

**SECTION 02 82 13**

**ASBESTOS ABATEMENT**

**PART 1 GENERAL**

**1.01 GENERAL REQUIREMENTS**

- A. The project Scope of Work includes removal of asbestos-containing building materials (ACBM) encountered within the project area, identified as follows:
  - 1. See ACBM Report attached at the end this Section.
- B. The boundaries within which ACBM is to be removed are identified by report at the end of this section.
- C. The Contractor shall visit the site to determine the types and amounts of asbestos-containing building materials included within the project scope. [It is mandatory for the asbestos abatement Contractor to be present at the pre-bid job walk in order to understand the scope of abatement work.]
- D. All work shall conform to requirements of General Industry Safety Orders, Title 8, Chapter 4, Section 1529 of the California Code of Regulations and Title 29 of the Code of Federal Regulations Part 1926.58 and other applicable standards as listed in Section 1.02, Part F, of this document. All work procedures must be authorized by University's EH&S prior to implementation.
- E. Following are addresses of regulatory agencies.

DOSH: Division of Occupational Safety and Health (CAL/OSHA)  
Occupational Carcinogen Control Unit  
1390 Market Street, Suite 718  
San Francisco, CA 94102  
(415) 557-1677

OSHA: U.S. Department of Labor - OSHA (FED/OSHA)  
71 Stevenson Street, Fourth Floor  
San Francisco, CA 94105  
(800) 648-1003

Environmental Protection Agency (EPA), Region IX  
75 Hawthorne Street  
San Francisco, CA 94105  
(415) 744-1128

Bay Area Air Quality Management District (BAAQMD)  
939 Ellis Street  
San Francisco, CA 94109  
(415) 771-6000

- F. Following is the address of the University's Office of Environmental Health and Safety:

University of California San Francisco  
Office of Environmental Health and Safety (EH&S)  
Hazardous Materials Removal

50 Medical Center Way / Box 0942  
San Francisco, CA 94143-0942  
(415) 476-0571

- G. Abbreviations are as follows:
1. ACBM Asbestos Containing Building Material
  2. AHERA Asbestos Hazard Emergency Response Act
  3. BAAQMD Bay Area Air Quality Management District
  4. CCR California Code of Regulations
  5. CFR Code of Federal Regulations
  6. DOSH Division of Occupational Safety and Health (Cal/OSHA)
  7. EH&S UCSF Office of Environmental Health and Safety
  8. EPA Environmental Protection Agency
  9. MSDS Material Safety Data Sheet
  10. NESHAP National Emission Standard for Hazardous Air Pollutants
  11. OSHA Occupational Safety and Health Administration
  12. PCM Phase Contrast Microscopy
  13. PEL Permissible Exposure Limit
  14. TEM Transmission Electron Microscopy
  15. TWA Total Weight Average

## 1.02 DESCRIPTION OF WORK

- A. The work specified herein shall be the removal of ACBM by competent persons who are knowledgeable in asbestos removal and will comply with all applicable Federal, State and Local regulations.
- B. Contractor for the asbestos abatement work shall provide all labor, materials, services, insurance, registrations, notifications, reports, permits and equipment necessary to carry out the work in accordance with all applicable Federal, State and Local regulations and specifications in this document.
- C. Contractor shall be responsible for restoring the abatement work area to conditions equal to or better than original. The Contractor shall repair any damages caused during the abatement activities at no additional expense to the University. Contractor shall be responsible for all costs incurred by the University and/or the University's tenants which result from physical damage caused by Contractor, including damage due to water leakage from the work area.
- D. Contractor shall be responsible for area and personal air monitoring within the asbestos containment area during asbestos removal as required by Federal and/or Cal/OSHA regulations. Excursion air monitoring (30 minute), shall be performed as stipulated by Cal/OSHA for abatement workers. The air monitoring results, and copies of the containment entry log must be submitted to University's EH&S within 24 hours unless approval is obtained from EH&S for delayed submittal. In the event that Contractor fails to submit personal air monitoring results in the above specified timely manner University's EH&S may require Type-C air be used by abatement workers in order to continue abatement.
- E. Contractor shall submit, in writing, all requests for inspections as required herein, to be performed by the University's Industrial Hygienist Representative, 72 hours in advance. Written requests shall be submitted to University's Inspector/ Representative.
- F. University's Industrial Hygienist shall conduct the final air clearance. Final air sampling shall be aggressive, and all samples shall be analyzed by Transmission Electron Microscopy, EPA level II (Yamate) method. The average of all final air clearance sample results shall be equal to or less than 70 structures per square millimeter, and no single sample shall exceed 140 structures per square millimeter. If the results of final air clearance samples exceed the

aforementioned specified limit, then the Contractor shall be responsible for additional cleaning of the abatement area and all costs associated with re-sampling and analysis incurred by the Industrial Hygienist.

- G. All asbestos abatement work, including preparation and dismantling of containment, shall conform to the following applicable reference documents. Where conflicting or overlapping requirements or specifications exist, the more stringent requirements shall apply.
1. 29 CFR Section 1926.58 (Federal OSHA)
  2. 29 CFR Section 1910 and 1926
  3. 40 CFR Part 61
  4. 40 CFR Part 261 and 269
  5. 40 CFR 763 (RE: air sampling protocols).
  6. CCR Title 8, Chapter 3.2, Article 2.5. Registration Asbestos Related Work
  7. CCR Title 8, Chapter 4, Section 5208. General Industry Safety Orders; Asbestos
  8. CCR Title 8, Chapter 4, Section 1529. Construction Safety Orders; Asbestos
  9. CCR Title 8, All other applicable requirements
  10. CCR Title 22, Section 66699 (re: hazardous waste regulations)
  11. CCR Title 16, Chapter 8 (Contractor Licensing)
  12. Bay Area Air Quality Management District, Regulation 11, Rule 2.
  13. Bulletin #88
  14. Proposition 65
  15. SB 198 (Injury and Illness Prevention Program)
  16. National and State Electrical Code, Plumbing Code, Building Code, and other related codes where applicable

### **1.03 LIABILITY AND INSURANCE REQUIREMENTS**

- A. Contractor for asbestos abatement work shall provide asbestos abatement liability insurance for the project. Insurance shall include true "Occurrence" asbestos claim provisions without "Sunset" clause. Refer to Supplementary Conditions.

### **1.04 QUALIFICATIONS OF CONTRACTOR**

- A. Contractor selected shall submit to the University, within 10 days after receipt of notice of such selection:
1. Documentation of DOSH registration and the certification issued by the State of California Contractors License Board.
  2. Documentation of at least three successful asbestos abatement projects similar in scope and extent to this project. Documentation shall include:
    - a. Names and addresses of clients, type of asbestos abatement work performed and a description of size and scope for each of the three projects.
    - b. A list of citations or penalties, if any, incurred due to non-compliance with asbestos abatement project specifications and/or regulatory requirements.
  3. The determination of compliance with this eligibility requirement shall be at the sole discretion of the University.

### **1.05 SUBMITTALS AND NOTICES**

- A. Contractor shall submit the following reports and documentation to the University's Representative who will forward them to the University's Environmental Health and Safety Office (EH&S). Work shall not commence until University has approved all documentation related to the following items:
1. Detailed schedule of work to be performed; schedule shall include abatement activities and dates.
  2. Documentation that Contractor has obtained all applicable permits, registrations, notifications and licenses related to asbestos abatement work from all regulating

agencies, including, but not limited to the California State contractors license, Cal/OSHA asbestos registration, Cal-OSHA work-site notification and the BAAQMD NESHAPs notification.

3. Material Safety Data Sheets for all products that will be used for the project. This includes, but is not limited to, products used for wetting, penetrating, and encapsulating.
4. Certificate of Insurance.
5. List of equipment, including personal protective equipment, which will be used for the project. Contractor shall provide a record of a successful negative air HEPA filter DOP test taken within the past six months for each negative air machine and each HEPA vacuum used on the job. At its discretion, University's EH&S may accept a manufacturers DOP test certificate in lieu of the aforementioned Contractor's DOP test requirements.
6. Work Plan which contains specific workplace practices related to site preparation and containment construction, asbestos abatement/removal procedures and hazardous waste handling, load-out and disposal procedures. The Work Plan must also include an Emergency Contingency Plan which, at a minimum, addresses procedures which shall be followed in the event of a breach of containment, power failure, water leakage and fire.
7. Respirator fit testing records for each employee working on the project. Records must reflect that fit testing was conducted within the past six months.
8. Proof of current training certification for an EPA/AHERA accredited Asbestos Workers course for all abatement workers.
9. Proof of current training certification for an EPA/AHERA accredited Supervisor/Contractor and Competent persons course for the Certified Supervisor on the job.
10. Document signed by a physician for each employee on the job proving that each employee has received in the past year an appropriate medical examination as detailed in 29 CFR 1926.58 and CCR Title 8. The exam must include a statement that the employee is approved to wear respiratory protection.
11. Name, address, telephone number, contact and State and Federal identification numbers for the hazardous waste transporter(s).
12. Name, address, telephone number, contact and State and Federal identification numbers of the hazardous waste disposal facility.

#### **1.06 COST ALLOCATIONS - ASBESTOS ABATEMENT FORM**

- A. Contractor shall provide the University with quantities and cost allocations as shown in the Asbestos Abatement form (Exhibit 02 82 13-1) found at the end of this section at completion of project.
- B. Contractor shall visit the site to determine the types and amounts of asbestos-containing building materials included within the project scope and understand the scope of abatement work.
- C. The boundaries within which ACBM is to be removed are identified by descriptions and/or drawings available from the University.

#### **1.07 VEHICLE AND SITE ACCESS**

- A. See Section 01 14 00 - Work Restrictions.

#### **1.08 INTERRUPTION OF BUILDING SERVICES**

- A. See Section 01 14 00 - Work Restrictions.

#### **1.09 DEBRIS BOX**

- A. See Section 01 14 00 - Work Restrictions.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS AND EQUIPMENT**

- A. All materials required to complete the asbestos removal work shall be provided by Contractor and be in accordance with applicable regulations.
- B. Materials that become contaminated with asbestos shall be disposed of in accordance with the applicable regulations.
- C. Contractor shall provide all equipment and tools for asbestos abatement operations. This may include HEPA filtration systems, area isolation equipment and other suitable equipment. The HEPA filtered negative air machines must be maintained such that a minimum of four air changes occur per hour inside the abatement project area.
- D. Enclosures shall be built of non-combustible materials. A polyethylene barrier with a thickness of 6-10 mil shall be clearly labeled as fire retardant treated.
- E. The use of mastic removal chemicals must be approved by University's EH&S prior to use. The use of solvent based mastic removers is restricted and only permitted in certain circumstances as determined by University's EH&S Industrial Hygienist.
- F. A half-face respirator equipped with a dual HEPA filter cartridge shall be worn during abatement site preparation. If PAPR respirators are used, additional fully charged spare batteries must be readily available on site.
- G. Ground Fault Circuit Interrupters shall be used on all equipment and an inspection program shall be followed, as per 29 CFR 1926 Construction Industry Safety and Health Standards.
- H. Electrical extension cords shall be 12/3 gauge or larger.
- I. All electrical plugs shall have an operative ground prong. Grounding adapters shall not be used unless authorized, in writing, by University's EH&S.
- J. In hospital environments, all electrical equipment is to have spark arrestors, and Contractor must provide evidence (documentation) of the presence and installation of spark arrestors.
- K. In hospital environments, all electrical equipment is to be hard wired with a hospital grade plug.
- L. Electrical outlets and extension cords shall be provided by Contractor for the purpose of air monitoring by University's EH&S Industrial Hygienist. University's EH&S Industrial Hygienist shall specify where the electrical outlets are needed, both inside (clearance monitoring) and outside (perimeter monitoring) of the regulated area. Two electrical outlets shall be provided per designated area.
- M. A colored encapsulant shall be used to lock-down any remaining asbestos-containing materials bordering, but not included in, the scope of the project, i.e., pipe insulation ends fireproofing edges, etc.
- N. Contractor shall provide protective clothing (disposable suits) for use by University's EH&S Industrial Hygienist for jobsite inspection, final clearance inspection and retrieval of air

monitoring equipment.

- O. Contractor shall have on-site a minimum of two company owned and labeled 2A, 10 B:C (or larger) fire extinguishers. One shall be located outside of containment, and the others shall be inside the containment; one fire extinguisher per 10,000 square feet and not further than 75 feet apart, starting from decontamination area entry way. The fire extinguishers shall have been inspected and certified as operative within the past 12 months.
- P. A fully stocked First Aid Kit shall be maintained and clearly labeled on the jobsite at all times.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. The work area shall be prepared in accordance with the following specified conditions:
  - 1. The entire abatement area shall be pre-cleaned. Pre-cleaning shall include HEPA vacuuming and wet wiping all horizontal and vertical surfaces. All movable items of furnishings, equipment etc., shall be secured in a clean uncontaminated room and covered with polyethylene. All non-movable items to be left in place shall be sealed in polyethylene.
  - 2. Critical barriers shall be constructed by applying polyethylene, in an airtight fashion, over all penetrations into the work area. Penetrations shall include, but are not limited to all entryways, vents, windows and drains.
  - 3. The abatement work area shall be fully contained by erection of an airtight, double layer 6-10 mil thick polyethylene sheet extending from ceiling to floor and wall to wall. A three stage decontamination unit equipped with a hot/cold water shower and 5 micron pore size water filtration unit is required for personnel entry/exit of the work area. All entrances shall have Z-flaps. All surfaces not described as part of the scope of work shall be covered with a double layer of 6-10 mil polyethylene. A sufficient number of negative air machines shall be used to maintain a pressure differential of minus 0.04 inches of water across the containment barriers at all times. A 24-hour recorder shall be installed to continuously monitor pressure differential inside the regulated work area. Negative air machines shall remain in operation 24 hours a day until final clearance of the work area is achieved.
  - 4. A separate, multistage load-out chamber equipped with Z-flaps shall be used to remove decontaminated equipment and contained waste from the work area. Entry or exit of the work area through the load-out chamber is prohibited except in emergency situations.
  - 5. Contractor shall clearly mark, and label emergency exits. These emergency exits should be separately polyethylene from the rest of the containment. The polyethylene on the walls shall end at the emergency exit. The emergency exit(s) shall be critically sealed, and an overlapping sheet of polyethylene shall cover the exit. A knife shall be posted in the vicinity of the emergency exit door. The exit shall be clearly labeled and free of obstructions.
  - 6. Contractor shall install BAAQMD vision ports. There shall be enough vision ports available to see all of the abatement area within containment.
  - 7. Where it is not feasible to establish a full containment, a substitute containment which meets the purpose and intent of a full containment shall be constructed if approved by University's EH&S.
- B. Asbestos abatement operations shall not commence until the following have been approved by University's EH&S:
  - 1. Arrangements for containing and disposing of wastewater resulting from wet stripping.
  - 2. Work areas, decontamination enclosure systems and parts of the building required to remain in use have been effectively segregated and an inspection performed by the University's EH&S Industrial Hygienist.

3. Tools, equipment, and material waste containers are on hand.
4. Arrangements have been made for jobsite security and safety.
5. All Permits have been obtained, all preparatory steps taken, and the following applicable notices posted:
  - a. Federal OSHA "Asbestos Danger" Warning Signs.
  - b. Cal/OSHA Work-site Notification.
  - c. BAAQMD NESHAP Notification.
  - d. Emergency Exit Diagram (including placement of fire extinguishers).
  - e. Emergency Phone Numbers and Location of Phone; 24-hour contact list with Contractor, University's EH&S, Project Manager/Construction Manager, UC Police Department/Mt Zion Hospital Security (if applicable), utilities (client's maintenance personnel) and the nearest Emergency Hospital facility.

### **3.02 ASBESTOS ABATEMENT**

- A. Contractor shall:
  1. Receive authorization from University's EH&S Industrial Hygienist prior to initiating any abatement activity. The University's EH&S Industrial Hygienist will conduct a pre-abatement inspection prior to authorizing abatement.
  2. Maintain a log of any personnel entering the containment area. Contractor shall not allow any person to enter the containment area without prior University's EH&S approval. This includes Contractor abatement personnel newly assigned to the jobsite.
  3. Provide authorized visitors with protective clothing, whenever they are required to enter the work area.
  4. Ensure that each worker and authorized visitor shall follow the approved procedures established by Contractor and/or University's EH&S.
  5. Remove all existing asbestos-containing building materials (ACBM) as identified during pre-bid job walk within project demarcation. Removal will be done wet and kept wet. Contained waste shall be removed from the work area at the end of each shift if possible. Contractor shall make arrangements with the University's Representative to store the ACBM in an area that is secured (lockable) and with restricted access.
  6. Ensure asbestos fiber levels inside the containment do not exceed 1 fiber per cubic centimeter (f/cc) as determined by personal or area air samples using phase contrast microscopy analysis. If this level is exceeded, Contractor shall take immediate action to reduce airborne fiber concentrations. If this level is exceeded for two consecutive shifts, Contractor shall cease asbestos removal operations and perform necessary clean-up to reduce the airborne level to below 0.2 f/cc as indicated by subsequent air samplings.
  7. Conduct personal exposure monitoring and provide monitoring results within 24 hours after samples are taken to University's EH&S.

### **3.03 ON-SITE RECORDS**

- A. The following records must be available on-site throughout the entire course of the asbestos abatement work.
  1. Work Plan which includes Emergency Contingency Plan.
  2. Personal air monitoring results, both 30-minute excursion and 8 hour TWA.
  3. EPA/AHERA Training Certificates for each worker and Certified Supervisor.
  4. The most recent medical and respirator fit testing documentation for all employees.
  5. Material Safety Data Sheet and product information sheet for all equipment and supplies used on site.

### **3.04 CLEAN UP AND DISPOSAL**

- A. The following requirements are in addition to requirements specified Section 01 74 00 - Cleaning and Section 01 74 19 - Construction Waste Management and Disposal.

- B. Asbestos waste shall be contained in a clear, 6 mil asbestos labeled bag, goose necked and taped. Such a bag shall be placed into another asbestos labeled bag, also goose necked and taped. A generator identification label shall be affixed to each bag. Double bagged, sealed and labeled containers of asbestos waste shall be removed daily, and at the end of the job, during low campus activity hours (before 7:00 a.m. and after 7:00 p.m.). All asbestos wastes shall be transported to a pre-approved (by University's EH&S) Class II waste site, in accordance with CCR Title 22. University's EH&S shall inspect the waste and sign the uniform hazardous waste shipping manifests prior to transporting and disposal. The University's EH&S Industrial Hygienist is the only person authorized to sign the manifest and shall retain the original Yellow and Blue Generator copies of the manifest; and a copy of the Land Ban Restriction notification, in order to verify proper disposal.
- C. Hazardous Waste Shipments:
1. Provide a certified weight ticket to University's EH&S for hazardous waste shipments within 10 days of job site pick-up. The weight ticket shall reflect only those wastes generated at the job site and shall not include combined wastes from other UCSF or non-UCSF projects.
    - a. Contractor shall be assessed an amount of \$27.22 per cubic yard of waste generated for non-compliance of this Section.
- D. Waste manifest forms shall be provided by Contractor and include the following information in Box 3 (Generator's name and mailing address):
- University of California San Francisco  
Office of Environmental Health & Safety  
50 Medical Center Way  
San Francisco, CA 94143-0942  
Attn: Bert Luistro
- E. University's EH&S will provide Contractor with the Generator's US EPA ID No. (Box 1 of the Manifest) for each facility involved in the project scope of work.
- F. Contaminated clothing and polyethylene shall be disposed of as hazardous waste.
- G. Wastewater from wet stripping, shower room, and worker and equipment decontamination systems shall be filtered through a filtration treatment system capable of removing all particles 5 microns or greater in size before it is discharged into the sanitary sewer system.
- H. The work area shall remain under negative pressure until University's EH&S has completed final air sampling and given approval to dismantle the containment.
- I. If requested, the primary (bottom clean layer) polyethylene barrier located above ceilings shall be left in place after clean-up as a dust barrier during ensuing non-asbestos construction activities. If contamination cannot be removed from the barrier, the Contractor shall remove it and erect a new one in the same location.
- J. All non-disposable equipment, including negative air machines shall be cleaned and decontaminated prior to removal from the containment area.

### 3.05 FINAL CLEARANCE

- A. EH&S shall provide a final inspection of the work area upon completion of all abatement and clean up tasks. Contractor shall notify the University's EH&S Industrial Hygienist 24 hours in advance of projected completion in order to schedule a final inspection.



- B. Contractor shall not encapsulate abated surfaces until the work area has passed final inspection as determined by the University's EH&S industrial Hygienist. University's EH&S Industrial Hygienist shall inspect the work area surfaces for ACBM residue and debris and will identify to Contractor specific areas (if any) which require additional cleaning. If additional cleaning is required, University's EH&S Industrial Hygienist shall re-inspect the work area following completion of clean up activities.
- C. Following successful passage of final inspection, Contractor shall encapsulate all abated surfaces. Once the encapsulant is dry, Contractor shall remove, and dispose of as hazardous waste, the top (dirty) layer of polyethylene. The bottom (clean) layer of polyethylene and all critical barriers which cover entryways, windows, vents, drains and any other openings into the work area shall be left in place.
- D. University's EH&S shall conduct aggressive final air clearance as specified in Article 1.02, Paragraph F and notify Contractor of analysis results in a timely fashion. Failure of final air clearance will require the Contractor to re-clean (HEPA vacuum and wet wipe all surfaces) and re-encapsulate the work area prior to any final clearance retake.
- E. Once final air clearance is attained (as determined by University's EH&S Industrial Hygienist), Contractor will be given written approval to remove all remaining equipment and polyethylene from the work area and restore the work area to pre-abatement conditions.

### **3.06 ASBESTOS ABATEMENT TERMS**

- A. AIR MONITORING: The process of measuring the fiber content of a specific volume of air.
- B. ASBESTOS REMOVAL: Procedures to strip asbestos-containing materials from the designated areas and the disposal of these materials to an acceptable site.
- C. AUTHORIZED VISITOR: The University or a representative of the University or any regulatory agency having jurisdiction over the project.
- D. CLEAN ROOM: An uncontaminated room having facilities for the storage of employee's street clothing and uncontaminated materials and equipment.
- E. ENCAPSULANT: A material used to coat asbestos material residue where removal has occurred. Encapsulants can be either penetrants or bridging materials. It is preferred that the material used to coat the ends of pipe TSI left in place be a bridging encapsulant. The remaining asbestos-containing material residue in the area should be covered with a penetrating agent.
- F. ENCLOSURE: An airtight, impermeable temporary barrier used to separate an asbestos regulated area from a non-contaminated room.
- G. EQUIPMENT DECONTAMINATION ENCLOSURE SYSTEM: A decontamination enclosure system for materials and equipment, typically consisting of a designated area of the work area, a wash area, a holding area, and an uncontaminated area.
- H. EQUIPMENT ROOM: A contaminated area or room which is part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment.
- I. FULL CONTAINMENT: All critical barriers established, and all surfaces not described as part of the Scope of Work is to be covered with two overlaying layers of 6 - 10 mil polyethylene.

- J. HEPA VACUUM EQUIPMENT: High efficiency particulate air (absolute) filtered vacuuming equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining particulate of 0.3 microns or larger.
- K. NEGATIVE PRESSURE: A HEPA filtered local exhaust system capable of maintaining a minimum pressure differential of minus 0.04 (-0.04) inches of water column relative to adjacent unsealed areas.
- L. SHOWER ROOM: A room between the clean room and the equipment room in the worker decontamination enclosure system, with hot and cold or warm running water, suitably arranged for complete showering during decontamination. The shower room comprises an air lock between contaminated and clean areas.
- M. 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 tools as asbestos-containing waste.
- N. WORKER DECONTAMINATION ENCLOSURE SYSTEM: A multi-stage decontamination system consisting of an Equipment Room, a Shower Room and a Clean Room connected by overlapping polyethylene Z-flap air locks.

### **3.07 EXHIBITS**

- A. Exhibit 02 82 13-1 - Asbestos Abatement Form and Sample
- B. Exhibit 02 82 13-2 - Asbestos Abatement Material List

**END OF SECTION**



CONTRACTOR : \_\_\_\_\_ PROJECT NO.: \_\_\_\_\_

PROJECT TITLE: \_\_\_\_\_ CONTRACT NO.: \_\_\_\_\_

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO CHANGE ORDER NO.: \_\_\_\_\_

DATE \_\_\_\_\_

**ASBESTOS ABATEMENT**

*(FILL IN TABLE USING MATERIAL LIST)*

NO.	MATERIAL	ENCLOSURE REPAIR	ENCAPSULATE	REMOVAL	REPLACEMENT	LOCATION (FLOOR, ROOM, HALL, CORRIDOR, ETC.)	QUANTITY OF WORK (SF, LF OR NUMBER)	COST BREAK DOWN
17	CEILING TILES			X		RM 428	600 SF	\$ 3,000
17	CEILING TILES				X	RM 428	600 SF	\$ 2,000
14	VAT			X		1ST FLOOR-ALL	3000 SF	\$15,000
5	PIPE			X		RM 428	75 LF	\$ 1,500
5	PIPE				X	RM 428	75 LF	\$ 750
6	PIPE, JOINTS			X		RM 428	15 LF	\$ 900
28	CLEAN -UP					RM 500	----	\$ 2,000

TOTAL: (MUST EQUAL CONTRACT PRICE) \$25,150.00

**NOTE:**

1. Quantities of work may be taken from the specifications measured, or estimated.
2. Cost of abatement means all of contracts costs to perform the work including: preparation, worker protection, and decontamination or cleanup required for the abatement.
3. If decontamination or cleanup is performed without any abatement involved (alone), then the cost of this work is not considered abatement.  
 Include: decontamination or cleanup costs for a project, or parts of a project, as item 29 quantities are not required.

Exhibit 02 82 13-1

**ASBESTOS ABATEMENT FORM AND SAMPLE**

<b><u>NO</u></b>	<b><u>MATERIAL</u></b>	<b><u>QUANTITY MEASUREMENT SF/LF/NUMBER</u></b>
	<b><i><u>SURFACE TREATMENT (SPRAYED-ON AND TROWELLED-ON)</u></i></b>	
1	FIRE PROOFING	SF
2	ACOUSTICAL PLASTER	SF
3	SIMULATED ACOUSTICAL PLASTER	SF
4	TEXTURES	SF
	<b><i><u>INSULATION</u></i></b>	
5	PIPES	LF OR SF
6	FITTINGS (JOINTS, VALVES, ETC.)	NUMBER
7	BOILERS	SF
8	BREECHING	SF
9	DUCTS	SF
10	TANKS	SF
11	SHAFTS	SF
12	PLENUMS	SF
13	OTHER MECHANICAL EQUIPMENT	SF
	<b><i><u>MISCELLANEOUS</u></i></b>	
14	FLOOR TILES	SF
15	LINOLEUM	SF
16	MASTIC	SF
17	CEILING TILES	SF
18	ROOFING MATERIAL	SF
19	REFRACTORY INSULATION	SF
20	DRYWALL JOINT COMPOUND	LF OR SF
21	PLASTER, STUCCO	SF
22	TRANSITE WALLS	SF
23	TRANSITE PIPE	LF
24	TRANSITE CONDUIT	LF
25	TRANSITE COOLING TOWER	SF
26	TRANSITE LAB TOPS	SF
27	TRANSITE HOODS	SF
28	OTHER (DESCRIBE)	
	<b><i><u>DECONTAMINATION OR CLEAN-UP</u></i></b>	
29	DECONTAMINATION OR CLEAN-UP (ALONE)	NONE REQUIRED