



LEAD AND COPPER SAMPLING PLAN

Lead and Copper Sample Site Plan Selection Criteria for Community Systems and Non-Transient Non-Community Water Systems

Sample Site selection and Materials Evaluation

All public water supplies must complete a materials evaluation of their system to identify their pool of sample sites (for information about the materials evaluation go to:

<https://www.mass.gov/doc/identifying-sites-for-lead-and-copper-sampling-and-preparing-a-sampling-plan-and-materials>). **Sample locations must be the highest Tier available.**

The sampling pool must target high risk sites using the process described below. Stop when you have a sufficiently large enough sampling pool to meet the required number of tap samples. **Remember, systems with lead service lines shall, at a minimum, collect 50% of samples from sites served by lead service lines.**

Community Water Systems (COM):

Use the following sequential order when selecting sites:

1. Select at least 50% Tier 1 sites served by lead service lines
2. Select all other Tier 1 sites
3. Select all Tier 2 sites served by lead service lines
4. Select all other Tier 2 sites
5. Select all Tier 3 sites
6. Select Non-Tier sites. If all available sites are non-tier they should be evenly distributed throughout the distribution system.

Non-Transient Non-Community Water Systems (NTNC):

Select interior taps most commonly used for drinking/consumption (i.e. kitchen, drinking water fountain, breakroom, etc.) **using the following sequential order:**

1. Select from Tier 1 building(s)
2. Select from Tier 2 building(s)
3. Select from Tier 3 building(s). If all available sites are Tier 3 they should be evenly distributed throughout the distribution system.

If your system is a NTNC system you may need to collect more than one sample from the same location, on different days, in order to meet your minimum sampling requirements. For example, if you are required to collect a minimum of five samples, but you only have one sampling site, you must collect five samples from this sampling site on different days.

Sampling Plan Certification

All PWS must complete and submit the MassDEP sampling plan for review and approval. If there are subsequent changes to the sampling plan because of changes in plumbing etc., the PWS must submit a revised sampling plan for approval. See Lead & Copper Sampling Plan Change in Sampling Site form at <https://www.mass.gov/doc/lead-copper-sampling-plan-change-in-sampling-site>).



The Sampling Plan is required to be reviewed and certified by the person authorized to fill out the form, it could be the water system owner or the water system licensed operator. The person signing and certifying the sampling plan shall also include, their title, phone number, and email (if applicable). The person certifies and signs off on the Sampling Plan to acknowledge that the information provided is true and accurate to the best of their knowledge and belief.

By signing the form, the person is also certifying to the knowledge that if any of the sites are not Tier 1 sites in accordance with Massachusetts Drinking Water Regulations 310 CMR 22.06B, their signature indicates that: (1) Tier 1 sites were not available. (2) The PWS have provided MassDEP with a “materials survey”, and (3) that if there are higher Tier sites in the distribution system, the PWS have submitted a LCR highest Tier Form (LCR-Samp-HTS).

Instructions for Completing Lead and Copper Sampling Plan Form

I. System Information

- a) PWSID #: enter the 7-digit public water supply ID number
- b) PWS Name and Town: Enter the name and town of the public water system where sampling is being conducted.
- c) Phone Number: Enter phone number for the PWS.
- d) Population: Enter number of people served.
- e) Samples required: Enter the number of samples required specified on 310 CMR 22.06B(7)(c). See table below:

<u>System Size (No. People Served)</u>	<u>Number of sites (Standard Monitoring)</u>	<u>Number of sites (Reduced Monitoring)</u>
>100,000	100	50
10,001-100,000	60	30
3,301 to 10,000	40	20
501 to 3,300	20	10
101 to 500	10	5
≤ 100	5	5

- f) Standard Plan or Reduced Plan: Select whether the sampling plan is a standard or reduced plan. Remember, the Department must approve the reduction of the minimum number of samples in writing based on a request from the system or onsite verification by the Department.

II. Reporting

Report the primary sample sites using the LCR-SP-A form and the alternative sites using LCR-SP-B. **The tier classification in CMR 22.06B(7)(a) for COM systems are as follow:**

A **Tier 1** site shall consist of single family structures that:

- a) contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or



- b) are served by a lead service line. When multiple-family residences comprise at least 20% of the structures served by a water system, the system may include these types of structures in its sampling pool.

A **Tier 2** site shall consist of buildings, including multiple-family residents that:

- a) contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or
- b) are served by a lead service line.

A **Tier 3** site shall consist of single family structures that contain copper pipes with lead solder installed before 1983.

For your convenience and following EPA’s guidelines, the following table includes the classification within Tiers:

Classification information for COM Systems Within each tier, use higher classification locations before lower classification locations (ex. Tier 1A before Tier 1B).		
<u>Tier 1 Class:</u>	<u>*Tier 2 Class:</u>	<u>*Tier 3 Class:</u>
<p>A: Single Family Residence (SFR) with Lead Service lines (LSL) (partial or full) or lead-lined</p> <p>A2: Multifamily Residence (MFR) w/ LSL if ≥ 20% connections served by PWS are MFRs</p> <p>A3: SFR with lead goosenecks/pigtails</p> <p>B: SFR with lead pipes or copper pipes with lead/tin solder–Built in 1983, 1984, or 1985</p> <p>B2: SFR with verified Lead/Tin Solder built in 1986 or later</p>	<p>C: MFR with LSL and/or lead goosenecks/pigtails</p> <p>D: MFR with lead pipes or copper pipes with lead/tin solder built 1983, 1984 or 1985</p> <p>E: Private building with LSL and/or with lead goosenecks/pigtails</p> <p>F: Private building with lead pipe or copper pipe with lead/tin solder installed in 1983, 1984, or 1985</p>	<p>G:SFRs built prior to 1983</p> <p>H: Other/exceptional cases Note: (Please explain on LCR-SP-A2 Overflow sheet in the comments section)</p>

The tiers in CMR 22.06B(7)(a) for NTNC systems are as follow:

A **Tier 1** site shall consist of buildings that:

- a) contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or
- b) are served by a lead service line.

A **Tier 2** site shall consist of buildings that:

- a) contain copper pipes with lead solder installed before 1983.



A **Tier 3** site shall consist of representative sites throughout the distribution system. A representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the water system.

Information for NTNC Systems		
<u>Tier 1:</u> Buildings that contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or are served by a lead service line (LSL).	<u>Tier 2 :</u> Buildings that contain copper pipes with lead solder installed before 1983.	<u>Tier 3*:</u> Other

1. Sample Category

Tier: Insert the Tier based on CMR 22.06B(7)(a). (Tier 1, Tier 2, Tier 3)

Tier Class: Insert the Tier Classification based on EPA’s guidance (Tier 1A, Tier A2, Tier B, etc..)

2. Sample Site Address: Enter the sample site address for the primary site/alternative site.

3. Location: Select the option that applies:

K: For Kitchen location

B: for bathroom location

4. How will the samples be collected: Select who is going to collect the sample.

III. Certification block

- **I have performed a material survey and I have not found any lead service line:**
Check this box if after performing the material survey you can verify that there are not any lead service lines within your system.
- **Certify signature:** sign the form.

SCHOOLS

In accordance with Massachusetts Regulations, 310 CMR 22.06B(7)(a)9, at least two schools within a community water system’s distribution system must be tested during each sampling round for the LCR. An Early Education and Care Facility (EECF) can be included as a school according to the criteria noted below. To locate all EECF in your system see <http://www.eec.state.ma.us/ChildCareSearch/EarlyEduMap.aspx>. This is an additional requirement for COM systems with every sampling round unless the school/EECF has its own well. These four diagnostic samples are in addition to the minimum number required and the results are not used in determining the 90th percentiles for Lead and Copper Rule compliance per 310 CMR 22.06B. These samples are used to educate the school/school district or EECF on the importance of lead and copper sampling and the MassDEP Lead Contamination Control Program (LCCA) for schools and childcare facilities. At a minimum, two sampling sites at each school/EECF must be sampled. The sampling protocol at schools differ from the typical LCR



sampling, a 250 ml sample volume must be taken, one from a kitchen tap and one from a drinking water source such as a water fountain. The results are not to be included in the LCR 90th percentile calculations.

How to choose which an EECF to include in schools to sample?

It is important to note that a PWS should differentiate between a Family Child Care and a Group and School Age Child Care programs. **When selecting an EECF, the PWS should focus on School Age Child Care programs.**

- **Group and School Age Child Care programs provide early education and care for young children in a non-residential setting such as a school or community center. These programs include several types of early education and care such as: Out-of-school time programs that operate before/after school or during the summer, Center-based care for infants, toddlers, preschool, or Kindergarten age children, and Early Head Start and Head Start programs**
- Family Child Care, sometimes referred to as "home daycare", is child care provided in someone's home where the caretaker is not related to the children. Family Child Care programs are small in size and have no more than 10 children.

The PWS shall identify a pool of targeted sampling sites to meet the two school requirement under the LCR:

- The PWS should prepare a numbered list of all schools and EECF (Group and School Age Child Care) on its distribution system, starting with schools and followed by EECF. PWS may use Form LCR-C School and EECF continuation sheets to create a master list of all school and EECF (Group and School Age Child Care) on the distribution system.
- PWS must rotate through their list of schools/ EECF (Group and School Age Child Care) and collect at least two samples (kitchen and bubbler/fountain) from two schools/ childcare facility during each sampling round until all facilities are sampled before starting over.
- Use Form LCR-C School and EECF continuation sheets, as necessary, to identify school or EECF (Group and School Age Child Care) sampled and to report results. For record keeping purposes a PWS should note on its master list when each school EECF (Group and School Age Child Care) was sampled.
- It is really important to remember that there is a minimum of 4 samples in total for every sampling round. For example, if while testing at an EECF (Group and School Age Child Care) you observe that the facility has only one drinking water location in the kitchen, you are encouraged to collect from additional schools/ EECF (Group and School Age Child Care) so that the final result is at least 4 samples in total.