LEAD-BASED PAINT SPECIFICATIONS

FOR

BUILDINGS 6 AND 7
MUIR ELEMENTARY SCHOOL
1951 MABURY STREET
SANTA ANA, CALIFORNIA 92703

Presented To:

1601 E. CHESTNUT AVENUE
SANTA ANA, CA 92701

Presented by:

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February 16, 2012

SECTION 02090 – LEAD ABATEMENT

PART 1 – GENERAL

The work required to be performed by the Contractor comprises the following:

Project Title: Muir Elementary School – Buildings 6 and 7
Client: Santa Ana Unified School District
Location: 1951 Mabury Street, Santa Ana, CA 92705

1.1 WORK DESCRIPTION

The work included consists of furnishing labor, materials, permits, equipment, services, insurance including but not limited to the handling and transportation and disposal of lead-containing materials and waste resulting from the removal of lead-containing materials in various areas. This work shall be conducted by a licensed abatement contractor and certified personnel in accordance with all applicable Federal, State, and local regulations.

A. Materials and their quantities to be abated shall be verified by the General Contractor/Abatement Contractor prior to the abatement work. Abatement work shall be cross-referenced and shall be coordinated with Santa Ana Unified School District. Refer to Bainbridge Comprehensive Asbestos and Lead-Based Paint Inspection Survey Report for Buildings 1, 2, 3, 4, 5, 6 and 7 dated February 16, 2012 for a full and complete description of the materials and locations surveyed. The lead-containing materials to be abated and their general location(s) and estimated quantities are as follows:

XLNo	Side	Building	Room	Source	Substrate	Color	Result
470	A	6	Exterior	Drinking Fountain Wall	4” x 4” Ceramic Tile	Green	7.8
523	B	7	Custodial Closet	Mop Sink	Porcelain	White	4.0
530	D	7	Entry	Door	Wood	Red	1.0

In the event that other materials are found to be similar or homogenous to the materials sampled and determined to contain lead, those similar or homogenous materials will be considered assumed lead containing materials. Prior to bid, contractor is responsible for field verification of those materials, their quantities and measurements.

Currently, the State of California, HUD, and the Environmental Protection Agency (EPA) define lead-based paint as paint or other surface coating with lead content equal to or greater than 1.0 milligram per square centimeter (mg/cm^2) of surface area. The Orange County, Health and Safety Code defines lead-based paint as paint or other surface coating with lead content equal to or greater than 1.0 milligram per square centimeter (mg/cm^2), 0.5% by weight or 5,000 parts per million lead on the surface area.

B. Lead abatement observation services shall be conducted by a third party consultant and shall be contracted directly by Santa Ana Unified School District.

1.2 REFERENCES

A. The references listed are made a part of this specification to the extent referenced.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z9.2	1979 Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z88.2	1980 Respiratory Protection

HUD GUIDELINES Guidelines for the Evaluation and Control of Lead containing materials Hazards in Housing 1995

Title X	(Residential Lead containing materials Hazard Reduction Act of 1992) of Housing and Community Development Act of 1992

CALIFORNIA CODE OF REGULATIONS (CCR)

8 CCR	Section 1532.1 – Lead in Construction Standard
17 CCR	Division 1, Chapter 8 – Accreditation, Certification and Work Practices for Lead Based- Paint and Lead Hazards
22 CCR	California Code of Regulations – Hazardous Waste Requirements

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	General Industry Standards
29 CFR 1910.1025	Lead Standard for General Industry
29 CFR 1910.134	Respiratory Protection
29 CFR 1910.1200	Hazard Communication
29 CFR 1910.245	Specifications for Accident Prevention (Sign and Tags)
29 CFR 1926	Construction Industry Standards
29 CFR 1926.55	Gases, Vapors, Fumes, Dusts, and Mists
29 CFR 1926.57	Ventilation
29 CFR 1926.62	Construction Industry Lead Standard
36 CFR 68	The Secretary of the Interior's Standards for the Treatment of Historic Properties. Washington, DC: US Department of the Interior, National Park Service, 1992.
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	States and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status and Standards for States and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions

40 CFR 172	Hazardous Materials Tables and Hazardous Materials Communications Regulations
40 CFR 178	Shipping Container Specification

UNDERWRITERS LABORATORIES INC. (UL)

UL 586	1990 High-Efficiency, Particulate, Air Filter Units

1.3 CODES AND REGULATIONS

A. In addition to the requirements of this specification, comply with the following:

1.4.1 Clean Air Act (CAA) 40 CFR 52.

1.4.2 South Coast Air Quality Management District's (SCAQMD) Rule 1420.

1.5 GENERAL DESCRIPTION

The work includes the removal of lead hazards and coatings from surfaces scheduled to be impacted by the rehabilitation and demolition activities. Abate all lead containing materials hazards in accordance with these specifications and in accordance with all applicable regulations as noted herein. Additionally, the contractor will dispose of all debris.

1.6 QUALITY ASSURANCE

1.6.1 Medical Examinations

Before exposure to lead-contaminated dust, provide workers with a comprehensive medical examination as required by 8 CCR 1532.1, 29 CFR 1910.1025 and 29 CFR 1910.1200. The examination will not be required if adequate records show that employees have been examined as required by 8 CCR 1532.1, and 29 CFR 1910.1025 within the last year.

1.6.2 Medical Records

Maintain completed and accurate medical records of employees for a period of at least 40 years or for the duration of employment plus 20 years, whichever is longer.

1.6.3 Personnel Training

Train each employee performing paint removal and disposal in accordance with 17 CCR Div. 1 Chapter 8, 8 CCR 1532.1, and 29 CFR 1910.1025. Provide certificates for employee stating that the employee has received training.

1.6.4 Respiratory Protection Program

A. Furnish each employee required to wear a negative pressure respirator or other appropriate type with a respirator fit at the time of initial fitting and at least every 6 months thereafter as required by 8 CCR 1532.1 and 29 CFR 1910.1025.

B. Establish and implement a respiratory protection program as required by ANSI Z88.2, 29 CFR 1910.134, 29 CFR 1910.1025 and 29 CFR 1926.55.

1.6.5 Hazard Communication Program

Establish and implement a Hazard Communication Program as required by 29 CFR 1910.1200.

1.6.6 Hazardous Waste Management

The Hazard Waste Management plan shall comply with applicable requirements of federal, state, and local hazardous waste regulations and shall address:

A. Identification of hazardous wastes associated with the work.

B. Estimated quantities of wastes to be generated and disposed of.

C. Names and qualifications of the contractor transporting, storing, treating, and disposing of the waste. Include the facility location and a 24-hour point of contact with name, address and telephone number. Identify what EPA, state and local hazardous waste permits are required to authorize/permit the transport, storage treatment and/or disposal of the hazardous materials and provide proof that the Contractor has obtained the required permits. Include EPA identification number, with expiration date.

D. Names and qualifications (experience and training) of personnel who will be working on-site with hazardous wastes.

E. Spill prevention, containment, and cleanup contingency measures to be implemented.

F. Work plan and schedule for waste containment, removal and disposal. Waste shall be cleaned up and containerized daily.

1.6.7 Ambient Air Monitoring

Periodic ambient air monitoring shall be conducted using air-sampling equipment set between and downwind of the work area.

1.7 SUBMITTALS

Submit all required documents for the identification and confirmation for training, lead-paint medical examinations and the respiratory protection program of workers for this contract per the requirements by Santa Ana Unified School District.

Also, submit the following:

1.7.1 Manufacturer's Catalog Data

A. Vacuum Filters
B. Respirators
C. Instructions

1.7.2 Lead Containing Material Removal Plan

The Contractor must submit a detailed job-specific plan of the work procedures to be used in the removal of lead containing materials and lead hazards. The plan shall include a sketch showing the location, size, and details of lead control areas, location and details of decontamination rooms, change rooms, shower facilities, and mechanical ventilation system. Include in the plan, eating, drinking, smoking and restroom procedures, interface of trades, sequencing of lead related work, collected wastewater and paint debris disposal plan, air sampling plan, respirators, protective equipment, and a detailed description of the method of containment of the operation to ensure that airborne lead concentrations of 30 micrograms per cubic meter of air are not exceeded outside of the lead control area.

A. Notification - Submit form 8551 to The California Department of Health Services with a copy to the Santa Ana Unified School District's Representative within 5 working days prior to the start of any lead removal work, as required by 17 CCR Div. 1 Chapter 8.

B. Notify Santa Ana Unified School District in writing 10 calendar days prior to the start of any lead removal work.

1.8 EQUIPMENT

1.8.1 Respirators

Furnish appropriate respirators approved by NIOSH, for use in atmospheres containing lead dust. Respirators shall comply with the requirements of 8 CCR 1532.1 and 29 CFR 1910.1025.

1.8.2 Special Protective Clothing

Furnish personnel who will be exposed to lead-contaminated dust with appropriate disposable protective whole body clothing, head covering, gloves, and foot coverings. Furnish appropriate disposable plastic or rubber gloves to protect hands.

1.8.3 Rental Equipment Notification

If rental equipment is to be used during lead containing material handling and disposal, notify the rental agency in writing concerning the intended use of the equipment. Furnish a copy of the written notification to Santa Ana Unified School District.

PART 2 PRODUCTS

2.1 LEAD CONTAINING MATERIAL REMOVAL PRODUCTS

Submit applicable Material Safety Data Sheets for lead removal products used in removal work. Use the least toxic product acceptable to Santa Ana Unified School District. Conform to 29 CFR 1926.57 for ventilation.

2.2 ENCAPSULATING SEALER (WHERE APPLICABLE)

Shall be a penetrating or bridging type, pollution-free sealer. Shall be L-B-C Lead Encapsulant brand or equal. Product shall have the lowest shell thickness for wall restoration work. Submit applicable Material Safety Data Sheets for seal coating. Use the least toxic product acceptable to Santa Ana Unified School District. Conform to 29 CFR 1926.57 for ventilation.

PART 3 EXECUTION

3.1 PROTECTION

3.1.1 Lead Control Area Requirements

A. Establish a lead control area by completely enclosing the area or structure where lead-containing material removal operations will be performed.

B. Contain removal operations by the use of a negative pressure full containment system with at least one change room and with HEPA filtered exhaust.

C. Verify that personnel are not in building affected areas at the time of lead material removal.

3.1.2 Protection of Existing Work to Remain

Perform lead material removal work without damage or contamination of adjacent areas. Where existing work is damaged or contaminated, restore work to its original condition.

3.1.3 Boundary Requirements

Provide physical boundaries around the lead control area by demarcating the area designated in the Contractor's Lead Containing Material Removal Plan, providing curtains, portable partitions or other enclosures to ensure that airborne concentrations of lead will not reach 30 micrograms per cubic meter of air outside of the lead control area.

3.1.4 Heating, Ventilating and Air Conditioning (HVAC) Systems

Shut down, lock out, and isolate HVAC systems that supply, exhaust, or supply through the lead control area. Seal intake and exhaust vents in the lead control area with 6-mil plastic sheet and tape. Seal seams in HVAC components that pass through the lead control area.

3.1.5 Change Room and Shower Facilities

Provide clean change rooms and shower facilities within the physical boundary around the designated lead control area in accordance with requirements of 8 CCR 1532.1 and 29 CFR 1910.1025.

3.1.6 Mechanical Ventilation System

A. Use adequate ventilation to control personnel exposure to lead in accordance with 29 CFR 1926.57.

B. To the extent feasible, use fixed local exhaust ventilation connected to HEPA filters. Local exhaust ventilation systems shall be designed, constructed, installed, and maintained in accordance with ANSI Z9.2.

3.1.7 Personnel Protection

Personnel shall wear and use protective clothing and equipment as specified herein. Eating, smoking, or drinking is not permitted in the lead control area. No one will be permitted in the lead control area unless they have appropriate training and protective equipment.

3.1.8 Warning Signs

Provide warning signs at approaches to lead control areas. Locate signs at such a distance that personnel may read the sign and take the necessary precautions before entering the area. Signs shall comply with the requirements of 8 CCR 1532.1 and 29 CFR 1910.1025. Signs shall be in both English and Spanish. Signs shall be at least 20” x 14” with bold lettering not smaller than 2” in size. Signs shall read as follows:

WARNING
LEAD REMOVAL HAZARD
UNAUTHORIZED ENTRY PROHIBITED
NO SMOKING, EATING OR DRINKING ALLOWED IN THE WORK AREA

3.2 WORK PROCEDURES

Perform removal of lead containing material in accordance with approved lead-containing material removal plan. Use procedures and equipment required to limit occupational and environmental exposure to lead when lead containing materials are removed in accordance with 29 CFR 1910.1025, except as specified herein. Dispose of removed materials and associated waste in compliance with Environmental Protection Agency (EPA), federal, state, and local requirements.

3.2.1 Monitoring

Monitoring of airborne concentrations of lead shall be in accordance with 8 CCR 1532.1 and 29 CFR 1910.1025 and as specified herein. Air monitoring, testing, and reporting shall be performed by a California Department of Health Services certified project monitor.

A. The project monitor shall be on the job site to provide inspections of the lead containing materials removal work to ensure that the requirements of the Contract have been satisfied during the entire lead containing materials removal operation.

B. Collect air samples and submit results of air monitoring samples within 48 hours after the air samples are collected. Notify Santa Ana Unified School District or Santa Ana Unified School District's Representative immediately of exposure to lead at or in excess of the action level of 30 micrograms per cubic meter of air outside of the lead control area.

3.2.2 Monitoring During Lead Removal Work

Perform periodic area monitoring during the lead containing material removal operation. Sufficient area monitoring shall be conducted at the physical boundary to ensure unprotected personnel are not exposed above 30 micrograms per cubic meter of air at all times. If the outside boundary lead levels are at or exceed 30 micrograms per cubic meter of air, work shall be stopped and the Project Monitor shall notify the contractor to immediately correct the condition(s) causing the increased levels and notify the School District immediately. The Project Monitor shall review the sampling data collected on that day to determine if condition(s) requires any further change in work methods. Removal work shall resume when approval is given by the Project Monitor. The Contractor shall control the lead level outside of the work boundary to less than 30 micrograms per cubic meter of air at all times. As a minimum, conduct area monitoring daily on each shift in which lead removal operations are performed in areas immediately adjacent to the lead control taken on the downwind side of the lead control area.

If adjacent areas are contaminated, clean, visually inspect and take wipe samples (if applicable) of the contaminated areas. The Project Monitor shall certify that the area has been cleaned of lead contamination.

3.2.3 Clearance Testing and Standards

At the completion of lead abatement, final cleaning and waste removal, the project monitor will collect the necessary clearance samples as required by the HUD Guidelines and/or 17 CCR Div. 1 Chapter 8.

3.3 LEAD PAINT CONTAINING MATERIAL REMOVAL

Lead removal shall be performed in accordance with the accepted Contractor's Lead Removal Plan as modified and approved by Santa Ana Unified School District. The lead removal plan shall comply with all applicable regulations noted in this specification. The plan shall address the method and procedures for the removal and/or stabilization of lead paint containing materials.

3.3.1 Selection of Removal Process

Select paint removal processes to minimize contamination of work areas with lead-contaminated dust or other lead-contaminated debris/waste. The following paint removal is unacceptable:

A. Gas-fired open-flame burning.
B. Grinding or sanding.
C Uncontained water blasting.
D. Open abrasive blasting.

3.3.2 Surface Preparation

Avoid flash rusting or other deterioration of the substrate. Provide surface preparations for painting in accordance with the Santa Ana Unified School District's requirements.

3.4 CLEANUP AND DISPOSAL

3.4.1 Cleanup

Maintain surfaces of the lead control area free of accumulations of debris and dust. Restrict the spread of dust and debris; keep waste from being distributed outside the work area. Do not dry sweep or use compressed air to clean up the area. At the end of each shift and when the paint removal operation has been completed, clean the area of visible lead paint contamination by vacuuming with a HEPA filtered vacuum cleaner.

3.4.2 Testing of Lead-Containing Paint Residue and Used Abrasive

A. Perform testing of lead-containing materials residue and used chemicals remover where indicated or when directed by Santa Ana Unified School District, in accordance with 40 CFR 261 and TITLE 22 for hazardous waste.

3.4.3 Disposal

A. Collect lead-contaminated waste, scrap, debris, bags, containers, equipment, and lead-contaminated clothing, which may produce airborne concentrations of lead particles. Label the containers in accordance with 29 CFR 1910.1025. Dispose of lead-contaminated waste material at an EPA, CCR and California Administrative Code (CAC) TITLE 22 approved hazardous waste treatment, storage, or disposal facility.

B. Store waste materials in U.S. Department of Transportation (49 CFR 178) approved 55-gallon drums. Properly label each drum to identify the type of waste (49 CFR 172) and the date the drum was filled. Santa Ana Unified School District or the School District's Representative will assign an area for interim storage of waste-containing drums. Do not store hazardous waste drums in interim storage longer than 90 calendar days from the date affixed to each drum.

C. Handle, store, transport and dispose lead or lead-contaminated waste in accordance with 40 CFR 260 through 40 CFR 265. Comply with land disposal restriction and notification as required by 40 CFR 268.

3.4.4 Disposal Documentation

Submit written evidence that the hazardous waste treatment, storage, or disposal facility (TSD) is approved for lead disposal by the EPA and state or local regulatory agencies. Submit one copy of the completed manifest, signed and dated by the initial transporter in accordance with 40 CFR 262.

3.4.5 Payment for Hazardous Waste

Payment for disposal of hazardous waste will not be made until a signed copy of the manifest from the treatment or disposal facility certifying the amount of lead-containing materials delivered is returned and a copy is furnished to Santa Ana Unified School District.

4.0 DEFINITIONS

A. Action Level for Airborne Lead Concentrations -- 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. As used in this section, “30 micrograms per cubic meter of air” refers to the action level.

B. Area monitoring -- Sampling of lead concentrations within the lead control area and inside the physical boundaries of the work area.

C. Physical Boundary -- Area partitioned off around an enclosed lead control area to limit unauthorized entry of personnel.

D. Project Monitor -- As used in this section, refers to a California Department of Health Services certified project monitor employed by Santa Ana Unified School District as a third party monitoring service personnel.

E. Change Rooms and Shower Facilities -- Rooms within the designated physical boundary around the lead control area equipped with separate storage facilities for clean protective work clothing and equipment and for street clothes which prevent cross-contamination.

F. Decontamination Room -- Room for removal of contaminated personal protective equipment and clothing.

G. Eight-Hour Time Weighted Average (TWA) -- Airborne concentration of lead averaged over an 8-hour workday to which an employee is exposed.

H. High Efficiency Particulate Air (HEPA) Filter Equipment -- HEPA filtered vacuuming equipment system capable of collecting and retaining lead-contaminated paint dust.

I. Lead -- Metallic lead, inorganic lead compounds. Excluded from this definition are other organic lead compounds.

J. Lead Control Area -- An enclosed area or structure with full containment to prevent the spread of lead dust, paint chips, or debris of lead containing pain

removal operations. The lead control area is isolated by physical boundaries to prevent unauthorized entry of personnel.

K. Lead Permissible Exposure Limit (PEL) -- Fifty micrograms per cubic meter of air in an 8-hour time weighted average as determined by 8 CCR 1532.1 and 29 CFR 1910.1025.

L. Personal Monitoring -- Sampling of lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with 8 CCR 1532.1 and 29 CFR 1910.1025. Samples shall be representative of the employee's work tasks. Breathing zone shall be considered an area within a hemisphere, forward of the shoulder, with a radius of 6 to 9 inches and the center at the nose or mouth of an employee.

M. Hazard Abatement: Long-term measures to remove the hazards of lead-based paint through selective paint stripping of deteriorated areas; or, in some cases, replacement of deteriorated features.

N. Hazard Control: Measures to reduce lead hazards to make housing safe for young children. Can be accomplished with interim (short-term) or hazard abatement (long-term) controls.

O. Owner: Santa Ana Unified School District

END OF SECTION