



Lead Service Line Replacement Program Semi-Annual Report

January 15, 2023
Public Works Committee
Common Council File #221564




City
of
Milwaukee

MILWAUKEE
WATER WORKS

Lead Basics

- Lead is a toxic substance
- Lead exposure is cumulative
- There is no safe exposure to lead
- Young children are particularly vulnerable
- Goal is to remove ALL sources from the community
 - Lead-Safe Milwaukee: <https://city.milwaukee.gov/LeadSafeMKE>
 1. Safe Paint
 2. Safe Water: Lead Service Line Replacement (LSLR) program
 3. Safe Kids



 **Lead-Safe Milwaukee**
SAFE PAINT SAFE WATER SAFE KIDS

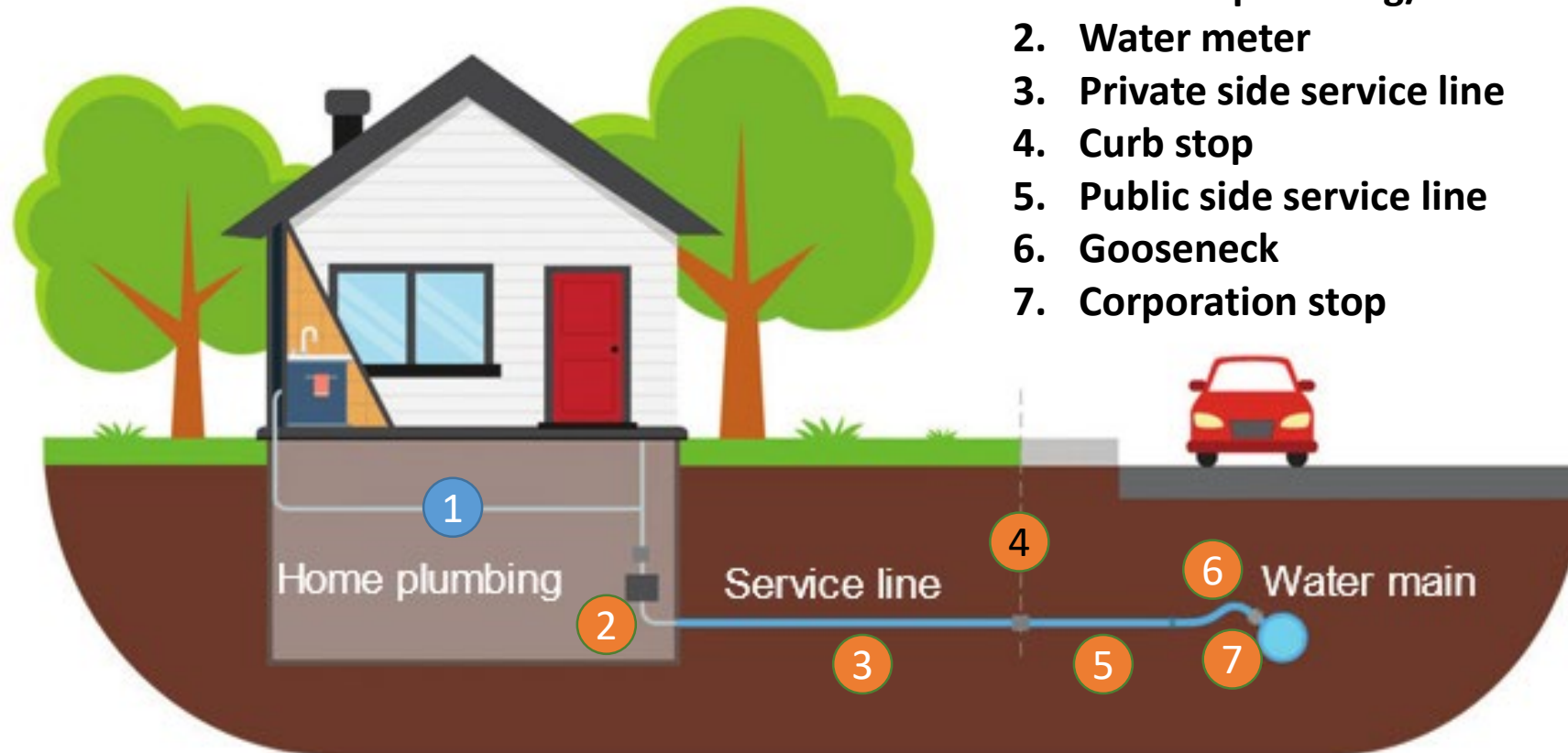
Learn About Lead Lead-Safe Easy as 1-2-3

[CONTACT US](#) [VERSION EN ESPAÑOL](#)

There are several sources of lead you should know about. The most common way children are exposed to high levels of lead is through chipping, peeling or cracking lead-based paint in older homes. When lead is found in drinking water, it is usually because water can dissolve the lead in pipes and plumbing. What can you do to protect your family?

- 1**
Safe Paint:
- 2**
Safe Water:
- 3**
Safe Kids:

What is a lead service line?



Lead in water reduction efforts

- 1951 MWW installed last public-side lead service line (LSL)
- 1962 City ordinance requiring private side copper
- 1985 Reconnection to LSL prohibited for new construction
- 1996 Corrosion Control Treatment (orthophosphate) implemented
- 1997 MWW compliance with Lead and Copper Rule
- 2015 MWW pilot study to assess lead in water
- 2016 MWW began replacing, rather than repairing, LSLs
- 2017 Lead Service Line Replacement Program established
- 2019 Corrosion Control Treatment (CCT) Reevaluation of Optimization
- 2020 Lead and Copper Rule (LCR) Compliance Sampling
- 2021 LCR Revisions published and go into effect late 2024
- 2022 Designation of optimal corrosion control treatment by WI DNR

Lead service line replacement mandate

- As of January 1, 2017, full lead service line mandated to be replaced with copper when:
 - A leak or failure has been discovered on either the privately- or utility-owned portion
 - The utility-owned portion is replaced on either a planned or emergency basis
 - The property is a child care facility (licensed or certified) or school
- REPAIR or RECONNECTION to lead service line PROHIBITED
- Property owner may initiate replacement of privately-owned portion at their own expense with which MWW will pay for and replace the utility-owned portion

LSL Replacements and Filter Distribution (2017-2022)

Reason for LSL Replacement	2017	2018	2019	2020	2021	2022	Total (%)
Leak or failure	437	547	670	629	508	558	3349 (62)
Child cares and schools	150	204	129	48	67	77	675 (12)
Water main relay project	18	143	177	162	198	152	850 (16)
Owner initiated	11	39	23	24	27	30	154 (3)
Other infrastructure projects	6	0	1	25	186	174	392 (7)
Total LSL Replacements	622	933	1000	888	986	991	5420 (100)
Total Filter Distribution	1164	1359	1417	970	971	873	6754

- Average full replacement cost as of December 31, 2022: \$9,603
 - Private side: \$4,776
 - Public side: \$4,827
- One- to four-family residential property cost share for mandated replacements to be \$1,592 as of March 1, 2023 (File #221565 – one-third the cost of private side)
- 2023 Budget – 1200 Replacements
 - 500-550 leak or failures
 - 50-75 licensed child care facilities
 - 550-600 planned projects (included with water main replacement, prior to pavement reconstruction, coordinated with sewer lateral replacement)

- Lead-safe information provided with filter pitchers
- Semi-annual insert with lead safety information in municipal service bills
- Annual mailing of lead safety information to properties
- Consumer Confidence Report bill insert with lead and water information
- Online public-side LSL inventory updated quarterly
- Information provided via MWW Customer Service (534 LSLR specific calls)
- Website
 - city.milwaukee.gov/Water “Lead and Water” in English and Spanish
 - city.milwaukee.gov/LeadSafeMKE
 - city.milwaukee.gov/Leadsafemke-espanol
- Lead-Safe brochures, English and Spanish, available at MHD Health Centers, MPL branches, City Hall complex buildings



OUR RECORDS INDICATE THE WATER SERVICE LINE THAT CONNECTS YOUR PROPERTY TO THE WATER MAIN IN THE STREET IS MADE OF LEAD.

Milwaukee Water Works

Zeidler Municipal Building
841 N. Broadway, Room 409
Milwaukee, WI 53202

Reduce the risk of exposure to lead in drinking water from lead service lines and interior plumbing and fixtures.

Households with lead service lines whose occupants include these at-risk persons should drink and cook with tap water filtered with an NSF 53 certified filter:

- Children under 6, especially bottle-fed infants



NUESTROS RÉCORDS INDICAN QUE LA LÍNEA DE SERVICIO DE AGUA QUE CONECTA SU PROPIEDAD A LA LÍNEA PRINCIPAL DE AGUA DE LA CALLE ESTÁ HECHA DE PLOMO.

Reduzca el riesgo de exposición al plomo en el agua potable de las líneas de servicio de plomo y tubería y accesorios de plomo.

Los hogares con líneas de servicio de plomo cuyos ocupantes incluyen a personas en riesgo, dichas personas deben beber y cocinar solamente con agua del tubo filtrada por un filtro certificado NSF 53:

- Niños menores de 6 años, especialmente los infantes alimentados en botella
- Mujeres embarazadas o que podrían quedar embarazadas (edades 15-45)
- Mujeres en período de lactancia

Estos clientes podrían ser elegibles para un filtro gratis de parte del Departamento de Salud de Milwaukee.

Para todos los que tienen una línea de servicio de plomo:

- Beba y cocine solamente con agua del grifo de agua fría.
- Deje correr el agua hasta que esté fría antes de usarla para beber o cocinar.
- A menudo desatomille y lave la pantalla al final de cada grifo.
- Enjuague la tubería del hogar al final de cada día de trabajo durante el reemplazo de la tubería principal, la reconstrucción de la calle y del alcantarillado y trabajo de plomería. Los clientes afectados inmediatamente por ciertos proyectos de construcción de la Ciudad reciben un cupón de parte de Milwaukee Water Works.



- LSLR Equity Prioritization Plan and Expansion Program
 - EPA allocation to State of WI for FFY 2022 is \$48.3M
 - Administered by DNR through Safe Drinking Water Loan Fund-LSLR Program
 - 49% principal forgiveness; 51% low interest loans
 - Subsequent year allocations are anticipated to increase
 - EPA funding is anticipated to last more than 5yrs
 - Prioritize replacements by census block utilizing three factors
 - Area Deprivation Index (ADI)
 - Incidences of Elevated Blood Lead Levels (EBLL)(5 mcg/dL)
 - Density of LSL's

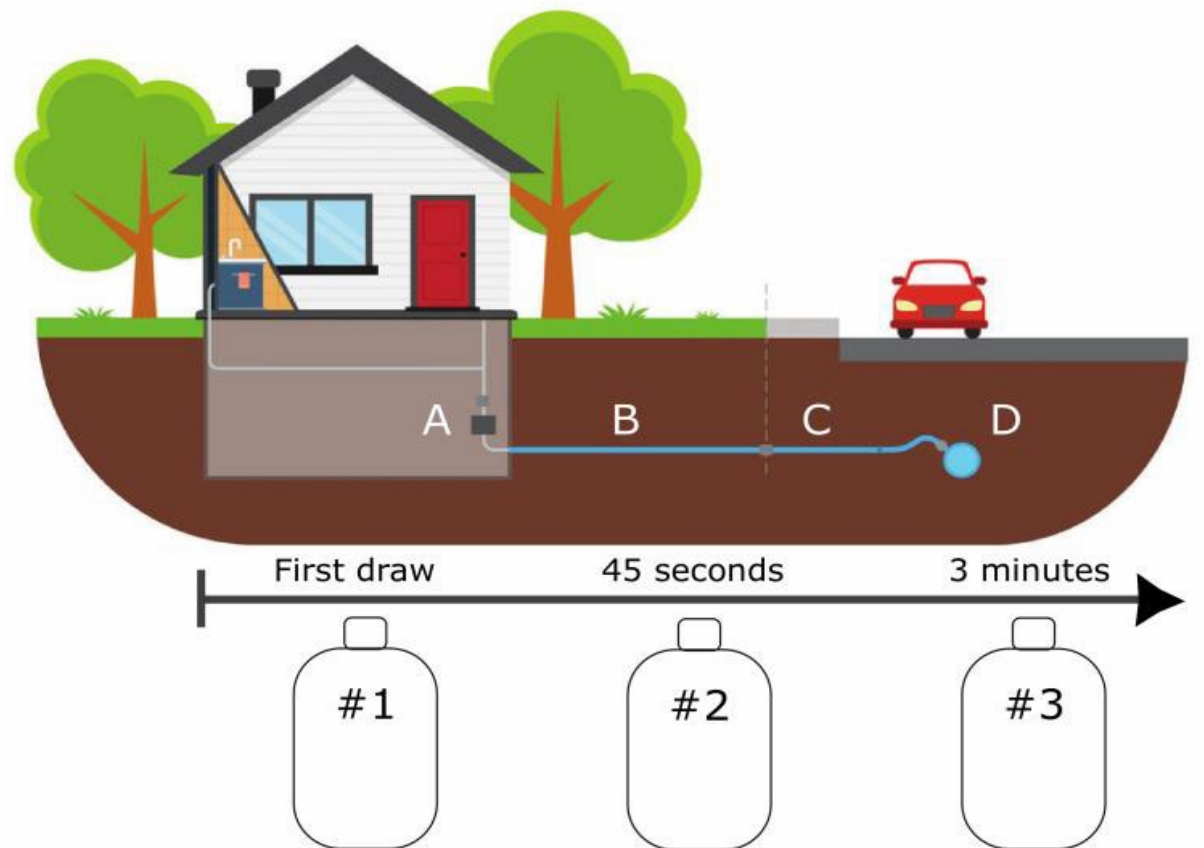
- LSLR Equity Prioritization Plan and Expansion Program
 - Expand number of LSLR's by 500 per year in 2024
 - Acknowledge the geographic disparities
 - Majority of LSL's, EBLL incidences and census blocks that have high ADI scores are on the north side
 - Establish an equity prioritization plan by weighting the three factors
 - Each census block will be assigned a score
 - Retain an Owners Representative to administer the program
 - Potential Ordinance Changes
 - Reduce property owner cost-share
 - Reduce timeline for consent on planned projects from 30 to 10 days
 - Codify the equity prioritization plan as a planned project

July-December 2022 Lead Testing Updates

- 178 samples tested for lead (57 properties)
- One property > 15 ppb
 - Owner reported as vacant
 - Post LSLR – internal plumbing issue
 - Neighbor’s results <2 ppb
- Building capacity for lead testing
 - Lab vacancies filled
 - Shifting staff to focus on lead
 - Internal testing revived



Lead Testing – 3 Bottle Protocol



Sample 1:

Represents your home plumbing: everything from inside the faucet to the water meter (A).

Sample 2:

Represents your private service line (B) and the public service line (C).

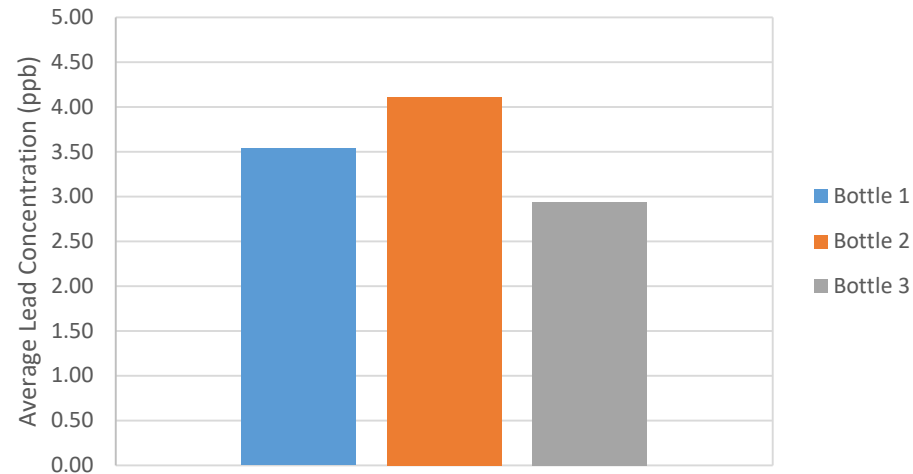
Sample 3:

Represents the water coming from the public water main (D).

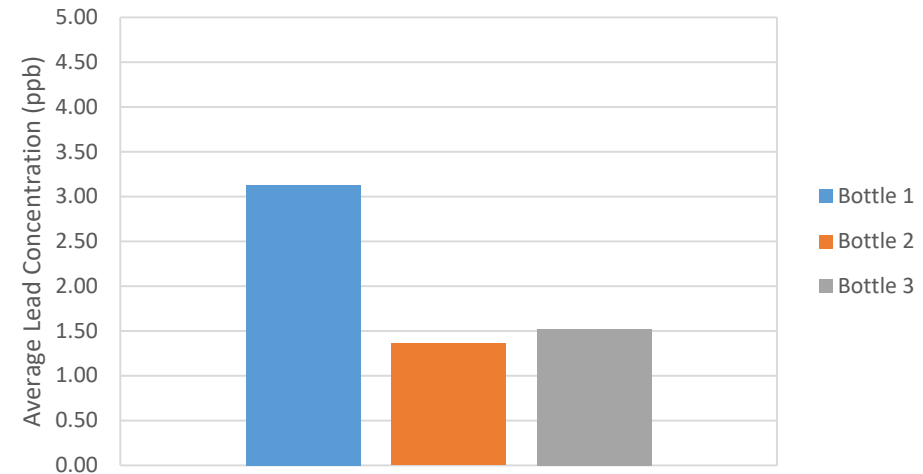
July-December 2022 Lead Testing Updates

- Pre-LSLR results higher than post-LSLR
- Pre-LSLR results highest in bottle #2 (represents LSL)
- All pre-LSLR testing below 15 ppb action level
- Post-LSLR results highest in bottle #1 (represents internal plumbing)

2022 July-December Pre-LSLR Lead Testing



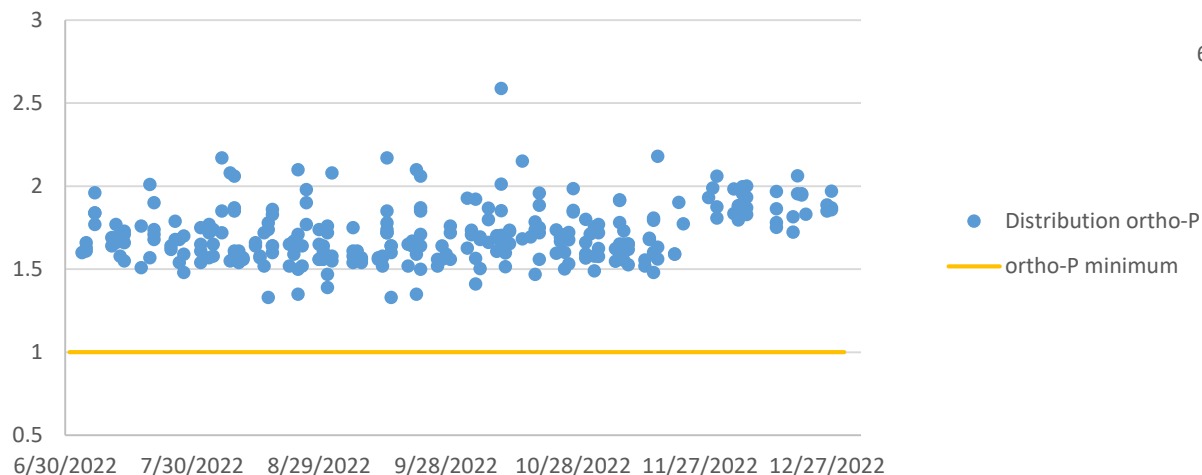
2022 July-December Post-LSLR Lead Testing



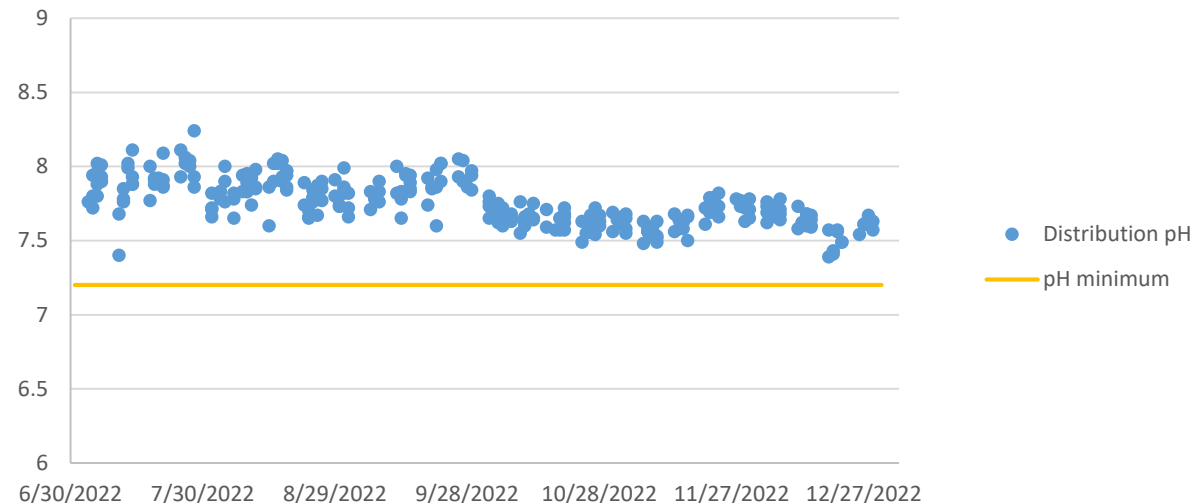
July-December 2022 Optimal Water Quality Parameter Results

pH and orthophosphate (ortho-P) are monitored closely to prevent corrosion of lead service lines and lead internal plumbing

Milwaukee Water Works ortho-P Levels



Milwaukee Water Works pH Levels



Alkalinity around 105 mg/L also helps to prevent corrosion

Thank you



Lead and Water Information

[Milwaukee.gov/Water/WaterQuality/Lead and Water](https://www.milwaukee.gov/Water/WaterQuality/Lead%20and%20Water)