

**RENOVATION OPERATIONS WITH LEAD-CONTAINING & LEAD-BASED PAINT  
PART 1– GENERAL**

DIVISIONS 00 7 01 ARE A PART OF THIS SECTION

**General****1.01 SUMMARY OF SCOPE OF WORK**

The work under this section covers the disturbance of lead-based paint and lead-containing paint during planned renovation operations involving those structures at the buildings being impacted by the proposed scope of work as indicated on the project design documents. Lead-containing paint, glazing, and surface coatings are herein identified as those which contain any detectable amount of lead in accordance with 8 CCR 1532.1, and 29 CFR 1926.62. Lead-Based Paint (LBP) is herein identified as paint which contains in excess of 5,000 per million of lead (1.0 mg/cm by weight) per 8 CCR 1532.1, Title 17, CCR Division 1, Chapter 8.

The work to be performed as part of the project includes removal and/or stabilization of painted finishes attached to those structures at the subject site to be impacted by planned renovation operations which are in non-intact, peeling, or poor condition. The work may also involve stabilization of non-intact painted finishes on buildings which are to remain, and which may undergo renovation as part of the project.

The Contractor shall provide all labor, materials, tools, equipment, supervision, and incidentals necessary to perform the work which includes disturbance of lead-based or lead-containing paint in accordance with this specification, all other project design documents, and applicable regulations. Contractor shall thoroughly review this specification, and all other project design documents to determine work which will impact painted finishes or surface coatings.

Unless indicated otherwise, the Contractor shall consider all painted surfaces, coatings, and ceramic glazing which will be impacted by work associated with the project as lead-containing except where confirmed as including "Lead-Based Paint" based on the previous lead-based paint inspection prepared by TBA/P&P and dated April 5, 2023 and shall conduct all work operations in accordance with these specifications, and all applicable local, state, and federal regulations for work involving disturbance of lead-containing materials.

The project includes renovation of structures at the subject site which include painted finishes at specified interior and exterior locations as described herein, in the previous lead inspection report (dated 10/22/22) and in the project design documents. The Contractor shall conduct work operations based upon review of project design

documents and a site visit to observe existing conditions which affect completion of the work.

All work involving disturbance of lead is to be conducted in accordance with all local, state, and federal regulations and statutes having jurisdiction over the work. Contractors shall thoroughly review all design documents to determine where lead-containing finishes will be impacted based on the scope of work.

Painted finishes determined to contain lead at levels classified as "Lead-Based Paint" shall be treated in accordance with local, state and federal regulations regarding work involving disturbance of "Lead-Based Paint" and/or "Lead-Containing Paint". Refer to the previous lead inspection report for locations of painted finishes identified as "Lead-Based Paint". The Contractor shall utilize the information contained in the lead inspection report to determine locations of lead-containing and/or lead-based paint represented by painted finishes affixed to buildings at the subject site to be impacted by the work under the Agreement.

The Contractor shall utilize means and methods as herein defined and as required under applicable regulations to complete the specified work. Work involving disturbance of painted shall be performed in a manner which will not expose workers or others to levels of airborne lead above regulatory levels. The Contractor shall conduct "trigger task" monitoring as prescribed by Cal/OSHA to demonstrate that proposed methods and procedures have not resulted in airborne levels above the OSHA "Action Level" and "Permissible Exposure Limit".

All loose, peeling, or painted finishes determined to include lead-based paint or represented by painted finishes determined to include lead-based paint which is peeling, chipping or flaking from the substrate shall be removed or stabilized as part of planned renovation operations which will disturb them. The Contractor shall dispose of detached paint chips, lead-containing dust, HEPA vacuumed debris, removed building elements with LBP, and related elements generated as a result of the work as RCRA lead waste. Lead-containing waste shall be segregated from other waste streams and consolidated into properly lined and labeled drums and disposed in accordance with applicable local, state and federal regulations.

The Contractor shall collect detached paint chips and related residue dislodged by the work from building components, or which existed on building finishes prior to start of work. Contractor shall utilize high efficiency particulate air (HEPA) vacuums to clean up all visible paint chips and paint debris.

The Contractor shall conduct all operations which include disturbance of lead in accordance with applicable sections of the project design documents, and applicable local, state, and federal regulations.

The Contractor shall comply with all requirements of Title 8 CCR 1532.1 and CFR 1926.11101 during all work involving disturbance of lead in painted finishes affixed to structures at the subject site. The Contractor shall conduct air monitoring shall be conducted during all work operations involving disturbance of painted surfaces. Containment systems shall be constructed as required by applicable regulations to minimize the spread of lead-containing dust beyond the designated Lead Regulated Area).

The Contractor shall remove all visible paint chips from horizontal surfaces as directed by the Building Owner or its Lead Consultant Representative.

This section shall constitute the definition of the lead related work as it relates to the referenced project.

## **1.02 DESCRIPTION OF WORK**

The Contractor shall complete all work in accordance with project design documents in a manner which will maintain airborne lead levels below the OSHA "Action Level" and "Permissible Exposure Limit" during all work which includes disturbance of lead-containing, lead-based paint, and lead-containing surface coatings on building elements on the subject property which are impacted during the course of the work. The Contractor shall conduct all work in specified areas where disturbance of lead will occur. All lead-related work shall be completed in compliance with these specifications and applicable local, state and federal regulations.

Work involving disturbance of lead paint shall be performed in compliance with 8 CCR 1532.1, 17 CCR, Division 1, Chapter 8, HUD Guidelines, the State of California, Department of Public Health, Title 17, Division 1, Chapter 8, and all other local, state, and federal regulations relating to the disturbance of lead-based or lead-containing paint.

Contractor shall thoroughly review all project design documents, including specification sections, drawings and addendums to accurately determine scope of work which may include disturbance of lead-based or lead-containing paint and surface coatings. In addition, Contractor shall review the lead inspection report previously generated by the Owners' Lead Representative to determine locations of lead-based and lead-containing paint to be impacted by the proposed work operations. Contractor shall not request additional compensation or additional workdays based upon their failure to accurately determine the scope of work which involves the disturbance of lead-containing paint based upon comprehensive review of the previous lead inspection report, project specifications and drawings, and field verification of quantities, locations, and actual jobsite conditions affecting the scope of work.

XRF inspections for paint include representative testing of painted finishes based on a method typical of a 4-sided structure. As such, not all elements are tested. Accurate interpretation of the results requires evaluation of other matching painted finishes consistent with those readings found to contain lead-based or lead-containing paint. The contractor shall conduct a thorough visual inspection prior to submitting a bid for the work to determine additional locations matching testing combinations included in the inspection report.

The Contractor shall be responsible for determining all conditions effecting proper execution of the work. Field verification shall be conducted where necessary to verify existing conditions prior to submission of bid on the work.

The Contractor shall properly dispose of all non-intact lead-based paint, (defined as paint not solidly adhered to a substrate), lead-containing paint chips and dust, contaminated work articles and PPE, and paint chips and lead-containing dust removed prior the demolition. Contractor shall properly dispose of wastewater generated during the work based on the results of a lead waste characterization conducted by the Contractor.

1. For bid purposes, Contractor shall base bid on disposal of all loose or detached paint as RCRA waste in accordance with the Resource Conservation and Recovery Act (RCRA) of 1976. RCRA was amended in 1980 and most recently on November 8, 1984 by the Hazardous and Solid Waste Amendment. Loose or detached paint shall be based upon condition of building elements, or building materials after removal, not pre-job condition.
2. The scope of work includes abatement of previously identified asbestos-containing materials at interior building locations prior to proceeding with demolition operations involving those structures at the subject site to be impacted by the work
3. Should Contractor discover additional undiscovered suspect asbestos-containing materials, Contractor shall stop work and request clarification from Owner before submitting a bid for the work.

4.

### **1.03 EXPERIENCE AND WORKMANSHIP**

The Contractor performing the work shall be properly licensed in the State of California to conduct the proposed lead work operations. The Contractor shall be required to provide proof of lead-related training appropriate for demolition operations with lead paint. The contractor shall also have all other required contractor licenses required based on the nature of the work.

The Contractor performing this work MUST be familiar with all applicable regulations covering disturbance of lead paint. This includes all permits, licenses, and certificates required to perform this type of hazardous work and related disposal requirements.

A "Lead Compliance Plan" per 8 CCR 1532.1, outlining the methods and controls to be used during the performance of this work will be submitted to the Owner as part of the submittal package and approved prior to the start of any work involving disturbance of painted finishes. A separate "Compliance Plan" shall be prepared by each contractor engaged in work on the project which includes disturbance of lead-containing paint.

It is the Contractor's responsibility to maintain adequate controls and perform personal air monitoring to ensure worker safety for lead-related work for the duration of the project. Lead Abatement Contractor shall provide personal air monitoring results to Owner's Representative within 48 hours of the shift during which they were collected.

## 1.04 PERSONAL TRAINING AND PROTECTION

### Personnel Training

Any worker involved in work related to the project which includes disturbance of lead paint as defined in this Specification must have successfully completed a lead training course as required by 8 CCR, 1532.1 and 17 CCR, Division 1, Chapter 8. The Contractor shall provide documentation of current training. All employees engaged in lead related work shall have CDPH level training and be certified by the State of California, Department of Public Health as a Worker or Supervisor.

All lead workers and supervisors shall be certified by the California Department of Public Health (CDPH), Childhood Lead Poisoning Prevention Program, Accredited Lead Training Provider. Lead training must be provided by a training provider certified by the State of California.

### Biological Monitoring (Lead Workers, Supervisors and Renovation Personnel)

Contractor shall conduct biological (blood testing) on its employees engaged in work involving disturbance of lead in accordance with Cal/OSHA requirements (8 CCR 1532.1) and shall submit evidence that monitoring is current for all employees that will enter a regulated lead work area.

A worker will be removed from the job if his blood lead level is 50 ug/dl or greater [29 CFR 1926.62 (k)]. The Contractor shall be responsible for medical surveillance and record keeping in accordance with 8 CCR 1532.1.

### Initial Determination

The Contractor shall conduct an initial determination of the worker lead exposures for each specific task required by Cal/OSHA Construction Lead Standard [Title 8 CCR 1532.1}. Exposures shall be conducted for each specific task and shall be during periods and activities likely to generate the highest possible exposure level.

All Contractor employee categories shall be included in the exposure monitoring.

The duration of air monitoring shall be sufficient to provide a statistical confidence (95% upper confidence limit) that no employees are exposed above the lead "AL" or the "PEL".

Until initial determination is completed, Contractor shall conduct work utilizing the highest degree of engineering (barriers, two-stage, or three-stage contamination) administration and respiratory protection controls required by applicable regulations governing lead related work.

A copy of the initial determination shall be provided to the Building Owner's Representative.

### Respiratory Protection

The Contractor shall provide all workers, foremen, and superintendents with properly fitted respirators approved by NIOSH and OSHA as determined by the results of the initial determination. Respirators are required at all times when employees are engaged in work on this project which involves the disturbance of lead-containing painted, coated, or glazed surfaces, or other lead-containing materials.

Authorized visitors (i.e., federal, state, and local inspectors) must provide a current health and medical report certifying them as approved to wear half-face respirators prior to entering any containment area.

When respirators and disposable filters are employed, sufficient replacement filters will be provided by the Contractor for the workers and any visitors. Respirators shall be type P100 and be NIOSH approved.

The minimum respiratory protection required for this project shall be based upon initial air monitoring results specific from this project and completion of "trigger tasks" as required by 8 CCR 1532.1.

1. Negative pressure, half-mask, air purifying respirators, equipped with HEPA filters for airborne lead dust levels not in excess of  $0.5 \text{ mg/m}^3$  (10 x PEL).
2. Full-face piece air purifying respirator, with HEPA filters for airborne dust levels not in excess of  $2.5 \text{ mg/m}^3$  (50 x PEL).
3. Pressure demand, full face piece, supplied air respirators for airborne lead dust concentrations are expected to meet or exceed  $50 \text{ mg/m}^3$  (1000 x PEL).

All workers inside the LEAD work area shall wear the proper respirator based on the anticipated lead dust level. Adjustment in respirator type shall be made based on the "trigger tasks" performed by the contractor.

Workers must be properly trained in the care, use, and maintenance of respirators.

The Contractor shall ensure that a respiratory fit-test was performed and passed by each lead worker within the last eleven (11) months. Evidence of current fit tests specific to each respirator brand, type, model and size shall be submitted. Includes fit-testing of proposed respirators types for each employee.

A formal respiratory protection program must be implemented in accordance with 29 CFR 1910.134.

Respirators will not be removed until the worker enters the shower area of the decontamination chamber.

### **Personal Protection Equipment**

Workers will wear full body disposal suits with hoods and booties. A *TYVEK* or similar type of suit will be worn. Suits will be worn inside the work area after the area passes pre-lead inspection and shall remain in use during each day that work is performed that involves disturbance of lead. Light-weight nylon clothes may be worn under the suit, but these clothes must be changed before leaving the work area and should be laundered separately.

Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the MSDS for that product.

Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating products. Consult the MSDS for each product use during performance of the work and obtain the proper filters as appropriate based upon the potential routes of exposure.

### **Personal Hygiene Practices**

The Contractor shall enforce and follow good personal hygiene practices during lead abatement. These practices will include, but not be limited to, the following:

1. No eating, drinking, smoking, chewing gum or tobacco, or applying cosmetics in work area. The Contractor will provide a clean space, separated from the work area, for these activities.
2. All workers must wash upon leaving the work area. Wash facilities will be provided by the Contractor consisting of, at least, running water, towels, and a HEPA vacuum. Upon leaving the work area, each worker will remove and dispose of work suit, wash and dry face and hands, and vacuum clothes. An appropriate emergency eyewash station shall be available for use.
3. Disposable clothing such as *TYVEK* suits and other personal protective equipment (PPE) must be donned prior to entering any lead work area. A clean room will be provided for workers to put on suits and other personal protective equipment and to store their street clothes. Disposable suits shall be used once and then properly discarded.
4. A hand-washing facility must be provided and located in close proximity of the eating and drinking area. The washing station will be maintained in clean condition and drained daily, or whenever required to maintain in clean condition to the satisfaction of the Building Owner.

If air monitoring data gathered by the Contractor shows that employee exposure to airborne lead exceeds 50ug/m<sup>3</sup>, the following conditions apply:

1. Street clothes cannot be worn into containment. Workers must wear nylon shorts, bathing suits or *TYVEK* shorts under the disposable suit.

2. Showers must be provided. Shower water must pass through at least a 5.0 micron filter before returning to the public waste system. Disposal of wastewater shall meet the requirements of the local regional water quality district.

## 1.05 DEFINITIONS AND ABBREVIATIONS

The following definitions apply to the work of this specification:

**AA** - Atomic absorption.

**AC** - Alternating current.

**ACCREDITED LABORATORY** - A laboratory which is accredited by the American Industrial Hygiene Association, participates in the Proficiency Analytical Program (PAT), and is accredited by the State of California's Environmental Laboratory Accreditation program.

**ACCURACY** - The degree to which a measurement determines a known amount of lead or other component in a particular reference material.

**ACTION LEVEL (AL)** - The point at which something is required due to the presence of lead. For example, the OSHA action level for airborne lead is 30 ug/m<sup>3</sup>.

**AIR MONITORING (air sampling)** - The process of measuring the lead content of a specific volume of air using the National Institute for Occupational Safety and Health (NIOSH) method or other method approved by the Building Owner. Flow rate and sampling volume shall be in accordance with the method chosen. Also see Area Monitoring and Exposure Monitoring.

**AIRLOCK** - A system for permitting ingress or egress without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least 6 feet apart.

**AMENDED WATER** - A water to which a surfactant, such as trisodium phosphate, has been added.

**ANSI** - American National Standards Institute.

**AREA MONITORING** - Air monitoring of lead concentrations within the lead abatement area and outside the lead area, which is a representative of the ambient airborne concentration of lead. Also see Exposure Monitoring.

**ASHREA** - American Society of Heating, Refrigerating and Air-Conditioning Engineers.

**ASME** - American Society of Mechanical Engineers



**ASSOCIATED SURFACE** - Interior/exterior walls, hangers, duct work, duct work insulation, conduit, electrical cables, light fixtures, junction boxes, panel boxes, building insulation materials and other items joined with or adjacent to structural members.

**ASTM** - American Society of Testing and Materials.

**AUTHORIZED VISITOR** - Any visitor to the site whose visit has been authorized by the Owner.

**BARRIER** - A physical structure such as a wooden or tape (yellow ribbon with lead hazard warning signs) barricade, which defines the limits of the containment area wherein LBP abatement is occurring. This is the basic, first level, Engineering control; the second level control is a two-stage containment (dirty room and clean/change room) with negative air; the third level control is a three-stage containment (dirty room, shower and clean/change room) with negative air. The level of engineering control is predicated on the type of LBP abatement methods employed and/or the results of initial and ongoing lead air monitoring results.

**BIENNIAL REPORT** - A report (EPA Form 8700-13A) submitted to generators of hazardous waste to the Regional Administrator due March 1 of each even-numbered year. The report includes information on the generator=s activities during the previous calendar year. The owner or operator of a treatment, storage and disposal facility must also prepare and submit a biennial report using EPA Form 8700-1313.

**BIOLOGICAL MONITORING** - The analysis of a person=s blood and/or urine to determine the level of lead contamination in the body. The OSHA Lead standard requires biological monitoring as part of the medical surveillance requirements.

**BLANK** - A non-exposed sample of the medium used for testing, such as a wipe or filter, which is analyzed like other samples to determine whether samples are contaminated with lead before samples are collected (e.g., at the factory or at the testing site), or whether the samples are contaminated after sample collection (e.g., during transportation to the laboratory or in the laboratory).

**BUILDING OWNER'S REPRESENTATIVE** - The individual or firm retained by the Building Owner to oversee lead related work and to provide testing services on its behalf.

**CFR** - The Code of Federal Regulations is the basic component of the Federal Register publication system. The CFR is a codification of the requirements of the various federal agencies.

**CHARACTERISTICS** - EPA has identified four characteristics of hazardous waste: ignitability; corrosivity; reactivity; and toxic characteristic leaching procedure (TCLP) toxicity (formerly extraction procedure (EP) toxicity). Any solid waste that exhibits one

or more of these characteristics is classified as a hazardous waste under the Resource Conservation and Recovery Act (RCRA). See EP Toxicity and TCLP.

**CLEAN ROOM** - An uncontaminated area or room which is part of the workers decontamination facility, with provisions for storage of workers' street clothes and clean or unused protective equipment.

**CONTAINER** - Any portable device in which material is stored, transported, treated, disposed of, or otherwise handled.

**CONTAINMENT** - An isolation method for protecting both workers and the environment by controlling exposures to lead dust and debris created during lead control. Two levels of containment are identified beyond the barrier stage: a TWO-STAGE containment (dirty room and clean/change room) with negative air and a THREE-STAGE containment (dirty room, shower and clean/change room) with negative air.

**CONTAINMENT AREA** - A work area or zone for lead abatement work that is defined by tape, signage and/or physical barriers.

**CONTRACTOR** - Any business entity, public unit, or person performing the role of LBP abatement contractor for the project.

**DF** - Decontamination Facility.

**DI** - Draft included.

**DISPOSAL** - The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that any constituent therefore may enter the environment or be emitted into the air or discharged in any waters, including ground waters.

**DISPOSAL FACILITY** - A facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

**DOT** - Department of Transportation.

**ENCAPSULANT** (sealant) - A liquid material which can be applied to lead containing areas and which controls the possible release of lead from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

**ENCAPSULATION** - Involves resurfacing or covering a surface, and sealing or caulking with durable materials, so as to prevent or control chalking and flaking or lead-containing substances.

**ENCLOSURE** - See Containment Area and Barrier.

**ENGINEERING CONTROLS** - Measures implemented at the work site to physically/mechanically contain, control, and/or otherwise reduce exposure to lead dust and debris. Does not include administrative and/or respiratory protection controls.

**EP** - Extraction procedure.

**EPA** - Environmental Protection Agency.

**EPA IDENTIFICATION** - The unique number assigned by EPA to each generator or transporter or hazardous waste, and each treatment, storage, or disposal facility.

**EP TOXICITY** - A test, called the extraction procedure, that is designed to identify wastes likely to leach hazardous concentrations of particular toxic constituents into the ground water as a result of improper management. EP toxicity is a characteristic of hazardous waste. It has been replaced by TCLP as the acceptable method. See TCLP and Characteristics.

**EQUIPMENT ROOM** - A contaminated area or room that is part of the workers decontamination facility, with provisions for storage of contaminated clothing and equipment.

**EU** - Exhaust Unit

**EXPOSURE MONITORING** - Worker air monitoring to establish initial or to document ongoing lead exposure levels. Must be done to enable each employee's exposure level to be reasonably represented by at least one full-shift (at least 7 hours) air sample.

**FACILITY** - All continuous land, structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units, e.g., one or more landfills, surface impoundments, or combination of them.

**FEDERAL REGISTER** - A document published daily by the federal government that contains either proposed or final regulations.

**FINAL INSPECTION** - Inspection by a certified inspector/assessor industrial hygienist, or local public health official to determine if lead abatement work and clean up are complete.

**ft<sup>2</sup>** - Square feet

**CF** - Cubic feet

**CFM** - Cubic feet per minute

**GENERATOR** - Any person who first creates a hazardous waste or any person who first makes the waste subject to the Subtitle C regulation (i.e., imports a hazardous waste; initiates a shipment of a hazardous waste from a hazardous waste treatment, storage or disposal facility (TSD); or mixes hazardous wastes of different Department of Transportation (DOT) shipping descriptions by placing them into a single container.)

**GFCI** - Ground fault circuit interrupter

**GROUND WATER** - Water below the land surface in a zone of saturation.

**H2O** - Water

**HAZARDOUS WASTE** - As defined in RCRA, a solid waste or combination of solid wastes which, because of its quantity, concentration or physical, chemical or infectious characteristics, may:

1. Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible, illness, or
2. Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed. As defined in the regulations, solid waste is hazardous if it meets one of four conditions:
  - a. Exhibits a characteristic of a hazardous waste (40 CFR Section 261.20 through 262.24).
  - b. Has been listed as hazardous (40 CFR Section 261.31 through 261.33).
  - c. Is a mixture containing a listed hazardous waste and a non hazardous solid waste (unless the mixture is specifically excluded or no longer exhibits any of the characteristics of hazardous waste).
  - d. Is not excluded from regulation as a hazardous waste.

**HEPA** - High efficiency particulate air.

**HEPA VACUUM** - A specially-designed vacuum cleaner fitter with a HEPA filter.

**HIGH EFFICIENCY AIR (HEPA) FILTER** - A filter capable of filtering out particles of 0.3 microns or greater from a body of air at 99.97% efficient against mono-dispersed particles that are 0.3 microns in diameter or larger.

**HIGH PHOSPHATE DETERGENT** - Detergent which contains at least 5% trisodium phosphate (TSP) or other approved additive.

**HUD** - United States Department of Housing and Urban Development.

**HUD LBP Guidelines** - Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, June 1995, pursuant to Title X of the Housing and Community Development Act of 1992, Department of Housing and Urban Development.

**ICP, AES** - Inductively coupled plasma, atomic emission spectroscopy.

**INDUSTRIAL HYGIENIST** - A person certified by the American Board of Hygiene or an industrial hygienist in training, or an individual with equivalent education or experience.

**INITIAL DETERMINATION** - Includes instrument monitoring of the air for the presence of lead and covers the exposure of a representative number of employees who are reasonably believed to have the greatest exposure. Provides the basis for the determination of the level of engineering controls, degree of respiratory protection and other required actions.

**kg** - Kilogram(s)

**LANDFILL** - A disposal facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well.

**LEAD ABATEMENT** - A comprehensive (removal, encapsulation, enclosure, etc.) of eliminating exposure or potential exposure to lead dust which must include monitoring, measures for worker protection, containment of dust and debris, cleanup and disposal of waste and clearance testing.

**LEAD PERMISSIBLE EXPOSURE LIMIT (PEL)** - The limit is 50 micrograms per cubic meter of air as an 8-hour, time weighted average.

**LOCAL EXHAUST SYSTEM** - A system in which static pressure in an enclosed abatement area is lower than that of the environment outside the abatement area, as specified herein.

**MANIFEST** - The shipping document, EPA form 8700-22, used for identifying the quantity, composition, origin, routing and destination of hazardous waste during its transportation from the point of generation to the point of treatment, storage or disposal.

**MEAN** - The arithmetic average of data values. The algebraic sum of the data values divided by the number of data values. When using an XRF instrument, the mean is the average of a series of numerical readings reported by the instrument.

**MEDICAL REMOVAL** - The temporary removal of workers due to elevated blood lead levels as defined by the OSHA Lead standard.

**mg/cm<sup>2</sup>** - Milligrams per square centimeter

**MICROGRAMS** - The prefix "micro" means "1/1,000,000 of (one millionth of). A microgram is 1/1,000,000 of a gram and 1/1000 of a milligram. A microgram is equal to about 35/1,000,000,000 (thirty-five billionths) of an ounce. 28,400,000 ug are equal to 1 ounce.

**mil** - Millimeter

**MSDS** - Material Safety Data Sheet - OSHA Form 20 or equivalent forms containing health hazard information about chemical products.

**NAM** - Negative air machine

**NEGATIVE AIR MACHINE (NAM, HOG)** - A self-contained local exhaust machine utilized in a negative air pressure system.

**NEGATIVE AIR PRESSURE SYSTEM** - A local exhaust system capable of maintaining a minimum pressure differential of minimum 0.02 inch of water gauge in a work area relative to adjacent areas.

**NEMA** - National Electrical Manufacturers Association.

**NIOSH** - National Institute of Occupational Safety and Health.

**OSHA** - Occupational Safety and Health Administration

**OWNER** - The Owner of the facility or site. As used in this Specification, the Owner is the Bakersfield City School District.

**PAPR** - Powered air purifying respirator

**PEL** - Permissible exposure limit

**PERMIT** - An authorization license or equivalent control document issued by EPA or an authorized State to implement the regulatory requirements of Subtitle C Parts 264 and 265 for TSDs.

**PRECISION** - The degree of repeatability of a series of successive measurements.

**psi** - Pounds per square inch

**RCRA** - Resource Conservation and Recovery Act of 1976. An amendment to the Solid Waste Disposal Act of 1965. RCRA was amended in 1980 and most recently on November 8, 1984 by the Hazardous and Solid Waste Amendment.

**REGULATION or RULE** - All or part of any Federal statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy; or describe the Federal Department=s organization or its procedure or practice requirements.

**REMOVAL** - All herein-specified procedures necessary to mechanically or chemically strip all LBP from the designated areas and to dispose of these materials at an acceptable site.

**REPLACEMENT** - A lead abatement strategy entails removing components such as windows, doors, and trim that have lead-painted surfaces and installing new components free of lead paint.

**SCRAPING** - Removing loose, peeling or chipped LBP from the substrate; collection of debris and disposal as a hazardous waste. Usually performed with hand tools such as a broad blade putty knife; does not include sanding (manual or powered).

**SHOWER ROOM** - A room between the clean room and the equipment or dirty room in the worker decontamination facility, with hot and cold running water, soap, shampoo, suitably arranged for complete showering during decontamination.

**SITE** - The land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

**SOLID WASTE** - As defined in RCRA, any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, mining and agricultural operations and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under the Clean Water Act, or special nuclear or byproduct material as defined by the Atomic Energy Act of 1954.

**SPECTRUM ANALYZER (XRF)** - A type of XRF analyzer which provides the operator with a plot of the energy and intensity of both AK and AL shells, as well as a calculated lead concentration, expressed in mg/cm<sup>2</sup>.

**STANDARD** - Used in two ways: levels established by law or regulation, such as the Cal/OSHA "PEL" of 50 µg/m<sup>3</sup>; materials to which known quantities of lead have been applied. Used to evaluate the accuracy and performance of the XRF analyzer, usually called Standard Reference Materials.

**STEL** - Short term exposure limit

**STORAGE** - The holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of or stored elsewhere.

**STRUCTURAL MEMBERS** - Beams, cross bracing, main frame members, floor/roof slab with steel frame and joist, steel roof decking, steel hangers, steel tubes, welded steel boxes and other steel shapes.

**SUBSTRATE** - A surface upon which paint or varnish has been or may be applied. Examples of substrates include wood, plaster, metal and drywall.

**SURFACTANT (Wetting Agent)** - A chemical wetting agent added to water to improve penetration.

**TCLP** - Toxic Characteristic Leaching Procedure (see EP Toxicity Test and Characteristics).

**TIME-WEIGHTED AVERAGE (TWA)** - The TWA is an 8-hour, time-weighted average of airborne concentration for lead per cubic meter of air which represents the employees 8-hour workday.

**TLV-STEL** - Threshold limit value - short term exposure limit

**TLV-TWA** - Threshold limit value - time weighted average

**TRANSPORTER** - Any person engaged in the off-site transportation of hazardous waste within the United States, by air, rail, highway or water, if such transportation requires a manifest under 40 CFR Part 262

**TREATMENT** - Any method, technique or method, including neutralization, designed to change the physical, chemical or biological character or composition of any hazardous waste so as to neutralize it or render it non-hazardous or less hazardous, or to recover it, make it safer to transport, store or dispose of, or amenable for recovery, storage or volume reduction

**TSD** - Hazardous waste treatment, storage or disposal facility.

**TSP** - Trisodium phosphate

**TWA** - Time weighted average

**µg: Micrograms** - The prefix "micro" means "1/1,000,000 of (one millionth of). A microgram is 1/1,000,000 of a gram and 1/1000 of a milligram. A microgram is equal to about 35/1,000,000,000 (thirty-five billionths) of an ounce. 28,400,000 µg are equal to 1 ounce.

**µg/m<sup>3</sup>** - Micrograms per cubic meter

**µg/ft<sup>2</sup>** - Micrograms per square foot

**µg/g** - Microgram/gram

**UL** - Underwriters Laboratories

**µm** - Micrometer



**U.S.** - United States

**WET CLEANING** - Eliminating lead contamination from building surfaces and objects by using cloths, mops or other cleaning tools which have been dampened by water amended with TSP, and afterwards disposing of these cleaning tools as lead-contaminated waste.

**WORK AREA** - A room or location in which lead is indicated to be removed under the contract.

**WORK PRACTICE CONTROL** - See Engineering Controls

## 1.06 STANDARDS AND GUIDELINES

The current issue of each document shall govern. Where conflicts among requirements or within these specifications exist, the more stringent requirements shall apply.

General Applicability of Codes, Regulations and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the specification, all applicable codes, regulations, and standards have the same force and effect (and are made part of the specification by reference) as if copied directly into the specification, or as if published copies are bound herewith.

**Contractor Responsibility:** The Contractor shall assume full responsibility and liability for compliance with all applicable federal, state and local regulations pertaining to work practices, hauling, disposal and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of all personnel as required by the applicable federal, state and local requirements. In addition, the Contractor will be responsible for obtaining all local permits and paying all fees prior to beginning work. Copies of permits must be submitted to Owner's Representative prior to the start of work and must be posted at the project.

**HUD LBP Guidelines:** The Contractor shall comply with all provisions and/or responsibilities, as applicable, contained in the Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, pursuant to Title X of the Housing and Community Development Act of 1992, Department of Housing and Urban Development.

### Occupational Safety and Health Act

1. The Contractor shall comply with the requirements of the General Industry Safety and Health Standards, 29 CFR Part 1910, the Safety and Health Regulations for Construction, 29 CFR Part 1926, the California Lead in Construction Standard - Title 8 CCR 1532, including all other standards and regulations which administer such Acts, and said requirements, standards and regulations as incorporated herein by reference.
2. The Contractor shall strictly adhere to the provisions of the following 29 CFR Sections:
  - a. 1910.1025: Lead Standard

- b. 1910.134: Respiratory Protection
- c. 1910.302-307, 1926.400: Electrical
- d. 1910.28, .29, .67, .22, .23, .66, 1926.451: Scaffolding
- e. 1910.22, .100h, 1926.25: Housekeeping
- f. 1910.1200: Hazard Communication (Employee Right-to-Know)
- g. 1910.25, .26, 1926.450: Ladders
- h. 1910.37, .38: Egress and Emergency Plans
- i. 1919.95, .132-.137, .1001, 1926.28, .100-.014: Personal Protective Equipment
- j. 1910.141, 1926.27, .51, .950h: Sanitation
- k. 1910.242-.244, 1926.302: Powered Hand Tools
- l. 1926.16: Contractors Responsibilities
- m. 1926.20: General Safety and Health Provisions
- n. 1926.21: Safety Training and Education
- o. 1925.25: Housekeeping
- p. 1926.28: Personal Protective Equipment
- q. 1926.51(f): Washing Facilities
- r. 1926.55: Gases, Vapors, Fumes, Dusts and Mists
- s. 1926.57: Ventilation
- t. 1926.59: Hazardous Communication Standard
- u. 1926.62: Lead
- v. 1926.103: Respiratory Protection
- w. 1926.353(c): Ventilation: Welding, Cutting or Heating of Metals of Toxic Significance

Copies of these standards are available from OSHA.

3. Compliance with the requirements of referenced state and federal standards will be strictly enforced by Building Owner's Representative.

#### State and Local Requirements

1. The Contractor shall comply with the following State of California Department of Occupational Safety and Health Regulations: Title 8 California Code of Regulations: Construction Industry Safety Orders, Lead Regulations.
2. The Contractor shall comply with the following State of California, Department of Public Health Regulations: Title 17 California Code of Regulations, Division 1, Chapter 8: Accreditation of Training Providers and Interim Certification of Individuals Engaged in Lead-Related Construction Work.
3. The Contractor shall comply with the Notification requirements of the State of California, Department of Public Health and shall file a completed notification a minimum of five (5) days prior to commencing lead related activities classified as "abatement" as defined under Title 17, Division 1, Chapter 8.
4. The Contractor shall comply with the Notification requirements of Cal/OSHA under 8 CCR 1532.1.

5. The Contractor shall comply with the Federal Environmental Protection Regulations pertaining to handling and disposal of lead-containing materials as well as the State of California and any local governmental agencies which have delegated responsibility for the administration and enforcement of federal regulations.
6. The Contractor shall comply with the California Air Resources Board, Executive Order G-565 and associated Advisory Abrasive Certification List.
7. The Contractor shall comply with all requirements of the EPA-approved landfill which is selected as the disposal site.
8. Contractor shall comply with all requirements of the Regional Water Quality Board for disposal of wastewater which contains lead, in addition to all local, state, and federal water quality standards.

**Other Requirements**

1. American National Standards Institute (ANSI) - ANSI Z9.2. Fundamentals Governing the Design and Operation of Local Exhaust Systems.
2. The Contractor shall comply with said regulations, requirements, and standards (noted above) and require and be directly responsible for compliance therewith on the part of his agents, employees, suppliers and Subcontractors; and shall directly receive and be responsible for all citations, assessments, fines or penalties which may be incurred by reason of his agents, employees, suppliers or Subcontractors failing to so comply.
3. The Contractor shall indemnify T. Brooks & Associates, a division of Provost & Pritchard Consulting Group from any and all losses, costs and expenses, including fines, judgments, and reasonable attorney's fees incurred either indemnified party by reason of negligence on the part of the Contractor in exposing his employees, owner personnel, visitors, and/or in the proper or accepted procedures dealing with lead abatement and/or the real or alleged violation of such laws, ordinances, regulations, and directives (federal, state and local) which are currently in effect or which become effective in the future, by the Contractor, his Subcontractors, or suppliers.

**1.07 SUBMITTALS AND NOTICES**

WITHIN TEN (10) CALENDAR DAYS AFTER THE NOTICE OF INTENT TO AWARD, PROVIDE THE FOLLOWING SUBMITTALS TO THE OWNER

Submit proof satisfactory that all required permits, site locations and arrangements for transport and disposal of lead-based materials wastes and the like have been obtained including, but not limited to, the following:

1. The EPA hazardous waste generator identification number (GIN)

2. The name and appropriate certification/licenses of the hazardous materials transport firm(s).
3. The name and appropriate certification/licenses of the landfill and/or incinerator facility.

Submit to Owner for information and approval, a description of the plans for phasing and construction of the decontamination system(s), waste load-out area(s), and containment area(s) used to isolate the functional space(s) in compliance with this specification and applicable regulations. These requirements shall be met by submission of shop drawings on which each of these areas are clearly identified. The "submittal" shall include the name and credentials of the laboratory that the Contractor proposes to use for testing.

Submit to Owner for approval, a "Lead Compliance Plan" for the project in accordance with 8 CCR 1532.1. The plan shall clearly identify the work method(s), containment plan(s) by floor or section, timelines and responsible parties.

Submit a written respiratory protection plan as required in 29 CFR 1910.1025(e)(3).

Submit a written medical examination and consultation plan that includes the items required by 29 CFR 1920.1025(j)(3).

Submit certifications documenting that employee information and training for lead exposure has been completed for Contractor and other affected subcontractors.

The Contractor shall also submit the following:

1. Weekly work schedule.
2. Method of application and materials to be used.
3. Test for personal air monitoring and, as appropriate (two and three-stage containments), air pressure differential between work areas and external air
4. Submit various manufacturer's information (including MSDS) and type and brands of materials for workers protection
5. Drawings showing the location, phasing and construction of the decontamination system(s), waste load-out area(s), and containment area(s) used to isolate the functional space(s) in compliance with this specification and applicable regulations.
6. Schedule for changing filters in negative air pressure system (only required if area and exposure monitoring indicated the need for two or three-stage containment system) and water filtration system.
7. Copies of all daily manpower and work logs indicating area(s) and type of work performed.
8. Copies of all certifications of disposal.

9. Copies of permits.
10. Copies of all OSHA Form 101 or equivalent CAL/OSHA accident/injury/incident reports.
11. All “submittals” and notices required by this section shall be provided to Owner for review and approval prior to commencing work operations.
12. Contractor shall provide a lead submittal in paper or electronic format based on the project requirements for review by the Owner’s Lead Representative. Any omissions, or incomplete information as noted by the reviewer shall be corrected or supplemented to provide an accurate, complete submittal.

## 1.08 AIR MONITORING REQUIREMENTS

### Initial Determination

The Contractor shall conduct an initial determination of employee lead exposures per task as required by the State of California, OSHA Construction Lead Standard [8 CCR 1532.1].

All Contractor and subcontractor employee categories shall be included in the exposure monitoring.

The duration of air monitoring shall be sufficient to provide a statistical confidence (95% upper confidence limit) that no employees are exposed above the lead “AL” or “PEL”.

The results of the initial determination shall be used to establish the degree of engineering (barriers, two-stage, or three-stage containment), administrative and respiratory protection controls and the frequency of periodic exposure monitoring.

A copy of the initial determination shall be provided to the Owner’s Lead Representative.

### Daily Employee Exposure Monitoring

Regardless of the results of the initial determination, the Contractor shall conduct daily employee exposure monitoring of not less than ten percent (10%) of the Contractor’s employees, or a minimum of two workers, representing the various tasks being performed. Monitoring shall include those employees which are likely to have the highest exposure and shall be representative of the remaining workers.

Daily monitoring of the Contractor’s employees shall be performed which will represent each employee’s exposure and shall not be of less than seven hours duration, unless shift is reduced, in which case monitoring shall represent entire shift.

### Monitoring on behalf of Owner:

Owner's Representative may, at its discretion, conduct initial and periodic area monitoring at the outside perimeter of the work area during the project. Cost of such sampling would be paid by Owner.

Contractor shall conduct representative personal air sampling for each shift. Failure of Contractor to perform personal air sampling operations to satisfaction of Owner's Representative, or failure to provide laboratory results within 48 hours of sampling will allow Owner's Representative to conduct independent personal air monitoring operations and to charge Contractor for cost of such operations including, but not limited to costs of shipping, on-site air sampling, and laboratory analysis.

The work area shall be considered to have four (4) sides for the purpose of this section. A minimum of two (2) air samples shall be collected: one (1) inside the work area and one (1) outside.

Owner's Representative may collect baseline and pre-renovation soil samples, in order to determine pre and post renovation lead levels at each subject structure.

#### **1.09 WORK STOPPAGE**

If, at any time, Owner determines that work practices are violating pertinent provisions of this Contract, endangering workers, other contractors, or others, it will immediately notify the Contractor that operations shall cease until corrective action is taken and the Contractor shall take such corrective action before proceeding with the work.

Delays caused by inappropriate work practices as noted in these specifications and/or excessive concentrations shall be at the Contractor's expense. Threshold Limit Value - Short Term Exposure Limit (TLV-STEL) shall be according to the 1990-1992 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices (American Conference of Governmental Industrial Hygienists).

1. If these levels are exceeded, operations shall cease until Owner's Representative determines that acceptable standards are met.
2. No later claims for extra compensation which result from action taken under this cause will be recognized by Owner.

In case of disagreement between Owner and the Contractor regarding the analysis of any air monitoring data (initial, periodic, area, or employee exposure), the decision of Owner will be regarded as final and conclusive. Differences in analytical results of up to a maximum of 30% shall be regarded as being substantially in agreement.

#### **1.10 SITE SECURITY**

The work site and surrounding areas may be subject to some degree of unauthorized entries, vandalism and theft. Contractor shall plan to provide tight security for all work areas, storage areas and adjacent building areas which may be accessed through the work areas. All storage areas containing hazardous materials including lead-based paint waste shall be fully enclosed

and locked at all times when personnel are not present to oversee the material. All storage areas containing hazardous materials shall be clearly labeled as containing hazardous materials with signs in both English and Spanish.

Work involving disturbance of lead-containing paint or lead-based paint is to be restricted only to authorized, trained and protected personnel. These may include the Contractor's employees and representatives, state and local inspectors and any other designated individuals. A list of authorized personnel shall be established prior to job start and posted in the clean room of the worker decontamination facility and in the Contractor's work trailer or temporary office.

Contractor shall be notified by Owner of any other authorized visitor prior to his/her entry to the job site.

1. Entry into the work area by unauthorized individuals shall be reported immediately to Owner by the Contractor.
2. A logbook shall be maintained in the clean room (area) of the worker decontamination system or Contractor's office. Anyone who enters any LEAD work area must record name, affiliation, time in and time out for each entry.

Access into the work area shall be through a worker decontamination system(s) located at the work site.

Contractor shall have control of site security during operations, in order to protect work efforts and equipment.

During the course of the entire project, the lead qualified Contractor shall have a full-time foreman on-site during any period that lead-related work is occurring. Foreman shall function as the Contractor's "Competent Person" and shall be a State of California, Department of Public Health Accredited Supervisor.

### **1.11 EMERGENCY PLANNING**

Emergency planning and procedures shall be developed by the Contractor and approved by Owner's Representative prior to the commencement of work involving painted elements.

Emergency procedures shall be in written form and prominently posted. All employees must read and sign these procedures to acknowledge receipt and understanding of work site layout, location of emergency exits and emergency procedures.

Emergency planning shall include written notification of police, fire and emergency medical personnel of planned lead abatement activities, work schedule and layout of work area, particularly barriers that may affect response capabilities.

Emergency planning shall include consideration of fires, explosions, toxic atmospheres, electrical hazards, loss of electrical power, slips, trips and falls, confined spaces and heat related injuries. Written procedures shall be developed and employee training in procedures shall be provided.

Employees shall be trained in evacuation procedures in the event of workplace emergencies.

1. For non-life-threatening situations, employees injured or otherwise incapacitated shall decontaminate following normal procedures before exiting the workplace to obtain proper medical treatment.
2. For life-threatening injury or illness, worker decontamination shall take least priority. After taking measures to stabilize the injured worker, he/she shall be removed from the workplace and proper medical treatment secured.
3. In the event that evacuation procedures are required, the Contractor shall notify ambulance, paramedic personnel, the medical facility and any other required persons that the injured individual(s) is or may be contaminated with lead.

Emergency telephone numbers of all emergency response personnel shall be prominently posted in the clean room/change area and Contractor's office or trailer, and copies provided to OWNER and its Representative.

#### **1.12 PRE-CONSTRUCTION MEETING**

The Contractor shall attend a pre-construction job meeting at a time scheduled by Owner. Attending this meeting will be representatives of Contractor, Subcontractors impacted by abatement operations, and Owner's Representative.

At this meeting, the Contractor and supervisory personnel who will provide on-site direction of the lead related activities must attend and be prepared to discuss:

1. Preparation of work area
2. Personal protective equipment including respiratory protection and protective clothing.
3. Employees who will participate in the project, including delineation of experience, training and assigned responsibilities during the project.
4. Decontamination procedures for personnel, work area and equipment.
5. Lead abatement methods and procedures to be utilized.
6. Required air monitoring procedures.
7. Procedures for handling and disposing of waste materials.
8. Procedures for final decontamination and clean-up.
9. Detailed work and performance schedule.
10. Procedures for dealing with heat stress.
11. Emergency procedures.



**PART 2 PRODUCTS****2.01 GENERAL REQUIREMENTS**

All materials, tools, and equipment listed herein required shall be provided by the subcontractor.

**2.02 MATERIALS AND SUPPLIES**

Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name, and labeling as required by 29 CFR 1910.1200, Hazard Communication Standard.

Store all materials that are subject to damage off the ground, away from wet or damp surfaces and under cover sufficient to prevent damage or contamination.

Damaged or deteriorating materials shall not be used and shall be removed from the premises. Material that becomes contaminated with lead shall be disposed of in accordance with all applicable regulations.

Polyethylene Sheeting - Shall be fire resistant, 6 mil thickness, unless otherwise specified, in sizes to minimize the frequency of joints.

Tape - Capable of sealing joints of adjacent sheets of plastic sheets and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under dry and wet conditions, including use of amended water.

Surfactant (wetting agent) - Detergent containing high phosphate levels (5%-10% solution).

Warning Labels and Signs - As required by OSHA Regulations, 29 CFR 1910.1025 and 8 CCR 1532.1. All warning signs provided for this project must be in both English and Spanish.

Encapsulant – Eco-bond or similar product.

Other Materials - Provide all other materials as specified in drawings; also, other materials, such as lumber, nails and hardware, which may be required to construct and dismantle the decontamination area and the barriers that isolate the work area.

**2.03 TOOLS AND EQUIPMENT**

Provide suitable tools for lead paint removal.

Type "Supplied Air System" - If a continuous flow or pressure-demand, supplied air respirator, NIOSH/OSHA certified is required to be available for workers. The system shall meet all criteria prescribed by OSHA for supplied air respirators:

1. The system shall have visual and audible alarms to warn of carbon monoxide levels in excess of 20 ppm.
2. It also must be fully certified for hose length combinations up to 300 feet.

3. Either half-mask or full-face piece units fitted with HEPA filter back-up units are acceptable.

Powered Air Purifying Respirator (PAPR) - A positive pressure device which employs a portable, rechargeable battery pack and blower to force contaminated air through a filter or cartridge, where the air is cleaned and supplied to the wearer's breathing zone. This respirator shall utilize HEPA filters and be either half-mask or full-face piece units.

Half-face air purifying respirator with canisters containing HEPA filters.

Full-face air purifying respirator with canisters containing HEPA filters.

Temporary electrical cords and outlets shall be of an approved type and connected to a source of power outside of the work area and protected by a ground fault circuit interrupter (GFCI).

All power shall be G.F.I equipped. Contractor shall provide all equipment necessary to provide power into work area and to conduct work in a safe manner.

## **PART 3 EXECUTION**

### **3.01 WORK SCHEDULE**

The work is to be carried out diligently to completion with utmost speed at each location where work is conducted. The Contractor shall complete all lead-related work in accordance with project schedule established for the project. In order to expedite the work, asbestos and lead related work may be conducted simultaneously within the same containment area. Air monitoring shall be amended to test for both asbestos and lead in accordance with Cal/OSHA.

All work performed under the contract shall be performed during hours stipulated by Owner. Contractor shall fully cooperate with other Contractor's to expedite completion of the project.

If, in the opinion of Owner it becomes necessary to work additional men for maintaining the schedule for the completion of any phase of the project within the specified time, the Contractor must immediately do so upon written request by Owner.

Site work shall proceed in accordance with project schedule following approval of the Contractor's LEAD "Compliance Plan" by Owner's Representative.

### **3.02 BUILDING RENOVATION OPERATIONS**

During all renovation operations with intact lead-based or lead-containing paint, Contractor shall apply water continuously to structure to minimize airborne dust emissions. Building elements shall be maintained in wetted condition while being impacted.

Contractor shall conduct all renovation/demolition work in accordance with applicable Cal/OSHA regulations. The Contractor shall establish a regulated area and require that persons not properly trained and wearing proper PPE remain outside the regulated area at all times.

Contractor shall conduct representative personal monitoring for airborne lead during each and every work shift during which disturbance of lead occurs.

Contractor shall remove building debris from premises daily unless other arrangements are made with authorized representative of Owner.

### **3.03 INSPECTIONS BY OWNER'S REPRESENTATIVE**

The Owner's Representative shall inspect the site preparation work within the work site as outlined herein to ensure that work is conducted in accordance with these specifications and applicable regulations.

Owner's Representative shall inspect the removal work and work area upon its completion to ensure that all visible lead-containing paint chips and residue have been removed. The Contractor SHALL NOT PROCEED with other work involving the building site until such time as a final visual inspection has been conducted and the work and degree of cleanliness accepted by Owner's Representative.

Prior to commencing work operations, Owner's Representative may collect baseline dust wipe samples and submit for analysis by accredited laboratory as to lead content. Sampling locations shall be plotted on site plan.

Following completion of renovation operations, Owner's Representative may collect post renovation dust wipe samples as a condition of acceptance of work. If post renovation wipe samples document that lead levels in settled dust within areas affected by the specified demolition operations are above regulatory levels, Contractor shall reclean affected areas as directed by Owner's Representative. Contractor shall be responsible for cost of cost of additional remediation and cleaning work as directed by Owner's Representative based on failure of initial lead clearance event, and cost associated with all subsequent clearance events until such time that clearance sample results document that lead levels in settled dust are below regulatory levels and the requirements of these specifications.

All inspections and/ or re-inspections by Owner's Representative shall be scheduled by the Contractor at least twenty-four (24) working hours in advance.

Owner's Representative will inspect the facilities as necessary, to ensure compliance with these specifications.

Owner's Representative is not limited by the inspection requirements as noted above; additional safety and health inspections by Owner's Representative may occur randomly, and in a manner to determine compliance with applicable laws and project design documents.

### **3.04 PREPARATION OF WORK AREA**

#### **Work Area: Preparation**

Contractor shall place 6 mil. plastic sheeting on ground around base of each structure prior to commencing work involving removal of loose or damaged paint chips, or removal of building elements with lead-based paint prior to renovation/demolition operations.

Signage: The Contractor shall post signs immediately outside all entrances and exits to the work area. Identical signage shall be posted in both English and Spanish.

1. The Contractor shall keep the signs posted until Owner's Representative notifies the Contractor the specific area has successfully passed final visual inspection as herein defined.
2. The Contractor shall insure that the signage required meets the following description:
  - a. The sign is at least 20" by 14" and states the date and place of the lead abatement project:
  - b. The sign includes the phrase, "Caution - Lead Hazard, Keep Out" in bold lettering at least two inches high. Signage required by any regulatory agency having jurisdiction shall be posted at required locations.

**3.05 LEAD DISTURBANCE SHALL NOT COMMENCE UNTIL:**

The Lead Work Plan, and all required submittals and notices have been reviewed and approved by Owner's.

Storage location at facility will be designated for temporary storage of lead paint chips and suspect lead-based paint containerized in steel drums with lockable lids

Arrangements have been made for containing and/or disposal of wastewater resulting generated from lead abatement activities.

Lockable dumpster or containers are inspected for leakage.

Tools, equipment, and material waste receptacles are on-site.

All respirators are on-site and fully operative.

A visitor and employee sign-in sheet shall be maintained at the job site. All persons entering the site will be required to sign-in.

**3.06 CLEAN-UP PROCEDURES**

General: When work involving the disturbance of lead is taking place, the work site shall be cleaned at the end of each day's activities. Prior to beginning lead control, all stored materials or equipment shall be either removed to a "clean area" or wrapped in polyethylene prior to start of the lead related work. A secure area shall be designated at the site by Building Owner's Representative. The area shall be designated for storage of detached lead containing paint chips and contaminated articles until it can be properly disposed of. Disposable supplies such as mop heads, sponges, and rags shall be replaced regularly and disposed of according to the contract documents. Durable equipment, such as power and hand tools, generators, and vehicles shall be cleaned regularly. All equipment shall be cleaned by HEPA vacuuming and high-phosphate detergent washing.

All clean-up procedures, as described herein, will be completed before the removal of the 6-mil thick area containment plastic sheeting on vents, as well as doorways to hallways and common areas.

**Clean-Up Methods and Equipment:** Areas in which operations involving disturbance of lead have been completed shall be cleaned, by vacuum cleaning using a high efficiency particulate air (HEPA) vacuum, followed by a wet cleaning with high-phosphate detergent wash. The Contractor may use a garden sprayer or equivalent to wet all surfaces with a 5% to 10% cleaning solution. After spraying the surface, a wet and dry HEPA vacuum shall be used to vacuum the water from the surface.

**High Efficiency Particulate Air (HEPA) Vacuum:** The Contractor will obtain training in the use of the HEPA vacuum from the manufacturer prior to use. The Contractor shall obtain HEPA vacuum attachments, such as various sized brushes, crevice tools and angular tools to be used for varied application, and service the HEPA vacuum routinely to assure proper operation. Caution shall be taken any time the HEPA is opened for filter replacement or debris removal. Operators shall wear a full set of protective clothing and equipment, including Respirators when using the HEPA vacuuming equipment.

The Contractor shall retain the services of a testing laboratory to conduct representative sampling of wastewater (if any). Water which meets the local standards of the Regional Water Quality Control Board may be filtered and disposed of into the storm drain system after being filtered through a four (4) micron filtering system. Water which contains over the allowable content of lead shall be disposed of as RCRA waste at the Contractors expense.

**Removal of Plastic Sheeting:** Plastic sheeting (if used) covering any floor surface shall be sprayed, picked up, and HEPA-vacuumed prior to removal. The plastic sheeting shall be carefully folded from the corners and ends toward the middle and placed into a double 4 mil or single 6 mil plastic bag and sealed. Bags shall be stored in the designated area and disposed of according to the specifications.

**Final Clean-up and Inspection:** The Contractor shall begin final clean-up after completion of all renovation related work. The entire area shall be inspected for evidence of loose, detached paint chips and paint residue. All visible paint chips and paint residue shall be HEPA-vacuumed. No dry sweeping is allowed.

No statements in this section are meant to relieve the Contractor of his responsibility to meet the final clean-up criteria as established by these contract documents or any other applicable laws or regulations.

### **3.07 CLEARANCE TESTING AND STANDARDS**

Following completion of the renovation operation the Owner's Representative may collect representative clearance dust wipe samples at each specified building site location. Samples shall be submitted to an accredited laboratory for analysis as to lead content in accordance with these specifications.

Dust wipe samples will be analyzed by a qualified laboratory utilizing atomic absorption spectroscopy.

Owner's Representative shall submit the test results indicating that the lead levels in the settled dust are below that allowable by the regulatory agencies. The following clearance levels shall apply:

1. Interior Settled Dust On Floors: Below 10 ug/ft.<sup>2</sup>
2. Interior Window Sills (Stool): <100 ug/ft.<sup>2</sup>
3. Exterior Floors and Raised Horizontal Surfaces: 400 ug/ft.<sup>2</sup>

If the test results indicate higher levels, the Contractor shall reclean each area represented by the results as directed by Owner's Representative sufficient to reduce lead required levels. Contractor shall not request additional compensation for additional work related to re-cleaning areas which fail to meet prescribed clearance levels. In addition, Contractor is responsible for all costs associated with additional clearance episodes based on failing clearance at any location.

Contractor shall be responsible for all costs associated with delays, stoppages, and all costs associated with failure to meet clearance criteria for the initial sampling round per work area. Costs may include cost of repeating clearance sampling, laboratory costs, shipping, cost of Owner's Representative, and all incidental costs.

### **3.08 DISPOSAL OF LEAD WASTE MATERIAL**

For bid purposes Contractor shall dispose of all detached lead containing paint, lead-containing dust, building elements with non-intact paint, chemical stripper, and articles contaminated by chemical stripper as RCRA waste.

Contractor shall perform all required testing to determine appropriate disposal of contaminated clothing, respirators, polyethylene, tape, P.P.E. and other contaminated articles or treat them as RCRA waste. Costs for sample collection and analysis by an accredited laboratory shall be included in the Contractors bid for the work.

For bid purposes all building elements with intact lead-based paint or lead-containing paint shall be disposed of as general construction debris. The Contractor shall comply with requirements of landfill for acceptance of lead-containing construction debris.

All lead contaminated wastewater shall be filtered and placed into steel drums. The Contractor shall retain the services of a testing laboratory to conduct representative sampling of wastewater. Water which meets the standards of the local Regional Water Quality Control Board, in addition to state and federal laws pertaining to water quality may be filtered and disposed of into storm drains. Water which contains over the allowable content of lead shall be disposed of as RCRA waste at Contractors expense.

**END OF SECTION**