



CITY OF DULUTH, MINNESOTA

**REQUEST FOR PROPOSALS FOR
ENGINEERING SERVICES FOR 2024 STREET PRESERVATION PROJECT**

Solicitation 23-99649

Project No. 2090

Issued September 8, 2023

Proposals Due September 26, 2023 at 4:00 PM, Central Time

PROJECT OVERVIEW AND BACKGROUND

The City of Duluth is interested in retaining a consultant to provide design services thru bidding for the 2024 Street Preservation Project. If construction services are required, then the additional work will be contracted by amendment.

Project sites are listed below and identified in the project maps attached as Appendix B.

Route & Termini	Mileage	Construction Type
131st Ave W, TH23 to Water Street	0.22	Reclaim
Meadow St, from Midway Ave to Boundary Ave	0.12	Reclaim
Brooks St, from Midway Ave to Boundary	0.12	Reclaim
Vinland Ave alley, from Boundary Ave to 200' East	0.04	Reclaim
Main St, from 64 th Ave W to 66th Ave W	0.12	Reclaim
Water St, 130th Ave W to dead end east	0.37	Reclaim
Lawn St, from Boundary Ave to 87th AW	0.38	Reclaim
Midway Ave, Vinland to Lawn St	0.07	Reclaim
W 5th St, from 40th to 41st Ave W	0.09	Mill & Overlay
N 57th Ave W, Grand to Cody	0.18	Mill & Overlay
N 56th AW, Grand Av - Elinor St	0.21	Overlay
Spirit Drive, Grand Ave to Roosevelt St	0.13	Overlay
57th Ave W, from Nicollet to Roosevelt	0.09	Overlay
41st Ave W, from 8th St to dead end N	0.07	Overlay
W 4th St, from 40th Ave W to 44th AW	0.36	Mill & Overlay
N 81st Ave W, from S dead end to N dead end	0.17	Mill & Overlay
N 80th Ave W, from Grand Ave to Knowlton Blvd	0.28	Mill & Overlay
N 84th Ave W, from Grand Ave to Knowlton Blvd	0.19	Mill & Overlay
Como Ave, from Willow to Dead end S	0.35	Mill & Overlay
E Gilead, Arlington to N Blackman	0.51	Mill & Overlay
E Locust, Arlington to N Blackman	0.51	Mill & Overlay
Myrtle Place, Central Ent to Myrtle St	0.05	Mill & Overlay
W Myrtle St, Central Ent to Basswood Ave	0.35	Mill & Overlay
W 12th St, TH53 to dead end E	0.13	Mill & Overlay
W 11th St, TH53 to 22nd Ave W	0.11	Mill & Overlay
22nd Ave W, W 11th St to W 10th St	0.07	Mill & Overlay
W 13th St, from TH53 to dead end E	0.14	Mill & Overlay
W 4th St, from 40th Ave W to dead end E	0.24	Mill & Overlay
W 5th St, 40th Ave W to dead end E (Merritt Ck)	0.24	Overlay
38th Ave W, Grand to 2nd St	0.07	Overlay
39th Ave W, Superior St to 4th St	0.34	Mill & Overlay
W 5th St, from Skyline Pkway to 10th Ave W	0.43	Mill & Overlay
W 6th St, from 11th AW to 10th AW	0.09	Mill & Overlay
7th St, from 13th AE to 14th AE	0.09	Reclaim
N Lake Ave, Mesaba to 11th St	0.2	Mill & Overlay
Eden Lane, Parkland Ave to Belmont Rd	0.08	Mill & Overlay

W 5th St, from 10th Ave W to 6th Ave W	0.74	Mill & Overlay
W 6th St, from 10th Ave W to 466' E of 8th AW	0.27	Mill & Overlay
E 10th St, from 7th AE to 8th AE	0.07	Mill & Overlay
8th Ave E, 9th St to 120' North of 10th St	0.09	Mill & Overlay
*N 11th Ave E, from 9th St to Skyline Pkway	0.28	Overlay
Chester Pkway, from Belmont Rd alley to Skyline	0.14	Mill & Overlay
Belmont, from Parkland Ave to Chester Pkway	0.05	Mill & Overlay
Parkland Ave, from 10th St to Belmont	0.14	Mill & Overlay
E 10th St, from 14th AE to Parkland	0.07	Overlay
14th Ave E, from 9th St to dead end N	0.12	Mill & Overlay
16th Ave E, from 4th St to 8th St	0.28	Mill & Overlay
Old Howard Mill, from 36th Ave E to Rustwood	0.33	Mill & Overlay
Crescent View, from 37th AE to Pinewood Ln	0.22	Reclaim
Rustwood, from Old Howard Mill to Valley Dr	0.15	Mill & Overlay
17th Ave E, from 6th to 8th St	0.14	Mill & Overlay
9th St, from 19th to Garden St	0.17	Mill & Overlay
Garden St, from 19th Ave E to 8th St	0.21	Mill & Overlay
E 7th Street, 16th AE to 19th AE	0.27	Mill & Overlay
E 9th St, from 18th AE to 19th AE	0.09	Mill & Overlay
17th Ave E, from 4th to 6th St	0.14	Mill & Overlay
E 6th St, from 15th AE to 19th AE	0.36	Mill & Overlay
E 5th St, from 15th AE to 17th AE	0.54	Mill & Overlay
*Crosley Av, Avondale - Oakley St	0.13	Mill & Overlay
Oneida St, 43th AE - 45th AE	0.19	Mill & Overlay
Vermillion Rd, from Snively to Oxford	0.45	Mill & Overlay
Norwood, 52nd AE to 54th AE	0.19	Mill & Overlay
N 51st Ave E, Norwood to Ivanhoe	0.14	Mill & Overlay
Kingston, from dead end W to dead end E	0.49	Mill & Overlay
*N 52nd Ave E, from Idlewild to Woodlawn	0.14	Mill & Overlay
Idlewild, from 51st AE to 54th AE	0.28	Mill & Overlay
N 54th AE from Idlewild to Covent Pl	0.03	Mill & Overlay
Covent Pl from 54th AE to dead end E	0.06	Mill & Overlay
Hartley Rd, from Arrowhead to Woodhaven Ln	0.29	Mill & Overlay
Woodhaven Ln, from Hartley Rd to Arrowhead	0.38	Mill & Overlay
*State Aid Streets -design to State Aid Standards.		

- Street work may include, but is not limited to: material removal, reclamation, milling, bituminous paving, storm water drainage improvements, ditching, partial curb and gutter replacement, all pedestrian ramps, partial sidewalk replacement, turf establishment in all disturbed areas, and striping if present at this time – verify striping plans with City Traffic Engineer.

The project will be funded through City of Duluth sales tax funding (local funds).

The City of Duluth will provide the following:

- All available street and utility drawings from previous projects.
- Aerial photography and utility layers in ESRI shape files from the cities GIS system.
- Typical plan sheets from the 2023 Preservation Project (attached as Appendix C). To provide plan layout and sheet format.
- Assistance in obtaining other related information in City files pertaining to the project if needed.
- List of known monuments on project to be preserved.

GENERAL PROJECT SCOPE

Consulting Engineering Services are expected to include all work necessary to provide final design including preliminary survey, plans and specifications, and bidding services.

All work shall be performed in accordance with the most recent version of the City Standard Construction Specifications and the Engineering Guidelines (available on the City of Duluth website at <https://duluthmn.gov/engineering/standard-construction-specifications/>), as well as current MNDOT specifications.

SCOPE OF SERVICES

1. Initial Site Visit and Consultations

- a. The Consultant shall meet with City of Duluth representatives to review project scope and complexity, design criteria, related requirements, view existing conditions, gather data from the City engineering files and previously prepared reports. Additional consultations shall, where necessary, clarify the technical requirements and objectives of the contract and may be in the form of letters, emails and/or telephone conversations.
- b. The Consultant shall provide documentation of meetings and data provided.
- c. The Consultant shall ascertain the applicability of information provided, review data for completeness, and notify the City of any additional data required. It shall be the responsibility of the Consultant to determine, by site inspection procedures, the reliability of all the existing topographic survey. If information is found to be missing, the City will determine if this information should be collected as additional work.

2. Public Participation

The Consultant should plan on five neighborhood meetings to coordinate and communicate the project with residents. These are in addition to any meetings held prior to the contract execution. These meetings will be held virtually.

3. Reconnaissance, Field Surveys & Geotechnical Exploration

- a. The Consultant shall perform survey as necessary for driveways, curbs, road and drainage work, including all manhole and valve locations. Consultant will also collect all survey information of existing ditches and yard slopes as needed for proposed sidewalks and ADA ramps including any retaining walls or v-curb needed and include in construction plans. If the proposed ramp won't meet ADA standards, the Consultant shall submit to the city an ADA Compliance Checklist for that site in PDF format. The Consultant shall determine treatment for all monuments and their boxes that are disturbed with the project. Coordinate monument treatments with Project Engineer and City Surveyor and include in plan set.
- b. Review project sites for physical conditions or lack of infrastructure that contribute to poor drainage and drainage issues- where they exist, work will be included in these plans to improve drainage. Coordinate any proposed storm water improvements with the city storm water engineer, Tom Johnson or his designee. Known storm sewer issues to be addressed by the consultant's design and provided in the consultant's design proposal include:
 - a. Bayview Heights
 - i. Stormwater design and management in Bayview Heights includes Meadow St (from Midway Ave to Boundary Ave), Brooks St (from Midway Ave to Boundary), Vinland Ave alley (from Boundary Ave to 200' east), and Vinland Alley (from Midway Ave to 200' east). Portions of the existing storm sewer system intersecting these streets run through private property. Project work will include new storm sewer intercepting these existing networks within city of right-of-way, improving roadside/alley ditches, and providing new storm inlets to intercept roadway and yard drainage. New storm sewer will be designed to run to the west to connect to the existing storm sewer system on Boundary Avenue, which is owned by St. Louis County and any storm sewer connections shall be coordinated with the County. At the Vinland Alley (from Midway to 200' east), new storm sewer will be provided in the alley and on the City parcel between the alley and Brook Street: this new storm sewer will be connected to the existing storm sewer system on Brook street. Storm sewer on private property will be abandoned in place.
 - b. Main St (from 64th Ave W to 66th Ave W)
 - i. Stormwater and roadway design for Main St between 64th Ave W and 66th Ave W includes urbanizing this two-block stretch of rural street. Project work is anticipated to include removal or abandonment of existing storm culverts, new storm sewer, and new curb and gutter followed by reclaim and paving of the roadway pavement within the limits of the new curb and gutter.
 - c. 7th Street (from 13th Ave E to 14th Ave E)
 - i. Erosion and sediment issues due to stormwater flows are occurring along the platted 13th Ave E right-of-way between 7th Street and the alley to the north.

Project work will include stabilization of eroded slopes within the platted right-of-way and stormwater management between the alley and 7th Street to convey stormwater and mitigate erosion: options to be considered include stormwater conveyance (down drain), energy dissipation, and new storm sewer inlets to capture runoff. New storm sewer will be cut in at 7th Street to convey the captured flows and runoff from the 13th Ave E platted right-of-way to connect to the existing storm sewer system at 7th Street and 14th Ave E (430' to the east of 13th Ave E).

- c. The pedestrian ramps will be improved to meet current ADA standards where sidewalks currently exist. The Consultant will be required to complete preliminary design for the curb ramps, with approval of the ramp type prior to final design by the project engineer. If the proposed ramp won't meet ADA standards, the Consultant shall submit to the city an ADA Compliance Checklist for that site in PDF format.
- d. The Consultant shall be responsible for all permit applications that may be required of the City.
- e. The Consultant shall do all necessary geotechnical exploration to determine/verify the existing section on the reclaim and mill/overlay sections. Assume for this proposal the total number of subsurface explorations is one (1) per 400 ft.
- f. The construction type noted for each street segment provides initial guidance to the consultant on the project scope. However, this can be modified if the same number of miles are accomplished using different construction techniques, within the project budget.
- g. The Consultant, as part of design services, shall arrange for and include the cost to televise all the storm water pipes and drainage structures, including inspection of the structures on ONLY those segments of road identified for reclamation. The consultant shall provide a "Storm Video Inspection and Drainage Assessment Report" that will include high resolution video logs, manhole/structure reports, and repair and/or replacement recommendations, as appropriate. Pipe and drainage structure inspections and defect and feature coding shall be in accordance with NASSCO MACP / PACP Level 1 standards. The inspection and all forms, reports, photos, exhibits, diagrams, required viewer software, etc. shall be provided early in the design process so repairs and replacements can be assessed and incorporated in the project design to meet the City's overall project schedule.

4. Preliminary Design Recommendations and Costs

- a. The Consultant shall analyze all appropriate data, and prepare recommendations and a **preliminary construction cost estimate broken down per street prior to preparing plans and specifications.**
- b. The consultant shall work with City staff to provide design and cost alternatives to assist the City in meeting the City's desired objectives and budget constraints.
- c. Once the recommendations and cost estimate is prepared, meet with the project engineer to confirm direction.

d. Full design may commence following that meeting.

5. Plans and Specifications

- a. The consultant shall prepare construction drawings. These drawings shall include all details, plans and specifications necessary for work as required by City. On past similar locally funded projects, an aerial photo of the project site with the work depicted on that aerial photo is sufficient for bidding. An SEQ with each project site in its own column will be necessary. This will allow a contingency if bids come in over budget and scope must be decreased. Note: The title sheet with the streets listed shall be in this order- Overlays, Mill and Overlays and Reclaims. In each heading the streets shall be listed east to west. The SEQ shall list the streets in the same order. The Cost Estimates shall be in the same order and look similar to the SEQ. See page 6 and page 2 and 3 of sample plan.
- b. The specification preparation shall also include appropriate sections for bidding, bonding, agreements, general and special provisions, and other appropriate contract provisions as well. These sections shall be developed in accordance with the City standards, which shall be made available to the consultant.
- c. The drawings shall include all necessary site maps, plans, elevations, sections, details, and notes as needed or necessary to adequately show, explain or describe all features of the project. A full example plan set (200+ pages) can be provided to interested consultants upon request.
- d. The contract drawing sequence shall follow the standard City of Duluth format.

6. Cost Estimate

A preliminary cost estimate (broken down by street) is required prior to preparing plans and specifications (Section 4 above). Each plan review submittal also requires an updated cost estimate, for a total of five (5) submittals. Following the completion of the plans and specifications a quantity takeoff and a detailed itemized construction cost estimate for each individual segment of the project shall be provided.

7. Project Bidding

Upon completion of plans and specifications, the consultant shall provide all documents and services to provide for bidding and award for construction. The bid form shall be provided in CSV format without any extra or empty spaces between cells. The MnDOT item number, with the corresponding description, units and quantities provided in their own columns in capital letters, in numerical order. The consultant shall answer any questions brought up during bidding and attend a pre-bid conference. This design phase shall be considered complete upon award of the project following bidding.

PROJECT COMPLETION DATES

September 8, 2023	RFP Issued
September 26, 2023	Proposals Due
September 29, 2023	Selection of Consultant
Week of October 1	City Holds Resident Meeting
October 9, 2023	Council Approval to Award Contract
October 11, 2023	Notice to Proceed
November 1, 2023	Prelim Cost Est and meeting
November 29, 2023	30% Plan review and Cost Est 2
January 10, 2024	90% Plan review and Cost Est 3
January 31, 2024	Plans and Cost Est 4 submitted for final City review
February 14, 2024	Final Plan, Specification, Cost Estimate 5 and SWPPP delivered to City
February 21, 2024	Advertise for bids
March 6, 2024	Receive bids

QUALIFICATION PROPOSAL CONTENTS

The proposal shall be submitted in the following format broken into the 5 sections identified below. The proposal shall be limited to 10 pages plus a cover letter (The page limit includes all resumes. Proposals that exceed this limit will not be reviewed. Dividers and covers are not included in the page limitation). The proposal format shall be as follows:

1. Goals and Objectives

A restatement of the goals and objectives and the project tasks to demonstrate the responder's view and understanding of the project.

2. Knowledge, Experience, and Personnel

An outline of the responder's background and experience with similar projects. Project descriptions shall include a list key staff and their role. Include a description of the firm's knowledge of City of Duluth street and utility standards. Within the experience, the consultant should demonstrate and provide proof of competency in the following areas:

- Road Design and Construction, including knowledge of reclamation and milling projects
- Planning for effective Public Participation
- Cost estimating and cost control
- Project management experience and dealing effectively with residents
- Erosion/Stormwater management for design of SWPPP for the project

Identify personnel to conduct the project and detail their training, certifications and licenses, and work experience. Identify how personnel proposed for this project were involved with the projects listed as experience. Identify a professional engineer registered in the State of

Minnesota who will oversee the overall project. No change in personnel assigned to the project will be permitted without approval of the City.

3. Work Plan

Include a detailed work plan identifying the work tasks to be accomplished and the budget hours to be expended on each task and subtask for roadway design. The work plan shall be in spreadsheet format and shall list each task and the number of hours for each staff person on that task. The work plan shall also identify the deliverables at key milestones in the project as well as any other services to be provided by the City. Do NOT include any costs in the work plan.

4. Work Schedule

An anticipated work schedule shall also be provided. The work schedule shall identify all key milestone dates.

5. References

A list of names, addresses and telephone numbers of at least three (3) references for whom the respondent has performed similar street and utility construction services.

COST PROPOSAL CONTENTS

Provide, in separate envelope, one copy of the cost proposal, clearly marked on the outside "Cost Proposal" along with the responder's official business name and address. Terms of the proposal as stated must be valid for the project length of time.

The consultant must include a not to exceed total project cost, as well as subtotals for design services and bidding and any sub consultant fees. The cost proposal shall include all of the following:

- A cover/transmittal letter
- A breakdown of the hours by task for each employee. This shall be in the same format as the work plan in the Qualifications proposal with the addition of costs.
- Hourly rates for each specific employee proposed. (not general rates by category)
- Identification of anticipated direct expenses and rates for miscellaneous charges such as mileage and copies.
- Identification of any assumption made while developing this cost proposal.
- Identification of any cost information related to additional services or tasks. Include this in the cost proposal, but identify it as additional costs and do not make it part of the total project cost.
- The Consultant must have the cost proposal/cover letter/transmittal signed in ink by an authorized member of the firm. If the official signs the Proposal Cover Sheet attached as Appendix A, this requirement will be met.
- The consultant must not include any cost information within the body of the RFP qualification proposal response.

SELECTION

The proposals will be reviewed by City Staff. The intent of the selection process is to review proposals and make an award based upon qualifications as described herein. A 100-point scale will be used to create the final evaluation recommendations. The factors and weighting on which proposals will be judged are:

	Item	Percent
1	Goals and Objectives	5%
2	Knowledge, Experience, and Personnel	20%
3	Work Plan	20%
4	Work Schedule	15%
5	Project costs/fees	40%

Proposals will be evaluated on a best value basis with 60% qualifications and 40% cost consideration. The review committee will not open the cost proposal until after the qualification points have been awarded.

SUBMITTAL

Submit a flash drive, plus the original and five (5) copies in an envelope marked "2024 Street Preservation Project, Project Number 2090" to:

Patti Stalvig, Purchasing Agent
City Hall
411 West 1st Street, Room 120
Duluth, MN 55802

CONTACT

All questions concerning the project shall be directed to:

Patrick Loomis, PE
ploomis@duluthmn.gov
City of Duluth - Engineering Division
411 W. 1st Street, Room 240 City Hall
Duluth, Minnesota 55802-1191
(218) 730-5094

LIMITATIONS

This Request for Proposal does not commit the City of Duluth to award a contract or pay costs incurred in the preparation of the proposal, or to procure a contract for services or supplies.

The Proposal shall not in any way include any restrictions on the City of Duluth. The Consultant shall NOT provide proposed contract language.

The City of Duluth specifically reserves the right to accept or reject any or all proposals, to negotiate with any qualified source, to cancel in part or in its entirety the Request for Proposal, to waive any requirements, to investigate the qualifications of any proposal, to obtain new proposals, or proceed to have the service provided in any way as necessary to serve the best interests of the City of Duluth.

The selected consultant must sign the City of Duluth standard Professional Engineering Services Agreement. Any questions concerning this agreement should be asked PRIOR to proposal submittal. These questions should be directed to Tom Pfeffer in the City Engineering Office.

All materials submitted in response to this RFP will become property of the City and will become public record after the evaluation process is completed and an award decision made.

Prior to entering into an agreement with the city, the consultant shall furnish proof that it has all legal requirements for transacting business in the State of Minnesota.

APPENDICES

Appendix A – Proposal Cover Sheet

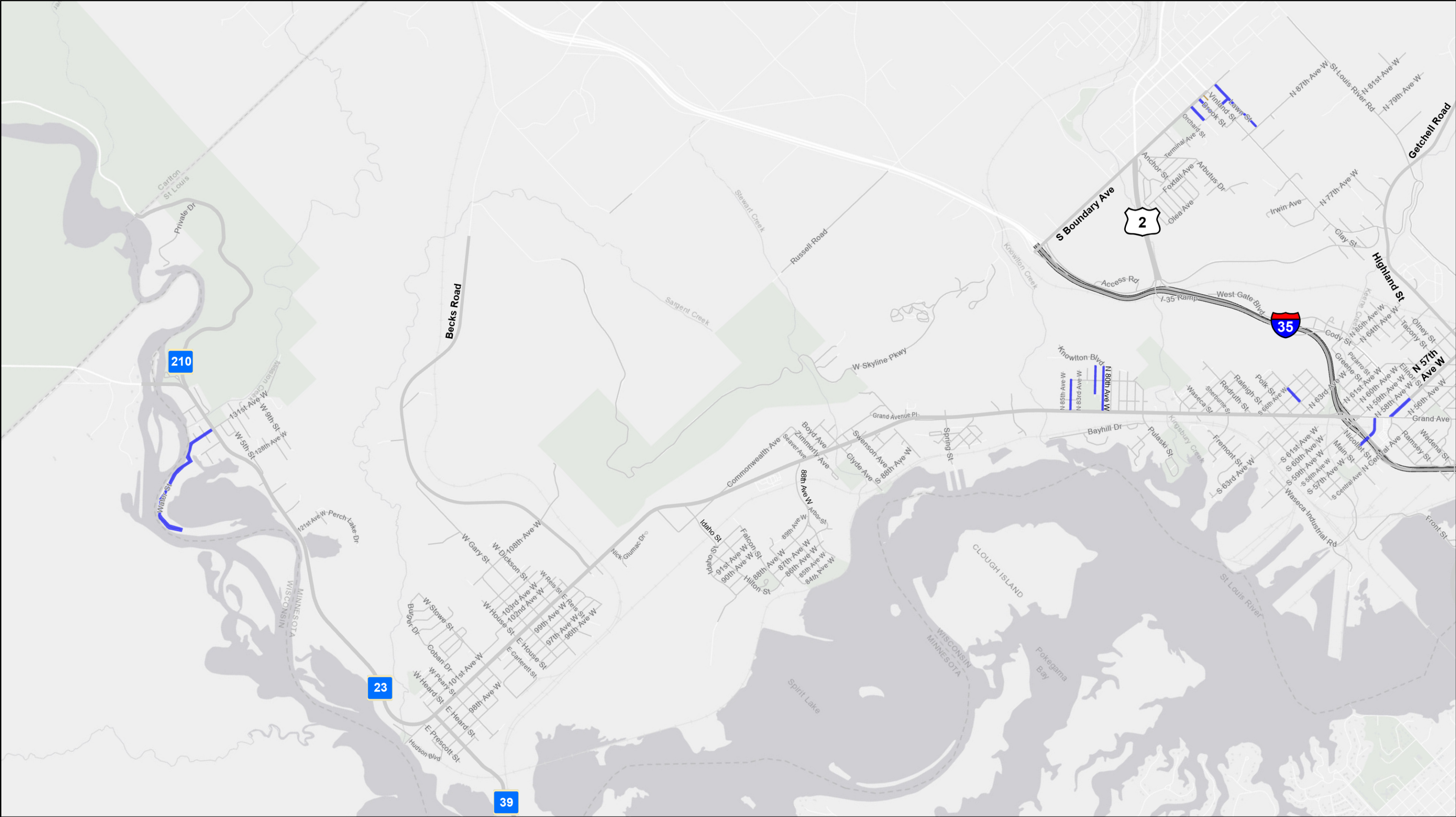
Appendix B – Project Site Maps



Appendix C – Sample Plan Set

APPENDIX A - PROPOSAL COVER SHEET
CITY OF DULUTH
RFP# 23-99649 Engineering Services for 2024 Street Preservation Project

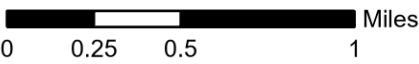
Bidder Information:	
Bidder Name	
Mailing Address	
Contact Person	
Contact Person's Phone Number	
Contact Person's E-Mail Address	
Federal ID Number	
Authorized Signature	
Name & Title of Authorized Signer	
Email of Authorized Signer	

APPENDIX B – PROJECT SITE MAPS
CITY OF DULUTH
RFP# 23-99649 Engineering Services for 2024 Street Preservation Project



-  2024 Sales Tax Project Locations
-  2024 Non-Sales Tax Project Locations

RFP City Project 2090
2024 Transportation Sales Tax Projects
West

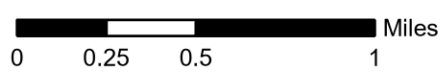


The City of Duluth has tried to ensure that the information contained in this map or electronic document is accurate. The City of Duluth makes no warranty or guarantee concerning the accuracy or reliability. This drawing/data is neither a legally recorded map nor a survey and is not intended to be used as one. The drawing/data is a compilation of records, information and data located in various City, County and State offices and other sources affecting the area shown and is to be used for reference purposes only. The City of Duluth shall not be liable for errors contained within this data provided or for any damages in connection with the use of this information contained within.



- 2024 Sales Tax Project Locations
- 2024 Non-Sales Tax Project Locations

RFP City Project 2090
2024 Transportation Sales Tax Projects
Central (North)



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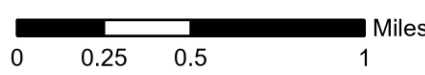


- 2024 Sales Tax Project Locations
- 2024 Non-Sales Tax Project Locations

RFP City Project 2090

2024 Transportation Sales Tax Projects

East



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**APPENDIX C – SAMPLE PLAN SET
CITY OF DULUTH
RFP# 23-99649 Engineering Services for 2024 Street Preservation Project**

1:41 PM
3/23/2022
i:\pww\engineer\projects\2000-2499\2016_2023_street_preservation\23-acad-drawings\2016_ttl.dwg

CITY OF DULUTH

DEPARTMENT OF PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

2023 STREET PRESERVATION PROJECT

CONSTRUCTION PLANS FOR: MILLING, FULL DEPTH RECLAMATION, BITUMINOUS OVERLAY, CONCRETE CURB & GUTTER,
CONCRETE DRIVEWAY, CONCRETE WALK AND ADA IMPROVEMENTS

CITY PROJECT NO. 2016

PROJECT SITES
ALDEN AVENUE
W. REDWING STREET

PROJECT SITES
AIRPARK BOULEVARD
VENTURE AVE

PROJECT SITES
W. 6TH ST
RAMSEY ST

PROJECT SITE
88TH AVE W.

PROJECT SITE
IDAHO ST

PROJECT SITES
E. 4TH ST
OLD HOWARD MILL RD
36TH AVE E.

PROJECT SITE
GRAND VIEW AVE

PROJECT SITE
N. 3RD AVE E.

TRAFFIC CONTROL NOTE
ALL TRAFFIC CONTROL DEVICES AND SIGNING
SHALL CONFORM AND BE INSTALLED IN
ACCORDANCE WITH THE CURRENT "MINNESOTA
MANUAL ON UNIFORM TRAFFIC CONTROL
DEVICES" (MnMUTCD), INCLUDING THE LATEST
FIELD MANUAL FOR TEMPORARY TRAFFIC
CONTROL ZONE LAYOUTS.

PLAN REVISIONS		
DATE	SHEET NO.	APPROVER

CITY OF DULUTH PROJECT NO. 2016

GROSS LENGTH	19,759	FEET	3.742	MILES
BRIDGES-LENGTH	60	FEET	0.011	MILES
EXCEPTIONS-LENGTH	60	FEET	0.011	MILES
NET LENGTH	19,699	FEET	3.731	MILES

BASIS OF DATUM

1. HORIZONTAL DATUM IS SAINT LOUIS COUNTY TRANSVERSE MERCATOR 1996 (SLCTM_96)
2. VERTICAL DATUM IS NAVD 88

PLAN 1"=40' 1"=20'
SITE MAP 1:12,000



PROJECT LOCATION
ST. LOUIS COUNTY

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
"STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. AVAILABLE AT:
<http://www.dot.state.mn.us/pre-letting/spec/index.html>

THE 2019 EDITION OF THE CITY OF DULUTH PUBLIC WORKS AND UTILITIES
DEPARTMENT CONSTRUCTION STANDARDS AND SUPPLEMENTS OR ADDENDUMS SHALL
APPLY.

AVAILABLE AT:
<http://www.duluthmn.gov/engineering/standard-construction-specifications/>

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY 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".

WARNING:
LOCATION OF UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR. CALL
BEFORE DIGGING. GOPHER STATE ONE CALL 1-800-252-1166 REQUIRED BY LAW

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	STATEMENT OF ESTIMATED QUANTITIES
4	SEQ NOTES, STD PLATES/DETAILS
5	LEGEND AND GENERAL NOTES
6	STREET INDEX
7-10	SITE LOCATION MAPS
11-26	STANDARD PLANS
27-32	CONSTRUCTION DETAILS
33-63	MILL & OVERLAY: TABULATIONS, TYPICAL SECTIONS, CONSTRUCTION PLANS.
64-116	FULL DEPTH RECLAMATION: TABULATIONS, TYPICAL SECTIONS, CONSTRUCTION PLANS.
117-125	STORM WATER AND SANITARY DRAINAGE REPAIR TRAFFIC CONTROL

THIS PLAN CONTAINS 125 SHEETS

DESIGN TEAM: P.LOOMIS, S.ANDERSON, Z.ERICKSON, D.KRATOCHWILL, N.LAVINE

I HEREBY CERTIFY THAT THIS PLAN 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.

PATRICK F. LOOMIS

PROJECT ENGINEER (TYPED OR PRINTED NAME)

Patrick F. Loomis 04/20/2023 49099
PROJECT ENGINEER DATE LIC. NO.

CITY APPROVAL

[Signature] 4/21/2023
APPROVED CHIEF ENGINEER OF TRANSPORTATION DATE

[Signature] 4-21-23
APPROVED CHIEF ENGINEER OF UTILITIES DATE

[Signature] 4-21-23
APPROVED CITY ENGINEER DATE

CITY OF DULUTH PROJECT NO. 2016

DRAWN BY: DJK SHEET NO. 1 OF 125

STATEMENT OF ESTIMATED QUANTITIES						MILL & OVERLAY						FULL DEPTH RECLAMATION						
ITEM NO.	SEQ NOTES	SPEC. NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY	IDAHO ST	88TH AVE W	RAMSEY ST	W 6TH ST	3RD AVE E	GRAND VIEW AVE	AIRPARK BLVD	VENTURE AVE	ALDEN AVE	W REDWING ST	E 4TH ST	OLD HOWARD MILL RD	N 36TH AVE E
1		2021.501	MOBILIZATION	LUMP SUM	1	0	0	0	0	0	0	0	0	0	0	0	0	0
2		2104.502	REMOVE CATCH BASIN	EACH	6				1			4				1		
3		2104.502	REMOVE CASTING	EACH	20			4							16			
4		2104.502	REMOVE VALVE BOX	EACH	6			4				1			1			
5	1	2104.502	SALVAGE SIGN	EACH	4			2							2			
6	2, 3	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	5,660	120	234	2331	146	406	1861	52	23	343	84	60		
7		2104.503	SAWING BITUMINOUS PAVEMENT	LIN FT	569	102	84	233	150									
8	3	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	9,133					89		3536	1108		4212	86	50	52
9		2104.503	REMOVE SEWER PIPE (STORM)	LIN FT	122							122						
10	3	2104.503	REMOVE CURB & GUTTER	LIN FT	12,703	80	150	1439	111		1822	2577	654	107	3547	1383	696	137
11	3, 5	2104.503	SALVAGE STONE CURB	LIN FT	260					260								
12	3, 4	2104.504	REMOVE PAVEMENT	SQ YD	222			222										
13	3	2104.504	REMOVE CONCRETE PAVEMENT	SQ YD	1,045		21		52	96	60	317	40		417	10	32	
14	3	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	846					8		356	199	24	249	10		
15	2, 3	2104.518	REMOVE CONCRETE WALK	SQ FT	37,166			6731	4463	968	7831				11165	5484	52	472
16	3, 6	2104.618	REMOVE STONE PAVERS	SQ FT	520					520								
17		2105.607	COMMON EXCAVATION	CU YD	255											247		8
18		2118.507	AGGREGATE SURFACING (CV) CLASS 5	CU YD	31									3	2	26		
19	7	2131.506	CALCIUM CHLORIDE SOLUTION	GALLON	12,702							5918	919	528	3026	1487	638	186
20	8, 9	2215.504	FULL DEPTH RECLAMATION	SQ YD	50,119							23670	3676	2110	12102	5509	2362	690
21	10	2215.507	HAUL FULL DEPTH RECLAMATION (LV)	CU YD	1,585							900	70	50	175	160	170	60
22		2232.504	MILL BITUMINOUS SURFACE (1.0")	SQ YD	1,201											1201		
23		2232.504	MILL BITUMINOUS SURFACE (2.0")	SQ YD	29,301				1838			9830		2110	12102	3421		
24		2232.504	MILL BITUMINOUS SURFACE (3.0")	SQ YD	2,311					568	1743							
25		2232.504	MILL BITUMINOUS SURFACE (3.5")	SQ YD	7,135	2764	4371											
26		2232.504	MILL BITUMINOUS SURFACE (4.0")	SQ YD	26,801			6782				13840	3676			2503		
27	11	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	5,541	276	437	339	93	29	84	2384	375	102	645	587	118	72
28	11	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,B)	TON	3,453	580	917	1017	222	89	253					375		
29	11	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	14,348							7873	1243	424	2695	1464	496	153
30		2501.502	12" RC PIPE APRON	EACH	1							1						
31		2501.603	CLEAN DRAINAGE DITCH	LIN FT	464							90		374				
32		2502.503	8" PERF PE PIPE DRAIN	LIN FT	2,117							253	222		1442	200		
33		2503.503	12" RC PIPE SEWER DES. 3006 CL V	LIN FT	212							212						
34		2503.603	12" HDPE PIPE SEWER	LIN FT	45									45				
35	12	2504.602	ADJUST VALVE BOX	EACH	9			1					4			4		
36		2504.602	ADJUST CURB BOX	EACH	19			3					1		15			
37		2504.602	CONCRETE ENCASED VALVE BOX COLLAR	EACH	64			10				33	3		10	7	1	
38	13	2506.502	CASTING ASSEMBLY	EACH	22			4				1			16	1		
39		2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	15.0							15						
40	13	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	82.0	11	6	5	1		6	14	2	2	6	18	9	3

I HEREBY CERTIFY THAT THIS PLAN 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.

SIGNATURE: 

PATRICK F. LOOMIS
TYPE NAME

DATE: 04/20/2023

LIC. NO: 49099



CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

STATEMENT OF ESTIMATED QUANTITIES

SHEET NO. 2 OF 125

STATEMENT OF ESTIMATED QUANTITIES						MILL & OVERLAY						FULL DEPTH RECLAMATION							
ITEM NO.	SEQ NOTES	SPEC. NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY	IDAHO ST	88TH AVE W	RAMSEY ST	W 6TH ST	3RD AVE E	GRAND VIEW AVE	AIRPARK BLVD	VENTURE AVE	ALDEN AVE	W REDWING ST	E 4TH ST	OLD HOWARD MILL RD	N 36TH AVE E	
41		2506.602	INSTALL CATCH BASIN	EACH	3				1					1		1			
42	13	2506.602	ADJUST FRAME RING & CASTING	EACH	92	8	6	4	1	9	4	29	2	2	2	15	8	2	
43	14	2506.602	CONNECT INTO EXISTING STORM SEWER	EACH	5							4				1			
44	15	2506.602	CONNECT INTO EXISTING MH OR CB	EACH	12							4	1	1	5	1			
45	13	2506.602	CONCRETE ENCASED CASTING COLLAR	EACH	68	3		2			3	21	3	2	24	6	3	1	
46	16	2521.518	4" CONCRETE WALK	SQ FT	18,140			3583	4463	742	970				4975	3055	42	310	
47	16	2521.518	6" CONCRETE WALK	SQ FT	18,722			2935			8885				6531	371			
48	17, 18	2521.518	6" CONCRETE WALK SPECIAL	SQ FT	226					226									
49	17	2531.503	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	7,904			271	132			2344	516	508	2402	759	931	41	
50	17	2531.503	CONCRETE CURB & GUTTER DESIGN B624 (MOD)	LIN FT	1,764	80	150	943		260						331			
51	16	2531.503	CONCRETE CURB DESIGN V8 (MOD)	LIN FT	50										50				
52	17, 19	2531.602	SILL CURB TYPE B624 (SPECIAL)	LIN FT	3,149			151			1833				1165				
53	20	2531.504	7" CONCRETE DRIVEWAY PAVEMENT	SQ YD	612		21		30		39			42	411	29	40		
54	20	2531.504	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	229			229											
55	20	2531.604	8" CONCRETE VALLEY GUTTER	SQ YD	871					96		568	207						
56		2531.618	TRUNCATED DOMES	SQ FT	414			156			63				135	60			
57		2540.602	CONSTRUCT SURVEY MONUMENT	EACH	1			1											
58		2563.601	TRAFFIC CONTROL	LUMP SUM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
59	21	2564.502	INSTALL SIGN TYPE C	EACH	2			2											
60		2564.518	SIGN PANELS TYPE C	SQ FT	13.38										13				
61	22	2564.602	RELOCATE SIGN	EACH	14			6			4				3	1			
62	23	2564.602	INSTALL SIGN TYPE SPECIAL	EACH	2										2				
63		2573.602	EROSION CONTROL MOBILIZATION	LUMP SUM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
64	24	2575.602	SITE RESTORATION	EACH	13	1	1	1	1	1	1	1	1	1	1	1	1	1	
65		2582.503	4" SOLID LINE PAINT	LIN FT	2,577	2460						117							
66		2582.503	12" SOLID LINE PAINT	LIN FT	481				406	75									
67		2582.503	24" SOLID LINE PAINT	LIN FT	61				24	15		22							
68		2582.503	4" DOUBLE SOLID LINE PAINT	LIN FT	11,479	159	876	1154		137		6069			3084				
69		2582.518	CROSSWALK PAINT	SQ FT	90										90				

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PATRICK F. LOOMIS
TYPE NAME

DATE: 04/20/2023

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CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

STATEMENT OF ESTIMATED QUANTITIES

SHEET NO. 3 OF 125

STATEMENT OF ESTIMATED QUANTITIES NOTES

1. THE SIGNS SALVAGED UNDER THE PAY ITEM SALVAGE SIGN SHALL BE REINSTALLED AND PAID FOR UNDER PAY ITEMS INSTALL SIGN TYPE C OR INSTALL SIGN TYPE SPECIAL PER TABULATION SHEETS (G – SIGNAGE AND PAVEMENT MARKING), FOR EACH STREET SEGMENT.
2. SAWING OF CONCRETE SIDEWALKS FOR REMOVAL IS INCIDENTAL.
3. LATERAL SAWCUTTING ON CONCRETE CURB AND GUTTER FOR REMOVAL IS INCIDENTAL. LONGITUDINAL SAWCUTTING IS PAID FOR WITH SAWING CONCRETE PAVEMENT (FULL DEPTH) OR SAWING BIT PAVEMENT (FULL DEPTH). ALL LATERAL AND LONGITUDINAL SAWCUTTING SHALL BE DONE BEFORE THE REMOVAL PROCESS BEGINS.
4. REMOVE PAVEMENT INCLUDES ALL IN-PLACE COMPOSITE PAVEMENT. ±4” BITUMINOUS OVER ±8” CONCRETE. SEE IN-PLACE TYPICAL SECTIONS ON EXISTING CONCRETE STREETS.
5. SALVAGED STONE CURBS ON 3RD AVE. E SHALL REMAIN PROPERTY OF CITY AND BE DELIVERED TO: 3527 RILEY ROAD. CONTACT ROSS YOUNG AT (218) 591-1237 OR CHRIS MOE AT (218) 387-7512.
6. SEE CONSTRUCTION DETAIL 5.
7. CALCIUM CHLORIDE QUANTITIES ARE COMPUTED USING AN APPLICATION RATE OF 0.25 GAL/SQ YD.
8. DEPTH OF RECLAMATION ON ALL STREETS IS EIGHT (8) INCHES. VERIFY DEPTH OF EACH STREET WITH ENGINEER BEFORE STARTING OPERATION.
9. ON RECLAMATION STREETS, GRADING AND COMPACTION FOR ROADWAY AND SHOULDERS IS INCIDENTAL TO FULL DEPTH RECLAMATION; SEE SPECIAL PROVISIONS AND MNDOT SPEC 2215.
10. FOR THE PAY ITEM HAUL FULL DEPTH RECLAMATION, EXCESS RECLAIM CAN BE HAULED TO THE FOLLOWING LOCATIONS:

3527 RILEY ROAD – 1000 CU YD, CONTACT ROSS YOUNG AT (218) 591-1237 OR CHRIS MOE AT (218) 387-7512 723;

KENWOOD AVE – 300 CU YD, CONTACT ROSS YOUNG AT (218) 591-1237 OR CHRIS MOE AT (218) 387-7512;

105 N 40TH AVE WEST– 500 CU YD, CONTACT BRUCE KELLERHUIS AT (218) 591-0317.

THE CONTRACTOR SHALL COORDINATE WITH ENGINEER AND SITE MANAGER FOR EACH LOCATION.
11. BITUMINOUS TONNAGE COMPUTED AT 120 LBS/SQ YD/INCH OF THICKNESS. CALCULATIONS FOR TACK APPLICATION RATE WERE COMPUTED USING 0.05 GALLONS/SQ YD EXCEPT FOR 88TH AVE W AND IDAHO ST IN MORGAN PARK WHERE A TACK RATE OF 0.10 GALLONS/SQ YD WAS USED. THE TACK RATE IN MORGAN PARK IS REQUIRED DUE TO NON-CONFORMING CONCRETE BASE (POROUS).
12. ALL VALVE BOX ADJUSTMENTS SHALL BE PAID FOR UNDER ADJUST VALVE BOX REGARDLESS OF TYPE OF UTILITY (WATER, GAS, OR SANITARY).
13. PAY HEIGHT FOR RECONSTRUCT DRAINAGE STRUCTURE (LIN FT) IS MEASURED FROM TOP OF CASTING TO BOTTOM OF THE RECONSTRUCTION MINUS ONE (1) LIN FT PAY HEIGHT FOR ANY OF THE FOLLOWING ITEMS PAID AT THE SAME LOCATION: CONCRETE ENCASED CASTING COLLAR (EACH), CASTING ASSEMBLY (EACH), OR ADJUST FRAME AND RING CASTING (EACH).
14. INCLUDES PIPE TO PIPE CONNECTIONS.
15. INCLUDES CONNECTING TO ANY IN-PLACE MANHOLE OR CATCH BASIN.
16. INCLUDES 4” AGGREGATE BASE CLASS 5 (MNDOT SPEC. 2211). SEE DETAILS.
17. INCLUDES 6” AGGREGATE BASE CLASS 5 (MNDOT SPEC. 2211). SEE DETAILS.
18. WORK INCLUDES THE FOOTING ON THE RIGHT-OF-WAY SIDE OF WALK. SEE DETAIL ON 3RD STREET TYPICAL SECTION.
19. SEE MNDOT STANDARD PLAN 5-297.254 – DRIVEWAY AND SIDEWALK DETAILS.
20. INCLUDES 12” AGGREGATE BASE CLASS 5 (MNDOT SPEC. 2211). SEE DETAILS.
21. ALL SIGNS INSTALLED ON CONCRETE SURFACES SHALL USE BREAKAWAY MOUNT POSTS SPECIFIED ON DETAIL T-2. FOR POST MOUNTED SIGNS IN SOIL, SEE CONSTRUCTION DETAIL 10.
22. INCLUDES REMOVAL AND REINSTALLATION OF SIGN WITH EXISTING POST AND HARDWARE.
23. THIS BID ITEM SHALL INCLUDE THE INSTALLATION OF STREET NAME SIGNS ACCORDING TO CITY DETAIL T-3.
24. SITE RESTORATION (EA) PERTAINS TO EACH ROADWAY SEGMENT. SITE RESTORATION INCLUDES 4” BOULEVARD TOPSOIL BORROW, TYPE 3 FERTILIZER, 25-131 SEED MIX AND ROLLED EROSION PREVENTION CATEGORY 20 BLANKET ON ALL AREAS INDICATED ON PLAN AND DETAILS. SEE MNDOT SPECIAL PROVISIONS FOR EACH INDIVIDUAL PAY ITEM. IF SEEDING PAST SEPTEMBER 20TH, CONSULT ENGINEER FOR APPROPRIATE SEED MIX FOR DORMANT SEEDING.

MnDOT STANDARD PLATES	
THE FOLLOWING STANDARD PLATES SHALL APPLY ON THIS PROJECT	
PLATE NO.	DESCRIPTION
3000M	REINFORCED CONCRETE PIPE
3006H	GASKET JOINT FOR R.C. PIPE
4006L	MANHOLE OR CATCH BASIN
4024A	48” DIA. PRECAST SHALLOW DEPTH CATCH BASIN
4132G	CATCH BASIN FRAME CASTING
4154B	CATCH BASIN GRATE CASTING
7000E	INTEGRANT CURBS
7038A	DETECTABLE WARNING SURFACE
7100H	CONCRETE CURB AND GUTTER – DESIGN B AND DESIGN V
7111J	INSTALLATION OF CATCH BASIN CASTINGS
8000K	TEMPORARY CHANNELIZERS

CITY OF DULUTH STANDARD DETAILS	
THE FOLLOWING STANDARD DETAILS SHALL APPLY ON THIS PROJECT	
DETAIL NO.	DESCRIPTION
EX-3	PVC AND CORRUGATED POLYETHYLENE SEWER PIPE BEDDING
EX-4	CONCRETE STORM SEWER BEDDING
STR-3	4” OR 6” CONCRETE WALK WITH CONCRETE CURB DESIGN V8 (MODIFIED)
STR-11	SILL CURB TYPE B624 (SPECIAL)
STRM-1	STORM MANHOLE CASTING
STRM-3	CATCH BASIN CASTINGS
STRM-5	STORM MANHOLE NON-PAVED AREAS
STRM-5A	CONCRETE ENCASED CASTING COLLAR FOR STORM MH IN ROADWAY, WALKS, & DRIVES
STRM-7	GUTTER STAMP
SUR-1	SURVEY MONUMENT
SUR-2	CONCRETE ENCASED CASTING COLLAR IN ROADWAY
T-2	SIGN & BREAKAWAY MOUNT INSTALLATION
T-3	STREET NAME SIGN FOOTING DETAIL
W-19	CONCRETE ENCASED VALVE BOX COLLAR IN ROADWAY

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SIGNATURE: 

PATRICK F. LOOMIS
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411 W. 1ST ST. STE. 240
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2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

SEQ NOTES, STD PLATES & DETAILS

SHEET NO. 4 OF 125

PLAN LEGEND

RIGHT OF WAY LINE	— — — — —
DITCH CENTERLINE	— — — — —
FENCE LINE	— x — x — x — x — x —
RETAINING WALL	— — — — —
GRAVEL LINE	— — — — —
GUARD RAIL	— □ — — — — —
RAILROAD TRACK	+++++
TREE LINE	— — — — —
STREAM FLOW LINE	— — — — —
WETLAND LIMIT	— — — — —
LAKE SHORE	— ... — ... — ... — ...
EX SANITARY SEWER	--->>--->>--->>---
PR SANITARY SEWER	—————>>—————
AB SANITARY SEWER	—+—+—+—+—+—+—+—+—+—
EX FORCE MAIN	—————FM——FM———
PR FORCE MAIN	—————FM—————
AB FORCE MAIN	—————AB-FM—————
EX STORM SEWER	—————
PR STORM SEWER	—————>—————
AB STORM SEWER	—————AB-ST—————
EX WATER MAIN	—————W—————
PR WATER MAIN	—————,—————
AB WATER MAIN	—————AB-W—————
EX GAS MAIN	—————
PR GAS MAIN	—————,—————
AB GAS MAIN	—————AB-GAS—————
EX STEAM LINE	—————STEAM—————
PR STEAM LINE	—————STEAM—————
AB STEAM LINE	—————AB-ST—————
UG TV CABLE	—————
OH TV CABLE	—————
AB TV CABLE	—————AB-CATV—————
UG ELECTRIC LINE	—————UGE—————
OH ELECTRIC LINE	—————
AB ELECTRIC	—————AB-ELE—————
UG FIBER OPTIC CABLE	—————
OH FIBER OPTIC CABLE	—————F/O-OH—————
AB FIBER OPTIC CABLE	—————AB-FO—————
UG TELEPHONE	—————UGT—————
OH TELEPHONE	—————
AB TELEPHONE	—————AB-TEL—————

GENERAL NOTES

1. WITHIN THE PLAN WHEREVER THE WORD "INCIDENTAL" IS USED, IT SHALL MEAN NO DIRECT PAYMENT SHALL BE MADE FOR THAT ITEM.
2. ALL LAYOUT ASSOCIATED WITH REMOVAL & CONSTRUCTION OF PEDESTRIAN RAMPS SHALL BE DONE BY THE CONTRACTOR.
3. ALL PED RAMPS SHALL BE DESIGNED BY THE CONTRACTOR AND CONSTRUCTED TO MEET ADA REGULATIONS. PED RAMP LAYOUTS SHOWN ON PLAN SHEETS ARE SCHEMATIC REPRESENTATIONS OF THE PROPOSED WORK. LAYOUTS SHALL BE MODIFIED WHERE NECESSARY TO MEET ADA GRADES IN THE FIELD.
4. IN-PLACE BITUMINOUS PAVEMENT AND AGGREGATE BASE THICKNESSES SHOWN IN THIS PLAN ARE APPROXIMATE. VALUES INDICATED IN THE TYPICAL SECTIONS MAY NOT REFLECT ACTUAL FIELD CONDITIONS. DISCREPANCIES FOUND IN THE FIELD SHALL BE DISCUSSED WITH THE ENGINEER PRIOR TO COMMENCEMENT OF MILLING AND RECLAIMING OPERATIONS.
5. THERE SHALL BE NO TEMPORARY OR PERMANENT STORAGE OF SALVAGED TOPSOIL OR REMOVED ITEMS SUCH AS CURB CONCRETE, SIDEWALK CONCRETE OR ANY OTHER REMOVALS THAT ARE PROPERTY OF CONTRACTOR ON THE CONSTRUCTION LIMITS INCLUDUNG BOULEVARDS AND ROW WITHOUT APPROVAL OF ENGINEER.
6. THERE SHALL BE NO STOCKPILING OF MATERIALS OUTSIDE THE CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED IN THE PLANS AND PRIOR APPROVAL BY ENGINEER.
7. WHENEVER THE PHRASE "MIN." IS USED IN THIS PLAN, IT SHALL MEAN THE WORD MINIMUM.
8. PLACE 1/2" BIT FELT (FULL HEIGHT) AT ALL JOINTS WHERE PROPOSED CONCRETE DRIVEWAYS AND SIDEWALKS MEET EXISTING CONCRETE DRIVEWAYS, SIDEWALKS, OR RETAINING WALLS.
9. ALL AREAS DISTURBED BY THE CONTRACTORS EQUIPMENT WHICH ARE OUTSIDE THE PLANNED CONSTRUCTION LIMITS SHALL BE RESTORED, AS APPROVED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
10. BITUMINOUS SURFACING, CONCRETE ITEMS, ABANDONED UTILITY ITEMS, OR ANY OTHER MATERIAL WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION THAT ARE NOT SUITABLE FOR SALVAGE OR FOR ROADWAY CONSTRUCTION SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN APPROVED DISPOSAL SITE AND SHALL BE INCIDENTAL.
11. THE CONTRACTOR SHALL PROVIDE A CONCRETE WASHOUT AND WASHOUT LOCATION AND CONTAINER ON THE PROJECT AND IT SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE RELATED WORK. THE CONTRACTOR SHALL MAINTAIN THE CONTAINER AND DISPOSE OF ITS CONTENTS IN ACCORDANCE WITH MPCA REQUIREMENTS. THIS WORK SHALL BE CONSIDERED INCIDENTAL, FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE.
12. THE RIGHT-OF-WAY SHOWN IN THIS PLAN IS GRAPHICAL AND BASED UPON THE CITY OF DULUTH GIS.
13. CARE SHALL BE TAKEN BY THE CONTRACTOR SO AS NOT TO DAMAGE THE REMAINING MATERIALS DIRECTLY ADJACENT TO THE MATERIALS TO BE REMOVED. ANY DAMAGE TO THE EXISTING MATERIAL RESULTING FROM THE MATERIAL REMOVAL OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
14. THE CONTRACTOR SHALL PROTECT AND RESTRICT USE OF PEDESTRIAN RAMPS UNTIL THEY CAN BE USED SAFELY AND SUPPLY A SAFE ROUTE FOR PEDESTRIANS DURING CONSTRUCTION AND COMPLY WITH THE LATEST TEMPORARY TRAFFIC CONTROL FIELD MANUAL. REFER TO THE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS. (INCIDENTAL)
15. REINFORCING BARS, COMMON EXCAVATION, AGGREGATE BASE, CLASS 5 AND SITE RESTORATION ARE INCIDENTAL TO THE INSTALLATION OF WALKS, DRIVEWAY APRONS, AND CURB & GUTTER.
16. TEMPORARY PEDESTRIAN ACCESS ROUTES SHALL BE MAINTAINED AT ALL TIMES WHILE WORKING ON ADA IMPROVEMENTS. ALL INPLACE PEDESTRIAN ADA RAMPS SHALL BE MADE SAFE FOR CROSSING AT ALL TIMES WITH A BITUMINOUS PATCH RAMP PLACED BETWEEN THE CONCRETE AND BITUMINOUS SURFACES. WORK FOR PLACEMENT, MAINTENANCE AND REMOVAL OF THE BITUMINOUS PATCH RAMP SHALL BE CONSIDERED INCIDENTAL.
17. ALL SURFACES RECEIVING OR ABUTTING NEW BITUMINOUS PAVEMENT SHALL RECEIVE TACK COAT IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND APPLICATION RATES.
18. MILLING DEPTHS SPECIFIED ARE APPROXIMATE. ENGINEER RESERVES RIGHT TO MAKE ADJUSTMENTS TO MILLING DEPTHS WITHOUT RECLASSIFYING PAY ITEM FOR CHANGES IN MILLING DEPTH.
19. PIPE ELEVATIONS, OFFSETS, AND COORDINATES AS SHOWN IN THE PLAN, ARE TO THE CENTER OF THE STRUCTURE.

SURVEYS AND RIGHT OF WAY

1. THE CONTRACTOR SHALL PRESERVE ALL LAND AND PROPERTY CORNERS, VERTICAL & HORIZONTAL CONTROLS, SURVEY AND RIGHT OF WAY MONUMENTS. THE RIGHT OF WAY SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE PLAN ALIGNMENTS. FOR EXACT RIGHT OF WAY LIMITS, SEE MAP ON FILE WITH THE CITY OF DULUTH.

ABBREVIATIONS USED IN THIS PLAN

AB = ABANDONED	REM = REMOVE
EX = EXISTING OR INPLACE	IDMH = INPLACE DRAINAGE MANHOLE
PR = PROPOSED	ICB = INPLACE CATCH BASIN
UG = UNDERGROUND	PCB = PROPOSED CATCH BASIN
OH = OVERHEAD	ISMH = IN-PLACE SANITARY MANHOLE
PL = PLACE	

PLAN HATCHING

	= 8" CONC. VALLEY GUTTER OR CONC. DRIVEWAY.
	= BITUMINOUS WORK AREA.
	= 4" SIDEWALK (NO HATCH)
	= 6" CONCRETE SIDEWALK
	= CURB & GUTTER (NO HATCH)
	= DWS DOMES.

THE FOLLOWING UTILITY OWNERS HAVE ASSETS ON THIS PROJECT.

	MARKING	DAMAGE
CHARTER COMMUNICATIONS –	(800)778-9140	(833)493-4939
CITY OF DULUTH – ENGINEERING –	(218)730-5200	(218)730-5200
CITY OF DULUTH – TRAFFIC –	(218)730-4420	(218)730-4150
DULUTH ENERGY SYSTEMS – STEAM –	(218)723-3601	(218)723-3601
LUMEN TECHNOLOGIES (CENTURYLINK)	(800)778-9140	(800)778-9140
DULUTH N SHORE SANITARY DIST –	(218)590-5911	(218)590-5911
CONSOLIDATED COMMUNICATIONS –	(800)778-9140	(888)608-7822
MINNESOTA POWER –	(320)582-7725	(320)582-7700
NORTHEAST SERVICE COOPERATIVE –	(218)368-8460	(218)368-8460
ST MARY’S DULUTH CLINIC HEALTH –	(218)786-4384	(218)786-4384
WESTERN LAKE SUPERIOR SANITARY –	(218)722-3336	(218)722-3336

PLAN SYMBOLS

EX SANITARY MANHOLE	
EX SANITARY CLEANOUT	
EX STORM MANHOLE	
EX STORM CATCHBASIN	
EX WATER MANHOLE	
EX WATER VALVE	
EX WATER HYDRANT	
EX. WATER SHUTOFF	
EX. WATER & GAS MH	
EX. GAS MANHOLE	
EX. GAS VALVE	
EX. GAS SHUTOFF	
EX. STEAM MANHOLE	
EX. TELEPHONE MANHOLE	
EX. ELECTRIC MANHOLE	
EX. UTILITY POLE	
EX. LIGHT POLE	
EX. ELECTRIC VAULT	
EX. GUY ANCHOR	
EX. ELECTRIC TRANSFORMER	
EX. STREET LIGHT	
EX. SIGNAL W/STREET LIGHT	
EX. HAND HOLE	
EX. TELEPHONE PEDESTAL	
EX. WELL	
EX. SIGN	
EX. DECIDUOUS TREE	
EX. CONIFEROUS TREE	
EX. PARKING METER	
BENCHMARK	
CONTROL POINT	
FOUND CI MONUMENT	
SOIL BORING	

I HEREBY CERTIFY THAT THIS PLAN 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.

SIGNATURE:

PATRICK F. LOOMIS
TYPE NAME

DATE: 04/20/2023

LIC. NO: 49099



CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

LEGEND & GENERAL NOTES

SHEET NO. 5 OF 125

CITY OF DULUTH
2023 STREET PRESERVATION PROJECT
CITY PROJECT NO. 2016

MILL & OVERLAY

LOCATED ON	IDAHO ST	FROM 300' WEST OF RR BRIDGE	TO 355' EAST OF RR BRIDGE	SHEETS	35 TO 38	LENGTH	655	FEET	0.124 MILES
LOCATED ON	88TH AVE W	FROM 240' WEST OF RR BRIDGE	TO 635' EAST OF RR BRIDGE	SHEETS	39 TO 41	LENGTH	875	FEET	0.166 MILES
LOCATED ON	RAMSEY ST	FROM CENTRAL AVE	TO 51ST AVE W	SHEETS	42 TO 51	LENGTH	1,315	FEET	0.249 MILES
LOCATED ON	W 6TH ST	FROM 57TH AVE W	TO CENTRAL AVE	SHEETS	52 TO 56	LENGTH	956	FEET	0.181 MILES
LOCATED ON	3RD AVE E	FROM 2ND ST ALLEY	TO 2ND ST	SHEETS	57 TO 60	LENGTH	176	FEET	0.033 MILES
LOCATED ON	GRAND VIEW AVE	FROM 18TH AVE E	TO KENT RD	SHEETS	61 TO 65	LENGTH	910	FEET	0.172 MILES
						LENGTH	4,887	FEET	0.926 MILES

FULL DEPTH RECLAMATION

LOCATED ON	AIRPARK BLVD	FROM HAINES RD	TO RICE LAKE RD	SHEETS	66 TO 79	LENGTH	6,521	FEET	1.235 MILES
LOCATED ON	VENTURE AVE	FROM AIRPORT RD	TO AIRPARK BLVD	SHEETS	80 TO 84	LENGTH	1,161	FEET	0.220 MILES
LOCATED ON	ALDEN AVE	FROM W FARIBAULT ST	TO W REDWING ST	SHEETS	85 TO 88	LENGTH	769	FEET	0.146 MILES
LOCATED ON	W REDWING ST	FROM MAXWELL AVE	TO WOODLAND AVE	SHEETS	90 TO 102	LENGTH	3,248	FEET	0.615 MILES
LOCATED ON	E 4TH ST	FROM N HAWTHORNE RD	TO OLD HOWARD MILL RD	SHEETS	108 TO 127	LENGTH	2,003	FEET	0.379 MILES
LOCATED ON	OLD HOWARD MILL RD	FROM E 4TH ST	TO N 36TH AVE E	SHEETS	108 TO 127	LENGTH	791	FEET	0.150 MILES
LOCATED ON	N 36TH AVE E	FROM OLD HOWARD MILL RD	TO CRESCENT VIEW AVE	SHEETS	108 TO 127	LENGTH	379	FEET	0.072 MILES
						LENGTH	14,872	FEET	2.817 MILES

TOTAL ALL STREETS:	LENGTH	19,759	FEET	3.742 MILES
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SIGNATURE: Patrick F. Loomis

PATRICK F. LOOMIS
TYPE NAME

DATE: 04/20/2023

LIC. NO: 49099



CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

STREET INDEX

SHEET NO. 6 OF 125



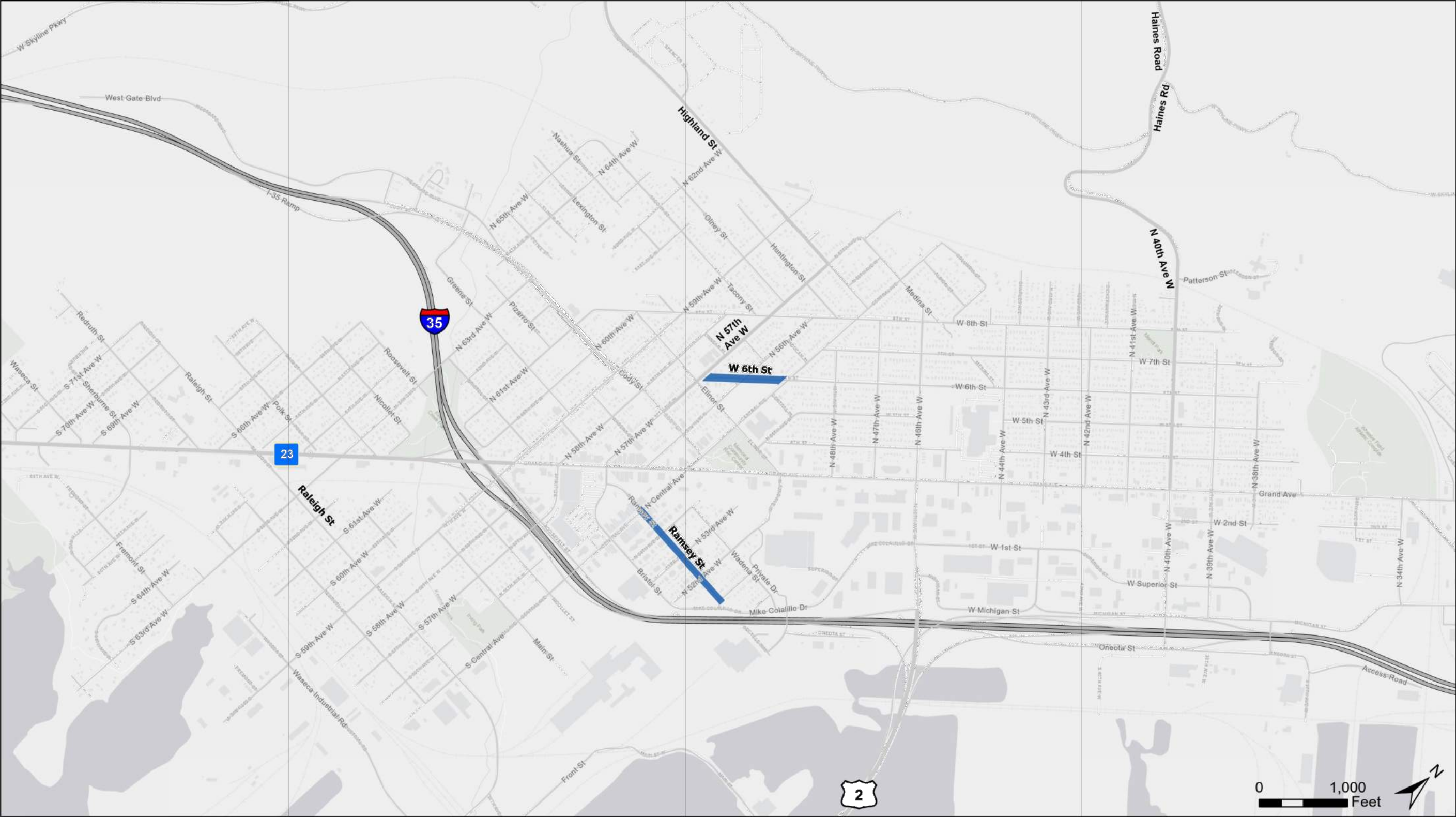
- Mill and Overlay Project Locations
- Reclaim Project Locations

The City of Duluth has tried to ensure that the information contained in this map or electronic document is accurate. The City of Duluth makes no warranty or guarantee concerning the accuracy or reliability. This drawing/data is neither a legally recorded map nor a survey and is not intended to be used as one. The drawing/data is a compilation of records, information and data located in various City, County and State offices and other sources affecting the area shown and is to be used for reference purposes only. The City of Duluth shall not be liable for errors contained within this data provided or for any damages in connection with the use of this information contained within.

2023 Street Preservation City of Duluth Project No. 2016 WEST A



Date Created: 4/12/2023



- Mill and Overlay Project Locations
- Reclaim Project Locations

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**2023 Street Preservation
City of Duluth Project No. 2016
WEST B**



Date Created: 4/12/2023



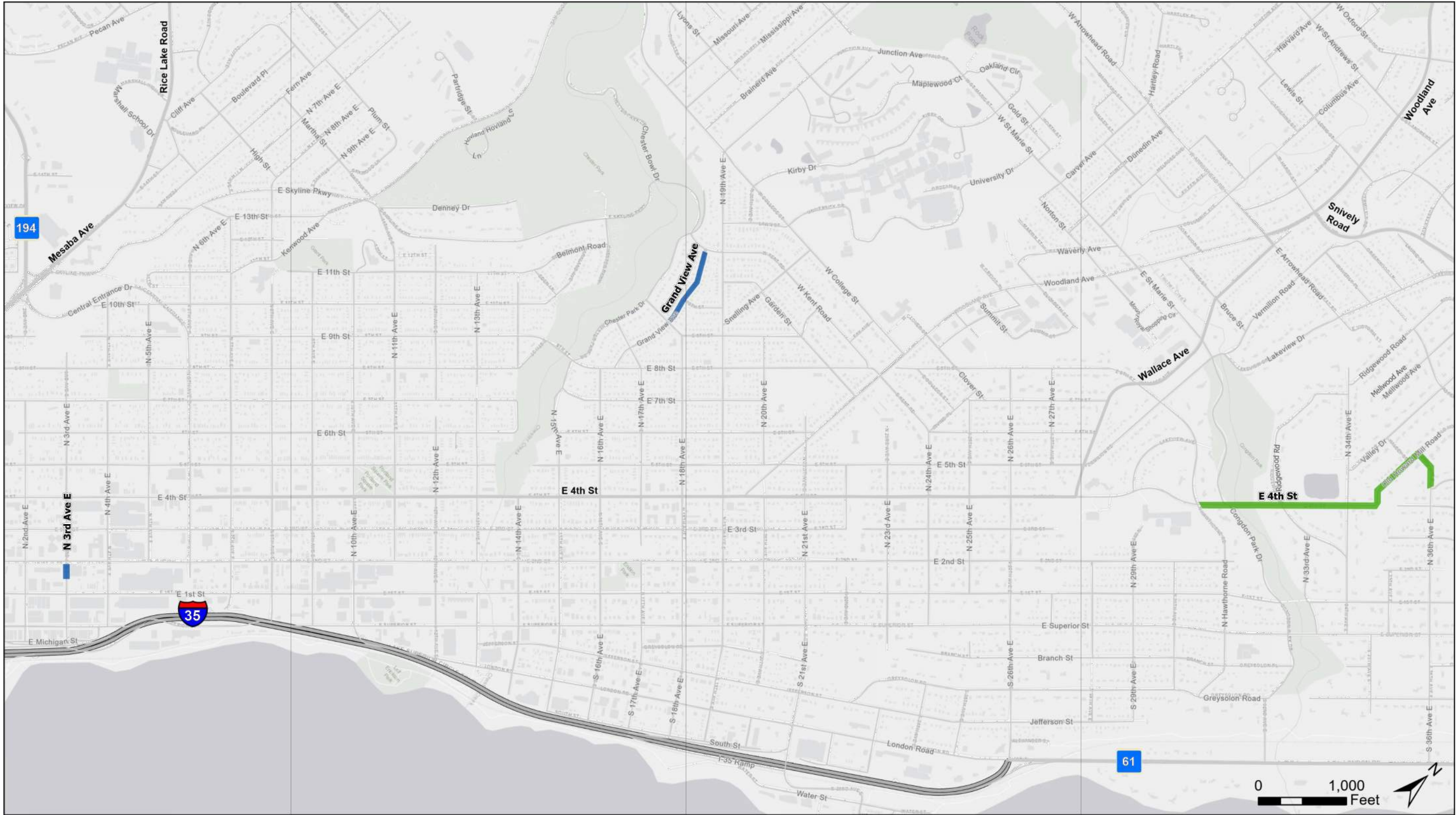
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- Reclaim Project Locations

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**2023 Street Preservation
City of Duluth Project No. 2016
CENTRAL**



Date Created: 4/12/2023



- Mill and Overlay Project Locations
- Reclaim Project Locations

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2023 Street Preservation City of Duluth Project No. 2016 EAST



Date Created: 4/12/2023

REMOVALS (1 OF 2)							A
STATION TO STATION	LT / RT	SPEC. 2104	SPEC. 2104	SPEC. 2104	SPEC. 2104	SPEC. 2104	REMARKS
		SAWING CONCRETE PAVEMENT (FULL DEPTH)	SAWING BITUMINOUS PAVEMENT	REMOVE CURB & GUTTER	REMOVE PAVEMENT	REMOVE CONCRETE WALK	
		LIN FT	LIN FT	LIN FT	SQ YD	SQ FT	
RAMSEY ST. (N CENTRAL AVE TO N 53RD AVE W)							
11+55	CL		40				BEGINNING OF MILLING
11+51 TO 11+70	RT	24		19			
12+02 TO 12+14	RT	17		12			
12+51 TO 12+74	RT	27		23			
11+51 TO 12+74	RT	144				1247	SIDE WALK PARALLEL TO PARKING LOT
11+57 TO 12+54	LT	102		97			
11+57 TO 12+63	LT	111				519	SIDE WALK PARALLEL TO CURB OS 5'
12+54 TO 12+89	LT	52			33		CENTRAL AVE ALLEY
12+82 TO 12+94	LT	5				59	
12+89 TO 13+36	LT	53		47			
12+96 TO 13+50	RT	59		54			
13+86 TO 14+31	LT	62		57			
14+02 TO 14+09	RT	20				70	
14+09 TO 14+29	LT	10				152	
14+34 TO 14+58	LT		24				54th AVE W - NORTH LIMIT
14+34 TO 14+58	RT		24				54th AVE W - SOUTH LIMIT
14+60 TO 16+00	LT	157		152			
14+63 TO 16+10	LT	5				865	
16+00 TO 16+37	LT	37			33		54th AVE W ALLEY - NORTH SIDE
14+61 TO 16+00	RT	156		151			
14+63 TO 14+81	RT	10				135	
15+68 TO 15+78	RT	10				50	
16+03 TO 16+11	RT	5				32	
16+00 TO 16+37	RT	58			35		54th AVE W ALLEY - SOUTH SIDE
16+28 TO 16+38	RT	5				43	
16+28 TO 16+35	LT	5				31	
16+37 TO 17+71	LT	147		142			
17+11 TO 17+69	LT	10				323	
17+26 TO 17+71	RT	57		52			
17+56 TO 17+69	RT	10				77	
CHART SUBTOTAL		1358	88	806	101	3603	

I HEREBY CERTIFY THAT THIS PLAN 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.

SIGNATURE: Patrick F. Loomis

PATRICK F. LOOMIS
TYPE NAME

DATE: 04/20/2023

LIC. NO: 49099



CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

RAMSEY ST - TABULATIONS

SHEET NO. 40 OF 125

REMOVALS							A
STATION TO STATION	LT / RT	SPEC. 2104	SPEC. 2104	SPEC. 2104	SPEC. 2104	SPEC. 2104	REMARKS
		SAWING CONCRETE PAVEMENT (FULL DEPTH)	SAWING BITUMINOUS PAVEMENT	REMOVE CURB & GUTTER	REMOVE PAVEMENT	REMOVE CONCRETE WALK	
		LIN FT	LIN FT	LIN FT	SQ YD	SQ FT	
RAMSEY ST. (N 53RD AVE W TO 51ST AVE W)							
17+74 TO 17+96	RT		22				53rd AVE W - SOUTH LIMIT
17+74 TO 17+96	LT		22				53rd AVE W - NORTH LIMIT
17+99 TO 18+65	LT	80		75			
18+01 TO 18+20	LT	13				166	
18+50 TO 19+42	LT	8				508	
17+98 TO 18+21	RT	34		29			
18+01 TO 18+23	RT	10				186	
18+53 TO 18+94	RT	10				231	
19+22 TO 19+43	RT	5				115	
19+30 TO 19+33	RT	8		3			
19+33 TO 19+69	RT	52			34		53rd AVE W ALLEY - SOUTH SIDE
19+59 TO 19+76	RT	5				86	
19+69 TO 19+74	RT	10		5			
19+94 TO 21+04	LT	129		124			
20+79 TO 21+02	LT	10				147	
20+69 TO 21+00	RT	10				205	
20+71 TO 21+04	RT	49		44			
21+07 TO 21+27	RT		20				52nd AVE W - SOUTH LIMIT
21+07 TO 21+27	LT		20				52nd AVE W - NORTH LIMIT
21+30 TO 22+67	LT	155		150			
21+32 TO 22+75	LT	5				713	
22+67 TO 23+01	LT	34			28		52nd AVE W ALLEY - NORTH SIDE
21+30 TO 21+52	RT	38		33			
21+34 TO 21+52	RT	10				146	
22+63 TO 22+75	RT	5				60	
22+67 TO 23+01	RT	37			30		52nd AVE W ALLEY - SOUTH SIDE
23+01 TO 23+18	RT	22		17			
23+53 TO 23+72	RT	24		19			
24+16 TO 24+42	RT	31		26			
24+16 TO 24+42	RT	10				118	
22+91 TO 23+44	LT	5				257	
23+01 TO 23+77	LT	81		76			
23+15 TO 23+43	LT	33			29		5103 RAMSEY ST - DRIVEWAY ENT
24+00 TO 24+19	LT	13				190	
24+00 TO 24+21	LT	37		32			
24+21 TO 24+37	LT		24				51st AVE W - NORTH LIMIT
24+66	CL		37				END OF MILLING
CHART SUBTOTAL		973	145	633	121	3128	
TOTAL		2331	233	1439	222	6731	

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2023 STREET PRESERVATION PROJECT

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RAMSEY ST - TABULATIONS

SHEET NO. 41 OF 125

MILLING AND RECLAMATION OPERATIONS			C
STATION TO STATION	LT / RT	SPEC. 2232	REMARKS
		MILL BITUMINOUS SURFACE (4")	
		SQ YD	
RAMSEY ST.			
11+55 TO 24+66		6782	
TOTAL		6782	

BITUMINOUS PAVEMENT				D
STATION TO STATION	LT / RT	SPEC. 2357	SPEC. 2360	REMARKS
		BITUMINOUS MATERIAL FOR TACK COAT	TYPE SP 9.5 WEARING COURSE MIXTURE (3,B)	
		GALLON	TON	
RAMSEY ST.				
11+55 TO 24+66	CL	339	1017	
TOTAL		339	1017	

ENCASEMENT AND REPAIR												E
STATION TO STATION	LT / RT	SPEC. 2104	SPEC. 2104	SPEC. 2504	SPEC. 2504	SPEC. 2504	SPEC. 2506	SPEC. 2506	SPEC. 2506	SPEC. 2506	SPEC. 2540	REMARKS
		REMOVE CASTING	REMOVE VALVE BOX	ADJUST VALVE BOX	ADJUST CURB BOX	CONCRETE ENCASED VALVE BOX COLLAR	CASTING ASSEMBLY	RECONSTRUCT DRAINAGE STRUCTURE	ADJUST FRAME & RING CASTING	CONCRETE ENCASED CASTING COLLAR	CONSTRUCT SURVEY MONUMENT	
		EACH	EACH	EACH	EACH	EACH	EACH	LIN FT	EACH	EACH	EACH	
RAMSEY ST.												
12+15	28' RT				1							WATER SERVICE - NO RECORD
12+34	25' LT				1							WATER SERVICE 402-404 CENTRAL AVE
12+47	31' RT								1			TRAFFIC HAND HOLE
12+62	31' RT								1			TRAFFIC HAND HOLE
12+67	16' LT									1		TELEPHONE MAN HOLE
12+73	11' LT									1		ISMH 340045
12+73	24' LT								1			IDMH 340132
12+82	13' RT		1									GV (ABAND) LP
14+04	21' LT	1					1	1				ICB 340004 (Neenah R-3349-A)
15+78	12' RT					1						WATER SERVICE - 5316 RAMSEY ST
17+44	21' LT	1					1	1				ICB 340005 (Neenah R-3349-A)
17+50	21' RT	1					1	1				ICB 340006 (Neenah R-3349-A)
17+85	CL										1	SURVEY MON 53rd AVE W
17+94	34' LT					1						WV 04059
17+94	35' LT		1									GV (ABAND) LP
17+94	33' RT					1						WV 04057
19+34	28' LT			1								GV 13562
20+78	20' LT	1					1	1				ICB 340007 (Neenah R-3349-A)
20+79	21' RT							1	1			ICB 250074
20+85	10' RT					1						WV 03921
21+25	34' LT					1						WV - NOT IN GIS
21+26	35' RT					1						WV 04035
21+53	10' RT					1						WV 06323
22+46	27' LT				1							WATER SERVICE - 5115 RAMSEY ST
23+17	23' LT		1			1						GAS SERVICE (ABAND)
24+25	42' LT		1									GV (ABAND) LP
24+26	12' RT					1						WV 06919
24+39	51' LT					1						WV 03847
TOTAL		4	4	1	3	10	4	5	4	2	1	

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RAMSEY ST - TABULATIONS

SHEET NO. 42 OF 125

PROPOSED CONCRETE (1 OF 2)									F
STATION TO STATION	LT / RT	SPEC. 2521	SPEC. 2521	SPEC. 2531	SPEC. 2531	SPEC. 2531	SPEC. 2531	SPEC. 2531	REMARKS
		4" CONCRETE WALK	6" CONCRETE WALK	CONCRETE CURB & GUTTER DESIGN B624	CONCRETE CURB & GUTTER DESIGN B624 (MOD)	SILL CURB TYPE B624 (MOD)	8" CONCRETE DRIVEWAY PAVEMENT	TRUNCATED DOMES	
		SQ FT	SQ FT	LIN FT	LIN FT	LIN FT	SQ YD	SQ FT	
RAMSEY ST. (N CENTRAL AVE TO N 53RD AVE W)									
11+51 TO 11+70	RT					19			
12+02 TO 14+14	RT					12			
12+51 TO 12+74	RT					23			
11+51 TO 12+74	RT		1247						
11+57 TO 12+54	LT					97			
11+57 TO 12+63	LT		519						
12+54 TO 12+91	LT						35		CENTRAL AVE ALLEY - NORTH SIDE
12+82 TO 12+94	LT	55							
12+91 TO 13+36	LT				45				
12+96 TO 13+50	RT				54				
13+86 TO 14+18	LT				32				
14+18 TO 14+31	LT			26					
14+09 TO 14+18	LT	44							
14+18 TO 14+28	LT		57					12	54th AVE W - NW QUAD (SQUARE DOMES)
14+19 TO 14+24	LT	52							
14+02 TO 14+09	RT		70						
14+60 TO 14+81	LT			33					
14+64 TO 14+81	LT		100					12	54th AVE W - NE QUAD (SQUARE DOMES)
14+81 TO 16+00	LT				120				
14+81 TO 16+10	LT	644							
14+61 TO 14+83	RT			34					
14+63 TO 14+81	RT		135					12	54th AVE W - SE QUAD (SQUARE DOMES)
15+24 TO 16+00	RT				76				
15+68 TO 15+78	RT	50							
16+00 TO 16+37	RT						35		54th AVE W ALLEY - SOUTH SIDE
16+03 TO 16+10	RT	33							
16+28 TO 16+38	RT	45							
16+00 TO 16+37	LT						35		54th AVE W ALLEY - NORTH SIDE
16+27 TO 16+35	LT	35							
16+37 TO 17+71	LT				144				
17+11 TO 17+56	LT	223							
17+56 TO 17+61	LT	36							
17+56 TO 17+69	LT		71					12	53rd AVE W - NW QUAD (SQUARE DOMES)
17+26 TO 17+51	RT				25				
17+51 TO 17+55	RT	24							
17+51 TO 17+71	RT			28					
17+55 TO 17+69	RT		72					12	53rd AVE W - SW QUAD (SQUARE DOMES)
CHART SUBTOTAL		1241	2271	121	496	151	105	60	

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DRAWN BY: ZAE/DJK/SCA/NML

RAMSEY ST - TABULATIONS

SHEET NO. 43 OF 125

PROPOSED CONCRETE (2 OF 2)									F
STATION TO STATION	LT / RT	SPEC. 2521	SPEC. 2521	SPEC. 2531	SPEC. 2531	SPEC. 2531	SPEC. 2531	SPEC. 2531	REMARKS
		4" CONCRETE WALK	6" CONCRETE WALK	CONCRETE CURB & GUTTER DESIGN B624	CONCRETE CURB & GUTTER DESIGN B624 (MOD)	SILL CURB TYPE B624 (MOD)	8" CONCRETE DRIVEWAY PAVEMENT	TRUNCATED DOMES	
		SQ FT	SQ FT	LIN FT	LIN FT	LIN FT	SQ YD	SQ FT	
RAMSEY ST. (N 53RD AVE W TO 51ST AVE W)									
17+98 TO 18+09	RT				18				
18+01 TO 18+14	RT		69					12	53rd AVE W - SE QUAD (SQUARE DOMES)
18+09 TO 18+14	RT	59							
18+09 TO 18+21	RT			12					
18+14 TO 18+23	RT	46							
17+99 TO 18+65	LT				76				
18+01 TO 18+20	LT		117					12	53rd AVE W - NE QUAD (SQUARE DOMES)
18+05 TO 18+10	LT	52							
18+30 TO 19+42	LT	508							
18+53 TO 18+94	RT	205							
19+22 TO 19+43	RT	100							
19+30 TO 19+33	RT				3				
19+33 TO 19+69	RT						34		53rd AVE W ALLEY - SOUTH SIDE
19+59 TO 19+76	RT	81							
19+69 TO 19+74	RT				5				
20+69 TO 20+90	RT	103							
20+71 TO 20+90	RT				19				
20+90 TO 20+95	RT	42							
20+90 TO 21+01	RT		54					12	52nd AVE W - SW QUAD (SQUARE DOMES)
20+90 TO 21+04	RT			26					
19+94 TO 20+86	LT				92				
20+79 TO 20+86	LT	36							
20+86 TO 21+02	LT		100					12	52nd AVE W - NW QUAD (SQUARE DOMES)
20+86 TO 21+04	LT			33					
20+89 TO 20+94	LT	21							
21+30 TO 21+45	LT			31					
21+32 TO 21+45	LT		68					12	52nd AVE W - NE QUAD (SQUARE DOMES)
21+40 TO 21+45	LT	57							
21+45 TO 22+67	LT				120				
21+45 TO 22+75	LT	645							
21+30 TO 21+45	RT			26					
21+33 TO 21+45	RT		56					12	52nd AVE W - SE QUAD (SQUARE DOMES)
21+45 TO 21+52	RT	37							
21+45 TO 21+52	RT				8				
22+63 TO 22+74	RT	53							
22+67 TO 23+01	RT						30		52nd AVE W ALLEY - SOUTH SIDE
22+91 TO 23+01	RT	44							
23+01 TO 23+18	RT				17				
23+53 TO 23+72	RT				19				
22+67 TO 23+01	LT						30		52nd AVE W ALLEY - NORTH SIDE
22+91 TO 23+19	LT	126							
23+01 TO 23+15	LT				14				
23+15 TO 23+43	LT						30		5103 RAMSEY ST. ENTRANCE
23+39 TO 23+44	LT	19							
23+43 TO 23+77	LT				24				
24+00 TO 24+19	LT		82					12	51st AVE W - NW QUAD (SQUARE DOMES)
24+00 TO 24+21	LT				32				
24+09 TO 24+13	LT	108							
24+18 TO 24+43	RT		118					12	51st AVE W - SOUTH SIDE (SQUARE DOMES)
24+18 TO 24+43	RT			22					
CHART SUBTOTAL		2342	664	150	447	0	124	96	
TOTAL		3583	2935	271	943	151	229	156	

I HEREBY CERTIFY THAT THIS PLAN 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.

SIGNATURE: *Patrick F. Loomis*

PATRICK F. LOOMIS
TYPE NAME

DATE: 04/20/2023

LIC. NO: 49099



CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

RAMSEY ST - TABULATIONS

SHEET NO. 44 OF 125

SIGNAGE AND PAVEMENT MARKING						G
STATION TO STATION	LT / RT	SPEC. 2104	SPEC. 2564	SPEC. 2564	SPEC. 2582	REMARKS
		SALVAGE SIGN	RELOCATE SIGN	INSTALL SIGN TYPE C	4" DOUBLE SOLID PAINT	
		EACH	EACH	EACH	LIN FT	
RAMSEY ST.						
11+78	24' RT	1		1		CONCRETE SURFACE MOUNT (DETAIL T-2)
12+20	26' LT	1		1		CONCRETE SURFACE MOUNT (DETAIL T-2)
11+51 TO 24+66	LT & RT		6			UNDISTRIBUTED
11+55 TO 14+23	CL				268	YELLOW
14+65 TO 17+62	CL				297	YELLOW
18+05 TO 20+97	CL				292	YELLOW
21+48 TO 24+34	CL				286	YELLOW
24+34 TO 24+66	CL				11	YELLOW
TOTAL		2	6	2	1154	

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2023 STREET PRESERVATION PROJECT

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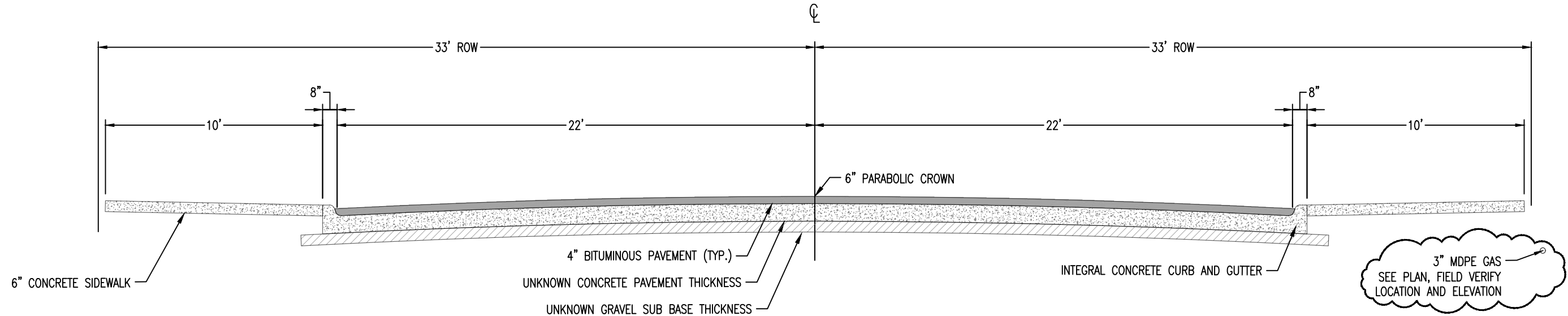
RAMSEY ST - TABULATIONS

SHEET NO. 45 OF 125

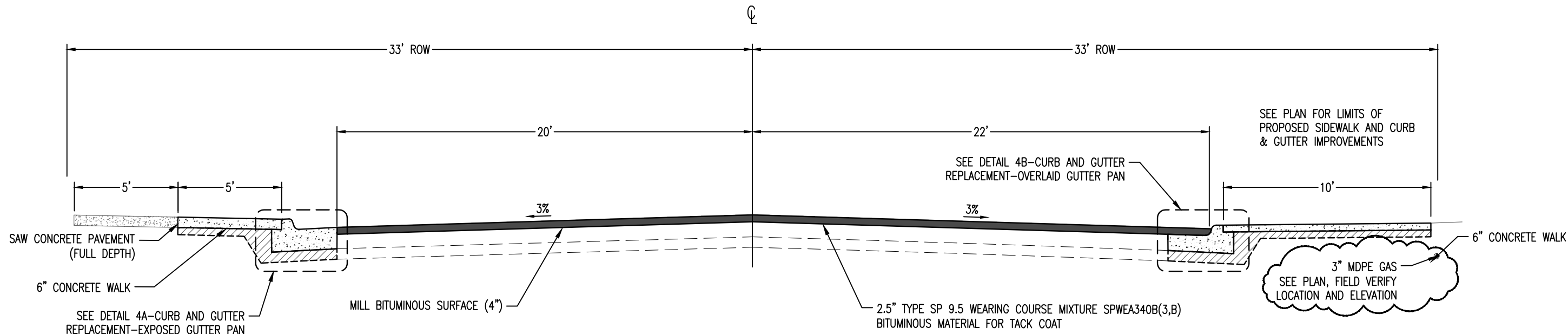
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EXISTING TYPICAL SECTION
CENTRAL AVE. TO CENTRAL AVE ALLEY.
STATION 11+51 TO 12+73



PROPOSED TYPICAL SECTION
CENTRAL AVE. TO CENTRAL AVE ALLEY.
STATION 11+51 TO 12+73



0 2.5 5
SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN 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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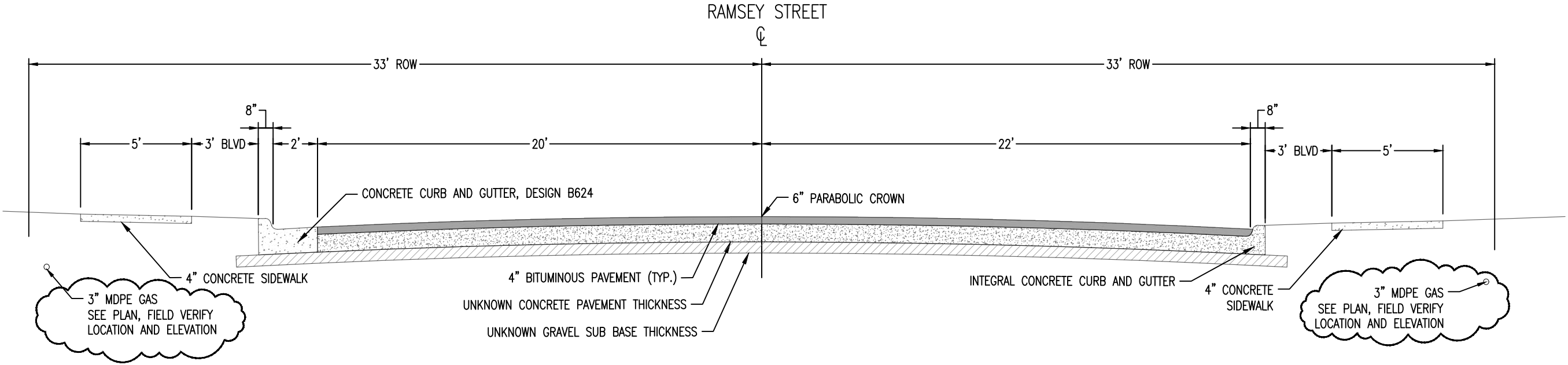
RAMSEY ST - TYPICAL SECTIONS

SHEET NO. 46 OF 125

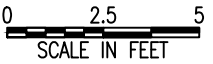
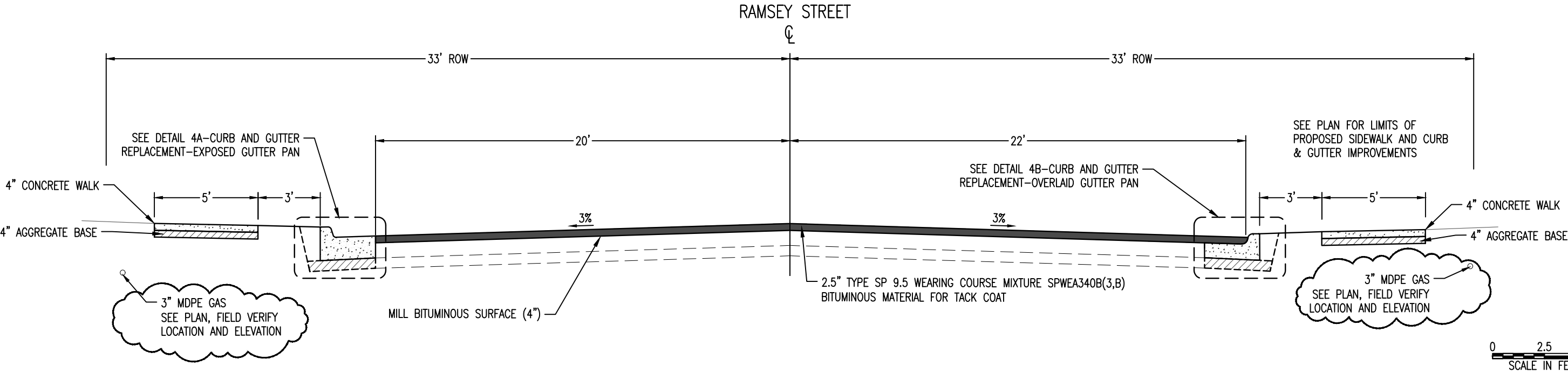
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EXISTING TYPICAL SECTION
CENTRAL AVE ALLEY. TO 76' WEST OF 51st AVE. W.
STATION 12+73 TO 24+66



PROPOSED TYPICAL SECTION
CENTRAL AVE ALLEY. TO 76' WEST OF 51st AVE. W.
STATION 12+73 TO 24+66



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CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

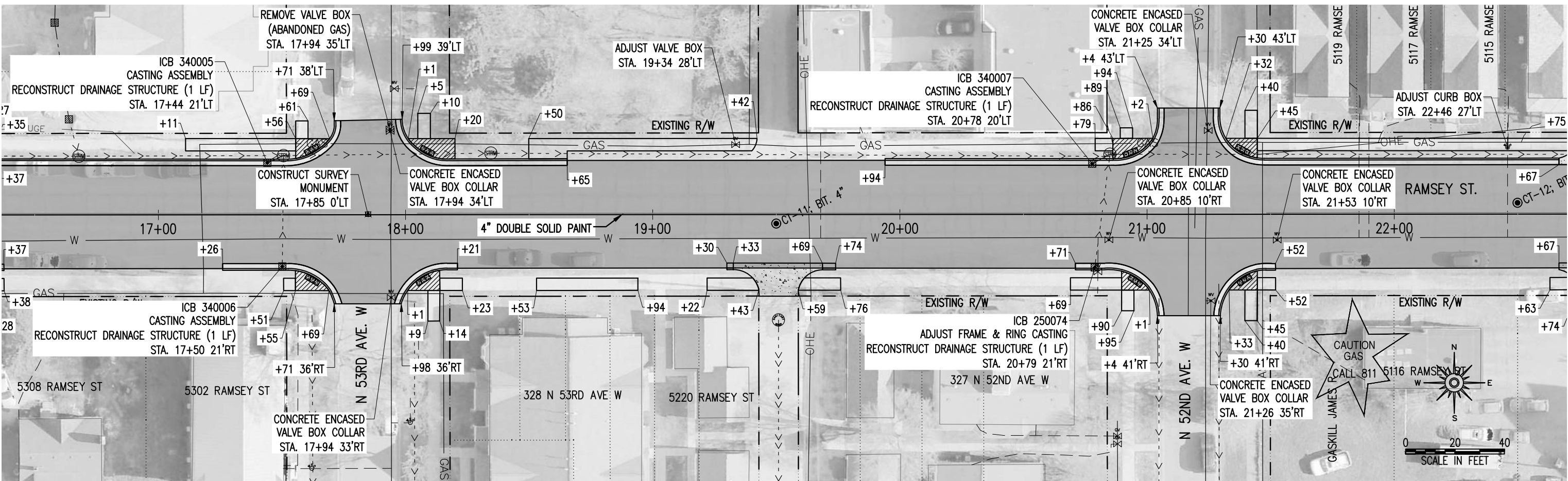
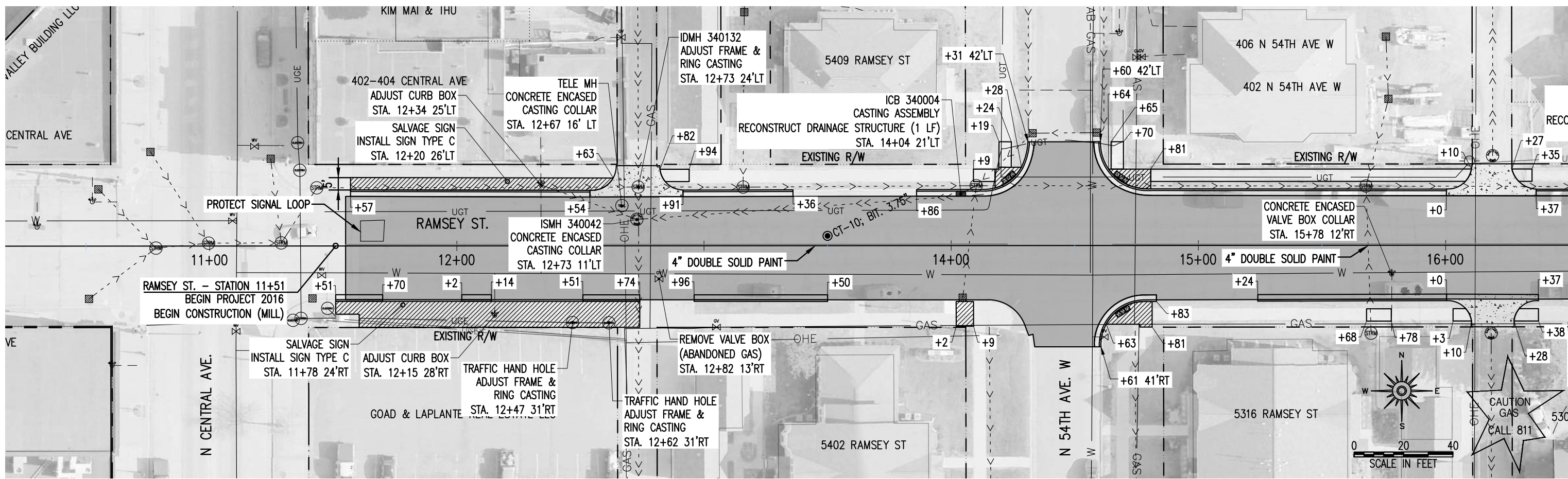
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RAMSEY ST - TYPICAL SECTIONS

SHEET NO. 47 OF 125

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CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

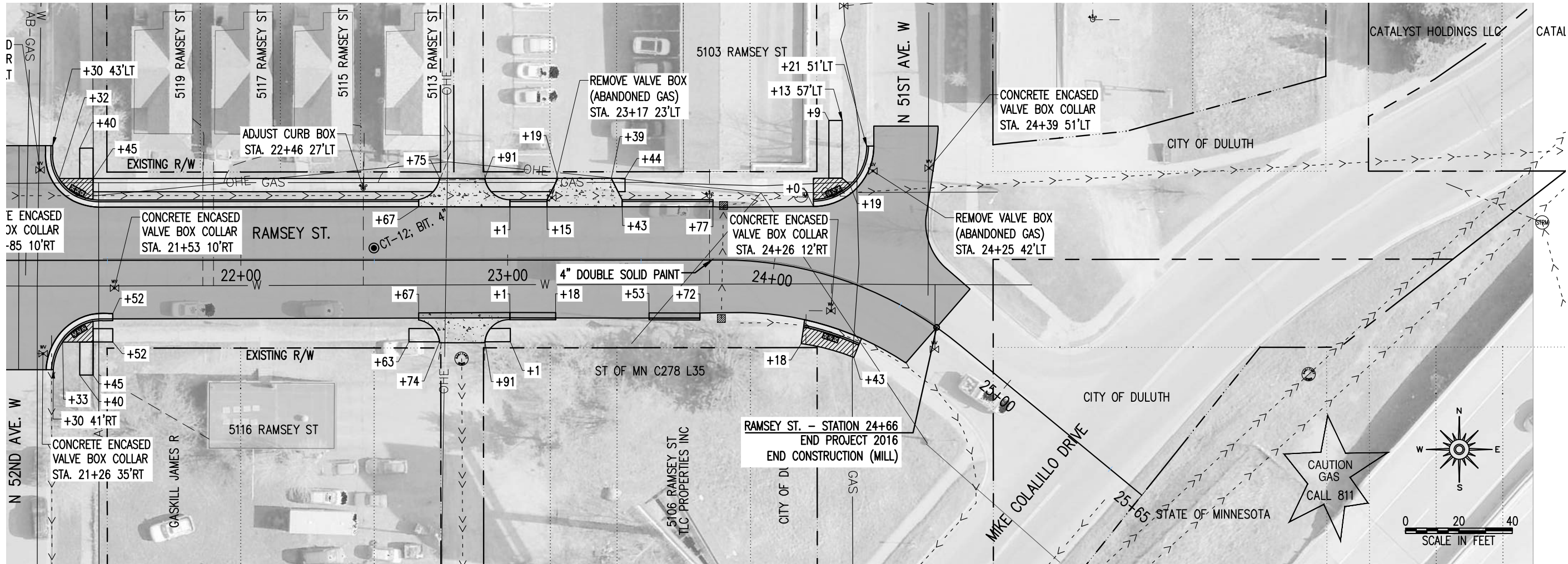
CITY PROJECT NO.: 2016


STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

RAMSEY ST - CONSTRUCTION PLAN

SHEET NO. 48 OF 125



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DATE: 04/20/2023		CITY OF DULUTH ENGINEERING DIVISION 411 W. 1ST ST. STE. 240 DULUTH, MN 55802	2023 STREET PRESERVATION PROJECT		DRAWN BY: ZAE/DJK/SCA/NML	
SIGNATURE: Patrick F. Loomis	PATRICK F. LOOMIS TYPE NAME	LIC. NO: 49099			CITY PROJECT NO.: 2016	STATE AID PROJECT NO.: N/A	RAMSEY ST - CONSTRUCTION PLAN	
							SHEET NO. 49 OF 125	

REMOVALS							A
STATION TO STATION	LT / RT	SPEC. 2104 SAWING CONCRETE PAVEMENT (FULL DEPTH)	SPEC. 2104 SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	SPEC. 2104 REMOVE CURB & GUTTER	SPEC. 2104 REMOVE CONCRETE PAVEMENT	SPEC. 2104 REMOVE BITUMINOUS PAVEMENT	REMARKS
		LIN FT	LIN FT	LIN FT	SQ YD	SQ YD	
		AIRPARK BOULEVARD					
0+50	CL		32				BEGIN PROJECT BUTT JOINT
0+58 TO 2+50	LT		120	162		45	4424 HAINES RD
0+60 TO 0+70	RT		10	10			
3+43 TO 4+21	LT		106	47	32	14	4424 HAINES RD
4+11 TO 4+74	RT		86	39	18	29	4618 AIRPARK BLVD
7+01 TO 7+75	RT		74	74			
8+03 TO 8+15	29' TO 46' LT		20	20			
8+20 TO 8+49	73' RT		29				VENTURE AVE BUTT JOINT
8+52 TO 8+64	45' TO 28' LT		20	20			
8+71 TO 11+00	RT		227	227		0	
9+25 TO 11+90	LT		268	268			
9+57 TO 9+85	RT		21			16	4530 AIRPARK BLVD
10+19 TO 10+52	RT		25		21	8	4530 AIRPARK BLVD
11+65 TO 11+85	RT		20	20			
12+47 TO 12+76	LT		29	29			
16+00 TO 16+50	RT		50	50			
16+33 TO 16+93	LT		60	60			
19+65 TO 21+00	LT		133	133	16		4433 AIRPARK BLVD
19+55 TO 19+86	RT		30	30			
20+23 TO 20+76	RT		53	53			
21+28 TO 22+08	RT		104	30	49	6	4402 AIRPARK BLVD
21+73 TO 22+33	LT		40	40			
23+74 TO 23+80	26' TO 34' RT		8	8			
23+92 TO 25+40	RT		148	148			
23+97 TO 24+25	75' RT		28				ENTERPRISE CIR BUTT JOINT
24+28 TO 24+31	49' TO 63' RT		15	15			
24+75 TO 26+00	RT		146	82	31	5	4302 AIRPARK BLVD
27+20 TO 27+69	LT		43	9	8	21	4305 AIRPARK BLVD
27+87 TO 27+97	RT		10	10			
28+78 TO 29+84	LT		150	57	46	48	4223 AIRPARK BLVD
30+32 TO 30+51	LT		19	19			
30+32 TO 32+01	RT	24	151	121	16		4214 AIRPARK BLVD
30+98 TO 31+94	LT		129	70	37	38	4223 AIRPARK BLVD
32+50 TO 32+57	41' TO 58' RT		18	18			
32+61 TO 32+89	75' RT		28				ENTERPRISE CIR BUTT JOINT
32+68 TO 32+93	LT		25	25			
32+92 TO 33+07	32' TO 59' RT		32	32			
33+30 TO 34+43	LT		141	97	10	23	4209 AIRPARK BLVD
34+30 TO 34+50	RT		20	20			
35+85 TO 36+53	LT		88	55	9	16	4209 AIRPARK BLVD
35+93 TO 36+36	RT	6	43	43	1		4206 AIRPARK BLVD
36+59 TO 36+67	RT	6	8	8	1		4206 AIRPARK BLVD
37+79 TO 38+26	LT		74	47		22	4015 AIRPARK BLVD
42+00 TO 42+72	LT		98	72		20	4015 AIRPARK BLVD
44+39 TO 44+55	LT		16	16			
44+46 TO 44+54	RT		8	8			
46+83 TO 47+06	RT		23	23			
49+49 TO 49+99	33' LT		50				ENDEAVOR DR. BUTT JOINT
48+41 TO 49+15	RT		112	74		37	3930 AIRPARK BLVD
50+28 TO 50+53	RT		25	25			
51+12 TO 51+28	RT	6	16	16	3		3920 AIRPARK BLVD
52+70 TO 53+19	RT	10	63		19	8	3920 AIRPARK BLVD
55+78 TO 56+08	LT		30	30			
55+40 TO 55+87	16' TO 72' RT		83	83			
55+90 TO 56+18	75' RT		28				PROSPERITY RD BUTT JOINT
56+21	63' TO 72' RT		9	9			
56+59 TO 56+84	RT		25	25			
65+71	CL		69				END PROJECT BUTT JOINT
TOTAL		52	3536	2577	317	356	

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SIGNATURE: Patrick F. Loomis

PATRICK F. LOOMIS
TYPE NAME

DATE: 04/20/2023

LIC. NO: 49099



CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

AIRPARK BLVD - TABULATIONS

SHEET NO. 64 OF 125

EXCAVATION AND GRADING			B
STATION TO STATION	LT / RT	SPEC 2501	REMARKS
		CLEAN DRAINAGE DITCH	
		LIN FT	
AIRPARK BOULEVARD			
4+05 TO 4+36	LT	30	DITCH FOR NEW CB CASTING IDMH 1160031
15+94 TO 16+44	RT	50	AROUND NEW CULVERT APRON AT ICB 1160031
61+23 TO 61+33	LT	10	ROAD EDGE TO DRAINAGE DITCH
TOTAL		90	

MILLING AND RECLAMATION OPERATIONS							C
STATION TO STATION	LT / RT	SPEC. 2131	SPEC. 2215	SPEC. 2215	SPEC. 2232	SPEC. 2232	REMARKS
		CALCIUM CHLORIDE SOLUTION	FULL DEPTH RECLAMATION	HAUL FULL DEPTH RECLAMATION (LV)	MILL BITUMINOUS SURFACE (2")	MILL BITUMINOUS SURFACE (4")	
		GALLON	SQ YD	CU YD	SQ YD	SQ YD	
AIRPARK BOULEVARD							
0+50 (BOP) TO 36+00	CL	3460	13840	200		13840	
36+00 TO 65+71 (EOP)	CL	2458	9830	700	9830		
TOTAL		5918	23670	900	9830	13840	

BITUMINOUS PAVEMENT				D
STATION TO STATION	LT / RT	SPEC. 2357	SPEC. 2360	REMARKS
		BITUMINOUS MATERIAL FOR TACK COAT	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	
		GALLON	TON	
AIRPARK BOULEVARD				
0+24 TO 36+00	CL	1384	4568	5.5" BIT., 3 LAYERS
36+00 TO 65+71	CL	983	3244	5.5" BIT., 3 LAYERS
0+58 TO 2+50	LT	1	3	4424 HAINES RD
3+43 TO 4+21	LT	1	3	4424 HAINES RD
4+11 TO 4+74	RT	1	7	4618 AIRPARK BLVD
9+57 TO 9+85	RT	1	2	4530 AIRPARK BLVD
10+19 TO 10+52	RT	1	3	4530 AIRPARK BLVD
21+28 TO 21+78	RT	1	2	4402 AIRPARK BLVD
24+75 TO 26+00	RT	1	2	4302 AIRPARK BLVD
27+20 TO 27+69	LT	1	3	4305 AIRPARK BLVD
28+78 TO 29+84	LT	2	12	4223 AIRPARK BLVD
30+98 TO 31+94	LT	2	10	4223 AIRPARK BLVD
33+30 TO 34+43	LT	1	3	4209 AIRPARK BLVD
35+85 TO 36+53	LT	1	2	4209 AIRPARK BLVD
37+79 TO 38+26	LT	1	3	4015 AIRPARK BLVD
42+09 TO 42+72	LT	1	3	4015 AIRPARK BLVD
52+70 TO 53+19	RT	1	3	3920 AIRPARK BLVD
TOTAL		2384	7873	

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PATRICK F. LOOMIS
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CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

AIRPARK BLVD - TABULATIONS

SHEET NO. 65 OF 125

ENCASEMENT AND REPAIR (1 OF 2)								E
STATION TO STATION	LT / RT	SPEC. 2104	SPEC. 2504	SPEC. 2506	SPEC. 2506	SPEC. 2506	SPEC. 2506	REMARKS
		REMOVE VALVE BOX	CONCRETE ENCASED VALVE BOX COLLAR	CASTING ASSEMBLY	RECONSTRUCT DRAINAGE STRUCTURE	ADJUST FRAME & RING CASTING	CONCRETE ENCASED CASTING COLLAR	
		EACH	EACH	EACH	LIN FT	EACH	EACH	
AIRPARK BOULEVARD								
0+63	17' LT					1		ICB 1160022
0+65	17' RT				1	1		ICB 1160023
1+21	5' RT		1					WATER SERVICE VALVE
1+53	7' RT		1					WATER SERVICE VALVE
3+90	8' LT		1					GAS VALVE
3+90	9' LT		1					GAS TEST POINT
4+09	14' RT		1					GAS VALVE
4+13	25' LT					1		COD TO PROVIDE NEW GRATE
4+14	17' LT					1		ICB 1160024
4+15	18' RT					1		ICB 1160025
4+25	CL						1	ISMH 1160005
5+80	10' RT		1					GAS VALVE
8+08	13' RT		1					GAS VALVE
8+09	38' LT					1		ICB 1160026
8+19	19' LT				1		1	IDMH 1160033
8+20	17' RT					1		IBC 1160027 (ROUND)
8+22	47' LT							GAS VALVE (INSTALLED BY COD IN SPRING 2023)
8+28	2' RT		1					WATER VALVE
8+30	6' RT		1					WATER VALVE
8+46	10' RT		1					WATER VALVE
8+37	4' LT						1	ISMH 1160006
8+58	36' LT					1		IBC 1160028
9+03	17' RT			1				PCB-1
11+75	18' RT					1		IBC 1160030
11+86	16' LT					1		IBC 1160029
11+89	4' LT						1	ISMH 1160010
12+58	10' RT		1					WATER SERVICE VALVE
14+31	14' LT						1	IDMH 116003X
14+75	6' RT		1					WATER VALVE
14+82	2' LT				1		1	ISMH 1160024
15+40	10' LT						1	ISMH 1160011
16+19	18' RT					1		ICB 1160031 / PCB-3
16+63	17' LT					1		ICB 1160032 / PCB-2
18+97	15' RT		1					WATER VALVE
19+70	17' RT					1		ICB 1160033 / PCB-4
19+70	17' LT				1	1		ICB 1160034 / PCB-5
19+80	5' RT						1	ISMH 1160012
CHART SUBTOTAL		0	13	1	4	14	8	

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STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

AIRPARK BLVD – TABULATIONS

SHEET NO. 66 OF 125

ENCASEMENT AND REPAIR (2 OF 2)								E
STATION TO STATION	LT / RT	SPEC. 2104	SPEC. 2504	SPEC. 2506	SPEC. 2506	SPEC. 2506	SPEC. 2506	REMARKS
		REMOVE VALVE BOX	CONCRETE ENCASED VALVE BOX COLLAR	CASTING ASSEMBLY	RECONSTRUCT DRAINAGE STRUCTURE	ADJUST FRAME & RING CASTING	CONCRETE ENCASED CASTING COLLAR	
		EACH	EACH	EACH	LIN FT	EACH	EACH	
AIRPARK BOULEVARD								
23+77	30' RT				0.5	1		ICB 1160002
23+94	17' RT						1	IDMH 1160040
23+95	17' LT				1.5	1		ICB 1160004
24+00	23' RT						1	IDMH 1160002
24+06	7' RT		1					WATER VALVE
24+22	5' LT						1	ISMH 1160013
24+28	56' RT				2	1		ICB 1160003
25+01	3' RT		1					WATER VALVE
25+05	9' RT		1					GAS VALVE
27+92	17' RT				0.5	1		ICB 1160006
28+25	5' LT				1			ISMH 1160017
30+07	6' RT		1					GAS VALVE
30+42	3' RT		1					WATER SERVICE VALVE
30+60	6' RT		1					WATER SERVICE VALVE
32+53	44' LT					1		ICB 1160008
32+70	7' RT		1					WATER VALVE
32+78	18' RT						1	IDMH 1160006
32+79	17' LT					1		ICB 1160007
32+95	11' RT		1					GAS VALVE
32+99	39' RT					1		ICB 1160009
34+26	3' RT		1					WATER VALVE
37+36	3' RT		1					WATER SERVICE VALVE
37+45	5' RT		1					WATER OR GAS VALVE
37+48	6' LT				1		1	ISMH 1160020
37+53	5' RT		1					WATER OR GAS VALVE
37+55	1' RT		1					WATER VALVE
37+95	6' LT						1	ISMH 1160033
38+46	6' RT		1					GAS VALVE
42+13	15' LT					1		ICB 1160020
42+61	11' LT		1					WATER SERVICE VALVE
44+50	15' LT					1		ICB 1160018
44+50	15' RT					1		IBC 1160019
46+99	15' RT					1		ICB 1160016
49+63	15' LT		1					WATER VALVE
49+73	9' RT						1	ISMH 1160031
50+30	4' LT		1					GAS VALVE (CURRENTLY UNDER PAVEMENT)
50+44	15' RT					1		ICB 1160015
52+89	9' RT				1		1	ISMH 1160032
55+89	68' RT					1		ICB 1500003
55+93	7' LT		1					WATER VALVE
55+96	10' LT		1					WATER VALVE
56+02	7' RT						1	ISMH 1500007
56+19	68' RT					1		ICB 1500004
56+73	15' RT					1		ICB 1500002
59+53	9' RT						1	ISMH 1500008
61+75	9' RT							ISMH 1500009
63+19	CL						1	ISMH 1500010
64+39	CL				1		1	ISMH 1500011
64+80	6' RT		1					GAS VALVE
65+40	7' RT	1						GAS VALVE BOX
65+56	CL				1		1	ISMH 1500012
CHART SUBTOTAL		1	20	0	9.5	15	13	
TOTAL		1	33	1	13.5	29	21	

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2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

AIRPARK BLVD - TABULATIONS

SHEET NO. 67 OF 125

PROPOSED CONCRETE				F
STATION TO STATION	LT / RT	SPEC. 2531	SPEC. 2531	REMARKS
		CONCRETE CURB & GUTTER DESIGN B624	8" CONCRETE VALLEY GUTTER	
		LIN FT	SQ YD	
AIRPARK BOULEVARD				
0+58 TO 2+50	LT	134	45	4424 HAINES RD
0+60 TO 0+70	RT	10		
3+43 TO 4+21	LT	21	45	4424 HAINES RD
4+11 TO 4+74	RT	24	32	4618 AIRPARK BLVD
7+01 TO 7+75	RT	74		
8+03 TO 8+15	29' TO 46' LT	20		
8+52 TO 8+64	45' TO 28' LT	20		
8+71 TO 11+00	RT	227		
9+25 TO 11+90	LT	268		
9+57 TO 9+85	RT		12	4530 AIRPARK BLVD
10+19 TO 10+52	RT		13	4530 AIRPARK BLVD
11+65 TO 11+85	RT	20		
12+47 TO 12+76	LT	29		
16+00 TO 16+50	RT	50		
16+33 TO 16+93	LT	60		
19+65 TO 21+00	LT	133	16	4433 AIRPARK BLVD
19+55 TO 19+86	RT	30		
20+23 TO 20+76	RT	53		
21+28 TO 22+08	RT	30	49	4402 AIRPARK BLVD
21+73 TO 22+33	LT	40		
23+74 TO 23+80	26' TO 34' RT	8		
23+92 TO 25+40	RT	148		
24+28 TO 24+31	49' TO 63' RT	15		
24+75 TO 26+00	RT	82	31	4302 AIRPARK BLVD
27+20 TO 27+69	LT	15	18	4305 AIRPARK BLVD
27+87 TO 27+97	RT	10		
28+78 TO 29+84	LT	21	69	4223 AIRPARK BLVD
30+32 TO 30+51	LT	19		
30+32 TO 32+01	RT	128	16	4214 AIRPARK BLVD
30+98 TO 31+94	LT	40	57	4223 AIRPARK BLVD
32+50 TO 32+57	41' TO 58' RT	18		
32+68 TO 32+93	LT	25		
32+92 TO 33+07	32' TO 59' RT	32		
33+30 TO 34+43	LT	69	35	4209 AIRPARK BLVD
34+30 TO 34+50	RT	20		
35+85 TO 36+53	LT	35	26	4209 AIRPARK BLVD
35+93 TO 36+36	RT	43	1	4206 AIRPARK BLVD
36+59 TO 36+67	RT	8	1	4206 AIRPARK BLVD
37+79 TO 38+26	LT	47	15	4015 AIRPARK BLVD
42+00 TO 42+72	LT	72	14	4015 AIRPARK BLVD
44+39 TO 44+55	LT	16		
44+46 TO 44+54	RT	8		
46+83 TO 47+06	RT	23		
48+41 TO 49+15	RT	11	51	3930 AIRPARK BLVD
50+28 TO 50+53	RT	25		
51+12 TO 51+28	RT	16	3	3920 AIRPARK BLVD
52+70 TO 53+19	RT		19	3920 AIRPARK BLVD
55+78 TO 56+08	LT	30		
55+40 TO 55+87	16' TO 72' RT	83		
55+21	63' TO 72' RT	9		
56+59 TO 56+84	RT	25		
TOTAL		2344	568	

SIGNAGE AND PAVEMENT MARKING					G
STATION TO STATION	LT / RT	SPEC. 2582	SPEC. 2582	SPEC. 2582	REMARKS
		4" SOLID LINE PAINT	24" SOLID LINE PAINT	4" DOUBLE SOLID PAINT	
		LIN FT	LIN FT	LIN FT	
AIRPARK BOULEVARD					
0+50 TO 7+83	CL			744	YELLOW
8+97 TO 23+73	CL			1476	YELLOW
24+59 TO 32+33	CL			774	YELLOW
33+22 TO 49+37	CL			1615	YELLOW
50+21 TO 55+66	CL			545	YELLOW
56+49 TO 65+64	CL			915	YELLOW
65+16 TO 65+71	LT	58			BIT. RADIUS - WHITE
65+16 TO 65+71	RT	59			BIT. RADIUS - WHITE
65+63	RT		22		STOP BAR - WHITE
TOTAL		117	22	6069	

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PATRICK F. LOOMIS
TYPE NAME

DATE: 04/20/2023

LIC. NO: 49099



CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

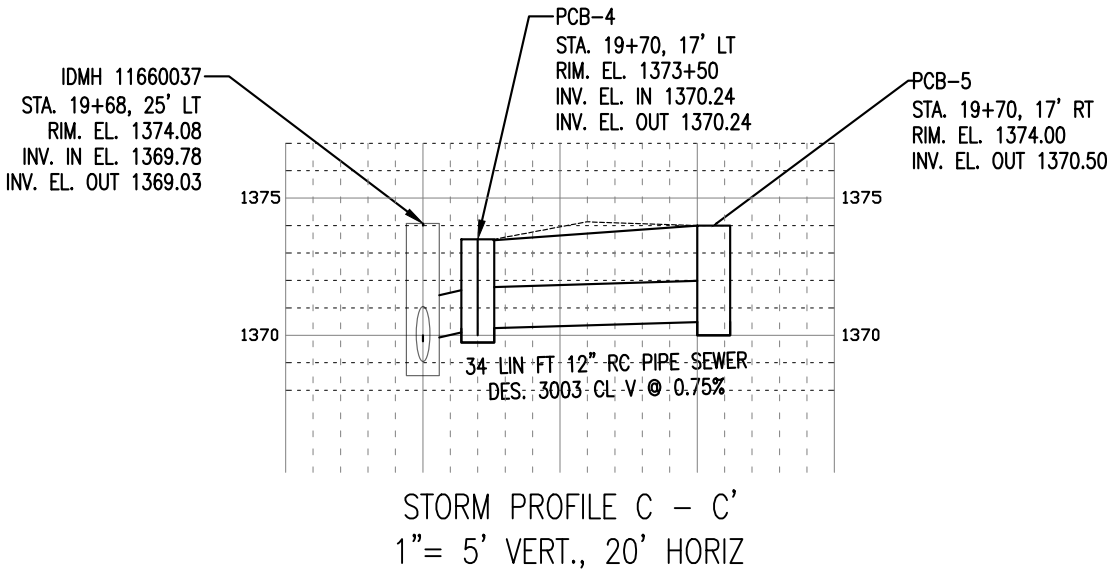
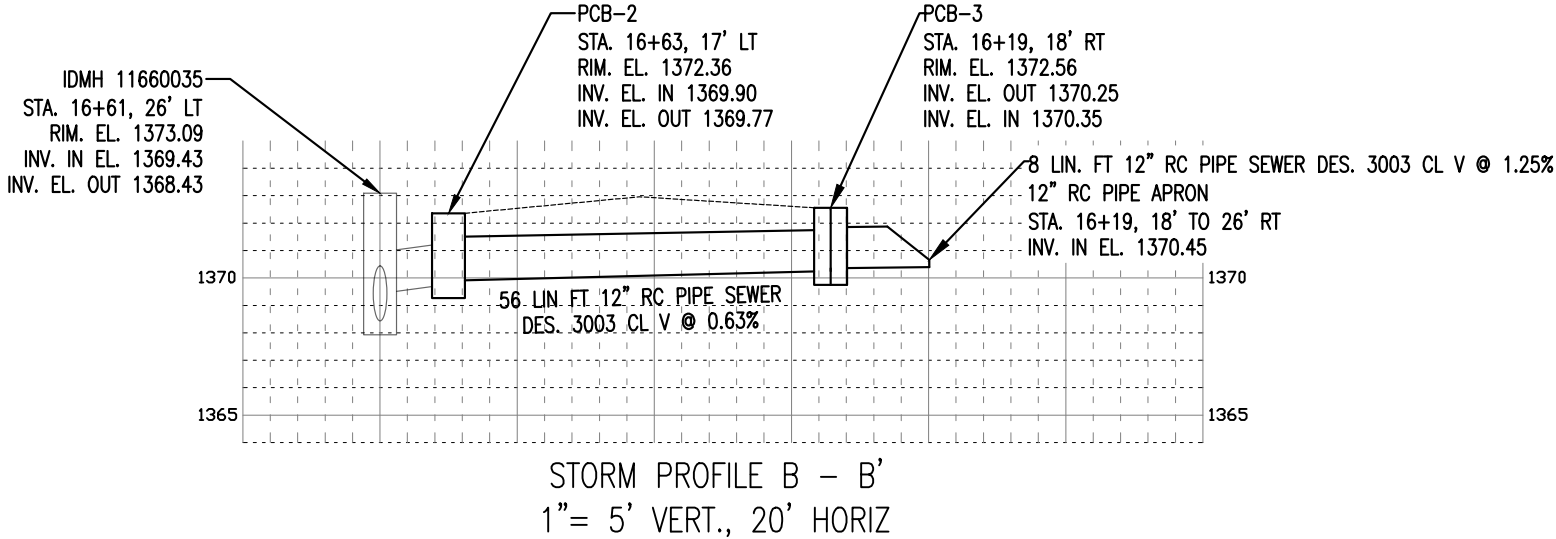
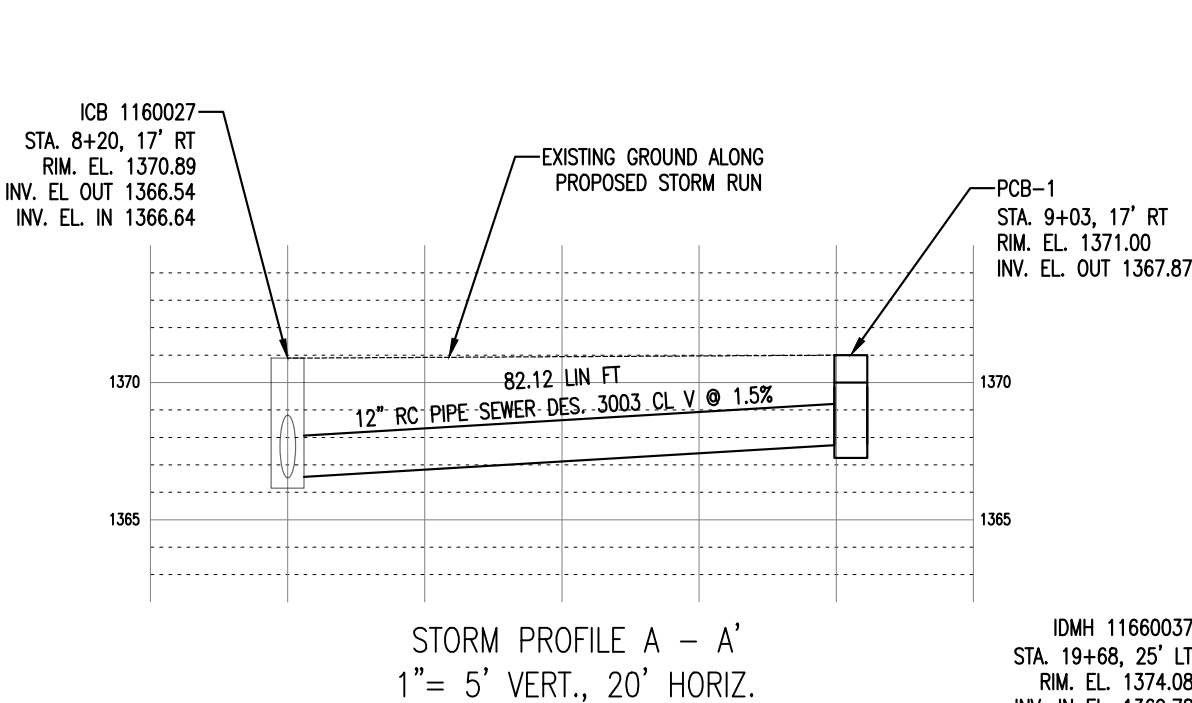
STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

AIRPARK BLVD - TABULATIONS

SHEET NO. 68 OF 125

DRAINAGE CONSTRUCTION										H
STATION TO STATION	LT / RT	SPEC. 2104	SPEC. 2104	SPEC. 2501	SPEC. 2502	SPEC. 2503	SPEC. 2506	SPEC. 2506	SPEC. 2506	REMARKS
		REMOVE CATCH BASIN	REMOVE SEWER PIPE (STORM)	12" RC PIPE APRON	8" PERF PE PIPE DRAIN	12" RC PIPE SEWER DES 3006 CL V	CONNECT INTO EXISTING STORM SEWER	CONNECT INTO EXISTING MH OR CB	CONST DRAINAGE STRUCTURE DES SD-48	
		EACH	LIN FT	EACH	LIN FT	LIN FT	EACH	EACH	LIN FT	
AIRPARK BOULEVARD										
8+20 TO 9+03	17' RT					82		1	3	PCB-1 TO ICB 1160027, SEE STORM PROFILE A - A'
8+58 TO 8+71	20' RT				198			1		CONNECT INTO ICB 1160028
9+02 TO 11+00	36' TO 29' LT				15			1		CONNECT INTO PCB-1
16+19 TO 16+63	18' RT TO 17' LT	2	56			56	1		6	PCB-2 TO PCB 3, SEE STORM PROFILE B - B'
16+19	18' RT TO 24' RT			1		8				PCB-3 TO DITCH
19+34 TO 19+70	37' TO 16' RT				40			1		CONNECT INTO PCB-5
19+70	17' LT TO 17' RT	2	34			34	1		6	PCB-4 TO ICB 5, SEE STORM PROFILE C - C'
19+70	16' LT TO 16' RT		32			32	2			ICB 1160012 TO ICB1160034
TOTAL		4	122	1	253	212	4	4	15	



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2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

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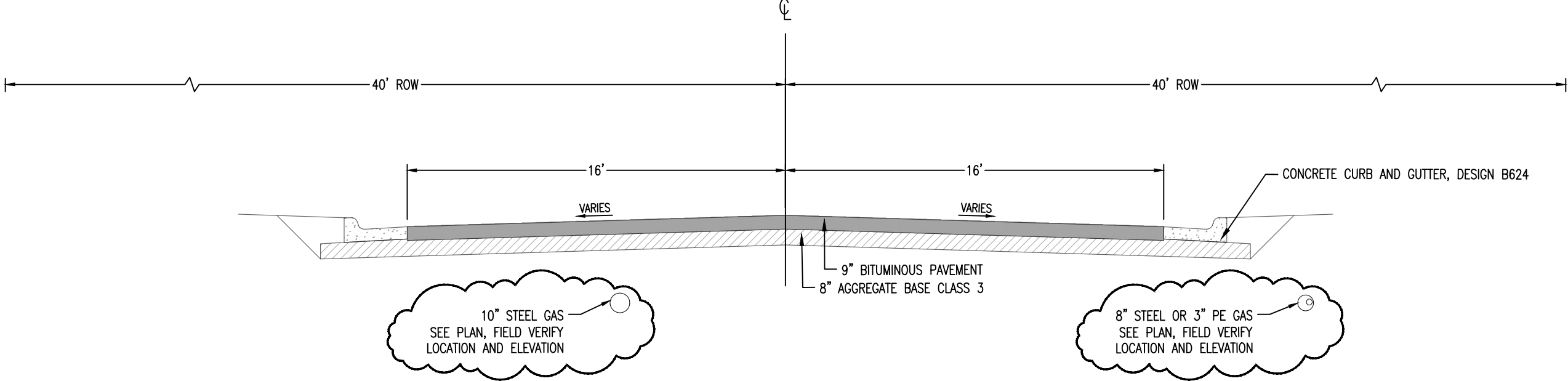
AIRPARK BLVD - TABULATIONS

SHEET NO. 69 OF 125

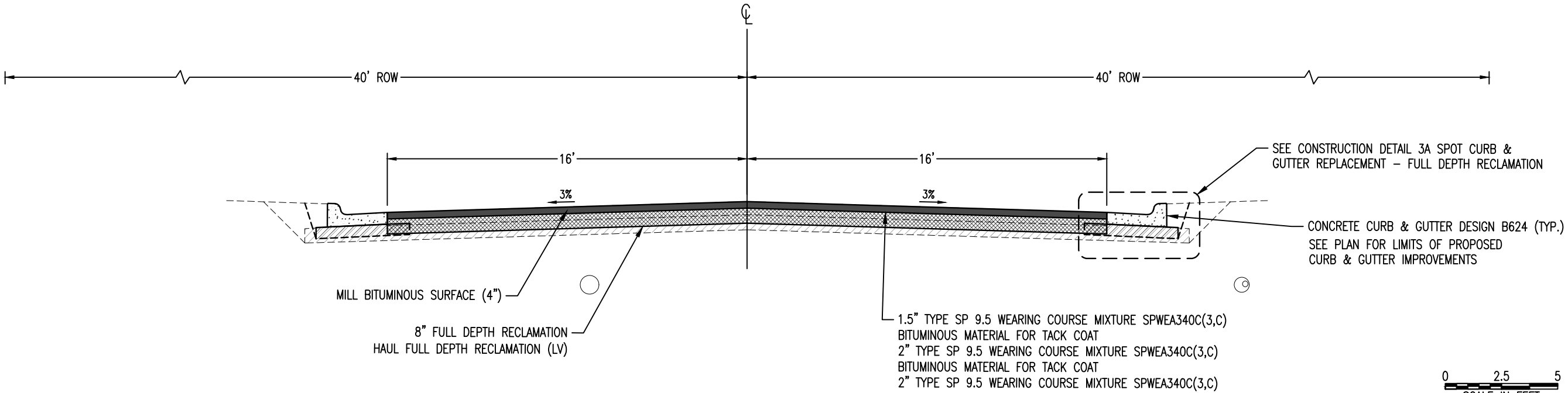
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EXISTING TYPICAL SECTION
AIRPARK BOULEVARD
STATION 0+50 TO 36+00



PROPOSED TYPICAL SECTION
AIRPARK BOULEVARD
STATION 0+50 TO 36+00



0 2.5 5
SCALE IN FEET

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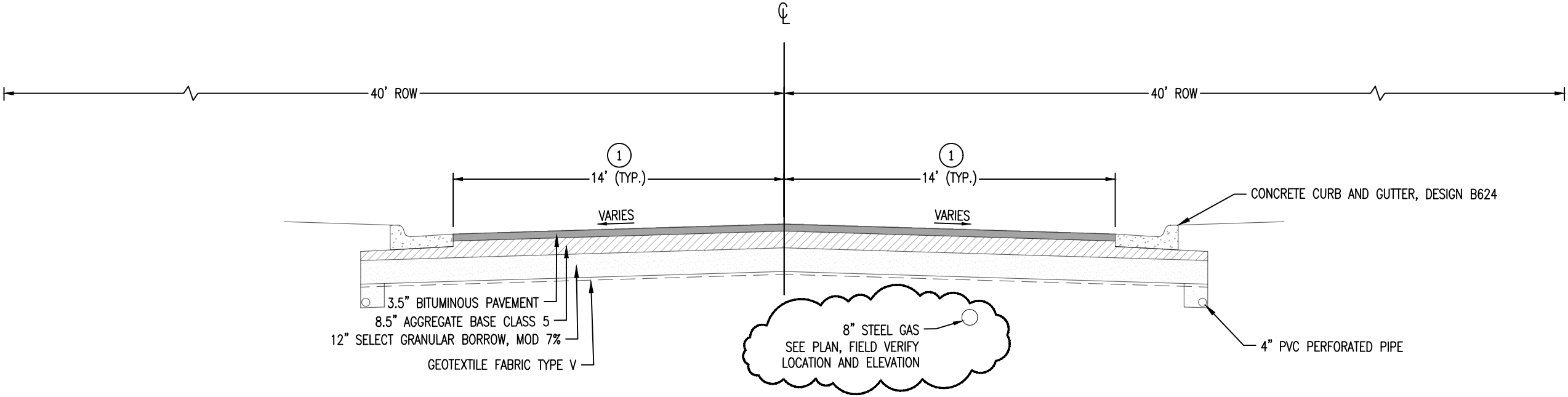
AIRPARK BLVD - TYPICAL SECTIONS

SHEET NO. 70 OF 125

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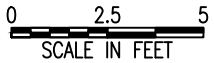
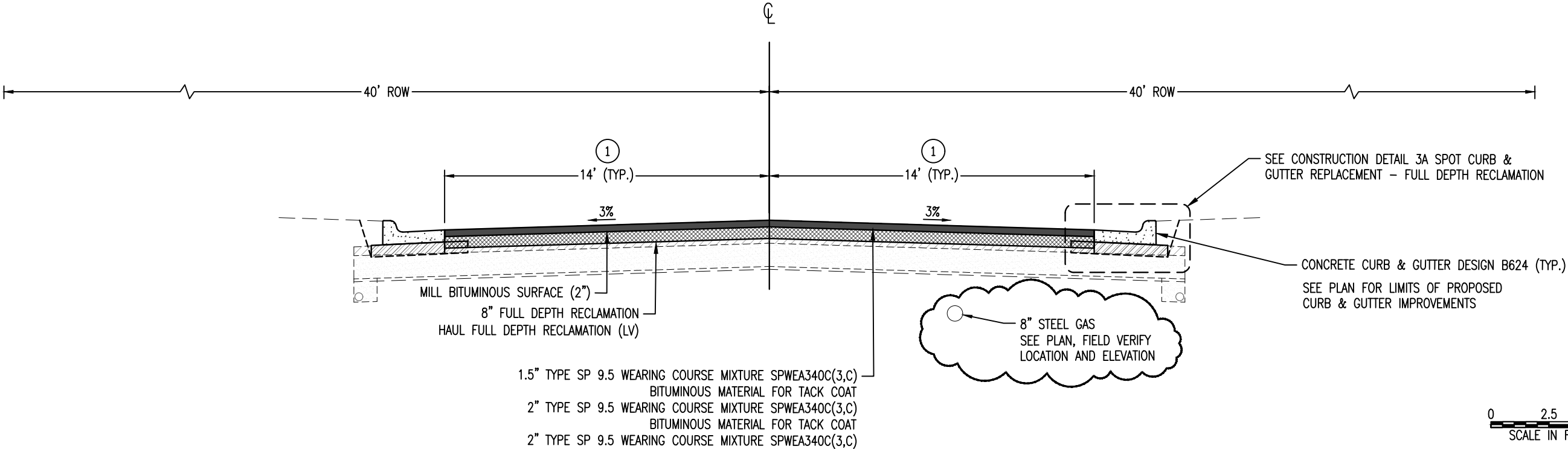
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EXISTING TYPICAL SECTION
AIRPARK BOULEVARD
STATION 36+00 TO 65+71



① BITUMINOUS PAVEMENT WIDTH TAPERS FROM 16' TO 14'
STATION 36+67 TO 37+67

PROPOSED TYPICAL SECTION
AIRPARK BOULEVARD
STATION 36+00 TO 65+71



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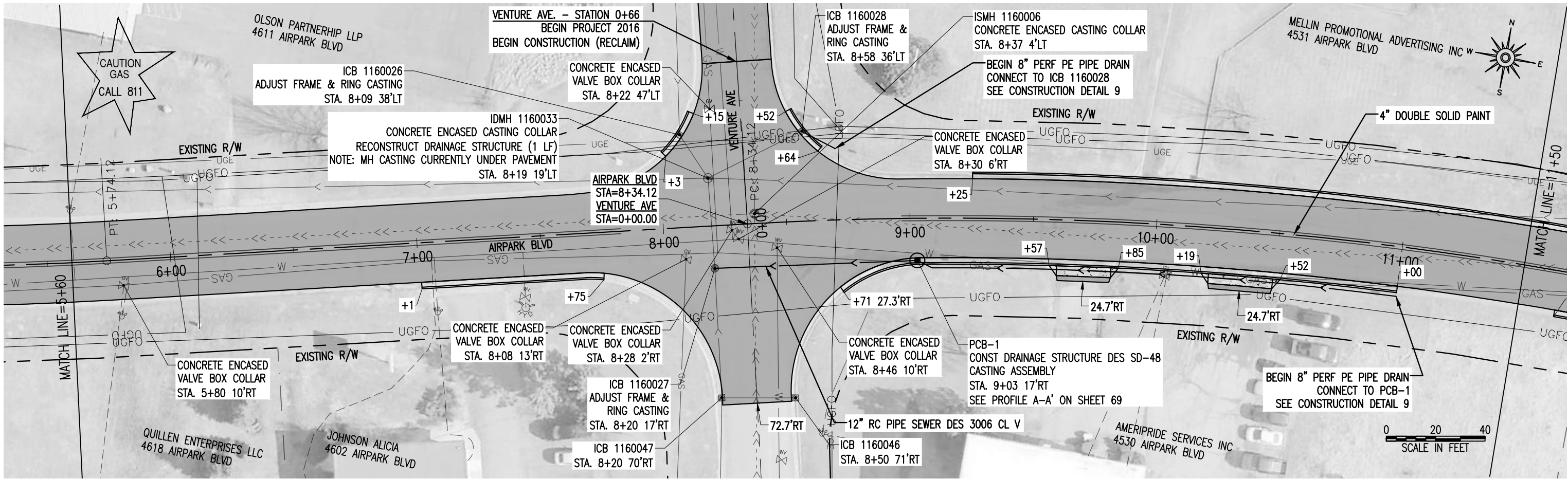
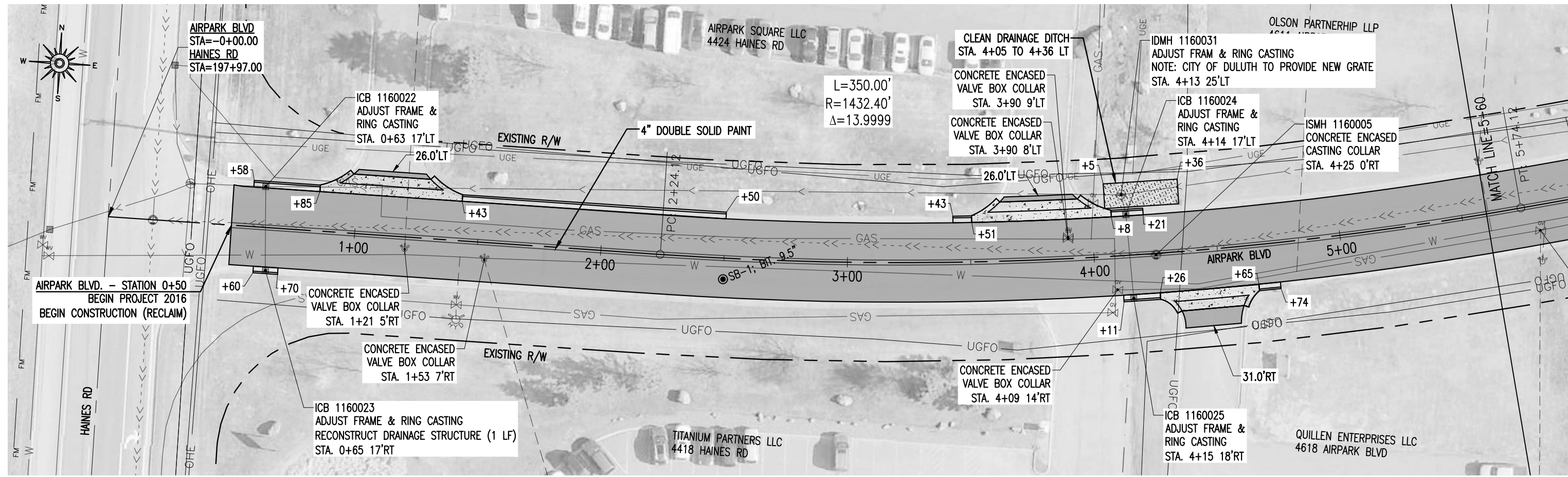
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AIRPARK BLVD – TYPICAL SECTIONS

SHEET NO. 71 OF 125

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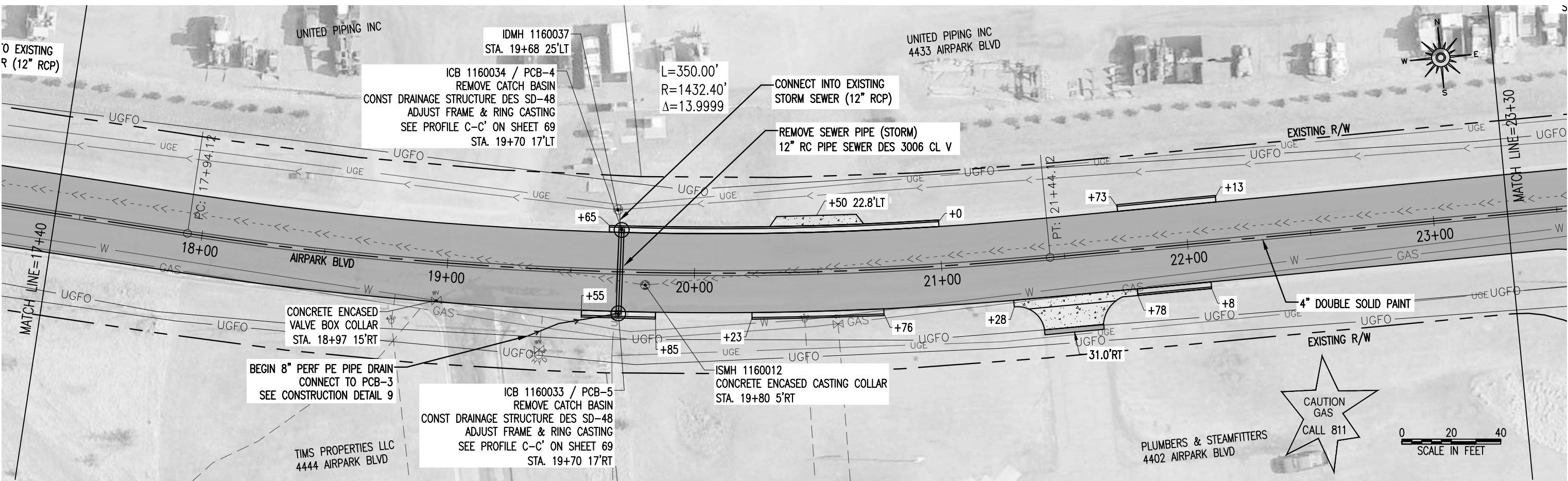
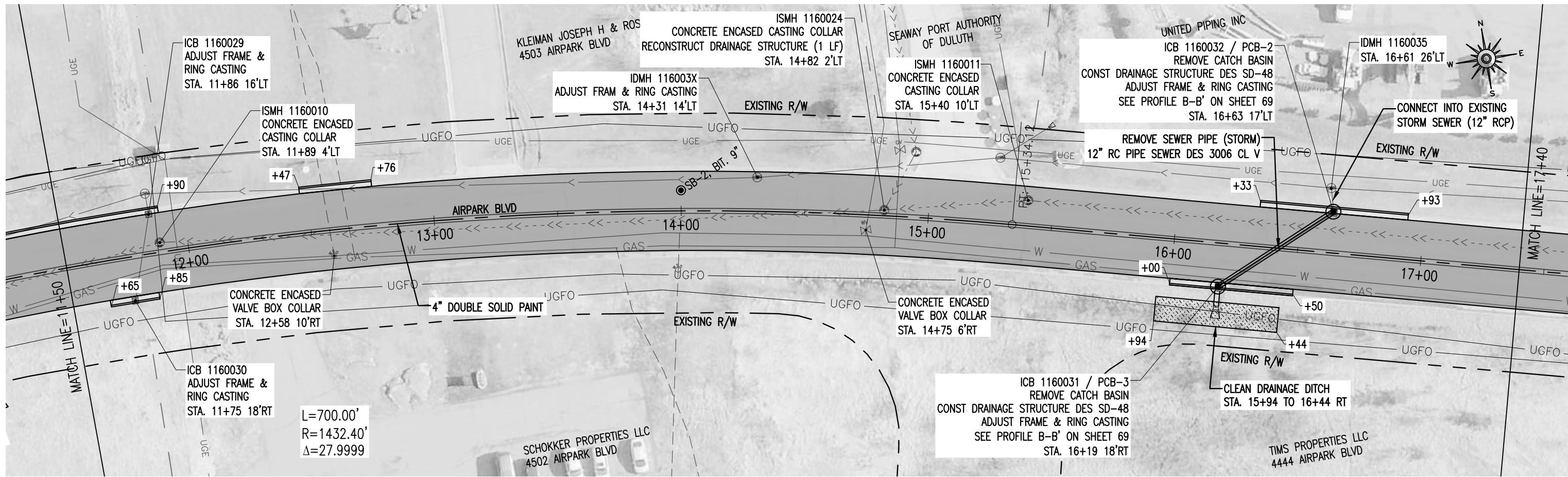
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AIRPARK BLVD - CONSTRUCTION PLAN

SHEET NO. 72 OF 125

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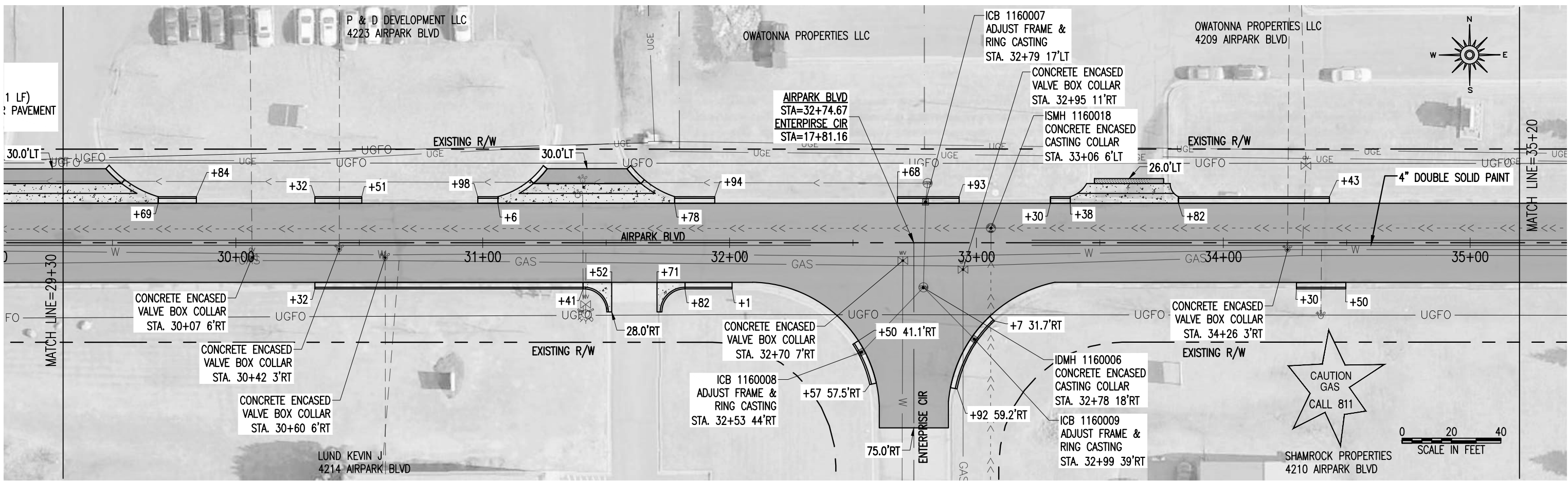
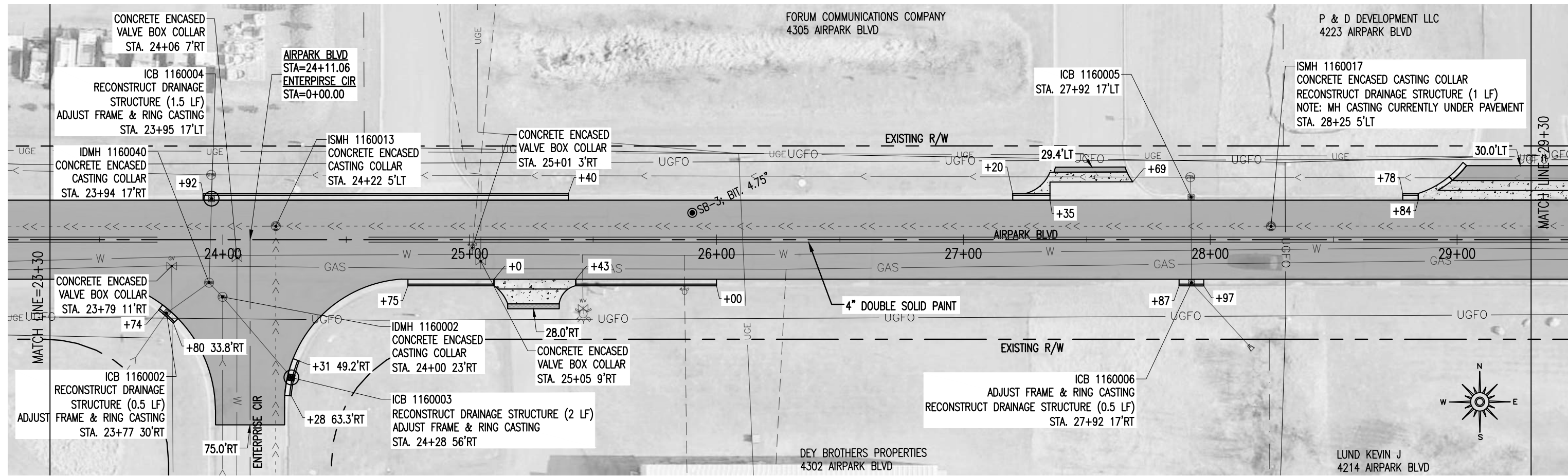
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AIRPARK BLVD - CONSTRUCTION PLAN

SHEET NO. 73 OF 125

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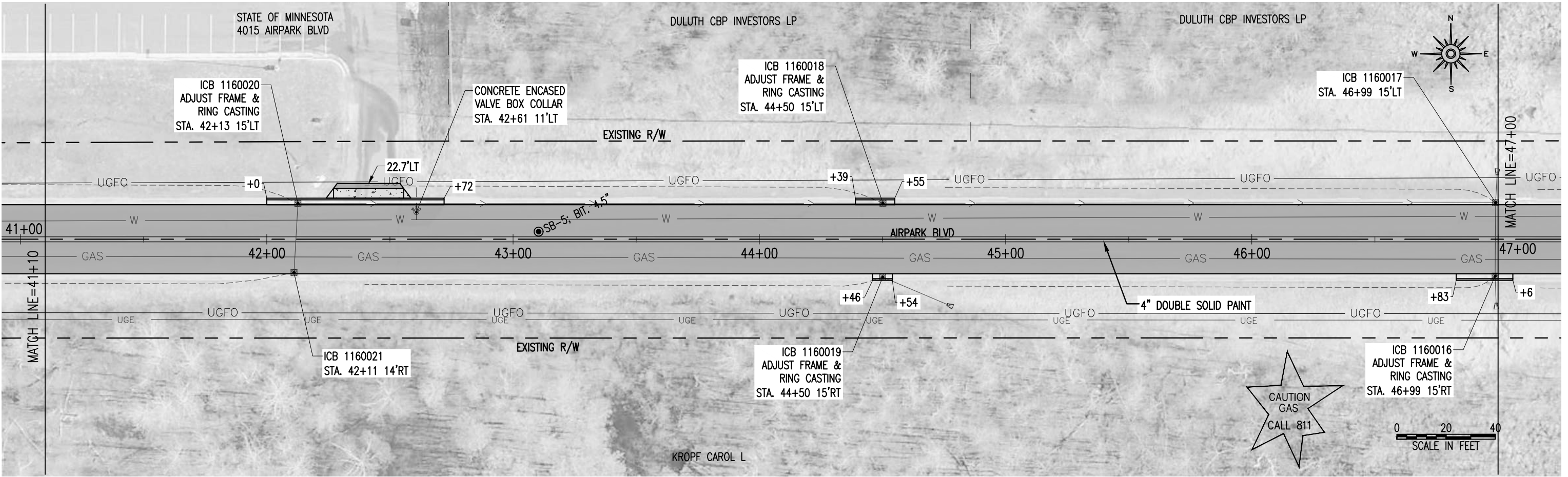
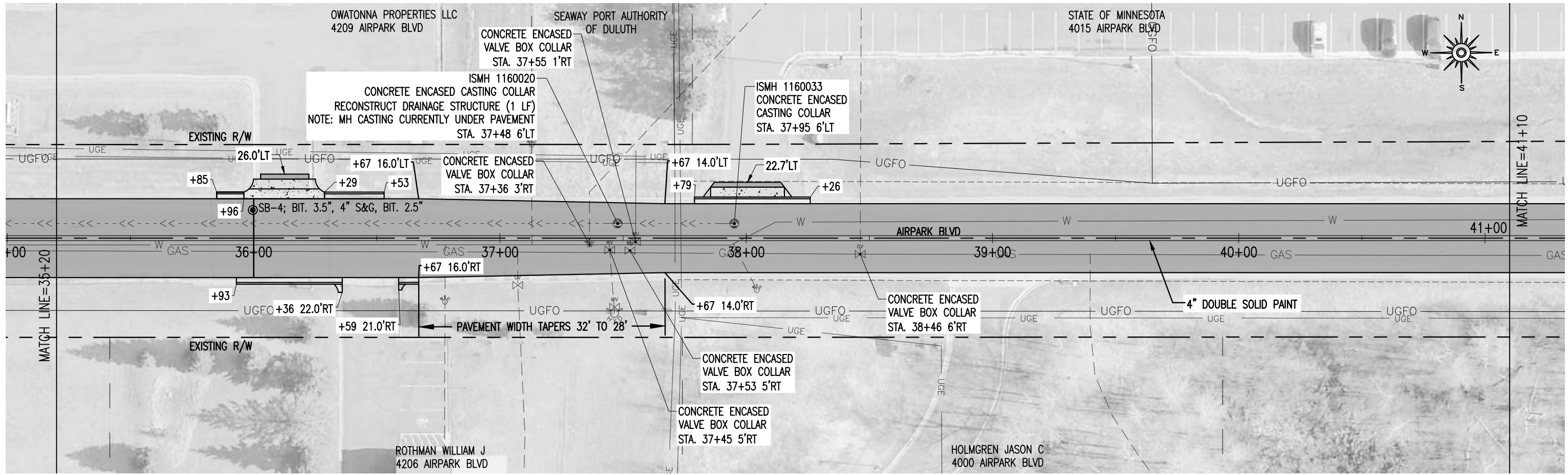
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AIRPARK BLVD - CONSTRUCTION PLAN

SHEET NO. 74 OF 125

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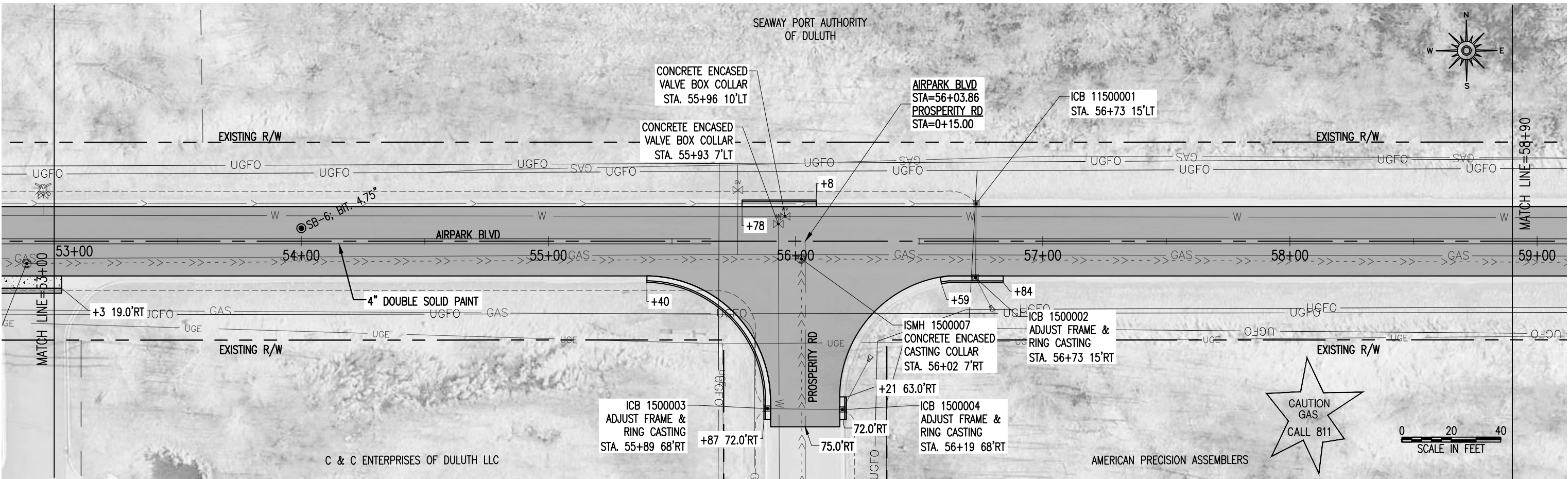
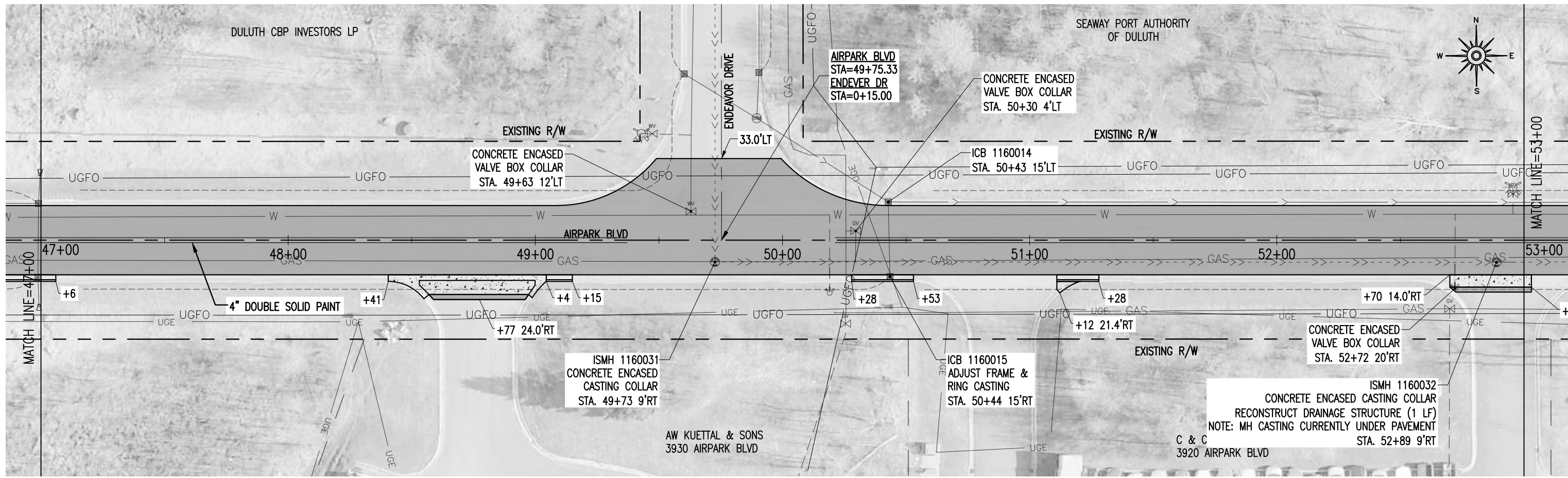
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AIRPARK BLVD - CONSTRUCTION PLAN

SHEET NO. 75 OF 125

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DULUTH, MN 55802

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STATE AID PROJECT NO.: N/A

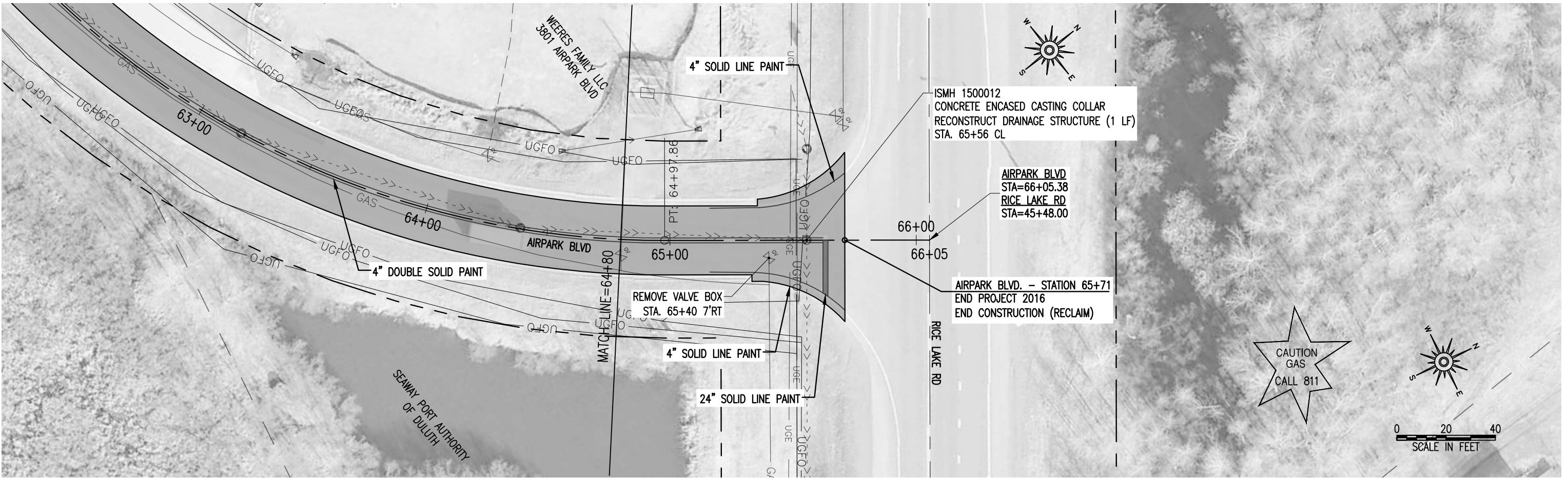
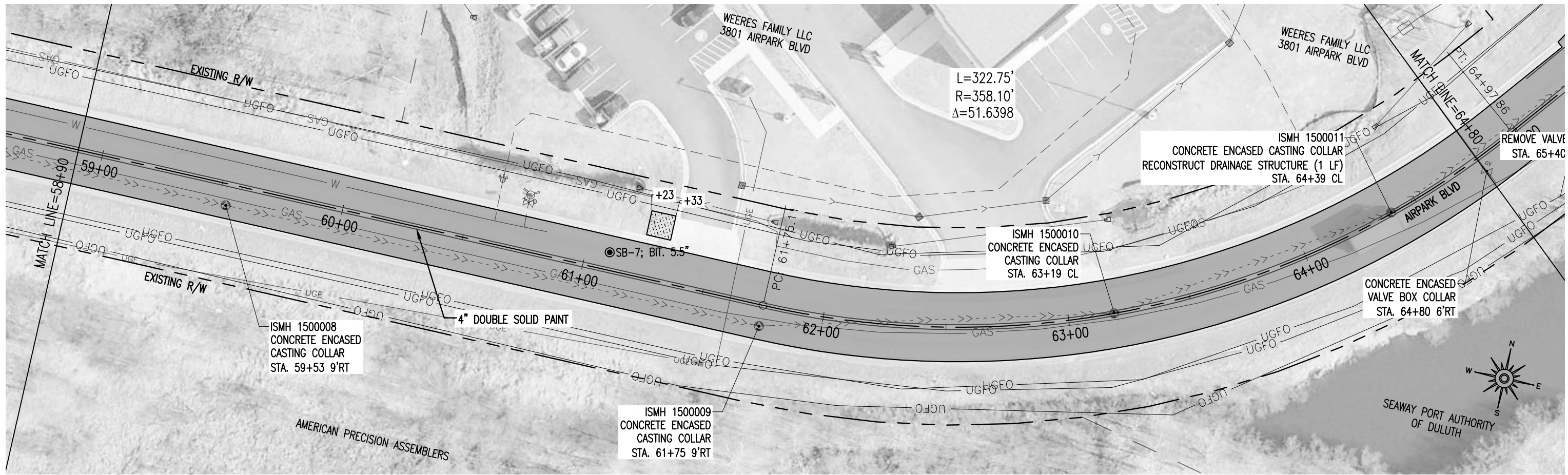
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AIRPARK BLVD - CONSTRUCTION PLAN

SHEET NO. 76 OF 125

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AIRPARK BLVD - CONSTRUCTION PLAN

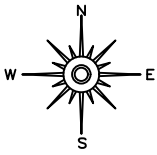
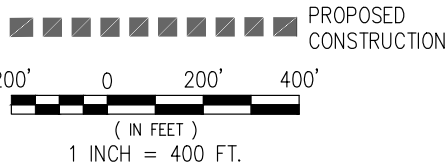
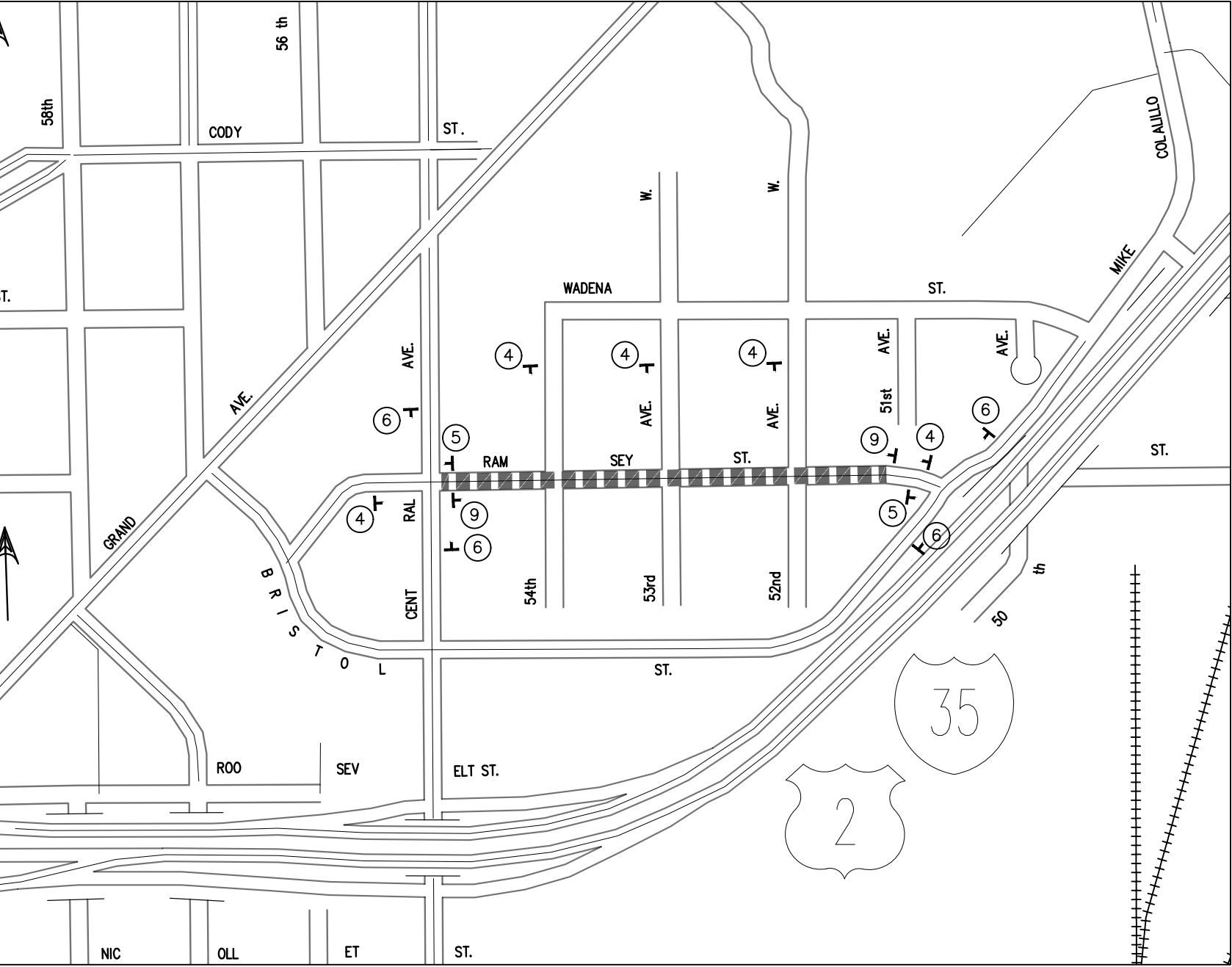
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TRAFFIC CONTROL – RAMSEY ST.

DEPARTMENT OF PUBLIC WORKS AND UTILITIES
ENGINEERING DIVISION



I HEREBY CERTIFY THAT THIS PLAN 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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CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

TRAFFIC SIGN LEGEND

NOTE	SIGN	QNTY
①		AS REQ'D
②		AS REQ'D
③		AS REQ'D
④		5
⑤		2
⑥		4
⑦		AS REQ'D
⑧		AS REQ'D
⑨	CITY OF DULUTH TRANSPORTATION SALES TAX PROJECT SPECIAL SIGN	2 SEE NOTE 22
⑩		AS REQ'D
⑪		AS REQ'D
T	SIGN	13

TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) INCLUDING "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" DATED JANUARY 2018. AVAILABLE AT: (<http://www.dot.state.mn.us/trafficeng/publ/fieldmanual/index.html>)
3. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
4. THE NUMBER AND PLACEMENT OF TRAFFIC CONTROL DEVICES WILL DEPEND UPON THE SEQUENCE OF THE CONTRACTOR'S OPERATION.
5. ANY DISTANCES DEPICTED ARE APPROXIMATE.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MMUTCD.
7. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.
8. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION, SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
9. "ROAD WORK AHEAD" SIGNS SHALL BE MOUNTED APPROX. 300 FT (1 BLOCK) IN ADVANCE OF THE CONSTRUCTION AND SHALL HAVE A TYPE "A" LOW INTENSITY FLASHING AMBER WARNING LIGHT MOUNTED ON THEM.
10. "ROAD CLOSED AHEAD" SIGNS SHALL BE ERECTED APPROX. 300 FT (1 BLOCK) IN ADVANCE OF THE CLOSURE.
11. TYPE "A" LOW INTENSITY AMBER WARNING LIGHTS SHALL BE MOUNTED ON ALL ADVANCE WARNING SIGNS AND ON ALL TYPE I AND TYPE III BARRICADES WHEN USED AT NIGHT OR TO IDENTIFY HAZARDS.
12. ADDITIONAL SIGNING WILL BE REQUIRED FOR SEPARATE LANE CLOSURES REQUIRED FOR CONSTRUCTION OPERATIONS. THE SIGNING SHALL BE IN CONFORMANCE WITH "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL DATED JANUARY 2018 AND SHALL BE CONSIDERED INCIDENTAL.
13. THE CONTRACTOR SHALL PLACE DRUMS THROUGHOUT THE PROJECT TO DELINEATE HAZARDOUS AREAS AND FACILITATE DAY-TO-DAY CHANNELIZATION OF TRAFFIC. QUANTITY AS REQUIRED (INCIDENTAL).
14. STREET NAME PLACARDS SHALL DISPLAY THE NAME OF THE STREET ASSOCIATED WITH THE PRIMARY SIGN.
15. ALL TRAFFIC CONTROL SIGNS SHALL BE DOUBLE POST MOUNTED.
16. TRAFFIC CONTROL SIGNS FOR VEHICLE TRAFFIC SHALL NOT BE PLACED ON SIDEWALKS
17. SIGN PLACEMENT AND LOCATION ON MnDOT ROW MAY REQUIRE COORDINATION WITH MnDOT
18. SIDEWALK CLOSED SIGNS SHALL BE PLACED IN ADVANCE OF SIDEWALK CLOSURES WHILE UNDER CONSTRUCTION
19. ALL SIDEWALK CLOSED SIGNS SHALL BE MOUNTED ON TYPE II BARRICADES.
20. SIDEWALK CLOSED AHEAD CROSS HERE SIGNS SHALL BE PLACED WHERE SIDEWALK EXISTS ON THE OPPOSITE SIDE OF THE ROAD AND SHALL BE PLACED AT THE PRECEDING EXISTING INTERSECTION MARKED OR UNMARKED CROSSWALK.
21. CONSTRUCTION OF PED RAMPS SHALL OCCUR ONLY IN ONE QUADRANT AT A TIME IN ORDER TO FACILITATE PEDESTRIAN TRAFFIC UNLESS APPROVED BY THE ENGINEER.
22. TRANSPORTATION SALES TAX SIGNS WILL BE SUPPLIED BY THE CITY OF DULUTH. THE CONTRACTOR WILL TEMPORARILY INSTALL THE SIGNS AT EACH END OF STREET ACCORDING TO THE TRAFFIC CONTROL PLANS. CONTRACTOR WILL PROVIDE ALL POSTS, BASES, SANDBAGS AND HARDWARE TO COMPLETE TEMPORARY INSTALLATION. SIGNS SHALL BE PRESENT STARTING AT INITIAL CONSTRUCTION ACTIVITIES AND BE REMOVED ONCE ALL OPERATIONS HAVE BEEN CONCLUDED. SIGNS WILL BE REMOVED FROM ANY HARDWARE AND RETURNED TO ENGINEER AT COMPLETION OF PROJECT. THE 2022 STREET PRESERVATION PROJECT REQUIRES 37 TRANSPORTATION SALES TAX SIGNS. ANY MISSING SIGNS AT THE END OF PROJECT WILL BE ASSESSED TO THE CONTRACTOR AT \$200 PER SIGN.

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

RAMSEY ST – TRAFFIC CONTROL

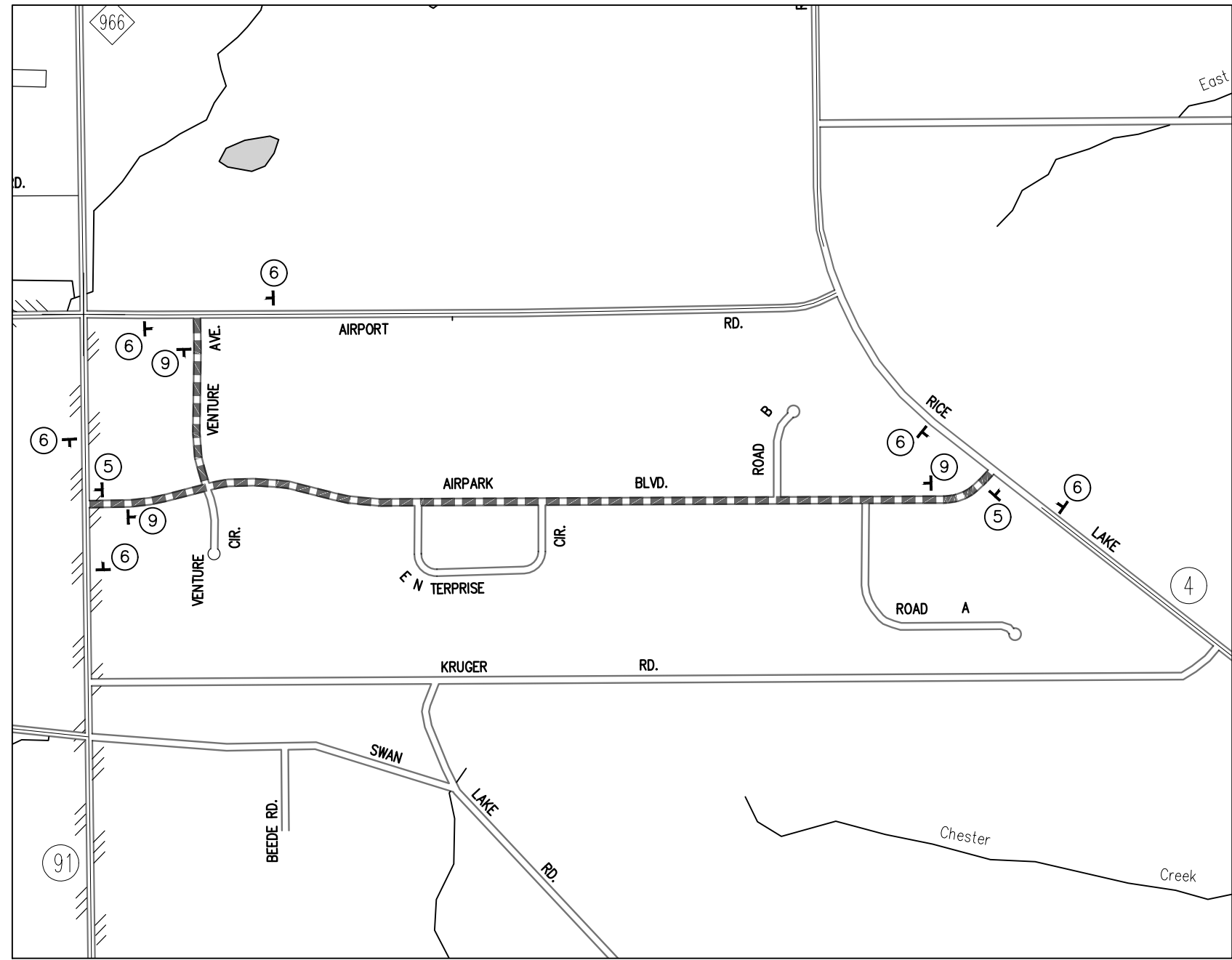
SHEET NO. 119 OF 125

4/24/2023 4:23 PM

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TRAFFIC CONTROL – AIRPARK BLVD. & VENTURE AVE.

DEPARTMENT OF PUBLIC WORKS AND UTILITIES
ENGINEERING DIVISION

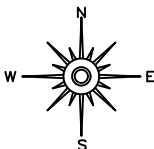
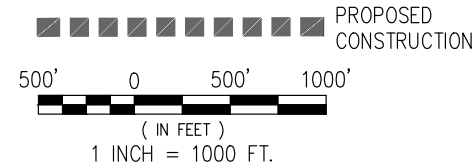


TRAFFIC SIGN LEGEND

NOTE	SIGN	QNTY
①	ONE LANE ROAD AHEAD 36" X 36" W20-4	AS REQ'D
②	ROAD WORK AHEAD 36" X 36" W20-7a	AS REQ'D
③	BE PREPARED TO STOP 36" X 36" W20-X5	AS REQ'D
④	ROAD WORK AHEAD 36" X 36" W21-4	AS REQ'D
⑤	END ROAD WORK G20-2A 48" X 24"	2
⑥	ROAD WORK AHEAD 36" X 36" W21-4 STREET NAME VARIES X 8"	6
⑦	ROAD CLOSED R11-2 30"X18"	AS REQ'D
⑧	SIDEWALK CLOSED AHEAD CROSS HERE R9-11(R OR L) 24"X12"	AS REQ'D
⑨	CITY OF DULUTH TRANSPORTATION SALES TAX PROJECT SPECIAL SIGN	3 SEE NOTE 22
⑩	BUMP 36"X36" WB-1	AS REQ'D
⑪	UNEVEN LANES 36"X36" WB-11	AS REQ'D
T	SIGN	13

TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) INCLUDING "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" DATED JANUARY 2018. AVAILABLE AT: (<http://www.dot.state.mn.us/trafficeng/publ/fieldmanual/index.html>)
3. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
4. THE NUMBER AND PLACEMENT OF TRAFFIC CONTROL DEVICES WILL DEPEND UPON THE SEQUENCE OF THE CONTRACTOR'S OPERATION.
5. ANY DISTANCES DEPICTED ARE APPROXIMATE.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MMUTCD.
7. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.
8. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION, SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
9. "ROAD WORK AHEAD" SIGNS SHALL BE MOUNTED APPROX. 300 FT (1 BLOCK) IN ADVANCE OF THE CONSTRUCTION AND SHALL HAVE A TYPE "A" LOW INTENSITY FLASHING AMBER WARNING LIGHT MOUNTED ON THEM.
10. "ROAD CLOSED AHEAD" SIGNS SHALL BE ERECTED APPROX. 300 FT (1 BLOCK) IN ADVANCE OF THE CLOSURE.
11. TYPE "A" LOW INTENSITY AMBER WARNING LIGHTS SHALL BE MOUNTED ON ALL ADVANCE WARNING SIGNS AND ON ALL TYPE I AND TYPE III BARRICADES WHEN USED AT NIGHT OR TO IDENTIFY HAZARDS.
12. ADDITIONAL SIGNING WILL BE REQUIRED FOR SEPARATE LANE CLOSURES REQUIRED FOR CONSTRUCTION OPERATIONS. THE SIGNING SHALL BE IN CONFORMANCE WITH "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL DATED JANUARY 2018 AND SHALL BE CONSIDERED INCIDENTAL.
13. THE CONTRACTOR SHALL PLACE DRUMS THROUGHOUT THE PROJECT TO DELINEATE HAZARDOUS AREAS AND FACILITATE DAY-TO-DAY CHANNELIZATION OF TRAFFIC. QUANTITY AS REQUIRED (INCIDENTAL).
14. STREET NAME PLACARDS SHALL DISPLAY THE NAME OF THE STREET ASSOCIATED WITH THE PRIMARY SIGN.
15. ALL TRAFFIC CONTROL SIGNS SHALL BE DOUBLE POST MOUNTED.
16. TRAFFIC CONTROL SIGNS FOR VEHICLE TRAFFIC SHALL NOT BE PLACED ON SIDEWALKS
17. SIGN PLACEMENT AND LOCATION ON MnDOT ROW MAY REQUIRE COORDINATION WITH MnDOT
18. SIDEWALK CLOSED SIGNS SHALL BE PLACED IN ADVANCE OF SIDEWALK CLOSURES WHILE UNDER CONSTRUCTION
19. ALL SIDEWALK CLOSED SIGNS SHALL BE MOUNTED ON TYPE II BARRICADES.
20. SIDEWALK CLOSED AHEAD CROSS HERE SIGNS SHALL BE PLACED WHERE SIDEWALK EXISTS ON THE OPPOSITE SIDE OF THE ROAD AND SHALL BE PLACED AT THE PRECEDING EXISTING INTERSECTION MARKED OR UNMARKED CROSSWALK.
21. CONSTRUCTION OF PED RAMPS SHALL OCCUR ONLY IN ONE QUADRANT AT A TIME IN ORDER TO FACILITATE PEDESTRIAN TRAFFIC UNLESS APPROVED BY THE ENGINEER.
22. TRANSPORTATION SALES TAX SIGNS WILL BE SUPPLIED BY THE CITY OF DULUTH. THE CONTRACTOR WILL TEMPORARILY INSTALL THE SIGNS AT EACH END OF STREET ACCORDING TO THE TRAFFIC CONTROL PLANS. CONTRACTOR WILL PROVIDE ALL POSTS, BASES, SANDBAGS AND HARDWARE TO COMPLETE TEMPORARY INSTALLATION. SIGNS SHALL BE PRESENT STARTING AT INITIAL CONSTRUCTION ACTIVITIES AND BE REMOVED ONCE ALL OPERATIONS HAVE BEEN CONCLUDED. SIGNS WILL BE REMOVED FROM ANY HARDWARE AND RETURNED TO ENGINEER AT COMPLETION OF PROJECT. THE 2022 STREET PRESERVATION PROJECT REQUIRES 37 TRANSPORTATION SALES TAX SIGNS. ANY MISSING SIGNS AT THE END OF PROJECT WILL BE ASSESSED TO THE CONTRACTOR AT \$200 PER SIGN.



I HEREBY CERTIFY THAT THIS PLAN 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.

SIGNATURE: *Patrick F. Loomis*

PATRICK F. LOOMIS
TYPE NAME

DATE: 04/20/2023

LIC. NO: 49099



CITY OF DULUTH
ENGINEERING DIVISION
411 W. 1ST ST. STE. 240
DULUTH, MN 55802

2023 STREET PRESERVATION PROJECT

CITY PROJECT NO.: 2016

STATE AID PROJECT NO.: N/A

DRAWN BY: ZAE/DJK/SCA/NML

AIRPARK – TRAFFIC CONTROL

SHEET NO. 123 OF 125