Lead Service Line Replacement Plan
Town of Fair Haven, Vermont
WSID: 5218
October 16, 2024

BACKGROUND AND SUMMARY

Community water systems are required under the Lead and Copper Rule Revisions to submit a service line inventory (SLI) by October 16th, 2024. Specific requirements for the inventory format and its development are set by the Drinking Water and Groundwater Protection Division. The Town of Fair Haven water system has 911 service connections.

As part of the SLI, the water system and the engineer have completed extensive record review and public outreach to the water system users.

Record Review

The engineer and water system reviewed existing water system documentation to determine the material of water services at the water main connection point (municipal side connection). Record review information included the following:

- Existing water system mapping
- Existing Water/Wastewater Permits
- Lister information
- Water meter installation records

From the data gathered 523 municipal side connections or 57% have been identified. None of the identified municipal side connections are known to be lead. There are 388 municipal side connections that have not been identified. The water system was largely constructed in the early 1900's with cast iron and small diameter lines. The system underwent significant replacements and additions, beginning in the early 1970's with upgrades to the system from the late 2000's to 2024. The new waterlines/upgrades consisted of either DI or PVC watermains and copper water services. Through in-person customer side inspections, outreach and records review, 73% of the customer side has been inventoried. The service line material identified was largely copper, however there was some galvanized iron/steel found and one lead service identified.

Public Outreach

The engineer and water system operators prepared SLI flyers that were mailed to all the system users to determine the material of water services at the building water services entrance (customer side connection), refer to Attachment 1 for the SLI flyer. The water system also mailed flyers with water billings. The flyer included a scannable QR code to generate an email, a phone number for a member of the Town, and a phone number for a representative at Aldrich and Elliott. Additionally, the engineer and water system operators performed visual observations of water services.

From the data gathered 73% of the customer side connections have been identified. Of the customer side connections, one lead was identified.

LEAD SERVICE LINE REPLACEMENT PLAN

The following is prepared as a guideline for the community to identify the remaining service material within the system and steps to take if a lead services or galvanized service requiring replacement is discovered.

Unknown Service Line Determination

The water system has completed an extensive record review and public reach-out campaign to compile the initial service line inventory. There are currently 388 municipal side connections that are unknown and 244 customer side connections that are unknown. When required, the water system will determine if lead is present by one of two methods:

1. Water Quality Sampling:

   The water system will utilize a targeted service line sampling approach. This involves flushing out the volume of water in the premise plumbing and collecting and analyzing a sample from the service line. The volume of water from the tap to the service line will be estimated based on the pipe diameters and lengths between the tap and the service entrance. A lead concentration threshold of 3 micrograms per liter (3 μg/L) in the second liter of the service line after a minimum of 15 minutes of stagnation will be used as an indicator of a lead service line.

2. Excavation:

   The water system will use a backhoe or other mechanical excavator to dig a “pothole” or test pit to expose the service line. This will be targeted at the curb box / shutoff valve. Disruption of a lead or galvanized service line requiring replacement may result in temporarily elevated lead levels in drinking water. Therefore, homeowners will be notified prior to any excavation activities and provided with flushing instructions to minimize the risk of lead exposure.

Procedure for Customers to Flush Service Lines and Premise Plumbing of Particulate Lead

Before, during, and after a gooseneck replacement, service line replacement, or other activity necessitating this procedure, the Water System will instruct customers to follow a procedure to flush service lines and premise pluming of particulate lead.

When possible, the Water System will notify customers in advance of service line replacements in accordance with the strategy described in Section 3 of this Plan.

Prior to working on the service line, the Water System will close water flow to the building at a shut-off valve. Then, the water system will complete the service line replacement. After the work is completed, the water system will open flow to the building and premise plumbing.

Customers will be instructed to follow this procedure flushing the service line and premise plumbing of particulate lead:

- Do not consume tap water, open hot water taps, use icemaker, or use filtered water dispenser until this flushing procedure is complete.
- Remove faucet aerators, screens, and shower heads from all cold water taps in the building. Beginning with the lowest level, fully open the cold water taps throughout the building including all showers, baths, and exterior hose bibs.
- After all the faucets are open, let the water run for at least 30 minutes.
- Turn off each tap starting with the taps at the lowest level of the building.
- Clean aerators and screens of any solid debris and place them back onto faucets.

Strategy for Informing Customers Before a Service Line Replacement

Before a service line replacement, the Water System will complete an outreach effort to provide information to customers with lead, galvanized lines requiring replacement, or unknown waterlines.

The notification will be completed with a mailer, door-to-door conversation, and/or door hanger at least 45 days prior to the replacement of the water system's portion of the service line. In the notification, the water system will offer to replace the customer-owned portion of the service line. Affected customers will be alerted to the upcoming work and will be encouraged to participate in pre-construction efforts to ensure that they are informed and prepared.

A public reach-out effort will be required within 30 days of a sampling period in which a trigger level exceedance occurs.

Procedure for Lead Service Line Replacement

Determining Labor Forces, acquiring necessary permits, acquiring property owner permissions for customer-owned portion of lines, and updating the water system's service line inventory.

<u>Pre-Construction</u>

Prior to the replacement activity, a member of the water system or their representative, will conduct a pre-construction coordination meeting. The location of the existing service

line entrance and water meter will be confirmed. The homeowner will be provided with flushing instructions following construction of the service line, and the water system will confirm permission to complete the replacement. If the homeowner does not grant access, the water system may only be able to replace the system owned portion of the service line up to the curb-stop.

The customer will be responsible for providing clear access to the service line entrance and water meter.

The utility shall complete dig-safe notification during pre-construction

Replacement

The water system will complete replacement of the service line using one of three general strategies. All materials used for replacement shall be NSF/ANSI 61.

1. Pull-Through Technique:
   The waterline/service connection will be exposed using an excavator and hand digging within the Right of Way. The existing service line will be disconnected at the water line and from the internal plumbing at the water meter. A cable will be fed from the house to the water main through the old service line and connected to a new copper line. The excavator will then be used to pull the new copper service line from the home to the waterline in the path of the original service. The new copper service will then be connected to the existing water main and the customers' plumbing.

2. Directional Boring Technique:
   The waterline/service connection will be exposed using an excavator and hand digging within the Right of Way. The existing service line will be removed from the water main and abandoned in place. A directional drill will be used to install a new service line from the water main to the house with a new entrance to the property created. The new service line will be connected to the customer's plumbing and the water main.

3. Open Trench Installation:
   If the service line cannot be replaced by the pull-through or directional boring technique, the line may be installed in an open trench. A trench would be dug along the length of the service line and a new service line would be installed along the existing profile. The existing service line would be disconnected from the customer's plumbing and the water main. The new service line would be connected to the customer's plumbing and the water main. The existing service line would be buried in place.

Following replacement, the water system will open an exterior hose bib to begin the flushing process (if available) and ensure that homeowners are provided with adequate flushing instructions.

Documentation

At a minimum the service line inventory must be updated to reflect the replaced service line. The water system will also be responsible for creating an updated tie-card of the service and curb stop.

Lead Service Line Replacement Rate Goal

The Water System serves 10,000 or fewer people and is not required to provide a replacement goal rate at the time of this plan's submission.

Lead Service Replacement Prioritization Strategy

If multiple services are identified for replacement the following prioritization strategy will be utilized by the Water System to allocate available resources.

Priority Points Awarded	Prioritization Factor
10	Known Lead Service Line
10	Populations Most Sensitive to the Effects of Lead • Schools and Day Care Facilities • Homes with children and/or adults who are pregnant or may become pregnant
10	Disadvantaged Communities
8	Known GRR Service Line
5	Populations Sensitive to the Effects of Lead • Nursing Homes • Medical Facilities
5	Companion Projects (Project concurrent with other infrastructure projects)
5	Compact Projects (Concurrent project in the same area)

Funding Strategy for Conducting Lead Service Line Replacements

There are currently no lead service line replacements identified based. There are four (4) services identified as Galvanized Service Requiring Replacement (GSRR). If the water system, through its efforts to determine and/or confirm the unknown water services a lead service or a galvanized service requiring replacement is found, the following funding opportunities can be utilized to assist with replacement.

Local Funding

The water system can utilize water system reserve funding and/or budget for full or partial water service line replacements. Local funding can be utilized to replace both

the municipal side and customer side of the service. The water system and governing body for the community will need to determine if and how the customer will reimburse the community for the portion of the water service replacement owned by the customer. The customer can also replace the service line with their own funding in coordination with the water system.

Drinking Water State Revolving Loan Funding

The water system can utilize the Drinking Water State Revolving Loan fund (DWSRF) for full or partial water service line replacement. It is currently unknown whether there will be money, grant or subsidy available for specifically lead/GSRR replacement through the DWSRF program. However, this program can be used for funding service replacement through the established loan program. The water system and the governing body for the community will need to determine if and how the customer will reimburse the community for the portion of the water service replacement owned by the customer. The customer can also replace the service line with their own funding in coordination with the water system.

Next Steps

The following are the next steps for the water system:

- Submit the SLI and Replacement Plan to the State by October 16, 2024
- Make the results of the SLI and Replacement Plan available to the public
- Coordinate efforts to determine the service line material for the “unknowns”
- Replace any lead service or galvanized service requiring replacement