FACT SHEET - MATERIAL EVALATION & SAMPLE LOCATION IDENTIFICATION

(Ver 1, July 2017)

Introduction

All Community Water Systems (CWS) and Non-Transient Non-Community Water Systems (NTNC) shall complete a distribution system Materials Evaluation (ME) in order to identify a pool of targeted lead and copper sampling sites that is large enough to ensure that the system can collect the required number of tap water samples. A summary of the ME, including the resources used to identify materials and a summary of the potential sites, must be included in the Lead and Copper Sampling Plan (LCSP). NTNC systems must use the Materials Evaluation Survey for Non-Community Water Systems (BWSE – 17) and for this purpose. This fact sheet will walk through the steps that systems may use to complete the ME and develop a pool of targeted sampling sites.

STEP 1: Identify Piping and Plumbing Materials

Relevant information concerning piping and plumbing materials utilized throughout the distribution system and within housing can be attained through the following sources:

- Plumbing Codes
- Permitting Files
- Community Survey
- Distribution Maps and Drawings
- Plumbing Permits
- Existing Water Quality Data
- Township Construction Records
- Water Main Break Records
- Meter Installation Records
- Standard Operating Procedures
- Inspection and Maintenance Records
- Interviews with senior personnel, building inspectors, and retirees

- A system may also collect such information where possible in the course of its normal operations (i.e. checking service line materials when reading water meters, performing maintenance activities, or conducting repair operations).
- Note that NTNC water systems may have a licensed plumber evaluate the plumbing materials of the distribution system, if no records of materials are available.

STEP 2: Classify the Categories of Piping and Plumbing Materials

A system shall identify whether the following materials are present in the distribution system and/or household plumbing when conducting the ME:

- Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing;
- Copper from piping and alloys, in service lines, and home plumbing;
- Galvanized piping in service lines, and home plumbing; and/or
- Ferrous piping materials, such as cast iron and steel.

Note that inspection and/or verification of plumbing within homes does not need to be conducted until the site will be sampled. It may be listed as a site solely based on other means of investigation as noted in Step 1.

STEP 3: Identify the Tier Level and Category for Available Locations:

After identifying the plumbing materials for each site, determine Tier and Category for each as outlined below for CWS and NTNC.

Tier	Community Water Systems	Category
1	Single-family structures:	
	• Served by a lead service line; and/or	i
	• Containing copper pipes with lead solder installed after 1982 and before 1987*;	ii
	• Or Containing lead pipes.	iii
	When multiple-family residences comprise at least 20% of the structures served by a water system, the system may include Tier 2 sampling sites in its Tier 1 sampling pool. These sites will be designated as Tier 1 but using the categories listed below.	
2	Buildings, including multiple-family residences:	
	• Served by a lead service line; and/or	iv
	• Containing copper pipes with lead solder installed after 1982 and before 1987*;	v
	• Or Containing lead pipes.	vi
3	Single family structures that contain copper pipes with lead solder installed before 1983.	vii
Other	Structures with other plumbing materials.	viii - xiv

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STEP 3: Identify the Tier Level for Available Locations (Continued):

Tier	Nontransient Noncommunity Water Systems	Category
	Buildings:	
1	• Served by a lead service line; and/or	x
	• Containing copper pipes with lead solder installed after 1982 and before 1987*; or	xi
	• Containing lead pipes.	xii
2	Buildings that contain copper pipes with lead solder installed before 1983.	xiii
Other	Structures with other plumbing materials	xiv

NOTE:

* Though the effective date for the lead ban in NJ was 1987, there is still a possibility of lead solder being used in construction after this date. Systems are advised to carefully consider the Tier level of homes and buildings built during this time.

- Building age alone may not provide enough information to classify a location. If plumbing repairs/replacement has taken place the location may need to be reclassified.
- The key characteristic to look for is lead – either piping or solder. More recent copper piping should not have lead solder.

STEP 4: Create a Sampling Pool

The sampling pool must target high risk sites using the criteria listed below.

Community Water Systems:

- If lead service lines and Tier 1 sites with copper piping and lead solder are present, 50% of sampling sites are to be those homes served by lead service lines and 50% other Tier 1 sites.
- Samples must be collected from Tier 1 sites. If insufficient Tier 1 sampling site are available, then Tier 2 sites must be used.
- If Tier 2 sampling sites are used, the plan must detail why a sufficient number of Tier 1 sites are unavailable.
- If insufficient Tier 1 and Tier 2 sampling sites are available, Tier 3 sites must be used.
- If the water system does not contain Tier 1, 2, or 3, locations, then the sample sites should be evenly distributed throughout the water system.

Non-Transient Non-Community Water Systems:

- Required to sample from interior taps most commonly used for drinking/consumption such as kitchen, drinking water fountain, breakroom, etc.
- Samples must be collected from Tier 1 sites.
- If insufficient Tier 1 sampling site are available, Tier 2 sites must be used.
- If the water system contains only plastic plumbing, but the faucets and fittings contain lead, the system should collect tap samples at these locations.
- If the water system contains more than one building that meets the appropriate tier criteria, samples should be collected from more than one building.
- If the water system does not contain Tier 1 or 2, locations, then the sample sites should be evenly distributed throughout the water system.

Additional Resources:

DEP Lead in Drinking Water - Public Water System Information:

http://www.nj.gov/dep/watersupply/dwc-lead-public.html

For further assistance, please contact the Bureau of Water System Engineering at 609-292-2957 or watersupply@dep.nj.gov