

Michigan Safe Drinking Water Act

(MSDWA)

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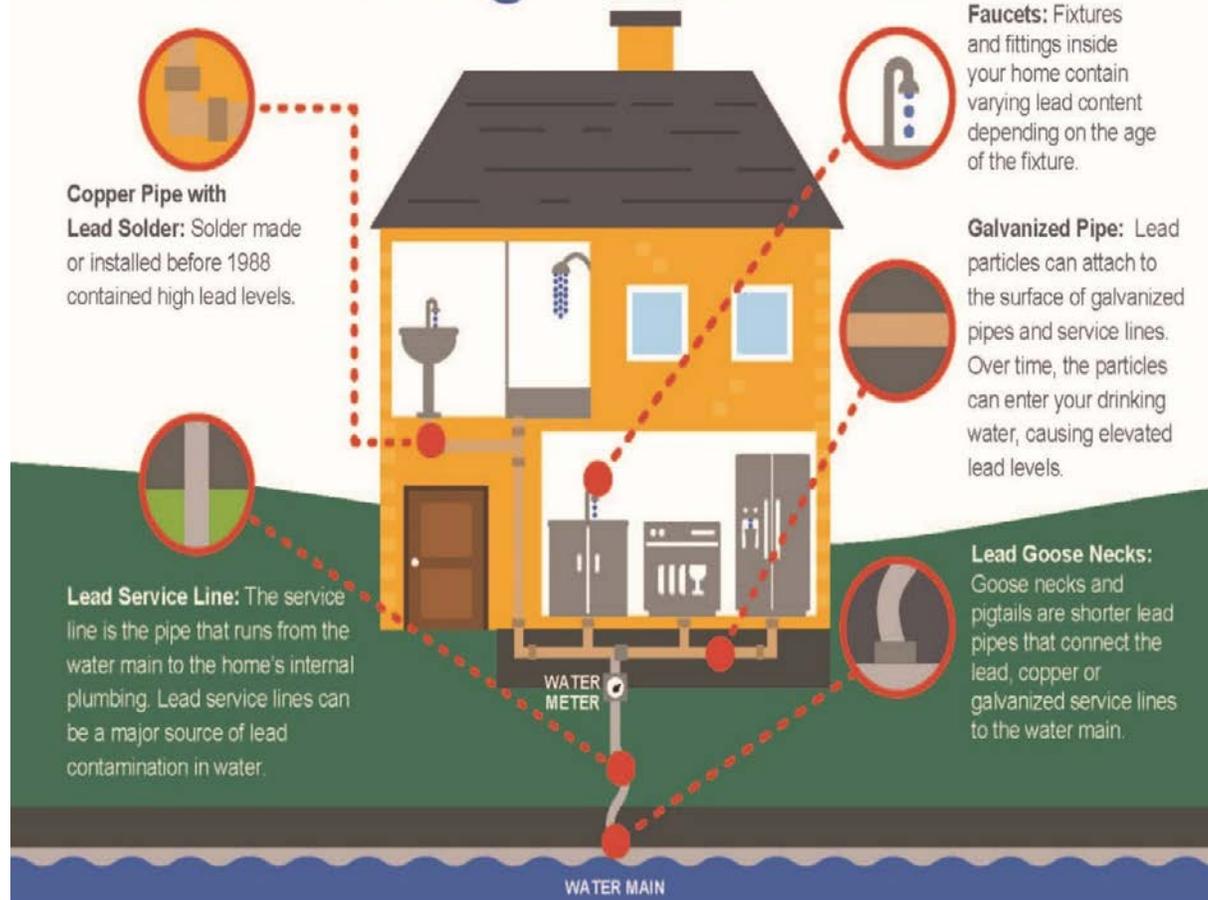
- ▶ Created as Public Act 399 of 1976
- ▶ Provides that the department (formerly MDEQ now EGLE) shall promulgate and enforce rules to carry out this act pursuant to the administrative procedures act of 1969, 1969 PA 306, MCL 24.201 to 24.328.
- ▶ New Lead and Copper Rules enacted in June 2018.

Lead and Copper Rule of 2018

The purpose of the Lead and Copper Rule (LCR) is to protect public health by minimizing lead and copper levels in drinking water. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials. The rule establishes action levels (AL) for lead and copper based on a 90th percentile level of tap water samples. **An action level exceedance is not a violation but triggers other requirements to minimize exposure to lead and copper in drinking water,** including water quality parameter monitoring, corrosion control treatment, source water monitoring/treatment, public education, and lead service line replacement. All community water supplies and nontransient noncommunity water supplies are subject to the LCR requirements.

CONCERNED ABOUT LEAD IN YOUR DRINKING WATER?

Sources of **LEAD** in Drinking Water



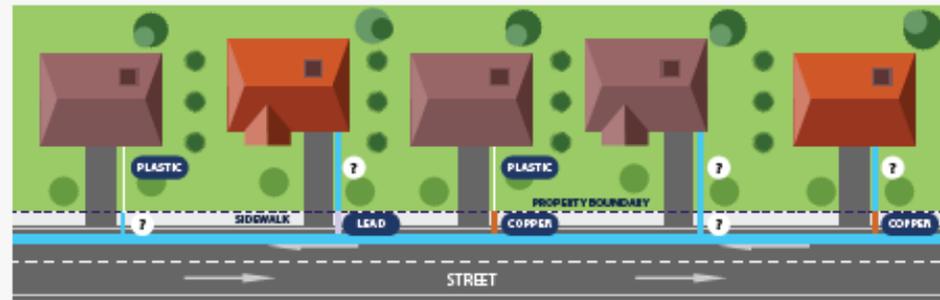
WHAT CHANGED WITH MICHIGAN'S 2018 LEAD AND COPPER RULE?

Prior to the adoption of the new Michigan Lead and Copper Rule in June 2018, Michigan's requirements were consistent with the federal Lead and Copper Rule. The new Michigan rule includes targeted changes that are detailed here.

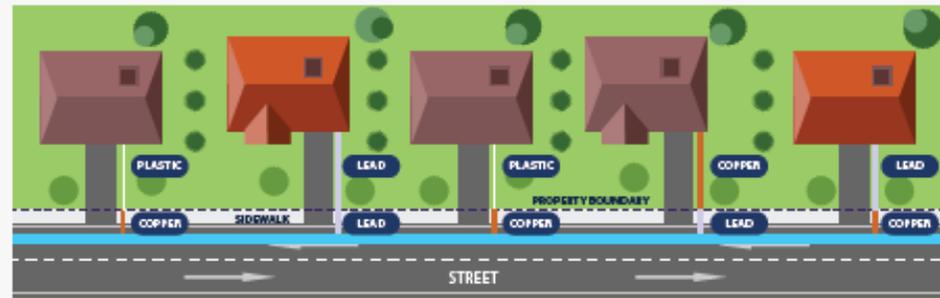
1

NEW REQUIREMENT: INVENTORY ALL SERVICE LINES

BEFORE



AFTER



WHAT'S NEW?

- Water supplies must create a distribution system materials inventory that identifies the material of all service lines including the portions on both public and private property.
- Water supplies must notify residents within 30 days if they live in a house with a lead service line.

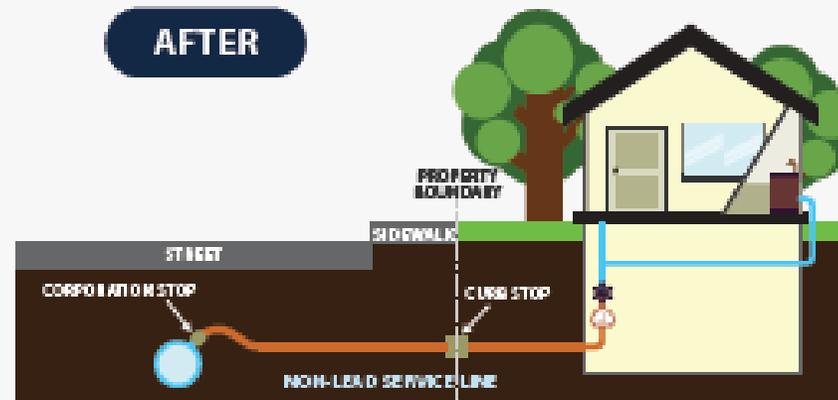
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NEW REQUIREMENT: COMPLETE LEAD SERVICE LINE REPLACEMENT

BEFORE



AFTER

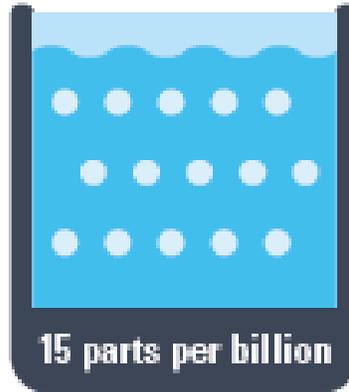


WHAT'S NEW?

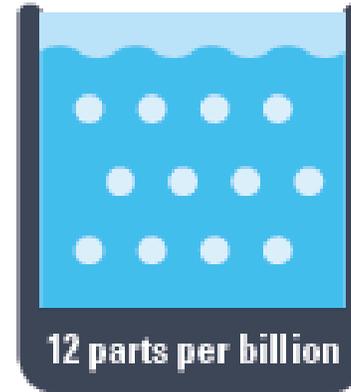
- Water supplies are required to replace all lead service lines by January 1, 2041, including portions on both public and private property. Removing only part of the lead service line is prohibited, unless emergency repairs are necessary.
- Galvanized service lines that are or were attached to a lead service line must also be replaced.
- A water supply can use a different replacement schedule based on the water supply's asset management plan if they receive permission from the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

3

TARGETED REVISION: LOWER LEAD ACTION LEVEL



BEFORE



AFTER

WHAT'S NEW?

- The lead action level will decrease from 15 ppb to 12 ppb on January 1, 2025.
- As in the federal Lead and Copper Rule, when a water system exceeds the lead action level, the water system is required to 1) send notices to all customers, 2) optimize corrosion control, and 3) increase the pace of lead service line replacement to 7% per year if appropriate corrosion control had already been in place.



Michigan Lead and Copper Rules
Lead and Copper Sample Site Selection Criteria
(per June 2018 rule revisions)

Community water supplies must identify a pool of lead and copper sampling sites containing AT LEAST the number of sites necessary to conduct standard sampling. The sampling pool must target high risk sites using the criteria below.

- **Samples must be collected from Tier 1 sites unless**
- insufficient Tier 1 sampling sites are available, then **Tier 2** sites must be used unless
- insufficient Tier 1 and Tier 2 sampling sites are available, then **Tier 3** sites must be used.
- If no Tier 1, 2, or 3 sites are available, sampling sites must be representative of plumbing materials typically found throughout the water system.

TIER 1 SITES – Single family residences with either:

- Lead service lines (LSL)*
- Interior lead plumbing

Multiple family residences (MFR) with LSLs or interior lead plumbing may be used as Tier 1 sites when MFR comprise at least 20 percent of the total service connections.

TIER 2 SITES – Other buildings or multiple family residences with either:

- Lead service lines*
- Interior lead plumbing

TIER 3 SITES – Single family residences with:

- Copper plumbing with lead solder installed before July 1988

OTHER SITES

- Sites representative of plumbing materials commonly found throughout the water supply

*** Priority should be placed on sites with full LSLs, followed by partial LSLs, followed by lead goosenecks or pigtails.**

Also Note:

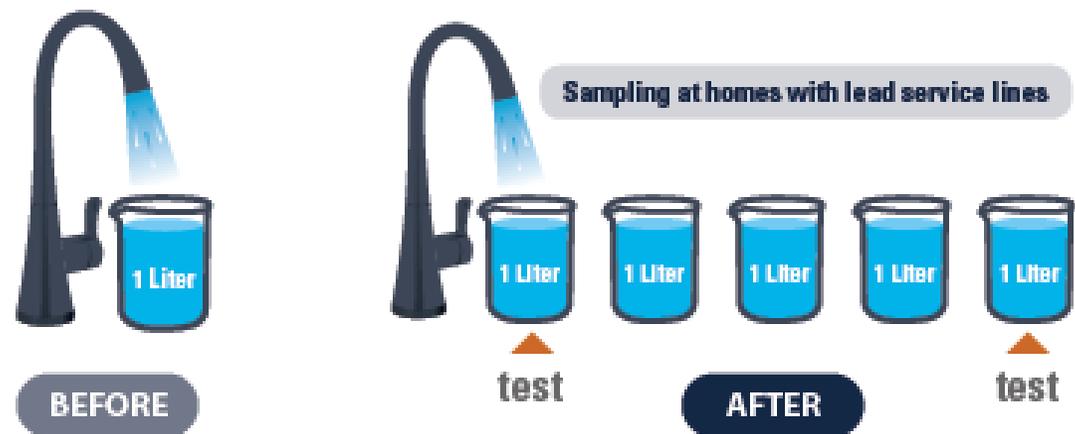
- Each round of sampling should be conducted at the same sampling sites. If an original sampling site is not available, collect a tap sample from another site meeting the same tier criteria as the original site and document the reason for the change.
- **DO NOT** sample from outside hose spigots or utility sinks. For residential sites, samples **MUST BE** collected from kitchen or bathroom taps typically used for consumption. For non-residential sites, samples **MUST BE** collected from taps typically used for consumption.
- Samples **MAY NOT** be taken from taps that have point of use or point of entry treatment devices designed to remove inorganic contaminants, such as a water softener.

Targeted Sample Sites

- ▶ Samples must be collected at sites with lead service lines or lead piping.
- ▶ If no lead service lines exist, collect samples from single family homes with copper piping and lead solder installed before July 1988.
- ▶ For systems with lead service lines there is a new sampling method.
 - ▶ First Draw of 1 liter
 - ▶ 2nd Draw of 5th liter
 - ▶ Must have a minimum of 6-hour water stagnation prior to testing
 - ▶ No pre-flushing
 - ▶ Do not remove aerator
 - ▶ Samples collected by residents
 - ▶ 90th percentile is based on highest result from each site and determine Action Level

4

TARGETED REVISION: NEW SAMPLING REQUIREMENTS AND METHODS



WHAT'S NEW?

- Water supplies must sample at buildings with lead service lines or lead pipes before sampling at buildings with other service line or plumbing materials.
- Before, water supplies were required to test only the first liter of water collected from a tap. Now, water supplies will test both the first and fifth liters of water collected from lead service line homes.

For more details, visit the University of Michigan Lead and Copper Rule Frequently Asked Questions page at myumi.ch/JgG1g

Calculating 90th Percentile Values

How to Calculate 90th Level

Step 1: Place lead or copper results in ascending order

Step 2: Assign each sample a number, 1 for lowest value

Step 3: Multiply the total number of samples by 0.9
Example: 10 samples x 0.9 = 9th sample

Step 4: Compare 90th percentile level to the Action Level

EXAMPLE 1: SYSTEM COLLECTS 10 SAMPLES (OR A MULTIPLE OF 10)

Calculating the 90th percentile is easiest when a supply collects 10 samples (or a multiple of 10). Multiples of 10 require no averaging or interpolation.

Step 1 & 2: Order results from lowest to highest and assign a number:

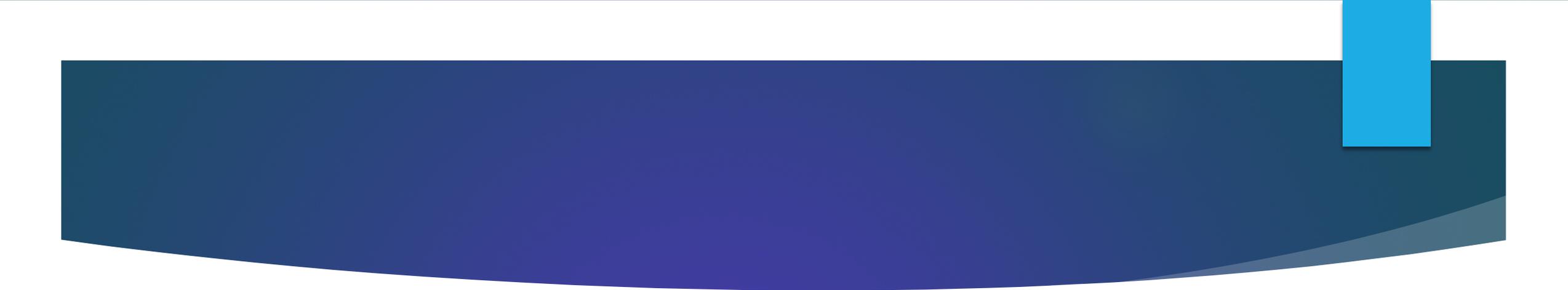
Result 1: 0.005 ppm
Result 2: 0.005 ppm
Result 3: 0.005 ppm
Result 4: 0.005 ppm
Result 5: 0.012 ppm
Result 6: 0.012 ppm
Result 7: 0.012 ppm
Result 8: 0.013 ppm
Result 9: 0.013 ppm
Result 10: 0.018 ppm

Step 3: Multiply number of samples by 0.9 to determine which sample represents the 90th percentile level:

10 samples x 0.9 = 9th result = 0.013 ppm

Step 4: Compare 90th percentile level to the Action Level.

0.013 ppm is less than 0.015 ppm (Action Level for lead). The system does not exceed the lead Action Level. The system must report their 90th percentile value, as well as, other monitoring information in their Consumer Confidence Report.



“This new sampling method is expected to result in higher lead results, not because the water quality for residents has changed, but because we have tightened our standards and are analyzing water in the residential service lines.”

Eric Oswald, Director

Drinking Water and Environmental Health Division

Michigan Department of Environment, Great Lakes and Energy

5

NEW REQUIREMENT: PUBLIC INVOLVEMENT

BEFORE



AFTER



WHAT'S NEW?

- A State Water System Advisory Council will advise the EGLE and local water supplies on lead in drinking water awareness campaigns, advise communities on action plans if lead action levels are exceeded, promote data and information transparency and management, and support all communities in Michigan on lead and other drinking water quality issues.
- Every water system with more than 50,000 customers must also have a local Water System Advisory Council that will advise the water system on community level needs such as accessing homes for lead service line replacement and data transparency.



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Michigan's Lead and Copper Rule

- ▶ First round of water testing under this new rule ended September 30, 2019. Current results now trigger new requirements.
- ▶ Other requirements under the new rule:
 - ▶ January 1, 2020 - Each municipality must have a **preliminary** inventory of all lead service lines in the community.
 - ▶ January 1, 2020 - Sampling pools must be reviewed and updated based on current inventory.
 - ▶ January 1, 2021 - Each municipal must have a plan to address 7% of all remaining lead service lines annually.
 - ▶ January 1, 2025 - Action Levels are reduced from 15 ppb to 12 ppb.
 - ▶ January 1, 2041 - Communities must have all lead service lines replaced.

Michigan's Lead and Copper Rule

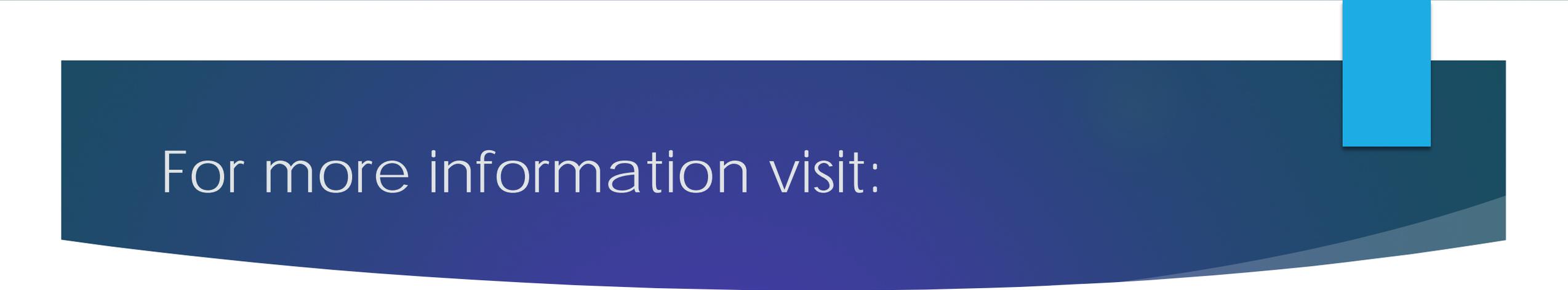
- ▶ Action Level is 15 parts per billion (ppb)
- ▶ Harper Woods 90th percentile is 20 ppb.
- ▶ Harper Woods tested 30 houses. 26 houses had confirmed lead service lines.
- ▶ Each house had two samples taken for a total of 60 samples.
- ▶ Of the 60 samples taken, 6 samples from 4 houses had 15 ppb or higher.
(20, 20.5, 21, 28.6, 42, 72)
 - ▶ [Demonstrates the need to flush service lines prior to use.]
- ▶ **The State Action Level of 15 ppb is not a health-based standard, but rather a level that triggers actions for additional testing and actions to promote education opportunities to reduce exposure.**

Harper Woods Inventory to date.

- ▶ The City has approximately 5,680 water customers.
- ▶ The City has evaluated the service line composition of approximately 1,900 customers to date. These efforts have identified 71 homes with lead service lines.
- ▶ This equates to 3.7% of the 1,900 homes evaluated.
- ▶ To schedule a water service line evaluation at your home please contact the City's Department of Public Works at 313-343-2570 between the hours of 7:30 am and 3:00 pm Monday through Friday.

Harper Woods Action Level Actions

- ▶ Distribute Public Advisory within 3 days of receiving test results.
 - ▶ The 4 homes with an Action Level exceedance were notified immediately.
 - ▶ All 30 testing sites were notified of results.
- ▶ Provide filters for high risk, low income households.
 - ▶ The Wayne County Public Health Division will be at the City of Harper Woods Library located at 19601 Harper on Monday October 21st and Tuesday October 22nd between 2:00 PM and 6:00 PM to provide one lead filter at no cost for those that qualify.
- ▶ Further public education materials will be provided in the coming weeks.



For more information visit:

www.harperwoodscity.org/lead-safety