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Management Plan for Lead-in-Water

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1.0 Purpose

Kenyon-Wanamingo Public Schools is committed to providing a safe working and learning environment for employees and students. This Management Plan for Lead-in-Water was developed to reduce the potential for exposure to lead in water and to comply with recommendations from the Environmental Protection Agency's (EPA's) Lead Contamination Control Act (LCCA) of 1988 and the Minnesota Department of Health (MDH). The Lead Contamination Control Act of 1988 requires states to establish a lead assessment and reduction program for drinking water in their schools. The EPA has recommended that schools take remedial action to address lead-in-water exposure whenever lead levels exceed 20 parts per billion (ppb).

The Lead Contamination Control Act (LCCA) of 1988 was created by the Environmental Protection Agency (EPA) to identify and reduce lead in drinking water. Minnesota Statutes (121A.335 LEAD IN SCHOOL DRINKING WATER) now require the testing of potable water sources (water used for consumption) every five years for the presence of lead. Lead is a metal that usually enters drinking water through the distribution system, including pipes, solders, faucets, and valves. Lead levels in water may increase when the water is allowed to sit undisturbed in the system, such as in science, biology, or art areas. Exposure to lead is a significant health concern, especially to infants and young children whose growing bodies absorb lead more readily than adult bodies do. Lead exposure can cause delays in physical and/or mental development in children and damage to the brain, kidneys, nervous system, and red blood cells. The EPA and MDH recommend that action be taken at a specific fixture when the lead concentration exceeds the EPA's action level for schools of 20 parts per billion (ppb). Kenyon-Wanamingo Public Schools uses the MDH document, "Reducing Lead in Drinking Water: A Technical Guidance for Minnesota's School and Child Care Facilities", as a technical guide for sampling and flushing protocols.

The identified Program Manager and contact person for the district's Lead-in-Water Program is Paul Clauson, Director of Buildings/Grounds and Technology.

2.0 Water Testing

Potable water outlets will be sampled during the school year throughout the district on a five year cycle to include sinks and drinking fountains in kitchens, staff lounges, elementary school classrooms, home economics classrooms, and hallways. Water outlets in restrooms, custodial closets, science labs, art rooms, and other general-purpose workrooms are not sampled. Sampling consists of gathering the first draw prior to the fixture being used that day, of approximately 500 milliliters (ml) each. Current protocol calls for flushing locations 8-18 hours prior to sampling. If results exceed the EPA's action level of 20 ppb for schools, flush sampling procedures or alternative measures may be implemented.

Re-sampling occurs every five years, per MDH guidelines, or when a fixture or water supply is repaired or replaced. Water samples are analyzed by an accredited testing laboratory (i.e. one such sampling company is Minnesota Valley Testing Laboratories (MVTL) in New Ulm, Minnesota), using EPA approved analytical methods and quality control/assurance procedures (i.e. such as the ICP/MS EPA Method 200.8).

Per Minnesota Statutes, section 123B.571, school districts are now required to report Lead-in-Water test results at a school board meeting. In addition, it is recommended that a copy of the district's Lead-in-Drinking Water Testing Report be made available to staff and the public through the district's Buildings & Grounds Office.

3.0 Recordkeeping

Lead-in-water testing reports are located and available for review in the Buildings & Grounds Office.

Kenyon-Wanamingo Public Schools retains lead-in-water records for a minimum of five years. The district last tested for lead in 2010.

4.0 Maintenance Procedures

A lead-in-water concentration of or less than 20 ppb (maximum) is the current standard considered acceptable by the EPA/MDH. Potable water outlets found to have greater than this concentration are repaired, replaced, or flushed. Acceptable replacement fixtures include: American Standard (no lead), T & S (no lead), Chicago Brass model #50 Faucet (low lead), and model # JSB-10 bubbler (stainless steel). When bubbler heads are replaced, brass valves will be replaced with an appropriate plastic (ABS, CPVC, PVC) at the same time.

Flushing may be used as an alternative to repair or replacement. A flushing strategy will be determined for fixtures that are shown to exceed 20 ppb during testing. In addition, it is recommended to flush potable water outlets following any two-week vacancy or prior to the beginning of school in the fall. As long as the fixtures are used regularly, lead levels should remain acceptable. The fixtures should be flushed when the building has been at low occupancy, for example, following school breaks.

Recommendations of one of the following treatment options for fixtures with lead levels approaching or exceeding the EPA action level may be considered for implementation:

- Install a National Sanitation Foundation (NSF) certified filter for lead reduction. The filter selected should work by size exclusion of lead particles as opposed to lead adsorption. Filters should have tight pores (1-micron or less). NSF lists many such filters on its website. Following replacement, retest the first-draw lead level after flushing the line 8-18 hours prior to testing to confirm that filter is successful in reducing lead levels.
- Investigate further to determine the source of the lead responsible for an elevated lead level. Collecting multiple samples in a row can assist in determining the location of the lead-containing component (e.g. fittings for hot and cold water supply lines). Samples should be collected upstream of the hot and cold supply lines. Once the source is identified, remove, replace with lead-free component, and retest.
- For any location with an elevated lead level, conduct flush sampling at 30-second, one-, and two-minute intervals to determine if longer flush will reduce lead levels to an acceptable level. If results indicate that flushing will reduce lead to acceptable levels, implement a flushing program which includes documentation of daily flushing and periodic program review. Flushing of fixtures on a regular schedule should keep the water fresh throughout the piping. This should be done more often when the building has been at low occupancy, for example, following school breaks. If flushing is not a desired option, proceed as described above for the kitchen steam kettle.
- If sampling indicates that fixture is the source of the elevated lead level, replace fixture with a "lead-free" fixture certified to NSF/ANSI 372 or NSF/ANSI 61-G. The *Reduction of Lead in Drinking Water Act* redefines "lead-free" as "not more than a weighted average of 0.25% lead when used with respect to wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures." Effective January 4, 2014, drinking water system components sold or installed must adhere to this new requirement.
- Remove fixture from service by disconnecting it from the water supply.