

## Program Subject: Lead Safety Management Policy

### 1. PURPOSE

- 1.1 To promote a safe work environment and to protect the health and safety of the University faculty, staff, students and visitors who may potentially be exposed to lead hazards.
- 1.2 To ensure compliance with all applicable regulatory standards to prevent, reduce, and/or eliminate employee exposure to lead (Pb), including these following related to lead.
  - 1.2.1 OSHA lead standards at 29 CFR 1910.1025, the General Industry, and 29 CFR 1926.62, the Construction Standard.
  - 1.2.2 EPA 40 CFR 745 subpart L, Renovation, Repair, and Painting Rule.
  - 1.2.3 HUD interim standards at 24 CFR part 35.1350(d)(3), De minimis Levels.

### 2. SCOPE

- 2.1 To include safe work practices and requirements to reduce or minimize potential exposure of employees to lead particulates when performing activities relates to lead.
- 2.2 To pertain to all University's employees who may perform lead related work activities.
- 2.3 To provide information & guidance concerning the disturbance of lead-containing materials.
  - 2.3.1 The disturbance used in this context would include scraping, washing, limited wet sanding, grinding, welding, drilling, small surface cutting for installation of equipment, repainting activities, and minor surface modifications.

### 3. RESPONSIBILITIES

- 3.1 Department of "Risk Management and Safety" (RMS)
  - 3.1.1 To be responsible for ensuring the development and implementation of this policy.
  - 3.1.2 To provide necessary resources as available to carry out the program.
  - 3.1.3 To provide consultative and technical assistance to campus organizations involved in the removal or disruption of lead-based paint to ensure compliance with state and federal regulations.
  - 3.1.4 To be responsible for administering the Lead Safety Policy and related procedures.
  - 3.1.5 To assist supervisors in evaluating potential lead exposure.
  - 3.1.6 To coordinate necessary environmental testing.
  - 3.1.7 To conduct periodic workplace inspections to ensure the Lead Safety Management Policy and related procedures are working effectively.
  - 3.1.8 To provide periodic training regarding the health hazards of exposure to lead, including the means of exposure and the effects and symptom of over exposure.
  - 3.1.9 To review medical history of employees with potential lead exposure, relative to respiratory use a previous exposure to lead.
  - 3.1.10 To maintain records of employee training, historical subjective data, and negative exposure assessment and test results related to this policy.

## Program Subject: Lead Safety Management Policy

### 3.2 Facilities Management Supervisors and Design & Construction

- 3.2.1 Oversee contracts requiring disturbance of lead-containing and lead-based materials;
- 3.2.2 Identify requirements for compliance with applicable Federal and State lead regulations in contract specifications;
- 3.2.3 Ensure that outside construction contractors comply with the Lead Safety Management Policy and applicable regulations;
- 3.2.4 Coordinate material assessment and provide lead-based paint inventory information to the Department of Risk Management & Safety;
- 3.2.5 Interface with contractors where enforcement of related contract provisions is required;
- 3.2.6 Maintain submittal documents and related records from abatement contracts in a manner that is readily retrievable in case of a regulatory inspection;
- 3.2.7 Communicate legal and contractual requirements to contractors;

### 3.3 Directors or Department Heads

- 3.3.1 Assess work tasks before employee assignment to determine if there is a potential for lead exposure.
- 3.3.2 Assure that information and procedures contained within this Lead Safety Management Policy are strictly followed by all personnel.
- 3.3.3 Identify potential employee exposure to lead based work activities.
- 3.3.4 Perform appropriate test procedures (or request that they be performed by other FM staff who are trained to do so) to verify the presence or absence of lead.
- 3.3.5 Maintain records of exposure assessments and historical subjective data specific to tasks performed by employees.
- 3.3.6 Ensure that employees assigned to perform lead work receive training, follow the proper work procedures, work site controls and disposal requirements for materials that contain lead-based paint.
- 3.3.7 Monitor employee compliance to this policy and its associated procedures.
- 3.3.8 Inform the RMS of employee health concerns regarding potential exposures to lead.

### 3.4 Contractor

- 3.4.1 Comply and require following all safety procedures as required per their Lead Renovation/Abatement Certification status based on the level of lead abatement to be performed.

### 3.5 Lead Worker

- 3.5.1 Employee working in areas where there is an identified risk of lead exposure must be properly trained by a Certified Lead Renovator on proper PPE and work procedures to minimize lead dust and exposure risk. Safe work practices shall include:
  - 3.5.1.1 Segregate of the area to be repaired;
  - 3.5.1.2 Minimize the dust and chips generated due to sanding or grinding;
  - 3.5.1.3 Use chemical stripping if practical and waste can be contained for proper disposal;
  - 3.5.1.4 Avoid penetrating to lower layers of paint (lead paint will typically be at the lower surface layers of paint).

## Program Subject: Lead Safety Management Policy

### 3.6 Employees

- 3.6.1 Comply with the provisions of the Lead Safety Management Policy and work practices identified for individual tasks.
- 3.6.2 Perform all assigned work in a manner consistent with this policy.
- 3.6.3 Report health concerns they have relative to lead exposure to their immediate supervisor or RMS.
- 3.6.4 Practice good housekeeping and personal hygiene controls to reduce or eliminate the spreading of lead dust contamination.
- 3.6.5 Complete all required lead related training prior to disturbance of lead-containing components.

## 4. PROGRAM COMPONENTS

### 4.1 Work Procedures

- 4.1.1 No employee shall begin lead based or potential lead-based work activities until verification of the potential exposure hazard has been established and workplace controls (see section 6) have been implemented to protect the employee from over exposure to lead or lead based contaminants.
- 4.1.2 The following potential lead-based activities will be evaluated, and appropriate actions/controls implemented before employee work activities begin:
  - 4.1.2.1 Demolition or salvage of structures where lead-containing materials may be present.
  - 4.1.2.2 Removal of materials containing lead such as paint.
  - 4.1.2.3 New construction, alteration, repair or renovation of items containing lead.
  - 4.1.2.4 Installation of materials containing lead.
  - 4.1.2.5 Lead contamination or emergency cleanup.
  - 4.1.2.6 Maintenance operations involving disturbance of lead or lead-containing materials.
- 4.1.3 Potential exposure to lead, during construction activities, is most likely to be encountered in buildings constructed prior to 1978. **See Appendix D** for a listing of buildings on campus that were constructed before 1978.
- 4.1.4 The intent of this policy that all university employees will not perform work or work within an area where the lead exposure risk may be greater than the action level.
  - 4.1.4.1 **Airborne lead concentrations at or greater than the Action Level (AL) of 30 micrograms per cubic meter of air (30  $\mu\text{g}/\text{m}^3$ ) averaged over an eight-hour workday.**
  - 4.1.4.2 **Lead-based paint or any other surface coating material containing more than 0.5% lead by weight or more than 1.0 mg/cm<sup>2</sup> in the dried film of applied paint as defined by Wisconsin Department of Health and Family Services. (See Appendix B for details).**
- 4.1.5 Lead based work activities that are known to exceed 30 $\mu\text{g}/\text{m}^3$  will be completed by contract with a qualified lead abatement contractor.

## Program Subject: Lead Safety Management Policy

- 4.1.6 Employees may perform minor repair and maintenance activities that disturb 2 square feet or less of painted surface. Examples of such activities include:
- 4.1.6.1 Repairs to (or installation of new) electrical outlets and switches.
  - 4.1.6.2 Replacement of plumbing fixtures.
  - 4.1.6.3 Creation of holes in walls to run pipes through.
  - 4.1.6.4 Spot repairs of painted walls ceilings, trim and molding prior to painting (2 square feet or less per component in any one interior room, hallway or stairwell or 20 square feet or less for exterior surfaces).
- Note:** *In the above reference, the 2 square feet in any one interior room and 20 square feet on exterior surfaces would be a room limit and not a component limit.*
- 4.1.7 Proper work practices should be used (see Section 6).
- 4.1.8 Paint waste removal should be handled as indicated in Section 7.

### 4.2 Lead Exposure Assessment

The following exposure assessment actions are required when there is a suspected potential for lead exposure and no applicable existing historical subjective data applies.

- 4.2.1 Initial Assessment
- 4.2.1.1 Suspect lead-containing materials are evaluated properly prior to the start of work. Lead analysis must be performed for each unique surface to be disturbed.
  - 4.2.1.2 Samples must be collected by immediate supervisor or an authorized contractor to perform building material assessments to determine lead content in building materials.
    - a. All samples shall be submitted to an accredited laboratory for analysis following EPA Toxicity Characteristic Leaching Procedure (TCLP). (See Appendix A for test criteria).
    - b. Immediate supervisor will notify the affected employee within as soon as the final laboratory analysis is completed.
    - c. **If samples test positive for lead, a qualified contractor should be hired to perform the work (indicated in Section 4.1.5 above).**
  - 4.2.1.3 The Engineering Specialist, or Supervisor, should notify contractors if there is a potential lead exposure in the workplace.

## 5. LEAD (Pb) HAZARD STANDARDS

- 5.1 Occupational Safety and Health Administration's Lead Standard establishes two lead exposure limits. These limits are:
- 5.1.1 Action Level (AL) of  $30\mu\text{g}/\text{m}^3$  – 29 CFR 1926.62(b)
    - 5.1.1.1 The Action Level is the level of airborne lead exposure at which medical surveillance is required for the employee, and Facilities Planning and Management must begin certain compliance activities outlined in the standard (See Appendix C).

## Program Subject: Lead Safety Management Policy

- 5.1.1.2 The Action Level, regardless of respirator use, for the lead in construction standard is an airborne concentration of  $30\mu\text{g}/\text{m}^3$  calculated as an eight-hour TWA. If the exposure is at or above the AL but below the Permissible Exposure Limit (PEL), it is required that the supervisor and (RM&S) to prevent to avoid reaching the PEL.
- 5.1.2 Permissible Exposure Limit (PEL) of  $50\mu\text{g}/\text{m}^3$  – 29 CFR 1926.62(c)(1)
  - 5.1.2.1 The Permissible Level is equal to  $50\mu\text{g}/\text{m}^3$  of air calculated as an 8-hour TWA.
  - 5.1.2.2 Facilities Planning and Management employees will not be asked to perform work that cannot be reduced to the (AL) or lower by Engineering or other applicable controls, therefore they will not perform work at this level
- 5.2 **EPA's** dust-lead hazard standards  
The key elements of these standards are highlighted below:
  - 5.2.1 Lead-based paint - 24 CFR 35.110 and 40 CFR 745.103
    - 5.2.1.1  $1\text{ mg}/\text{cm}^2$  or  $5,000\mu\text{g}/\text{g}$  (5,000 ppm, equal to 0.5 percent).
  - 5.2.2 Paint containing lead applied on or after August 14, 2009 – 16 CFR1303.2
    - 5.2.2.1 0.009 percent (90 ppm) by weight.
  - 5.2.3 Dust lead hazard levels (by wipe sampling) – 40 CFR 745.65(b)
    - 5.2.3.1  $40\mu\text{g}/\text{ft}^2$  on floors (carpeted and uncarpeted)
    - 5.2.3.2  $250\mu\text{g}/\text{ft}^2$  on interior windowsills
  - 5.2.4 Dust lead levels for lead hazard screen only (by wipe sampling) – 24 CFR 35.1320(b)(2)(i)
    - 5.2.4.1  $25\mu\text{g}/\text{ft}^2$  – floors.
    - 5.2.4.2  $125\mu\text{g}/\text{ft}^2$  – interior windowsills.
  - 5.2.5 Dust lead clearance levels (by wipe sampling) – 40 CFR 745.227(e)(8)(viii)
    - 5.2.5.1  $40\mu\text{g}/\text{ft}^2$  – floors (includes carpeted and uncarpeted interior floors).
    - 5.2.5.2  $250\mu\text{g}/\text{ft}^2$  – interior windowsills.
    - 5.2.5.3  $400\mu\text{g}/\text{ft}^2$  – window troughs (previously called “window wells”).
  - 5.2.6 Soil-lead hazard
    - 5.2.6.1 400 parts per million (ppm) for bare soil in play areas and 1,200ppm average in the rest of the yard.
  - 5.2.7 Paint-lead hazard  
Any of the following conditions constitute a paint lead hazard:
    - 5.2.7.1 Lead-based paint on friction surfaces that are subject to abrasion where dust lead hazards are present;
    - 5.2.7.2 Lead-based paint on impact surfaces that are damaged or deteriorated;
    - 5.2.7.3 Any chewable lead-based painted surface on which there is evidence of teeth marks and any other deteriorated lead-based paint.

## Program Subject: Lead Safety Management Policy

5.3 HUD Guidelines “**De minimis**” level: During a visual assessment, the assessor must determine that level of any identified problems with paint surfaces.

5.3.1 Safe work practices are not required when maintenance or hazard reduction activities do not disturb painted surfaces. Under this act, the “De minimis” level is as follows:

5.3.1.1 20 square feet (2 square meters) on exterior surfaces;

5.3.1.2 2 square feet (0.2 square meters) in any one interior room or space;

5.3.1.3 10 percent of the total surface area on an interior or exterior type of component with a small surface area, like windowsills, baseboards, and trim.

### 6. HAZARD PREVENTION AND CONTROLS

6.1 The safety work practices dictate that control methods must be implemented in the priority listed. (i.e. Engineering controls first, followed by work practices, and finally the use of PPE).

6.1.1 To follow this procedure, if engineering controls were to remove the hazard, then no other controls would be required.

6.2 The control methods as follow will be used in selecting appropriate means of controlling lead hazards and measures that can be taken to reduce lead exposure:

6.2.1 Engineering Controls

6.2.1.1 To reduce employee exposure during work, either by removing or isolating the lead hazard or by isolating the employee exposure using technology

6.2.1.2 The following three types of engineering control methods may be used individually and reduced or eliminated lead exposure:

a. Substitution

✓ To replace the material with a less hazardous material such as using a non-lead-based paint instead of a lead-based paint. Substituting type of equipment, material, or an entire process for another can provide effective control of a lead hazard. (i.e. change in process equipment High Efficiency Particulate Air HEPA vacuum cleaning in place of standard shop vacuum cleaning).

b. Process/Equipment Modification

✓ To modify of process or modify of equipment, using the wet sanding method in substitution for dry sanding will decrease the lead source in the breathing zone, thus reducing the exposure.

c. Isolation and Ventilation

✓ To isolate the process, exposure is reduced for the environment and all employees not involved in the task. (i.e. demolition operations contained within a sealed negative pressure structure would help ensure that lead-bearing dust remains within the enclosure).

✓ The degree of ventilation required depends on the method of demolition, and the type and condition of the material being removed. (i.e. ventilation is effective at lower levels for hand tool demolition of masonry walls coated with lead-based paint than would be demolition by use of powered tools).

## Program Subject: Lead Safety Management Policy

### 6.2.2 Work Practice Controls

6.2.2.1 To reduce the likelihood of exposure by altering the way a task is performed. Safety work practices under lead in construction standard include but are not limited to; establishing hygiene facilities away from the lead-based work site (i.e., change rooms, showers, hand washing facilities, and lunch areas) and requiring proper housekeeping practices (i.e., cleanup methods). The following fundamental and easily implemented work practices are:

a. Housekeeping

- ✓ Good housekeeping can be as easy as setting up a schedule to make sure that accumulation of lead dust and lead-containing debris is maintained at a minimum.
- ✓ Cleanup regularly is especially important because it minimizes the re-entry of lead dust into the air that can provide an additional source of exposure that engineering controls may not be designed to control.
- ✓ Vacuum must be equipped with HEPA filters and used and emptied in a manner that minimizes the re-entry of lead into the workplace.

b. Personal Hygienic Practices

- ✓ The consumption of food, beverages, tobacco products, and applying cosmetics is prohibited in all areas where employees may be exposed to lead. In addition, employees are required to wash their hands and face before eating, drinking, using tobacco products, or applying cosmetics after leaving potential lead hazard areas.

c. Performance of Task

- ✓ Know the proper way to perform their job tasks to maximize the effectiveness of engineering controls. For example, if an employee inappropriately performs a task away from an exhaust hood, the control measure will be of no use. Failure to properly operate engineering controls may also contaminate the work area.

d. Supervision

- ✓ Good supervision is another important work practice because it provides needed backup support for protection against mistakes. For example, by directing a worker to position the exhaust hood properly or to improve work practice, such as having the worker stand to the side of the cutting torch, will reduce the employee's exposure to lead.

e. Administrative Controls

- ✓ Administrative Controls can be used to reduce employee exposure by removing the employee from the hazard (i.e., job rotation).

6.2.3 Personal Protective Equipment (PPE): required when disturbing lead-containing materials. This equipment may include but not be limited to:

6.2.3.1 Disposable or cleanable work gloves

6.2.3.2 Coveralls (Tyvek or similar) with foot covering, goggles or face shields

6.2.3.3 Dust mask approved for Lead Abatement work.

## Program Subject: Lead Safety Management Policy

- 7. MEDICAL SURVEILLANCE:** Prior to each job where employee exposure exceeds the Action Level of  $30\mu\text{g}/\text{m}^3$  as an 8-hour TWA, 30 calendar days per year, the employer shall establish medical surveillance requirements based on 29 CFR 1910.1030.
- 7.1 Employees exposed to lead levels above the Action Level at any time during their employment, regardless of PPE use, should have initial medical surveillance conducted to ensure lead exposure did not result in elevated blood lead levels.
- 7.2 On-going surveillance medical treatment and medical removal.
- 8. DISPOSAL REQUIREMENTS**
- 8.1 Prior to disposal, it must be determined if waste construction materials contain lead paint. (See Appendix E for details)
- 8.1.1 Woodwork, walls, door, or other architectural components that are coated with lead paint may be disposed of as solid waste without removing the paint from the substrate. The DNR does not typically consider it necessary to make a hazardous waste determination if the paint is not separated from the structural materials.
- 8.1.2 Waste generators may use knowledge of the waste stream to determine if their waste is hazardous (but the burden of proof that this knowledge is enough lies with the generator). An example would be that it is safe to assume that building materials or debris removed from Chancellors Hall would not contain lead paint since this building was built in the year 2000.
- 8.1.3 Paint scraping removed paint waste, or other potentially hazardous or contaminated construction residue must be disposed of in accordance with federal, state and local regulations.
- 8.1.4 Waste that is suspected of containing lead paint must have a Toxicity Characteristic Leaching Procedure (TCLP) performed by a certified laboratory, or as an option:
- 8.1.4.1 Assume that small quantities of waste material contain hazardous materials and dispose of accordingly.
- 8.1.4.2 Lead based paint waste must be placed in covered containers or sealed, heavy gauge watertight bags, and properly labeled.
- 8.1.5 Containerized paint waste must be turned over to UW-Eau Claire Risk Management and Safety for transport by a licensed hazardous waste hauler to an approved hazardous waste management site.
- 9. TRAINING**
- All affected employees will participate in the University Lead Safety Training program. All affected employees will be trained prior to the time of initial job assignment and at least annually.
- 9.1 Employee General Awareness
- 9.1.1 All employees that may encounter lead containing materials shall receive Lead Safety Awareness and Hazard Communication training.
- 9.2 Lead Worker
- 9.2.1 All employees who may perform lead related work activities will receive properly trained and certified, that training program is accredited, and that these activities are conducted according to reliable, effective and safe work practice standards.



## Program Subject: Lead Safety Management Policy

### APPENDIX A. Lead Standards Reference Sheet

Ug/ft <sup>2</sup> :	Micrograms per square foot (dust sampling)
Ppm:	Parts per million (paint, soil, and waste) *
Ug/g:	Micrograms per gram (paint, soil, and waste) *
Mg/kg:	Milligrams per kilogram (paint, soil, and waste) *

\*: ppm, Ug/g, and mg/kg are equivalent and may be used interchangeably

‰: Percent by weight (paint)

1‰: 10,000 ppm

mg/cm<sup>2</sup>: Milligrams per square centimeter (paint) area measurement, so used by XRF or measured paint chip

ug/dL: Micrograms per deciliter (blood)

ug/m<sup>3</sup>: Micrograms per cubic meter (air)

#### Sample Clearance Guidelines

**Lead Dust:** 40 ug/ft<sup>2</sup> for floors  
 250 ug/ft<sup>2</sup> for interior windowsills (stools)  
 400 ug/ft<sup>2</sup> on window troughs (the area where the sash sits when closed)

**Lead in Soil:** < 400 ppm (or ug/g or mg/kg) Play Area (level of concern)  
 < 1200 ppm (or ug/g or mg/kg) Other

#### Airborne Lead Particulate (OSHA)

- Action Level (AL) 30 ug/m<sup>3</sup>
- Permissible Exposure Limit (PEL) 50 ug/m<sup>3</sup>

#### Blood Lead Levels

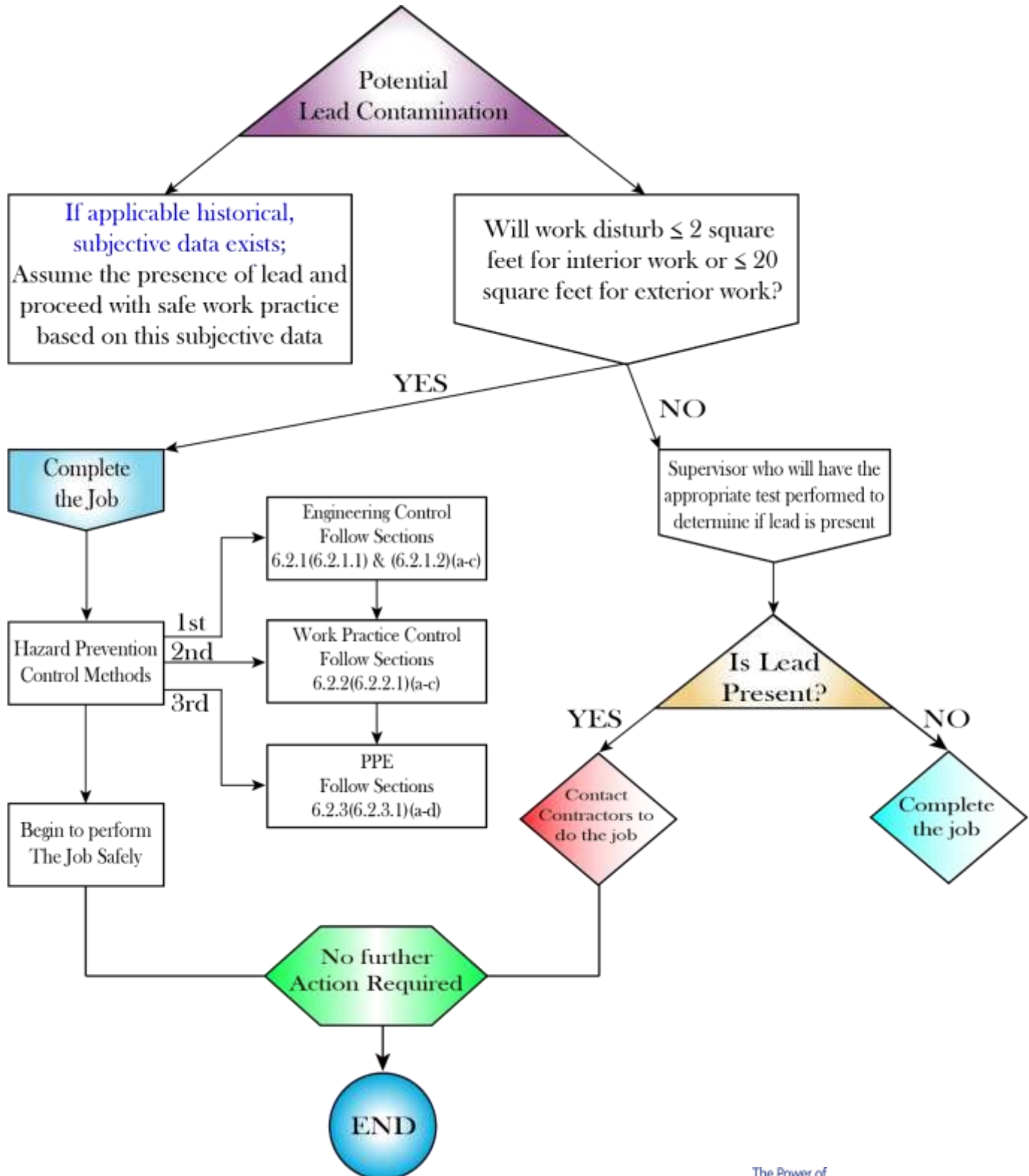
- CDC Level of Concern 10 ug/dL (for children)
- OSHA Allowable Blood Lead Level 40 ug/dL
- OSHA Medical Removal Level 50 ug/dL

#### Hazardous Waste

- TCLP (Toxicity Characteristic Leaching Procedure) 5 ppm

**Program Subject: Lead Safety Management Policy**

**APPENDIX B.** A flow chart for decision made by the workers, supervisors and/or Risk Management & Safety



**Program Subject: Lead Safety Management Policy**

**APPENDIX D: Age of Buildings**

<b>CONSTRUCTED PRIOR TO 1978 INCREASED POTENTIAL FOR LEAD EXPOSURE</b>		<b>CONSTRUCTED AFTER 1978 DECREASED POTENTIAL FOR LEAD EXPOSURE</b>	
<b>Building Name</b>	<b>Year(s) Constructed</b>	<b>Building Name</b>	<b>Year(s) Constructed</b>
Schofield Hall	1919	Bollinger Field Storage (Metal)	1979
Zorn Arena	1952	BF Shelter (Hex SE)	1980
Campus School	1952	Human Sciences and Services	1982
Brewer Hall	1952	McPhee (Olson Addition)	1986
Kjer Theatre	1952	Visitor's Center	1992
Katherine Thomas Hall	1954	BF Baseball Dugout	1993
Katherine Putnam Hall	1957	BF - Toilet (Hex North)	1994
W.D. McIntyre Library - See Note 1	1959, 71 & 92	Simpson Field Storage (Block)	1996
Horan Hall	1961	BF - Storage (Block)	1997
Governors Hall West	1961	Chancellors Hall	2000
Governors Hall North	1961	Centennial Hall	2013
Maintenance & Central Stores - See Note 1	1962, 72, 89, 90	Davies Center	2012
L.E. Phillips Science Hall - See note 1	1963 & 1968	Suite Hall	2019
Sutherland Hall	1965		
Bridgeman Hall	1965		
Crest Wellness Center	1965		
Towers Hall North	1966		
Schneider Social Science Hall	1966		
Murray Hall	1966		
Power Plant	1966		
Towers South	1967		
Hilltop Center	1968		
School of Nursing - See Note 1	1968 & 1984		
McPhee Physical Education Center	1969		
Oakridge Hall	1969		
Simpson Field Storage Shed (Metal)	1969		
Lift Station	1969		
Haas Fine Arts Center	1970		
Hibbard Hall	1974		
Water Street Continuing Education	1975		

**Note 1:** Some spaces in this building were built before 1978 and some after, refer to the building plan in the shop office to see what year the space you will be working in was built.

## Program Subject: Lead Safety Management Policy

### APPENDIX E.

### Categories of Abatement Waste

Category	Description	Examples of Waste	Disposal Methods
I	Low Lead Waste	<ul style="list-style-type: none"> <li>✓ Filtered personal and commercial wash water.</li> <li>✓ Disposal personal protective clothing that has been HEPA vacuumed before disposal.</li> <li>✓ Plastic sheeting cleaned prior to disposal (misted and wiped) and carpeting.</li> <li>✓ Any waste that is determined to be non-hazardous by TCLP testing and is not an EPA-listed hazardous waste.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Disposal as solid waste.</li> </ul>
II	Architectural Components (Paint Tightly Bonded)	<ul style="list-style-type: none"> <li>✓ Painted finish carpentry items, for example: <ul style="list-style-type: none"> <li>▪ Doors</li> <li>▪ Windows</li> <li>▪ Window trim and sills</li> <li>▪ Baseboards</li> <li>▪ Railing</li> <li>▪ Moldings</li> </ul> </li> <li>✓ Other painted building components, for example: <ul style="list-style-type: none"> <li>▪ Metal railings</li> <li>▪ Radiators</li> <li>▪ Walls</li> <li>▪ Stone or brick or block</li> <li>▪ Piping</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>❖ Disposal as solid waste.</li> </ul>
III	Concentrated Lead Waste	<ul style="list-style-type: none"> <li>✓ Sludge from paint stripping.</li> <li>✓ Lead-based paint chips and dust.</li> <li>✓ HEPA vacuum debris and filter.</li> <li>✓ Unfiltered wash water.</li> <li>✓ Hazardous waste.</li> <li>✓ Any waste included on EPA's list of hazardous waste.</li> <li>✓ Lead used in plumbing</li> </ul>	<ul style="list-style-type: none"> <li>❖ Place in covered containers or sealed, heavy gauge water tight bags, properly labeled, and provide to Risk Management and Safety.</li> </ul>
IV	Other Waste	<ul style="list-style-type: none"> <li>✓ Material that cannot be determined, using knowledge of the waste, to be either hazardous or non-hazardous must be tested using the Toxicity Characteristic Leaching Procedure (TCLP).</li> </ul>	<ul style="list-style-type: none"> <li>❖ If the waste is determined to be hazardous, it should be handled as Category III waste.</li> <li>❖ If the non-hazardous, it should be handled as Category I solid waste.</li> </ul>

## Program Subject: Lead Safety Management Policy

### APPENDIX F. GLOSSARY

**Action Level:**

Employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air **30ug/m<sup>3</sup>** calculated as an 8-hour time-weighted average (TWA). If the action level exceeds a certain amount OSHA regulation go into effect.

**Accident:**

An undesirable, unplanned event resulting in personal physical harm, damage to property, or interruption of business. An accident may be the result of an unsafe act or an unsafe condition.

**Acute Effect:**

Having an immediate response due to a short period of exposure.

**Administrative Controls:**

A control measure that reduces exposure to an acceptable limit by either removing the worker from exposure after a specific length of time or establishing work rules such as no eating, no drinking, or no smoking.

**Air purifying respirator (APR):**

A respirator that removes limited concentrations of air contaminations from the breathing air. They do not add oxygen to the air and cannot be used in an oxygen-deficient atmosphere.

**Demolition:**

The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of lead containing products.

**Employee exposure:**

A situation in which employees are exposed to lead/lead-based particles.

**Exposure limit:**

The OSHA limit to lead aerosols says the 8-hour (TWA) airborne concentrations of lead to which any employee may be exposed shall not exceed **50ug/m<sup>3</sup>** of air.

**Filters:**

Some respirator cartridges are filters and contain a paper-like filter that removes dusts or particulates from the air.

**High-efficiency particulate air (HEPA) filtration:**

High-efficiency particulate air filtration found in respirators, air cleaners and vacuum systems is capable of filtering **0.3 micrometer** particles with **99.97%** efficiency, for use in lead-contaminated environments and lead contaminated air.

**Housekeeping**

- All surfaces shall be maintained as free as practical of accumulations of lead. HEPA vacuuming or other methods should be used that minimize the likelihood of lead becoming airborne.

**Ingestion**

- The route of exposure in which a toxic substance is eaten or swallowed thus introducing it to the digestive system.

**Inhalation**

- A route of exposure in which a toxic substance is breathed thus introducing it to the respiratory system.

## Program Subject: Lead Safety Management Policy

**Initial exposure assessment** - The personal sampling conducted during the first phases of an abatement project to determine employees' exposure (outside any respirator) to airborne contaminants. The purpose of this assessment is to ascertain the expected exposures of the worker.

**Lead** - Lead means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.

**Lead Based Paint** - According to EPA § 745.227(h)(i) stated that on any surface that is tested and found to contain lead equal to or in excess of 1.0mg/cm<sup>2</sup> or equal to or in excess of 0.5% by weight of lead. m<sup>3</sup>

**Lead Poisoning** - Lead compounds can produce poisoning when swallowed or inhaled. Inorganic lead compounds cause symptoms of lead colic and lead anemia. Organic lead compounds attack the nervous system.

**Metal Fume Fever** - A flu-like condition caused from inhaling fumes of heated metals.

**Mg/ms** - Milligrams per cubic meter

**Micrometer** - A unit of length equal to 1 millionth of a meter. Also called a "micron."

**Negative Exposure Assessment (NEA)** - A demonstration by the employer, that employee exposure during an operation is exhaled to be consistently below the PEL.

**Renovation** - Altering, in any way other than demolition, one or more structural components of a building.

**Routes of entry** - One of three ways a substance may enter the body. The three routes of entry are inhalation, ingestion, and absorption.

**Time Weighted Average** - A measurement of exposure to a given contaminant (lead) relative to the workday. Example: If a worker is exposed to 75 micro grams of lead per cubic meter of air for a period of 2 hours and exposed to no other lead for the remainder of the work day, the time weighted average would be equal to 75 micro grams divided by the number of 2-hour intervals in an 8-hour work day, which is four. In this case the 8-hour day (4), which is equal to 18.75 ug/m<sup>3</sup>. The formula is: 
$$\frac{75m \times 2hrs + 0m \times 6hrs}{8hrs} = 18.75ug/m^3$$