



**CITY OF PORT ARTHUR  
QUOTE SHEET  
(Specifications are attached)**

**Date of Request:** September 2, 2016

**Department Requesting Quote:** Purchasing

**Bid Number:** P16-062

**Services Needed:** Asbestos Abatement of Old Jefferson County Probation Office

**Quote Due Date & Time:** Monday September 12, 2016 by 3:00 P.M.

**Mandatory Pre-Bid Date:** **Thursday, September 8, 2016 @ 10:30 A.M. @ 5<sup>th</sup> Floor City Council Chambers, 444 4<sup>th</sup> Street, Port Arthur, TX 77642**

**Delivery:** Quotes are to be faxed to (409) 983-8291,  
E-mailed to [clifton.williams@portarthurtx.gov](mailto:clifton.williams@portarthurtx.gov)  
Delivered to the Purchasing Div., 2<sup>nd</sup> floor, City Hall.

**Questions, Please contact:** Clifton Williams, Acting Purchasing Manager,  
[Clifton.williams@portarthurtx.gov](mailto:Clifton.williams@portarthurtx.gov)

**TOTAL COST** \$ \_\_\_\_\_

**NUMBER OF WORKING DAYS TO COMPLETE** \_\_\_\_\_

\_\_\_\_\_  
**Company Name**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Printed Name**

\_\_\_\_\_  
**Phone**

\_\_\_\_\_  
**Address**

\_\_\_\_\_  
**Fax**

\_\_\_\_\_  
**City, State, Zip**

\_\_\_\_\_  
**E-mail**

\_\_\_\_\_  
**Clifton Williams, CPPB, Purchasing Manager**

\_\_\_\_\_  
**Date**

# NON-COLLUSION AFFIDAVIT

CITY OF PORT ARTHUR

§

STATE OF TEXAS

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By the signature below, the signatory for the bidder certifies that neither he nor the firm, corporation, partnership or institution represented by the signatory or anyone acting for the firm bidding this project has violated the antitrust laws of this State, codified at Section 15.01, *et seq.*, Texas Business and Commerce Code, or the Federal antitrust laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in the same line of business, nor has the signatory or anyone acting for the firm, corporation or institution submitting a bid committed any other act of collusion related to the development and submission of this bid proposal.

Signature:

Printed Name:

Title:

Company:

Date:

SUBSCRIBED and sworn to before me the undersigned authority by \_\_\_\_\_ the \_\_\_\_\_ of, \_\_\_\_\_ on behalf of said bidder.

\_\_\_\_\_  
Notary Public in and for the  
State of Texas

My commission expires: \_\_\_\_\_

**AFFIDAVIT**

All pages in Offeror's Responses containing statements, letters, etc., shall be signed by a duly authorized officer of the company whose signature is binding.

The undersigned offers and agrees to one of the following:

\_\_\_\_\_ I hereby certify that **I do not have** outstanding debts with the City of Port Arthur. I further agree to pay succeeding debts as they become due.

\_\_\_\_\_ I hereby certify that **I do have** outstanding debts with the City of Port Arthur and agree to pay said debts prior to execution of this agreement. I further agree to pay succeeding debts as they become due.

\_\_\_\_\_ I hereby certify that **I do have** outstanding debts with the City of Port Arthur and agree to enter into an agreement for the payment of said debts. I further agree to pay succeeding debts as they become due.

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**Firm Name** **Date**

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**Authorized Signature** **Title**

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**Name (please print)** **Telephone**

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**Email**

**STATE:** \_\_\_\_\_

**COUNTY:** \_\_\_\_\_

**SUBSCRIBED AND SWORN** to before me by the above named \_\_\_\_\_

on this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
**Notary Public**

**RETURN THIS AFFIDAVIT AS PART OF THE BID PROPOSAL**

# CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For Vendor or other person doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 1491, 80<sup>th</sup> Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001 (1-a) with a local governmental entity and the person meets requirements under Section 176.006 (a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7<sup>th</sup> business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

## 1. Name of person who has a business relationship with local governmental entity.

## 2. Check this box if you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than 7<sup>th</sup> business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

## 3. Name of a local government officer with whom filer has employment or business relationship.

\_\_\_\_\_  
Name of Officer

This section (item 3 including subparts A, B, C, & D) must be completed for each officer with whom the filer has an employment or other business relationship as defined by Section 176.001 (1-a), Local Government Code. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income, from the filer of the questionnaire?

Yes  No

B. Is the filer of the questionnaire receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

Yes  No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government Officer serves as an officer or director, or holds an ownership of 10 percent or more?

Yes  No

D. Describe each employment or business relationship with the local government officer named in this section.

4. \_\_\_\_\_  
Signature of person doing business with the governmental entity      Date

GENERAL INFORMATION:

**NOTE: It is extremely important that the Vendor, Bidder, and/or Contractor furnish the City of Port Arthur the required information specified in Bid or Proposal Specifications listed in this Bid Package.**

All bids meeting the intent of this request for bid will be considered for award. BIDDERS TAKING EXCEPTION TO THE SPECIFICATIONS, OR OFFERING SUBSTITUTIONS, SHALL STATE THESE EXCEPTIONS BY ATTACHMENT AS PART OF THE BID. The absence of such a list shall indicate that the bidder has not taken exceptions and the City shall hold the bidder responsible to perform in strict accordance with the specifications of the invitation. The City reserves the right to accept any and all or none of the exception(s)/substitutions(s) deemed to be in the best interest of the City of Port Arthur.

**ALTERING BIDS:** Bids cannot be altered or amended after submission deadline. Any interlineations, alteration, or erasure made before opening time must be initialed by the signer of the bid, guaranteeing authenticity.

**BID AWARD:** The City of Port Arthur will review all bids for responsiveness and compliance with these specifications. The award shall be made to the responsive, responsible bidder who submits the best value bid.

The City reserves the right to:

1. Reject any and all bids and to make no award if it deems such action to be in its best interest.
2. Award bids on the lump sum or unit price basis, whichever is in the best interest of the City.
3. Reject any or all bids and to waive informalities or defects in bids or to accept such bids as it shall deem to be in the best interests of the City.
4. Award bids to bidders whose principal place of business is in the City of Port Arthur and whose bid is within 5% of the lowest bid price, as provided by Section 271.905 of the Texas Government Code.

**TERMINOLOGY:** "Bid" vs. "Proposal"--For the purpose of this ITB, the terms "Bid" and Proposal" shall be equivalent.

Bidders are cautioned to read the information contained in this ITB carefully and to submit a complete response to all requirements and questions as directed.

**CONFLICT OF INTEREST:** No public official shall have interest in this contract, in accordance with Vernon's Texas Code Annotated, Local Government Code Title 5, Subtitle C, Chapter 171.

**ETHICS:** The bidder shall not offer or accept gifts or anything of value nor enter into any business arrangement with any employee, official or agent of the City of Port Arthur.

**MINIMUM STANDARDS FOR RESPONSIBLE PROSPECTIVE BIDDERS:** A prospective bidder must affirmatively demonstrate bidder's responsibility. A prospective bidder must meet the following requirements:

1. Be able to comply with the required or proposed delivery schedule.
2. Have a satisfactory record of performance.
3. Have a satisfactory record of integrity and ethics.
4. Be otherwise qualified and eligible to receive an award.

5. Be engaged in a full time business and can assume liabilities for any performance or warranty service required.
6. The City Council shall not award a contract to a company that is in arrears in its obligations to the City.
7. No payments shall be made to any person of public monies under any contract by the City with such person until such person has paid all obligations and debts owed to the City, or has made satisfactory arrangements to pay the same.

**ADDENDA:** Any interpretations, corrections or changes to the ITB and Specifications will be made by addenda. Sole issuing authority of addenda shall be vested in the City of Port Arthur Purchasing Manager. The City assumes no responsibility for the bidder's failure to obtain and/or properly submit any addendum. Failure to acknowledge and submit any addendum may be cause for the bid to be rejected. It is the vendor's responsibility to check for any addendums that might have been issued before bid closing date and time.

**PORT ARTHUR PRINCIPAL PLACE OF BUSINESS:** Any bona fide business that claims the City of Port Arthur as its principal place of business must have an official business address (office location and office personnel) in Port Arthur, the principal storage place or facility for the equipment shall be in Port Arthur and/or the place of domicile for the principal business owner(s) shall be in Port Arthur or such other definition or interpretation as is provided by state law. Contractors outside the City of Port Arthur are allowed to bid.

**PRICES:** The bidder should show in the proposal both the unit price and total amount, where required, of each item listed. In the event of error or discrepancy in the mathematics, the unit price shall prevail.

**PURCHASE ORDER:** A purchase order(s) shall be generated by the City of Port Arthur to the successful bidder. The purchase order number must appear on all itemized invoices.

**INVOICES:** All invoices shall be mailed directly to the City of Port Arthur, Attn.: **Demolition Department** P.O. Box 1089, Port Arthur, Texas 77641.

**PAYMENT:** Payment will be made upon receipt of the original invoice and the acceptance of the goods or services by the City of Port Arthur, in accordance with the State of Texas Prompt Payment Act, Article 601f V.T.C.S. The City's standard payment terms are net 30, i.e. payment is due 30 days from the date of the invoice.

**SALES TAX:** The City of Port Arthur is exempt by law from payment of Texas Sales Tax and Federal Excise Tax; therefore the proposal shall not include Sales Tax.

**VENUE:** This agreement will be governed and construed according to the laws of the State of Texas. This agreement is performable in Port Arthur, Texas, Jefferson County.

**COMPLIANCE WITH LAWS:** The Contractor shall comply with all applicable laws, ordinances, rules, orders, regulations and codes of the federal, state and local governments relating to performance of work herein.

**INTEREST OF MEMBERS OF CITY:** No member of the governing body of the City, and no other officer, employee or agent of the City who exercises any functions or responsibilities in connection with

the planning and carrying out of the program, shall have any personal financial interest, direct or indirect, in this Contract; and, the Contractor shall take appropriate steps to assure compliance.

**DELINQUENT PAYMENTS DUE CITY:** The City of Port Arthur Code of Ordinances prohibits the City from granting any license, privilege or paying money to any-one owing delinquent taxes, paving assessments or any money to the City until such debts are paid or until satisfactory arrangements for payment has been made. Bidders must complete and sign the AFFIDAVIT included as part of this ITB.

**QUANTITIES:** Quantities shown are estimated, based on projected use. It is specifically understood and agreed that these quantities are approximate and any additional quantities will be paid for at the quoted price. It is further understood that the contractor shall not have any claim against the City of Port Arthur for quantities less than the estimated amount.

**SHIPPING INFORMATION:** All bids are to be F.O.B., City of Port Arthur, Port Arthur, TX 77640

**INCORPORATION OF PROVISIONS REQUIRED BY LAW:** Each provision and clause required by law to be inserted into the Contract shall be deemed to be enacted herein and the Contract shall be read and enforced as though each were included herein. If, through mistake or otherwise, any such provision is not inserted or is not correctly inserted the Contract shall be amended to make such insertion on application by either party.

**CONTRACTOR'S OBLIGATIONS:** The Contractor shall and will, in good workmanlike manner, perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this Contract, in accordance with the provisions of this Contract and said specifications.

The apparent silence of these specifications as to any detail or to the apparent omission from it of a detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail.

While the purpose of the specifications is to indicate minimum requirements in the way of capability, performance, construction, and other details, its use is not intended to deprive the City of Port Arthur the option of selecting goods which may be considered more suitable for the purpose involved.

In the event of conflicts between the written bid proposal and information obtained verbally, the vendor is specifically advised that the written bid proposal will prevail in the determination of the successful bidder.

Under the Title VI of the Civil Rights Act of 1964, no person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

**TERMINATION FOR CAUSE:** If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner his obligations under this contract, or if the Contractor shall violate any of the covenants, agreements or stipulations of this contract, the City shall thereupon have the right to terminate this contract by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least fifteen (15) days before the effective date of such termination. Notwithstanding the above, the Contractor shall not be relieved of liability to the City for damages sustained by the City by virtue of any breach of the contract by the Contractor, and the City may withhold any payments to the

Contractor for the purpose of set-off until such time as the exact amount of damages due the City from the Contractor is determined.

**TERMINATION FOR CONVENIENCE:** The City may terminate this contract at any time giving at least thirty (30) days notice in writing to the Contractor. If the Contract is terminated by the City as provided herein, the Contractor will be paid for the service that it has performed up to the termination date. If this contract is terminated due to fault of the Contractor, the previous paragraph hereof relative to termination shall apply.

**RELEASES AND RECEIPTS:** The City of Port Arthur before making payments may require the Contractor to furnish releases or receipts for any or all persons performing work and supplying material or service to the Contractor, or any sub-contractors for work under this contract, if this is deemed necessary to protect its interests.

**CARE OF WORK:** The Contractor shall be responsible for all damages to person or property that occurs as a result of his fault or negligence in connection with the work performed until completion and final acceptance by the City.

**SUB-CONTRACTS:** The Contractor shall not execute an agreement with any sub-contractor or permit any sub-contractor to perform any work included in this Contract until he has received from the City of Port Arthur written approval of such agreement.

**INSURANCE:** All insurance must be written by an insurer licensed to conduct business in the State of Texas, unless otherwise permitted by Owner. The Contractor shall, at his own expense, purchase, maintain and keep in force insurance that will protect against injury and/or damages which may arise out of or result from operations under this contract, whether the operations be by himself or by any subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, of the following types and limits

1. Commercial General Liability occurrence type insurance (City of Port Arthur, its officers, agents, and employees must be named as an additional insured):
  - a. Bodily injury \$500,000 single limit per occurrence or \$500,000 each person/\$500,000 per occurrence for contracts of \$100,000 or less; or Bodily injury \$1,000,000 single limit per occurrence or \$500,000 each person /\$1,000,000 per occurrence for contracts in excess of \$100,000; and,
  - b. Property Damage \$100,000 per occurrence regardless of contract amount; and,
  - c. Minimum aggregate policy year limit of \$1,000,000 for contracts of \$100,000 or less; or, Minimum aggregate policy year limit of \$2,000,000 for contracts in excess of \$100,000.
2. Commercial Automobile Liability Insurance (Including owned, non-owned and hired vehicles coverage's).
  - a. Minimum combined single limit of \$500,000 per occurrence, for bodily injury and property damage.

b. If individual limits are provided, minimum limits are \$300,000 per person, \$500,000 per occurrence for bodily injury and \$100,000 per occurrence for property damage.

Contractor shall cause Contractor's insurance company or insurance agent to fill in all information required (including names of insurance agency, contractor and insurance companies, and policy numbers, effective dates and expiration dates) and to date and sign and do all other things necessary to complete and make into valid certificates of insurance and pertaining to the above listed items, and before commencing any of the work and within the time otherwise specified, Contractor shall file completed certificates of insurance with the Owner.

None of the provisions in said certificate of insurance should be altered or modified in any respect except as herein expressly authorized. Said CERTIFICATE OF INSURANCE Form should contain a provision that coverage afforded under the policies will not be altered, modified or canceled unless at least fifteen (15) days prior written notice has been given to the City of Port Arthur. Contractor shall also file with the City of Port Arthur valid CERTIFICATE OF INSURANCE on like form from or for all Subcontractors and showing the Subcontractor (s) as the Insured. Said completed CERTIFICATE OF INSURANCE Form (s) shall in any event be filed with the City of Port Arthur not more than ten (10) days after execution of this Contract.

**NOTICE TO PROCEED:** Notice to Proceed shall be issued within ten (10) days of the execution of the Contract by OWNER. Should there be any reasons why Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between OWNER and CONTRACTOR.

**CELL PHONE OR PAGER:** The Contractor must have a working cell phone or pager available Monday through Friday from 8:00 a.m. to 5:00 p.m. so that the City will be able to contact the contractor.

**LIQUIDATED DAMAGES:** Liquidated damages will be \$150.00 per day.



Building HEROES. Protecting HEROES.

August 5, 2016

**Project: Old Jefferson County Probation Building  
246 Dallas Avenue  
Port Arthur, Texas  
Asbestos Abatement Project  
Technical Specifications**

BY: 

Daniel R. Ward  
DSHS CONSULTANT LICENSE NO. 10-5479  
Expiration Date: 5/11/18

**INTRODUCTION AND SCOPE**

This asbestos abatement project will include the proper removal, transportation and disposal of approximately 350 square feet of asbestos-containing floor tile/mastic; 4,444 square feet of floor tile/mastic beneath carpet; 8,099 square feet of floor tile/mastic beneath linoleum; approximately 1,440 square feet of interior texture on wall plaster; approximately 420 square feet of transite wall at the west end mechanical room; 288 square feet of exterior transite at overhang; and 186 square feet of interior transite ceiling in the record's storage room at the south side of the Old Jefferson County Probation Building located at 246 Dallas Avenue in Port Arthur, Texas.

The above named licensed consultant hereby authorizes the Project Managers, Mr. Andy Lee, Ms. Christy Smith, Mr. Jordan Bennett, Mr. Gerald Hebert, Ms. Jennifer Pierre, and/or Mr. Robert Hanks, (DSHS-Licensed Project Managers) to perform the necessary visual inspections as required by DSHS.

**No asbestos related activities shall occur when a DSHS-Licensed Project Managers/Consultant is not on site.**

246 Dallas Avenue  
Port Arthur, TX  
Asbestos Abatement Specifications  
DSHS License No. 10-5479

1  
Consultant: 

**ASBESTOS REMOVAL****PART 1 - GENERAL****1.01 PERSONNEL PROTECTION**

- A. Prior to commencement of work, all workers shall be instructed by the Contractor, and shall be knowledgeable in the appropriate procedures for personnel protection and asbestos removal.
- B. Contractor acknowledges and agrees that he is solely responsible for enforcing worker protection requirements at least equal to those specified in this Section.
- C. Contractor shall provide workers with respiratory equipment approved by NIOSH and OSHA for the type of work being performed. Each worker shall be able to show, upon request, dated proof of fit testing performed by qualified personnel for the respirator being used, a current "Physician's Written Statement", and accreditation certificates.
- D. Where respirators with disposable filters are used, provide sufficient filters for replacement as necessary by the workers, or as required by applicable regulations.
- E. Provide respiratory protection as needed from the time of the first operation involving contact with asbestos-containing materials. Provide respiratory protection until the acceptance of final air test results by Owner's Representative and the completion of containment removal:
1. Provide a minimum of half-face dual cartridge respirators for workers during preparation phases of the work, providing no disturbance of the asbestos-containing material occurs.
  2. Provide a minimum of half-face dual cartridge respirators for workers during preparation phases of glove bag-type pipe insulation removal, window/louver unit removal, floor tile and mastic removal, fire door removal, fan-coil unit removal, and exterior caulking/sealant removal, except where these operations are performed in work areas concurrently with abatement activities requiring higher levels of respiratory protection as noted below.
  3. Provide a minimum of half-face dual cartridge respirators for workers during all phases of handling and disposal of containerized asbestos-containing waste materials.
  4. Provide workers applying spray-applied plastic sheeting with stackable HEPA/ammonia cartridges as applicable.
  5. Provide workers using solvents with stackable HEPA/organic vapor cartridges as applicable.

6. Provide a minimum of half-face dual cartridge respirators for workers during all phases of containment removal.
- F. Contractor shall be solely responsible for scheduling necessary air sampling by an independent testing laboratory for compliance of his respiratory protection with OSHA regulations. Contractor shall pay for all costs associated with such testing.
1. Personnel exposure samples collected by or for the Contractor shall be analyzed in accordance with the OSHA reference method (ORM) as detailed in 29 CFR 1926.1101, Appendix A.
  2. Personnel exposure samples collected by or for the Contractor shall represent eight-hour time weighted average (TWA) and short-term excursion limit exposures for all activities within the contaminated work areas.
  3. Ensure that personnel monitoring strategy employed will result in suitable samples for analysis.
  4. Arrange for analysis of personnel monitoring samples such that results of analysis are received no later than forty-eight hour
  5. Post the results of personnel exposure monitoring at job-site, upon receipt from laboratory.
- G. Permit no visitors, except for governmental inspectors having jurisdiction, in the work areas after commencement of asbestos disturbance or removal. Provide authorized visitors with suitable respirators and protective equipment.
- H. Provide workers with sufficient sets of protective disposable clothing, consisting of full body coveralls, head covers, gloves, and foot covers, of sizes to properly fit individual workers.
- I. Provide workers with rubber boots, hard hats, eye protection, hearing protection, and other protective equipment as needed.
- J. Leave reusable equipment, apparel and protection devices (excluding respirators) in the contaminated equipment room until the end of the asbestos abatement work, at which time such items shall be disposed of as contaminated waste or decontaminated for reuse.
- K. Provide authorized visitors with suitable protective disposable clothing, respiratory protection (including suitable replacement filters), headgear, eye protection, footwear and other protective equipment of sizes to properly fit visitors whenever they enter the work area.

## 1.02 SIGN-IN/OUT LOG

- A. Contractor shall maintain a sign-in/out log in the immediate vicinity of the clean room of the personnel decontamination units. Maintain sign-in/out logs from the time the first activity is performed until acceptance of the final air test results by the Consultant or Project Manager.

Require each individual entering the work areas, including the Contractor's workers, Consultant, Project Manager, and government officials to sign in and out each time upon entering and leaving the work areas.

- B. Sign-in/out log shall indicate date, printed or typed name, signature, social security number, company or agency represented, and time entering and leaving the work areas.

**1.03 ASBESTOS WASTE LOG**

- A. Contractor shall maintain an asbestos waste log to be completed as asbestos-containing waste is removed from the work areas for transport and disposal.
- B. Asbestos waste log shall indicate date; description of waste included; number, size and type of waste containers, as applicable, removed from work areas; time of day; and signature of recorder.

**1.04 TRAINING PROGRAM**

- A. Provide a training program to instruct personnel on proper respirator use, hazards of asbestos exposure and OSHA asbestos regulations in accordance with the requirements of the model accreditation program (MAP) established by the EPA in Appendix C to 40 CFR 763 (E).
- B. The Contractor shall provide a training program as often as necessary to train all employees to be utilized on the project. No worker shall be utilized on any portion of the Work until training documentation has been reviewed and accepted by the Consultant or Project Manager.

**1.05 SEGREGATION OF WORK AREAS**

- A. Contractor shall construct a critical barrier of at least two layers of six-mil plastic sheeting, individually applied, to separate the contained work areas from surrounding areas. Use clear plastic sheeting for critical barriers segregating areas within the work areas. Black plastic sheeting shall be used for the decontamination units and visual barriers.
- B. Contractor shall post warning signs as required by the Texas Department of State Health Services (DSHS) and 29 CFR 1926.1101, in both English and Spanish, at all entrances to the work areas and on the outside of critical barriers.

**1.06 REDUCED AIR PRESSURE**

- A. Contractor shall maintain a reduced air pressure within the contained work areas of at least 0.02 inches water gauge. Contractor shall maintain continuous measurement of reduced air pressure maintained in work areas.
- B. Maintain reduced air pressure, and continuous measurement of such, from the time work area preparations are complete until the acceptance of final air test results by the Consultant or Project Manager.

Consultant: 

- C. Air filtration systems employed to provide reduced air pressure shall provide at least four air changes per hour within the work areas and be exhausted outside the building.

### 1.07 GENERAL – ALL JOBS

- A. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials to the areas indicated. If additional storage is necessary obtain and pay for such storage off site.
- B. Contractor's Asbestos Abatement Supervisors shall remain on the job site and in immediate contact with those under their supervision during all periods of asbestos abatement activity.
- C. During any period of actual abatement of asbestos, an abatement supervisor shall be stationed within the containment area at least 25% of the time for the purpose of supervising the progress of the abatement work.
- D. All licensed supervisors are responsible for respirator fit testing, personal protection of the workers, safety, security and control of access at the job site.
- E. Supervisors shall also require that operations at the asbestos job site cease whenever hazardous or unlawful situations are detected, so as to effect a remedy.
- F. Contractor's employees shall be fully clothed at all times (shirt, pants and shoes). Sandals or other open toe shoes shall not be allowed.
- G. The Owner will specify locations for water and electrical hook up at the time of mobilization.
- H. Contractor's employees shall be restricted to the immediate work area at all times.
- I. Contractor's dumpster for disposal of asbestos waste must be kept locked. Location of the dumpster must be coordinated with the Owner.
- J. **Fire Safety.** At least one fire extinguisher with a minimum National Fire Protection Association rating of 10BC (dry chemical) shall be placed for every 3,000 square feet, or fraction, of containment area.
- K. **Electrical Safety.** Ground-fault circuit interrupter (GFCI) units shall be installed on all electrical circuits used within the regulated and containment areas.
- L. **Air Monitoring.** Air monitoring shall include personal samples according to 40 CFR Part 763, Subpart G or 29 CFR §1926.1101, baseline sampling, area sampling, and clearance sampling according to §295.58(i). In a public building, a minimum of three baseline sample (minimum volume of 1250 liters) for analysis by PCM must be collected under normal building conditions prior to the disturbance of ACM as part of any abatement activity. Ambient air samples during the project must also be collected for analysis by PCM. All project activities shall be cleared by using aggressive air sampling. For all projects, samples may be collected and analyzed by NIOSH 7400 protocol, counting rules A, Phase-contrast Microscopy (PCM) as amended. Clearance samples shall be collected at a rate of at least 0.5 less than 16 liters per

minute on 0.8 micron MCE filters in conducting cassettes with extension cowls. Minimum sample volume will be 1,250 liters. Clearance will be achieved if no sample is reported greater than 0.01 f/cc by the analysis report from the licensed laboratory. Asbestos Hazard Emergency Response Act (AHERA) protocol will be used in schools.

- M. Contractor shall also meet the specific safety requirements mentioned in the pre-construction meeting.
- N. Contractor, transporter and disposal site shall meet the licensing and registration requirements of the Texas Department of State Health Service, Texas Asbestos Health Protection Rules.
- O. A licensed asbestos abatement contractor shall perform all work at night or times when tenants are not present in the work area.
- P. The contractor shall provide the Owner with a work plan including location of decontamination facilities, requirements for utilities, work location of negative air machines and other equipment, and a schedule of the work.
- Q. The contractor is responsible for meeting all federal, state, and local laws and regulation, including but not limited to OSHA, EPA, and DSHS requirements. The contractor is responsible for his own OSHA air monitoring. A third party consultant hired by the Owner will provide on-site and clearance monitoring.

## 1.08 DOCUMENTS

- A. The following documents shall be posted in a conspicuous spot at the entrance to the regulated area and must not be covered by any other documents:
- The asbestos information poster issued by the DSHS; and
  - Copies of any violations issued by the federal or state asbestos-regulating authorities within the preceding 12 months from any asbestos project.

Documents required to be on-site are as follows:

- EPA "Green Book" for O&M work;
- 40 CFR Part 61, Subpart M, titles "National Emissions Standards for Hazardous Air Pollutants (NESHAP), November 20, 1990;
- 29 CFR 1926.1101, titles, "Occupational Exposure to Asbestos, Tremolite, Anthophyllite, October 11, 1994;
- 29 CFR 1910.134, titled, "Occupational Health Standards for A Respiratory Protection Program", October 11, 1994; and
- Texas Department of Health, Division of Occupational Health, Texas Asbestos Health Protection Rules, September 22, 1994.

## PART 2 - PRODUCTS

## 2.01 MATERIALS

- A. **Plastic Sheeting** - Shall be flame retardant, of the thickness and colors specified, in sizes to minimize the frequency of joints. Utilize reinforced plastic sheeting of specified thickness on floor areas as needed.
- B. **Spray-applied plastic sheeting** - Shall be applied in thickness specified and according to manufacturer's recommendation.
- C. **Tape** - Shall be glass fiber or other type capable of sealing joints of adjacent sheets of plastic and for attachment of plastic sheet to finished or unfinished surfaces under both dry and wet conditions.
- D. **Spray-Adhesives** – Spray adhesives shall not be used for exterior preparation work. Spray adhesive residue, if spray adhesives are used for interior preparation work, must be completely removed, subject to Owner's approval, at project completion.
- E. **Surfactant (wetting agent)**- shall consist of a mixture of "Dust-Set Amended Water Base" (Matheson Chemical Corporation), or approved equivalent, and water, mixed to manufacturer's specifications.
- F. **Sealant (encapsulant)** – Shall be manufactured by reputable, established manufacturer of encapsulant/sealant materials and be approved specifically for use in asbestos contaminated environments. It is the responsibility of the Contractor to determine compatibility of the sealant with the materials and existing conditions.
- G. **Impermeable Containers** – Shall be suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site and shall be labeled in accordance with applicable regulations. Containers shall be both air and water-tight. Two types of impermeable containers:
1. Metal, rigid plastic or fiber barrels with independent tightly fitting lids, lined with six-mil plastic sheeting or bags.
  2. Appropriately labeled six-mil plastic bags sized to fit within the lined barrels.
- H. **Warning Labels and Signs** – Shall be as required by the Texas Department of State Health Services and OSHA 29 CFR 1926.1101 and posted in both English and Spanish.
- I. **Solvents** – If used for flooring or other mastic removal, shall demonstrate a flash point of at least 140 degrees F., as appropriately determined, and must be approved by the Consultant or Project Manager prior to bringing it on-site.
- J. **Other Materials** – Provide all other materials, such as lumber, nails and hardware, which may be required to construct and dismantle the decontamination systems and the barriers that isolate the work areas.

## 2.02 TOOLS AND EQUIPMENT

- A. Provide suitable tools for asbestos-containing material removal.
1. **Water sprayers** – Utilize airless or other low-pressure sprayers for amended water application. Pressure washers or sprayers may not be used.
  2. **Airless sprayer** – Use airless sprayer of sufficient capacity to apply spray-applied plastic sheeting or encapsulant in accordance with manufacturer's recommendations.
  3. **Air purifying equipment** (for internal recirculation in the work area) – Shall include HEPA filtration systems and insure that no internal air movement system or purification equipment exhausts contaminated air from inside the work area into uncontaminated areas.
  4. **Scaffolding and ladders** – Shall be as required to accomplish the specified work and shall meet applicable safety regulations.
  5. **Temporary lighting** – Shall be suitable for use in wet environments.
  6. **Transportation** – As required for loading, temporary storage, transit and unloading of contaminated waste without exposure to persons or property. Use only enclosed dumpsters, trailers or other transports to haul waste containers to prevent loss or damage of containers in route to landfill.

### 2.03 REMOVAL OF ASBESTOS-CONTAINING MATERIAL AND DEBRIS

- A. Remove and properly dispose of all asbestos-containing materials indicated to be removed by the Contract Documents in accordance with federal, state, and local laws and regulations or as more stringently specified herein.
- B. **During any period of actual abatement of asbestos, an abatement supervisor shall be stationed within the containment area at least 25% of the time for the purpose of supervising the progress of the abatement work.**
- C. Interior Preparation.
1. Verify, lockout and seal any HVAC equipment supplying or within work areas with a minimum of one layer of six-mil plastic sheeting, individually applied.
  - ~~2.~~ Regulated areas within which asbestos abatement is to be conducted shall be separated from adjacent areas by impermeable barriers, such as six-mil (true thickness) plastic sheeting, attached securely in place. All openings between containment areas and adjacent areas, including but not limited to windows, doorways, elevator openings, corridor entrances, ventilation openings, drains, ducts, grills, grates, diffusers and skylights, shall be sealed. All penetrations that could permit air infiltration or air leaks through the barrier shall be sealed, with exceptions of the make-up air provisions and the means of entry and exit.

3. Verify and lockout all electrical power to work areas. Provide temporary power and lighting as necessary to maintain safe and comfortable work environment. Provide temporary plumbing and wiring as needed.
4. Remove all uncontaminated moveable objects. Cover all uncontaminated immovable objects remaining in the work area with at least two layers of six-mil (true thickness) plastic sheeting, individually applied. Do not remove or cover contaminated objects.
5. Verify and locate potential fire exits. Maintain emergency and fire exits from the work areas, or establish alternative exits satisfactory to fire officials. Mark fire exits appropriately on work area side.
6. Seal off work areas from those in which work will not occur with a critical barrier consisting of at least two layers of six-mil (true thickness) plastic sheeting, individually applied. Place appropriate warning signs, in English and Spanish, on the outside of critical barriers and all entrances to work areas.
7. Construct personnel and bag/barrel/equipment decontamination units in compliance with DSHS/EPA guidelines concerning number, size and placement of airlocks, etc. Shower in personnel decontamination unit shall open into airlock on both contaminated and uncontaminated sides and shall be equipped with both hot and cold running water. Construct decontamination units of appropriate materials (including plastic sheeting) to provide airtight barriers to allow continuous reduced air pressure to be maintained.
8. Trap shower wastewater using filters having a final pore size of not larger than 5.0 micron, and drain into a sanitary sewer. Replace contaminated filters when they become clogged but not less than every third day. Dispose of filters as asbestos-contaminated waste.
9. Floor sheeting shall completely cover all floor surfaces and consist of a minimum of two layers of sheeting with at least a dart impact of 270 grams and tear resistance of machine direction (M.D.) 512 grams and transverse direction (T.D.) of 2067 grams or at least six-mil true thickness. Floor sheeting shall extend up sidewalls at least 12 inches and be sized to minimize the number of seams. No seams shall be located at wall-to-floor joints. Sealing of all floor penetrations against water leakage is mandatory. Wall sheeting shall completely cover all wall surfaces, except those surfaces scheduled for demolition to access asbestos materials for removal, and consist of a minimum of two layers of four-mil sheeting. Wall sheeting shall be installed so as to minimize joints and shall extend beyond wall/floor joints at least 12 inches. No seams shall be located at wall-to-wall joints. Where a fire hazard exists, all plastic sheeting will be certified by the Underwriters Laboratory (UL) as being fire retardant. Where feasible, when containment walls which exceed 260 linear feet must be constructed, a viewing window will be included in the wall for each 260 linear feet or fraction of that distance which will permit the viewing of at least 51% of the abatement work area. The window shall be constructed of plexiglass which measures approximately 18 inches by 18 inches. The bottom of the

window will be at a reasonable viewing height from the outside floor. When only floor tile and mastic materials are to be removed, the contractor may opt to cover walls only four feet up with a minimum of one layer of six-mil (true thickness) plastic sheeting in a manner to prevent abated material from accessing wall surfaces. Do not cover contaminated surfaces.

10. Where only HVAC ductwork, mixing boxes, etc. are to be removed in their entirety, the contractor may opt to remove the material in small manageable sections. Place a drop cloth 10 feet beyond the work area in all directions and keep the asbestos containing material wet at all times. Wrap the material with two layers of six-mil (true thickness) plastic sheeting, seal all poly joints with duct tape and seal the seams to prevent leakage. Apply two layers of duct tape over area to be cut, carefully cut material in the center of the duct tape, and safely drop the section to the floor. Exercise care to avoid cutting plastic. All other removal methods shall be under full containment. Carefully cut and remove asbestos-containing materials within the glove-bag.
11. Where a fire hazard exists, all plastic sheeting will be certified by the Underwriters Laboratory (UL) as being fire retardant.
12. Where feasible, when containment walls which exceed 260 linear feet must be constructed, a viewing window will be included in the wall for each 260 linear feet or fraction of that distance which will permit the viewing of at least 51% of the abatement work area. The window shall be constructed of Plexiglas, which measures approximately 18 inches by 18 inches. The bottom of the window will be at a reasonable viewing height from the outside floor.
13. Place work areas under reduced air pressure as specified previously in this section. Allow no air movement system or air-filtering equipment to discharge unfiltered air outside the work areas.
14. Ensure that all barriers and plastic sheeting enclosures remain effectively sealed and taped for duration of abatement and subsequent cleaning. Visually inspect enclosures at the beginning and end of each work period. Repair damaged barriers and remedy defects immediately upon discovery. Use smoke methods or other approved methods to test effectiveness of barriers when requested by the Consultant or Project Manager.
15. Maintain a sign in/out log, as specified previously in this section, in the immediate area of the change room to be signed by every person each time upon entering and leaving work areas.

16. Place in work areas at least one fire extinguisher with a minimum NFPA rating of 10BC (dry chemical) for every 3,000 square feet, or fraction, of work area for the duration of abatement and subsequent cleaning activities. Place at least one similar fire extinguisher in vicinity of change room.
17. Notify the Consultant or Project Manager for observation of the preparation of work areas prior to any disturbance of asbestos-containing material. Prior to notification, complete plasticizing of work area, and construction of personnel and bag/barrel/equipment decontamination enclosure systems. No removal work can begin until preparations have been observed and accepted by Owner's Representative.

D. Exterior Preparation.

1. Restrict access to exterior grounds immediately adjacent to work areas by barrier tape or similar means.
2. Place appropriate warning signs, in English and Spanish, on at least every other window/door opening.

E. Gross removal and cleaning.

1. Prepare areas as previously specified.
2. "Wrap and cut" methods may be employed where feasible, including domestic piping, and duct isolation boots. Wrap and cut methods may not be used for roof drain piping.
3. Demolish interior wall surfaces as needed to access asbestos materials for removal within pipe chases.
4. Demolish existing boiler jackets and frames as needed to access asbestos materials for removal within boilers.
5. Thoroughly wet asbestos-containing materials and debris to be removed prior to stripping or tooling to reduce fiber dispersal into the air. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for water to penetrate material thoroughly. Spray material repeatedly during the work process to maintain a continuously wet condition.
6. Remove the saturated asbestos-containing materials and debris in small sections. Do not allow materials to dry out. As removed, place in barrels, double wrap or bag the materials in sealable plastic bags, six-mil minimum thickness, and place in containers for transport, labeled with the appropriate wording.
7. Provide general clean up of work areas concurrent with the removal of all asbestos-containing materials and debris. Do not permit accumulation of debris on work area floors.

8. After removal of asbestos-containing materials and debris, all surfaces in the work area shall be wet-cleaned to remove residual accumulated material. Continue wet cleaning until all surfaces are free of visible dust, dirt and debris.

## 2.04 CLEAN UP AND CLEARANCE TESTING

- A. Provide general clean up of work areas concurrent with the removal activities. Do not permit accumulation of debris on work area floors.
- B. Standard of cleaning for Final Clearance: Consider contained work areas and all other decontaminated and cleaned areas clean when:
  1. Surfaces are free from dust, dirt, residue, and debris from abatement operations or other activities subordinate to these operations.
  2. Owner's Representative has approved level of cleanliness.
  3. Air testing performed by Owner's Representative indicates that the air in the contained/enclosed work areas is acceptable, as specified in this section.
- C. Containment and Enclosure Clearance Sequence
  1. Wet clean and HEPA-vacuum all surfaces in the work area.
  2. Clean all equipment (excluding that which will be needed for further cleaning phases) used in the work areas and remove from work areas via the equipment decontamination enclosure system.
  3. Replace all pre-filters in air filtration devices with clean filters. Clean all air filtration devices.
  4. Notify the Consultant or Project Manager for observation to determine completeness of cleaning. Re-clean, and continue to clean at Contractor's expense, areas with visible with dust, dirt or debris.
  5. Once the Consultant or Project Manager has accepted the area as clean, remove the first layer of plastic sheeting and apply one coat of sealant to all surfaces. Apply sealant as follows:
    - a. Misting, spraying, and pumping equipment, as recommended by the encapsulant material's manufacturer, shall be used.
    - b. Encapsulant shall be applied by procedures as recommended by the manufacturer's written instructions and shall be one approved for this work.
  6. After sealant is applied to all surfaces in the work area, allow a sufficient amount of time for the sealant to dry.

7. PCM Final Clearance Testing:
  - a. The Consultant or Project Manager will test for the final air clearance levels once the work area is observed to be visually decontaminated. Final clearance air testing shall be performed using aggressive sampling techniques.
  - b. At least three samples per work area will be collected and analyzed. The area will be considered clean if all samples indicate airborne fiber concentrations are 0.01 f/cc (or ambient prevalent level, whichever is greater), calculated as the 95-percent upper confident limit (UCL), or less.
  - c. Re-clean, and continue to clean at Contractor's expense, areas which do not comply with the specified final clearance level. Contractor shall bear cost of all follow-up tests necessitated by the failure of the air-tests to meet the specified final clearance level.
8. In the event that TEM final clearance testing is employed, the area will be considered clean if all samples indicate asbestos structure densities of 70 structures per square millimeter or less.
9. Upon notification from the Consultant or Project Manager that final clearance samples indicate acceptable airborne levels, dismantle work area containment and thoroughly HEPA-vacuum and wet clean immediate areas. A final visual will be performed by the asbestos consultant, or project manager delegated by the asbestos consultant, once the abatement contractor has removed all containment and other materials from the project site.
10. Dispose of debris from removal operation, used cleaning materials, unsalvageable materials used for sturdy barriers, and any other remaining materials. Consider the materials to be contaminated, and dispose of accordingly.

## 2.05 DISPOSAL OF ASBESTOS-CONTAMINATED WASTE

- A. All asbestos abatement waste shall be transported to and disposed of at approved landfills.
- B. Asbestos-containing waste and debris shall be transported to the landfill double wrapped, double bagged, or in properly lined barrels. Removed debris, pipe insulation, used cleaning tools, towels, protective suits, used plastic sheeting and spray-applied plastic sheeting shall be treated as asbestos-containing waste materials.
- C. Follow waste container decontamination procedures as follows:
  1. As the waste containers are moved out through the equipment decontamination system, wet wipe containers to remove all contamination from them before they are moved into uncontaminated space.

2. As each container of waste is removed from the work area via the equipment decontamination system, a notation shall be made in the asbestos waste log as specified previously in this Section.
- D. Temporary storage of asbestos wastes outside the work areas may be utilized only if the proposed area(s) are lined with at least two layers of six-mil plastic sheeting, individually applied, and appropriate warnings are posted. Submit proposed location and procedures for temporary waste storage to the Owner prior to initiating use.
- E. Remove sealed and labeled containers of asbestos-containing material and waste and transport them for disposal to the specified landfill as follows.
1. Line dumpster, trailer or other waste transport with at least two layers of six-mil plastic sheeting, individually applied. Plastic sheeting used to line waste transport containers need not be flame retardant.
  2. Notify the Consultant or Project Manager prior to removing each trailer or other waste transport from the project site.
  3. Asbestos-containing waste material shall be treated, packaged, labeled, transported, and disposed of in accordance with 29 CFR 1926.1101 (OSHA), 40 CFR 61.150 (EPA) and 49 CFR 107 et al., (DOT).
  4. Asbestos waste transport shall be limited to approved routes for transport of hazardous materials. Ensure that there are no visible emissions to the outside air from site where materials and waste are deposited.
  5. Notify the Consultant or Project Manager immediately of any spill or similar incident involving the transport and disposal of asbestos wastes.
- F. Alternative methods of transporting asbestos-containing debris will be considered by the Consultant. Do not use alternative methods until reviewed and accepted by the Consultant.

## 2.06 FIELD QUALITY CONTROL

- A. The Consultant or Project Manager shall conduct area air monitoring prior to, throughout, and following preparation, removal and cleaning operations.
1. All phase contrast microscopy (PCM) area air samples collected by the Consultant or Project Manager will be analyzed in general accordance with the procedures outlined in the National Institute for Occupational Safety and Health (NIOSH) 7400 Method and also will follow guidelines issued by EPA regarding detection limits. Owner and Consultant reserve the right to analyze air samples by transmission electron microscopy (TEM).
  2. Background prevalent level air samples, collected on media for analysis by phase contrast microscopy, will be obtained from representative areas immediately prior to the start of the project and will be analyzed.

3. Background prevalent level air samples, collected on media for analysis by transmission electron microscopy, will, when deemed necessary by the Consultant, be obtained from representative areas immediately prior to the start of the project and will be held for future analysis at the discretion of the Consultant.
  4. Area air samples will be collected both inside and outside of work areas. The Contractor is cautioned, however, that should interpretations be made, opinions be formed and conclusions be drawn as a result of examining the test results, these interpretations, opinions and conclusions will be those made, formed and drawn solely by the Contractor.
  5. All samples must meet specified clearance levels for the area being tested to be considered clean. Results of PCM air sample analysis shall be reported as the 95 percent upper confidence limit (UCL).
    - a. Final clearance air samples will be of at least 1250 liters of air, collected at a flow rate of at least 0.5 to less than 16 liters per minute on 0.8 micron MCE filters in conducting cassettes with extension cowls.
- B. Contractor shall wet-clean and HEPA-vacuum areas outside the contained work areas in which elevated airborne fiber concentrations are detected. Indicated airborne fiber concentrations above 0.01 f/cc, or ambient prevalent levels, will be considered elevated airborne fiber concentrations.
- C. Visual observations will be made by the Consultant or Project Manager after final clean-up and de-mobilization to determine the presence of visible dust, dirt, debris and abatement refuse indicative of improper cleaning and decontamination procedures.

### PART 3 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS - SPECIFIC

#### SMALL CONTAINMENT and SPOT SCRAPE PROCEDURES

For spot scrapes, a "rolling scaffold" shall be used to access the deck spot scrape areas. The scaffold shall be contained using two layers of 4-mil poly, completely enclosing the immediate work area, except at the uppermost perimeter of the scaffold near the deck. A 2" space shall be created around the top perimeter of the scaffold containment in order to 1) allow make-up air into the containment and 2) not disturb the asbestos-containing spray-on material located on the deck. Units with HEPA filtration shall be used to provide a negative pressure of at least 0.02 inches of water column differential between the containment and outside, as measured by manometric measurements, and a minimum of four containment air changes per hour.

#### GLOVE-BAG REMOVAL PROCEDURES

- A. Glove-bag removal of thermal insulation materials. Glove-bag removal of thermal insulation materials may be employed at Contractor's option.
  1. Prepare work areas as previously specified.

2. Perform glove-bag removal as follows:
  - a. Place one layer of duct tape around pipe insulation at points where glove-bag will be attached.
  - b. Place tools in bag. Attach, and use glove-bag in accordance with manufacturer's instructions, unless more stringently specified herein.
  - c. Insert sprayer wand through water sleeve. Seal water sleeve tightly around the wand to prevent leakage.
  - d. Use smoke tube and aspirator bulb to test seal. Gently squeeze glove-bag and look for smoke leaks. Seal leaks and retest.
  - e. Wet the asbestos-containing material within the glove-bag with amended water prior to removal. Utilize a minimum of two asbestos workers per glove-bag.
  - f. Carefully cut and remove asbestos-containing materials within the glove-bag. Exercise care to avoid cutting bag while cutting asbestos-containing materials from piping.
  - g. Thoroughly wet removed material, bag and piping with amended water. Scrub exposed piping with a bristle or nylon brush. Remove visual accumulations of debris from piping. Allow mist to settle.
  - h. After removing asbestos-containing material, wet clean all surfaces to remove residual accumulated material. Continue wet-cleaning until surface is free of visible material.
  - i. Seal exposed piping and glove-bag sides with encapsulant.
  - j. Remove tools through gloves or tool pouch by inverting, twisting glove, taping at twist to seal, and severing glove at midpoint of tape.
  - k. Collapse glove-bag by inserting HEPA-vacuum. Twist bag several times at the top of bag. Twist and tie to secure.
  - l. Place appropriately labeled 6-mil bags around glove-bag. Score glove-bag above taped seal to remove from pipe and place inside 6-mil bag. Seal 6-mil bag around disassembled glove-bag.

#### NON-ACM CEILING TILE DECONTAMINATION PROCEDURES

1. The contractor shall apply one layer of 6-mil plastic on the floor in the immediate work area. In addition, the contractor shall construct a barrier to hide asbestos activities from tenants and other work crafts.

2. The contractor shall use a vacuum cleaner equipped with a High Efficiency Particulate Air (HEPA) filtration system to decontaminate the ceiling tile prior to removal and disposal.
3. The contractor will be allowed to wear 2 disposable suits inside the ceiling tile decontamination area in lieu of a decon facility. The worker shall HEPA vacuum the outer suit prior to leaving containment and then proceed to HEPA vacuum the remaining suit.
4. Personnel should wear as a minimum a half-face respirator and disposable clothing during the decontamination activities.
5. After the consultant or Project Manager has approved the work area, ceiling tile decontamination may begin.
6. Prior to vacuuming the ceiling tile, wet the designated area.
7. The contractor shall use decontamination techniques, methods and equipment that shall not release fibers in concentration exceeding 0.01 fiber/ cubic centimeter (f/cc).
8. Wet wipe and HEPA vacuum all debris from the ceiling tile grid and floors and dispose of it as asbestos waste.
9. The contractor will clean and wet wipe all plastic in the work area. After cleaning is complete, consultant will perform a visual inspection of the entire work area to insure all asbestos-contaminated materials have been removed.
10. The consultant or Project Manager shall perform clearance sampling of the work area. The final air clearance shall be less than 0.01 f/cc for all samples collected, as analyzed by Phase Contrast Microscopy (PCM).
11. After clearance is achieved, the contractor shall remove all asbestos-related materials and repair any damaged surfaces.

#### WET SCRAPING RESIDUAL ADHESIVE

1. In the event asbestos-containing mastic is located directly beneath carpet, carpet shall be disposed of as asbestos-contaminated waste if asbestos-containing mastic bonds to back side of carpet during carpet removal.
2. Mastic may be removed by scraping or solvents. If solvents are used to remove floor mastic, critical barriers must be installed and units equipped with High Efficiency Particulate Air (HEPA) filtration, and in sufficient number to provide a negative pressure of at least 0.02 inches of water column differential between the containment and outside and a minimum of four air changes per hour, shall be operated continuously for the duration of the project. **In addition, the solvent shall comply with the following requirements:**
  - **Flash Point (open or closed cup) > 140 deg F**
  - **Auto Ignition Temperature > 600 deg F**
  - **No Noxious Odor**

- **pH Neutral**
  - **Aromatic Vapors < 100 PPM**
  - **Will not react with water**
3. Use respirator cartridges capable of filtering fumes if any solvents are used for mastic removal.
  4. For scraping, start in the corner of the room farthest from the entrance door and moisten an area approximately 3' x 10' with water mixed with the specified liquid dishwashing detergent (1 oz. Specified liquid dishwashing detergent to one gallon of water) to aid in wetting the adhesive. Wet scrape with a stiff-bladed wall or floor scraper removing ridges and any loose adhesive.
  5. Place loosened adhesive residues into a heavy-duty impermeable trash bag or other leak-tight container and seal with ties, tape or string and label "Caution-Contains Asbestos. Avoid opening or breaching container. Breathing asbestos is hazardous to your health." Dispose in an approved landfill only.
  6. Wet vacuum standing water with HEPA wet/dry vacuum.
  7. Continue steps (1) through (3) until what remains of the residual asphaltic "cut-back" adhesive is a smooth film.
  8. As indicated in previous paragraphs, tiles should be placed immediately in a heavy-duty impermeable trash bag or closed leak-tight container. Do not attempt to break tiles further after they are in the bag.
  9. When all tiles and adhesive residue have been removed from the floor and placed in heavy-duty polyethylene bags at least 6 mils thick or closed containers, seal the bags securely for disposal and label: "Caution-Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause serious bodily harm." Dispose in an approved landfill only.
  10. Vacuum up any dirt in the area using a vacuum equipped with a HEPA filter and metal floor attachment (no brush).
  11. After vacuuming, used HEPA filters and cleaner bags should be removed according to manufacturer's instructions and placed in a heavy-duty impermeable trash bag or a leak-tight container with a label stating "Caution-Contains Asbestos. Avoid opening or breaking container. Breathing asbestos is hazardous to your health." Dispose in an approved landfill only. Close and seal the trash bags securely for disposal.

#### REMOVAL OF FIREPROOFING

1. Prepare work area as previously specified.
2. Demolish interior ceiling finishes, fixtures, HVAC ducts, and plumbing, electrical and other systems as necessary to facilitate removal of asbestos-containing materials. At Contractor's

option, dispose of such as asbestos-contaminated waste or, if applicable, de-contaminate and dispose of as non-contaminated construction debris. De-contamination of demolished materials will be subject to visual observation by the Consultant or Project Manager. The Consultant or Project Manager will observe the materials for the presence of visible dust, dirt and debris. Re-clean and continue to clean, materials with observed visible dust, dirt or debris, or dispose of such as asbestos-contaminated waste.

3. Thoroughly wet the asbestos-containing materials to be removed with amended water prior to handling, stripping or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine mist of amended water. Saturate materials sufficiently to wet to the substrate without causing excess dripping. Allow time for water to penetrate materials thoroughly. Spray materials repeatedly during the work process to maintain a continuously wet condition throughout progress of the removal work.
4. Remove the saturated asbestos-containing materials in small sections. Do not allow materials to dry out. As they are removed, double bag the materials in plastic bags of six-mil minimum thickness or place the materials in lined, sealable barrels, labeled with the appropriate wording per regulatory agencies having jurisdiction (EPA, OSHA, DOT).
5. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on work area floors.
6. After removal of asbestos-containing materials, all surfaces in the work area shall be wet-cleaned to remove residual accumulated materials. Continue wet-cleaning until all surfaces are free of visible dust and debris.

#### REMOVAL OF FLOOR TILE AND MASTIC MATERIALS

1. Prepare work area as previously specified.
2. Thoroughly wet the asbestos-containing materials to be removed with amended water prior to handling, stripping or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine mist of amended water. Spray materials repeatedly during the work process to maintain a continuously wet condition throughout progress of the removal work.
3. Remove the saturated asbestos-containing materials in small sections. Do not allow materials to dry out. As they are removed, double bag the materials in plastic bags of six-mil minimum thickness or place the materials in lined, sealable barrels, labeled with the appropriate wording per regulatory agencies having jurisdiction (EPA, OSHA, DOT).
4. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on work area floors.
5. After removal of asbestos-containing materials, all surfaces in the work area shall be wet-cleaned to remove residual accumulated materials. Continue wet-cleaning until all surfaces are free of visible dust and debris.

**REMOVAL OF GYPSUM WALLBOARD AND JOINT COMPOUND MATERIALS**

1. Prepare work area as previously specified.
2. Thoroughly wet the asbestos-containing materials to be removed with amended water prior to handling, stripping or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine mist of amended water. Spray materials repeatedly during the work process to maintain a continuously wet condition throughout progress of the removal work.
3. Remove the saturated asbestos-containing materials in small sections. Do not allow materials to dry out. As they are removed, double bag the materials in plastic bags of six-mil minimum thickness or place the materials in lined, sealable barrels, labeled with the appropriate wording per regulatory agencies having jurisdiction (EPA, OSHA, DOT).
4. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on work area floors.
5. After removal of asbestos-containing materials, all surfaces in the work area shall be wet-cleaned to remove residual accumulated materials. Continue wet-cleaning until all surfaces are free of visible dust and debris.

**REMOVAL OF WINDOWS/LOUVERS AND FRAME CAULKING MATERIALS**

1. Prepare areas as previously specified.
2. Thoroughly wet the unit and frame caulking to be removed prior to stripping or tooling to reduce fiber dispersal into the air. Spray the materials repeatedly during removal to maintain a continuously wet condition.
3. Disconnect affected unit and remove intact from within the building. Remove residual caulking from exterior. Do not damage exterior of building.
4. At Contractor's option, removed frames may be disposed of as asbestos-contaminated waste or, if applicable, be de-contaminated and disposed of as non-contaminated construction debris or salvage. Decontamination of removed frames will be subject to visual observation by the Consultant or Project Manager. The Consultant or Project Manager will observe the frames for the presence of visible dust, dirt and debris. Re-clean and continue to clean, materials with observed visible dust, dirt or debris, or dispose of such as asbestos-contaminated waste. If disposed of as contaminated debris, double wrap the frames in plastic sheeting of six-mil minimum thickness, appropriately labeled.
5. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on work area floors.

**REMOVAL OF EXTERIOR DOOR, SOFFIT, AND STAIRWELL CAULKING/SEALANT MATERIALS**

1. Prepare areas as previously specified.

2. Thoroughly wet asbestos-containing caulking/sealants to be removed prior to stripping or tooling to reduce fiber dispersal into the air. Spray the materials repeatedly during removal to maintain a continuously wet condition.
3. Remove the saturated asbestos-containing materials in small sections. Do not allow materials to dry out. As they are removed, double bag the materials in plastic bags of six-mil minimum thickness or place the materials in lined, sealable barrels, labeled with the appropriate wording per regulatory agencies having jurisdiction (EPA, OSHA, DOT).
4. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on work area floors.
5. After removal of asbestos-containing materials, all surfaces in the work area shall be wet-cleaned to remove residual accumulated materials. Continue wet-cleaning until all surfaces are free of visible dust and debris.

#### REMOVAL OF FIRE-RATED DOORS

1. Prepare areas as previously specified.
2. Disconnect affected doors and remove intact. Doors shall be disconnected at frame hinge. Hinge plate on door shall not be disturbed. As they are removed, double wrap the doors in plastic sheeting of six-mil minimum thickness, appropriately labeled, and place in containers for transport.
3. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on work area floors.

#### REMOVAL OF CEILING MOUNTED FAN-COIL UNITS

1. Prepare areas as previously specified.
2. Disconnect affected unit and remove intact. As they are removed, double wrap the units in plastic sheeting of six-mil minimum thickness, appropriately labeled, and place in containers for transport.
3. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on work area floors.

#### REMOVAL OF STEEL SINK

1. Prepare areas as previously specified.
2. Disconnect affected sink and remove intact. As it is removed, double wrap the sink in plastic sheeting of six-mil minimum thickness, appropriately labeled, and place in containers for transport.

3. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on work area floors.