



*A Service of The City of Cincinnati*

**GREATER CINCINNATI  
WATER WORKS**

# **Lead Service Line Replacement Program**

## **Healthy Neighborhoods Committee**

*February 6, 2024*

**Cathy B. Bailey, Executive Director**





A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

## Risks from Lead

- Lead was a common plumbing material used throughout the nation in pipes and fixtures in early 1900s
- Potential to enter drinking water as plumbing material corrodes
- Primary risk of lead exposure in drinking water is from the service line, if made of lead







A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# Effects of Lead Exposure

- Prenatal and early childhood exposure to lead can disrupt the natural developmental process
- Pregnant women and children under age six are most vulnerable

## Symptoms In Newborns



- Born prematurely
- Low birth weight
- Slowed growth

## Symptoms In Children



- Development delays
- Irritability
- Loss of appetite
- Weight loss
- Fatigue
- Nausea
- Hearing loss
- Seizures

## Symptoms in Adults



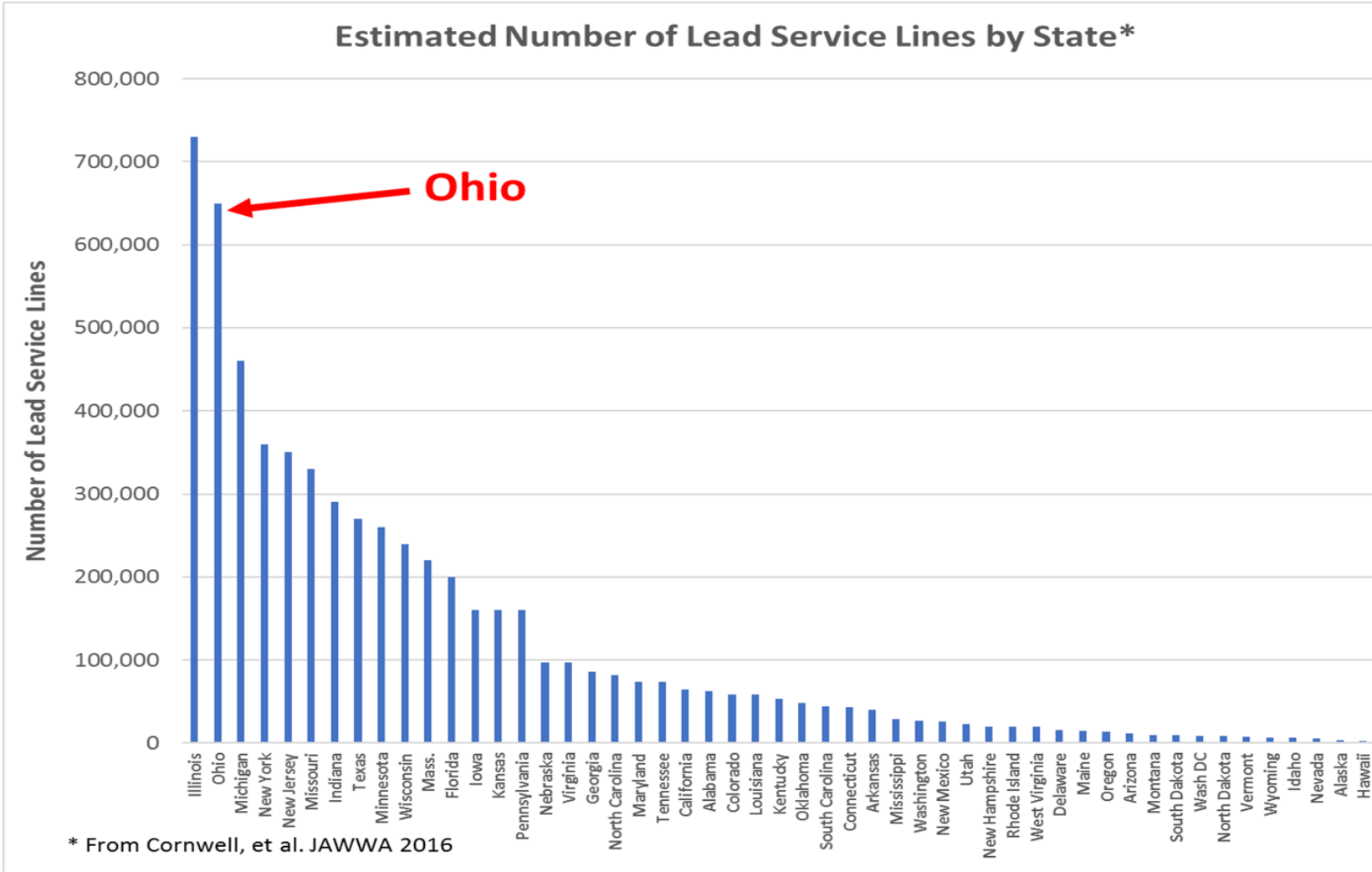
- High blood pressure
- Joint and muscle pain
- Headaches
- Abdominal pain
- Mood disorder
- Reduced sperm count
- Miscarriage or premature birth



A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# Estimated Lead Lines by State



US Lead Service  
Line Estimate:  
6.1M\*

\* From Cornwell, et al. JAWWA 2016



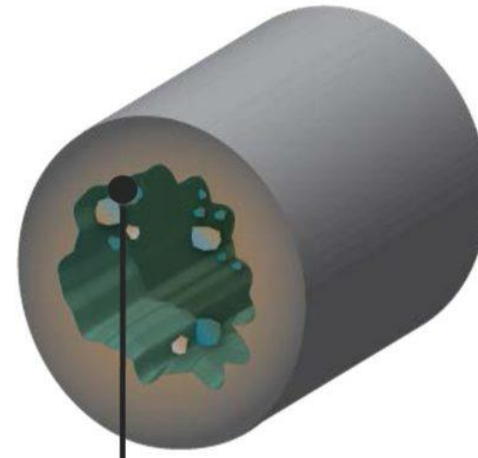
A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

## How does GCWW control lead in Water?



A protective layer of **Orthophosphate** forms to prevent pipe corrosion.



Lack of corrosion control allows lead to leach from pipes into water.

***\*\*However, only 100% safe option is removal of all lead***



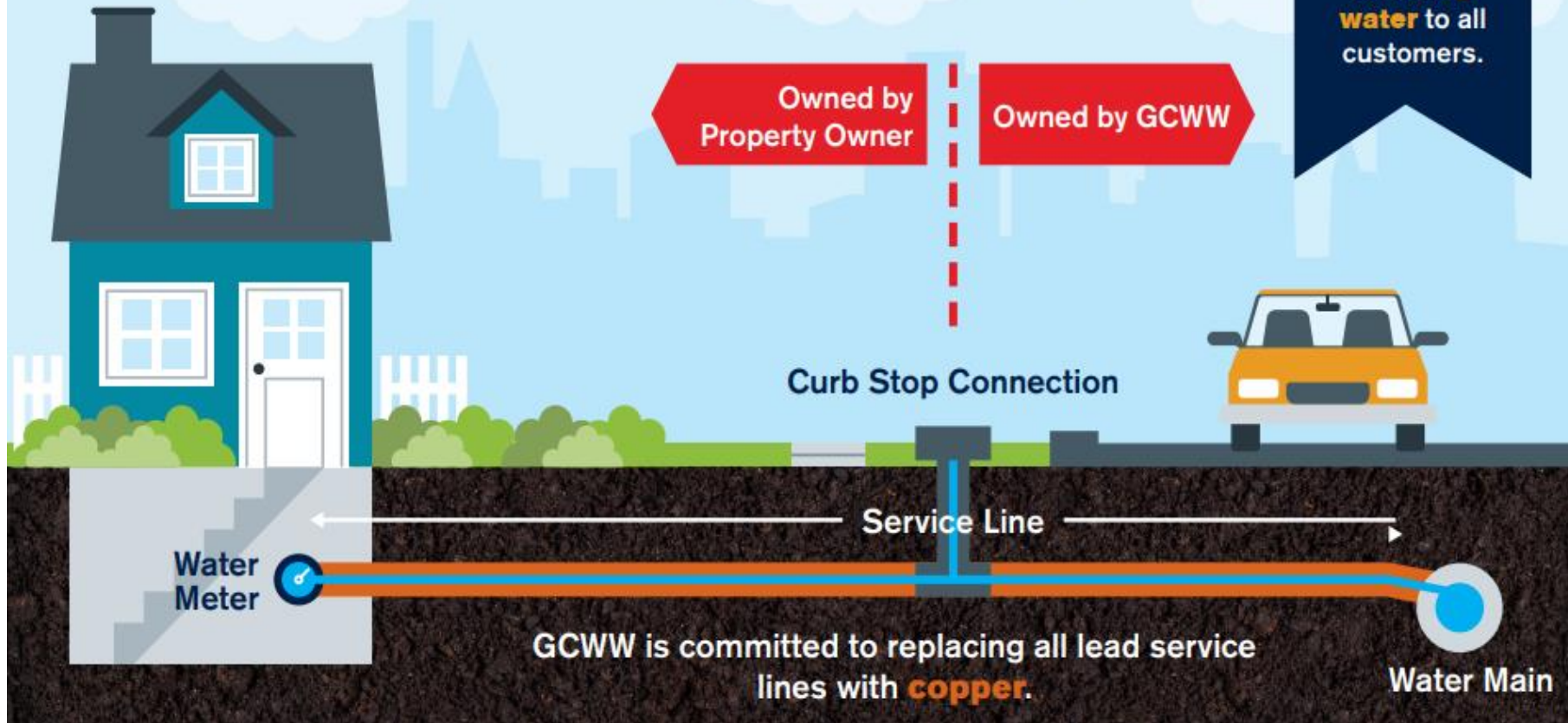


A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# Ownership of Service Line

## Greater Cincinnati Water Works (GCWW) Lead Service Line Replacement Program



GCWW is committed to replacing all lead service lines with **copper**.





A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# Evolution of Cincinnati's Lead Program

- In 2016, City Council passed ordinances to replace an estimated 44,000 (public and private) lead service lines in GCWW's system
- GCWW increased public education and outreach
- Began offering cost-sharing replacement program; GCWW paid 40% of cost (up to \$1,500); property assessment for remaining balance
- More assistance available for eligible low-income customers; paid for 50% of cost





A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

## Early focus on schools and childcare facilities

- More than 100 schools have participated in sampling (public and private)
- Sampling has also included Recreation Centers
- Grant from State of Ohio to replace lines at childcare facilities
- Funded 100% of replacement cost for licensed childcare facilities





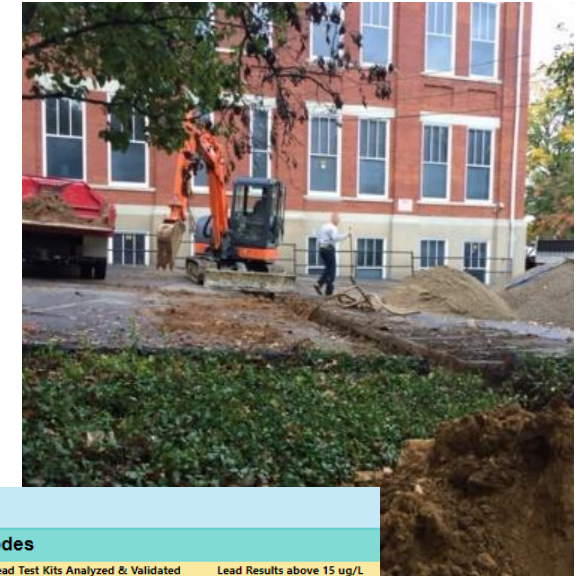
# School Lead Testing Program



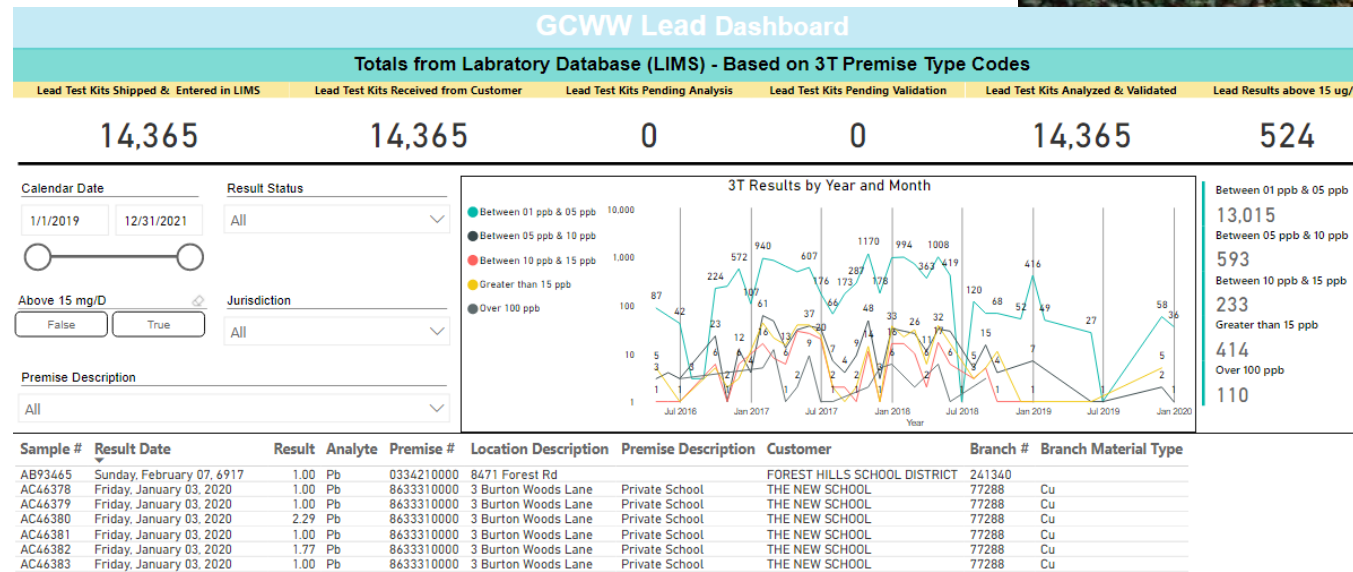
A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

- Partnership with Cincinnati Health Department and Hamilton County Public Health
- Partnership with schools, public and private
- Voluntarily participate in program



We commend schools for partnering with us to understand the water quality in their facilities





A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# What happened next to join program?

- Customers signed up for replacements where Water Main Replacement Projects were occurring
- Customers could request a “one-off” replacement, done on a case-by-case basis
- Program is voluntary, and enrollment requires owner's signature on replacement contract
- After a few years, GCWW had **an average participation rate of about 35%**







A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# Growing the Program

- In December 2021, City Council approved changes to pay for full replacement cost
- Despite the changes, **average participation rate only increased to about 50%**



## Why?

- \*\*Voluntary nature of program
- \*\*Fears that work will disrupt property
- \*\*Mistrust of government, what will it cost me later?
- \*\*“If water is safe, why replace?”



A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# Phase 1: 2016-2022 Accomplishments

- Outreach/free testing/website/meetings
- On-line searchable lead map
- Almost 12,000 free lead tests analyzed for customers
- Over 14,000 lead tests performed for schools/childcares
- Approximately 5000 private lines replaced
- \$750,000 H2Ohio Grant for free child-care replacements
- 11 contractor/plumbing removal partners
- Cost per LSL replaced decreased substantially
- Started with approx. 44,000, currently around 36,000 to replace
- More understanding of service lines/materials on both sides







A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# Annual Replacements



## Lead Service Line Dashboard

Data provided from GIS

City

 INSIDE OF CITY
  OUTSIDE OF CITY

Fis

	Lead Branch		
	FY Desc	CITY FY Range	INSIDE OF CITY Private   Public
Public Only <b>57</b>			1
Private Only <b>22,137</b>	FY2016	1/2/2016 - 6/30/2016	29   174
	FY2017	7/1/2016 - 6/30/2017	101   301
	FY2018	7/1/2017 - 6/30/2018	160   240
	FY2019	7/1/2018 - 6/30/2019	459   496
	FY2020	7/1/2019 - 6/30/2020	802   953
	FY2021	7/1/2020 - 6/30/2021	695   766
	FY2022	7/1/2021 - 6/30/2022	1008   892
	FY2023	7/1/2022 - 6/30/2023	877   614
	FY2024	7/1/2023 - 1/2/2024	424   274
	Full Service Line <b>10,168</b>		
Totals <b>32,362</b>			
Unknown Total <b>9</b>			

	FY	FY2016	FY2017
CITY	Designation	1/2/2016-6/30/2016	7/1/2016-6/30/2017
INSIDE OF CITY	Private		29
	Public		174



## Lead Service Line Dashboard

Data provided from GIS

City

 INSIDE OF CITY
  OUTSIDE OF CITY

	Lead Branch		
	FY Desc	CITY FY Range	OUTSIDE OF CITY Private   Public
Public Only <b>5</b>			
Private Only <b>2,965</b>	FY2016	1/2/2016 - 6/30/2016	3   23
	FY2017	7/1/2016 - 6/30/2017	15   112
	FY2018	7/1/2017 - 6/30/2018	20   46
	FY2019	7/1/2018 - 6/30/2019	98   104
	FY2020	7/1/2019 - 6/30/2020	104   105
	FY2021	7/1/2020 - 6/30/2021	143   156
	FY2022	7/1/2021 - 6/30/2022	70   16
	FY2023	7/1/2022 - 6/30/2023	109   114
	FY2024	7/1/2023 - 1/2/2024	30   11
	Full Service Line <b>1,137</b>		
Totals <b>4,107</b>			
Unknown Total <b>78</b>			

	FY	FY2016	FY2017
CITY	Designation	1/2/2016-6/30/2016	7/1/2016-6/30/2017
OUTSIDE OF CITY	Private		3
	Public		23



A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# USEPA-Changes are Coming

## USEPA making changes to “Lead and Copper Rule”

- Changes coming in October 2024; take effect in October 2027
- Must reduce # of “unknown” material service lines
- More outreach to customers
- Study impact of new treatment
- Stricter lead level standards may trigger mandatory replacement







A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# Increasing Number of Replacements

- Changing standards for lead levels may trigger mandatory **replacement of 3% of lead lines annually (1,100 lines per year)**
- Proposal under review could change that number to **replacement of 10% of lead lines annually (3,700 lines per year)**
- Biden Administration has **proposed removal of all lead lines within 10 years (2027-2037)**





A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# We need your help

- **Rental Properties** – Landlords reluctant to sign up; consider making mandatory
- **Procurement & Contracting** – Innovation needed to ensure smaller plumbing firms, particularly MBEs and WBEs, are part of the solution
- **Getting the Word Out** – Help GCWW publicize sign-ups in specific neighborhoods via social media & community events







A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# What Residents can do Now

## *Test, Filter, Flush...and Replace When We're in Your Area!*

- Learn if you have a lead service line ([lead.mygcww.org](http://lead.mygcww.org))
- Sign up for **free testing**
- **Flush your water** if service unused for more than 6 hours
- **Get your lead service line replaced when offered in your area**

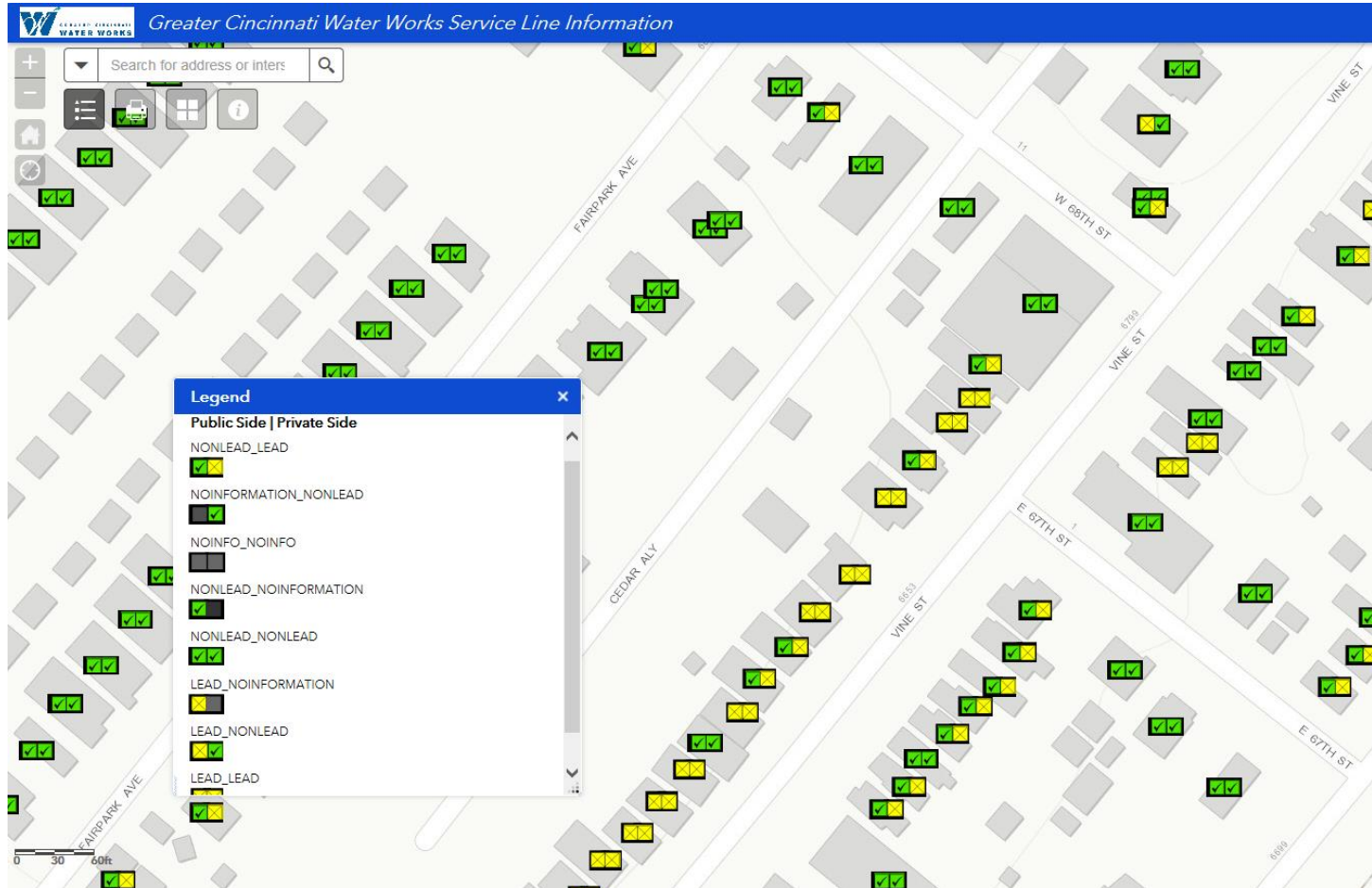




A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

# Lead Lookup Map



[lead.mycww.org](https://lead.mycww.org)

## Available to the public to:

- Help customers determine service line materials
- Make decisions for replacements
- Guide customers in decisions





A Service of The City of Cincinnati

GREATER CINCINNATI  
WATER WORKS

**Thanks for your time and attention.**

***Questions?***