

**ASBESTOS ABATEMENT PROJECT
DESIGN NEWPORT MESA UNIFIED
SCHOOL DISTRICT
2021 SUMMER FLOORS PROJECT
SIX SITES**

Prepared by
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Consultant. CAC# 93-1249 Expires 11-2021

Requirements: Contractor shall be in possession of all required asbestos licenses and certifications, including but not limited to California OSHA Asbestos Contractor Registration, California Contractor State License Board (CSLB) C-22 License or other approved asbestos license.

Submittals:

Final closeout documentation within 10 days of project completion. Proof of asbestos trained workers and supervisors. Proof of required Regulatory Agency notifications. Employee sign-in sheets, employee physical certifications, equipment permits, work project logs and personal air sampling results and waste transport and disposal documentation. All Submittals to:

Mr. Bob Lombard: rlombard@nmusd.us
Manager of Maintenance and Operations

Note: All quantities are estimates and to be confirmed by contractor

Asbestos Abatement Scope of Work (SOW)

Site:

CORONA DEL MAR HIGH SCHOOL
2101 EASTBLUFF DRIVE

NEWPORT BEACH, CALIFORNIA 92660

Rooms: Student Serving Room, Storeroom and Snack Bar.

ACM: Beige 9"x9" Floor Tile and Mastic and 12"x12" Blue Floor Tile and Mastic

Quantity Approximately 1,612 Square Feet (SF).

District to remove all moveable furniture and stored items. Some kitchen equipment may remain in the work area on furniture dollies and need to be moved during the abatement stages.

Shut off HVAC. Utilize 4 mil polyethylene sheeting to establish critical barriers and full containment. Cover and seal all equipment remaining in the work area. Establish negative air enough to ensure four air changes per hour as required. Remove base

and floor tile (9" x 9") and dispose of as non-friable hazardous waste. Contractor shall utilize bead blast technology and/or floor grinders and razor scrapers to remove all mastic from concrete floor surfaces. Chemical stripper shall not be used. Avoid gouging of the concrete subsurface. Dispose of bead blast residue as hazardous waste.

Site:

TEWINKLE MIDDLE SCHOOL

3224 CALIFORNIA AVENUE

COSTA MESA, CALIFORNIA 92626,

Room: Kitchen.

ACM: 9"x9" Floor Tile, Mastic and Base Mastic.

Quantity Approximately 612 SF of Floor Tile and 100 LF of Base Mastic

District to remove all moveable furniture and stored items. Some kitchen equipment may remain in the work area on furniture dollies and need to be moved during the abatement stages.

Shut off HVAC. Utilize 4 mil polyethylene sheeting to establish critical barriers and full containment. Cover and seal all equipment remaining in the work area. Establish negative air enough to ensure four air changes per hour as required. Remove base and floor tile (9"x 9") and dispose of as non-friable hazardous waste. Contractor shall utilize bead blast technology and/or floor grinders and razor scrapers to remove all mastic from concrete floor surfaces. Chemical stripper shall not be used. Avoid gouging of the concrete subsurface. Dispose of bead blast residue as hazardous waste.

Site:

NEWPORT HEIGHTS ELEMENTARY SCHOOL

300 E. 15TH STREET

NEWPORT BEACH, CALIFORNIA 92660

Rooms: 1,2,3,4,5,6,8,9,10,11,12,13,14,15,16,17,18,19,20,21, Library, 24 and 25

ACM: Carpet, 9"x9" Floor Tile, Mastic, Vinyl wall Base, wall base mastic.

Quantity Approximately 20,700 SF of floor tile. Approximately 460 LF of wall base mastic.

District to remove all moveable furniture and stored items.

Shut off HVAC. Utilize 4 mil polyethylene sheeting to establish critical barriers and full containment. In as much as possible connect multiple rooms containments with poly corridors and or coiled negative air ducting. Cover and seal all equipment remaining in the work area. Establish negative air enough to ensure four air changes per hour as required. Remove base and floor tile (9" x 9") and dispose of as non-friable hazardous waste. Scrape all brown mastic from lower walls Contractor shall utilize bead blast technology and/or floor grinders and razor scrapers to remove all mastic from concrete floor surfaces. Chemical stripper shall not be used. Avoid gouging of the concrete subsurface. Dispose of bead blast residue as hazardous waste.

Site:

MARINERS ELEMENTARY SCHOOL
2100 MARINERS DRIVE
NEWPORT BEACH, CALIFORNIA 92660

Rooms: 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23, 24,25 and 26.

ACM: Carpet, 9"x9" Floor Tile, Mastic, Vinyl wall Base, wall base mastic.

Quantity Approximately 23,400 SF of floor tile. Approximately 520 LF of wall base mastic.

District to remove all moveable furniture and stored items.

Shut off HVAC. Utilize 4 mil polyethylene sheeting to establish critical barriers and full containment. In as much as possible connect multiple rooms containments with poly corridors and or coiled negative air ducting. Cover and seal all equipment remaining in the work area. Establish negative air enough to ensure four air changes per hour as required. Remove base and floor tile (9" x 9") and dispose of as non-friable hazardous waste. Scrape all brown mastic from lower walls Contractor shall utilize bead blast technology and/or floor grinders and razor scrapers to remove all mastic from concrete floor surfaces. Chemical stripper shall not be used. Avoid gouging of the concrete subsurface. Dispose of bead blast residue as hazardous waste.

Site:

DAVIS MAGNET SCHOOL
1050 ARLINGTON DRIVE
COSTA MESA, CALIFORNIA 92626

Rooms: Multipurpose Room and Kitchen

ACM: 9"x9" Floor Tile, Mastic, Vinyl Wall Base, Wall Base Mastic.

Quantity Approximately 3,000 SF. Approximately 350 LF of wall base mastic.

District to remove all moveable furniture and stored items.

Shut off HVAC. Utilize 4 mil polyethylene sheeting to establish critical barriers and full containment. In as much as possible connect multiple rooms containments with poly corridors and or coiled negative air ducting. Cover and seal all equipment remaining in the work area. Establish negative air enough to ensure four air changes per hour as required. Remove base and floor tile (9" x 9") and dispose of as non-friable hazardous waste. Scrape all brown mastic from lower walls. Contractor shall utilize bead blast technology and/or floor grinders and razor scrapers to remove all mastic from concrete floor surfaces. Chemical stripper shall not be used. Avoid gouging of the concrete subsurface. Dispose of bead blast residue as hazardous waste.

Site:

COSTA MESA HIGH SCHOOL

2650 FAIRVIEW ROAD

COSTA MESA, CALIFORNIA 92626

Rooms: CC section All rooms including foyer and ramp, 125, 130, 146,147,148 and Hall. Black mastic under carpet; vinyl base and mastic. C wing, rooms 102 and 103 contain floor tile and black mastic. C104 Conference, Duplications, Security Office, black mastic under carpet.

ACM: Carpet, Black Mastic 9"x9" Floor Tile and Mastic and Vinyl wall Base and Mastic.

Quantity: Approximately 4,200 SF. of Floor materials and 560 LF of Base Mastic.

District to remove all moveable furniture and stored items.

Shut off HVAC. Utilize 4 mil polyethylene sheeting to establish critical barriers and full containment. In as much as possible connect multiple rooms containments with poly corridors and or coiled negative air ducting. Cover and seal all equipment remaining in the work area. Establish negative air enough to ensure four air changes per hour as required. Remove base and floor tile (9" x 9") and dispose of as non-friable hazardous waste. Contractor shall utilize bead blast technology and/or floor grinders and razor scrapers to remove all mastic from concrete floor surfaces. Chemical stripper shall not be used. Avoid gouging of the concrete subsurface. Dispose of bead blast residue as hazardous waste.

Asbestos Abatement Specifications

PART 1 GENERAL

1.1 SCOPE-The purpose of this specification is to minimize asbestos exposure to Newport Mesa Unified School District (NMUSD), students, visitors and staff, during removal of building materials that contain asbestos.

1.2 DESCRIPTION OF WORK

1.2.1.1 The work specified herein shall be the removal of asbestos-containing material by contract with persons knowledgeable, qualified, and certified in the removal, treatment, handling, and disposal of asbestos-containing material, and the subsequent cleaning of the affected environment, who comply with Federal and State Regulations which mandate work practices, and who are capable of performing the work of this contract.

1.2.1.2 The asbestos removal contractor shall supply all labor, materials, equipment, services, insurance, and incidentals which are necessary or required to perform the work in accordance with applicable governmental regulations and these specifications. Insurance includes automotive, general, environmental pollution and workers' compensation insurance.

1.3 TERMINOLOGY

1.3.1 Building Owner- The Newport Mesa Unified School District.

1.3.2 Authorized Visitor- The building owner, Consultant, and any representative of a regulatory or other agency having jurisdiction over the project.

1.3.3 Abatement-Procedures to control fiber release from asbestos-containing building materials.

1.3.4 Removal-All herein specified procedures necessary to remove asbestos containing materials from the designated areas and to dispose of these materials at an acceptable site.

1.3.7 Air Monitoring- The process of measuring the fiber content of a specific volume of air in a stated period of time.

1.3.8 HEPA Vacuum Equipment- Vacuuming equipment with a HEPA filter system.

1.3.9 HEPA Filter- A high efficiency particulate absolute (HEPA) filter capable of trapping and retaining 99.97 percent of particles (asbestos fibers) greater than 0.3 micrometers in mass median aerodynamic equivalent diameter.

1.3.10 Surfactant- A chemical wetting agent added to water to improve penetration.

1.3.11 Amended Water- Water to which a surfactant has been added.

1.3.12 Airlock- A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area.

1.3.13 Curtained doorway- A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic

over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway, and securing the vertical side of the doorway.

1.3.14 Decontamination Enclosure System- A series of connected rooms, with curtain doorways between any two adjacent rooms, for the decontamination of workers and of materials and equipment. A decontamination enclosure system always contains at least one airlock.

1.3.15 Worker Decontamination Enclosure System- That portion of a decontamination enclosure system designed for controlled passage of workers, and other personnel and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room.

1.3.16 Equipment Decontamination Enclosure- That portions of a decontamination enclosure system designed for controlled transfer of materials and equipment, typically, consisting of a washroom and a holding area.

1.3.17 Clean Room- An uncontaminated area or room which is a part of the worker decontamination enclosure with provisions for storage of workers' street clothes and protective equipment.

1.3.18 Shower Room- A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold or warm running water and suitable arranged for complete showering during decontamination. The shower room comprised an airlock between contaminated clothing and equipment.

1.3.20 Washroom- A room between the work area and the holding area in the equipment decontamination enclosure system. The washroom comprised an airlock.

1.3.21 Holding Area- A chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area. The holding area comprises an airlock.

1.3.22 Fixed Object- A unit of equipment or furniture in the work area which can be removed from the work area.

1.3.25 Wet Cleaning- The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and by afterwards disposing of these cleaning tools as asbestos contaminated waste.

1.3.26 Negative Air Pressure Equipment- A portable local exhaust system equipped with HEPA filtration and capable of maintaining a constant, low velocity air flow into contaminated areas from adjacent uncontaminated areas.

1.3.27 Plasticize- To cover floors and walls with plastic sheeting as herein specified.

1.3.28 Work Area- Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained work area is a work area which has been sealed, plasticized, and equipped with a decontamination enclosure system. A non-contained work area is an isolated or controlled-access work area which has not been plasticized nor equipped with decontamination enclosure system.

1.3.29 Glove bag Technique- A method with limited applications for removing small amounts of friable asbestos-containing material from HVAC ducts, short piping runs, valves, joints, elbows, and other non-planar surfaces in a contained work area. The Glove bag assembly is a manufactured or fabricated device consisting

of a Glove bag (typically constructed 6 mil transparent regulate plastic), two inward projecting long sleeve rubber gloves, one inward projecting water wand sleeve, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The Glove bag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process. All workers who are permitted to use the Glove bag technique must have complete a certification course.

1.3.30 Consultant/Air Sampling Professional-The professional contracted or employed to supervise air monitoring and analysis schemes. This individual is also responsible for recognition of technical deficiencies in worker protection equipment and procedures during both planning and on-site phases of an abatement project. This individual should have specialized experience and training in air sampling for asbestos and complete the "NIOSH 582 Course".

1.4 APPLICABLE DOCUMENTS (References)-The current issue of each document shall govern. Where conflict among requirements or with these specifications exists, the more stringent requirements shall apply.

1.4.1 Regulations- Comply with applicable Federal, State, and local regulations.

1.4.1.2 Title 29, Code of Federal Regulations, Section 1910.1001. and Section 1926.1101. Occupational Safety and Health Administration (OSHA), US Department of Labor.

1.4.1.3 Title 40, Code of Federal Regulations, Part 61, Subparts A and B, National Emission Standards for Hazardous Air Pollutants. US Environmental Protection Agency (EPA).

1.4.1.4 South Coast Air Quality Management District

1.4.1.5 All State, County, and City codes and ordinances as applicable.

1.5 SUBMITTALS AND NOTICES

1.5.1 Prior to Commencement of Work

1.5.1.1 The Asbestos Abatement Contractor shall make required notifications to Cal OSHA as required

1.5.1.2 The Asbestos Abatement Contractor shall submit written notice to SCAQMD of proposed abatement work as required

1.5.1.3 Post caution signs in and around the work area to comply with regulations.

1.5.1.4 Newport Mesa Unified School District and the asbestos abatement contractor must agree on building and fixture condition prior to commencement of work.

1.5.1.5 Manufacturer's certification that vacuums, negative air pressure equipment, and other local exhaust ventilation equipment conform to ANSI 29.2-79 and SCAQMD requirements

1.6 PERSONNEL PROTECTION

1.6.1 Prior to commencement of work, the workers shall be instructed, and shall be knowledgeable, in emergency evacuation and evacuation procedures as needed prior to commencement of work.

1.6.2 All respiratory protection shall be provided to workers in conjunction with a respiratory protection program which shall meet the requirements of applicable regulations. This program shall be posted at the

work site.

1.6.3 Provide workers with personally issued and marked respiratory equipment approved by The National Institute for Occupational Safety and Health (NIOSH).

1.6.4 Respiratory protection shall be worn by all persons potentially exposed to asbestos from the initiation of the asbestos demolition project until all areas have been given clearance. Clearance shall be obtained by visual inspection and air monitoring as needed.

1.6.4.1 All asbestos abatement workers entering the Work Area after commencement of asbestos removal shall wear appropriate respirators. Respirators shall be required until gross asbestos removal and until the areas have passed clearance tests.

1.6.4.2 If required, compressed air systems shall be designed to provide air volumes and pressures to accommodate respirator manufacturer's specifications. The compressed air systems shall have a receiver of adequate capacity to allow escape of all respirator wearers from contaminated area in the event of compressor failure. Compressors must meet the requirements of 29 CFR 1910.134(d). Compressors must have an in-line carbon monoxide monitor, and periodic inspection of the carbon monoxide monitor must be evidenced. Documentation of adequacy of compressed air system/respiratory protection system must be retained on site. This documentation will include a list of compatible components with the maximum number and type of respirators that may be used with the system. Periodic testing of compressed air shall insure that systems provide air of sufficient quality.

1.6.4.3 The minimum type of respiratory protection to be used for protection from asbestos during work in areas other than 1.6.4.1 is the Negative Air Purifying Respirator with High Efficiency (HEPA) Filtration.

1.6.4.4 Provide authorized visitors with suitable respirators and respiratory training whenever they are required to enter the work area to a maximum of 4 per day.

1.6.5 Provide workers with sufficient sets of protective full body clothing. Such clothing shall consist of full body coveralls and headgear. Provide eye protection and hard hats as required by applicable safety Regulations. Disposable type protection clothing, headgear, and footwear may be provided.

1.6.6 Provide authorized visitors with suitable protective clothing, headgear, eye protection, and footwear, as described in Section 1.6.4, whenever they are required to enter the work area, to a minimum of 4 sets per shift.

1.6.7 Provide and post, in the Equipment Room and the Clean Room, the decontamination and work procedures to be followed by workers, as described in Section 1.6.8 of these specifications.

1.6.8 Worker Protection Procedures

1.6.8.1 When practicable, each worker and authorized visitor shall, upon entering the job sites: remove street clothes in the clean changed room and put on a respirator and clean protective clothing before entering the Equipment Room or Work Area.

1.6.8.2 All workers and authorized visitors shall, each time they leave the Work Area: remove gross contamination from clothing before leaving the Work Area; proceed to the Equipment Room and remove all clothing except respirators; still wearing respirator proceed naked to the showers; clean the outside of the respirator with soap and water while showering; remove the respirator; thoroughly shampoo and wash themselves.

1.6.8.3 Following showering and drying off, each worker and authorized visitor shall proceed directly to the clean change room and dress in clean clothes at the end of each day's work, or before eating, smoking, or drinking. Before reentering the Work Area from the clean changed room, each worker and authorized visitor shall put on a clean respirator and shall dress in clean protective clothing.

1.6.8.4 Contaminated work footwear shall be stored in the Equipment Room when not in use in the Work Area. Upon completion of asbestos abatement, dispose of footwear as contaminated waste.

1.6.8.5 Workers removing waste containers from the Equipment Decontamination Enclosure shall enter the Holding Area from outside wearing a respirator and dressed in clean disposable coveralls. No worker shall use this system as a means to leave or enter the Washroom or the Work Area.

1.6.8.6 Workers shall not eat, drink, smoke, or chew gum or tobacco while in the Work Area.

1.7 EQUIPMENT REMOVAL PROCEDURES

1.7.1 Clean surfaces of contaminated containers and equipment thoroughly by wet sponging or wiping before moving such items into the Equipment Decontamination Enclosure System Washroom for final cleaning and removal to uncontaminated areas. Ensure that personnel do not leave the Work Area through the Equipment Decontamination Enclosure.

1.8 BUILDING PROTECTION

PART 2-MATERIALS AND EQUIPMENT

2.1 MATERIALS

2.1.1 Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.

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

2.1.1.3 Damaged or deteriorating materials shall not be used and shall be removed from the premises and properly disposed of.

2.1.2 Plastic (polyethylene) sheet, of 4-mil thickness or greater as specified, in sized to minimize the frequency of joints.

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

2.1.4 Surfactant (wetting agent)- shall consist of 50 percent polyoxyethylene ether and 50 percent of polyoxyethylene polyglycol ester, or equivalent, and shall be mixed with water to provide a concentration of one ounce surfactant to 5 gallons of water or as directed by manufacturer.

2.1.5 Impermeable containers- suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with OSHA Regulation 29 CFR 1910.1200(f)). Containers must be both air and watertight and allow for view of the contents

2.1.6 Warning labels and signs- as required by OSHA Regulation 29 CFR 1926.1101(k)(7)(iii).

2.1.8 Spray or trowel applied fire resistant materials- ULI labeled and listed asbestos-free (mineral/fiber) (cementitious) material to provide the degree of fire protection required by the applicable building code.

2.1.9 Spray or trowel-applied thermal or acoustical insulation material used for patching or replacement must provide performance characteristics equivalent to or better than original material.

2.2 TOOLS AND EQUIPMENT

2.2.1 Provide suitable tools for asbestos abatement.

2.2.1.1 Negative air pressure equipment- High efficiency particulate absolute (HEPA) filtration systems shall be equipped with filtration equipment in compliance with ANSI 29.2-79, local exhaust ventilation. No air movement system or air filtering equipment shall discharge unfiltered air outside the Work Area.

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 Work Areas:

3.1.1.1 With the assistance of the owner as necessary, shut down and tag out electric power and natural gas prior to working on any affected equipment. If required, provide temporary power and lighting and ensure safe installation of temporary power sources and equipment per applicable electrical code requirements.

3.1.1.2 Shut down and isolate heating, cooling, and ventilating air systems to prevent contamination and fiber dispersal to other areas of the structure. During the work, vents within the Work Area shall be sealed with tape and plastic sheeting.

3.1.1.3 Pre-clean movable objects within the proposed work areas using HEPA vacuum equipment and/or wet cleaning methods as appropriate, and remove such objects from work areas to a temporary location. Where scheduled to be removed, carpeting shall be disposed of as contaminated material.

3.1.1.4 Pre-clean fixed objects within the proposed work areas, using HEPA vacuum equipment and/or wet cleaning methods as appropriate, and enclose within minimum 4 mil plastic sheeting sealed with tape.

3.1.1.5 Clean the proposed work areas using HEPA vacuum equipment or wet cleaning methods as appropriate. Do not use methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters.

3.1.1.6 Seal off all openings, including but not limited to windows, corridors, doorways, skylights, ducts, grills, diffusers, and any other penetrations of the work areas, with plastic sheeting (minimum of 4 mils thick) sealed with tape. Doorways and corridors which will not be used for passage during work, must be sealed with barriers as described in 3.1.2.4.

3.1.1.7 As applicable, cover floor and wall surfaces with plastic sheeting sealed with tape. Use a minimum of two layers of 6 mil plastic on floors and two layers of 4 mil plastic on walls. Cover floors first so that plastic extends at least 12 inches up on walls, then cover walls with plastic sheeting to the floor level, thus overlapping the floor material by a minimum of 12 inches.

3.1.1.8 Provide airlocks at entrances to and exits from the work areas.

3.1.1.9 Remove and clean ceiling mounted objects, such as lights and other items not previously sealed off, that interfere with asbestos abatement. Use handheld water spraying or HEPA vacuum equipment during

fixture removal to reduce fiber dispersal. See paragraph for work by other trades.

3.1.1.10 Maintain emergency and fire exits from the work areas, or establish alternative exits satisfactory to fire officials.

3.1.1.11 When applicable, after preparation of work areas and decontamination enclosure systems, remove ceiling (panels and tiles) within the work areas progressively and carefully, (clean using HEPA vacuum equipment and damp sponge and wrap clean (panels and tiles) in 4 mil minimum thickness plastic and store in building as directed by building owner and dispose of as contaminated waste,

3.1.1.12 Where suspended ceiling suspension systems, such as T-grids, must be removed to expose and make work areas accessible, clean T-grid using wet methods, disconnect grid from hangers, wrap cleaned grid members in 4 mil. minimum thickness plastic and store as directed by building owner or dispose of T-grid members as contaminated waste.

3.1.1.13 Where removal of suspended ceiling grid suspension systems is not required for work area accessibility, leave the grid system in place and, upon completion of the abatement work, clean the grid system as specified in 3.5.

3.1.1.14 After preparation of work areas and decontamination enclosure systems, remove plaster ceilings, including lath, furring channel system (grid), wire ties, clips, screws, and other accessory items and dispose of as contaminated waste. Spray ceiling debris and the immediate work area with amended water to reduce dust as the work progresses.

3.1.2 Decontamination Enclosure systems:

3.1.2.1.1 If necessary, build suitable framing as described herein and approved by the architect at shop drawing submittal stage. Portable prefab units, if utilized, must be submitted for review and approval by the architect before start of construction. Submittal shall include, but not be limited to, a floor plan layout complying with schematic layout bound herein, showing dimensions, materials, sizes, thickness, plumbing, and electrical outlets, etc.

3.1.2.1.2 In all cases access between contaminated and uncontaminated rooms or areas shall be through an airlock as described in Section 1.3. In all cases, access between any two rooms within the decontamination enclosure systems shall be through a curtained doorway.

3.1.2.2 Worker Decontamination Enclosure: As required, construct a workers decontamination enclosure system contiguous to the work area consisting of three totally enclosed chambers to conform as follows.

3.1.2.2.1 An Equipment Room with two curtained doorways, one to the work area and one to the shower rooms.

3.1.2.2.2 A Shower Room with two curtained doorways, one to the equipment room and one to the clean room. The Shower Room shall contain at least one shower with hot and cold or warm water. Careful attention shall be paid to the shower enclosure to ensure against leaking of any kind. Ensure a supply of soap and disposable towels at all times in the shower room.

3.1.2.2.3 A Clean Room with one curtained doorway into the shower and one entrance or exit to non-contaminated areas of the building. The Clean Room shall have sufficient space for storage of the worker's street clothes, towels, and other non-contaminated items. Joint use of this space for other functions, such as offices, storage of equipment, materials, or tools, shall be prohibited.

3.1.2.3 Equipment Decontamination Enclosure: Provide or construct an Equipment Decontamination Enclosure system consisting of two totally enclosed chambers as follows:

3.1.2.3.1 A Washroom, constituting an airlock, with a curtained doorway to a designated staging area of the Work Area and a curtained doorway to the holding area.

3.1.2.3.1 A Holding Area, constituting an airlock, with a curtained doorway to the Washroom, and a curtained doorway to an uncontaminated area.

3.1.2.4 Separation of work areas from occupied areas.

3.1.2.4.1 Separate parts of the building required to remain in use from parts of the building that will undergo asbestos abatement by means of airtight barriers, constructed as follows:

3.1.2.4.1 Build suitable wood or metal framing and apply 3/8" minimum thickness sheathing on work side only unless noted otherwise.

3.1.2.4.1.2 Cover both sides of partition with double layer of plastic sheet with joints staggered and sealed with tape. Edges of partition at floor, walls, and ceiling shall be caulked airtight.

3.1.2.5 Maintenance of Enclosure systems:

3.1.2.5.1 Ensure that barriers and plastic linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.

3.1.2.5.2 Visually inspect enclosures at the beginning of each work period.

3.1.2.5.3 Use smoke methods to test effectiveness of barriers when directed by architect/engineer/consultant.

3.1.2.6 Asbestos abatement work shall not commence until:

3.1.2.6.1 Arrangements have been made for disposal of waste at an acceptable site.

3.1.2.6.2 Work Areas and decontaminated enclosure systems and parts of the building required to remain in use are effectively segregated.

3.1.2.6.3 Tools, equipment, and material waste receptors are on hand.

3.1.2.6.4 Arrangements have been made for building security.

3.1.2.6.5 All other preparatory steps have been taken and applicable notices posted and permits obtained.

3.1.2.6.6 All worker training has been completed and documentation is on site.

3.1.2.6.7 Abatement work will not begin until the consultant has authorized work to commence.

3.2 ASBESTOS REMOVAL

3.2.1 Prepare site (see section 3.1)

3.2.2 Spray asbestos material with amended water, using spray equipment capable of providing a "mist" application to reduce the release of fibers. Saturate the material sufficiently to wet it to the substrate without causing excess dripping. Spray the asbestos material repeatedly during work process to maintain wet condition and to minimize asbestos fiber dispersion.

3.2.3 In order to maintain indoor asbestos concentrations at a minimum, the saturated asbestos must be removed in manageable section. Material shall not be allowed to dry out. Material drop shall not exceed 15

feet. For heights up to 50 feet, provide inclined chutes or scaffolding to intercept drop. For heights exceeding 50 feet provide enclosed dust-proof chutes.

3.2.4 Seal filled containers. Place caution labels on containers in accordance with OSHA Regulation 29 CFR 1926.1101(k)(7) if not already preprinted on containers. Clean external surfaces of containers thoroughly by wet sponging in the designated area. Move containers to the washroom, wet clean each container thoroughly, and move to holding area pending removal to uncontaminated areas. Ensure that containers are removed from the holding area by workers who have entered from uncontaminated areas dressed in clean coveralls. Ensure that workers do not enter from uncontaminated areas into the washroom or the work area; ensure that contaminated workers do not exit the work area through the Equipment Decontamination Enclosure System.

3.2.5 After completion of stripping work, all surfaces from which asbestos has been removed shall be wet brushed and sponged or cleaned by an equivalent method to remove all visible material. During this work, the surfaces being cleaned shall be kept wet.

3.2.6 After substrate is dry and is visibly free of asbestos materials and before plastic sheeting is removed, the plastic sheeting and substrate shall be sprayed with one (1) coat of approved encapsulate sealer following manufacturer's recommendations for applications.

3.2.7 Clean up shall be in accordance with Section 3.5.

3.2.8 If at any time during the removal air testing or visual inspections indicate contamination of areas outside the work area, immediate steps shall be taken by the contractor to decontaminate these areas. Unprotected individuals shall be prohibited from entering contaminated areas until air sampling and visual inspections certify decontamination.

CLEANUP

Remove visible accumulations of asbestos material and debris. Wet clean all surfaces within the work area.

Remove the cleaned outer layer of plastic from walls and floors. The windows, doors, and HVAC vents shall remain sealed and any HEPA filtration negative air pressure systems and decontamination enclosure systems shall remain in service.

After cleaning the work area, wait at least 2 hours to allow for the settlement of dust, and again wet clean or clean with HEPA vacuum equipment all surfaces in the work area. After completion of the second cleaning operation, perform a complete visual inspection of the work area to ensure that the work area is free of contamination.

Sealed drums and all equipment used in the work area shall be included in the cleanup and shall be removed from work areas, via the Equipment Decontamination Enclosure at an appropriate time in the cleaning sequence.

If the building owner finds visible accumulations of dust in the work area, the contractor shall repeat the wet cleaning until the work area is in compliance, at the contractor's expense.

INITIAL CLEARANCE TESTING

Upon notice from contractor that work areas and all other contaminated and cleaned areas are ready for initial clearance testing. The Consultant shall test for the Standard of Cleaning for Initial Clearance of 0.01 or less fibers/cc of air. Air monitoring volumes shall be sufficient to provide a detection limit of 0.01 or less fibers/cc of air.

Areas which do not comply with the Standard for Cleaning for Initial Clearance shall continue to be cleaned by and at the contractor's expense until the specified Standard of Cleaning is achieved as evidenced by results of air testing as previously specified.

Upon successful compliance with the Standard of Cleaning for Initial Clearance, mandatory respiratory protection for workers engaged in re-spray or finishing work in the work area may be waived at the discretion of the contractor. After initial clearance, the final layer of plastic may be removed by workers with proper respiratory protection. However, controls established in 3.1.1.6 may not be removed at this point.

Reoccupancy Clearance

At the request of the asbestos abatement supervisor, The Consultant will perform a re-occupancy visual inspection of the work area. Evidence of asbestos contamination identified during the inspection will necessitate further cleaning as heretofore specified. When the work area passes The Consultant's re-occupancy inspection, controls established in 3.1.1.6 will be removed. Additional air monitoring may be performed by the Consultant as a part of their occupancy clearance inspection. A final clearance level of 0.005 fibers/cc of air or less shall be obtained before re-occupancy.

RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS

When cleanup is complete.

Relocate objects moved to temporary locations in the course of the work to their proper positions.

Re-secure HVAC, mechanical, and electrical systems in proper working order. Install new filters and disposal of used filters as contaminated waste.

DISPOSAL OF ASBESTOS-CONTAINING MATERIALS AND ASBESTOS-CONTAMINATED WASTE

As the work progresses and to prevent exceeding available storage capacity on site, remove sealed and labeled containers of asbestos waste and dispose of such containers at an authorized disposal site in accordance with the requirements of disposal authority. Submit documentation regarding disposal to building owner.

Sealed plastic bags must be dumped in the burial site unless the bags have been broken or damaged. Damaged bags must remain in the sealed drum and the entire contaminated drum must be buried. Uncontaminated drums may be recycled. Workers handling waste materials shall wear appropriate protective clothing and respirators.

All wastewater shall be filtered and disposed of in a manner acceptable with all regulations

AIR MONITORING AND ANALYSIS

The Consultant is responsible for air monitoring and visual inspections of the Shower Area, Clean Room, adjacent air locks and any areas surrounding the work area that may become contaminated by asbestos debris. The Consultant shall also be responsible for the initial clearance testing. Results of the final clearance testing shall be submitted to the NMUSD.

The Consultant is responsible for conducted air monitoring of building and ambient air adjacent to control areas where building occupants or the public may be exposed to asbestos. This would include air monitoring of the negative air pressure equipment's exhaust.

Should the work area fail to meet the standard criteria for clearance, the area shall be re-cleaned and tests conducted until clearance has been achieved.

Documentation of air sampling must include as a minimum: Calculations of minimum sample volume to achieve necessary detection limits; sampling times; sampling locations (with appropriate diagrams); evidence of periodic inspection of sampling equipment; documentation of pre and post calibration of equipment; detailed description of work conditions; description of worker protective devices; and a description of any atypical environmental conditions.

Documentation of sample analysis must include as a minimum: Sample identification; total sample duration; sample flow rate; total air volume; total fibers counted (with work sheets); total fields counted; blank filter analysis; reticule field area; and fiber concentration in fibers per cubic centimeter. Analytical results must include calculation of detection limits as given in Appendix G of Environmental Protection Agency Publications EPA 560/55-83-002, March 1983, Guidance for Controlling Friable Asbestos-Containing Materials in Buildings:

$$DL = (10 \text{ fibers}/100 \text{ fields}/V) (FA/MFA) (1 \text{ liter}/1000 \text{ cm}^3)$$

Where: DL= detection limit in fibers/cubic centimeter

V= Volume of air sampled in liters

FA= effective collecting area of the filter in square millimeters (typically 385 mm² for 25 mm filters)

MFA= microscopic field area in square millimeters (typically 0.00785 mm²)

Air monitoring schemes, and inspections shall be conducted under the supervision of Consultant. This professional must be knowledgeable and responsible for Evaluation of Worker Protection Equipment and Procedures.

Air sampling analysis must be performed by individuals trained in the National Institute for Occupational Safety and Health (NIOSH) 582 course on Asbestos Air Sampling and Analysis. Sample analysis shall be conducted by a non-biased laboratory proficient participant in the NIOSH Proficiency Analytical Testing Program (PAT) for Asbestos and California DHS certified. An individual is a proficient participant in NIOSH PAT program if the individual is directly involved in submission of samples to NIOSH or is included in the quality control program for a proficient laboratory.