Lead Service Line Replacement Plan

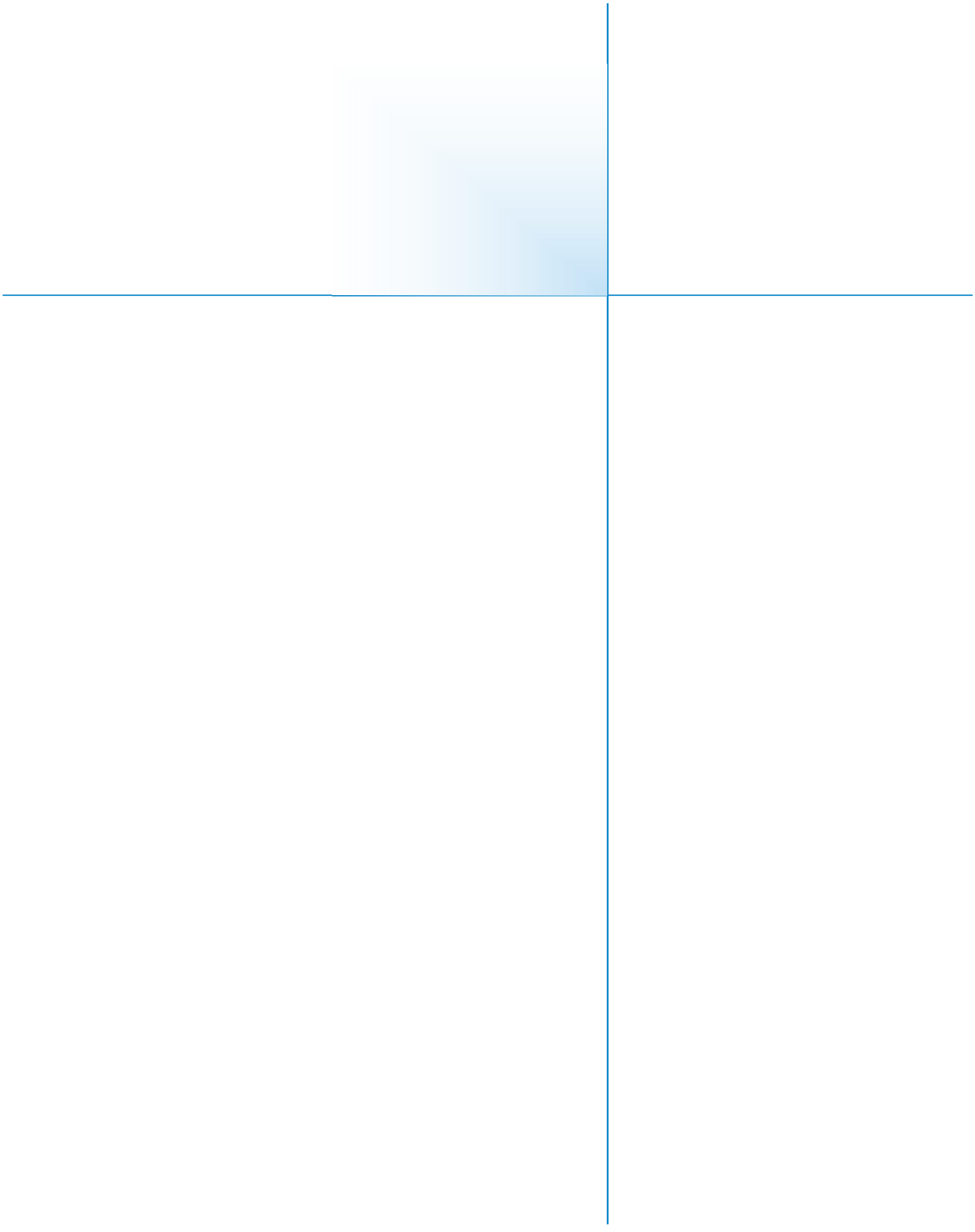
City Served: Evanston

Water System No: IL0310810

Final Draft Report

2025 Update

April 2025



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CDM Smith. 2022. *Outreach Plan*. Boston, Massachusetts: CDM Smith, Inc. Report prepared for City of Evanston, Illinois.

CDM Smith. 2022. *Prioritization and Funding Memorandum*. Boston, Massachusetts: CDM Smith, Inc. Report prepared for City of Evanston, Illinois.

CDM Smith. 2022. *Service Line Material Inventory Memorandum*. Boston, Massachusetts: CDM Smith, Inc. Report prepared for City of Evanston, Illinois.

Glossary and Abbreviations

AL	Action Level (for the Federal Lead and Copper Rule)
AWWA	American Water Works Association
CDBG	Community Development Block Grant
CDC	Centers for Disease Control and Prevention
EPA	Environmental Protection Agency
FAQ	Frequently Asked Questions
GIS	Geographic Information System
HB	House Bill
HDD	Horizontal Directional Drilling
IDPH	Illinois Department of Public Health
IEPA	Illinois Environmental Protection Agency
LCR	Lead and Copper Rule
LCRR	Lead and Copper Rule Revisions
LCRI	Lead and Copper Rule Improvements
LSL	Lead Service Line
LSLR	Lead Service Line Replacement
MHI	Median Household Income
PLSLR	Partial Lead Service Line Replacement
ppb	Parts Per Billion, units for lead in water (equivalent to micrograms per liter, µg/L)
PVC	Polyvinyl Chloride
SRF	State Revolving Fund
TIF	Tax Increment Financing
WIFIA	Water Infrastructure Financing and Innovation Act
WIIN	Water Infrastructure Improvements for the Nation
WM	Water main
WRF	Water Research Foundation

Executive Summary

Objectives

The City of Evanston's (City) Lead Service Line Replacement (LSLR) Plan is presented in the following report. This summary outlines how the City will satisfy the requirements of the Illinois Lead Service Line Replacement and Notification Act (IL Act) and the Federal Lead and Copper Rule Revisions (LCRR) within its LSLR Plan. While the finalized Lead and Copper Rule Improvements supersede the LCRR at the federal level, the State of Illinois has officially adopted the LCRR making its requirements part of the IL Act. Elements of the plan highlighted in this summary are described in greater detail in the main body of the report.

Among the requirements of the IL Act is the submission of annual updates to this report. This version of the report represents the 2025 report update.

This report includes the topics listed in the federal LCRR LSLR plan requirements. The more recent Lead and Copper Rule Improvements (LCRI) also includes requirements for LSLR Plans; however, while this rule has been finalized, compliance guidance documents have not yet been released and so its requirements have not been incorporated into this version of the plan. This plan will be revised as additional federal guidance is released and becomes available.

ES.1 Background

The City owns and operates a Lake Michigan water treatment plant (WTP), which serves a population of approximately 75,000 residents through roughly 14,500 individual water accounts— 10,874 single-family and 2,550 multi-family.

In addition to City of Evanston residents, the water system provides service to the Villages of Skokie, Lincolnwood, Niles, and Morton Grove and the Northwest Water Commission which serves Arlington Heights, Buffalo Grove, Palatine, Wheeling, and Des Plaines. In total, the City supplies water to a population of over 495,000, including both Evanston residents and wholesale customers. This LSLR Plan is limited to the City of Evanston and those properties directly connected to its distribution system.

The City conducts lead and copper sampling of tap water at various locations within the City every three years in compliance with state and federal drinking water regulations. The most recent lead testing was performed in 2023 and included 40 homes. The 90th percentile lead concentration was 5.4 parts per billion (ppb) in the first liter. Over the past 25 years, the highest 90th percentile lead concentration was 10 ppb (recorded in 2002).

Under the Federal LCRR, lead sampling will now use the fifth liter, which better represents water that has been in contact with the lead service line (LSL) during stagnation. The first liter, by contrast, typically reflects lead content from the faucet and indoor plumbing. Most utilities observe higher lead concentrations in the fifth liter compared to the first. The LCRR also establishes a new 10-ppb lead concentration trigger level, which if exceeded, utilities must replace LSLs (both the public and private side) at a rate negotiated with the state. If the 15-ppb

Action Level is exceeded, the City is required to replace a minimum of 3% of LSLs per year. The compliance date for the LCRR is October 16, 2024. LCR Improvements (LCRI), finalized in 2024, include a new lower action level of 10 ppb for lead (and no trigger level), among other changes.

In addition to the new federal lead regulations, the State of Illinois enacted the Lead Service Line Replacement and Notification Act. This law requires municipalities with fewer than one million residents to replace LSLs alongside water main replacements and prohibits partial[1] LSLRs beginning in January 2022. The state law sets minimum replacement rates based on the number of known LSLs when the program begins in 2027. Utilities with fewer than 10,000 LSLs must replace LSLs at a rate of 5% per year, regardless of lead sampling results. While the City's latest inventory (March 2025) included 10,278 LSLs, the City is currently replacing LSLs and may have less than 10,000 remaining LSLs by 2027. Additionally, the LCRI sets an even more aggressive replacement timeline, requiring completion within ten years.

ES.2 Service Line Material Inventory

Table ES-1 summarizes the City's inventory of water service lines.

Table ES-1. System Information and Inventory as of March 25, 2025

Name and Identification Number of the Community Water Supply	Evanston Water System Number IL0310810
Total number of service lines connected to the distribution system	14,654
Total number of lead services lines connected to the distribution system	10,278
Total number of known non-lead service lines connected to the distribution system	4,376

In an effort to reduce the number of lead services (LSLs) in the water system, the City has been replacing public-side lead service lines associated with water main projects since the 1980's and has encouraged residents to replace the private-side lead service lines as well. In addition, many private side lead services have been replaced leaving the public side unreplaced.

The breakdown of all LSLs—confirmed and assumed—present and replaced—is shown in Table ES-2.

Table ES-2. Breakdown of LSLs and Replaced LSLs in the City (as of March 25, 2025)

Description	Count
Lead on public side only (based on documentation)	960
Lead on private side only (based on documentation)	944
Lead on both sides (based on documentation)	1,814
Not/Never Lead (based on documentation)	2,681

[1] The City's LSLR Program is designed to fully remove LSLs, whenever it is feasible to do so.

Previously Lead, now replaced and Non-Lead (based on documentation)	390
Assumed Lead (based on year of construction, no documentation)	5,950
Assumed Non-Lead (based on year of construction, no documentation)	1,305

The City's current inventory contains more than 10,000 LSLs, which would require a minimum annual replacement rate of 3% annually according to the IL Act. However, the replacement rate will be based on the number of LSLs at the time the LSLR plan is approved in 2027, and the City anticipates that fewer than 10,000 LSLs at that time will remain by then.

At the federal level, the LCRI requires systems to replace all LSLs in ten years, unless they qualify for a deferred deadline. It is anticipated that the City will qualify[2] and may receive a deferment plan, allowing the City to replace all lines in approximately 17 years.

Table ES-3 lists the number of lead service line connections the City has replaced each year since 2020.

Table ES-3. Total Number of LSL Connected to the Distribution System that Have Been Replaced Since 2020 (as of March 25, 2025)

Year	LSLR through City Projects	LSLR through Homeowner Initiated Project	LSLR through Leaks & Breaks Program	LSLR through LCRR Compliance Requirements	Total
2020	47	2	29	--	**78**
2021	63	0	36	--	**99**
2022	129	52	20	2	**203**
2023	41	74	44	6	**165**
2024	119	68	57	83	**327**
2025	6	1	11	23	**41**

Table ES-4 outlines the City's proposed LSLR schedule, based on a target of 10,000 total replacements.

[2] Depending on the number of LSLs in the inventory at the time of the LCRI compliance date. Based on the calculation guide: https://www.epa.gov/system/files/documents/2024-10/final_lcri_fact-sheet_deferred-deadlines.pdf

Table ES-4. Cumulative Number of LSLR Schedule Goals by Target Year

Year	Cumulative Number of LSLR by Goal Year Based on IL Act
1-year (2027)	500
5-year (2031)	2,500
10-year (2036)	5,000
20-year (2046)	10,000 (program complete)
25-year (2051)	10,000
30-year (2056)	10,000

Note: Years 25 and 30 are included to comply with IEPA reporting requirements.

ES.3 LSLR Program and Funding

CDM Smith estimated that the City would require from approximately $14 to $15.5 million annually (in 2025 dollars) to implement its planned LSLR program in compliance with the IL Act. With the accelerated replacement rate required by the LCRI, this annual cost would increase. **Table ES-5** outlines the cost for LSLR construction and related work for engineering, outreach, construction management, and program management which are estimated to include a mixture of city and contracted staff. The costs assume that there will be 500 replacements in a typical year, of which 350 are full replacements and 150 are public side or private side [3] replacements (where one side is already copper). The estimate is based on experience with LSLR, including LSLR associated with the City's 2024 Water Main Replacement Project, recent bid tabs, and project cost estimates.

Table ES-5. Estimated Total Annual Cost to the City

Program Category	Annual Cost
Full LSLR	$9,882,000
Private LSLR	$1,400,000
Leaks & Breaks	$540,000
Homeowner Initiated	$270,000
Engineering & Program Management	$2,000,000 - $3,250,000
Total Annual Cost	**$14,000,000 - $15,500,000**

The City plans to pursue available grant funding and SRF loans, utilize available Tax Increment Financing (TIF), and use customer rate revenues to replace LSLs. Given the uncertainty regarding

[3] Replacement of partial lead services may be for private side lead lines where the public side is already copper or lines where the private side has been replaced with copper but the public side is still lead.

whether the LCRI will remain final, the City will prepare to replace LSLs at a rate of 5% under the IL Act, beginning in 2027. Where the existing capital budget combined with SRF loans and grant funding is insufficient to cover the costs of the 5% replacement rate, water rate increases will be planned to cover program costs. The City has an affordable water/sewer rate program to assist lower-income community members.

To address affordability for individual community members and prevent service shutoffs, the City plans to pay the full cost of all LSLRs out of City funds. Property owners will only be responsible for costs associated with any interior restoration that is needed beyond the installation of the new water service line. The goal of City-financed LSLR is that all community members will be able to fully participate in the LSLR program.

Because the City is funding the cost of full LSLR, community members will not need financing or repayment options for the private side of the service line replacements. In prior years, the City encouraged community members to replace the private side of their LSL alongside water main replacements by offering no-interest loans that could be repaid over 4 years or more, with grants provided to low-income residents based on census tract.

The 500 LSLRs each year will be completed through a mixture of replacements that are required as part of planned infrastructure work, prioritized replacements, and ongoing system repairs. **Table ES-6** provides a breakdown of LSLR categories that will comprise the annual program, and the anticipated number of LSLR for each of these categories. The category for Prioritized Replacements includes high-risk facilities, such as preschools, daycare centers, daycare homes, group daycare homes, parks, playgrounds, hospitals, clinics, as well as high-risk block areas identified by the City.

Table ES-6. Breakdown of Proposed LSLR Categories

LSLR Category	Number of LSLR to meet 5% Replacement Rate
LSLR Alongside Annual Water Main Replacements	100
Leaks and Breaks	60
Customer Initiated	90
Prioritized Blocks	250
Total	**500**

In addition, high priority individual locations (such as preschools, daycare centers, daycare homes, group daycare homes, parks, playgrounds) will be addressed within the first years of the program.

The City will hire contractors for the majority of the construction work associated with the LSLR program. All contracts for the program will include Minority-Owned Business Enterprise (MBE) and Women-Owned Business Enterprise (WBE) goals, consistent with state and federal requirements. Where the funding source allows, the City will also include local hiring goals in contracts to ensure that Evanston residents have the opportunity to access jobs through this work.

The City is in the process of hiring 13 new positions for LSLR work related to leaks and breaks. Six of these positions are part of an LSLR Workforce Development Program to hire new City employees that are community members. These new employees will perform public-side LSL replacements and associated surface restoration. This is being done with the intent of bolstering the local workforce and locally developing the skills required for LSLR.

The City is also reviewing strategies for issuing contracts that are relatively small so that local and smaller plumbing contractors can bid on the work.

An outreach and communication plan has been developed with the following objectives:

- Develop public outreach material to address gaps in communication and education needs.
- Engage the community and public stakeholders to inform them of lead service line issues, replacement priorities, and subsequent actions.
- Evaluate whether community and public stakeholder expectations are met
- Improve outreach iteratively with each progressive year of the program.

During these outreach efforts, the City will inform the public of the LSLR Plan and provide opportunities for public comment. The plan will be available on the City's website and residents can call the City to request a physical copy of the plan, as well.

A portion of LSLR will be prioritized to ensure that locations with more risk of lead exposure and more disadvantaged community members will receive LSLR earlier in the program. Prioritization is based on the following:

- Environmental Justice Analysis: This assesses the impacts that a project may have on minority and low-income populations.
- Percent of Population under Six: Children under six are particularly susceptible to harm when exposed to lead.
- Household Water Usage: In general, low water usage has been associated with higher lead concentrations in both testing of homes and pilot studies.
- LSL Density: To promote program efficiency and target blocks with more LSLs, the priority score for the water mains segment is higher if there are many LSLs on the water main.

Throughout the program, this prioritization can be superseded to maximize external funding opportunities by aligning with sponsoring agency program criteria.

Figure ES-1 shows a map of the identified lead service lines and the prioritization for replacing them.

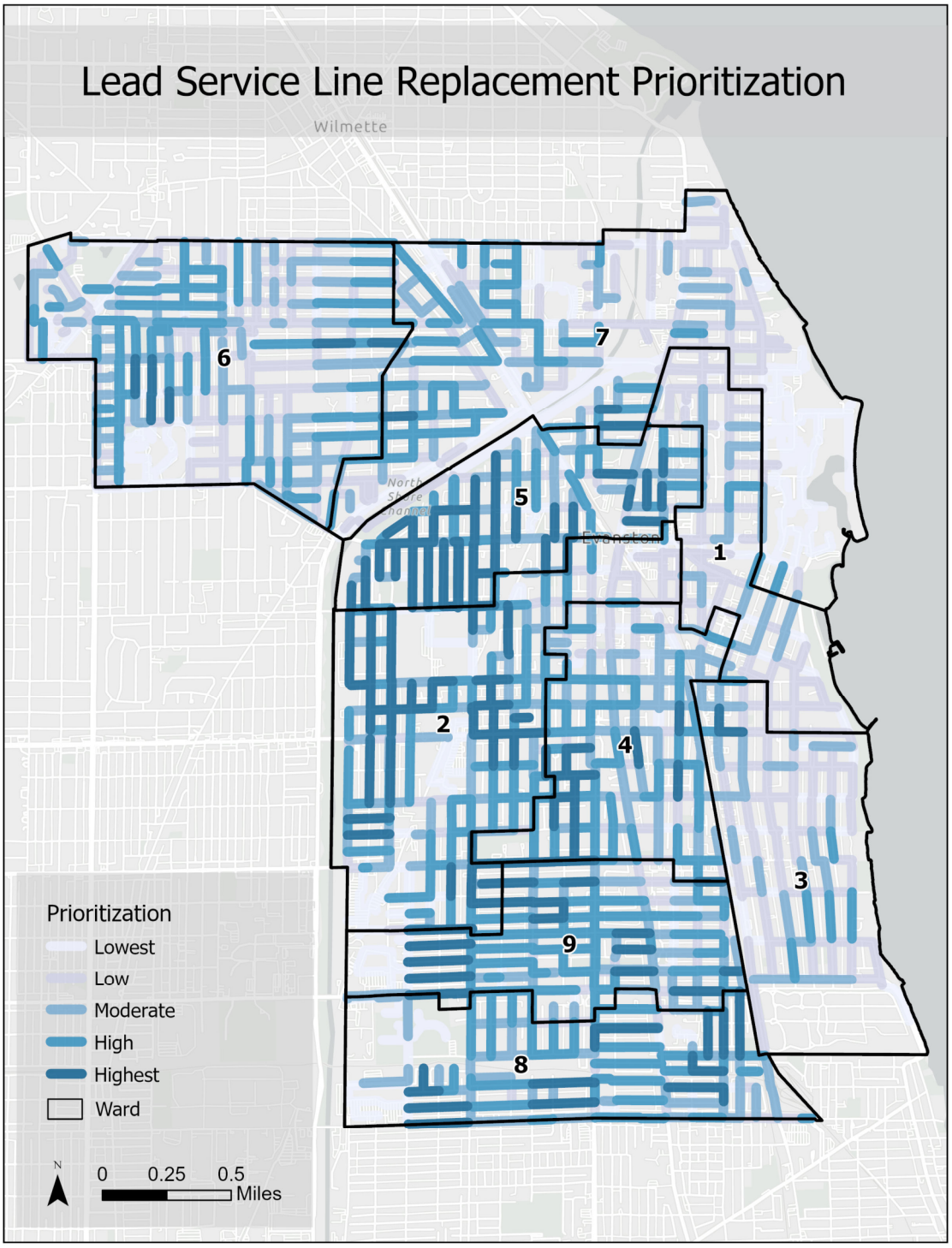

Figure ES-1. Map of Areas where LSLs are Expected and Prioritization Sequence for LSLR

ES.4 State and Federal Requirements

To clearly demonstrate compliance of this plan with related state and federal rules, **Table ES-7** highlights locations in report detailing plan requirements. Detailed guidance for plans under the LCRI has not been released, so those requirements are not included in this table.

Table ES-7. Location in report with further details on each required element of the LSLR Plan

Illinois Lead Service Line Replacement and Notification Act Requirements	Federal Lead and Copper Rule Revisions Requirements	Location in report
The name and identification number of the community water supply	NA	Section 1.1
The total number of service lines connected to the distribution system of the community water supply	NA	Intro to Section 2
The total number of suspected lead service lines connected to the distribution system of the community water supply	NA	Intro to Section 2
The total number of known lead service lines connected to the distributing system of the community water supply	NA	Intro to Section 2
NA	A strategy for determining the composition of lead status unknown service line in its inventory	Section 2.3
The total number of lead services lines connected to the distribution system that have been replaced each year, beginning in 2020	NA	Table in Section 3.1
The proposed lead service line replacements schedules that include 1-year, 5-year, 10-year, 15-year, 20-year, 25-year, and 30-year goals	A lead service line replacement goal rate recommended by the system in the event of a lead trigger level exceedance	Table in Section 3.1
Analysis of the cost and financing option for replacing the LSLs connected to the community water supplies system as well as what each will include	NA	Section 4
Detailed accounting of the costs associated with replacing LSL and galvanized lines that are or were connected downstream of lead piping	NA	Table 4-1
Measure to address affordability and prevent service shutoffs for customers or ratepayers	A funding strategy for conducting lead service line replacements which considers ways to accommodate customers that are unable to pay to replace the private side	Section 4.4
Consideration of different scenarios for structuring payments between the utility and its customers over time		Section 4.4
Plan for prioritizing high-risk facilities, such as preschools, daycare centers, daycare homes, group daycare homes, parks, playgrounds, hospitals, clinics, as well as high-risk areas identified by the community water supply	NA	Section 3.2
NA	A lead service line replacement prioritization strategy based on factors including but not limited to the targeting of known lead services lines, lead service line replacement for	Section 3.3

Illinois Lead Service Line Replacement and Notification Act Requirements	Federal Lead and Copper Rule Revisions Requirements	Location in report
	disadvantaged consumers and the populations most sensitive to the effects of lead	
Map of the areas where lead services lines are expected to be found, the sequence with which those areas will be inventoried, and which lead service lines are to be replaced	NA	Figure 3-1
NA	A procedure for customers to flush service lines and premise plumbing of particulate lead	Section 5.3
Measures for how the community water supply will inform the public of the plan and provide opportunity for public comment	A strategy for informing customers before a lead service line replacement	Section 6
Measures to encourage diversity in hiring workforce personnel required to implement the plan	NA	Section 4.2
NA	Procedure for conducting full lead service line replacement	Appendix A

Section 1
Objectives and Background

This report describes the Lead Service Line Replacement (LSLR) plan to be implemented by the City of Evanston (the City). This plan will satisfy the requirements of the Illinois Lead Service Line Replacement and Notification Act (IL Act) and define the LSLR program to replace lead water services in the City of Evanston over a 20-year period.

Among the requirements of the IL Act are annual updates to this report. This version of the report represents the 2025 report update.

This report includes the topics listed in the federal LCRR LSLR plan requirements. The more recent Lead and Copper Rule Improvements (LCRI) also list requirements for LSLR plans. While this rule has been finalized, compliance guidance documents have not yet been released, and so its requirements have not been incorporated. This plan will need to be revised as additional federal guidance is released.

1.1 Name and Identification Number of the Community Water Supply

The community water supply serving the City of Evanston is named Evanston Water System Number IL0310810.

1.2 Sources of Lead in Drinking Water

Lead is not present in the raw water or the treated water leaving the City's Water Treatment Plant. Instead, lead enters the water as it travels through the lead water service lines connecting individual homes to water mains, low-lead brass fixtures, or lead solder present in the premise's plumbing.

New construction materials are typically lead free. Starting in 1986, pipes and fittings were required to have a lead content below 8%, and solder was required to have a lead content below 0.2%. In 2014, the allowable lead content for pipes and fittings was further reduced to 0.25%.

1.3 LSL Ownership

The lead service lines (LSLs) are the pipes going from the water main to the home. Ownership of each LSL is split between the City of Evanston water utility and the homeowner. The City owns the service line from the water main to and including the parkway valve (**Figure 1-1**), and the homeowner owns the line from the parkway valve to the house. The responsibility for replacing a LSL is, therefore, also split between the City and the homeowner. In March 2021, the City adopted Resolution 34-R-21 declaring lead pipe replacement throughout the City to be a "Public Benefit." This resolution allows the City to facilitate and manage the replacement of the entire lead service line, and provides justification for the City to pay for the replacement of the privately-owned portion. However, replacement of the homeowner's portion of the service line still requires close

coordination with the homeowner and building residents for access to private property and authorization to perform the work.

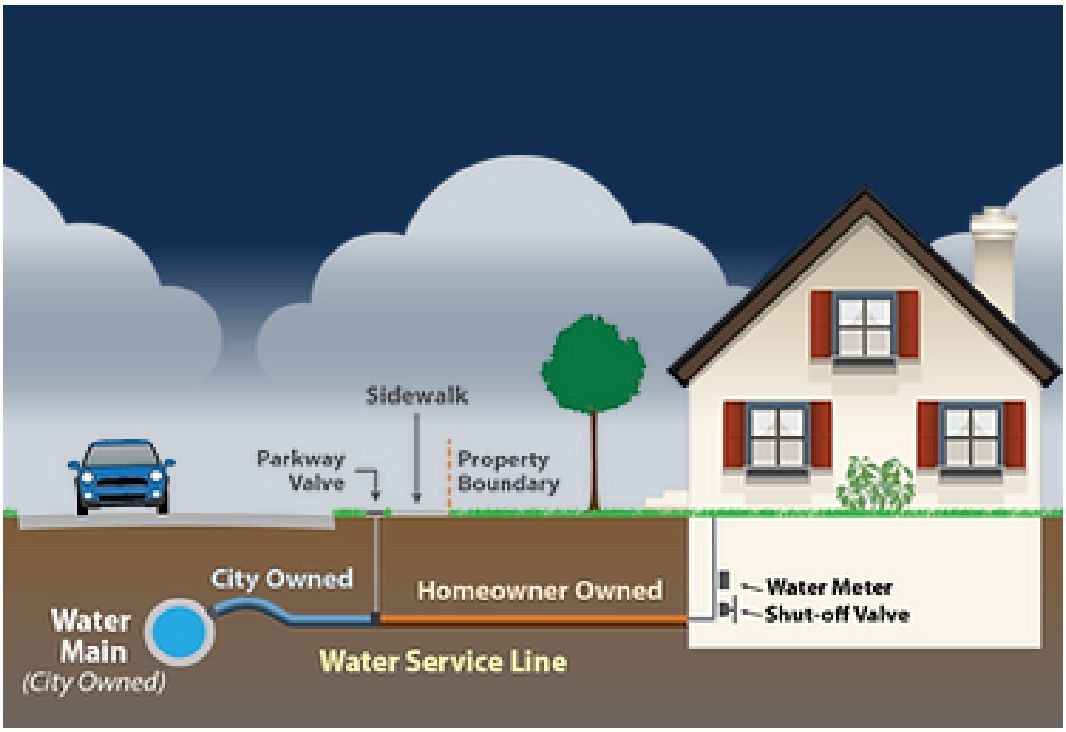

Figure 1-1. Diagram of a Water Service Line

1.3.1 Full Versus Partial LSL Replacement

A full LSLR removes the entire LSL from the water main to the house interior. Typically, the replacement ends at the first shutoff valve or 18 inches inside the building, whichever is shorter, as defined by the IL Act. In contrast, a partial lead service line replacement (PLSLR) is the replacement of a segment of the lead service line, leaving part of it in place. In the past, this may have occurred if the public side was replaced and the homeowner chose not to replace the private side, or if the private side was replaced without coordinating with the City to replace the public side.

In previous PLSLRs conducted by the City, best practices have been followed to minimize lead release. These practices include using a dielectric connection between dissimilar metals to minimize potential for galvanic corrosion and minimizing disturbance to the lead pipe by using pipe cutters instead of saws to gently cut the existing lead service lines. Additionally, following a PLSLR, the City has provided water filters to homeowners.

Recent research has shown that PLSLR is not adequate to reduce lead exposure, and legislation at both the state and federal levels has increasingly restricted or prohibited the practice, except for emergency repairs or when private access is not granted by the homeowner. At the federal level, the LCRI prohibits partial replacements, except in specific emergency situations.

In line with recent research and current legislation, the City's LSLR Plan includes removing full LSLs and does not include PLSLR.

1.4 Legislation on Lead and Drinking Water

In 2021, both the Federal EPA and the IL Act implemented stricter regulations for lead and pushed for additional LSLRs. In 2024, the EPA finalized the Lead and Copper Rule Improvements (LCRI), introducing more stringent requirements than the 2021 revisions.

The LCRI mandates that drinking water systems nationwide identify and replace lead pipes within 10 years, or longer for systems qualifying for a deferred deadline.[4] The LCRI also strengthens water quality monitoring, requiring more rigorous testing and establishing a lower action threshold to ensure communities take proactive measures to protect residents from potential lead exposure in drinking water.

1.4.1 Lead and Copper Rule Revisions (LCRR)

On January 15, 2021, the EPA overhauled the 1991 Lead and Copper Rule (LCR) and released the final Lead and Copper Rule Revisions (LCRR). The initial compliance date of the revisions is October 16, 2024. The LCRR enacted more stringent regulations for compliance by public water systems, including the following major provisions:

- Revise the definition of an LSL; includes galvanized materials downstream or formerly downstream of lead.
- Reclassify compliance sample site tiers to shift the sampling pool toward higher risk locations.
- Establish a new Trigger Level (TL) of 10 ppb for lead concentrations based on 90th percentile level of tap water samples that will trigger actions such as corrosion control re-optimization treatment studies and LSL replacements at a goal-based annual rate.
- Retain the Lead Action Level of 15 ppb and Copper Action Level of 1.3 ppm.
- Shift the compliance sample from the first liter to the fifth liter for sample sites with LSLs.
- Require service line materials inventory and establish stringent protocols for Lead Service Line Replacement (LSLR), including prohibiting partial replacements under most circumstances.
- Require testing at all elementary schools and licensed early childhood education centers.

Regarding specific LSLR requirements, the LCRR includes requirements for all community water systems to develop a service line material inventory and develop a plan for an LSLR Program.

The service material inventory must be made publicly available. The inventory must be updated and shared annually or triennially, based on the system's tap monitoring schedule. If residents

[4] The City is anticipated to qualify for a deferred replacement schedule of approximately 17 years, instead of 10 years.

are served by an LSL, they must be notified within 30 days after each inventory and then annually until the service connection is no longer lead. The notification includes information regarding the health effects of lead and what can be done to mitigate risk. When a customer initiates an LSLR, the system has 45 days to replace the public-side of the LSL (or 180 days with an approved extension).

A LSLR plan is not required to be implemented except in certain cases, such as an exceedance of the lead action level (15 ppb) or newly established trigger level (10 ppb). If the system's 90th percentile lead exceeds the trigger level, but is below the action level, a replacement goal needs to be proposed and approved by the IEPA. If the 90th percentile lead is above the action level, the system will be required to replace 3% of LSLs annually, based on a 2-year rolling average. Unlike the previous LCR, partial replacements of the public side only or lead sampling will not count towards required LSL replacement goals. The LSLR plan must include strategies for identifying unknown service line materials, procedures for completing full LSLR, a strategy for communicating with residents for LSLR, a goal replacement rate in the event of an exceedance, flushing procedures, a prioritization strategy, and a strategy for funding and financing LSLR. Any galvanized steel service lines that were downstream of lead (or may have been downstream of lead, but status is unknown) must also be replaced.

The LCRR changes the procedures for compliance sampling to use the fifth liter for lead compliance sampling instead of the first liter for sample sites served by LSLs. This change is intended to capture the worst-case scenario for the lead concentration in drinking water by collecting water that has stagnated within the service line. Most utilities with LSLs will measure higher lead concentrations in the fifth liter relative to the first liter. For individual homes with lead levels measuring above the action level of 15 ppb, a new find-and-fix procedure has been introduced. As part of this procedure, systems will have to conduct sampling at another location within the same pressure zone and collect an additional sample from the home with the original action level exceedance. If those samples indicate that the exceedance was due to inadequate corrosion control in that area of the distribution system, instead of the home's individual plumbing; then, the system needs to reevaluate corrosion control techniques.

At the federal level, the LCRI replaces the LCRR, however the state of Illinois has adopted the LCRR requirements, so its requirements are still part of this LSLR plan.

1.4.2 Lead and Copper Rule Improvements (LCRI)

On October 8, 2024, the EPA released the final Lead and Copper Rule Improvements (LCRI), requiring drinking water systems nationwide to identify and replace all lead pipes within 10 years from 2027. The LCRI mandates full LSL replacements, covering both the utility-owned and privately owned portions of the service line, regardless of the system's 90th percentile lead level. Additionally, the LCRI establishes a replacement threshold ratio of 0.039 annual replacements per household served (equivalent to 39 replacements per 1,000 households). If replacing all lead and galvanized requiring replacement (GRR) service lines within 10 years would cause a system to exceed this ratio, the system may qualify for a deferred deadline—unless the state agency (IEPA, in this case) requires an earlier deadline.

The LCRI focuses on the following areas:

Inventory

Water systems are required to develop and publish an initial inventory and submit it to the state by October 16, 2024. Additionally, systems must develop an updated service line inventory, called the LCRI baseline inventory, due by the compliance date in 2027. Services listed as "unknown" in the inventory must be identified within 10 years. The LCRI also requires water systems to:

- Notify all properties with lead service lines (LSLs), galvanized requiring replacement (GRRs), or unknowns within 30 days of submitting the inventory.
- Update inventories annually and repeat customer notifications annually for remaining LSLs, GRRs, or unknowns.
- Use a validation process for non-lead service lines installed before a documented lead ban that lack two points of physical verification to ensure inventory accuracy.
- Identify all service lines of unknown material by the replacement deadline (2037).

Service Line Replacements

Utilities must replace all LSLs within 10 years, at a rate of 10% per year, based on a rolling three-year average, except those who would have to replace over 3.9% of their total services by completing their program in 10 years. Evanston qualifies for this deferred deadline since replacing 10% of their LSLs would require replacing nearly 7% of all their service lines each year. Under the LCRI, Evanston is expected to have about 17 years to remove all LSLs.

Partial LSL replacements are banned, except in emergencies or when public-side replacements cannot be completed as part of water main work. Unlike the LCRR and the Illinois LSLR and Notification Act, the LCRI prohibits replacing the public side of the service line when a homeowner refuses to replace the private side, even during water main work.

Disturbances

Water systems must provide information and mitigation measures (water filter) when replacing or disturbing a service line that may contain lead. Required actions depend on whether the work is a replacement or a disturbance and the extent of the disturbance. The LCRI provides more guidance on the types of disturbance (including major and minor disturbances) to an LSL and what actions will be required. This is summarized in Table 1-1.

Water Quality and Sampling

The LCRI removes the 10 ppb trigger level established by the LCRR and lowers the lead action level to 10 ppb. All utilities with LSLs must conduct standard monitoring, including semi-annual sampling for lead until additional criteria are met. Systems must collect both first- and fifth-liter samples from sites served by LSLs, using the higher of the two results in the 90th percentile

calculation. Water systems must offer free lead testing for properties with LSLs, GRRs, or unknowns starting in 2028.

Schools

Systems can obtain a sampling waiver from both voluntary and mandatory sampling programs (including WIIN programs) for any results collected after January 1, 2021, if methods meet LCRR/LCRI requirements. However, systems must submit individual waivers on a school-by-school basis to use alternative sampling data.

Corrosion Control

Systems may defer installation or re-optimization of corrosion control treatment (CCT) if they commit to removing 100% of lead and GRR service lines at a minimum rate of 20% per year within five years of being required to implement CCT.

Public Outreach

A lead action level exceedance (>15 ppb for the 90th percentile) requires a Tier 1 public notification within 24 hours. After the LCRI effective date, this notification will be required when the 90th percentile exceeds 10 ppb. For lead and copper tap sampling after October 2027, results must be communicated to customers within three calendar days, regardless of the findings. All sample results—including compliance samples, post-replacement samples, or customer-requested samples—must be shared within this timeframe.

Table 1-1. Types of Disturbances and Action Required by LCRI

Disturbance	Action Required by LCRI
▪ Operations that cause the water to be shut off or bypassed (operating a valve on a service line or meter setter) ▪ Inventorying efforts (potholing)	▪ Notify user of disturbance and provide flushing procedure to remove particulate lead
▪ Cuts to the service line ▪ Replacement of an inline water meter, a water meter setter, or gooseneck, pigtail, or connector ▪ Service line disturbed by physical action or vibration	▪ Notify user of disturbance and provide flushing procedure to remove particulate lead ▪ Provide point-of-use filter and 6 months of replacement cartridges
▪ LSLR	▪ Notify user of disturbance and provide flushing procedure to remove particulate lead ▪ Provide point-of-use filter and 6 months of replacement cartridges ▪ Conduct follow up sampling 3-6 months post construction ▪ For partial LSLR, use dielectric coupling to attach to remaining service line, unless new service line segment is plastic

More details about the LCRI can be found on the EPA's website.[5]

1.4.3 Illinois Lead Service Line Replacement Act

In 2021, Illinois passed the Lead Service Line Replacement and Notification Act (IL Act). The IL Act explicitly states "No requirement in this Section shall be construed as being less stringent than existing applicable federal requirements". Since then, the state has officially adopted the requirements of the LCRR, even though the LCRR was overridden by the LCRI. This means that the earlier LCRR deadlines will still be applied in Illinois in addition to the future requirements of the LCRI.

The IL Act mandates the removal of all lead service lines (LSLs) in every water system across Illinois. The required replacement rate for each system is based on the number of LSLs within that system. For example, water systems with 5,000 to 9,999 LSLs must replace at least 5% of LSLs annually. The Act allows for timeline extensions—up to 20% for significant challenges and an additional 10% for extreme hardship.

The replacement rates required under the IL Act for Evanston (and all utilities with more than 4,999 and fewer than 10,000[6] lead services) compared to the corresponding Federal LCRR replacement rate is shown in **Table 1-2**.

Table 1-2. LSLR Rates for Utilities with 5,000 to 9,999 LSL's

	IL ACT LSLR Rate	IL Act LSLR Rate with First Extension	IL Act LSLR Rate with Second Extension	LCRR LSLR Rate for Action Level Exceedance[7]
Percentage of Annual Replacement	5.0%	4.2%	3.8%	3%
Program Length (years)	20	24	26	33
Annual LSLR Replacements	500	417	385	300

Illinois water systems were required to submit a draft LSLR plan by April 15, 2024. This plan must be updated annually until the final replacement plan is submitted by April 15, 2027. The Illinois Plan satisfied the Federal EPA's requirement to submit a LCRR-compliant LSLR Program Plan by October 16, 2024.

The IL Act bans partial LSLR. Therefore, during any water main replacement project that disturbs existing lead service lines, or during repairs of a leak or a break on lead service lines, the City

[5] https://www.epa.gov/ground-water-and-drinking-water/lead-and-copper-rule-improvements

[6] The City's current inventory contains more than 10,000 LSLs, which would correspond to an annual replacement rate of 3%, based on the Illinois requirements. However, the replacement rate is based on the number of LSLs when the LSLR plan will be approved in 2027, and the City anticipates having fewer than 10,000 LSLs at that time, increasing the required rate to 5% per year.

[7] Because the Illinois LSLR Act requires replacing 5% of LSLs per year (for cities with 5,000 – 10,000 LSLs), and this is already greater than the 3% that would be required from the LCRR in the event of can action level exceedance, the City would not have to adjust the LSLR Plan if the action level was exceeded, based on the LCRR.

must provide a full LSLR from the water main to the private property. The only exemption is if a homeowner opts out of the private-side replacement utilizing an IDPH Waiver, which is rarely allowed and only after extensive outreach and discussion with the homeowner. Additionally, partial replacements will continue to be in the utility's inventory as LSLs and will not count towards the required LSLR rate.

When a homeowner notifies a utility that they have replaced the private side of their lead service line, the utility must replace the public side. While utilities are not required by the IL Act to pay for private-side replacements, utilities are required to consider extended repayment options for homeowners to allow for greater participation in the LSLR and program accessibility to low-income residents.

1.5 Historical Water Quality

The Federal Lead and Copper Rule (LCR), which outlines regulations for water quality enforced at a federal level, sets the action level (AL) for lead at 15 parts per billion (ppb) in the first liter of water collected from the tap of customers' homes after the water has been left unused to stagnate for 6 hours. The AL is determined by the 90th percentile of lead concentrations in homes sampled. This means that the number reported by the City (and compared to the AL in enforcement) is a sample value that is higher than 90% of all the values measured in the sampling period. The City has not experienced an AL exceedance since May of 1992, when the 90th percentile for lead was 24 ppb. After that AL exceedance, the City began feeding a blended phosphate corrosion inhibitor; the 90th percentile for lead was measured at 7 ppb in November 1992. Since then, the 90th percentile value for lead in Evanston's sampling has not exceeded 10 ppb and is typically about 5 ppb.

The LCRI lowers the action level to 10 ppb for the 90th percentile of lead. Additionally, the LCRI will require this compliance sampling to be measured from the fifth liter of water for homes with LSLs instead of the first liter. The fifth liter sample is typically higher than the first liter because the fifth liter will usually have stagnated within the LSL. While the City's 90th percentile still has not exceeded the new trigger level since 1992, it is expected that the 90th percentile measurement for lead will increase with this change to the sampling protocol.

Section 2

Service Line Material Inventory

The City has completed its service line material inventory and is actively updating it to reflect current conditions. The inventory is publicly available at: https://www.evanstonleadreplacement.org/.

- The City has the following records for their service line material inventory: The total number of service lines connected to the distribution system for the City: 14,654.
- The total number of known[8] lead service lines connected to the distribution system: 3,718.
- The total number of suspected[9] lead services lines connected to the distribution system: 6,560.

CDM Smith completed a technical review of the inventory in 2022. A summary of the inventory and the review is provided in this section, with data reflecting all inventory updates as of March, 25, 2025.

2.1 Inventory Requirements

The IL Act became effective January 1, 2022, replacing the previous LSL inventory requirements. Under the new legislation, utilities must submit the material data for each service line connected to the system. Illinois has also officially adopted the requirements of the LCRR, even though the finalization of the LCRI postponed the LCRR deadlines at the federal level. The IEPA provides the following minimum requirements for completing the inventories[10]:

- Prioritize the inspection of high-risk areas identified;
- Review historical documents to determine service line material;
- Visually inspect service lines and document material when doing maintenance;
- Identify any time period lead service lines were likely connected to the distribution system; and
- Consult with employees, contractors, plumbers, and other workers who worked involved in service line repairs and installation on service lines connected to the Community Water System (CWS).

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[8] This count is the number of lead service lines in the City's inventory where at least one side (public or private) has a record (typically a tap card from the initial inventory) or field verification indicating lead.

[9] In the City inventory, service lines that are suspected to be lead based on age and connection size are listed as 'lead' and not as 'unknown.' The inventory includes a data source column that indicates which service materials have historical documentation or field verification and which are assumed to be lead based only on age and size.

[10] https://epa.illinois.gov/topics/drinking-water/public-water-users/lead-service-line-information.html

The federal LCRR requires all water services connected to the distribution system to be classified as lead, galvanized requiring replacement, unknown, or non-lead. The LCRR requires a historical record review to develop the initial material inventory. Service line material must be tracked for both the public and private side of the service line, and a classification must be assigned for the entire service line.

On October 8, 2024, the federal EPA finalized the LCRI, requiring water systems to develop and publish an initial inventory and submit it to the state by October 16, 2024. Additionally, systems must prepare an updated inventory, called the LCRI baseline inventory, due by the compliance date in 2027. Services listed as "unknown" in the inventory must be identified within 10 years. The LCRI also requires water systems to:

- Notify all properties with lead service lines (LSLs), galvanized requiring replacement (GRRs), or unknowns within 30 days of submitting the inventory.
- Update inventories annually and repeat customer notifications for remaining LSLs, GRRs, or unknowns.
- Use a validation process for non-lead service lines installed before a documented lead ban that lack two points of physical verification to ensure inventory accuracy.
- Identify all service lines of unknown material by the replacement deadline (2037).

2.2 Evanston's Existing Inventory

The City currently maintains a material inventory for each individual connection, with public and private side materials identified separately. This inventory is based on utility records and field observations. When records or field observations are unavailable, service line materials are assigned using an assumption algorithm based on time periods when service lines were likely or unlikely to contain lead. The City continuously validates these assumptions and updates the inventory through field verifications and additional hard-copy records.

Under Federal EPA guidance on material inventories, service lines are classified as lead, non-lead, galvanized requiring replacement, or unknown. The City's overall inventory, categorized according to EPA guidance, is presented in **Table 2-1**.

Table 2-1. Summary of Materials in the Service Line Material Inventory as of March 25, 2025

Material	Total
Lead (part or full lead) or Galvanized Requiring Replacement	10,278
Non-Lead (including full copper, PVC, ductile iron, no unknown)	4,376
Overall % of Service Lines that are Lead or Galvanized Steel	70%
Total Service Lines	14,654

The data supporting the assumptions used to create the inventory came from the sources listed in **Table 2-2**. The number of records from each source is shown, sorted by source name. These figures represent all connections originally listed in the inventory.

Table 2-2. Documented Material Data Source as of March 25, 2025

Data Source Description [label in 'Source' Field]	City Side	Homeowner's side: Parkway Valve	Homeowner's side: Meter
Unlisted	725	726	726
Assumed based on water main and service installation date [ASSM]	1,917	11,902	7,514
Assumed based on building age [BLDG]	6	32	9
Employee Knowledge [EMPL]	33	42	28
Field work [FLDW]	864	624	1,084
GIS data, generally pulled from tap card [GISC]	9,109	17	1
Lead Service Line Replacement Program [LSRP]	--	119	23
Meter Replacement Program [MTRP]	--	--	4,579
[PARK]	--	2	2
Construction Permit [PERM]	26	394	508
Resident [RESI]	--	--	5
Water main replacement project [WMRP]	1,974	796	175
Total	14,654	14,654	14,654

Due to the high number of lead services in the City, conservative assumptions were made which may slightly overestimate the number of LSLs in the system where clear data was unavailable to confirm non-lead materials. Once services are scheduled for replacement, final field verifications during design and construction will identify the actual materials, allowing non-lead services to be removed from the replacement project.

2.3 Advancing the Inventory

The City's service material inventory complies with IEPA requirements, which also mandate annual updates. This section provides recommendations for updating the inventory in a way that enhances the dataset's value. Additionally, the City is up to date in incorporating all required attributes into the dataset, as outlined in the federal guidance on service material inventory.

To objectively assess the accuracy of the initial inventory assumptions, field-verified material was compared to the initial assumed material from 2017.

City staff have noted that approximately 5% of service records (about 725 records) still require population of the MaterialBBox and MaterialMeter fields. Most of these records also need verification of the initial data. However, the majority are currently reported as lead, and that designation is unlikely to change following review.

The City is actively working to verify and improve the inventory through the following activities:

- Field staff observations during meter work
- Field staff observations during service work
- Water main replacement projects
- Construction permits

- Meter replacement programs
- Inspections of visible service line material during design phase of LSLR projects
- Inspections of buried service line materials during replacement associated with water main replacement projects
- Inspections of buried service line materials at select locations through exploratory excavations.

Section 3

Lead Service Line Replacement Program Development

The City has passed Resolution 34-R-21, dated March 8, 2021, declaring lead service line replacement a public benefit.[11] To effectively manage and implement the LSLR Program, different categories for LSLR have been established. Work with each category will operate in parallel, sharing resources under the umbrella of the City's broader LSLR efforts. The categories are described in this section, with additional details on prioritizations and funding provided in the Prioritization and Funding Memorandum (CDM Smith, 2022).

3.1 LSLR Replacement Schedule

As of March 2025, the City has 10,278 LSLs documented in the inventory database. Assuming the total number of remaining LSLs falls below 10,000 by 2027, the State will require the City to replace all LSLs within 20 years (approximately 500 LSLR per year, or a 5% annual replacement rate as mandated by the IL Act). However, the LCRI would require systems to remove all LSLs in 10 years, or longer for systems that quality for a deferred deadline (for the City, the LCRI will require all LSLs to be removed in approximately 17 years).

The annual number of LSLRs completed by the City since 2022 is summarized in **Table 3-1**.

Table 3-1. Total Number of LSLs Connected to the Distribution System that Have Been Replaced Since 2022 (as of March 25, 2025)

Year	LSL Replaced through City Project	LSL Replaced through Homeowner Initiated Project	LSL Replaced through Leaks and Breaks Program	LSL Replaced through LCRR Compliance Requirements	Total
2022	129	52	20	2	**203**
2023	41	74	44	6	**165**
2024	119	68	57	83	**327**
2025	6	1	11	23	**41**

Table 3-2 presents the City's proposed lead service line replacement schedule reflecting a 5% annual replacement rate with specific yearly goals.

[11] https://cityofevanston.civicweb.net/document/49921/Resolution%2034-R-21,%20Declaring%20Lead%20Pipe%20Replace.pdf?handle=7E8FE3AC03274AF1B4083D86A5C30C20

Table 3-2. Cumulative Number of LSLR Schedule Goal by Target Year

Year	Cumulative Number of LSLR by Year Based on IL Act
1-year (2027)	500
5-year (2031)	2,500
10-year (2036)	5,000
20-year (2046)	10,000 (program complete)
25-year (2051)	10,000
30-year (2056)	10,000

Note: Years 25 and 30 shown to comply with IEPA reporting requirements

3.2 LSLR Categories

The replacement of 500 LSLs per year will be completed through a combination of planned infrastructure work, prioritized replacements, ongoing system repairs, and customer-initiated replacements. **Table 3-3** provides a breakdown of LSLR categories included in the annual program, along with the anticipated number of LSLRs for each category. Further details for each category are provided below.

Table 3-3. Breakdown of Proposed LSLR Programs

LSLR Category	Number of LSLR based on IL Act
LSLR Alongside Annual Water Main Replacements	100
Leaks and Breaks	60
Customer Initiated	90
Prioritized Blocks	250
Total (5% Goal)	**500**

- LSLR Alongside Annual Water Main Replacements: The City has an annual program to replace approximately 1% of its distribution system, equivalent to 1.5 miles of water main. Beginning in 2026, a total of 3.2 miles of water main will be replaced annually in an effort to replace all water main greater than 100 years old by 2047. The additional 1.7 miles of water main will be replaced in conjunction with the Prioritized LSLR program described below.). The IL Act mandates the replacement of any LSLR that is disturbed by construction; therefore, all LSLs along the annual water main replacement project will be replaced. Replacement of 1.5 miles of water main is expected to impact approximately 100 LSLs annually, though the specific number may vary depending on the water mains selected for replacement. Water main replacement projects will continue to be prioritized by City staff based on break history, maintenance calls, fire flow requirements, age, and coordination with other street and infrastructure improvement projects.
- Leaks and Breaks: Broken or leaking LSLs can no longer be repaired and must be replaced in accordance with the IL Act. The City typically experiences approximately 60 LSL leaks and breaks annually. The City coordinates these replacements by hiring a qualified plumber to complete the private side replacement while City staff perform the public side

replacement, if needed. The City will hire 13 new positions to support this work. Six of these positions are part of a LSLR Workforce Development Program designed to hire community members as City employees, while the remaining seven will be fulltime employees. These new employees will perform public-side LSL replacements and associated surface restoration. This initiative is intended to bolster the local workforce and develop the skills required for LSLR within the community.

- Homeowner Initiated: The City will support community members who choose to proactively replace their lead service line by replacing the public side of the service line at no additional cost to the homeowner. The homeowner will be responsible for contracting and paying for the private side replacement. Public-side work will be coordinated and completed by the same staff responsible for replacements for associated with leaks and breaks. It is anticipated that this crew will have the capacity to complete up to 150 public side LSLRs per year, allowing up to 90 homeowner-initiated replacements to be scheduled on a first-come first-serve basis. The benefits of this program include: no excavation in the parkway (City crew will handle this if needed); no right-of-way permit required; new upgraded water meter.

- Prioritized Block Replacements: The exact number of LSLRs completed through the previous two categories will vary each year. To meet the goal of 500 LSLRs per year, the remaining replacements will be completed through prioritized block replacements. Design, coordination, and construction for LSLRs is significantly more efficient and cost-effective when performed on a block-by-block basis. Additionally, experience from the early years of LSLR in the City has shown that outreach—critical to the success of these projects—is most effective when done on a block-by-block basis. Furthermore, LSLRs on water main that are 80-years old or older will also be replaced, with up to 1.7 miles of water main replaced per year. Prioritization is discussed in more detail below.

- Individual Prioritized Replacements: Preschools, daycare centers, day care homes, group day care homes, parks, playgrounds, hospitals, and clinics will be prioritized for individual replacements, as required by the IL Act. These replacements will be completed within the first years of the program and are, therefore, not included in the list of annual replacement categories in the table above. Approximately 33 LSLR fall into this category.

The City is proceeding with LSLR associated with water main replacements, customer-initiated replacements, and leaks and breaks to comply with the IL Act. Additionally, the City is preparing to replace prioritized lead service lines as funding becomes available.

Table 3-4 summarizes the approach for each LSLR program category regarding selecting locations, coordination, construction, and financing. Note that the City and in-house construction crews do not perform work on private property.

Table 3-4. Summary of Program Responsibilities

Category	Selection Criteria	Responsible Coordinator	Construction Crew Public Side	Construction Crew – Private Side	Public-Side Financer	Private-Side Financer
Leaks and Breaks	Emergency Notification	City	City	Qualified Plumber	City	City
Water Main Replacements	Water Main Prioritization	City	Contractor	Contractor / Plumber	City	City
Prioritized Blocks	LSLR Prioritization	City	Contractor	Contractor / Plumber	City	City
Customer Initiated	Advance Notification	Homeowner	City	Qualified Plumber	City	Homeowner

3.3 Prioritization

The prioritization of LSLR focuses on ensuring that locations with a higher risk of lead exposure and communities with greater disadvantages receive replacements earlier in the program. A workshop was conducted with City Staff to discuss potential prioritization factors and identify those most critical to achieving this goal. The factors listed below were used to develop individual prioritization scores for LSLR associated with city blocks undergoing water main replacements.

- Environmental Justice Analysis: Environmental Justice (EJ) analysis is used to assess the potential impacts of a project on minority and low-income populations. EJ is a relative measure, calculated by comparing the minority and low-income populations of a specific area unit to those populations of a larger reference (e.g., each census block group to the study area, county, or state).

  The U.S. Census Bureau's American Community Survey (ACS) 2016-2020 5-Year Estimates were used to determine minority and low-income populations in Evanston. To identify low-income populations, the percentage of households below the poverty level was calculated for each census block group. To identify minority populations, the percentage of individuals belonging to one or more minority groups was calculated for each block group.

These two values were then averaged to calculate an environmental justice demographic index, consistent with the index used by the Environmental Protection Agency (EPA) for EJ analysis.

The City of Evanston has since developed its own EJ index, which will be incorporated into this analysis before this prioritization is utilized to select future work. However, because similar factors are used in both assessments, the overall approach is expected to remain largely unchanged.

- Percent of Population under Six: Younger children are particularly vulnerable to lead exposure, making lead removal in their environment a top priority. The most detailed data on child populations is provided by the ACS, which estimates total population demographics at the census tract level, including the percentage of children under six. LSLR projects in census tracts with higher percentage of young children receive higher priority scores.
- Household Water Usage: Low water usage has been linked to higher lead concentrations in both home testing and pilot studies. The City collects bi-monthly water usage data for all residences, categorizing each as either a low-water or regular user. Low users were defined as those consuming less than 90 gallons per day, based on regional utility testing results. LSLR priority score for each block is determined by the number of low water users within that block.
- LSL Density: To enhance program efficiency, blocks with a higher concentration of LSLs priority will receive higher priority scores.

LSLR block prioritizations following this approach is shown in Figure 3-1.

Throughout the program, prioritization may be adjusted to align with external funding criteria and maximize available funding. Currently, the City is working with the IEPA to secure low-interest loans with potential principal forgiveness for LSLR through the State Revolving Fund (SRF) Public Water Supply Loan Program (PWSLP). This funding is expected to remain available through at least 2029. SRF funding is competitive and awarded based on prioritization calculated at the census tract level. The IEPA's prioritization criteria include median household income, social security income, poverty, supplemental security income, houses built before 1990, children under six, and unemployment rates. Based on these factors, the City of Evanston has four census tracts—809200, 809600, 809300, and 810200— with relatively high prioritization scores. These census tracts are shown on Figure 3-2 overlaid with the City's previous prioritization approach. To maximize the City's chances of securing SRF funding, prioritized LSLR efforts will be focused on these census tracts according to their ranking. It should be noted that the IEPA SRF funding applies only to LSLR projects and does not cover water main replacements or associated street restoration.

Figure 3-1 shows the overall prioritization of the areas of the City with markers showing the location of LSLs.

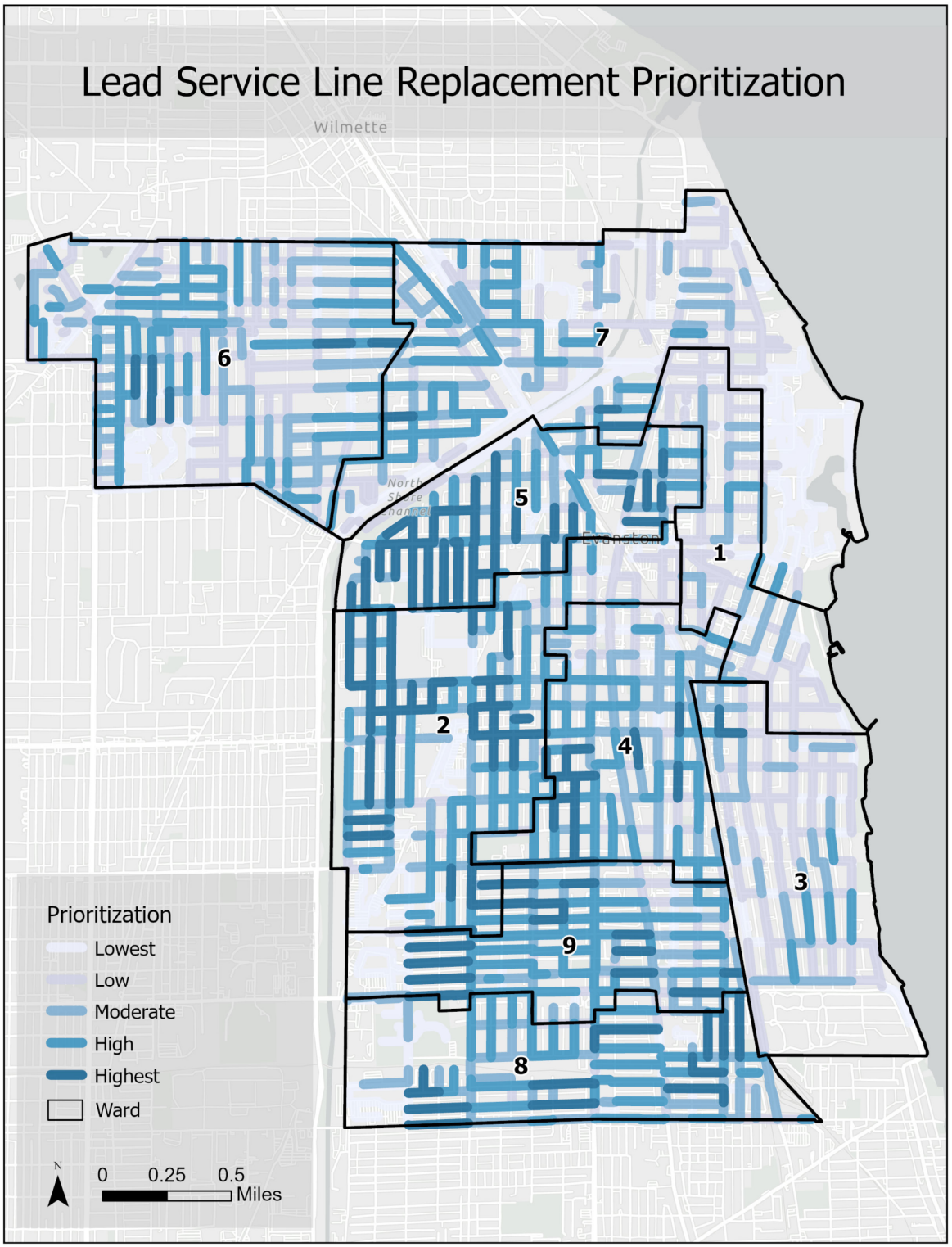


Figure 3-1. Map of Areas where LSLs are Expected and Prioritization Sequence for LSLR

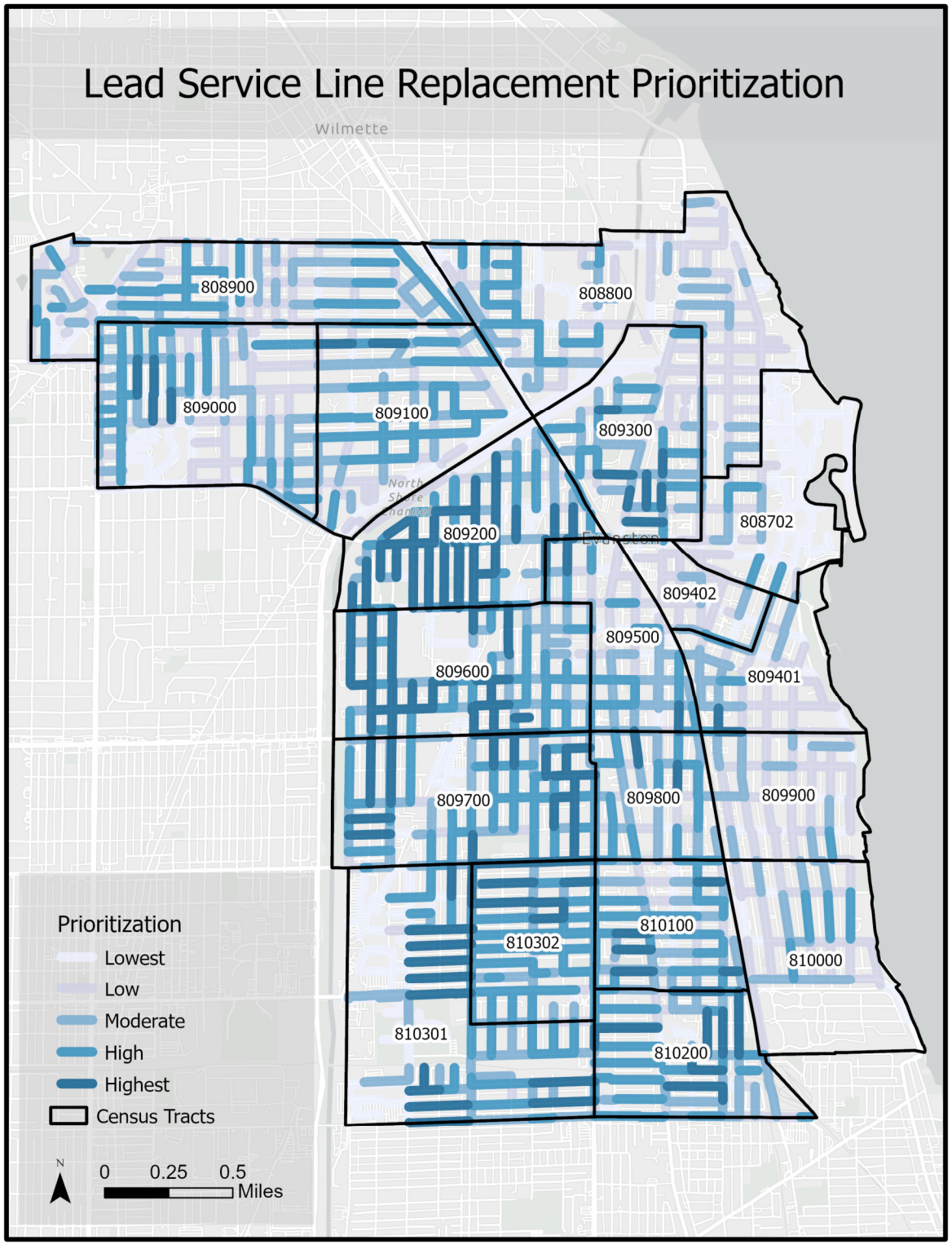


Figure 3-2. Map of Census Tracts and Expected Prioritization Sequence for LSLR

Prioritized blocks of LSLR will be selected annually to achieve a total of 500 LSLR per year, in combination with other LSLR categories. Annual projects will be developed with consideration of the following factors:

- Contract Size: Projects will be grouped for efficiency and cost-effectiveness, while providing opportunities for a range of contractor sizes.
- Skill Set: Different skills are required for private-side and public side LSLR. For example, private side LSLR requires licensed plumbers, while public side LSLR requires equipment for street excavation and pipe tapping. Full LSLR requires both. Blocks may be grouped into separate projects to highlight specific and engage different contractors.
- Water Main Age: Full or public side LSLR on older water main poses risk. Previous utility projects near older water main have led to excessive breaks. Similarly, multiple new service taps on aging mains could cause failures. Replacing an old water main alongside LSLRs improves efficiency but adds significant cost. The budget allows for replacing an additional 1.7 miles of old water main (i.e., more than 80 years old) annually. Once this budget is reached, LSLR projects that do not impact water mains will be prioritized to meet annual replacement goals.
- Other planned infrastructure improvements: LSLR is disruptive to the community. Whenever possible, LSLR will be coordinated with other City infrastructure to minimize disturbances and improve efficiencies.

3.5 Incentives for Homeowner Participation

To incentivize homeowner participation, the City will pay cover the full cost of the LSLR when it is part of a water main project or prioritized LSLR project. In this case, the homeowner must allow the City to perform the full replacement. Homeowners will only be responsible for costs associated with any interior restoration that is needed beyond the installation of the new service line.

The City will also perform the public side lead service replacement at no cost if the homeowner initiates the full LSLR. Additional benefits of the Homeowner Initiated LSLR include: no excavation in the parkway (City crew will handle this if needed); no right-of-way permit required; new upgraded water meter.

Additionally, the City will implement a robust customer outreach program, as described in Section 6, to educate residents on the importance of replacing LSLs and to encourage participation. Multiple outreach attempts will be made to each resident to ensure they are fully informed about the program and have their individual questions answered.

Participation in the LSLR program is not mandatory. However, the City is actively encouraging community members to either sign an agreement to participate or sign a waiver provided by the Illinois Department of Public Health (IDPH). The intent of this requirement is not to promote the waiver but to provide an opportunity for City staff to directly engage with reluctant community members and encourage their participation.

In later phases of the program, once most LSLRs are complete, the City is considering requiring the disclosure or replacement of remaining LSL as a condition of home sales. This and other options will be evaluated in the future based on participation levels and overall program progress.

3.6 Corrosion Control Treatment

To protect public health, the City adds blended phosphate as a corrosion control measure to prevent lead from getting into the drinking water from piping. In parallel with the development of the LSLR Program, the City is also conducting a pipe loop study as part of a broader corrosion control study to evaluate different phosphate corrosion inhibitors and dosage levels that can further reduce lead levels in water. While the replacement of LSLs must take a phased approach, the phosphate corrosion control treatment is already effective in reducing lead levels in drinking water and will continue to do so throughout the LSLR Program.

Section 4
LSLR Program Funding

The City proposes to fund the full cost of LSLR whenever the replacement is part of the City-initiated project categories, or in the case of leaks or breaks. For customer-initiated replacements to remove the LSL, the City would fund the replacement of the public side of the LSL[12] by utilizing City Staff to complete the work.

4.1 Total Program Costs

CDM Smith estimated that the City would require from approximately $9.7 to $11 million annually (in 2025 dollars) to implement their planned LSLR program in compliance with the IL Act. With the accelerated replacement rate required by the LCRI, this annual cost would increase. **Table 4-1** outlines the cost for LSLR construction and related work for engineering, outreach, construction management, and program management which are estimated to include a mixture of city and contracted staff. The costs assume that there will be 500 replacements in a typical year, of which 350 are full replacements and 150 are public side or private side [13] replacements (where one side is already copper). The estimate is based on experience with LSLR, including LSLR associated with the City's 2024 Water Main Replacement Project, recent bid tabs, and project cost estimates. Full and partial LSLR costs include approximate costs for restoration, in addition to the actual replacement of the lead water service line.

Table 4-1. Estimated Total Annual Cost to the City

Program Category	Annual Cost
Full LSLR	$3,444,000
Private LSLR	$1,414,000
Leaks & Breaks	$660,000
Homeowner Initiated	$990,000
Contingency, 20%	$1,220,000
Engineering & Program Management	$2,000,000 - $3,250,000
Total Annual Cost	**$9,730,000 - $11,000,000**

Additional work related to LSLR includes design engineering, resident engineering, contractor inspection, community outreach, construction management, program management, and other

[12] If the water service diameter is being increased as a requirement of a home renovation—not specifically to remove an LSL—the homeowner is required to pay for the full replacement to the water main.

[13] Replacement of partial lead services may be for private side lead lines where the public side is already copper or lines where the private side has been replaced with copper but the public side is still lead.

essential functions. These tasks are expected to be carried out by a combination of City and contracted staff with associated costs estimated to range from $2,000,000 to $3,250,000 per year.

Table 4-2 shows how the costs and quantities for the annual program are distributed from the various LSLR categories. As this table illustrates, the City's Leaks & Breaks and Homeowner initiated program categories include City Operations costs resulting from using City staff to perform the work, as well as City Contracted costs resulting from costs associated with work performed by a contractor selected by the City. Where Homeowner Contracted Costs are referenced, these costs are paid for by the individual homeowner and not by the City.

Table 4-2. Breakdown of Annual LSLR Program Costs

	Qty (LSLRs)	Homeowner Contracted Cost	City Contracted Cost	City Operations Cost	Total Unit Cost	Annual Total
Program Category						
Full LSLR on Annual Watermain Replacement	100	N/A	N/A	N/A	$16,400	$1,640,000
Prioritized Full LSLR	110	N/A	N/A	N/A	$16,400	$1,804,000
Prioritized Private LSLR	140	N/A	N/A	N/A	$10,000	$1,414,000
Leaks & Breaks	60	$0	$5,600	$5,400	$11,000	$660,000
Homeowner Initiated	90	$5,600*	$0	$5,400	$11,000	$990,000
Contingency, 20%	N/A	N/A	N/A	N/A	N/A	$1,220,000
Other Costs						
Engineering and Program Management						$2,000,000 - $3,250,000
Total Annual Cost						**$9,730,000 - $11,000,000**

Notes: N/A indicates not applicable to the associated program category. * indicates approximated based on City Contracted Cost as cost date is not provided by the homeowner.

4.2 Diversity in Hiring for Plan Implementation

The City will hire contractors to complete the majority of the construction work associated with the LSLR program. All contracts will include Minority Owned Enterprise (MBE) and Women Owned Enterprise (WBE) goals, consistent with City requirements—or, where applicable, state and federal requirements that those supersede City policies for funding.

Additionally, the City has set a goal of hiring locally for full time positions (as outlined in Resolution 35-R-22[14]) and will prioritize hiring local contractors to ensure that residents have access job opportunities through this work. These efforts are ongoing and will be regularly re-evaluated to ensure they remain relevant and aligned with community needs. The City is also

[14] https://www.cityofevanston.org/home/showpublisheddocument/72271/637903636419130000

exploring additional strategies to maximize the economic benefit of this work for the local community.

4.3 Funding and Financing Sources

Federal and state funding will be available over the next few years to support LSLR programs. This includes both grants and low-interest loan programs. Detailed descriptions of the available funding and financing sources were included in the Prioritization and Funding Memorandum (CDM Smith 2022), and a summary of funding options is below.

4.3.1 Grant Funding

Grant funding can include principal forgiveness or earmarks provided by Congress.

Principal forgiveness through the SRF program (provided by Bipartisan Infrastructure Law (BIL) funding is recommended for the City to pursue and apply towards LSLR. The draft scoring rubric has been published for this funding. The City has one census tract that scores above a 400 (out of 500 on the draft rubric) and may be eligible for no-interest loans or grants. The IEPA has not yet published a limitation of award for BIL funding for each utility, and it is not yet known how high a project must score to receive funding, or how much funding can be anticipated. In 2024 the City received earmark funding through the Illinois Department of Commerce and Economic Opportunity (DCEO) in the form of a DCEO grant. The grant was utilized to support the replacement of 100 lead service lines focusing on low to moderate income areas where the public side of the replacement had already been replaced. Grants can be applied for through DCEO. It is not known if DCEO will have future funding available to the City.

4.3.2 City Revenue

In 2023, the city staff identified a series of water rate increases needed to support the state-mandated lead service line replacements and associated water main replacements. Every year, city staff revisits the needed water rate adjustments considering current LSLR costs, and available external funding. City Council considers the rate adjustments as part of the annual budget process. City Council has approved water rate increases to support LSLR since 2023.

The City has also committed to utilizing TIF zone spending for LSLR when appropriate.

4.3.3 Financing

Debt financing would allow the City to spread out the costs associated with the LSLR program over time. **Table 4-3** provides a broad overview of the difference between two major government low-interest loan options: the SRF and WIFIA programs.

Table 4-3. Comparison of Financing Options at a Glance

	SRF (Drinking Water State Revolving Fund)	WIFIA (Water Infrastructure Finance and Innovation Act)
Interest	Lowest (< 2%), with potential principal forgiveness.	Low, based on US Treasury rate
Loan Size	Smaller loans[15]	Focused on larger loans ($20M/year minimum)
Managed by	Illinois EPA	Federal EPA
Matching Requirement	None	51% (can be SRF funds)
Application Costs	Free	Fee for a full application, and annual maintenance fees
Loan Amount	Loan issued for a specific contract and specific contract amount	Loan can be issued for a program with multiple disbursements for individual projects
Required to contract work to third party?	Yes	No
Repayment period	20-30 years	35 years (deferred up to 5 years after substantial completion and flexible repayment schedule)

For the City, SRF funds are well suited for LSLR program. The City is currently working with the IEPA to utilize these loans and maximize the use of available principal forgiveness. The WIFIA program would likely be appropriate if the City aims to significantly accelerate the pace of replacements. Otherwise, the more complex and costly application process makes it a less attractive option for a program of this size.

Municipal bonds may also be used to finance LSLR. Like federal loans, bond issuances would spread out the cost of the program over time. However, bond interest rates are typically higher than those of government loan programs.

4.4 Financing Plan

The City plans to pursue all available grant funding, SRF loans, and TIF funding to replace LSLs. Beginning in 2027, the City will fund its LSLR program with the goal of achieving 500 completed LSLRs annually. Where the existing capital budget, combined with SRF loans and grant funding, is insufficient to cover the cost of the required replacement rate, water rate increases will be necessary to address funding gaps.

4.5 Customer Affordability

To address affordability and prevent service shut-offs for customers or ratepayers, the City plans to cover the full cost of the LSLR using City funds for all residents. Homeowners will only be responsible for any costs associated with interior restoration beyond the installation of the new

[15] The FY 2022 limit is 25% of funds ($87,500,000) to any one loan applicant.

service line. The goal of this City-funded approach is to ensure all community members can fully participate in the LSLR program.

In prior years, the City encouraged residents to replace the private side of their service line during water main replacements by offering no-interest loans with extended repayment terms and grants for qualified low-income households, based on census tract data. Now that the City is funding the full cost of LSLRs, there is no longer a need to provide financing or repayment options for homeowners.

To help offset the rate increases needed to support the program, the City offers an affordable water rate program. Evanston residents who qualify based on income can receive a reduced water rate starting January 1, 2024. Even those who do not directly pay a water bill can still benefit by receiving an annual payment reflecting estimated savings. This is part of the City's broader effort to ensure access to affordable, high-quality drinking water—for all Evanston community members, including those who qualify but do not pay a water and sewer bill directly.

Section 5

Construction and Post-Construction Activities

Methods for completing LSLRs were evaluated through a constructability review which considered restoration requirements and approaches for addressing potential private property issues that may arise during replacement (CDM Smith. 2022. *Constructability Memorandum*). This section summarizes the results of that review.

5.1 Before Construction

Before construction work can begin, existing conditions should be documented for both public and private service line connections. Maintaining thorough records of these conditions will provide a basis for appropriate restoration after work is completed.

Additionally, the requirements for contacting property owners in advance of LSLR or related construction activities—based on state and federal regulations—are outlined in the Constructability Memorandum (CDM Smith 2022). These notifications include requests for Right of Entry forms, explanations of procedures and risks associated with declining an LSLR or accepting a partial replacement, and details regarding potential water shutoff procedures.

A packet of documents to assist with coordinating the LSLR efforts with community members is included in **Appendix A.**

5.2 Methods to Complete Lead Service Line Replacements

5.2.1 Construction Method Recommendation

For the City of Evanston, the recommended method for LSLR is Horizontal Directional Drilling (HDD). This method requires minimal surface restoration and causes the least disruption to homeowners, both inside and outside the home. HDD enables the selection of a new alignment to improve separation from the existing sewer drain, with the intent of meeting plumbing code requirements where possible. It also allows for precise control of the water service pipe installation to avoid known obstacles while ensuring accurate entry into the home at a specific location. In some instances, the entry location inside the home may requires a high degree of accuracy for the project to be successful—such as when interior pipes, walls, or other features are present. The locating device used in conjunction with HDD allows the boring head to be continuously tracked, ensuring accurate entry at the desired location.

5.2.2 Alternative Construction Methods

The contractor may utilize either pit-launched or surface-launched HDD, as long as the work remains within the limits of the right-of-way. Surface launched HDD requires the contractor to offset the machine to allow the boring head to reach the desired depth. This type of equipment may require additional workspace on adjacent private property when the right-of-way width is limited. However, it is not the intent of this program to obtain temporary easements for machine setup on private property. In such cases, pit-launched HDD would be encouraged to avoid the need for temporary easements.

Surface-launched HDD is recommended when the bore length exceeds approximately 150 feet, as it allows for a better control over longer distances than pit-launched HDD. The condition of bore lengths exceeding 150 feet is uncommon in the City.

Certain situations may not be suitable for HDD. In cases where HDD is not feasible, alternative methods such as pipe pulling or open-cut shall be considered.

Pipe pulling may be used when the original alignment of the service line must remain unchanged due to specific interior or exterior features. This method will only be used in specific cases and must be approved by the City. The City will evaluate known obstructions to determine if existing conditions are acceptable to this method of installation. Challenging obstructions include large mature trees, rock, existing utilities, or other known physical barriers that could restrict pipe successful pipe pulling. To reduce the risk of failure, the City would encourage the use of a pipe pulling mechanism, such as the Kobus pipe puller, when this method is authorized. The mechanism allows the pipe to be pulled along a horizontal plane, reducing stress on the pipe however not all contractors have purchased this tool.

Open-cut installation may be used in the following instances:

- When the length of service line to be replaced is not significantly longer than the trench required for the HDD equipment
- When the existing sewer drain is broken and needs replacement
- When trenchless methods have failed and open-cut is necessary to complete the installation of the new service line.
- Failure should be anticipated when utilizing the pipe pulling method, and an open-cut backup plan should be in place to minimize downtime for residents.

5.3 After Construction

Following construction, the LSLR contractor restores the excavation site, which may be located either inside the home (floor or wall) or outside the structure of the home. Interior restoration is limited to repairs directly associated with the installation of the new service line and involves patching the small excavation in the floor or wall where the new service line enters the building. This restoration is typically completed the same day as the replacement by LSLR crews.

After the interior restoration is completed by the LSLR contractor, the homeowner may choose to leave the area as-is or perform any additional restoration of interior finishes, such as tile, flooring, or drywall. Restoration of finishes is not the responsibility of the City.

In conjunction with restoration, the LSLR contractor will also flush the new water service line upon completion of construction. After this initial flush, the homeowner is instructed to complete additional flushing following the procedures outlined in **Appendix A** (see flyer titled "Flushing After your Lead Service Line Replacement"). As required by the LCR (40 CFR 141.84(e)(3)), the City must provide pitcher filters to each resident for use during the six months following LSL

replacement. The City currently distributes filters prior to any replacement work. Flushing instructions will also be provided prior to the service line replacement.

Per the LCR (40CFR 141.84(e)(3)), flushing instructions and pitcher filters must be provided before the service line is returned to service. Additionally, the EPA's LCRR requires that water sampling be offered to the resident three to six months after LSLR. The City will provide test kits to homeowners within this timeframe to test their water for lead and copper. Participation is voluntary. Homeowners who choose to participate will return a water sample for analysis. If test results are below the lead action level, the results are sent directly to the homeowner. If results meet or exceed the action level, they are forwarded to the City's water quality laboratory staff, who will follow up with the resident and conduct additional sampling and analysis.

The IL Act does not mandate post-construction water sampling following the replacement of a lead service line.

Appendix A includes sample forms used in typical LSLR projects. The checklist is the primary document used to coordinate which forms are required during each project phase and to identify who is responsible for completing them.

Section 6
Outreach and Communication Plan

The objectives of the Outreach Plan (CDM Smith 2022) are as follows:

- Develop public outreach materials to address gaps in communication and educational needs.
- Engage the community and public stakeholders to inform them about lead service line issues, replacement priorities, and next steps.
- Evaluate engagement with the community and public stakeholders to effectively manage expectations.

The LSLR Plan is available on the City's website, and the public may provide comments to the City. The City staff will also review this plan with relevant public stakeholder groups.

6.1 Regulatory Outreach Requirements

The LCRR at the federal level requires all community water systems to develop a service line material inventory and a plan for LSLR, and the service material inventory must be made publicly available.

The IL Act became effective on January 1, 2022. Under this Act, community water systems (CWS) in Illinois are required to notify occupants of potentially affected buildings prior to construction or repair work on water lines and lead service lines.

According to the Act, the notification **must** include:

- A notice that the work may result in sediment and possible lead in the water supply system.
- Information on safe practices to prevent the consumption of lead in drinking water. This should include flushing the water distribution pipe during and after the repair or replacement work, and cleaning faucet aerator screens.
- Information on the dangers of lead exposure, particularly for children and pregnant women.
- Written notice must also be provided to building occupants when replacing lead service lines. According to 415 ILCS 5/17.12, in the Illinois LSLR and Notification Act: *"The notifications required under this subsection must contain the following statement in the Spanish, Polish, Chinese, Tagalog, Arabic, Korean, German, Urdu, and Gujarati: 'This notice contains important information about your water service and may affect your rights. We encourage you to have this notice translated in full into a language you understand and before you make any decisions that may be required under this notice.'"*

6.2 Existing Lead Service Line Replacement Outreach

Public outreach efforts related to lead service line replacements began in the fall of 2021 in preparation for 2022 construction projects. These included the 2022 Water Main Improvement and Street Resurfacing Project. Outreach efforts continued for the 2023 to 2025 Watermain and Lead Service Line Replacement Projects, 2024 Pilot LSLR Project, and the 2025 Watermain and LSLR Prioritization Projects.

Since the initial rollout of the outreach plan, the City has followed a consistent process that typically begins with a letter informing the resident that their property is part of a replacement project. This letter provides a general overview of the project and outlines the next steps.

To support engagement and participation, the City employs a variety of outreach methods, including:

- City LSLR Website
- Mailings - City letters, postcards
- Email - Targeted emails to community leaders and individual property owners
- Virtual Meetings
- Door-to-Door Outreach - Delivery of FAQ documents, door hangers, filter pitchers, flushing instructions, and other notifications (e.g., “Last Call” letter)
- Message Boards
- Static Signs on Trees
- Yard Signs
- Hotline Call Center
- Canvasing
- Home Inspections

After the initial letter, door-to-door canvassing is conducted to distribute materials and engage directly with residents. This is followed by virtual town hall-style meetings, targeted emails to individuals who have not yet submitted their right-of-entry forms, and continued use of message boards, postcards, and signage (both static and yard signs) leading up to contractor mobilization. At that point, the contractor conducts additional outreach to increase participation among remaining holdouts.

Because the City is conducting block replacements, obtaining consent from an entire block or neighborhood of property owners at the same time often requires extensive person-to-person engagement. To date, contractor mobilization has proven effective for water main replacement projects due to the visibility of large equipment and the disruption caused by work along the

entire street. However, this visibility is less impactful for private-side replacements, where the work is more localized and less disruptive.

The biggest challenge to date has been reaching certain residents—some are non-responsive, while others have incomplete or missing contact information. While further research is needed to improve outreach effectiveness, one clear takeaway is that multiple outreach methods are essential. Even with all the tools currently in use, reaching every resident remains a significant challenge.

Additionally, the nature of LSLR—due to the unique complexity of split ownership between the public and private sides—presents issues to some owners that have restricted income who find it difficult to pay a contractor to restore finished surfaces.

The risk of lead exposure in rental buildings is borne primarily by tenants, while the landlord is the one who must provide consent for LSLR. Reaching landlords and securing consent can be difficult. Residents with lower incomes are often less likely to have the time and resources to participate in outreach activities, which may limit their access to important project information and the opportunity to provide consent.

To build trust and encourage participation, the City is tailoring outreach strategies and messaging to directly address the needs of specific neighborhoods and demographic groups. The City is actively working to identify and remove participation barriers wherever they exist to ensure more vulnerable residents have access to lead service line replacements.

The City will continue to assess and evaluate the effectiveness of the Outreach Plan as the program progresses, collecting data and refining its approach as needed.

6.3 Outreach Steps

The current Outreach Plan for promoting participation in LSLR projects is shown in **Figure 6-1**. It includes outreach components first implemented during the initial activities for the 2022 projects, which had a positive impact on participation rates. The plan has since been updated to incorporate additional outreach efforts as deemed appropriate. Each year, the successes and challenges of outreach efforts will be evaluated. The City is also exploring ways to gather resident feedback following the completion of an LSLR project to help inform planning for future replacements.

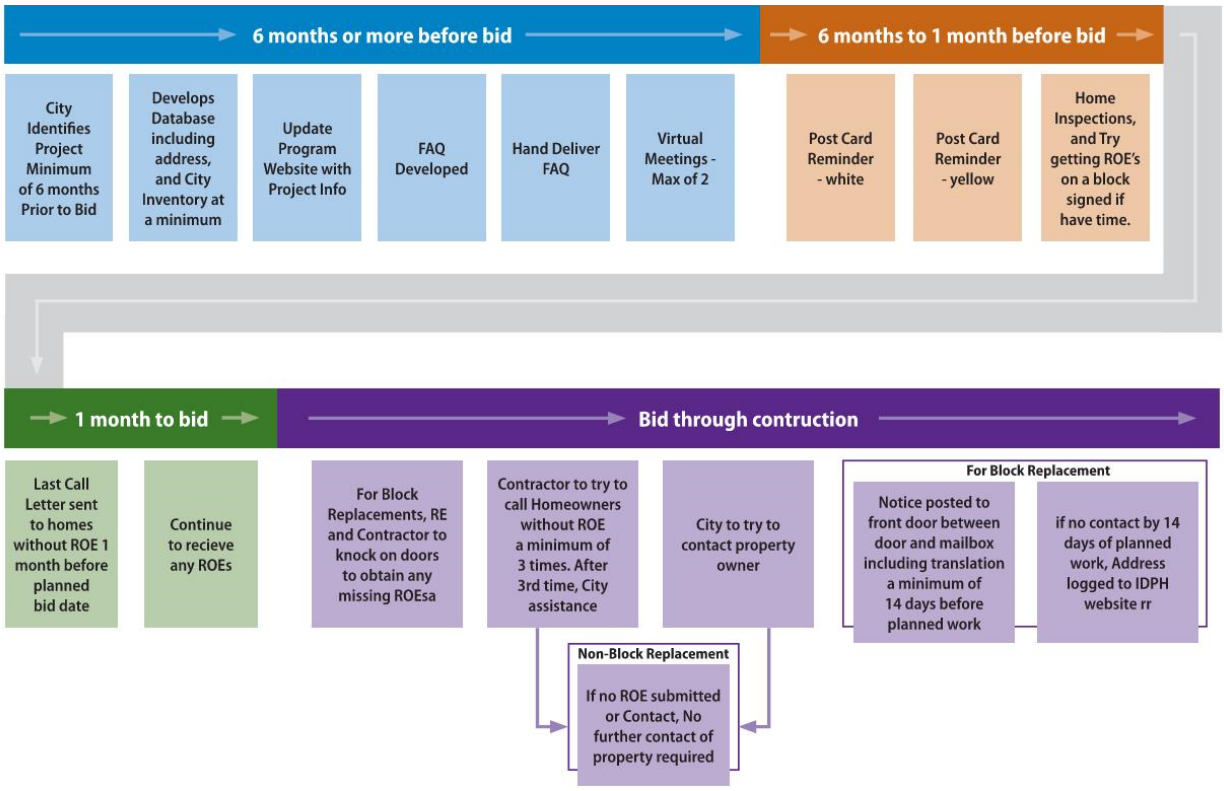


Figure 6-1. General Outreach Steps

Appendix A

Packet for Coordinating LSLR

CITY OF EVANSTON
LEAD SERVICE LINE REPLACEMENT

LSLR Project: _____

I. LSLR Project Checklist – All Phases

Tasks listed by responsible group (in parenthesis)

Phase I: Preconstruction

☐ Forms for applicant (property owner) signature:

- ☐ Right-of-Entry and Release Form* – if not already received (City, Resident Engineer)
  ** Note that Occupant (tenant, leasee, etc) should also sign this form. See additional note below for occupants. DO NOT ENTER HOME WITHOUT SIGNED ROE ON FILE! Example ROE Exhibit A.*

☐ Review Home Inspection Forms (HIF) City has received to date – if any. Sample blank (HIF) form in Exhibit B. When copper noted Contractor shall start coordination with these residents (Contractor)

☐ Contact Property Owner to schedule preconstruction site visit. Review Script in Exhibit C prior to calling (Contractor)

☐ Maintain a contact log of each time Homeowner contacted. (Contractor, Resident Engineer)

☐ Water pitcher filter distribution & Flushing Flyer Distribution. Example Flushing Flyer in Exhibit D (Contractor, Resident Engineer)

☐ Evaluate location where water service enters the home (Contractor, Resident Engineer)

☐ Locate applicant sewer drain (Contractor)

☐ Notify Resident Engineer if lead or asbestos potentially present in work area (Contractor)

☐ Evaluate interior & exterior conditions (Contractor, Resident Engineer)

☐ Determine interior construction and restoration plan (Contractor, Resident Engineer)

☐ Explain interior and exterior construction and restoration plan to Property Owner (Contractor, Resident Engineer)

☐ If interior water service copper, but City inventory indicates lead, Contractor to do further investigation. See Exhibit E (Contractor, Resident Engineer)

☐ Forms for applicant signature:

- ☐ Property Owner's Agreement Form** - (Contractor, Resident Engineer)
  *** Note that for Occupants, this form must also be signed by the Property Owner. Example included in Exhibit F.*

☐ Forms to Complete and Submit to Resident Engineer:

- ☐ Pre Construction Water Service Layout Drawing signed by Contractor Illinois Plumber and Resident Engineer (Contractor). Example included in Exhibit G.

Phase II: Construction

- ☐ Schedule construction with homeowner. Review (Contractor)
- ☐ Schedule Contractor Illinois Plumber and tap (Contractor)
- ☐ Water service and sewer drain separation discussion. See Exhibit H (Contractor, Resident Engineer)
- ☐ Obtain new meter from City (Contractor)
- ☐ If applicable, coordinate asbestos and/or lead testing and abatement following approval by Resident Engineer (Contractor)
- ☐ Complete LSLR replacement and restoration in accordance with Property Owner Agreement Form and Preconstruction Water Service Layout Drawing (Contractor)
- ☐ Perform Tap (Contractor)
- ☐ Install and setup new Water Meter (Contractor)
- ☐ Complete post-installation flushing (Contractor)
- ☐ Review flushing flyer and use of filter with homeowner (Resident Engineer)

Phase III: Post Construction

- ☐ Final Restoration Acceptance by the homeowner (Homeowner, Contractor)
- ☐ Return old Meter to City (Contractor)
- ☐ Closeout of permits (Contractor)
- ☐ Approval of line items and pay applications (Contractor, Resident Engineer)
- ☐ Processing pay applications (City)
- ☐ Capture and document lessons learned (Resident Engineer, City)
- ☐ Document date the LSLR was replaced. Date the As-Built with that date. (Resident Engineer)
- ☐ Forms to Complete and Submit to Resident Engineer:
    - ☐ Post construction layout drawing (i.e. As-Built). See example in Exhibit I (Contractor)

*****

Exhibit A
ROE

RIGHT OF ENTRY AND RELEASE
FOR LEAD SERVICE LINE REPLACEMENT
EVANSTON, ILLINOIS

LSLR Project: _____

The City of Evanston ("City") is initiating a project to replace lead service lines on your property. The service lines run from the service valve to the inside of your home. The City requests that you, as the owner ("Owner") of your property ("Property Owner"); or that you as lessee, renter, or otherwise legally occupying the home ("Occupant"), sign, complete, and return this document ("**Right of Entry**") to grant the City's Water Division representatives ("City Representatives") a right of entry onto your property, which has the street address of_____ (the "**Property**"), so the City may provide Your Property with a "Lead Service Line Replacement".

REASON FOR THE CITY'S REQUEST FOR A RIGHT OF ENTRY:

LEAD SERVICE LINE REPLACEMENT: The City's records indicate that the pipe from the service valve to Your Property may be made of lead or galvanized iron/steel. A water service line that is made of lead, also known as a lead service line, can increase your risk of exposure to lead through drinking water and should be replaced if possible. The City is preparing to replace the homeowner portion of the service line that serves Your Property from the service valve onto and in Your Property. This is referred to as "**Lead Service Line Replacement.**"

The City Representatives will need access to the Property to perform work associated with the Lead Service Line Replacement ("Work"). The City Representatives will show you their respective identification prior to entering the Property.

This Work involves shutting off water service for an estimated four (4) hours, replacement of existing lead or galvanized iron/steel water service, installation of a new copper service from the service valve, onto your property, into the basement to the existing water meter connection to the City water main and flushing the new service.

Before beginning work, the City Representatives will notify you when they will be on the Property to perform the work. It is your responsibility to provide reasonable access and a working area for the City Representatives at the service line and water meter location as requested by the City Representatives. The City Representatives may continue to enter onto the Property until construction is completed and you and the City accept the work.

RIGHT-OF-ENTRY:

By signing and returning this Right of Entry, you grant the City and its City Representatives the right to enter the Property between _____, 2022 through _____, 2023 between the hours of 7:00 a.m. and 6:00 p.m. The right to enter the Property is for the following purposes:

- Survey and take photographs and videos of the interior and exterior of the Property; and
- Replacement of your lead or galvanized iron/steel Service Line.

The City Representatives will suitably identify themselves prior to entering the Property.

PLEASE NOTE: You and the City agree and understand that Lead Service Line Replacement cannot begin until the City has on file your signed Right of Entry.

In consideration of the foregoing, you affirm that you have a property interest in the Property, either by lease or ownership or are otherwise authorized to grant to the City a Right of Entry to allow the City and City Representatives to enter the Property, to take photographs and videos of the interior and exterior of the Property in the area of the water service line before and after installation, to bring workers, material, equipment, and supplies onto Your Property and to perform the Lead Service Line Replacement on the Property.

Restoration to preconstruction conditions will not always be possible, and the extent of reconstruction will be discussed with you and agreed upon prior to beginning the work. At that time, you will be asked to sign a separate Property Owner's Agreement that lists the extent of demolition and restoration. At that time, you may decline to participate in the Lead Service Line Replacement if you wish.

The City Representatives will connect the new copper service line to the existing plumbing at the entry point into the Property. The City is not responsible for any interior plumbing nor for compliance with the Illinois Plumbing Code requirements or other codes once the service line enters the Property. It is the property owner's responsibility to replace interior plumbing when and where necessary or required by the local regulations.

While the City will pay to replace the full water service line, this work does not change ownership or maintenance obligations from the existing requirements as defined in Chapter 7-12-11-4-2(A)3 of the City of Evanston's Municipal Code.

IN CONSIDERATION OF AND AS A CONDITION TO THE PERFORMANCE OF THE LEAD SERVICE LINE REPLACEMENT AND METER INSTALLATION, YOU, THE UNDERSIGNED, HEREBY RELEASE AND FOREVER DISCHARGE THE CITY, CITY REPRESENTATIVES, ITS EMPLOYEES, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") FROM ALL LIABILITY INCLUDING BUT NOT LIMITED TO INJURY, DEATH, DAMAGE, OR LOSS TO YOUR PROPERTY, PERSONS, REAL PROPERTY, OR PERSONAL PROPERTY (COLLECTIVELY, "CLAIMS") IN CONNECTION WITH THE PERFORMANCE OF THE LEAD SERVICE LINE REPLACEMENT.

☐ **Please check box if you are an Occupant (not the Property Owner)**

SIGN BELOW (next page):

Name:_____,
Property Owner, Occupant, or Authorized Representative

Signature	**Date**	**Mailing Address** (If different than property address)
		City, State and Zip Code

Contact Information:

Email

Phone Number

ONCE COMPLETED, RETURN BY EMAIL OR MAIL TO:

Mail:

City of Evanston
555 Lincoln Street
Evanston, IL 60201
Attn: Ronald Papa

Scan and e-mail:

water@cityofevanston.org

****YOUR PRESENCE DURING WORK:** Someone 18 years or older must be present during the work to provide access to the City Representatives in the area where your water service line enters Your Property up to your meter.

Appendix B
Home Inspection Form

CITY OF EVANSTON
Lead Service Line Replacement

Homeowner Inspection Form

Project Name:_____
Prepared by: _____ Date: _____

Date: Click or tap to enter a date.

Address: Click or tap here to enter text.

Name of Main Contact: Click or tap here to enter text. Phone: Click or tap here to enter text.

Preferred Language: English ☐ Spanish ☐ Other (note) ☐Click or tap here to enter text.

Preferred Entrance for Contractor: Click or tap here to enter text.

Other Information: Click or tap here to enter text.

Home Structure and Interior:

Basement☐ Slab ☐ Other (note) ☐ Click or tap here to enter text.

If Basement: Finished☐ Unfinished☐ Other (note) ☐ Click or tap here to enter text.

Water Service:

Existing Meter: Yes☐ LocationClick or tap here to enter text. No ☐

Make and Model of Meter: Click or tap here to enter text.

Obstacles within 5 feet of meter (include photos): Click or tap here to enter text.

Exterior Water Service Material (to Home): Lead ☐ Copper ☐ Galvanized ☐ Plastic ☐ Other ☐Click or tap here to enter text.

Diameter to Meter: 1/4”☐ 1/2”☐ 5/8”☐ 1”☐ 1-1/2”☐ 2”☐ Other☐Click or tap here to enter text.

Interior Water Service Material (visible from work area): Lead ☐ Copper ☐ Galvanized ☐ Plastic ☐ Other ☐Click or tap here to enter text.

Diameter from Meter: 1/4”☐ 1/2”☐ 5/8”☐ 1”☐ 1-1/2”☐ 2”☐ Other☐Click or tap here to enter text.

Valves before and after Meter: Yes☐ No☐ Notes Click or tap here to enter text.

Water Service entry point into home: Wall ☐ Floor ☐ Other (note) ☐Click or tap here to enter text.

If service enters through floor, floor material is:

Unpainted Concrete ☐ Painted Concrete ☐ Tile ☐ Linoleum ☐ Other ☐Click or tap here to enter text.

If service enters through wall, wall material is:

Concrete ☐ Block ☐ Other (note) ☐Click or tap here to enter text.

Notes: Include sketch of work area, and at least 4 photos both interior and exterior of home. Interior should focus on water service. Assume work area 10’x10’.

Homeowner Inspection Form
Location of Water Service and Approximate Work Area
Address: _____

Exhibit C

LSLR Plan

Preconstruction Scripts to Maintain Program Consistency

I. Home Owner Inspection Script:

Hi, my name is *[insert name]* with *[insert company],* and we are calling in regards to [*insert name of project*]. We have received your Right-of-Entry, and would like to schedule an in home inspection/verification of your water service to confirm the pipe material. The Home Inspection visit should be fairly short, and no more than approximately 20 minutes. An individual over 18 years of age must be present for our staff to enter the property. What would be a good day and time to verify your service line material?

II. Preconstruction Survey Script for Contractor:

Hi, my name is *[insert name]* with *[insert company],* and we are calling in regards to [*insert name of project*]. We are the contractor doing *watermain work* on your street, and I am calling you to schedule a time for our plumber to meet with you to discuss the proposed replacement of your lead service line. This preconstruction survey meeting should be fairly short, and the property owner must be present to sign a form to authorize the work. In addition, an individual over 18 years old must be present for our staff to enter the property. What would be a good day and time to perform this work?

III. General Questions that Might be Asked:

If the homeowner indicates that one was already completed, please respond with: *According to our records a Home Inspection visit was performed by the City or their consultant to develop information for the bidding documents. The preconstruction survey meeting will discuss the location that work is performed to gain your consent to complete the work.*

How will I know the person entering my house is authorized to do so? I feel unsafe allowing someone into my home? *There will be a minimum of two people entering your home. All with have City of Evanston badges showing that they are authorized to enter your home. If you have any questions or need further verification, please call 311. In addition, if you require the use of booties or a face mask, please let us know so that our staff are aware and can be properly equipped.*

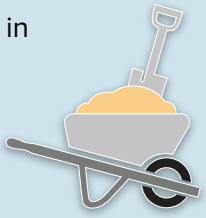
I no longer want to participate in this project? *That is your choice, however, we do want to re-iterate the City will be paying for the replacement of your water service. If this is part of a watermain replacement project your address will be reported to the Illinois Department of Health. In addition, you will be required to report that your home has a lead water service if you try to sell your home. However, we understand you decision. Do you have specific concerns you would like to address, or can we ask someone from the City to call you to speak with you personally about your concerns? The City is required to take all lead water services out of their distribution system by 2044, and future projects may not involve the City paying for replacement.*

Appendix D
Flushing Flyer

CITY OF EVANSTON
Lead Service Line Replacement

Flushing After your Lead Service Line Replacement

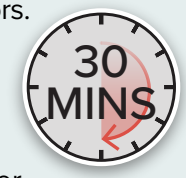
After your lead service line has been replaced, it is important to flush all of the pipes in your house. Flushing will remove any lead that may have entered the pipes in your house during construction. You should flush all interior plumbing the same day or before the next time you use your water. **DO NOT USE** hot water until the initial flushing is completed to prevent lead particles from settling in your hot water tank.



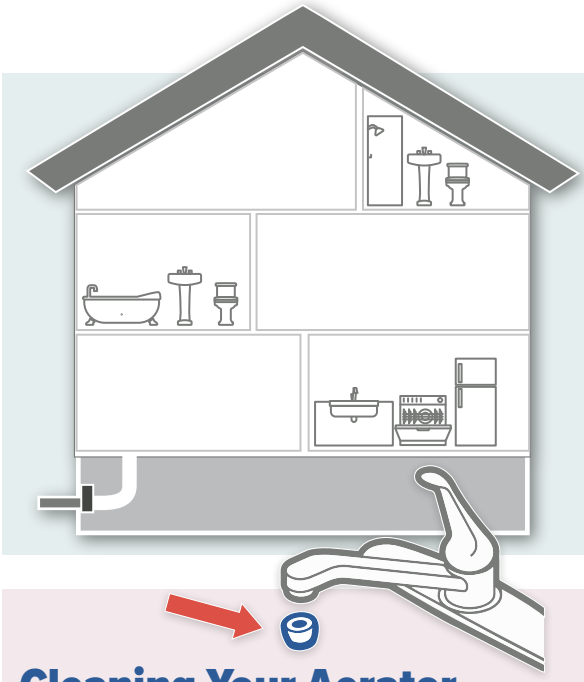
The City will be sending a test kit to request free lead sampling of your water 3 to 6 months after the replacement of your lead service line.

Flushing Instructions

1. Find all the faucets that will drain, including the basement and on all floors in your house.
2. Remove aerators and screens whenever possible, including the shower heads, from all faucets you plan to flush. Include the laundry tubs, hose-bibs, bathtubs, and showers as flushing points.
3. After all the aerators are off, open the faucets in the basement or lowest floor in the house. Leave all faucets running at highest rate possible, using cold water.
4. After the faucets are all open in lowest floor, open the faucets on next highest floor of the house. Continue until faucets are open on all floors.
5. After all faucets are opened, leave the water running for at least 30 minutes.



6. After 30 minutes, turn off the first faucet you opened and continue to turn off other faucets in the same order you turned them on.
7. Clean aerators/screens at each faucet. You may need to replace screens/ aerators if too old or worn. Conduct a 30 minute flush every other week for three months.
8. Consider using a filter that is certified to NSF 53 standards to remove lead for 3 months. Go to **twwleadprogram.com/learn-more** for a list of recommended filters.



Cleaning Your Aerator

1. Remove faucet aerators and clean out any particles that may have accumulated there. The aerator is usually at the tip of the faucet and can be screwed off to clean.
2. After your lead service line is replaced, clean debris from aerators and screens once a month for six months. After six months, clean debris twice a year.

Daily Flushing

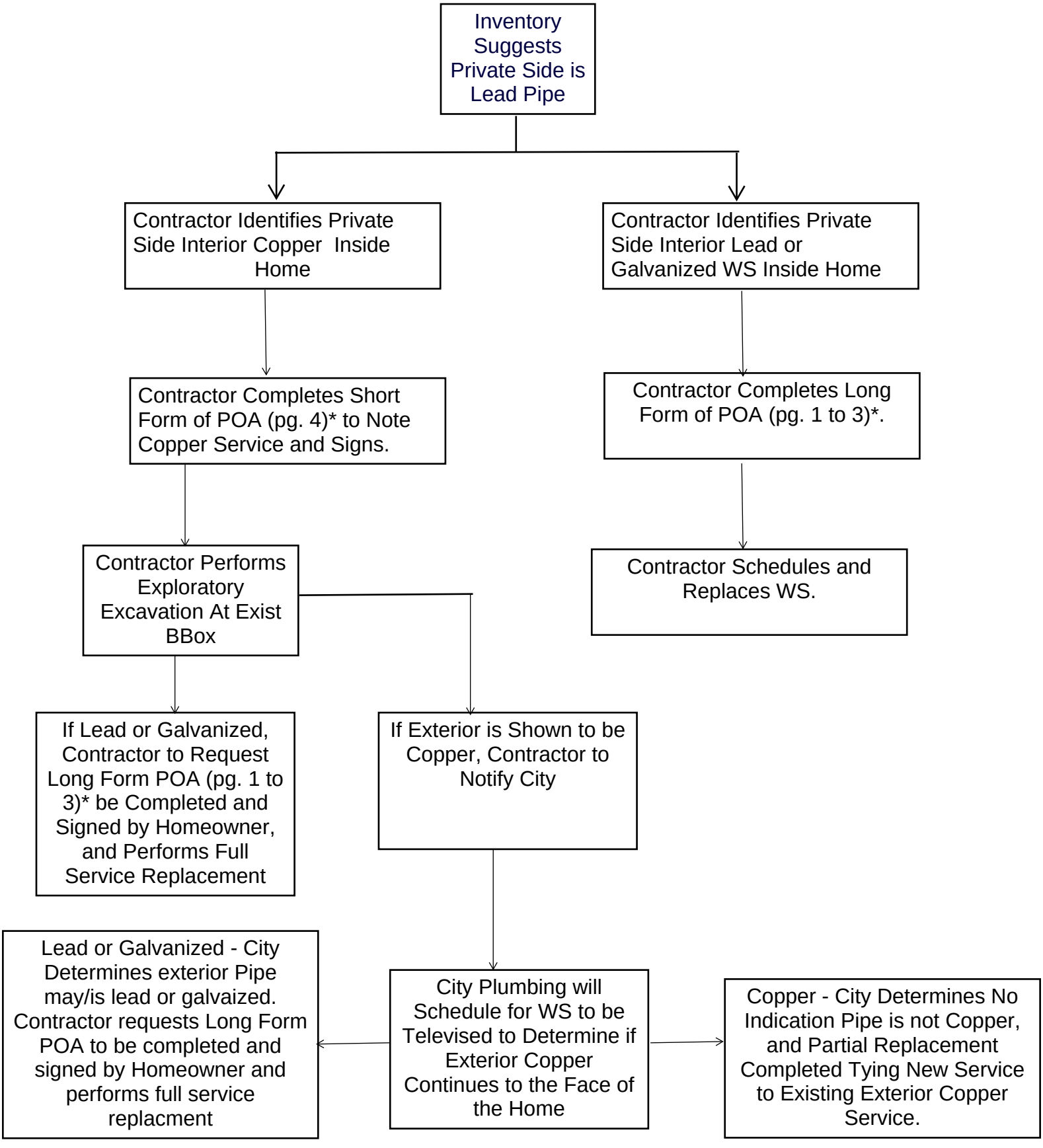
Daily flushes should continue for six months after your lead service line is replaced. Flush water through the plumbing in your house for 5 minutes each morning (or after an extended period of no water usage) before drinking.

NOTE: Taking a shower, running the dishwasher or flushing a toilet will flush your lines.

Process Flow Diagram -
Action Following Home Inspection Identifying Copper Water Service Inside the Home
Version 0
Date: June 21, 2022

Appendix E Process/Flow Diagram for WS Inspection

Note:
* indicates to view Attachment No. 1
** POA version utilized is an example version and may not be the version in place for all future projects.



To be completed - long and short forms

Attachment No. 1 - Four Pages in Total

CITY OF EVANSTON
LEAD SERVICE LINE REPLACEMENT

Property Owner's Agreement Form
2022 Watermain Replacement Program

Date:	Appointment Time:
Owner Name:	
Account No.	Address of Property:
Occupant Name (only for those that are not the property owner):	

I am the legal occupant and/or owner of the property at the above-named address ("Property"). I have volunteered to have the full lead service line that serves my Property, including that portion of the lead service line on and in my Property, replaced with a copper service and a water meter or meter vault, and accessories installed at my address. The City of Evanston ("City") representative has explained to me the replacement and installation processes. I hereby give permission to have the water service, meter and accessories installed including:

Needed:	Consent:	Statement	Notes
		I understand that the Owner is solely responsible, at Owner's cost, for restoration of internal surfaces or finishes, and restoration of any other items internal to the houme removed or disturbed in the performance of the work, including without limitation, walls, bathroom fixtures, tiles, flooring, and other internal surfaces. The Owner is also responsible for watering grass seed in restored lawn areas.	
		I agree to allow a coring through my wall. The coring will be sealed against leakage but wall finishing's / paint will not be restored.	
		I agree to allow the cutout of my wall to allow installation of the water service and meter. I understand that the wall will be left open.	
		I agree to allow the cutout of my floor to allow installation of the water service. I understand that a City representative will repair the floor as smooth concrete, but not restore any associated flooring materials.	

complete - long form

		I agree to allow the water service and meter to be installed on my Property. Because the City is not responsible and is not assessing the condition of my Property's plumbing and water service I agree to hold the City harmless for damages caused to my Property's plumbing and water service as a result of the installation of the meter. Metal services (for example galvanized steel), in particular, may be fragile.	
		I agree to allow my private drain to be repaired with ductile iron if it is found to be broken. The existing private drain diameter is _____ and the new private drain diameter will match the existing diameter.	
		I agree to allow the disturbance of soil, grass, plantings, landscaping and the like on and within my property and the City of Evanston. Restoration will be black dirt and seed depending on availability.	
		I agree to all for the removal of _____ trees and that these trees will not be replaced.	
		I agree to remove the following items from inside my property prior to installation, and I will be responsible for replacement/re-installation:	
		I agree to remove the following items from outside my property prior to installation, and these items will be replaced by the City:	
		I understand that these items will be demolished during construction and not replaced:	
X		On the Work Date, any landscaping, improvements personal property or other items obstructing access to or impending performance of the Work may be removed by the City in order to perform the Work and the Owner hereby waives all claims against the City for damage due to removal of items necessary to perform the Work. If the obstruction are extensive, the City shall have the right to terminate this Agreement or delay the Work until Obstructions are removed by the Owner.	

complete - long form

X		I understand that it is the City of Evanston's responsibility to restore the lead service line replacement, and meter vault installation site on public property to the original condition established by the City (as opposed to any improvements or alterations made by me, the Property Owner)	
X		I understand the City of Evanston will restore the parkway at a later date.	
X		I understand that I continue to own and maintain the water service from the service valve (also referred to as bbox or parkway valve) to my home.	
X		I agree that I understand that the City of Evanston is not responsible for ensuring water/sewer separation requirements are met on private property. Building code concerns on private property are the Property Owner's sole responsibility for assessing and mitigating.	
X		I agree that I have received and understand the post-installation flushing instructions for my home. I understand the importance of flushing to reduce lead and construction residue in the drinking water.	
X		I agree that I will use the City-provided pitcher water filter for six (6) months following the new water service installation and will supply water samples as requested by the City for testing for lead in the drinking water. I understand how to use the filter and when to change the cartridge filter.	

City Representative

Property Owner*

Contractor

Date

complete - long form

Notes:

* Occupant (tenant, rentor, lessee, or other) cannot sign as Property Owner. The Occupant can complete all other parts of this form, but cannot sign. Property Owner must sign to fully execute.

I am the owner of the Property at the above-named address. The City of Evanston representative has explained to me the replacement and installation processes for a new water service line and meter. **I hereby decline to have the water service, meter and accessories installed.**

City Representative

Property Owner

Contractor

Date

if copper, check this box, and write "copper" to the right of the corresponding sentence.

A LSLR cannot be performed on this property at this time because:

_____ There is asbestos in the work area

_____ The service line is inaccessible / in an unsafe area

_____ The service line is not lead

This home will be eligible if the homeowner:

City Representative

Property Owner

Contractor

Date

Complete - Short Form

If cannot obtain homeowner signature, put line. Contractor and RE to sign to verify they both agree service interior service is copper.

Appendix F
POA

CITY OF EVANSTON
LEAD SERVICE LINE REPLACEMENT

Property Owner's Agreement Form
2022 Watermain Replacement Program

Date:	Appointment Time:
Owner Name:	
Account No.	Address of Property:
Occupant Name (only for those that are not the property owner):	

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		I agree to allow my private drain to be repaired with ductile iron if it is found to be broken. The existing private drain diameter is _____ and the new private drain diameter will match the existing diameter.	
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		I agree to all for the removal of _____ trees and that these trees will not be replaced.	
		I agree to remove the following items from inside my property prior to installation, and I will be responsible for replacement/re-installation:	
		I agree to remove the following items from outside my property prior to installation, and these items will be replaced by the City:	
		I understand that these items will be demolished during construction and not replaced:	
X		On the Work Date, any landscaping, improvements personal property or other items obstructing access to or impending performance of the Work may be removed by the City in order to perform the Work and the Owner hereby waives all claims against the City for damage due to removal of items necessary to perform the Work. If the obstruction are extensive, the City shall have the right to terminate this Agreement or delay the Work until Obstructions are removed by the Owner.	

X		I understand that it is the City of Evanston's responsibility to restore the lead service line replacement, and meter vault installation site on public property to the original condition established by the City (as opposed to any improvements or alterations made by me, the Property Owner)	
X		I understand the City of Evanston will restore the parkway at a later date.	
X		I understand that I continue to own and maintain the water service from the service valve (also referred to as bbox or parkway valve) to my home.	
X		I agree that I understand that the City of Evanston is not responsible for ensuring water/sewer separation requirements are met on private property. Building code concerns on private property are the Property Owner's sole responsibility for assessing and mitigating.	
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X		I agree that I will use the City-provided pitcher water filter for six (6) months following the new water service installation and will supply water samples as requested by the City for testing for lead in the drinking water. I understand how to use the filter and when to change the cartridge filter.	

City Representative

Property Owner*

Contractor

Date

Notes:
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City Representative

Property Owner

Contractor

Date

A LSLR cannot be performed on this property at this time because:

_____ There is asbestos in the work area

_____ The service line is inaccessible / in an unsafe area

_____ The service line is not lead

This home will be eligible if the homeowner:

City Representative

Property Owner

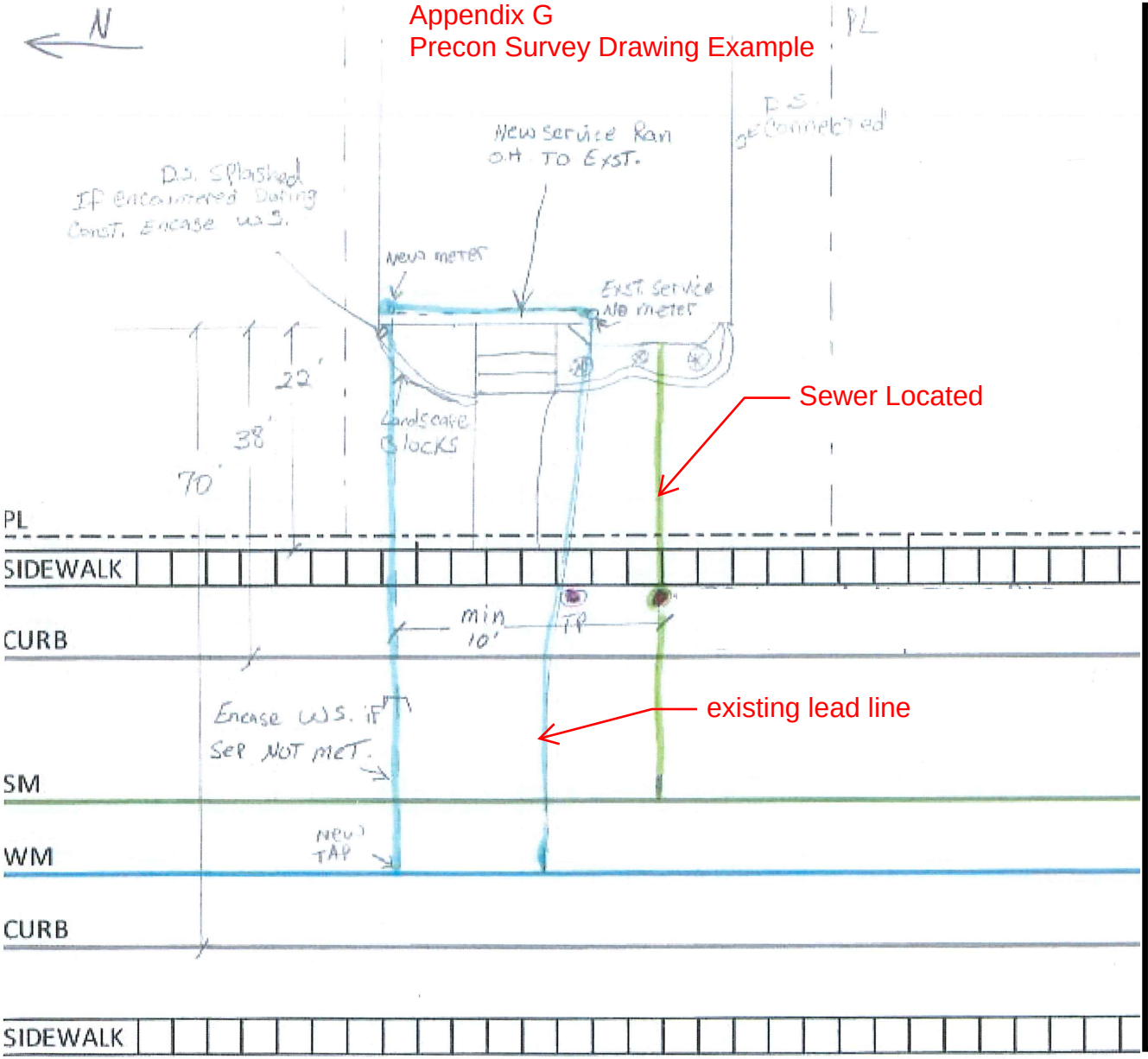
Contractor

Date

'RE-CON SURVEY

Address: _____ Date of Precon Survey: _____

Appendix G
Precon Survey Drawing Example



Are the requirements of the Illinois Plumbing Code (77 Ill. Adm. Code Section 890.1150) Achieved (i.e. 10' H or 18" V)? (circle one)

Yes No *

Note:

* If the answer to the above question is No, please describe why these requirements could not be met in the space below:

RE Name: _____ Signature: _____

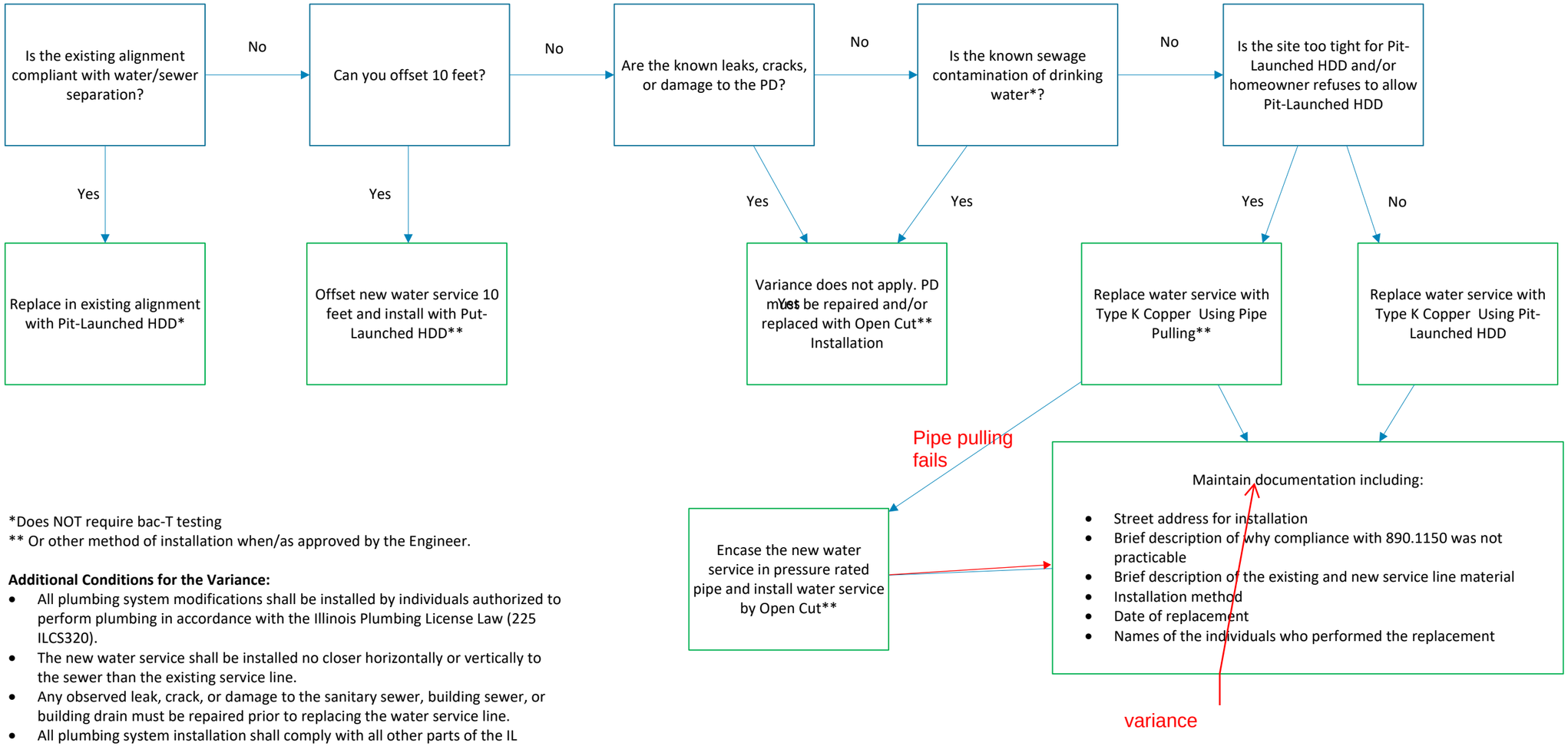
JKCC Name: _____ Signature: _____

CONSTRUCTION WORKFLOW

CDM SMITH LOGO

Water Service/ Private Drain (PD) Separation for the Purpose of LSL Replacement Decision Tree (DRAFT)

Exhibit H
Construction Workflow for WS and Sewer Separation



*Does NOT require bac-T testing
** Or other method of installation when/as approved by the Engineer.

Additional Conditions for the Variance:

- All plumbing system modifications shall be installed by individuals authorized to perform plumbing in accordance with the Illinois Plumbing License Law (225 ILCS320).
- The new water service shall be installed no closer horizontally or vertically to the sewer than the existing service line.
- Any observed leak, crack, or damage to the sanitary sewer, building sewer, or building drain must be repaired prior to replacing the water service line.
- All plumbing system installation shall comply with all other parts of the IL Plumbing Code.

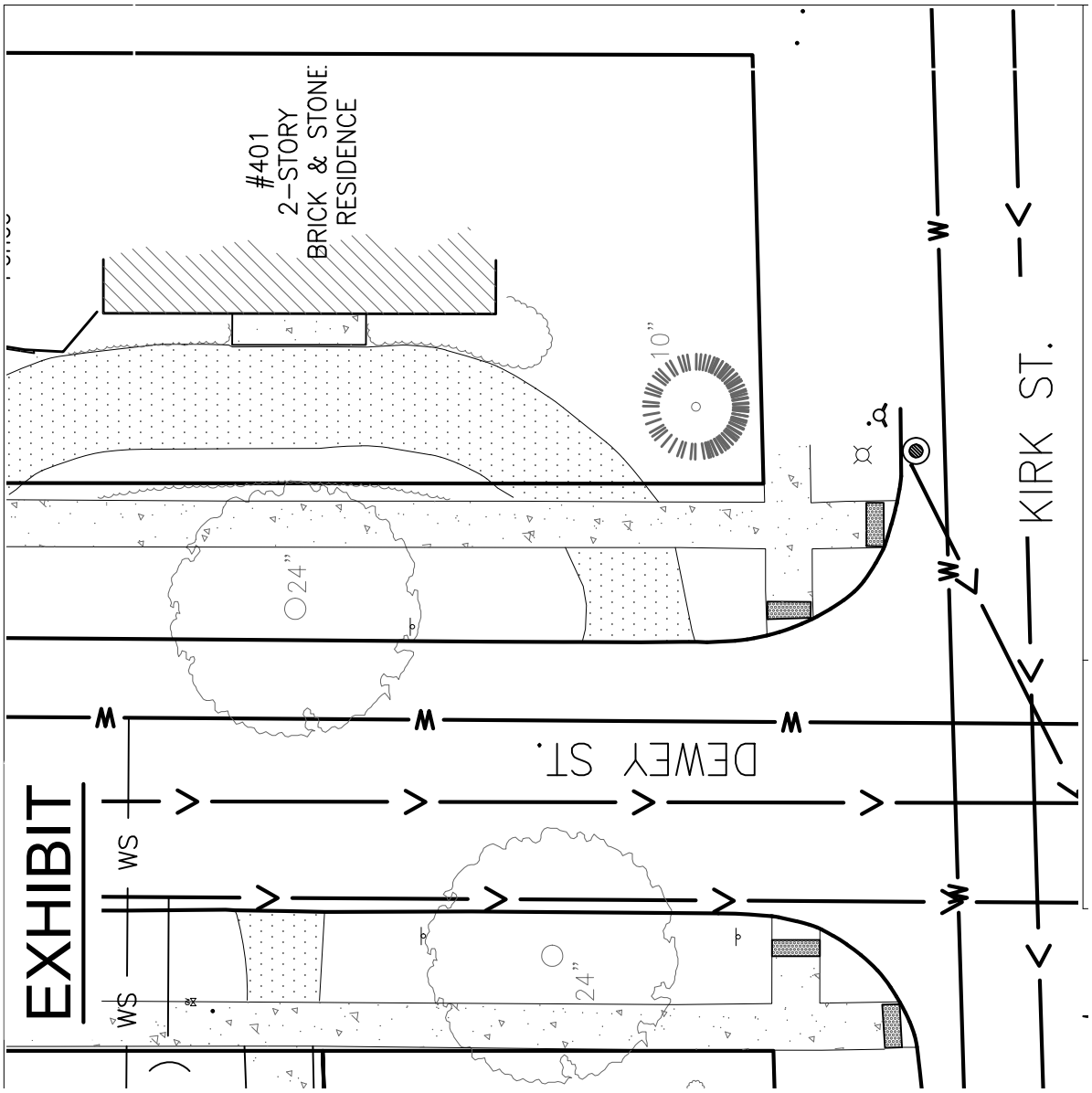
Based on "Notice of Plumbing Code Variance: Lead Service Line Replacement in accordance with Public Act 102-0613; Illinois Plumbing Code Variance; Sewer/Water Separation – Title 77 Ill. Admin. Code 890.1150 (March 23, 2022)

N

Address: _____

Exhibit I
As-Built Drawing

Date Work Performed: _____



Contractor Foreman: _____

Contractor Individuals who Performed Replacement:

_____

_____

Brief Description of the existing and new service line materials:

_____

Brief Description of why compliance with 890.1150 was not practicable (note only differences that occurred during work not shown on pre-construction

survey):_____

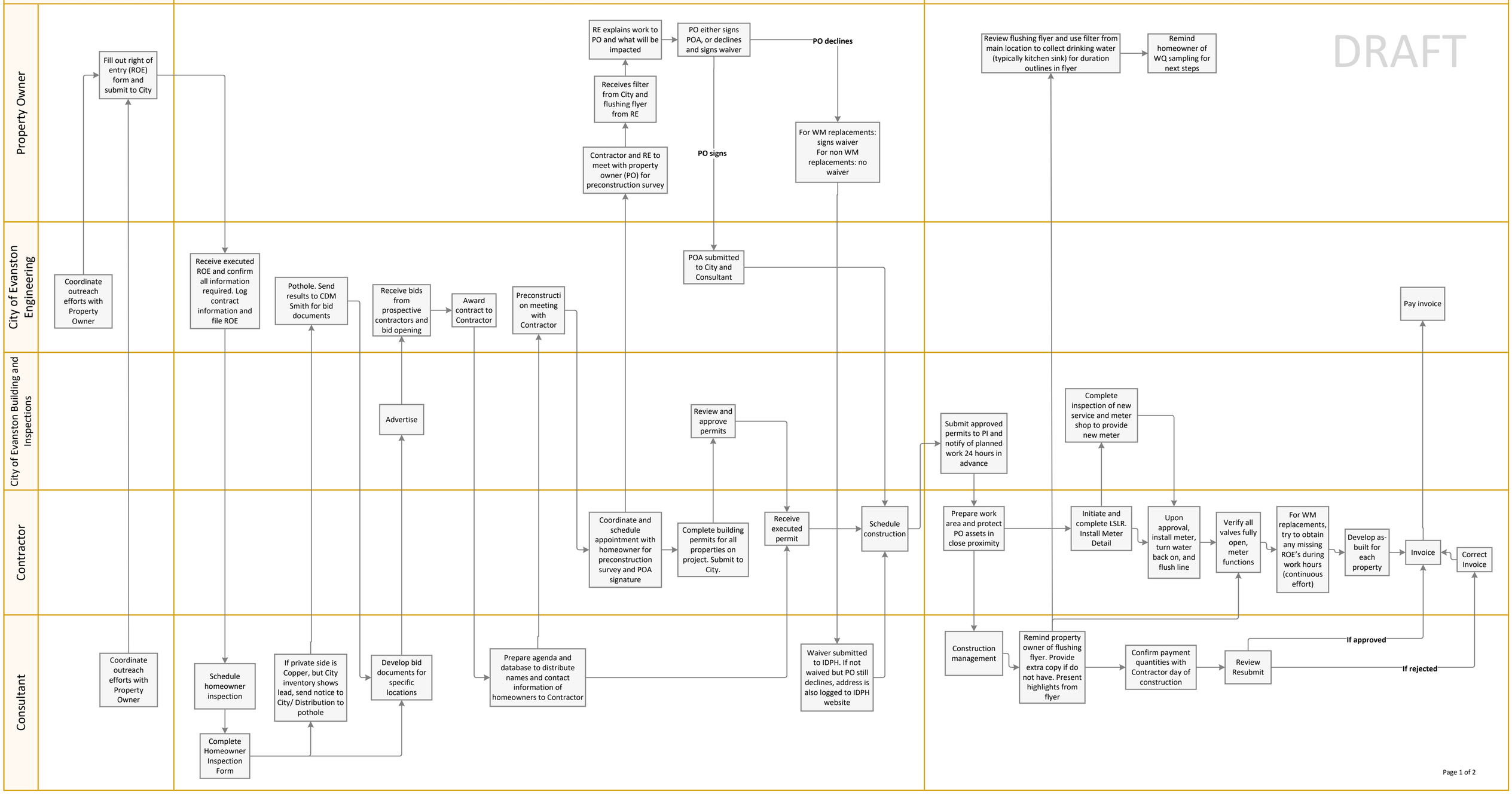
Installation method used during replacement:_____

Appendix B

LSLR Master Flowcharts

Evanston LSLR Program – Project Workflow

CDM Smith



Evanston LSLR Program – Project Workflow

Post Construction

Property Owner

- Confirms Complaints addressed
- Property Owner receives test kit
- Collect samples after 6 hour stagnation period and return (ship) test kit to laboratory
- Property Owner notified

City of Evanston Engineering

- City closes and obtains IEPA Operating Permit
- City updates Lead service line inventory
- City performs Lessons Learned session to continue to improve program based on project results
- Notifies Engineering that homeowner complaint closed and no longer an issue

City of Evanston Plumbing Inspector / Meter Shop

- Meter shop updates meter inventory

City of Evanston Department of Buildings

- Mail Letters and test kit to each home on the LSL Replacement Project within 3 to 6 months of replacement. Target 3 months. Even if they did not participate and signed waiver
- Laboratory analyzes water sample for lead and copper
- Lead content above action level?
  - **No** → Send result letter to property owner
  - **Yes** → Notify city within 3 days
- If home has lead above action level, City to notify property owner and mobilize to home to perform additional testing
- City tries to determine reason for high lead and informs homeowner when determined

City of Evanston Water Quality

- Notifies WQ that construction complete and transitioning to post-construction sampling

Contractor

- Corrects remaining homeowner issues

Consultant

- Letter for closeout
- Receives homeowner complaints
- Develop Subcontract with laboratory for test kits
- Develop database of mailing address for laboratory
- Develop letters to compliment sampling
- Confirms everything closed on home

DRAFT