# PART 1 – GENERAL

* 1. SUMMARY
1. Provisions of the General and Supplementary Conditions and Division 01 apply to this section.
2. Section Includes:
	1. Abatement of building and/or structure related Asbestos.
	2. Removal of building and/or structure related Asbestos.
	3. Disturbance of building and/or structure related Asbestos.
	4. Attachment A.
3. Regulatory Requirements shall include, but not be limited to:
4. U.S. Environmental Protection Agency Regulations for Asbestos (Title 40, Code of Federal Regulations, Part 61, Subparts A & B, and Part 763, Subpart E.)
5. Title 8, Article 4, California Code of Regulations Construction Industry Safety Orders, Section 1529 "Asbestos" or current revised California regulations.
6. South Coast Air Quality Management District (SCAQMD) Rule 1403.
	1. SECTION DEFINITIONS AND ACRONYMS
7. Abatement – Procedures to control fiber release from Asbestos Containing Materials or Asbestos Containing Construction Materials. Includes Removal, Encapsulation, Enclosures, repair, Demolition, and Renovation activities but does not include Asbestos Related Disturbance.
8. AHERA - Asbestos Hazard Emergency Response Act, 40 CFR, Part 763, Subpart E, and subsequent amendments.
9. Air Filtration and Ventilation System - A portable exhaust system, equipped with HEPA filtration, and capable of maintaining a constant air flow into a Regulated Area from adjacent areas and exhausted outside the Regulated Area.
10. Amended Water - Water to which a surfactant (wetting agent) has been added.
11. ANSI - American National Standards Institute
12. Asbestos - Means the asbestoform varieties of chrysotile (Serpentine); crocidolite (Riebecktite); amosite (cummingtonitegrunerite); anthophyllite; tremolite; and actinolite.
13. Asbestos Containing Construction Material (ACCM) – Means any manufactured construction material which contains more than one tenth of one percent (0.1%) Asbestos by weight.
14. Asbestos Containing Material (ACM) – Means any material containing more than one-percent (1%) Asbestos.
15. Asbestos Containing Waste (Non-hazardous) – Non-Friable Asbestos Containing Material including, but not limited to, floor covering, roofing materials and cementitious materials requiring disposal.
16. Asbestos Containing Waste (Hazardous) – Friable Asbestos Containing Materials and Asbestos contaminated objects and debris requiring disposal.
17. Asbestos Related Disturbance – is the drilling, coring, removal or similar disturbance of ACCM or ACM not to exceed three (3) square feet in any one opening and not to disturb 100 square feet or greater cumulatively on any one project (contract).
18. ASTM - American Society for Testing and Materials
19. Building ID Number or Code - A six digit alphanumeric identification code assigned to each building on a Owner site, also referred to as the insurance code, ID number or similar terms.
20. Bulk Samples - Samples of building or other materials collected for analysis to determine the presence and quantities of Asbestos.
21. Class I, II, III, and IV asbestos work has the meaning as defined in California Code of Regulations Title 8, Section 1529.
22. Clean Room - An uncontaminated area or room, which is a part of the worker Decontamination Enclosure System with provisions for storage of worker's street clothes and clean protective equipment.
23. Competent Person - Has the same meaning as defined in the California Code of Regulations Title 8, as it relates to, "Competent Person."
24. Controlled Disturbance –An activity by which a contractor disturbs an asbestos containing material or an asbestos containing construction material using the work practices allowed for in this specification and in compliance with regulatory limitations.
25. Curtained Doorway –A device to allow ingress and 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 exiting 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 edge of the other sheet along the opposite vertical side of the doorway. Other effective designs may be submitted for review.
26. Decontamination – The process of eliminating Asbestos contamination from building surfaces, objects, and property, by cloths, mops, or other utensils dampened with water and disposed of afterwards as Asbestos contaminated waste.
27. Decontamination Enclosure System – Means an enclosed area, which is adjacent and connected to the Regulated Area, consisting of an Equipment Room, Shower Room, and Clean Room for the Decontamination of workers, materials, and equipment contaminated with Asbestos.
28. Demolition - The wrecking or taking out of any load supporting structural member of a facility together with any related handling operations.
29. DOSH - Division of Occupational Safety & Health or Cal/OSHA
30. DOT – Department of Transportation
31. DTSC – Department of Toxic Substances Control
32. Encapsulating Material - A liquid material applied to Asbestos Containing Materials which controls the possible release of Asbestos fibers from the material either by creating a membrane over the surface (bridging agent) or by penetrating into the material and binding its components together (penetrating Encapsulating Material).
33. Encapsulation - The application of an Encapsulating Material to Asbestos Containing Materials to prevent the release of Asbestos fibers into the air.
34. Enclosure - The construction or application of an airtight, impermeable, permanent barrier around Asbestos Containing Material to control the release of Asbestos fibers into the air.
35. Equipment Room - A room within the worker Decontamination Enclosure System with provisions for storage of used clothing and equipment and for controlled transfer of materials and equipment into and out of the regulated area.
36. Facility Component – Means any part of a facility including equipment.
37. Fixed Object - A piece of equipment, furniture, or improvement in the Work area, which cannot be removed from the Work area.
38. Friable Asbestos - Asbestos Containing Material which, when dry, can be crumbled, pulverized or reduced to a powder by hand pressure or as defined by current regulations.
39. Glove Bag Technique - A method with limited applications for removing small amounts of Asbestos Containing Material from short piping runs, valves, joints, elbows, and other non-planar surfaces in a Work area. The glove bag assembly is a manufactured or fabricated device consisting of a glove bag (typically constructed of 6 mil transparent polyethylene or polyvinyl chloride plastic), two inward projecting long sleeves gloves, an internal tool pouch, and labeled for Asbestos waste. The glove bag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all Asbestos fibers released during the process. All workers who are permitted to perform the Glove Bag Technique shall be thoroughly trained, experienced, and skilled in this method.
40. Hazardous Waste - Means Friable Asbestos generated and prepared for waste disposal. Does not include non-friable material or materials containing one-percent or less of Asbestos as determined by PLM and/or the point counting method.
41. HEPA Filter - Means a filtering system capable of trapping and retaining at least 99.97% of all mono-dispersed particles 0.3 microns in diameter or larger. For respirators this shall include NIOSH rated P-100 cartridges only.
42. HEPA Vacuum - A vacuum system furnished with HEPA filtration.
43. High Volume Vacuum - A vacuum system with the capacity to collect material through a four (4) inch diameter hose a minimum distance of 150 feet. This system shall be furnished with HEPA Filter at the air exhaust port and water applicators within the hopper.
44. HVAC – Heating, Ventilation, and Air Conditioning System.
45. Location Code - Refers to a unique four digit numeric code assigned by the Owner to each of its Project sites.
46. Lockdown Coat – A material applied to surfaces where Asbestos has been completely removed. The manufacturer shall determine the concentration of this material.
47. Member – A component part of a structure complete in itself.
48. Movable Object - A portable piece of equipment or furniture in the Work area, which can be removed from the Work area.
49. NESHAP - National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
50. NIOSH - National Institute for Occupational Safety and Health
51. Outside Air - Air outside of buildings and structures.
52. Owner Consultant (OC) - Refers to the firm, company or individual designated by the Owner.
53. PCM - Phase Contrast Microscopy as it relates to clearance air, personnel exposure assessment, and ambient air monitoring. This procedure must follow the NIOSH Method 7400, Asbestos Fibers by PCM.
54. PLM - Polarized Light Microscopy used for bulk sample analysis with dispersion staining for the determination and quantifying of Asbestos in Bulk Samples building materials.
55. Regulated Area - Designated rooms, spaces or areas of the Project in which asbestos Abatement actions are to be performed or which may become contaminated as a result of Abatement activities. A contained Work area is a Work area, which has been sealed and furnished with a Decontamination Enclosure System. A non-contained Work area is an isolated or controlled access Work area, which has not been sealed or furnished with a Decontamination Enclosure System.
56. Removal – Means all operations where all ACM and/or PACM is removed or stripped from structures or substrates including Demolition.
57. Renovation – Means the modifying of any existing structure, facility, or portion thereof.
58. SCAQMD – South Coast Air Quality Management District
59. Shower Room - A room between the Clean Room and the Equipment Room in the worker Decontamination Enclosure System furnished with hot and cold running water controllable at the tap, and suitably arranged for complete showering during Decontamination.
60. Staging Area - Areas near the Waste Transfer Airlock where containerized Asbestos waste is temporarily placed prior to permanent removal from the Work area.
61. Surfactant - A chemical wetting agent added to water.
62. TEM - Transmission Electron Microscopy as defined for Asbestos clearance air monitoring within AHERA. This procedure must follow the NIOSH Method 7402, Asbestos Fibers by TEM.
63. TSI - Thermal System Insulation as defined in AHERA.
64. USEPA or EPA – United States Environmental Protection Agency
65. Visible Emissions - Any emissions from a known or suspected Asbestos Containing Material that is visually discernible.
66. Waste Transfer Airlock - A Decontamination system provided for transferring containerized waste from inside to outside of the Work area.
	1. POLICIES AND PROCEDURES
67. The Owner has a zero tolerance policy for uncontrolled Asbestos releases during construction or Abatement Work. An Asbestos release requiring an emergency response is any uncontrolled release of Asbestos Containing Construction Materials. The Owner shall be immediately notified of all such uncontrolled releases.
68. Pre-qualified Asbestos Abatement Subcontractors are not permitted to subcontract any Abatement work to a lower tier Subcontractor without the prior written approval of the Owner.
69. Where ACM is damaged or disturbed, except during Controlled Disturbance or Abatement, all Work in that room shall cease, the room be vacated immediately, the Owner Consultant notified of the disturbance with corrective action provided as required by the Owner Consultant.
	1. ROLES AND RESPONSIBILITIES
70. Roles and Functions:
	1. Coordinate the Work of this section directly with the Owner and/or Owner Consultant.
	2. All Work under this section shall be performed in strict accordance with all applicable Federal, State, and Local regulations, standards, and codes governing asbestos Abatement and any other Work performed in conjunction with the Asbestos Abatement Work.
	3. The most recent edition of any relevant regulation, standard, document, or code is in effect. Where conflict among the requirements or with this Specification exists, the most stringent requirement shall be provided.
	4. SITE SECURITY
71. The Work area shall be restricted to authorized, trained, and protected personnel. A list of authorized personnel shall be established by the Owner Consultant prior to commencement of the Work and posted at the entrance of the Regulated Area.
72. Report to the Owner Consultant any unauthorized entry into the Regulated Area. Following notification, a written report of the incident shall be provided to the Owner Consultant.
73. A logbook shall be maintained at the entrance of the Regulated Area. All persons entering the Regulated area shall record their name, company affiliation, time in, and time out for each entry and exit.
74. Access to the contained area shall be through the worker Decontamination Enclosure System or other room established when worker Decontamination Enclosure System is not required . All other means of access shall be blocked or locked to prevent entry to or exit from the Work area. The only exceptions are the waste pass-out airlock, which shall be sealed except during the Removal of containerized Asbestos waste from the Work area, and emergency exits in case of fire or accident. Emergency exits shall be operable from inside the Work area, however they shall be sealed with polyethylene sheeting and tape.
75. Maintain Regulated Area security during Abatement Work. All Regulated Areas and ancillary equipment accessible to non-authorized personnel shall be protected from unauthorized access by constructing a minimum barrier of 3/8 inch CDX plywood supported by 2" x 4" studs, 16 inches on center. Height shall be as required to safely access Regulated Area. An access door shall be provided with hasp and padlock sufficient to prevent unauthorized entry. A key shall be provided to the Owner and Owner Consultant. Required barriers within an occupied building shall be furnished with sheathing as required by state and local fire protection regulations.
76. The protective barrier for a High Volume Vacuum shall be a minimum of eight (8) feet in height. Barriers for these systems may be constructed of chain link type fencing instead of the specified barriers. Such fencing, if provided, shall be covered with an opaque covering resistant to environmental conditions. This barrier system shall be maintained at all times while the enclosed equipment is on the Project site.
77. Unless otherwise specified, remove all barriers upon completion of the Work of this section. Repair and/or replace to original condition, all damage resulting from installation, use, and removal of the barriers.
	1. EMERGENCY PLANNING
	2. Emergency planning and procedures shall be developed, submitted, reviewed, and agreed to by the Owner prior to the commencement of Abatement Work.
	3. Emergency procedures shall be provided in the written languages understood by all employees working on the Project and shall be prominently posted at the entrance of the Decontamination Enclosure System. Prior to entering the Work area, all parties must read and sign these procedures to acknowledge receipt and understanding of the Work site layout, location of emergency exits, and emergency procedures.
	4. Emergency planning shall consider the effects of fire, explosion, toxic atmospheres, electrical hazards, slips, trips and falls, confined spaces, and heat related injury. Develop and provide written procedures and training to all employees.
	5. Employees shall be trained in evacuation procedures in the event of workplace emergencies.
	6. In the event of non-life threatening situations requiring medical treatment, injured or otherwise incapacitated employees shall decontaminate following normal procedures with assistance from fellow workers if necessary, before exiting the Work area.
	7. In the event of life threatening injury or illness requiring immediate medical treatment, worker Decontamination shall be given minimum priority. Provide all measures to stabilize the injured worker, remove them from the Work area and secure proper medical treatment.
	8. Telephone numbers of all emergency response personnel shall be prominently posted at the entrance of the Decontamination Enclosure System along with the location of the nearest telephone. In addition to the 911 emergency number, post the address and telephone number of the nearest emergency medical services provider.
	9. Provide at least one (1) employee on the Project site at all times during progress of Abatement work that is trained and certified in first aid and cardiopulmonary resuscitation (CPR). This employee shall be identified by name and proof of training shall be provided to the Owner Consultant prior to the commencement of the Work of this section.
	10. Provide at least one (1) 4A/60BC dry chemical extinguisher in the Equipment Room and one (1) at each corner of contained areas in excess of 1,000 square feet. All workers shall be trained in the proper operation of fire extinguishers.
	11. Emergency exits shall be provided and clearly marked with arrows or other clearly visible markings to permit easy identification from anywhere within the Work area. Exits shall be secured to prevent access from uncontaminated areas while still permitting emergency egress. Exits shall be properly sealed with polyethylene sheeting, which can be cut to permit emergency egress. Emergency exits may lead through the worker Decontamination Enclosure, the waste removal airlock or other alternative exits as required by fire officials.
	12. LICENSING
78. The Work of this section shall be performed by an entity duly licensed in the State of California in accordance with the provisions of Chapter 9 of Division 3 of the Business and Professions Code, as amended. The Abatement work of this section shall be performed by an entity holding a license with an “ABS” Asbestos Certification as issued by the Contractors State License Board.
79. The entity performing the Work of this section, other than Asbestos Related Disturbance involving less than 100 square feet, shall be registered with the Department of Industrial Relations in accordance with the provisions of Section 6501.5 of the California Labor Code.
	1. ASBESTOS RELATED REQUIREMENTS
80. Qualifications:
	1. Comply with the provisions of the California Labor Code, Division 5, Part 1, as it pertains to safety in employment and the applicable provisions of Title 8, Chapter 4, Subchapters 1 through 21, California Code of Regulations (CCR) as it pertains to Occupational Safety and Health, and Subchapter 7, Section 5208 Article 4, and Section 1529, Asbestos regulations.
	2. Where Electrical Work is required in a Regulated Area this work shall be performed as required in Division 16 and personnel who enter a Contained and Regulated Class I and II Asbestos work area are required to possess a current EPA certification as an Asbestos worker. Personnel who enter a Class III Asbestos Related Disturbance work area shall require personnel trained in accordance with AHERA Operations and Maintenance training requirements.
81. Abatement Activities:
82. The Asbestos Abatement work shall be performed by persons who comply with all applicable Federal, State, and local regulations including AHERA certified training.
83. Supply all labor, materials, services, insurance, permits, and equipment necessary to perform the Work in accordance with all applicable Federal, State, and Local regulations and this Specification.
84. For Class I asbestos work, collect pre-Abatement air samples. Results shall be submitted prior to commencement of the Work of this section. Include location of Samples, name of air sampling professional, equipment, and methods utilized for sampling and analysis.
85. Submit weekly job progress reports detailing Abatement activities for Projects with schedules that exceed thirty days of Abatement work. Include review of progress with respect to previously established Milestones and schedules, major problems and action taken, injury reports, equipment breakdown, and air sampling results.
86. Within five (5) workdays of transport and/or disposal, submit copies of all transport manifests, disposal receipts, and weight certificates for all Asbestos waste removed from the Work area during the Abatement process. Weight certificates shall indicate in pounds the net weight of waste disposed from the Project site as indicated on the manifest.
87. Submit copies on a daily basis of the Work site entry logbooks.
88. Submit logs on a weekly basis documenting filter changes on respirators, HEPA Vacuums, HEPA Filtered ventilation units, water filtration units, and other approved engineering controls.
89. Submit results of materials testing conducted during Asbestos Abatement work for purposes of utilization during such activities. (i.e., depth test, substitution materials, etc.)
90. Where Decontamination Enclosure System is required, post at the entrance a list containing the names, addresses, and telephone numbers of the entity performing the Work of this section, designated Competent Person, the Owner and/or Owner Consultant, the testing laboratory and any other personnel who may be required to access the Work area or perform services during the Abatement Work.
91. For employee review, post at the entry of the Work area a copy of the scope of Work, special conditions, the current standard Specifications, and the applicable prevailing wage.
92. Asbestos Related Disturbance:
93. The Asbestos Related Disturbance Work shall be performed by persons who comply with all applicable Federal, State, and local regulations including AHERA certified training.
94. Within ten (10) days of analysis, submit results of air sampling data collected for Cal/OSHA compliance air monitoring during the course of the Asbestos Related Disturbance (Class III asbestos work). If this data is used to discontinue use of employee protective equipment then the data shall be provided before discontinuing use of protective equipment.
95. Within five (5) workdays of transport and/or disposal of Asbestos Containing Waste, submit copies of all transport manifests and/or disposal receipts.
	1. SUBMITTALS
96. Provide in accordance with Division 01 and this section.
97. Prior to commencement of the Asbestos Abatement work of this section, submit the following notices, documentation, Shop Drawings, and Product Data:
98. For Projects involving Asbestos Containing Materials 100 square feet or more, provide a typed written notification in accordance with Rule 1403 of SCAQMD and 40 CFR Part 61.146 of Subpart M to the SCAQMD, and to and in accordance with the Division of Occupational Safety and Health prior to start of the Work.
99. Submit to the Owner, satisfactory proof the required permits, site location, and arrangements for transport and disposal of Asbestos Containing Waste materials have been completed in accordance with California Health and Safety Code, Section 25143.7. Obtain and submit a copy of handling procedures and a list of protective equipment utilized for Asbestos disposal at the landfill.
100. Submit to the Owner satisfactory documentation that all employees, including foremen, supervisors, and any other company personnel or agents who may be exposed to airborne Asbestos fibers or who may be responsible for any aspects of Asbestos Abatement work or Asbestos Related Disturbance have received adequate training that includes, at a minimum, information as described within this section and as required by AHERA.
101. Prior to commencement of Abatement Work, all personnel required to construct and enter the Work area or handle containerized Asbestos Containing Materials shall have received adequate training, in accordance with the requirements of this Specification and by 40 CFR, Part 763, Subpart E (AHERA) and Title 8, Section 1529, of the California Code of Regulations applies.
102. Special Project site training for equipment and procedures unique to this Project site shall be provided as required.
103. Training in emergency response and evacuation procedures shall be provided to all personnel performing Asbestos Abatement work of this section.
104. Submit documentation from a physician certifying that all employees are medically monitored and are physically capable of working while wearing the required respiratory protection without suffering adverse health effects as required by California D.O.S.H regulations. Where such documentation is required, the certification shall state that the employee or agent is approved to work with Asbestos and wear a respiratory protection without restrictions. Provide information to the examining physician about unusual conditions in the workplace environment that may impact on the employee's ability to perform Abatement Work activities.
105. Submit Shop Drawings for layout and construction of Decontamination Enclosure Systems and barriers for isolation of the contained Asbestos Abatement work area as detailed in this Specification and required by applicable regulations.
106. When used, submit manufacturer's certification that HEPA Vacuums, air filtration units, and other local exhaust ventilation equipment complies with ANSI Z9.2-79.
107. Submit Product Data verifying that all air filtration devices (i.e., air filtration units and vacuums) for use on this project have been registered or certified, as applicable, in compliance with the SCAQMD Rules.
108. If rental equipment is to be furnished in Abatement Work areas or to transport Asbestos contaminated waste, written notification concerning the intended use of the rental equipment shall be provided to the rental agency with a copy submitted to the Owner.
109. Document NIOSH approvals for all respiratory protective devices furnished as required by the Work. Include manufacturer certification of HEPA filtration capabilities for all cartridges and filters.
110. Submit documentation of respirator fit testing for all employees and agents entering the Abatement work area or areas where respiratory protection is required. This fit testing shall be performed in accordance with DOSH regulations.
111. Submit a Sample of all forms to be used in documenting required items to be submitted and/or reviewed.
112. Provide all other required submittals specified as part of the Work of this section.
	1. PRE-ABATEMENT MEETING
113. Attend a meeting to be held prior to the commencement of Abatement Work. Attending this meeting shall be representatives of the Owner, the Owner Consultant if applicable, and the testing/monitoring personnel who shall actually participate in the testing/monitoring program. Secure the attendance of the individual who will be the Project site Competent Person for the Abatement Work.
114. Included in the general preconstruction meeting will be a discussion of requirements and submittals for Asbestos Related Disturbance, where such applies.
115. At this meeting provide all required submittals except for those to be submitted during progress of the Work. In addition, provide detailed information concerning:
	1. Preparation of Work area and Shop Drawings. (Abatement Only)
	2. Personal protective equipment, including respiratory protection and protective clothing. (Abatement, and Asbestos Related Disturbance if required)
	3. Employees who will participate in the Project, including delineation of experience, training, and assigned responsibilities during the Work. (Abatement and Asbestos Related Disturbance)
	4. Decontamination procedures for personnel, Work area, and equipment. (Abatement and Asbestos Related Disturbance)
	5. Abatement methods and procedures to be provided. (Abatement Only)
	6. Required air monitoring procedures (pre-Abatement and SCAQMD requirement [Abatement Only], and Cal/OSHA mandatory [Abatement and Asbestos Related Disturbance]).
	7. Procedures for handling and disposing of waste materials, including disposal facility. (Abatement and Asbestos Related Disturbance)
	8. Procedures for final Decontamination and cleanup. (Abatement Only)
	9. A sequence of Work activities and performance schedule. (Abatement Only)
	10. Procedures for dealing with heat stress. (Abatement Only)
	11. Emergency procedures. (Abatement Only)
	12. CLOSE OUT DOCUMENTATION
116. Provide the following close out documentation:
117. Filter change logs for all air filtration units, water filtration units and respirators. (Abatement Only)
118. Foreman's daily job reports. (Abatement Only)
119. Employee entry/exit logs for all containment. (Abatement Only)
120. Visitor entry/exit logs for all containment. (Abatement Only)
121. Manometer printout reports for all applicable containment. (Abatement Only)
122. Air sample results for personnel (Abatement and Asbestos Related Disturbance).
123. Air Samples for Abatement Work areas and air filtration units. (Abatement Only)
124. Copies of all hazardous and non-Hazardous Waste manifests. (Abatement and Asbestos Related Disturbance)
125. All Hazardous Waste weight tickets. (Abatement Only)
126. All signed Daily Personnel Report Forms. (Abatement Only)
127. Signed code of conduct form from each employee working on a Project. (Abatement Only)
128. Signed asbestos Abatement Project Personnel Logs. (Abatement Only)
129. Receipt of the last workday attendance log and the daily personal monitoring results shall be submitted within (2) two days upon completion of the Abatement Work of this section.

PART 2 – PRODUCTS

* 1. Materials and Equipment:
1. Materials
2. General:
3. Deliver all materials in the original sealed packages, containers, or bundles bearing the name of the manufacturer and brand name.
4. Store all materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient enough to prevent damage or contamination. Replacement materials shall be stored outside of the Abatement Work area until area is cleared for normal occupancy.
5. Damaged, deteriorating or previously used materials shall not be furnished and shall be removed from the Project site and legally disposed of.
6. A sufficient supply of disposable mops, rags, and sponges for Abatement Work area Decontamination shall be provided.
7. Unless otherwise specified, the Owner will provide water and power for construction purposes. Connect to existing system as required.
8. Asbestos Related:
9. All plastic, polyethylene sheeting or visqueen shall be a fire retardant type. Provide documentation from the manufacturer verifying compliance with this requirement.
10. Where a contained work area is required for Abatement Work, a minimum of two layers of 4-mil polyethylene sheeting shall be installed for walls. For floors and all other installations, polyethylene sheeting of at least 6-mil thickness shall be furnished in sufficient widths to minimize the frequency of joints.
11. Method of attaching polyethylene sheeting shall be reviewed prior to installation and/or commencement of Abatement Work. Method of attaching polyethylene sheeting shall not cause damage to equipment, finish surfaces, or other property.
12. Polyethylene sheeting furnished for the Decontamination Enclosure System shall be opaque white or black in color and shall be a minimum of 6-mil thick.
13. Disposal bags shall be of 6-mil polyethylene, with the outer bag pre-printed with labels as required by SCAQMD and applicable Cal/OSHA and DOT requirements at a minimum.
14. Apply labels as per SCAQMD, Cal/OSHA, and DOT requirements for disposal containers.
15. Provide warning signs as required by CAL/OSHA.
16. Surfactant (wetting agent) shall be a material that, when tested, demonstrates a surface tension of 29 dynes/cm as tested in its properly mixed concentration, using ASTM method D1331-56-"Surface and Interfacial Tension of Solutions of Surface Active Agents." Where Work area temperature may cause freezing of the Amended Water solution, the addition of an approved antifreeze in a manufacturer recommended amount is permitted.
17. Equipment
18. General:
19. All equipment delivered to the Project site shall be free of all Asbestos and/or fibrous debris. No equipment with Asbestos and/or fibrous debris in or on it is permitted on Owner properties.
20. Provide sufficient lighting to illuminate the Work area for safe visual working conditions and to clearly examine all surfaces.
21. Provide a sufficient supply of scaffolds, ladders, lifts, and hand tools that meet all applicable Federal, State, and local regulations.
22. Provide non-metallic dustpans, squeegees, and shovels for cleanup.
23. Asbestos Related:
24. A sufficient quantity of air filtration ventilation units furnished with HEPA filtration and operated in accordance with ANSI Z9.2-79 and EPA guidance documents shall be furnished to provide one workplace air change every 15 minutes creating -0.02 column inches of water pressure differential everywhere within the contained area when compared to the pressure outside the area. For small Enclosures and glove bags, a HEPA Filtered vacuum system may be furnished to provide the pressure differential. A log documenting the filter change

history of each unit is required before use. Any unit without this log shall have all filters changed and the unit decontaminated.

1. Provide a printable manometer for determining and recording the pressure differential within the isolated Work area as compared with the ambient environment. A printed record is required for the duration of the Project. The manometer shall operate 24 hours per day with a printed differential reading not to exceed fifteen (15) minute intervals.
2. High volume vacuum equipment shall be provided during all soil Removal operations unless otherwise specified.
3. Provide sprayers with pumps in a quantity capable of providing Amended Water in sufficient quantities to adequately wet materials during Asbestos Abatement activities. Provide spray bottles or adequate equipment necessary to keep materials impacted by Asbestos Related Disturbance adequately wet.
4. Non-skid footwear shall be worn by all Abatement workers. Disposable clothing shall be adequately sealed to the footwear to prevent body contamination.
5. Provide other required safety equipment to all workers and authorized visitors.
6. When roll-off disposal containers are delivered to a Project site, all four (4) wheels of each container shall be moved and rested upon a sheet of plywood no smaller than 4' X 4' X 3/4" minimum.
	1. EMPLOYEE PERSONAL PROTECTIVE EQUIPMENT
7. Respiratory Protection:
8. Where respirators are required these shall be provided for protection from particulate contaminants as required by the National Institute of Occupational Safety and Health.
9. The respirators provided shall furnish a protection factor as required by CCR Title 8, Section 1529 for the fiber concentration in the work area. When powered air purifying respirators are provided, a sufficient supply of charged replacement batteries, filters, and a flow test meter shall be provided in the Clean Room area. Air purifying respirators with dual HEPA Filters may be provided during Work area preparation activities.
10. Provide spectacle kits and eyeglasses for employees who wear glasses and must wear full-face respirators.
11. Fit Testing:
12. Workers must perform positive and negative air pressure fit tests each time a respirator is donned, whenever the respirator design so permits. Powered air purifying respirators shall be tested for adequate flow as specified by the manufacturer.
13. Workers shall be undergo a qualitative fit test in accordance with procedures detailed in the D.O.S.H. requirements for all respirators provided to comply with the requirements of this Project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.
14. Where respirators are required, documentation of adequate respirator fit must be provided to the Owner Consultant.
15. No one wearing a beard shall be permitted to don a respirator and enter the Work area.
16. Where respirators are required, a minimum of two additional respirators of each type and training on their donning and use must be provided at the Work site for authorized visitors required to enter the Work area.
17. Protective Clothing:
18. Where protective clothing is required, full body disposable protective clothing, including head, body, and foot coverings, shall be provided to all workers and authorized visitors in sizes adequate to accommodate movement without tearing.
19. Disposable clothing including head, foot, and full body protection shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors.
20. A new suit shall be donned upon each entry to the Abatement Work area or area where the permissible exposure level will be exceeded.
21. Hard hats, protective eye wear, gloves, rubber boots and/or other footwear shall be provided as required for workers and authorized visitors. Safety shoes may be required and shall be provided.

PART 3 - EXECUTION

* 1. ABATEMENT PROCEDURES AND WORK AREA PREPARATION
1. Work Area Preparation
2. For Class I and II asbestos work, shut down and lock out all heating, cooling and air conditioning system (HVAC) components that are located in, supply, or pass through the Work area. Seal all intakes and exhaust vents in the Work area with tape and 6-mil polyethylene. Seal all seams in any system components that pass through the Work area.
3. Provide and post signs at all locations and approaches to the Regulated Area. The signs shall comply with Cal/OSHA regulations.
4. In conjunction with the Owner, shut down and lock out/tag out electric power to all Class I and II asbestos work areas. Provide equipment for temporary power with ground fault interrupters and lighting sources. Temporary power sources and equipment shall comply with all applicable electrical code requirements and Cal/OSHA requirements for temporary electrical systems. The Owner shall perform all electrical connections of electrical cable and equipment provided as part of the Work of this section to existing Owner systems. The Owner shall pay for the costs of electric power consumed during performance of the Work of this section, unless otherwise noted.
5. For Class I and II asbestos work, clean and seal off all windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers, skylights, and any other openings between the Abatement Work area and areas outside of the Abatement Work area with 6-mil polyethylene sheeting and tape prior to proceeding with required cleaning.
6. Clean all Movable Objects within the Abatement Work area with a HEPA Filtered vacuum and wet cleaning methods. After cleaning, these objects shall be removed from the Abatement work area and carefully stored in a location designated by the Owner.
7. Clean all Fixed Objects in the Abatement Work area with a HEPA Filtered vacuums and wet cleaning methods. Careful attention shall be given to machinery behind grills or gratings where access may be difficult but contamination is present. Cleaning of walls, floors, and ceilings behind fixed items is required. After cleaning, enclose Fixed Objects in 6-mil polyethylene sheeting and seal securely in place with durable tape.
8. Clean all surfaces in the Abatement Work area with a HEPA Filtered vacuums and wet cleaning methods. Do not utilize any methods, such as dry sweeping or vacuuming, with equipment not furnished with HEPA Filters thereby creating airborne dust and particulates. Do not disturb Asbestos Containing Materials during this cleaning phase.
9. For Class I and II asbestos work, floors shall be covered with two layers of 6-mil (minimum) polyethylene sheeting. Additional layers of sheeting may be furnished as drop cloths for cleanup of bulk materials.
10. Polyethylene sheeting shall be sized and installed to minimize seams. If the floor area to be covered requires seaming, seams on successive layers of polyethylene sheeting shall be staggered a minimum of six feet between each seam to reduce the potential for water penetration into the existing flooring. Do not install seams at the junction between a wall and floor.
11. Polyethylene sheeting installed on a floor shall extend at least 12 inches up the sidewalls of the Abatement Work area.
12. Polyethylene sheeting shall be installed so as to prevent slippage between successive layers of installed material.
13. For Class I and II asbestos work, walls shall be covered with two (2) layers of 4-mil minimum thickness polyethylene sheeting.
14. Polyethylene sheeting installed on a wall shall overlap floor sheeting by at least 12 inches beyond the wall/floor joint to provide a seal against water damage.
15. Polyethylene sheeting installed on a wall shall be adequately fastened to prevent it from falling away from the walls. Provide additional support/attachment when air filtration ventilation systems are provided.
16. Provide one (1) layer of 3-mil maximum, polyethylene sheeting (non-fire retardant type) for isolation of fire sprinkler devices. Installed taping shall not impede the normal function of the fire sprinkler device. Approved wire sprinkler guards shall be furnished in conjunction with isolation.
17. Where required, install and operate air filtration equipment to provide one air change in the Abatement Work area every 15 minutes. Openings made in the Enclosure System to accommodate these units shall be made airtight with durable tape and/or caulking as needed. If more than one unit is installed, they shall be turned on one at a time, checking the integrity of all barriers after each unit is started. Insure that adequate power supply is available to satisfy the requirements of the air filtration units. Exhaust from these units shall be directed to the outside of the building whenever feasible. They shall not be exhausted into occupied areas of the buildings. Exhaust duct shall be extended from the Abatement Work area to the outside as required. Careful installation and daily inspections shall be performed to verify the exhaust ducts do not discharge into any areas of the building.
18. Once the Enclosure system is constructed and reinforced with air filtration units in operation as required, test the Enclosure for leakage utilizing smoke tubes. Repair, replace or reconstruct as required.
19. Following completion of the construction of all polyethylene barriers and Decontamination Enclosure System, operate the air filtration units overnight to insure the barriers will remain intact and secured to walls and fixtures before beginning actual Abatement Work.
20. Commencement of the Work of this section shall not occur until:
21. The entire containment system has been constructed and inspected by Owner Consultant in accordance with the required Shop Drawings.
22. Air filtration units are functioning within the requirements of this section.
23. Air filtration units are functioning within the requirements of this section.
24. All pre-Abatement submittals, notifications, postings, and permits have been provided and reviewed by the Owner Consultant.
25. All equipment for Abatement, Decontamination, and disposal are on the Project site.
26. All worker training, respirator fit testing, and medical surveillance has been provided and reviewed by the Owner Consultant.
27. A Notice to Proceed is transmitted by the Owner.
	1. ASBESTOS RELATED DISTURBANCE WORK PRACTICES
28. For Class III work, shut off air handling equipment to rooms work will occur in.
29. Provide and post signs at the entrance to the work area affected. The signs shall comply with Cal/OSHA regulations.
30. For Class III work clean the area immediately under the location to be disturbed.
31. For Class III work move any moveable furniture or objects from immediately beneath the area to be disturbed.
32. Provide an enclosure around the area of disturbance. This may include, but is not limited to:
33. Mini-enclosure where not more than two persons may occupy for the purpose cutting holes up to three (3) square feet in walls or ceilings.
34. For drilling, coring, sawing or similar disturbance, an enclosure shall be placed over the area of disturbance of sufficient size to cover that area and contain the tools used. This can include drilling with a shroud, through a wet sponge, through a plastic enclosure, or similar designs which will ensure control of Asbestos fibers and other dust. Drilling or coring with the use of a vacuum collection device shall be equipped with a HEPA filtered vacuum.
35. All Class III work performed without a HEPA vacuum collection device shall have all surfaces of disturbance adequately wet to control fiber release.
36. Clean by wet method the surfaces disturbed, the enclosure device and/or materials used, and any tools used during the disturbance operation.
37. Clean up by wet method and/or HEPA vacuum any debris that may have escaped outside the enclosure required by this section.
	1. DECONTAMINATION ENCLOSURE SYSTEM FOR ABATEMENT WORK
38. Decontamination Enclosure Systems shall be provided at all locations where workers will enter or exit the Abatement Work area of Class I and II asbestos work prior to any other set up. Only one system at a single location for each Regulated Area is required. At least one individual shall be stationed at the entrance of each system at all times Abatement Work is in progress.
39. These systems may consist of existing rooms outside of the Abatement Work area, if the layout permits, and that can be enclosed in polyethylene sheeting, and are accessible from the Abatement Work area. If this intended layout is not feasible, given existing site conditions, Enclosure systems may be constructed out of metal, wood, or plastic support as required.
40. Decontamination Enclosure Systems constructed at the Project site shall be furnished with 6-mil opaque white or black polyethylene sheeting or other approved materials for privacy. Detailed descriptions of portable, prefabricated units, if furnished, shall be submitted for review. Shop Drawings must include floor plan with dimensions, materials, size, thickness, plumbing, and electrical utilities.
41. Decontamination Enclosure System shall consist of at least a Clean Room, a Shower Room, and an equipment room, each separated from the other, from the Abatement Work area and from the non-Work area by "Z-flaps" at a minimum. The system shall be furnished with, at a minimum, two (2) layers of 6-mil polyethylene sheeting on the floors, walls, and ceiling.
42. Clean room shall be of adequate size to accommodate the Abatement crew. Clean work clothes, clean disposable clothing, replacement filters for respirators, disposable towels, and other necessary items shall be provided for in adequate supply adjacent to the Clean Room. A location for posting notices shall also be provided adjacent to this area. When required, a lockable door shall be furnished to control access into the Clean Room from outside the Abatement Work area. Comfort lighting, heat, and electricity shall be provided as required. The Clean Room shall not be used for storage of tools, equipment, materials, or as office space.
43. Shower room shall contain one or more showers as required to adequately accommodate workers. Each showerhead shall be supplied with hot and cold water adjustable at the tap. The shower Enclosure shall be constructed to ensure against any kind of leakage. Provide an adequate supply of soap, shampoo, and disposable towels, available at all times. Shower water shall be drained, collected, and progressively filtered through a system achieving a maximum particle size of 1.0 microns.
44. The Equipment Room shall be used for storage of equipment and tools at the end of a shift. These shall have been cleaned using a HEPA Filtered vacuum and wet cleaning methods. A container lined with a labeled 6-mil polyethylene bag for collection of disposable clothing shall be located in this room. Reusable footwear shall be stored in this area after being cleaned.
	1. WASTE CONTAINER REMOVAL AIRLOCK AND EMERGENCY EXITS
45. The waste container pass-out airlock shall be constructed away from the Decontamination Enclosure System. This airlock shall be in a location that provides direct access from Abatement Work area to the outside of the building if possible.
46. This system shall consist of an airlock, container Staging Area, and another airlock providing access to outside Abatement Work area.
47. The waste container airlock shall be constructed in similar fashion with similar materials as the Decontamination Enclosure System.
48. This airlock system shall not be used to enter or exit the Abatement Work area.
	1. ALTERNATIVE PROCEDURES
49. Soil Removal
50. All required Asbestos Abatement shall be performed prior to soil Removal.
51. If soil Removal is specified, all debris within or upon the soil shall be considered part of the soil and shall be removed as a contaminated waste. Debris includes, but is not limited to, fabric, paper, and other fibrous or porous materials.
52. It is not the intention of this section to require the Removal of large rocks, abandoned non-Asbestos-containing pipe, lumber, and similar debris. If these conditions are encountered, clean and encapsulate these materials instead of removing them as a contaminated waste, provided Asbestos contamination is not ingrained within and/or affixed to them. Any such materials remaining shall be stacked to one side to allow for access to the soil below for removal purposes.
53. Unless otherwise specified, soil shall be removed with a High Volume Vacuum system. Soil shall be removed to the hard pan unless otherwise specified or required.
54. After soil Removal has been completed, the Owner Consultant shall inspect the Work. Approval of the Removal Work is required prior to lock down and Encapsulation.
55. Soil requires Encapsulation following Asbestos Removal, including but not limited to, High Volume Vacuum removal. Apply a continuous even coat of encapsulating material at the rate of no more than fifty (50) square feet per gallon. All other structural surfaces shall receive an evenly applied coat of lock down material.
56. Other:
57. All High Volume Vacuum systems shall be provided with an Enclosure constructed at the waste discharge port. This Enclosure shall be of sufficient size to accommodate the workers and disposal containers necessary for the Project. The Enclosure shall be constructed of one (1) layer, 6-mil minimum, of polyethylene sheeting. An air filtration unit shall be furnished during operation of the High Volume Vacuum.
58. Where pipe insulation is to be removed in a crawl space and/or attic space a single layer of 6-mil polyethylene sheeting with a minimum width of four (4) feet shall be placed centered under the Removal surfaces.
59. If specified procedures cannot be furnished, a written request shall be provided to the Owner outlining details of the problem encountered and recommended alternative solutions.
60. Alternative procedures shall provide equivalent or greater protection than the specified and/or required procedures.
61. Any alternative procedure requires the written approval of the Owner prior to implementation.
	1. WORKPLACE ENTRY AND EXIT PROCEDURES
62. Before entering the Regulated Area all personnel shall read and be familiar with all posted regulations, personal protection requirements, and emergency procedures. A signature sheet shall be posted for signatory acknowledgement these have been reviewed and understood by all personnel prior to entry.
63. All workers and other authorized personnel shall enter the Abatement Work area through the Decontamination Enclosure System or other room required when Decontamination Enclosure System is not required.
64. All personnel who enter or exit the Regulated Area shall sign the entry and exit log located adjacent to the Clean Room.
65. All personnel shall proceed first to the Clean Room, don respirator, and washable and/or disposable clothing.
66. General construction area equipment including, but not limited to, hard hats, eye protection, and gloves shall also be provided as required. Clean respirator and cartridges, and protective clothing shall be provided and utilized by each person for each separate entry into the Regulated Area.
67. Before leaving the Regulated Area for Class I and II asbestos work all personnel shall remove gross contamination from the outside of respirators and protective clothing by vacuuming and/or wet wiping methods. Each person shall clean protective footwear just prior to entering the Equipment Room.
68. Personnel shall proceed to Equipment Room where they remove all protective equipment except respirators. Deposit disposable clothing into appropriately labeled containers.
69. Still wearing respirator, personnel shall proceed to the shower area, clean the outside of the respirators and the exposed face area under running water prior to removal of respirator then shower and shampoo to remove residual Asbestos contamination. Various types of respirators will require slight modification of these procedures. A powered air purifying respirator face piece will have to be disconnected from the filter/power pack assembly when such is not waterproof, upon entering the shower. A dual cartridge respirator may be worn into the shower and cartridges shall be replaced for each new entry into the Work area.
70. After showering and drying off, proceed to the Clean Room and don clean clothing.
71. At no time shall any personnel exit an Abatement Work area into a space occupied by staff or students without being completely dressed. Any violation of this requirement will result in the permanent removal of the person from the Project site.
	1. REMOVAL PROCEDURES
72. Brushes furnished for removing loose Asbestos Containing Material during detail cleaning of substrate shall be furnished with nylon or fiber bristles. Metal or wire brushes are not permitted. Brushes used during this process shall be disposed as contaminated waste when use of the brush for this work is completed.
73. A sufficient supply of HEPA Filtered vacuum systems shall be provided during cleanup of Abatement Work. Brush attachments are not permitted for use with vacuum systems.
74. All barriers constructed to isolate the Regulated Area from other areas shall be inspected at least three times per shift; prior to the start of Abatement activities; half way into the shift; and following the completion of the Abatement activities at the end of the shift. Inspect and document observations in the daily Project log.
75. Damage and defects in the Enclosure system shall be repaired immediately upon discovery.
76. At any time during Abatement Work, following barrier installation, if visible debris is observed outside of the Regulated Area or damage occurs to the barriers, stop Work immediately. Repairs shall be performed to the barriers and debris/residue shall be cleaned up with appropriate HEPA Vacuuming and wet wiping methods. These incidents shall be recorded in the daily Project log.
77. If air samples collected outside of the Work area during Abatement Work indicate airborne fiber concentrations greater than 0.01 f/cc or the pre-measured background levels (whichever is lower) Work shall stop immediately. An inspection and repair of barriers shall be performed as required. Surface cleaning with HEPA Vacuums and wet wiping methods of areas outside of the Work area may be required by the Owner. Findings, observations, and corrective actions shall be documented in the daily Project log.
	1. ENCAPSULATION AND BRIDGING AGENTS
78. Clean and isolate the Work area in accordance with "Work Area Preparation" of this Section.
79. Repair damaged and missing areas of existing materials with non-Asbestos containing substitutes. Material shall adhere adequately to existing surfaces and provide an adequate base for application of Encapsulating Material. Filler material shall be installed in accordance with manufacturers recommended specifications.
80. Remove loose or hanging Asbestos Containing Materials in accordance with the requirements of "Removal Procedures" in this Section.
81. All lockdown and Encapsulating Material, and bridging agents shall be reviewed by the Owner Consultant prior to the commencement of the Work of this section.
82. Encapsulating Material shall be sprayed applied with airless spray equipment. Nozzle pressure shall be adjustable within a range of 400 to 1500 PSI.
83. Lock down coat shall be spray applied with low pressure providing a continuous even coat.
84. Bridging agents shall be a palm or brush grade.
85. All colorless lock down materials, Encapsulating Material, and bridging agents shall be furnished with a compatible color additive. A different color shall be furnished for each separate coat of applied material.
86. Install penetrating type Encapsulating Material to penetrate existing sprayed applied Asbestos Containing Materials to a depth as required.
87. During installation of the penetrating type Encapsulating Material, remove selected random core samples of the Asbestos Containing Materials in the presence of the Owner Consultant to verify depth of penetration.
88. Lock down coating and Encapsulating Material for installation on hot water, steam, or any other high temperature equipment shall be manufactured and recommended for installation on high temperature systems.
	1. CLEAN UP PROCEDURES
89. Asbestos Clean Up Procedures:
90. Unless decontaminated daily, reusable footwear and kneepads shall be stored in the Equipment Room when not in the Work area. Upon completion of Abatement Work, these shall be disposed of as Asbestos contaminated waste or may be decontaminated at the completion of Abatement Work.
91. Remove and containerize all visible accumulations of Asbestos Containing Material and Asbestos contaminated debris with rubber dustpans and rubber squeegees. Do not use metal shovels to pick up or move accumulated waste. Special care shall be taken to minimize damage to flooring materials.
92. Remove all containerized waste from the Abatement Work area and the waste container airlock.
93. Wet wipe all surfaces in the Regulated Area with clean rags, mops, and sponges as appropriate.
94. After cleaning remove the top layer of polyethylene sheeting from walls and floors.
95. Clean the second layer of polyethylene sheeting by wet wipe and HEPA Vacuuming. Windows, doors, HVAC system vents, and all other critical seals shall remain sealed until the Abatement Work area passes final clearance. The air filtration units shall remain in continuous operation and the Decontamination Enclosure System shall remain in place and be utilized.
96. Decontaminate all tools and equipment and remove at the appropriate time in the cleaning process.
97. Provide notification to the Owner at least one (1) day in advance when Abatement Work will be completed and ready for final visual inspection. If, upon inspection, Abatement Work is not completed or the area does not pass final visual inspection, finish or correct the Abatement Work as required before notifying the Owner. Subsequent inspections shall commence not later than one (1) day following notice.
98. The Owner Consultant shall inspect the Work area for visible residue. If residue is observed, it shall be deemed to contain Asbestos and the cleaning process shall be repeated. The lock down coat shall be applied only after inspection by the Owner Consultant and during non-school hours.
99. The second layer of isolation shall only be removed after the Owner Consultant inspects the lock down coat or installed Encapsulation, but in no case prior to overnight drying of lock down coat or Encapsulation.
100. Following completion of air clearance monitoring the remaining barriers shall be removed and properly disposed of. A final visual inspection by the Owner Consultant shall be performed to verify that no contamination remains in the Abatement Work area. Unsatisfactory conditions may require additional cleaning and air monitoring.
	1. WASTE HANDLING AND TRANSPORTATION
101. Asbestos Waste Handling
102. As the Work progresses, to prevent exceeding available storage capacity on the Project site, sealed and labeled containers of Asbestos Containing Waste shall be removed and transported to the prearranged disposal location.
103. Waste disposal shall occur at an authorized site in accordance with regulatory requirements of NESHAP and applicable State and Local regulations.
104. Once the drums, bags, and/or wrapped components have been removed from the Work area, they shall be loaded into an enclosed truck for transportation.
105. Waste shall not be transported from the work are to the storage container or waste hauler’s vehicle while students or staff are present in the path of travel. Where a path of travel cannot be cordoned off the movement of waste must be completed prior to or after the presence on site of students and staff.
106. Personnel loading Asbestos waste shall be protected with disposable clothing and at a minimum half-face, air purifying, dual cartridge respirators furnished with HEPA Filters.
	1. TRANSPORTATION OF NON HAZARDOUS WASTE
107. All waste shall be containerized, labeled, and transported in accordance with federal, state, and local regulations.
108. All waste shall be transported under cover a non-Hazardous Waste manifest.
109. All containers shall be enclosed at all times during transportation.
	1. TRANSPORTATION OF HAZARDOUS WASTE
110. All dump receipts; trip tickets, transportation manifests, weight certificates or other documentation of disposal shall be delivered to the Owner Consultant within 48 hours of disposal. As the material and responsibility for the material changes hands, the generator or designee, the transporter(s), and the Disposal Site Operator shall sign the Uniform Hazardous Waste Manifest. If a separate waste hauler is employed, the name, address, U.S.E.P.A. ID number, and signature of the transporter shall also be affixed onto the manifest.
111. The enclosed cargo area of trucks or containers shall be free of debris and lined with 6 mil polyethylene sheeting to prevent contamination from leaking or spilled containers. Floor sheeting shall be installed first and extend up the sidewalls. Wall sheeting shall be overlapped and taped into place.
112. Drums shall be placed on level surfaces in the cargo area and packed tightly together to prevent shifting and tipping. Large structural components shall be secured to prevent shifting, with bags placed on top.
113. All access openings on large metal containers, which are used for storing or transporting Asbestos waste, shall have doors and tops that can be closed and locked. Materials not properly bagged shall not be placed in these containers nor shall these containers be used for non-Asbestos waste or nonhazardous asbestos waste. Bags shall be placed, not thrown, into these containers to avoid damage.
	1. MONITORING
114. Abatement Project Management and Inspection:
115. Owner has the right to perform air and performance monitoring at any time.
116. The Owner has unlimited access to the regulated and surrounding areas at all times during progress of the Work, including, but not limited to, use of ladders, scaffolds, and other equipment required to gain access to the Work surfaces.
117. Work Area Monitoring:
118. Visual inspections and air testing may be performed at any time during the progress of the Abatement Work. Provide corrective measures as required to maintain the Work area in compliance with this Specification and all regulatory requirements.
119. Contractor’s Employee – Personal Air Monitoring:
120. Provide air monitoring as required California Code of Regulations, Title 8, Section 1529. Results shall be provided to the Owner Consultant within ten (10) working days of sampling. Negative Exposure Assessments utilizing prior project monitoring require submittal of applicable data for approval before work proceeds.
121. Clearance Air Monitoring:
122. Following the completion of Abatement Work and clean up operations, lock down coat application, and visual inspection by the Owner, clearance air monitoring shall be performed by the Owner Consultant.
123. The Owner Consultant shall arrange for sampling of the air in the Abatement Work area for airborne fiber concentrations. Unauthorized interference or tampering with air sampling equipment may result in termination of the Contract and/or removal of the Abatement Contractor from the List of Prequalified Abatement Contractors.
124. If air-sampling results are within the limits of 40 CFR, Part 763, Subpart E (AHERA), the Abatement Work area shall be released for occupancy.
125. Areas failing clearance monitoring shall be cleaned as required in sub-section 3.08, CLEAN UP PROCEDURES, and tested until satisfactory levels are provided in accordance with this Specification where required.
	1. RE-ESTABLISHMENT OF THE WORK AREA AND SYSTEMS
126. Reestablishment of the Work area shall only occur following the completion of final inspection and clearance air monitoring.
127. All critical barriers shall be removed at this time.
128. Accompanied by the Owner Consultant, visually inspect the Abatement Work area for any remaining visible residue. Evidence of contamination will require additional cleaning requirements.
129. Install and secure Moveable Objects.
130. Relocate Moveable Objects that were removed to temporary locations back to their original positions.
131. Reestablish HVAC, mechanical, and electrical systems to the condition prior to commencement of the Work of this section.
132. Repair all areas of damage deemed to be a result of the Abatement Work.
133. Restore the Work area and auxiliary areas utilized during the Abatement to conditions equal to or better than original. Any damage caused during the performance of Abatement Work, including, but not limited to, damage caused by tape, adhesive, staples, nails, water, Encapsulating Material, or any other material shall be repaired as required.
134. Prior to occupancy of a space following clearance monitoring, all HVAC systems filters associated with the Work area shall be removed and disposed of as Asbestos waste. Decontaminate filter assembly and surrounding area with HEPA Vacuums and wet cleaning methods.

END OF SECTION