



YEAR 2 OF LEAD SERVICE PROGRAMS

Reflections and Revelations

Presented by:

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Pennsylvania AWWA
American Water Works Association

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- Lehigh and Northampton Co
- Allentown and Surrounding
- 14 Municipalities
- Water and Wastewater
- 14 Water Systems
- 55,000 Customers (270k pop.)
- 677 Miles of Water Main

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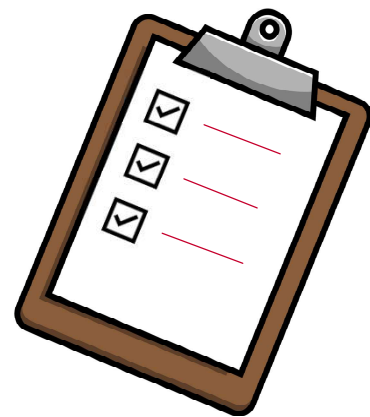
- 26 Municipalities in Schuylkill County
- Pottsville and surrounding areas
- Water and Wastewater
- 8 Water Systems
- System dates to 1834
- 30,000 customers
- 200 Miles of Water Main



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Discussion Topics

- Regulation & Funding Highlights
- Lehigh County Authority Experiences
- Schuylkill County Municipal Authority Experiences
- Summary
- **Questions and Roundtable**



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What Should have been completed?

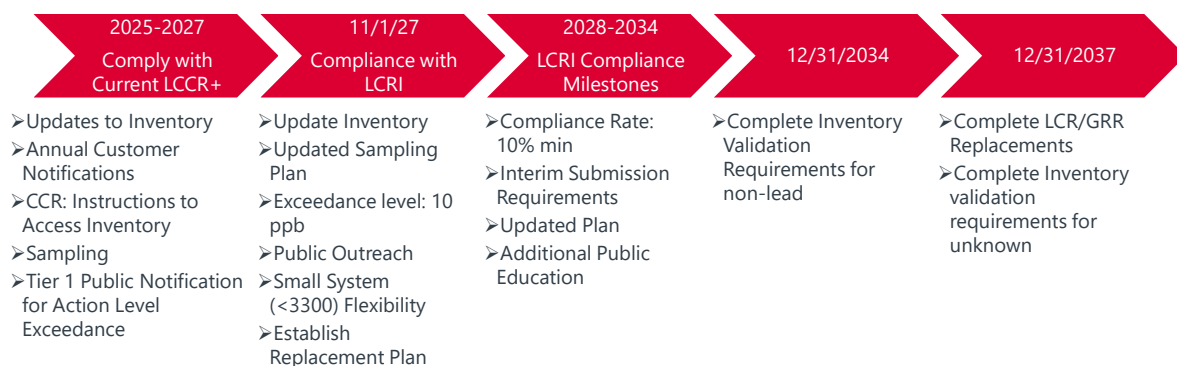
- **OCTOBER 16, 2024: Service Line Inventory (SLI)**
 - Identify All Service Lines
 - LSL, Galvanized Requiring Replacement (GRR), Unknown, Non-Lead
 - On-line SLI Submissions
 - Publicly Accessible
 - Late Submissions
 - EPA has determined that failure to complete SLI is a health-based, treatment technique violation which will require Tier 2 PN. The enforcement for these violations will be handled by EPA.
- **NOVEMBER 15, 2024: Consumer Notification of Lead, GRR, or Unknown**
 - DEP templates



Image Source: Bethlehem PA

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What Needs to be Completed



PADEP Website Helpful & Frequently Updated:

<https://www.dep.pa.gov/Business/Water/BureauSafeDrinkingWater/DrinkingWaterMgmt/Regulations/Pages/Lead-and-Copper-Rule.aspx>

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Get Some Money While You Can!... But Stay Informed... And Establish Your Own Funding As Well

- How Much?
 - PV Budget \$86M FY 2023/2024
 - Increased Budget to \$160M FY 2024/2025
 - Requested Budget of \$153M for 2025/2026
- How Distributed?
 - Unique Affordability Calculation to determine grant eligibility
 - Set Amount of Grant-Based Funding Allocated by Cycle
 - Grant Award Pro-rated based on Requests
- What's eligible?
 - Inventory **ONLY FOR LEAD & GRR**
 - **Lead and GRR** Public/Private Service Line Replacement
 - Trench Restoration (no mill and overlay)
 - Joint water main replacement project can be submitted but **only Lead and GRR service line eligible** for grant under allocated funds
 - Submission on Area-Wide Basis



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LEHIGH COUNTY AUTHORITY

CYCLE 1 LEAD SERVICE REPLACEMENT PROJECT

Case Study

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Initial Project

Project Area



413
Lead/
Galvanized
Service
Lines



5
Streets



401
Total
Services



149
Residential
Lead/Galv.
Replacements



1
Commercial
Lead/Galv.
Replacement

Refined Project

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Build Your Team for Successful and Sustained Program Outcome



Operations, Communications,
Administration, Engineering



Internal Project Manager



Steering Committee



Engineering Consultant



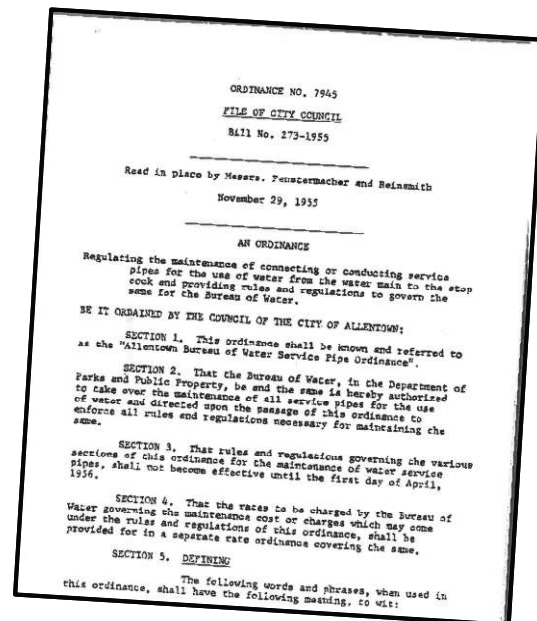
Full-Time Field Rep



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LCA – Service Line Inventory Initial Status

- County Assessment Data
 - Year Home Built
- 1955 City Ordinance for non-lead
 - used buffer when implementing
- CityWorks Work Orders
 - Material Type, Status
- Meter Replacement Program
 - Photos collected for meter replacement purposes only



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LCA – Service Line Inventory Initial Status

- Home Owner Survey Results – limited/trial of 600 responses
 - Lessons Learned
 - Restrict entry responses
 - Use address recognition – could not geo-locate info automatically
 - Validate information
- Hard Copy Paper Trail of Service Line Records
 - Inconsistent formats/responses (limits auto-read capabilities)
 - Uncertain reliability
 - Some info entered over the years into GIS



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LCA – Service Line Inventory Initial Status

- City “Lead Properties Data” – NOT USED
 - lead paint based not water lines
- Installed ESRI Lead Service Line Solution
 - Hub Site
 - Info Graphics for Compliance
 - Public Outreach template



Photo from: ESRI.com

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Implement Strategies to Fill Inventory Gaps: Goal to Complete Inventory in Project Area



Home Inspections

- Door to Door
- 900+ homes



Test Digs



Future: AI

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Adjust Design Process Based on Results of Inventory

- Results
 - 36% of homeowners allowed access
 - Accuracy of GIS to Field – approx. 80%
 - TAKE AWAY – unknowns appear to be more copper than anticipated
- City Ordinance to Address Program
- Schedule to account for difficulty in customer access and LCA activities
- Replace Corps
- Increase Project Area to Maximize Use of Funding
- Budget/Coordination on Paving

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LCA – WHERE ARE WE NOW?

- Decision was made to self-fund and self perform
- Allowed LCA to focus on learning and refining processes from identification, customer notification, private-side plumber coordination
- Invested in staffing, purchase of new equipment
- Have Initiated Work on Cycle 2, 1000 private side service lines.



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POTTSVILLE WATERMAIN & LEAD SERVICE LINE REPLACEMENT PROJECT

- Funding Offer: 4/19/23
- LSL: \$5,240,100 IJA Grant
- Main Replacement:
 - \$3,441,200 loan @1%/1.743%, 20 years

Case Study

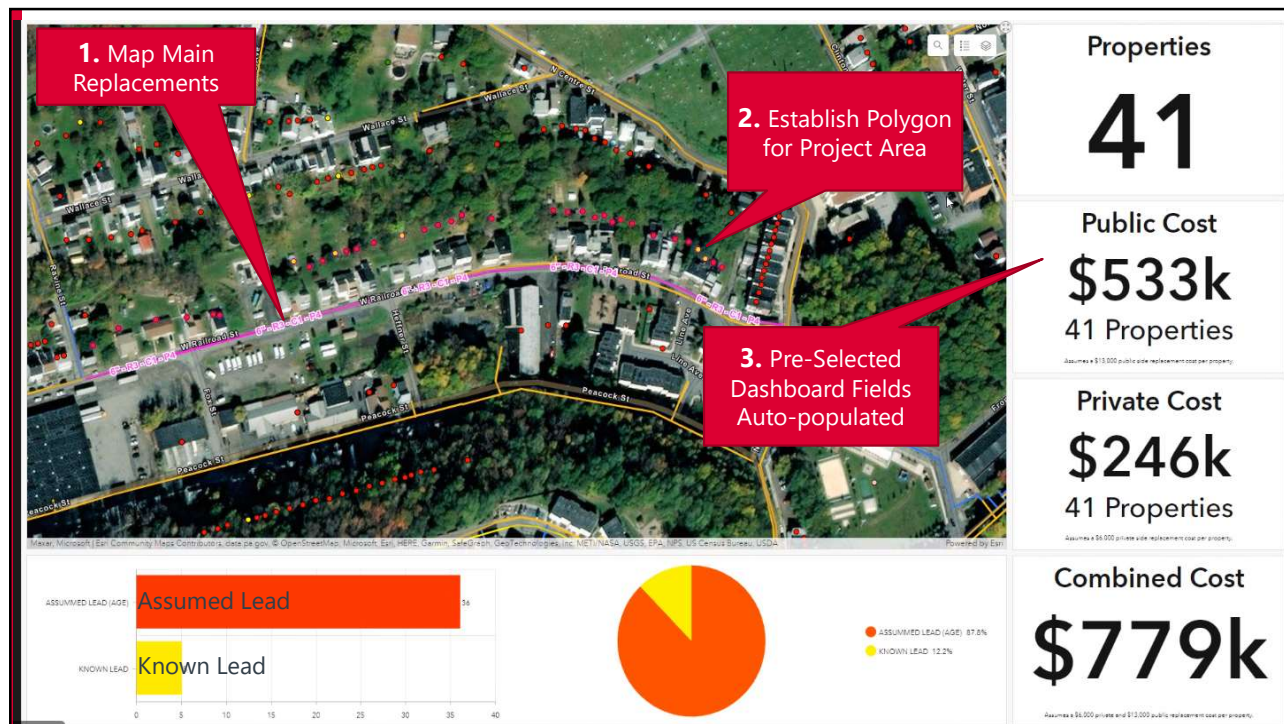
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Select Project To Maximize Funding Opportunity and Address Priority Area

1. Environmental Justice Areas
 - Federal/State Emphasis
 - Census Tract Block Group
 - $\geq 20\%$ Poverty/ $\geq 30\%$ Minority
 - EJ Area of Concern
2. Pipeline Replacement Overlap
 - Age
 - Break History
 - # of Services
 - Residential
 - Based upon Asset Management Plan



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Initial Project Identification

- Water Main Replacement
 - 6,600 LF new 8-inch DIP
 - 6-inch Cast Iron Mains w/ Lead Joints
 - Installed 1886-1923
- Lead Service Line Replacements
 - 354 Services – originally anticipated
 - ¾-inch Residential Service Lines
 - 8,730 LF of Service Line
 - Actual Total: 316 (197 inspected) -62%
 - 7 Lead – 3.5%
 - 12 Galvanized – 6.1%
 - 175 copper – 88.8%
 - 2 unknown, 1 plastic – 1%



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Continued Investigations After Project Identification

- **Public Side**
 - GIS Data Base updated with public side service line material.
- **Private Side**
 - Limited to no data.
 - County GIS Data – Year Built
- **Home Inspections**
 - Similar to LCA, much higher % of Unknowns are Copper than Expected
 - Based upon 197/316 inspected (62%);
 -**only 9.6% lead/galvanized**



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Adjust Project Based on What We've Learned



Traditional Survey to Meet
PA OneCall Requirements



Test Digs to Verify
Material



Provide Filtered Pitchers



Establish Temp
Easements/Agreements
Based on Results of
Home Inspections



Decision Matrix to Guide
Contractor Approach to
Findings of Test Digs



Incorporate In-Home
Plumbing (Expansion
Tank, Backflow
Prevention, etc.)



Include Construction
Sequence on Drawings
due to Criticality

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SCMA – Where are We Now?

- Opened Bids September 20, 2024
- Pennvest Closing December 17, 2024
- Started Construction December 30, 2024
- Soft Digs
 - 286 Completed
 - Public Side:
 - 260 Copper
 - 24 Lead, 3 Galvanized
 - Private Side
 - 260 Copper
 - 21 Lead, 5 Galvanized
- Watermain Replacements 50% complete
- Easements executed



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SCMA – Where are We Now?

- Service Lines to follow main line construction
 - Decided to replace ALL; grant only pays for lead/galvanized
- LCRR and LCRI Details
 - Water Pitchers
 - Notifications with required language
 - Laboratory Testing
- Unanticipated Issues
 - Paving Issues
 - 811 Conflicts
 - Less Grant, more Loan....

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LSLR: Get a Head Start and Be Prepared to Adjust



1. Don't forget about the next steps in LCRR & LCRI

2. When Identifying Project...

- i. Target EJ Areas, Anticipated LSL, Residential Areas
- ii. Consider Paving (piggyback, avoid recent, budget!) & Other Ineligible Items
- iii. Expect to Find Less lead than expected!
- iv. Emphasize Flexibility of Project Area

3. Lots of Detail to Be Worked Out in First Cycle

- i. Traditional Survey Required
- ii. Plan for Test Digs
- iii. Include Corps?
- iv. Additional In-Home Plumbing Needs?
- v. Decision Matrix to Guide Contractor
- vi. Establish Internal Funding

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Questions

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GFT


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