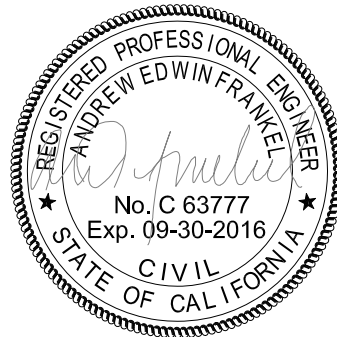




Contract Documents for the Construction of
Sacramento Regional Wastewater
Treatment Plant

Highlands Estate WWTP
DEMOLITION PROJECT



BID SET

VOLUME 1 OF 2

DRAWINGS
GENERAL/CIVIL

JUNE 2015

RFB 8191

PROJECT SPECIFICATIONS

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BIDDING REQUIREMENTS, CONTRACT FORMS, CONTRACT CONDITIONS

See Request For Bids (RFB) Document

The following standards and specification are part of this contract:

Sacramento County Standard Construction Specifications (current version) www.saccountyspecs.net

Sacramento Area Sewer District Standards and Specifications (current version) www.sacsewer.com/standards-specifications

DIVISION 1: GENERAL REQUIREMENTS

01006	Project Location and Site Access
01540	Security
01700	Restoration of Improvements
01802	Storm Water Pollution Control

DIVISION 2: SITE WORK

02100	Site Preparation
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DIVISION 28: Hazardous Waste Abatement

28233	Asbestos Abatement
28333	Lead Abatement

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SECTION 01006

PROJECT LOCATION AND SITE ACCESS

1.01 PROJECT LOCATION

- A. The work specified under this Contract will be performed on the property of Sacramento Regional County Sanitation District. More specifically, the Project will demolition existing facilities and remove/replace up to 40' of existing ACP pipe at the Highlands Estates Wastewater Treatment Plant, located at the intersection of Scotland Drive and 32nd Street.

1.02 SITE ACCESS AND ACCESS ROADS

- A. Access to the site for construction related traffic (except as noted below) shall be via Scotland Drive and 32nd Street.
- B. Contractor is required to submit an Access Request for District approval prior to mobilizing any equipment or facilities onto the construction site (see RFB General Instructions, Page 26). Contractor's Access Request for mobilization shall include but not limited to a site plan showing: access routes, office location, sanitary facilities location, storage yard, parking areas, temporary construction fencing, and temporary walkways around construction site. A separate access request to SASD is also required for by-pass pumping. Contractor shall coordinate with the District's Representative prior to submitting the AR's.

1.03 CONTRACTOR IDENTIFICATION BADGE POLICY AND PROCEDURES (DELETED)

1.04 MAIN GATE ENTRY/EXIT PROCEDURES (DELETED)

****END OF SECTION****

SECTION 01540

SECURITY

PART 1 -- GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. This section specifies minimum requirements of temporary provisions for security and protection not specified elsewhere. The providing of adequate security and protection is Contractor's responsibility, and is not limited to minimums established by requirements hereof. Except as otherwise indicated, use of alternative security and protection methods of facilities equivalent to those specified is Contractor's option. The work of this section is not intended to include required insurance coverage, individual provisions for safe performance of specific work, first aid requirements, general supervision, quality control, damage surveys, prequalification of construction personnel, temporary enclosure of completed work and stored materials, inspection and tests of the work, instructions to District personnel and similar recognized protection/security provisions, which may be required.
- B. The types of security and protection facilities and services required for the project include but are not necessarily limited to the following:
 - 1. Temporary fire protection.
 - 2. Barricades, warning signs, lights.
 - 3. Enclosure fence for project site and construction areas.
 - 4. Security enclosure and lockup of work.
 - 5. Environmental protection.

1.02 QUALITY ASSURANCE

A. REGULATIONS:

- 1. Comply with governing regulations for installation and operation of security and protection facilities.

B. RESPONSIBILITIES:

- 1. The assignment of responsibilities for security and protection such as installation, maintenance and operation, is Contractor's obligation.

C. DELIVERIES:

1. No deliveries will be accepted by the District. All deliveries shall be made to the Contractor.

1.03 JOB CONDITIONS

A. SCHEDULED USES:

1. Provide security and protection at site, and maintain, expand and modify facilities as needed throughout construction period.

B. TEMPORARY USE OF PERMANENT FACILITIES:

1. The Contractor shall be required to assume responsibility for its operation, maintenance and protection prior to District's Representative's acceptance of the facility.

C. CONDITIONS OF USE:

1. Use security and protection facilities and services in a safe, sanitary, lawful, and publicly acceptable manner, which will not interfere unduly with performance of the work nor result in other deleterious effect.

D. TEMPORARY FENCING:

1. Provide and maintain temporary fencing to protect the work area and plant process area from unauthorized access where existing fencing and/or gates are removed until such time that permanent fencing and/or gates are restored.

PART 2 -- PRODUCTS

2.01 MATERIALS OF SECURITY AND PROTECTION FACILITIES

A. GENERAL:

1. Provide either new or used materials and equipment, which are in substantially undamaged and serviceable condition.

B. FIRE EXTINGUISHERS:

1. Provide type A fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical fires or grease-oil-flammable liquid fires. Otherwise, provide either type ABC dry chemical extinguishers or a combination of several extinguishers of NFPA-recommended types for exposure in each case.

C. TEMPORARY OPEN-MESH FENCING:

1. No. 11 gage galvanized chain link fabric 6 foot high; galvanized steel pipe posts, 1-1/2-inch line posts, 2-inch corner posts, 2-1/2-inch gate and pull posts.

PART 3 -- EXECUTION

3.01 INSTALLATION OF SECURITY/PROTECTION FACILITIES

A. GENERAL:

1. Locate facilities to serve total project construction work adequately, and to result in minimum interference with performance of the work. Relocate, modify and extend facilities as required during course of the work, to properly accommodate entire work of the project. Provide and maintain a reasonably neat and uniform appearance in security and protection facilities, acceptable to District.
2. Except for prompt utilization of permanent fire protection facilities as soon as available for use in each area, do not plan to change over from use of temporary security and protection facilities to use of permanent facilities until time of substantial completion, or for longer periods of time as requested by District.

B. TEMPORARY FIRE PROTECTION:

1. **GENERAL:** During construction period and until time certain protection needs may be fulfilled by permanent facilities, install and maintain whatever types and forms of fire protection temporary facilities may be needed to adequately protect against fire losses which are reasonably predictable and controllable. Except as otherwise indicated or required, comply with the applicable recommendations of NFPA No. 10 "Portable Fire Extinguishers" for each area of each construction activity when combustible materials, flammable liquids and similar exposures to possible fires are present. Locate extinguishers where most convenient and effective for intended purposes, but provide not less than one on each floor at or near each usable stairwell. Store combustible materials in recognized fire-safe locations and containers.
2. **PROGRAM:** Develop and supervise an overall fire prevention and first-aid fire protection program for personnel at project site. Instruct personnel in methods and procedures of program, post warnings and information, and enforce strict discipline. Review needs with local fire department officials and establish procedures to be followed. Maintain unobstructed access to extinguishers, fire hydrants, temporary fire protection facilities, stairways, and other access routes for fighting fires. The program shall include supervision of welding operations, combustion type temporary heating units, and similar sources of ignition.

C. PERMANENT FIRE PROTECTION (DELETED)

D. BARRICADES, WARNING SIGNS AND LIGHTS:

1. Comply with recognized standards and code requirements for erection of substantial and structurally adequate barricades where needed to prevent accidents and losses. Paint with appropriate colors, graphics and warning signs to inform personnel at site, and the general public where exposure exists, of hazard being protected. Provide lighting where appropriate and needed for recognition of facility, including flashing red lights where appropriate.
2. Provide and maintain all barricades, warning lights, signs, fences and other work for the protection and safety of the public and workers as required by the District's Representative.
3. Construction areas shall be adequately signed and partitioned off so that such areas can be secured, at all times, against unauthorized entry.

E. ENCLOSURE FENCING: (DELETED)

F. SECURITY ENCLOSURE AND LOCKUP:

1. The Contractor shall be responsible for the security of all equipment, materials and work until it is accepted by the District's Representative.

3.02 TERMINATION AND REMOVAL

- A. Maintain protection and security facilities and services in good operating condition through time of use and until completion and use of permanent work makes each temporary service unnecessary, or until its discontinuation has been otherwise authorized. Remove each facility promptly after its use has been terminated. Except as otherwise indicated, materials and equipment of temporary security and protection facilities remain the property of the Contractor.

****END OF SECTION****

SECTION 01700

RESTORATION OF IMPROVEMENTS

1.01 STRUCTURES (DELETED)

1.02 ROADS

- A. Unless otherwise specified, roads in which the surface is removed, broken, or damaged, or in which the ground has caved or settled shall be restored to the original grade and section. Roads used by Contractor shall be cleaned and repaired. Before pavement is placed, edges of pavements shall be sawcut to provide clean, solid, vertical faces, and shall be free of loose material. Repair work shall conform to the paving specifications in the Sacramento County Standard Construction Specifications.

1.03 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS

- A. Cultivated or planted areas and other improvements which are damaged by Contractor shall be restored as nearly as possible to their original condition.
- B. Existing guard posts, barricades, fences, and signs shall be protected and replaced if damaged.

1.04 RAILROAD TRACKS (DELETED)

1.05 PROTECTION OF EXISTING INSTALLATIONS (DELETED)

1.06 REMOVAL OF EXISTING PIPING AND EQUIPMENT (DELETED)

1.07 MODIFICATION OF STRUCTURES (DELETED)

1.08 CONNECTIONS TO HYDRAULIC STRUCTURES (DELETED)

1.09 SANDBLAST SAND DISPOSAL

- A. All sandblast sand and containers shall be removed from the site and disposed of in accordance with Title 22, Paragraph 66201, of the California Code of Regulations.

****END OF SECTION****

SECTION 01802

STORM WATER POLLUTION PREVENTION

PART 1 -- GENERAL

1.01 GENERAL REQUIREMENTS

- A. This section specifies the requirements for Stormwater Pollution Prevention which includes a Water Pollution Control Plan (WPCP) for a project resulting in less than one acre of soil disturbance, any size project fully within the Sacramento Regional County Sanitation District (Regional San) process area, or any project that is not otherwise subject to the requirements of the State Water Resources Control Board (SWRCB), Water Quality Order No. 2009-009-DWQ, National Pollutant Discharge Elimination System (NPDES), General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Runoff Associated with Construction Activity (Construction General Permit) to control storm water discharges from construction sites.
- B. Contractor may opt to implement a more restrictive program than that which is required. The Contractor must then conform to all requirements of both the minimum applicable program and the more restrictive program.
- C. Contractor shall implement Best Management Practices (BMPs) including good housekeeping practices and erosion and sediment control, to prevent the direct and indirect contribution of any contaminants into the storm drain system or waters of the United States.
- D. BMPs shall be implemented according to the California Stormwater BMP Handbook – Construction (2009) with updated 2011 BMP fact sheets. Non-structural and structural BMPs shall be acceptable to the District Representative and instituted or placed, as appropriate, before commencement of each phase of clearing, grading, excavation, trenching, or staging of materials that may be potential pollutants.
- E. Furnish all labor, materials, equipment, and incidentals necessary to perform all installation, maintenance, removal, and area cleanup related to erosion and sediment control BMPs necessary to prevent the movement of sediment from the construction site to off-site areas including roadways, surface waters, storm drains, disposal locations, and flood control facilities.
- F. Contractor shall be responsible and fully bear costs incurred by the District as a result of violations under the Federal Clean Water Act, the State Porter-Cologne Water Quality Control Act, or for unauthorized release or discharge from the work including but not limited to penalties assessed or levied, third party claims, citizen suits, labor,

materials, analytical analyses, and handling of waste. Fines shall be deducted from contract payments.

1.02 REFERENCES

- A. The publications referred to hereinafter form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only. The latest edition of the referenced publications in effect at the time of the bid shall govern. In case of conflict between the requirements of this section and the listed references, the requirements of this section shall govern.

<u>Reference</u>	<u>Title</u>
California Stormwater Quality Association (CASQA)	California Stormwater BMP Handbook – Construction

1.03 SUBMITTALS

- A. The following information shall be submitted for review and approval:
1. A copy of this specification section, with addenda updates, with each paragraph check marked to show specification compliance or marked to show deviation.
 2. The Contractor shall designate a Storm Water Pollution Prevention Coordinator. This person shall have previous experience in erosion and sediment control with similar type and size projects and shall submit a resume to the District Representative for approval. This person will be responsible for preparing and implementing the WPCP.
 3. The WPCP shall be submitted to the District within 10 days of the NTP and prior to the commencement of the Work.
 4. Completed inspection and maintenance reports within 3 working days of preparation.
 5. Upon completion of the project, submit the complete WPCP and relevant documents and amendments to the District Representative.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.01 GENERAL

- A. The Contractor shall assume responsibility for stormwater runoff management and erosion and sediment control at the project site during construction. Fully comply with all applicable state and local regulations, and requirements related to stormwater management, erosion and sediment control.
- B. Prior to commencement of any land disturbing activity, the contractor shall submit the WPCP to the District Representative. No activity having the potential to cause water pollution, as determined by the District Representative, shall be performed until the District Representative has approved the WPCP and appropriate BMPs have been installed by the Contractor.

3.02 WATER POLLUTION CONTROL PLAN

- A. Develop a Water Pollution Control Plan (WPCP) to identify potential pollutants associated with each phase of construction activity and non-structural and structural BMPs appropriate to each phase of the work. The WPCP shall detail the following, if applicable:
 - Schedule
 - Location of soil stockpiles
 - Location of solid waste containers
 - Vehicle and equipment fueling, servicing, cleaning and storage areas
 - Material storage areas
 - Chemicals, potential pollutants and hazardous materials to be used and methods for safekeeping
 - Site drainage during execution of the Work
 - Stabilization of vehicle access to site
 - De-watering operations
 - Methods for spill prevention and control
 - Secondary containment
 - Handling and disposal of solid waste
 - Storage and dispensing of fuel and lubricants
 - Clean out and disposal of ready mix concrete
 - Sanitation provisions
 - Disposal location for excess excavated material
 - Haul Routes
- B. The WPCP shall include BMPs to prevent an unauthorized release or discharge of pollutants, contaminants, chemicals, hazardous substances or materials. The BMPs will be described in both narrative form and proper placement illustrated on figures.

- C. Maintain one copy of the WPCP and amendments at the project site. The WPCP shall be made available upon request by a representative of the Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), or the local stormwater management agency. Requests by the public shall be directed to the District Representative. At completion of construction, submit the complete WPCP, amendments, inspection and maintenance records, and any other relevant documents to the District Representative.

3.03 INSPECTIONS AND MAINTENANCE

- A. Make a visual inspection of all BMPs as necessary to ensure proper operation but not less than once per week and within 24 hours before and after every rainstorm. If such inspection reveals that existing measures are damaged or that additional measures are needed to prevent movement of sediment to off-site areas, promptly repair, replace or install additional devices as needed within 24 hours of notification. Sediment controls in need of maintenance shall be repaired within 24 hours of notification.
- B. Maintenance of BMPs shall be per the Construction BMP Handbook. Perform routine maintenance consisting of debris removal, silt/sediment removal, clearing of vegetation around flow control devices to prevent clogging, and maintenance of healthy vegetative cover.
- C. The Contractor shall be responsible for preparing and maintaining inspection and maintenance records. Inspection and maintenance reports are to be submitted to the District Representative within 3 working days.

3.04 DISPOSAL OF EXCESS EXCAVATED MATERIAL

- A. Excess excavated material is defined as material from onsite excavations that are beyond the volumes necessary to meet the finish grades shown on the Contract Documents.
- B. The Contractor shall be responsible for hauling excess excavated material offsite in accordance with laws and regulations regarding disposal of such material.

3.05 NOTIFICATION AND REPORTING

- A. The Contractor is responsible for identifying and bringing to the attention of the District's Representative all activities that may result in a non-stormwater discharge prior to commencing with such work. Any uncontrolled non-stormwater discharge shall be reported to the District Representative immediately.

3.06 REMOVAL AND FINAL CLEANUP

- A. Once the site has been fully stabilized against erosion, remove sediment control devices and all accumulated silt. Dispose of silt and waste materials in proper manner.

- B. Provide post-construction erosion controls, including soil stabilization, in accordance with the Contract Documents. Materials subject to degradability shall have a minimal functional longevity of 12-months.

****END OF SECTION****

SECTION 02100

SITE PREPARATION

PART 1 -- GENERAL

1.01 GENERAL REQUIREMENTS

A. SCOPE:

1. This section specifies site preparation which consists of clearing, grubbing, stripping, demolition, protection, restoration, disposal, and dust control. The Contractor shall determine the field condition of the site as it affects this portion of work prior to submitting the bid.

B. RELATED WORK:

1. The following specification sections are referenced herein:

<u>Section</u>	<u>Title</u>
Section 01802	STORMWATER POLLUTION PREVENTION

1.02 REFERENCES

- A. The publications referred to hereinafter form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only. The latest edition of referenced publications in effect at the time of the bid shall govern. In case of conflict between the requirements of this section and the listed references, the requirements of this section shall prevail.

<u>Reference</u>	<u>Title</u>
Regional San General Construction SWPPP Tools and Standards SACSPEC	Sacramento Regional County Sanitation District General Construction Stormwater Pollution Prevention Plan Tools and Standards County of Sacramento Standard Construction Specifications
Guidelines for the use of reclaimed water	State of California, Department of Health Services, Environmental Management Branch -- Guidelines for the Use of Reclaimed Water for Construction Purposes

1.03 SUBMITTALS

A. The following information shall be submitted for review:

1. A copy of this specification section, with addenda updates, and all referenced sections, with addenda updates, with each paragraph check marked to show specification compliance or marked to show deviation.

1.04 OPERATION AND MAINTENANCE INSTRUCTIONS (DELETED)

PART 2 -- PRODUCTS (DELETED)

PART 3 -- EXECUTION

3.01 GENERAL

A. The Contractor shall notify the District when site preparation is complete. Further work shall not be started until all site preparation is completed to the satisfaction of the District.

3.02 RESTORATION

A. Unless otherwise shown on the drawings, site preparation shall not damage structures, pavement, walkways, systems, piping, and all other existing improvements, landscaping or vegetation adjacent to the site. The Contractor shall repair, or replace, any damaged property to its pre-existing condition.

3.03 CLEARING AND GRUBBING

A. The Contractor shall save and protect all trees located on District property. No trees shall be removed without approval of the District.

3.04 STRIPPING; (DELETED)

3.05 DEMOLITION AND REMOVAL

A. STRUCTURES AND PIPES:

1. Demolition and removal of structures and pipes consist of removal of abandoned superstructures, foundation walls, footings, compacted granular backfill, slabs, buried pipes and any other structures except as otherwise shown on the drawings. Excavations caused by removal and disposal of existing structures and pipes shall be cleared of waste, debris and loose soil, and backfilled as specified on the drawings.
2. Pipes to be abandoned in-place shall be plugged with concrete or capped or in accordance with the drawings.

B. PAVEMENT: (DELETED)

C. EQUIPMENT, MATERIAL, PIPING, CONDUIT AND WIRE:

1. Existing equipment, material, piping, conduit, wire, etc shall be abandoned, demolished, or removed in accordance with the contract documents.
2. The District may direct the Contractor to demolish and remove existing work not identified in the contract documents.

D. SALVAGE: (DELETED)

E. PROTECTION OF EXISTING WORK:

1. Before beginning any cutting or demolition work, the Contractor shall carefully survey the existing work and examine the drawings and specifications to determine the extent of the work. The Contractor shall take all necessary precautions to ensure against damage to existing work to remain in place. Any damage to such work shall be repaired or replaced as approved by the District at no additional cost. The Contractor shall carefully coordinate the work of this section with all other work and construct and maintain shoring, bracing and supports, as required.

3.06 WEED CONTROL; (DELETED)

3.07 PROTECTION

- A. The Contractor shall provide temporary protection devices, including barricades, fencing, guardrails, warning signs, lights and other devices necessary to ensure the security of, and safety within, the project site during all of the work. Contractor shall comply with the standards specified by SACSPEC.

3.08 DISPOSAL

- A. All material that results from clearing, grubbing, stripping, and demolition shall become the property of the Contractor and shall be removed from the plant site and lawfully disposed of by the Contractor at his expense.

3.09 DUST CONTROL

- A. Contractor shall provide dust control during the duration of construction operations. The Contractor shall water areas prior to starting work. The amount of dust control shall be as directed by the District.
- B. Water sources suitable for dust control shall be supplied by the contractor.

****END OF SECTION****

**SECTION 28233
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SECTION 28233

ASBESTOS ABATEMENT SPECIFICATION

PART 1 -- GENERAL

1.1 DESCRIPTION OF WORK

The Contractor shall furnish all labor, materials, facilities, equipment, services, employee training and testing, permits, agreements, and waste transport and disposal necessary to perform the work required for asbestos removal in accordance with these specifications, EPA, OSHA, NIOSH, State of California regulations, and any other applicable federal, state, and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable. The Contractor shall perform the safe removal decontamination and legal disposal of all asbestos containing materials.

A. The Contractor shall perform the following work for the Sacramento Regional County Sanitation District (Regional San) located at 8521 Laguna Station Rd. Elk Grove CA and work shall be performed at the Sludge Digester Equipment and Pipework located Highland Estates Former Wastewater Sewage Treatment Plant on Scotland Drive within the County of Sacramento that is under the control of Regional San.

1. Verify that all electrical service to the work area(s) has been shut off.
2. Secure all necessary permits and provide electrical and water service to the site as required for the performance of work. All electrical work must be performed by a licensed electrician.
4. Isolate the work area(s) through establishment of two layers of 6-mil. polyethylene for critical barriers to isolate the work area from the rest of the building. All critical barriers shall be taped and sealed airtight.
5. For removal of all RACM and ACM all waste must be double bagged inside the work area and removed from the containment area through the personnel or equipment decontamination unit. All asbestos containing material removed, as part of the removal process shall be labeled, transported, and disposed of as required by DOSH regulations. RACM TSI shall be disposed of as a friable, hazardous asbestos waste.
6. Construct a three stage personnel decontamination unit immediately adjacent to the active removal area(s) and as approved by the DOSH Certified Asbestos Consultant (CAC). The structure shall be equipped

with a lockable door and be constructed in a manner to provide security of the structure.

7. All non-stationary items will be removed by the owner prior to start of work. Any other stationary items that cannot be moved will be covered with 2 layers of 6-mil. polyethylene sheeting by the asbestos abatement contractor.
8. All disposable respirator cartridges, tyvek suits, and other items used during abatement activities that cannot be properly decontaminated must be double bagged and disposed of as RACM asbestos containing waste.
9. Following removal of all asbestos-containing materials as required, and following visual inspection by CAC, encapsulate all surfaces where the asbestos containing and contaminated materials were removed with a penetrating type encapsulant.
10. Obtain visual inspection and final clearance certification as specified within contents of these specifications.

B. The abatement contractor shall perform the outlined work under the following considerations:

1. Any activities impacting asbestos-containing materials shall be performed using HEPA-filtered exhaust ventilation and a three-chamber decontamination facility. The contractor performing removal of the asbestos-containing material must be registered as an asbestos removal contractor with the Division of Occupational Safety and Health (DOSH) and the workers employed to handle the asbestos-containing materials must satisfy the training requirements of the revised DOSH standard (i.e., they must be certified by an EPA-approved three day worker course.
2. Workers will be required to wear half mask air purifying respirators (unless results of OSHA compliance monitoring require additional respiratory protection) with HEPA cartridges, gloves, and blue full body disposable or cloth coveralls. No street clothes may be worn under the coveralls; Non-disposable items such as work boots, tools, hard hats, etc., must be bagged out and disposed of as contaminated equipment or double bagged and re-used only inside an asbestos work area. Tools and or equipment that will not be re-used inside an asbestos work area must be fully decontaminated following the use of such equipment and prior to removing the equipment off of the site.
3. Work on premises shall be confined to areas shown on the drawings or otherwise designated in the Contract Documents. Materials and

equipment shall be stored within such areas as may be designated by the Owner. Should additional space be required by the nature of the work, the Contractor shall request permission and be given approval to use such additional space and adequately safeguard building occupants from associated health and safety hazards.

4. Non-asbestos abatement workers may not work in the same area with abatement workers engaged in ACM-removal, unless a twenty ft. (20 ft.) buffer zone, which has been clearly designated with red "Danger Asbestos" tape, has been established between the two work areas.
5. All work shall be performed in adherence to all applicable local, state, and federal regulations.
6. Bidders must verify all existing conditions and confirm all quantities prior to the submission of bids.

1.2 AUTHORITY TO STOP WORK

The DOSH Certified Asbestos Consultant (CAC) has the authority to stop the abatement work at any time he determines that conditions or procedures are not in compliance with the specifications and applicable regulations or a potential release of asbestos fibers to outside the work area could occur. Where possible, the stoppage of work shall be approved by the CAC that will be designated to oversee the project and shall continue until conditions have been corrected and corrective steps have been taken to the satisfaction of the CAC. Standby time and testing costs required to resolve violations shall be at the Contractor's expense. Stop Work Orders may be issued for, but shall not be limited to the following:

- A. Failure to properly and continuously apply specified removal work procedures.
- B. Failure to maintain specified work area isolation, sealing, and protection systems.
- C. Failure to apply sufficient amended water before, during, and after removal and cleanup of asbestos materials, including the packaging of waste.
- D. Loss of specified negative pressure differential.
- E. Failure to use specified respiratory protection equipment.
- F. Failure to maintain any specified records or to conduct OSHA-specified personal exposure air monitoring tests and/or make results promptly available to the CAC.
- G. Failure to maintain the 8-hour time weighted average (TWA) airborne fiber concentration at a level that will not result in exposures inside the respirator mask of greater than 0.01 f/cc based on DOSH respirator protection factors.

- H. Detection of airborne fiber levels above normal background levels as defined by the CAC from previous test results.
- I. Introduction of non-approved or rejected materials such as but not limited to spray adhesive or solvents.

1.3 QUALIFICATIONS

Approval of asbestos abatement contractor's qualifications is required by Regional San.

- A. The Contractor shall submit evidence demonstrating that the firm and all employees performing asbestos abatement activities for this project:
 - 1. Are familiar with:
 - a. USEPA regulations, 40 CFR Part 61, subparts A and M.
 - b. OSHA regulations 29 CFR Part 1926, subparts C and D.
 - c. USEPA regulations, 40 CFR Part 763.
 - d. Sacramento County Air Quality Management District Rule 902 and 304 regulations.
 - 2. Have possession of written standard and emergency operating procedures and employee protection plans which include specific reference to OSHA medical monitoring and respirator training programs.
 - 3. Have evidence that the firm is licensed by the State of California (CSLB) to perform such work.
 - 4. Have complete and accurate records of employees' medical examinations as required by 29 CFR 1926.1101(n).
 - 5. Have had instruction with regard to hazards of asbestos, safety and health precautions, use and requirements for protective clothing and equipment including respirators, and engineering and other hazard control techniques and procedures as required by 29 CFR 1926.21(b) and 1926.1101(k)(3).
 - 6. At least one certified competent person conforming to 29 CFR 1926.1101(b) with at least one year of experience in all phases of asbestos abatement projects shall be present within each regulated work area during work activities.

1.4 DEFINITIONS

All terms not defined herein shall have the meaning given in the applicable publications and regulations.

A. Where applicable or stated, terms shall have the following definitions:

1. Abatement Activities All activities from the initiation of work area preparation through successful clearance air monitoring performed at the conclusion of an asbestos project.
2. Air Lock A confined space designed to control air movement between two areas. It is composed of sealed spaces with curtained doorways at the portals. A Worker Decontamination Facility contains at least three (3) air locks.
3. Ambient Air Monitoring Measurement or determination of airborne asbestos fiber concentrations outside, but in the general vicinity of the work site.
4. Amended Water or Wetting Agent Water to which a surfactant has been added in proportion of at least one (1) ounce surfactant to five (5) gallons water.
5. Asbestos-Containing Materials (ACM) Any insulation, fireproofing, plaster, ceiling or floor tiles, and other building materials containing a detectable amount of asbestos, or potentially contaminated on their surface with asbestos fibers.
6. Asbestos-Contaminated Objects Any objects which may be contaminated by asbestos or asbestos-containing material as determined by the CAC.
7. Asbestos Disposal The removal of containerized asbestos, asbestos-containing material, asbestos-containing waste material, and asbestos-contaminated objects from the regulated area to the final disposal site.
8. Authorized Visitors Any visitor authorized by the Regional San safety representative or any representative of a regulatory agency or other agency having jurisdiction over the project.
9. Barriers or Containment Barriers Walls, tunnels, or enclosures erected to separate any section of an abatement area from adjoining spaces. The inside (work) side of all such barriers shall be covered with one (1) layer of six-mil poly sheeting. Critical barriers shall have an additional layer of six-mil poly sheeting.

10. Baseline or Background Air Monitoring A measurement or determination of airborne asbestos fiber concentrations inside the work place and/or outside a building prior to starting abatement activities.
11. Category I Non-Friable Asbestos-Containing Material Asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products. Note: Although this is an EPA NESHAPS definition, all Category I non-friable asbestos containing material that is greater than .1% asbestos is regulated by Cal-OSHA asbestos standards.
12. Category II Non-Friable Asbestos-Containing Material Asbestos-containing material, excluding Category I non-friable asbestos-containing material, that, when dry, and in its present form, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Note: Although this is an EPA NESHAPS definition, all Category II non-friable asbestos containing material that is greater than .1% asbestos is regulated by Cal-OSHA asbestos standards.
13. Certified Clean That a work area has no visible signs of fibrous materials or other contamination, and does not have levels of airborne fiber above 0.01 s/cc for TEM or 0.01 f/cc for PCM.
14. Clean or Decontaminate To make a surface free of all visible and/or optically detectable fibers by thoroughly HEPA vacuuming and/or wet washing with sponges or mops.
15. Contractor The Asbestos Abatement Contractor.
16. CAC A representative of Sacramento County, Department of Engineering, Architectural Services Division.
17. Curtained Doorway or Entrance A portal which limits air movement between two areas constructed by placing two overlapping sheets of plastic over an existing or temporary doorway; by securing each along the top of the doorway; by securing the vertical edge of one sheet along one vertical side of the doorway; and by securing the vertical edge of the other sheet along the opposite vertical side of the doorway.
18. Decontamination Facility (DF) or Area A series of connected rooms or spaces including Clean and Shower Rooms, and contaminated dirty (Equipment) room, each separated by an air lock; and used for the decontamination of all workers and their personal protective equipment leaving an asbestos removal work area, as well as for access to such work areas. Unless otherwise permitted by the CAC, all decontamination facilities shall be either a "structural" type; i.e., capable of supporting

workers standing above, or "non-structural" type.

19. Disposal Site This shall be an approved asbestos disposal site conforming to 40 CFR 61.156.
20. Disturb To alter, change, or stir, such as but not limited to, the removal, encapsulation, enclosure, or repair of asbestos-containing material.
21. Fiber A particulate structure five (5) micrometers or longer with a length-to-diameter ratio of at least three to one.
22. Fixed Items Equipment, furniture, radiators, or other objects which cannot be removed from the work area.
23. Furnish or Supply Purchase, deliver to, and off-load at the job site, all ready to be installed, including where appropriate, all necessary interim storage and protection.
24. HEPA Filtered Exhaust Units or Fans A fan equipped with a High Efficient Particulate Air (HEPA) filter greater than 99.97% efficient by 0.3 micron DOP test, and complying with ANSI Z9.2 (1979) Local Exhaust Ventilation.

It shall be used to create a pressure in a work area (reduced with respect to surrounding areas) in order to prevent the escape of asbestos fibers. It shall also be used to reduce and control the airborne concentration of asbestos fibers.
25. HEPA Filtered Vacuum Shall be a vacuum cleaner specifically designed for and equipped with HEPA filtration.
26. Install Set in place completely ready for normal use or service, including all necessary mounting facilities, connections, and testing.
27. Isolation Barriers The construction of partitions, the placement of solid materials, and the plasticizing of apertures to seal the work place from surrounding areas and to contain asbestos fibers in the work area.
28. Log An official record of all activities that occurred during the project and it shall identify the building owner, agent, contractor, workers, and other pertinent information.
29. RACM (Regulated Asbestos Containing Material) >1% Friable asbestos-containing material, or, Category I non-friable asbestos-containing material that has been or will become friable, or, Category I non-friable

asbestos-containing material that will be or has been subjected to sanding, drilling, grinding, cutting, or abrading, or, Category II non-friable asbestos-containing material that has a high probability of becoming crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation. Although this is an EPA NESHAPS definition, all RACM that is greater than .1% asbestos is regulated by Cal-OSHA asbestos standards.

30. Regulated Area Regulated Area and other terms used in this section shall have the meaning set forth in 29 CFR 1926.1101(b) unless otherwise noted.
31. Outside Air The air outside buildings and structures.
32. Protect Fixed Items To cover with solid enclosures and/or six-mil polyethylene sheeting and secure by taping or gluing watertight and airtight.
33. Provide Furnish (or supply) and install.
34. Remove Asbestos To make a surface free of all visible fibrous materials or microscopically-detectable asbestos fibers.
35. Renovation An addition or alteration or a change or modification of a building or the service equipment thereof, that is not classified as an ordinary repair.
36. Repair Corrective action using specified work practices; i.e., glovebag, plastic tent procedures, etc., to minimize the likelihood of fiber release from minimally damaged area of ACM.
37. Replacement Material Any material used to replace ACM.
38. DOSH Certified Asbestos Consultant (CAC) The consulting industrial hygienist, or a representative for the SRCSD Asbestos Coordinator.
39. Regional San safety representative A representative from the Sacramento Regional County Sanitation District, Safety Division.
40. Seal or Block and Seal Installing an insert in an opening such that there is not air movement or passage to and from the area.
41. Shift A complete daily term of work for a worker; or a complete daily term of work of a simultaneous group of workers.

42. Surface Barriers, Protective Coverings or Poly The plasticizing of walls, floors, and fixed objects within the work area to prevent contamination during subsequent abatement activities.
43. Surfactant A chemical wetting agent added to water to improve penetration into asbestos-containing materials and thereby reducing the generation of airborne asbestos fibers.
44. Work Area An area where asbestos removal or other abatement procedures are being performed. A work area is considered a contaminated space between the time preparation begins and the time the area is certified clean by the CAC.

1.5 PRE-CONSTRUCTION MEETING

After the contract has been executed, the Regional San safety representative shall arrange for a pre-construction meeting to be attended by the CAC, Regional San safety representative, and the Asbestos Abatement Contractor.

Within five (5) days of this conference, the Asbestos Abatement Contractor shall provide six (6) copies of the submittal items described in Section 1.16 entitled "Submittals" clearly labeled as identified in that section.

- A. The parties shall also discuss and reach an agreement on the following items:
 1. Contractor and supporting vendor vehicle access and parking.
 2. Coordinate Contractor access routes to the work areas, including approved doors, stairways, and corridors with the Regional San safety representative.
 3. Availability of building utility services such as power, water, supplies, and drains.
 4. Determination of on-site superintendent responsible for safety.
 5. Determination of equipment and other movable items to be removed from the work area(s) by the Contractor, and the location of temporary storage space.
 6. Location, coverage, and use of isolation barriers.
 7. Emergency response procedures.
 8. Site security measures.

9. Any other technical issues or logistical factors that will minimize interference with Regional San operations and facilitate Coordinator activities.
10. The Regional San safety representative will record the minutes; include all decisions, and reproduce and distribute copies of minutes noting all decisions made at the meeting.

1.6 AVAILABILITY OF TRAINED PERSONNEL

There shall be a sufficient number of trained and qualified workers, foremen, and superintendents to accomplish the work within the required schedule. Only trained, fully-qualified and pre-approved persons shall be employed by the Contractor to expedite completion of the abatement work.

1.7 STANDARD OPERATING PROCEDURES

Develop, submit for approval, and implement a standard operating procedure for abatement work to ensure maximum protection and safeguard from asbestos exposure of the workers, the employees, and the environment (also see Section 1.16 entitled "Submittals"). The Standard Operating Procedures shall ensure:

- A. Tight security against unauthorized entry into the work area.
- B. Proper protective clothing and respiratory protection prior to entering the work area.
- C. Safe work practices in the work place including provisions for communications; exclusion of eating, drinking, smoking, or use of procedures or equipment that would in any way reduce the effectiveness of respiratory protection or other engineering controls.
- D. Proper exit procedures from the work area.
- E. Removing the asbestos-containing materials in a manner that minimizes release of fibers.
- F. Packing, labeling, loading, transporting, and disposing of contaminated material in a way that minimizes or prevents exposure and contamination.
- G. Emergency evacuation of personnel for medical or safety (fire and smoke) so that exposure will be minimized.
- H. Safety from accidents in the work space, especially from electrical shocks, slippery surfaces, and entanglements in loose hoses and equipment.
- I. Provisions for effective supervision and OSHA-specified personnel air

monitoring for exposure during the work.

- J. Engineering systems that will minimize exposure to fibers in the work space, including the exact locations, numbers, sizes, and types of HEPA-filtered exhaust fans.

1.8 NOTIFICATIONS, PERMITS, WARNING SIGNS, LABELS AND POSTERS

- A. The Contractor shall provide the required written pre-notification to EPA and any other regional, state, and local authority having jurisdiction on the project. Copies of the pre-notifications shall be delivered to the Regional San safety representative as part of the submittal package before any work begins. Secure all other permits required for the work including disposal of asbestos in an approved landfill. Deliver these permits to the Regional San safety representative before any work begins.
- B. Install OSHA-specified warning signs around the work area and at every point of potential entry from the outside area and at the waste dumpster during bag-out operations. The signs shall conform to OSHA requirements with the words "DANGER -- ASBESTOS -- CANCER AND LUNG DISEASE HAZARD -- AUTHORIZED PERSONNEL ONLY -- RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA." The warning signs shall be a bright color so they shall be easily seen and read. The size of the sign and its lettering shall be no less than OSHA requirements.
- C. For generated asbestos hazardous waste, the Contractor shall also provide warning labels in compliance with OSHA, EPA, and DOT requirements for all plastic bags, drums, and containers utilized to transport contaminated material from the work areas to the disposal landfill. Warning labels shall be affixed to all containers with permanent adhesive and shall be conspicuous, legible and read as follows:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

HAZARDOUS WASTE

**STATE AND FEDERAL LAW
PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST
POLICE OR PUBLIC SAFETY
AUTHORITY OR THE CALIFORNIA
DEPARTMENTS OF**

TOXIC SUBSTANCES CONTROL

**RQ ENVIRONMENTALLY
HAZARDOUS SUBSTANCE
SOLID, NOS, (ASBESTOS)
9, UN3077, PGIII, NA2212**

GENERATOR: _____
MANIFEST NUMBER: _____
LOCATION: _____
DISPOSAL SITE: _____

ALSO, AFFIX: DOT DIAMOND LABEL WITH "9" AT THE BOTTOM

- D. Provide any other signs, labels, warnings, and posted instructions that are necessary to protect, inform, and warn workers and visitors of the hazard from asbestos exposure. Also post in a prominent and convenient place for workers' use, a copy of the latest applicable regulations of OSHA and EPA and a copy of these specifications and the applicable drawings.

1.9 EMERGENCY PRECAUTIONS

- A. The Contractor shall establish emergency and fire exits from the work area for the workers and building occupants.
- B. The Contractor shall be prepared to administer appropriate first aid to injured personnel at the site after decontamination. Seriously injured personnel shall be treated immediately in the work area or evacuated without performing decontamination. When an injury occurs, the Contractor shall stop work and implement fiber reduction techniques (e.g., water spraying), until the injured person has been removed from the work area.
- C. A list of all emergency telephone numbers and emergency contact personnel working on the project shall be posted in designated work area.
- D. The local police, fire department, and hospital shall be notified prior to the commencement of abatement operations as to the potential of having to handle contaminated or injured workmen, and shall be advised on safe decontamination methods.

1.10 RESPIRATORY PROTECTION SYSTEMS

- A. The Contractor shall provide all workers, foremen, superintendents, authorized visitors, and inspectors with personally issued and marked respiratory protective equipment approved by NIOSH and MSHA. When respirators with disposable

filters are employed, the Contractor shall provide sufficient filters for replacement as necessary by the workers or authorized visitors.

- B. During work area preparation, but prior to the actual abatement procedures, half-face HEPA filtered respirators may be used. At a minimum, the Contractor shall provide workers with Powered Air Purifying Respirators (PAPR) during gross removal asbestos abatement operations.
- C. Respiratory protection as specified herein shall be worn at all times, including during preparation of the work areas, loading and unloading of waste containers in the work area or at the transport truck, and cleaning of work area.
- D. Facial hair such as beard, long sideburns, and/or moustache which could interfere with the seal of air purifying type respirators should not be allowed.
- E. Respiratory protection maintenance and decontamination procedures shall meet the following requirements:
 - 1. Respiratory protection shall be inspected and decontaminated on a daily shift basis in accordance with OSHA 29 CFR 1910.134(b) and CFR 8.5144.
 - 2. Workers must wear respirators in the shower when going through decontamination procedures as stated herein. Respiratory protection shall be the last piece of worker protection equipment to be removed.
 - 3. Respirators shall be stored in a dry place and in such a manner that the facepiece and exhalation valves are not distorted.
 - 4. Organic solvents shall not be used for washing respirators.
 - 5. Whenever respirator design permits, workers shall perform a positive and negative air pressure fit check each time a respirator is worn. Powered air purifying respirators shall be tested for adequate flow (using the methods specified by the manufacturer) every four (4) hours of use **and** each time the worker enters or exits the work area. Written logs of these tests shall be maintained by the Contractor.
 - 6. The Contractor shall furnish to the CAC written documentation that each worker is medically approved to wear respirators and has been properly trained in their use, inspection, care, maintenance, and fit testing pursuant to the Contractor's written Respiratory Plan.
 - 7. Breathing air supply systems shall conform to the USEPA NIOSH Document No. EPA-560-OPTS-86-001 (April, 1986) entitled "A Guide to

Respiratory Protection for the Asbestos Abatement Industry."

1.11 PROTECTIVE CLOTHING

- A. Provide to all workers, foremen, superintendents, authorized visitors, and inspectors, protective disposable clothing consisting of fullbody coveralls, head covers, gloves, 18-inch high boot-type covers or reusable footwear, and eye protection in accordance with 29 CFR 1926.1101(3)(g)(ii)(e).
- B. Provide hard hats and safety shoes as required by job conditions and safety regulations.
- C. Reusable footwear, hardhats, eye and hand protection shall be left in the "Contaminated Equipment Room" until the end of the asbestos abatement work.
- D. All disposable protective clothing shall be discarded and disposed of as asbestos waste every time the wearer exits from the work area.

1.12 DECONTAMINATION FACILITIES

- A. Provide a three-chamber decontamination facility located in the area shown on the drawings or as submitted to the CAC and approved by the Regional San safety representative. A centrally located Decon may be utilized for the purposes of this project. The Decon shall be a minimum of three feet wide and eight feet in height.
- B. The Decontamination facility for workers and visitors shall consist of three (3) adjoining rooms that are separated with air locks as follows: Clean room at entrance followed by a shower or wash room followed by an equipment or dirty room leading to the work area.
- C. The entire floor of the Decon shall be covered with two (2) layers of 6 mil poly sheeting turned up 12-16" on the wall layers. The upper layer of floor poly sheeting shall be replaced as wear necessitates or as directed by the CAC.
- D. An Air lock is a system permitting ingress and egress without permitting air movement. It consists of two curtained doorways at least three feet apart where space permits. Each curtained doorway shall be constructed to allow airflow into the work area when HEPA exhausts are operating and to create an effective air tight seal upon loss of negative air. The curtained doorway may be constructed by placing overlapping sheets of plastic over a framed doorway and securing each along the top and sides of the doorway. The final sheet shall be secured to the top of the doorway and weighted at the bottom. There are no swinging/closing doors allowed between airlocks. The doorways (curtains) shall be at least three (3) feet

apart.

- E. The decontamination facility shall be cleaned using a HEPA-filtered vacuum and disinfectant at least once every shift, or more frequently if needed to prevent residue accumulation.
- F. Smoking, drinking, or eating shall not be permitted in the work area, shower room, or equipment room. Personal equipment such as radios or flashlights shall not be permitted in the work area, shower room, or equipment room unless they are disposable or can be sufficiently decontaminated.
- G. Provide benches and lockers for storage of workers street clothes in the clean room. Also provide in the same room uncontaminated disposable protective clothing and equipment in sufficient quantities for all workers and visitors.
- H. The Contractor shall post in the clean room of the decontamination facility or have available at the worksite the following items:
 - 1. A copy of the U.S. Environmental Protection Agency Regulations for Asbestos, 40 CFR 61 Subparts A and M; a copy of OSHA Asbestos Regulations, 29 CFR 1926.1101; a copy of CAL-OSHA Title 8, Section 1529, and a copy of Sacramento Metropolitan Air Quality Management District's Rule 902 and 304.
 - 2. A list of telephone numbers and locations of local hospitals, emergency squads, and local fire department and the name of designated Regional San staff members.
 - 3. A copy of the asbestos abatement specifications and drawings.
 - 4. Name of the competent person and list of names of Contractor's employees conforming to requirements of who will be authorized to enter the regulated area.
 - 5. Contractor's name, list of Contractor's organization chain of command at the construction site, and phone number of responsible representative who may be reached 24 hours a day.
 - 6. Signs as required by 29 CFR 1926.1101.
 - 7. Labor compliance posters.
- I. The shower room shall be constructed inside a rigid catch basin. This catch basin is for back-up leak protection only and shall not be used as the primary catch for shower water drain. Provide in shower room showering facilities with hot and

cold water so arranged as to provide complete showering of workers and visitors as they exit from the contaminated area. Contractor shall supply one (1) showerhead for each ten (10) workers, per shift, working inside the work area of water heater capacity shall be sufficient to provide hot water for all workers and visitors, at least 40 gallons for each ten (10) workers.

Install plumbing for water supply and drain to decontamination facility. Contractor shall leak-test all plumbing systems prior to beginning asbestos decontamination.

The water supply to all temporary plumbing and hoses shall be turned off at the end of each shift when a Contractor's representative will not be present at the site. Connect the shower water drains to a leak-proof pump and commercially manufactured filtering system consisting of several filters in series, including a 5 micron final filter, and an adequately sized pump. A back-up replacement pump shall be available on-site at all times. Water filtration system shall be located in the decontamination facility clean room. Used water filters shall be packaged and disposed of as asbestos waste.

Clean, dry towels shall be provided in sufficient quantities for all personnel. Each shower shall be equipped with a permanently mounted commercial quality soap dispenser and a hook for hanging respiratory protection equipment while decontaminating.

Shower room size shall be adequate to allow decontamination of all waste packages and containers which require removal from the work area. If the contractor chooses to use a separate waste decontamination facility then the Contractor shall provide a permanent water supply and drain as described above.

- J. Provide the equipment room with storage for contaminated clothing and equipment. In this room workers and visitors shall dispose of their disposable protective clothing as they prepare to enter the shower room.

Adequate quantities of clean, protected waste bags, filters for the HEPA-vacuums and exhaust units, and other tools and equipment necessary for the work shall be stored in this room. Waste containers and excessive quantities of equipment shall not be stored in this room.

- K. A solid, hinged door with a padlock shall be installed at the entrance to the decontamination facility. These doors shall be closed and locked whenever the work area is unattended.

Keys for the locks shall be distributed to the CAC, the Owner, and other parties designed by the Owner. These doors shall be equipped with backdraft dampers to allow make-up air into the work area while preventing unauthorized entry.

- M. Ensure that barriers and plastic linings are effectively sealed and taped at all times, and that the shower room floor is water tight. Repair damaged barriers, and remedy defects immediately upon discovery. Visually inspect the decontamination facility at the beginning of each work period. The CAC shall also be allowed to use smoke generators to test effectiveness of barriers, flow of air through the decontamination unit, and HEPA-exhaust systems.
- N. If applicable, decontamination facilities will not be required for removal of asbestos roofing materials from roof, however, sufficient personnel protection and decontamination (see section 1.13) shall be employed during this work.

1.13 PERSONNEL PROTECTION AND DECONTAMINATION

- A. For any activities involving disturbance of asbestos-containing materials, provide all personnel throughout the abatement process with the specified protective clothing and gear. Ensure that all personnel entering and leaving the work space adhere to the following procedures:
 - 1. Entering from the outside: Change from street clothes into the clean protective clothing and don respiratory protection. Go through shower room into the equipment room, pick-up equipment and tools and enter the work area.
 - 2. Exiting from the work area: Dispose of all protective clothing into plastic bags labeled for asbestos waste. Still wearing the respirator, enter the wash chamber and perform decontamination. Remove respirator and wash and wipe thoroughly to decontaminate the respirator. After drying, enter the clean room, store the decontaminated respirator in the assigned space and dress into street clothes.
 - 3. Exiting from the work area to a centrally located Decon: Enter the air-lock from the work area and HEPA-vacuum all visible accumulations of dust from protective clothing. Following cleaning protective clothing, proceed directly to the centrally located Decon and follow procedures outlined in 1.13, A., 2., above.
 - 4. The Contractor shall instruct all employees and workers in the proper care of their personally issued respiratory equipment, including daily maintenance, sanitizing procedures, etc.
 - 5. All respiratory equipment shall be inspected by Contractor's project supervisory personnel at the beginning of each work period, including breaks and lunch periods. Written records of these inspections shall be maintained for review by the CAC.

1.14 ASBESTOS WASTE DISPOSAL PROCEDURES

- A. It is the responsibility of the Contractor to determine current waste handling, transportation, and disposal regulations for the work site and for each waste disposal landfill. The Contractor must comply fully with these regulations and all U.S. Department of Transportation and EPA requirements and state and local regulations.
- B. The Contractor shall document actual disposal of the waste at the designated landfill by completing a written Disposal Certificate signed by the landfill operator and forward the original to the CAC. Approval of Contractor payment requests may be denied until receipt of such Disposal Certificate(s).
- C. Definition: "Wastes" are defined as all asbestos containing or potentially contaminated materials or other items which have not been completely cleaned or sealed to the satisfaction of the CAC while inside the work area, and must be removed from the job site, or non-friable asbestos containing material that will be disposed of as non-hazardous waste in a Class III landfill.

Asbestos wastes may include building materials, insulation, disposable clothing and protective equipment, plastic sheeting and tape, exhaust systems or vacuum filters, contractor equipment, or other materials designated by state or local authorities or the CAC or which have been potentially contaminated with asbestos and have not been fully cleaned inside the work area by HEPA vacuuming following by thorough washing.

- D. Waste Packaging: All waste material shall be promptly wrapped in polyethylene sheeting or placed in six-mil polyethylene bags as it is generated. The Contractor shall count or measure the volume of each filled container leaving the work area, and maintain a written record of such volume (also see the following paragraphs).
- E. Waste Labeling: Warning labels having waterproof print and permanent adhesive in compliance with OSHA, EPA and DOT requirements shall be affixed to or printed on the sides of all waste bags or transfer containers.

Warning labels shall be conspicuous and legible and contain the following words:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

HAZARDOUS WASTE

**STATE AND FEDERAL LAW
PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST
POLICE OR PUBLIC SAFETY
AUTHORITY OR THE CALIFORNIA
DEPARTMENTS OF
TOXIC SUBSTANCES CONTROL**

**RQ ENVIRONMENTALLY
HAZARDOUS SUBSTANCE
SOLID, NOS, (ASBESTOS)
9, UN3077, PGIII, NA2212**

**GENERATOR: _____
MANIFEST NUMBER: _____
LOCATION: _____
DISPOSAL SITE: _____**

ALSO, AFFIX: DOT DIAMOND LABEL WITH "9" AT THE BOTTOM

- F. Non-Hazardous Asbestos Waste Labeling: Warning labels having waterproof print and permanent adhesive in compliance with OSHA, and DOT requirements shall be affixed to or printed on the sides of all waste bags or transfer containers.

Warning labels shall be conspicuous and legible and contain the following words:

**DANGER
CONTAIN ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

- G. Wetting of Waste: A fine water spray shall be used to keep the top layers of waste in containers thoroughly wet at all times. When a waste bag is full it shall be securely sealed with tape or other secure fastener.
- H. Waste Container Decontamination, and Removal Procedures: The following procedures shall be followed whenever containers or equipment are removed from the work area.
1. The clean room shall be considered a holding area only during the period of active waste transfer for the purpose of the loading of carts or drums. Storage of waste and carts (or drums) in the clean room is prohibited.

2. Workers are to be stationed in each room/area of the decontamination facility to transfer the containers and equipment to or from adjacent sections. These workers shall not cross airlocks into the adjacent areas/rooms until the waste or equipment transfer is complete for that period and the workers have performed decontamination procedures as required by these specifications. The workers in the clean room or holding area shall enter from uncontaminated areas with appropriate personal protective equipment; or prior to the start of waste transfer, these workers shall exit the work area, fully decontaminated, and subsequently don clean personal protective equipment.
3. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the work area before moving such items into the decontamination facility airlock. Workers shall not enter the airlock during this procedure.
4. The containers of waste and equipment shall be removed from the airlock by workers stationed in the washroom during waste removal operations.
5. Once in the washroom, external surfaces of contaminated containers and equipment shall be cleaned a second time by wet cleaning and/or HEPA vacuuming.
6. The cleaned containers of waste and equipment shall be placed in uncontaminated leak-tight plastic bags, lined fiber drums (or 6-mil sheeting if physical characteristics necessitate and permit). Air volumes shall be minimized by collapsing the waste bags with a HEPA-filtered vacuum prior to their being sealed.

Items that may puncture or tear the plastic bags or sheeting shall be placed in a hardwall container such as a drum, and then be sealed.

7. The clean recontainerized items shall be moved into the airlock for subsequent transfer to the holding area. The washroom workers shall not enter this airlock or the work area until waste removal is finished for the period.
8. Recontainerized items and cleaned equipment shall be removed from the airlock to the holding area by workers who have entered from uncontaminated areas with appropriate personal protective equipment.
9. The recontainerized items of waste and cleaned, bagged equipment shall be placed in open top, watertight plastic carts or drums. These carts or drums shall be held in the holding area pending removal. The carts or

drums shall be HEPA vacuumed or wet cleaned following the removal of the containers of waste from them.

10. The exit from the decontamination facility shall be monitored and secured at all times to prevent unauthorized entry.
 11. The carts/drums may be temporarily stored in a holding area at the work site outside the workplace until a transport vehicle arrives, but such storage areas must be pre-approved by the Regional San safety representative and the CAC.
- I. Waste Container Storage: Sealed waste bags or packages and/or fiber drums shall be loaded into a waste disposal bin as generated, the waste disposal bin shall be properly labeled and locked whenever a contractors representative is not on site.
 - J. Waste Removal Scheduling: All waste containers shall be decontaminated and removed from the work area before final cleanup is started and isolation barriers are taken down.
 - K. Waste Transportation and Disposal Regulations: It is the responsibility of the Contractor to determine and ensure that he is complying with: 1) the **current** waste handling regulations applicable to each work site; and 2) the **current** regulations for transporting and disposing waste at each ultimate disposal landfill. The Contractor must comply fully with these regulations and with all U.S. Department of Transportation, State of California, and EPA requirements.

The Contractor (or subcontractor) at no additional cost shall maintain a valid hazardous waste transportation registration issued by the California Department of Health Services.

Asbestos Hauling: Transportation methods shall comply with the Provisions of EPA Title 40, Part 61, subpart M, Title 22 of the California Administrative Code, Division 4 Environmental Health, Chapter 30, Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes, and with any hazardous waste regulations for temporary storage, transport, and disposal if such codes are enforced in states where the waste shall be stored, transported, or disposed.

- L. Waste Container Removal and Disposal Procedure:
 1. The costs for waste packaging, transportation, and approved landfill disposal (plus all related recordkeeping) shall be included in Contractor's prices.
 2. The Contractor shall package, label, and remove all asbestos waste as

specified in the above sections. Packaging shall be accomplished in a manner that minimizes waste volume, but ensures waste containers shall not tear or break.

3. The CAC must observe removal of all waste containers to verify their condition and certify the total volume of waste material (to the nearest cubic yard) and estimated weight (in pounds). The Hygienist shall then insert the quantity and weight on the Disposal Form and give the original of these forms to the Contractor for transport to the landfill operator for signature.
4. The Contractor shall provide legal transportation of asbestos wastes to the ultimate disposal landfill. The Contractor shall verify actual delivery, receipt, and disposal of each load of waste at the designated landfill by completing a Disposal Certificate, obtaining the signature of the landfill operator, and forwarding the original to the CAC.
5. Waste may be transported to and temporarily stored at a pre-approved off-site storage area owned by the Contractor, but it must ultimately be disposed of at the specified landfill before any payments are made.

1.15 EXPOSURE CONTROLS AND HEPA-FILTERED EXHAUST VENTILATION:

- A. The Contractor shall install into the containment portable HEPA filtered exhaust units to maintain the area, including the Decontamination Facilities, under negative air pressure, and to reduce or control airborne asbestos fiber concentration.
- B. To determine the number of required units, the Contractor shall compute the total cubic footage of all work spaces within the work areas and determine the air moving capacity of all the HEPA filtered units to be used in the work space. This measurement shall be made in cubic ft/min. under a filter load equivalent to two inches of static pressure.
- C. The exhaust(s) must be capable of providing: 1) at least four (4) full air changes per hour in the work area; 2) an inward velocity through any openings, including the decontamination facilities, or at least 200 fpm; and 3) a static negative air pressure inside the area of a minimum of 0.02 inches of water column.
Each exhaust system shall have a dedicated power system, and be operated continuously (24 hours/day) in accordance with "Specifications and Operating Procedures for the Use of Negative Pressure Systems for Asbestos Abatement", Guidance for Controlling Asbestos Containing Materials in Buildings, EPA report Number 560-5-85-024 (1985).
- D. Each exhaust unit shall be equipped with the following:

1. Magnehelic gage to monitor the unit's air pressure difference across the filters and to interpret the magnehelic readings to CFM.
 2. Automatic shut off for filter failure or filter absence.
 3. Audible alarm with flashing red light for unit shutdown.
 4. Amber flashing warning light for excessive filter loading.
 5. A safety system that prevents unit from being operated with the HEPA filter installed backwards.
- E. All exhaust air shall pass through HEPA filters before being discharged to the exterior of the building. The Contractor shall securely install (and seal with caulking) a solid window or door insert with 12" diameter cutout for the discharge air from each HEPA exhaust unit. The exterior exhaust discharge point shall be at least 40 ft. from the receptor such as an air intake port, or louvers.
- F. Before starting any work, the Contractor shall submit in writing his proposed number, capacity, and location of exhausts; and the method of discharge to the building exterior. Work shall not be permitted until the CAC approves the proposed exhaust system.
- G. Unless otherwise permitted by the CAC, exhaust systems shall be operated twenty four (24) hours per day at all times during preparation, removal, encapsulation, and cleanup tasks as specified herein; and until final "clean air" certification is obtained for the area.
- H. On loss of negative air pressure or electric power, all work activities in the area shall stop immediately and shall not resume until power is restored and the HEPA exhaust systems are operating again. When power failure or loss of negative pressure occurs, and restoration of power or negative pressure cannot be made the following shall occur:
1. The make-up air inlets in the decontamination facilities shall be sealed airtight;
 2. The decontamination facilities shall be sealed airtight after the evacuation of all personnel from the work area; and
 3. All adjacent areas shall be monitored for asbestos fiber concentration upon discovery of, and subsequently throughout, the power failure.
- I. This system must conform to the previously described requirements and 29 CFR

1.16 SUBMITTALS

The Contractor shall provide a minimum of one (1) electronic copy of the submittal items clearly identified as stated. Only one (1) electronic copy will be returned to the Contractor.

A. Pre-Job Submittals. Provide the following submittals within five (5) days of the pre-construction meeting:

1. Submittal No. 1: Copy of the Contractor's formal written OSHA respirator plan, including a complete description of each respirator type, a fit testing procedure for passive air filtering type respirators; and a certificate that any Type C supplied air systems meet the herein specified air quality, quantities, and escape time. The respiratory protection program must conform to 29 CFR 1910, 134(b)(d)(e)(f). Use "A Guide to Respiratory Protection for the Asbestos Abatement Industry" NIOSH/EPA publication #5600PT586-001 dated September, 1986.
2. Submittal No. 2: A detailed listing of all materials, tools, equipment, and expendable supplies that will be used during the project. For each listed item, provide (as appropriate) the manufacturer's name, catalog number or model, a description of its function and/or location of use, and actual sample or photocopy of a manufacturer's brochure.

The listing shall include at a minimum: spray encapsulants, wetting agents, spray adhesive (including MSDS) and equipment, HEPA vacuums, HEPA filtered exhaust fans (including documented air moving power of the unit under actual working conditions with all filters and fan curve and static resistance rating of all filters and ductwork used when operating the unit), respirators, protective clothing, waste containers, protective fireproof plastic coverings, sealing tapes, materials and compounds, temporary power and electric equipment, shower water pumps and filters encapsulating equipment and materials for constructing decontamination facilities, and barriers.

3. Submittal No. 3: A written "Security Plan" describing in general and specifically the locations of warning signs, the labeling of waste containers, emergency means of entrance/exit from areas, security for prevention of unauthorized entry into the area, log book forms for recording entries to the work area, accident prevention and notification policy, emergency fire and accident response procedures (including decontamination procedures), and personnel responsible for these items. The Security Plan shall also describe equipment and methods the Contractor will use to efficiently communicate between personnel inside

and outside work areas.

4. Submittal No. 4: Copies of written pre-notification forms filed with CAL/OSHA (DIR/DOSH).
5. Submittal No. 5: A detailed work schedule which lists each work area and the major work phases (including at a minimum, work area set-up asbestos removal, and breakdown), the dates of proposed work, the work shift hours, the number of workers and the (projected) supervisor/foreman.
6. Submittal No. 6: List of all workers scheduled to be assigned to this project and their worker documentation, including but not limited to:
 - a. Certificates of training for OSHA required course;
 - b. Worker medical records as required by OSHA;
 - c. Work Respiratory Fit-Test for **all** types of respirators to be used; and
 - d. Worker acknowledgement form for adherence to guidelines in Section 1.3 (Qualifications).
7. Submittal No. 7: List of proposed subcontractors with their specialty and qualifications.
8. Submittal No. 8: Abatement Plans which describe in detail the layout and execution of the work, if different from those specified herein. The plans shall include work area isolation and control methodology and the specific routes of access and waste removal from the work area.
9. Submittal No. 9: The Contractor's "Standard Operating Procedure" for the project including a discussion of how workmen, visitors, building and employees will be protected from exposure, how spaces outside the work area will be protected from contamination until completion of the work, and procedures which would be implemented in the case of an emergency resulting in the possible release of asbestos contamination or exposure of unprotected people.
10. Submittal No. 10: Description of decontamination and disposal methods to be used for the work area, and an explanation of decontamination and final cleanup sequence to be used.
11. Submittal No. 11: Proposed waste hauler and copies of applicable licenses, including California State Department of Health Services

registration number.

12. Submittal No. 12: Proposed landfill for disposal of waste materials.
 13. Submittal No. 13: Description of all previously terminated asbestos abatement contracts, if any. If none were terminated, provide a written statement to that effect.
 14. Submittal No. 14: List of any other permits, licenses, manifests, or patents which are required or will be used.
 15. Submittal No. 15: Name, address, and telephone number of the analytical laboratory used for OSHA monitoring compliance.
 16. Submittal No. 16: A copy of the Contractor's State of California, Department of Industrial Relations, Division of Occupational Safety and Health, Certificate of Registration for Asbestos-Related Work.
 17. Submittal No. 17: A copy of the Contractor's Injury Illness Prevention Plan as required by Title 8, CCR, Section 3203.
 18. Submittal No. 18: A copy of the Contractor's Hazard Communication Program as required by Title 8, CCR, Section 5194.
- B. Post-job Submittals. Submit (1) one electronic copy of the following post-job submittals to the Owner within thirty (30) days of the completion of the asbestos abatement work.
1. Submittal No. 1: Copies of revised notifications to regulatory agencies.
 2. Submittal No. 2: Receipts and weight tickets from the landfill operator acknowledging the Contractor's delivery of wastes and including dates, container types and quantities, and tared weights of material delivered, and all appropriate signatures.
 3. Submittal No. 3: A copy of the worker/visitor log showing the following for all persons entering the work area: date, name, social security number, entering and leaving times, company or agency represented, and reason for entry. The contractor's time records will not be accepted in lieu of a worker/visitor log. Include a signed cover sheet certifying that the copy is a complete copy of the log from the job. A worker/visitor log form is provided at the end of Part 3 of this section.
 4. Submittal No. 4: Copies of all accident reports submitted during the course of work.

5. Submittal No. 5: A copy of worker exposure monitoring results collected in compliance with DOSH regulations (Title 8 CCR Section 1529) including daily, representative, full-shift, breathing-zone air samples and 30-minute excursion samples. Include a cover sheet signed by an authorized representative of the testing laboratory performing the work, indicating that the data are complete and accurate.
6. Submittal No. 6: Information on all new workers not covered by the pre-job submittals.
7. Submittal No. 7: (If applicable) a copy of the asbestos waste log showing dates, times, manifest numbers, quantities of wastes, types of containers removed from the work area, the hauler, and the signature of the recorder. An asbestos waste log form is included at the end of Part 3 of this section.
8. Submittal No. 11: Copies of Contractor's daily job reports.
9. Submittal No. 12: (if applicable) A Land Disposal Restrictions Notification and Certification (form included at the end of Part 3 of this section).
10. Submittal No. 13: (If applicable) completed uniform hazardous waste forms including information required for the Waste Shipment Record required by SMAQMD Rule 902.
11. Submittal No. 14: A complete record of the air filtration devices used certifying DOP testing if performed, and a circular strip chart recording indicating continuous operation and documenting differential air pressure.

1.17 APPLICABLE PUBLICATIONS

The publications listed below form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only:

- A. Environmental Protection Agency (EPA): 1) Regulations for Asbestos (Code of Federal Regulations, Title 40, Part 61); 2) Guidance for Controlling Friable Asbestos Containing Materials in Buildings; and 3) AHERA Final Rule (Code of Federal Regulations, Title 40, Part 763).
- B. Occupational Safety and Health Administration (OSHA): Asbestos Regulations (Code of Federal Regulations, Title 40, Part 1901, Section 1910.1001 and Section 1926.1101).
- C. National Institute for Occupational Safety and Health (NIOSH): "Respiratory Protection...A Guide for the Employee."

- D. American National Standards Institute (ANSI): Z86.1-1973...Commodity Specification for Air.
- E. State of California, Business and Professions Code, Sections 7028.1, 7058.7 and 7118.6, Contractor Certification to Engage in Asbestos-Related Work.
- F. State of California, Labor Code, Sections 6501.5, 6501.7 through 6502, 6503, 6503.5 and 6505.5, Contractor Certificate of Registration for Asbestos-Related Work.
- G. State of California, Labor Code, Sections 60.5, 6308 and 6501.5, Notification to the Division of Occupational Safety and Health, Occupational and Carcinogen Control Unit, of Asbestos-Related Work.
- H. Sacramento County Air Pollution Control District, Asbestos Rules 902 and 304.
- I. California Administrative Code, Title 22, Division 4, Chapter 30, Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes.
- J. California Administrative Code, Title 22, Division 2, Chapter 3, Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

PART 2 -- PRODUCTS

2.1. GENERAL REQUIREMENTS

- A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer and details for proper storage and use.
- B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the work area in a manner which shall not interfere with the operations of Regional San.
- C. Unloading and temporary storage sites, and transfer routes, must be approved in advance by the CAC and the Regional San safety representative.
- D. Damages or deteriorated materials may not be used and must be promptly removed from the premises. Material which becomes contaminated with asbestos-containing material shall be packaged and legally disposed of in an approved, secure landfill.

2.2. MATERIALS, TOOLS, AND EQUIPMENT

- A. All materials, tool, and equipment must comply, at a minimum, with this specification and relevant federal, state, and local codes.
1. HEPA-Filtered Exhausts - Air inside each asbestos removal work area shall be exhausted to the atmosphere (building exterior) through a High Efficiency Particulate Air (HEPA) filter. The HEPA filter shall be preceded by replaceable pre-filters, and the unit must be designated such that it cannot be operated unless the HEPA filters are in place. The units must also be designed with the lights or alarms which indicate that the filters are properly installed and functional, and which determine when the filters must be changed. Flexible hoses (ducts) of sufficient length must be provided to allow the units to discharge outside of the buildings. Exhausts with other types of particulate cleaning systems (such as electrostatic precipitators) shall not be allowed.
 2. Plastic Sheeting and Bags shall be polyethylene or equivalent with a thickness of at least six (6) mil for all applications (Note: wall coverings may be 4-mil polyethylene sheeting). Both transparent and opaque plastic shall be required, as directed by the CAC.
 3. Wetting Agent or Surfactant shall be 50% polyoxyethylene ester and 50% polyoxyethylene ether, or equivalent, mixed in the proportions of one ounce surfactant per five gallons of water. The material must be odorless, non-flammable, nontoxic, non-irritating and non-carcinogenic. It shall be applied as a mist using a low pressure airless sprayer recommended by the surfactant manufacturer.
 4. Tape and Glue shall be capable of sealing plastic joints and attaching plastic to finished surfaces without damage when they are removed. The bonding strength and resulting seal integrity must not be affected by mist or water, encapsulating agent, or any other materials to be used in the work area.
 5. Warning Signs and Labels shall comply with 29 CFR 1926.1101(k) and all other federal, state, and local codes and regulations.
 6. Waste Containers and Transportation shall be bags as noted in Item 1 above, drums or other closed containers, suitable for loading, temporary storage, transit, and unloading of contaminated waste without rupture, or otherwise causing spillage or exposure to persons or emissions to the atmosphere. Transportation methods shall comply with the provisions of EPA Title 40, Part 61, subparts A and B, and with any hazardous or special waste regulations for temporary storage, transport, and disposal if such codes are enforced in states or cities where the waste will be generated, stored, transported or disposed. All containers shall be labeled

in accordance with ASHY Regulation 29 CFR 1926.1101(k)(2) and 49 CFR Parts 171 and 172, Hazardous Substances: Final Rule.

7. Respiratory Protection Devices shall be NIOSH approved and shall comply with all provisions of 29 CFR 1926.1101. Fit testing procedures must comply with 29 CFR 1926.1101 Appendix C. Provide documentation of fit testing procedures.
8. Electrical Equipment shall be Underwriters Laboratory listed and approved, and shall have ground fault circuit interrupt protection which has been installed by a licensed electrician.
9. Ladders or Scaffolds shall be OSHA approved and be of sufficient dimensions and quantities so that all work surfaces can be easily and safely accessed by the CAC, workers, and other inspectors. Scaffold joints and ends shall be sealed with tape to prevent incursion of asbestos fibers.
10. Hand Power Tools shall be equipped with HEPA filtered local exhaust ventilation if used to drill, cut into, or otherwise disturb ACM.
11. Brushes - All brushes shall have nylon bristles. Wire brushes are excluded from use due to their potential to shed asbestos fibers into small fibers. Wire brushes may be used upon prior written approval by the CAC.

PART 3 – EXECUTION

3.1 GENERAL INFORMATION

- A. Safety Meeting
 1. Before starting on-site work, all Contractors employees shall attend a safety meeting conducted by the Contractor that addresses at least the following issues specific for this project.
 - a. Scope of asbestos abatement
 - b. Safety and health hazards
 - c. Personal protective measures and decontamination system requirements.
 - d. Respiratory protection program
 - e. Specific asbestos abatement practices and procedures
 - f. Emergency procedures
 - g. Asbestos and non-asbestos waste handling practices and procedures
 - h. Internal administrative and inspection procedures.
- B. Coordination with Building Management and Security

1. Coordinate building access with management and security at the start-up of the project.
2. Coordinate security, fire, and life safety and access restrictions, as applicable, with the Owner and local jurisdictional agencies, as required.

3.2 PRE-ASBESTOS REMOVAL PREPARATIONS

The Contractor shall prepare the work area as described in this section. Preparation work shall be performed according to the following general sequence of steps and procedures to ensure that proper protection systems are installed prior to any work which could generate airborne asbestos fibers:

- A. Construct a three stage personnel and equipment decontamination facility at most accessible entrances to the work area as approved by the CAC.
- B. Post access restriction signs prior to any entrance into the work area.
- C. Installation of a temporary power and lighting system equipped with ground fault interrupter (GFI) devices shall be required. Power and lighting system shall be designed to meet the Contractor's equipment needs, including power for sufficient temporary lighting and HEPA filtration unit operation throughout the project.
- D. Following installation of the decontamination facility and during all pre-asbestos removal preparations, all personnel working inside the work area shall wear personal protective equipment including disposable suits and half faced negative pressure respiratory protection.
- E. Contractor must obtain from the CAC written approval of all preparation work before starting removal of asbestos materials. The inspection must be requested 24 hours prior to completion of work as described above.

3.3 ISOLATION AND SEALING OF HVAC SYSTEMS:

NOT APPLICABLE

3.4 ISOLATION OF ELECTRICAL SYSTEMS AND INSTALLATION OF TEMPORARY POWER AND LIGHTING:

NOT APPLICABLE

3.5 ASBESTOS REMOVAL

- E. After obtaining written approval of the CAC, the Contractor shall begin asbestos abatement activities.
- F. Following establishment of critical barriers and .020 negative pressure, remove stationary and non-stationary items to access interior walls, ceilings and floors. These stationary and non-stationary items include, but are not limited to: shelving, cabinets, fixtures, etc.. These items shall be removed and disposed of as regular construction debris unless otherwise noted. Note all fluorescent light tubes and suspect PCB ballast shall be removed, packaged and disposed according to the guidelines established by hazardous waste requirements in 29 CFR 1910.120.
- G. Following removal of stationary and non-stationary items to access asbestos containing material, TSI, Linoleum, and Wall Joint-Compound with amended water using an airless or hudson sprayer. Remove all asbestos containing material designated for removal using wet methods. Minimize breakage, clawing, and sawing that generate airborne particulates. Mist the air with an airless sprayer or Hudson to lock down suspended particulates during removal operations. All TSI shall be removed with the use of glove bags.
- H. Clean up the area, and dispose of the asbestos containing and contaminated waste. All trash generated such as rags, polyethylene sheeting, tyvek clothing, respirator cartridges, etc., must be disposed as RACM contaminated waste unless otherwise directed by CAC.
- I. Generated waste shall be bagged up by the end of each shift and removed from the work area to the ACM waste dumpster unless otherwise directed by the CAC.

3.6 DAILY CLEANING

- A. Asbestos-containing debris and contaminated water shall be cleaned from the work area daily using wet methods, and HEPA vacuuming. Asbestos debris and water shall be placed in bags, sealed, and stored or removed from the work area.
- B. The worker decontamination unit shall be cleaned daily or more frequently as required and or directed by CAC. The clean room floor shall be kept dry and free of waste. Clean room flaps shall be repaired or replaced whenever damaged or torn.

3.7 PROTECTION OF FINISHED AREAS

- A. Contractor shall cover abated surfaces with canvas or other appropriate material and secure at the end of each shift to protect finished surfaces below from rain (if required).

3.8 EQUIPMENT AND MATERIAL REMOVAL PROCEDURES

- A. Clean external surfaces of ACM bags or containers, materials, and equipment by wet sponging and HEPA vacuuming before moving such items into the equipment decontamination enclosure system for final cleaning and removal to uncontaminated area.
- B. No items shall be removed from the work area without first notifying the CAC. All items shall be subject to inspection by the CAC. CAC will designate items requiring further decontamination of visible debris and dust.
- C. No personnel shall be allowed to decontaminate through the equipment decontamination enclosure system.

3.9 FINAL INSPECTION AND TESTING

- A. After a thorough cleaning of the workspace, and a high degree of cleanliness has been achieved, the Contractor shall notify the CAC that the workspace is ready for inspection. The Regional San's CAC and the Contractor shall then visually inspect the workspace for the detection of any visible asbestos dust or contamination. If the visual inspection does not reveal any dust or other signs of contamination, the Contractor shall be authorized to encapsulate all surfaces within the work area with a penetrating type of encapsulant.
- B. Once the area has been encapsulated, the area will again be inspected for adequacy of encapsulation. Due to the exterior nature of the project, If it is determined that the encapsulation was sufficient, the area will be cleared for regular construction activities.

3.10 AIR MONITORING BY CONTRACTOR

- A. The Contractor shall be responsible for personal air monitoring to document compliance of his workers with OSHA regulations using the methods as specified below.
- B. The analytical laboratory performing this work shall be an independent party not financially or managerially connected to the Contractor.
- C. The laboratory shall be successfully participating in the AIHA/NIOSH Proficiency Analytical Testing (PAT) program.
- D. Air sampling materials and equipment requirements are as follows:
 - 1. Sampling for analysis by phase contrast microscopy shall employ

cellulose ester collection filters with 0.8 micron pore size or less. Cassettes shall be loaded with filters under clean laboratory conditions. A 5.0 micron pore size cellulose ester backing filter shall be placed behind the collecting filter followed by the cellulose support pad and the cassette base. A metal cowl or an electrically conductive cowl shall be used in conjunction with the sampling train.

2. The filter assembly shall be upstream of all other components in the sampling train. An air flow measuring device (when used) shall be downstream of the filter and the pump assembly, or integral with the pump assembly.
 3. Sampling pumps shall supply constant flow.
 4. An air flow measuring/metering device shall be used and shall be high quality rotameter, mass flow, dry gas meter or critical orifice. Measuring devices shall have a range of at least 1.5 times the desired flow rate and be readable to at least $\pm 5\%$ of the desired flow rate. They shall be calibrated against standards of higher accuracy before and after sampling. The calibrations shall be recorded.
- E. Numbers and frequencies of personal air sampling shall be as required by OSHA regulations, but not less than one (1) sample per eight (8) hour work shift during times of asbestos removal work.
- F. Results of sample analysis shall be provided to the CAC within 24 hours of analysis.
- G. The Contractor shall use a pre-approved "chain of custody" form for all personal air samples collected.
- H. Personal sampling shall be performed pursuant to NIOSH Method 7400 (revised).
- I. The Contractor shall, at no additional charge, install and provide AC power for the CAC to collect area and final air clearance sampling that may be required.
- J. The Contractor shall provide a minimum of 3 high volume air monitoring pumps with stands to the CAC during the duration of the project.
- K. All other air samples for compliance with the specifications shall be performed by the CAC at no cost to the Contractor.

3.11 AIR MONITORING BY OWNER

- A. Personnel Monitoring: CAC may monitor the airborne fiber concentrations inside

the work area that may significantly challenge the ability of the work area isolation procedures to protect the rest of the building and the environment outside the building from contamination by airborne asbestos fibers.

During abatement inside the work area monitoring will be through personnel monitoring of Contractor's employees. The 8-hour time-weighted average (TWA) airborne fiber concentration must be maintained at a level that will not result in exposures inside the respirator mask of greater than 0.01 f/cc based on DOSH respirator protection factors.

30 minute excursion sample exposures shall be maintained at levels that will not result in exposures inside the respirator mask of 0.01 f/cc based on DOSH respirator protection factors.

A stop work order could be issued based on personnel monitoring performed by the Owner's CAC or the Contractor.

B. Area Monitoring: CAC will monitor the airborne fiber concentration inside and outside the work area prior to asbestos abatement activities, during abatement activities, and following asbestos abatement activities.

1. Prevalent Area Monitoring - Before the start of work, the Owner's CAC will collect 1-3 air samples inside the work area, 1-3 samples outside the work area inside the building, and 1-3 samples outside the work area outside the building to establish the prevalent level.

The prevalent level will be used as an action level during asbestos abatement activities and expressed in fibers per cubic centimeter (f/cc) that is 10 percent greater than the largest of the following:

- a. The average of samples collected outside the work area inside the building.
- b. The average of the samples collected outside the work area outside the building.
- c. 0.01 f/cc.

2. During Abatement Area Monitoring - During asbestos disturbance activities, the Owner's CAC may collect area samples in the following locations.

- a. Outside the entrance to the decontamination facility.
- b. Outside critical barriers inside or outside the building.

- c. Occupied area's immediately adjacent to the work area(s).
- d. Negative air filtration unit exhaust.

If the fiber concentration in any air sample collected outside the work area exceeds the prevalent level the Contractor shall immediately and automatically stop all work. If the air sample was collected inside the building but outside critical barriers, the effected area at the next existing structural isolation as defined by the CAC shall be isolated and decontaminated.

The Contractor shall leave the newly constructed critical barriers in place and ensure that the negative-pressure air system is creating a flow of air from the rest of the building into the affected area.

If the exit from the clean room of the personnel decontamination unit opens into the affected area, the Contractor shall establish a temporary decontamination facility consisting of a shower room and changing room. After cleaning and decontaminating the affected area, the shower room shall be removed and the changing room shall be left in place as an air lock.

After certification of visual inspection of the work area, final air samples will be collected from the entire area.

If the outside the work area outside the building prevalent level is exceeded, the Contractor may be directed to stop work by the CAC and correct the problem as required.

To resolve any dispute regarding fiber types when work has been stopped because of airborne fiber counts inside or outside the work area exceeding the specified levels, the CAC may collect air samples for analysis by Transmission Electron Microscopy (TEM) using the method described in 40 CFR 763, Appendix A, Subpart E (AHERA).

If TEM is used to confirm any of the following the cost of such analysis will be borne by the Contractor, at no additional cost to the Owner:

- a. A stop work order
- b. Whether an 8-hour TWA airborne asbestos fiber count or 30 minute excursion sample exceeds the specified level.
- c. Whether a sample collected outside the work area exceeds the prevalent level.

Final Clearance Area Monitoring –

Final Clearance Area Monitoring – Area final clearance monitoring will be conducted by the CAC following A final visual inspection and encapsulation of the work area. Decontamination is complete when the work area is visually clean and airborne asbestos levels using the PCM method are equal to or less than the largest of concentrations described below;

- a. 0.010 f/cc.
- b. 0.010 f/cc above outside air.

If the above level is exceeded, decontamination is incomplete, and decontamination and encapsulation procedures must be repeated. The costs of additional sampling shall be borne by the Contractor at no extra charge to the Owner.

3.12 RESTORATION AND REPAIRS

- A. Remove all equipment and materials to restore worksite to a neat and orderly condition as directed by the CAC and approved by the Regional San safety representative.

END OF SECTION

SECTION 28333

LEAD-CONTAINING PAINT ABATEMENT

PART 1 -- GENERAL

1.01 GENERAL REQUIREMENTS

A. SCOPE:

1. These specifications are originated to minimize and control potential lead dust releases during the disturbance of lead-containing coatings in industrial settings. **These specifications are limited to outside external structures and are no way intended for any occupied building settings.** These procedures and precautions apply to the disturbance of lead that may result from the surface preparation of substrates, and may include but not limited to abrasive blast cleaning, water blasting, water jetting, chemical stripping, cutting into, drilling into, sanding, or removal of any structure or its components containing or covered with lead, or the demolition of any structure that contains lead either in or on their surfaces. Examples of surface coatings that may contain lead include paint, varnish, and stains.
2. The scope of the lead-containing coatings removal project is as described herein and/or as noted on the project drawing. The Contractor shall furnish all labor, materials, equipment, services, employee training and testing, insurance, permits and agreements, waste characterization, collection, storage, and decontamination facilities, transport and disposal necessary to perform the work required for lead based paint removal in accordance with these specifications, the drawings and notations, EPA, OSHA, NIOSH, and State of California regulations, and any other applicable federal, state and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable.
3. The District, Certified Industrial Hygienist (CIH) or California Department Public Health (CDPH) Certified Inspector, Coatings Inspector, and Contractor shall perform a site inspection survey with photo documentation prior to the start of any Work performed on site.
4. All work shall be supervised by persons experienced in lead abatement. All work performed by the Contractor shall be performed under the direct supervision of an Industrial Hygienist currently certified by the American Board of Industrial Hygiene or a CDPH Certified Project Monitor. During all phases of work Contractor shall have at least one supervisory employee per work area currently

certified by the California Department of Public Health as a Certified Lead Supervisor as specified in CCR Title 17, Section 35008 or C3 Supervisor/Competent 4 day Training – SSPC: the Society for Protective Coatings established training for De-leading Industrial Structures and includes background information on the hazards of lead and other toxic materials as well as the current local, state and federal regulations. All reports, correspondence, and documentation shall be reviewed and signed off by the CIH or the CDPH Certified Project Monitor.

5. All work shall be performed by employees currently certified by California Department of Public Health as a Certified Lead Worker as specified in CCR Title 17, Section 35009 or C3 Supervisor/Competent 4 day Training – SSPC: the Society for Protective Coatings established training for De-leading Industrial Structures and includes background information on the hazards of lead and other toxic materials as well as the current local, state and federal regulations or training for the worker shall consist as a OSHA lead awareness program and worker shall be trained in the following disciplines:
6. These specifications represent the minimum performance standards with which the Contractor must comply. The details indicated herein are suggested methods to be used in order to comply with applicable laws and regulations, though not all required elements are shown. Omissions or mis-descriptions do not relieve the Contractor from his responsibility in performing the work according to all applicable laws and regulations and according to the intent of these specifications.
7. Contractor is responsible for removing all loose and peeling lead-containing paint in the work area prior to demolition of all structures.
8. Treat all existing coated structural surfaces as lead-containing unless testing proves there is no lead detected in the sample. Cal/OSHA 1532.1 lead regulations shall apply if any of these surfaces or materials will be disturbed during the project work.
9. The Contractor and subcontractors shall utilize engineering controls to limit the release of lead dust or debris. These engineering controls may include, but are not limited to; using a containment system, using tools with vacuum recovery systems with Dust Collection per Society for Protective Coatings (SSPC) Standards, using vacuums with HEPA filtration, and by the prompt clean-up of any lead-containing debris that the work might produce.
10. Contractors must confirm all items i.e. surveys, site conditions, utilities, facility amenities, prior to submission of bids. The Contractor shall verify all dimensions and existing conditions and shall notify the District Representative at once of any discrepancies.
11. These specifications represent the minimum performance standards with which the Contractor must comply. The details indicated herein are suggested methods to be used in order to comply with applicable laws and regulations, though not all

required elements are shown. Omissions or mis-descriptions do not relieve the Contractor from his responsibility in performing the work according to all applicable laws and regulations and according to the intent of these specifications.

12. The following work methods shall be prohibitive during any work that may loosen, penetrate, cut through or remove lead-based paint: Open flame burning, torching, including propane-fueled heat grids, dry scraping/sanding except for limited areas where electrical hazards create a higher risk than lead, machine sanding or grinding without proper containment or a HEPA local vacuum exhaust tool, uncontained hydroblasting or high-pressure washing, power washing to remove loose and peeling paint, abrasive blasting or sandblasting without proper containment or a HEPA local vacuum exhaust tool, the use of methylene chloride based paint strippers, and heat guns operating above 1,100 °F, without proper ventilation and containment.
13. For any lead related work disturbing lead in excess of 5000 parts per million (ppm) and that is greater than 100 sq. ft. or 100 ln. ft., or torch cutting or welding exceeds duration of 1 hour in any shift; the contractor shall provide a Lead-Work Pre-Job Notification to Cal-OSHA as required by CCR, Title 8, 1532.1, Lead.

1.02 REFERENCES

- A. REFERENCE STANDARDS: The publications referred to hereinafter form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only. The latest edition of referenced publications in effect at the time of the bid shall govern. In case of conflict between the requirements of this section and the listed references, the requirements of this section shall prevail.

Reference	Title
Title 8 CCR 1532.1	California Code of Regulations, California Occupational Safety and Health Standards Construction Safety Orders, Lead
Title 8, Division 1, Chapter 4	Division of Industrial Safety
Title 8 CCR 5194	Hazard Communication
Title 22	Hazardous Waste Handling
Title 8, Section 5144	Guide to Respiratory Protection
29 CFR 1910.1025	Occupational Safety and Health Standards General Industry Standards for Lead
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response

29 CFR 1910.132 through 1910. 138	Personal Protective Equipment
29 CFR 1910.134	Respiratory Protection Standard
29 CFR 1910.1000	Air Contaminants- Permissible Exposure Limits
29 CFR 1910.1020	Employee Access to Exposure and Medical Records
29 CFR 1926	Occupational Safety and Health Standards Construction Industry Standards
29 CFR 1926.59	Hazard Communication
29 CFR 1926.62	Occupational Safety and Health and Lead Exposure in Construction Interim Final Rule
29 CFR 1910, Section 2	Access of Employee Exposure/Medical Records
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, & Disposal Facilities
40 CFR 268	Land Disposal Restrictions
40 CFR 745	Lead Based Paint Poisoning Prevention
49 CFR Parts 100-185	Transportation, Hazardous Materials Guide for Shippers, Handlers and Transporters
DHHS (NIOSH) Publication #85-115	U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities
SSPC Guide 6	Society of Protective Coatings, Guide for Containing Surface Preparation Debris
SSPC Guide 7	Society of Protective Coatings, Guide to the Disposal of Lead-Contaminated Surface Preparation Debris
SSPC QP 2	Society of Protective Coatings, Certification of Field Removal of Hazardous Coatings
USEPA Standard	United States Environmental Protection Agency, National

B. DEFINITIONS

1. **Abatement Activities:** All activities from the initiation of work area preparation through successful final detail, and visual clearance activities performed at the conclusion of a lead-containing coating removal project.
2. **Barriers, Isolation Barriers or Containment Barriers:** Walls, tunnels, partitions or enclosures erected to separate any section of an abatement area from adjoining areas and to prevent migration of lead particulates from the work area. All lumber and plywood shall be flame retardant and shall bear manufacturer's label.
3. **Special Blast Waste:** Paint residue, chips, dust, decontamination wash-down fluids, and any other debris generated as a result of the abatement operations of painted surfaces containing lead, chromium, or other heavy metal in the existing paint.
4. **Confined Space:** As defined by Occupational Safety and Health Administration (OSHA).
5. **Discontinuity:** A void, crack, thin spot, foreign inclusion, or contamination in the coating film that significantly lowers the dielectric strength of the coating. This is also referred to as a holiday or pinhole.
6. **Disposal Site:** An EPA-approved, licensed landfill for the disposal of lead containing waste and/or lead contaminated materials.
7. **Exposed Exterior Surface:** A surface that is exposed to weather, whether or not it is exposed to view.
8. **Contaminated Waste:** Special blast waste that has been tested and determined to have lead and/or chromium concentrations exceeding TCLP limits.
9. **HEPA:** High-efficiency particulate air.
10. **Holiday:** A coating discontinuity.
11. **Paint:** For the purposes of this Specification, paint includes fillers, primers, sealers, emulsions, oils, alkyds, latex, enamels, thinners, stains, epoxies, vinyls, chlorinated rubbers, urethanes, shellacs, varnishes, and any other applied coating specified within this Section.
12. **SABAR:** Steel Abrasive Blasting and Recovery System. Steel abrasive blasting unit with classifier system for cleaning/recycling blast media for lead abatement.

13. Spent abrasive: Blast abrasive material and spent water used during the abrasive blasting operations.
14. District Safety Representative: The individual designated to act as the agent for the District on specific safety matters related to the contract.
15. TCLP: Toxicity Characteristic Leaching Procedure.
16. VOC: Volatile Organic Compounds.
17. Work Area: An area where lead-containing coating removal or other abatement procedures are being performed. A work area is considered a contaminated space between the time preparation begins and the time the area is certified clean by the CDPH Certified Project Monitor.

1.03 SUBMITTALS

- A. The following information shall be submitted for review in accordance with SUBMITTAL PROCEDURES Specification Section:
 1. A copy of this specification section, with addenda updates, with each paragraph check marked to show it has been read to show specification compliance or marked to show deviations.
 2. A copy of the contractors written, detailed job specific lead compliance program as required by 29 CFR 1926.62 and as defined in State of California, Title 22.
 - a. A site specific lead work plan
 - b. A sketch of the site with Department of Transportation (DOT) container storage locations and decontamination station.
 - c. A hazardous waste spill communication plan.
 - d. Method to be used for recycling waste water and method to be used for reclaiming lead in contaminated water.
 - e. The proposed waste hauler and copies of applicable licenses, including State of California registration number..
 - f. The proposed disposal site.
 - g. Contractor's Site Health and Safety Plan including at a minimum:
 - 1) Project organization chart showing Contractor's Site Safety Officer.
 - 2) Contractor's Injury Illness Prevention Plan as required by Title 8 CCR, Section 3203.

- 3) Emergency fire and accident response procedures.
 - 4) Location, type and size of all portable fire extinguishers on site during construction.
 - 5) Location of warning signs and labeling of waste containers.
 - 6) Fire Protection systems and procedures.
 - 7) Emergency means of ingress/egress from areas.
 - 8) Entrance to site capable of accommodating local fire response vehicles.
 - 9) Location of portable breathing apparatus.
 - 10) Location of stored combustible and/or explosive materials.
3. Physician's written medical opinion, current to within one year that Contractor employees can wear respiratory protection.
 4. Employee Training Certification meeting 40 CFR 745 (subpart L) for each employee and supervisor working on the project site, signed and dated by authorized training provider.
 - a. Personal Air Sampling Written Report of first day air sampling.
 - b. Documentation of respirator fit-testing for all Contractor employees and agents who are required to wear a respirator. Fit-testing shall be current within one year.
 5. Documentation of medical surveillance required in CCR Title 8, Sections 1529 (m) and 1532.1 (j).
 - a. Name of the doctor(s) and the organization that maintains the Contractor's health monitoring program.
 - b. Summary of the health monitoring program, including blood chemistry urine analysis or other appropriate reports for heavy metal screening for workers scheduled to work on site.
 - c. Pre-Work Medical Surveillance testing of each employee and supervisor working on the project site prior to any Work.
 - d. Post-construction blood chemistry reports for workers performing work on site for heavy metals.
 6. Security plan

- a. Description of personnel and visitor access and egress controls.
7. List of all materials, tools, equipment, and expendable supplies that will be used during the project and applicable product data sheets/MSDS or SDS - Safety Data Sheets
8. Proposed protective clothing required.
9. Proposed methods of abatement.
10. Decontamination procedures
11. Proof that the Contractor or the Contractor's Hazardous Waste Hauler possesses a current Hazardous Waste Hauler License and EPA Transporter's Number. Proposed waste hauler (s) and copies of applicable licenses, including State of California registration number.
12. Waste Manifest System that meets federal, state, and location regulations and accounts for all waste at all times. This shall include written confirmation that the debris shall be treated and disposed of in accordance with requirements of 40 CFR 264 and 40 CFR 268.
13. Waste Disposal Certificates (including Bills of Lading) or Recycle Certificate. Copies (reproductions) shall be submitted with completed original certificates submitted upon receipt from the landfill.
14. Name, address, telephone number and accreditation of the environmental laboratory that will analyze Contractor's OSHA compliance personnel air samples.
15. Contractor's comprehensive schedule of his work which list for each work space the dates of proposed work, the work shift times, the projected work accomplishments during that shift.
16. Written Confirmation of Designated Competent Person. The Competent Person shall be a person trained in the recognition and control of lead hazards in accordance with current federal, state, and local regulations. This person shall be a Certified Industrial Hygienist (CIH) certified for comprehensive practice by the American Board of Industrial Hygiene, a Certified Safety Professional (CSP) certified by the Board of Certified Safety Professionals, CDPH Project Monitor, California Department of Public Health as a Certified Lead Supervisor as specified in CCR Title 17, Section 35008 or C3 Supervisor/Competent 4 day Training – SSPC, or a person with training and experience necessary to meet the requirements of 29 CFR 1926.32(f).

1.04 OPERATION AND MAINTENANCE INSTRUCTIONS (NOT USED)

1.05 DELIVERY AND STORAGE

- A. Deliver products in original containers, labeled as follows:
 - 1. Name and type number of material.
 - 2. Manufacturer's name and item stock number.
 - 3. Manufacturing date.
 - 4. Contents, by volume, of major constituents.
 - 5. Warning labels.
 - 6. VOC content.
- B. All material, painting equipment, etc., shall be stored at appropriate temperatures per manufactures printed recommendations, additionally (if stored on site) in accordance with local, state and federal requirements for toxic materials and hazardous materials.
- C. Local includes any/all adjacent "neighborhood" specific covenants.
- D. All materials shall be properly identified using signage in language(s) common to area in which work is being performed and in accordance with 49 CFR.
- E. Signage and placards shall be placed in a conspicuous location visible from the direction of fire department access.
- F. All materials stored on site shall be accompanied by MSDS.

1.06 SITE CONDITIONS

- A. Information Available:
 - 1. Site soil and bulk analysis: The District has conducted soil and bulk sampling and analysis to determine the existing background levels of lead and chromium concentrations in the soils and equipment surrounding the project sites.
 - 2. Air monitoring tests: The District has conducted air monitoring to determine the existing background levels of airborne particulates in the immediate vicinity of the project sites.
 - 3. Copies of the test reports are available for examination at:

Sacramento Regional County Sanitation District
8521 Laguna Station Road
Elk Grove, CA 95758
Copies may be obtained by paying the cost of reproduction.

B. Safety and Health Regulations for Construction:

1. These Construction Documents are to be governed at all times by applicable provisions of the Federal Law(s) including but not limited to the latest amendment of the following:
 - a. Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 94-596.
 - b. 29 CFR 1910.
 - c. 29 CFR 1926.
 - d. USEPA Standard Operating Safety Guides.
 - e. DHHS (NIOSH) Publication #85-115.

1.07 IMPLEMENTATION OF HEALTH AND SAFETY PLAN

A. Notifications, Permits, Warning Signs, Labels and Posters:

1. Post at the jobsite contact information regarding the local fire department, police department, ambulance companies, and hospitals describing the scope and duration of the project and including the name and phone number of persons to be contacted in case of emergency.
2. Secure any permits required for the work. Deliver all permits to SRCSD for review and approval at least two (2) days prior to the preconstruction meeting.
3. Erect OSHA-specified warning signs around the workspace and at every point of potential entry from the outside including the entrance to the Decontamination Facility' Clean Room. The signs shall conform to OSHA requirements with the words "WARNING LEAD WORK AREA POISON NO SMOKING OR EATING". The warning signs shall be illuminated and easily noticeable. The size of the sign and its lettering shall be no less than OSHA requirements.
4. Label all waste containers in accordance with OSHA, DOT and NESHAPs regulations prior to removing contaminated material from the work areas for transport to the disposal landfill.
5. Provide any other labels, warnings, and posted instructions that are necessary to protect, inform, and warn workers, visitors of the hazards of lead exposure.

6. Post in a prominent and convenient place a copy of the latest applicable regulations of OSHA, EPA, and NIOSH; and a copy of these specifications and the applicable drawings.

B. Emergency Precautions:

1. Establish emergency and fire exits from all work areas accessible to both workers and building occupants.
2. Be prepared to administer appropriate first aid to injured personnel at the site after decontamination.
3. Before the actual removal of any material, notify the District Representative as to the danger of entering the work area, and invite the District Representative and others that will be involved in the project to attend an informal training program (or tailgate safety meeting) to be conducted by the Contractor to provide information regarding abatement activities, decontamination practices, waste disposal plan, etc. Make every effort to help the District Representative, outline contingency plans should their personnel need to enter a regulated area.

C. Personal Protective Equipment:

1. Determination of the appropriate level of personal protective equipment and procedures during this Project shall be made as a result of initial site survey, review of existing data, and a continued safety and health monitoring program performed by the Contractor's Site Health and Safety Officer for the Project.
2. Level D and/or Level C protection is anticipated.
3. Provide to all workers, foremen, superintendents and authorized visitors and inspectors protective disposable clothing consisting of full body coveralls, head covers, gloves, respiratory protection, and eye protection in accordance with 29 CFR 1926.1101(3)(g)(ii)(e).?
4. Provide hard hats, safety shoes and eye protection and any other safety equipment as needed due to job conditions or as required by safety regulations.
5. All disposable protective clothing and respiratory filters shall be discarded and disposed of as lead waste every time the wearer exits from the workspace to the outside through the decontamination facilities.

D. Equipment Decontamination:

1. All vehicles and equipment entering the limits of construction and used for work onsite shall be decontaminated prior to leaving the site.
2. The Contractor shall be responsible for monitoring all vehicle activity.

- E. Decontamination area and fluid management shall be identified in the Contractor's Health and Safety Plan.
- F. Air Monitoring and Soil Confirmation Sampling conducted by the District to be reimbursed by Contractor as required.
 - 1. Air monitoring: Make adjustments in fugitive dust containment based on results of air monitoring conducted by the District.
 - 2. Soil confirmation sampling: Sampling conducted by the District within five (5) days of notification by the Contractor that site cleanup operations are complete. Soil confirmation sampling test results will be available within 30 days of date of sample:
 - a. Test results passing (no elevation of background levels): Release final payment.
 - b. Test results failing: Contractor return within 10 days to correct the deficiencies in cleanup.
 - 1) Soil confirmation sampling cycle repeated until positive test results.
 - 2) Contractor pays for failing tests.
 - 3. Respiratory Protection Systems:
 - a. Provide all workers, foremen, superintendents, authorized visitors, and authorized inspectors personally issued and marked respiratory protective equipment approved by NIOSH and OSHA. When respirators with disposable filters are employed, the Contractor shall provide sufficient filters for replacement for each and every time any personnel or authorized visitor passes through a decontamination facility. Filters shall be disposed of as contaminated waste.
 - 4. Waste Disposal Procedures:
 - a. It is the responsibility of the Contractor to determine current waste handling, transportation, and disposal regulations for the work site and for each type of waste disposal landfill. Comply fully with these regulations and all OSHA, U.S. Department of Transportation, EPA requirements, and state and local regulations.

1.08 SEQUENCING AND SCHEDULING

- A. Pre-Construction Meeting: After the notice of intent to award has been made, the District Representative shall arrange for a Pre-Construction Meeting, to be attended by the appropriate District personnel, CIH or the CDPH Certified Project Monitor, the

General Contractor and the Lead Abatement Contractor. At this conference, a preliminary construction schedule, sequence of work, methods of access to the construction site, and temporary facilities shall be presented for discussion. Not more than (5) days after this conference, the General Contractor and the Abatement Contractor shall identify his Supervisor(s) and Foreman, and present the required submittals in this specification in accordance with the SUBMITTAL PROCEDURES Specification Section. Two approved submittal sets will be returned to the Contractor.

- B. Provide health and safety training of all workers assigned to Project.
 - 1. Submit written agenda of items discussed during health and safety training.
- C. Provide written notice minimum of two (2) days advance of intent to begin work on tank(s).
 - 1. This time is required to allow District personnel adequate time to isolate the tank(s) involved and to adjust system operation to allow for tank to be out of service.
- D. Provide written notice to District Representative a minimum of seven (7) days in advance of any schedule changes as work progresses.
- E. Authorized District personnel shall be present at the site when Contractor first enters each site.
- F. Any operational or control functions at the site shall be performed by authorized District personnel only.

1.09 AUTHORITY TO STOP WORK

- A. The CDPH Certified Project Monitor and/or District Representative has the authority to stop work at any time he/she determines that conditions or procedures pose a threat to the health and safety of the District's Safety Representative(s) or Contractors' employees. By no means does this authority relieve the Contractor from the full fiduciary duty of safety. Where possible, the stoppage of work shall be approved by the District Representative and shall continue until conditions have been corrected or corrective steps have been taken to the satisfaction of the CDPH Certified Project Monitor. Standby time and testing costs required to resolve violations shall be at the Contractor's expense. Stop Work Orders may be issued for, but shall not be limited to the following:
 - 1. Failure to properly and continuously apply specified removal work procedures;
 - 2. Failure to maintain specified work area isolation and protection systems;
 - 3. If applicable - Loss of specified flows of filtration air through the work area with dust collection device per SSPC standards;

4. Failure to use specified personal protective equipment;
5. Failure to maintain any specified records or to conduct specified personal exposure air monitoring tests and to make results promptly available to the CDPH Certified Project Monitor;
6. Detection of airborne lead dust levels outside the contained areas above normal background levels as defined by the CDPH Certified Project Monitor from previous test results or exceeding the OSHA Action Level of 30 microns per cubic meter (μ/m^3), measured as an 8-hour TWA.
7. Failure to comply with the specifications or any applicable federal, state, or local law, regulation or ordinance.

PART 2 -- PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer, and details for proper storage and usage.
- B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the work area in a manner that shall not interfere with the District's operations.
- C. Unloading and temporary storage sites and transfer routes must be approved in advance by the CDPH Certified Project Monitor.
- D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material that becomes contaminated with lead material shall be packaged as lead waste and legally transported and disposed of in an approved landfill.
- E. For disposal of lead-contaminated waste, Contractor shall furnish DOT 17H/55- gallon, open-top, steel drums with polyethylene liners and locking ring lids.
- F. Stick-on hazardous waste labels as per EPA or Cal/OSHA regulations.
- G. Supply and post warning signs as required by applicable Cal/OSHA regulations. Signs should be printed in English and Spanish.
- H. Provide all materials, equipment, facilities, and permitting to comply with applicable federal, state, and local regulations for all Work activities described herein.

2.02 MATERIALS, TOOLS, AND EQUIPMENT

- A. All materials, tools, and equipment must comply, at minimum, with this specification, and relevant federal, state, and local codes.

- B. Dust Collection Filtered Exhaust(s): Air inside each lead removal work area shall be exhausted to the atmosphere (building containment exterior) through dust collection system. See SSPC Guidelines.
- C. Plastic Sheeting and Bags: Shall be polyethylene or equivalent with a thickness of at least 6-mil for all applications.
- D. Tape and Glue: Shall be capable of sealing plastic joints, and attaching plastic to finished surfaces without damage when they are removed.
- E. Warning Signs and Labels: Shall comply with 29 CFR 1926-62 and all other federal, state, or local codes and regulations.
- F. Waste Containers Transportation: Shall be DOT-approved metal drums or other DOT-approved closed containers. The containers shall be suitable for loading, temporary storage, transit, and unloading of contaminated waste without rupture, or otherwise causing spillage or exposure to persons or emissions to the atmosphere.
- G. Respiratory Protection Devices: Shall be NIOSH and MSHA-approved, and shall comply with all provisions of 29 CFR 1926.62.
- H. Electrical Equipment: Shall be Underwriters Laboratory listed and approved, and shall have ground fault circuit interrupt protection that has been installed by a licensed, bonded electrician.
- I. Ladders or Scaffolds: Shall be OSHA-approved, and be of sufficient dimensions and quantities so that all work surfaces can be easily and safely accessed by the CIH or CDPH Certified Project Monitor, workers, and other inspectors. Scaffold joints and ends shall be sealed with tape to prevent incursion of dust and debris.

PART 3 -- EXECUTION

3.01 GENERAL

- A. All removal activities shall be performed using appropriate engineering controls including wiping methods and decontamination facilities, and meeting the intent of all applicable federal, state, and local health and safety regulations.
- B. All abatement work shall be scheduled, planned, and coordinated to cause the least amount of impact, disruption or potential disruption possible.
- C. Completion of each general stage of work requires written approval of successful completion, and written notice to proceed to the next general stage of work, from the CDPH Certified Project Monitor.
- D. Remove all specified materials. All materials shall be considered accessible for removal. As necessary, the Contractor shall be required to access materials for removal

by temporarily disconnecting and moving obstructing equipment or structures. The cost for relocation and reinstallation to original condition shall be included in the Contractor's original bid price.

- E. As existing paints have been determined by laboratory analysis to be toxic or hazardous, coating/paint and coating/paint media residue mixture shall be tested to assure conformance with hazardous material tolerances have been met. Provide adequate containers on the job site to retain spent media and removed coating and paint until tests have been completed or approval for disposal from a landfill has been obtained. Disposal of hazardous or toxic waste at other than government-regulated landfills shall not be permitted unless approved by the District in Contractor's plan of action for the project. Documentation of all hazardous or toxic waste disposal shall be required and a copy supplied to the District Representative.
- F. All regulations related to safety, worker protection and handling of lead-based coating materials shall be strictly followed.

3.02 INSTALLATION (NOT USED)

3.03 TESTING

A. Initial Personal Exposure Surveillance:

1. On first day of any lead-based coating or paint removal, work environment must be tested by or under the supervision of the Competent Person to determine levels of protection required to protect workers and the environment from lead and other heavy metal contamination. All costs related to testing by the Competent Person shall be borne by the Contractor.
2. Testing shall include personal air sampling and testing of filters removed from the workers' respirators or personal air monitors to determine the level of lead exposure. Upon completion of testing, the Competent Person shall file a written report on the results of the testing. Level of exposure shall then determine the type respiratory protection, clothing, housekeeping, hygiene facilities, medical surveillance, medical removal protection, employee information and training, signs, record keeping, and observation of monitoring required for the project.
3. No Work shall re-commence until the report from the Competent Person is filed and worker and environmental protection required is in place. Costs for the time delay shall be included in the Contractor's original bid.

3.04 TRAINING (NOT USED)

3.05 PREPARATION

A. Initiation and Maintenance of Work Practice Controls:

1. Implement and maintain engineering and work practice controls based on the approved Air Sampling Written Report. This includes the type respiratory protection, clothing, housekeeping, hygiene facilities, medical surveillance, medical removal protection, employee information and training, signs, record keeping, and observation of monitoring required for the project.

B. Pre-Work Practice Controls Inspection:

1. The Contractor and the District Representative shall conduct a pre-abatement inspection prior to active lead removal to evaluate containment, decontamination, barrier systems, negative air pressure systems (where applicable), and protective coverings. Work shall not proceed until the District has approved the site conditions.

C. Verification of Work Practice Controls:

1. Prior to the beginning of each day's cleaning operations, the site shall be inspected by the Competent Person and confirmed that all barriers and engineering controls are in affect and that no changes have occurred in site conditions while Contractor was not on site.
2. At the conclusion of each day's cleaning operations, the site shall be inspected by the Competent Person and confirmed that all barriers and engineering controls are in affect at the end of the work shift and prior to securing the site.

D. Work Practice Controls Inspection:

1. Full time or part-time inspection may be performed by District personnel over the course of the project to provide the District Representative the ability to stop work as necessary should the Contractor violate applicable regulations, engage in activities that spread lead contamination or endanger human health, or fail to maintain the required controls or barriers. The following conditions and prohibited activities may warrant project shut down:
 - a. Breakdown of existing barriers or engineering controls.
 - b. Elevated perimeter sample results.
 - c. Visible emissions from work area.
 - d. Violation of Cal/OSHA, EPA, DOT, or other regulations.
 - e. Poor personal decontamination practices.
 - f. Poor work practices such as removal of lead based paint with a torch or flame, abrasive blast method removal without dust collection, dry scraping, dry sanding, sweeping, or cleaning with compressed air.

E. Surface Preparation:

1. At a minimum prepare the work areas as described in this section. Preparation work shall be performed according to the following general sequence of steps and procedures to ensure that proper protection systems are installed prior to starting work.
 - a. Post access restriction signs;
 - b. Demarcate work area boundary and decontamination zone;
 - c. Install containment system;
 - d. Install portable decontamination facilities, staging areas, and waste storage facilities;
2. Obtain CDPH Certified Project Monitor's approval notated and signed on daily report of all preparation work before starting subsequent phases of abatement.
3. Maintain dust emissions within the legal level and that level which would not create a nuisance. Contain dust emissions, abrasive deflection and removed paint particles where abrasive blasting is being accomplished, unless vacuum blasting or other means of cleaning are approved by the District. No water, abrasive deflection or paint particles shall be allowed to accumulate on the ground.
4. After approval by the District Representative, surface preparation methods that may be used to accomplish the specified degree of cleanliness results while containing all paint and media include vacuum blasting, conventional blasting with containment, SABAR method with containment, power tool cleaning with vacuum attachment, chemical stripping, Torbo method, and high pressure water jetting.
5. As paints have been determined by laboratory analyses to contain excessive levels of lead under Title 22, all cleaning operations shall be conducted to ensure removed paint particles or water are contained and not allowed to fall onto the site beyond the controlled containment area.

F. Surface Preparation Inspection

1. Clean surfaces with a hydro blast methods or vacuum equipped with a high-efficiency particulate apparatus (HEPA) filter and furnish scaffolding and lighting (including moving of same) to permit inspection as requested by District and to allow the District the opportunity to inspect each abated area.

G. Removal procedures

1. This section applies to removal of any and all materials containing, contaminated or potentially contaminated with lead and/or lead-containing debris or particulate as stated herein or as otherwise indicated by the CDPH Certified Project Monitor.
2. All removal work shall be performed using pressure wash on the metal structures on top of the digester and possibly the inside the wall space between the roof structure and the inside of the digester wall. The water will be collected and pumped from the lowest point of the digester to a trailer mounted filtration system to a 1 micron output. If water meets SDA's safe lead levels following filtration disposal may be allowed into the storm water drain. All removal methods must be in accord with all Federal, State and Local regulations and these specifications, and must be pre-approved by the CDPH Certified Project Monitor.
3. The Contractor is responsible for thoroughly cleaning one or more representative area(s) aside each contained area to the satisfaction of the CIH or CDPH Certified Project Monitor to be used by the CDPH Certified Project Monitor to establish a standard of cleanliness.
4. Completion of each stage of abatement must be approved by the CDPH Certified Project Monitor verbally to progressing to the next.
5. Remove paint using only methods and equipment pre-approved in the submittals by the CDPH Certified Project Monitor. Do not generate airborne dust, particulate or other emissions during removal. Chemical strippers may be used for paint removal which are not classified as carcinogens by the State of California, are not highly volatile, may be used by personnel dressed in protective equipment described herein, and which may be treated and disposed of in a burial landfill.
6. Collect and pump wastewater through a one (1) micron filter (gray lead) filtration system. Dispose of according to waste disposal profile.
7. If applicable collect resultant solid debris including, but not limited to, sludge, slurry, gloves, and rags, place in fiber drums or other suitable containers and dispose of as lead-containing solid waste according to waste disposal profile.
8. Metal may be disposed by metal recycling.
9. Removal is complete only when the lead-containing paint has been removed to the satisfaction of the CDPH Certified Project Monitor.
10. Specific removal requirements
11. Remove paint from substrate using methods designed to minimizing generation of airborne of dust and debris.
12. Remove paint from substrate using hand held tools, chemical strippers, or other method pre-approved by the CDPH Certified Project Monitor. Power tools such as

drills, sanders, or coring devices must be fitted with a local, HEPA-filtered collection device. Any preparation of painted surface shall be performed in adherence with manufacturer's requirements for re-painting if applicable.

13. Immediately clean debris from drop cloth and all other surfaces by wiping and/or HEPA vacuuming. Place debris in waste container, seal and place in lockable waste storage facility.

3.06 CDPH CERTIFIED PROJECT MONITOR'S APPROVAL OF REMOVAL WORK:

- A. Upon completion of removal work, but prior to commencing final cleaning of the work area, request the CDPH Certified Project Monitor to conduct an inspection and obtain written approval of the removal work.
- B. Remove all materials, clean up gross debris, collect wastewater, and remove filtered and waste bags from the work areas prior to the inspection.
- C. Any encapsulation or lock down performed prior to the CDPH Certified Project Monitors approval shall mandate Contractor to re-clean the entire work area to the satisfaction of the CDPH Certified Project Monitor.

3.07 CLEAN-UP AND DECONTAMINATION

- A. After all lead-containing (or contaminated) materials have been removed; remove all wastes and perform a thorough multi-stage final cleanup and decontamination of the work area per the methods indicated below. Completion of this stage of work must be approved by the CDPH Certified Project Monitor in writing.
- B. Final cleaning of the abatement work areas shall be performed only after all waste is packaged and removed, but prior to dismantling any barrier, decontamination facility, or protective coverings. Cleaning shall be subject to the CDPH Certified Project Monitor's approval based on visual inspections performed in general accord, as recommended and outlined, in the U.S. Department of Housing and Urban Development's document, Guidelines for the Evaluation and Control of Lead-Based Pain hazards in Housing. Notify the CDPH Certified Project Monitor in writing at least 24 hours in advance of the expected completion time of final Site cleaning.
- C. Waste transportation and disposal
 1. Arrange to have the debris transported from the site in accordance with the requirements of 40 CFR 263, and disposed of properly in accordance with 40 CRF 265 and 40 CFR 268. Signed manifests shall be returned to the District Representative to verify that all steps of the handling and disposal process have been completed properly.

2. Written confirmation that the debris shall be treated and disposed of in accordance with requirements of 40 CFR 264 and 40 CFR 268 shall be received by the District Representative prior to start of the work. The programs shall provide assurance that the debris is handled properly from cradle to grave, and include the necessary notifications and certifications on shipments, provide the name of the disposal facility, and include a schedule for the submittal of the completed manifests to the District Representative.
3. The cost for processing and disposing of hazardous wastes shall be included in the various bid items set forth in these documents and no additional compensation shall be granted therefore.
4. All hazardous materials shall be removed from the project site prior to the post-site inspection between the Contractor and the District Representative.

3.08 SITE SECURITY

- A. The Work Area is restricted to authorized, trained, and protected personnel. A list of authorized personnel shall be established and posted at the entrance of the Work Area by the District Representative prior to commencement of the Work.
- B. Report to the District Representative any unauthorized entry into the Work Area. Following notification, a written report of the incident shall be provided to the District Representative.
- C. A logbook shall be maintained at the entrance of the Work Area. All persons entering the Work Area shall record name, company affiliation, time in, and time out for each entry and exit.
- D. Access to the Abatement Work Area shall be through the Decontamination Enclosure System only. All other means of access shall be blocked or locked so as to prevent entry to or exit from the Work Area. Emergency exits shall be operable from inside the Work Area.

3.09 QUALITY ASSURANCE AND INSPECTION

- A. The CDPH Certified Project Monitor shall conduct visual clearance of all work surfaces.
- B. If all lead surfaces do not meet the visual clearance criteria, perform a thorough cleaning and/or HEPA-vacuuming and the visual inspection shall then be repeated by the CDPH Certified Project Monitor until visual clearance criteria is met. The additional cleaning and air testing services shall be paid by the Contractor.
- C. The Contractor and District Representative shall conduct a post-abatement inspection after the Contractor has removed all hazardous materials, demobilized all abatement

equipment, and performed final cleanup. Work shall not be considered completed until the District Representative has approved the site conditions.

3.10 AIR MONITORING BY CONTRACTOR

- A. The Contractor shall be responsible for personal air-monitoring as required by 8 CCR 1532.1 to document compliance of his workers as recommended by 8 CCR 5216 using the methods specified below.
- B. Laboratories analyzing lead samples shall be accredited for inorganic analysis.
- C. Air sampling materials and equipment requirements are as follows:
 - 1. Sampling for lead shall be performed using a mixed cellulose ester filter 0.8-micrometer pore size, 37-millimeter diameter in a 2- or 3-piece cassette filter holder. Assemble the filter in the cassette with a cellulose support pad. Sampling technique shall be closed-face sampling.
 - 2. The filter assembly shall be upstream of all other components in the sampling train. An airflow-measuring device (when used) shall be downstream of the filter and the pump assembly, or integral with the pump assembly.
 - 3. Sampling for lead shall be performed using a flow rate of 2.0 to 4.0 liters per minute.
 - 4. An airflow measuring/metering device shall be used, and shall be a high quality rotometer, mass flow, dry gas meter or critical orifice. Measuring device shall have a range of at least 1.5 times the desired flow rate and be readable to at least $\pm 5\%$ of the desired flow rate. They shall be calibrated against standards of higher accuracy before and after sampling. The calibrations shall be recorded.
- D. Quantity and frequency of personal air sampling for lead shall be as recommended in 8 CCR 5216 and OSHA 29 CFR 1926.62. Perform initial monitoring for lead exposure and additional testing dependent upon sample results.
- E. Post the results of sample analysis in the clean room of the decontamination facility and provide them to the CDPH Certified Project Monitor within twenty-four (24) hours of collection.
- F. Use a pre-approved “chain-of-custody” form for all personal air samples collected.
- G. Personal sampling for lead shall be performed pursuant to NIOSH Method 7082 (AAS).
- H. At no additional charge, install and provide AC power for the CDPH Certified Project Monitor to collect the area air samples.

- I. All other sampling for compliance with the Specifications shall be performed by Consultant at no cost to the Contractor except where the Contractor fails specified tests.

3.11 RESTORATION AND REPAIRS

- A. Remove all equipment and materials to restore worksite to a neat and orderly condition as directed by the CDPH Certified Project Monitor and approved by the District Representative.

****END OF SECTION****

APPENDIX A

1. LEAD-WORK PRE-JOB NOTIFICATION

2. AVAILABE LEAD TEST RESULTS



Annual Notification for Steel Structures

(Note: items marked * are required)

*Name of employer doing 'Lead Work'	*Address	*Zipcode	*Phone
			Pager/cellular phone No.
Calif. Cont. Lic. No. (if applicable)			

Supervisor:	*Number of lead-job workers: (check one below)	
* Supervisor name: _____ California Department of Health Services Lead Cert. No. _____ (if applicable)	<input type="checkbox"/> 1 - 5	<input type="checkbox"/> 31 - 40
	<input type="checkbox"/> 6 - 10	<input type="checkbox"/> 41 - 50
	<input type="checkbox"/> 11 - 20	<input type="checkbox"/> > 50
	<input type="checkbox"/> 21 - 30	

*Job start date/time	*Job completion date/time	Shift	*Approximate duration of 'Lead Work' in days
		<input type="checkbox"/> Day <input type="checkbox"/> Swing <input type="checkbox"/> Graveyard <input type="checkbox"/> Other	

*Street address or location of job	City	Nearest cross street
	County	Zipcode

*Precise Location of work (building no., room no., etc.)			
Entity contracting the lead-work	Address	Zipcode	Phone
<input type="checkbox"/> Premises Owner <input type="checkbox"/> Lessee (check one)			Pager/cellular phone No.

Type of structure and use:			
<input type="checkbox"/> Office Building	<input type="checkbox"/> Residence	<input type="checkbox"/> Steel Structure/Type _____	
<input type="checkbox"/> Public Access/Commercial	<input type="checkbox"/> School	<input type="checkbox"/> Other _____	

Scope of work and work practices:			
*Describe lead-related work to be done (check all that apply)			
<input type="checkbox"/> Surface Preparation	<input type="checkbox"/> Wall Repair	<input type="checkbox"/> Other _____	
<input type="checkbox"/> Water/Moisture Damage Repair	<input type="checkbox"/> Paint Removal		
<input type="checkbox"/> Window/Door Repair/Replacement	<input type="checkbox"/> Demolition		

*Describe paint removal methods (check all that apply):			
<input type="checkbox"/> Manual Scraping/Sanding	<input type="checkbox"/> Demolition	<input type="checkbox"/> Hydroblasting	<input type="checkbox"/> Other work practices disturbing lead: _____
<input type="checkbox"/> Power Sanding/Grinding	<input type="checkbox"/> Heat Guns	<input type="checkbox"/> Torch Cutting	
<input type="checkbox"/> Chemical Stripping	<input type="checkbox"/> Abrasive Blasting	<input type="checkbox"/> Welding	

*Amount of area to be disturbed: (check one per column)			
<input type="checkbox"/> < 10 square feet	<input type="checkbox"/> < 10 linear feet		
<input type="checkbox"/> 10 - 100 square feet	<input type="checkbox"/> 10 - 100 linear feet		
<input type="checkbox"/> 101 - 1000 square feet	<input type="checkbox"/> 100 - 1000 linear feet		
<input type="checkbox"/> > 1000 square feet	<input type="checkbox"/> > 1000 linear feet		

Torch Cutting/Welding	
Duration of work: _____	

Concentration of lead in disturbed materials:	
_____ parts per million (ppm)	_____ % percent by weight
_____ mg/cm ²	Assumed to be lead-containing: <input type="checkbox"/> YES

*Name of notifier Highland Estates Demolition Project	Title: 28333-24	*Date signed:
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5/26/2015

