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FEASIBILITY REPORT
FOR
KNOX, JAMES, AND 54TH AREA
IMPROVEMENTS

IMPROVEMENT PROJECT NO. 2023-01

CITY OF BROOKLYN CENTER, MINNESOTA

September 19, 2022

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

Michael Albers

*Michael J Albers, P.E.
Reg. No. 47074
September 19, 2022*

I. BACKGROUND

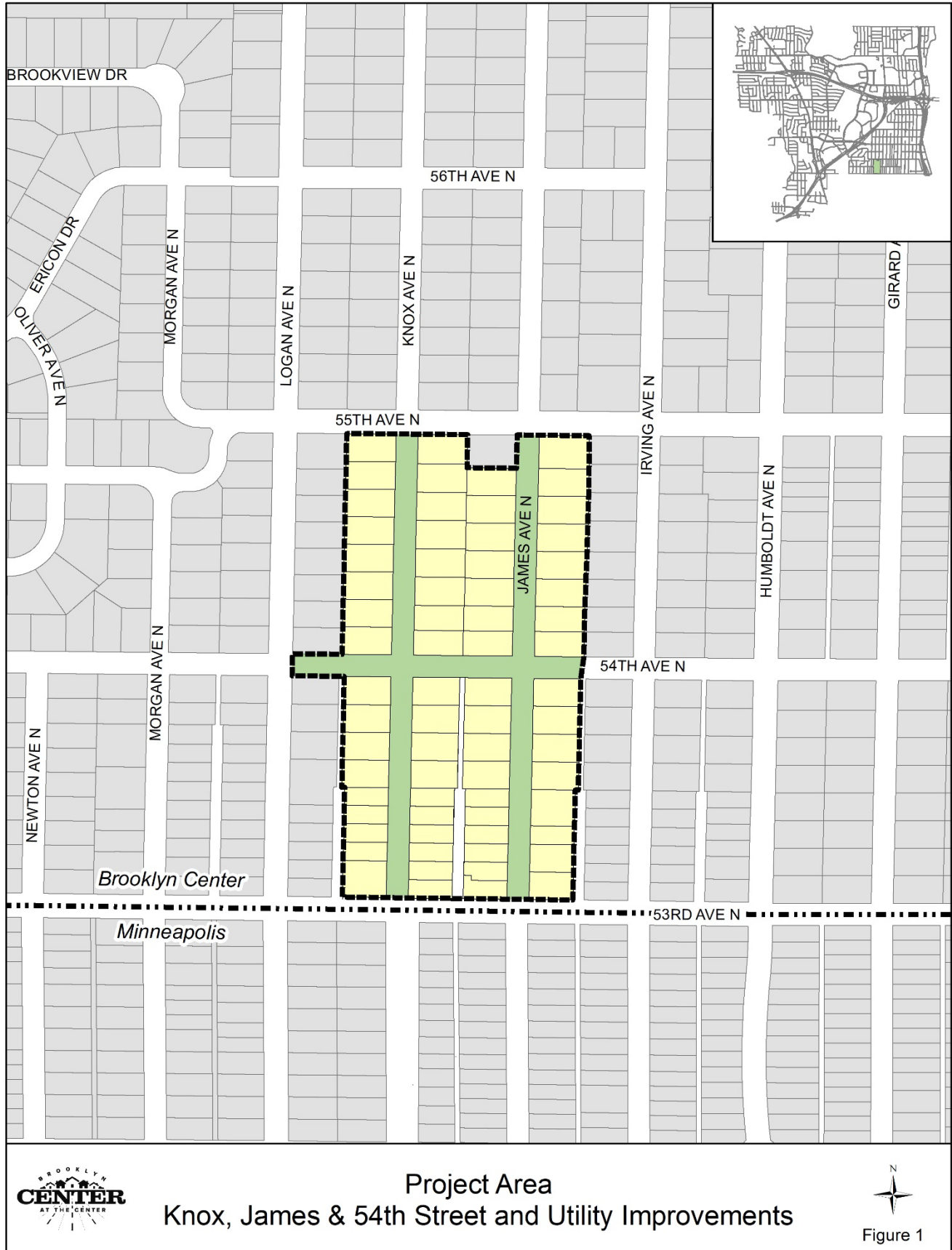
In 2023, the City of Brooklyn Center will be entering the 30th year of its long-range infrastructure rehabilitation program often referred to as the Neighborhood Street and Utility Improvement Program. This program has consisted of a systematic rehabilitation and/or replacement of the City's aging streets, water main, sanitary sewer, storm sewers, sidewalks, trails and street lights.

The City's Capital Improvement Program identifies the Knox, James, and 54th Area Neighborhood for reconstruction in 2023. The proposed project includes roadway and utility improvements within the project limits shown on Figure 1. The Knox, James and 54th project area extends from Logan Avenue James Avenue, and from 53rd Avenue to 55th Avenue.

This report was prepared in response to City Council Resolution No. 2022-69 dated July 25, 2022, directing staff to prepare a feasibility report and collect public input for the proposed project. Staff conducted a public informational meeting with residents and property owners located within the project area on September 15, 2022.

The 2023 project area consists of approximately 3,485 feet of streets and utilities. The neighborhood consists of approximately 68 residential properties that are zoned "R1 and R2" and 1 multi-family property zoned "R2".

Figure 1: Project Area



II. STREET IMPROVEMENTS

A. EXISTING CONDITIONS

The roadways in the Knox, James, and 54th Area were most recently improved in 1994 resulting in the existing street pavement being in service for approximately 28 years. The existing streets are 30 feet wide with curb and gutter, which is typical for most low volume residential streets in Brooklyn Center.

An existing pavement evaluation was conducted resulting with the road surface showing signs of deterioration such as some lateral cracking throughout the project area and potholes have occurred in some locations. The existing low volume pavement section within the project area generally consists of 3 inches of bituminous pavement and 6 inches of aggregate base per the typical section in 1994. Additionally, limited sections of deteriorated concrete curb and gutter were identified within the project area.

A geotechnical investigation will be performed within the project area to obtain and analyze soil samples below the street pavement. The geotechnical evaluation report will contain information regarding the subsurface soil and groundwater conditions and includes appropriate design and construction recommendations.

Traffic within the project area is generally limited to local traffic access to residential properties within the neighborhood. Traffic volumes on streets within the project area are generally low volume and typical for local roadways in Brooklyn Center, expected to be less than 600 in most instances.

B. PROPOSED STREET IMPROVEMENTS

Based on the age and condition of the existing bituminous asphalt pavement surfaces and the proposed replacement of underlying utilities in certain locations, complete replacement of the street surface is warranted. Proposed street improvements include partial reconstruction with full depth pavement replacement for the existing streets. The existing concrete curb and gutter throughout the project area has not exceed its life expectancy and can be suitably rehabilitated with spot repairs. Approximately 20 percent of the concrete curb and gutter and concrete driveway aprons are estimated to be replaced due to heaving/settling issues and as warranted or impacted by other construction (e.g. public utility repairs).

In accordance with the Complete Streets Policy adopted by the City in 2013, all streets and trail projects, including design, planning, reconstruction, rehabilitation, maintenance or operations by the City of Brooklyn Center shall be designed and executed in a responsible, equitable and financially reasonable way to accommodate and encourage travel by bicyclists, pedestrians, public transportation, emergency and commercial vehicles in a balanced manner. Implementation of the City's Complete Streets Policy ensures that the needs and safety of pedestrians, bicyclists, motorists and transit riders of all ages and abilities are considered in the design and operation of roads.

Additionally, the Safe Routes to School Planning (SRTS) Assistance Memorandum prepared by MnDOT in June 2013 and the Pedestrian & Bicycle Plan (P&BP) adopted in March 2014 are used to plan additional sidewalk and trail routes. The SRTS and the P&BP do not identify missing sidewalk/trail connects and no additional pedestrian or bicycle facilities were identified within the project area.

Other improvements include the repair of concrete driveway aprons, landscaping elements and irrigation systems that are impacted by the construction. Disturbed boulevard areas will be restored with topsoil and sod.

It should also be noted that in-depth property surveys are not performed and when constructing the new driveway aprons, the determined location generally matches existing driveway locations and widths. It is not the intent under this project to verify and fix driveway-property line issues, which sometimes exist. Rather, the construction under this project generally occurs within City right-of-way.

III. STREET LIGHTING SYSTEM

A. EXISTING CONDITIONS

The street improvement program has historically included the replacement of free-standing street lights located within the project area. Free-standing street lights are defined as lights mounted on poles which do not contain any other overhead utilities attached to them. The existing street light system throughout the project generally consists of fiberglass free-standing lights that have underground power service with a rectilinear light fixture. Other street lights in the neighborhood exist on multiuse-style poles, which are unable to be removed and therefore are not planned to be replaced. The existing street lights on multiuse poles within the project area have overhead power service with a cobra-head type LED light fixture.

The City's Street Light Policy states that street lights may be provided at street intersections and at mid-block locations where the distance between intersections exceeds 700 feet. Street lights are currently located at all intersections and at most of the longer blocks that exceed 700 feet.

B. PROPOSED STREET LIGHTING IMPROVEMENTS

No street light improvements are included within the scope of this project.

IV. STORM DRAINAGE AND TREATMENT SYSTEM

A. EXISTING CONDITIONS

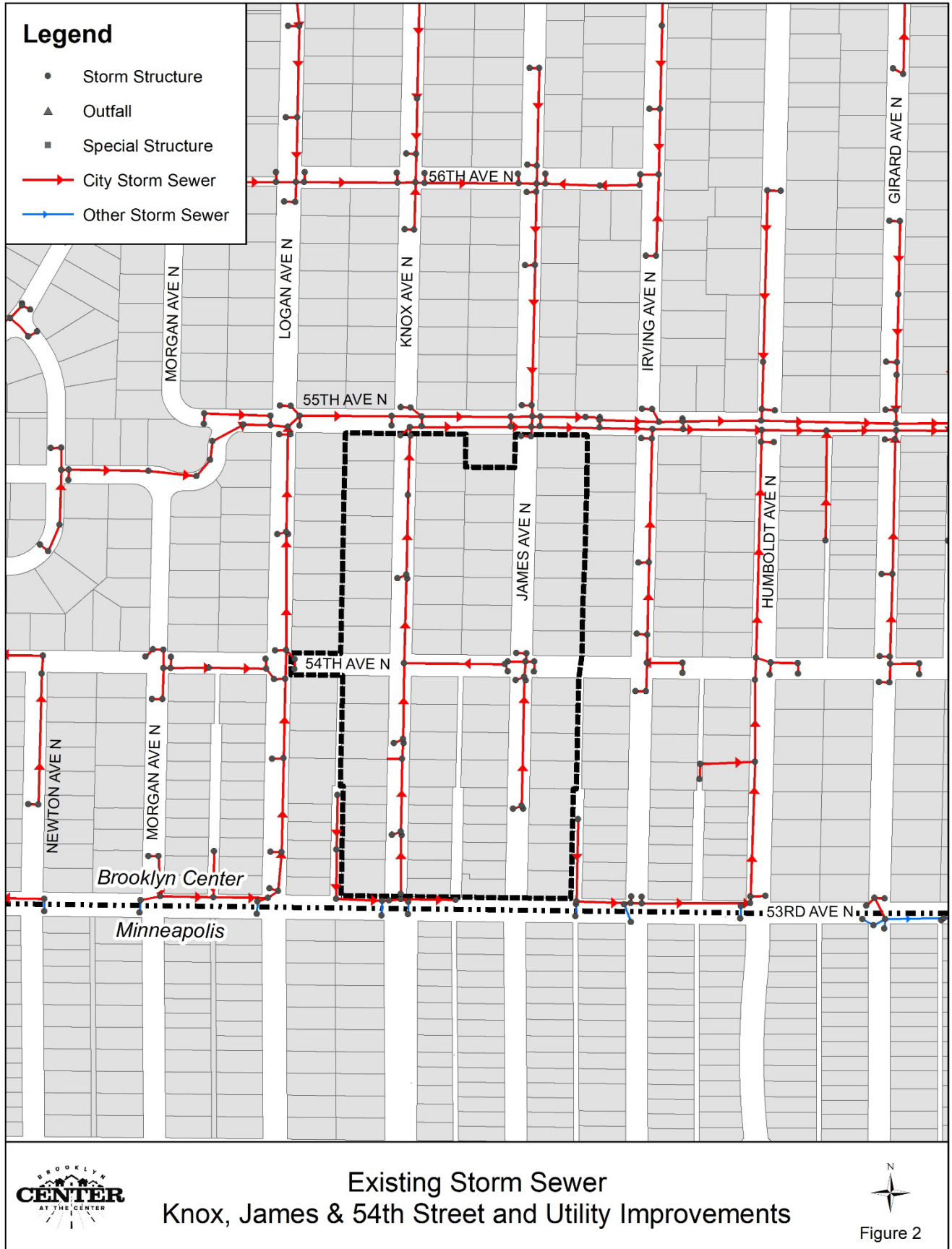
The project area is located within the West Mississippi Watershed Management Commission area and ultimately flows to the Mississippi River. The existing storm drainage system in the project area consists of a network of storm sewer pipes installed in 1994 and range in size from 12-inch to 18-inch diameter reinforced concrete storm sewer pipes (see Figure 2). A televising of the storm sewer in this area was conducted in the summer of 2022 and it was found to be in good condition.

B. PROPOSED DRAINAGE IMPROVEMENTS

Storm sewer improvements will be made to the existing system that includes replacing catch basins casting and adjustments as necessary within the project area.

There are no indicators or comments regarding significant ponding or flooding issues within the neighborhood and expansion of the existing storm sewer system is not being planned. No additional stormwater quality facilities are being planned for the project.

Figure 2: Storm Sewer



V. SANITARY SEWER SYSTEM

A. EXISTING CONDITIONS

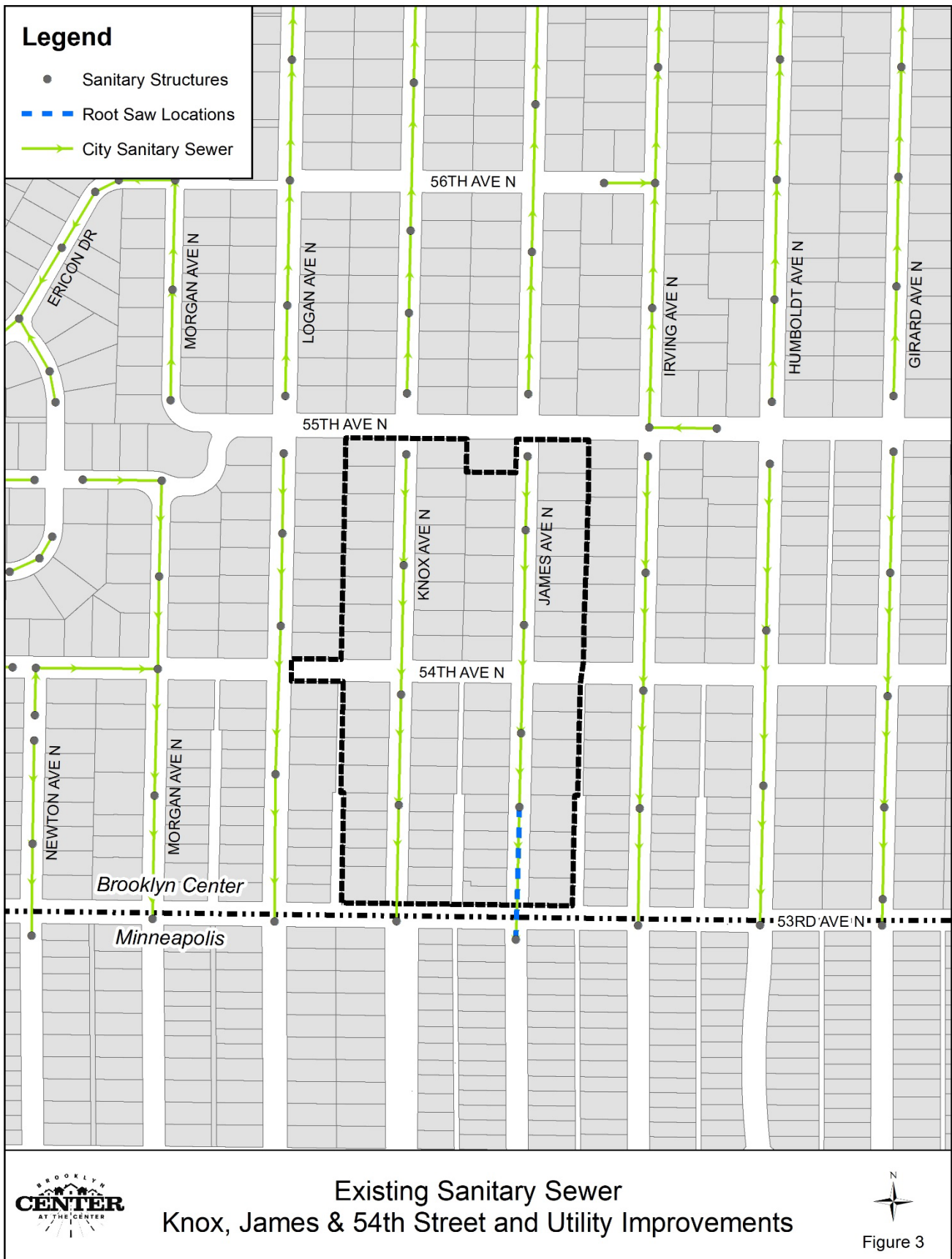
The existing sanitary sewer collection system within the project area consists ten-inch diameter polyvinyl chloride (PVC). The sanitary sewer system was installed in 1994. Some of the sanitary sewer mains within the project area is subjected to issues with root intrusion and inflow and infiltration. Public Works crews must perform root sawing and jetting on an annual basis to maintain the system conveyance capacity and avoid sewer back-ups in many locations (see Figure 3).

During the project planning phase, all public sanitary sewer pipes were inspected with remote televising equipment. These inspections confirmed that the sanitary sewer system is in good condition.

B. PROPOSED SANITARY SEWER IMPROVEMENTS

Sanitary sewer improvements planned for this project include replacing sanitary manhole castings and lids. The replacement of the castings with external seals will help minimize inflow and infiltration of rainwater into the sanitary sewer system.

Figure 3: Sanitary Sewer



VI. WATER SYSTEM

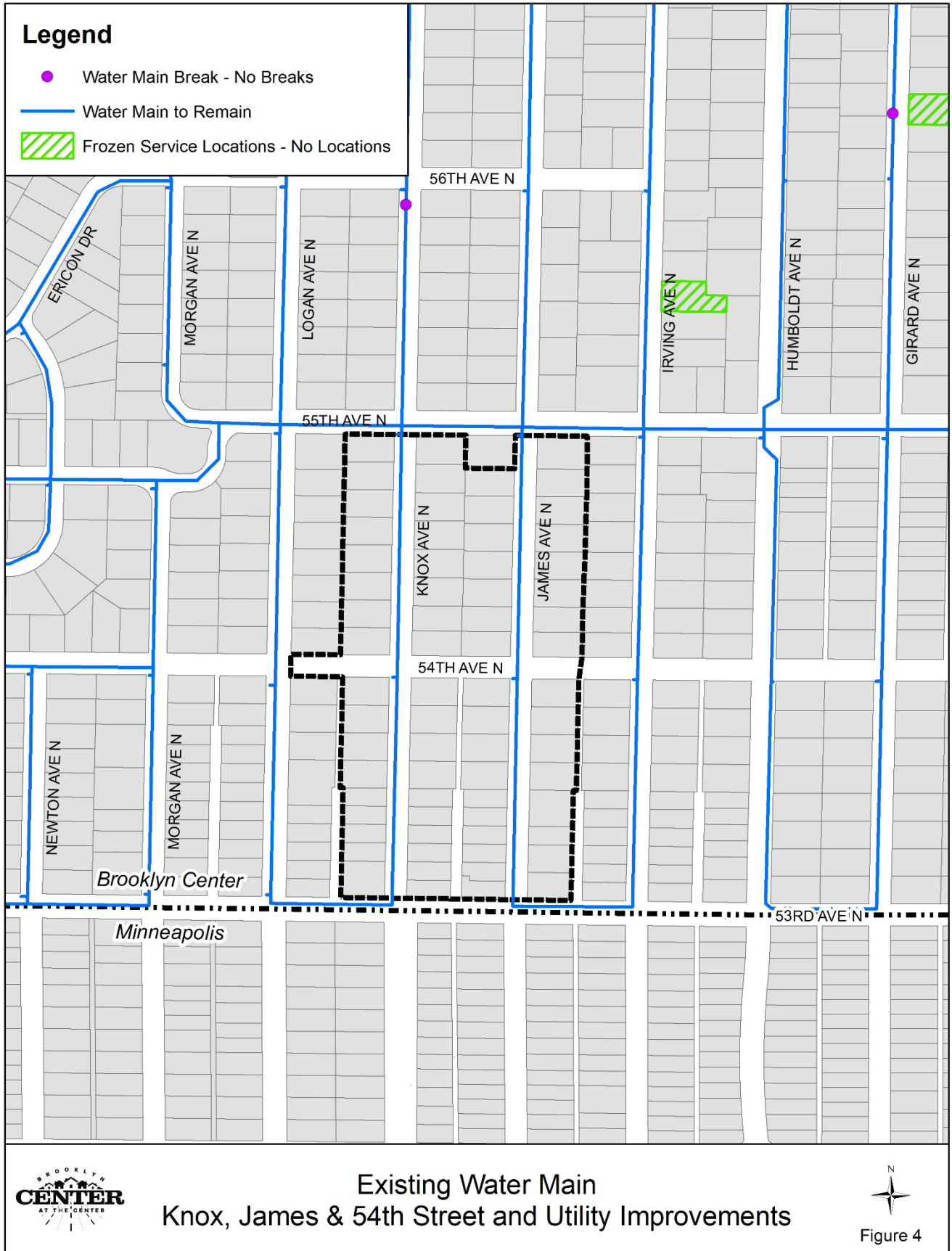
A. EXISTING CONDITIONS

The water main within the project area consists of 6-inch diameter ductile iron pipe (DIP) installed in 1994. The water main pipe velocities in this project area are adequate as confirmed by water distribution modeling. There is no history of water main breaks within the project area, and no properties were identified to have had frozen service issues (see figure 4). The water main is in good condition and has not approached the end of its life cycle.

B. PROPOSED WATER MAIN IMPROVEMENTS

Recommended water main improvements include replacement of valves and hydrants (the moving parts) of the water main system as these parts tend to wear and fail prior to the remainder of the water main system.

Figure 4: Water Main



VIII. RIGHT-OF-WAY AND EASEMENTS

Generally, all public infrastructure owned, maintained and operated by the City throughout the project area is located within City easements and/or right-of-way. It is not anticipated that the City will need to obtain any additional easements for any existing or proposed improvement located within the roadway.

IX. ESTIMATED COSTS AND FUNDING CONSIDERATIONS

The total estimated cost of the proposed project is \$1,170,000.00. Table 1 provides a summary of the estimated project costs and recommended funding amounts from the various sources as indicated. Funding for the project is further described below.

A. FUNDING FOR STREET IMPROVEMENTS

The estimated project cost of roadway improvements for all streets in this project area is \$790,000.00. This preliminary estimate includes the cost for project administration, legal, engineering and construction contingency. Special assessments for street improvements are proposed in accordance with the 2023 rates which are expected to be considered for adoption by the City Council on November 14, 2022. The standard 2023 residential street assessment rate is estimated to be \$3,914 per R1 zoned residential property. This rate would be assessed to all benefitting single family residential properties within the project area (see Figure 5).

The properties that are zoned R2 would be assessed based on a frontage basis with a \$3914 per lot minimum in accordance with the 2023 assessment rates. Staff recommends that the assessment rate for all R2 properties within the project should be capped at \$3,914 because the benefits from the street improvement for R2 properties are similar to the single family R1 residential properties within the project area.

A total estimated special assessment amount of \$266,152.00 would be levied for street improvements. The remaining street construction costs would be funded from the Street Reconstruction Fund. A summary of the proposed special assessments for street improvements is provided in Appendix A.

B. FUNDING FOR STORM DRAINAGE IMPROVEMENTS

The total estimated cost for storm drainage improvements within the project area is \$250,000.00. This preliminary estimate includes the cost for project administration, legal, engineering and construction contingency. The City has not historically assessed storm sewer improvement costs as part of a partial reconstruction project. The storm sewer improvement costs would be funded from the Storm Drainage Fund.

C. FUNDING FOR UTILITY IMPROVEMENTS

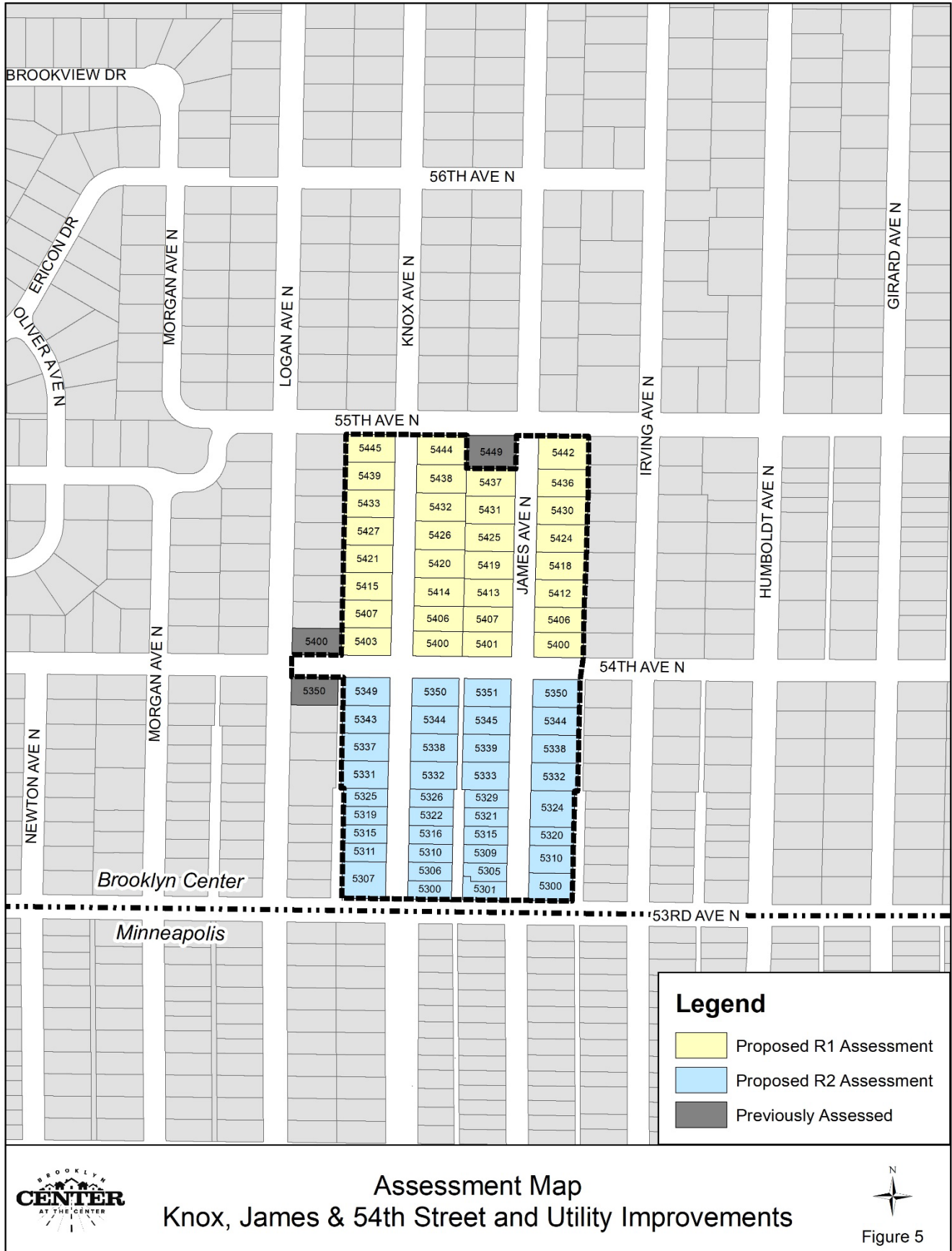
The estimated cost of sanitary sewer improvements is \$30,000.00, and the estimated cost for water main improvements is \$100,000.00. As previously noted, these total cost estimates include the costs for project administration, engineering, legal and construction contingency. All costs for water and sanitary sewer improvements will be funded by their respective utility funds in accordance with established policy for such improvements.

Table 1: Cost and Funding

Table 1. Cost and Funding
Improvement Project No. 2023-01
2023 Knox, James and 54th Avenues Area Improvements
 Feasibility Report, September 19, 2022

	Streets	Storm Drainage	Sanitary Sewer	Water Main	Street Lights	Estimated Total
Estimated Expenditures						
Estimated Construction Cost Street & Utility	\$598,000.00	\$189,000.00	\$23,000.00	\$75,300.00	\$0.00	\$885,300.00
Contingencies (10%)	\$60,000.00	\$19,000.00	\$2,000.00	\$8,000.00	\$0.00	\$89,000.00
Administration, Engineering, Legal (20%)	\$132,000.00	\$42,000.00	\$5,000.00	\$16,700.00	\$0.00	\$195,700.00
Total Estimated Project Costs (Feasibility)	\$790,000.00	\$250,000.00	\$30,000.00	\$100,000.00	\$0.00	\$1,170,000.00
Estimated Revenue						
Street Special Assessments	\$266,152.00					\$266,152.00
Storm Drainage Special Assessments						\$0.00
Sanitary Sewer Utility Fund			\$30,000.00			\$30,000.00
Water Utility Fund				\$100,000.00		\$100,000.00
Storm Drainage Utility Fund		\$250,000.00				\$250,000.00
Street Light Utility Fund					\$0.00	\$0.00
Street Reconstruction Fund	\$523,848.00					\$523,848.00
Total Estimated Revenue (Feasibility)	\$790,000.00	\$250,000.00	\$30,000.00	\$100,000.00	\$0.00	\$1,170,000.00

Figure 5: Assessment Map



Assessment Map
Knox, James & 54th Street and Utility Improvements



Figure 5

X. RECOMMENDED PROJECT SCHEDULE

Table 2 is the preliminary schedule for the project.

Table 2. Knox, James, and 54th Area Improvements – Schedule

Action	Target Date
City Council Receives Feasibility Report and Calls for an Improvement Public Hearing	September 26, 2022
City Council Holds Improvement Public Hearing, Authorizes the Project and Orders Preparation of Plans and Specifications	October 24, 2022
City Council Establishes 2023 Assessment Rates, Declaring Costs to be Assessed and Calling for a Public Hearing on Proposed Special Assessments	November 14, 2022
City Council Holds Assessment Public Hearing and Certify Assessment Roll	December 12, 2022
City Council Approves Plans and Specs, and Authorizes Advertisement for Bids	January 2023
City Receives and Opens Project Bids	February/March 2023
City Council Considers Award of Contract	March 2023
Start Project Construction	Spring/Summer 2023
Construction Substantially Complete	October 2023

XI. CONCLUSIONS AND RECOMMENDATIONS

The overall condition of the City's street and utility infrastructure systems is critical to the operation, safety, welfare and economic health of the entire community. As a result of the infrastructure needs described and the proposed solutions and estimated costs provided in this report, the proposed project is considered to be necessary, cost effective and feasible.

Appendix A

DRAFT Proposed Pending Assessment Roll

CITY OF BROOKLYN CENTER PROPOSED PENDING ASSESSMENT ROLL

September 19, 2022

**2023 KNOX, JAMES & 54TH AREA IMPROVEMENTS
IMPROVEMENT PROJECT NO. 2023-01**

DRAFT

PROPERTY ID	HOUSE	STREET NAME	LEVY#	STREET	NOTES
0211821440050	5300	James Ave N		\$ 3,914.00	R2 - Corner
0211821440054	5301	James Ave N		\$ 3,914.00	R2 - Corner
0211821440055	5305	James Ave N		\$ 3,914.00	R2
0211821440056	5309	James Ave N		\$ 3,914.00	R2
0211821440051	5310	James Ave N		\$ 3,914.00	R2
0211821440057	5315	James Ave N		\$ 3,914.00	R2
0211821440052	5320	James Ave N		\$ 3,914.00	R2
0211821440058	5321	James Ave N		\$ 3,914.00	R2
0211821440053	5324	James Ave N		\$ 3,914.00	R2
0211821440059	5329	James Ave N		\$ 3,914.00	R2
0211821440108	5332	James Ave N		\$ 3,914.00	R2
0211821440099	5333	James Ave N		\$ 3,914.00	R2
0211821440109	5338	James Ave N		\$ 3,914.00	R2
0211821440098	5339	James Ave N		\$ 3,914.00	R2
0211821440110	5344	James Ave N		\$ 3,914.00	R2
0211821440097	5345	James Ave N		\$ 3,914.00	R2
0211821440111	5350	James Ave N		\$ 3,914.00	R2
0211821440096	5351	James Ave N		\$ 3,914.00	R2
0211821440090	5400	James Ave N		\$ 3,914.00	R1
0211821440093	5401	James Ave N		\$ 3,914.00	R1
0211821440091	5406	James Ave N		\$ 3,914.00	R1
0211821440092	5407	James Ave N		\$ 3,914.00	R1
0211821440125	5412	James Ave N		\$ 3,914.00	R1
0211821440131	5413	James Ave N		\$ 3,914.00	R1
0211821440124	5418	James Ave N		\$ 3,914.00	R1
0211821440130	5419	James Ave N		\$ 3,914.00	R1
0211821440123	5424	James Ave N		\$ 3,914.00	R1
0211821440129	5425	James Ave N		\$ 3,914.00	R1
0211821440122	5430	James Ave N		\$ 3,914.00	R1
0211821440128	5431	James Ave N		\$ 3,914.00	R1
0211821440121	5436	James Ave N		\$ 3,914.00	R1
0211821440127	5437	James Ave N		\$ 3,914.00	R1
0211821440120	5442	James Ave N		\$ 3,914.00	R1 - Corner
0211821440060	5300	Knox Ave N		\$ 3,914.00	R2 - Corner
0211821440061	5306	Knox Ave N		\$ 3,914.00	R2
0211821440066	5307	Knox Ave N		\$ 3,914.00	R2 - Corner
0211821440062	5310	Knox Ave N		\$ 3,914.00	R2
0211821440067	5311	Knox Ave N		\$ 3,914.00	R2
0211821440068	5315	Knox Ave N		\$ 3,914.00	R2
0211821440063	5316	Knox Ave N		\$ 3,914.00	R2
0211821440069	5319	Knox Ave N		\$ 3,914.00	R2
0211821440064	5322	Knox Ave N		\$ 3,914.00	R2
0211821440070	5325	Knox Ave N		\$ 3,914.00	R2
0211821440065	5326	Knox Ave N		\$ 3,914.00	R2
0211821440006	5331	Knox Ave N		\$ 3,914.00	R2
0211821440100	5332	Knox Ave N		\$ 3,914.00	R2
0211821440005	5337	Knox Ave N		\$ 3,914.00	R2
0211821440101	5338	Knox Ave N		\$ 3,914.00	R2

CITY OF BROOKLYN CENTER PROPOSED PENDING ASSESSMENT ROLL

September 19, 2022

**2023 KNOX, JAMES & 54TH AREA IMPROVEMENTS
IMPROVEMENT PROJECT NO. 2023-01**

DRAFT

PROPERTY ID	HOUSE	STREET NAME	LEVY#	STREET	NOTES
0211821440004	5343	Knox Ave N		\$ 3,914.00	R2
0211821440102	5344	Knox Ave N		\$ 3,914.00	R2
0211821440003	5349	Knox Ave N		\$ 3,914.00	R2
0211821440103	5350	Knox Ave N		\$ 3,914.00	R2
0211821440094	5400	Knox Ave N		\$ 3,914.00	R1
0211821440022	5403	Knox Ave N		\$ 3,914.00	R1
0211821440095	5406	Knox Ave N		\$ 3,914.00	R1
0211821440023	5407	Knox Ave N		\$ 3,914.00	R1
0211821440015	5414	Knox Ave N		\$ 3,914.00	R1
0211821440021	5415	Knox Ave N		\$ 3,914.00	R1
0211821440014	5420	Knox Ave N		\$ 3,914.00	R1
0211821440020	5421	Knox Ave N		\$ 3,914.00	R1
0211821440013	5426	Knox Ave N		\$ 3,914.00	R1
0211821440019	5427	Knox Ave N		\$ 3,914.00	R1
0211821440012	5432	Knox Ave N		\$ 3,914.00	R1
0211821440018	5433	Knox Ave N		\$ 3,914.00	R1
0211821440011	5438	Knox Ave N		\$ 3,914.00	R1
0211821440017	5439	Knox Ave N		\$ 3,914.00	R1
0211821440010	5444	Knox Ave N		\$ 3,914.00	R1 - Corner
0211821440016	5445	Knox Ave N		\$ 3,914.00	R1 - Corner
Total Assessments				\$ 266,152.00	