED DOMES	SF	222		182		40			
	71	2540.602	TEMPORARY MAIL BOX CLUSTER	EA	1	1						

23-01 161ST AVENUE RECONSTRUCTION

STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NO.	MNDOT SPEC NO.	ITEM DESCRIPTION	UNIT	TOTAL	S.A.P. 199-123-001						
						PARTICIPATING			NON-PARTICIPATING			
						STREET	TRAIL	STORM	TRAIL	PARKING LOT	WATER	SANITARY
11	72	2540.602	INSTALL MAIL BOX SUPPORT	EA	8	8						
	73	2563.601	TRAFFIC CONTROL	LS	1	0.5					0.25	0.25
	74	2571.502	BASKETBALL HOOP	EA	4					4		
	75	2571.502	CONIFEROUS TREE 6' HT B&B	EA	7	7						
	76	2571.502	DECIDUOUS TREE 6' HT B&B	EA	2	2						
	77	2572.503	TEMPORARY TREE PROTECTION FENCE	LF	1824	1093	682				49	
	78	2573.602	STABILIZED CONSTRUCTION EXIT	EA	3	3						
	79	2573.502	STORM DRAIN INLET PROTECTION	EA	10	10						
	80	2573.503	SEDIMENT CONTROL LOG TYPE STRAW	LF	125			125				
	81	2573.503	SILT FENCE; TYPE MS	LF	5236	2186	1334	1431			285	
3	82	2574.507	TOPSOIL (LV)	CY	1975	487	315	1097			37	39
7	83	2574.508	FERTILIZER TYPE 3	LBS	305	75	50	165	5	10		
	84	2575.504	ROLLED EROSION PREVENTION CATEGORY 20	SY	7595			7595				
	85	2575.505	SEEDING	ACRE	2.83	0.7	0	1.57	0.05	0.06		
10	86	2575.508	HYDRAULIC MULCH MATRIX	LBS	5040	2800	1800		200	240		
8	87	2575.508	SEED MIXTURE 25-151	LBS	175	90	65		5	15		
9	88	2575.508	SEED MIXTURE 33-262	LBS	65			65				
	89	2582.503	4" BROKEN LINE PAINT (EPOXY)	LF	530	530						
	90	2582.503	4" DASHED LINE PAINT (EPOXY)	LF	644					644		
	91	2582.503	4" SOLID LINE PAINT (EPOXY)	LF	6502	5108				1394		
	92	2582.518	CROSSWALK PAINT (EPOXY)	SF	522		522					
	93	2582.518	PAVEMENT MESSAGE (EPOXY)	SF	11						11	

PAY ITEM NOTES:

- REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
- EV TO CV CONVERSION FACTOR = 1.25.
- LV TO CV CONVERSION FACTOR = 1.30.
- ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 0.07 GAL/SY.
- ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 113 LB/SY-IN.
- ESTIMATED QUANTITY BASED ON U.S. PIPE MECHANICAL JOINT FITTINGS TABLES.
- ESTIMATED QUANTITY BASED ON 100 LB/ACRE.
- ESTIMATED QUANTITY BASED ON 120 LB/ACRE.
- ESTIMATED QUANTITY BASED ON 35 LB/ACRE.
- ESTIMATED QUANTITY BASED ON 4000 LB/ACRE.
- PAY ITEM INCLUDES ALL EXISTING MAILBOX SUPPORTS, REGARDLESS OF MATERIAL(S), SIZE, FOOTING TYPE, LOCATION, OR EXISTING ELECTRICAL SERVICE.
- 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.
- EXCESS RECLAMATION MATERIAL SHALL BE HAULED FROM THE ONSITE STOCKPILE LOCATION TO TRAPROCK COMMONS PARK, 15650 TRAPROCK STREET (ACCESS OFF OF VARIOLITE STREET). THE EXPECTED RECLAMATION DEPTH IS 6.5 INCHES.
- THE HAUL FULL DEPTH RECLAMATION MATERIAL INCLUDES LOADING, HAULING AND STOCKPILING TO THE TEMPORARY STOCKPILING LOCATION AT TRAPROCK COMMONS PARK. HAULING BACK TO THE CONSTRUCTION AREA IS INCIDENTAL TO THE PAY ITEM. MATERIAL HAULED BACK TO THE SITE TO BE USED AS AGGREGATE BASE SHALL BE PAID FOR AS AGGREGATE BASE CLASS 5 MODIFIED.
- THE EXCAVATION REQUIRED FOR UTILITY INSTALLATION IS INCIDENTAL TO THE UTILITY PAY ITEM.
- TRENCH BOXING REQUIRED TO INSTALL UTILITIES WITHIN PROPOSED CONSTRUCTION LIMITS IS INCIDENTAL TO THE UTILITY PAY ITEM.
- SUITABLE MATERIAL SHALL BE HAULED AND STOCKPILED AT THE CITY EXCESS MATERIAL SITE LOCATED OFF OF ZEOLITE STREET AND SUNWOOD DRIVE WITH THE COR. HAULING AND STOCKPILING OF MATERIAL IS INCIDENTAL TO THE CHANNEL & PONDING EXCAVATION.

GENERAL NOTES:

- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING IRRIGATION SYSTEMS WITHIN THE PROJECT CONSTRUCTION LIMITS BEFORE COMMENCING WORK. THE CONTRACTOR IS RESPONSIBLE FOR AVOIDING DAMAGE TO IRRIGATION SYSTEMS WHERE POSSIBLE.
- SALVAGE AND INSTALL MAILBOX SUPPORTS IN THE SAME LOCATION, UNLESS OTHERWISE DIRECTED. THE INSTALLATION WILL BE THE SAME TYPE AS ORIGINAL INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING MAILBOX SUPPORTS WHICH ARE DAMAGED DURING SALVAGE AND/OR INSTALLATION UNLESS CONTRACTOR NOTIFIES CITY OF DAMAGED MAILBOX SUPPORTS BEFORE SALVAGE OPERATIONS BEGIN. SALVAGED MAILBOX SUPPORTS SHALL BE STORED BY CONTRACTOR DURING PROJECT.
- PERMANENT SIGN REMOVAL AND INSTALLATION IS TO BE PERFORMED BY CITY OF RAMSEY PUBLIC WORKS DEPARTMENT.

DATE	REVISION
3/16/23	UPDATE PAY ITEM QUANTITY / NOTES
3/24/23	UPDATE TRAIL ALIGNMENT AND ASSOCIATED PAY ITEM QUANTITIES

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 3/01/23 Lic. No. 57095

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

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

STATEMENT OF ESTIMATED QUANTITIES
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA

WATERMAIN TABULATION					
STRUCTURE	HYDRANT	VALVE	BEND	BEND	NOTE
STATION, OFFSET	EACH	SIZE	TYPE	SIZE	
14+22.70, L 20.5	HYDRANT	6" GV	TEE	6" X 6"	HYDRANT CONNECTION TEE OFF 6" LINE INTO CENTRAL PARK
14+24.78, L 11.0			PLUG	8"	PLUG END OF WATERMAIN
14+27.78, L 11.0		6" GV	TEE	8" X 6"	6" GV ON SERVICE LINE, L 41.6 PLUG END OF SERVICE LINE INTO CENTRAL PARK, L 51.5'
14+30.78, L 11.0		8" GV			
20+53.42, L 11.0		8" GV	TEE	8" X 8"	8" GV ON SERVICE LINE AT L 16.3' CONNECT END OF SERVICE LINE TO EXISTING PACT CHARTER SERVICE, L 47.4'
20+83.77, L 11.0	HYDRANT	6" GV	TEE	8" X 6"	HYDRANT AT L 31.3'
23+77.62, L 11.0		6" GV	TEE	8" X 6"	6" GV ON SERVICE LINE, L 19.0' PLUG END OF SERVICE LINE, L 54.3'
25+95.30, L 12.8		8" GV			CONNECT TO EXISTING WATERMAIN WITH GATE VALVE, CONTRACTOR TO VERIFY LOCATION AND ELEVATION.

SANITARY SEWER TABULATION												
STRUCTURE	STRUCTURE	STRUCTURE	RIM	BUILD	INVERT	INVERT	PIPE	PIPE	PIPE	PIPE	STRUCTURE	NOTE
NAME	SIZE DIA. (IN.)	STATION, OFFSET	ELEV.	LIN FT.	DIRECTION	ELEV.	DIA. (IN.)	MATERIAL	GRADE (%)	LENGTH (LF)	CONNECTED TO:	
SAN MH 01	48	23+88.62, R 0.0	900.98	16.5	E	884.50	8	PVC (SDR26)	-0.40	230.7	EX MH	CONNECT TO EXISTING MH WITH BOOT
					W	884.60	8	PVC (SDR26)	0.40	322.4	SAN MH 02	
					NE	884.60	6	PVC (SDR26)	1.00	54.3	N/A	CAP END OF SERVICE LINE
SAN MH 02	48	20+66.20, R 0.0	899.37	13.5	E	885.89	8	PVC (SDR26)	-0.40	322.4	SAN MH 01	
					W	855.99	8	PVC (SDR26)	0.40	400.0	SAN MH 03	
					N	887.22	6	PVC (SDR26)	1.00	47.4	N/A	CONNECT TO EXISTING SERVICE
SAN MH 03	48	16+66.20, R 0.0	901.06	13.5	E	887.59	8	PVC (SDR26)	-0.40	400.0	SAN MH 02	
					W	887.69	8	PVC (SDR26)	0.40	227.3	SAN MH 04	
SAN MH 04	48	14+38.88, R 0.0	901.76	13.2	E	888.60	8	PVC (SDR26)	-0.40	227.3	SAN MH 03	
					N	888.70	6	PVC (SDR26)	1.00	51.5	N/A	CAP END OF SERVICE LINE

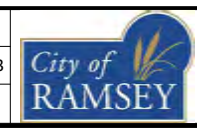
STORM SEWER TABULATION													
STRUCTURE	STATION, OFFSET	STRUCTURE	CASTING	RIM	INVERT	SUMP	BUILD	INVERT	PIPE	PIPE	PIPE	PIPE	STRUCTURE
		SIZE DIA. (IN.)	TYPE	ELEV.	ELEV.	ELEV.	HEIGHT	DIRECTION	DIA. (IN.)	MATERIAL	GRADE (%)	LENGTH (LF)	CONNECTED TO:
FES 101	9+09.96, R 400.60	N/A	N/A	N/A	892.65	N/A	N/A	NW	30	RCP	0.26	111.4	STMH 102
STMH 102	8+51.53, R 305.81	60	R-1733	899.15	892.94	892.94	6.2	SE	30	RCP	-0.26	111.4	FES 101
					892.94			N	30	RCP	0.32	292.0	CBMH 102
CBMH 103	8+53.76, R 13.83	72	R-3246R	899.18	893.87	889.87	9.3	S	30	RCP	-0.32	292.0	STMH 102
					893.87			W	30	RCP	0.23	157.8	CBMH 104
					894.87			N	18	RCP	0.25	27.7	CBMH 109
CBMH 104	6+96.00, R 13.83	72	R-3246R	899.95	894.23	894.23	5.7	E	30	RCP	-0.23	157.8	CBMH 103
					895.48			W	15	RCP	0.40	247.9	CBMH 105
					894.23			N	30	RCP	0.25	47.2	CBMH 107
CBMH 105	4+48.14, R 13.83	48	R-3246R	900.48	896.48	896.48	4.0	E	15	RCP	-0.40	247.9	CBMH 104
					896.48			N	15	RCP	0.40	27.7	CB 106
CB 106	4+48.14, L 13.83	2' X 3'	R-3246R	900.48	896.59	896.59	3.9	S	15	RCP	-0.40	27.7	CBMH 105
CBMH 107	6+95.59, L 33.39	60	R-3246R	899.83	894.35	894.35	5.5	S	30	RCP	-0.25	47.2	CBMH 104
					895.60			W	15	RCP	0.88	29.6	CB 108
					894.35			N	30	RCP	0.13	90.8	BULK HEAD
CB 108	6+65.95, L 33.38	2' X 3'	R-3246R	899.86	895.86	895.86	4.0	E	15	RCP	-0.88	29.6	CBMH 107
CBMH 109	8+53.76, L 13.83	48	R-3246R	899.18	894.94	894.94	4.2	S	18	RCP	-0.25	27.7	CBMH 103
								N	15	RCP	1.85	43.8	STMH 110
STMH 110	8+40.68, L 55.67	27	R-2570	899.75	895.75	895.75	4.0	S	15	RCP	-1.85	43.8	CBMH 109
FES 201	20+03.71, R 62.00	N/A	N/A	N/A	895.00	N/A	N/A	NW	18	RCP	0.35	14.3	STMH 202
STMH 202	19+93.52, R 51.99	48	R-1733	897.95	895.05	895.05	2.9	SE	18	RCP	-0.35	14.3	FES 201
					895.05			N	18	RCP	0.31	38.2	CBMH 203
CBMH 203	19+93.52, R 13.83	48	R-3246R	898.77	895.17	891.17	7.6	S	18	RCP	-0.31	38.2	STMH 202
					895.42			N	15	RCP	0.30	27.7	CB 204
CB 204	19+93.52, L 13.83	2' X 3'	R-3246R	898.77	895.50	895.50	3.3	S	15	RCP	-0.30	27.7	CBMH 203

DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM

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 3/01/23 Lic. No. 57095

DESIGNED BY:	JJF	DATE:	2/28/23
DRAWN BY:	JJF	FILE:	23-01
CHECKED BY:	JJF		



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TABULATIONS
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA

EARTHWORK SUMMARY			
NOTES	ITEMS	UNIT	PROJECT TOTAL
UNADJUSTED VOLUMES BASED ON CROSS SECTIONS			
EXCAVATION			
1	TOPSOIL (EV)	CY	1318
2	REGULAR EXCAVATION (EV)	CY	200
UNADJUSTED VOLUME BASED ON CROSS SECTIONS AND GEOTECHNICAL REPORT			
3	SUBGRADE EXCAVATION (EV)	CY	1768
4	POND EXCAVATION (EV)	CY	6375
EMBANKMENT			
5	TOPSOIL REQUIRED (CV)	CY	1975
6	EMBANKMENT MATERIAL REQUIRED (CV)	CY	200
EARTHWORK QUANTITIES TO SEQ			
7	COMMON EXCAVATION (EV)	CY	674
8	SUBGRADE EXCAVATION (EV)	CY	1768
9	POND EXCAVATION (EV)	CY	7219
10	COMMON TOPSOIL BORROW (LV)	CY	1975
1	ASSUMES AVERAGE OF 4 INCHES OF TOPSOIL THICKNESS, QUANTITY ADDED TO COMMON EXCAVATION AND POND EXCAVATION PAY ITEMS.		
2	EXCAVATION REQUIRED TO TIE INTO SLOPES BEYOND THE 4" OF REQUIRED TOPSOIL.		
3	EXCAVATION REQUIRED BELOW PROPOSED AGGREGATE BASE COURSE. EXCAVATION FOR UTILITY INSTALLATION IS NOT INCLUDED IN THIS ITEM AND IS INCIDENTAL TO UTILITY INSTALLATION PAY ITEMS. EXCEPT WHERE POOR SOILS ARE DISCOVERED WHICH THE ENGINEER DETERMINES MUST BE REMOVED FROM SITE.		
4	EXCAVATION REQUIRED IN PONDING AREAS, AREAS OF WHICH ARE IDENTIFIED IN THE PLANS AS HAVING EROSION CONTROL BLANKET. EXCAVATION FOR UTILITY INSTALLATION IS NOT INCLUDED IN THIS ITEM AND IS INCIDENTAL TO UTILITY INSTALLATION PAY ITEMS. ADDITIONAL 4" OVER EXCAVATION FOR TOPSOIL IS INCLUDED IN TOPSOIL EXCAVATION.		
5	MINIMUM 4 INCHES OF TOPSOIL PLACED IN ALL VEGETATED AREAS DISTURBED DURING CONSTRUCTION.		
6	FILL VOLUMES FROM CROSS SECTIONS.		
7	INCLUDES TOPSOIL EXCAVATION AND REGULAR EXCAVATION.		
8	INCLUDES SUBGRADE EXCAVATION, BELOW EXISTING AGGREGATE.		
9	INCLUDES TOPSOIL EXCAVATION AND POND EXCAVATION		
10	TOPSOIL GENERATED ON-SITE MAY BE RE-USED. CV TO LV FACTOR = 1.3.		

DESCRIPTION	DIRECTION	STATION		PAVEMENT MESSAGE (EPOXY)		4" SOLID LINE (EPOXY)	4" BROKEN LINE (EPOXY)	4" DASHED LINE (EPOXY)
		START	END	CROSS WALK SF	HANDICAP EA*	WHITE LF	YELLOW LF	YELLOW LF
CENTERLINE		0+41	26+37				530	
FOG LINE	EB	0+41	19+06			1866		
FOG LINE	WB	0+41	26+37			2598		
CROSSWALK	TRAIL	3+10	3+32	72				
CROSSWALK	TRAIL	6+67	6+95	150				
CROSSWALK	TRAIL	14+97	15+24	150				
FOG LINE	EB	19+77	26+37			664		
CROSSWALK	TRAIL	20+43	20+77	150				
PARKING STALLS	PARKING LOT	3+49	6+66		3	1394		
BASKETBALL COURT	PARKING LOT	3+49	6+66					644
TOTALS				522	3	6522	530	644
				* HANDICAP SYMBOL 3.53 SQUARE FEET INSTALL AREA				

STANDARD PLATES	
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT	
3000 M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006 H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 D	RIPRAP FOR RCP OUTLETS
4011 E	PRECAST CONCRETE BASE
4020 J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4026 A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108 F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
4180 J	MANHOLE OR CATCH BASIN STEP
7038 A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100 H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
8000 K	TEMPORARY CHANNELIZERS (3 SHEETS)

DATE	REVISION
3/24/23	UPDATE STANDARD PLATES

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 3/01/23 Lic. No. 57095

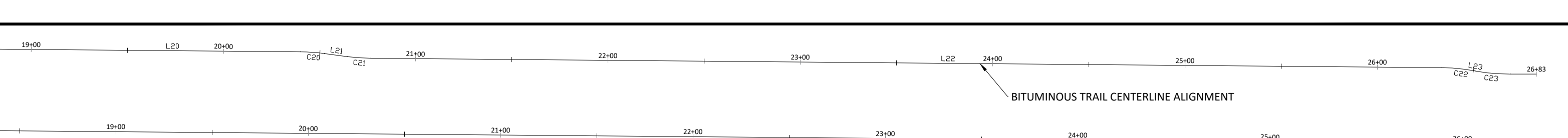
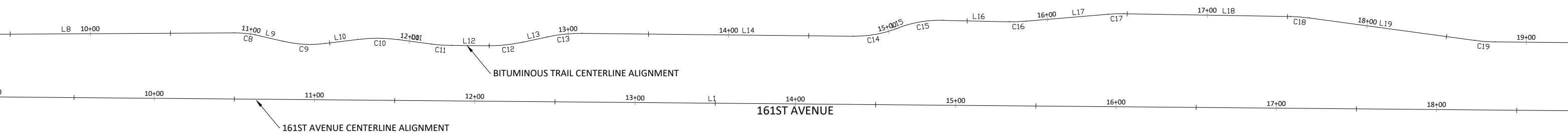
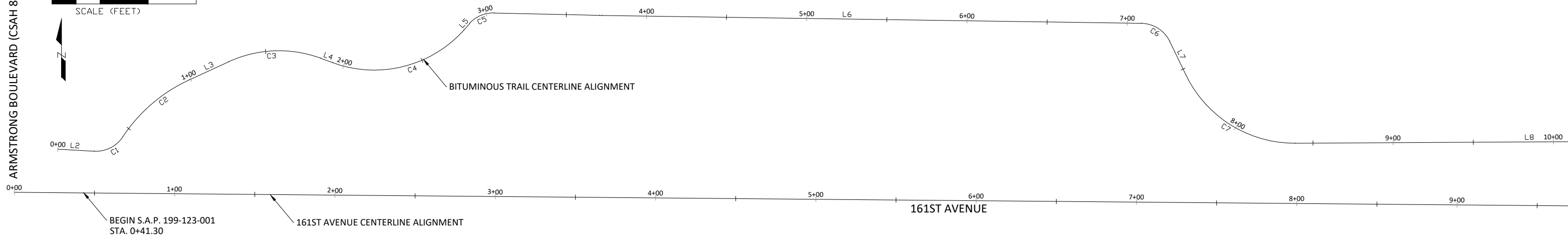
DESIGNED BY:	JJF
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TABULATIONS
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA

ARMSTRONG BOULEVARD (CSAH 83)



XENOLITH STREET

VARIOLITE STREET

LINE TABLE: 23-01 PROPOSED CL ALIGNMENT					LINE TABLE: 23-01 PROPOSED TRAIL CL ALIGNMENT					CURVE TABLE: 23-01 PROPOSED TRAIL CL ALIGNMENT					
LINE #	LENGTH	DIRECTION	START POINT	END POINT	LINE #	LENGTH	DIRECTION	START POINT	END POINT	CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
L1	2663.577	S89° 30' 02.24"E	(447537.2952, 183110.4393)	(450200.7707, 183087.2244)	L2	22.881	S86° 51' 42.14"E	(447564.3942, 183137.2971)	(447587.2412, 183136.0444)	C1	20.000	20.789	N63° 21' 37.85"E	(447587.2412, 183136.0444)	(447646.4506, 183180.4564)
					L3	27.025	N65° 15' 22.35"E	(447646.4506, 183180.4564)	(447670.9939, 183191.7678)	C2	100.000	55.281	N49° 25' 10.09"E	(447604.9979, 183144.9516)	(447646.4506, 183180.4564)
					L4	7.882	S69° 41' 38.43"E	(447728.4135, 183193.9926)	(447735.8060, 183191.2572)	C3	75.000	58.970	N87° 46' 51.96"E	(447704.9939, 183191.7678)	(447728.4135, 183193.9926)
					L5	5.553	N41° 59' 59.83"E	(447817.5694, 183211.4114)	(447821.2854, 183215.5383)	C4	75.000	89.412	N76° 09' 10.70"E	(447735.8060, 183191.2572)	(447817.5694, 183211.4114)
					L6	336.776	S89° 09' 34.79"E	(447903.6673, 183220.6648)	(448240.4067, 183215.7256)	C5	20.000	17.179	N66° 36' 26.67"E	(447821.2854, 183215.5383)	(447903.6673, 183220.6648)
					L7	23.176	S25° 43' 05.50"E	(448258.1322, 183204.4067)	(448268.1892, 183183.5268)	C6	20.000	22.145	S57° 26' 20.14"E	(448240.4067, 183215.7256)	(448258.1322, 183204.4067)
					L8	250.698	N89° 41' 36.23"E	(448336.1610, 183141.0737)	(448586.8551, 183142.4153)	C7	75.000	84.546	S58° 00' 44.63"E	(448268.1892, 183183.5268)	(448336.1610, 183141.0737)
					L9	17.794	S76° 52' 34.09"E	(448600.2473, 183141.2827)	(448617.5769, 183137.2424)	C8	75.000	13.458	S85° 09' 57.62"E	(448586.8551, 183142.4153)	(448600.2473, 183141.2827)
					L10	20.532	N82° 56' 45.17"E	(448664.8167, 183135.8512)	(448664.1933, 183138.3727)	C9	75.000	26.413	S86° 57' 54.46"E	(448617.5769, 183137.2424)	(448664.8167, 183135.8512)
					L11	20.842	S82° 23' 57.54"E	(448689.7008, 183138.2510)	(448710.3596, 183135.4943)	C10	100.000	25.577	S89° 43' 36.18"E	(448664.1933, 183138.3727)	(448689.7008, 183138.2510)
					L12	22.739	S89° 40' 36.83"E	(448723.0225, 183134.6173)	(448745.7613, 183134.4890)	C11	100.000	12.702	S86° 02' 17.19"E	(448710.3596, 183135.4943)	(448723.0225, 183134.6173)
					L13	15.294	N77° 55' 24.07"E	(448767.2473, 183136.7006)	(448782.2031, 183139.9005)	C12	100.000	21.642	N84° 07' 23.62"E	(448745.7613, 183134.4890)	(448767.2473, 183136.7006)
					L14	169.218	S89° 24' 59.32"E	(448804.1435, 183142.1084)	(448973.3525, 183140.3851)	C13	100.000	22.096	N84° 15' 12.38"E	(448782.2031, 183139.9005)	(448804.1435, 183142.1084)
					L15	2.110	N69° 53' 52.76"E	(448999.8932, 183144.9500)	(449001.8744, 183145.6751)	C14	75.000	27.077	N80° 14' 26.72"E	(448973.3525, 183140.3851)	(448999.8932, 183144.9500)
					L16	41.479	S88° 51' 19.34"E	(449029.1496, 183150.2290)	(449070.6201, 183149.4004)	C15	75.000	27.812	N80° 31' 16.71"E	(449001.8744, 183145.6751)	(449029.1496, 183150.2290)
					L17	51.540	N85° 13' 08.90"E	(449080.9523, 183149.7284)	(449132.3128, 183154.0239)	C16	100.000	10.342	N88° 10' 54.78"E	(449070.6201, 183149.4004)	(449080.9523, 183149.7284)
					L18	103.773	S89° 02' 03.80"E	(449142.3325, 183154.3577)	(449246.0908, 183152.6089)	C17	100.000	10.029	N88° 05' 32.55"E	(449132.3128, 183154.0239)	(449142.3325, 183154.3577)
					L19	104.151	S82° 16' 54.19"E	(449257.8358, 183151.7171)	(449361.0429, 183137.7294)	C18	100.000	11.786	S85° 39' 28.99"E	(449246.0908, 183152.6089)	(449257.8358, 183151.7171)
					L20	159.692	S89° 29' 16.66"E	(449373.5794, 183136.8274)	(449533.2654, 183135.4003)	C19	100.000	12.577	S85° 53' 05.42"E	(449361.0429, 183137.7294)	(449373.5794, 183136.8274)
					L21	11.896	S82° 24' 09.75"E	(449545.5927, 183134.5265)	(449557.3841, 183132.9538)	C20	100.000	12.366	S85° 56' 43.20"E	(449533.2654, 183135.4003)	(449545.5927, 183134.5265)
					L22	556.036	S89° 29' 54.90"E	(449569.7300, 183132.0798)	(450126.0727, 183127.2109)	C21	100.000	12.385	S85° 57' 02.32"E	(449557.3841, 183132.9538)	(449569.7300, 183132.0798)
					L23	0.615	S79° 37' 21.61"E	(450143.2105, 183125.5790)	(450143.8156, 183125.4682)	C22	100.000	17.237	S84° 33' 38.26"E	(450126.0727, 183127.2109)	(450143.2105, 183125.5790)
										C23	100.000	18.199	S84° 50' 11.11"E	(450143.8156, 183125.4682)	(450161.9161, 183123.8325)

DATE	REVISION
3/24/23	UPDATE BITUMINOUS TRAIL ALIGNMENT

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

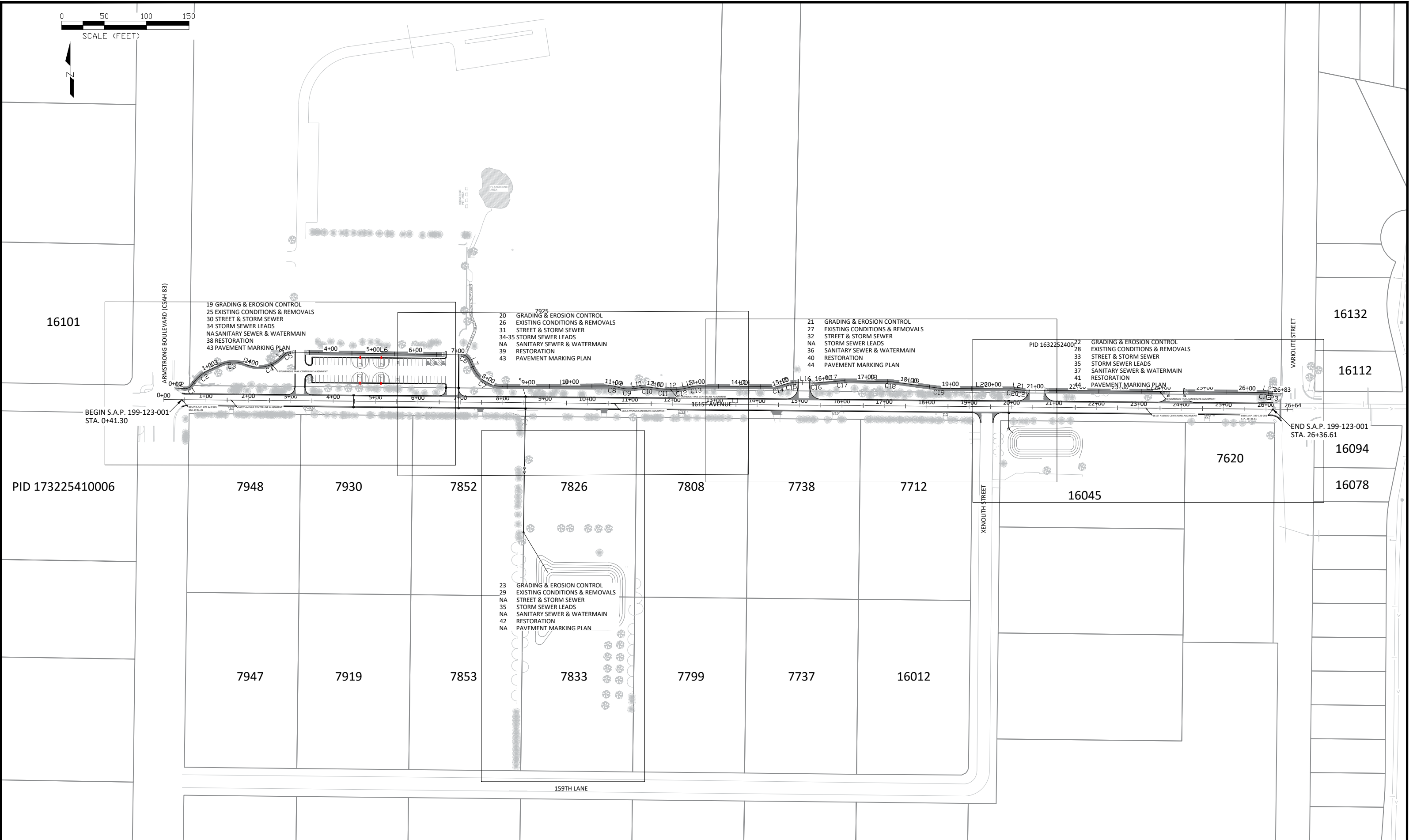
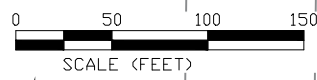
Joe Feriancek
JOE FERIANCEK
 Date 3/01/23 Lic. No. 57095

DESIGNED BY:	JJF
DRAWN BY:	JJF
CHECKED BY:	JJF
DATE:	2/28/23
FILE:	23-01

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

ALIGNMENT LAYOUT
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



19 GRADING & EROSION CONTROL
 25 EXISTING CONDITIONS & REMOVALS
 30 STREET & STORM SEWER
 34 STORM SEWER LEADS
 NA SANITARY SEWER & WATERMAIN
 38 RESTORATION
 43 PAVEMENT MARKING PLAN

20 GRADING & EROSION CONTROL
 26 EXISTING CONDITIONS & REMOVALS
 31 STREET & STORM SEWER
 34-35 STORM SEWER LEADS
 NA SANITARY SEWER & WATERMAIN
 39 RESTORATION
 43 PAVEMENT MARKING PLAN

21 GRADING & EROSION CONTROL
 27 EXISTING CONDITIONS & REMOVALS
 32 STREET & STORM SEWER
 NA STORM SEWER LEADS
 36 SANITARY SEWER & WATERMAIN
 40 RESTORATION
 44 PAVEMENT MARKING PLAN

22 GRADING & EROSION CONTROL
 28 EXISTING CONDITIONS & REMOVALS
 33 STREET & STORM SEWER
 35 STORM SEWER LEADS
 37 SANITARY SEWER & WATERMAIN
 41 RESTORATION
 44 PAVEMENT MARKING PLAN

23 GRADING & EROSION CONTROL
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 NA PAVEMENT MARKING PLAN

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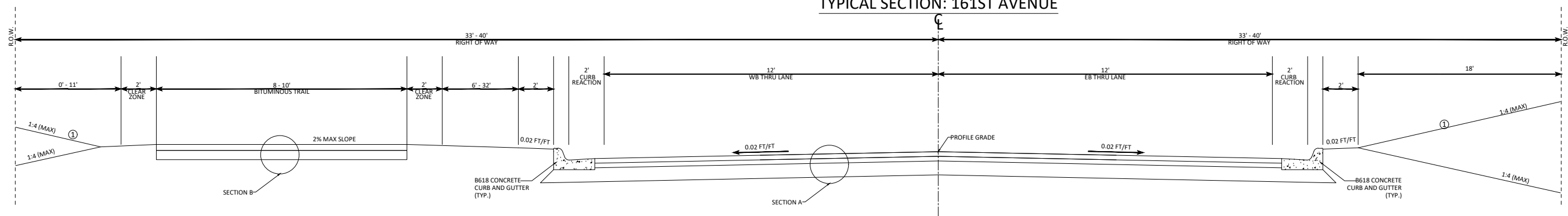
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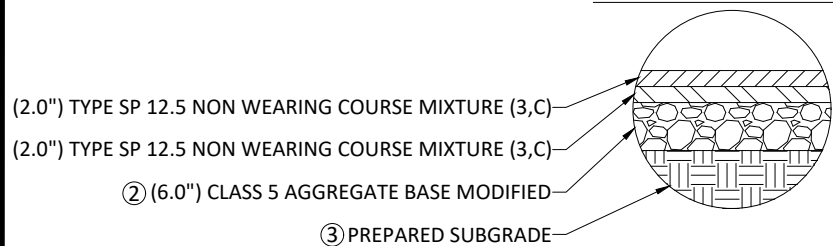
SHEET INDEX
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA

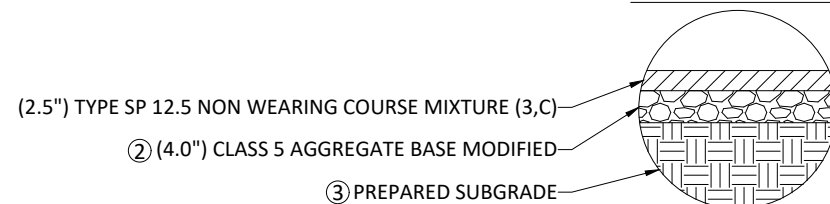
TYPICAL SECTION: 161ST AVENUE



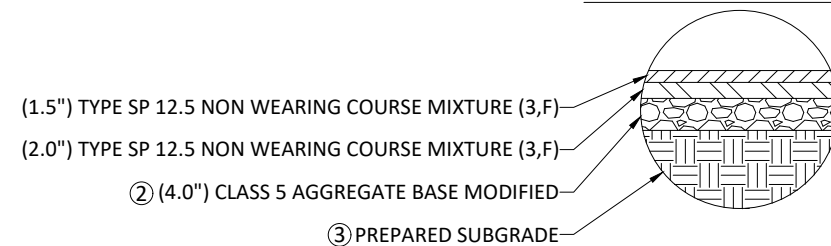
SECTION A: ROADWAY



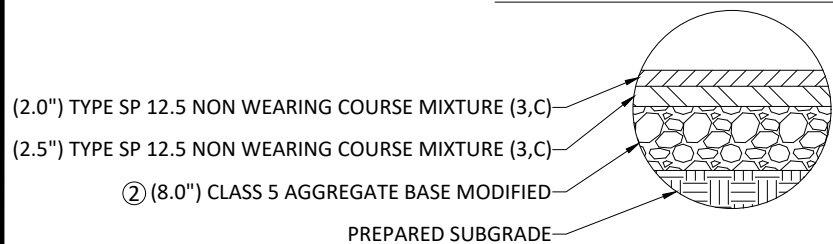
SECTION B: TRAIL



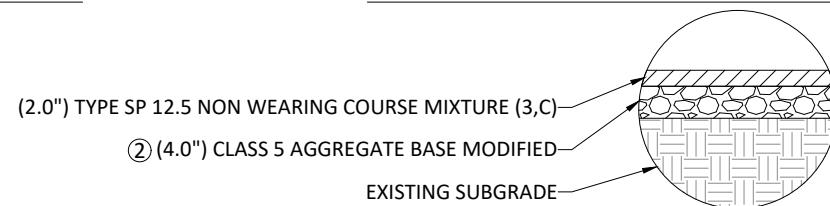
SECTION C: PARKING LOT



SECTION D: COMMERCIAL DRIVEWAYS



SECTION E: ESTIMATED RESIDENTIAL DRIVEWAY MATCH-INS



REFERENCE NOTES:

- ① GRADE TO MATCH EXISTING GROUND. ESTABLISH TURF USING A MINIMUM OF 4" TOPSOIL AND HYDROSEED WITH MNDOT SEED MIXTURE 25-151. SEE CITY DETAIL ERO-6 FOR TOPSOIL REQUIREMENTS.
- ② MODIFY CLASS 5 AGGREGATE BASE PER CITY STANDARD DETAIL STR-26. SEE SHEET 09. RECYCLED RECLAMATION MATERIAL MEETING STR-26 MAY BE USED AS AGGREGATE BASE.
- ③ CONTRACTOR SHALL SCARIFY AND COMPACT, ACCORDING TO THE SPECIFIED DENSITY METHOD, THE TOP 12 INCHES OF MATERIAL PRIOR TO PLACING CLASS 5 AGGREGATE BASE. THIS PROCESS SHALL BE INCIDENTAL TO THE SUBGRADE PREPARATION PAY ITEM.

PAVEMENT DESIGN:
 S.A.P. 199-123-001
 20 YR DESIGN LANE BESALS: 193,000
 DESIGN R-VALUE: 50

MINIMUM REQUIRED
 MINIMUM BIT (GE) 7.88
 MIN. AGG. BASE (GE) 3.34
 TOTAL REQUIRED GE 11.22

PROPOSED DESIGN
 WEARING COURSE (2.0'') 4.50
 NON-WEAR COURSE (2.0'') 4.50
 AGG. BASE CLASS 5 (6.0'') 6.00
 TOTAL DESIGN GE 15.00

DATE	REVISION
3/24/23	UPDATE TYPICAL SECTION

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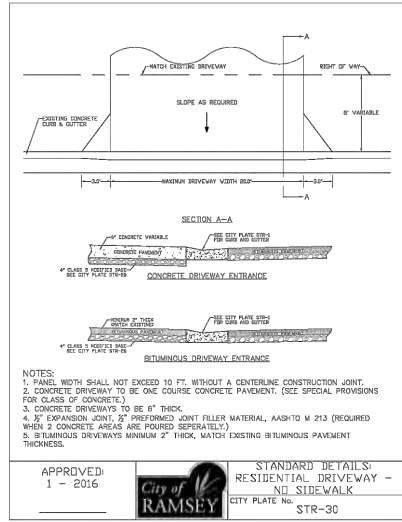
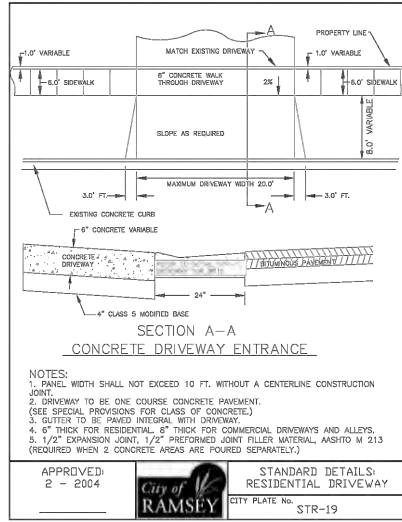
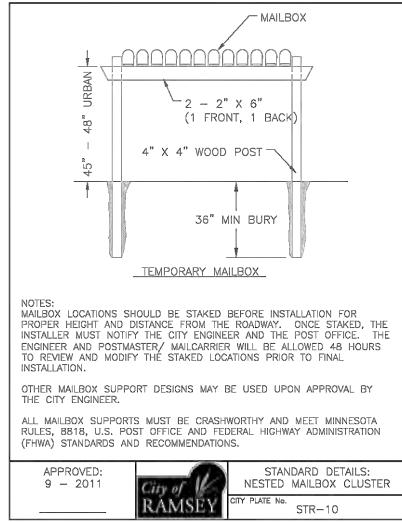
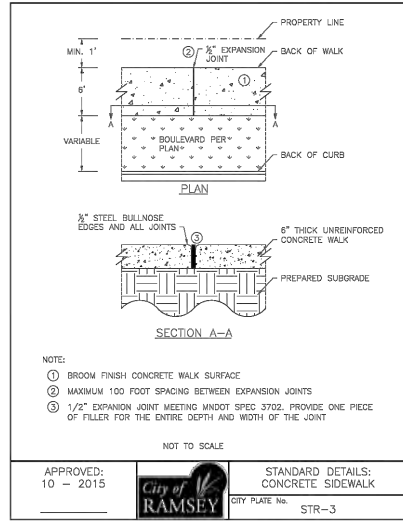
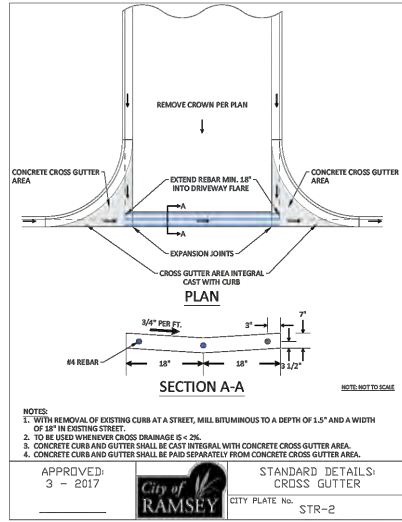
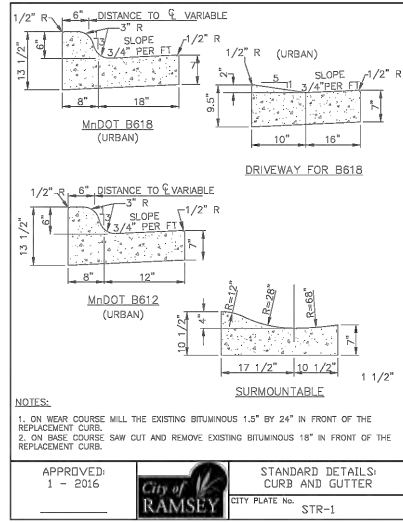
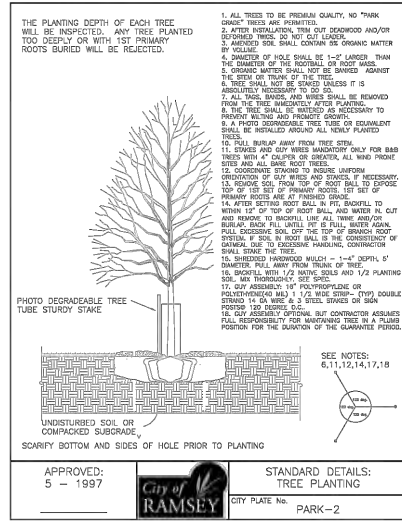
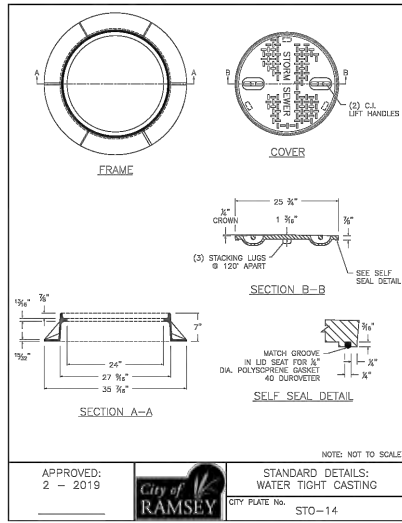
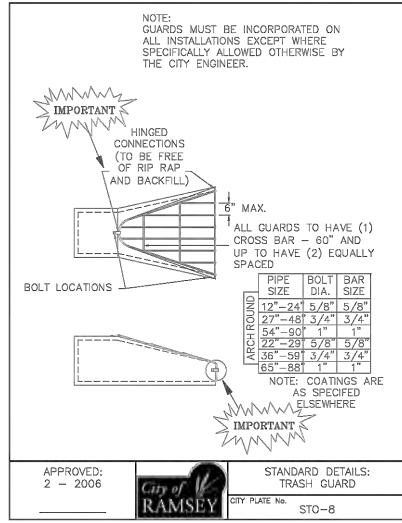
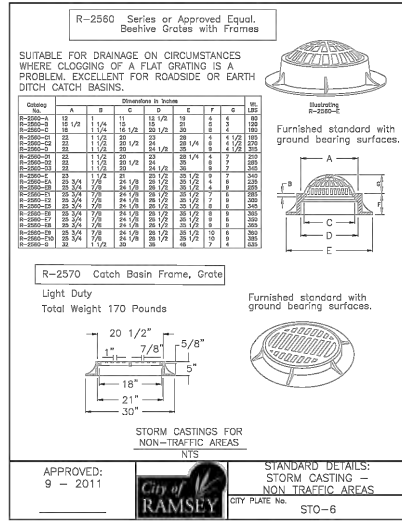
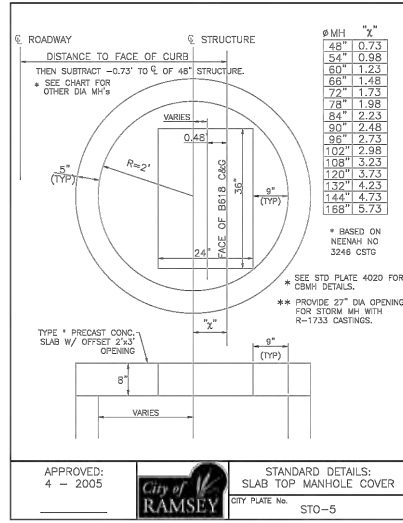
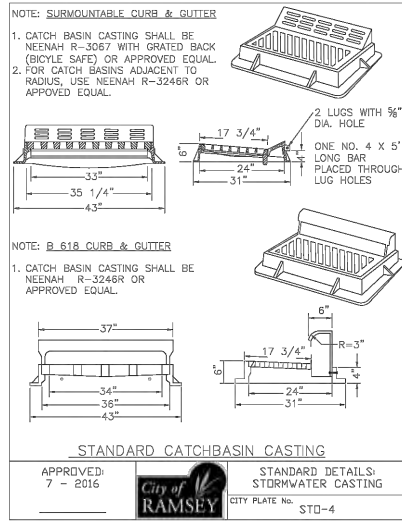
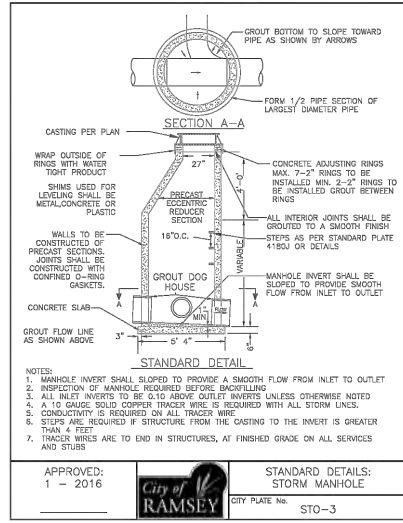
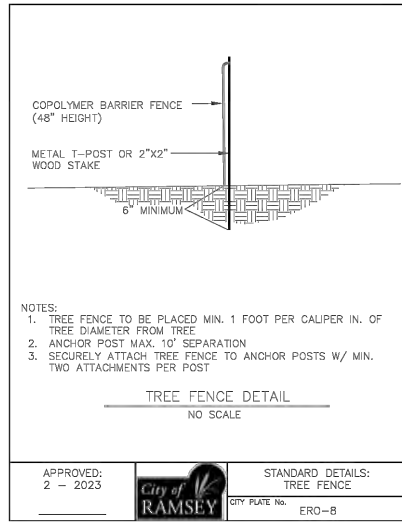
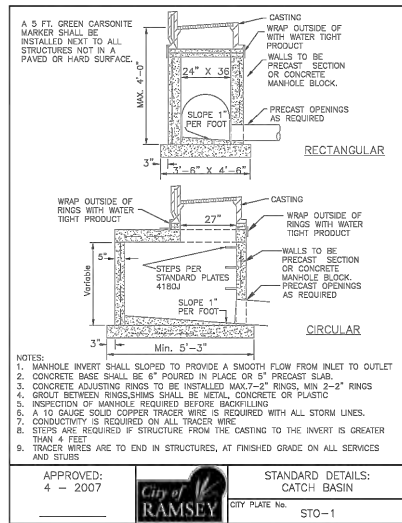
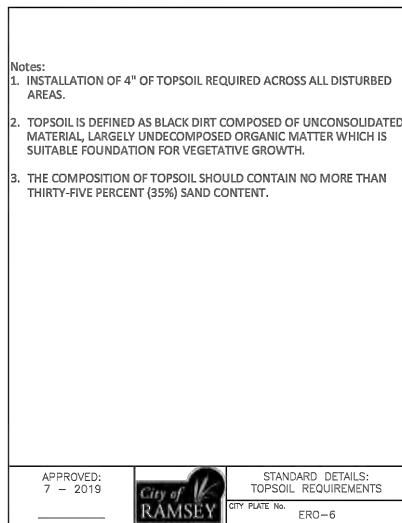
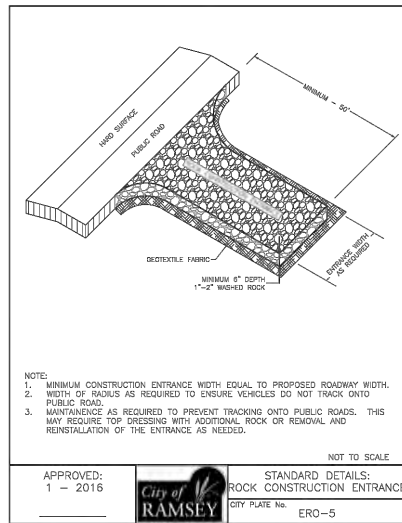
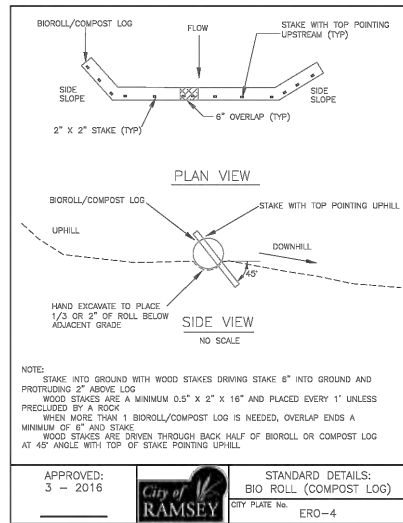
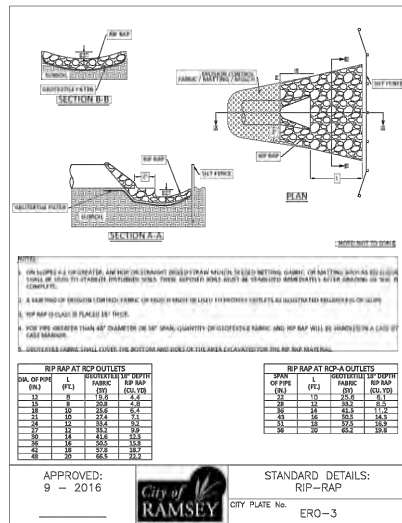
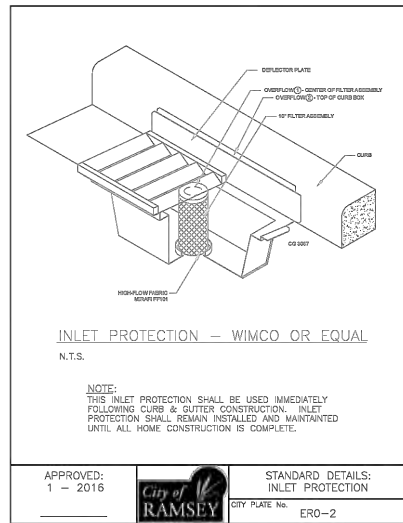
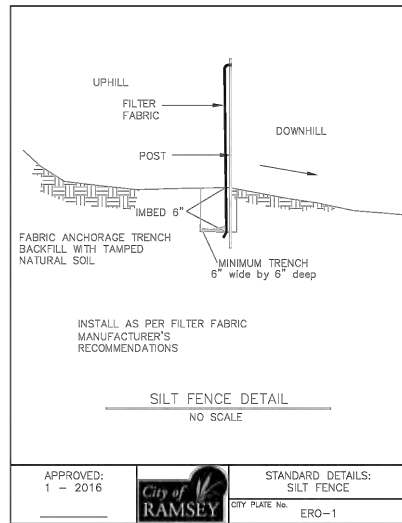
Joe Feriancek
 JOE FERIANCEK
 Date 3/01/23 Lic. No. 57095

DESIGNED BY:	JJF	DATE:	2/28/23
DRAWN BY:	JJF	FILE:	23-01
CHECKED BY:	JJF		

CITY OF RAMSEY
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TYPICAL SECTIONS
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
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 CITY OF RAMSEY, MINNESOTA



DATE	REVISION

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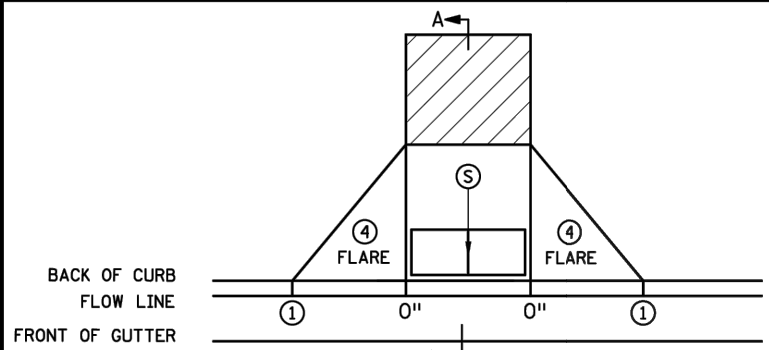
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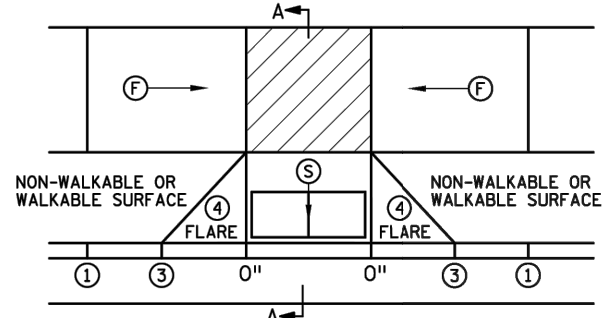
CITY OF RAMSEY
7550 SUNWOOD DRIVE
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CITY DETAILS
S.A.P. 199-123-001

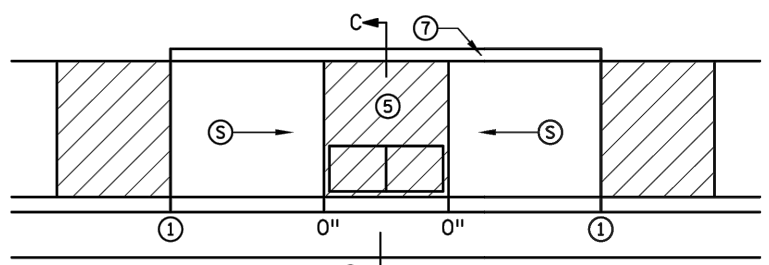
161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



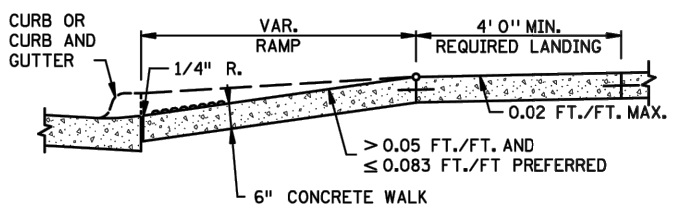
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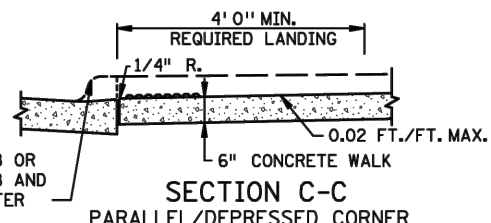
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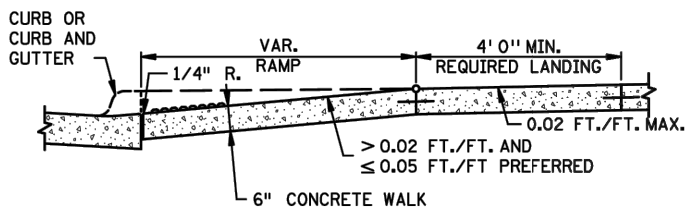
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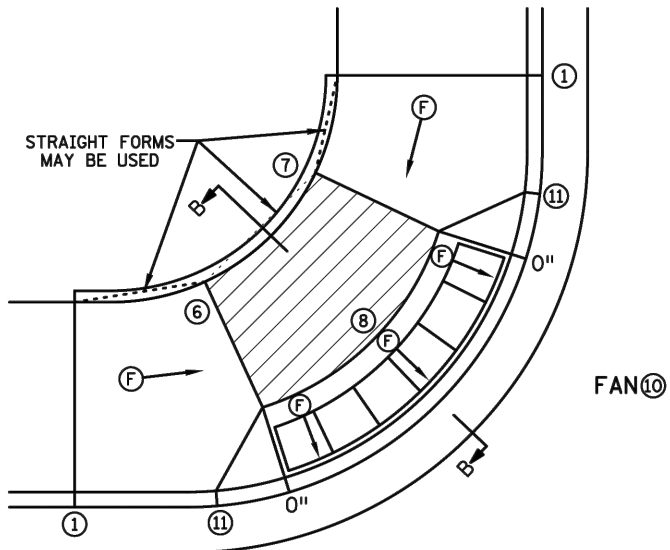
SECTION A-A
PERPENDICULAR/TIERED/DIAGONAL



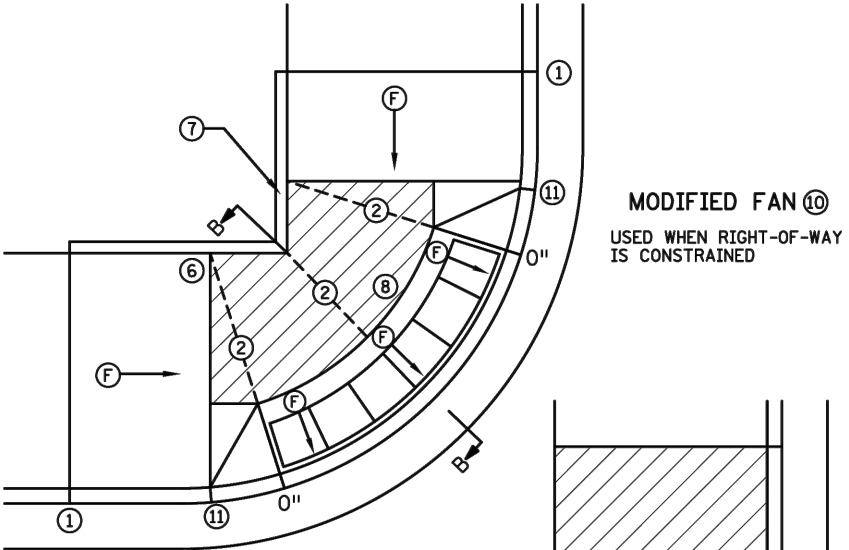
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PARALLEL/DEPRESSED CORNER



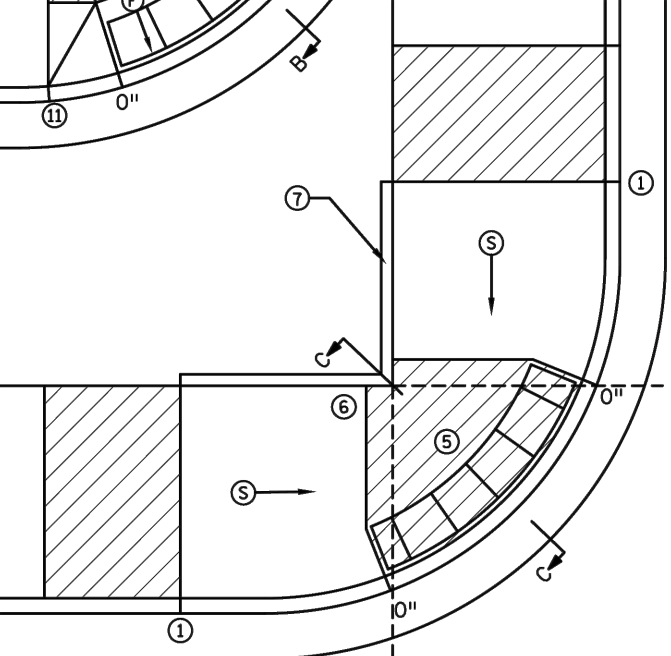
SECTION B-B
FAN



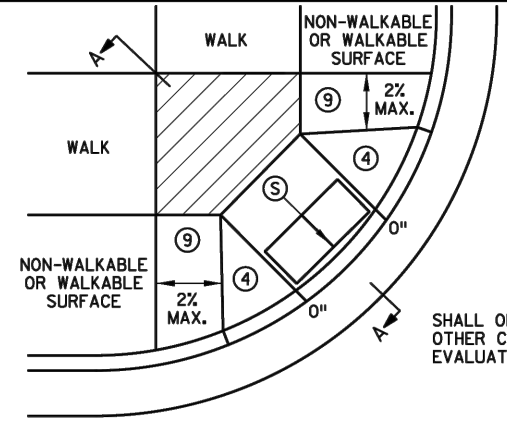
FAN 10



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



DEPRESSED CORNER



DIAGONAL

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

NOTES:

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

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

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

STANDARD PLAN 5-297.250 1 OF 6
MINNESOTA DEPARTMENT OF TRANSPORTATION
Thomas Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER
APPROVED: 11-04-2021
REVISED:

PEDESTRIAN CURB RAMP DETAILS

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

DATE	REVISION
3/16/23	UPDATE TO CURRENT STANDARD PLANS

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

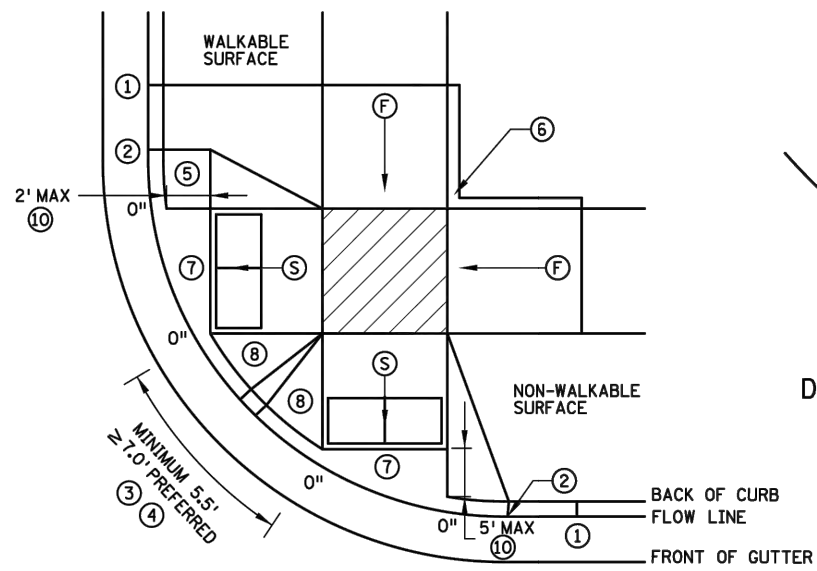
DESIGNED BY: JJF
DRAWN BY: JJF
CHECKED BY: JJF
DATE: 2/28/23
FILE: 23-01



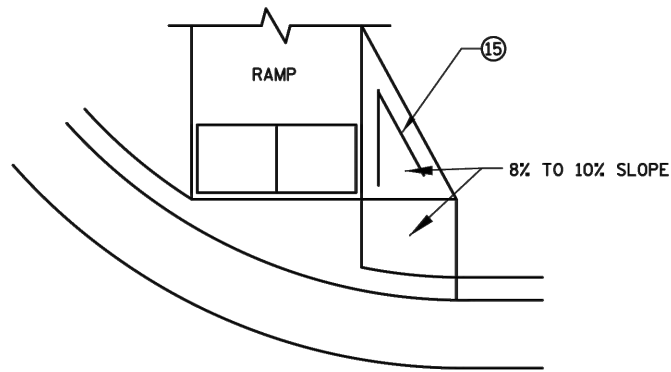
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN RAMP DETAILS
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA

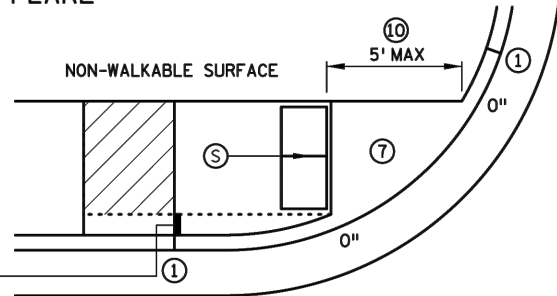


COMBINED DIRECTIONAL

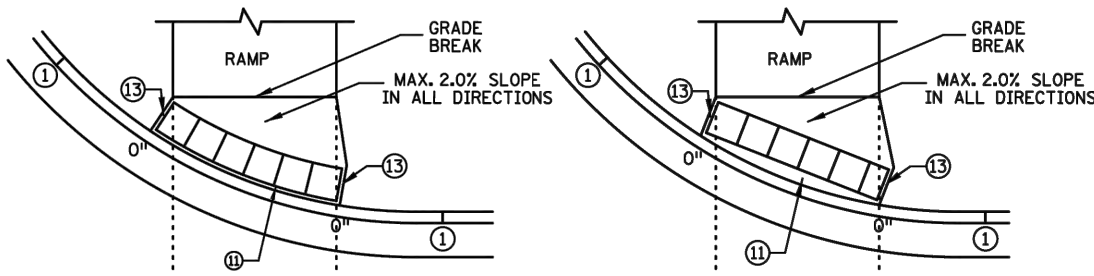


DIRECTIONAL RAMP WALKABLE FLARE

IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.

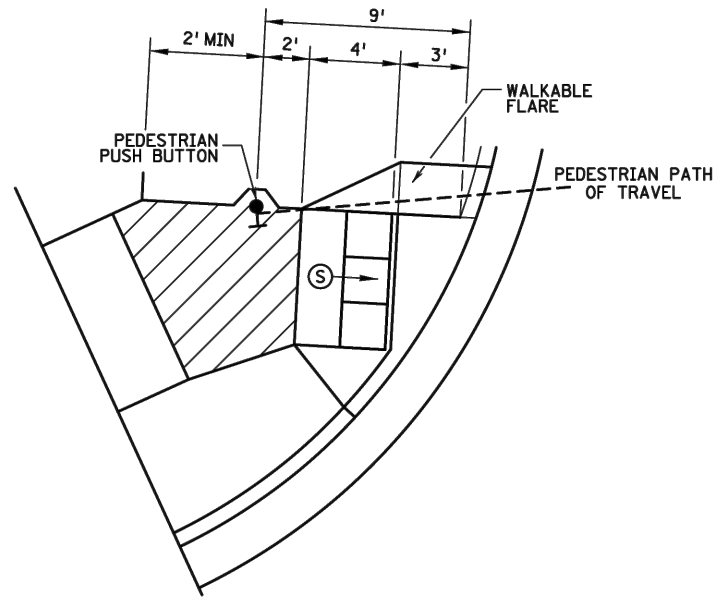


STANDARD ONE-WAY DIRECTIONAL 9



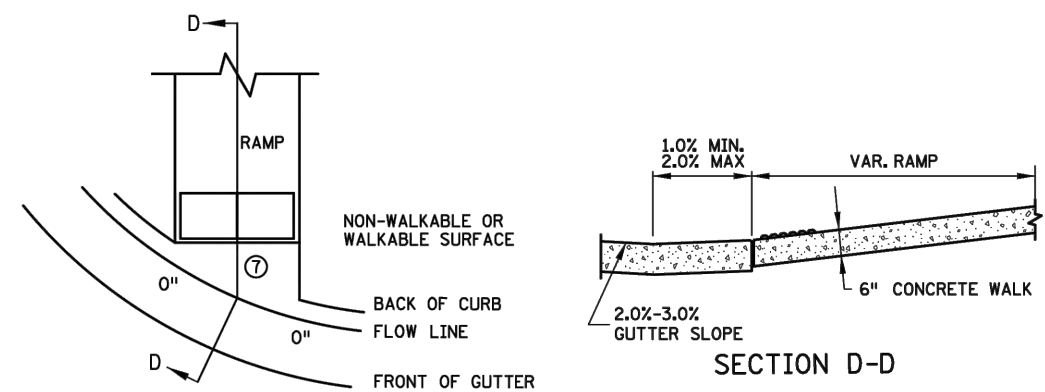
DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED 12

ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

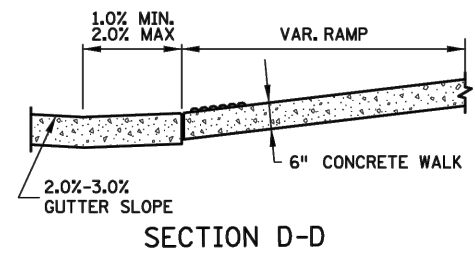


SEMI-DIRECTIONAL RAMP 3 4 9

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)



CURB FOR DIRECTIONAL RAMPS 14



SECTION D-D

NOTES:

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

LEGEND

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

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

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

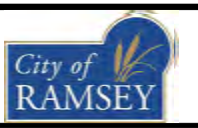
MINNESOTA DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.250 2 OF 6
 APPROVED: 11-04-2021
 THOMAS STYBRICKI
 STATE DESIGN ENGINEER

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

DATE	REVISION
3/16/23	UPDATE TO CURRENT STANDARD PLANS

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

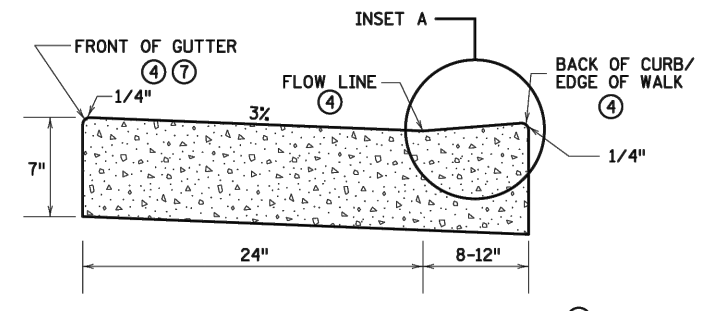
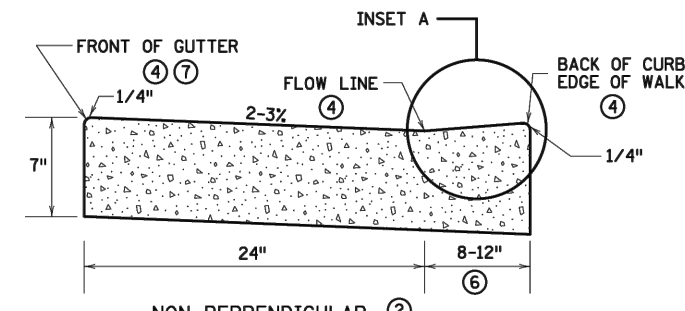
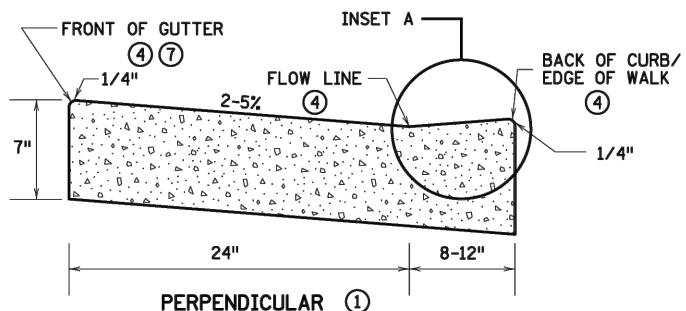
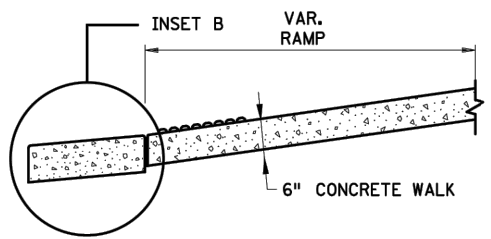
DESIGNED BY: JJF
 DRAWN BY: JJF
 CHECKED BY: JJF
 DATE: 2/28/23
 FILE: 23-01



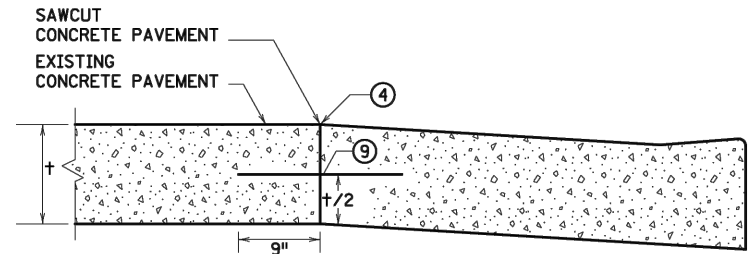
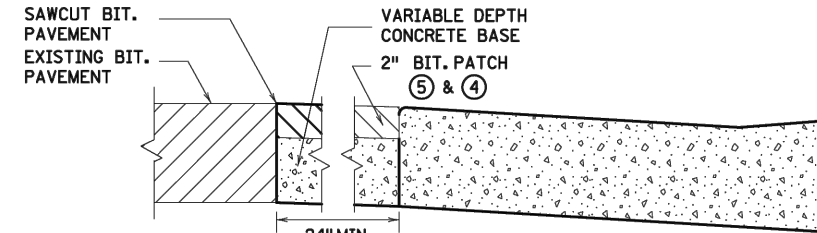
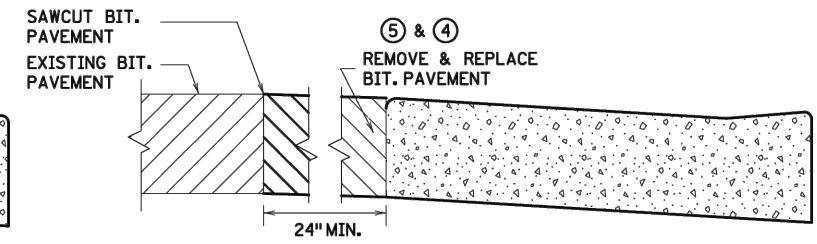
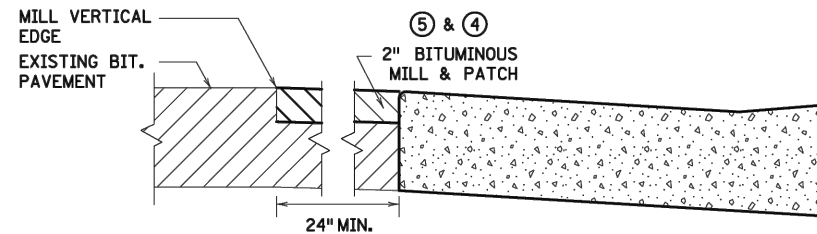
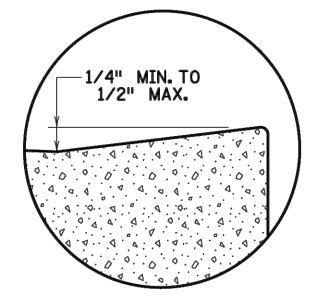
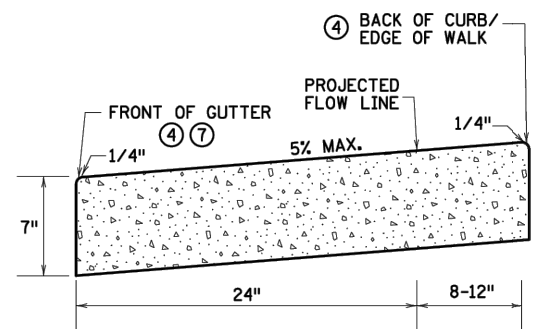
CITY OF RAMSEY
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN RAMP DETAILS
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA

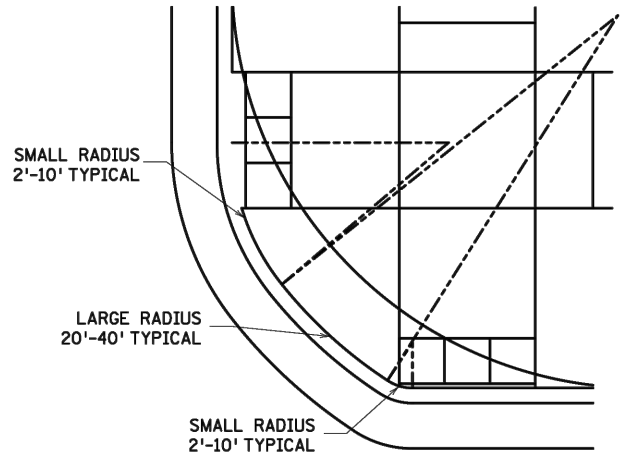
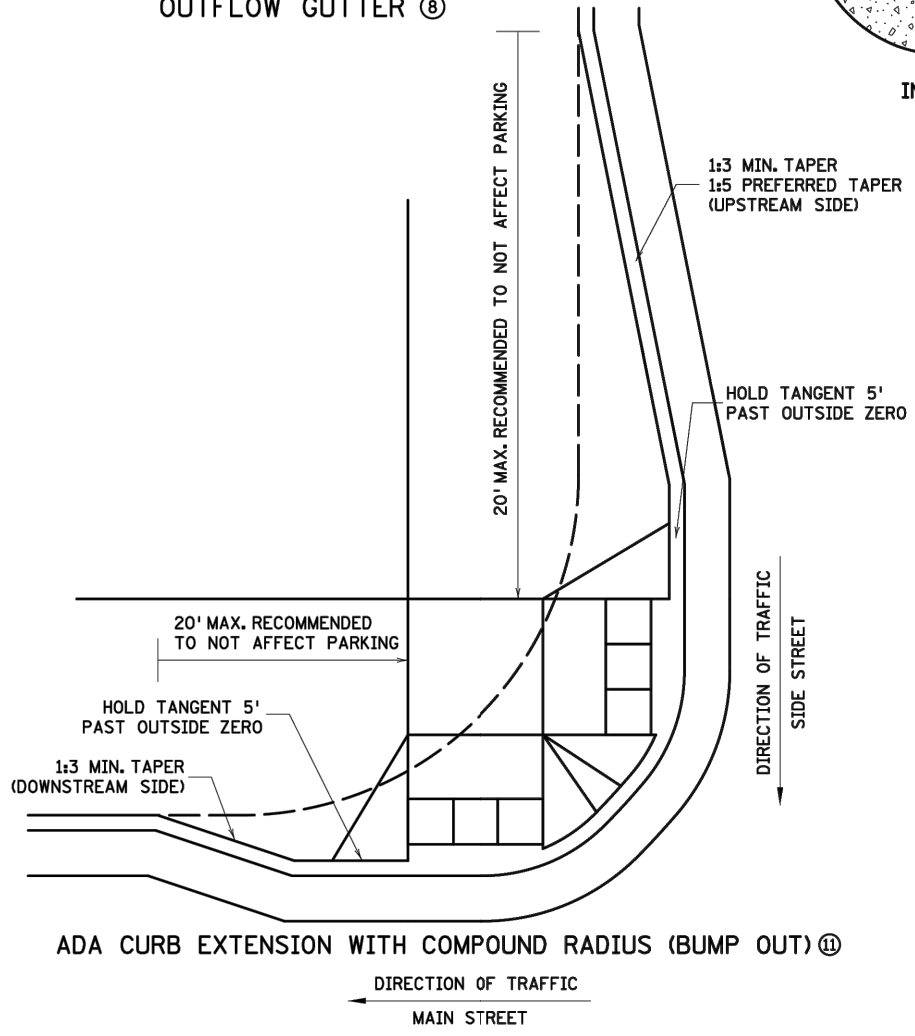


PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



ONLY ALLOWED PER ENGINEER'S APPROVAL

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



COMBINED DIRECTIONAL (COMPOUND RADIUS)

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

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

STANDARD PLAN 5-297.250 3 OF 6
 APPROVED: 11-04-2021
 REVISION:
 STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS

DATE	REVISION
3/16/23	UPDATE TO CURRENT STANDARD PLANS

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

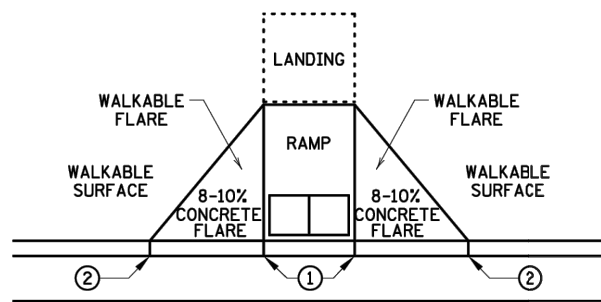
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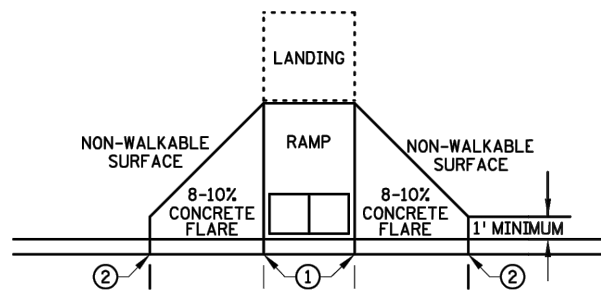
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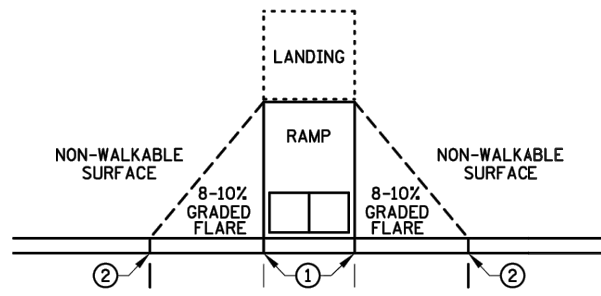
161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
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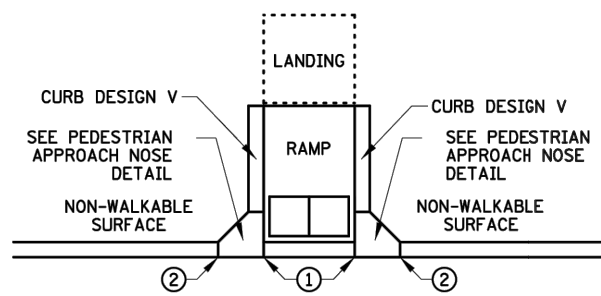
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

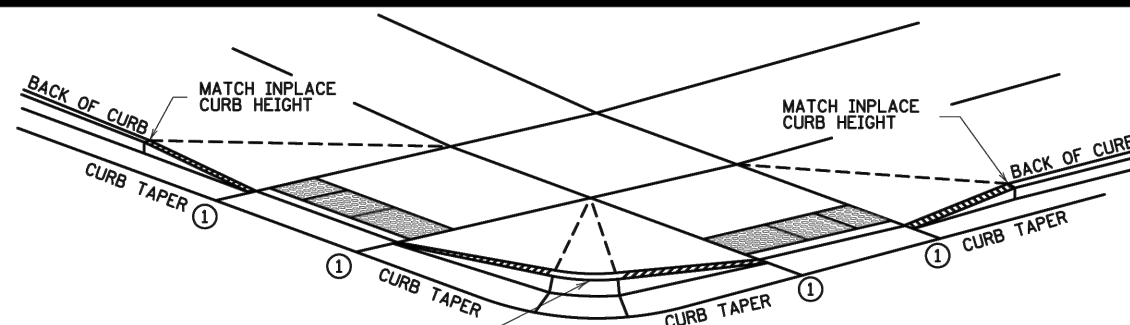


GRADED FLARES



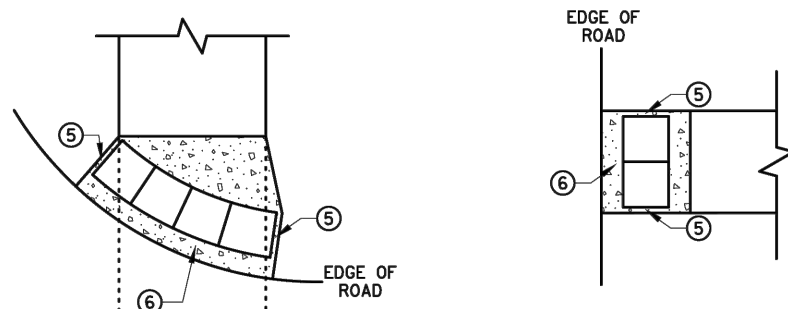
RETURNED CURB ④

TYPICAL SIDE TREATMENT OPTIONS ③ ⑩

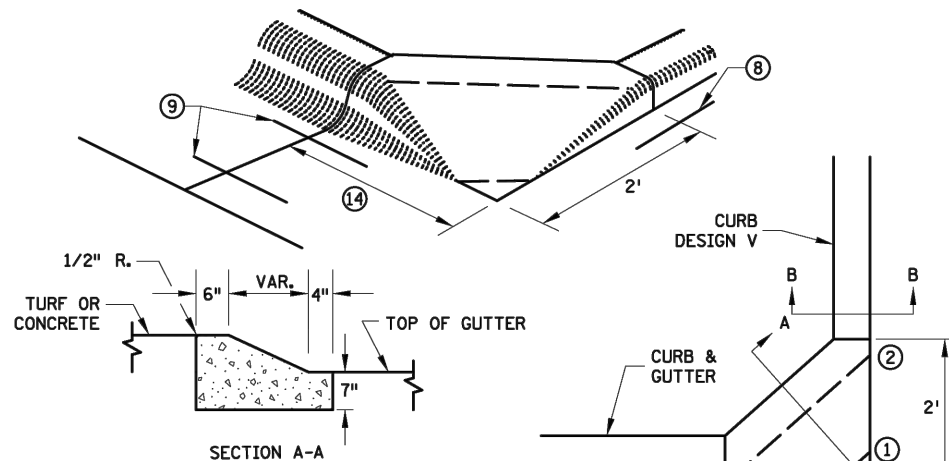


3" MINIMUM CURB HEIGHT, 4" PREFERRED
(MEASURED AT FRONT FACE OF CURB)
FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

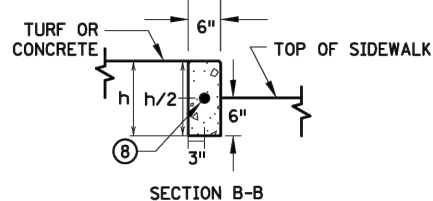
DETECTABLE EDGE WITH
CURB AND GUTTER ⑦



DETECTABLE EDGE WITHOUT CURB AND GUTTER

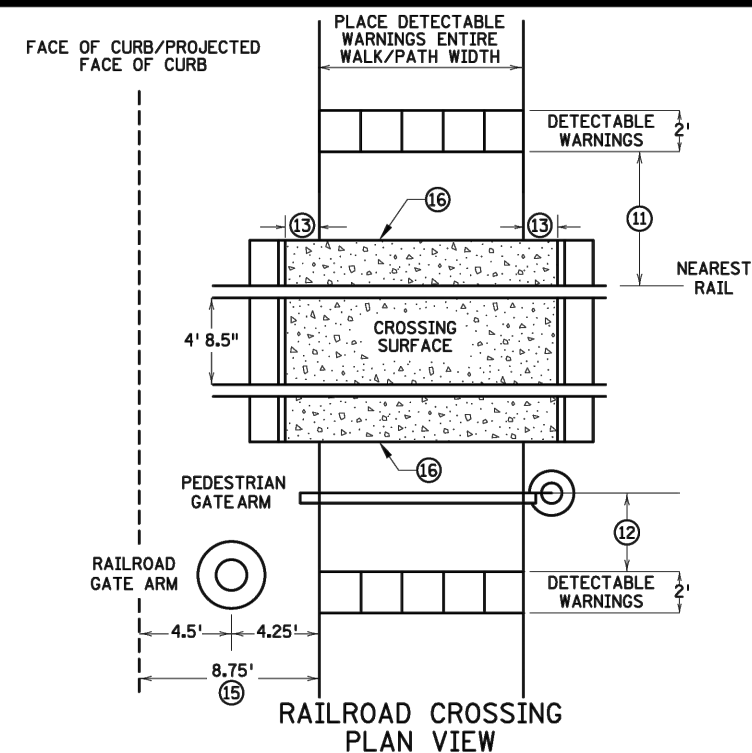


SECTION A-A



SECTION B-B

PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

- INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.
- SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.
- ① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.
- ② FULL CURB HEIGHT.
- ③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ④ TYPICALLY USED FOR MEDIANS AND ISLANDS.
- ⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
- ⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS, AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
- ⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
- ⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
- ⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6" LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.
- ⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- ⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.
- ⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
- ⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
- ⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.
- ⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

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

	STANDARD PLAN 5-297.250	4 OF 6
	APPROVED: 11-04-2021 REVISED:	
	STATE PROJ. NO.	(TH) SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS

DATE	REVISION
3/16/23	UPDATE TO CURRENT STANDARD PLANS

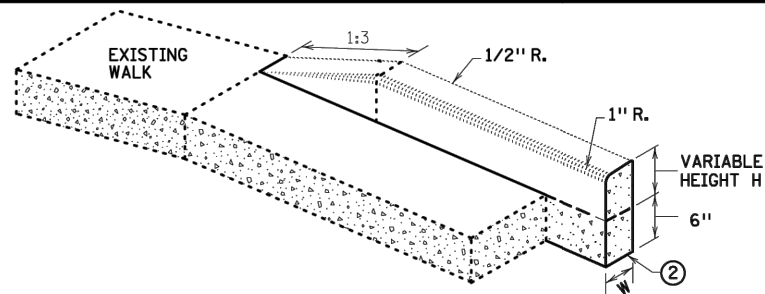
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

DESIGNED BY: JJF	DATE: 2/28/23
DRAWN BY: JJF	FILE: 23-01
CHECKED BY: JJF	

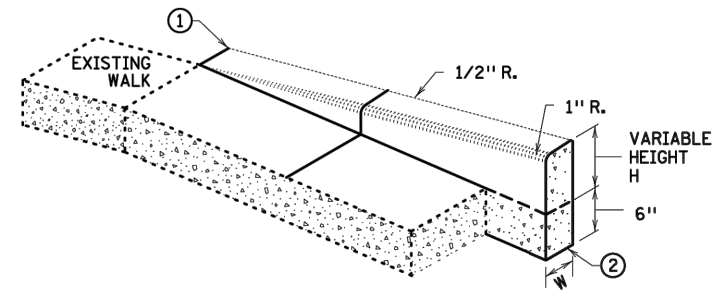
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

MNDOT PEDESTRIAN RAMP DETAILS
S.A.P. 199-123-001

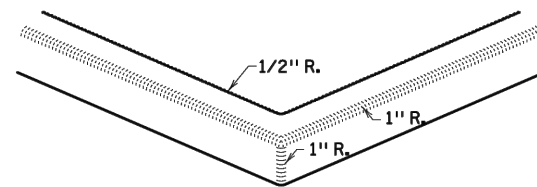
161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



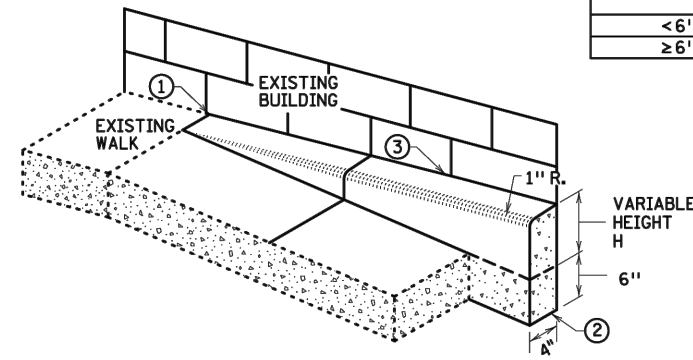
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

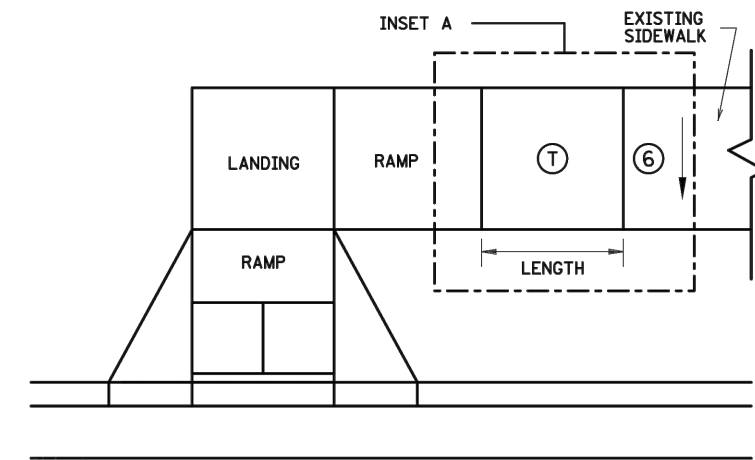


V CURB INTERSECTION

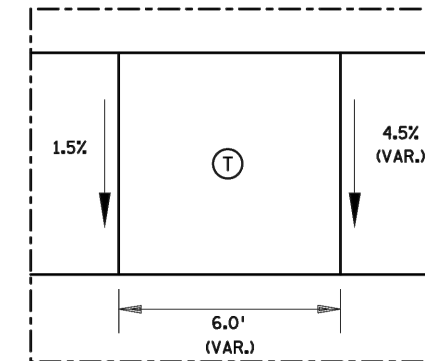


V CURB ADJACENT TO BUILDING
OR BARRIER

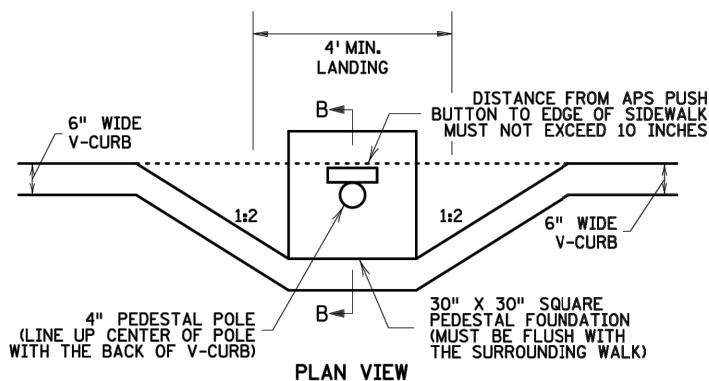
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



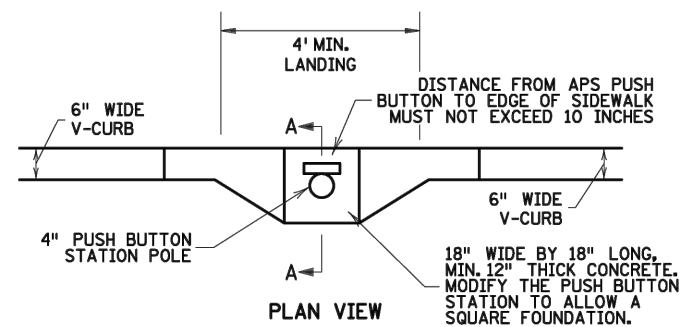
TRANSITION PANEL ④ ⑤



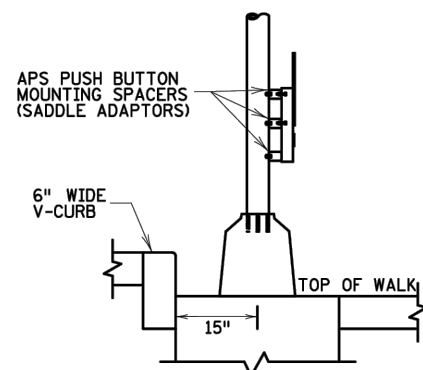
INSET A



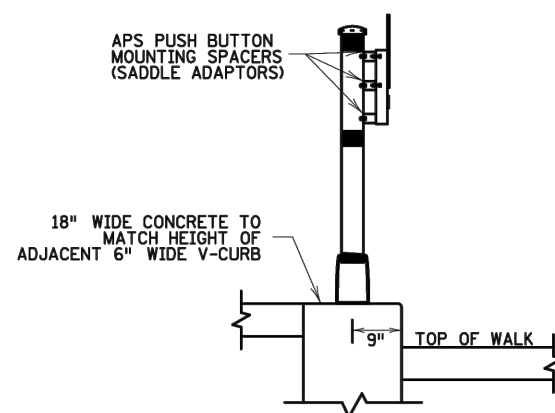
PLAN VIEW



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%.
- 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.

DATE	REVISION
3/16/23	UPDATE TO CURRENT STANDARD PLANS

REVISIONS:

APPROVED: 11-04-2021

Jeffrey J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

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

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



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



STANDARD PLAN 5-297.250 5 OF 6

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

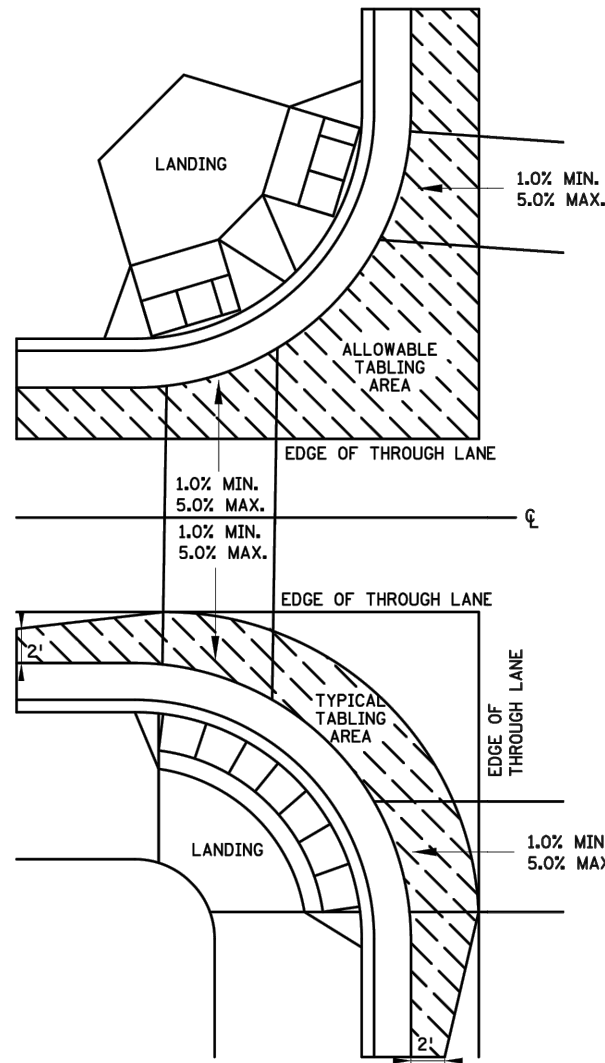
STATE PROJ. NO.

PEDESTRIAN CURB RAMP DETAILS

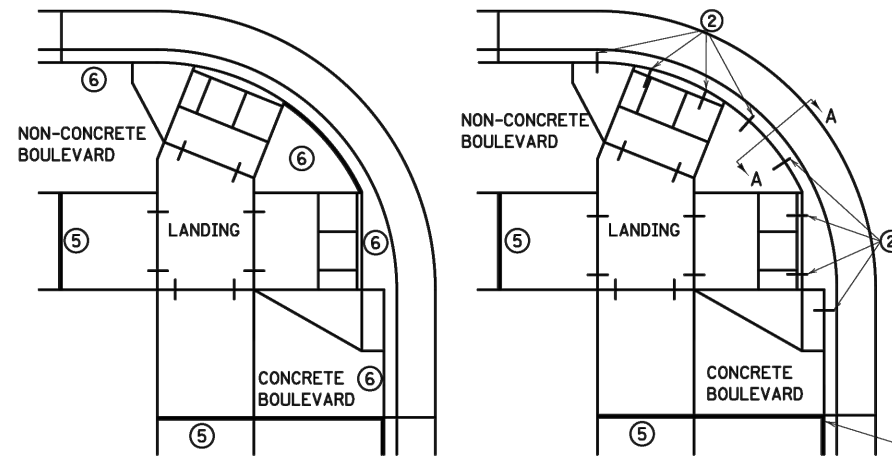
(TH) SHEET NO. OF SHEETS

MNDOT PEDESTRIAN RAMP DETAILS

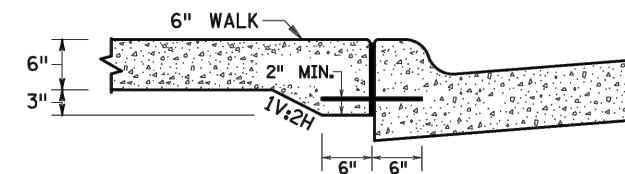
161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



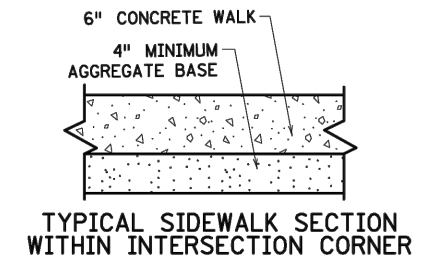
CURB LINE AND ROAD CROSSING ADJUSTMENTS



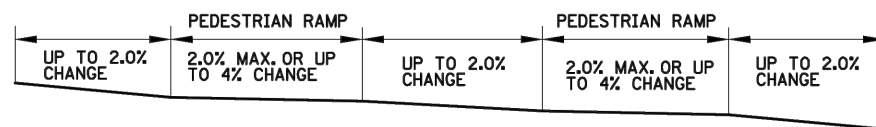
EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS
CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS



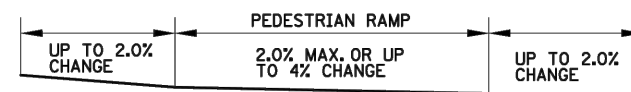
SECTION VIEW A-A
THICKENED SECTION THROUGH CURB RAMP FLARES



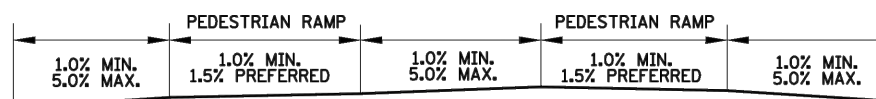
TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER



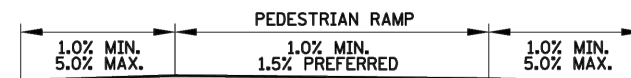
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



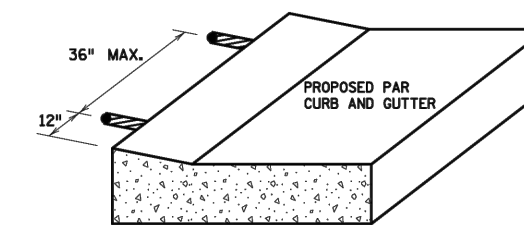
FLOW LINE PROFILE "TABLE" - FAN



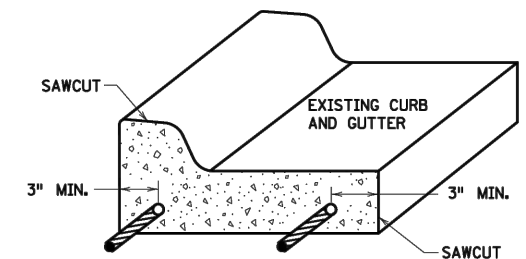
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



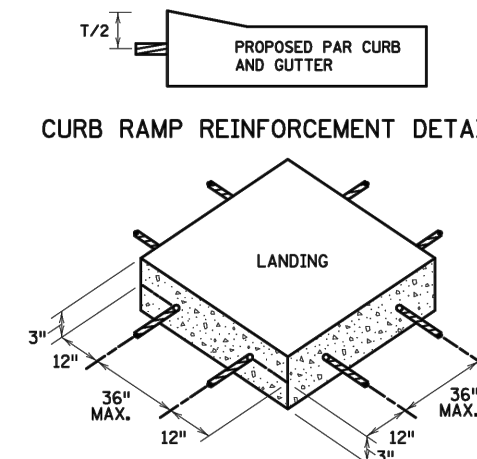
FLOW LINE PROFILE RAISE - FAN



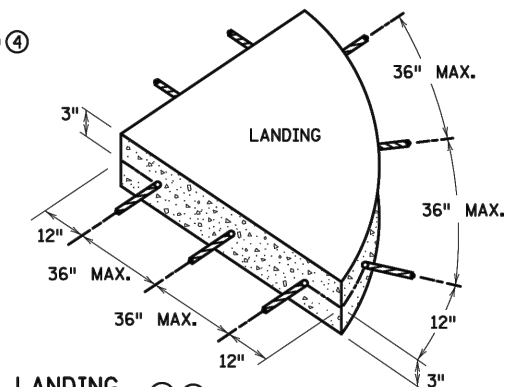
CURB RAMP REINFORCEMENT DETAILS



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.

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

STANDARD PLAN 5-297.250 6 OF 6
MINNESOTA DEPARTMENT OF TRANSPORTATION
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER
APPROVED: 11-04-2021
REVISED:

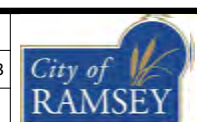
PEDESTRIAN CURB RAMP DETAILS

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

DATE	REVISION
3/16/23	UPDATE TO CURRENT STANDARD PLANS

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

DESIGNED BY: JJF
DRAWN BY: JJF
CHECKED BY: JJF
DATE: 2/28/23
FILE: 23-01



CITY OF RAMSEY
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RAMSEY, MN 55303
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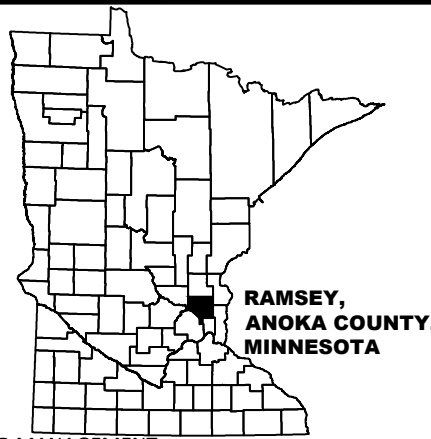
MNDOT PEDESTRIAN RAMP DETAILS
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

161ST AVENUE RECONSTRUCTION
S.A.P. 199-123-001

CITY OF RAMSEY
ANOKA COUNTY, MINNESOTA



DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:

Construction activities include; Site Grading, Storm Sewer Construction, Pond Excavation, Temporary Erosion and Sediment Control, Roadway Construction, Utility Construction, and Permanent Stabilization.
Project Description: This project consists of reconstruction of 0.51 miles of existing bituminous streets including installation of concrete curb and gutter. Construction of 0.25 miles of watermain and sanitary sewer. The drainage for the existing streets uses curb cuts and drainage across the pavement to two low points with infiltration and storage ponds at low points. The proposed runoff will be collected in storm sewer inlets in the curb and gutter, and routed to the same low points. The ponds, both located south of 161st Avenue within drainage and utility easements, will be excavated approximately 6-feet deeper to accommodate storm sewer piping. The ponds will infiltrate runoff, and do not overflow. There is no change to the outfall location of the storm water runoff proposed with this project.

RESPONSIBLE PARTIES:

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

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

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

Documentation shall include:

- 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 perimeter sediment control and inlet protection.
- Reclamation of existing bituminous pavement.
- Rough grade site.
- Furnish & install bituminous 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?
TROTT BROOK	RIVER	YES	YES	YES

IMPAIRMENTS: DO; FISHSBIO; INERTBIO

PROJECT AREAS:

Total project size (disturbed area) =	5.81 acres
Existing area of impervious surface =	2.52 acres
Post construction area of impervious surface =	2.98 acres
New impervious surface area created =	0.46 acres

Planned construction start date: June 2023
Planned construction completion date: October 2023

PROJECT LOCATION:

County: ANOKA Township: 32 Range: 25 Section: 16 Latitude: 45.263048 Longitude: -93.467598

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

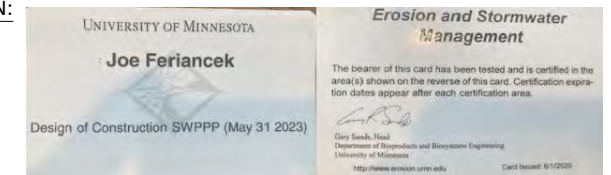
LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN:

DESCRIPTION	LOCATION
TEMPORARY EROSION CONTROL MEASURES	SHEETS No. 19 - 24
FINAL STABILIZATION	SHEETS No. 38 - 42
STORM SEWER TABULATION	SHEETS No. 03
EROSION AND SEDIMENT CONTROL DETAILS	SHEETS No. 08

EROSION AND SEDIMENT CONTROL QUANTITIES:

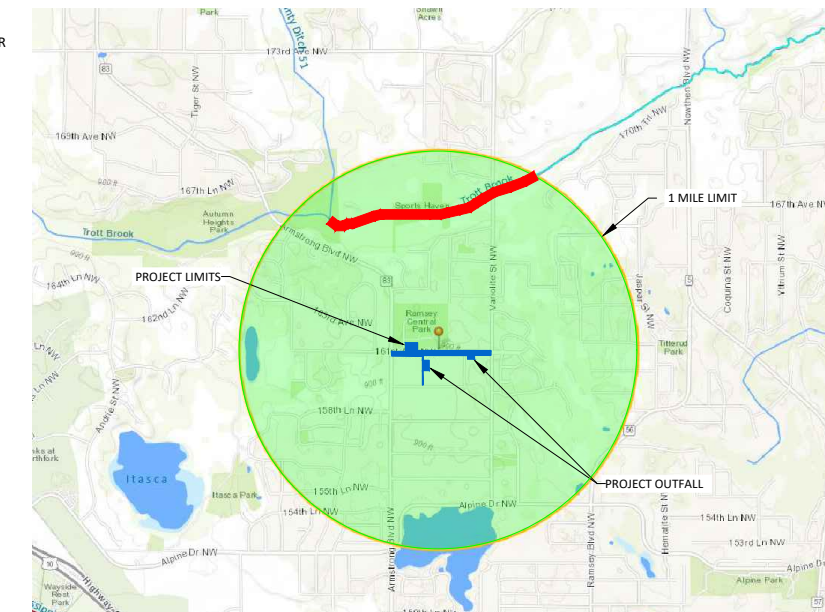
DESCRIPTION	QUANTITY
SILT FENCE TYPE MS	5236 LF
TREE SAVE FENCE	1824 LF
EROSION CONTROL LOG	125 LF
INLET PROTECTION	10 EA
RANDOM RIP RAP CLASS III	20 CY
EROSION BLANKET CATEGORY 20	7595 SY
CONSTRUCTION EXIT	2 EA

CERTIFICATION:



LEGEND

- PROJECT LIMITS
- 1 MILE LIMIT
- RECEIVING WATER
- IMPAIRED WATER



DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM

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 3/03/23 Lic. No. 57095

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



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

SWPPP

S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA

SHEET 17 OF 56 SHEETS

SEQUENCE OF CONSTRUCTION:

Construction shall proceed in the following sequence:

1. Contractor shall schedule and conduct a pre-construction meeting with the City.
2. Contractor shall secure all necessary permits and licenses.
3. Furnish & install erosion control measures.
4. Maintain erosion control measures, i.e. silt fence, inlet protection.
5. Remove existing bituminous pavement and base.
6. Excavate and grade storm water ponds.
7. Install utilities; backfill excavation, grade and compact as required.
8. Furnish & install concrete curb and gutter.
9. Furnish & install aggregate base, base course of bituminous pavement
10. Install restoration per plan.
11. Furnish & install wear course of bituminous pavement.
12. 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.
 - e. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g. fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).
 5. All infiltration areas must be inspected to ensure that no sediment from ongoing construction activities is reaching the infiltration area and these areas are protected from compaction due to construction equipment driving across the infiltration area.
 6. Storm sewer pipes and structures to be inspected and cleaned out.

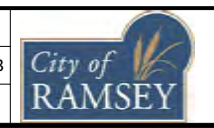
DATE	REVISION

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 Farnsworth

Date 3/01/23 Lic. No. 57095

DESIGNED BY:	JJF	DATE:	2/28/23
DRAWN BY:	JJF	FILE:	23-01
CHECKED BY:	JJF		

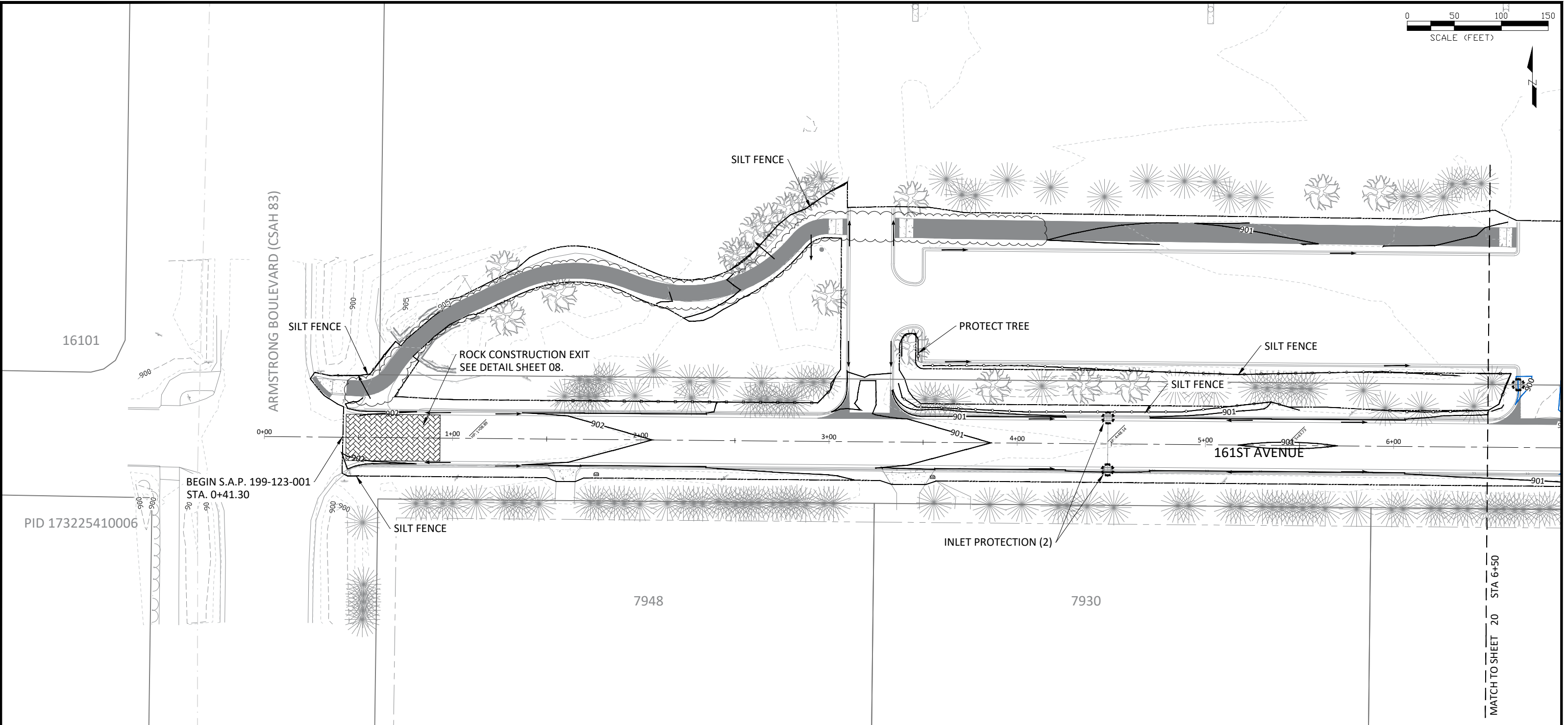


CITY OF RAMSEY
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SWPPP

S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



LEGEND

	PR. MAJOR CONTOUR		ROCK CONSTRUCTION EXIT
	PR. MINOR CONTOUR		EROSION CONTROL BLANKET
	PR. DRAINAGE ARROW		RANDOM RIP RAP CLASS III
	EX. MAJOR CONTOUR		REMOVE TREE (AREA)
	EX. MINOR CONTOUR		REMOVE TREE (INDIVIDUAL)
	CONSTRUCTION LIMIT		INLET PROTECTION
	DRAINAGE & UTILITY EASEMENT		TREE SAVE FENCE
	RIGHT OF WAY LINE		EROSION CONTROL LOG
	SECTION LINE		SILT FENCE

NOTE:

- SILT FENCE AND TREE SAVE FENCING MUST BE INSTALLED BEFORE ANY OTHER ACTIVITIES ON-SITE. WHERE USED FOR LONGITUDINAL PROTECTION, EROSION CONTROL LOG MUST BE INSTALLED PRIOR TO ANY REMOVAL ACTIVITIES.
- STORM SEWER INLET PROTECTION IS TO BE INSTALLED IMMEDIATELY FOLLOWING CASTING INSTALLATION. FOR EXISTING INLETS, MUST BE INSTALLED PRIOR TO ANY REMOVAL ACTIVITIES. INLET PROTECTION MUST BE MAINTAINED UNTIL BITUMINOUS WEAR COURSE IS IN-PLACE.
- CULVERT INLET PROTECTION INCLUDES SURROUNDING CULVERT WITH EROSION CONTROL LOG TO PREVENT SEDIMENT FROM ENTERING CULVERT. THIS WILL BE PAID FOR PER LINEAL FOOT. FOR NEW CULVERTS EROSION CONTROL LOG MUST BE INSTALLED IMMEDIATELY FOLLOWING GRADING ACTIVITIES. EROSION CONTROL LOG MUST BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED.

EROSION CONTROL SUMMARY: STA. 0+41.30 TO 6+50

SILT FENCE	644 LF
TREE SAVE FENCE	292 LF
ERO. CONTROL LOG	0 LF
INLET PROTECTION	2 EA
RANDOM RIP RAP CL.III	0 CY
ERO. BLANKET CAT. 20	0 SY
CONSTRUCTION EXIT	1 EA

PROJECT TOTAL

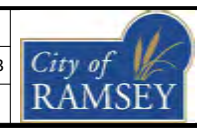
SILT FENCE	5236 LF
TREE SAVE FENCE	1824 LF
ERO. CONTROL LOG	125 LF
INLET PROTECTION	10 EA
RANDOM RIP RAP CL. III	14 CY
ERO. BLANKET CAT. 20	7589 SY
CONSTRUCTION EXIT	3 EA

DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
3/24/23	MODIFY TRAIL ALIGNMENT

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

JOE FERIANCEK
Date 3/01/23 Lic. No. 57095

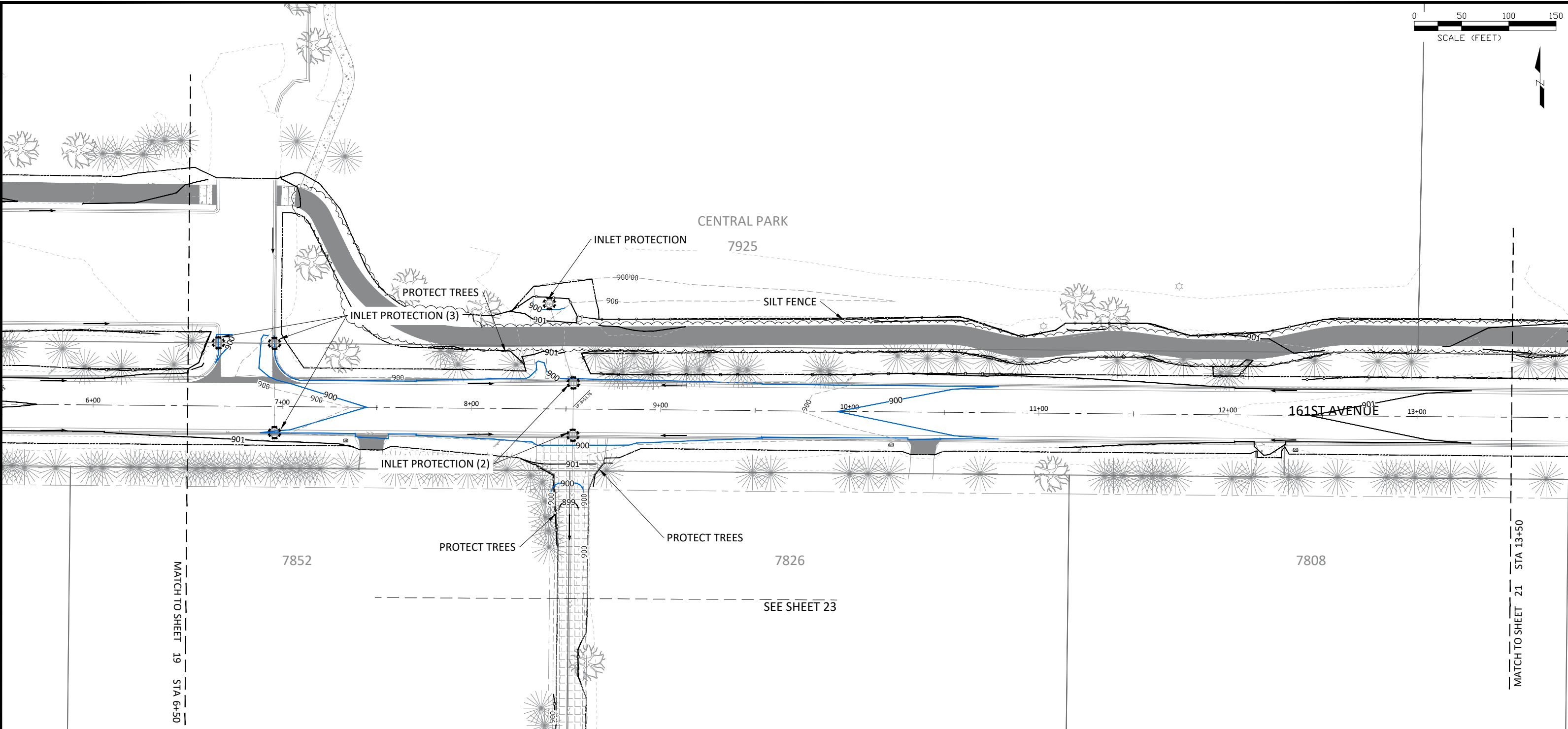
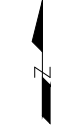
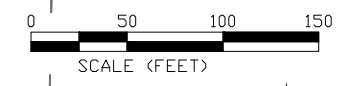
DESIGNED BY:	JJF
DRAWN BY:	JJF
CHECKED BY:	JJF
DATE:	2/28/23
FILE:	23-01



CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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GRADING & EROSION CONTROL
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



LEGEND

	PR. MAJOR CONTOUR		ROCK CONSTRUCTION EXIT
	PR. MINOR CONTOUR		EROSION CONTROL BLANKET
	PR. DRAINAGE ARROW		RANDOM RIP RAP CLASS III
	EX. MAJOR CONTOUR		REMOVE TREE (AREA)
	EX. MINOR CONTOUR		REMOVE TREE (INDIVIDUAL)
	CONSTRUCTION LIMIT		INLET PROTECTION
	DRAINAGE & UTILITY EASEMENT		TREE SAVE FENCE
	RIGHT OF WAY LINE		EROSION CONTROL LOG
	SECTION LINE		SILT FENCE

NOTE:

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EROSION CONTROL SUMMARY: STA. 6+50 TO 13+50

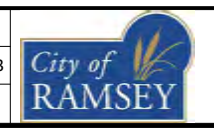
SILT FENCE	657 LF
TREE SAVE FENCE	600 LF
ERO. CONTROL LOG	0 LF
INLET PROTECTION	6 EA
RANDOM RIP RAP CL. III	0 CY
ERO. BLANKET CAT. 20	196 SY
CONSTRUCTION EXIT	0 EA
PROJECT TOTAL	
SILT FENCE	5236 LF
TREE SAVE FENCE	1824 LF
ERO. CONTROL LOG	125 LF
INLET PROTECTION	10 EA
RANDOM RIP RAP CL. III	14 CY
ERO. BLANKET CAT. 20	7589 SY
CONSTRUCTION EXIT	3 EA

DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
3/24/23	MODIFY TRAIL ALIGNMENT

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Joe Feriancek
 JOE FERIANCEK
 Date 3/01/23 Lic. No. 57095

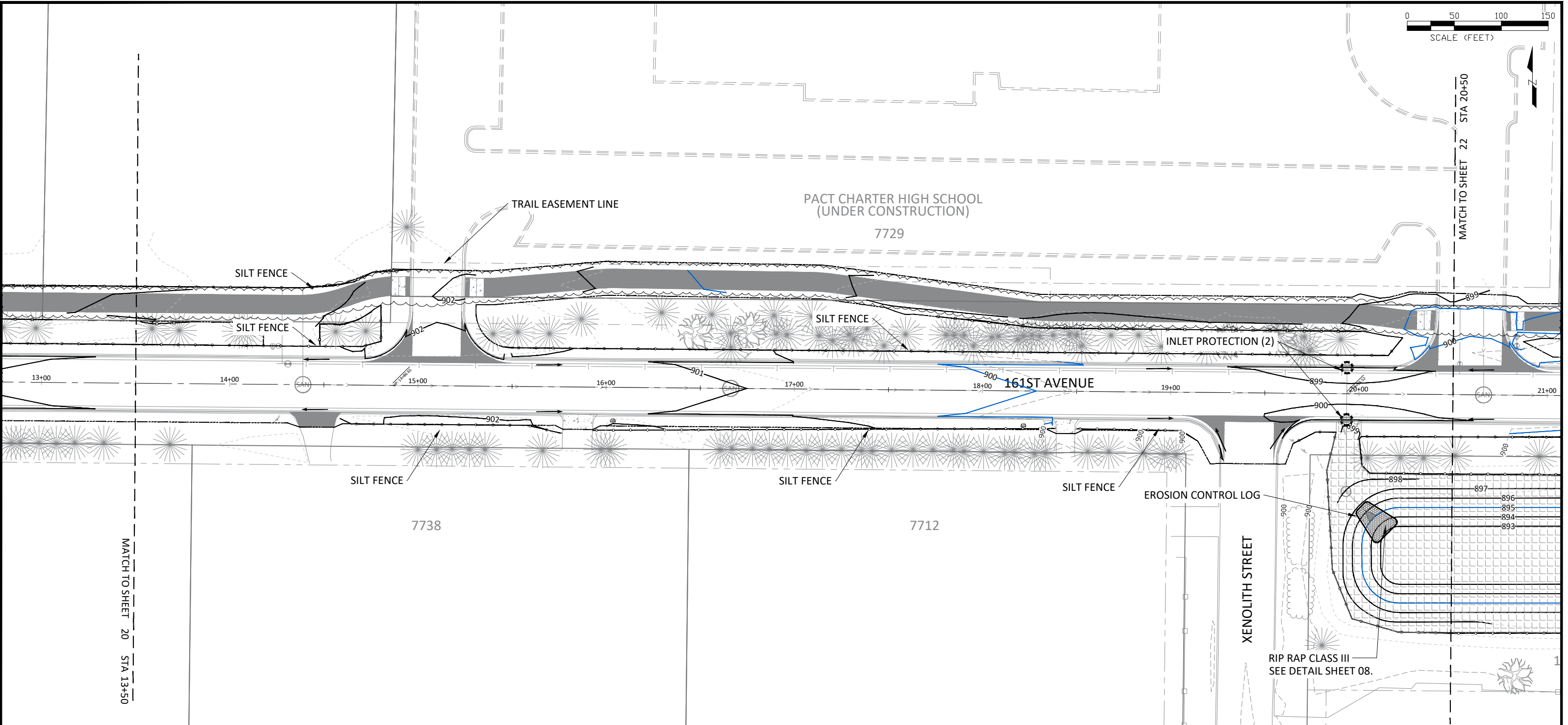
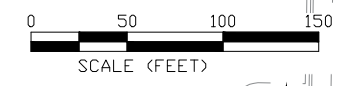
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GRADING & EROSION CONTROL
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



LEGEND

	PR. MAJOR CONTOUR		ROCK CONSTRUCTION EXIT
	PR. MINOR CONTOUR		EROSION CONTROL BLANKET
	PR. DRAINAGE ARROW		RANDOM RIP RAP CLASS III
	EX. MAJOR CONTOUR		REMOVE TREE (AREA)
	EX. MINOR CONTOUR		REMOVE TREE (INDIVIDUAL)
	CONSTRUCTION LIMIT		INLET PROTECTION
	DRAINAGE & UTILITY EASEMENT		TREE SAVE FENCE
	RIGHT OF WAY LINE		EROSION CONTROL LOG
	SECTION LINE		SILT FENCE

NOTE:

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EROSION CONTROL SUMMARY: STA. 13+50 TO 20+50

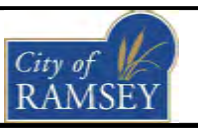
SILT FENCE	1503 LF
TREE SAVE FENCE	292 LF
ERO. CONTROL LOG	65 LF
INLET PROTECTION	2 EA
RANDOM RIP RAP CL. III	7 CY
ERO. BLANKET CAT. 20	591 SY
CONSTRUCTION EXIT	0 EA
PROJECT TOTAL	
SILT FENCE	5236 LF
TREE SAVE FENCE	1824 LF
ERO. CONTROL LOG	125 LF
INLET PROTECTION	10 EA
RANDOM RIP RAP CL. III	14 CY
ERO. BLANKET CAT. 20	7589 SY
CONSTRUCTION EXIT	3 EA

DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
3/24/23	MODIFY TRAIL ALIGNMENT

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Joe Feriancek
 JOE FERIANCEK
 Date 3/01/23 Lic. No. 57095

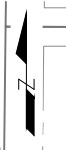
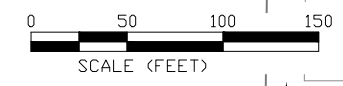
DESIGNED BY:	JJF
DRAWN BY:	JJF
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FILE:	23-01



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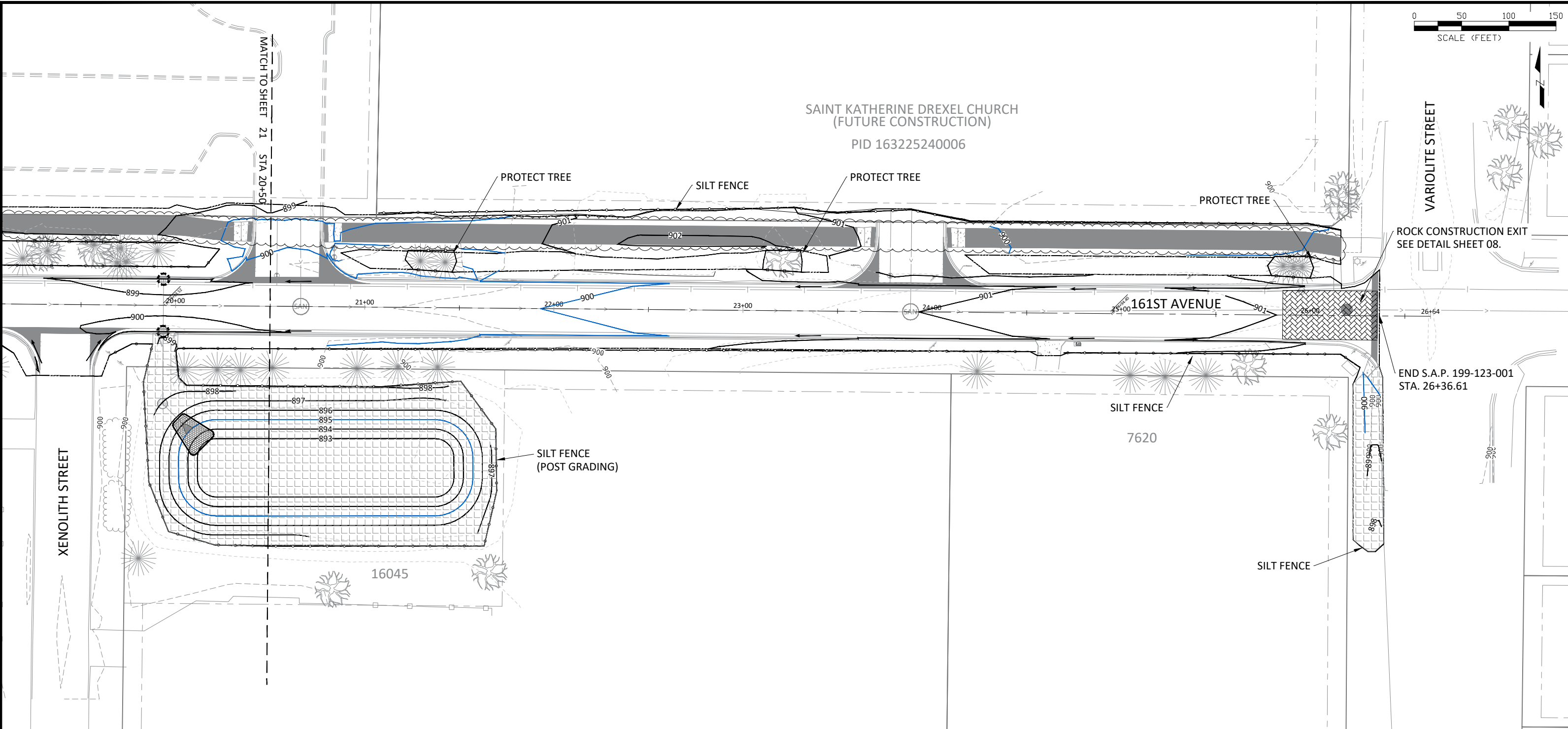
GRADING & EROSION CONTROL
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



SAINT KATHERINE DREXEL CHURCH
(FUTURE CONSTRUCTION)

PID 163225240006



LEGEND

	PR. MAJOR CONTOUR		ROCK CONSTRUCTION EXIT
	PR. MINOR CONTOUR		EROSION CONTROL BLANKET
	PR. DRAINAGE ARROW		RANDOM RIP RAP CLASS III
	EX. MAJOR CONTOUR		REMOVE TREE (AREA)
	EX. MINOR CONTOUR		REMOVE TREE (INDIVIDUAL)
	CONSTRUCTION LIMIT		INLET PROTECTION
	DRAINAGE & UTILITY EASEMENT		TREE SAVE FENCE
	RIGHT OF WAY LINE		EROSION CONTROL LOG
	SECTION LINE		SILT FENCE

NOTE:

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2. STORM SEWER INLET PROTECTION IS TO BE INSTALLED IMMEDIATELY FOLLOWING CASTING INSTALLATION. FOR EXISTING INLETS, MUST BE INSTALLED PRIOR TO ANY REMOVAL ACTIVITIES. INLET PROTECTION MUST BE MAINTAINED UNTIL BITUMINOUS WEAR COURSE IS IN-PLACE.
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EROSION CONTROL SUMMARY: STA. 20+50 TO 26+36.61

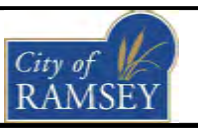
SILT FENCE	1105 LF
TREE SAVE FENCE	193 LF
ERO. CONTROL LOG	0 LF
INLET PROTECTION	0 EA
RANDOM RIP RAP CL. III	0 CY
ERO. BLANKET CAT. 20	1260 SY
CONSTRUCTION EXIT	1 EA
PROJECT TOTAL	
SILT FENCE	5236 LF
TREE SAVE FENCE	1824 LF
ERO. CONTROL LOG	125 LF
INLET PROTECTION	10 EA
RANDOM RIP RAP CL. III	14 CY
ERO. BLANKET CAT. 20	7589 SY
CONSTRUCTION EXIT	3 EA

DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
3/24/23	MODIFY TRAIL ALIGNMENT

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

JOE FERIANCEK
Date 3/01/23 Lic. No. 57095

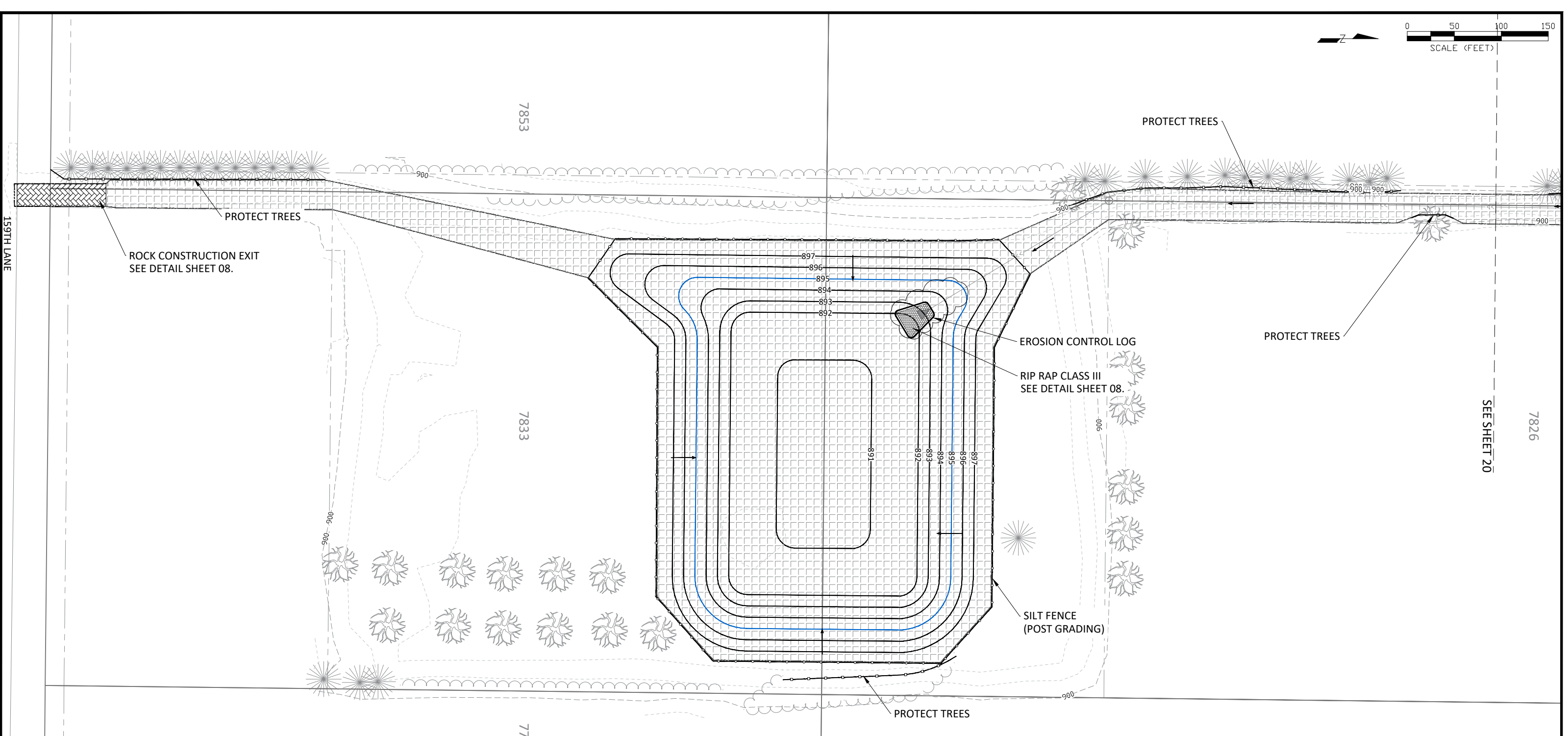
DESIGNED BY:	JJF
DRAWN BY:	JJF
CHECKED BY:	JJF
DATE:	2/28/23
FILE:	23-01



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

GRADING & EROSION CONTROL
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



LEGEND

	PR. MAJOR CONTOUR		ROCK CONSTRUCTION EXIT
	PR. MINOR CONTOUR		EROSION CONTROL BLANKET
	PR. DRAINAGE ARROW		RANDOM RIP RAP CLASS III
	EX. MAJOR CONTOUR		REMOVE TREE (AREA)
	EX. MINOR CONTOUR		REMOVE TREE (INDIVIDUAL)
	CONSTRUCTION LIMIT		INLET PROTECTION
	DRAINAGE & UTILITY EASEMENT		TREE SAVE FENCE
	RIGHT OF WAY LINE		EROSION CONTROL LOG
	SECTION LINE		SILT FENCE

NOTE:

1. SILT FENCE AND TREE SAVE FENCING MUST BE INSTALLED BEFORE ANY OTHER ACTIVITIES ON-SITE. WHERE USED FOR LONGITUDINAL PROTECTION, EROSION CONTROL LOG MUST BE INSTALLED PRIOR TO ANY REMOVAL ACTIVITIES.
2. STORM SEWER INLET PROTECTION IS TO BE INSTALLED IMMEDIATELY FOLLOWING CASTING INSTALLATION. FOR EXISTING INLETS, MUST BE INSTALLED PRIOR TO ANY REMOVAL ACTIVITIES. INLET PROTECTION MUST BE MAINTAINED UNTIL BITUMINOUS WEAR COURSE IS IN-PLACE.
3. CULVERT INLET PROTECTION INCLUDES SURROUNDING CULVERT WITH EROSION CONTROL LOG TO PREVENT SEDIMENT FROM ENTERING CULVERT. THIS WILL BE PAID FOR PER LINEAL FOOT. FOR NEW CULVERTS EROSION CONTROL LOG MUST BE INSTALLED IMMEDIATELY FOLLOWING GRADING ACTIVITIES. EROSION CONTROL LOG MUST BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED.

EROSION CONTROL SUMMARY: PONDING AREA

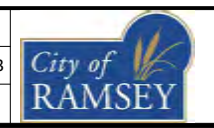
SILT FENCE	827 LF
TREE SAVE FENCE	447 LF
ERO. CONTROL LOG	60 LF
INLET PROTECTION	0 EA
RANDOM RIP RAP CL.III	13 CY
ERO. BLANKET CAT. 20	5542 SY
CONSTRUCTION EXIT	1 EA
PROJECT TOTAL	
SILT FENCE	5236 LF
TREE SAVE FENCE	1824 LF
ERO. CONTROL LOG	125 LF
INLET PROTECTION	10 EA
RANDOM RIP RAP CL. III	20 CY
ERO. BLANKET CAT. 20	7589 SY
CONSTRUCTION EXIT	3 EA

DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM

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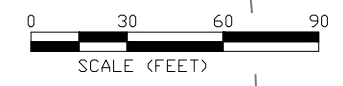
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161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



157TH AVENUE

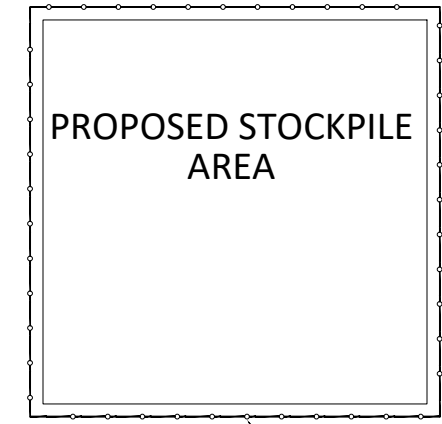
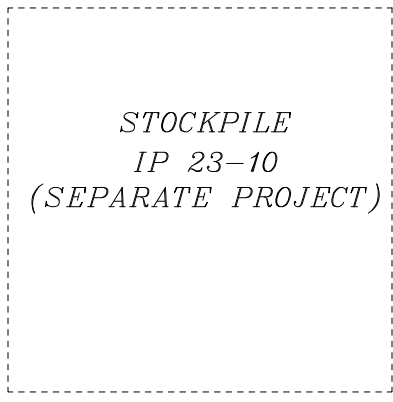
7610

VARIOLITE STREET

15650

TRAPROCK COMMONS PARK

15700



SILT FENCE
SURROUND STOCKPILE
MATERIAL WITH SILT FENCE
AFTER STOCKPILING

LEGEND

	PR. MAJOR CONTOUR		ROCK CONSTRUCTION EXIT
	PR. MINOR CONTOUR		EROSION CONTROL BLANKET
	PR. DRAINAGE ARROW		RANDOM RIP RAP CLASS III
	EX. MAJOR CONTOUR		REMOVE TREE (AREA)
	EX. MINOR CONTOUR		REMOVE TREE (INDIVIDUAL)
	CONSTRUCTION LIMIT		INLET PROTECTION
	DRAINAGE & UTILITY EASEMENT		TREE SAVE FENCE
	RIGHT OF WAY LINE		EROSION CONTROL LOG
	SECTION LINE		SILT FENCE

NOTE:

1. SILT FENCE AND TREE SAVE FENCING MUST BE INSTALLED BEFORE ANY OTHER ACTIVITIES ON-SITE. WHERE USED FOR LONGITUDINAL PROTECTION, EROSION CONTROL LOG MUST BE INSTALLED PRIOR TO ANY REMOVAL ACTIVITIES.
2. STORM SEWER INLET PROTECTION IS TO BE INSTALLED IMMEDIATELY FOLLOWING CASTING INSTALLATION. FOR EXISTING INLETS, MUST BE INSTALLED PRIOR TO ANY REMOVAL ACTIVITIES. INLET PROTECTION MUST BE MAINTAINED UNTIL BITUMINOUS WEAR COURSE IS IN-PLACE.
3. CULVERT INLET PROTECTION INCLUDES SURROUNDING CULVERT WITH EROSION CONTROL LOG TO PREVENT SEDIMENT FROM ENTERING CULVERT. THIS WILL BE PAID FOR PER LINEAL FOOT. FOR NEW CULVERTS EROSION CONTROL LOG MUST BE INSTALLED IMMEDIATELY FOLLOWING GRADING ACTIVITIES. EROSION CONTROL LOG MUST BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED.

EROSION CONTROL SUMMARY: STA. STOCKPILE LOCATION

SILT FENCE	500 LF (DEPENDANT UPON FINAL STOCKPILE DIMENSION)
TREE SAVE FENCE	0 LF
ERO. CONTROL LOG	0 LF
INLET PROTECTION	0 EA
RANDOM RIP RAP CL. III	0 CY
ERO. BLANKET CAT. 20	0 SY
CONSTRUCTION EXIT	0 EA

PROJECT TOTAL

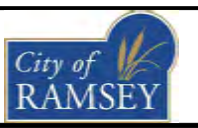
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ERO. CONTROL LOG	125 LF
INLET PROTECTION	10 EA
RANDOM RIP RAP CL. III	14 CY
ERO. BLANKET CAT. 20	7589 SY
CONSTRUCTION EXIT	3 EA

DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM

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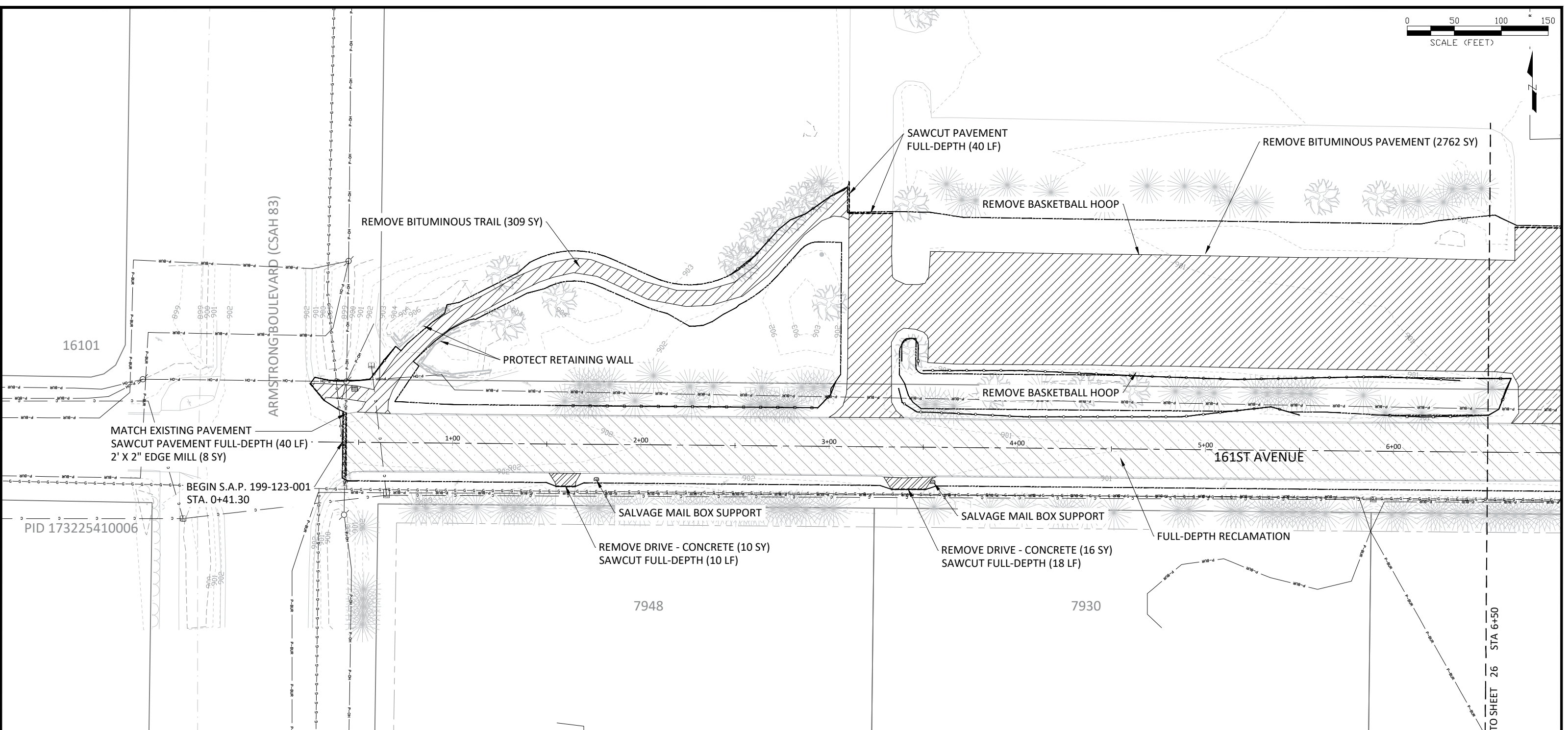
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DRAWN BY:	JJF	FILE:	23-01
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CITY OF RAMSEY
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GRADING & EROSION CONTROL
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



LEGEND

	RECLAMATION - FULL DEPTH		TREE LINE
	REMOVE PAVEMENT - BITUMINOUS		REMOVE TREE (INDIVIDUAL)
	REMOVE PAVEMENT - CONCRETE		SALVAGE MAIL BOX SUPPORT
	MILL BITUMINOUS PAVEMENT - STREET TIE-IN		OVERHEAD POWER LINE
	TREE SAVE FENCE		BURIED POWER LINE
	SILT FENCE		FIBER OPTIC LINE
	SAWCUT PAVEMENT - FULL DEPTH		COMMUNICATION LINE
	CONSTRUCTION LIMITS		GAS LINE
	DRAINAGE & UTILITY EASEMENT LINE		MAJOR CONTOUR
	RIGHT OF WAY LINE		MINOR CONTOUR
	SECTION LINE		

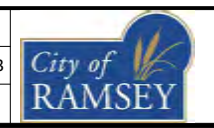
NOTE:
 1. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
 2. PROTECT LANDSCAPING AND IRRIGATION. PROPERTY OWNERS ARE TO LOCATE AND MOVE IRRIGATION BEFORE CONSTRUCTION.

DATE	REVISION
3/16/23	FIXED TYPO

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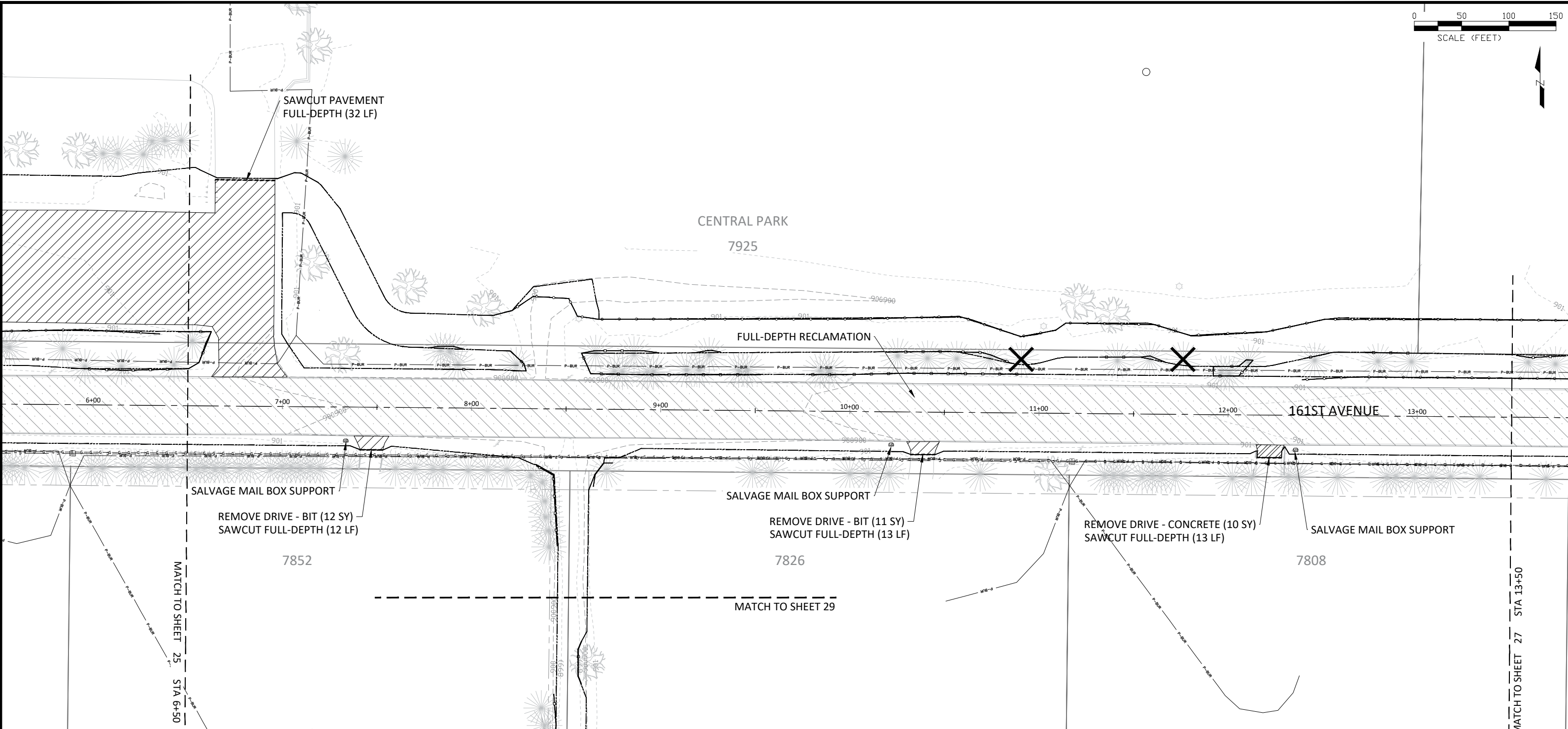
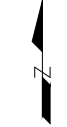
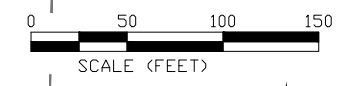
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EXISTING CONDITIONS & REMOVALS
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



LEGEND	
	RECLAMATION - FULL DEPTH
	REMOVE PAVEMENT - BITUMINOUS
	REMOVE PAVEMENT - CONCRETE
	MILL BITUMINOUS PAVEMENT - STREET TIE-IN
	TREE SAVE FENCE
	SILT FENCE
	SAWCUT PAVEMENT - FULL DEPTH
	CONSTRUCTION LIMITS
	DRAINAGE & UTILITY EASEMENT LINE
	RIGHT OF WAY LINE
	SECTION LINE
	TREE LINE
	REMOVE TREE (INDIVIDUAL)
	SALVAGE MAIL BOX SUPPORT
	OVERHEAD POWER LINE
	BURIED POWER LINE
	FIBER OPTIC LINE
	COMMUNICATION LINE
	GAS LINE
	MAJOR CONTOUR
	MINOR CONTOUR

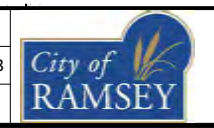
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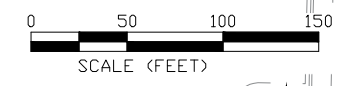
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161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



PACT CHARTER HIGH SCHOOL
(UNDER CONSTRUCTION)
7729

FULL-DEPTH RECLAMATION

161ST AVENUE

REMOVE DRIVE - BIT (17 SY)
SAWCUT FULL-DEPTH (18 LF)

REMOVE DRIVE - CONCRETE (13 SY)
SAWCUT FULL-DEPTH (16 LF)
7738

SALVAGE MAIL BOX SUPPORT

SALVAGE MAIL BOX SUPPORT
REMOVE DRIVE - CONCRETE (9 SY)
SAWCUT FULL-DEPTH (10 LF)
7712

MATCH EXISTING PAVEMENT
SAWCUT PAVEMENT FULL-DEPTH (31 LF)
2' X 2" EDGE MILL (7 SY)

XENOLITH STREET

MATCH TO SHEET 26 STA 13+50

MATCH TO SHEET 28 STA 20+50

LEGEND

	RECLAMATION - FULL DEPTH		TREE LINE
	REMOVE PAVEMENT - BITUMINOUS		REMOVE TREE (INDIVIDUAL)
	REMOVE PAVEMENT - CONCRETE		SALVAGE MAIL BOX SUPPORT
	MILL BITUMINOUS PAVEMENT - STREET TIE-IN		OVERHEAD POWER LINE
	TREE SAVE FENCE		BURIED POWER LINE
	SILT FENCE		FIBER OPTIC LINE
	SAWCUT PAVEMENT - FULL DEPTH		COMMUNICATION LINE
	CONSTRUCTION LIMITS		GAS LINE
	DRAINAGE & UTILITY EASEMENT LINE		MAJOR CONTOUR
	RIGHT OF WAY LINE		MINOR CONTOUR
	SECTION LINE		

NOTE:

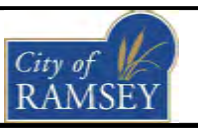
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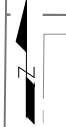
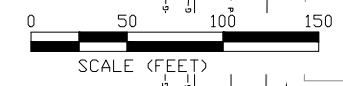
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CITY OF RAMSEY
7550 SUNWOOD DRIVE
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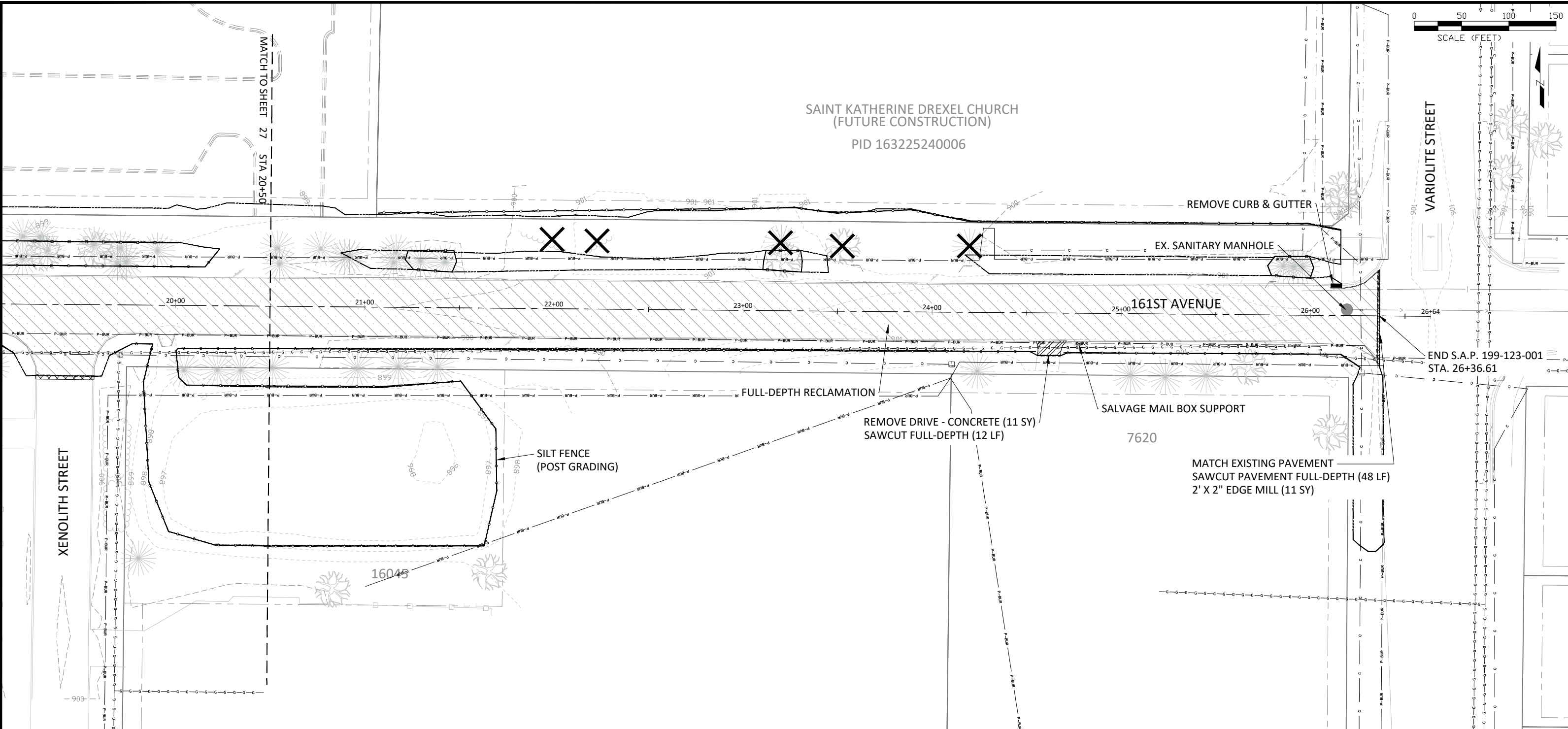
EXISTING CONDITIONS & REMOVALS
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



SAINT KATHERINE DREXEL CHURCH
(FUTURE CONSTRUCTION)

PID 163225240006



END S.A.P. 199-123-001
STA. 26+36.61

LEGEND

	RECLAMATION - FULL DEPTH		TREE LINE
	REMOVE PAVEMENT - BITUMINOUS		REMOVE TREE (INDIVIDUAL)
	REMOVE PAVEMENT - CONCRETE		SALVAGE MAIL BOX SUPPORT
	MILL BITUMINOUS PAVEMENT - STREET TIE-IN		OVERHEAD POWER LINE
	TREE SAVE FENCE		BURIED POWER LINE
	SILT FENCE		FIBER OPTIC LINE
	SAWCUT PAVEMENT - FULL DEPTH		COMMUNICATION LINE
	CONSTRUCTION LIMITS		GAS LINE
	DRAINAGE & UTILITY EASEMENT LINE		MAJOR CONTOUR
	RIGHT OF WAY LINE		MINOR CONTOUR
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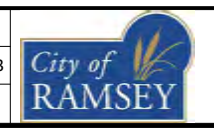
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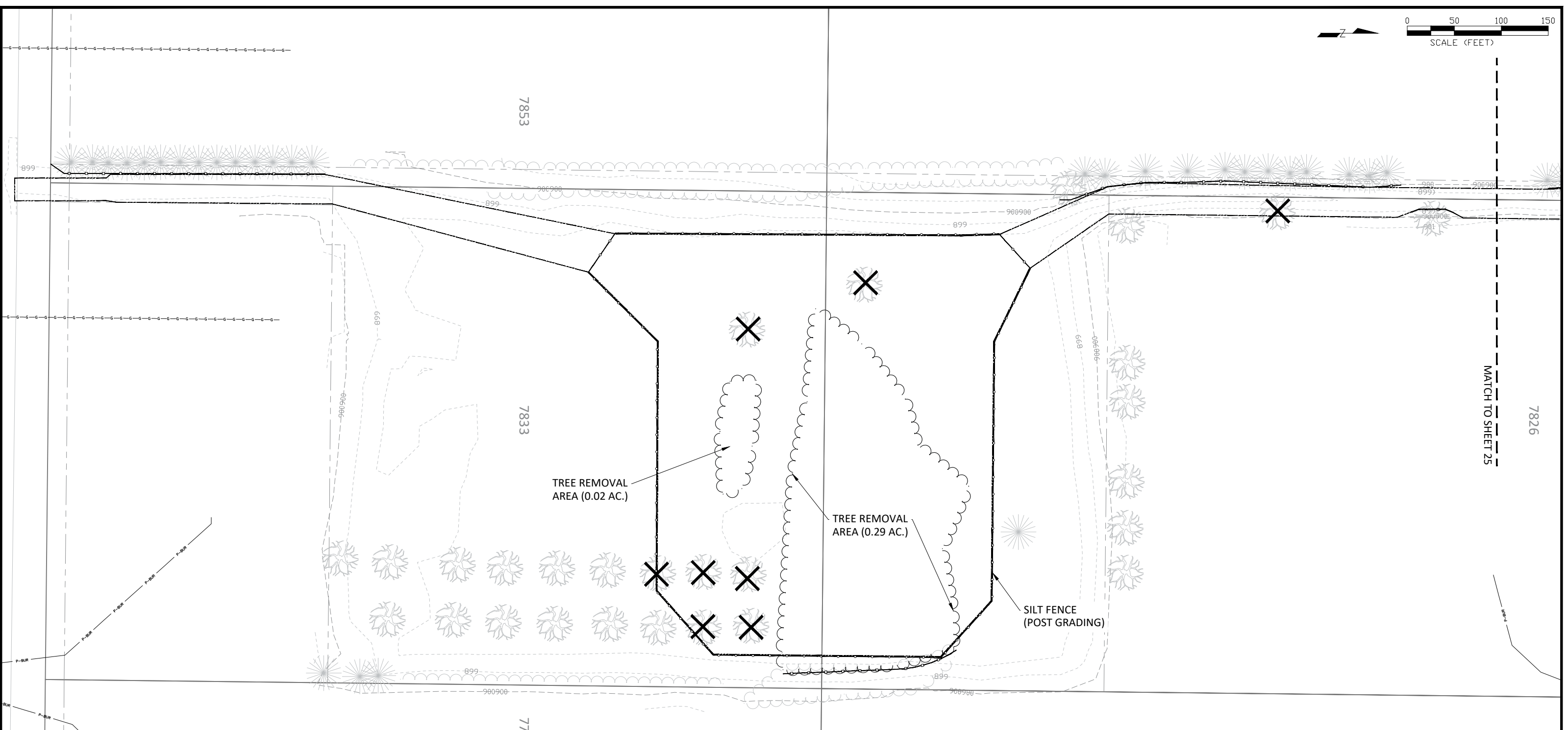
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EXISTING CONDITIONS & REMOVALS
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



LEGEND	
	RECLAMATION - FULL DEPTH
	REMOVE PAVEMENT - BITUMINOUS
	REMOVE PAVEMENT - CONCRETE
	MILL BITUMINOUS PAVEMENT - STREET TIE-IN
	TREE SAVE FENCE
	SILT FENCE
	SAWCUT PAVEMENT - FULL DEPTH
	CONSTRUCTION LIMITS
	DRAINAGE & UTILITY EASEMENT LINE
	RIGHT OF WAY LINE
	SECTION LINE
	TREE LINE
	REMOVE TREE (INDIVIDUAL)
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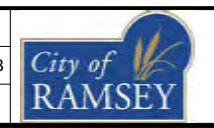
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DATE	REVISION
3/16/23	FIXED TYPO

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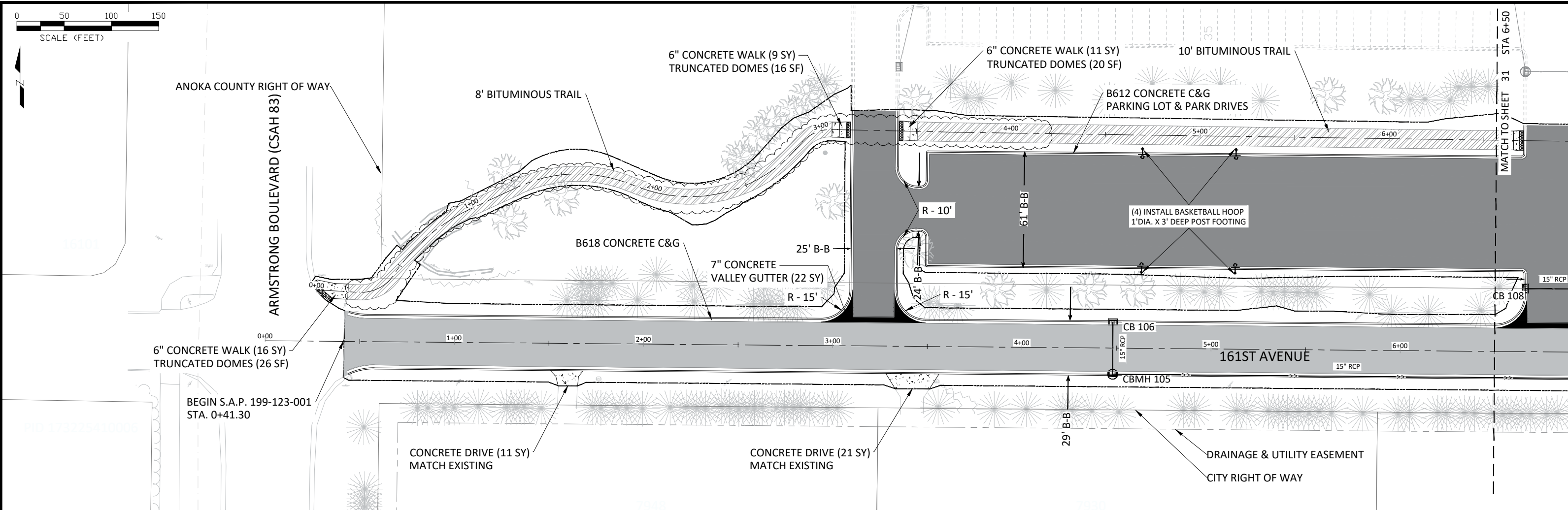
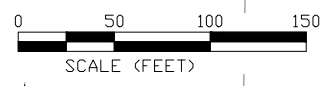
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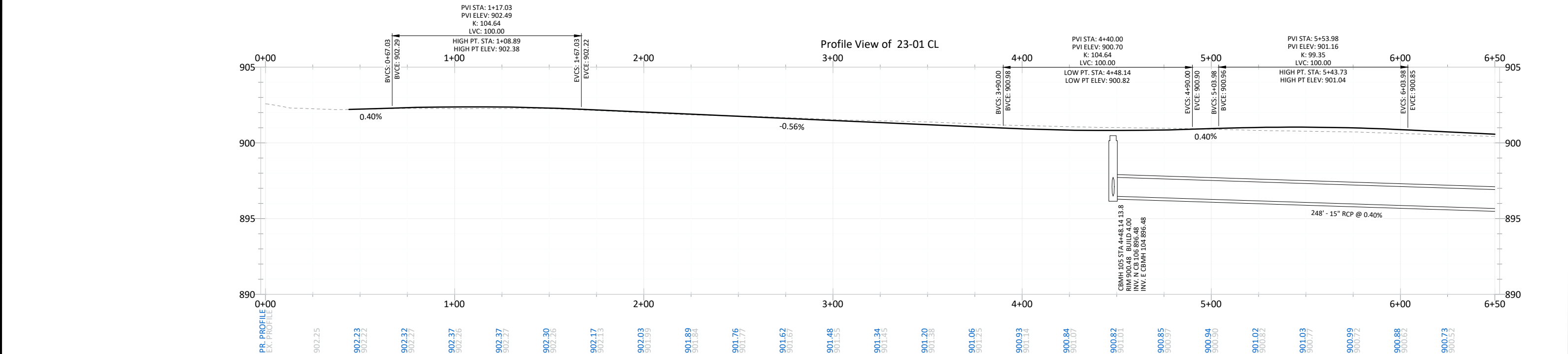
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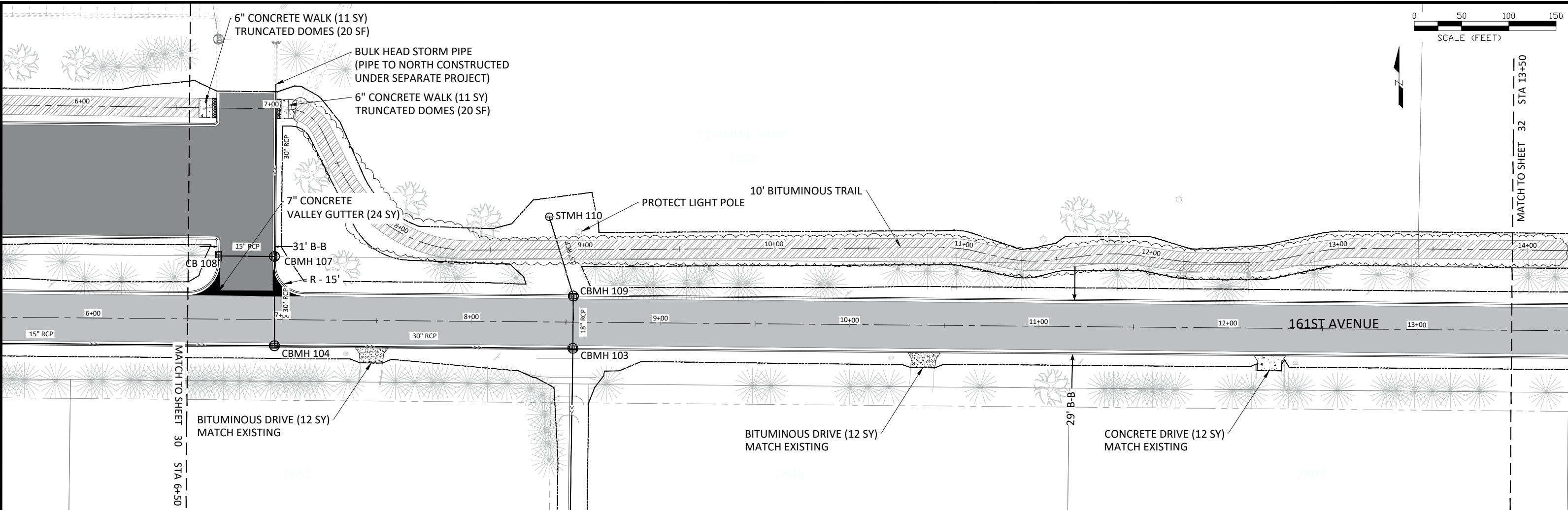
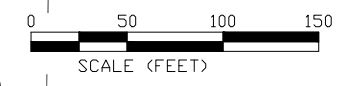
161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



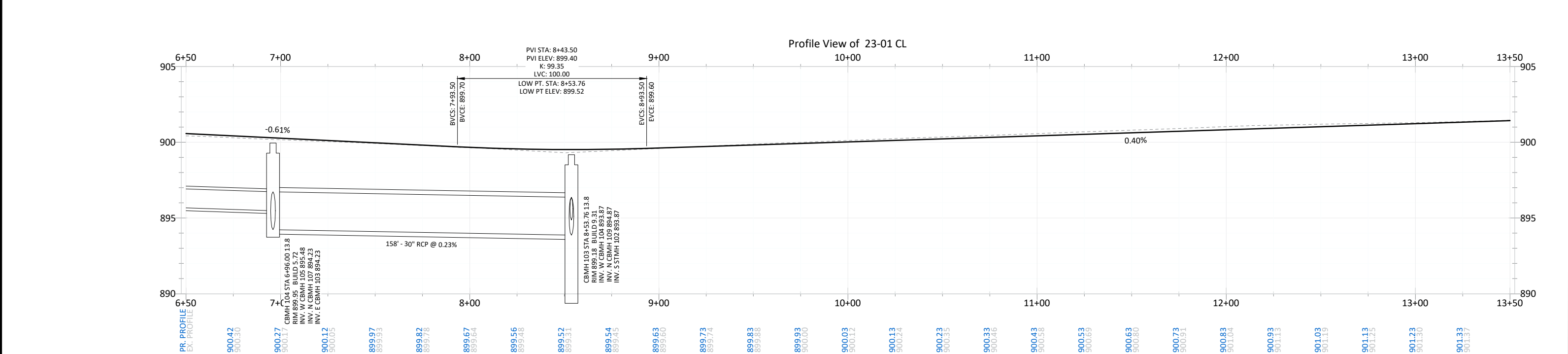
LEGEND		PR. BITUMINOUS PAVEMENT - ROADWAY		PR. B-STYLE CURB		SANITARY MANHOLE		PR. STORM SEWER		GENERAL NOTES: 1. ALL RADII TO BE CONSTRUCTED AT 20', UNLESS OTHERWISE NOTED. 2. TYPICAL SECTIONS SEE SHEET 09. 3. PEDESTRIAN RAMP DETAILS SEE SHEET 16. 4. MNDOT STANDARD PEDESTRIAN RAMP PLANS SHEETS 10 TO 15. 5. STORM SEWER LEADS SEE SHEET 34 - 35.
---	CONSTRUCTION LIMITS	[Pattern]	PR. BITUMINOUS PAVEMENT - PARKING LOT	[Pattern]	PR. DRIVE - CONCRETE	[Symbol]	HYDRANT	[Symbol]	PR. 2'X3' CATCH BASIN	
---	DRAINAGE & UTILITY EASEMENT LINE	[Pattern]	PR. BITUMINOUS PAVEMENT - TRAIL	[Pattern]	PR. 7" CONCRETE VALLEY GUTTER	[Symbol]	WATER VALVE	[Symbol]	PR. CATCH BASIN MANHOLE	
---	RIGHT OF WAY LINE	[Pattern]	PR. DRIVE - BITUMINOUS	[Pattern]	PR. 6" CONCRETE WALK	[Symbol]	WATERMAIN	[Symbol]	PR. STORM MANHOLE	
							SANITARY SEWER	[Symbol]	PR. FLARED END SECTION	



DATE: 3/16/23 REVISION: UPDATE STORM SEWER SYSTEM 3/24/23 MODIFY TRAIL ALIGNMENT	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: 3/01/23 Lic. No. 57095	DESIGNED BY: JJF DRAWN BY: JJF CHECKED BY: JJF	DATE: 2/28/23 FILE: 23-01	<p>CITY OF RAMSEY 7550 SUNWOOD DRIVE RAMSEY, MN 55303 (763) 427-1410 FAX (763) 433-9898</p>	<p>STREET & STORM SEWER S.A.P. 199-123-001</p>	<p>161ST AVENUE RECONSTRUCTION CITY PROJECT NO. 23-01 CITY OF RAMSEY, MINNESOTA</p>	<p>SHEET 30 OF 56 SHEETS</p>
---	--	--	------------------------------	--	---	--	------------------------------



LEGEND		PR. BITUMINOUS PAVEMENT - ROADWAY		PR. B-STYLE CURB		SANITARY MANHOLE		PR. STORM SEWER		GENERAL NOTES:	
---	CONSTRUCTION LIMITS	[Pattern]	PR. BITUMINOUS PAVEMENT - PARKING LOT	[Pattern]	PR. DRIVE - CONCRETE	[Symbol]	HYDRANT	[Symbol]	PR. 2'X3' CATCH BASIN	1. ALL RADII TO BE CONSTRUCTED AT 20', UNLESS OTHERWISE NOTED.	
---	DRAINAGE & UTILITY EASEMENT LINE	[Pattern]	PR. BITUMINOUS PAVEMENT - TRAIL	[Pattern]	PR. 7" CONCRETE VALLEY GUTTER	[Symbol]	WATER VALVE	[Symbol]	PR. CATCH BASIN MANHOLE	2. TYPICAL SECTIONS SEE SHEET 09.	
---	RIGHT OF WAY LINE	[Pattern]	PR. DRIVE - BITUMINOUS	[Pattern]	PR. 6" CONCRETE WALK	[Symbol]	WATERMAIN	[Symbol]	PR. STORM MANHOLE	3. PEDESTRIAN RAMP DETAILS SEE SHEET 16.	
							SANITARY SEWER	[Symbol]	PR. FLARED END SECTION	4. MNDOT STANDARD PEDESTRIAN RAMP PLANS SHEETS 10 TO 15.	
										5. STORM SEWER LEADS SEE SHEETS 34 - 35.	



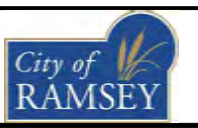
DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
3/24/23	MODIFY TRAIL ALIGNMENT

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 3/01/23 Lic. No. 57095

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

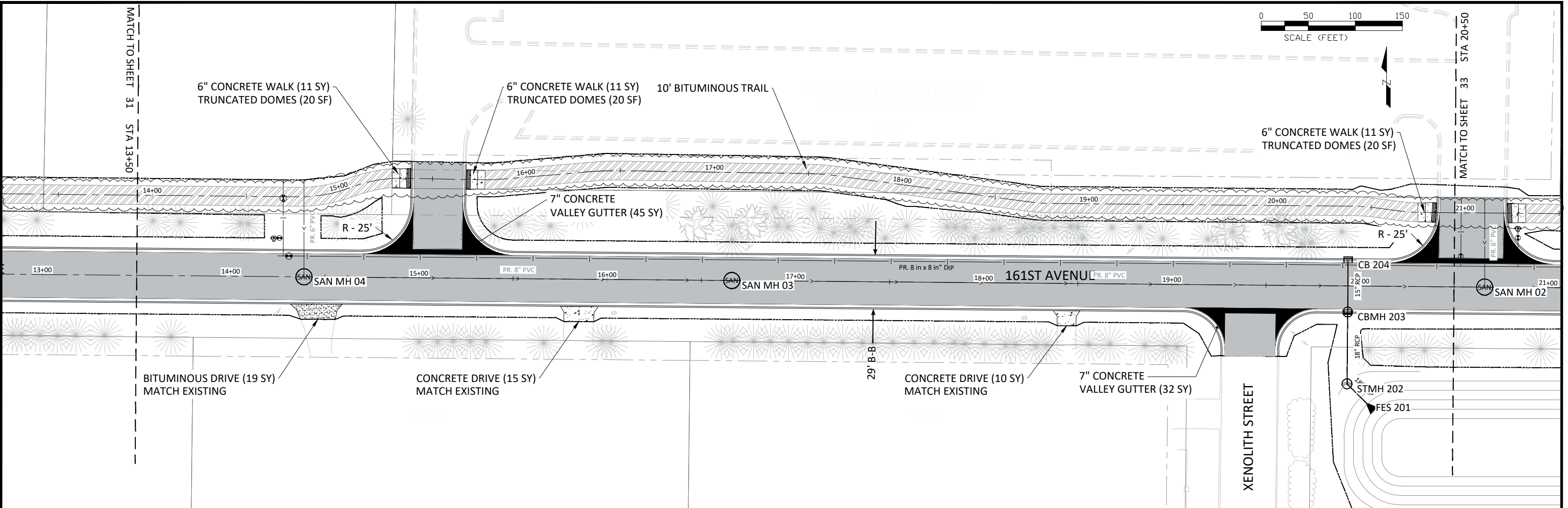
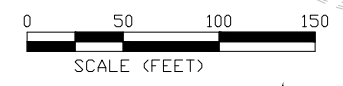
DATE: 2/28/23
 FILE: 23-01



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

STREET & STORM SEWER
 S.A.P. 199-123-001

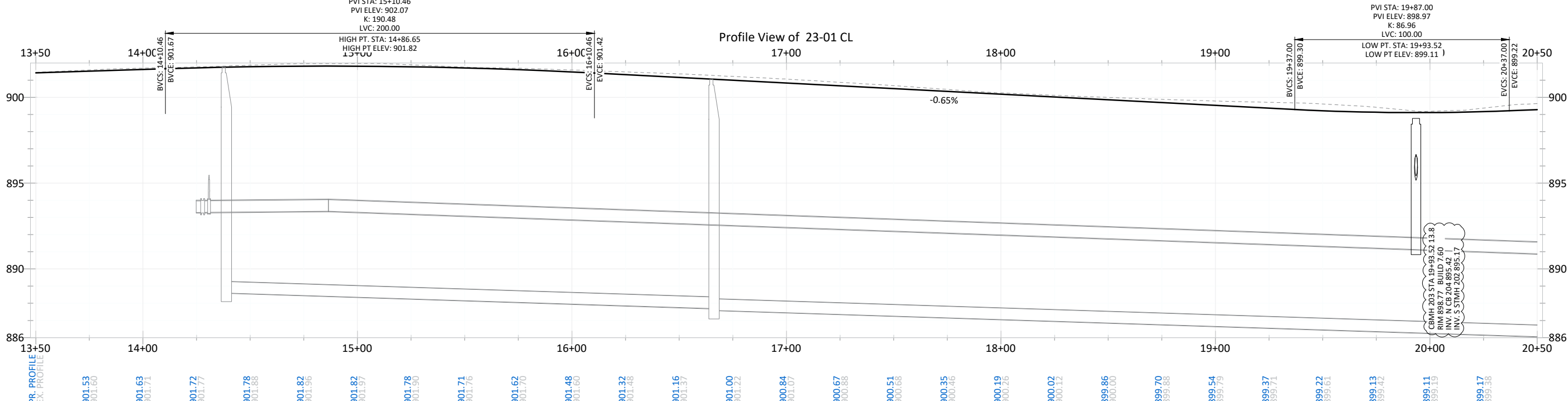
161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



LEGEND

- CONSTRUCTION LIMITS
- - - DRAINAGE & UTILITY EASEMENT LINE
- RIGHT OF WAY LINE
- [Pattern] PR. BITUMINOUS PAVEMENT - ROADWAY
- [Pattern] PR. BITUMINOUS PAVEMENT - PARKING LOT
- [Pattern] PR. BITUMINOUS PAVEMENT - TRAIL
- [Pattern] PR. DRIVE - BITUMINOUS
- [Pattern] PR. B-STYLE CURB
- [Pattern] PR. DRIVE - CONCRETE
- [Pattern] PR. 7" CONCRETE VALLEY GUTTER
- [Pattern] PR. 6" CONCRETE WALK
- [Symbol] SANITARY MANHOLE
- [Symbol] HYDRANT
- [Symbol] WATER VALVE
- [Symbol] WATERMAIN
- [Symbol] SANITARY SEWER
- [Symbol] PR. STORM SEWER
- [Symbol] PR. 2'X3' CATCH BASIN
- [Symbol] PR. CATCH BASIN MANHOLE
- [Symbol] PR. STORM MANHOLE
- [Symbol] PR. FLARED END SECTION

- GENERAL NOTES:**
1. ALL RADII TO BE CONSTRUCTED AT 20', UNLESS OTHERWISE NOTED.
 2. TYPICAL SECTIONS SEE SHEET 09.
 3. PEDESTRIAN RAMP DETAILS SEE SHEET 16.
 4. MNDOT STANDARD PEDESTRIAN RAMP PLANS SHEETS 10 TO 15.
 5. STORM SEWER LEADS SEE SHEETS 34 - 35.



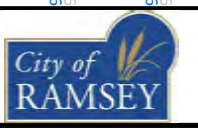
DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
3/24/23	MODIFY TRAIL ALIGNMENT

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Joe Feriancek
JOE FERIANCEK
Date 3/01/23 Lic. No. 57095

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

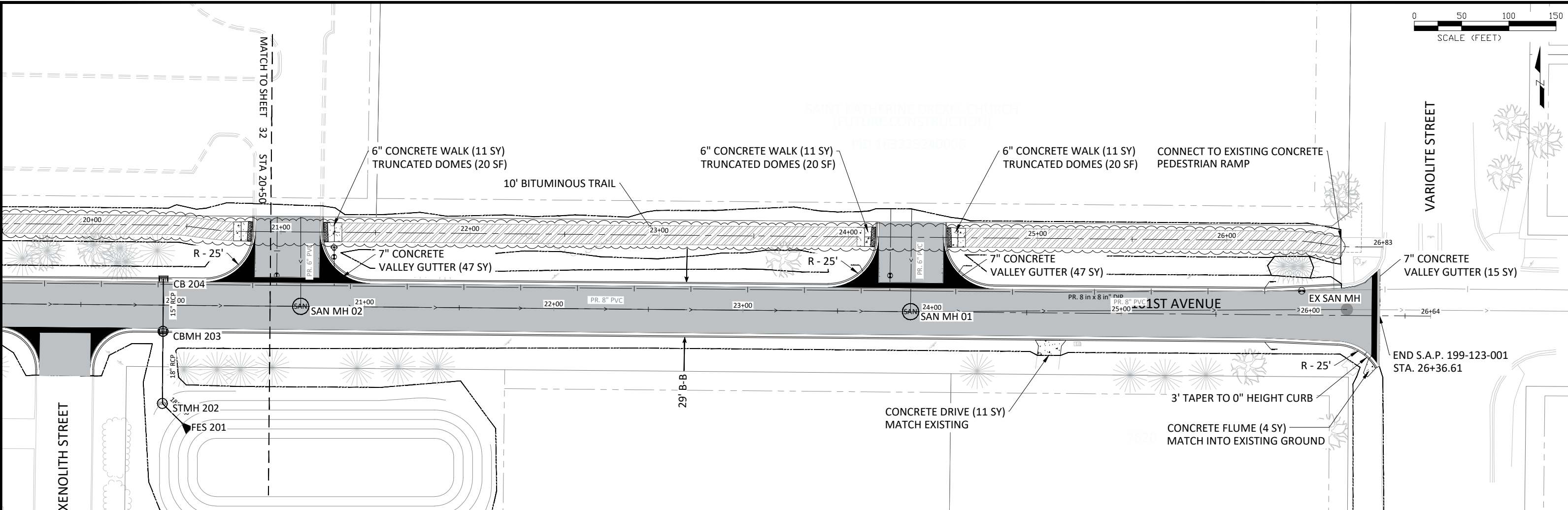
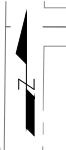
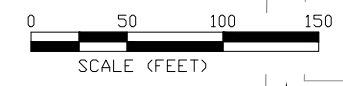
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FILE: 23-01



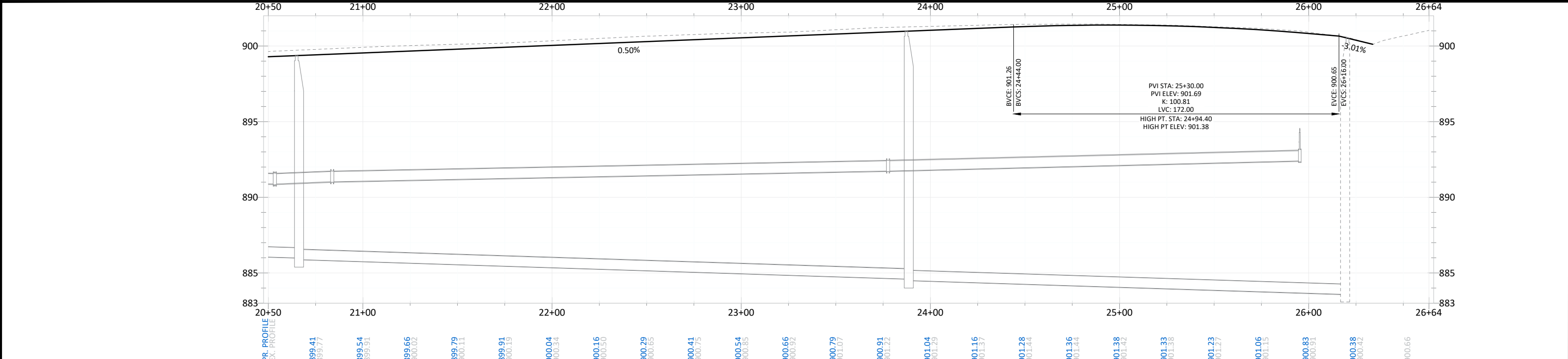
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STREET & STORM SEWER
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



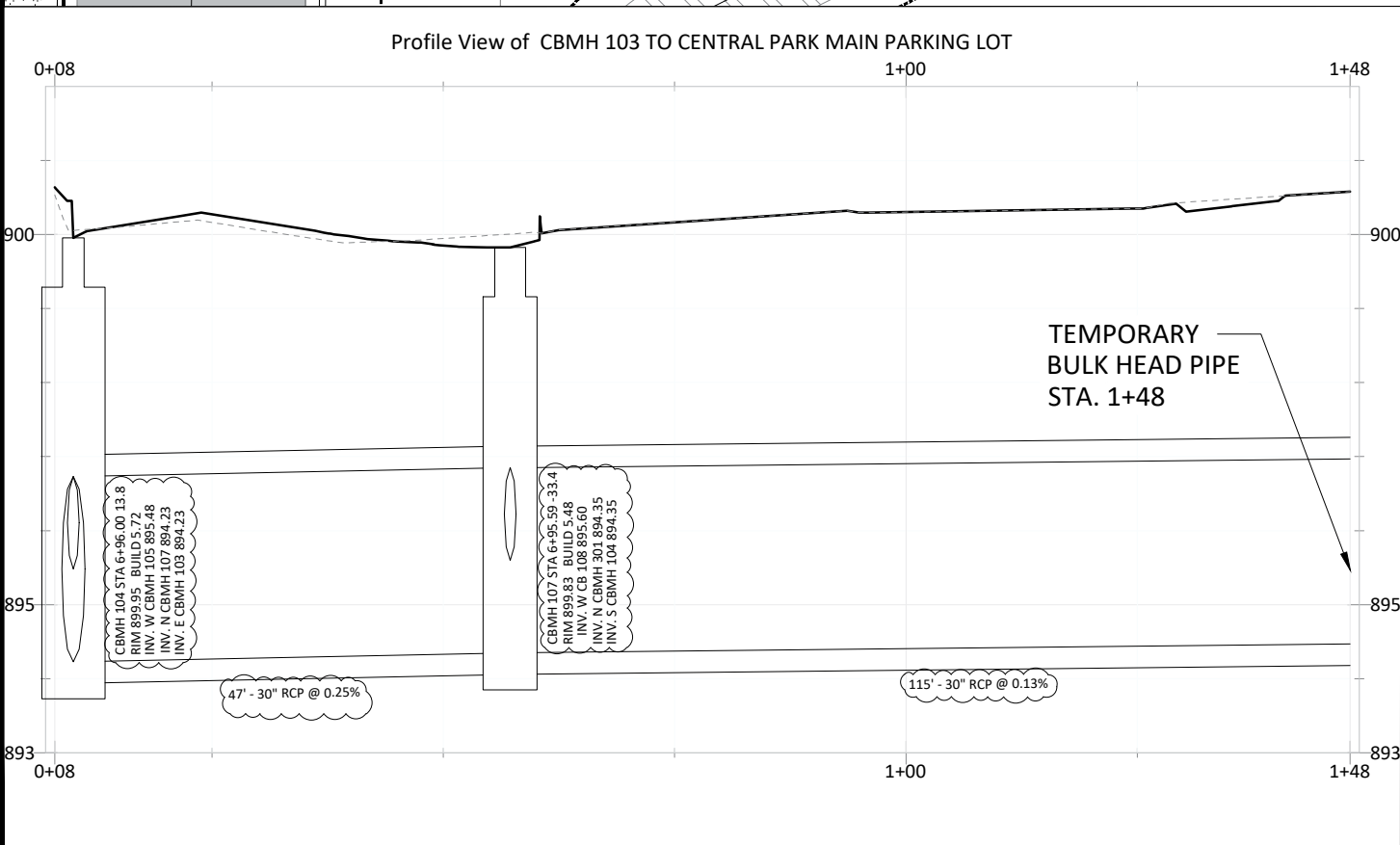
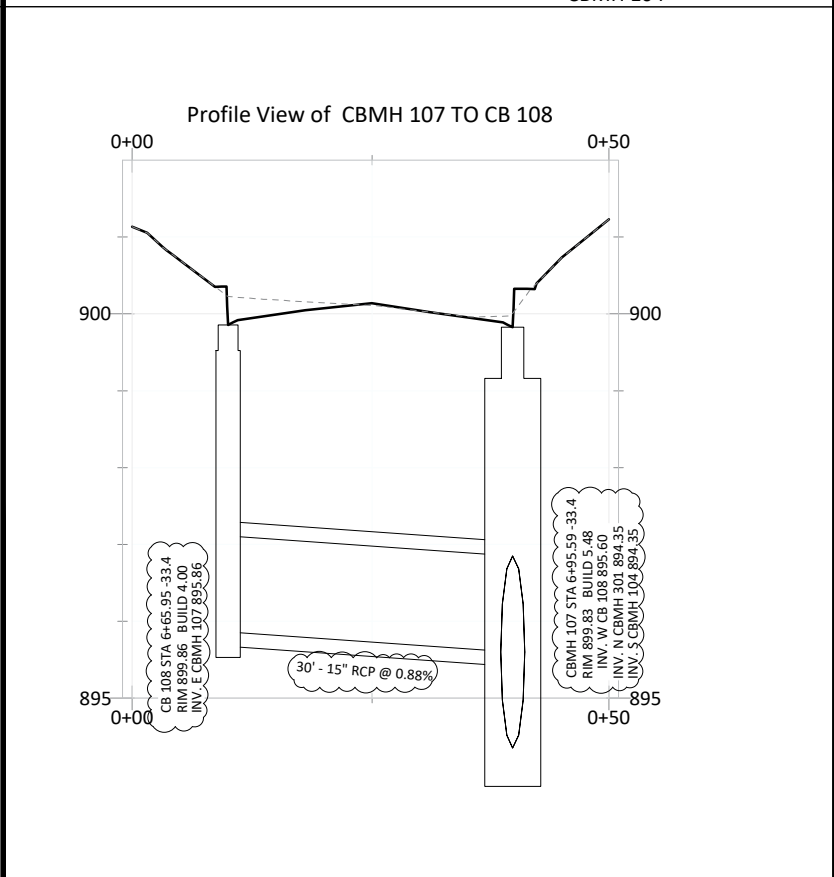
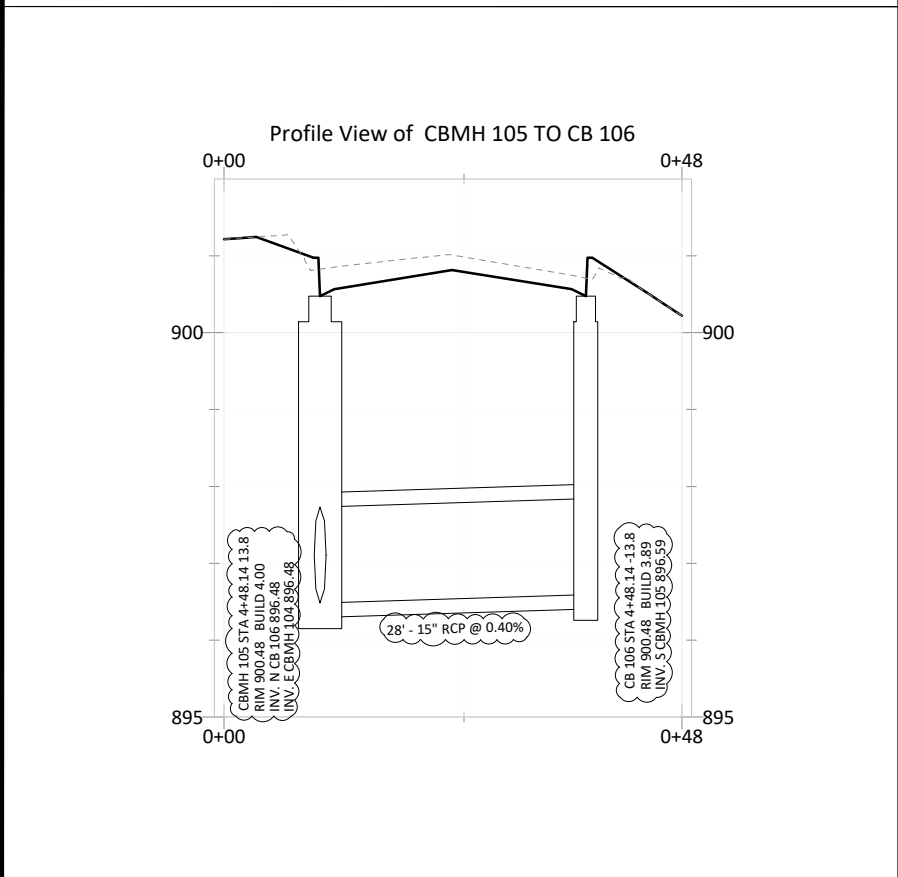
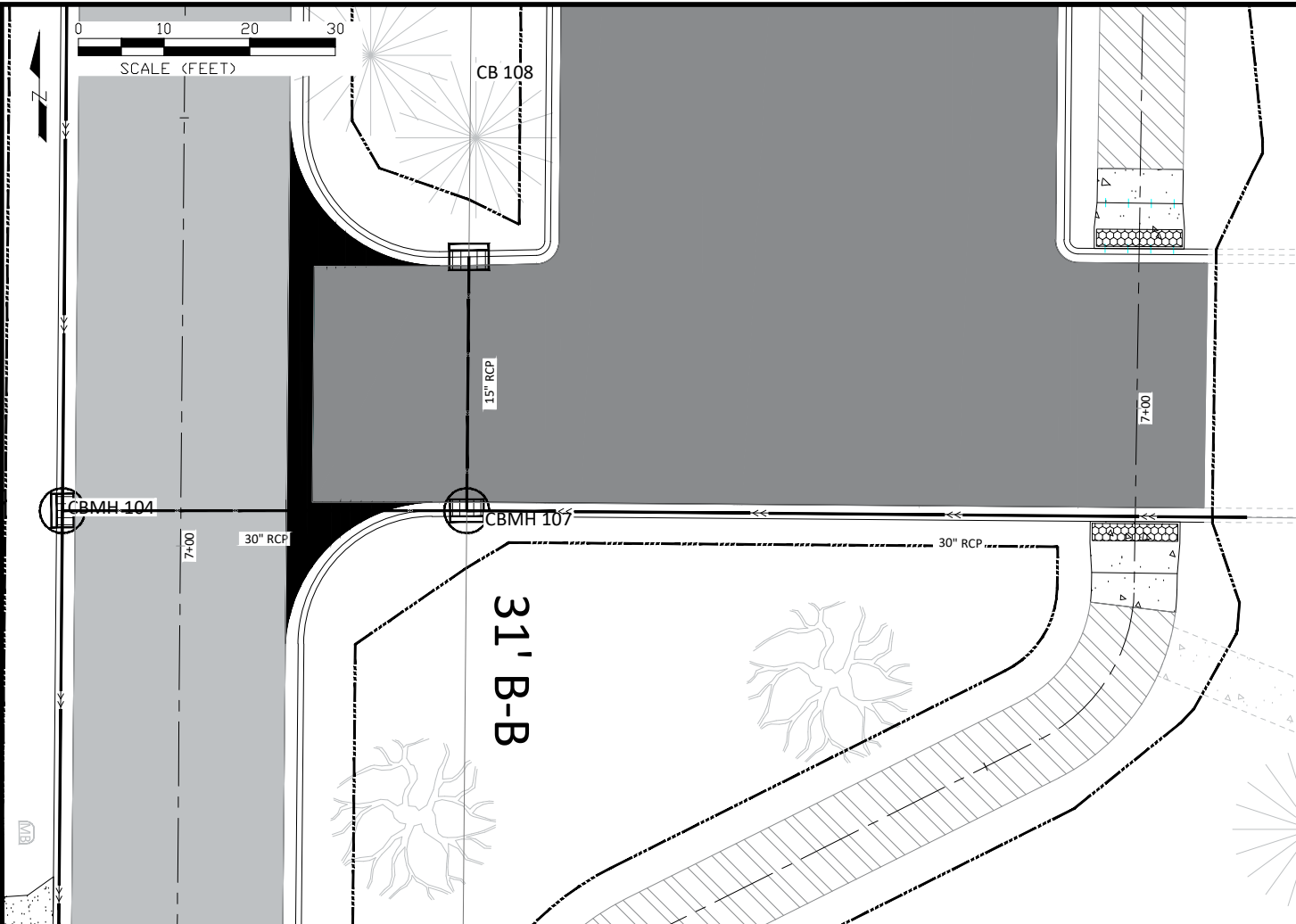
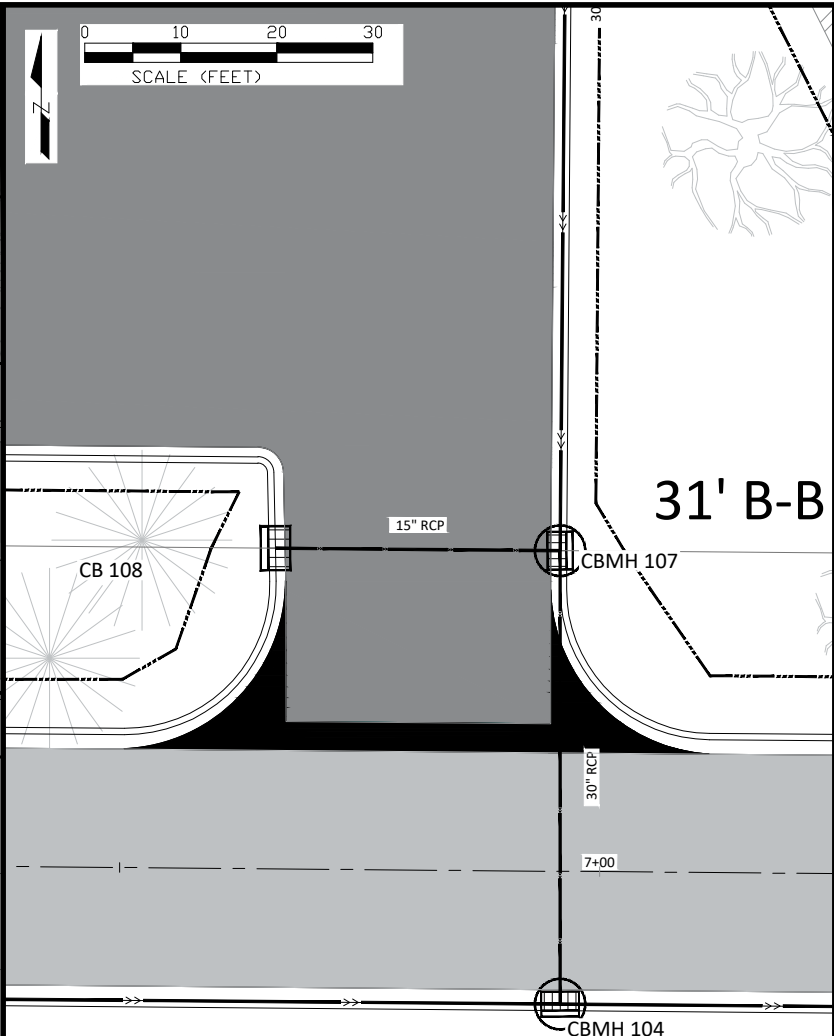
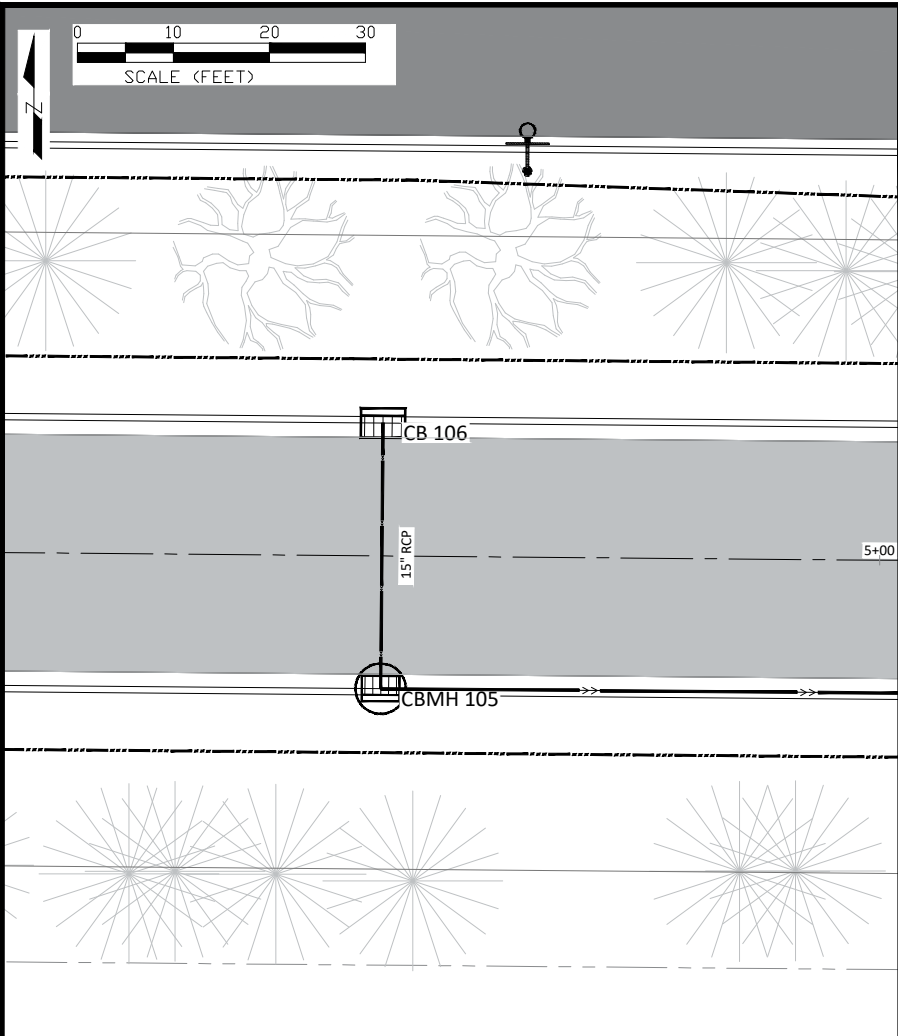
LEGEND		PR. BITUMINOUS PAVEMENT - ROADWAY		PR. B-STYLE CURB		SANITARY MANHOLE		PR. STORM SEWER		GENERAL NOTES:	
---	CONSTRUCTION LIMITS	[Pattern]	PR. BITUMINOUS PAVEMENT - PARKING LOT	[Pattern]	PR. DRIVE - CONCRETE	[Symbol]	HYDRANT	[Symbol]	PR. 2'X3' CATCH BASIN	1. ALL RADII TO BE CONSTRUCTED AT 20', UNLESS OTHERWISE NOTED.	2. TYPICAL SECTIONS SEE SHEET 09. 3. PEDESTRIAN RAMP DETAILS SEE SHEET 16. 4. MNDOT STANDARD PEDESTRIAN RAMP PLANS SHEETS 10 TO 15. 5. STORM SEWER LEADS SEE SHEETS 34 - 35.
---	DRAINAGE & UTILITY EASEMENT LINE	[Pattern]	PR. BITUMINOUS PAVEMENT - TRAIL	[Pattern]	PR. 7" CONCRETE VALLEY GUTTER	[Symbol]	WATER VALVE	[Symbol]	PR. CATCH BASIN MANHOLE		
---	RIGHT OF WAY LINE	[Pattern]	PR. DRIVE - BITUMINOUS	[Pattern]	PR. 6" CONCRETE WALK	[Symbol]	WATERMAIN	[Symbol]	PR. STORM MANHOLE		
[Symbol]		[Symbol]		[Symbol]		[Symbol]	SANITARY SEWER	[Symbol]	PR. FLARED END SECTION		
[Symbol]		[Symbol]		[Symbol]		[Symbol]		[Symbol]			



DATE: 3/24/23	REVISION: UPDATE BITUMINOUS TRAIL ALIGNMENT	DESIGNED BY: JJF	DRAWN BY: JJF	CHECKED BY: JJF	DATE: 2/28/23	FILE: 23-01	CITY OF RAMSEY 7550 SUNWOOD DRIVE RAMSEY, MN 55303 (763) 427-1410 FAX (763) 433-9898	STREET & STORM SEWER S.A.P. 199-123-001	161ST AVENUE RECONSTRUCTION CITY PROJECT NO. 23-01 CITY OF RAMSEY, MINNESOTA	SHEET 33 OF 56 SHEETS
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JOE FERIANECK
Date 3/01/23 Lic. No. 57095



DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM

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Joe Feriancek
 JOE FERIANCEK
 Date 3/01/23 Lic. No. 57095

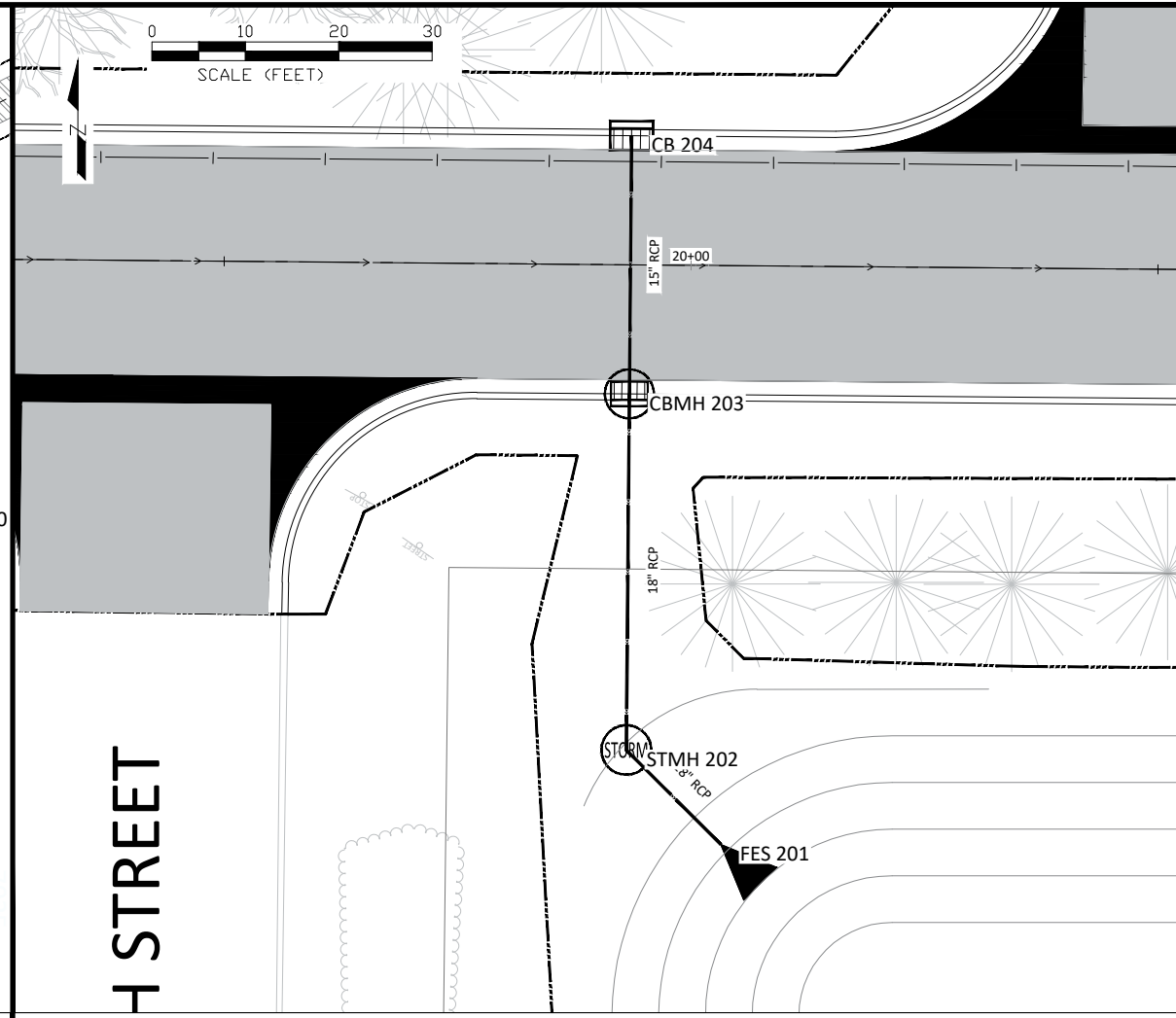
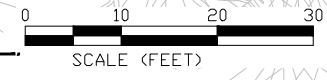
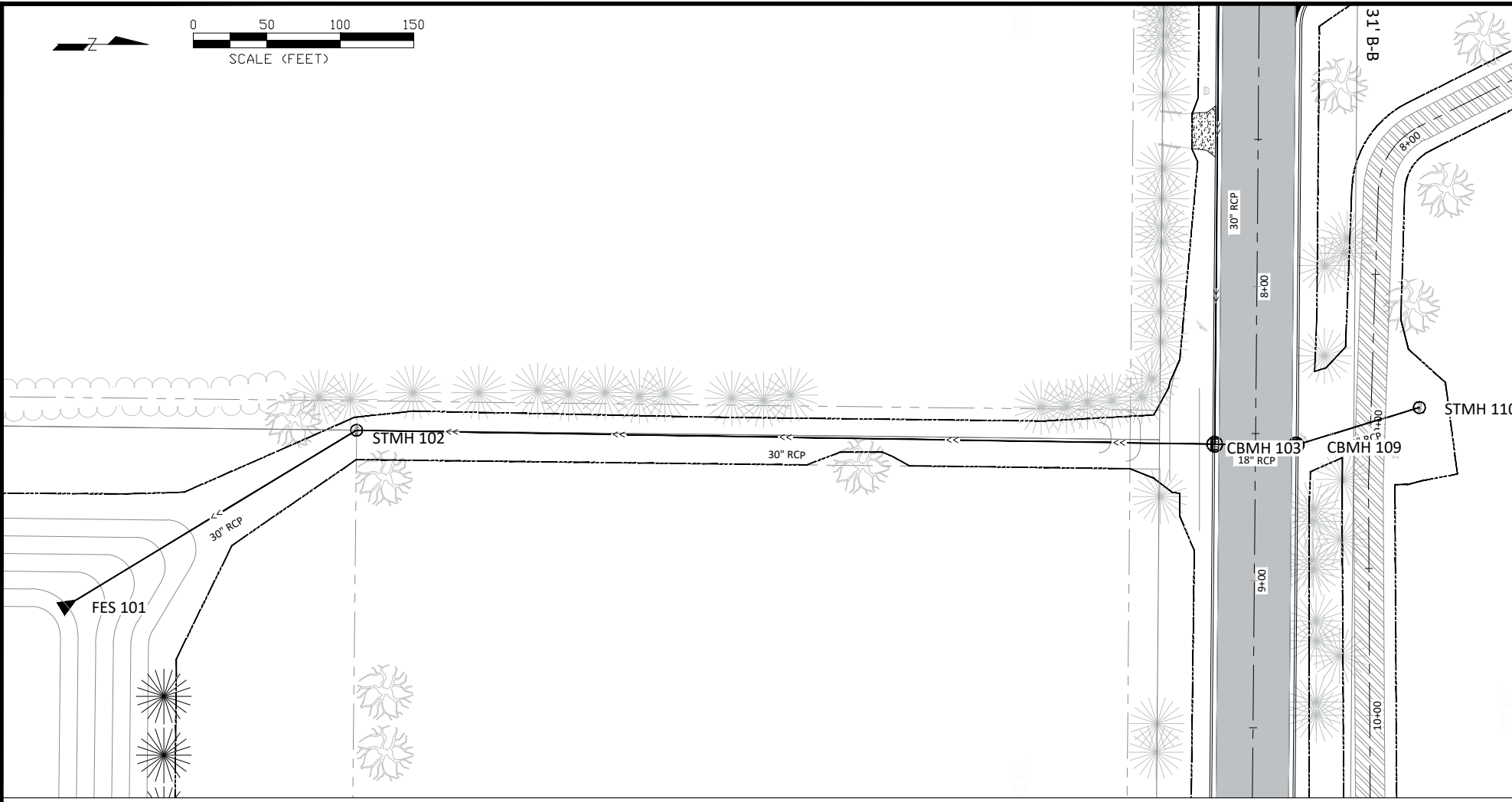
DESIGNED BY: JJF
 DRAWN BY: JJF
 CHECKED BY: JJF

DATE: 2/28/23
 FILE: 23-01

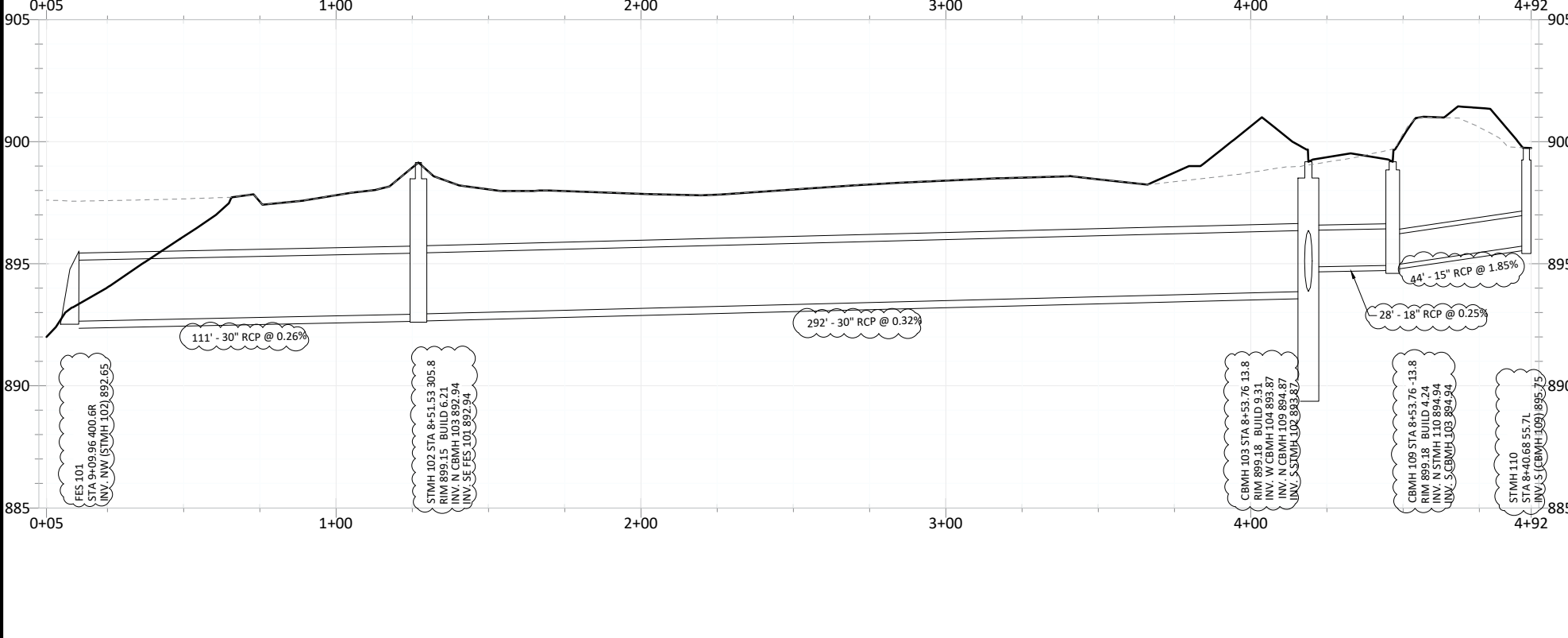
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 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

STORM SEWER LEADS
 S.A.P. 199-123-001

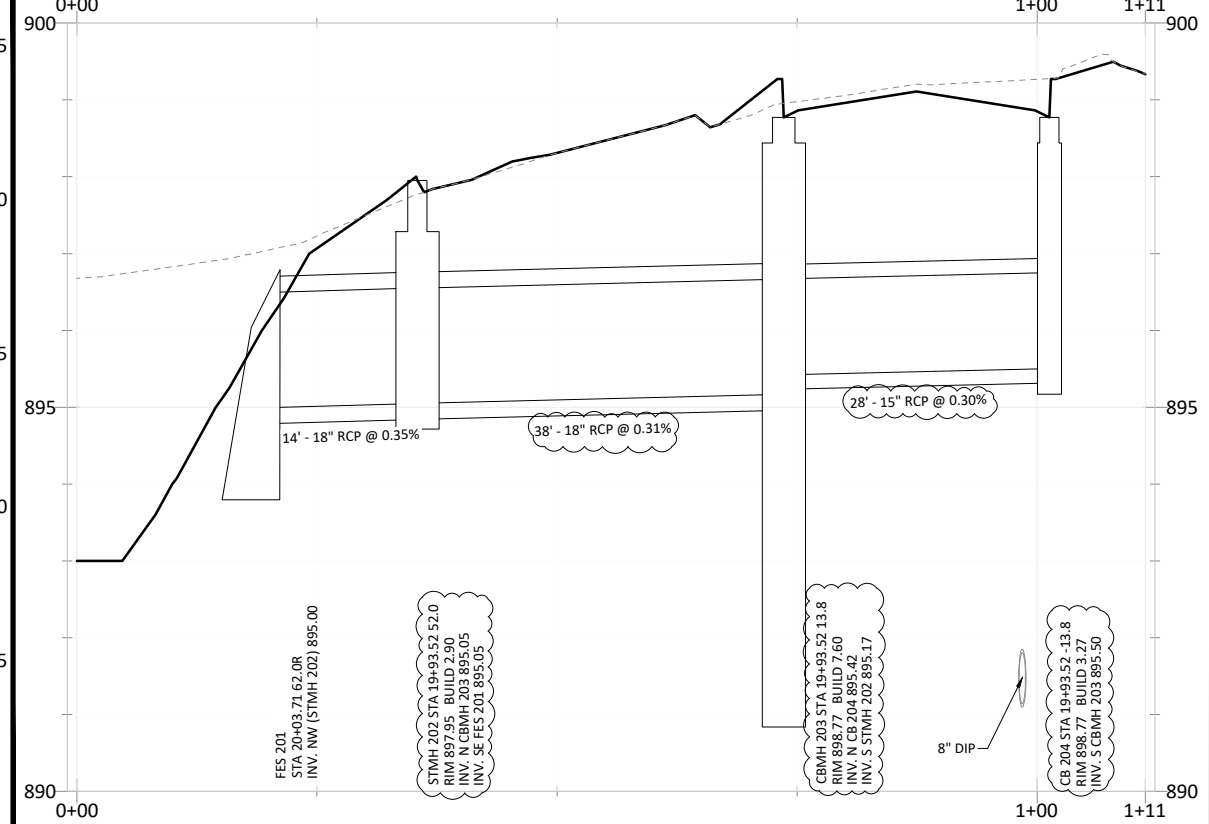
161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



Profile View of FES 101 TO STMH 110



Profile View of FES 201 TO CB 204



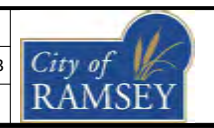
DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM

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 DRAWN BY: JJF
 CHECKED BY: JJF

DATE: 2/28/23
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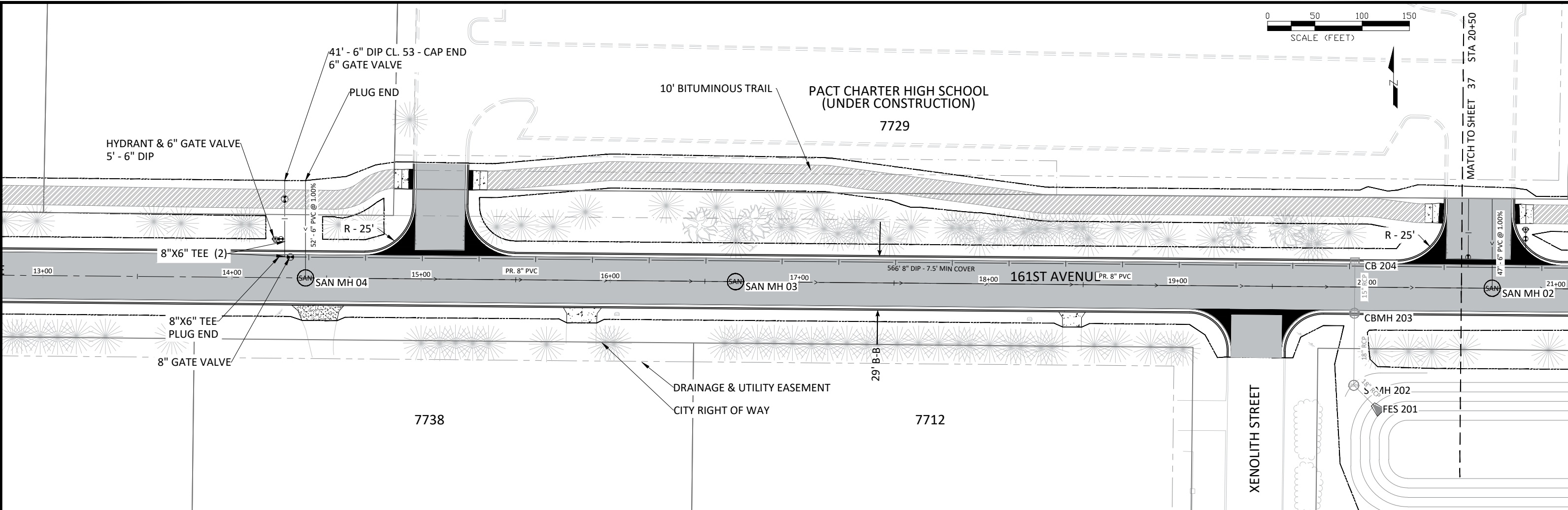
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 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

STORM SEWER LEADS
 S.A.P. 199-123-001

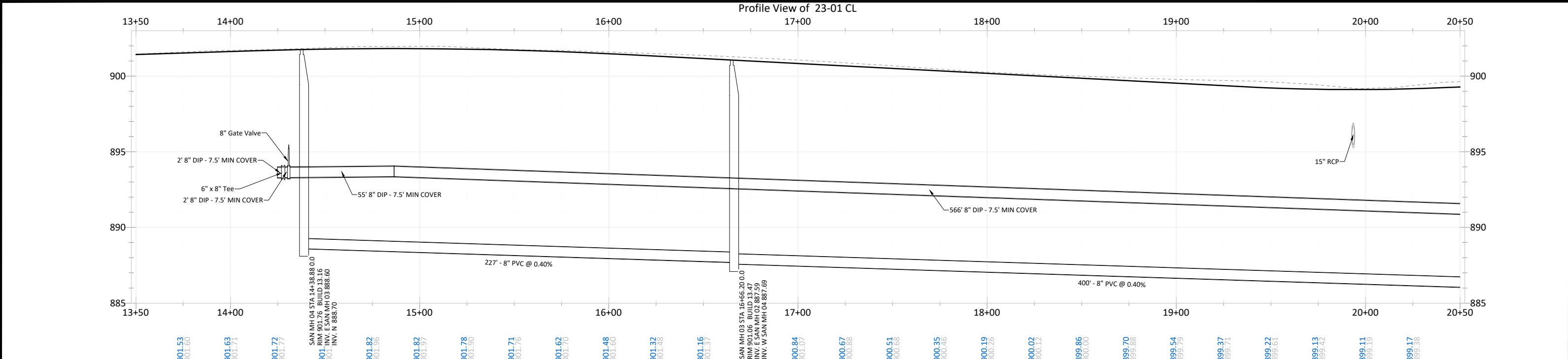
161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



MATCH TO SHEET 37 STA 20+50



LEGEND	
	CONSTRUCTION LIMITS
	DRAINAGE & UTILITY EASEMENT LINE
	RIGHT OF WAY LINE
	PR. BITUMINOUS PAVEMENT - ROADWAY
	PR. BITUMINOUS PAVEMENT - PARKING LOT
	PR. BITUMINOUS PAVEMENT - TRAIL
	PR. DRIVE - BITUMINOUS
	PR. B-STYLE CURB
	PR. DRIVE - CONCRETE
	PR. 7" CONCRETE VALLEY GUTTER
	PR. 6" CONCRETE WALK
	SANITARY MANHOLE
	HYDRANT
	WATER VALVE
	WATERMAIN
	SANITARY SEWER
	PR. STORM SEWER
	PR. 2'X3' CATCH BASIN
	PR. CATCH BASIN MANHOLE
	PR. STORM MANHOLE
	PR. FLARED END SECTION



DATE	REVISION
3/24/23	UPDATE BITUMINOUS TRAIL ALIGNMENT

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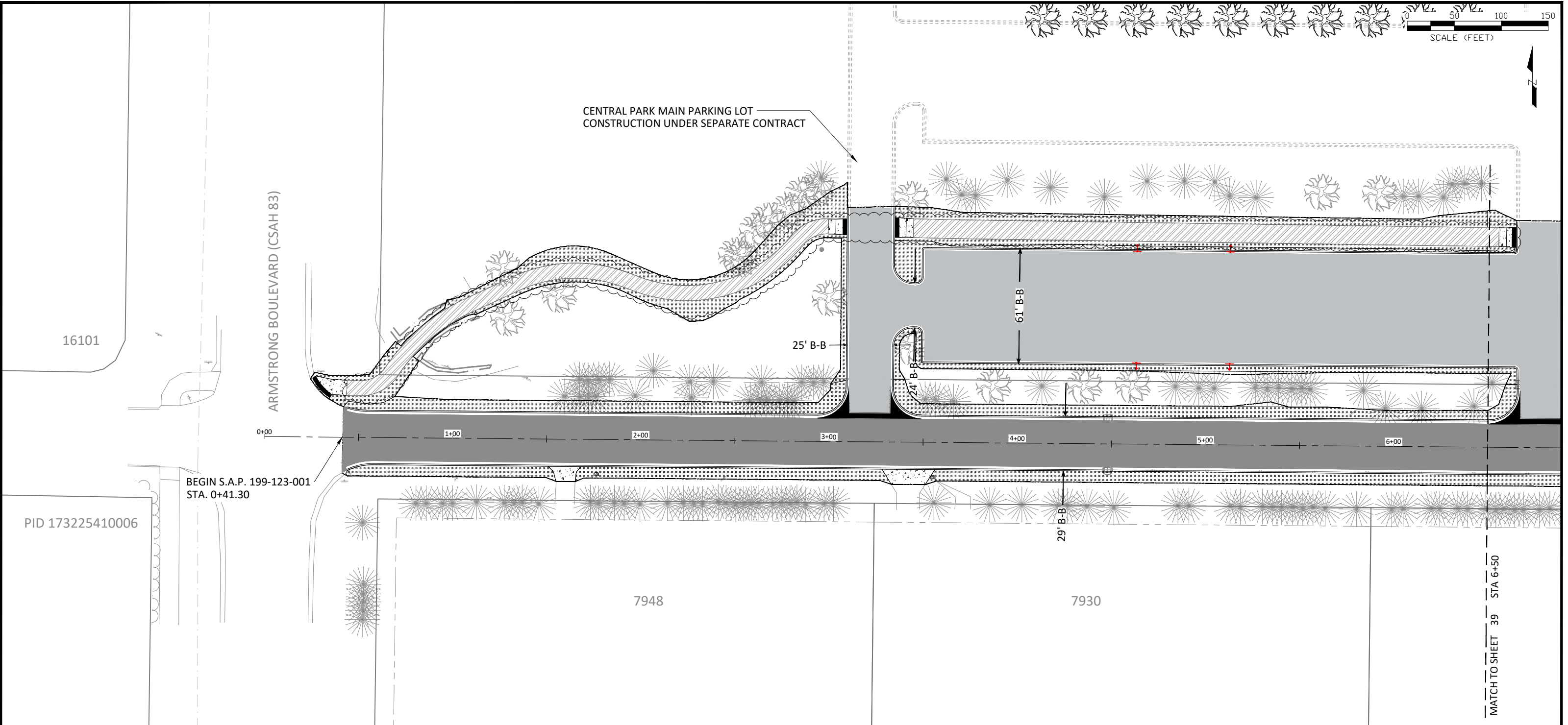
Joe Feriancek
 JOE FERIANCEK
 Date 3/01/23 Lic. No. 57095

DESIGNED BY:	JJF
DRAWN BY:	JJF
CHECKED BY:	JJF
DATE:	2/28/23
FILE:	23-01

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

SANITARY SEWER & WATERMAIN
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



LEGEND

	SEED & MULCH AREA		RANDOM RIP RAP CLASS III
	EROSION CONTROL BLANKET		PR. BITUMINOUS PAVEMENT - ROADWAY
	WATERMAIN		PR. BITUMINOUS PAVEMENT - PARKING LOT
	SANITARY SEWER		PR. BITUMINOUS PAVEMENT - TRAIL
	STORM SEWER		PR. DRIVE - BITUMINOUS
	CONSTRUCTION LIMIT		PR. DRIVE - CONCRETE
	DRAINAGE & UTILITY EASEMENT		PR. 6" CONCRETE WALK
	RIGHT OF WAY LINE		PR. 7" CONCRETE VALLEY GUTTER
	SECTION LINE		

NOTE:

1. RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY.
2. RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL, HYDROSEED, MNDOT SEED MIX 25-151, AND HYDRAULIC MATRIX TYPE MULCH UNLESS MARKED FOR EROSION CONTROL BLANKET.
3. RESTORE ALL AREAS MARKED FOR EROSION CONTROL BLANKET WITH 2" TOPSOIL, MNDOT SEED MIX 33-262, AND ROLLED EROSION PREVENTION CATEGORY 20.
4. STOCKPILING OF ANY SALVAGED TOPSOIL USED IS INCIDENTAL TO THE TOPSOIL PAY ITEM.
5. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. PAYMENT MADE UNDER LANDSCAPE RESTORATION.
6. SALVAGED ITEMS ARE TO BE RE-INSTALLED TO ORIGINAL LOCATION(S) OR AS DIRECTED BY THE ENGINEER.

RESTORATION SUMMARY: STA. 0+41.30 TO 6+50

SEEDING AREA	0.31 AC
HYDROMULCH (4000 LB/AC)	1,240 LB
ERO. BLANKET CAT. 20	0 SY
SEED MIX 25-151 (120 LB/AC)	45 LB
SEED MIX 33-262 (35 LB/AC)	0 LB
FERTILIZER TYPE 3 (100 LB/AC)	35 LB
TOPSOIL	218 CY
PROJECT TOTAL	
SEEDING AREA	2.83 AC
HYDROMULCH	5040 LB
ERO. BLANKET CAT. 20	7595 SY
SEED MIX 25-151	175 LB
SEED MIX 33-262	65 LB
FERTILIZER TYPE 3	305 LB
TOPSOIL	1975 CY

DATE	REVISION
3/24/23	MODIFY TRAIL ALIGNMENT

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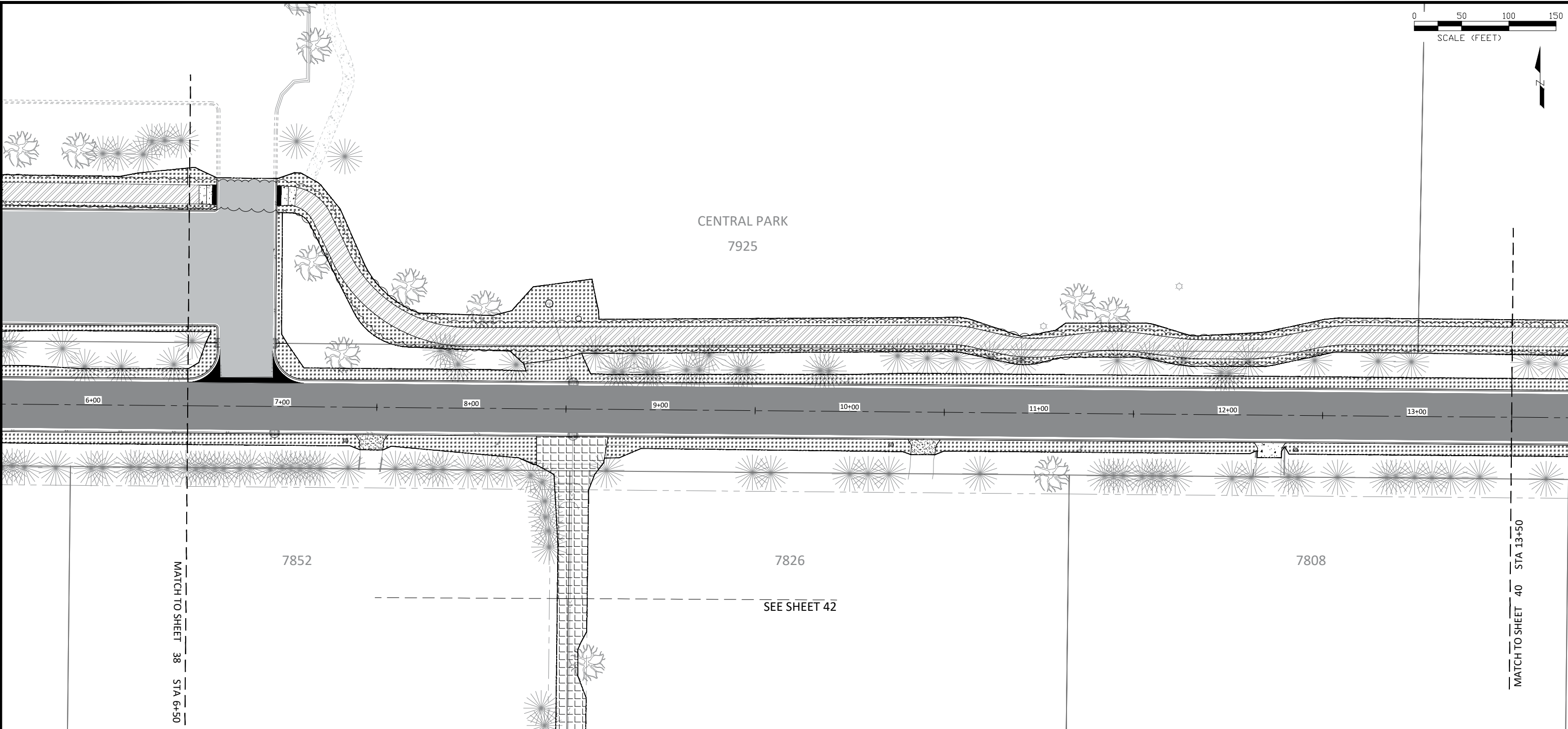
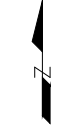
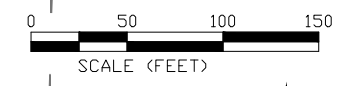
Joe Feriancek
 JOE FERIANCEK
 Date 3/01/23 Lic. No. 57095

DESIGNED BY:	JJF	DATE:	2/28/23
DRAWN BY:	JJF	FILE:	23-01
CHECKED BY:	JJF		

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

RESTORATION
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



LEGEND

	SEED & MULCH AREA		RANDOM RIP RAP CLASS III
	EROSION CONTROL BLANKET		PR. BITUMINOUS PAVEMENT - ROADWAY
	WATERMAIN		PR. BITUMINOUS PAVEMENT - PARKING LOT
	SANITARY SEWER		PR. BITUMINOUS PAVEMENT - TRAIL
	STORM SEWER		PR. DRIVE - BITUMINOUS
	CONSTRUCTION LIMIT		PR. DRIVE - CONCRETE
	DRAINAGE & UTILITY EASEMENT		PR. 6" CONCRETE WALK
	RIGHT OF WAY LINE		PR. 7" CONCRETE VALLEY GUTTER
	SECTION LINE		

NOTE:

1. RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY.
2. RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL, HYDROSEED, MNDOT SEED MIX 25-151, AND HYDRAULIC MATRIX TYPE MULCH UNLESS MARKED FOR EROSION CONTROL BLANKET.
3. RESTORE ALL AREAS MARKED FOR EROSION CONTROL BLANKET WITH 2" TOPSOIL, MNDOT SEED MIX 33-262, AND ROLLED EROSION PREVENTION CATEGORY 20.
4. STOCKPILING OF ANY SALVAGED TOPSOIL USED IS INCIDENTAL TO THE TOPSOIL PAY ITEM.
5. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. PAYMENT MADE UNDER LANDSCAPE RESTORATION.
6. SALVAGED ITEMS ARE TO BE RE-INSTALLED TO ORIGINAL LOCATION(S) OR AS DIRECTED BY THE ENGINEER.

RESTORATION SUMMARY: STA. 6+50 TO 13+50

SEEDING AREA	0.39 AC
HYDROMULCH (4000 LB/AC)	1400 LB
ERO. BLANKET CAT. 20	199 SY
SEED MIX 25-151 (120 LB/AC)	50 LB
SEED MIX 33-262 (35 LB/AC)	5 LB
FERTILIZER TYPE 3 (100 LB/AC)	45 LB
TOPSOIL	270 CY
PROJECT TOTAL	
SEEDING AREA	2.83 AC
HYDROMULCH	5040 LB
ERO. BLANKET CAT. 20	7595 SY
SEED MIX 25-151	175 LB
SEED MIX 33-262	65 LB
FERTILIZER TYPE 3	305 LB
TOPSOIL	1975 CY

DATE	REVISION
3/24/23	MODIFY TRAIL ALIGNMENT

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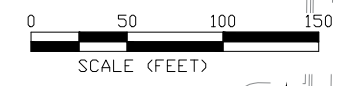
Joe Feriancek
 JOE FERIANCEK
 Date 3/01/23 Lic. No. 57095

DESIGNED BY:	JJF	DATE:	2/28/23
DRAWN BY:	JJF	FILE:	23-01
CHECKED BY:	JJF		

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

RESTORATION
 S.A.P. 199-123-001

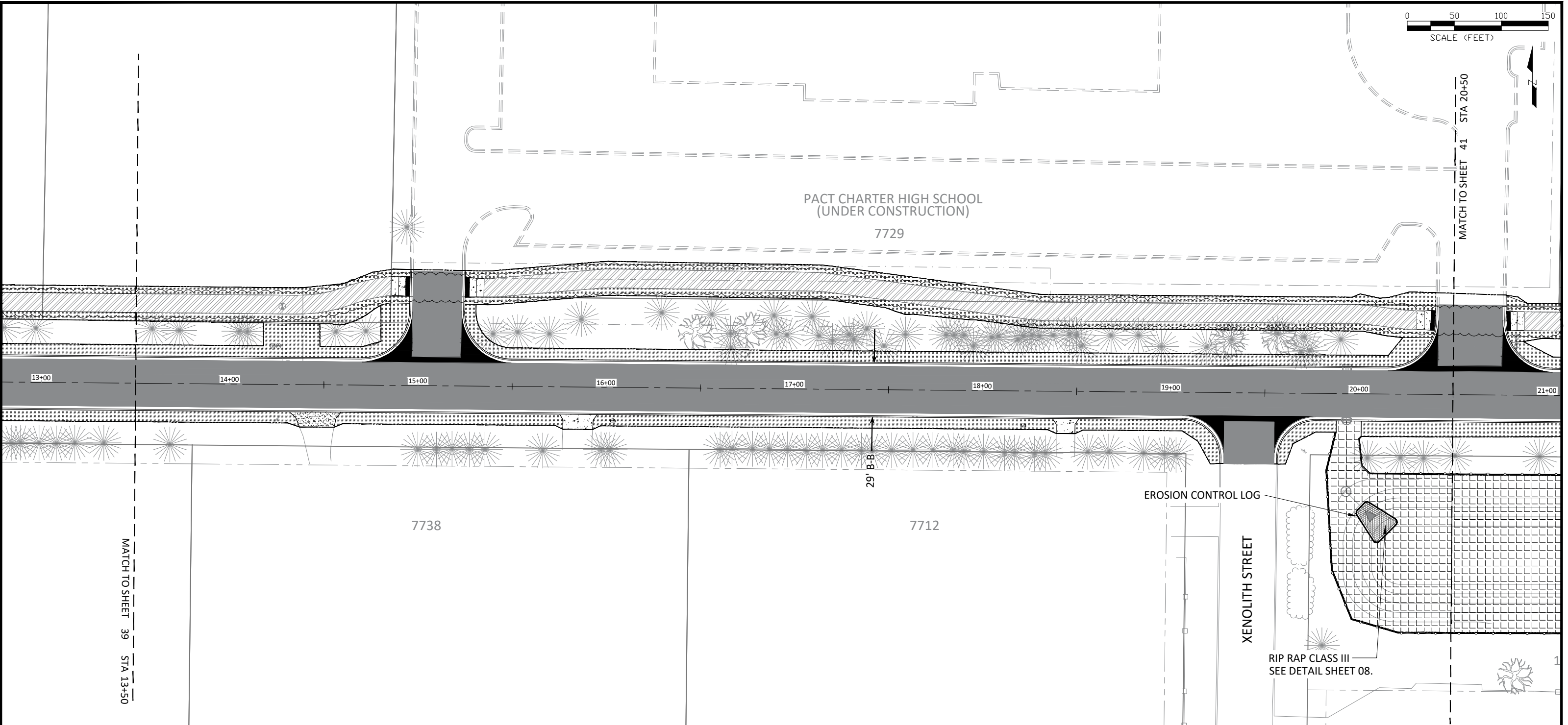
161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



PACT CHARTER HIGH SCHOOL
(UNDER CONSTRUCTION)
7729

MATCH TO SHEET 41 STA 20+50

MATCH TO SHEET 39 STA 13+50



LEGEND

	SEED & MULCH AREA		RANDOM RIP RAP CLASS III
	EROSION CONTROL BLANKET		PR. BITUMINOUS PAVEMENT - ROADWAY
	WATERMAIN		PR. BITUMINOUS PAVEMENT - PARKING LOT
	SANITARY SEWER		PR. BITUMINOUS PAVEMENT - TRAIL
	STORM SEWER		PR. DRIVE - BITUMINOUS
	CONSTRUCTION LIMIT		PR. DRIVE - CONCRETE
	DRAINAGE & UTILITY EASEMENT		PR. 6" CONCRETE WALK
	RIGHT OF WAY LINE		PR. 7" CONCRETE VALLEY GUTTER
	SECTION LINE		

NOTE:

1. RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY.
2. RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL, HYDROSEED, MNDOT SEED MIX 25-151, AND HYDRAULIC MATRIX TYPE MULCH UNLESS MARKED FOR EROSION CONTROL BLANKET.
3. RESTORE ALL AREAS MARKED FOR EROSION CONTROL BLANKET WITH 2" TOPSOIL, MNDOT SEED MIX 33-262, AND ROLLED EROSION PREVENTION CATEGORY 20.
4. STOCKPILING OF ANY SALVAGED TOPSOIL USED IS INCIDENTAL TO THE TOPSOIL PAY ITEM.
5. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. PAYMENT MADE UNDER LANDSCAPE RESTORATION.
6. SALVAGED ITEMS ARE TO BE RE-INSTALLED TO ORIGINAL LOCATION(S) OR AS DIRECTED BY THE ENGINEER.

RESTORATION SUMMARY: STA. 13+50 TO 20+50

SEEDING AREA	0.45 AC
HYDROMULCH (4000 LB/AC)	1320 LB
ERO. BLANKET CAT. 20	591 SY
SEED MIX 25-151 (120 LB/AC)	45 LB
SEED MIX 33-262 (35 LB/AC)	5 LB
FERTILIZER TYPE 3 (100 LB/AC)	50 LB
TOPSOIL	314 CY
PROJECT TOTAL	
SEEDING AREA	2.83 AC
HYDROMULCH	5040 LB
ERO. BLANKET CAT. 20	7595 SY
SEED MIX 25-151	175 LB
SEED MIX 33-262	65 LB
FERTILIZER TYPE 3	305 LB
TOPSOIL	1975 CY

DATE	REVISION
3/24/23	MODIFY TRAIL ALIGNMENT

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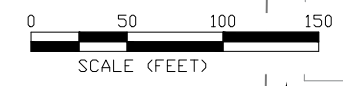
Joe Feriancek
JOE FERIANCEK
Date 3/01/23 Lic. No. 57095

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DRAWN BY:	JJF	FILE:	23-01
CHECKED BY:	JJF		

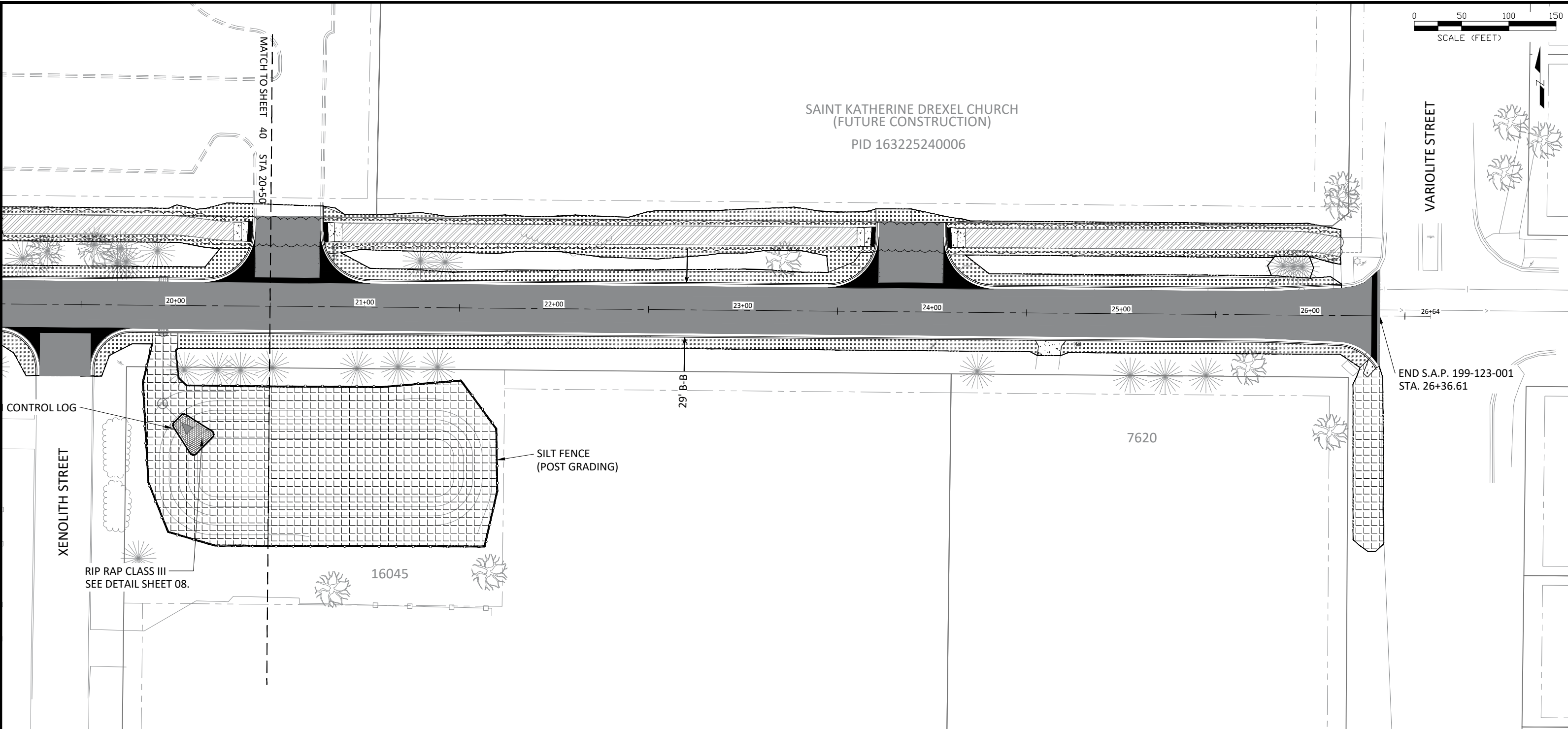
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RESTORATION
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



SAINT KATHERINE DREXEL CHURCH
(FUTURE CONSTRUCTION)
PID 163225240006



LEGEND

	SEED & MULCH AREA		RANDOM RIP RAP CLASS III
	EROSION CONTROL BLANKET		PR. BITUMINOUS PAVEMENT - ROADWAY
	WATERMAIN		PR. BITUMINOUS PAVEMENT - PARKING LOT
	SANITARY SEWER		PR. BITUMINOUS PAVEMENT - TRAIL
	STORM SEWER		PR. DRIVE - BITUMINOUS
	CONSTRUCTION LIMIT		PR. DRIVE - CONCRETE
	DRAINAGE & UTILITY EASEMENT		PR. 6" CONCRETE WALK
	RIGHT OF WAY LINE		PR. 7" CONCRETE VALLEY GUTTER
	SECTION LINE		

NOTE:

1. RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY.
2. RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL, HYDROSEED, MNDOT SEED MIX 25-151, AND HYDRAULIC MATRIX TYPE MULCH UNLESS MARKED FOR EROSION CONTROL BLANKET.
3. RESTORE ALL AREAS MARKED FOR EROSION CONTROL BLANKET WITH 2" TOPSOIL, MNDOT SEED MIX 33-262, AND ROLLED EROSION PREVENTION CATEGORY 20.
4. STOCKPILING OF ANY SALVAGED TOPSOIL USED IS INCIDENTAL TO THE TOPSOIL PAY ITEM.
5. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. PAYMENT MADE UNDER LANDSCAPE RESTORATION.
6. SALVAGED ITEMS ARE TO BE RE-INSTALLED TO ORIGINAL LOCATION(S) OR AS DIRECTED BY THE ENGINEER.

RESTORATION SUMMARY: STA. 20+50 TO 26+36.61

SEEDING AREA	0.53 AC
HYDROMULCH (4000 LB/AC)	1080 LB
ERO. BLANKET CAT. 20	1263 SY
SEED MIX 25-151 (120 LB/AC)	35 LB
SEED MIX 33-262 (35 LB/AC)	10 LB
FERTILIZER TYPE 3 (100 LB/AC)	60 LB
TOPSOIL	372 CY
PROJECT TOTAL	
SEEDING AREA	2.83 AC
HYDROMULCH	5040 LB
ERO. BLANKET CAT. 20	7595 SY
SEED MIX 25-151	175 LB
SEED MIX 33-262	65 LB
FERTILIZER TYPE 3	305 LB
TOPSOIL	1975 CY

DATE	REVISION
3/24/23	MODIFY TRAIL ALIGNMENT

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

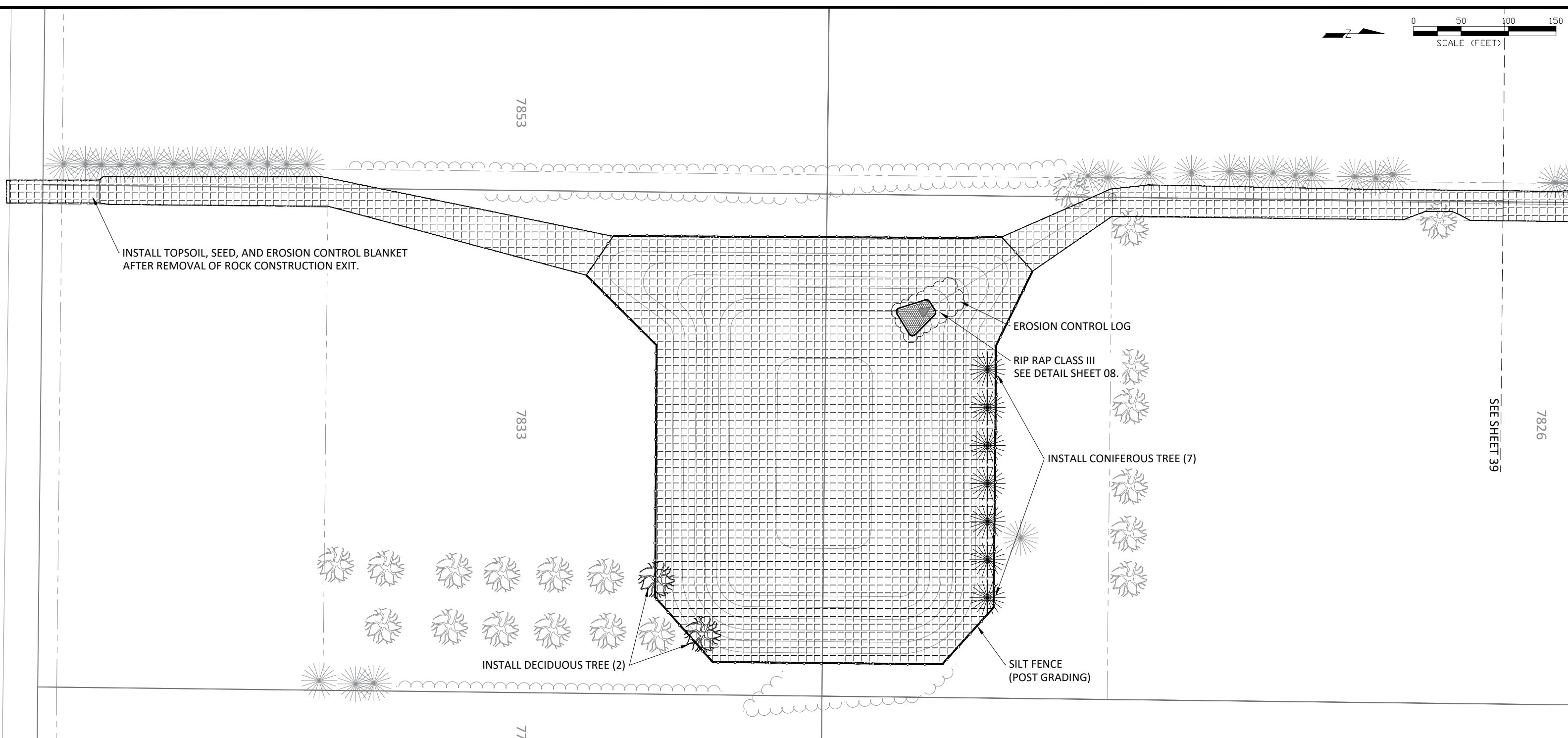
Joe Feriancek
JOE FERIANCEK
Date 3/01/23 Lic. No. 57095

DESIGNED BY:	JJF
DRAWN BY:	JJF
CHECKED BY:	JJF
DATE:	2/28/23
FILE:	23-01

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

RESTORATION
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



LEGEND

	SEED & MULCH AREA		RANDOM RIP RAP CLASS III
	EROSION CONTROL BLANKET		PR. BITUMINOUS PAVEMENT - ROADWAY
	WATERMAIN		PR. BITUMINOUS PAVEMENT - PARKING LOT
	SANITARY SEWER		PR. BITUMINOUS PAVEMENT - TRAIL
	STORM SEWER		PR. DRIVE - BITUMINOUS
	CONSTRUCTION LIMIT		PR. DRIVE - CONCRETE
	DRAINAGE & UTILITY EASEMENT		PR. 6" CONCRETE WALK
	RIGHT OF WAY LINE		PR. 7" CONCRETE VALLEY GUTTER
	SECTION LINE		

NOTE:

1. RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY.
2. RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL, HYDROSEED, MNDOT SEED MIX 25-151, AND HYDRAULIC MATRIX TYPE MULCH UNLESS MARKED FOR EROSION CONTROL BLANKET.
3. RESTORE ALL AREAS MARKED FOR EROSION CONTROL BLANKET WITH 2" TOPSOIL, MNDOT SEED MIX 33-262, AND ROLLED EROSION PREVENTION CATEGORY 20.
4. STOCKPILING OF ANY SALVAGED TOPSOIL USED IS INCIDENTAL TO THE TOPSOIL PAY ITEM.
5. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. PAYMENT MADE UNDER LANDSCAPE RESTORATION.
6. SALVAGED ITEMS ARE TO BE RE-INSTALLED TO ORIGINAL LOCATION(S) OR AS DIRECTED BY THE ENGINEER.

RESTORATION SUMMARY: PONDING AREA

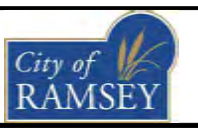
SEEDING AREA	1.15 AC
HYDROMULCH (4000 LB/AC)	0 LB
ERO. BLANKET CAT. 20	5542 SY
SEED MIX 25-151 (120 LB/AC)	0 LB
SEED MIX 33-262 (35 LB/AC)	45 LB
FERTILIZER TYPE 3 (100 LB/AC)	115 LB
TOPSOIL	801 CY
PROJECT TOTAL	
SEEDING AREA	2.83 AC
HYDROMULCH	5040 LB
ERO. BLANKET CAT. 20	7595 SY
SEED MIX 25-151	175 LB
SEED MIX 33-262	65 LB
FERTILIZER TYPE 3	305 LB
TOPSOIL	1975 CY

DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM

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Joe Feriancek
JOE FERIANCEK
Date 3/01/23 Lic. No. 57095

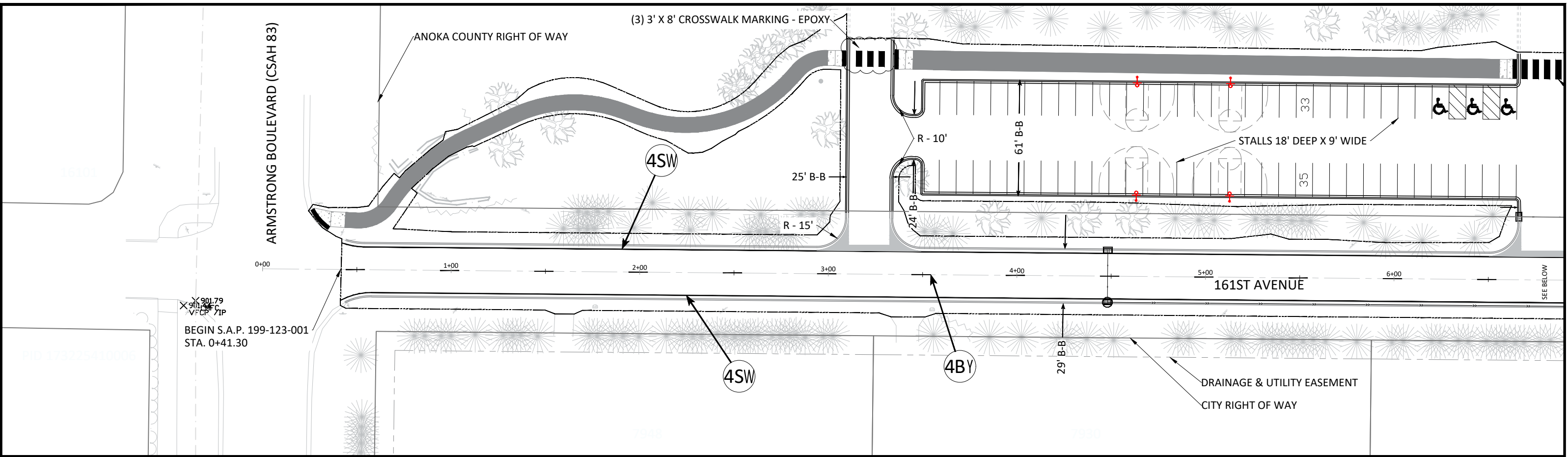
DESIGNED BY:	JJF	DATE:	2/28/23
DRAWN BY:	JJF	FILE:	23-01
CHECKED BY:	JJF		



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RESTORATION
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA

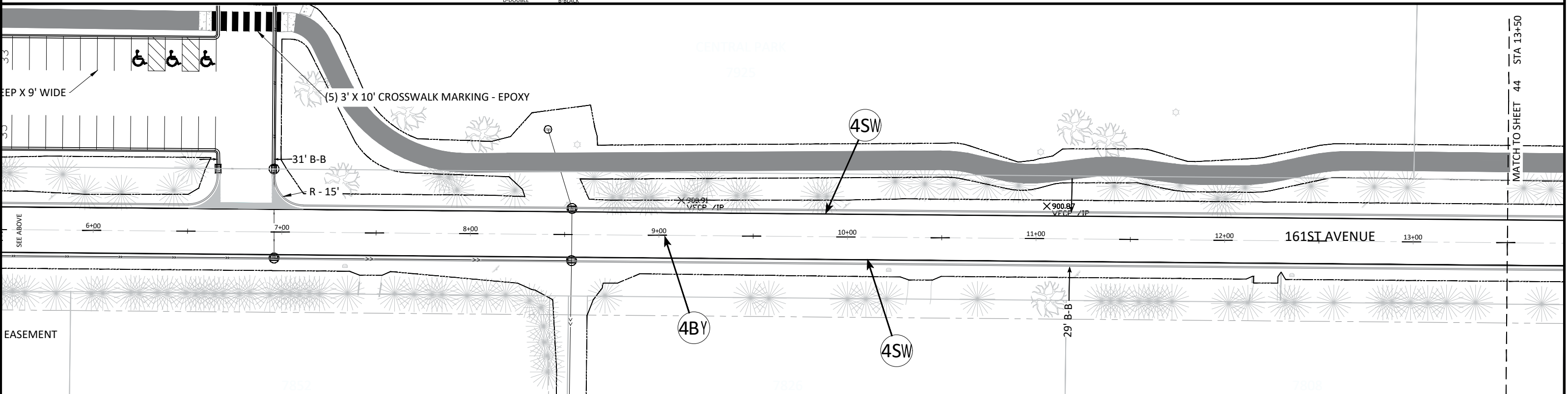
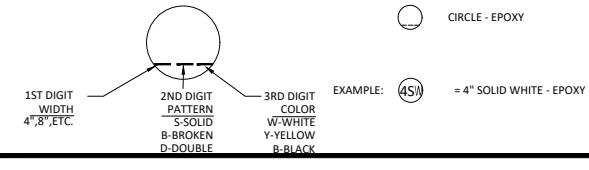


LEGEND

- PAVEMENT MARKING
- CROSSWALK MARKING



STRIPING KEY & LEGEND



DATE	REVISION
3/24/23	MODIFY TRAIL ALIGNMENT

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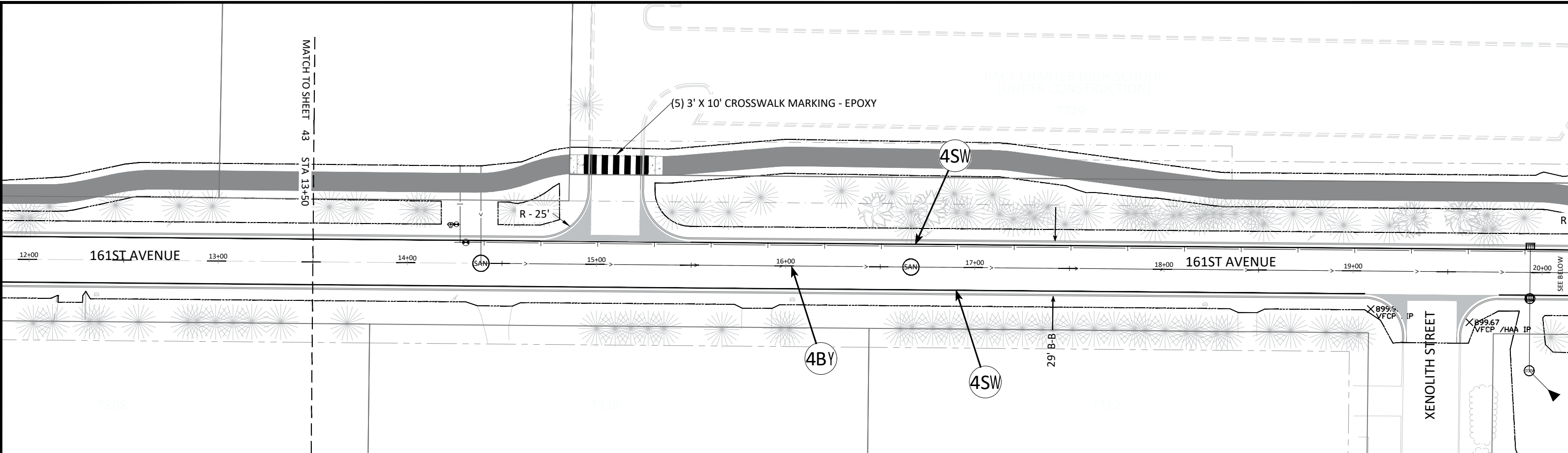
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PAVEMENT MARKING PLAN
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA

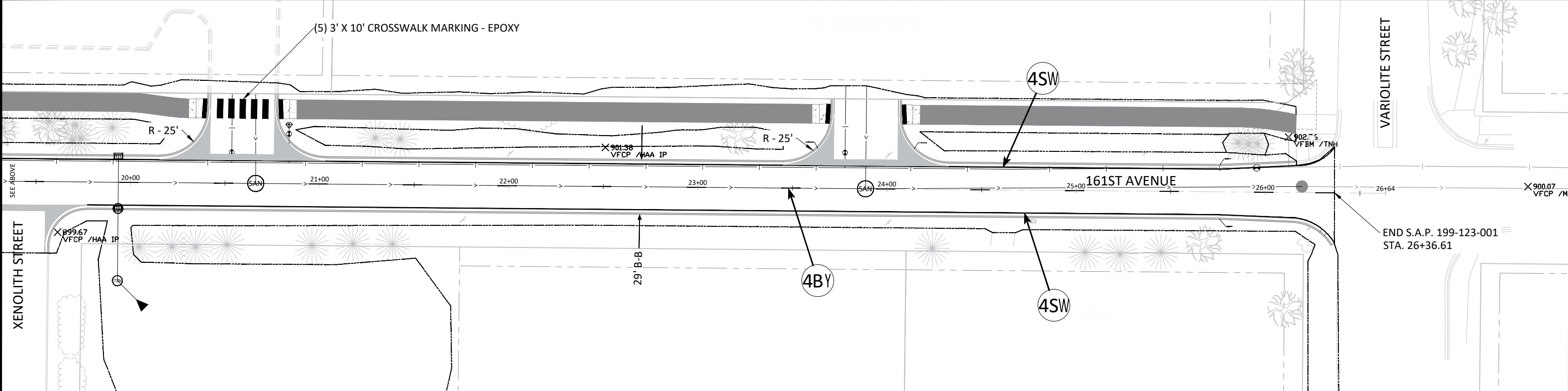
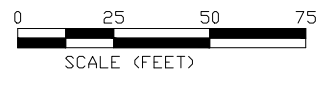
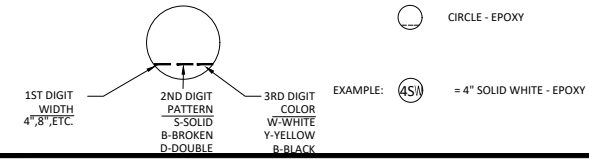


LEGEND

- PAVEMENT MARKING
- CROSSWALK MARKING



STRIPING KEY & LEGEND



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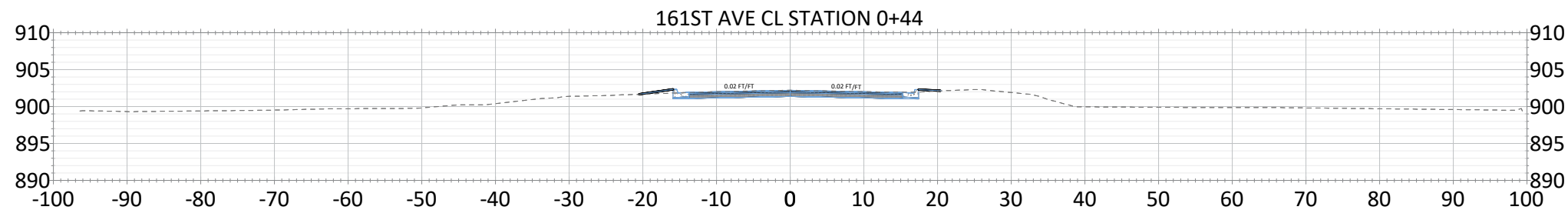
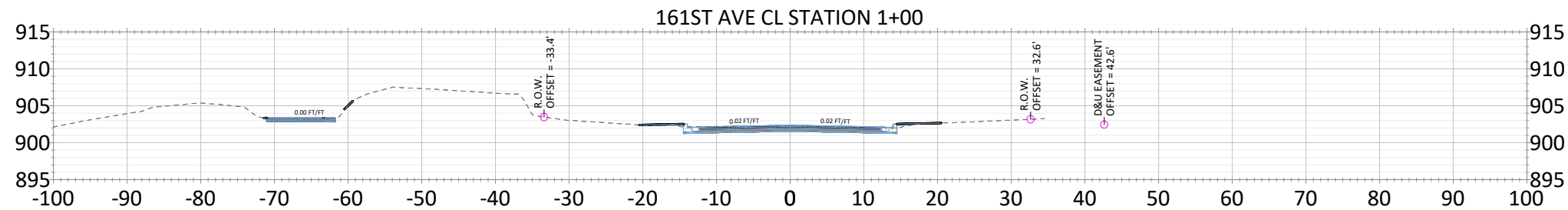
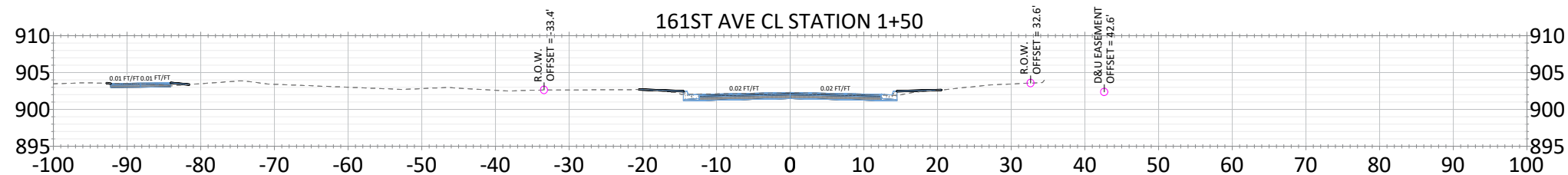
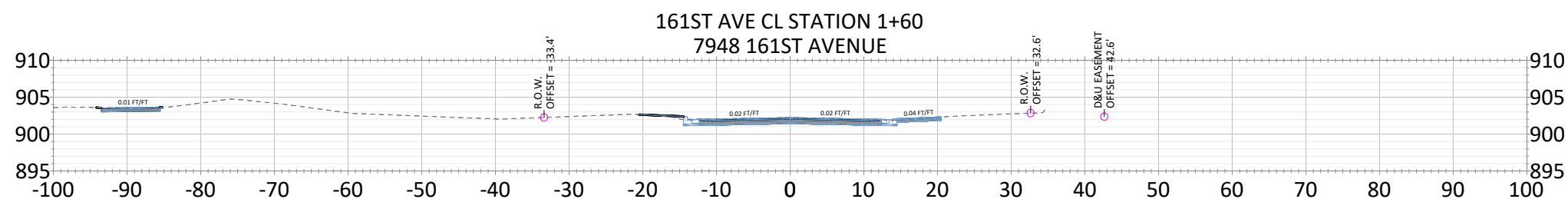
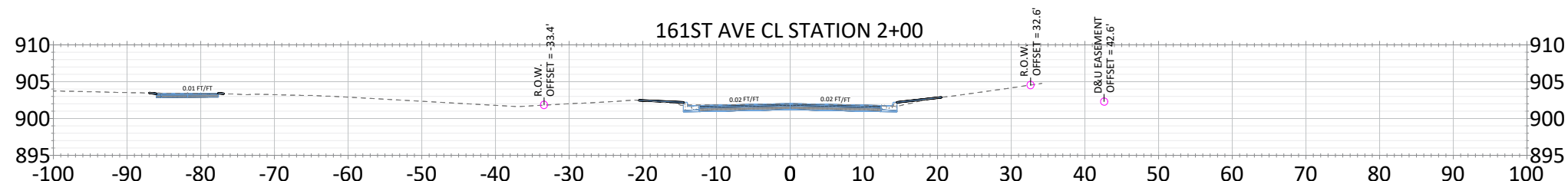
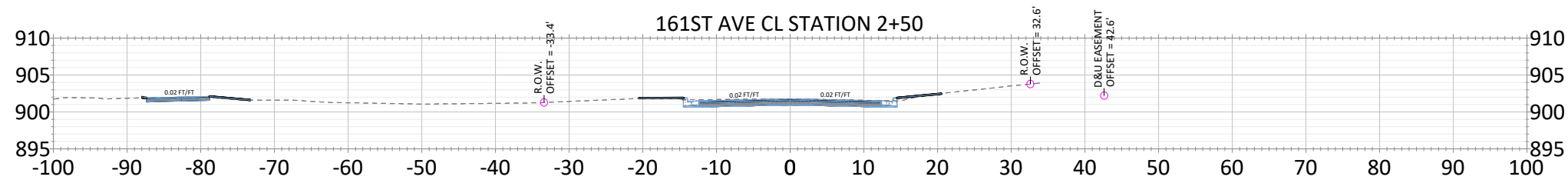
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CITY OF RAMSEY
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PAVEMENT MARKING PLAN
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



DATE	REVISION
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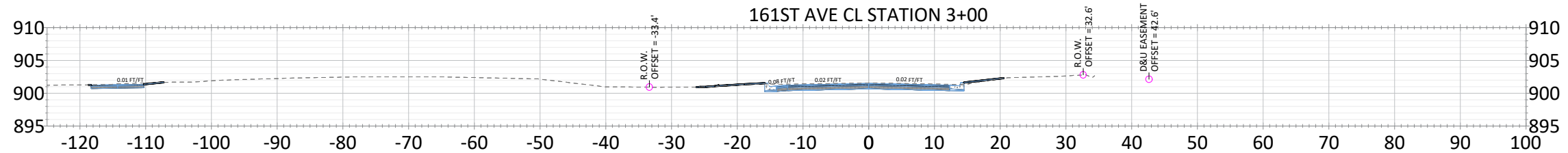
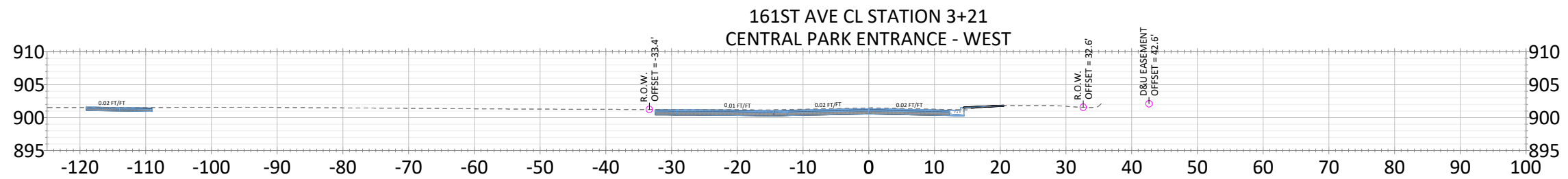
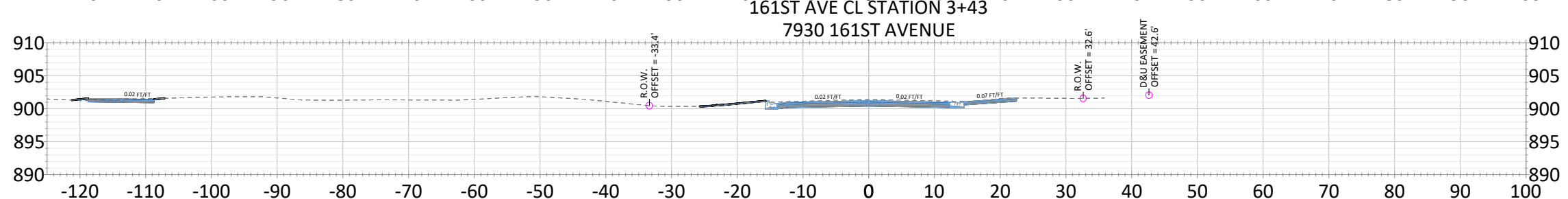
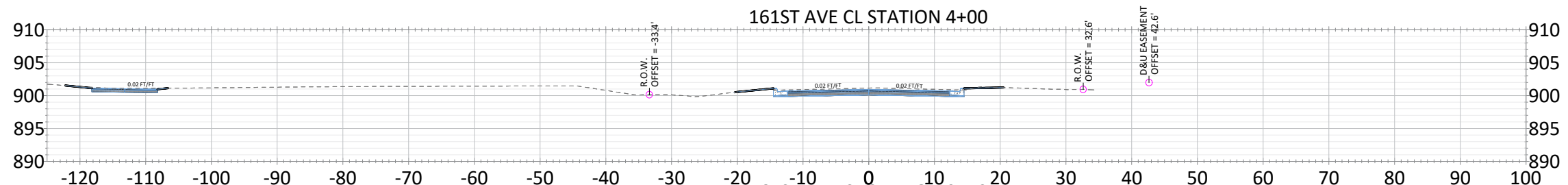
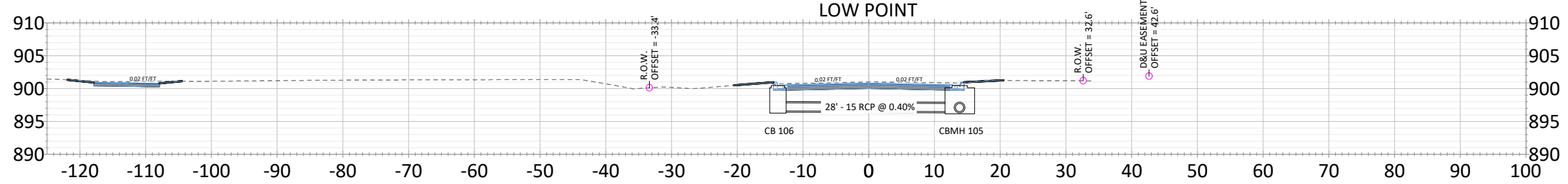
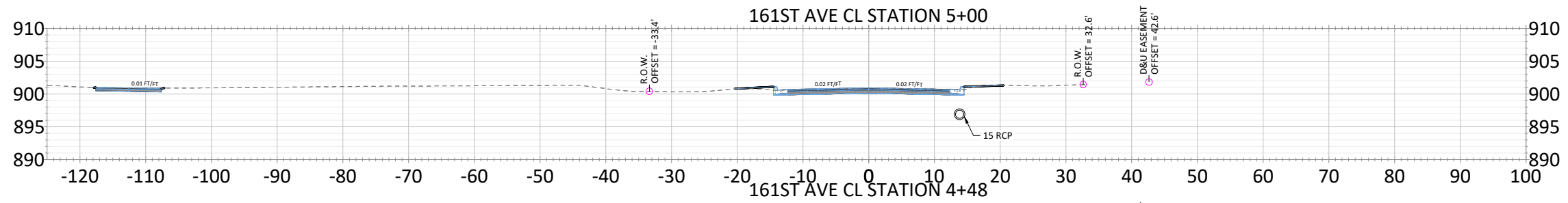
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CITY OF RAMSEY
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CROSS SECTIONS STA. 0+44 TO 2+50
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
3/24/23	MODIFY TRAIL ALIGNMENT

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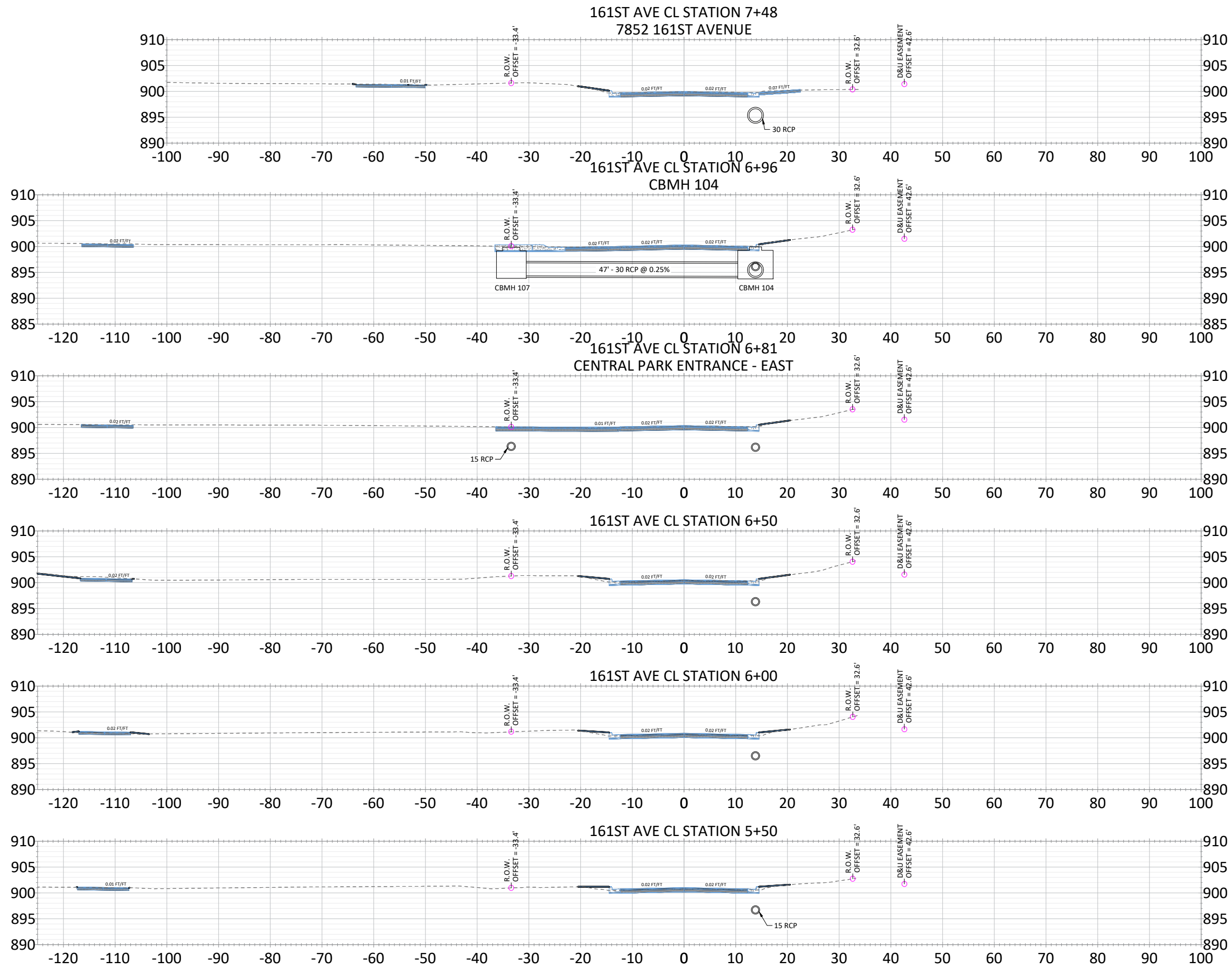
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CITY OF RAMSEY
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CROSS SECTIONS STA. 3+00 TO 5+00
S.A.P. 199-123-001

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CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
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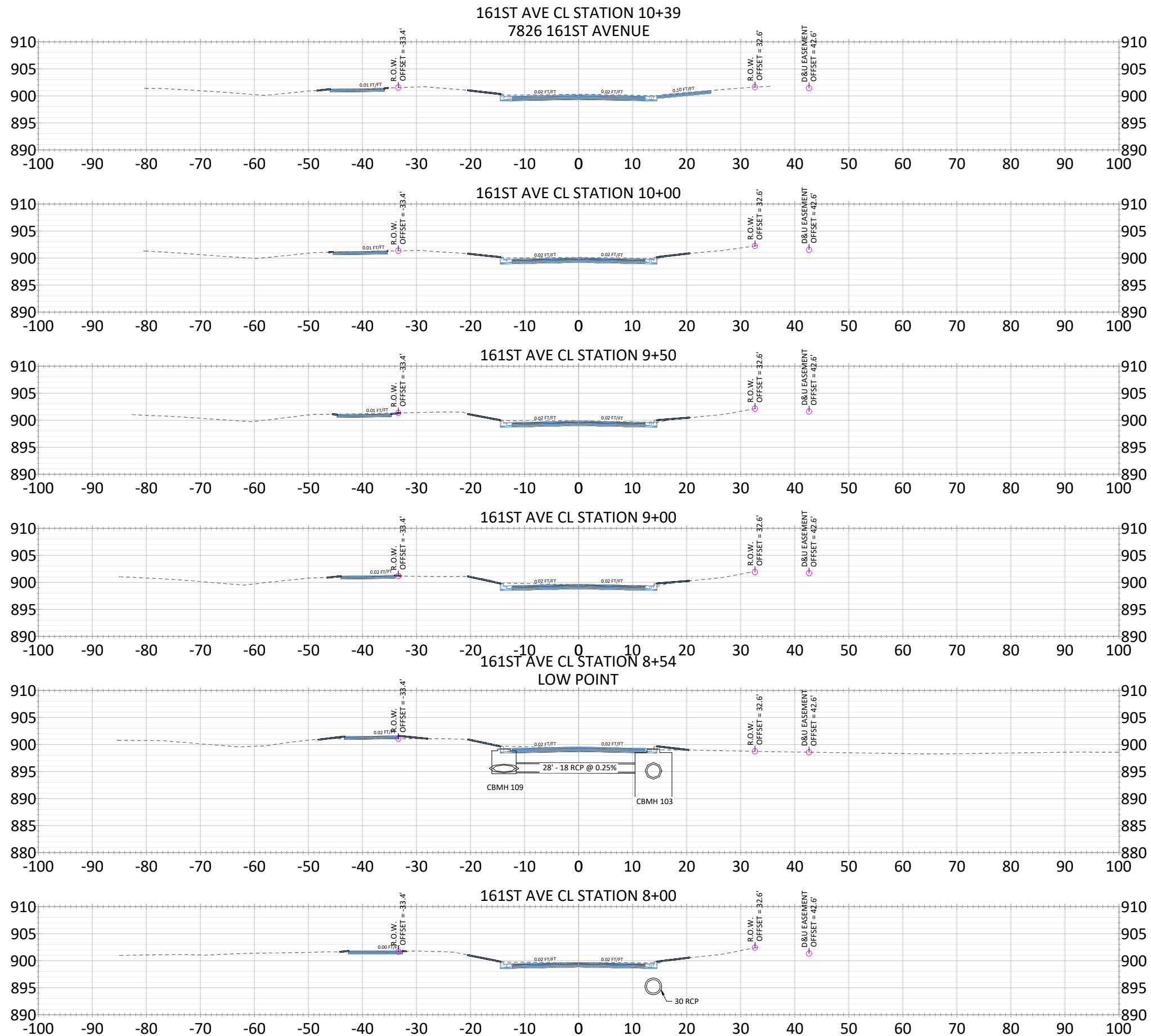
DESIGNED BY: JJF
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FILE: 23-01

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CROSS SECTIONS STA. 5+50 TO 7+48
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



DATE	REVISION
3/16/23	UPDATE STORM SEWER SYSTEM
3/24/23	MODIFY TRAIL ALIGNMENT

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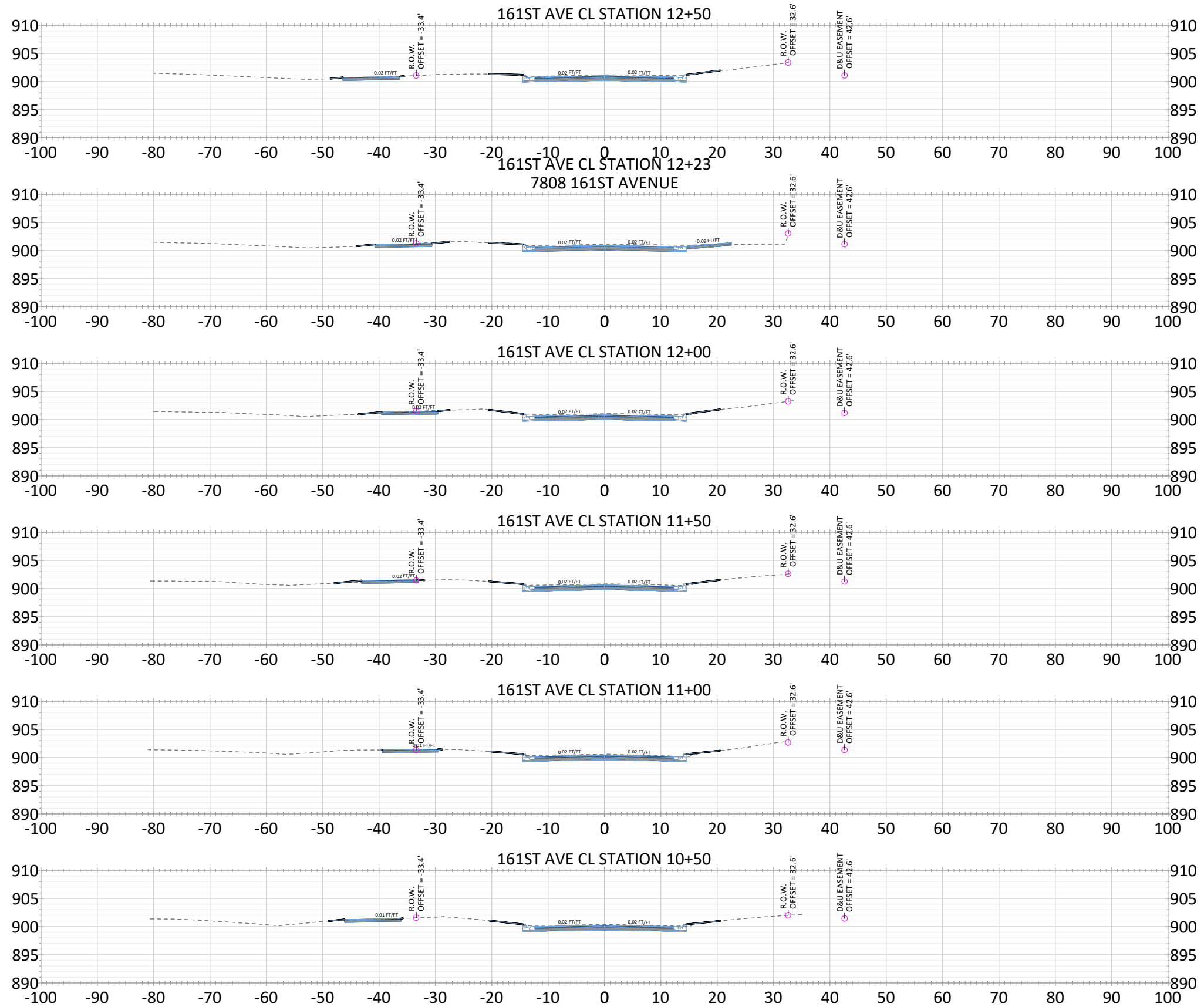
JOE FERIANCEK
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CHECKED BY:	JJF

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

CROSS SECTIONS STA. 8+00 TO 10+39
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



DATE	REVISION
3/24/23	MODIFY TRAIL ALIGNMENT

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JOE FERIANCEK
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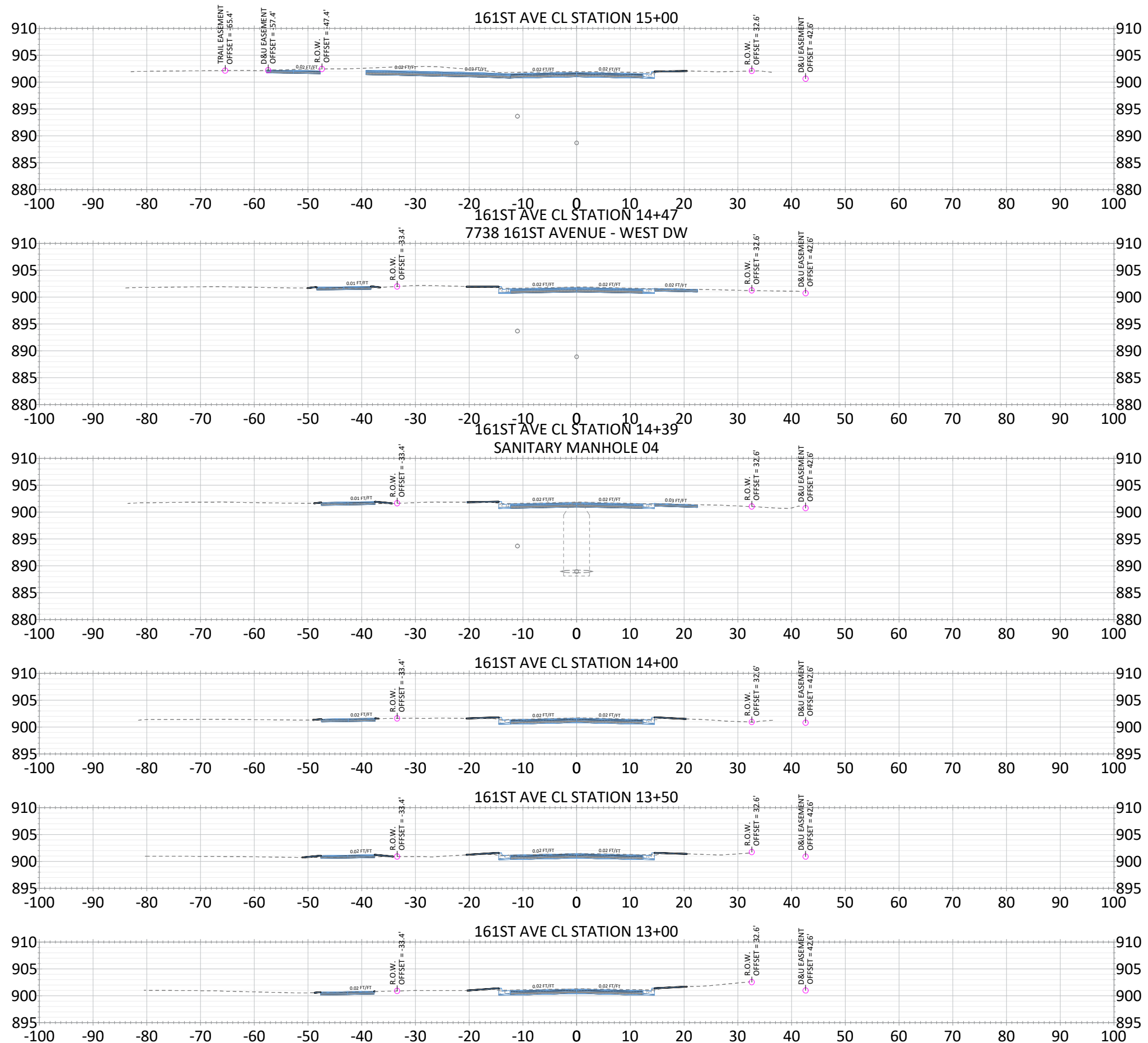
DESIGNED BY: JJF
DRAWN BY: JJF
CHECKED BY: JJF

DATE: 2/28/23
FILE: 23-01

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

CROSS SECTIONS STA. 10+50 TO 12.50
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA



DATE	REVISION
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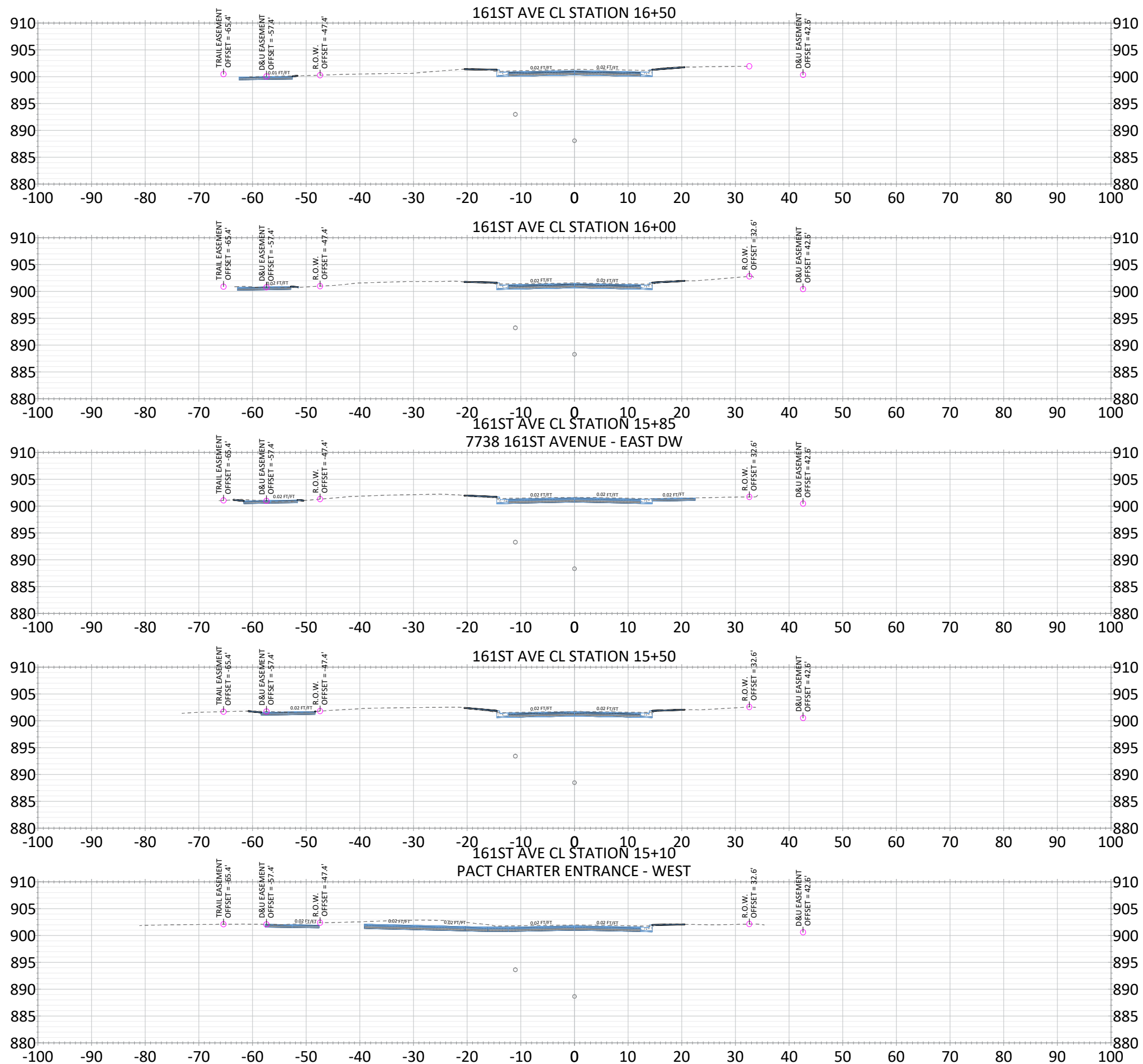
JOE FERIANCEK
 Date 3/01/23 Lic. No. 57095

DESIGNED BY:	JJF
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DATE:	2/28/23
FILE:	23-01

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

CROSS SECTIONS STA. 13+00 TO 15+00
 S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
 CITY PROJECT NO. 23-01
 CITY OF RAMSEY, MINNESOTA



DATE	REVISION
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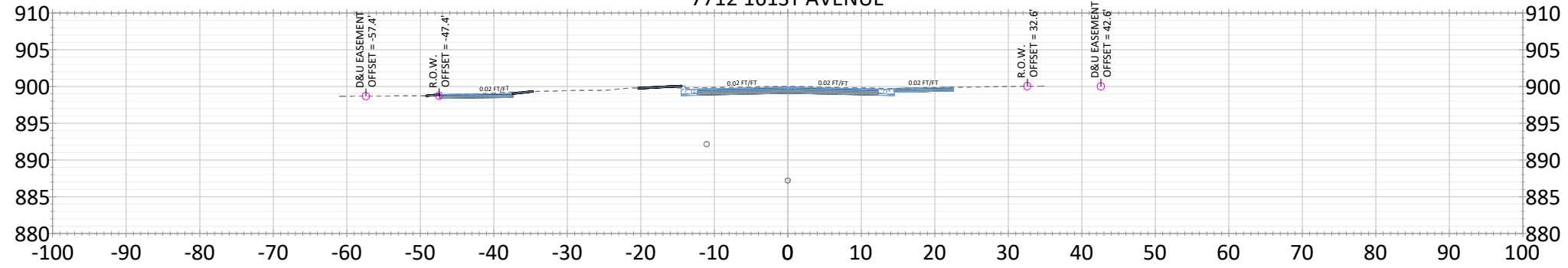
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CITY OF RAMSEY
7550 SUNWOOD DRIVE
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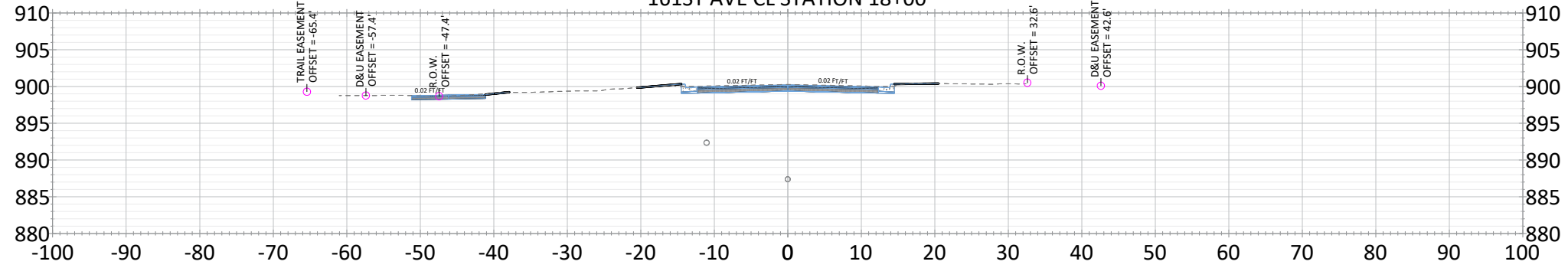
CROSS SECTIONS STA. 15+10 TO 16+50
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA

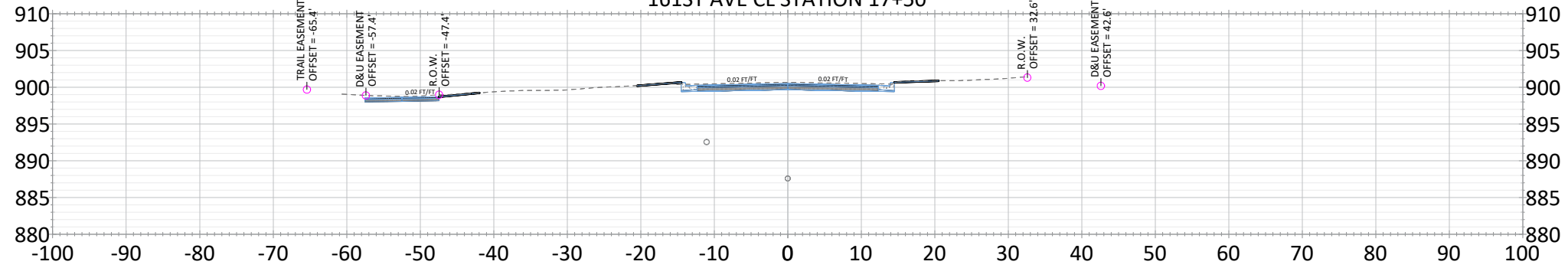
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7712 161ST AVENUE



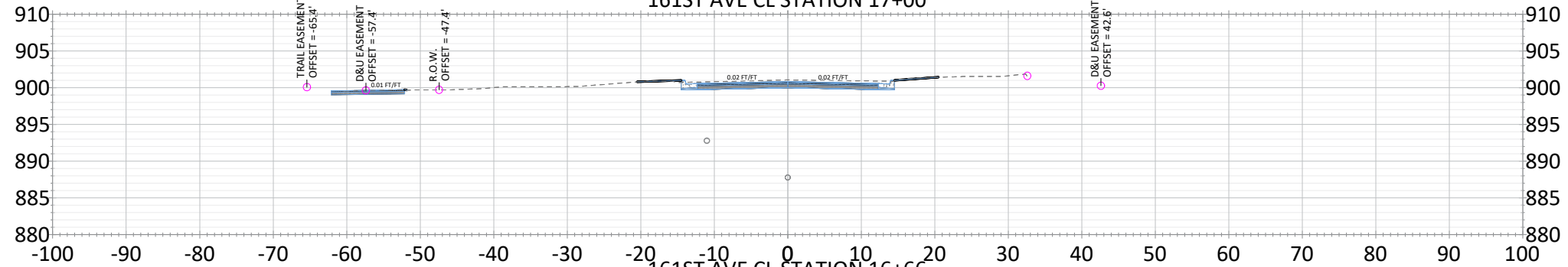
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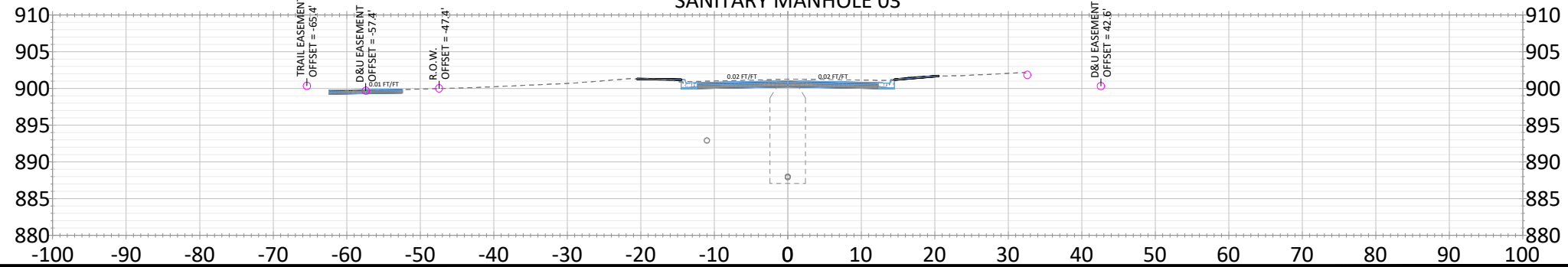
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161ST AVE CL STATION 17+00



161ST AVE CL STATION 16+66
SANITARY MANHOLE 03



DATE	REVISION
3/24/23	MODIFY TRAIL ALIGNMENT

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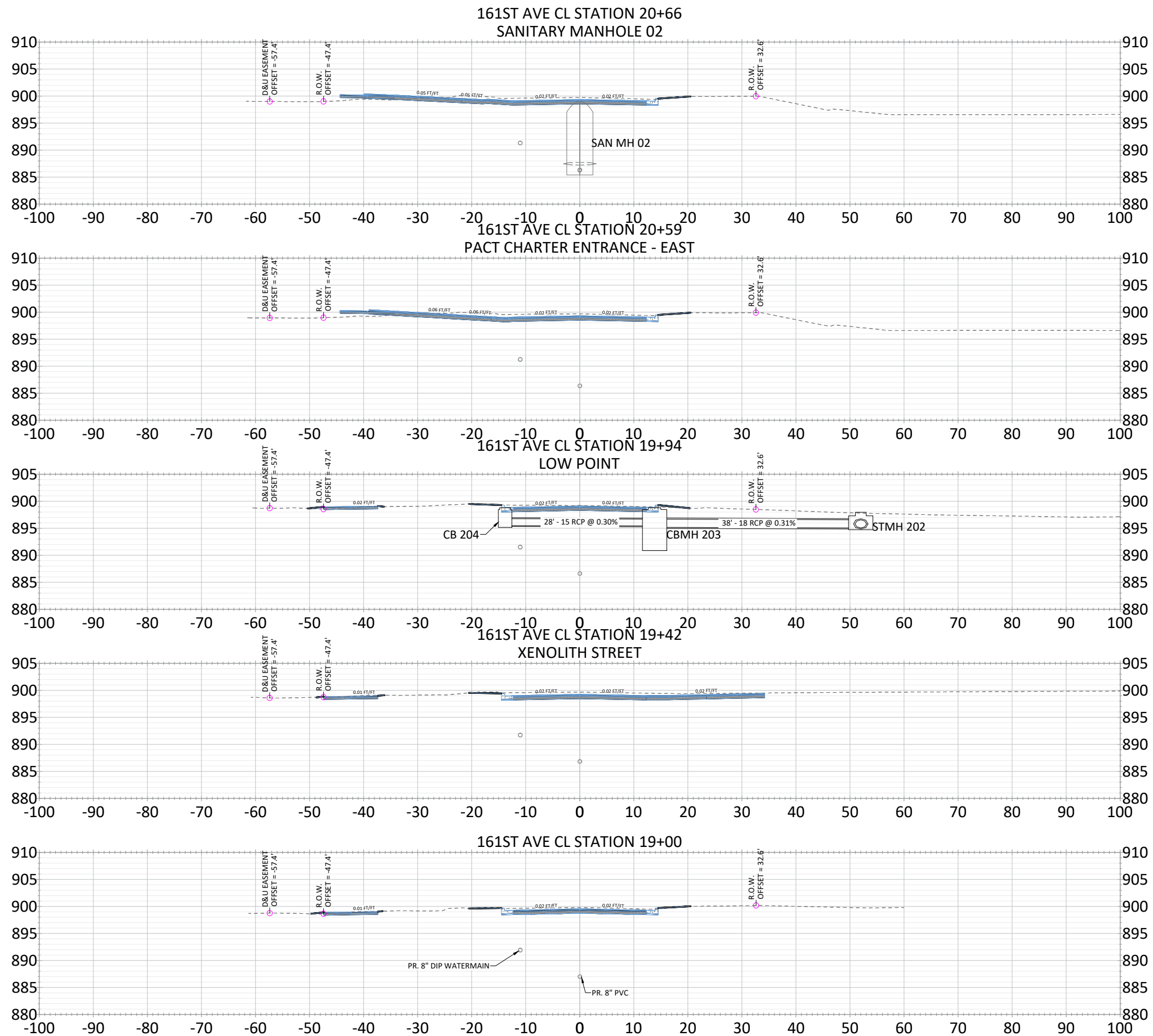
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CITY OF RAMSEY
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CROSS SECTIONS STA. 16+66 TO 18+44
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
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CITY OF RAMSEY, MINNESOTA



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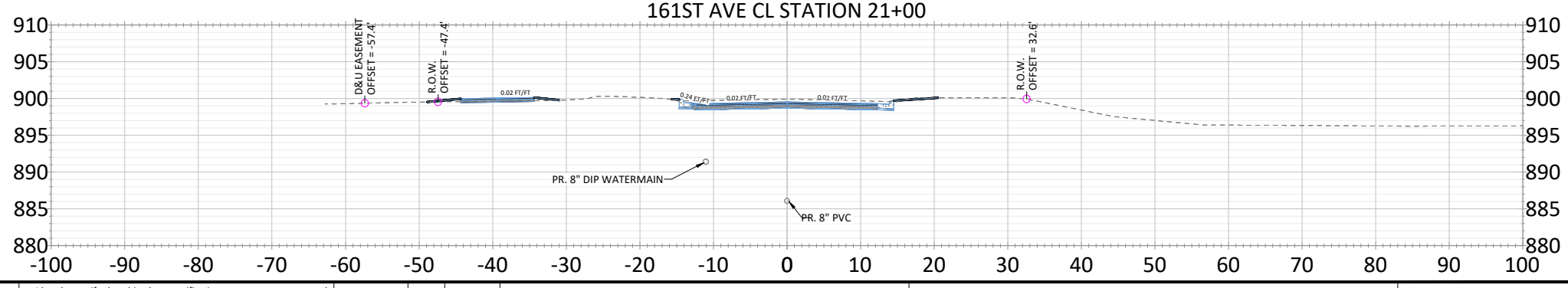
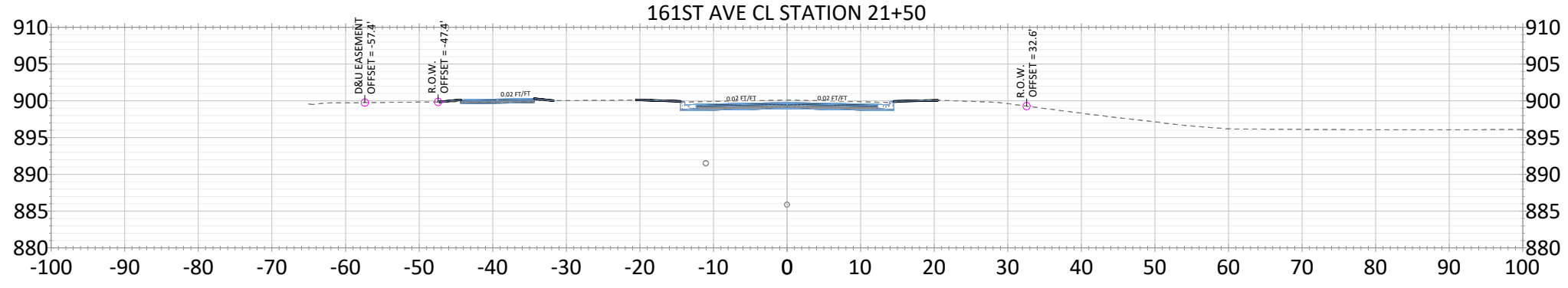
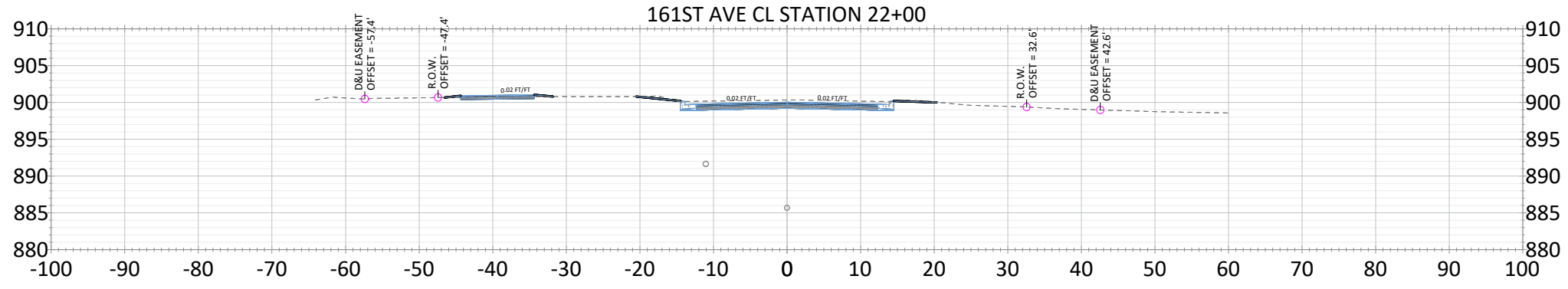
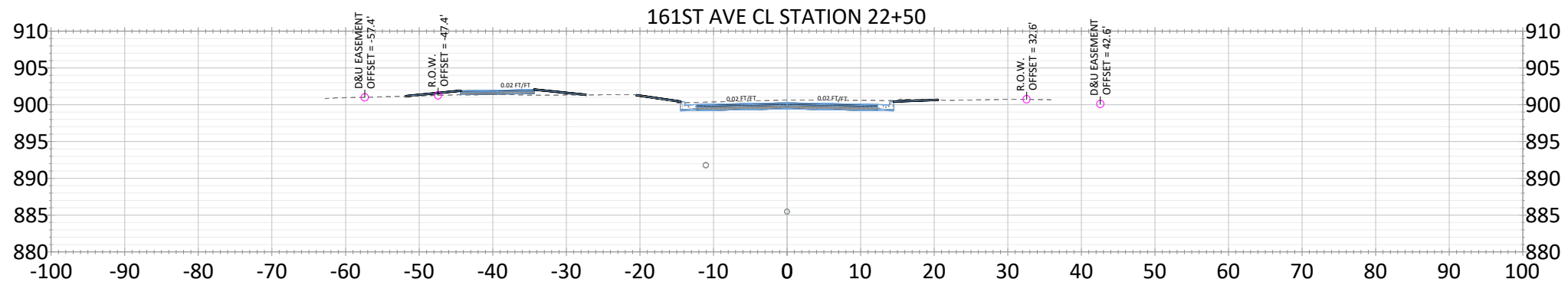
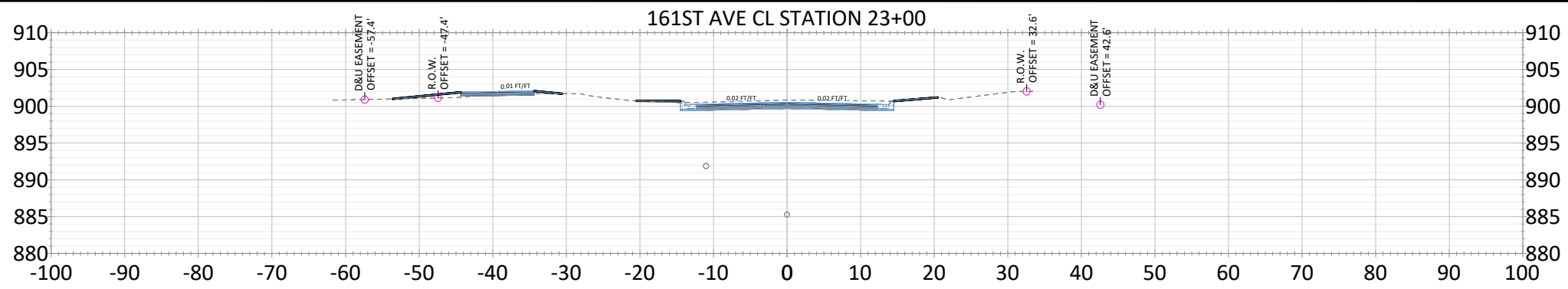
DATE: 2/28/23
FILE: 23-01

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

CROSS SECTIONS STA. 19+00 TO 20+66

S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
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CITY OF RAMSEY, MINNESOTA



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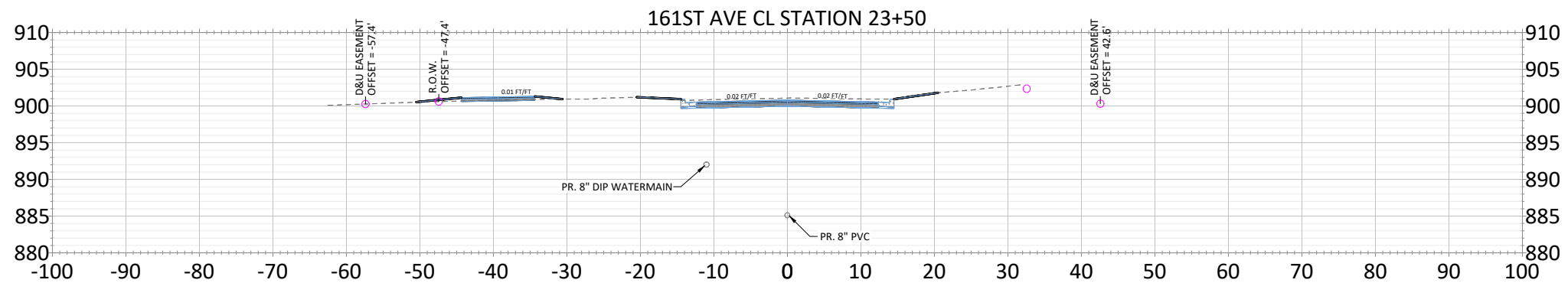
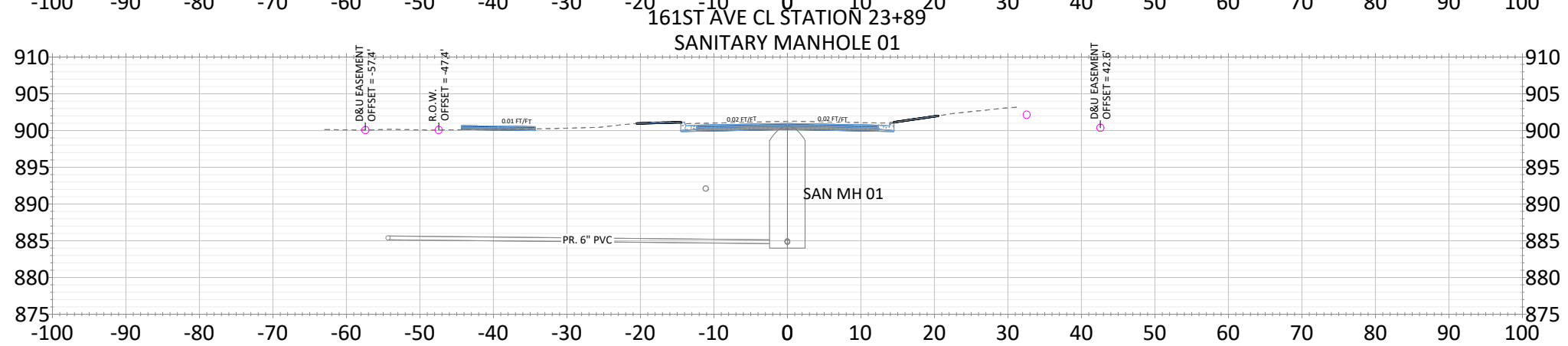
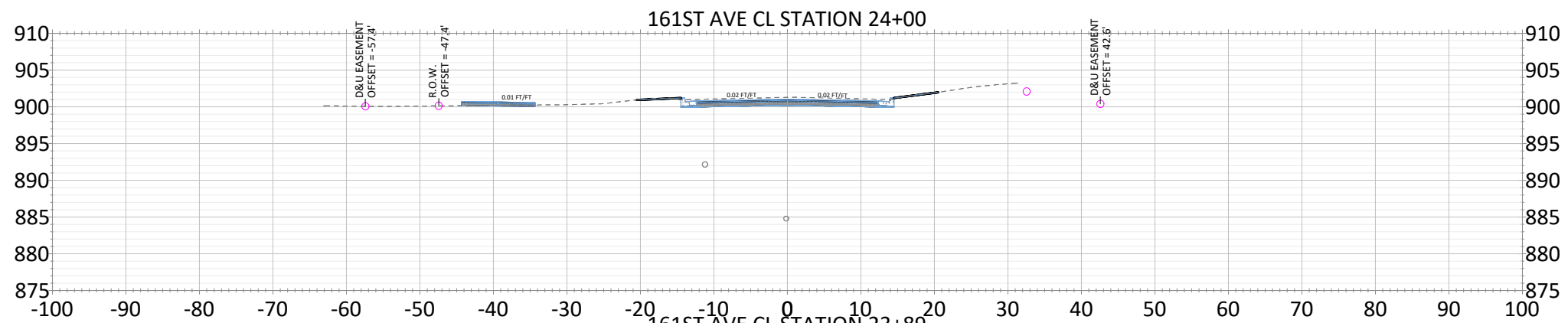
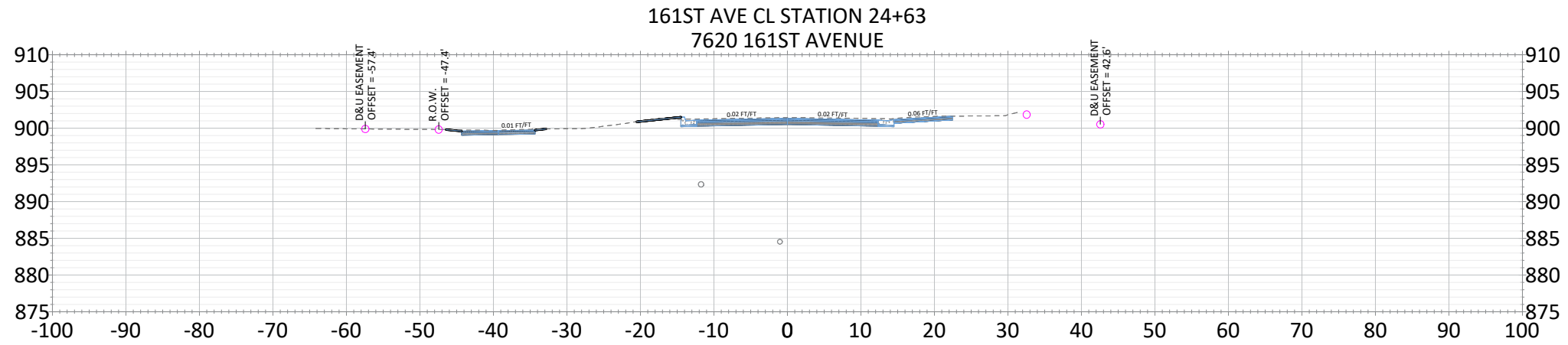
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CROSS SECTIONS STA. 21+00 TO 23+00
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CHECKED BY:	JJF		

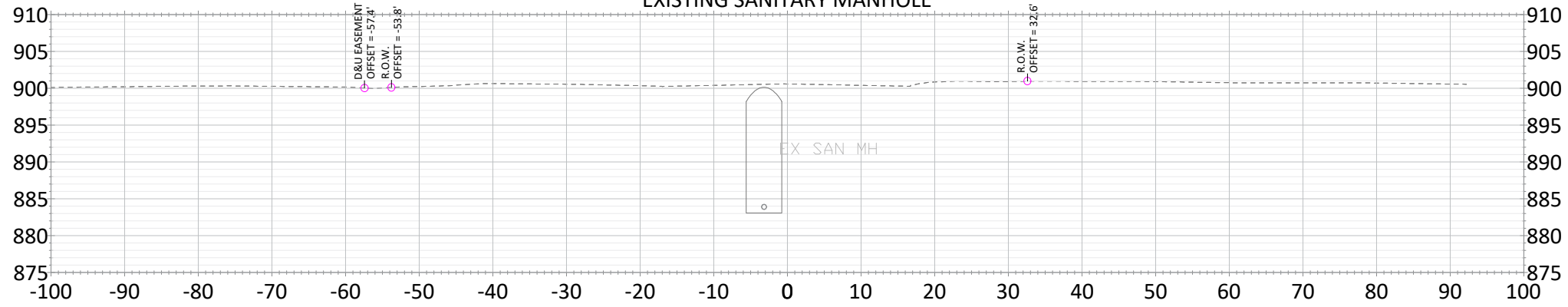
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS STA. 23+50 TO 24+63

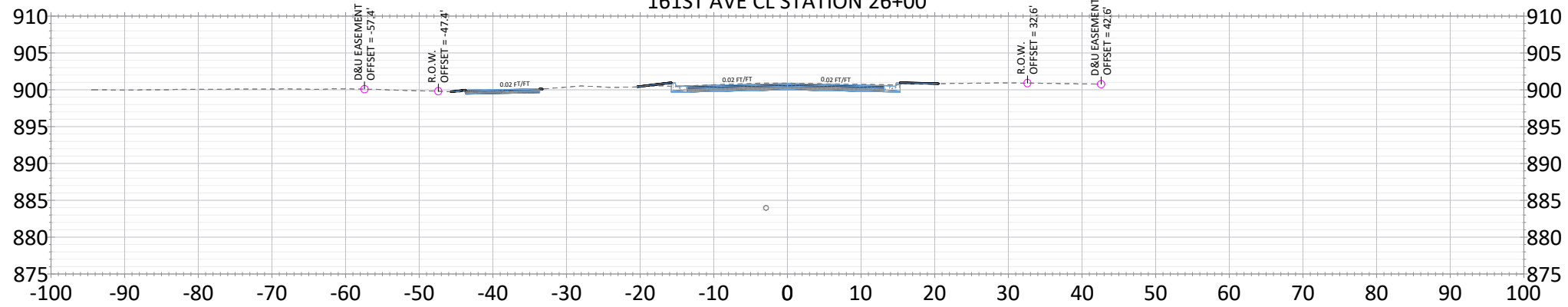
S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
CITY PROJECT NO. 23-01
CITY OF RAMSEY, MINNESOTA

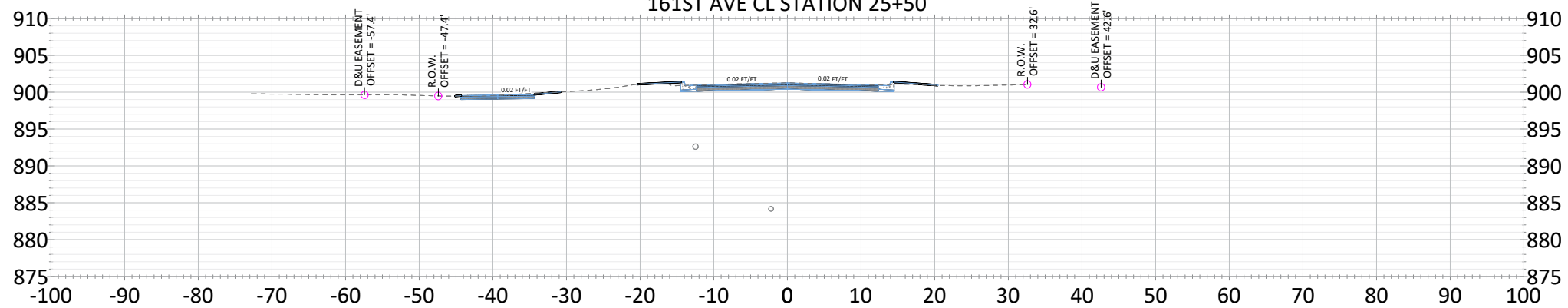
161ST AVE CL STATION 26+19
EXISTING SANITARY MANHOLE



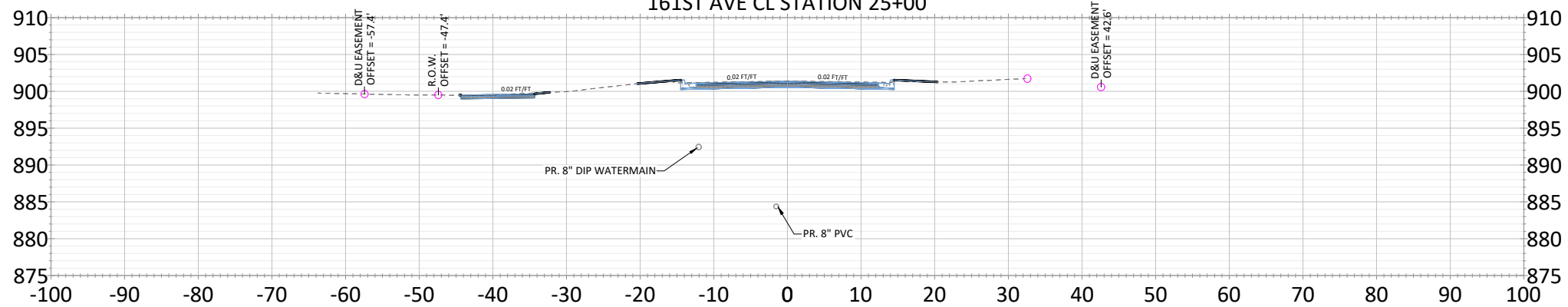
161ST AVE CL STATION 26+00



161ST AVE CL STATION 25+50



161ST AVE CL STATION 25+00



DATE	REVISION
3/24/23	MODIFY TRAIL ALIGNMENT

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

JOE FERIANCEK
Date 3/01/23 Lic. No. 57095

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

DATE: 2/28/23
FILE: 23-01

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

CROSS SECTIONS STA. 25+00 TO 26+19

S.A.P. 199-123-001

161ST AVENUE RECONSTRUCTION
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