

Section 20

Lead Protection Program

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Lead Protection Program

Western Washington University complies with the Washington Administrative Code (WAC), Part 296-62-07521, regarding protection of workers from the hazards of lead exposure and with WAC 296-155-176 regarding worker lead protection in construction which includes:

- Demolition or salvage of structures where lead or materials containing lead are present
- Removal or encapsulation of materials containing lead
- New construction, alteration, repair or renovation of structures or portions of structures with materials containing lead
- Installation of products containing lead
- Lead contamination clean-up
- Maintenance operations associated with the above activities.

The University's lead protection program includes training, exposure monitoring, personal protective equipment, respiratory protection, medical surveillance, and signage. This text includes a guide for a written Lead Protection Work Plan which may be required if airborne concentrations of lead exceed permissible exposure levels during construction activities.

A. Responsibilities

It is the responsibility of the chair, department head, or director to ensure that a written Lead Protection Work Plan is prepared and followed, if required through consultation with the Environmental Health and Safety office, before employees under her or his purview perform construction-type activities involving lead-containing materials. He or she shall ensure that appropriate personal protective equipment is available, that staff are trained both in the use of personal protective equipment and in the hazards of lead, and that compliance with appropriate procedures is enforced.

Persons responsible for employees or students, including faculty or supervisors, shall be responsible to the chair, department head, or director for preparing a written Lead Protection Work Plan, if required, as described in Part G. These persons are responsible for implementing the lead protection program for employees or students under their purview whenever lead-containing materials may create a health hazard.

All employees shall comply with written lead protection procedures.

The Environmental Health and Safety staff shall be responsible for providing and updating University-wide procedures and assisting departments with implementation of the program, including the written Lead Protection Work Plan. Contact the staff for assistance, consultation in whether a written Lead Protection Work Plan is required, training, equipment evaluation, exposure monitoring, signage, or procedures.

Consultation with the Environmental Health and Safety office is required prior to beginning work in the following situations:

- Work involves tasks described in Part B of this section
- An activity is performed on pure lead metal
- An activity is performed on lead-containing materials which workers think may generate visible dust
- Workers are concerned about the hazards of lead exposures to themselves or to others

B. Exposure Monitoring and Exposure Assessment

Exposure monitoring is air sampling and subsequent lead analysis conducted to determine the exposures employees may have when performing lead-related tasks. As defined in WAC 296-62-07521 and WAC 296-155-176, exposures above the defined action level of 30 micrograms per cubic meter of air or the permissible exposure level of 50 micrograms per cubic meter require specific actions, such as, wearing of a respirator and signage. Exposure monitoring is generally conducted by the Environmental Health and Safety office. Employees are notified about the sampling process as described in the WAC.

Consult with the Environmental Health and Safety office for an exposure assessment on any lead projects and follow special procedures, including wearing protective equipment, when performing the following tasks involving materials containing lead:

Table 20-1. Tasks which require Prior Consultation and Special Procedures

- | | |
|---|--|
| 1. Manual demolition of structures, e.g. dry wall | 9. Rivet bursting |
| 2. Manual scraping or sanding | 10. Clean-up activities where dry, expendable abrasives are used |
| 3. Heat gun applications | 11. Abrasive blasting enclosure movement or removal |
| 4. Power tool cleaning with or without a dust collection system | 12. Abrasive blasting |
| 5. Spray painting with lead paint | 13. Welding |
| 6. Using lead mortar | 14. Cutting |
| 7. Lead burning | 15. Chemical lead paint removal systems, e.g., paint strippers |
| 8. Torch burning | |

C. Respiratory Protection Program

A respiratory protection program is implemented in accordance with WAC 296-62-07521 and WAC 296-155-17613 for employees who may be exposed to levels of lead above the permissible exposure limit. The University's respiratory protection program is found in Section 12 of the *Safety Information Book*, available within each department. Contact the Environmental Health and Safety office for copies and for consultation to determine when respiratory protection is required.

D. Personal Protective Equipment

Personal protective equipment is to be provided in accordance with the hazards associated with particular tasks. Hazards involving lead exposure are to be included in the written Hazard Assessment Certification for each department or shop. Hazard Assessment Certification information may be found in Section 5 of the *Safety Information Book*.

Personal protective equipment may include clothing, coveralls, gloves, respirators, shoe covers or head coverings. Protective equipment used during exposures to lead above the permissible exposure level (defined in WAC 296-62-007521 or 296-155-176) is not to be taken home. It is to be placed in a closed container in a change room. A change room is a place where workers may safely remove lead-contaminated clothing or equipment. A change room is to be identified for each job in the written Lead Protection Work Plan.

E. Housekeeping and Personal Hygiene Practices

In an area where lead-containing materials are being disturbed or abated, all surfaces are to be maintained as free as practicable of accumulations of lead. Standard chemical safety procedures are to be employed when working in an area where lead-containing materials are being disturbed or abated and are mandatory in areas where lead levels are above the permissible exposure limit:

- Food or drink is not to be present or consumed;
- Tobacco products are not to be present or used; and
- Cosmetics are not to be applied

Employees working in an area where lead concentrations are above the permissible exposure limit are to have a clean change room provided and are to shower at the end of the work shift. Personal clothing which may become contaminated shall be bagged or contained and the Environmental Health and Safety office is to be consulted.

F. Medical Surveillance

Employees who are exposed above the action level for more than thirty days per year (240 hours per year) shall participate in a medical surveillance program. Medical examinations and procedures are performed by or under the supervision of a licensed physician without cost to employees and at a reasonable time and

place. Baseline and periodic blood lead levels are monitored in accordance with WAC 296-62-07521 and/or WAC 296-155-17621.

G. Lead Protection Work Plan

A Lead Protection Work Plan guide is provided in this document. A written Lead Protection Work Plan shall be completed prior to starting work for each lead construction project performed by University employees or students which will generate lead concentrations over the permissible exposure limit. The plan shall be available on the work site for inspection, in accordance with WAC 296-155-17611. Consult with the Environmental Health and Safety office prior to beginning work to determine if a written work plan is needed, and to complete the plan with the proper protective procedures and equipment.

H. Training

Information on lead hazards shall be communicated in accordance with the Hazard Communication Program located in Section 6 of the *Safety Information Book*. Any employee exposed to airborne lead concentrations above 0.30 micrograms per cubic meter averaged over a time period of eight hours (the action level defined in WAC 296-62-07521 and WAC 296-155-176) will be provided with information about the hazards of lead exposure including the following topics:

- Exposure monitoring
- Written program
- Respiratory protection program
- Personal protective equipment
- Housekeeping
- Medical surveillance
- Training
- Recordkeeping

This training will be provided prior to allowing the employee or student to work and on an annual basis.

Each employee working on a job which has a written Lead Protection Work Plan shall be made aware of the contents of the plan. Training shall be documented in writing. As described above, training is available from the Environmental Health and Safety office.

I. Records

A copy of each written Lead Protection Work Plan is filed with the office of Environmental Health and Safety. A copy is kept on-site during all work performed. Exposure monitoring information, training information, and medical monitoring data are maintained at the Environmental Health and Safety office.

J. Signage

Signs shall be posted in each work area where lead concentrations are over the permissible exposure limit. The signs shall read: Warning, Lead Work Area, Poison, No Smoking or Eating. Signs shall be provided on containers of contaminated protective equipment as specified in WAC 296-62-07521.

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Lead Protection Work Plan

(Required by WAC 296-155-17611 for construction or abatement projects when levels will exceed the permissible exposure limit)

PROCEDURE:

- Consult with the Environmental Health and Safety office*
- Provide written documentation as indicated below.*
- Inspect each piece of equipment prior to use to be sure it is in working order.*
- Train all employees as required. Inform contractors working in the area.*
- Only employees with baseline blood lead levels may perform abatement work.*
- Keep a copy of this plan on the work-site for the entire work duration.**
- A copy of the completed plan is sent to the Environmental Health and Safety office.*

Work Description : _____ Work Order Number: _____

Department: _____

Prepared by: _____ Date Prepared: _____

Duration of Work: _____ to _____

Reviewed by: _____ Date reviewed: _____

1. Location of Project:

This job will take place at: _____

A previous lead inspection of this location by _____ (name of person who inspected or name of firm) revealed that lead hazards are present in the following locations:

- These building components are coated with lead-based paint and represent a hazard to workers who may disturb it during lead hazard control, renovation, or maintenance activities.

2. Brief Description of Job

This job will involve the following lead hazard reduction measures (complete all that apply):

- Replacement of _____ (name all components)
- Enclosure of _____ (name all components)
- Paint Removal of _____ (name all components)
- Encapsulation of _____ (name all components)
- Paint Film Stabilization of _____ (name all components)
- Friction Surface Treatments of _____ (name all components)
- Impact Surface Treatments of _____ (name all components)
- Dust Removal in the following areas _____ (name all areas)

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Job Description : _____

3. Schedule

Work will proceed according to the following schedule:

Day 1: Initial set up, followed by:

_____ (name all tasks to be completed on the first day)

Daily cleanup: Wet mopping HEPA vacuuming Other

Day 2: Tasks _____

Day 3: Tasks _____

List additional days on reverse or a separate page

Last Day: Tasks _____

Final Cleanup and Clearance Examination

The job is expected to start on _____ (date) and end on _____ (date).

This Work Plan takes effect immediately on _____ (date).

The Competent Person (see Section 6) will conduct work site visual inspections on a daily basis.

4. Equipment and Materials

- | | | | |
|--|--|--|---|
| <input type="checkbox"/> HEPA Vacuums | <input type="checkbox"/> Cleaning Detergents | <input type="checkbox"/> Protective Clothing | <input type="checkbox"/> Cotton Work Gloves |
| <input type="checkbox"/> Electric Power Saws | <input type="checkbox"/> Hammers | <input type="checkbox"/> Wrecking Bars | <input type="checkbox"/> Pry Bars |
| <input type="checkbox"/> Screwdrivers | <input type="checkbox"/> Plastic Sheeting | <input type="checkbox"/> Metal Scrapers | <input type="checkbox"/> Paint Rollers |
| <input type="checkbox"/> Rollers | <input type="checkbox"/> Brushes | <input type="checkbox"/> Butyl Rubber Gloves | <input type="checkbox"/> Respirators |
| <input type="checkbox"/> Cutting Shears | <input type="checkbox"/> Mops | <input type="checkbox"/> Plastic Sheeting | <input type="checkbox"/> Paint Brushes |
| <input type="checkbox"/> Compressed Air | <input type="checkbox"/> Chemical Strippers | | |
| Powered Water Pumps | | | |

5. Crew

The work will be completed by a crew of _ (insert number) workers. Crew assignments are as follows:

NAME 1 _____ (task)

NAME 2 _____ (task)

NAME 3 _____ (task)

6. Competent Person

_____ (name), a certified lead abatement supervisor, will be on-site at all times and will act as the competent person for occupational health and safety issues. The Lead Supervisor License (or certificate) number is: _____. The Lead Supervisor will conduct daily inspections of the work areas to ensure that control measures, work practices, personal protective equipment, and hygiene facilities are used as prescribed in this document.

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Job Description : _____

7. Control Measures

The primary control methods for this project are (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Method substitution (building component replacement, enclosure) | <input type="checkbox"/> Local exhaust ventilation (needle guns, vacuum blasting) |
| <input type="checkbox"/> Wet methods | <input type="checkbox"/> On-the-job training |
| <input type="checkbox"/> Wrapping materials to be discarded in plastic | <input type="checkbox"/> HEPA Vacuums |
| <input type="checkbox"/> Respiratory protection | <input type="checkbox"/> Containment (use of plastic barriers) |
| <input type="checkbox"/> General room ventilation | <input type="checkbox"/> Paper barrier (peel-away process) |

8. Technology Considered In Meeting The Permissible Exposure Limit

The document, *Housing and Urban Development (HUD) Guidelines for Evaluation and Control of Lead Hazards in Housing and Protecting Workers and Their Communities From Lead Hazards: A Guide for Protective Work Practices*, published by the Society of Occupational and Environmental Health and other publications were reviewed to determine the appropriate engineering controls to be used in this project. The only specialized equipment which will be utilized for this project are:

- HEPA-filtered vacuum cleaners and _____
(name all special equipment).

9. Respirators

All individuals in the work area will be provided with a NIOSH/MSHA approved half-mask air-purifying respirator equipped with HEPA cartridges or a powered air-purifying respirator (if so requested).

In the unlikely event that extremely high concentrations of lead are anticipated or found (over 500 milligrams per cubic meter of air over an eight-hour period), appropriate respiratory protection will be provided. Respirators are provided in the context of a complete respiratory protection program; the written respirator program is available in the *Safety Information Book*, found in each department.

Respirators will be required during (names phases of job for which respirators will be required):

Respirator used during other activities, including initial setup (laying down plastic for containment) and enclosure and encapsulation after surface preparation is not necessary, **unless** other workers nearby (same interior room or outside wall) are performing activities for which respirators are required.

10. Protective Clothing

Disposable protective clothing will be worn at all times inside the work area. Protective clothing will be made of breathable fabric to reduce the potential for worker heat stress. If visibly contaminated with dust or paint chips, protective clothing will be HEPA vacuumed off before it is removed. If personal clothing should become contaminated, it is placed in a plastic bag and the Environmental Health and Safety office is consulted regarding appropriate procedures.

11. Hygiene Facilities

Hand washing facilities will be used to decontaminate workers, since leaded dust levels are expected to be low. The facilities will be located in _____. Hands and face will be washed before all breaks and at the end of the day. Wastewater will be collected, pre-treated on site with filtration, and disposed of in accordance with prior arrangements made with the Bellingham Public Works Department.

12. Air Monitoring Data

As available, previous data for lead hazard control projects conducted with similar controls, environmental conditions, personnel and methods is reviewed.

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Job Description : _____

- Air sampling will be conducted by _____ (name of person).
- Air sampling will not be performed on this job, since typical exposures have already been established for this type of work by the Environmental Health and Safety office. Based on these results, the major exposures to lead will occur during _____
(name tasks during which substantial exposures are likely to occur).

In previous work conducted by Western using the same methods, **maximum** personal exposures measured for various activities were:

<u>Maximum Exposure (ug/m³)</u>	<u>Task</u>
_____	_____
_____	_____
_____	_____

These data are available for inspection at the Environmental Health and Safety office.

The environmental conditions in the previous projects closely resemble the current location. These maximum exposures are expected to represent "worst case" exposures because they did not include breaks or set up time; it is expected that 8-hour time-weighted average exposures on this job will be lower than these figures. However, worker respiratory protection requirements will be based on the maximum exposures to allow for unexpected variations.

13. Medical Surveillance Program

A medical surveillance program is in place for this work crew. It is supervised by Whatcom Occupational Health, 3015 Squalicum Parkway, Bellingham, WA 676-1693.

Worker blood lead levels are measured initially and periodically. Workers' blood lead increases of 10 ug/dl or more or any blood lead level greater than 25 ug/dl will trigger an investigation of protective equipment and work practices. All workers on this project are informed of their blood lead levels as soon as they are received.

14. Training

The following workers will participate in this project. They have been trained in the hazards of lead and how to protect themselves. The training was conducted by the Environmental Health and Safety office.

<u>List Worker's Names Who Were Trained</u>	<u>Date Trained</u>
_____	_____
_____	_____
_____	_____

15. Lead-Containing Material Disposal

Materials containing lead will be disposed of in accordance with federal and state regulation. Contact the Environmental Health and Safety office to arrange proper disposal. Lead-containing materials are to be handled as follows on site _____.