Pathway to the Future

Lead Plan

Berryessa Union School District

1376 Piedmont Road, San Jose CA 95132 408-923-1800

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BASICS OF A LEAD HEALTH & SAFETY PROGRAM

All of the following protective measures are important for preventing work-related lead poisoning to be in compliance with Cal/OSHA lead standard (Title 8 CCR Section 5198 for General Industry, or Section 1532.1 for Construction).

Identification of Lead Hazards and Employee Training

❒ Safety Data Sheets and labels are reviewed for all raw materials or products you use, to determine if they contain lead.

❒ If work involves disturbing paint or surface coatings on metal structures or pre-1978 buildings, coatings are tested for lead (or are assumed to contain lead) and all necessary precautions are taken.

❒ All employees potentially exposed to lead dust or fumes are trained in the hazards of lead, how to protect themselves, and the worker protections required by the applicable Cal/OSHA lead standard.

Assessment of Lead Hazards

❒ Personal air monitoring is conducted to determine the 8-hour average airborne exposure to lead for all employees potentially exposed to lead dust or fumes.

❒ Air monitoring is repeated with any change in process, control, personnel, or tasks.

❒ When exposures are above the Action Level but below the Permissible Exposure Limit (PEL), air monitoring is repeated at least every six months.

❒ When exposures are above the PEL, air monitoring is repeated quarterly.

Reference: OLPPP/OHB/California Department of Public Health January, 2009

Berryessa Union School District

GUIDELINES FOR WORKING WITH LEAD-CONTAINING MATERIALS

I. INTRODUCTION

This document is the official District position on procedures and operations involving the use, maintenance, and disturbance of lead-containing materials at Berryessa Union School District (BUSD). This document was developed to assure that lead and lead-containing materials are properly maintained and handled. The procedures outlined in this policy will promote the safe management of lead and lead-containing materials at BUSD. They will also help assure compliance with regulations applicable to lead.

BUSD will conduct sampling, monitoring and inspections as deemed necessary to protect employee health and safety, and ensure compliance with regulatory requirements. BUSD will provide guidance to sites and departments regarding lead, lead exposure, and if necessary, lead abatement. Any questions concerning lead or items specified in this guide should be directed to Dan Norris in the Maintenance and Operations Department.

II. SCOPE

This policy applies to any work where BUSD and/or contractor personnel may be exposed to lead or lead containing materials. Occupationally, these exposures may include:

- · Demolition or salvage of structures where lead-containing materials may be present
- · Removal or encapsulation of materials containing lead (e.g. paint)
- · New construction, alteration, repair or renovation of items containing lead
- · Installation of materials containing lead
- · Lead contamination or emergency cleanup
- · Maintenance operations involving the disturbance of lead or lead-containing materials

Unless working in a relatively new building (built since 1980), all paint should be treated as lead-containing unless sampling shows otherwise.

III. PURPOSE

The purpose of this document is to provide information and guidance concerning the disturbance of lead-containing materials. Disturbance as used in this context would include scraping, washing, limited ***wet*** sanding, grinding, welding, drilling, small surface cutting for installation of equipment, repainting activities, cleaning activities, and minor surface modifications.

This document is NOT intended to act as a guideline for lead paint abatement. When a job requires lead abatement, more stringent and detailed specifications will be supplied.

IV. HEALTH HAZARDS OF LEAD

Health effects from lead exposure continue to be a concern both at the workplace and in the home. Since the ban on lead in gasoline, lead levels detected in areas near roadways have decreased dramatically; however, lead based paint used in buildings and housing prior to 1980 continue to serve as significant sources of exposure.

Lead poisoning can result from a single high level (acute) exposure or through a number of smaller repetitive (chronic) exposures. Most adults are exposed to lead through occupational sources, while children and infants are exposed primarily through surface dust and soil. Floors, chewable surfaces and soil contaminated with lead serve as primary exposure sources for children.

Lead has no beneficial effect on humans. Once it has been ingested into the body, lead is distributed in the bloodstream to red blood cells, soft tissues and bone. Lead in the body is eliminated very slowly, mainly by the kidneys and digestive tract. Irreversible kidney damage may have already developed by the time high blood lead levels are identified and treated, making avoidance to exposure and medical surveillance extremely important.
Acute lead poisoning symptoms usually include abdominal pain as in a gall bladder attack or appendicitis. Other non-specific complaints include irritability, fatigue, weakness and muscle pain. In rare instances, damage to the brain and central nervous system also may occur. Chronic lead poisoning may result after lead has accumulated over time in the body and has been deposited mostly in the bone. Stored lead in the bone may be released to the blood stream to produce health effects such as defective hemoglobin synthesis, nervous system abnormalities, hypertension, effects in the reproductive system (including impotency) and damage to a developing fetus.

The measurement of blood lead level is the most reliable method of evaluating lead exposure. It indicates the amount of lead in the bloodstream, which is often a measure of recent exposure to lead. The present "level of concern" in children is ten micrograms of lead per deciliter of blood (10 µg/dl). The level of concern for adult workers, as established by OSHA, is 40 µg/dl.

V. TRAINING AND MEDICAL SURVEILLANCE

Training

All BUSD employees involved in the disturbance of lead-containing materials and lead based paint as part of regular work activities must have at least a lead awareness training class. BUSD will provide an introductory level lead awareness class for employees involved in ***non-abatement*** activities. Departments may also choose to cover lead hazards during their Worker Right to Know training. Typical job classifications needing awareness training would include painters, carpenters, custodial personnel, welders, electricians, plumbers and general

maintenance personnel. Employees involved in lead abatement activities must receive more extensive EPA approved lead abatement worker and/or supervisor level training.

VI. SAMPLING

Any painted surfaces (including stained and varnished) in buildings constructed prior to 1980 must be sampled before any significant disturbance takes place. Any other materials (i.e. window glazing, putties, plumbing) that are suspected to contain lead must also be sampled before significant disturbance takes place.

To conduct a thorough investigation, each different surface should be sampled separately (examples include doors, windows, moldings, walls, ceilings, etc.). The primary lead paint sampling methods include:

Spot Chemical Testing

Spot chemical testing involves a process where a small amount of solution is placed on a sampling surface, and if lead is present, a colorimetric change will take place. This method involves a certain amount of paint destruction in order to test a complete cross section of paints and has proven to be the least reliable of the three listed methods.

X-ray Fluorescence (XRF)

XRF analysis is a direct field reading instrument that will provide immediate results. Equipment operators must receive special training and participate in a radiation dosimetry program. At the present time, there is no correlation between results from laboratory analysis and XRF measurement.

Laboratory Testing

Laboratory analysis provides the most reliable information but it can take as long as three weeks to receive results. The steps listed below should be followed when collecting bulk samples:

- All paint samples should be collected in a new plastic sample bag. Samples should be
- labeled with a sample number, the surface sampled, and the sample location.
- For proper laboratory analysis, approximately 5 grams of paint chips must be collected.
- (For reference, a nickel weighs approximately 5 grams.)
- Samples must represent a cross section of materials down to the substrate. Care should be taken to collect as little substrate as possible. (For example, a paint sample on a wood door should contain paint down to the bare wood surface, but should not contain a significant amount of the wood itself.)

VII. PROJECT MANAGEMENT/GENERAL CONTRACTOR PROJECTS

As part of any renovation project, paint and other lead suspect materials must be analyzed in all sites to be disturbed. Spot and/or full abatement of leaded surfaces may be required before renovation or demolition can take place.

BUSD must be contacted to conduct sampling ***prior*** to any activity that involves significant disturbance of materials potentially containing lead. For jobs involving the welding or cutting of painted surfaces or extensive removal of lead-containing plumbing, more specific personal protective equipment as well as ventilation may be required.

VIII. PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal protective equipment (PPE) is required when disturbing lead-containing materials. This equipment would include but not be limited to:

- · Disposable or cleanable work gloves
- · Coveralls (Tyvek or similar) with foot covering
- · Goggles or face shields
- · Properly fitted half face respirators with HEPA cartridges

Once removed, any disposable materials must be gathered and disposed of as lead waste. Specific requirements are outlined in Section XVI - Waste Disposal. Work procedures not previously monitored will require personal air sampling to determine airborne lead levels and the adequacy of respiratory protection. Air samples will be collected by Maintenance and Operations, then forwarded to an accredited laboratory for analysis. Employees should be trained in the use, fitting and limitations of their PPE as per OSHA's Personal Protective Equipment Standard (29CRF 1910.132-138).

IX. HYGIENE FACILITIES

Personal hygiene is critical in the control of lead exposure for employees working with lead containing materials. Hygiene facilities with soap, water and disposable towels must be provided for employees. If jobs are extensive or large in scope, or if the paint being disturbed has a high lead content, the wastewater may have to be gathered and placed in drums for further analysis. Collection could take place until a correlation between the lead content of wastewater, lead levels in paint and the activities performed could be established. Smoking, chewing tobacco, gum or food will not be allowed in the work area. Employees must wash hands and face thoroughly before ***all*** breaks and at the end of the work shift.

X. OPERATIONS AND MAINTENANCE ACTIVITIES FOR PAINTED SURFACES AND ASSOCIATED MATERIALS

In many instances, routine painting and repair jobs will disturb materials that contain lead. Lead-containing paint and window glazing are just two types of materials that may be encountered.

A small amount of care can significantly decrease the potential for exposure to lead during maintenance activities that involve the disturbance of lead-containing materials. The guidelines in this section should be used when the primary purpose of the work is ***not*** to remove lead-containing materials, but to conduct a repair or maintenance activity. As an example, these guidelines would be used when scraping loose paint in preparation for a repainting job, but

would not be appropriate in an instance where all paint from a surface (loose and intact) would be removed.

The following procedures should be employed for operations and maintenance activities where prior sampling has confirmed the presence of lead. Employees conducting these types of activities must have attended a lead awareness training session concerning the potential hazards of working with lead and proper use of personal protective equipment.

INTERIOR WORK

a. Notify the building supervisor and occupants where work-involving lead will take place.
b. Conduct work involving lead-containing materials at times when the area is unoccupied.
c. Place 6-mil polyethylene sheeting a minimum of 6 feet horizontally out in all directions from the work area to cover any immovable objects.
d. Personal protective equipment (PPE) must be used, and at a minimum should include 1/2 face respirator with HEPA cartridges, disposable clothing and gloves. Shoe covers may be necessary to avoid tracking lead dust and waste outside the immediate work area.
e. HEPA vacuums, disposable towels and wash-up facilities must be available to employees at the work site. Clean-up materials should be kept away from the immediate work area, but must be close enough to allow quick clean-up of employees and equipment. All reusable equipment (HEPA vacuums, scrapers, screw drivers, etc.) must be properly cleaned at the end of each day's work and before leaving the job site.
f. The work area itself must be demarcated and barricaded using disposable danger tape and "Lead Danger" warning signs bearing the following legend:

Warning
Lead Work Area
Poison
No Smoking or Eating

g. Using a HEPA vacuum, vacuum any accumulated dust from the work area ***prior to*** beginning the maintenance activity. ***Do not sweep or brush potential lead containing dust.***
h. Use care to minimize the production of dust from scraping or sanding. Use either wet sanding/scraping or HEPA filtration fitted equipment.
i. At break periods or when finished, workers must immediately proceed to assigned clean-up areas to decontaminate. The decontamination areas must be within the barricaded areas and must have polyethylene drop cloths or plastic tarpaulins as a floor. Upon completion of clean-up, discarded PPE will be gathered into 4-6 mil plastic bags or into drums for proper disposal. Waste PPE should be kept separate from paint chips, dusts and debris to allow appropriate disposal. Specific waste characterization and disposal information is outlined in Section XVI - Waste Disposal.
j. When activities are complete, clean up any debris using HEPA vacuums. Working surfaces and the immediate work area should then be wet wiped using disposable towels and a detergent solution. Gather and containerize paint chips, dust, and debris as lead-containing waste. Remove surface polyethylene and final clean the area again using wet methods and HEPA vacuuming. All used towels must be gathered and disposed of as contaminated waste. Surface

polyethylene can then be HEPA vacuumed, rolled inwards and disposed of as general (non-hazardous) waste.
k. Waste generated in preparation activities (paint chips, glazing, etc.) should be collected and deposited in an appropriate container. Specific waste characterization and disposal information is outlined in Section XV – Waste Disposal.
l. Monitoring (both area and personal) by Maintenance and Operations will be necessary until exposure potentials can be determined.

B. EXTERIOR WORK

a. Notify the building supervisor and occupants where work-involving lead will take place.
b. Building occupants should be notified to close windows and doors within 25 feet of the work area.
c. Pre-clean paint chips, dust and debris from existing surfaces (using HEPA vacuums and wet cleaning methods) ***before*** the job begins. Place plastic catch sheeting or tarpaulins to collect debris on the ground, floor or platform directly below the work area and at least 6 feet out in all directions from the working surfaces. When working on elevated surfaces, an additional 6 feet of catch sheeting is required per floor above the first to a maximum of 25 feet. Individual catch sheets or tarpaulins should be overlapped a minimum of 18 inches and secured to each other. Prepping should not take place on windy days. Catch sheets or tarps should be weighted or secured to the ground.
d. All windows, doors and other openings in the work area shall be sealed using polyethylene on the ***inside***. Care should be taken not to disturb interior surfaces, which may also contain lead. Barrier tape will be used to isolate the work area in such a way that no member of the public can get within 10 ft. of the work area. (This requirement may need to be adjusted for work on elevated surfaces.) The work area itself must be demarcated and barricaded using disposable danger tape and "Lead Danger" warning signs bearing the following legend:

Warning
Lead Work Area
Poison
No Smoking or Eating

e. Personal protective equipment (PPE) must be used, and at a minimum should include a 1/2 face respirator with HEPA cartridges, disposable clothing and gloves. Shoe covers may be necessary to avoid tracking lead dust and waste outside the immediate work area.
f. HEPA vacuums, disposable towels and wash-up facilities must be available to employees at the work site. Clean-up materials should be kept away from the immediate work area, but must be close enough to allow quick clean-up of employees and equipment. All reusable equipment (HEPA vacuums, scrapers, screw drivers, etc.) must be properly cleaned at the end of each day's work and before leaving the job site.
g. When preparation activities are completed, working surfaces and the immediate work area should be wet wiped using disposable towels and a detergent solution. All used towels must be gathered and disposed of as contaminated waste. Surface polyethylene will then be HEPA vacuumed, wet wiped, and then rolled inwards and disposed of as general waste.

h. At break periods or when finished, workers must immediately proceed to assigned clean-up areas to decontaminate. The decontamination areas must be within the barricaded areas and must have polyethylene drop cloths or plastic tarpaulins as a floor. Upon completion of clean-up, discarded PPE will be gathered into 4-6 mil plastic bags or into drums for proper disposal. Waste PPE should be kept separate from paint chips, dust and debris to allow appropriate disposal (see section XV).
i. Waste generated in preparation activities (paint chips, glazing, etc.) should be collected and deposited in an appropriate container. Specific waste characterization and disposal information is outlined in Section XV – Waste Disposal.
j. Monitoring (both area and personal) by Maintenance and Operations will be necessary until exposure potentials can be determined.

XI. LEAD REMOVAL METHODS

ACCEPTABLE METHODS

The removal methods listed below are acceptable for operations and maintenance or abatement activities by personnel that have had the proper training, medical surveillance, and have completed the appropriate work area set-up outlined earlier.
1. Operations and Maintenance Removal Methods:
· Manual scrapers and wire brushes
· Limited manual sanding (preferably wet sanding) with accompanied ventilation (e.g. HEPA vacuum)
2. Abatement Removal Methods:
· Heat guns **not** exceeding 700 degrees Fahrenheit
· Manual scraping with the aid of approved chemical solvents (e.g. not containing methylene chloride)
· Mechanized-sanding equipment with dedicated HEPA filtered exhaust systems

B. PROHIBITED METHODS

The following list of removal methods for either operation, maintenance or abatement activities are prohibited and will **not** be allowed.
· Use of a heat gun generating temperatures exceeding 700 degrees Fahrenheit
· Open flame torching
· Dry abrasive blasting using sand, grit or any other particulate
· Use of chemical strippers not approved by Maintenance and Operations
· Mechanized sanding without HEPA filtered collection systems

XII. ROUTINE CLEANING OF LEAD PAINTED SURFACES

The following items apply to personnel involved in sweeping or wall cleaning in areas where paint chips or dusts are present. This would primarily apply to custodial personnel and any other District employees cleaning areas potentially contaminated with lead paint or dust.

a. Employees should attend a lead awareness training class or be trained on the hazards of lead as part of their Worker Right to Know training.
b. Report peeling paint or paint in poor condition to area coordinators or building contacts. Coordinators or contacts should then contact the appropriate personnel, Dan Norris in Maintenance and Operations.
c. Assume paint is lead-containing unless testing shows otherwise.
d. Cleaning of lead painted surfaces should be performed using HEPA vacuums dedicated for lead, followed by wet methods (i.e. use wet towels, sponges or cloths). To specifically clean lead dusts from surfaces, a detergent such as Spic and Span is recommended.
e. Disposable gloves must be worn during cleaning. Respirators are not considered necessary for small cleaning jobs. Larger cleaning jobs may require respirators. HEPA vacuums should be used whenever possible to minimize exposure.
f. Gloves, sponges, disposable towels and other non-cleanable materials used in the cleaning of lead painted or contaminated surfaces must be placed in plastic bags, labeled as "HAZARDOUS WASTE PAINT MATERIALS" and dated. The waste will be collected by Maintenance and Operations. See Section XV - Waste Disposal for proper handling of waste materials.

XIII. LEAD ABATEMENT JOBS

Activities resulting in the disturbance of lead paint for the purpose of removing lead based paint or "de-leading" surfaces will require special conditions and considerations ***not*** outlined in this document. At minimum, abatement of lead paint will be performed by personnel who:

- Are participating in a complete medical surveillance program
- Have successfully completed a lead abatement training course that includes the hazards of lead, proper abatement procedures, personal protective equipment, and cleanup and clearance procedures
- Are under the direct supervision of a supervisor who has successfully completed a lead abatement supervisor-training course

Private sector contractors in general will conduct lead abatement. BUSD employees who have completed proper training may be involved on small jobs. Work area set-ups will be unique to each project and will be handled on a job-by-job basis. Departments disturbing lead based paint must contact Maintenance and Operations ***before*** beginning the job to ensure all surfaces have been tested and to schedule personal monitoring. Any significant disturbance or abatement of lead-containing materials must be accompanied by air sampling. Maintenance and Operations will designate both the types and numbers of samples necessary on a job-by-job basis.
Final wipe sampling may be required to allow for re-occupation at the completion of a project. Maintenance and Operations will evaluate the need to conduct clearance sampling and the scope of the required sampling. The analysis of these samples could be a lengthy process, sometimes taking up to three weeks. It is critical that appropriate time be scheduled for this type of delay.

XIV. OTHER LEAD ACTIVITIES

A. WELDING AND CUTTING OF METAL SURFACES

All painted metal surfaces (I-beams, pipes, etc.) shall be assumed to be lead-containing unless sampling or a manufacturer's specifications show otherwise. Industrial coatings often contain other hazardous ingredients in addition to or in place of lead. These might include, but are not be limited to, chromium, cadmium and mercury. When welding and/or cutting lead painted surfaces, powered air purifying respirators (PAPR's) with HEPA filters are required. PAPR's are recommended for all welding and cutting operations unless ventilation is in place to control contaminants. If welding or cutting is done in an occupied building, proper exhaust ventilation must be supplied. Similar guidelines apply to soldering of sheet metal, tubing, piping, or sewer piping involving lead solder or other lead containing materials.

B. LEAD CABLE SPLICING

Sampling during the splicing of lead jacketed electrical lines has shown the potential for exposures to lead at or above the action level. Any soldering or heating of lead jacketed materials should be conducted using proper engineering controls (i.e. ventilation), personal hygiene, PPE, and personal monitoring. Maintenance and Operations can assist in identifying the specific controls that are needed.

XV. DISPOSAL OF WASTE MATERIALS

Maintenance and Operations is responsible for coordinating the proper disposal of hazardous waste at BUSD. Lead paint chips, dust and debris will generally be classified as hazardous waste. Because of hazardous waste costs, efforts should be made to minimize the generation of lead contaminated waste. Paint chips, dusts and contents from HEPA vacuums (including HEPA filters) should be collected and containerized to allow for testing and handling as a possible hazardous waste. Demolition materials painted with lead based paint will be disposed of as regular demolition waste.

Some items contaminated as part of the abatement process may be cleaned and classified as non-hazardous waste. Polyethylene used to protect items may be cleaned using HEPA vacuuming and wet wiping, then disposed of as non-hazardous waste. All non-hazardous waste can be put in unlabeled bags and/or placed in dumpsters. For lead waste questions and/or assistance in obtaining and disposing of waste containers, call Dan Norris in the Maintenance and Operations Department.

XVI. SUMMARY

The Guidelines for Working with Lead-Containing Materials applies to any work where BUSD and/or contractor personnel may be exposed to lead or lead-containing materials. Activities covered by this guideline include (but are not limited to) demolition, renovation, encapsulation, maintenance operations, paint-prepping and firing range clean-up. All employees involved in

the disturbance of lead-containing materials and lead based paint as part of regular work activities must have at least a lead awareness training class. BUSD will conduct necessary sampling, monitoring and inspections to ensure compliance with regulations as well as to protect employee health and safety. Maintenance and Operations will provide guidance to departments regarding lead, lead exposure, and if necessary, lead abatement. Maintenance and Operations will act as a liaison between sites and departments requesting services and lead abatement contractors.

Any questions concerning lead or items specified in the guideline should be directed to Dan Norris, Director of MOT.

Approved by the Berryessa Union School District Safety Committee Updated 2/23