



2019 Quarterly Lead Service Line Identification and Replacement Webinar Series

Hosted by EPA's Office of Water (OW)

June 6, 2019 2:00-3:30 pm ET

**Webinar #2: Focus on
State Programs**





Webinar Support Phone Number: 1-800-263-6317

Audio Controls: Your audio is muted by the organizer.

Webinar Slides: The webinar presentations can be downloaded under “Handouts” located in the right navigation bar of your screen.

To Ask a Question: Type a question in the “Questions” box located in right navigation bar of your screen.

Schedule & Recordings: <https://www.epa.gov/dwreginfo/lead-service-line-identification-and-replacement-webinars>



DISCLAIMER

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In 2019 quarterly webinars will be held to highlight challenges and successes associated with lead service line identification and replacement through case studies from water systems and state primacy agencies.

- Webinar #1: March 7, 2019 2-3:30 pm ET “Introduction to the Series”
 - DC Water and Washington State DOH
- **Webinar #2: June 6, 2019 2-3:30 pm ET “Focus on State Programs”**
 - **Massachusetts DEP and New Jersey DEP**
- Webinar #3: September 5, 2019 2-3:30 pm ET “Focus on Large Water Systems”
 - Speakers TBD
- Webinar #4: December 5, 2019 2-3:30 pm ET “Focus on Small Water Systems”
 - Speakers TBD

Addressing Lead Service Lines in Massachusetts: Regulations, Funding and Actions Taken

Presented by Jessica Sibirski and Michele Mochnoc Higgins, P.E.

At the present, Jessica is the LCR, Sanitary Survey and RTCR coordinator of the Drinking Water Program, and some of its experience includes work with the LCCA Assistance Program, Capacity Development among others.

Michele has a bachelor's degree in civil engineering, Master's Degree in Environmental Engineering as well as being a Professional Civil Engineer and a Grade 3D Full Drinking Water Facilities Operator. She has been working at MassDEP as an Environmental Engineer in the Municipal Services group for only 5 months, but she has twenty plus years of experience in the managerial, developmental, and technical aspects of project management, management oversight, design and construction of transportation and environmental facilities in both the public and private sectors. Six years senior level experience overseeing two wastewater treatment facilities, a water treatment facility and the water and sewer distribution systems for a municipality in Massachusetts.

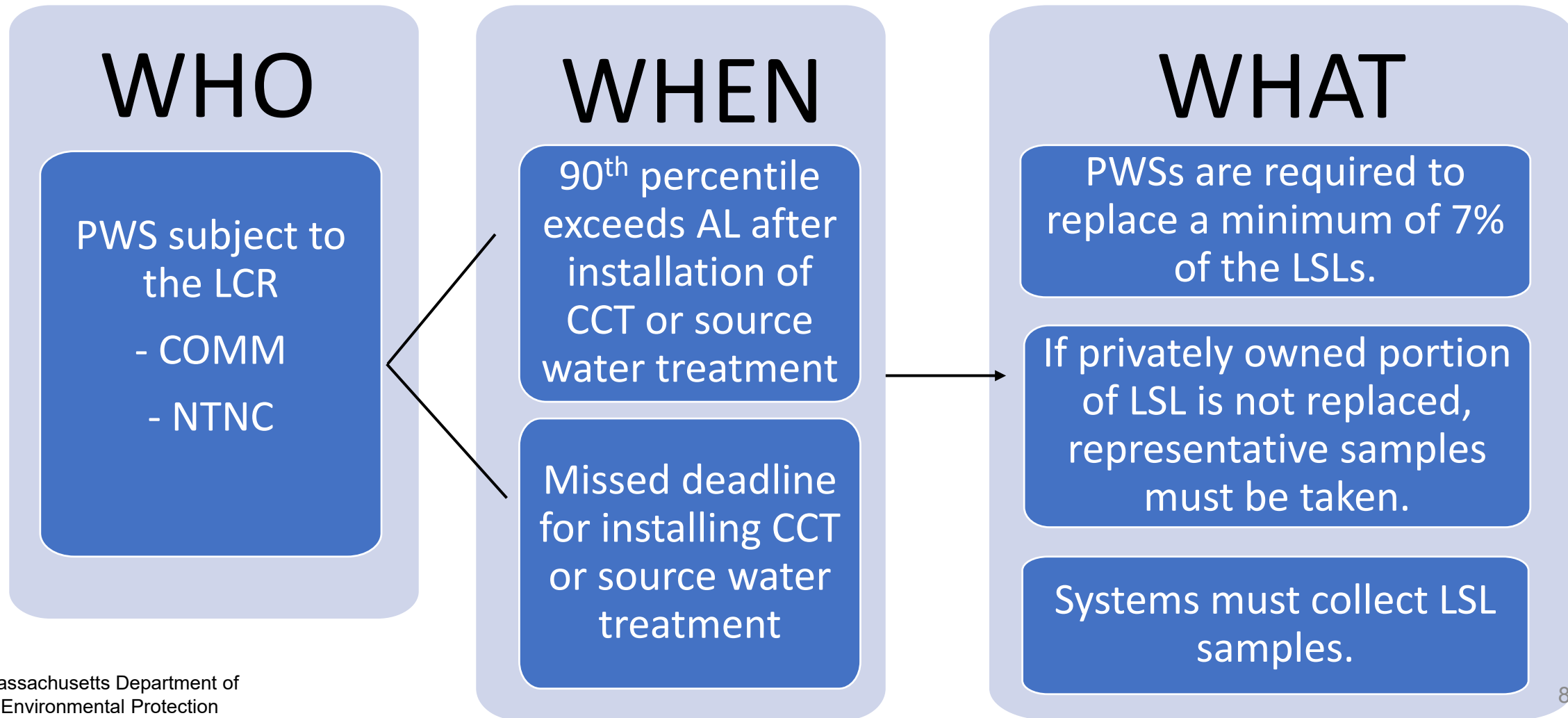
Addressing Lead Service Lines in Massachusetts: Regulations, Funding and Actions Taken.



Regulations



Massachusetts Lead Service Lines Regulations



Requirements in a Lead Service Line Replacement Program

1. Survey and summary of PWS' distribution system

2. Action Plan

3. Home owner notification, education and replacement offer

4. Partial lead service line replacement program including sampling and notification

5. Annual Report

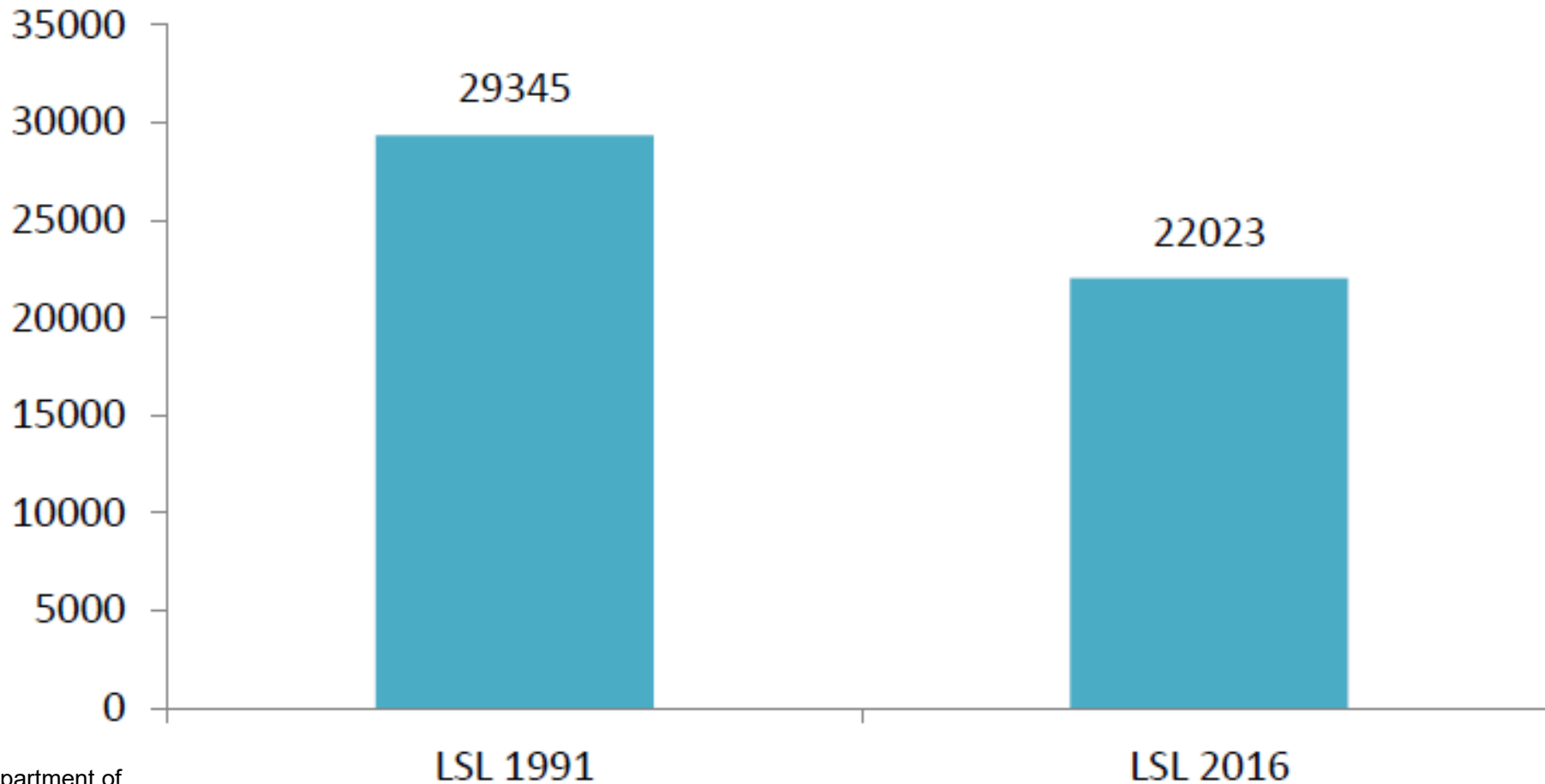
6. Records

Lead Service Lines in MA

- Estimated 220,000 LSL in Massachusetts (AWWA Survey)
- Lead and Copper Sampling Plan
- 2016 MassDEP's Lead and Copper Rule Lead Service Line Survey:
 - ❖ 782 PWS subject to the LCR in Massachusetts, including 523 Community and 259 Non-Transient Non-Community PWS
 - ❖ 547 PWS participated from the survey
- MassDEP's LSL Survey follow-up in 2018-2019.

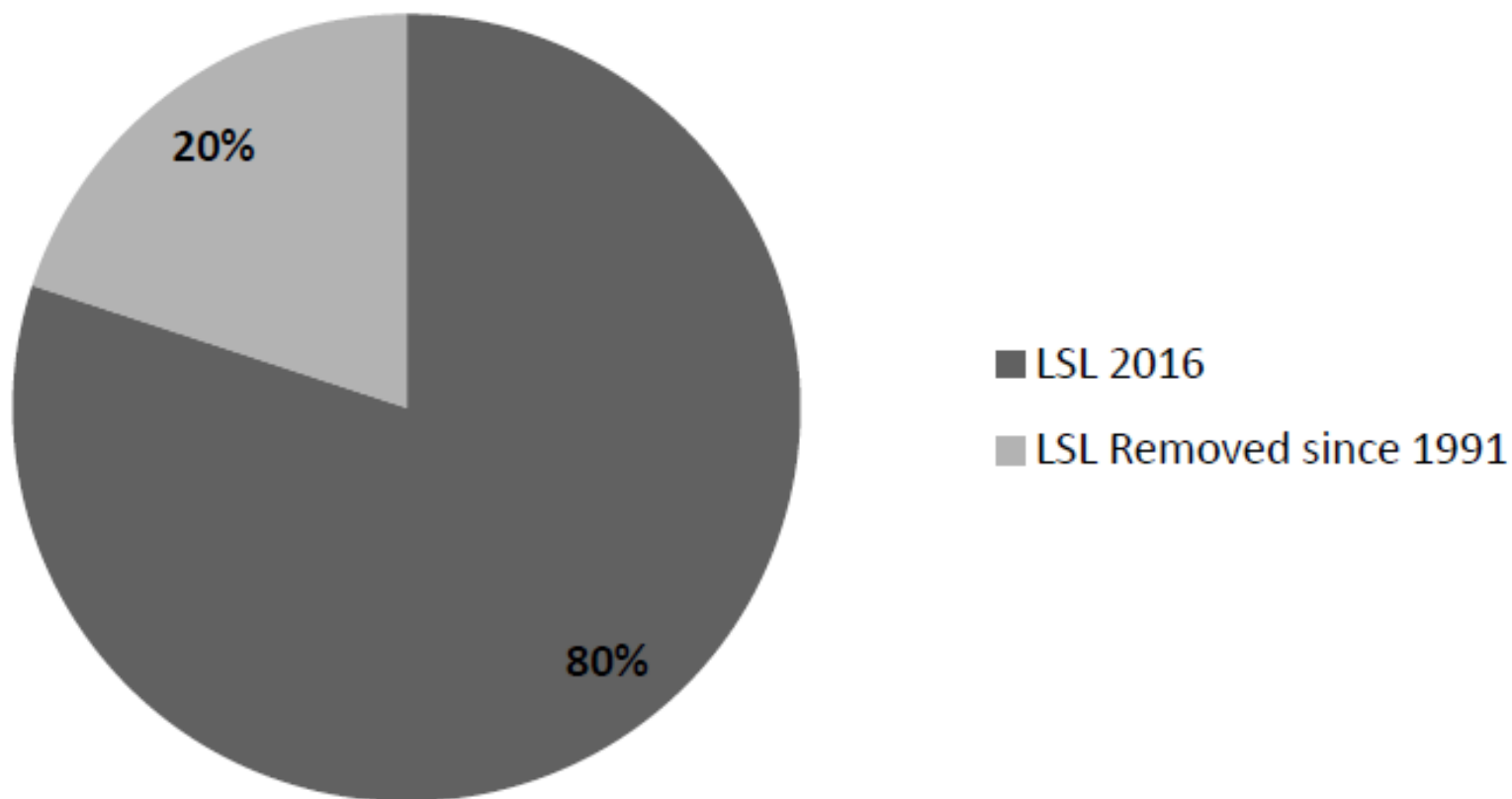
Lead & Copper Rule Survey

Lead Service Lines Reported

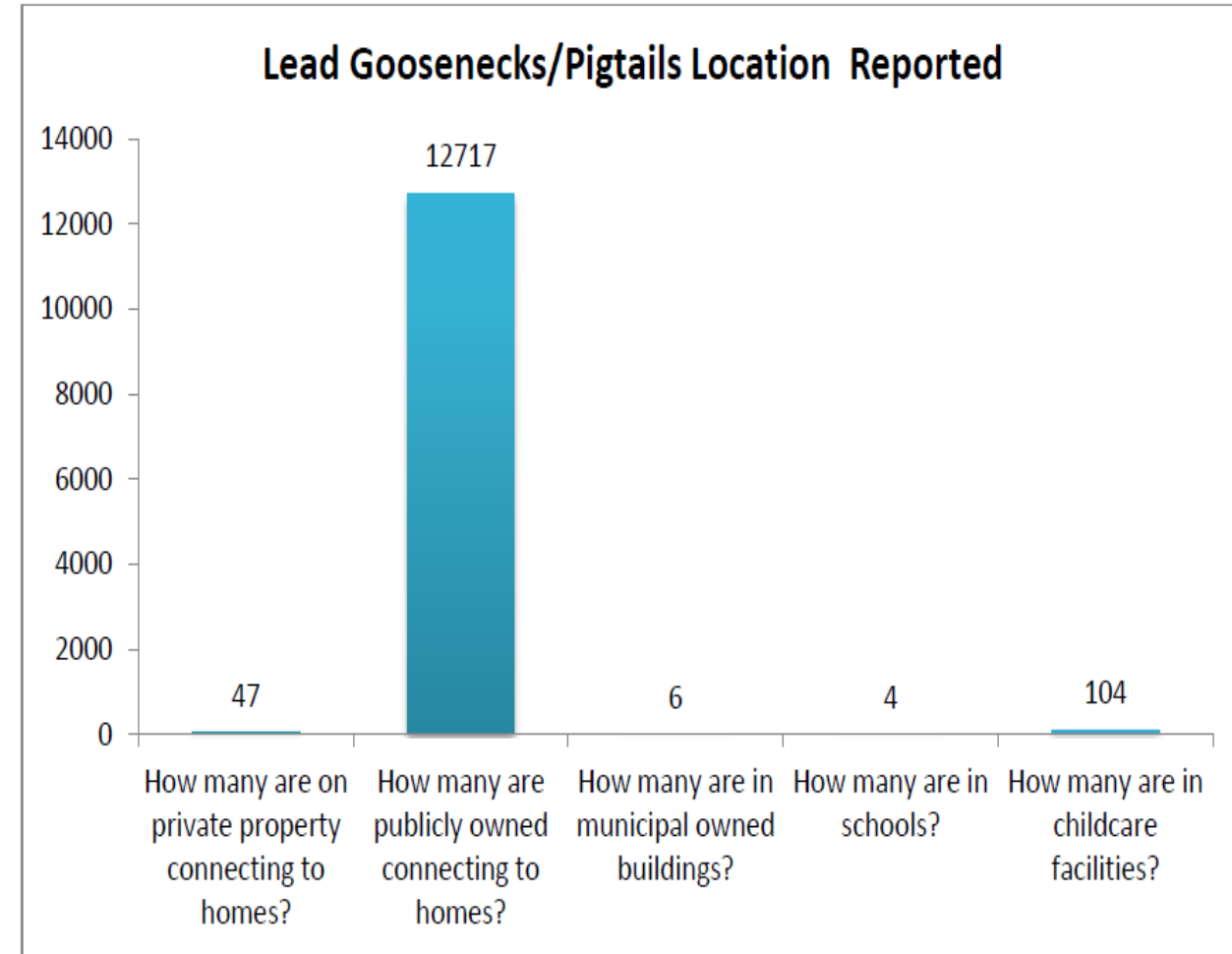
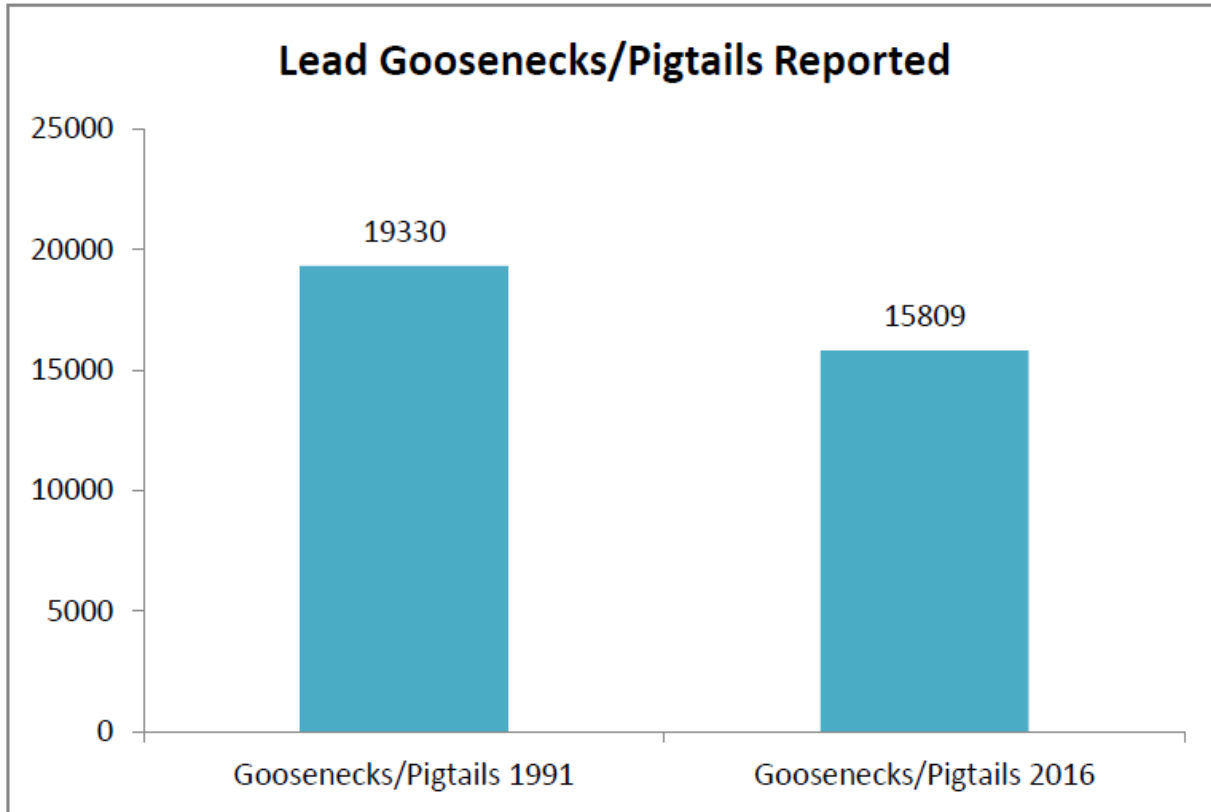


Lead & Copper Rule Survey

LSL Remaining in 2016

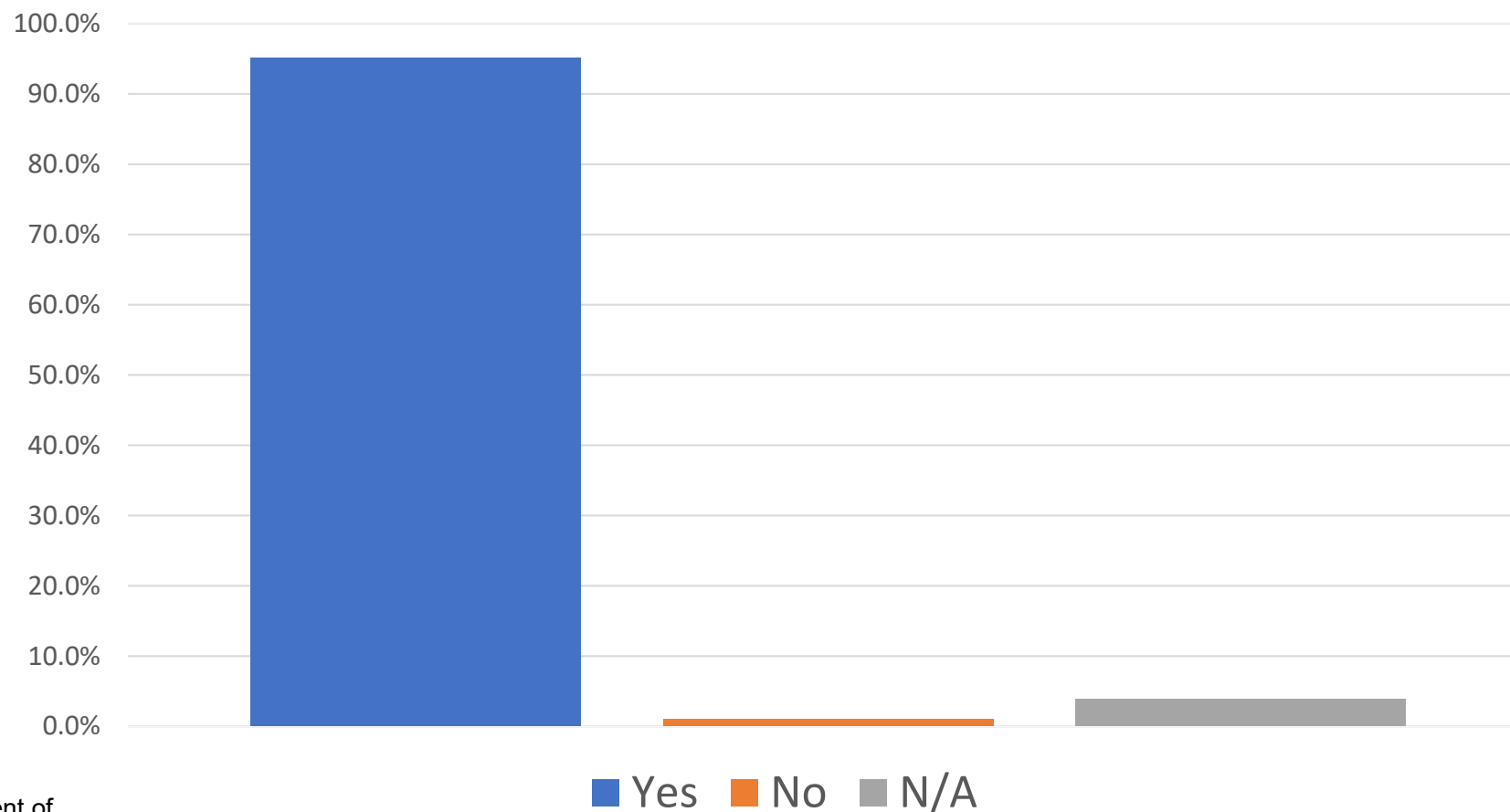


Lead & Copper Rule Survey



Lead & Copper Rule Survey

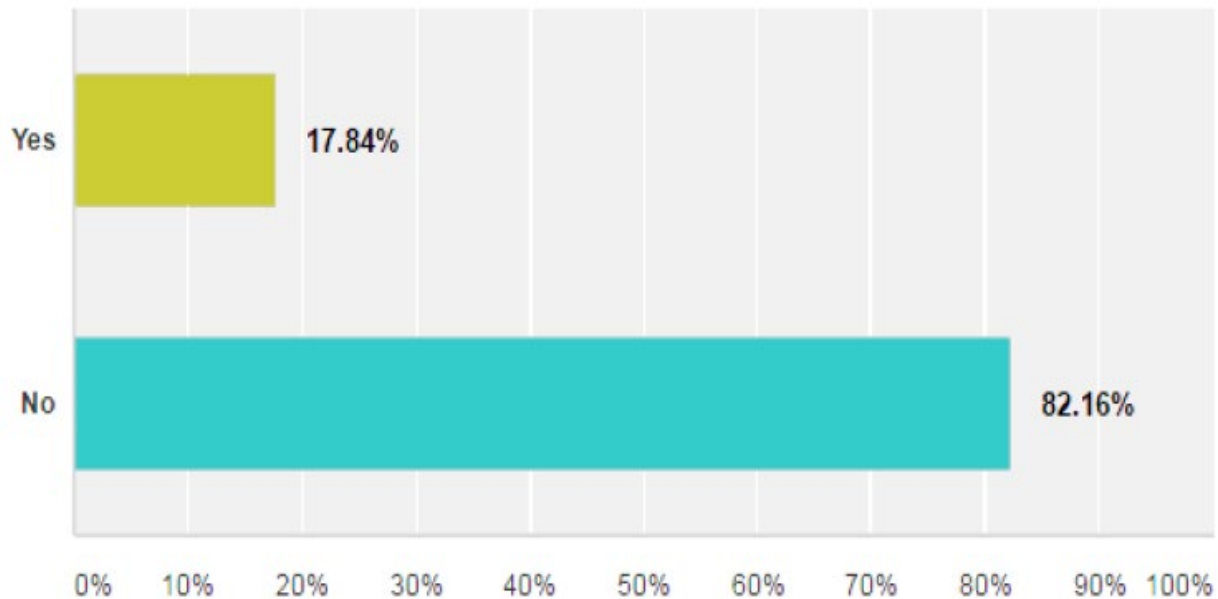
Does your System have a Mandatory LSL Replacement Program?



Lead & Copper Rule Survey

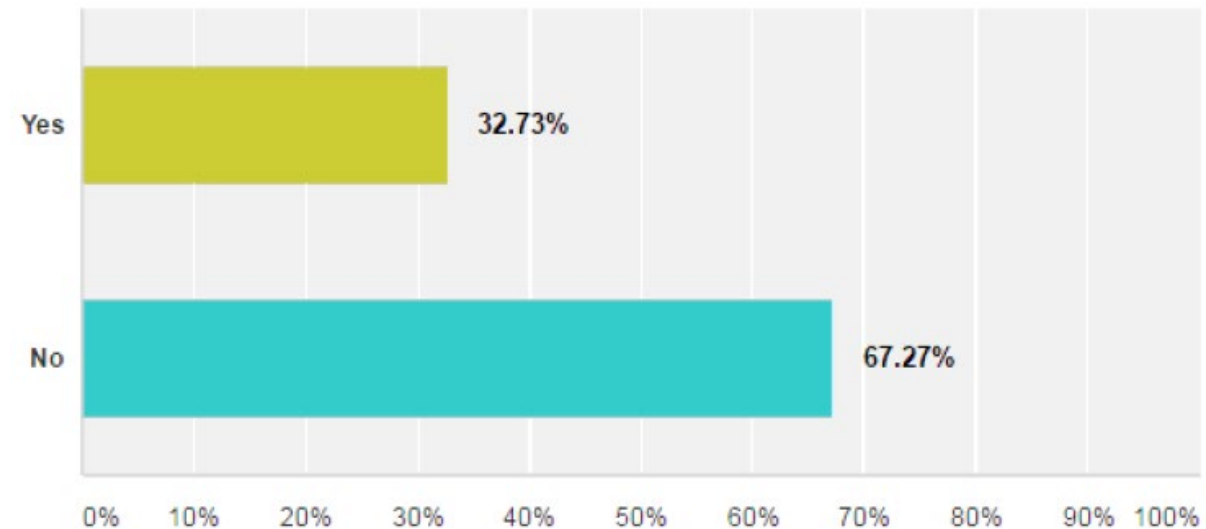
If “No”, does your system have a voluntary lead service line replacement program?

Answered: 185 Skipped: 375



If “Yes”, is it a full lead service line replacement program? (Meaning you always replace all the way from the main to the home)

Answered: 55 Skipped: 505



\$\$\$ Funding \$\$\$



Michele Mochnoc Higgins, P.E.
Massachusetts Department of
Environmental Protection

Massachusetts State Revolving Fund (SRF) Loan Program for Drinking Water

Joint Federal-State
Financing Program

MassDEP Division of
Municipal Services
(DMS) and Clean
Water Trust (Trust)

Expected 2020
Financial Assistance
Program for Drinking
Water \$150 million

Drinking Water SRF 2020 Priority Projects

* Full Lead Water Service Replacements

> Tier Classification System

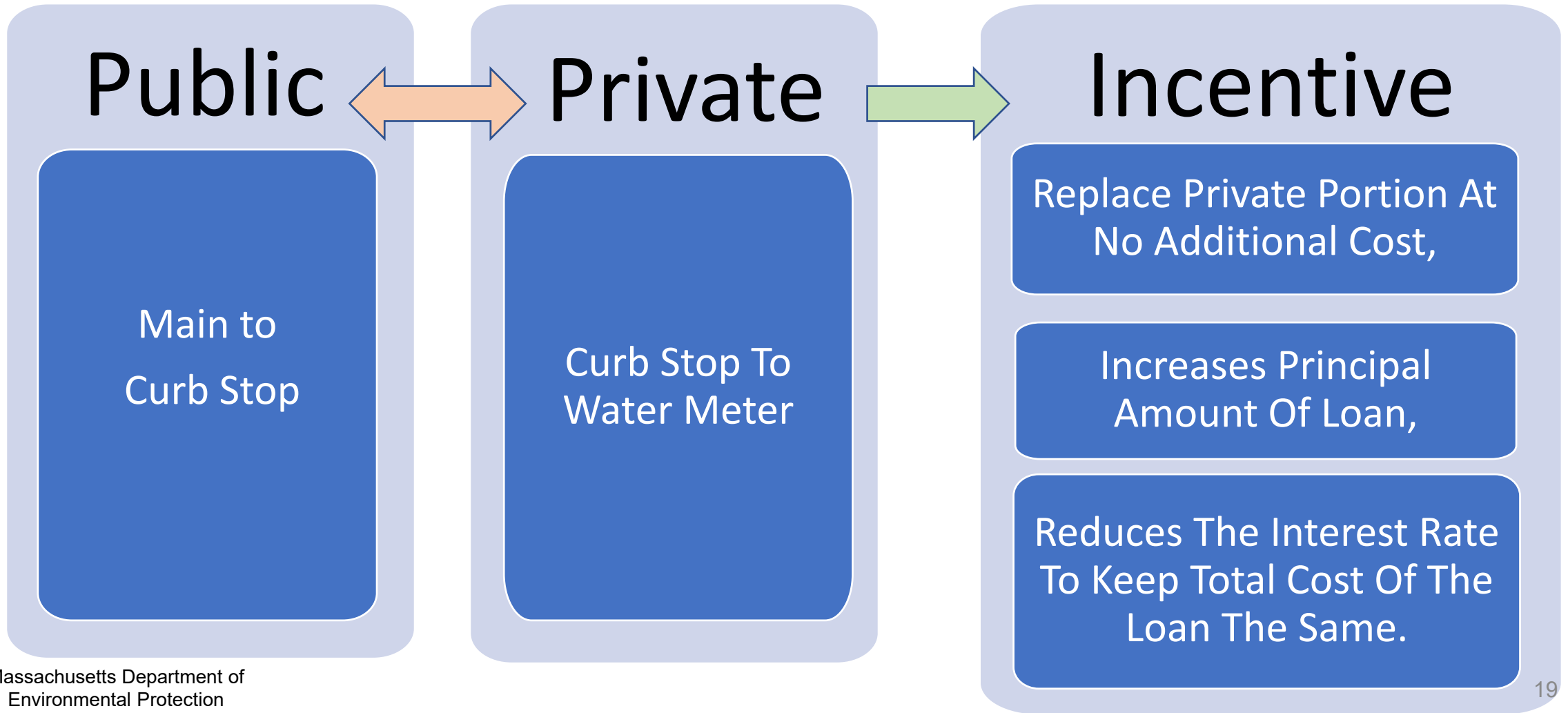
> Water Main Rehabilitation

> Stand Alone

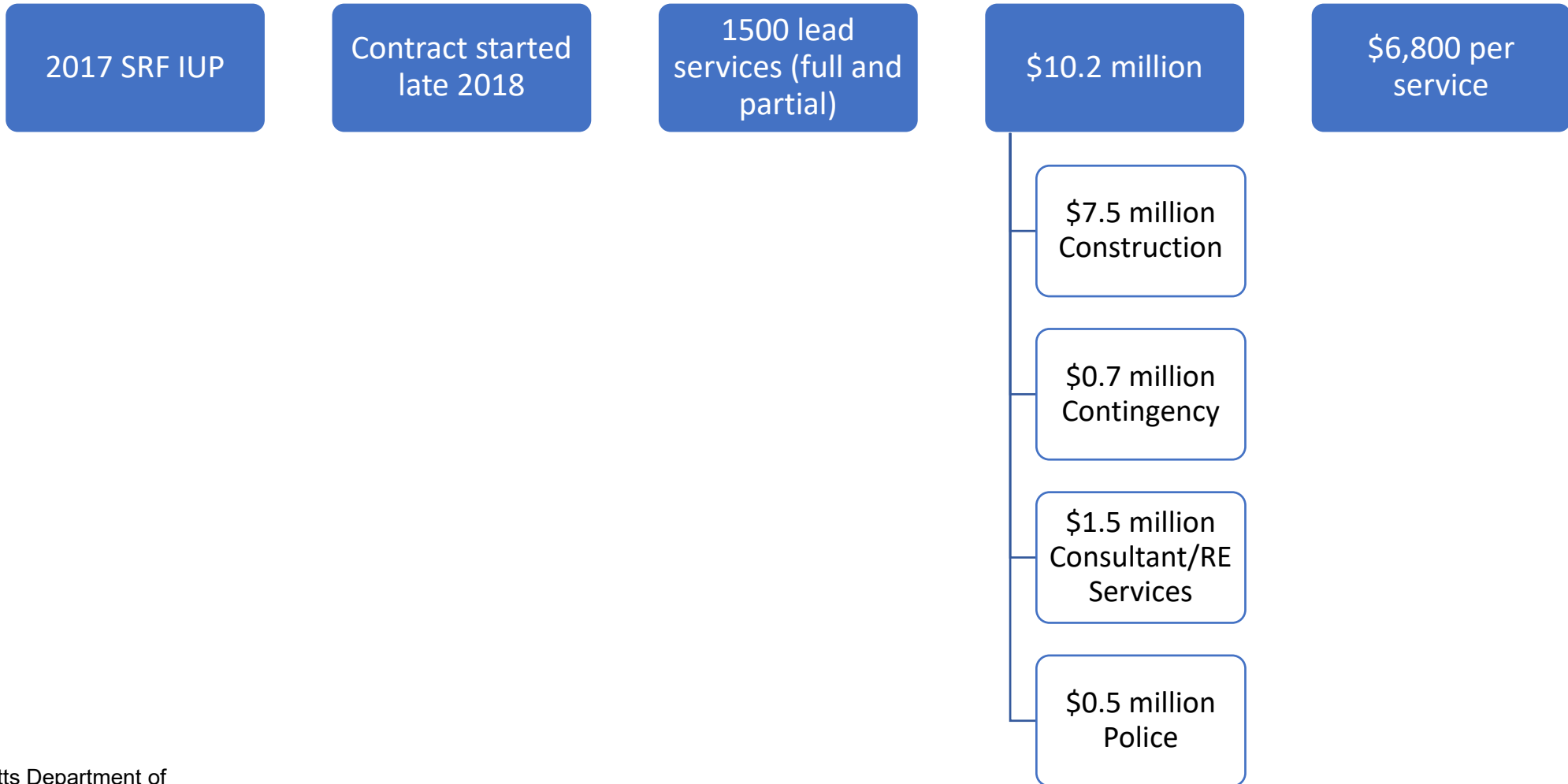
> Material Evaluation Reports

> Lateral Material Records

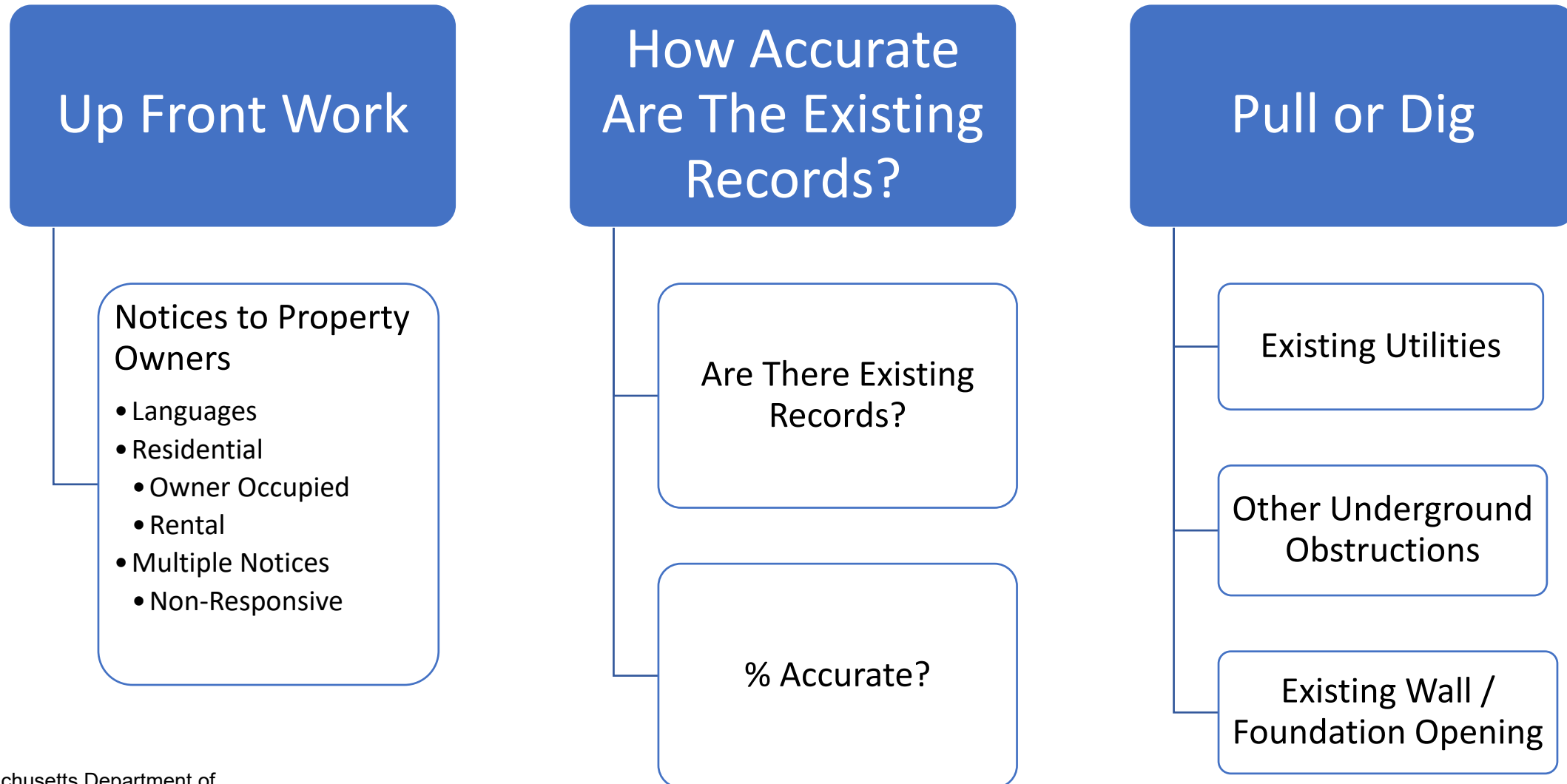
Incentivized Lead Service Line Replacement SRF Program



New Bedford SRF Project



Easier Said.....



Thank you...



Massachusetts Department
of Environmental Protection

New Jersey Implementing and Funding Lead Service Line Replacement Requirements

Presented by Kat Burkhard and Kristin Tedesco

Kathleen began working with the Division of Water Supply & Geoscience in 2004 as a compliance manager, helping systems achieve and maintain compliance with the Safe Drinking Water Act. Over the past several years she has also assisted with the Division's Lead Team initiative. She received her B.S. in environmental science from West Virginia Wesleyan College and her M.S. in environmental science from Drexel University.

Kristin has worked as an Environmental Engineer in the Division of Water Supply and Geoscience at NJDEP for over sixteen years. She has worked throughout the Division in Well Permitting and the Safe Drinking Water programs on various rule implementation issues. Currently, Kristin is supervising staff in the Capacity Development, Rules & Licensing Unit, which includes oversight of the Drinking Water State Revolving Fund. Kristin holds a B.S. and M.S. in Civil Engineering from Lehigh University.



New Jersey Implementing and Funding Lead Service Line Replacement Requirements

Kat Burkhard, Environmental Specialist 3

Kristin Tedesco, Environmental Engineer 3

NJ Department of Environmental Protection (NJDEP), Division of Water Supply and Geoscience

June 6, 2019



NJ Adopts Federal LCR

- ▶ Lead & Copper Tap Monitoring: 40 CFR 141.86
- ▶ Water Quality Parameter Monitoring: 40 CFR 141.87
- ▶ Lead & Copper Source Water Monitoring: 40 CFR 141.88
- ▶ Public Education: 40 CFR 141.85

- ▶ Corrosion Control Treatment: 40 CFR 141.81 – 141.82
- ▶ Source Water Treatment: 40 CFR 141.83

- ▶ **Lead Service Line Replacement: 40 CFR 141.84**

- ▶ Analytical Methods: 40 CFR 141.89
- ▶ **Reporting: 40 CFR 141.90**
- ▶ Recordkeeping: 40 CFR 141.91



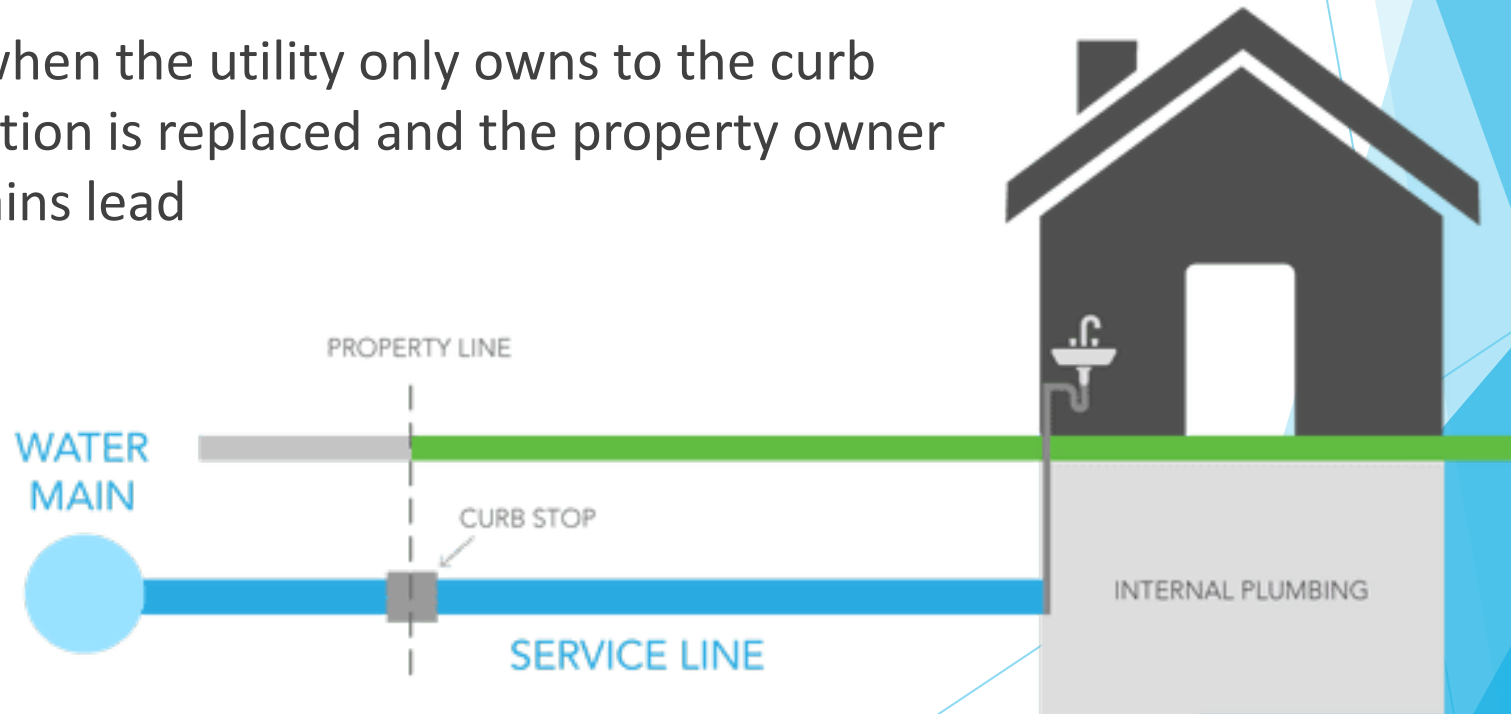
Lead Service Line Replacement Requirements

- ▶ Pursuant to 40 CFR 141.84, water systems that have existing corrosion control treatment and fail to meet the lead action level (15 parts per billion) are required to replace annually at least 7% of the initial number of lead service lines (LSL) in its distribution system that it owns.
- ▶ The first year of lead service line replacement shall begin on the first day following the end of the monitoring period in which the action level was exceeded.



Defining LSL Replacements

- ▶ Full LSL replacements mean a replacement of all lead pipe in the entire service line
- ▶ Partial LSL replacements mean a partial replacement of lead in the service line
 - ▶ Typically occurs when the utility only owns to the curb stop and that portion is replaced and the property owner portion still contains lead
- ▶ LSLs include lead goosenecks and lead lined service lines





Public Water Systems in NJ

Public Water Systems (PWS) that Monitor for Lead and Copper

Total Number	1,298
Community Water Systems (CWS)	579
Non-Transient Non-Community Water Systems (NTNC)	708
Non-Public and Transient Non-Community Water Systems*	11

*Licensed Childcares by the NJ Division of Children and Families

Gathering LSL Inventories from Water Systems

- Submission of Lead and Copper Sampling Plans
- LSL Reporting Form



Request

Lead and Copper Sampling Plans

- ▶ July of 2016, large water systems required to submit
 - ▶ Accounts for ~4.5 million of New Jersey's ~8.9 million people
- ▶ November 2016, requested from small and medium water systems that have corrosion control treatment for lead and copper or incurred an action level exceedance since 2016
- ▶ January 2017, requested from schools with corrosion control treatment for lead and copper
- ▶ Any system that exceeds an action level and hasn't yet been required to submit a Plan, must do so at that time.



Review Lead and Copper Sampling Plans

Material ²	Number present ³ (Tier/Sample Category) <i>Check all that apply</i>
Lead Service Lines (LSL) including goosenecks <input type="checkbox"/> Check here if total number is unknown and complete confirmation strategy below.	<input type="checkbox"/> Single Family (Tier 1/i) _____ <input type="checkbox"/> Multi Family ⁴ (Tier 2/iv) _____ <input type="checkbox"/> Schools (Tier 2/x) _____ <input type="checkbox"/> Non-Residential (Tier 2/x) _____

Note that if LSL and other Tier 1 sites are present, ≥ 50% of sampling locations must be from sites served by LSLs.

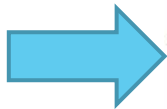
We have not evaluated our entire distribution system. Our strategy for identifying and confirming materials within the distribution system is detailed below. *CWS are not required to inspect the interior plumbing of potential sites; however, it is strongly recommended to inquire about the materials of a customer's plumbing on the sample instructions/chain of custody.*

We will take the following steps to identify materials within the distribution system:

- Request that our customers complete questions about their homes on our sampling instructions/chain of custody
- Conduct a separate survey of our customers' interior plumbing materials
- Conduct a separate survey of our customers' interior plumbing materials and include a lead swab testing kit
- Send lead swab testing kits to all our customers who have not had the plumbing materials confirmed
- Distribution main materials: We will collect information where possible during our normal operations, i.e., checking service line materials when reading water meters or performing maintenance activities.
- Continued review of those resources indicated at the beginning of this section.

We will utilize the following strategy to identify the presence and location of lead service lines and lead goosenecks:

We certify that we have conducted a thorough materials evaluation of our entire distribution system.



9.g. Lead Service Line (LSL) Replacement Requirements
Check here if not applicable (i.e., no LSL and/or lead goosenecks)

Total number of LSL: _____

Total number of LSL unknown, but number of known LSL is: _____

Total number of lead goosenecks: _____

Total number of lead goosenecks unknown, but number of known lead goosenecks is: _____

Total number of LSL & lead goosenecks combined: _____

If there is not an accurate number and location of all lead service lines, this system will conduct the steps outlined in Section 5 to identify them going forward.

This system owns the entire service line (main to house)

This system owns a portion of the service line (main to curb)

This system does not own any portion of the service line

An inventory of all LSLs including when they are replaced, if it was partial or whole, and which portion is owned by the water system and homeowner is:

Enclosed in Appendix G

Available upon request.

Note that the LSL Inventory must be submitted to the NJDEP when LSL replacement is triggered under a lead ALE.

The LSL inventory will be maintained by:

Name/ _____ Title: _____

Phone: _____ Email: _____

We currently operate CCT; therefore, will replace annually 7% of the initial number of lead service lines and/or goosenecks in the distribution system that are owned by the water system, beginning on the first day following the end of the monitoring period in which the lead AL is exceeded.

Partial LSL Replacement
 not applicable (customer owns entire LSL or water system owns entire LSL)

- Customer notification 45 days prior to a partial replacement
- Customer notification of temporary increase in lead levels
- Guidance for customers on how to minimize these exposures
- Sampling within 72 hours of a partial replacement
 - Sample collection from the service line will be 1L in volume and have stood motionless in the service line for at least 6 hours. The sample will be collected in one of the following 3 ways:
 - At the tap after flushing the volume of water between the tap and the lead service line
 - Tapping directly into the service line
 - Allowing the water to run until there is a significant change in temperature (for single family homes only)

EPA's Notification and Reporting Requirements for Partial Lead Service Line Replacement under the Lead and Copper Rule is available at <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=901U0200.txt>

▶ Water systems must conduct a thorough materials evaluation of their system, this includes identification of LSLs.



Approve Lead and Copper Sampling Plans

	PbCu Plans	Approved PbCu Plans	WQP Plans	Approved WQP Plans
Community	304	239	205	164
Non-Transient Non-Community	291	216	215	168
Non-Public and Transient Non-Community	11	3	6	2
Totals	606	458	426	334

Only represents Plans that have been received




LSL Reporting Form

- ▶ Request inventory using a Lead Service Line Replacement (LSLR) Report Form
 - ▶ For Community Water Systems whose Lead and Copper Sampling Plans have not yet been requested (278 systems)
 - ▶ 11 water systems have failed to respond. They have been referred to our Compliance and Enforcement Office.



LSL Replacement and Reporting Form

01/2019

	Department of Environmental Protection Mail Code 401-04Q Bureau of Water System Engineering 401 East State Street - P.O. Box #420 Trenton, New Jersey 08625 Tel # 609-292-2957 – Fax # 609-633-1495 Email: watersupply@dep.nj.gov
	Lead Service Line Replacement (LSLR) Report Requirements Pursuant to 40 CFR 141.84 & 141.90

Sections I through III are required to be completed and submitted electronically to the above email address **within 60 days of becoming aware of a trigger to commence Lead Service Line Replacement Requirements or upon request by the Department**. In accordance with 40 CFR 141.84(a) LSLR is triggered when a system fails to meet the lead action level in tap samples after installing corrosion control and/or source water treatment. The State may also require a system to commence LSLR for failure to install corrosion control and/or source water treatment.

For water systems conducting LSLR, as required or voluntarily, all Sections are required to be completed and submitted electronically to the above email address **within 12 months following the end of the monitoring period that triggered LSLR (if applicable) and annually thereafter**.

I. System Information	
Water System Name	
PWSID Number	

II. Contact Information		
Licensed Operator and/or Owner Name:		
Licensed Operator and/or Owner Phone and Email Address:	Phone: _____	Email Address: _____

III. Inventory Information			
Owner of the LSL:	System <input type="checkbox"/>	Property Owner <input type="checkbox"/>	Both <input type="checkbox"/>
Initial number of LSL ¹ in the system, regardless of ownership: _____			
A. Select one of the two options below:			
<input type="checkbox"/> Number of sites with LSL ² :			
<input type="checkbox"/> Total number of LSL unknown, but number of known LSL: _____			
Approximate number of "unknown" LSL: _____			

¹ If the system is resuming LSLR after cessation of its LSLR program, the initial inventory of LSLs must include any LSL site that was not replaced previously due to sampling conducted under 40 CFR 141.86(b)(3).

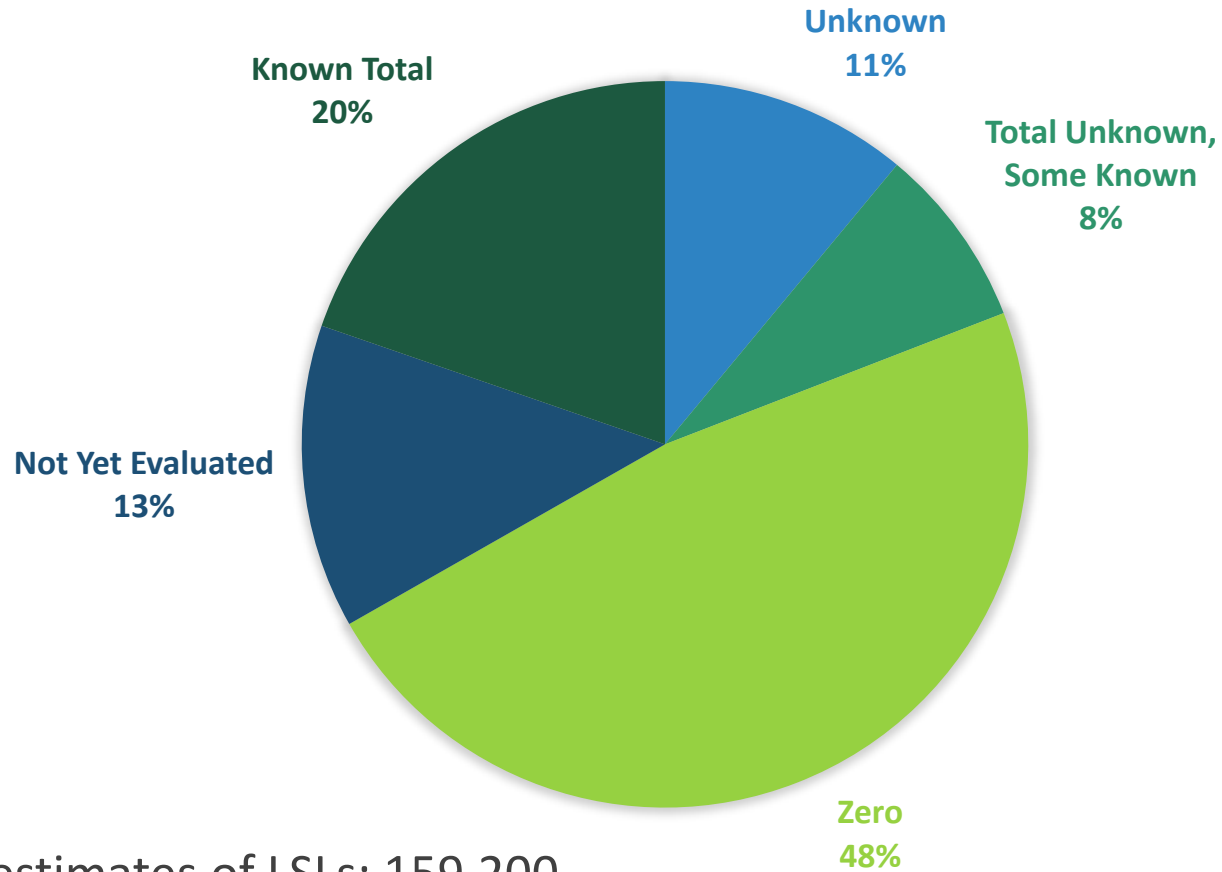
² Include sites with service lines made from lead installed from main to curb and/or curb to home.

- ▶ Uploaded to our website
January of 2019
<https://www.state.nj.us/dep/watersupply/dws-sampreg.html>



Number of LSLs in NJ

NJ LSL INVENTORY



- ▶ Current estimates of LSLs: 159,200
- ▶ In 2017, estimates from Harvard Law School Emmett Environmental Law & Policy Clinic: 350,000



NJ Legislation

The Senate Environment and Energy Committee favorably reports Senate Bill No. 1783.

This bill would require each public water system in the State to compile, and report to the Department of Environmental Protection (DEP), an inventory of lead service lines in use in its distribution system. Under the bill, a public water system would be required to make its lead service line inventory available, upon request, and at no cost, to appropriate State and local government officials, and to residents served by the public water system. The DEP would be required to develop, and publish on its Internet website, a guidance document, based on industry best practices, to assist public water systems in compiling the lead service line inventories required by the bill. Finally, within 24 months after the effective date of the bill, the DEP would be required to submit a report to the Governor and the Legislature assessing the extent of lead service lines in the State and recommending new policies to address the public health hazards posed by lead service lines.

This bill is identical to Assembly Bill No. 2697, which was also reported by the committee.



Scenario 1: Maple City Water Department

- ▶ Community Water System, publicly owned
- ▶ Population: ~225,000 people
- ▶ Service connections: ~62,000
- ▶ System solely uses surface water
- ▶ City owns the portion of the service line from the water main to the curb stop
- ▶ The property-owner owns the portion of the service line from the curb stop to the residence/building
- ▶ City exceeded the lead action level in the first half of 2017 monitoring period (January 1st to June 30th) which triggered lead service line replacements beginning July 1, 2017



Maple City Water Department: Identifying Lead Service Lines

- ▶ Identified the time when it became standard practice for the water system to not use lead service lines, lead-lined galvanized pipes, lead goosenecks
- ▶ Construction and installation data information (using tax records)
- ▶ Review paper records (i.e., service cards and complaint cards)



Lead Service Line Replacement Program Challenges

- ▶ Maple City does not have up-to-date records on service line materials or interior plumbing
 - ▶ Property-owners are not required to inform their water system if they update their plumbing or replace their service line
 - ▶ Maple City's contractors were not keeping records of both sides of the service line to determine whether it was a partial or full LSL replacement
- ▶ Since the water system is publicly owned, they have to get more approvals (e.g. Municipal Council, Board of Public Utilities, etc.)
- ▶ Do not receive many responses from the customers regarding the LSLR program
 - ▶ Lack of resources to go door-to-door to get customers to participate in the program
 - ▶ Customers receive many notifications and mailings from their water system, cannot differentiate the varying importance
- ▶ Maple City cannot assess the replacement cost to the property-owner directly for the property-owner side of the service line



Maple City ACO

- ▶ Maple City entered into an Administrative Consent Order with the NJDEP in July of 2018
 - ▶ LSL Replacement Program Prioritization Report which provided the basis for prioritizing replacement of their (at the time) minimum of 14% of the initial LSLs. Some of the prioritization factors:
 - ▶ Pressure zones: High pressure zone versus gravity zone (gravity zone will receive corrosion control treatment years after the high pressure zone)
 - ▶ Licensed Child Care Centers, regions with higher density of children,
 - ▶ High lead levels and proximity to properties with high lead levels, etc.



Scenario 2: Oak City Water Department

- ▶ Community Water System, publicly owned
- ▶ Population: ~290,000 people
- ▶ Service connections: ~35,000
- ▶ System uses a mix of surface water and purchased surface water
- ▶ Property-owner owns the entire portion of the service line from the water main to the residence/building
 - ▶ The water system does not own any portion of the service line
- ▶ Oak City exceeded the lead action level in the first half of 2017 monitoring period (January 1st to June 30th) which triggered lead service line replacements beginning July 1, 2017



Oak City Water Department

- ▶ Initially, Oak City had ~5,000 unknown lead service lines
 - ▶ Oak City is evaluating its records, updating information during field inspections and its meter replacement project, sending questionnaires, and making assumptions based upon the age of the water service installation
- ▶ Oak City entered into a Compliance Agreement and Order with the NJDEP in July of 2018
 - ▶ Oak City agreed to go beyond the federal regulations in notifying at least 15% of customers with known LSLs annually
 - ▶ Oak City agreed to notify their customers and continue the replacement program until all customers with known LSLs are notified and offered a replacement, within 8 years from July 2018
- ▶ LSL Replacement Program Prioritization Plan which Oak City attempted to group those invited to the Phase 1 based on contiguous areas to keep the costs low
 - ▶ Officially commenced the LSL replacement program (Phase 1) in March of 2019



Lead Service Line Replacement Program Challenges

- ▶ Only required to offer to replace at the property-owner's expense, since they don't have ownership
- ▶ Lack of interest in the replacement program from residents
 - ▶ Rental Properties
- ▶ Replacements are being performed on a case-by-case basis

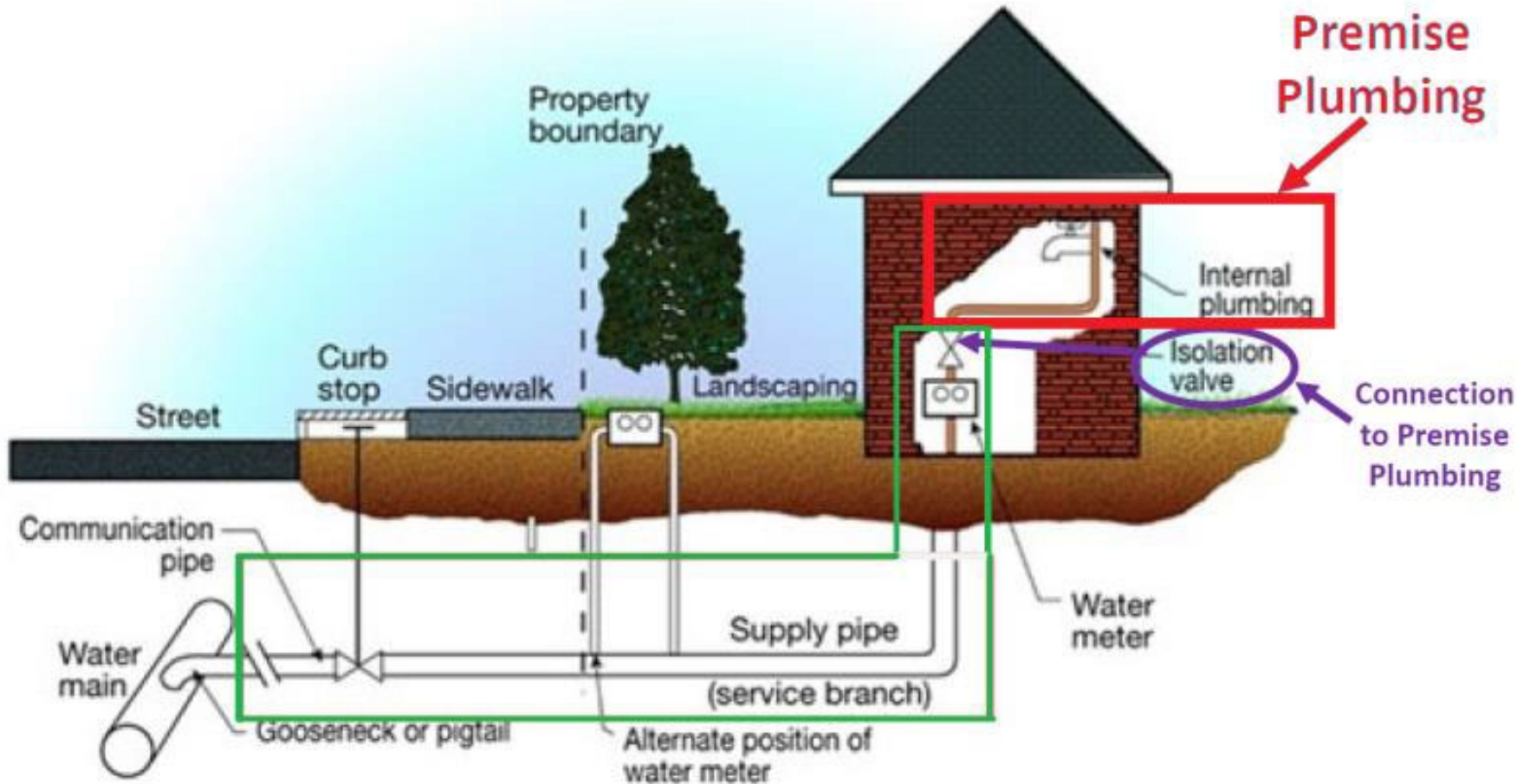


Drinking Water State Revolving Fund (DWSRF) Lead Service Line Replacement Program

- ▶ New Jersey has \$30M Principal Forgiveness set aside for lead service line replacements for systems that meet the following:
 - ☑ Have a Lead Action Level Exceedance
 - ☑ Can document the presence of lead pipes and components (at least 90% or more lead by weight)
 - ☑ Have an MHI that is less than the county MHI based on 2017 census



Lead Service Line Replacement



- ▶ Partial lead line replacements and premise plumbing cannot be funded



Lead Service Line Replacement Program

▶ Customer participation is acknowledged up front.

Property Owner

RE: LEAD SERVICE LINE REPLACEMENT PROGRAM

Dear Property Owner:

The City (City) records indicate that your property location was identified as having a water service line made up fully or partially of lead. A water service line that is made of lead, also known as a lead service line, can increase your risk of exposure to lead through drinking water and should be replaced if possible. The entire water service line from the City's water main into your home's water meter is owned by you, the Property Owner. The City does not own any portion of your water service line other than the meter. Replacing your lead service line will reduce your exposure to lead and improve your overall water quality.

PROGRAM OVERVIEW

Due to the June 2017 lead action level exceedance, the City is required to offer to replace (at the property owner's expense) 7% of the initial number of identified lead service lines in the system annually in compliance with the Federal Lead and Copper Rule. To assist in this effort, the City is applying for and is expected to receive funding from the New Jersey Department of Environmental Protection (NJDEP)/ New Jersey Infrastructure Bank (NJIB). The City's Lead Service Line Replacement program is estimated to be an 8-year program with the order of the replacements over this period based on a prioritization program performed by the City.

At this time, the City is offering to replace your lead service line with a new copper line within the next two (2) years at a discounted rate not to exceed a \$1,000 contribution from the Property Owner (see attached form for more information). The final cost to you will depend on the total amount of NJDEP/NJIB funding provided to the City for this program, however, the cost will be no greater than \$1,000. If you were to replace your lead service line on your own, the cost would likely be between \$3,000 and \$7,000 depending on required restoration.

Please fill out the attached form indicating whether or not you would like to participate in the program and return by May 25, 2018. If you elect to have your lead service line replaced under this program, your final cost will be provided to you when determined by the City and you will have another opportunity to opt out at that time. If you have already had your lead service line replaced, please document that on the attached replacement form and return by May 25, 2018.

LEAD SERVICE LINE REPLACEMENT FORM

Mail form to:

Director, Department of Water and Sewer Utilities
Re: LSL Replacement Program

OR take a photo of the form and email
OR complete the form on the website: OR scan the QR Code at the bottom of the form to complete on your smart phone by May 25, 2018

Name: _____

Property Address: _____

Lot/Block: _____ / _____ City: _____ Zip Code: _____

Phone Number: _____ Phone # provided is Cell or Home

Email Address: _____

Do you prefer to be contacted by Phone or Email

OPTIONS

- Yes - I want my lead service line servicing my property replaced and I understand this requires a financial contribution of up to \$1,000 which can be paid in full or over a duration of 12 months at 0% interest through my water bill. If you select "Yes," someone from the City will contact you to schedule the work.
- Defer - I am interested in having my lead service line servicing my property replaced, however, I'd like to defer the replacement of the lead service line to a later phase in the City's Lead Service Line Replacement Program.
- No - I previously had my entire lead line servicing my property replaced on _____ (date) with _____ (replacement pipe materials) by _____ (contractor name) and attached a copy of the receipt as verification that the entire lead service line was already replaced.
- No - I decline the City's offer to replace my lead service line servicing my property at a reduced cost. I understand the health risks associated with having a lead service line and do not hold the City accountable for any future health related concerns that may result from having a lead service line.



Thank You

NJ Division of Water Supply & Geoscience

609-292-7219

watersupply@dep.nj.gov



Questions and Answers Session

To Ask a Question: Type a question in the “Questions” box located in right navigation bar of your screen.