



# Current and Future LCR Initiatives

April 19, 2022 | Cheryl Porter, COO Water & Field Services



## MI-LCR Dates to Remember

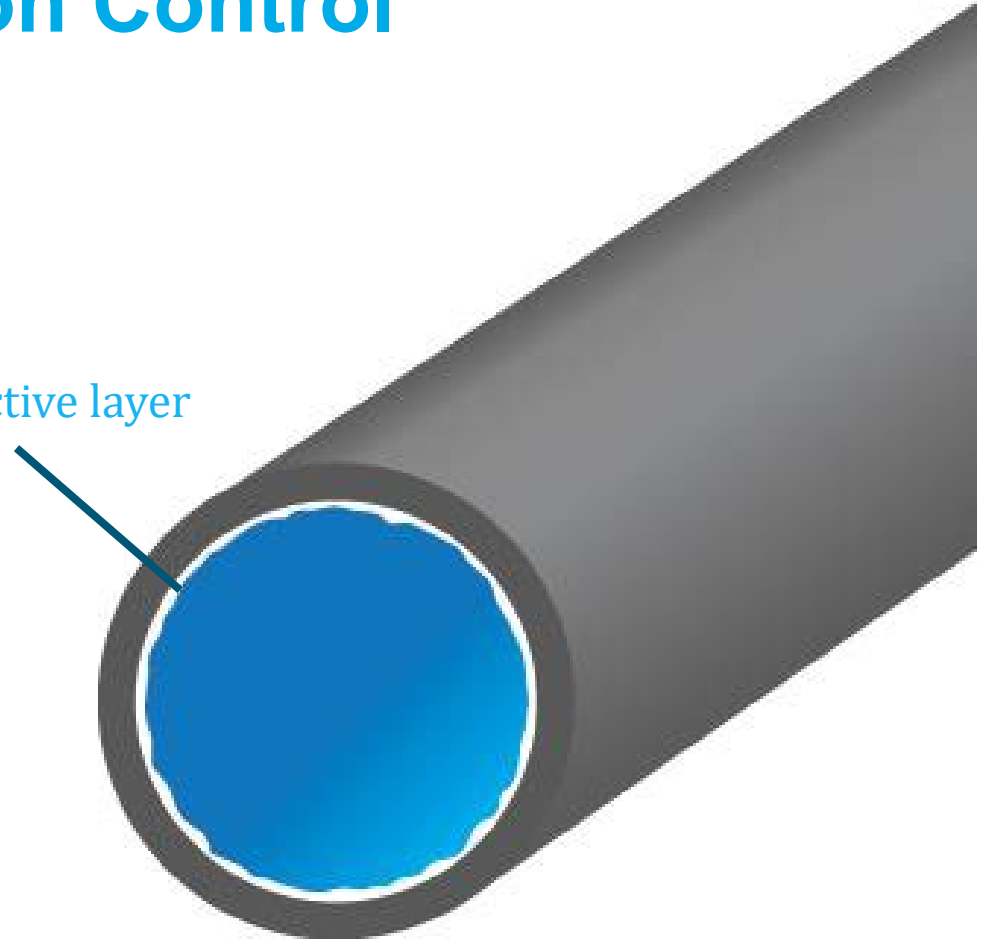
- ◆ Member Partner Lead Service Line Replacements are ongoing
- ◆ 90<sup>th</sup> percentile Lead Action Level change from 15 ppb to 12 ppb  
January 2025
- ◆ Complete Distribution System Materials Inventory due to EGLE  
January 1, 2025

**Federal Lead and Copper Rule Compliance  
GLWA has an optimized corrosion control program**

# Value of Corrosion Control

Forms a protective layer inside plumbing materials to prevent lead and other metals from dissolving into the water

protective layer





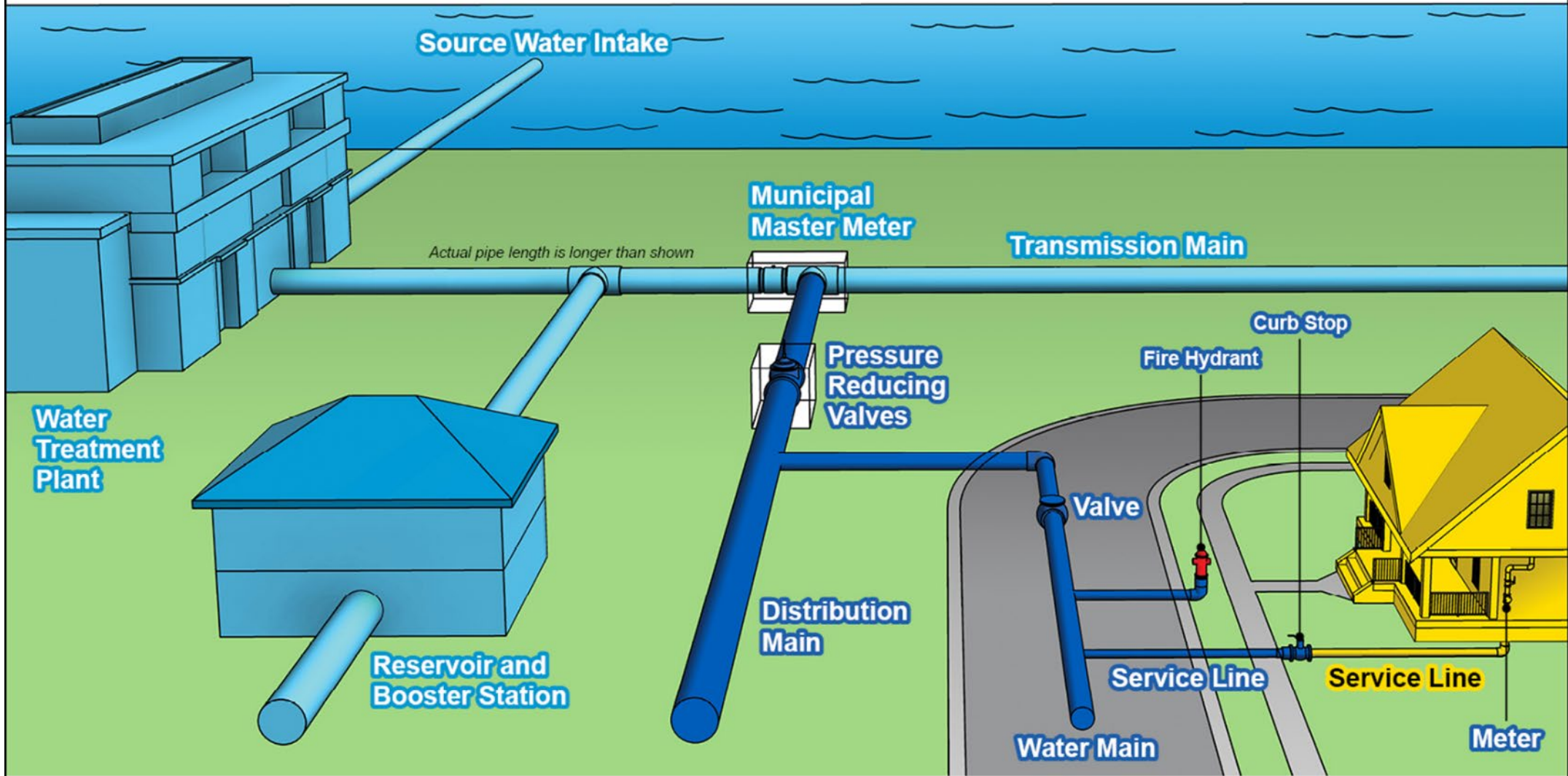
## GLWA's Corrosion Control Program

- Optimal dosing study conducted in the 1990's
- Requires maintaining pH levels and orthophosphate dosage at treatment tap
- Orthophosphate level is regularly monitored. Meter accuracy is verified every 8 hours.

## GLWA's Water Quality Parameters

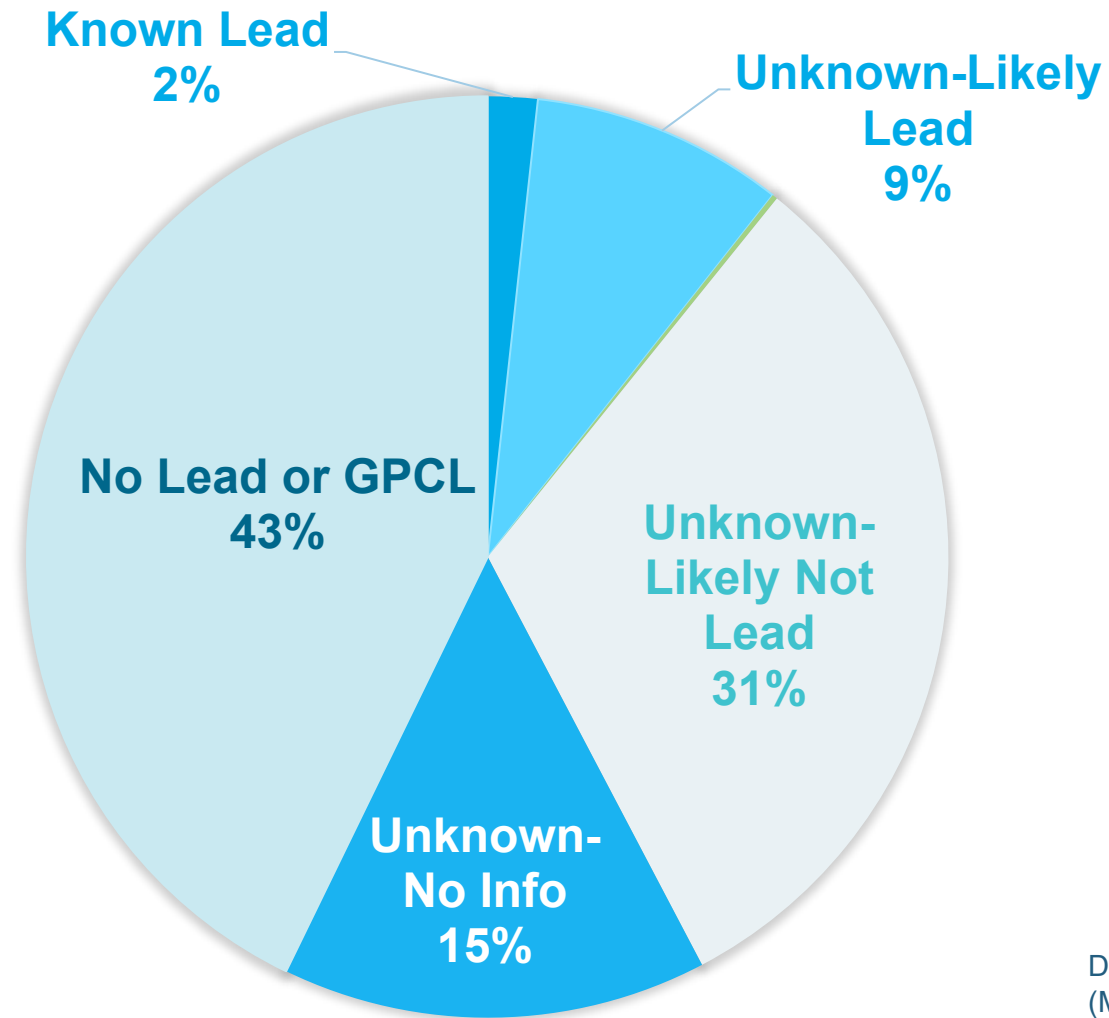
	Original Corrosion Control Study Recommendations	GLWA Water Quality Parameter Goal @ Plant
<b>pH</b>	7.2 – 7.6 Range for orthophosphate effectiveness	$\geq 7.0$
<b>Orthophosphate Residual</b>	1.2 mg/L as PO <sub>4</sub>	$\geq 0.8$ mg/L as PO <sub>4</sub>
<b>Chlorine Residual</b>	Higher residuals (at or above 1.0 mg/L) promotes the stability of protective layer	$\geq 1.0$ mg/L

# Our water system is a shared responsibility.



- Great Lakes Water Authority
- Municipality
- Property Owner

# Member Partner Service Line Materials



DSMI Data from EGLE website  
(March, 2020)



# Corrosion Control Study

# GLWA's Optimization Study

Proactive Study



Voluntarily Initiated  
and Funded by GLWA



Confirm Water Quality  
is Optimized



Findings are specific to  
GLWA water and Member  
Partner pipes

Study is *ongoing*



## Harvesting Partners

- ◆ Oakland County WRC
- ◆ Southeastern Oakland County Water Authority
- ◆ Hazel park
- ◆ Detroit
- ◆ Royal Oak
- ◆ Birmingham
- ◆ Warren
- ◆ Ypsilanti
- ◆ Southgate
- ◆ Melvindale
- ◆ Farmington
- ◆ Plymouth
- ◆ Pontiac

*Thank you*

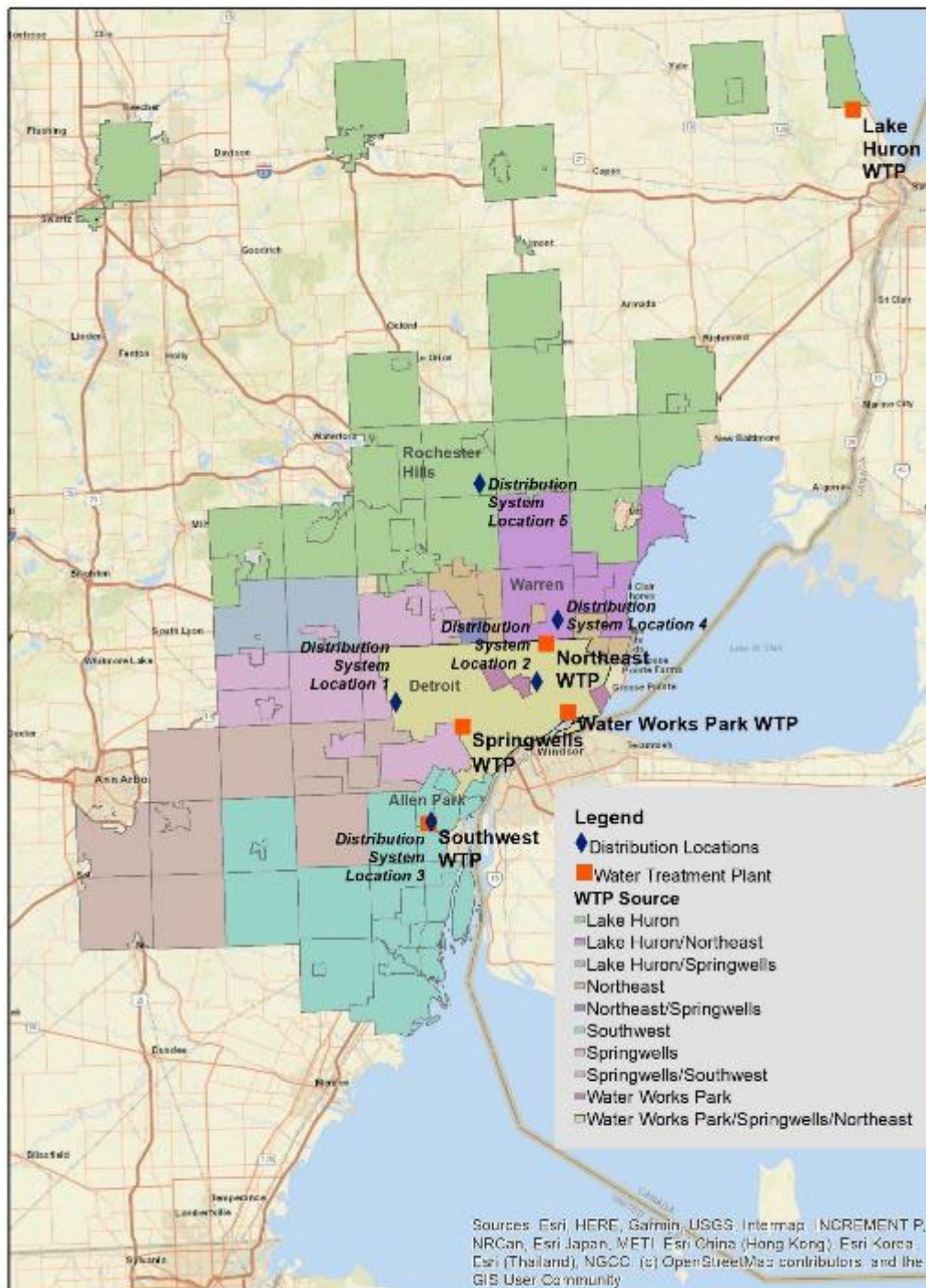
# 10 Pipe Rig Locations

## Water Treatment Plants

- Water Works Park WTP
- Lake Huron WTP
- Springwells WTP
- Southwest WTP
- Northeast WTP

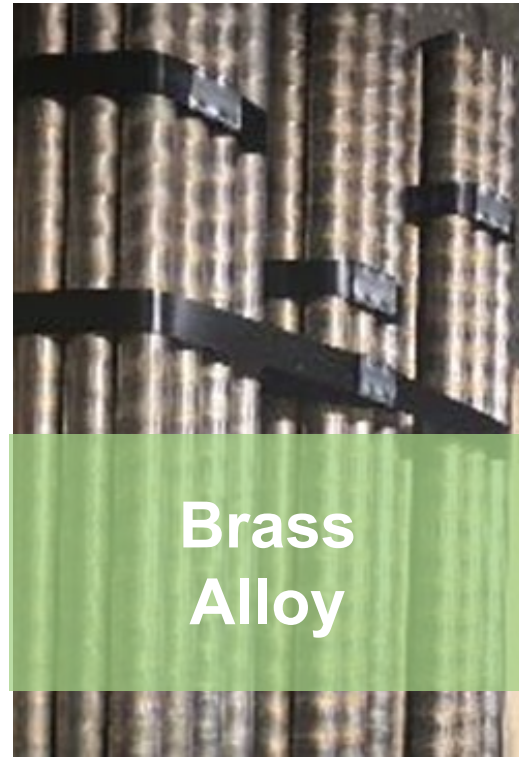
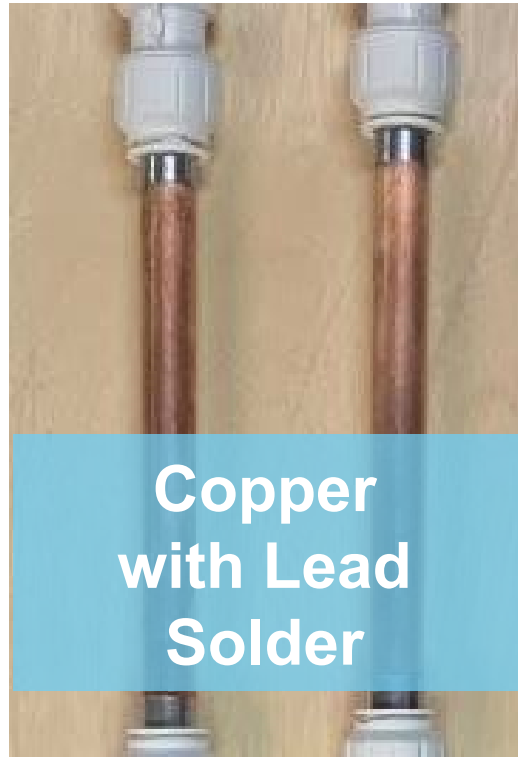
## Distribution Locations

- Allen Park
- Detroit (CSF)
- Detroit (West Yard)
- Rochester Hills
- Warren



# Pipe Test Materials

Harvested and New



# Water Treatment Plant Rigs



Lake Huron WTP



Southwest WTP



Northeast WTP



Springwells WTP



Water Works Park WTP

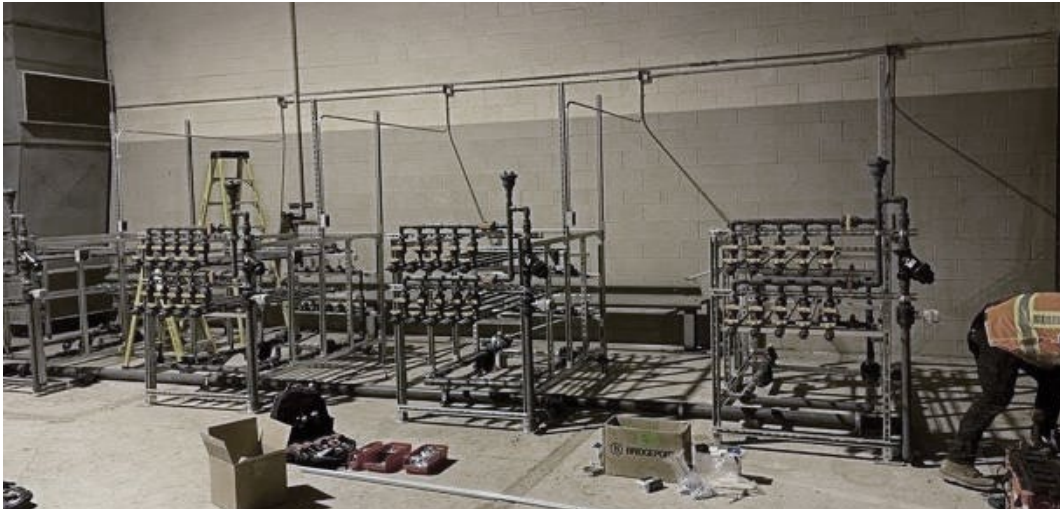
# Distribution System Rigs



Allen Park



West Yard



Central Services Facility



Rochester Hills

# Study Parameters

Varying Conditions



Increased  
orthophosphate dose



pH changes



Chlorine Residuals

*Modified conditions will be compared to the control rig.*



# Corrosion Control Study Timeline

**Jan. – Feb. 2022**

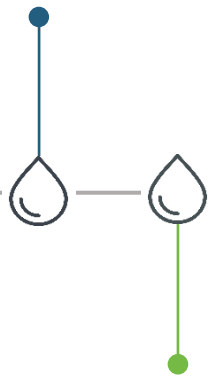
Complete Remaining Rig  
Fabrication and Installation

**March – July 2022**

Begin Conditioning

**May–Nov. 2023**

Final Report and  
Recommendations



Determine CCT Strategies for  
Test Conditions

**Jan. 2022**



Begin Testing

**Aug. 2022**



# AWWA Regional Membership

## AWWA Regional Membership

- ◆ Member Partners are eligible for Utility Membership
- ◆ Member Partner employees are eligible for Individual Membership
- ◆ Learn more at [awwa.org/GLWA](http://awwa.org/GLWA)



### Boost Your Water Career With Help from AWWA

The **Great Lakes Water Authority** has partnered with AWWA to offer **FREE** membership to employees of all GLWA member utilities, through June 2023.

**Join AWWA today, for FREE!**  
[awwa.org/GLWA](http://awwa.org/GLWA)



#### Earn CECs

Earn Continuing Education Credits for Michigan Section and selected AWWA courses, trainings, and other learning experiences. Credits count toward earning or renewing your license. Also, the Section and AWWA offer a broad range of online and in-person education & training, which members can access at a discount.



#### Join Our Community

You'll automatically become a member of AWWA's highly engaged and active Michigan Section. Get Michigan water news through the Section newsletter, Michigan Water Works News. Meet local peers and mentors at in-person and online events. Attend sessions focused on Michigan water issues.



#### Stay Current

Joining AWWA via GLWA gives you FREE access to all AWWA Standards. You'll also get free subscriptions to AWWA magazines: *Journal AWWA*, *Opflow* and *AWWA Water Science*. Plus, you'll receive special legislative and regulatory updates, and discounts on all AWWA and Michigan Section conferences.

# AWWA Public Education Toolkits

*Communications Toolkits – an opportunity for common messaging.*

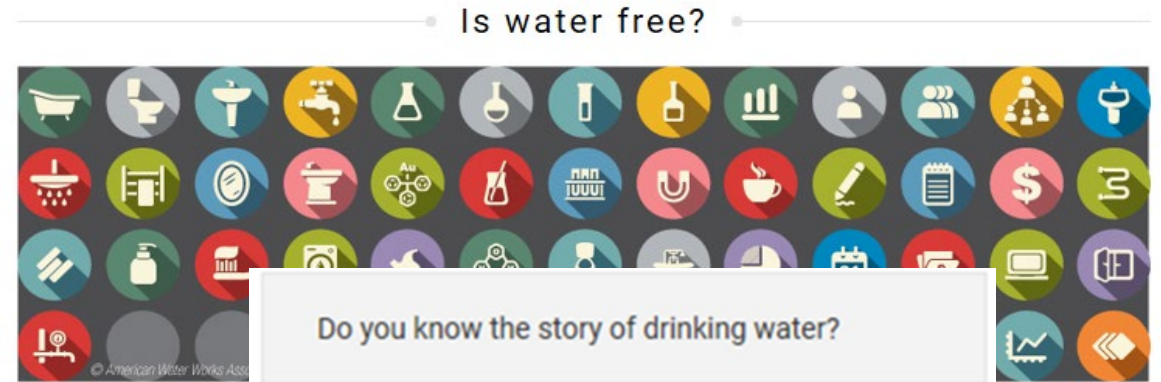


## AWWA Educational Materials

Link your Public Works website to [www.Drinktap.org](http://www.Drinktap.org)

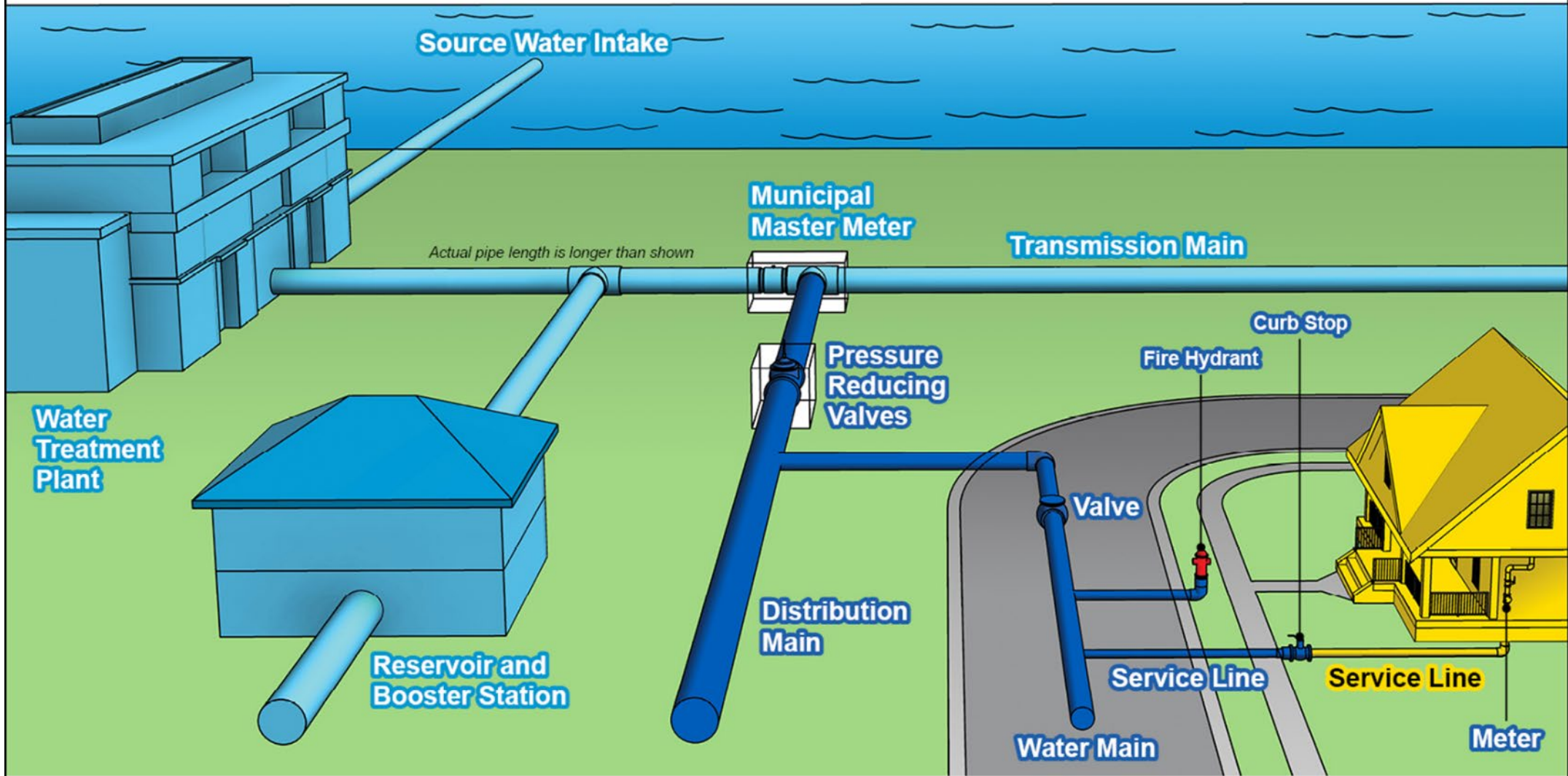
### AWWA Standards and Industry Best Practices

- Distribution System Flushing
- Utility Management



**Water Quality is a Shared Responsibility**

# Our water system is a shared responsibility.



- Great Lakes Water Authority
- Municipality
- Property Owner

## Water Quality Actions

- Maintain residual of 1.2 mg/L at plant tap
- If distribution system monitoring indicates an excursion in pH or ortho-phosphate; resampling at site and at member partner meter pit.
- GLWA Member Partners must maintain an active water main flushing program
- Communicate with residents on the importance of flushing



## 2. How do I determine what material my service line is made of?

Service lines can be made of galvanized steel, lead, copper, or plastic. Local construction practices and ordinances impacted the type of pipe material used in communities at specific times. Local ordinances in the Detroit area began prohibiting the use of lead pipe in plumbing codes as early as 1947. Some communities used a small connector pipe made of lead, commonly called a gooseneck, to connect a galvanized steel service line to the water main. The presence of a lead gooseneck cannot be determined by examining plumbing in your home. If you are unsure about the type of service line at your home, contact your local municipality.

Two simple tests can be performed using a screwdriver and a magnet to help determine the service line material entering your home. Locate where the service line comes through the floor or wall into your home (see bottom right picture). This should be near your main water shutoff valve and water meter.

If you have a metal pipe below the first shutoff valve, use the flat edge of a screwdriver to carefully scratch through any corrosion that may have built up on the outside of the pipe. Place a magnet on the scratched area. If the magnet sticks to the pipe, it is galvanized steel. If the magnet does not stick and the scraped area is:

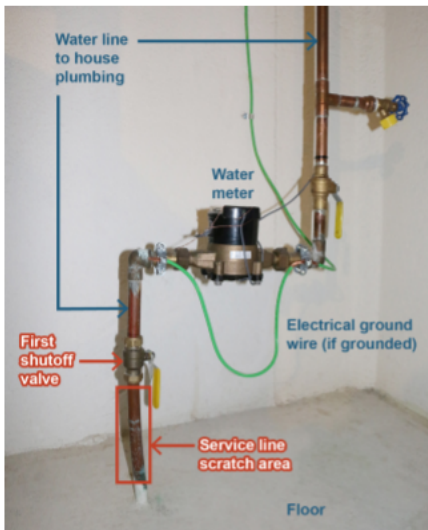
- shiny, silver in color, and looks like a nickel, the pipe is made of lead.
- copper in color and looks like a penny, the pipe is made of copper.

If the pipe feels like plastic, is white or gray in color, and joined with a clamp, glued or screwed together, it is plastic and no further tests are required.

## 3. How can I tell if my plumbing fixtures have lead or lead solder in them?

If your home was built before 1986, your home's plumbing likely contains faucets and pipes with some lead content and lead solder. Brass and chrome-plated brass faucets and fittings contain some lead. Brass fixtures and copper pipes can be joined with lead solder. From 1986 to 2014, brass faucets and fittings sold in the US that were labeled as "lead free" could contain up to 8% lead. In January 2014, the Reduction of Lead in Drinking Water Act redefined "lead free" as "not more than a weighted average of 0.25% lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures."

### PIPE MATERIALS USED IN SERVICE LINES



Identify a test area on the pipe between where the service line comes into the home (typically the floor) and the first shutoff valve. If the pipe is covered or wrapped, expose a small area of metal. Follow instructions in response to Question 2 to determine the pipe material.

*NOTE: The piping above the shutoff valve, known as the water line to house plumbing, should not be tested as it is likely made of a different material than the service line.*

# GLWA Resources for Residents

- Sources of Lead and Copper and Health Effects
- Corrosion Control and Water Testing
- Drinking Water Quality in the Home
- Water Heater Flushing
- Service Lines and Plumbing Fixtures

