

SECTION 13282 – LEAD-BASED PAINT CONTROL MEASURES

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section specifies the requirements for protection of workers, prevention of contamination of adjacent areas, performing lead-abatement, post-abatement cleaning, pre-disposal testing of removed materials, and appropriate disposal of removed materials.

1.02 DESCRIPTION

- A. The Contractor shall ensure all work is in compliance with all applicable Federal, State and local laws and regulations concerning lead, including all incidental and pertinent operations during the renovation of structures located at the Facility.
- B. Lead-based paint (LBP) and lead-containing paint (LCP) were identified in the facility as specified in the March 27, 2017 *“Limited Hazardous Materials Survey Report, Building 19 Site Improvements, Kalaeloa, State of Hawaii, Department of Defense, Hawaii Army National Guard, Job No. CA-1514-D, Oahu, Hawaii”*, prepared by EnviroServices & Training Center, LLC. (Limited Hazardous Materials Survey Report).
- C. The Contractor shall furnish all labor, materials and equipment necessary to complete the safe removal, transportation and disposal of LBP and LCP in areas that may be affected by the renovation activities. These areas include any LBP and LCP that is loose and flaking or areas where LBP and LCP has the potential to become airborne or otherwise create dust (i.e. from sanding, drilling, friction, etc.) during the renovation activities.
- D. All work shall be performed as required of lead-contaminated materials by persons trained, knowledgeable and qualified in the techniques of handling and disposing of lead-contaminated materials and in the subsequent cleaning of lead-contaminated areas.
- E. It is the responsibility of Contractor to understand and control lead hazards. Work covered by this Section, which includes the incidental procedures and equipment required to protect site workers, other trades, the public, and the environment from lead exposures.
- F. In performing the renovation and disposal of components with LBP and LCP, all possible safeguards, precautions and protective measures should be utilized to prevent exposure of any individual to lead particulates.
- G. The Contractor shall review the Limited Hazardous Materials Survey Report and ensure that he fully understands where the LBP and LCP have been identified, that the testing was for design purposes only, and that the results do not satisfy any of the requirements of Title 12, (Department of Labor and Industrial Relations), Subtitle 8 (Division of Occupational Safety and Health), Chapter 148.1 (Lead Exposure in Construction), Hawaii Administrative Rules.

- H. Debris and waste resulting from renovation work, except as otherwise specified, shall become the property of the Contractor. The Contractor shall be required to separate renovation debris, steel components and miscellaneous metal elements and recycle them as scrap metal.
- I. Prior to commencement of work, an annotated description of existing damaged and missing items shall be identified and submitted to Contracting Officer within 30 days of contract award. It will be Contractor's responsibility to repair or replace items identified as damaged or missing to Contracting Officer's satisfaction that cannot be proven to have been in this condition prior to the commencement of this project.
- J. The Contractor shall conduct TCLP tests for lead of a representative sample of the debris waste stream of each structure and of any lead-contaminated chips or debris generated through abatement to determine whether the waste is hazardous or non-hazardous.

1.03 REFERENCES

A. The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only, and include but are not limited to, the following.

B. CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1926.21	Safety Training and Education
29 CFR 1926.33	Access to Employee Exposure and Medical Record
29 CFR 1926.55	Gases, Vapors, Fumes, Dusts, and Mists
29 CFR 1926.59	Hazard Communication
29 CFR 1926.62	Lead Exposure in Construction
29 CFR 1926.65	Hazard Waste Operations and Emergency Response
29 CFR 1926.103	Respiratory Protection
40 CFR 260	Hazardous Waste Management Systems: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Generators of Hazardous Waste
40 CFR 263	Transporters of Hazardous Waste
40 CFR 264	Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standard for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restriction
40 CFR 745	Lead; Requirement for Lead-Based Paint Activities
49 CFR 172	Hazardous Materials, Tables, and Hazardous Materials Communications Regulations
49 CFR 178	Shipping Container Specification

C. HAWAII OCCUPATIONAL SAFETY AND HEALTH DIVISION (HIOSH)

12-114.2	Personal Protective Equipment
12-121.2	Fall Protection
12-122.2	Materials Handling, Storage, Use, and Disposal
12-148.1	Lead

12-151 Hazardous Waste Operations and Emergency Response
12-202-33.1 Lead

D. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z9.2 (1979; R 1991) Fundamentals Governing the Design and
Operation of Local Exhaust Systems
ANSI Z88.2 (1992) Respiratory Protection

1.04 DEFINITIONS

- A. Action Level: Employee exposure, without regard to use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8-hour period.
- B. Area Sampling: Sampling of lead concentrations within the lead control area and inside the physical boundaries which is representative of the airborne lead concentrations but is not collected in the breathing zone of personnel (approximately 1.5 to 1.8 meters above the floor).
- C. Authorized Visitor: The Contracting Officer's authorized representative, Inspector, air monitoring personnel, or a representative of any regulatory or other agency having jurisdiction over the project.
- D. Competent Person: As used in this section, refers to a person employed by the Contractor who is trained in the recognition and control of lead hazards in accordance with current federal, State, and local regulations, has the authority to take prompt corrective actions to control the lead hazards and is an EPA certified lead inspector or risk assessor.
- E. Contaminated Area: An area where unwanted toxic or harmful substance exists.
- F. Contracting Officer's Authorized Representative: Authorized Contracting Officer representative who is an EPA certified Lead Inspector/Assessor and either an EPA certified Lead Supervisor or Project Monitor, performs air monitoring and inspection activities during abatement and renovation work and shall have the authority to initiate engineering controls.
- G. Contractor: For this project, the Contractor is that individual, or entity under contract to the General Contractor to perform the herein listed work.
- H. EPA: United States Environmental Protection Agency
- I. High Efficiency Particulate Air (HEPA) Filter: HEPA filtered vacuuming equipment with a filter system capable of collecting and retaining lead-contaminated particulate. A high efficiency particulate filter demonstrates at least 99.97 percent efficiency against 0.3 micron or larger size particles.
- J. Lead: Metallic lead, inorganic lead compounds, and organic lead soaps. Excludes other forms of organic lead compounds.
- K. Lead-Based Paint (LBP): Protective or decorative coating which contains at least 1.0 mg/cm² of lead by area or at least 0.5% (5,000 mg/kg) of lead by weight.

- L. Lead Containing Paint (LCP): Protective or decorative coating which contains any detectable quantity of lead; includes Lead-Based Paint.
- M. Lead Control Area: A temporary area or structure or containment, sometimes equipped with HEPA filtered local exhaust, which prevents the spread of lead dust or debris. Usually critical barriers and physical boundaries are employed to isolate the lead control area and to prevent migration of lead contamination and unauthorized entry of personnel.
- N. Monitoring Specialist: A person who performs air monitoring and inspection during abatement work under the direction of the Contracting Officer's authorized representative.
- O. OSHA: United States Department of Labor, Occupational Safety and Health Administration
- P. Permissible Exposure Limit (PEL): 50 micrograms per cubic meter of air as an 8-hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more or less than 8 hours in a work day, the PEL shall be determined by the following formula:

$$\text{PEL (micrograms per cubic meter of air)} = 400/\# \text{ hours worked per day}$$

- Q. Personal Sampling: Sampling of airborne lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with 29 CFR 1926.62. Samples shall be representative of the employees work tasks. The breathing zone shall be considered an area within 12 inches of the nose or mouth of an employee.
- R. Physical Boundary: Area physically roped or partitioned off around lead control area to limit unauthorized entry of personnel.
- S. Qualified Testing Laboratory:
 1. Environmental and Work Area Monitoring Laboratory: The testing laboratory employed by the Contracting Officer's authorized representative to perform analysis of environmental and work area air monitoring samples and report concentrations of airborne lead.

The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air. Laboratory personnel performing the work shall have been judged proficient in the analysis of lead in the applicable parameter by successful participation within the last year in AIHA's ELPAT.

2. Personal Air Monitoring Laboratory: The testing laboratory utilized by the air monitoring firm retained by the Contractor to perform analysis of personal air monitoring samples and report airborne concentrations of lead. Collection of

the Contractor's OSHA personal air samples will be performed by a firm independent of the Contractor, at the Contractor's expense.

The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air. Laboratory personnel performing the work shall have been judged proficient in the analysis of lead in air by successful participation within the last year in AIHA's ELPAT.

3. Toxicity Characteristic Leaching Procedure (TCLP) Testing Laboratory: The testing laboratory employed by the Contractor to perform TCLP tests of a representative sample of the debris waste stream of each structure and of any lead-contaminated chips or debris generated through abatement to determine whether or not the waste is hazardous or non-hazardous. The laboratory shall be experienced in and analyze TCLP samples using the EPA Method 1311/6010.

T. State: The State of Hawaii

1.05 QUALITY ASSURANCE

- A. Contracting Officer's authorized representative's responsibilities:
 1. Review and approve Contractor personnel training.
 2. Review and approve Contractor's Work Procedure Plan for conformance to the applicable reference standards.
 3. Inspect work for conformance to the Contractor's approved Work Procedure Plan.
 4. Schedule and conduct required air monitoring, inspection and reporting.
 5. Monitor work to verify that work is performed at all times in accordance with the requirements of this Specification.
 6. Monitor work to verify that adequate control is being maintained at all times of hazardous exposure to employees and to the environment.
 7. Perform area air monitoring during lead abatement activities.
 8. Be onsite during all worksite preparation and cleaning, be available by telephone, pager or answering service at all other times during the work and able to be present at the work site in no more than 2 hours.
 9. After final cleanup, verify that the lead control area is free of any visible lead paint chip debris, waste or dust.

B. Safety and Health Compliance

1. In addition to the detailed requirements of this Specification, the Contractor shall comply with laws, ordinances, rules, and regulations of Federal, State, and local authorities regarding removing, handling, storing, transporting, and disposing of lead waste materials.
 2. Comply with the applicable requirements of the current issue of 29 CFR 1926.62, HIOSH 12-148.1, and HIOSH 12-202-33.
 3. Where requirements of this Specification and the referenced documents vary, the most stringent requirement shall apply.
- C. Pre-Construction Conference
1. The Contracting Officer's authorized representative shall meet with the Contractor to discuss in detail the work procedures, precautions and area and personal air monitoring to be employed.
 2. If rental equipment is to be used during LBP and LCP handling and disposal, notify the rental agency in writing concerning the intended use of the equipment. Submit a copy of the written notification to the Contracting Officer's authorized representative.

1.06 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor acknowledges that he alone is responsible for the instruction of personnel in and enforcement of personal protection requirements. The Contractor shall comply with all requirements of 29 CFR 1926.62 and HIOSH 12-148.1. The Contractor shall also be responsible for complying with all applicable EPA regulations in regards to lead-containing materials.
1. Respirators: Use appropriate respirators and filters which meet all requirements of OSHA 29 CFR 1926.62 and HIOSH 12-148.1.
 2. Protective Clothing: Use appropriate personal protective clothing (disposable suits, eye protection, gloves, etc.) as required by OSHA 29 CFR 1926.62 and HIOSH 12-148.1.
 3. Employee Monitoring: Contractor's Competent Person shall monitor employees' exposure to lead in accordance with OSHA requirements.
 - a. Contractor shall collect air samples from employees' breathing zones during each shift, for the duration of the LBP and LCP-disturbing work.
 - b. Contractor shall collect samples from at least 25% of workers conducting LBP and LCP-disturbing tasks, and not less than two workers.

1.07 REQUIREMENTS

- A. Applicable Standards and Guidelines: All work under this contract, and any other trade work conducted with the project, shall be done in strict accordance with all applicable Federal, State and local regulations, standards, documents and codes governing the preparation, removal, renovation, treatment, transportation and disposal of lead-containing and lead-contaminated materials. The most recent edition of any relevant regulation, standard, document or code shall be applicable.

- B. The Contractor shall examine and have at all times at his office (one copy) and in view at each job site (one copy) the following materials:
1. State of Hawaii Department of Labor and Industrial Relations; Occupational Safety and Health Standards; Part 8, Section 12-148.1;
 2. Title 29 Code of Federal Regulations Part 1926.62; Safety and Health Standards;
 3. Title 29 Code of Federal Regulations Part 1910.134; Respiratory Protection;
 4. Title 40 Code of Federal Regulations Part 261; Identification and Listing of Hazardous Waste;
 5. Title 40 Code of Federal Regulations Part 262; Standards Applicable to Generators of Hazardous Waste;
 6. Title 40 Code of Federal Regulations Part 263; Hazardous Waste Transporters;
 7. Copies of any other applicable Federal, State and local regulations, standards, documents and codes;
 8. Copies of the procedures to be followed during medical emergencies, including phone numbers of the nearest hospital or other emergency medical facility, which shall be posted by the nearest telephone;
 9. Copies of the Contractor's Respiratory Protection Program, Hazardous Communication Program, Safety Program, and Work Procedure Plan;
 10. Copies of Safety Data Sheets for all chemicals used;
 11. Copies of the Contractor's Competent Person's qualifications; and
 12. Copies of Personal Air Monitoring results.

1.08 CONTRACTOR USE OF PREMISES

- A. General: The Contractor shall cooperate fully with the Contracting Officer during project execution to minimize conflicts.
- B. Pollution Control: The Contractor shall not contaminate the air, water, soil or other items with hazardous materials such as cleaning solutions, LBP and LCP or lead-contaminated debris and wastes, etc. The Contractor shall immediately clean the contaminated area and dispose of the waste in compliance with all Federal, State and local laws, ordinances, rules and regulations at his or her own expense.
- C. Use of Site:
1. Confine operation at the site to the areas permitted under the contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting work while at the project site.

2. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage to the areas authorized by the Contracting Officer's authorized representative.

1.09 COMMENCEMENT OF WORK

- A. Each time work that calls for the disturbance of LBP and LCP is to begin in a new work area the Contractor shall not commence work unless the following requirements have been met.
 1. Submittals: All submittals, notifications, posting and permits must be provided and be satisfactory to the Contracting Officer's authorized representative.
 2. Equipment: All equipment required for the work such as removal, clean-up and disposal must be on hand.

1.10 SUBMITTALS

- A. Submit in accordance with SECTION 01330 – SUBMITTAL PROCEDURES.
- B. Manufacturer's Catalog Data: Submit copies of manufacturer's specifications, installation instructions and field test materials for all chemicals and equipment related to lead-containing and lead-contaminated materials, including any other data that may be required to demonstrate compliance with these Specifications and proposed uses. This includes, but is not limited to, data for vacuum filters and respirators.
- C. Safety Data Sheets: Submit copies of the Safety Data Sheets for all chemicals used.
- D. Notifications: Provide the Contracting Officer's authorized representative written notice of any on-site project activity involving the disturbance of LBP and LCP as early as possible but at least 10 working days prior to commencement of work.
- E. Respiratory Protection Program: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Respiratory Protection Program prepared in accordance with all applicable laws. The Contractor shall also submit fit test records on all employees to be used on this project who may be required to wear a respirator.
- F. Hazard Communication Program: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Hazard Communication Program prepared in accordance with all applicable laws.
- G. Safety Program: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Health and Safety Plan prepared in accordance with all applicable laws.
- H. Work Procedure Plan: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Work Procedure Plan. The following are required components of a Work Procedure Plan:

1. A sketch showing the location, size, and details of lead control areas, signage, security, decontamination and support areas including eating, drinking, smoking, and restroom areas;
 2. Procedures, interface of trades, sequencing of lead-related work, respirators, protective equipment;
 3. A detailed description of the methods of control of the work to ensure that airborne lead concentrations of 30 micrograms per cubic meter of air are not exceeded;
 4. Work plan and schedule for waste containment and disposal including daily cleanup and disposal of stray paint chips and paint dust;
 5. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment;
 6. Names and qualifications (experience and training) of personnel who will be working on-site with hazardous wastes;
 7. Estimated quantities of wastes to be generated and disposed of as well as a description of the methods used to identify hazardous wastes encountered with the work;
 8. Spill prevention, containment, and cleanup contingency measures to be implemented;
 9. Description of procedures to stop work in the event that area monitoring and laboratory analysis indicate air concentrations of lead in excess of the action level; and
 10. Methods to eliminate runoff of the water used to minimize dust created by renovation work, and collection and disposal plan for wastewater and paint debris.
- I. Rental Equipment: When rental equipment is to be used during LBP and LCP handling and disposal, a written notification concerning intended use of the rental equipment must be provided to the rental agency with a copy submitted to the Contracting Officer's authorized representative.
- J. HEPA Vacuums: Submit no later than 10 consecutive working days from notice of award, manufacturer's certification that vacuums conform to ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems as applicable to this project.
- K. Contractor's Competent Person's Qualifications: The Contractor shall submit no later than 10 consecutive working days from notice of award the Contractor's Competent Person's name, contact information, valid qualifications, and current certification of completion of the EPA Lead Inspector/Assessor course.
- L. Certification of medical examinations: The Contractor shall submit documentation from a physician that all employees or agents who may be

exposed to airborne lead-containing dust or fumes have been medically monitored to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. In addition, the Contractor shall document that his personnel have received medical monitoring as required in the HIOSH lead standard (12-148.1).

M. Employee training certifications: Submit documentation within 10 consecutive calendar days of award, satisfactory to the Contracting Officer's authorized representative, that the Contractor's employees, including foreman, supervisors and any other company personnel or agents who may be exposed to airborne lead dust or who may be responsible for any aspects of LBP and LCP removal activities, have received training in accordance with OSHA 29 CFR 1926.62 and the HIOSH lead standard (12-148.1). Training shall include, but not be limited to, the dangers of lead exposure, respirator use and decontamination procedures.

N. Laboratory Qualifications:

1. Personal Air Monitoring Laboratory: Submit name, address and telephone number of testing laboratory responsible for analysis of personal air monitoring samples and reporting concentrations of airborne lead.

The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air. Laboratory personnel performing the work shall have been judged proficient in the analysis of lead in air by successful participation within the last year in AIHA's ELPAT.

2. TCLP Testing Laboratory: Submit name, address and telephone number of testing laboratory responsible for TCLP analysis.

The laboratory shall be experienced in and analyze TCLP samples using the EPA Method 1311/6010.

O. Personal Air Monitoring Results: Submit test results to the Contracting Officer's authorized representative and the affected Contractor's employees within three (3) working days of collection, signed by the testing laboratory employee performing the analysis and the Contractor's Competent Person. Test results for the first two full days of initial personal air monitoring shall be submitted to the Contracting Officer's authorized representative within 48 hours after completion of sampling.

P. TCLP Results: Submit test results to the Contracting Officer's authorized representative within three (3) working days of collection, signed by the testing laboratory employee performing the analysis and the Contractor's Competent Person.

Q. Log of Lead Disturbance Work: Complete and submit a daily log of all lead disturbance work performed.

- R. Certification of work performance: Certification in writing that the regions both inside and outside of the lead control area have airborne lead concentrations below the background level, that the respiratory protection for the employees was adequate, and that the work procedures were performed in accordance with 29 CFR 1926.62 and this Specification.
- S. Waste Disposal Manifest Forms: Submit copies of all transport manifests, trip tickets and disposal receipts for all hazardous waste removed from the work area and disposed of at a disposal facility during the work process.

PART 2 - PRODUCTS

2.01 EQUIPMENT AND MATERIALS

- A. Respirators: Select respirators approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services. Respirators shall comply with the requirements of 29 CFR 1926.62 and HIOSH 12-148.1. For this project, respirators shall be worn at all times throughout the renovation or as deemed necessary by the Contractor's Competent Person.
- B. Protective Clothing: Furnish personnel exposed to lead dust with appropriate personal protective equipment as required by 29 CFR 1926.62 and HIOSH 12-148.1. For this project, respirators shall be worn at all times throughout the renovation or as deemed necessary by the Contractor's Competent Person.
- C. Chemicals: Submit applicable Material Safety Data Sheet for all chemicals used on this project. Use the least toxic product approved by the Contracting Officer's authorized representative.

PART 3 - EXECUTION

3.01 POTENTIAL LEAD HAZARDS

- A. The disturbance or dislocation of lead-containing materials may cause lead-containing dust to be released into the atmosphere, thereby creating a potential health hazard to the workers and the general public. Apprise all workers, supervisory personnel, subcontractors, consultants and authorized visitors who will be at the job site of the seriousness of the hazard and of proper work procedures which must be followed.
- B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified lead-containing materials, take appropriate continuous measures as necessary to protect all workers and the general public from the potential hazard of exposure to respirable airborne lead dust. Such measures shall include the procedures and methods described in the regulations of applicable Federal, State and local agencies.

3.02 LEAD CONTROL AREA REQUIREMENTS

A. Boundary Requirements

1. Establish a lead control area to contain renovation operations by demarcating a boundary around the structure to be demolished or renovated in accordance with the Contractor's approved Work Procedure Plan. The lead control area shall be isolated by physical boundaries, such as temporary fencing, boundary tape and rope, to prevent unauthorized entry of personnel. If the work practice relating to LBP and LCP will create airborne dust, create a full containment with critical barriers, HEPA filtered exhaust, negative pressure enclosure and decontamination facilities.
2. Post Warning and Danger signs in accordance with 29 CFR 1926.62 and HIOSH 12-148.1. Signs shall be placed at all approaches to lead control area and at the boundary of the lead control area. Signs shall be posted at all locations where airborne lead concentrations may exceed ambient background levels. Locate signs at such a distance that personnel may read the sign and take necessary protective measures to avoid exposure. In addition, post signs with "Authorized Entry Only, Lead Control Area" and "PPE Required" at every entry point.

B. Personal Protection Requirements

1. No one will be permitted in the lead control area unless they have been given appropriate training, Personal Protective Equipment (PPE) and medical examinations. PPE is required for all employees and persons within the lead control area.
2. Eating, drinking, smoking and application of cosmetics shall be permitted only in areas designated by the Contractor, approved by the Contracting Officer's authorized representative, and which are free of dust generated by the renovation. Eating, drinking, smoking and application of cosmetics are not permitted in the lead control area.
3. Where eyes may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes shall be provided within the work area.

C. Environmental Protection Requirements

1. Ensure airborne lead levels outside the lead control area are below the Action Level.
2. Perform work without damage to or contamination of the areas adjacent to locations where lead-containing or lead-contaminated material will be disturbed as a result of renovation activities. If any part of the work area is damaged or contaminated during the disturbance of lead paint, restore the damaged or contaminated area to its original condition or better, as determined by the Contracting Officer's authorized representative.
3. Drainage inlets, downspouts, and all entrances to underground utilities which lie within, or provide drainage for, a lead control area shall be sealed until that lead control area has been cleaned, visually inspected and cleared.

4. Within a lead control area, any windows, doors or vents shall be sealed and air-conditioning units with intake or exhaust in a lead control area shall be shut down and sealed until that lead control area has been cleared with a level of airborne lead below the background level.

D. Exit Procedures

1. Whenever personnel exit the lead control area, they shall perform the following procedures and shall not leave the work place wearing any clothing or other equipment worn in the lead control area. Personnel shall:
 - a. Vacuum themselves off with HEPA-filtered vacuum equipment, using UL-586 labeled HEPA filters;
 - b. Remove protective clothing in the designated changing area within the lead control area and place them in an approved impermeable disposal bag;
 - c. Wash their hands and faces in the designated changing area before exiting to the designated clean area outside of lead control area; and
 - d. Prevent migration of mud, dust and/or debris carried on work boots, clothing or equipment from the renovation site into areas beyond the lead control area.

3.03 RENOVATION INVOLVING LBP AND LCP

- A. Perform lead work as specified herein and in accordance with approved Work Procedure Plan. Use procedures and equipment required to limit occupational exposure and environmental contamination with lead when renovation is performed in accordance with 29 CFR 1926.62 and as specified herein.
- B. Disturbance of LBP and LCP as a result of renovation activities shall be kept to a minimum. Spot remove LBP and LCP only as necessary for the safe renovation of LBP and LCP painted structures. Water spray, vacuuming and other engineering controls shall be used to minimize airborne lead dust. Care shall be taken to avoid pulverizing, scraping, or crumbling lead painted debris.
- C. Dispose of all LBP and LCP and associated waste in compliance with all Federal, State and local requirements.
- D. Clean, as needed, all floor surfaces adjacent to the lead control area using a HEPA filtered vacuum.
- E. Use 6-mil polyethylene sheeting to cover ground underneath the work area.
- F. Use 6-mil polyethylene sheeting to cover any surfaces and equipment that will not be painted, disturbed or utilized during disturbance of LBP and LCP. After completion of work, the Contractor shall repair all damage from fastening and sealing and remove all adhesive residues from surfaces at no additional cost to the State.

- G. Manual or power sanding, grinding, abrasive or sand blasting of interior and exterior painted surfaces is not permitted. Select paint removal processes (describe in the Work Procedure Plan) to minimize contamination of work areas with lead-contaminated dust or other lead-contaminated debris/waste.
- H. Open flame burning or torching of LBP and LCP is prohibited.
- I. The use of heat guns or hot knives which reach temperatures above 650 degrees Fahrenheit, on surfaces containing LBP and LCP, is prohibited.
- J. Use of vacuum equipment without HEPA filters in areas containing LBP and LCP is prohibited.
- K. The use of chemical paint strippers containing methylene chloride is prohibited.
- L. Control of Airborne Lead Level: The Contractor shall control the lead level outside of the work boundary to less than the action level at all times.
- M. Control of Visible Emissions: The Contractor shall control lead dust emissions from the project site so that no visible lead dust emissions leave the project work areas during renovation work. Wet methods or other engineering controls shall be used to control the emission of dust and/or debris from the renovation site in accordance with all applicable Federal, State, and local regulations. Emissions in excess of the above shall be cause for immediate shut down of the project until corrective measures are implemented.
- N. Control of Water Runoff: Water used to control emissions of dust from the renovation activities shall not be allowed to flow uncontrolled from a lead control area, to any adjacent area or to enter the sanitary or storm water sewer system. All water runoff from lead control areas shall pass through a filter berm to remove particulate matter prior to discharge to water sewer system. The Contractor shall use only sufficient water to adequately control dust. Under no conditions shall wastewater be disposed of in storm drains or dumped on the ground.
- O. Perform renovation involving lead containing paint as indicated in Federal, State, and local regulations. The worksite preparation (barriers or containments) shall be job dependent.

3.04 CLEANUP

- A. Clean surfaces and surrounding ground within the lead control area daily. Do not allow paint chips, dust and debris to accumulate.
- B. Restrict and minimize the spread of dust and debris. Keep waste from being distributed over the general area. Do not dry sweep or use compressed air to clean the area.
- C. When the operation has been completed, the area will be cleaned of all visible lead paint contamination. The Contracting Officer's authorized representative will visually inspect the affected areas for residual lead paint chips and the Contractor shall re-clean areas showing residual paint chips and debris.

- D. If re-cleaning is required, the Contracting Officer's authorized representative will visually inspect for lead debris after the re-cleaning. This process will be repeated until the Contracting Officer's authorized representative deems the area free of visible paint chips and debris.
- E. Do not remove the lead control area barriers or roped-off perimeter and warning signs prior to the Contracting Officer's receipt of the Contracting Officer's authorized representative's lead clearance certification.

3.05 DISPOSAL

- A. The landfill will require characterization of the waste generated during the removal work, where a representative sample is analyzed by a State of Hawaii-approved laboratory for Toxicity Characteristic Leaching Procedure (TCLP) analysis.
- B. Disposal of Non-Hazardous Painted Construction Debris (TCLP for Lead Not Exceeding EPA Limit of 5.0 Milligrams per Liter):
 - 1. Remove non-hazardous lead waste including debris, scraps, waste materials, rubbish, and trash from the site and dispose of such waste at a landfill approved for such purposes.
 - 2. The Contractor shall submit to the Contracting Officer's authorized representative documentation that the lead-containing waste material removed from the work area has been accepted by the landfill owner.
- C. Disposal of Hazardous Painted Construction Debris (TCLP for Lead Exceeding EPA Limit of 5.0 Milligrams per Liter):
 - 1. Collect lead-contaminated wastes, scraps, debris and any other lead-contaminated materials and place into U.S. Department of Transportation approved and appropriately labeled containers.
 - 2. Store lead wastes and debris in U.S. Department of Transportation approved containers in an interim storage area assigned by the Contracting Officer's authorized representative at the site. Any and all hazardous wastes shall be removed from the site to an EPA approved disposal facility within 90 days of the removal work (as applicable).
 - 3. Handle, store, transport, and dispose of lead or lead-contaminated waste in accordance with 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 264, and 40 CFR 265. Comply with land disposal restriction notification requirements as required by 40 CFR 268.
 - 4. The Contractor shall submit to the Contracting Officer's authorized representative documentation that the lead-containing waste material removed from the work area has been accepted by the landfill owner.

3.06 CERTIFICATION

- A. The Contractor or his authorized representative shall certify in writing that the regions both inside and outside of the lead control area have airborne lead concentrations below the background level, that the respiratory protection for the employees was adequate, and that the work procedures were performed in accordance with 29 CFR 1926.62 and this Specification.

- B. Upon inspection and approval of the area by the Contracting Officer's authorized representative, the Contractor shall certify that there were no visible accumulations of lead-contaminated paint, dust and debris remaining on the work-site.
- C. The Contractor shall not remove the lead control area boundary and warning signs prior to the submittal and approval by the Contracting Officer's authorized representative of the Contractor's certification that there were no visible accumulations of lead contaminated paint, dust and debris remaining on the work-site.
- D. The Contractor shall re-clean areas showing residual paint chips, debris or wastes. Chips, debris and wastes shall be disposed of properly, in accordance with this Specification and all applicable Federal, State and local regulations.

3.07 MEASUREMENT AND PAYMENT

- A. Payment for transportation and disposal of all lead-related wastes will not be measured and paid for separately, but shall be incidental to applicable items under renovation work in the contract. The final payment will not be made until a signed copy of the manifest from the treatment or disposal facility certifying the amount of lead-contaminated material delivered is submitted to the Contracting Officer's authorized representative.

END OF SECTION