

Getting the Lead Out: Guidance for Developing Service Line Inventories and Funding Information on the Bipartisan Infrastructure Law

August 10, 2022

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Getting the Lead Out: Guidance for Developing Service Line Inventories and Funding Information on the Bipartisan Infrastructure Law

August 10, 2022

Today's Presentation

Purpose of webinar

- Provide an overview of USEPA's "Guidance for Developing and Maintaining a Service Line Inventory" and inventory template as well as lead service line replacement (LSLR) eligibilities under the Drinking Water State Revolving Fund (DWSRF) and the Bipartisan Infrastructure Law (BIL)

Agenda

- Summarize contents of inventory guidance document
- Demonstrate EPA's inventory template
- Provide information on LSLR eligibilities under the DWSRF and BIL

What's in the Inventory Guidance?

Purpose and audience

- Drinking water systems of all sizes
- States

Guidance scope

- LCRR inventory-related requirements
- Recommendations/best practices
- Case studies and example materials
- Inventory template

Disclaimer

- This document is not a regulation itself, nor does it change or substitute for those provisions and regulations nor impose legally binding requirements on EPA, states, or the regulated community



Guidance Document Topics

- Benefits of a service line materials inventory
- Summary of LCRR inventory requirements
- Inventory elements
- Inventory planning
- Historical records review
- Service line investigation methods
- Developing and updating the inventory
- Public accessibility
- Appendix featuring case studies and more

The Benefits of a Comprehensive and Accurate Inventory

Facilitate LSLR programs

- Can be used in applications for external LSLR funding
- Increase LSLR programs efficiency, stretching the value of internal or external funding
- Enables prioritization of underserved communities for LSLR

Improve public health

- Allows for notification to customers about lead sources in drinking water infrastructure so they can take action to reduce their risk of exposure
- Allows for mitigation of exposure risk after disturbance of a known or potential lead service line (LSL) or galvanized requiring replacement (GRR) service line

Engage the community

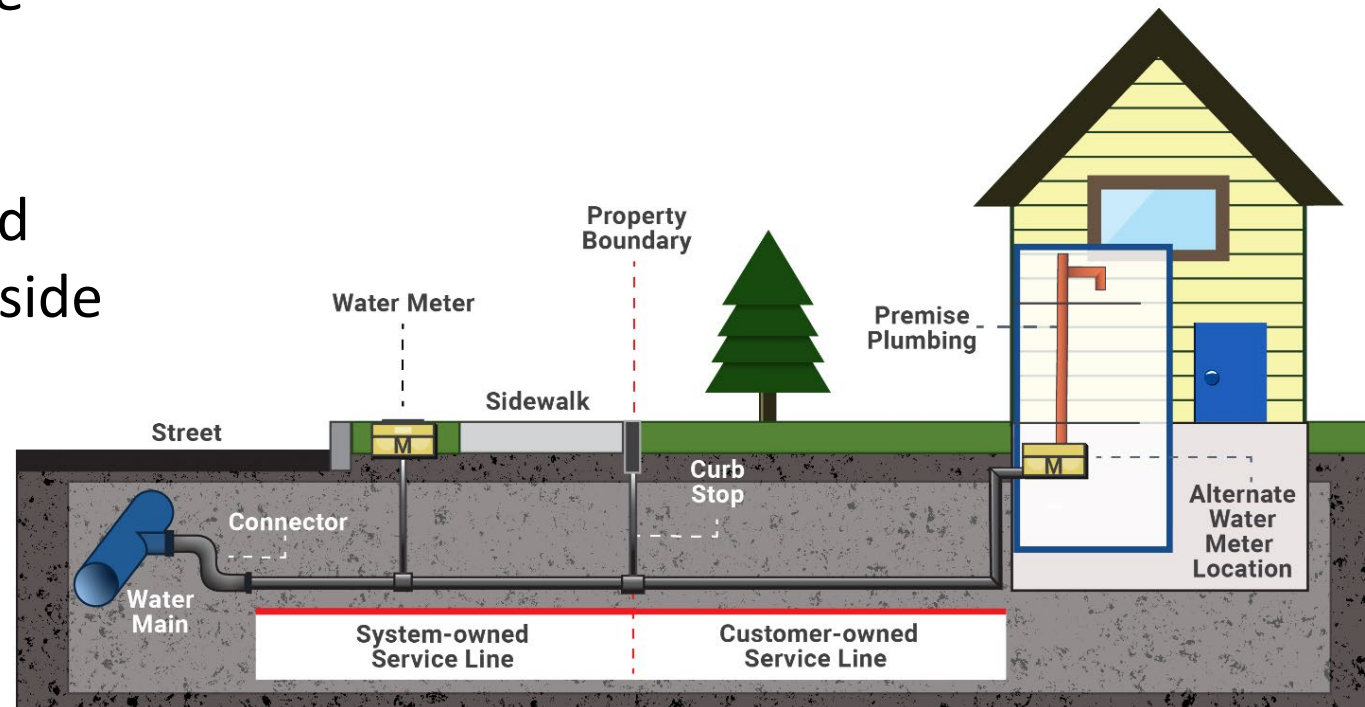
- Builds customer transparency
- Showcase progress of LSLR program
- Opportunity to educate and involve customers, which can create opportunities for LSLR

Improved asset management

Inventory Elements- Required

Required service line material classifications

- Include all service lines, regardless of the actual or intended use
- Classify LSL, Galvanized Requiring Replacement (GRR), Unknown, Non-Lead
- Include both the system- and customer-side where ownership is split



Inventory Elements- Recommended

Recommended subclassifications

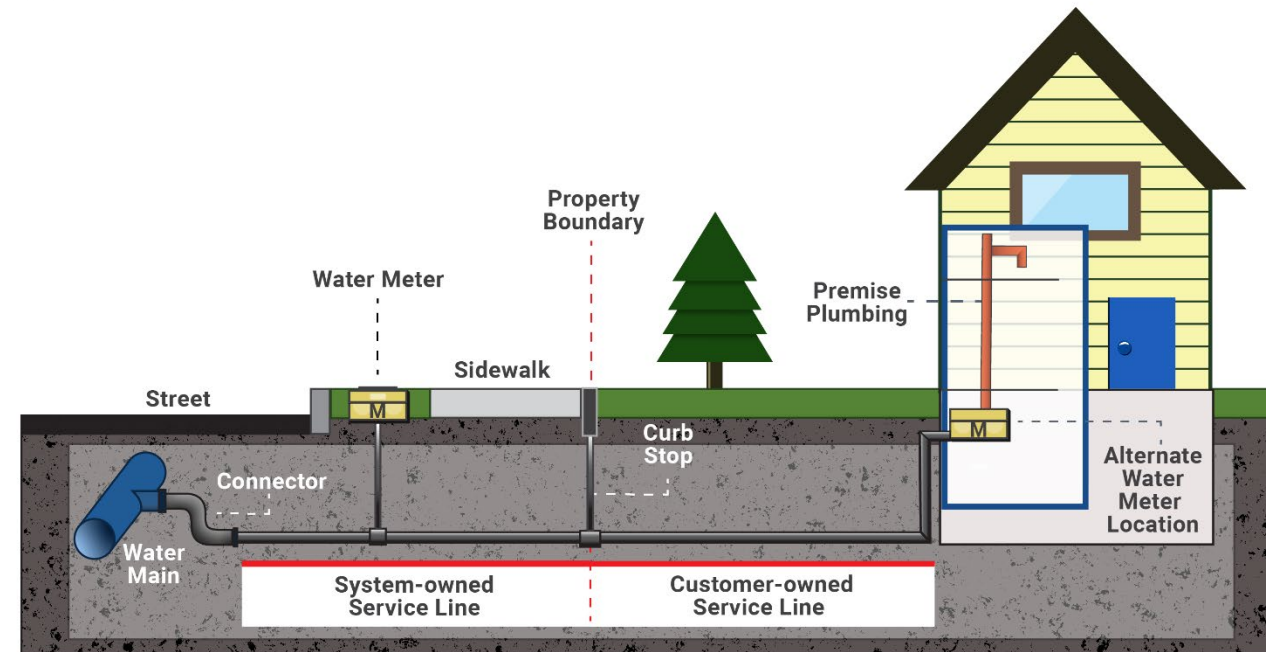
- Likelihood that an unknown is lead
- Actual material of non-lead lines

Recommendation to include other drinking water infrastructure potentially containing lead

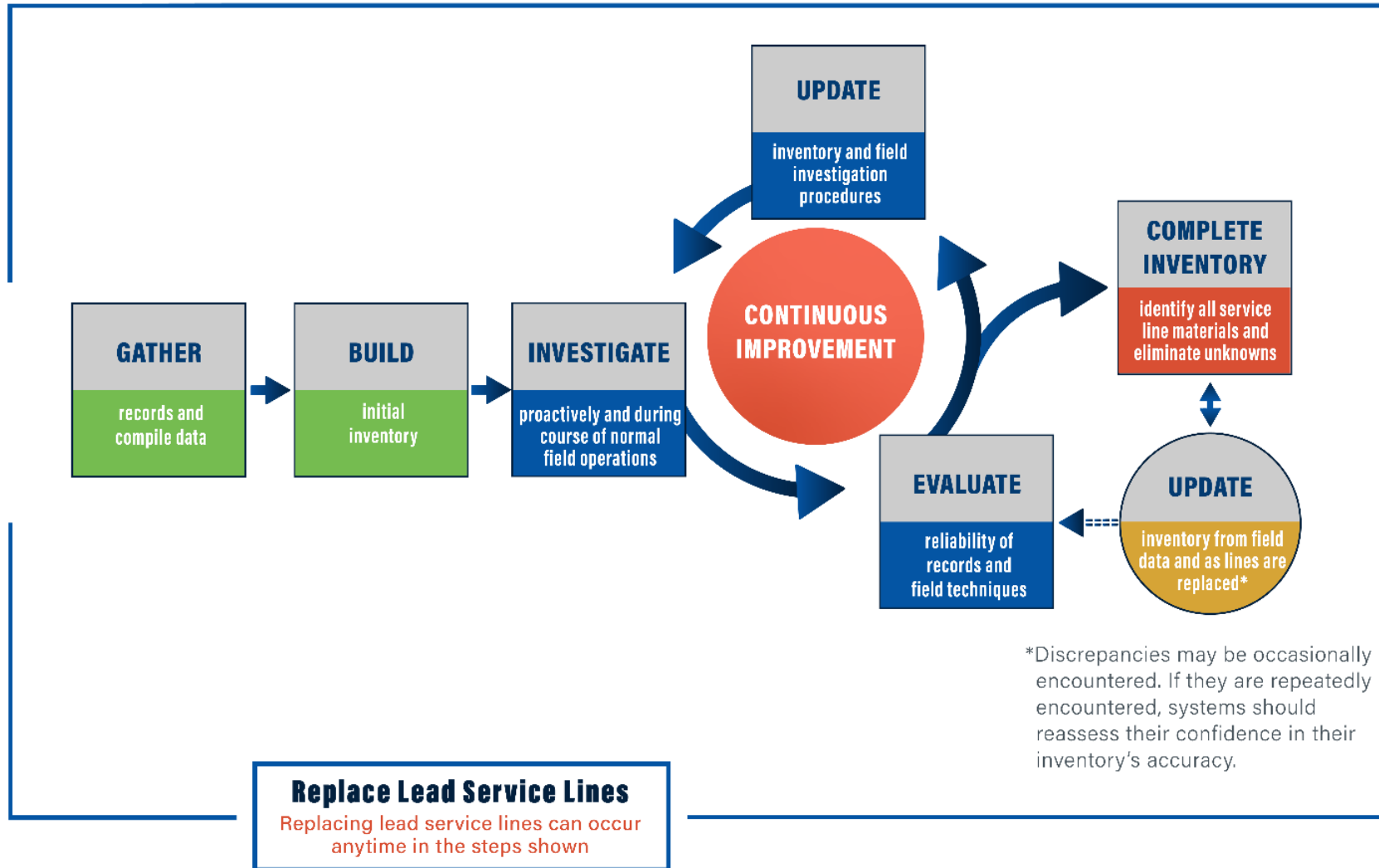
- Lead goosenecks, pigtails, connectors
- Lead solder
- Other leaded infrastructure

Recommended service line characteristics to include

- Pipe diameter
- Installation date
- Source of material information



Inventory Planning



Historical Records Review

LCRR Initial Inventory Requirements

- Review and/or use the records specifically referenced in 40 CFR §141.42(d), 40 CFR §141.84(a)(3), including any required by the state

(a)

73481

645 E. Molen St.

LOT NO 230

DATE SOLD 7-15-41

SIZE OF MAIN 6

SIZE OF STUB 3/4

SIZE OF SERVICE 3/4

LENGTH OF PIPE 22 feet lead

LOCATION OF WATER North Wall

NAME NUMBER SIZE DATE SET REMARKS

11-3-12

11-3-72

SERVICE RECORD

3844

101 East 1st Ave

114 Ft 26 of - LL of Summit St.

12 Ft N of S LL of 1st Ave.

Remarks

Main Size 6" Stub Size 3/4 Pipe Length 26 Kroll Lead

Date Renewed 9/14/14 Reissued

LSLs identified

Source: Hensley et al., 2021

Recommended Practices

- Document the records source used to identify a service line's material
- Continue to gather information on service line materials after they have been classified to assess the accuracy of historical records
- If a certain record source is found to be unreliable, consider reclassifying service lines based on that source as "unknown" until additional information can be gathered
- Records already reviewed for service line material information (i.e., for proactive inventory efforts done previously) do not need to be reviewed again

Service Line Material Investigation Methods

Investigation Methods

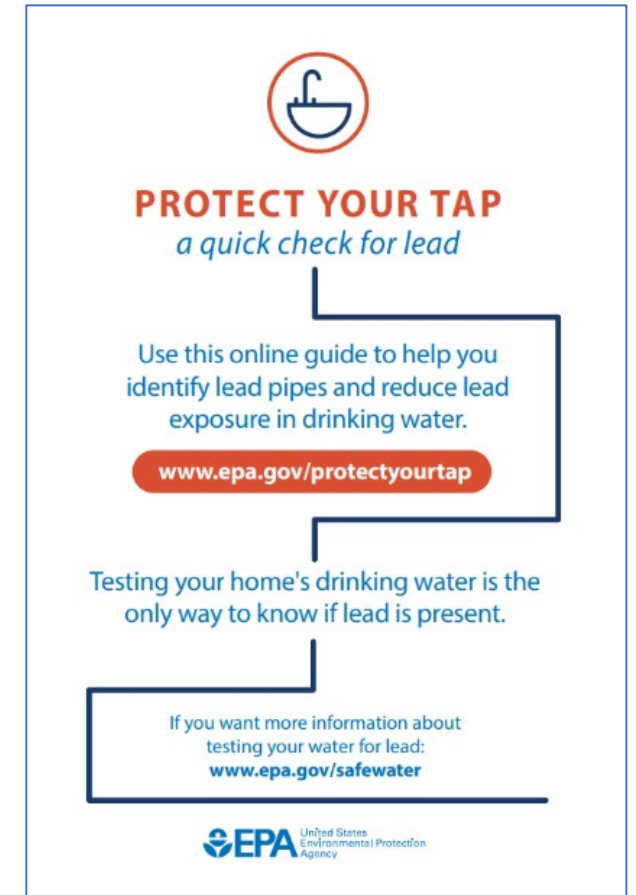
- Description of service line investigation methods that water systems have used to identify the material of unknown service lines and to verify records
- Note the LCRR requires that states approve which investigation methods are acceptable

Pros and Cons of Each Method

- Including but not limited to cost/labor, disturbance, and accuracy

Real-World Examples

- System level examples as well as their lessons learned



<https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-quick-check-lead>.

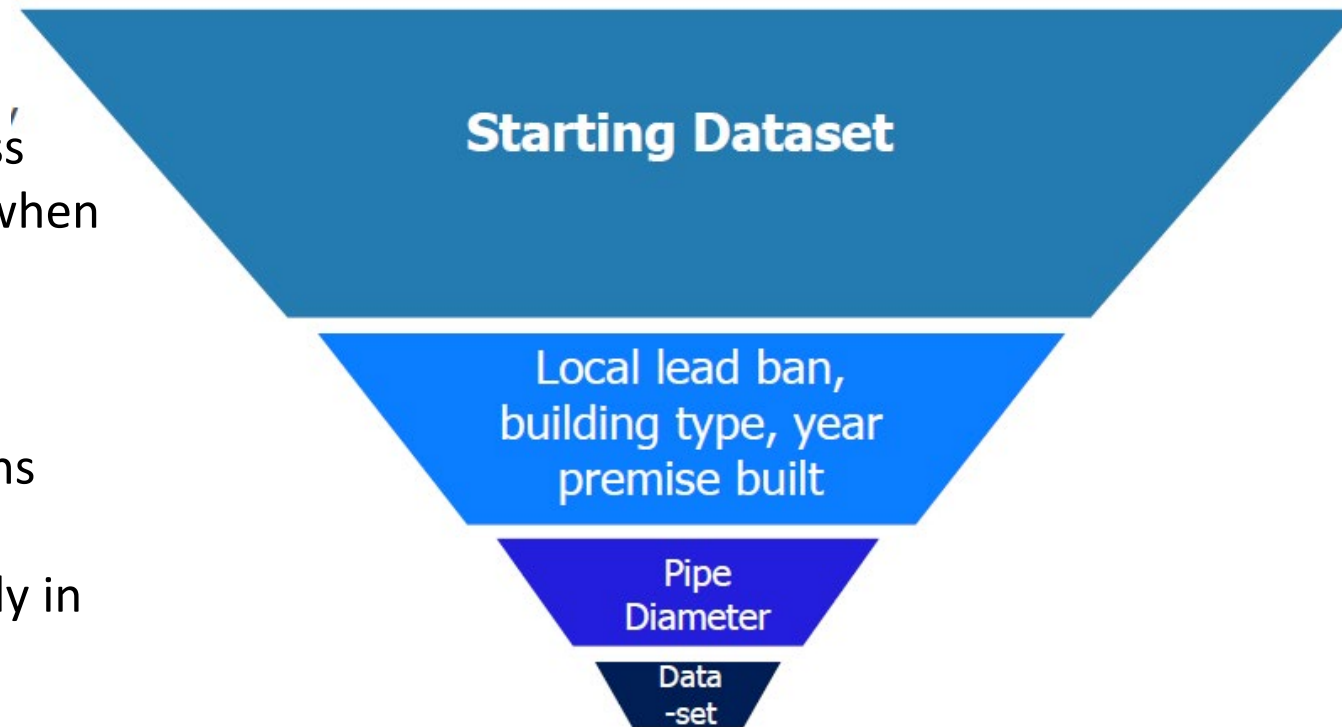
Developing and Updating the Inventory

Developing the Initial Inventory

- LCRR initial inventory requirements
- Recommended initial records screening process
- Recommended weight-of-evidence approach when records are conflicting

Prioritizing Field Investigations

- Vulnerable or environmental justice populations
- Areas with the most unknowns
- Service lines that are most likely lead, especially in tandem with LSLR
- Areas where LSLR is occurring
- To verify historical records



Source: Liggett, 2021

Developing and Updating the Inventory (continued)

Requirement for customer notification of known or potential service line containing lead

- Water systems with LSL, GRR, or lead status unknown services lines must provide notification to persons served by these lines within 30 days after completing the initial inventory.

Requirements and recommendations for systems with only non-lead lines

- May publish a statement indicating they have only non-lead service lines in lieu of making their inventory publicly accessible
- Requirements and recommendations for non-lead systems that later discover an LSL in their system

Submitting the initial inventory and inventory updates

- Initial inventory must be submitted to the state by October 16th, 2024

State review and reporting

- EPA has developed a checklist for the initial inventory submittal with recommended considerations for states to use in their review

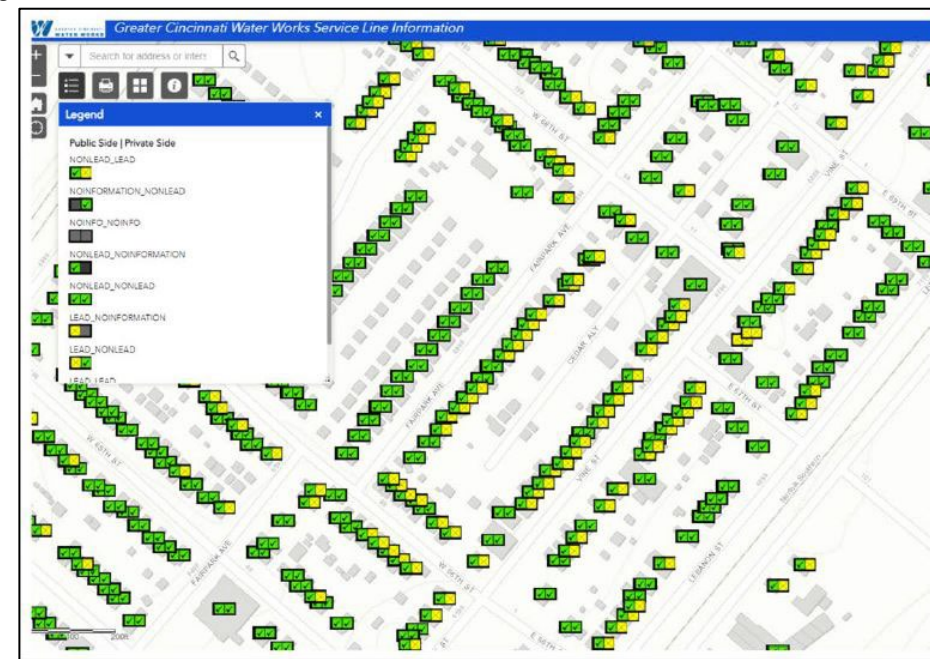
Public Accessibility

Elements of the Publicly Accessible Portion of the Inventory

- Must include each LSL and GRR with a location identifier, such as a street address, block, intersection, or landmark.
- Recommended to include (see document for full list)
 - All service line materials (include unknowns and non-lead lines)
 - Consider using street addresses as your location identifier
 - Information on steps that consumers served by LSLs can take to reduce exposure risk
 - Instructions on how to use and interpret the inventory along with a disclaimer

Format Considerations (i.e., pros and cons of various formats)

Consumer Confidence Report Requirements



Source: Greater Cincinnati Water Works Service Line Information map.
<https://gcwww.maps.arcgis.com/apps/webappviewer/index.html?id=0a170c268c694e46a8a4e394630df0bd>. Accessed December 16, 2021.

Appendix

Appendix A: Selected Forms from Service Line Inventory Template

Appendix B: Case Studies

Appendix C: Instructions for Self-Identifying LSLs and Information When Water System Conducts Verification

Appendix D: Summary of State Lead Ban Provisions

Appendix E: Michigan Field Investigation Protocol

Appendix F: Data Quality Disclaimer Language

Inventory Summary (Continued)		
Part 3. Inventory Summary Table ¹		
Enter the number of service lines in the aqua-colored cells. Remember this is the classification for the entire service line.		
Service Line Material Classification	Definition	Total Number of Service Lines (REQUIRED to be reported under the LCRR)
Lead	Any portion of the service line is known to be made of lead. ²	
Galvanized Requiring Replacement (GRR)	The service line is not made of lead, but a portion is galvanized and the system is unable to demonstrate that the galvanized line was never downstream of a lead service line.	
Non-Lead	All portions of the service line are known NOT to be lead or GRR through an evidence-based record, method, or technique.	
Lead Status Unknown	The service line material is not known to be lead or GRR. For the entire service line or a portion of it (in cases of split ownership), there is not enough evidence to support material classification.	
TOTAL		
Notes		
¹ This summary table is for reporting material for the entire service line connecting the water main to the customer's plumbing. See Section 2.1 for additional guidance on assigning a materials classification to the entire service line when ownership is split. Remember that systems must track the system-owned and customer-owned portions separately in their inventory.		
² A lead-lined galvanized service line is consistent with the definition of an LSL under the LCRR ("a portion of pipe that is made of lead, which connects the water main to the building inlet") (40 CFR §141.2) and must therefore be classified in the inventory as an LSL. Do NOT, however, count non-lead service lines with a lead gooseneck or pigtail as lead service lines unless required by your state.		

Template Demonstration

Please hold momentarily while we share our screen to walk you through EPA's inventory template

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Next Steps

- EPA is developing a small system compliance guide and fact sheets drawing from information in the guidance
- Propose LCRI in 2023 and finalize no later than October 16, 2024
 - EPA does not expect to change the requirements for the initial inventory





Addressing Lead With the Drinking Water State Revolving Fund and Bipartisan Infrastructure Law

Drinking Water State Revolving Fund: Overview

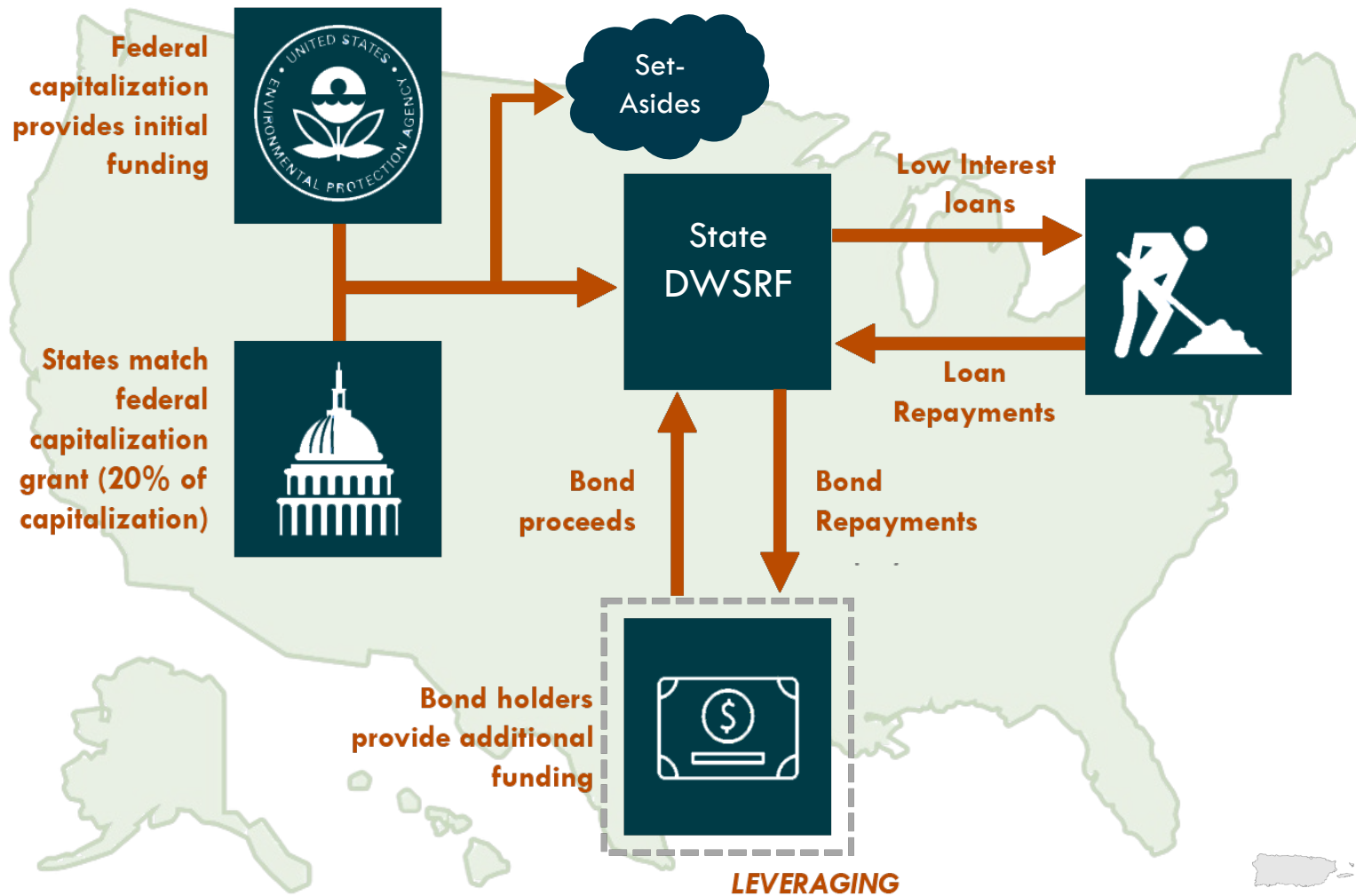
How does the DWSRF work?

- Congress appropriates funding to EPA for the DWSRF program. EPA then awards capitalization grants (i.e., seed money) to each state.
- States may take part of their capitalization grant as set-aside funds, if desired.
- For most appropriations, each state provides a 20 percent match to those capitalization grants.
- Public water systems apply for project funding from their state's DWSRF.

Drinking Water State Revolving Fund: Overview

How does the DWSRF work?

- States then provide below-market rate loans and other authorized assistance to eligible public water systems for water infrastructure projects.
- States disburse DWSRF funds to those eligible assistance recipients on construction costs that are incurred.
- Assistance recipients repay their loans back into the state's DWSRF typically over 20-40 years.
- The state DWSRF programs use these “recycled” funds to make additional loans, and the “revolving” cycle continues.



Who is Eligible to Use the DWSRF?

- **Public or private* community water systems**
 - A water system serving at least 15 service connections used by year-round residents, or regularly serves at least 25 year-round residents
- **Nonprofit non-community water systems**
 - Some examples may include schools, publicly-owned campgrounds, parks, and churches that are not part of a community water system.

**Some states do not fund private systems.*

What Type of Projects Can Be Funded by the Loan Fund?

- **Source:** Rehabilitation of wells or development of eligible sources to replace contaminated sources
- **Treatment:** Projects to install or upgrade facilities to improve drinking water quality to comply with drinking water regulations
- **Transmission and distribution:** Rehabilitation, replacement, or installation of pipes to improve water pressure to safe levels or to prevent contamination caused by leaky or broken pipes, including lead service line replacement
- **Storage:** Installation or upgrade of finished water storage tanks to prevent microbiological contamination from entering the distribution system
- **Consolidation:** Interconnecting two or more water systems
- **Creation of new systems:** Construct a new system to serve homes with contaminated individual wells or consolidate existing systems into a new regional water system
- **Planning and design:** For all project types listed above.

https://www.epa.gov/sites/default/files/2019-10/documents/dwsrf_eligibility_handbook_june_13_2017_updated_508_versioni.pdf

DWSRF Set-Asides

- Set-asides provide additional tools for states to help achieve the public health protection objectives of SDWA.
 - complement infrastructure financing
 - strengthen Public Water System Supervision (PWSS) program
 - to implement “preventive” SDWA programs
 - Capacity Development – technical, managerial, and financial (TMF)
 - Operator Certification
 - Source Water Protection

How Much Funding Can Be Set-Aside?

- States can take up to ~ 31% of their capitalization grant for set-aside activities

Purpose	Set-Aside Amount (up to)
Administration of DWSRF and Technical Assistance to Water Systems	<i>Greatest of: 4%, \$400k, or 1/5th of a Percent of Fund Valuation</i>
Technical Assistance to Small Water Systems (<10,000 population)	2%
State Program Management <ul style="list-style-type: none"> • Administer Public Water System Supervision and Source Water Protection Programs • Implement Capacity Development Strategy and Operator Certification Program 	10%
Local Assistance to Public Water Systems for Source Water Protection and Capacity Development <ul style="list-style-type: none"> • Loan to acquire land/conservation easement for Source Water Protection • Loan to implement voluntary Source Water Protection measures • Provide assistance to public water systems for Capacity Development Strategy • Establish/Implement Wellhead Protection Program and Source Water Protection 	15%

Set-Asides Eligibilities

- Activities that facilitate compliance with National Primary Drinking Water Regulations.
- Activities that significantly further the public health protection objectives of the Safe Drinking Water Act (SDWA).
- **KEY POINT:** If an activity is eligible for funding under the loan program, it probably is not eligible for set-aside funding.
 - Exceptions:
 - Project planning and design costs.
 - Costs for restructuring a system as part of a capacity development strategy.



DWSRF Lead-Related Eligibilities

General Lead Related Eligibilities

- **Loan Fund**

- Complete removal and replacement of lead service lines (public and privately owned portion) or service lines made of galvanized iron or galvanized steel (that are currently or have previously been downstream of lead components)
- Removal and replacement of lead or galvanized goosenecks, pigtails, and connectors
- LSL inventories*
- Planning and design for LSLR construction projects*
- Temporary pitcher filters or point-of-use (POU) devices certified by an American National Standards Institute accredited certifier to reduce lead during or for a short time period after LSLR projects
- Corrosion control studies*/infrastructure

- **Set-asides**

- Planning and design for LSLR construction projects*
- LSL inventories*
- LSL public outreach, education and training
- Non-routine lead sampling (if not for compliance purposes)
 - Including in schools and child-care facilities
- Corrosion control studies*

**Eligible under both the loan fund and set-asides.*

What Lead-Related Activities Are Not Eligible Under the DWSRF?

- Installation or replacement of premise piping
 - Premise piping = the pipes inside the house
- Routine, compliance-related sampling/testing of lead in drinking water
- Testing lead levels in blood
- Bottled water/trucked-in water
- Partial LSL replacement (unless other portion previously or concurrently replaced)

Lead Service Line Replacement Eligibilities In Action

Virginia

- Lead Elimination Assistance Program (LEAP) promotes full replacement of lead service lines and educates public water systems and homeowners
- Reserves \$2 million in funding from each capitalization grant specifically for:
 - LSL replacement
 - LSL inventories
 - Galvanized service lines requiring replacement
 - Cast iron service lines and drinking water mains if they contain lead solder

Set-Asides In Action

Vermont

- DWSRF Local Assistance Set-Aside dollars pay for the state's Lead Reduction Strategies Grant Program. Eligible activities include:
 - LSL inventories
 - Establishment of a full LSLR program
 - Public education
 - Strategic planning
- 2017: Bennington Water Department received a Lead Line Reduction Strategies Grant to develop a Lead Line Reduction Strategic Plan
- In 2020, the state allocated \$11 Million for Bennington to implement their Lead Line Reduction Strategic Plan and eliminate all the lead service lines in the water system



Bipartisan Infrastructure Law

Bipartisan Infrastructure Law (BIL)

- Also known as the Infrastructure Investments and Jobs Act (IIJA).
- Signed by President Biden on November 15, 2021.
- Historic investment in key programs and initiatives implemented by the U.S. Environmental Protection Agency to build safer, healthier, cleaner communities.
- Includes \$50 billion to EPA to strengthen the nation's drinking water and wastewater systems – the single largest investment in water that the federal government has ever made.
- Approximately \$30 billion of this funding through the existing DWSRF programs.

BIL Implementation Key Priorities

- Increase investment in disadvantaged communities
- Make rapid progress on lead service line replacement
- Address PFAS and emerging contaminants
- Resilience, climate, One Water innovation
- Support American workers and renew the water workforce
- Cultivate domestic manufacturing

Available State Revolving Fund (SRF) Funding in the BIL

Appropriation	FY 2022 (\$)	FY 2023 (\$)	FY 2024 (\$)	FY 2025 (\$)	FY 2026 (\$)	Five Year Total (\$)
CWSRF General Supplemental	1,902,000,000	2,202,000,000	2,403,000,000	2,603,000,000	2,603,000,000	11,713,000,000
CWSRF Emerging Contaminants	100,000,000	225,000,000	225,000,000	225,000,000	225,000,000	1,000,000,000
DWSRF General Supplemental	1,902,000,000	2,202,000,000	2,403,000,000	2,603,000,000	2,603,000,000	11,713,000,000
DWSRF Emerging Contaminants	800,000,000	800,000,000	800,000,000	800,000,000	800,000,000	4,000,000,000
DWSRF Lead Service Line Replacement	3,000,000,000	3,000,000,000	3,000,000,000	3,000,000,000	3,000,000,000	15,000,000,000

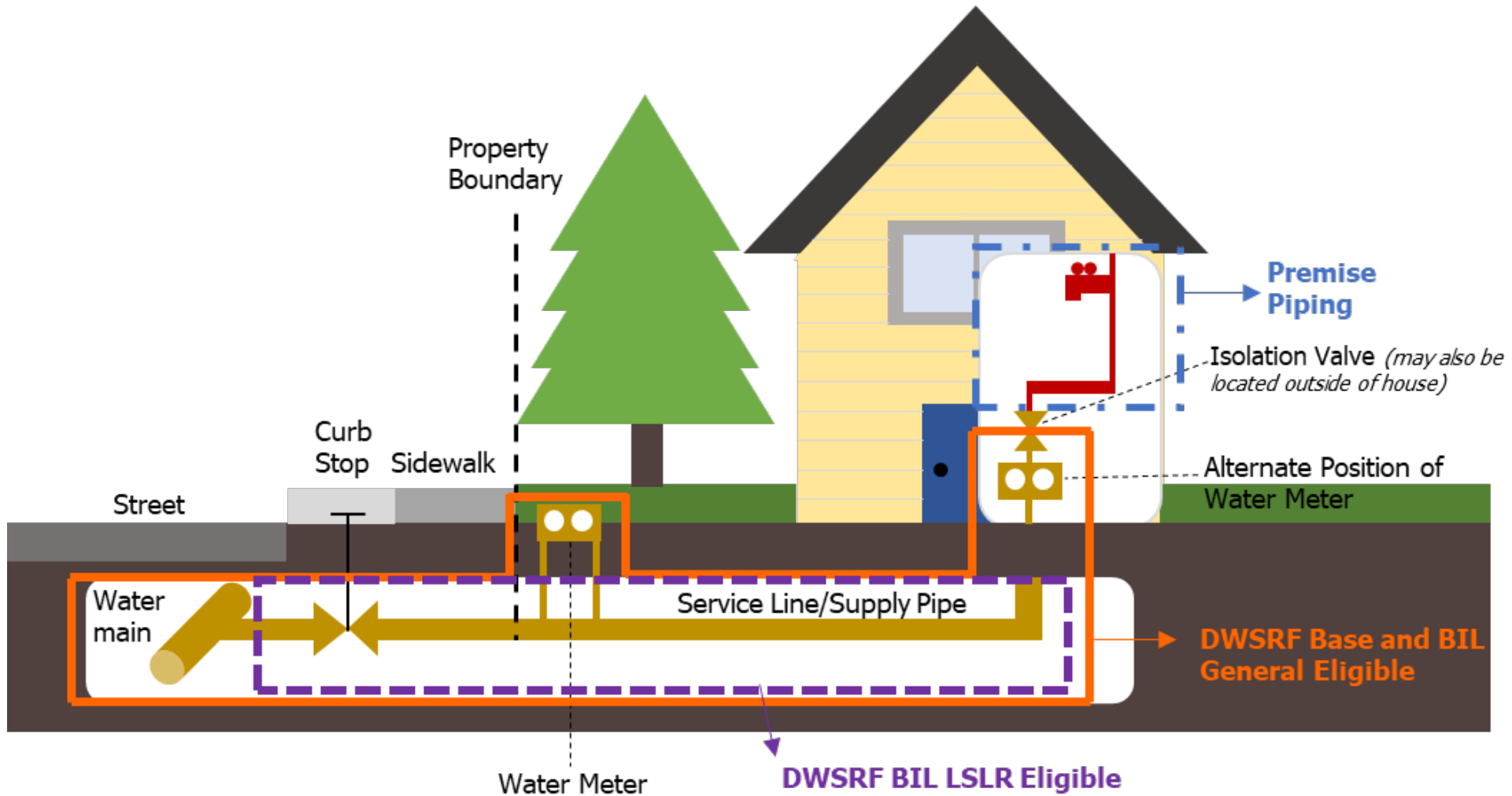
DWSRF Funding in the BIL: Overview

- EPA is making \$30,713,000,000 in **additional** capitalization grants (i.e., seed funding) available to the state DWSRF programs over the next five years.
- Some of this money may fund any project eligible under the DWSRF; some funding is targeted towards projects focused on PFAS and “emerging contaminants;” some funding is targeted towards the identification and replacement of lead service lines.
- States have the authority to waive repayment on some of this new funding (e.g., forgive some or all of the loan’s principal or provide as grants). This is called “additional subsidy.”

DWSRF BIL Eligibilities

Lead Service Line Replacement Funds

- \$15 billion over 5 years. 49% of the funds that states receive from EPA must be provided as “additional subsidy.”
- Eligible: lead service line inventories; removal and replacement of lead service lines and galvanized service lines (currently or previously downstream of lead components or unknown material), lead goosenecks, pigtails, and connectors; planning and design for those infrastructure projects.
 - Any project involving the replacement of a lead service line must replace the entire lead service line, not just a portion, unless a portion has already been replaced or is concurrently being replaced with another funding source.
 - ***Note: corrosion control studies, corrosion control infrastructure, water mains, backflow preventers, and water meters are not eligible under the BIL LSLR funding.***



Set-Asides Under the BIL

- States can take set-aside from BIL capitalization grants.
 - BIL General: all set-aside eligibilities.
 - Emerging Contaminants: must be used to administer this capitalization grant or meet the statutory purpose of these funds: *“to address emerging contaminants in drinking water with a focus on perfluoroalkyl and polyfluoroalkyl substances.”*
 - **Lead Service Line Replacement:** must be used to either administer this capitalization grant or meet the statutory purpose of these funds: *“for lead service line replacement projects and associated activities directly connected to the identification, planning, design, and replacement of lead service lines.”*

LSLR Set-Asides Examples Under the BIL

- Planning and design for LSLR infrastructure projects.
- Developing or updating lead service line inventories, including locating and mapping lead service lines.
- Providing technical assistance to water systems undertaking lead service line inventories or construction projects.
- Funding state staff and contractors to work on LSLR education, outreach, and planning.
- Non-routine lead sampling (not for compliance purposes).

DWSRF Account	DWSRF LSL Inventory-Related Eligibilities
Infrastructure Fund	Assistance agreements (potentially including additional subsidization such as loan principal forgiveness or grants) with public water systems (PWSs) to conduct LSL inventories; states may optionally roll these loans into actual LSLR construction projects at a later date.
2% Small System Technical Assistance Set-Aside	Issue grants to small PWSs to conduct inventories; hire contractors to conduct inventories on behalf of PWSs; provide technical assistance to small water systems considering or currently undertaking inventory development; develop and conduct LSL-related outreach and training.
4% Administration & Technical Assistance Set-Aside	Same as the “2% set-aside” info above, but for any size public water system. State staff to administer the BIL LSL capitalization grant.
10% State Program Management Set-Aside	Have state employees or contractors conduct inventories on behalf of PWSs of any size; have state employees or contractors conduct state-wide inventory-related work, such as inventory database management, developing LSL outreach plans and materials, etc.
15% Local Assistance Set-Aside	From the 10% Capacity Development <i>portion</i> of the 15% set-aside: same as the 2% small system technical assistance set-aside above, but for any size public water system. Note that work funded under this portion of the set-aside must be a part of the state’s Capacity Development Strategy document.

SRF and BIL Information

- **DWSRF:** <https://www.epa.gov/dwsrf>
 - [State DWSRF contacts](#)
- **EPA BIL general site:** <https://www.epa.gov/infrastructure>
- **DWSRF specific BIL site:**
<https://www.epa.gov/dwsrf/bipartisan-infrastructure-law-srf-memorandum>