



# Milwaukee's Lead Service Line Replacement Program Semi-Annual Report

March 11, 2020

Karen Dettmer, PE, Superintendent  
Lucas Beversdorf, PhD, Water Quality Manager

# 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 Service Line Replacement Program



Source: US EPA  
Region 5

Milwaukee Lead Service  
Lines

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

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

CONTACT US VERSION EN ESPAÑOL

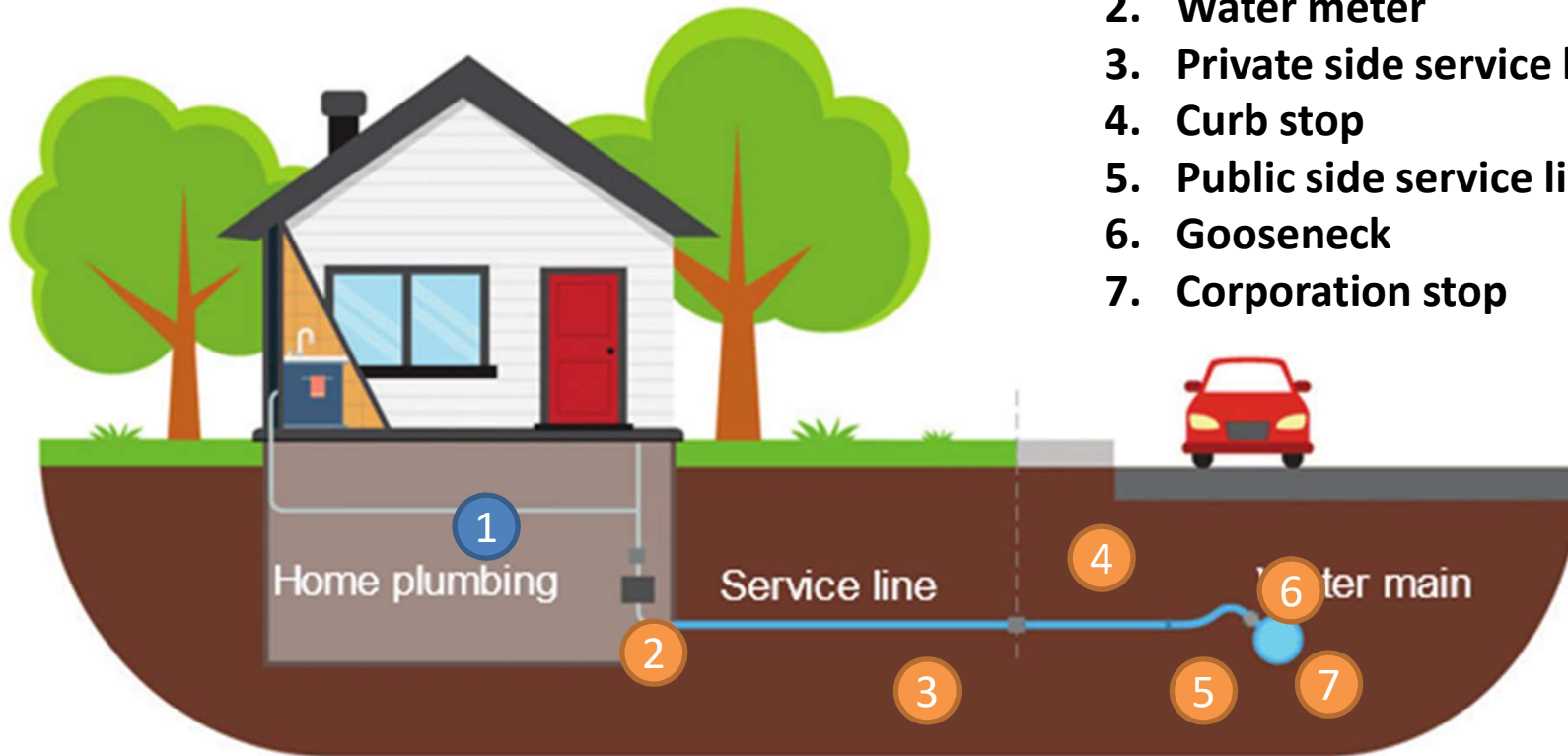
There are several sources of lead you should know about. The most common way children are exposed to high levels of lead is through chipping, peeling or cracking lead-based paint in older homes. When lead is found in drinking water, it is usually because water can dissolve the lead in pipes and plumbing.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

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

<https://city.milwaukee.gov/LeadSafeMKE>

# What is a service line?

1. Internal plumbing/valves
2. **Water meter**
3. **Private side service line**
4. **Curb stop**
5. **Public side service line**
6. **Gooseneck**
7. **Corporation stop**





# Review of MKE lead service lines

- 1951 MWW installed last public-side LSL
- 1962 City ordinance requiring private side copper
- 2014 Public Service Commission ordered increased water main relay program
- 2015 MWW pilot study to assess lead in water
  - Study resulted in a moratorium on water main projects connected to LSLs
- 2016 MWW began replacing, rather than repairing, LSLs
  - Filters and lead safety materials provided
  - Led to mandate to perform **full** LSLRs only
- 2017 Lead Service Line Replacement Program established (CCFN 160742)
- 2019 CCT Reevaluation of Optimization
- 2020?? LCR Revisions



# 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)

REPAIR or RECONNECTION to Lead Service Line PROHIBITED

- Property owner may initiate replacement of privately-owned portion and MWW will replace

# Lead service lines replaced to-date

Reason for LSL Replacement	2017	2018	2019	Total (%)
Leak or failure	438	544	670	1652 (65)
Child cares and schools	149	204	128	481 (19)
Water main relay project	18	143	176	337 (13)
Owner initiated	10	41	23	74 (3)
Other utility work	6	0	1	7 (<1)
<b>Total LSL Replacements</b>	<b>621</b>	<b>932</b>	<b>998</b>	<b>2551 (100)</b>
<b>Total Filter Distribution</b>	<b>1164</b>	<b>1359</b>	<b>1377</b>	<b>3900</b>

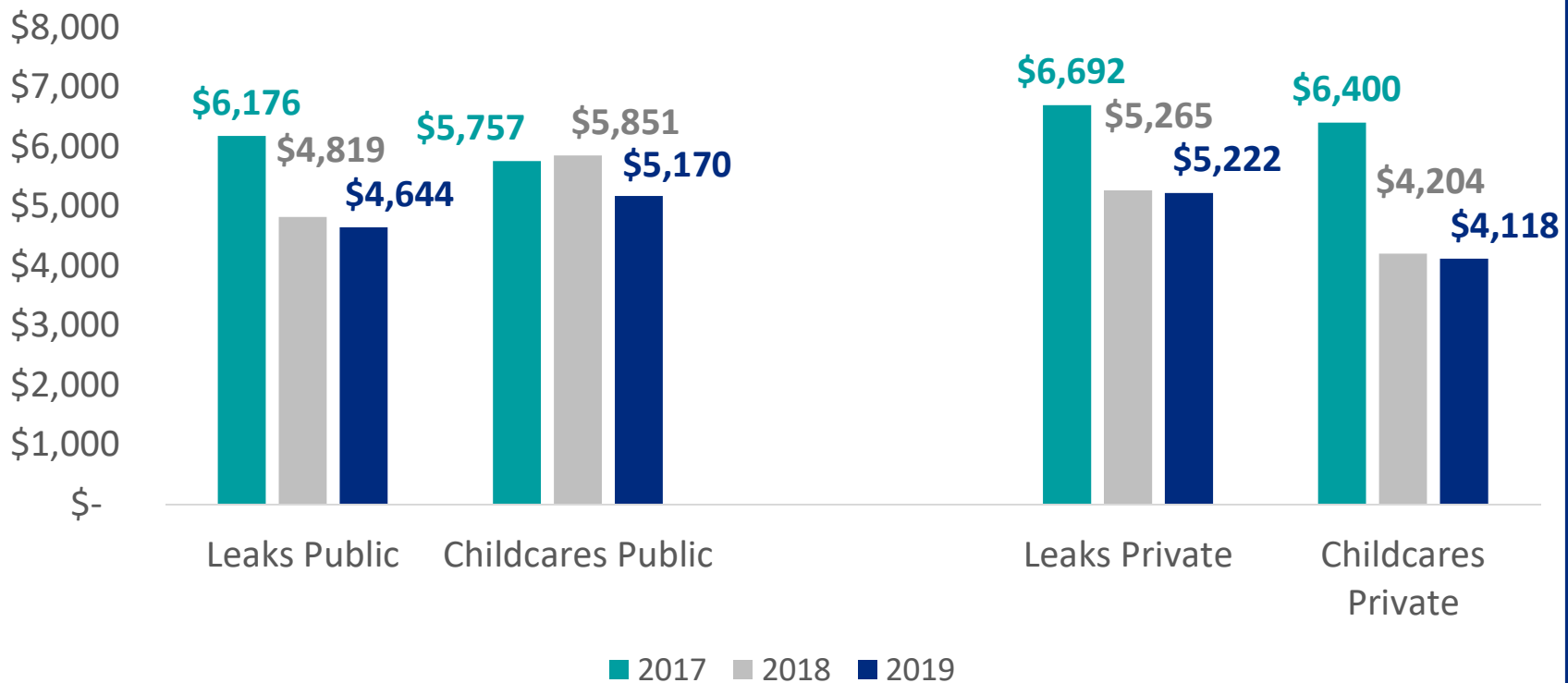


## Lead service line financial impact

- \$13.4M budgeted for 2020 (1100 LSLs goal)
- Cumulative \$25.5M since January 1, 2017
- Average full replacement cost as of December 31, 2019: \$10,783
  - Private Side: \$5,454
  - Public Side: \$5,329
- Cost share for eligible properties is updated to \$1,754 as of March 1, 2020

# Lead service line financial impact

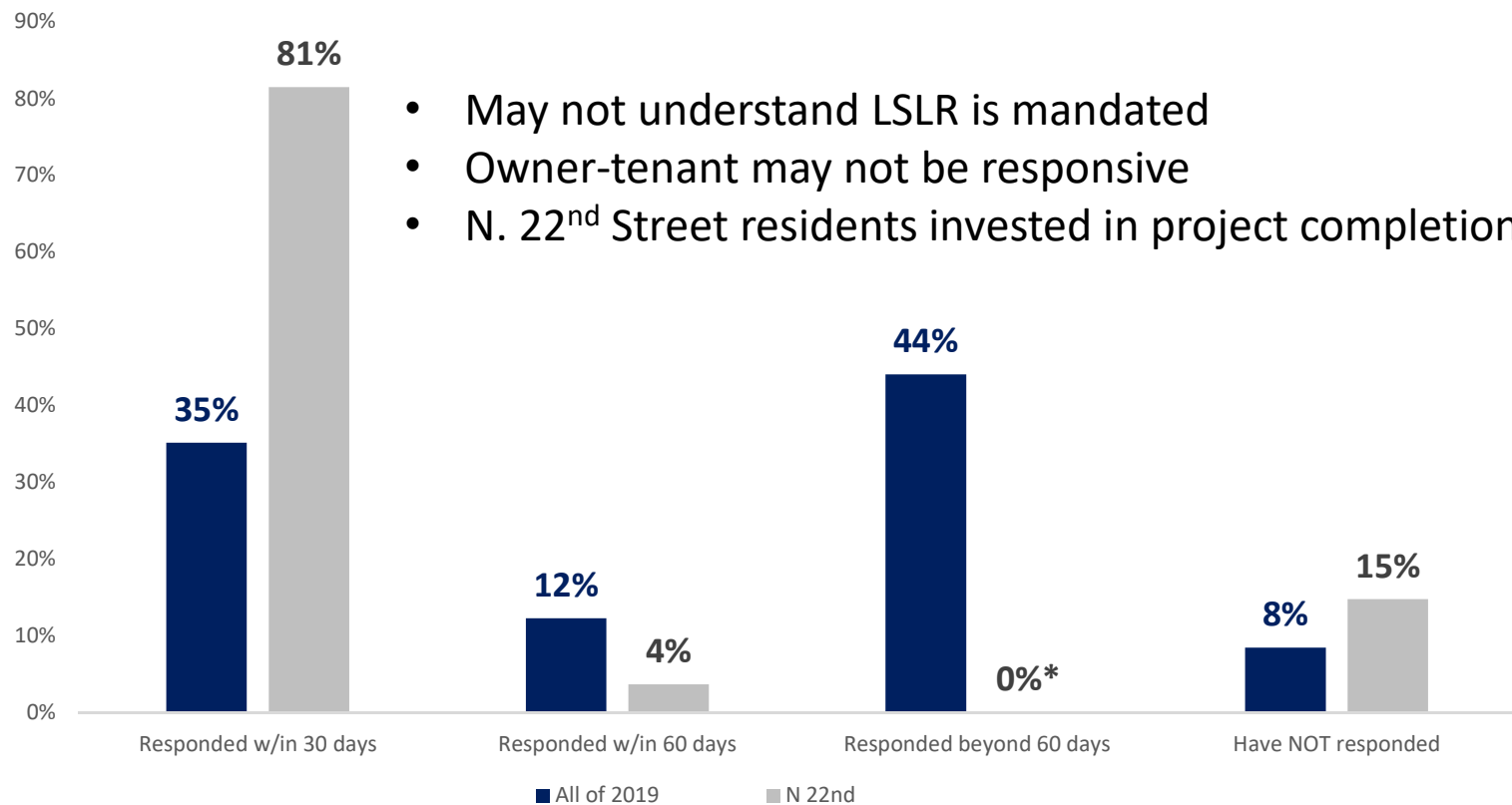
## Av. LSL Costs by Property Type (Public vs. Private)





# Re-evaluating Notification Procedures

## 2019 response vs. N. 22nd Street response

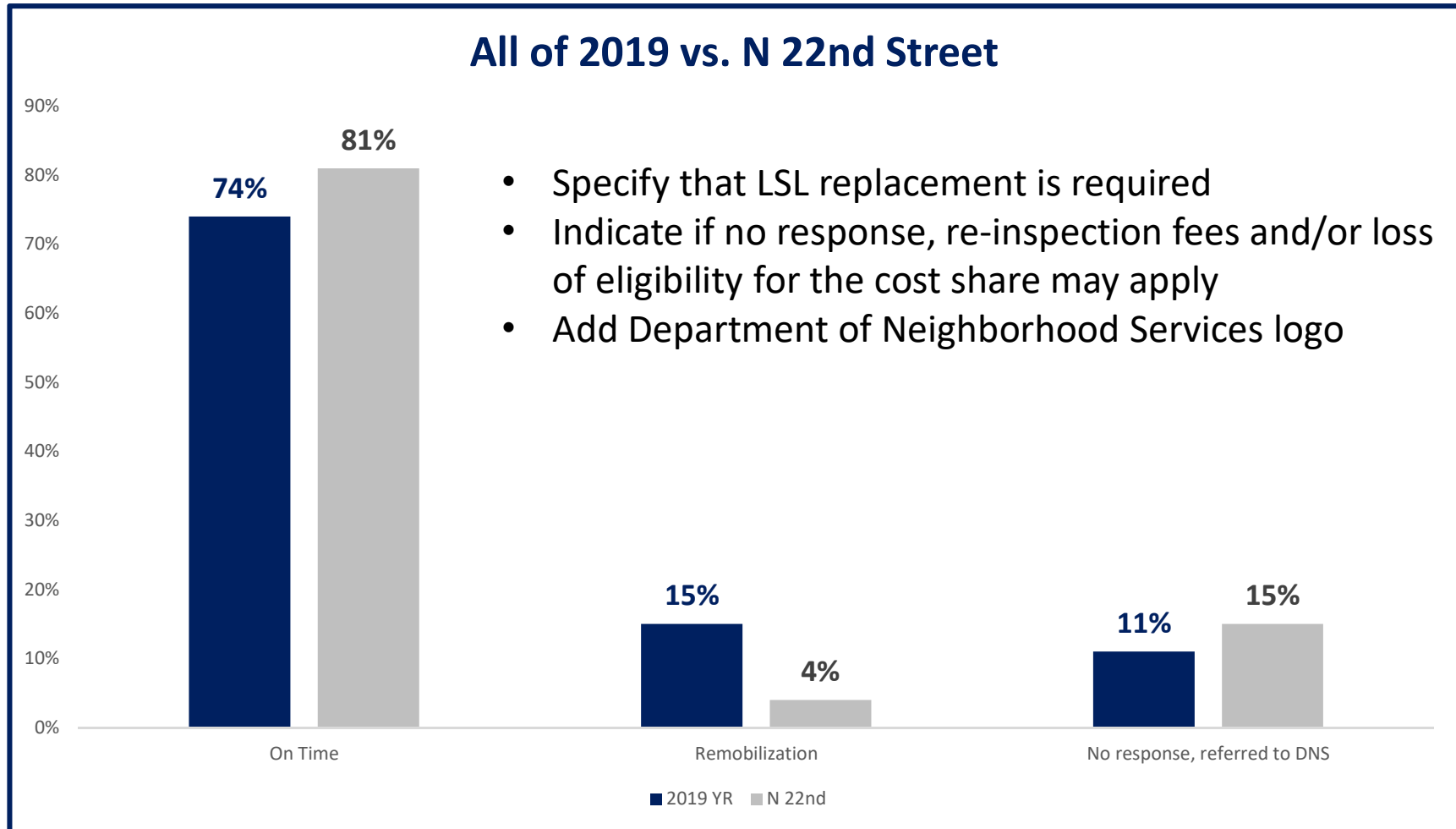


- May not understand LSLR is mandated
- Owner-tenant may not be responsive
- N. 22<sup>nd</sup> Street residents invested in project completion

\*Responses as of January 14<sup>th</sup>, 2020, 60 days had not passed from 22<sup>nd</sup> Street notification

# Re-evaluating Notification Procedures

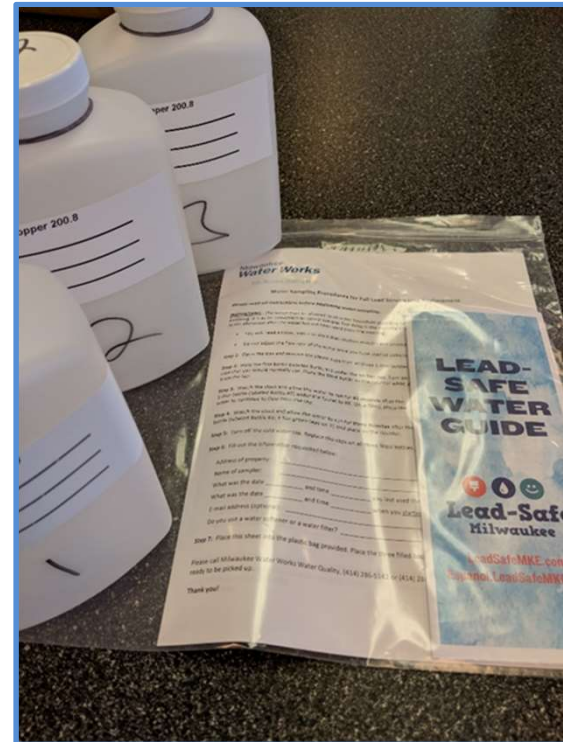
All of 2019 vs. N 22nd Street



- Specify that LSL replacement is required
- Indicate if no response, re-inspection fees and/or loss of eligibility for the cost share may apply
- Add Department of Neighborhood Services logo

# Lead and water testing

- Offered to all residents in LSLR program
- Use a 3-bottle kit
- Run by MWW WQ Section certified laboratory (faster results)
- Results sent directly to resident and/or property owner
- WQ follows up and provides additional resources if necessary

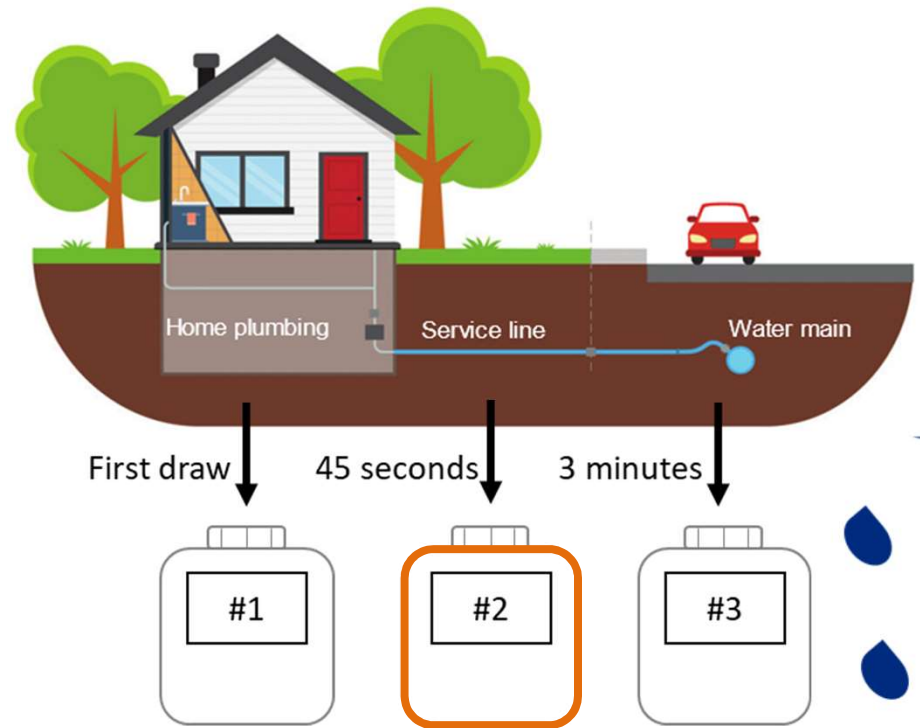


Participation in LSLR testing

Lead and Copper Kits	2017	2018	2019	Total
Pre-LSLR	69	72	26	167
Post-LSLR	28	37	10	75
Total Kits	118	128	76	322

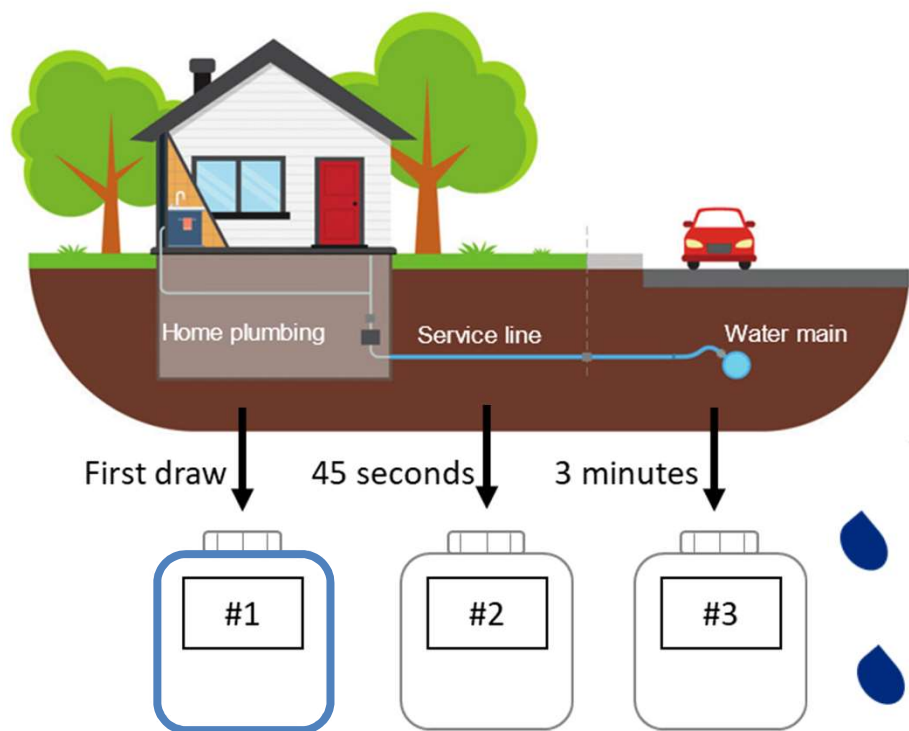
# Summary of LSLRs and water testing

- Significant reduction in lead between pre- and post-lead service line replacement
- Proper flushing is important to reduce the risk of high lead levels
- Residents are given filter pitchers certified to remove lead during and after construction



# Summary of LSLRs and water testing

- Overall, lead in water has decreased with the exception of first draw samples (internal plumbing)
  - Replace aged metal pipes, especially those with lead solder and older valves (e.g. brass)
  - Replace old faucets and fixtures
  - Flush properly when water hasn't been used for several hours
  - Remove aerators while flushing and clean the screens occasionally
  - Depending on water flow, flushing for a few minutes is all that is needed (the water will feel significantly colder)
  - Have your water tested



Thank you.