PLAN REVIEW	
Reviewer	***Date***
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LEAD-IN-WATER AND PAINT MANAGEMENT

Purpose

Lead is a highly toxic metal that was used for many years in products in and around our schools. Exposure to lead may cause a range of health effects, from behavioral problems and learning disabilities, to, in cases of high level exposure, seizures and death. The Comfrey School District has implemented a Lead-in-Water and Lead-in-Paint Management program to reduce the potential for exposure in District buildings.

Background

Since the 1980's, EPA and its federal and state partners have phased out lead in gasoline, reduced lead in drinking water, reduced lead in industrial air pollution, and banned or limited lead used in consumer products, including paint. States and municipalities have set up programs to identify and treat lead poisoned children and to rehabilitate deteriorated housing.

Parents, too, have greatly helped to reduce lead exposures to their children by cleaning and maintaining homes, having their children's blood levels checked, and promoting proper nutrition. The EPA's Lead Awareness Program continues to work to protect human health and the environment against the dangers of lead by developing regulations, conducting research, and designing educational outreach efforts and materials. Other agencies including OSHA, CDC, and the Minnesota Department of Health have all been active in the ongoing attempt to reduce lead exposure in this country.

How does lead get into the school environment?

Lead exists throughout the physical environment. We are exposed to small amounts each day, usually with no bad health effects. The major source of lead exposure among U.S. children is lead-based paint and lead-contaminated dust found in deteriorating buildings. Lead-based paints were banned for use in housing in 1978.

However, approximately 24 million housing units in the United States have deteriorated leaded paint and elevated levels of lead-contaminated house dust. More than 4 million of these dwellings are homes with one of more young children.

Other sources of lead poisoning are related to:

- hobbies (making stained-glass windows)
- work (recycling or making automobile batteries)
- drinking water (lead pipes, solder, brass fixtures, valves can all leach lead)
- home health remedies (arzacon and greta, which are used for upset stomach or indigestion; pay-loo-ah, which is used for rash or fever).

Lead-based paint also exists in non-residential buildings including, of course, schools. Even buildings built since 1978 have been found to contain lead paint since the bans implemented by the EPA initially affected only residential use of lead in paint. Accordingly, all paint in the District is considered to contain lead until we test it and confirm it to be lead free.

Pipes and other components in the school plumbing may contain lead. If they do, lead may dissolve into the water from both pipes and the components. The longer the water stands idle in the plumbing pipes and components, the more lead can dissolve into the water.

Why is lead a health risk?

Lead is a common metal, which has been used over the years in many consumer products. It can still be found in lead-based paint and under some conditions in air, soil, household dust, pottery, plumbing pip sand fixtures, and drinking water. If it is inhaled or swallowed, lead can build up in the body over time. If too much lead enters the body, it can damage the brain, nervous system, red blood cells, and formula made from contaminated tap water. Pregnant women and nursing mothers also need to be concerned about lead levels in drinking water since it can be passed on to the unborn child and breast fed baby.

Lead can enter the body in two ways:

- It can be inhaled (breathed in)
- It can be ingested (swallowed) by getting it on the hands, clothes, or beard, or in food, drinks, or cigarettes.

Once lead gets into the body, it can stay there for a long time. It is stored in three

places: the blood, body organs, and bones. Lead stays in the blood for about a month, in body organs for several months, but can remain in the bones for years. If affects the brain and nervous system, reproductive capabilities, the kidneys, the digestive system, and the body's ability to make blood.

Early signs of lead poisoning:

- Tiredness
- Headache
- Metallic taste
- Poor appetite

Later signs are:

- Aches or pains in stomach
- Constipation
- Muscle and joint pains
- Memory problems

These symptoms may be confused with everyday aches and pains. It is important to remember that lead may be causing injury to the body even if these symptoms are not felt.

Who is at risk?

- Children under the age of 6 years because they are growing so rapidly and because they tend to put their hands or other objects into their mouths.
- Children from all social and economic levels can be affected by lead poisoning, although children living at or below the poverty line who live in older housing are at greatest risk.
- Children of some racial and ethnic groups living in older housing are disproportionately affected by lead. For example, 22% of black children and 13% of Mexican-American children living in housing built before 1946 have elevated blood lead levels compared with 6% of white children living in comparable types of housing.
- Pregnant women.

- Adults who are exposed to lead on a frequent basis at work.

Can lead poisoning be prevented?

Lead poisoning is entirely preventable. They key is stopping people from coming into contact with lead and treating those who have been poisoned by lead.

- Lead hazards in an environment must be removed.
- Public and health care professionals need to be educated about lead poisoning and how to prevent it.
- Children who are at risk of lead poisoning need to be tested, and, if necessary, treated.
- Workers who are exposed to, or working in proximity to, lead hazards must be monitored to ensure that their blood lead levels are not elevated.

Student/building occupant lead exposure

Paint that is peeling or chipping poses an immediate safety hazard for young children, since eating even one paint chip can lead poison a child. Intact lead paint is still a potential problem, because eventually it will deteriorate, and in the meantime it may be releasing lead dust. Removal of intact paint, however, could release higher levels of lead inside the school than leaving the paint in place.

To address the potential problem, the district has trained personnel monitoring the situation. The goal of the District is to ensure that lead-based paint is not deteriorating. As long as lead-based paint is not damaged or deteriorated, interim control measures should adequately protect children and other building occupants from exposure to lead hazards. However, the District does have clear policies for monitoring and reevaluation of the paint, dust removal, and other forms of maintenance. Constant vigilance can be an effective short-term approach, but the District does strive to remove of permanently remediate lead-based paint whenever possible.

What is considered to be a potentially hazardous level of lead?

Lead-based paint is defined by the Environmental Protection Agency as any paint that contains more than 0.5 percent lead by weight (or about 1 milligram per square centimeter of painted surface). This is the “action level” at which the EPA recommends removal of lead paint if it is deteriorating and chipping. The Occupational Safety and Health Administration defines lead-containing paint as paint with *any* detectable level of lead.

Drinking water is considered a risk if it contains greater than 15 ppb which is the EPA "action level" for lead in water. Most studies show that exposure to lead-contaminated water alone would not be likely to elevate blood lead levels in most adults, even exposure to water with a lead content close to the Environmental Protection Agency's (EPA's) "action level" for lead of 15 parts per billion (ppb). Risk will vary, however, depending upon the individual, the circumstances, and the amount of water consumed. For example, infants who drink formula prepared with lead-contaminated water may be at a higher risk because of the large volume of water they consumer relative to their body size.

District Procedures for Reducing Exposure

Currently, the district performs periodic monitoring and testing of potential lead sources in the District. The procedures vary depending upon the situation:

Lead-in-Paint prior to paint disturbance

Painted surfaces are tested prior to disturbance to determine lead content. If lead is present, engineering controls are implemented to reduce the release of lead dust into the school environment. These controls can include, but are not limited to, the following:

- Containment of the work area
- Negative pressurization of the work area
- Ventilation of the work area
- Wetting of the painted surface prior to disturbance
- Specialized removal equipment
- Work performed only during non-school hours

In all cases, the District strives to follow Lead Safe Work guidelines as established by the EPA.

Damaged or Deteriorated Painted Surfaces

When damaged or deteriorated paint is identified, the District will follow Lead Safe Work and Lead Hazard Control guidelines. In general, paint that is peeling, chipping, or otherwise loose will be removed from the substrate and replaced with lead free paint. The remaining surface will be stabilized with an approved lead-based paint encapsulant. If the damage is considered extensive, the District will hire a licensed lead remediation contractor to remove and dispose the damaged material.

Smaller areas of damaged may be addressed with Interim Controls. Actual response actions will be determined on a case-by-case basis.

Elevated Lead in Water

When drinking water sources are found to contain 15 ppb of lead or greater, the District will implement a flushing program until the source of the lead can be found and remediated. Drinking water sources will be flushed individually on a daily basis. At each source, the water will be allowed to run for a minimum of 10 minutes at the start of each day.

Prohibited Activities

Many traditional methods of preparing a painted surface for repainting, refinishing, or restaining are prohibited since these methods are known to poison both children and workers. Prohibited methods of paint removal include:

- Open-flame burning or torching
- Machine sanding or grinding without a HEPA vacuum exhaust tool
- Uncontained hydroblasting or high-pressure washing
- Abrasive blasting or sandblasting without a HEPA vacuum exhaust tool
- Heat guns operating above 1,100 degrees F. Dry scraping (except for limited areas) and methylene chloride paint strippers are also not recommended.

General Guidelines for reducing lead exposure

Reduce the use of lead containing materials

- Substitute other materials whenever possible

Control exposure through appropriate local exhaust ventilation

- Be aware of how these systems work, and make sure they are working correctly

Use good housekeeping practices

- Do NOT use compressed air to remove lead-based dust or paint
- Clean up dust and debris on a regular schedule. Do NOT dry sweep.

- Use a vacuum with a high efficiency filter (HEPA) and/or wet cleaning methods

Provide employees with a clean lunchroom separate from the lead abatement work areas

- Do NOT allow eating, drinking, smoking, or storage of food, drinks, cigarettes, or cosmetics in lead abatement work areas
- Have employees wash hands and face before eating
- Clean the lunchroom regularly after each shift

Provide exposed employees with respirators

- Medical evaluations for employees should be provided
- Fit-testing must be conducted
- Provide employees with training about the proper use and maintenance of respirators

Furnish exposed employees with protective clothing

- Work clothing and shoes should NOT be worn home
- Supply gloves

Training

The District holds regular training sessions, at least once a year. This training is designed to inform workers of:

- The hazards of lead exposure
- Effective control measures such as engineering controls and safe work practices
- Correct methods of using respiratory protection and limitations of respirators
- Good personal hygiene
- Understanding the blood lead levels
- The dangers of bringing lead home from work to their families

Employee Blood Lead Testing

Blood lead levels can rise quickly. With frequent monitoring of blood lead levels, dangerous exposures can be quickly identified and corrected, workers can be protected, and the need for OSHA-mandated medical removal of workers can be avoided. A blood lead level over 25 ug/dL shows that substantial exposure to lead is occurring. There is also increasing evidence that health effects may occur at this blood lead level.

Many federal and state agencies encourage employers to consider more frequent testing than required by OSHA, and the tracking of blood lead levels over time to identify trends. The district follows a set of guidelines developed in response to those recommendations. The guidelines meet the OSHA standards and provide more information to the employer and employees to help control dangerous exposures.

Public Schools Guidelines for Employee Medical Monitoring

- First, test each worker before they begin any work involving lead
- Then test that worker every month:
    - For the first 3 months of testing, and
    - Whenever the previous blood lead level was greater than 25 ug/dL (If the previous blood lead level was at least 50 ug/dL, a follow-up test within 2 weeks and medical removal is required), or
    - Whenever an increase of at least 10 ug/dL from the previous test is observed
- After the first three months, continues testing every 2 months:
    - When the blood lead levels have remained below 25 ug/dL for 3 months, and
    - If an increase of less than 10 ug/dL from the previous test is observed
- Test every 6 months:
    - When the blood lead levels remain below 25 ug/dL for 6 months, and
    - If an increase of less than 10 ug/dL from the previous test is observed

Results of each test should be provided to the worker. Graphing the test results can help the employer and the worker identify whether blood lead levels are dropping, remaining stable, or increasing. The employer should also review the test results for all workers to help identify jobs where problems may be occurring.

Lead in water testing for schools

Model plan.

The commissioners of health and education shall jointly develop a model plan to require school districts to accurately and efficiently test for the presence of lead in water in public school buildings serving students in kindergarten through grade 12. To the extent possible, the commissioners shall base the plan on the standards established by the United States Environmental Protection Agency. The plan may be based on the technical guidance in the Department of Health's document, "Reducing Lead in Drinking Water: A Technical Guidance for Minnesota's School and Child Care Facilities."

School plans.

By July 1, 2018, the board of each school district or charter school must adopt the commissioners' model plan or develop and adopt an alternative plan to accurately and efficiently test for the presence of lead in water in school buildings serving prekindergarten students and students in kindergarten through grade 12.

Frequency of testing.

The plan under subdivision 2 must include a testing schedule for every building serving prekindergarten through grade 12 students. The schedule must require that each building be tested at least once every five years. A school district must begin testing school buildings by July 1, 2018, and complete testing of all buildings that serve students within five years.

Ten-year facilities plan.

A school district may include lead testing and remediation as a part of its ten-year facilities plan under section 123B.595.

Reporting.

A school district that has tested its buildings for the presence of lead shall make the results of the testing available to the public for review and must notify parents of the availability of the information.