

Sampling Plan and Procedures

1. Introduction

This Lead Drinking Water Testing Sampling Plan (Sampling Plan) establishes a plan for sampling Lead at drinking water outlets used for consumption or food preparation in every school within the School District. The data collected through the execution of this Sampling Plan will determine if immediate remedial measures are necessary.

This Sampling Plan follows the USEPA publication, “The 3Ts for Reducing Lead in Drinking Water in Schools” and is incorporated into the Quality Assurance Project Plan (QAPP) for the drinking water sampling program.

2. Objective

The 1988 Lead Contamination Control Act intended to identify and reduce Lead in drinking water in schools and child-care facilities. In response, the USEPA prepared guidance documents to assist school districts in meeting the requirements of the Act.

For the purpose of determining immediate remedial measures, the District is required to utilize the Lead action level established by the USEPA. The current Lead action level is 15 µg/L, which is more stringent than the guidance provided by USEPA in their Lead in Schools Guidance which recommends action be taken at drinking water outlets greater than 20 µg/L. Schools in New Jersey that are served by their own well, which are regulated pursuant to the Federal and New Jersey Safe Drinking Water Acts, must also adhere to the 15 µg/L value for determining compliance.

3. Plumbing Survey

Prior to a sampling event, documentation of various aspects of each school’s water system were completed. The purpose of the Plumbing Profile is to identify and categorize plumbing and infrastructure in order to prioritize schools/outlets for testing, and to identify potential sources of Lead (i.e. Lead service lines, or Lead piping or solder).

4. Planning

The Environmental Consultant, in conjunction with the School District Program Manager, will prepare a listing of all water outlets that are used for drinking or cooking. A walk-through inspection may be conducted as part of the planning process. The outlet listing should consider possible drinking water taps that are located in:

- Kitchen and Food Preparation outlets
- Teacher Lounge outlets
- Nurse’s Office outlets
- Home Economic Sink outlets
- Drinking Water Fountains – Bubblers and Water Coolers
- Ice Machines
- Other drinking water outlets used for consumption

Each drinking water outlet should also be identified on the school floor plan diagrams. Examples of outlets that do not need to be sampled include utility sinks, outside spigots,

bathroom sinks and classroom sinks, unless any of these sinks are used routinely for consumption.

5. Sampling Procedures

USEPA recommends that a two-step sampling process be followed for identifying Lead contamination. Lead in a water sample can be sourced from the outlet fixture itself, plumbing upstream of the outlet fixture, or in the water that is entering the facility. The two-step sampling process helps to identify the actual source(s) of Lead and relates to the collection 1st-Draw and flushed water samples.

The School District has retained the services of an Environmental Consulting Firm, RK Occupational and Environmental Analysis, Inc. of Phillipsburg, NJ, to provide technical support for compliance with Safe Drinking Water rule promulgated by the NJ Department of Education as N.J.A.C. 6A:26-12.4. Generally, the Environmental Consultant will use the two-step procedure only for diagnosing a particular water tap if results of the 1st-Draw samples exceed the action level for Lead.

At no time should filters, aerators and screens be removed prior to or during the sampling event.

Prior to Sampling

- The Environmental Consultant will obtain from the laboratory pre-cleaned sample collection bottles, weatherproof labels, and chain of custody forms for the sampling event.
- Every drinking water outlet that will be sampled will be identified with a specific sample location code or **Tap Number**.
- Turn off all irrigation and outdoor water features.

Day of Sampling

- All samples will be collected in a pre-cleaned HDPE 250mL wide mouth, single-use rigid sample container.
- Sampling will begin at the outlet closest to the point of entry and continue to the furthest outlet to ensure the water remains motionless in the plumbing. The first water sample will be collected from the water outlet closest to the water service line's entry point. Sampling will continue to move away from the entry point until the outlet farthest away is sampled last. This will minimize the chance that a sampling location will be flushed by an upstream fixture.

Sample Collection Procedures – Initial Sampling

1. First draw (1st-Draw) samples are required and defined as samples collected from outlets where water sat undisturbed for a minimum of 8 hours. Samples will be collected from cold water outlets only. The sample will be collected by placing the bottle under the drinking water outlet before turning the cold water outlet on. No water will be allowed to run prior to collecting a sample.

2. Each sample collected will be properly identified on the sample bottle and chain of custody using the sample location code or Tap Number previously identified by the District on the floor diagram.
3. Upon receiving the testing results from the laboratory, the Environmental Consultant will advise the School District Program Manager of the sample results.

Sample Collection Procedures – Follow-up Sampling

When initial sampling results at any water outlet that exceed the 0.015 mg/L action level, the Environmental Consultant will make recommendations for appropriate response actions by the School District to remediate the Lead levels at the affected water outlet(s). Upon receiving sample results, the District will turn off all outlets so that it cannot be used for drinking.

If these locations must remain on for non-drinking purposes, a “DO NOT DRINK – SAFE FOR HANDWASHING ONLY” sign will be posted.

Many times there are multiple water outlets located throughout the building that provide an adequate number of water taps and the water tap with the higher Lead levels can remain out of service with little impact. However, if the School District determines that water tap is needed, the outlet may be inspected and cleaned of line sediment or replaced as a complete unit.

Prior to putting the water outlets back into service it must be re-sampled and receive an acceptable Lead sample result. In these situations, the two-step sampling method will be used as noted below:

1. Collect 1st-Draw sample in a pre-cleaned 250 mL container following procedures listed above and note on water sampling log.
2. Collect “Flushed Water” sample and note on waste sample log. The flushed sample will be collected after the drinking water outlet has been turned on and allowed to run for 30 seconds. If the drinking water outlet is a water cooler with a chiller unit then allow the water to run for 15 minutes prior to collecting a flushed sample in a pre-cleaned 250 mL container.
3. Each sample collected will be properly identified on the sample bottle and chain of custody as a 1st-Draw or Flushed sample.

Sampling Personnel Responsibilities

- Preparation of pre-printed waterproof labels, water sample logs, the school name, the Tap Number, date of collection and any preservation technique used;
- Preparation of a chain of custody to include the field sample information;
- Documentation of any and all observations such as automatic sensors, odors, change in water color, low water flow, water outlet leaks (i.e. 1 second drip), irregular water spray, attached filter(s), if the screen/aerator is on/off the water outlet or if the water becomes warm/hot.
- Minimizing the potential for cross contamination of sample outlets by sampling personnel. The water will be collected from the outlet directly into each container.
- Following all of the sampling procedures outlined in the Sampling Plan and QAPP.

Within 24 hours after the District has reviewed and verified the final laboratory results, the District will make the results publically available and if any results exceed the action level provide written notification to the parents/guardians of all students as well as to the Department of Education.