Request for Proposal

GEC091206
Asbestos Abatement Service
January 17, 2007

Issued by
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Buyer Specialist
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Charlottesville, Virginia
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Asbestos Abatement Services  
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This Request for Proposal (RFP) will be posted on the Materials Division web site (www.fm.virginia.edu/MaterialsDivision/MaterialsDivision.aspx) for your convenience. Addenda and attachments are posted if issued. It is the firm’s responsibility to ensure that the entire RFP package and associated links, in its latest version, is reviewed prior to submittal of proposal. To receive a hard copy of the RFP or addenda, please contact Linda Hunt, Office Manager, at (434) 982-5863 or email MatDiv@virginia.edu. For questions about the content of the RFP, contact the buyer listed in Section VI, Information about this RFP. Additional information can be found on Procurement Services web site: 
http://www.procurement.virginia.edu/main

I. Overview of the RFP Process

The Rector and Visitors of the University of Virginia (University), a Virginia public corporation, seeks an experienced firm to provide Asbestos Abatement Services. This RFP is part of a competitive procurement process which helps to serve the University's best interests. It also provides firms with a fair opportunity for their services to be considered. The process of competitive negotiation being used in this case should not be confused with the different process of competitive sealed bidding. The latter process is usually used where the goods or services being procured can be described precisely and price is generally the determinative factor. With competitive negotiation, however, price is not required to be the determinative factor, although it may be, and the University has the flexibility it needs to negotiate with firms to arrive at a mutually agreeable relationship.

For ease of reference, each firm receiving this RFP is referred to as a "firm" and the firm selected to provide services for the University is referred to as the "Selected Firm." This RFP states the instructions for submitting proposals, the procedure and criteria by which a firm may be selected, and the contractual terms by which the University proposes to govern the relationship between it and the Selected Firm.
It is the policy of the Commonwealth of Virginia and the University to contribute to the establishment, preservation, and strengthening of small businesses and businesses owned by women and minorities, and to encourage their participation in State procurement activities. The Commonwealth and the University encourage firms to provide for the participation of small businesses and businesses owned by women and minorities through partnerships, joint ventures, subcontracts, or other contractual opportunities.

II. Background Discussion and Goals of the University

When Thomas Jefferson founded the University in 1819, he intended it to be nothing less than a world-class institution of higher learning. Jefferson’s spirit lives on – not only in the Rotunda and Academical Village he designed, and which remain treasures of American architecture, but in the University’s standing as a leader in education, research, and community service.

The over 19,850 students attending the University work within a true meritocracy and live by an Honor Code unique among American universities. Each student is exposed to the widest spectrum of disciplines – from arts and athletics to humanities and technology. Our students also enjoy a unique connection to the world beyond college through the University’s outstanding professional training, exemplified by its nationally ranked schools of Law, Business, and Medicine. The University as a whole has had a consistently high ranking not only among public schools, where it often heads the list, but among all American universities, public and private.

Over 11,600 permanent University faculty and staff are committed to serving both the local and national community. The University makes a real difference in the world, through its invaluable research, a hospital ranked among the nation’s finest, and graduates who have consistently been among the forefront of our nation’s shapers. At the University, our bright future is the direct result of our great history.
III. Scope of Goods and Services

It is the University's intent to enter into an Agreement with the Selected Firm(s) for Asbestos Abatement Services to be provided on an as needed basis. In order to achieve this goal the Selected Firm may be requested to provide those goods and services outlined in attachment 5.

IV. Basis of Selection

The University will evaluate proposals and, if a firm is to be selected, select the firm on the basis of:

1. The firm's plan to assist the University to meet its goals for Asbestos Abatement Services as discussed in attachment 5;
2. The firm's relevant experience, qualifications and success in providing the goods and services outlined in this RFP;
3. The firm's references from institutions of higher education, teaching hospitals, and clients which are comparable to the University;
4. The firm's financial proposal including but not limited to discounts, service charges and other charges;
5. The quality of the proposal, specifically, responsiveness to requirements and adequacy of information provided;
6. The contractual terms which would govern the relationship between the University and the Selected Firm;
7. The firm’s plan for the utilization of Small, Women-owned and Minority-owned (SWAM) businesses. (In evaluating the firm’s proposal, the University will assign a minimum of 10 percent of the total selection weight to this individual selection criterion.); and
8. Any other factors relevant to the firm's capacity and willingness to satisfy the University.
V. Contents of the Proposal

Proposals should include information outlined in this section. Four (4) copies of proposals must be sent to the Issuing Office, and not to any other office or department whatsoever at the University.

A. Operations
1. Describe how the firm plans to provide asbestos abatement services, which is the primary goal of this RFP.
2. Provide a plan of operation to achieve the objectives set forth in Attachment 5, Scope of Required Services and Pricing.

B. Firm Information, Personnel, References
1. Provide a brief history of the firm and its experience in providing asbestos abatement services.
2. Provide information on those individuals assigned to work with the University including a description of their experience in asbestos abatement.
3. Provide a list of all of the firm's clients comparable to the University indicating the length of service of each account. The University may contact and/or visit any of these accounts.
4. Provide a copy of the firm's most recent audited financial statements.
5. Provide the name of the individual responsible for the firm’s supplier diversity program. This individual is responsible for implementing and reporting on the firm’s Small, Women-owned and Minority-owned (SWAM) program as it will relate to this procurement should the firm be selected.
6. The firm will provide within their proposal a statement that it either has or has not been subject to OSHA inspections by State and/or
Federal agencies, and the results of these inspections, including citations, if any.

C. Financial Proposal

1. Describe how the University will be charged. Include any additional discounts available for early payment of invoices.

2. Describe how the University will benefit from cost savings by accepting the firm's proposal.

3. State the firm's capability for accepting electronic payments through Electronic Data Interchange (EDI) or Automated Clearing House (ACH) and any additional discounts that may result from paying electronically. Information about the Commonwealth of Virginia’s Financial Electronic Data Interchange (FEDI) program is available on this web site:

   http://www.doa.state.va.us/procedures/GeneralAccounting/EDI/edinew.htm

D. Contractual Arrangements

1. Provide the University with any form or contract the University may be requested to sign.

2. State the firm's acceptance of Attachment 1, Mandatory Contractual Provisions.

3. State the firm's acceptance, with any proposed modifications, of Attachment 2, Preferred Contractual Provisions.

4. Provide a written statement with the firm’s proposal that its principals or legal counsel has reviewed Attachment 1, Mandatory Contractual Provisions, and Attachment 2, Preferred Contractual Provisions, and agrees that these provisions will become a part of any final agreement.

E. Site Visits
It may be necessary or desirable for the University's evaluation team of less than ten people to travel to a site chosen jointly by the firm and the University to view its operation. Each firm will indicate whether it will reimburse the University for the reasonable and actual expenses (travel, lodging, meals, etc.) incurred by the University for its travel.

F. Small, Women-owned and Minority-owned (SWAM) Business

Specify whether the firm is a SWAM. Firms can only be considered a Small, Women-owned or a Minority-owned Business Enterprise if certified by the Commonwealth of Virginia’s Department of Minority Business Enterprise (DMBE). All certified SWAM firms will be assigned a specific identification number. No SWAM firm is required to certify under this program and no SWAM firm will be excluded from doing business with the Commonwealth because of their failure to certify as a SWAM firm.

The Commonwealth’s definitions are:

- **Minority-owned Business Enterprise** means a business concern which is at least 51 percent owned by one or more minorities or in the case of a corporation, partnership or limited liability company or other entity, at least 51 percent of the equity ownership interest in which is owned by one or more minorities and whose management and daily business operations are controlled by one or more of such individuals.

- **Minority Individual** means a person who is a citizen of the United States or a legal resident alien and who satisfies one or more of the following definitions:
  - "Asian Americans" means all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands, including but not limited to Japan, China, Vietnam, Samoa, Laos, Cambodia, Taiwan,
Northern Marinas, the Philippines, U. S. territory of the Pacific, India, Pakistan, Bangladesh and Sri Lanka and who are regarded as such by the community of which these persons claim to be a part.

- "African Americans" means all persons having origins in any of the original peoples of Africa and who are regarded as such by the community of which these persons claim to be a part.

- "Hispanic Americans" means all persons having origins in any of the Spanish speaking peoples of Mexico, South or Central America, or the Caribbean Islands or other Spanish or Portuguese cultures and who are regarded as such by the community of which these persons claim to be a part.

- "Native Americans" means all persons having origins in any of the original peoples of North America and who are regarded as such by the community of which these persons claim to be a part or who are recognized by a tribal organization.

- "Eskimos and Aleuts" means all persons having origins in any of the peoples of Northern Canada, Greenland, Alaska, and Eastern Siberia and who are regarded as such in the community of which these persons claim to be a part.

- **Small Business Enterprise** means an independently owned and operated business which, together with affiliates, has 250 or fewer employees, or average annual gross receipts of $10 million or less averaged over the previous three years. Nothing in this provision prevents a program, agency, institution or subdivision from complying with the qualification criteria of a specific state program or a federal guideline to be in compliance with a federal grant or program.

- **Woman-owned Business Enterprise** means a business concern which is at least 51 percent owned by one or more women who are U.S.
citizens or legal resident aliens, or in the case of a corporation, partnership or limited liability company or other entity, at least 51 percent of the equity Ownership interest in which is owned by one or more women, and whose management and daily business operations are controlled by one or more of such individuals.

If the firm is not a SWAM firm, describe the firm’s partnering relationships with SWAM firms and how it plans to support the University’s goal to increase business annually by 5% with these firms in accordance with Attachment 4, Executive VP and Chief Operating Officer’s Request for Commitment letter.

G. Other Information

Provide any other information which the University should consider in evaluating the firm's proposal.

VI. Information about this RFP

A. Procurement Schedule

Here is a brief schedule for this procurement, specifying the important dates and milestones:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue Date of RFP:</td>
<td>01/17/07</td>
</tr>
<tr>
<td>Preproposal Conference:</td>
<td>01/25/07</td>
</tr>
<tr>
<td>Deadline for Receipt of Proposals:</td>
<td>02/22/07</td>
</tr>
<tr>
<td>Oral Presentations (if required):</td>
<td>03/05/07</td>
</tr>
<tr>
<td>Negotiations (week of):</td>
<td>03/05/07</td>
</tr>
</tbody>
</table>

B. Issuance of RFP and Questions

The Issuing Office for this RFP is:
University of Virginia
Facilities Management
C. Preproposal Conference

A conference for firms receiving this RFP will be held on January 25, 2007 at 10:00 a.m. in the Facilities Management - Materials Division Conference Room, 575 Alderman Road, Charlottesville, Virginia 22903 (map viewed at this web site: http://www.virginia.edu/Map/). Attendance at this conference is advised if your firm wishes to raise any questions in connection with this RFP. Please print a copy of the RFP and bring it with you as no additional copies will be provided at the conference. The University intends to present general information which may be helpful in the preparation of proposals and to offer firms the opportunity to ask questions concerning this RFP. No firm may have more than two representatives present at the conference.
Firms planning to attend the Preproposal Conference should notify Linda Hunt (434-982-5868), no later than 2:00 p.m. on January 15, 2007 of the names, titles, and phone numbers of the individuals who will attend.

D. Proposal Deadline
All proposals must be received at the Issuing Office by 2:00 p.m., (EST) February 22, 2007. Four copies of each proposal must be provided in individual, bound volumes.

E. Oral Presentations and Negotiations
An oral presentation by two or more firms may be required after written proposals are received by the University. If the University requires such a presentation, the Issuing Office will schedule a time and place. Each firm should be prepared to discuss and substantiate any of the areas of the proposal it submitted, its own qualifications for the services required and any other area of interest relative to its proposal. Oral presentations are tentatively scheduled for March 5, 2007. Negotiations with two or more firms will be conducted by the University on the firms' financial proposals and proposed terms and conditions. Negotiations are scheduled for the week of March 5, 2007.

F. Communications Between the University and the Firms Regarding this RFP
Informal Communications
From the date of receipt of this Request for Proposal by each firm until a binding contractual agreement exists with the Selected Firm and all other firms have been notified, or when the University rejects all proposals, informal communications regarding this procurement will cease. Informal communications will include but not be limited to:
1. Requests from the firms to any department at the University, with the exception of Facilities Management – Materials Division for information, comments, speculation, etc.;

2. Requests from any department at the University, or any employee of the University, with the exception of Facilities Management – Materials Division for information, comments, speculation, etc.

Formal Communications

From the date of receipt of this Request for Proposal by each firm until a binding contractual agreement exists with the Selected Firm and all other firms have been notified, or when the University rejects all proposals, all communications between the University and the firms will be formal, or as provided for in this Request for Proposal, or as requested by Facilities Management – Materials Division. Formal communications will include but not be limited to:

1. Preproposal Conference
2. Oral presentations
3. Site visits, Interviews, etc.

Any failure to adhere to the provisions set forth in Informal Communications and the Formal Communications sections above may result in the rejection of any firm's proposal or cancellation of this RFP.

G. Formation of the Agreement with the Selected Firm

All proposals received will be carefully evaluated by the University. The University will then select two or more firms deemed to be fully qualified and best suited among those submitting proposals, on the basis of evaluation criteria described in this RFP. The University will then conduct negotiations with each of these firms. After negotiations have been conducted, the University will select the firm or firms which, in its opinion, has made the best
The University will award the agreement to the Selected Firm(s) by either of these methods:

1. Accept the proposal as written by issuing a written notice to the Selected Firm which refers to this RFP and accepts all or part of the proposal submitted in response to it and/or any addenda submitted during the negotiation process; or

2. Execute a mutually satisfactory written agreement based on this RFP, the proposal submitted, and the negotiations concerning these.

3. If the University determines in writing and in its sole discretion that only one firm is fully qualified, or that one firm is clearly more highly qualified than the others under consideration, it may decide to negotiate and award an agreement to that firm.

Because the University may use alternative (1) above, each firm must include in its written proposal all requirements, terms or conditions it may have, and should not assume that an opportunity will exist to add such matters after the proposal is submitted.

Firms should also note that, as described in Section H, Provisions Deemed Included in the Proposal, certain matters will automatically be deemed part of the proposal.

H. Provisions Deemed Included in the Proposal

The University will consider each proposal to include not only the matters expressly stated in the proposal as requested in Section V, Contents of the Proposal, but also other provisions which consist of two different types: those which are "mandatory" and cannot be changed by a firm in its proposal; and those which are "preferred" by the University, but which a firm may wish to alter by expressly and specifically so stating in its proposal.
The University includes mandatory provisions so that all proposals will be governed by the same basic contractual terms. The University encourages any firm which feels that a mandatory provision is unreasonable to contact the University before proposals are due so the University can consider amending the provision. The University includes preferred provisions so that any difference between the firm and the University's preferred contractual provisions can be considered during the University's evaluation of proposals.

1. Mandatory Provisions

Each proposal received by the University in response to this RFP will automatically be deemed to include the firm's agreement to the provisions of (a) and (b) below. Although such provisions will govern the firm's proposals as submitted, the University and one or more firms may later mutually agree to amend such provisions, such as when additional time is needed to consider proposals, or when contractual negotiations or performance indicate that such amendments are appropriate.

   a. The proposal constitutes an offer by the firm which will remain open and irrevocable for a period of 120 days from the deadline for submitting proposals as stated in Section C, Proposal Deadline.

   b. If selected by the University, the provisions governing the firm's performance will include all the provisions of Attachment 1, Mandatory Contractual Provisions.


Unless a firm expressly and specifically provides otherwise in its written proposal, the proposal received by the University in response to this RFP will automatically be deemed to include the firm's agreement to these provisions:
a. The firm consents to the University contacting and obtaining any information relevant to this RFP from the references and others identified by the firm in its proposal, as well as from any other persons, firms, or organizations which the University wishes to contact; and

b. If selected by the University, the provisions governing the firm's performance will include all the provisions of Attachment 2, Preferred Contractual Provisions.

I. Rejection of Proposals
The University reserves the right to reject any or all proposals received. Non-acceptance of a firm's proposal will mean that one or more proposals were deemed more advantageous to the University or that all proposals were rejected. Firms whose proposals are not accepted will be notified after a binding contractual agreement between the University and the Selected Firm exists, or when the University rejects all proposals.

J. Virginia Freedom of Information Act
Except as provided below, once an award is announced, all proposals submitted in response to this RFP will be open to the inspection of any interested person, firm or corporation, in accordance with the Virginia Freedom of Information Act. Trade secrets or proprietary information submitted by firms as part of its proposal will not be subject to public disclosure under the Virginia Freedom of Information Act; however, the firm must invoke the protections of this section prior to or upon submission of its proposal, and must identify the specific data or other materials to be protected and state the reasons why protection is necessary. Firms may not request that its entire proposal be treated as proprietary information.
Attachment 1
Mandatory Contractual Provisions

A. Nondiscrimination
During the performance of this Agreement, the Selected Firm will comply with the contract provisions contained in Section 2.2-4311 (1) & (2) of the Code of Virginia or any successor provisions which may be applicable to this Agreement. Also, in accordance with Section 2.2-4343.1, the University does not discriminate against faith-based organizations.

B. Conflict of Interests
The Selected Firm represents to the University that its entering into this Agreement with the University and its performance through its agents, officers and employees does not and will not involve, contribute to nor create a conflict of interest prohibited by the Virginia State and Local Government Conflict of Interests Act (Va. Code 2.2-3100 et seq), the Virginia Ethics In Public Contracting Act (Va. Code 2.2-4367 et seq), the Virginia Governmental Frauds Act (Va. Code 18.2-498.1 et seq) or any other applicable law or regulation.

C. Assignment
Neither party to this Agreement will have the right to assign this Agreement in whole or in part without the prior written consent of the other.

D. Amendments
No amendment of this Agreement will be effective unless it is reduced to writing and executed by the University's Director of Procurement Services and by the individual signing the Selected Firm's proposal or by other individuals named by either party as specified in Section E, Notices below. If the Selected Firm deviates from the terms of this Agreement without a written amendment, it does so at its own risk.
E. Notices

Any notice required or permitted to be given under this Agreement will be in writing and will be deemed duly given: (1) if delivered personally, when received; (2) if sent by recognized overnight courier service, on the date of the receipt provided by such courier service; (3) if sent by registered mail, postage prepaid, return receipt requested, on the date shown on the signed receipt: or (4) if sent by facsimile, when received (as verified by sender’s machine) if delivered no later than 4:00 p.m. (receiver’s time) on a business day or on the next business day if delivered (as verified by sender’s machine) after 4:00 p.m. (receiver’s time) on a business day or on a non-business day. All such notices will be addressed to a party at such party’s address or facsimile number as shown below.

If to the University:
Eric N. Denby
Director of Procurement Services
Carruthers Hall
University of Virginia
1001 North Emmet Street
P.O. Box 400202
Charlottesville, Virginia 22904-4202
Fax: (434) 924-6154

If to the Selected Firm:
The person signing the Selected Firm's proposal in response to the University's RFP, at the Selected Firm's address indicated in such proposal; or to such other person or address as either may designate for itself in writing and provide to the other.

F. Independent Successful Firms

Selected Firm is not an employee of the University, but is engaged as an independent Successful Firms. The Selected Firm will indemnify and hold harmless the Commonwealth of Virginia, the University, and its employees and agents, with respect to all withholding, Social Security, unemployment compensation and all other taxes or amounts of any kind relating to the Selected Firm's performance of this
Agreement. Nothing in this Agreement will be construed as authority for the Selected Firm to make commitments which will bind the University, or to otherwise act on behalf of the University, except as the University may expressly authorize in writing.

G. Workers' Compensation and Employers' Liability
The Selected Firm will (i) maintain Employers Liability coverage of at least $100,000 and (ii) comply with all federal or state laws and regulations pertaining to Workers' Compensation Requirements for insured or self-insured programs.

H. Drug-Free Workplace
The Selected Firm, its agents and employees are prohibited, under the terms of this Agreement, Code of Virginia Section 2.2-4312, and the Commonwealth of Virginia, Department of Human Relations Management Policy Number 1.05, from manufacturing, distributing, dispensing, possessing, or using any unlawful or unauthorized drugs or alcohol while on University property.

During the performance of this Agreement, the Selected Firm agrees to 1) provide a drug-free workplace for the Selected Firm's employees; 2) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Selected Firm's workplace and specifying the actions that will be taken against employees for violations of such prohibition; 3) state in all solicitations or advertisements for employees placed by or on behalf of the Selected Firm that it maintains a drug-free workplace; and 4) include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000, so that the provisions will be binding upon each subcontractor or vendor.
For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific agreement awarded to a Selected Firm, the employees of whom are prohibited from engaging in the unlawful manufacturing, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the agreement.

I. Information Technology Access Act

In accordance with § 2.2-3504 of the Code of Virginia, the following will apply to all information technology Agreements:

NON-VISUAL ACCESS TO TECHNOLOGY: All information technology (the "Technology") which is purchased or upgraded by the University will comply with the following non-visual access standards from the date of purchase or upgrade until the expiration of the Agreement:

• Effective, interactive control and use of the Technology will be readily achievable by non-visual means;

• Technology equipped for non-visual access will be compatible with information technology used by other individuals with whom any blind or visually impaired user of the Technology interacts;

• Non-visual access technology will be integrated into any networks used to share communications among employees, program participants or the public; and

• Technology for non-visual access will have the capability of providing equivalent access by non-visual means to telecommunications or other interconnected network services used by persons who are not blind or visually impaired.

Compliance with the foregoing non-visual access standards will not be required if the Director of Procurement Services, University of Virginia determines that 1) the
Technology is not available with non-visual access because the essential elements of the Technology are visual and 2) non-visual equivalence is not available.

Installation of hardware, software, or peripheral devices used for non-visual access is not required when the Technology is being used exclusively by individuals who are not blind or visually impaired, but applications programs and underlying operating systems (including the format of the data) used for the manipulation and presentation of information will permit the installation and effective use of non-visual access software and peripheral devices.

If requested, the Agreement must provide a detailed explanation of how compliance with the foregoing non-visual access standards is achieved and a validation of concept demonstration.

J. eVA Business To Government Registration

The eVA Internet electronic procurement solution, web site portal www.eva.state.va.us, is the Commonwealth of Virginia's comprehensive electronic procurement system. The portal is the gateway for firms to conduct business with state agencies and public bodies. All agencies and public bodies are expected to utilize eVA. All firms desiring to provide goods and/or services in the Commonwealth are encouraged to participate in the eVA Internet e-procurement solution. The Selected Firm is required to register in the eVA Internet e-procurement solution prior to an award being made.

K. eVA Transaction Fee

The Selected Firm agrees, by accepting an award as a result of this RFP, that it is a registered eVA vendor and will be subject to an eVA transaction fee, for which the Selected Firm will be invoiced by Commonwealth of Virginia, Department of General Services. Additional information is available at www.eva.state.va.us.
L. Successful Firms License Requirements

State statutes and regulatory agencies require that some firms be properly registered and licensed, or hold a permit, prior to performing specific types of services. If firms provide removal, repair, improvement, renovation or construction-type services they, or a qualified individual employed by the firm, must possess and maintain an appropriate State of Virginia Class A, B, or C Successful Firms License (as required by applicable regulations and value of services to be performed) for the duration of the Agreement. It is the firm’s responsibility to comply with the rules and regulations issued by the appropriate State regulatory agencies.

License #______________ Type____________________

A copy of the license must be furnished upon request to the University or VASCUPP member institution.
A. Goods and Services
During the term of this Agreement, the Selected Firm will provide for the University the goods and services offered to the University by the firm in its proposal and/or any addenda to its proposal which has been approved in writing by the University and as may be further specified by the University in writing when it selected the firm.

B. Term of Agreement
The term of this Agreement will be for three years, with the ability to renew on the same terms and conditions, for two additional one-year periods if mutually agreeable to the University and the Selected Firm. The Selected Firm and the University will mutually agree at least 60 days prior to each renewal period whether to renew the terms of the Agreement.

C. Contract Administrator
The University will identify a Contract Administrator for any Agreement which results from this RFP. The individual will be the point of contact at the University for Day-to-day Operations, but cannot approve amendments to the Agreement or price changes.

D. Waiver
No waiver of any right will be deemed a continuing waiver, and no failure on the part of either party to exercise wholly or in part any right will prevent a later exercise of such or any other right.
E. Indemnification
The Selected Firm will indemnify and hold harmless The Commonwealth of Virginia, The Rector and Visitors of the University of Virginia, and their agents, employees and officials from any and all costs, damage or loss, claims, liability, damages, expenses (including, without limitation, attorneys' fees and expenses) caused by or arising out of the performance or non performance of the Agreement by the Selected Firm or its agents or subcontractors, including the provision of any services or products. The Selected Firm warrants that the products, goods and services provided the University may be used by the University without being in violation of any copyright, patent or similar property right or claim by others and will defend, indemnify and save the University (its employees and agents) from and against any such claim.

F. Governing Law
This Agreement will be governed in all respects by the laws of the Commonwealth of Virginia.

G. Termination
If the Selected Firm fails to provide quality goods or services in a professional manner, solely as determined by the University, and, upon receipt of notice from the University, does not correct the deficiency, to the University's satisfaction within a reasonable period of time, not to exceed five calendar days unless otherwise agreed to by both parties in writing, the University reserves the right to terminate this Agreement upon written notice to the Selected Firm.

H. Non-Appropriation
Funding for any Agreement between the University and a Selected Firm is dependent at all times upon the appropriation of funds by the Virginia General Assembly and/or any other organization of the Commonwealth authorized to appropriate such funds. In the event that funding to support this Agreement is not appropriated, whether in whole
or in part, then the Agreement may be terminated by the University effective the last
day for which appropriated funding is available.

I. Right of Audit
The University reserves the right to audit or cause to be audited the Selected Firm's
books and accounts regarding the University's account at any time during the term of
this Agreement and for five years thereafter. The Selected Firm will make available
to the University all books and records relating to performance of this Agreement as
may be requested during said period.

J. Contractual Claims
This Agreement is subject to the University's policy on Contractual Claims which is
provided as Attachment 3, Procedure for Resolution of Contractual Claims.

K. Insurance
Listed below is the insurance the Selected Firm must maintain under any Agreement
resulting from this RFP. In no event should the Selected Firm construe these
minimum required limits to be their limit of liability to the University. The Selected
Firm will maintain insurance which meets or exceeds the requirements of the
University with insurance companies that hold at least an A- financial rating with
A.M. Best Company. No Agreement will be executed by the University until the
Selected Firm satisfies the insurance requirements of the University. The Selected
Firm may be required to provide the University with a valid Certificate of Insurance
before providing any goods or services to the University. The University reserves the
right to approve any insurance proposed by the Selected Firm.
Comprehensive Commercial General Liability:
The Selected Firm and any Subcontractor will maintain a minimum combined single Limit of Liability for bodily injury and property damage of $750,000 per occurrence, with coverage for: premises/operations and products/completed operations.

Automobile Insurance:
The Selected Firm and any Subcontractors will provide a minimum combined single Limit of Liability for bodily injury and property damage of $750,000 per accident, with coverage for: owned, hired, and non-owned automobiles operated by their employees.

*Additional Insured:
The University will be named as an Additional Insured, and the proper name is: "The Commonwealth of Virginia, and the Rector and Visitors of the University of Virginia, its officers, employees, and agents."

L. Use of Agreement by Third Parties
In accordance with Section 2.2-4304 of the Code of Virginia, these organizations may have access to any Agreement resulting from this RFP to allow for cooperative purchasing by only the Virginia Association of State College and University Purchasing Professionals (VASCUPP) and all other Commonwealth of Virginia public institutions of higher education (to include four-year, two-year and community colleges). Current VASCUPP member institutions include: College of William and Mary, George Mason University, James Madison University, Old Dominion University, Radford University, University of Virginia, Virginia Commonwealth University, Virginia Military Institute, and Virginia Polytechnic Institute and State University. A list of all other Virginia Public Colleges and Universities is available at 

In addition, access to the Agreement may also be extended to 1) Any University related foundation, and 2) City of Charlottesville and County of Albemarle. Potentially, other member schools of the Atlantic Coast Conference (ACC) may also have access to any Agreement resulting from this RFP if such access is confirmed by the University. The other ACC member schools which may potentially participate are: Boston College, Clemson University; Duke University; Florida State University; Georgia Institute of Technology, University of Miami, North Carolina State University; University of Maryland, University of North Carolina; Wake Forest University, and Wake Forest University Health Sciences. Other institutions which may participate include Emory University.

Participation in this cooperative procurement is strictly voluntary. If authorized by the Selected Firm, the Agreement will be extended to the public bodies indicated above to purchase at the fees in accordance with the terms of the Agreement. The Selected Firm will notify the University in writing of any such institutions accessing the Agreement. No modification of the Agreement or execution of a separate agreement is required to participate. The Selected Firm will provide semi-annual usage reports for all VASCUPP member institutions and public institutions accessing the Agreement. Participating public bodies will place their own orders directly with the Selected Firm and will fully and independently administer use of the Agreement to include contractual disputes, invoicing and payments without direct administration from the University. The University will not be held liable for any costs or damages incurred by any other participating public body as a result of any authorization by the Selected Firm to extend the Agreement. It is understood and agreed that the University is not responsible for the acts or omissions of any VASCUPP member institution, or any other entity accessing the Agreement under this section, and will not be considered in default of the Agreement no matter the circumstances. Use of this Agreement does not preclude any participating public body from using other agreements or competitive procurement processes as required by law.
M. Favored Nations
   The Selected Firm represents that the prices, terms, warranties, and benefits specified in its proposal are comparable to or better than the equivalent terms being offered by the firm to any present customer.

N. The University's Authorized Representatives
   The only persons who are or will be authorized to speak or act for the University in any way with respect to this Agreement are those whose positions or names have been specifically designated in writing to Selected Firm by the University's Director of Procurement Services.

O. Purchasing Manual
   This Agreement is subject to the provisions of the Commonwealth of Virginia "Purchasing Manual for Institutions of Higher Education and Their Vendors" and any subsequent revisions, which is available on Procurement Services web site at: http://www.virginia.edu/procurement/about/PurchasingManual.html

P. Small, Women-owned and Minority-owned (SWAM) Business Reporting
   The Selected Firm will identify and fairly consider SWAM firms for subcontracting opportunities when qualified SWAM firms are available to perform a given task in performing for the University under the resulting Agreement. The Selected Firm will submit a quarterly SWAM business report to the University by the 8th of the month following each calendar quarter, specifically the months of April, July, October, and January. The Selected Firm will submit the quarterly SWAM business reports to:

   Nancy Noblette  
   Administrative Assistant to the Director of Procurement Services  
   E-mail: nnn9g@virginia.edu

   The quarterly SWAM business reports will contain this information:
• SWAM firm’s name, address and phone number with which the Selected Firm has contracted over the specified quarterly period.
• Contact person at the SWAM firm who has knowledge of the specified information.
• Type of goods and/or services provided over the specified period of time.
• Total amount paid to the SWAM firm as it relates to the University’s account.

The Selected Firm’s failure to provide SWAM reports on a quarterly basis which contain the information required by this section and/or the Selected Firm’s failure to comply with the plan for utilizing SWAM businesses submitted by the Selected Firm as part of its proposal and/or negotiation response may be grounds for debarment pursuant to Section 4.M. of the “Purchasing Manual for Institutions of Higher Education and their Vendors.”

Q. Intellectual Property Rights/Disclosure
Unless expressly agreed to the contrary in writing, all goods, products, materials, documents reports, writings, video images, photographs or papers of any nature including software or computer images prepared or provided by the Selected Firm (or its subcontractor) for the University will not be disclosed to any other person or entity without the written permission of the University. The Selected Firm warrants to the University that the University will own all rights, title and interest in any and all intellectual property rights created in the performance or otherwise arising from any Agreement resulting from this RFP and will have full Ownership and beneficial use thereof free and clear of claims of any nature by any third party including without limitation copyright or patent infringement claims. The Selected Firm will execute any assignments or other documents needed for the University to perfect such rights. Notwithstanding the foregoing, for research collaboration pursuant to subcontracts under sponsored research agreements administered by the University's Office of Sponsored Programs, intellectual property rights will be governed by the terms of the
grant or contract to the University to the extent such grant or contract requires intellectual property terms to apply to subcontractor.
Attachment 3

Procedure for Resolution of Contractual Claims

The Virginia Acts of Assembly of 2006, Chapter 943, Chapter 3, Exhibit P and its attachments requires Successful Firms with the University to submit any claims, whether for money or other relief, in writing no later than 60 days after final payment; however, written notice of the Successful Firms intention to file such a claim must be given at the time of the occurrence or beginning of the work upon which the claim is based.

The University's procedure for deciding such contractual claims is:

A. The Selected Firm must provide the written claim to:
   Assistant Director of Procurement Services
   University of Virginia
   1001 North Emmet Street
   P. O. Box 400202
   Charlottesville, Virginia  22904-4202

B. Although the Selected Firm may, if it chooses, attempt to resolve its claim by dealing with a University department other than the one stated in Section A above, the Selected Firm must submit any unresolved claim in writing no later than 60 days after final payment to the Assistant Director of Procurement Services if it wishes to pursue its claim.

C. Upon receiving the written claim, the Assistant Director of Procurement Services will review the written materials relating to the claim and decide whether to discuss the merits of the claim with the Selected Firm. If such discussion is to be held, the Assistant Director of Procurement Services will contact the Selected Firm and arrange such discussion. The manner of conducting such discussion will be as the Assistant Director and the Selected Firm mutually agree.
D. The Assistant Director of Procurement Services will mail his or her decision to the Selected Firm within 60 days after receipt of the claim. The decision will state the reason for granting or denying the claim.

E. The Selected Firm may appeal the decision to:

   Director of Procurement Services  
   University of Virginia  
   Carruthers Hall  
   1001 North Emmet Street  
   P.O. Box 400202  
   Charlottesville, Virginia  22904-4202

   by providing a written statement explaining the basis of the appeal, within 15 days after the Selected Firm's receipt of the decision.

F. Upon receiving the written appeal, the Director of Procurement Services will review the written materials relating to the claim and decide whether to discuss the merits of the claim with the Selected Firm. If such discussion is to be held, the Director of Procurement Services will contact the Selected Firm and arrange such discussion. The manner of conducting such discussion will be as the Director of Procurement Services and the Selected Firm mutually agree.

G. The Director of Procurement Services will mail his or her decision to the Selected Firm within 60 days after the Director of Procurement Services receipt of the appeal. The decision will state the reasons for granting or denying the appeal.
Greetings:

The quality of service the University of Virginia is able to deliver to its customers is directly related to the excellent support we receive from you and many other outstanding suppliers of goods and services. Without you, we would not be able to fulfill our educational, health care and research missions. An important part of our procurement program involves our commitment to doing business with small, women-and minority-owned (SWAM) businesses. As one of our most important vendors, we look to you to help us achieve this objective.

We conduct substantial business with small firms. We have been less effective in securing long-term business relationships with minority-and women-owned businesses. We are determined to improve our record.

I seek your assistance in two areas. First, to the extent practical, I ask that you involve small, women-and minority-owned businesses in the delivery of services you provide to UVa. Second, I seek your help in reporting your results through our quarterly subcontracting reports. The terms and conditions previously provided to your organization outlined this process.

This effort is important to us. We depend on you in so many ways – this is another way that we can partner with your company to make things better.

Sincerely,

Leonard W. Sandridge
Executive Vice President and Chief Operating Officer
LWS:dr
Madison Hall · Post Office Box 400228 · Charlottesville, Virginia 22904-4228
ATTACHMENT 5

Scope of Required Services and Pricing

A. General
The University intends to select two or more capable Firms to provide Asbestos Abatement services on an “as needed” basis. Types of projects include, but are not limited to, asbestos abatement within classrooms, general office areas, clinical or research laboratory areas, computer laboratories, patient-care facilities, dormitories, athletic facilities, grounds improvements, steam tunnels, underground utilities, and other miscellaneous types of renovations projects on University buildings and grounds. These services must be provided in a manner to minimize the interruption and maintain the quality of patient care, educational services, and business operations performed by the University. The Selected Firms must provide asbestos abatement services as guided by recognized codes and standards governing asbestos abatement work in the Commonwealth of Virginia, including, but not limited to, Occupational Safety and Health Administration (OSHA), Virginia State Department of Environment Quality (DEQ), Department of Labor and Industry (DLI), Virginia State Department of Commerce, United States Environmental Protection Agency (EPA), American National Standards Institute (ANSI), Building Officials and Code Administration (BOCA), National Fire Protection Association National Electric Code (NFPA), or others as specifically required by the individual project. The Selected Firms must provide Asbestos Abatement services that comply with the procedures outlined in Attachment H, Asbestos Abatement Project Sample.

B. Price Proposals and Future Awards
After awarding any Agreements resulting from this RFP, the University will issue a Request for Quotation (RFQ) for individual asbestos abatement projects. The Selected Firms will then submit a quotation based on the specifications in the RFQ and this Agreement on a fixed price basis.
The Selected Firms will include any and all costs it deems necessary to complete the project when submitting each project-specific, fixed price quote.

The University may complete a “Make/Buy” comparison on each project to determine if the Selected Firm with the lowest quote or the University’s in-house personnel will complete the asbestos abatement project. If the award is to go to a Selected Firm, the award will be based on the lowest quoted price along with the Selected Firms’ ability to meet the completion dates as specified in the Request for Quote. The University reserves the right to complete any project with its own forces, or cancel a procurement at any time. If delivery is to be a determining factor of award, the University will establish completion dates within the Request for Quote. Only those Selected Firms meeting the completion criteria will be considered in the evaluation process of the award.

C. General Service Requirements

1. The Selected Firms will provide high quality asbestos abatement services, equal to or better than existing services currently provided by University resources, including prompt response to requests for services, and completion of projects in a timely fashion according to the requirements of the University. Work in progress will be inspected periodically for adherence to the University standards.

2. The Selected Firms will provide asbestos abatement services to meet the needs of the University with minimum disruption to the educational, patient care, operational and research activities of the University. The Selected Firms will plan their work with the understanding that Facilities Management’s regular working hours are 7:00 a.m. to 3:30 p.m., Monday through Friday, except established holidays observed by the University. There may be instances when the University has an emergency situation and requests that the Selected
Firms respond within a very limited time frame. The Selected Firms may be required to assist the University in emergency situations. It should be understood that asbestos abatement projects might require work during non-regular hours. It should also be noted that the Medical Center area requires a five working day notice if utilities are to be shut down. The University will make every effort to assist the Selected Firms; however no Selected Firm will plead ignorance of these required terms and conditions.

3. The Selected Firms will provide competent, trained, and experienced staff to deal with University faculty, staff, and employees in a professional manner.

4. The Selected Firms must comply with the same working conditions as Facilities Management, including, but not limited, to parking arrangements made through the University’s Department of Parking and Transportation, adherence to Commonwealth of Virginia and University building safety codes and standards, and scheduling work around University special events and holidays.

5. The Selected Firms will be required to provide a detailed plan of operation to accommodate future “on-demand” projects determined by the University. Each plan should include:
   - personnel to be allocated to the project,
   - inspection review by the Selected Firms either with or without University personnel,
   - provisions for warranty and maintenance integrity,
   - a sample schedule demonstrating each stage of project work with associated follow-up work.
6. The Selected Firms will maintain a clean work site throughout the life of the project. University personnel will inspect the finished project and approve or reject the completed work. If the University does not approve the completed project, final payment or a portion of final payment may be withheld until the Selected Firm finishes the project in a manner acceptable to the University.

7. Individual awards will be based on the Selected Firms ability to meet all individual project requirements at the lowest price. Prices must be submitted within five (5) days after the University issues a RFQ, unless otherwise noted. The University reserves the right to complete any project with in-house personnel or cancel a procurement at any time.

8. The Selected Firms will work with the University to clarify project plans and specifications. The University will supply the Selected Firms with the most complete construction documents possible. The Selected Firms will be required to make site visits and attend meetings as necessary to get clarifications on each project’s scope of work.

9. The Selected Firms should provide sufficient representation in the Charlottesville area to adequately service the University’s needs. Representatives will be responsible for working with various University departments and must provide assistance, expedite work, correct deficiencies and handle many other miscellaneous problems as they occur during work-in-progress.

10. All employees of the Selected Firms must wear uniforms or other appropriate attire at all times to designate their affiliation with the Selected Firms. The University requires such identification for security precautions and access may be prohibited if the identification is not recognized by University personnel.
11. The Selected Firms will take proper safety and health precautions to protect at a minimum, all work, the Selected Firms employees, the public, and the property of others.

12. All projects will be performed in a manner that will not adversely affect the integrity of a building’s structural, mechanical, electrical, fire protection and life safety systems or any other building systems or utilities that may overload or render useless any portion of the building without first seeking approval by the University’s Facilities Management Department. Utility shutdowns must be coordinated in advance. The Selected Firm will be responsible for coordinating utilities shutdowns with the University’s designated representative for each project.

13. The University will function as the code administrator / inspector to ensure that all applicable codes are met on all asbestos abatement projects.

D. Specific Service Requirements

1. Utilities will normally be supplied by the University for project completion. The University will specify within the RFQ any special utility arrangements that may be required.

2. The Selected Firms will provide the necessary barricades, warning sign/lights, fire protection, environmental protection, and similar provisions intended to minimize property losses, personal injuries and claims for damages at each project site. The Selected Firms will also secure the work site against unauthorized entrance at times when their employees are not working.
3. These submittals will be supplied to the University’s Designated Representative prior to the start of any asbestos abatement projects:

A. **Certificates of HEPA Filtration Equipment Compliance**: The Selected Firm will submit manufacturer’s certification that vacuums, ventilation equipment and other equipment required to contain airborne asbestos fibers conform to ANSI Z9.2.

B. **Asbestos Abatement Plan**: The Selected Firms will submit to the University’s designated representative prior to the start of any asbestos work, a detailed plan to include:
   - time schedule
   - detailed project procedures
   - location of asbestos control areas
   - location of clothing change rooms
   - sequencing of asbestos related work
   - waste packaging, staging, and disposal plan
   - type of wetting agent and asbestos sealer used
   - type of mastic removal agent used
   - contaminated crawlspace soil removal plan
   - air monitoring procedures
   - methods used to control pollution and decontaminate building materials

C. **Testing Laboratory Plan**: The Selected Firms will submit the name, address and telephone number of the testing laboratory proposed for analyzing air monitoring filters. The Selected Firms will submit certification that persons counting the samples have successfully completed National Institute for Occupational Safety and Health (NIOSH) course #582 or a proven equivalent. Submit certification that the laboratory has been judged proficient by successful participation in
the NIOSH Proficiency Analytical Testing Program and that the laboratory is licensed by the Virginia State Department of Commerce as an “Asbestos Analytical Laboratory.”

D. **Landfill Plan**: The Selected Firm will submit written evidence that the landfill to be used for disposal is approved to accept asbestos by the EPA and Commonwealth of Virginia Department of Environmental Quality.

E. **Contingency Plan**: The Selected Firms will submit a copy of their contingency plan to be used during emergency situations.

F. **Notification of Regulatory Agencies**: The Selected Firms will submit, to the OEHS representative, copies of all asbestos abatement notification forms sent to regulatory agencies as a result of projects associated with any future agreements.

G. **Material Safety Data Sheets (MSDA’s)**: The Selected Firms will submit MSDA’s or equivalent in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material, spray glue, mastic, removal agent or other chemical products to be used during any abatement project.

4. The Selected Firms will provide one on-site asbestos Project Supervisor who must:
   - Posses at least 2 years experience administering and supervising asbestos abatement projects
   - Have successfully completed an EPA and Commonwealth of Virginia Department of Commerce accredited course in the supervision of asbestos abatement projects and hold a Project Supervisor license
   - Be familiar with best work practices and disposal procedures
   - Be familiar with proper protective measures for building and personnel
Act as the Competent Person as required by OSHA 29 CFR 1926 and be responsible for compliance with all applicable ACM regulations.
ATTACHMENT 6

Asbestos Abatement Project Sample Specifications

Specifications For Asbestos-Containing Materials Abatement Within

__________________________________________________

at the University of Virginia

Work Order Number ___________

DATED: ___________

Facilities Management Contract Administration
575 Alderman Road
Charlottesville, VA 22903

(434) 982-_____ (voice)
(434) 982-_____ (fax)

ATTN:________________, Project Manager

Asbestos Abatement Project Design
By Marlin F. Phillips
Virginia State License Number 3305000991
University of Virginia Office of Environmental Health and Safety
P.O. Box 400322
Charlottesville, VA 22904-4322
(434) 982-4911
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PART 1 - GENERAL

1.01 Project-Specific Standards and Requirements

A. Furnishing of all supervision, labor, tools, materials, equipment, and waste disposal services necessary for and reasonably incidental to the removal and disposal of asbestos-containing materials required for renovations to various buildings and areas described herein.

All work will be performed in multiple phases as required to accommodate final air clearance testing of separate enclosures of interior work sites for OSHA Class I abatement activities (if applicable), and final visual inspections of any OSHA Class II asbestos abatement activities. None of these enclosures will be removed until the Virginia State Buildings Standards aggressive clearance testing results are satisfactory for the interior Class I work sites tested, or the final visual inspection satisfactory for the Class II activities inspected, as determined by the University.

All asbestos abatement work will be performed according to project-specific schedules.

Additional asbestos abatement work, as needed, will be performed as approved and scheduled by the University and Successful Firm within 24 hours of request, during the period of the specific project.

B. Daily work schedules for each area of asbestos-containing materials abatement will be coordinated with and approved by the University of Virginia Office of Environmental Health and Safety (OEHS) representative and subsequently incorporated into the Successful Firm’s asbestos abatement plan prior to commencing work.
C. All Asbestos-Containing Materials (ACM) to be removed will be described in each project’s scope of work.

D. Quantity of Asbestos-Containing Materials
All ACM identified in each project’s scope of work will be properly removed and disposed of. Exact quantities and measurements of the ACM and related debris within each area will be the responsibility of the Successful Firms. The Successful Firms will proceed during any encounters with ACM in accordance with all applicable federal and state laws, rules and regulations. All related costs will be included in the basic contract price. If the Successful Firms encounters other materials in these areas which require disturbance, clean-up or removal, work shall stop and the University’s Representative immediately notified, so instructions on how to proceed may be determined.

E. Suspect Asbestos-Containing Materials
Change orders may be used to allow the Successful Firms to remove and dispose of ACM encountered during construction, which were not specified in the original scope of work. All such materials will be quantified by the University's OEHS Representative and the cost agreed upon by the Successful Firms and the University’s Contract Manager prior to commencing any asbestos abatement work. The Successful Firms will respond within 24 hours of contact by the University to any requests for these other types of ACM to be removed.
F. Construction Schedule
Asbestos abatement work will be performed in accordance with time frames stipulated in the scope of work of each project’s specifications. The Selected Firms will anticipate working overtime (including nights, weekends, or holidays) as necessary to complete the work on schedule.

G. Description of Work
Asbestos abatement work includes the complete and proper removal and disposal of all asbestos-containing materials using the procedures specified by any contract resulting from this RFP. Asbestos abatement work will be performed under the base bid, and possibly one or more of the add alternate bids as selected by the University, and within the time period specified in the scope of work.

H. Description of Work Sites
Each work site will have its own decontamination unit (personnel and waste load-out), negative air filtration system, negative pressure monitoring device, and all other requirements of these specifications for each OSHA Class I abatement activity within a separately enclosed work site. **NOTE: All ACM abatement within this contract will be considered an OSHA Class I activity unless the materials to be removed are both non-friable and exterior to the building, and/or it is specifically stated to be a Class II or III activity within the scope of work of these specifications.**

I. Project Conditions
A statement as to the occupancy of the building and area(s) affected by the abatement of ACM will be included within the scope of work. In all cases, the building (outside of enclosed work sites) will likely be occupied by the University’s representative(s), general renovations Contractor and/or certain
sub-Contractors at any given time. The Successful Firms will notify all occupants of the locations of asbestos abatement activities and the schedule of such activities in accordance all specifications, and as required by OSHA 29 CFR 1926.1101 (k). The Successful Firms will coordinate with the University and other Contractors on site all activities such as waste load-out processes or periods of electrical power outage that could effect nearby work areas in accordance with the requirements of the General Construction contract for this project.

1.02 Successful Firms Submittals

At least one copy of each of the following will be submitted to the OEHS through the Contract Administration Office for review prior to commencing work involving asbestos materials:

A. Asbestos Abatement Plan

Submit a detailed plan of work procedures to be used in the removal and demolition of materials containing asbestos. Such plan will include for each work site; location(s) of enclosed areas, decontamination unit(s), waste load-out unit(s), and negative air machines, daily work schedule, sequencing of asbestos related work, brand names of mastic removal solvent(s), and asbestos encapsulant(s) to be used. Any proposed deviations from specifications must be submitted within this plan as well. This asbestos abatement plan must be acceptable to the OEHS Representative prior to the start of any asbestos work.

B. Testing Laboratory

Submit the name, address and telephone number of the testing laboratory selected for analyzing personal air monitoring filters as well as a copy of its Virginia Department of Professional and Occupational Regulation (DPOR) Asbestos Analytical Laboratory License.
C. Landfill Plan
Submit written evidence that the landfill to be used for disposal is approved to accept asbestos by the U. S. Environmental Protection Agency (USEPA) and Virginia Department of Environmental Quality (DEQ).

D. Supervisory Personnel Listing
Submit the name and work telephone numbers of each full-time asbestos abatement project supervisor who will be working on the project, and evidence that he or she has met the training, licensing, and "Competent Person" requirements.

E. Contingency Plan
Submit a copy of the contingency plan that will be used for emergency actions during each project.

F. Notifications of Regulatory Agencies
Submit copies of all asbestos abatement notification forms sent to regulatory agencies.

G. Material Safety Data Sheets
The Successful Firms will submit to the Contract Administrator the Material Safety Data Sheet (MSDS), or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each chemical product to be used on the project.

*NOTE:* No work will be performed until the Successful Firms has submitted all of these items and they have been approved by the OEHS Representative. To verify that such submittals have been approved and are complete, an "Asbestos Abatement Successful Firms
Submittals Review" form (Attachment 7) will be completed by the OEHS Representative and submitted to the University's Contract Administrator.

1.03 **Project Coordination**

A. **Administrative and Supervisory Personnel**

The Successful Firms will provide a full-time Asbestos Abatement Project Supervisor who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the "Competent Person" as required by OSHA in 29 CFR 1926.1101(o) for the Successful Firms and is the Successful Firm's representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to asbestos containing materials. This person must have successfully completed an EPA and Va. State accredited course in the supervision of asbestos abatement projects, have had a minimum of two (2) years on-the-job training, be licensed as a project supervisor by the Virginia DPOR, and meet any additional requirements set forth in 29 CFR 1926.1101(o) for a "Competent Person."

B. **Daily Log**

1. The Project Supervisor will keep a daily logbook to document, in writing, each day's activities. The logbook will include times of work, names of persons entering work sites, discussions with University's Representatives, and all other matters relating to the ongoing work.

2. The daily logbook will be reviewed by the OEHS Representative upon the completion of work related to this contract. The OEHS Representative will not “approve” the project as complete within the “Final Asbestos Abatement Project Completion Report”
(ATTACHMENT 7) until this logbook is reviewed and is found to be satisfactory.

C. Contingency Plan

1. The Successful Firms will prepare a contingency plan for emergencies including fire, accident, power failure, negative air system failure, supplied air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation procedures. Plan must specify procedures for decontamination or work area isolation. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

2. The Successful Firms will post this plan in clean room of each personnel decontamination unit. It will also contain telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company and telephone company.

D. Notifications

1. In accordance with OSHA 29 CFR 1926.1101(k), the Successful Firms will notify all other entities at the job site of the nature of the asbestos abatement activities, location of asbestos-containing materials, requirements relative to asbestos set forth in these specifications and applicable regulations.

2. The records of all such notifications will be maintained in the Successful Firm's daily log.
1.04 DEFINITION OF TERMS

A. Contract Terms

1. Architect: University’s contracted architectural firm for all work pertaining to the design and management of this project including but not limited to renovations, demolition, asbestos abatement, etc. (if applicable).

2. Successful Firm's Asbestos Project Supervisor: The Successful Firm’s representative at the work site. This person will be the "Competent Person" required by OSHA in 29 CFR 1926.1101(o), and the Virginia State Licensed Asbestos Project Supervisor.

3. OEHS Representative (Asbestos Inspection, Abatement Project Design and Project Monitoring Group):
   University of Virginia
   Office of Environmental Health and Safety
   (Mailing Address)
   P.O. Box 400322, Charlottesville, VA 22904-4322
   (Shipping Address)
   515 Edgemont Road, Charlottesville, VA 22901
   Telephone: (434) 982-4911; FAX: (434) 982-4915
   Web Site: http://keats.admin.virginia.edu

4. Contract Manager:
   L.T. (Spike) Weeks, VCO
   Facilities Management
   (Mailing Address)
   P.O. Box 400726, Charlottesville, VA 22904-4726
   (Shipping Address)
   575 Alderman Road, Charlottesville, VA 22903
   Telephone: (434) 982-5891; Fax: (434) 243-7620
   Web Site: http://fmweb.virginia.edu/FMHome

B. Asbestos Abatement Terms

1. Abatement: "Asbestos Abatement" means any activity involving job set-up, removal, encapsulation, enclosure, renovation, repair,
demolition, construction, alteration, or maintenance of asbestos-containing material. The abatement activity will be considered to begin with enclosure set-up and to end after enclosure removal is complete.

2. Accredited: A person or laboratory which has been fully approved in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA) and the AHERA regulation.

3. Aerosol: A system consisting of particles, solid or liquid, suspended on air.

4. Air Cell: Insulation normally used on pipes and ductwork that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.

5. Airlock: System for permitting ingress or egress without permitting air movement from a contaminated area into an uncontaminated area.

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

7. Amended water: Water containing a wetting agent or surfactant.

8. Area Air Monitoring: Sampling of asbestos fiber concentrations within the asbestos removal area and outside the asbestos removal area which is representative of the airborne concentrations of asbestos fibers which may reach the breathing zone.

9. Asbestos: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, and actinolite-tremolite. For purpose of determining respiratory and non-worker protection, both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered will be considered as asbestos.
10. **Asbestos-Containing Materials Debris**: Visible pieces of ACM that can be identified by color, texture, or composition, or dust, if the dust is determined by an accredited inspector to be ACM.

11. **Asbestos-Containing Material (ACM)**: Any material containing more than 1% by area of asbestos of any type or mixture of types.

12. **Asbestos-Containing Waste Material**: Any material which is or is suspected of being asbestos, or any material contaminated with asbestos which is to be removed from a work area for disposal.

13. **Asbestos Successful Firm’s License**: An authorization issued by the Virginia DPOR permitting a person to enter into contracts for a project to remove or encapsulate asbestos.

14. **Asbestos Control Area**: An area where asbestos removal operations are performed which is isolated by physical boundaries to prevent the spread of asbestos dust, fibers, or debris. Each separate enclosure within this project represents a separate asbestos control area.

15. **Asbestos Fibers**: This expression refers to fibers identified by NIOSH Method 7400 having an aspect ratio of 3:1 and longer than 5 micrometers, or to any fibers identified as asbestos by transmission electron microscopy (TEM) using the AHERA protocol.

16. **Asbestos Inspector**: Any person licensed by the Virginia DPOR performing on-site investigations to identify, classify, record, sample, test and prioritize by exposure potential, all friable and non-friable asbestos containing materials located within a structure.

17. **Asbestos Project**: An activity involving the inspection for, removal or encapsulation of asbestos or involving the insulation, removal or encapsulation of asbestos-containing roofing, flooring or siding materials.
18. **Asbestos Project Designer's License**: An authorization issued by the Virginia DPOR permitting a person to design an asbestos abatement project.

19. **Asbestos Supervisor's License**: An authorization issued by the Department of Commerce permitting an individual to supervise and work on an asbestos project.

20. **Asbestos Worker's License**: An authorization issued by the Virginia DPOR permitting an individual to work on an asbestos project.

21. **Authorized Visitor**: The building University's Representative, the OEHS Representative, or a representative of any regulatory or other agency having jurisdiction over the project.

22. **Barrier**: Any surface that seals off the work area to inhibit the movement of dust fibers.

23. **Barricade**: A rope or tape signifying an asbestos control area, which is used in conjunction with DANGER signs to restrict entry into the control area.

24. **Breathing Zone**: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches from the worker's nose and mouth.

25. **Clean Room**: An uncontaminated area or room, which is part of the worker decontamination enclosure system, with provisions for storage of worker's street clothes and protective equipment.

26. **Critical Barriers**: All temporary enclosure surfaces, in addition to primary barriers, which seal off the work area from the outside environment, such as doors, windows, HVAC vents, etc.

27. **Curtained Doorway**: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway and by
securing the one along one vertical side of the doorways, and the vertical edge of the other along the opposite vertical side.

28. **Disposal Bag**: Minimum 6 mil thick leak-tight plastic bags used for transporting asbestos waste from work and to disposal site. Each is labeled with the University's name, telephone number and asbestos removal site address, Successful Firm’s name, address and telephone number, as well as the following information:

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

RQ HAZARDOUS SUBSTANCE

SOLID, NOS, ORM-E

NA 9188 (ASBESTOS)

29. **Encapsulant**: A liquid which can be applied to asbestos-containing materials and which controls the possible release of asbestos fibers from the materials either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

30. **Enclosure**: The construction or installation over or around the ACM of any solid or flexible coverings, which will not deteriorate for an extended period of time, so as to conceal the ACM, contain ACM fibers, and render the ACM inaccessible.

31. **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.

32. **Excursion Limit**: The average concentration of airborne substance that will not be exceed during any 30 minute period (In the case of asbestos fibers, this is 1 fiber/cc by PCM Method 7400.)
33. **Fixed Object**: A unit of equipment or furniture in the work area which cannot be removed from the work area without first being dismantled or unconnected.

34. **Friable Asbestos Material**: Material that contains more than one percent asbestos by area which, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure, and includes previously non-friable material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

35. **Glove bag**: A sack (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with two inward projecting long sleeve gloves, which are designed to enclose an object from which an asbestos-containing material is to be removed.

36. **HEPA Filter**: A high efficiency particulate absolute (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 micrometer in length.

37. **HEPA Filter Vacuum Collection Equipment (or Vacuum Cleaner)**: HEPA filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.

38. **Homogeneous Area**: An area of asbestos containing surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture.

39. **Movable Object**: A unit of equipment or furniture in the work area which can be removed from the work area.

40. **Negative Pressure**: Air pressure lower than surrounding areas, generally caused by exhausting air from a sealed space (work area).

41. **Negative Pressure Respirator**: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in
relation to the air pressure of the outside atmosphere, and negative during inhalation in relation to the air pressure of the outside atmosphere.

42. **Negative Pressure Ventilation System**: A local exhaust system, utilizing HEPA filtration capable of maintaining a negative pressure inside the work area and a constant airflow from adjacent areas into the work area and exhausting that air outside the work area.

43. **Non-Friable Asbestos Material**: Material that contains asbestos in which the fibers have been locked-in by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not release fibers in excess of the asbestos control limit during any appropriate use, handling, demolition, storage, transportation, processing, or disposal.

44. **Permissible Exposure Limit**: OSHA allowable 8-hour TWA personal exposure above which employees are required to wear appropriate personal protective equipment. In the case of asbestos, the PEL is 0.1 fiber/cc.

45. **Personal Monitoring**: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

46. **Project Designer**: The person or persons licensed by the Virginia DPOR and selected by the building University to provide the asbestos removal project design and specifications. In this case, the project designer is also the OEHS Representative.

47. **Project Monitor**: The person or persons licensed by the Virginia DPOR to provide daily inspections of the asbestos abatement project to periodically monitor compliance by the Successful Firms with project specifications. The Project Monitor will also provide area air quality monitoring exterior to the work area during abatement operations and
final air clearance testing after ACM removal is complete. In this case, the Project Monitor is the OEHS Representative.

48. **Respirator**: A device designed to protect the wearer from the inhalation of harmful atmospheres.

49. **Shower Room**: A room constituting an airlock 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 always comprises an airlock.

50. **Surfacing ACM**: Any surfacing material such as sprayed or troweled-on acoustical plaster, structural member insulation, etc. that is ACM.

51. **Surfactant**: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

52. **Tent Containment**: This type of containment area is similar to an asbestos control area except that the control area is limited to the tent itself. In this way, asbestos removal can be limited to portions of a room rather than utilizing the entire room as an asbestos control area.

53. **Thermal System Insulation (TSI)**: ACM applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior building components to prevent heat loss or gain, or water condensation, or for other purposes.

54. **Time Weighted Average (TWA)**: The average concentration of a contaminant in air during a specific time period.

55. **Visible Asbestos Emissions**: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
56. **Wet Cleaning**: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos contaminated waste.

57. **Work**: Includes Successful Firm’s labor or materials, or both.

58. **Work Area**: The area where asbestos related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.1101(e).

59. **Work Site**: The specific individual separately enclosed site (room, group of rooms, crawl space, etc.) in which the Successful Firms is working.

60. **Worker Decontamination System**: A decontamination enclosure system for workers, typically consisting of a clean room, a shower room, and equipment room with an

C. **Abbreviations and Names**

The following acronyms or abbreviations as referenced in this contract document are defined to mean these associated names. Both names and addresses are subject to change, and are believed to be, but are not assured to be, accurate as of date of this contract document:

- **ACM** Asbestos-Containing Materials
- **ACRM** Asbestos-Containing Roofing Materials
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGS</td>
<td>Virginia Dept. of General Services 202 N. Ninth St., Suite 209, Richmond, VA 23219-3402</td>
</tr>
<tr>
<td>DPOR</td>
<td>Virginia Dept. of Professional and Occupational Regulation 3600 West Broad Street, Richmond, VA 23230-4917 804/367-8500</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency 401 M St., SW; Washington, DC 20460 202/382-3949</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association Batterymarch Park, Quincy, MA 02269 617/770-3000</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety and Health</td>
</tr>
<tr>
<td>NIST</td>
<td>National Institute of Standards and Technology, U.S. Dept. of Commerce</td>
</tr>
<tr>
<td>NVLAP</td>
<td>National Voluntary Laboratory Accreditation Program</td>
</tr>
<tr>
<td>OEHS</td>
<td>Office of Environmental Health and Safety, University of Virginia, P.O. Box 400322, Charlottesville, VA 22904-4322</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration/ Virginia Occupational Safety and Health Division of the Dept. Labor and Industry U.S. Department of Labor Government Printing Office Washington, DC 20402</td>
</tr>
<tr>
<td>PAT</td>
<td>NIOSH Proficiency Analytical Testing Program</td>
</tr>
<tr>
<td>PCM</td>
<td>Phase Contrast Microscopy - Analytical Method used to determine airborne concentrations of asbestos fibers according to NIOSH Method 7400.</td>
</tr>
</tbody>
</table>
PEL  Permissible Exposure Limit - OSHA allowable 8-hour TWA personal exposure above which employees are required to wear appropriate respiratory and personal protective equipment.

PLM  Polarized Light Microscopy - Analytical method used to determine asbestos content in bulk material samples.

STEL  Short Term Exposure Limit - OSHA allowable 30 minute TWA personal exposure above which employees are required to wear appropriate respiratory and personal protective equipment.

TEM  Transmission Electron Microscopy – Analytical method used to identify and determine airborne concentrations of asbestos fibers according to EPA AHERA protocol.

TWA  Time-Weighted-Average - Average unit of exposure to a substance over a general period of time.

1.05  Codes And Regulations

This section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of these specifications. This section also sets forth those notifications and permits which are known to the University and which either must be applied for and received, or which must be given to governmental agencies before start of work.

A.  General Applicability

Except to the extent that more explicit or more stringent requirements are written directly into the contract document, all applicable codes, regulations, and standards have the same force and effect (and are made a part of this contract document, by reference as if copied directly into this contract document, or as if published copies are bound herewith).

B.  Successful Firms Responsibility
The Successful Firms will assume full responsibility and liability for the compliance with all applicable Federal, State and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Successful Firms is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Successful Firms will hold the University, University's Representatives, and OEHS Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of itself, its employee, or its sub Successful Firms.

C. Federal Requirements

Federal regulations which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following regulations and all current amendments to these regulations:

1. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA):
   a. Occupational Exposure to Asbestos, Tremolite Anthophyllite, and Actinolite; Final Rules
      Title 29, Part 1910, Section 1001 and Part 1926, Section 1101 of the Code of Federal Regulations
   b. Respiratory Protection
      Title 29, Part 1910, Section 134 of the Code of Federal Regulations
   c. Construction Industry
      Title 29, Part 1926, of the Code of Federal Regulations
   d. Access to Employee Exposure and Medical Records
      Title 29, Part 1910, Section 2 of the Code of Federal Regulations
2. U.S. Environmental Protection Agency (EPA):
   a. Asbestos Abatement Projects Rule
      40 CFR Part 762
      CPTS 62044, FRL 2843-9
      Federal Register, Vol 50 No. 134, July 12, 1985
      P28530-28540
   b. Regulation for Asbestos
      Title 40, Part 61, Sub-parts A and B of the Code of the Federal
      Regulations
   c. National Emission Standard for Asbestos
      Title 40, Part 61, Sub-part M (Revised Sub-part B) of the Code
      of Federal Regulations
   d. Asbestos-Containing Materials in Schools (AHERA Rule)
      40 CFR Part 763
OPTS-62048E; FRL-3269-8
Federal Register, Vol. 52, No. 210, October 30, 1987, P41826-41905
e. Toxic Substances; Asbestos Abatement Projects
40 CFR, Part 763
OPTS-62044A; FRL 2965-7
Federal Register, Vol. 51, No. 80, April 25, 1986, P15722-15733


D. Virginia State Requirements
1. Code of Virginia, Title 54.1 Chapter 5, Sections 54.1-517 et. seq. "Asbestos and Lead Successful Firms and Workers".
2. Commonwealth of Virginia Department of Environmental Quality Solid Waste Regulations 9VAC20-80-640

E. Local Requirements
The Successful Firms will abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials.
F. Notification Requirements

1. The Successful Firms will send written notifications as required by the USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40CFR 61, Subpart M) to the regional Asbestos NESHAPS Contact at least 10 days prior to beginning the asbestos abatement activity. In addition, any notifications and permit fees, as required by Code of Virginia Title 54-145: 10 shall be sent to the State Department of Labor and Industry, at least 20 days prior to beginning the asbestos abatement activity. Send separate notification for each non-contiguous phase of this asbestos abatement project to the following addresses:
   a. U.S. EPA, Region 3
      Asbestos Coordinator
      Mail Code 3WC32
      Philadelphia, PA  19103-2029
   b. Virginia State Department of Labor and Industry
      Asbestos Control Clerk
      Powers-Taylor Building
      13 South Thirteenth Street
      Richmond, VA  23219
      Attn:  Ron Graham, Director of Enforcement
      (804) 786-0574
      FAX Number (804) 371-7634
2. For each of these notifications, the Successful Firms will include, at a minimum, all information that is required by the Standard DLI "Asbestos Project 20-Day Notification" form.

G. Licenses

The Successful Firms will maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract. These include but are not limited to the following:
1. Asbestos Successful Firm’s License  
   Code of Virginia, Title 54.1, Chapter 5, Section 54.1-505  
2. Asbestos Worker's License  
   Code of Virginia, Title 54.1, Chapter 5, Section 54.1-504  
3. Asbestos Supervisor's License  
   Code of Virginia, Title 54.1, Chapter 5, Section 54.1-504  
4. Class A or Class B Successful Firm’s License  
   Code of Virginia, Title 54, Chapter 7

H. Posting Requirements
   The Successful Firms will maintain at least one copy of the applicable federal,  
   state and local regulations referenced above at the job site and keep another set  
   of copies on file in Successful Firm’s office.

1.06 Personnel Protection

This section describes the minimum standards for equipment and procedures required  
for use by the Successful Firms in protecting workers against asbestos contamination  
and other workplace hazards.

A. Personnel Training
   1. The Successful Firms will train all workers by requiring each of them  
      to successfully complete an EPA and Virginia DPOR accredited  
      asbestos worker training program prior to beginning this work and  
      annually from the date of first training thereafter. In the case of  
      abatement of NESHAP Category I or II non-friable ACM, only the  
      appropriate OSHA-required worker training is necessary.  
   2. The Successful Firms will train all general superintendents by  
      requiring each of them to successfully complete an EPA and Virginia  
      DPOR accredited program on the supervision of asbestos abatement
projects prior to beginning this work, and annually from the date of training thereafter. In the case of abatement of NESHAP Category I or II non-friable ACM, only the appropriate OSHA-required “competent person” training is necessary.

3. The Successful Firms will train in accordance with 20 CFR 1926.1101(k), all workers and general superintendents in the dangers inherent in handling asbestos and breathing asbestos dust, proper work procedures, and personal and area protective measures.

B. Respiratory Protection

1. The Successful Firms will instruct and train each worker involved in asbestos abatement or maintenance and repair of friable asbestos-containing materials in proper respirator equipment use and require that each worker always wear a respirator, in the work area from the start of any operation which may cause airborne asbestos fibers until the work area is completely decontaminated. Use appropriate respiratory protection for the fiber level encountered in the work place and with a protection factor capable of providing less than 0.01 f/cc inside the worker's respirator, or as required for other toxic or oxygen-deficient situations encountered.

2. The Successful Firms will provide fit tests for workers and provide them with respiratory equipment in accordance with 29 CFR 1926.1101(h), as suitable for the asbestos exposure during any activity which could cause the release of asbestos fibers in the work area.

Initial respirator selection must be based on the assumption that fiber concentrations are in excess of 100 times the permissible exposure limit (PEL) until it is shown to be otherwise by personal air monitoring, unless the Successful Firms can supply the OEHS Representative with acceptable historical personal air monitoring data.
for similar ACM (similar asbestos material, mineral composition and concentration). If acceptable historical air monitoring data is not submitted, this will require at a minimum, the initial use of full face powered air-purifying respirators (PAPR) for employees doing the work.

3. The Successful Firms will have a copy of his written respirator protection program available on the job site at all times. This program will comply with ANSI Z88.2-1980 "Practices for Respiratory Protection" and OSHA 29 CFR 1910, Section 134 of the Code of Federal Regulations.

C. Protective Clothing

1. Worker's Protective Clothing
   a. The Successful Firms will provide work clothes consisting of disposable full body coveralls, disposable head covers, disposable footwear, hard hats, goggles and gloves as required by OSHA for the complete protection of the workers.
   b. The Successful Firms may provide non-disposable work boots for workers to wear over disposable clothing while in the work area. These boots will be considered contaminated however, and will not be allowed outside of the contaminated work site at any time, unless double bagged and sealed in the same manner as asbestos waste. At the completion of the project, such non-disposable clothing will either be disposed of regularly as asbestos waste, or kept double bagged to be opened only within a future contaminated asbestos abatement work site.
   c. Provide a sufficient number of each article of protective clothing for all required changes, for all workers in the work area.
2. Inspector's Protective Clothing
   a. Appropriate NIOSH/MSHA approved respirators, disposable coveralls, head covers, footwear covers, hard hats, goggles and gloves will be provided by the Successful Firms for the OEHS Representatives, and any other authorized representatives who may inspect the job site.

3. Execution
   a. The Successful Firms will provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The procedures specified herein are minimums to be adhered to regardless of fiber count in the work area.
   b. Each time the work area is entered, the workers will remove all street clothes in the changing room of the personnel decontamination unit and put on new disposable coverall, new head cover, new footwear cover, new gloves, and a clean respirator. All articles of personal clothing etc. will be kept inside the changing room at all times. Proceed through shower room to equipment room and put on work boots, hardhat, and goggles.
   c. The Successful Firms will require that workers NOT eat, drink, smoke, chew gum or tobacco in the work area. To eat, chew, drink or smoke, workers will follow the procedure described above, then dress in street clothes before entering the non-work areas of the building.
   d. The Successful Firm’s on-site asbestos abatement project supervisor will ensure that all workers follow the established
decontamination sequence utilizing the aforementioned procedures. The supervisor will also ensure that all visible contamination and debris is removed from protective clothing and equipment prior to egress from the work area and entrance into the contaminated equipment room. In addition, the supervisor will ensure that water supply hook-ups and drain connections or hoses do not leak.

e. The Successful Firms will provide, and post at the entrance to the work site at all times, a written plan for receipt, inspection, cleaning and storage of respiratory protective equipment and all other such non-disposable personal protective equipment in such a manner as to avoid contamination of clean areas and to ensure the integrity and decontamination of this equipment.

PART 2 - PRODUCTS

2.01 Products And Equipment Standards

A. Materials

1. Plastic Sheeting: Minimum six (6) mil thick (or as specified) polyethylene sheets in sizes to minimize the frequency of joints. Sheeting will be clear, frosted, or black as indicated or approved by the OEHS Representative.

2. Waste Bags: Suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site. The bags will be labeled in accordance with OSHA regulation 29 CFR Part 1926.1101(k). Bags must be both air and water tight and must be resistant to damage and rupture. All waste materials and debris will be put in two such bags, individually sealed and labeled.
3. Lumber: Will be stud or standard grade for 2" thick, 4" to 6" wide, and species of specified grade. Fire-retardant treatment to comply with AWPA C20 and C27.

4. Plywood: 5/8" thick CDX fire-retardant treatment to comply with AWPA C20 and C27.

5. Encapsulant/sealant: Penetrating type Foster Protector Sealant - Clear 32-22, manufactured by H. B. Fuller Co., or approved equal in writing by University's Representative.

6. Mastic Removal Solvent: Will be "Low or No-Odor" type, either American Coatings #555, Envirosafe 3000S, MEI 44-08, Sentinel 747 or equivalent, and must be specified by Successful Firms in asbestos abatement plan, and MSDS submitted with plan for approval by OEHS Representative. Mastic Removal Solvent will have the following characteristics:
   a. Non-Toxic. Will release no toxic substance into the air either during application or after drying. It will not release toxic substance or undue smoke even when burned.
   b. Any residue left after the abatement project will not release toxic substances into the air or onto the skin upon physical contact, either dry or upon wetting with water.
   c. Flash point will be above 140 degrees F.
   d. "Low or No-odor" type as specified above.
   e. Any residue left after abatement project will not release any noticeable odors. Should odors persist, the Successful Firms will clean floors and the enclosure and/or negative air exhaust system will remain in operation until odors are eliminated.
7. Gypsum drywall: Will be type "X" for fire resistant rated assemblies where indicated. Edges will be square and thickness a minimum of 5/8".

B. Equipment
1. Negative air pressure units:
   a. The cabinet will be ruggedly constructed and made of durable materials to withstand damage from rough handling and transportation. The cabinet must be appropriately sealed to prevent asbestos containing dust from being emitted during use, transport, or maintenance. The cabinet must be in good condition, with no evidence of disrepair.
   b. The unit will have an air-handling capacity of 1,000 to 2,000 ft³/min. (under "clean" filter conditions).
   c. The final filter must be the HEPA type, folded into closely pleated panels, and must be completely sealed on all edges with a structurally rigid frame and cross-braced as required.
   d. Each filter should be individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 micrometer dioctylphthalate (DOP) particles. One (minimum) or two (preferred) stages of pre-filtration may be used. The first-stage pre-filter should be a low efficiency type (e.g., for particles 10 micrometers and larger). The second stage (or intermediate) filter should have a medium efficient (e.g., effective for particles down to 5 micrometers). Pre-filters and intermediate filters will be installed either on or in the grid of the unit and held in place with special housings or clamps.
e. Each unit will be equipped with an audible alarm that cuts on in the event of clogged or damaged filters. Warning lights are required to indicate normal operation, too high of a pressure drop across the filters (i.e., filter overloading), and too low of a pressure drop (i.e., major rupture in HEPA filter or obstructed discharge).

f. If mastic removal solvents are used, and if so directed by the OEHS Representative, then negative air pressure units will be equipped with activated carbon-impregnated filters as required to totally remove all vapors and odors from work site prior to exhausting air to outside of building.

2. Glove bags: Will comply with specification of this contract document.
3. Air Monitors: Will comply with specifications of this contract document.
4. Decontamination units: Will comply with specifications of this contract document.
5. HEPA Filtered Vacuum Cleaners: Will consist of a blower filter system which, at a minimum, continuously traps asbestos fibers of sizes greater than or equal to 0.3 micrometer diameter at a 99.9% efficiency.
6. Mechanical Cutting Devices: Will be equipped with HEPA exhaust/dust trapping vacuum cleaners such that all dust emitted during cutting is trapped at the same efficiency stated above.
7. Continuous Negative Pressure Recording Devices: Will be capable of maintaining and recording pressure differentials between inside and outside of each work site enclosure continuously throughout asbestos abatement activities.
PART 3 - EXECUTION

3.01 Protection Of University's Personnel And Property

A. Work Area Enclosure

The Successful Firms will perform these tasks in enclosing each work site, unless otherwise directed in writing by the OEHS Representative (the Successful Firm’s asbestos abatement plan will specify the methods to be used to comply with this section):

1. Completely isolate each work site from other parts of the building or general work area so as to prevent asbestos-containing dust or debris from passing beyond the isolated work site. Should the area beyond the work site(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the work area decontamination procedures indicated in this contract document. Perform all such required cleaning or decontamination at no additional cost to University.

2. The University will be responsible for removing all uncontaminated removable furniture, equipment, and/or supplies from each work site before the Successful Firms commences work. Any non-removable furniture, equipment, and/or supplies will be completely covered with a minimum of two (2) layers of polyethylene sheeting, at least six (6) mil in thickness, securely taped in place with duct tape and spray glue. Such furniture and equipment will be considered outside the work site unless covering plastic or seal is broached. The Successful Firms will be responsible for any damage to this furniture, equipment and/or supplies while covered.

3. Unless stated differently in the scope of work, Successful Firms will disable ventilating system or any other system bringing air into or out of each work site. Disable system by disconnecting wires, removing
circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.

4. Permit access to each work site only through a personnel decontamination unit. All other means of access will be closed off and sealed and danger signs displayed on the clean side of the sealed access.

5. Visual Observation Window: If directed by the University’s OEHS Representative, where the work site is immediately adjacent to or within view of occupied areas, provide a visual observation window of transparent plexiglass, at least 1/4” thickness, in conjunction with transparent 6-mil polyethylene enclosure materials, so that the work procedures are visible to the University's Representatives.

6. Physical Barrier: Where the area adjacent to a work site is accessible to the public, construct a solid barrier on the public side of the sheathing to protect the sheathing. Construct barrier with nominal 2” x 4” wood or metal studs 16” on center, securely anchored to prevent movement, covered with minimum ¼” hardboard, ½” gypsum wallboard, or ½” plywood, to a height of 8’. If the work site is outdoors (roofing material, caulking, glazing, etc. removal) construct a barrier tape enclosure at least 50 feet from each asbestos removal work site, including the staging, waste loading, and personnel decontamination sites. Construct barrier with nominal 2” wide asbestos DANGER barricade tape at a height of 3 to 4 feet from roof or ground level.

7. For asbestos abatement within a building’s interior space, completely separate each work site from other portions of the building, and the outside by sheet plastic barriers at least six (6) mil in thickness, and by sealing with duct tape.

8. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, converters and speakers, and
other openings into each work site with duct tape alone or with polyethylene sheeting at least six (6) mil in thickness, taped securely in place with duct tape. Maintain seal until all work including project decontamination is completed. Take care in sealing off lighting fixtures to avoid melting or burning of sheeting.

9. For exterior ACM or roofing material removal, individually seal all critical openings which are connected to and on the same level as the work site (e.g. building windows or doors opening onto a roof at the same level as the roof removal work site), including ventilation openings (supply and exhaust), doorways, windows, access hatches, skylights and other openings within 50 feet of each work site with duct tape alone or with polyethylene sheeting taped securely in place with duct tape. In the case of window caulking or glazing materials removal, individually seal each window frame on the inside of building using minimum six (6) mil polyethylene sheeting in a manner which will prevent ACM from entering the building during abatement or window removal. Maintain all seals until all work, including project clearance, is completed.

10. For exterior ACM or roofing material removal, the enclosure preparation will include provisions for ensuring that no ACM debris is allowed to fall from the side or top of the building during the abatement activity. This will include polyethylene sheeting - covered scaffolding, etc., which is designed to effectively catch all loose ACM debris and prevent such debris from being released into the environment in any way.

11. Provide decontamination units as per these specifications. In the case of exterior ACM removal, decontamination units will be within 10 feet of the base of the building where the work site access will be made.

12. Provide negative pressure system as per these specifications.
13. Pre-clean all surfaces in each work site, using HEPA-filtered vacuum techniques and wet wiping, prior to installation of any polyethylene sheeting over critical barriers, interior surfaces, etc.

14. Clean all contaminated furniture, equipment, and/or supplies with a HEPA filtered vacuum cleaner or by wet cleaning, as specified herein under Work Area and Equipment Decontamination prior to its being moved or covered.

15. Enclose interior work sites with two (2) layers of plastic sheeting on floor and one (1) layer on walls, or as otherwise directed on the contract drawings or in writing by the OEHS Representative. NOTE: When ACM to be removed is floor tile and/or floor tile mastic, this floor covering enclosure will not be required. Also, when ACM to be removed is the wall material itself, the wall covering will not be required.

16. Cover floor of work area with two (2) individual layers of clear polyethylene sheeting, each at least six (6) mil in thickness, turned up walls at least 12 inches. Form a sharp right angle bend at junction of floor and wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. Both spray-glue and duct tape all seams in floor covering. Locate seams in top layer 6' from, or at right angles to, seam in bottom layer. Install sheeting so that top layer can be removed independently of bottom layer. NOTE: When ACM to be removed is floor tile and/or floor tile mastic, this floor covering enclosure will not be required.

17. Cover any carpeting that is to remain during asbestos abatement with three (3) layers of polyethylene sheeting at least six (6) mil in thickness. Place corrugated cardboard sheets between the top and middle layers of polyethylene.
18. Cover sheet plastic in carpeted areas where scaffolding is to be used with a single layer of 1/2" CDX plywood or 1/4" tempered hardboard. Wrap edges and corners of each sheet with duct tape. At completion of abatement work wrap plywood or hardboard with 2 layers of six (6) mil polyethylene and move to next work area or dispose of as an asbestos contaminated waste material in accordance with the asbestos waste disposal section of this contract document.

19. Remove all uncontaminated general construction items such as cabinets, casework, doors and window trim, moldings, ceilings, trim, etc., which cover the surface of the work as required to prevent interference with the work if so directed by the OEHS Representative. Clean, decontaminate and reinstall all such materials, upon completion of all removal work with materials, finishes, and workmanship to match existing installations before start of work.

20. Interior Lighting: The Successful Firms will supply interior lighting using quartz-halogen lights (or equivalent) on stands to effectively provide light to see all interior spaces and ACM to be removed. The number and type of temporary light fixtures used will be subject to approval by the OEHS Representative.

B. Danger Signs

1. The Successful Firms will provide danger signs on the outside of the critical barriers including all locked and sealed doors. Doors of decontamination unit entrance used as the main entrance to each work area are to be locked shut after working hours. A danger sign will also be posted on the uncontaminated side of this door at all times. All danger signs will conform to 29 CFR 1926.1101(k), will be a minimum of 20"x14" and will read as follows:
C. Negative Pressure Systems

1. The Successful Firms will provide a fully switch operational negative air system within each work site continuously maintaining a minimum pressure differential across work area enclosures of 0.02 inches of water. Demonstrate compliance to the OEHS Representative by use of a pressure differential meter before disturbance of any asbestos containing materials.

2. If adjacent areas will be occupied and if so directed by the OEHS Representative, the Successful Firms will provide auxiliary gasoline powered generator located outside of the building in a location protected from the weather. Arrange so that if a power failure occurs the generator automatically starts and supplies power to a minimum of 50% of the negative air machines in operation.

3. Through the use of continuous monitoring devices, the Successful Firms will provide a means to monitor and record or display the pressure differential between each interior work site and the building or area outside of the work site. The sources of these measurements will be made within the work sites in areas most remote from the negative air pressure units, and also as approved by the OEHS Representative. At least one negative pressure monitoring device will be used per 4,000 cfm exhausted air per each work site. Recording of this pressure differential will be performed either automatically by chart recording, or at least once every two hours by the Successful
Firm’s Project Supervisor to assure maintenance of minimum pressure differential of 0.02 inches water column. Written records of these readings will be maintained within the Project Manual at the office of the Successful Firm’s Project Supervisor. At least one measurement per each work site will be taken continuously by use of an appropriate strip chart recorder or data logger to assure maintenance of minimum pressure differential of 0.02 inches water column.

4. The Successful Firms will provide fully operational negative pressure systems supplying a minimum of one air change every 15 minutes. Determine the volume in cubic feet of each work site by multiplying floor area by ceiling height. Determine total ventilation requirement in cubic feet per minute (cfm) for the work site by dividing this volume by the air change rate. Determine and use the number of units needed to achieve the 15 minute change rate by dividing the ventilation requirement by the capacity of the exhaust units used assuming fully loaded filters.

5. The Successful Firms will locate exhaust unit(s) so that make-up air enters work site primarily through decontamination facilities and traverses work area as much as possible. This may be accomplished by positioning the exhaust unit(s) at a maximum distance from the worker access opening or other make-up air sources. The location of these units will be specified on the Successful Firm’s asbestos abatement plan and approved by the OEHS Representative.

6. The Successful Firms will place end of unit or its exhaust duct through an opening in the plastic barrier or wall covering. The plastic around the unit or duct will then be sealed with tape and spray glue.

7. The Successful Firms will vent each negative air unit to outside of building (or decontamination unit equipment room), unless authorized differently by the OEHS Representative. All areas where negative air
is vented to the outside will have the exhaust duct stabilized by plywood panels with an opening of the same size as the diameter of the duct, or as approved by the OEHS Representative. All exhaust duct materials will be minimum 6-mil polyethylene, wire-reinforced, or as otherwise approved by the OEHS Representative.

8. If during the removal, cleaning or encapsulation process negative pressure is not maintained in accordance to these specifications in the work site, all abatement operations shall stop immediately and the OEHS Representative notified. Work is halted until the problem is identified, solved and negative pressure is re-established and working properly.

9. The exhaust units may be removed from the worksite as directed by the OEHS Representative, when a final inspection and the results of final air clearance tests indicate that the work site has been decontaminated. Before removal from the work site, remove and properly dispose of pre-filter, and seal intake to the machine with six (6) mil polyethylene to prevent environmental contamination.

D. Personnel Decontamination Units

1. The Successful Firms will provide a personnel decontamination unit in accordance with 29 CFR 1926.1101(j) for each work site consisting of a serial arrangement of connected rooms or spaces, including changing room, shower room, and equipment room. Require all persons without exception to pass through this decontamination unit for entry into and exiting from the work area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through personnel decontamination unit. Provide temporary lighting within
decontamination unit as necessary to reach a lighting level of 100 foot candles. Provide connected rooms as follows:

a. Changing Room

   (1) The Successful Firms will provide a clean changing room that is physically and visually separated from the rest of the building for the purpose of allowing workers to change into protective clothing. Construct using polyethylene sheeting, at least six (6) mil in thickness, to provide an airtight seal between the changing room and the rest of the building. Locate so that access to work area from changing room is through shower room. Separate changing room from the building by a polyethylene sheet flapped doorway.

   (2) Require workers to remove all street clothes in the changing room, dress in clean disposable coveralls, and don respiratory protection equipment. Do not allow asbestos contaminated items to enter this room. Require workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers. All articles of clothing will remain inside this changing room while worker is inside containment.

   (3) An existing room may be utilized as the changing room if it is suitably located and of a configuration whereby workmen may enter the changing room directly from the shower room. Protect all surfaces of room with sheet plastic as set forth in these specifications on work area enclosures. Authorization for this arrangement must be obtained from the OEHS Representative prior to start of construction.
(4) Do not allow overflow water from shower to wet floor in changing room. Floor to be maintained dry and clean at all times.

(5) Provide a continuously adequate supply of disposable bath towels.

(6) Provide posted information containing all emergency phone numbers and procedures, copies of all Virginia State licenses, personnel air sampling results, and any other requirements of these specifications in the changing room.

b. Shower room

(1) The Successful Firms will provide a completely water tight operational shower to be used for transit by cleanly dressed workers heading for the work site from the changing room, or for showering by workers headed out of the work site after undressing in the equipment room.

(2) Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan.

(3) Separate this room from the rest of the building with air tight walls fabricated of minimum six (6) mil polyethylene.

(4) Separate this room from the changing and equipment rooms with air tight walls fabricated of six (6) mil polyethylene. Provide splash proof entrances to changing and equipment rooms with a 2-door air lock system, with a minimum distance of 3 feet between doors.
(5) Provide shower head and controls.

(6) Provide separate extensions of existing hot and cold water supply lines, as necessary for a complete and operable shower.

(7) Provide a continuously adequate supply of liquid antibacterial soap and maintain in sanitary condition.

(8) Arrange so that water from showering does not splash into the air locks or changing or equipment rooms.

(9) Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the work site.

(10) Pump waste water to sanitary sewer drain. Provide 5.0 micrometer final stage waste water filter in line to drain. Change pre-filters or final filters daily or more often if necessary. Locate filters inside shower unit so that water lost during filter changes is caught by shower pan.

(11) If so directed by the OEHS representative, construct a bypass air window by cutting a hole in the decontamination unit wall poly to allow air to bypass the shower during decontamination procedures. A poly flap shall be placed on the clean side of the window and shall be lifted only during decontamination procedures.

c. Equipment Room (contaminated area)

(1) The Successful Firms will require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.

(2) Separate this room from the work area by a six (6) mil polyethylene flap doorway. Separate this room from the
rest of the building with air tight walls fabricated of six (6) mil polyethylene. Separate this room from the shower room and from work area with a minimum 3 foot air lock and air tight walls fabricated of six (6) mil polyethylene. Separate work site from the equipment room by polyethylene barriers.

(3) If the airborne asbestos level in the work site is expected to be high, as in dry removal, add an intermediate cleaning space between the equipment room and the work area. Damp wipe clean all surfaces after each shift change.

2. Construction of Personnel (Worker) Decontamination Unit
   a. The Successful Firms will construct air tight walls and ceiling using polyethylene sheeting, at least six (6) mil in thickness, attached to existing building components or a temporary framework.
   b. Use 2 layers (minimum) of six (6) mil. polyethylene sheeting to cover the floors in the equipment, shower (underneath shower pan), and changing rooms. Provide an additional layer in the equipment room for every shift change expected. Roll one layer of plastic from equipment room into work area after each shift change. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.
   c. Fabricate doors from 3 overlapping sheets with openings a minimum of three feet (3') wide. Configure so that sheeting overlaps adjacent surfaces. Weight sheets at bottoms as required so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel.
Provide a minimum of six feet (6') between entrance and exit of any room.

d. Fabricate air-locks on either side of shower room in a similar manner and such that a minimum of three feet (3’) exists between entrance and exit of air locks.

e. If the decontamination area is located within an area containing friable asbestos on overhead ceilings, ducts, piping, etc., provide the area with a minimum 2”x4” hardboard framing with a ½” plywood "ceiling" with polyethylene sheeting, at least six (6) mil in thickness covering the top of the "ceiling".

f. Where the decontamination area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least four (4) mil in thickness so that worker privacy is maintained and work procedures are not visible to building occupants. Where the decontamination unit is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct barrier with wood or metal studs covered with minimum ¼” thick hardboard or ½” plywood. Where the solid barrier is provided, sheeting need not be opaque.

NOTE: Alternate methods of providing personnel decontamination facilities may be submitted in the Successful Firm’s asbestos abatement plan to the OEHS Representative for approval; however, do not proceed with any such methods without authorization of the OEHS Representative.

3. Cleaning of Decontamination Units

   a. Clean debris from shower pans on a daily basis. Clean debris and residue from inside of decontamination units on a daily basis. Damp wipe or hose down all surfaces after each shift change.
b. If the changing room of the personnel decontamination unit becomes contaminated with asbestos-containing debris, abandon the entire decontamination unit and erect a new decontamination unit. Use the former changing room as an inner section of the new equipment room.

4. Equipment and Waste Load-out Decontamination Units
   a. Provide an equipment and waste load-out decontamination unit consisting of at least two rooms, including a clean room and a wash room. Do not allow personnel to enter or exit the work area through the load-out unit.
   
   b. The Successful Firms shall construct air tight walls and ceiling using poly sheeting, at least six (6) mil in thickness, attached to existing building components or a temporary framework.

NOTE: Alternate methods of providing equipment and waste decontamination procedures may be submitted in the Successful Firm’s asbestos abatement plan to the OEHS Representative for approval; however, do not proceed without authorization of the OEHS Representative.

E. Inspection of Work Site Preparation by OEHS Representative
   1. After set up of work site enclosure(s), danger signs, the HEPA negative air pressure system and decontamination units within each work site and prior to removal of any asbestos-containing materials, each work site will be inspected by the OEHS Representative to insure it is adequately and properly sealed. The Successful Firms will arrange a time for this inspection through the University’s Representative at least 48 hours in advance.

   2. To document this approval, the OEHS Representative may complete an "Asbestos Abatement Project Pre-Removal Checklist" (ATTACHMENT 7) form.
3. Should any faults or inadequacies in the work site(s) preparation be noted by the OEHS Representative, the Successful Firms will modify or correct these problems and then arrange for another inspection. No asbestos disturbance or removal work can be started until this inspection has been made and approval granted.

F. Successful Firm’s Responsibilities

1. The Successful Firms will be responsible for any damage to the building(s) and the contents, including fixed equipment, structure, etc., resulting from leakage or spillage of water, or from any other intentional or negligent acts or omissions. Any such damage will be repaired by the Successful Firms at his own expense and replaced with materials of equal or better quality.

2. Operations will be discontinued immediately and the OEHS Representative contacted any time visible emissions are observed emanating from the work area, or if asbestos airborne fiber concentrations exceed 0.01 fiber/cc outside the containment(s) in areas of highest risk of contamination. If sampling results outside the containment are found to be in excess of 0.01 fiber/cc, the Successful Firms will perform whatever action is necessary to reduce these fiber concentrations to accepted levels, and additional samples will be made in other adjacent areas as determined by the OEHS Representative.

NOTE: Should there be difficulty in achieving this maximum allowable work site exterior environmental air quality level of 0.01 fiber/cc when samples are analyzed by PCM using NIOSH Method 7400, the Successful Firms may request that the samples be analyzed by TEM using the AHERA EPA Level II protocol. If this TEM analytical method is used however, the Successful Firms is responsible
for paying all laboratory fees and associated handling charges for the TEM analyses.

3. The Successful Firms will be responsible for any damage to existing equipment resulting from leakage or spillage or water, or from any other intentional or negligent acts or omissions. Equipment, furniture, fixtures, etc., remaining in removal area will be shut down during the removal operation and covered with a minimum of 2 layers of six (6) mil polyethylene sheeting and all joints sealed completely with duct tape or appropriate adhesive.

4. The Successful Firms will agree to indemnify and save harmless the University and OEHS Representative and all of their officers, agents, and employees from all suits, actions, or claims of any character, name, and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property by or from the said Successful Firms or by or in consequence of any neglect in safeguarding the work, or though the use of unacceptable materials in the course of the project, or by or on account of any act or omission, neglect, misconduct or negligence of the said Successful Firms.

3.02 Air Monitoring

A. Air Monitoring by Successful Firms

1. To insure that the workers are adequately protected at all times, the Successful Firms will provide daily 8-hour TWA PEL and daily 30-minute Excursion Limit personal breathing zone air monitoring in accordance 29 CFR 1926.1101(f), including all amendments, and Appendix A of the OSHA standard.
2. Samples will be collected by calibrated pumps whose flow rates can be determined to an accuracy of plus or minus 5 percent. Calibrate pumps both prior to and after each use with a representative filter in line.

3. Analysis of samples will be done in accordance with 29 CFR 1926.1101(f) and Appendix A of the OSHA standard. The results of all samples will be posted outside the containment area within 48 hours of sampling and maintained there until the project has been concluded. This data will include both the results of individual samples and the results of 8 hour TWA and 30-minute Excursion Limit determinations. Posted results will include a synopsis of work activities for which the results are representative. Records will be made of each employee's personal monitoring results and the employee will be notified of these results within 15 days either individually or by posting them in a central location in accordance with 29 CFR 1926.1101(f).

4. All analytical results from the Successful Firm’s air monitoring will be posted at the work site entrance as soon as they become available and not more than 48 hours from the time in which the samples were taken. Copies of these results will be presented to the OEHS Representative as signed "Certificates of Analysis". Form will state:
   a. Date and time sampling began.
   b. Flow rate of samples.
   c. Sampling time elapsed.
   d. Concentration of fibers (fibers greater than 5 micrometers long per cc air).
   e. Location from which sample taken (person, building, floor, room, area within room).
   f. Activity occurring during sampling (removal, clean-up, encapsulation, etc.).
   g. Personal protective equipment worn by the person monitored.
h. Name and phone number of person taking sample.

i. Name and phone number of laboratory analyzing sample.

j. Name and phone number of Successful Firms.

k. Method of analysis.

5. With the exception of work site exterior and the first post-abatement clearance monitoring of each work site, and analyses of these samples using PCM or TEM, which will be the responsibility of the University, all cost of all air monitoring services are to be paid by the Successful Firms. Also, if AHERA TEM post-abatement clearance testing fails in any work site and testing must be repeated, the Successful Firms will pay for the additional laboratory fees and sample handling charges associated with all the re-testing.

B. Air Monitoring by University

1. The OEHS Representative will be responsible for air sampling exterior to each work site during asbestos removal, cleaning and encapsulation activities as necessary to reasonably and periodically monitor the integrity of the Successful Firm’s enclosure(s). These exterior samples will be collected in areas of highest risk of contamination. The OEHS Representative will also perform post-abatement environmental sampling within each asbestos abatement work site as required by AHERA (for work in Schools with grades k through 12), or by the Virginia DPOR (aggressive air clearance testing standard for public buildings within the Commonwealth of Virginia) for final Successful Firms clearance monitoring and documentation of job completion. (Note to Successful Firms: The Successful Firms will be responsible for supplying any necessary AC power to the OEHS Representative's air monitoring devices at any time during or after the abatement activities.)
2. Copies of all analytical results from the OEHS Representative monitoring will be maintained by the OEHS, and a copy sent to the University’s Project Manager as signed "Certificates of Analysis" as they become available.

3. Final work site post-abatement clearance monitoring for interior building ACM removal will be performed by the OEHS Representative after the Successful Firms has completely removed the asbestos-containing materials, cleaned and applied the final lockdown encapsulant to the work site(s), and the lockdown encapsulant is completely dry. This air monitoring will be performed after the final visual inspection by the OEHS Representative and after the Successful Firms has removed all work site enclosure materials from floors, walls, fixtures, or other surfaces, but before critical barriers separating the work site from the rest of the building and sheets covering doors, vents or windows, are removed. The negative air ventilation will continue operating while this air monitoring is in progress. The aggressive sampling protocol will be used for this air monitoring.

4. All post-abatement clearance air samples taken by the OEHS Representative will be analyzed using either the PCM or TEM EPA-AHERA protocol according to the procedures described in 40 CFR Part 763, Vol. 52, No. 210, “Asbestos-Containing Materials in Schools”. The laboratory or laboratories used to perform these TEM analyses will be licensed by the Virginia DPOR.

3.03 ASBESTOS ABATEMENT OPERATIONS

A. Project Monitoring by OEHS Representative

1. During all phases of the asbestos abatement activity, the Successful Firm’s work will be inspected on a daily basis by the OEHS
Representative (Project Monitor). The OEHS Representative will look for all items specified herein and determine if the Successful Firms is in compliance with this contract document.

2. The OEHS Representative may complete an "Asbestos Abatement Project Daily Checklist" (ATTACHMENT 7) after each daily inspection. All items on this checklist must be checked off by the OEHS Representative in order for the Successful Firms to proceed with the asbestos abatement activity.

B. Removal of Interior Asbestos-Containing Materials

1. The Successful Firms will thoroughly wet asbestos containing materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or appropriate removal encapsulant. Saturate material sufficiently to wet the substrate without causing excess dripping. Allow time for water or removal encapsulant to penetrate material thoroughly. Perforate outer covering of any installation which has been painted/or jacketed in order to allow penetration of amended water or removal encapsulant, or where necessary, carefully remove or strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

2. Remove saturated asbestos-containing material in small sections from all areas. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, collapse bag using HEPA vacuum, bend over and seal with minimum three wraps of duct tape. Clean outside and move to wash-down station adjacent to material decontamination unit.
3. If asbestos-containing material is sprayed-on fireproofing, architectural or acoustical finish, or acoustic ceiling tile and/or related mastic on scratch coat, spray with a fine mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to saturate materials to substrate. Do not over saturate to cause excess dripping. Scrape materials from substrate. Remove materials in manageable quantities and control the descent by staging material through descent. Remove residue remaining on substrate with scraper, or nylon-bristled brush. If a removal encapsulant is used, remove residue completely before encapsulant dries. If substrate dries before complete removal of residue, re-wet with amended water or removal encapsulant.

4. If asbestos-containing material is fireproofing or architectural finish on wire or wood lathe, spray asbestos material with a fine mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to completely saturate material. Do not over saturate to cause excess dripping. If surface of material has been painted or otherwise coated, cut small holes as required and apply amended water or removal encapsulant from above. Cut lath into 2’ x 6’ sections and cut hanger wires. Roll up complete with asbestos-containing material and hand place in disposal bag. After removal of lathe and asbestos-containing material, remove any over-spray on decking and structure above using stiff nylon bristled brush. Hold the nozzle from an operating HEPA filtered vacuum cleaner in the immediate vicinity of and below the work while cutting the wire lath or otherwise disturbing the asbestos-containing material. Use a two worker crew for cutting, with one worker cutting and one worker holding HEPA vacuum nozzle.
5. If asbestos-containing material is HVAC unit or HVAC duct "finish coat" insulation on wire lath over fiberglass wrap, spray asbestos finish with a fine mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to completely saturate material. Do not over saturate to cause excess dripping. If surface of material has been painted or otherwise coated, cut small holes as required and apply amended water or removal encapsulant from above. Cut wire lath into maximum 2’ x 6’ sections. Roll up complete with asbestos-containing material and hand place in disposal bag. Remove all underlying fiberglass wrap (if present) from metal HVAC unit or duct surface using stiff nylon-bristled brush and dispose of as asbestos-contaminated materials. Hold the nozzle from an operating HEPA filtered vacuum cleaner in the immediate vicinity of and below the work which cutting the wire lath or otherwise disturbing the asbestos-containing material. Use a two worker crew for cutting, with one worker cutting and one worker holding HEPA vacuum nozzle.

6. If asbestos-containing material is mastic on HVAC duct or pipe fiberglass wrap insulation, spray entire surface of fiberglass insulation and mastic adhesive with a mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to completely saturate material. Do not over saturate to cause excess dripping. Cut and pull off all fiberglass wrap insulation in sections, small enough to dispose of in asbestos waste bags. Continue misting with amended water or removal encapsulant throughout removal and bagging process. Take care to minimize cutting through the mastic adhesive material by cutting the fiberglass wrap insulation in areas where there is minimal or no mastic adhesive present. Carefully, clean any remaining asbestos-contaminated materials from metal HVAC duct or pipe surface. Hold the nozzle from an operating HEPA filtered
vacuum cleaner in the immediate vicinity of and below the work while cutting the fiberglass wrap insulation and while cleaning the duct surface.

7. If asbestos-containing material is HVAC unit or HVAC duct flexible connecting cloth material, spray entire surface with a mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to completely saturate material. Do not over-saturate to cause excess dripping. Disconnect and remove each section of flexible connecting cloth material only after removal of all asbestos-containing HVAC unit or HVAC duct-insulating materials has been completed. Place each section of flexible connecting cloth directly into waste disposal bag. Properly decontaminate the surface from which the cloth was removed using HEPA vacuuming and wet or tack-rag wiping.

8. If asbestos-containing material is sprayed-on surfacing type insulation either on metal structural members or concrete ceiling substrata, spray ACM with a mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to completely saturate material to substrate. Do not over saturate to cause excess dripping. Scrape ACM from substrate, remove in manageable quantities, and control the descent by staging material through descent. Remove residue remaining on substrate with scraper, nylon-bristled brush, or cleaning pads/cloths. If ACM is above a suspended or secondary plaster-type ceiling, thoroughly decontaminate the top of the secondary ceiling after removal of poly enclosure using HEPA vacuuming, wet wiping, nylon brushing, or any combination thereof. Care should be taken to prevent water damage to the plaster ceiling material. If ACM is above a suspended "lay-in" tile ceiling, all ACM-contaminated tiles and built-in lighting fixtures will be removed and disposed of as
asbestos waste. All ceiling tiles to a distance of six (6) feet laterally from the surfacing ACM will also be removed and disposed of. All metal tracking (grid) from the removed tiles will be thoroughly decontaminated by HEPA vacuuming, wet wiping, and using tack-rags according to methods specified herein. Once visually inspected by the OEHS Representative and passed, all such tracking, as well as the tops of all remaining ceiling tiles within the same room, hallway, space, etc., will be thoroughly sprayed with an appropriate lockdown encapsulant using the same procedures as specified herein.

9. If asbestos-containing material is pipe or pipe fitting insulation, spray with a mist of amended water or removal encapsulant. Allow amended water or removal encapsulant to saturate material to substrate. Cut bands holding performed pipe insulation, slit jackets and seams, remove and hand-place in a disposal bag. Remove job molded fitting insulation in chunks and hand place in a disposal bag. Do not drop to floor. Remove any residue on pipe or fitting with stiff bristle nylon hand brush. In locations where pipe fitting insulation is removed from pipe with straight runs insulated with fibrous glass or other non-asbestos-containing material, remove material 6" from the point where it contacts the asbestos-containing insulation.

NOTE: In cases where pipe insulation materials are above suspended ceiling tiles, plaster or drywall, and have potentially contaminated the upper surface of these ceiling materials, remove all such ceiling materials, including any metal grid and related built-in light fixtures and dispose of as asbestos waste. However, the removal of any non-contaminated ceiling materials can be performed prior to asbestos abatement activities. This demolition work will be performed in a manner which will not disturb the ACM. The proper disposal of this non-asbestos waste will be the responsibility of the Successful Firms.

10. If asbestos-containing material is vinyl asbestos floor tile, sheet floor covering, or related mastic, spray floor covering with a mist of
amended water during removal. Remove floor covering and all other loose asbestos-containing debris, and then completely HEPA vacuum floor from which floor covering materials and related debris were removed. Should the asbestos-containing floor tile or covering material be carpeted over, the carpet may be removed prior to ACM abatement activities provided this removal operation does not physically disturb the floor tile or covering materials. If such carpet removal does disturb the floor tile or covering, then this procedure will be considered part of the ACM abatement activity and the carpet will be treated and disposed of as asbestos in accordance with methods specified herein. The asbestos-containing mastic will be removed using either wet scraping, appropriate chemical solvents, or by completely removing and disposing (as asbestos waste) the contaminated floor surface (e.g. removal of wooden flooring). The Successful Firm’s asbestos abatement plan will describe the exact methods which will be used in this project to remove all mastic and mastic-contaminated materials, and should chemical solvents be utilized, the type(s) of personnel protection which will be used and the methods of chemical waste disposal planned for full compliance with all applicable Federal, State, and Local hazardous waste regulations and/or the requirements as stated in Section 3.04 of these specifications. (Note: If submitted in the Successful Firm’s abatement plan, and so approved by the OEHS Representative, the Successful Firms may use the “Armstrong” floor tile removal method, where tiles are taken up in whole pieces by pre-heating with a heat gun. If this method is used, and tiles remain intact during removal, a negative air enclosure may not be required. However, if floor tile mastic is to be removed as well, all solvent odors must be vented directly to the outside of the building by use of negative air equipment. The
Successful Firm’s abatement plan should specify how this will be accomplished.

11. If asbestos-containing material is suspended ceiling tile, spray tiles with a mist of encapsulant/removal agent. Allow time for removal encapsulant to saturate completely through the tiles, but do not over saturate to cause excess dripping. Remove tiles one at a time and control the descent by staging material through descent. Immediately place tiles in asbestos waste bag. Remove all ceiling tile tracking (grids) and either properly decontaminate them or place them in asbestos waste bags. If there is insulation material such as fiberglass batt on top of these tiles, spray and remove as asbestos waste. Remove all asbestos dust or residue remaining on any nearby surfaces and poly-covered light fixtures with tack rags and HEPA vacuuming. If a removal encapsulant is used, remove all residue from sprayed surfaces before encapsulant dries. If substrate or nearby surfaces dry before complete removal of residue, re-wet with removal encapsulant and re-wipe.

12. If asbestos-containing material is wallboard joint compound, spray all wallboard with a mist of amended water or removal encapsulant. Allow time to saturate completely through wallboard, but do not over saturate to cause excess dripping. Using an appropriate razor-knife, score each wallboard sheet, while continuously misting with wetting agent, along each joint until the wallboard sheet is separated from the adjoining sheet. Remove one at a time in a single piece from the studs while continuously misting with wetting agent. Care should be taken to allow wallboard nails or screws to pull through or out with the wallboard to prevent breakage of the wallboard sheets. Immediately place wallboard sheets in asbestos waste bags or wrap, and seal in two layers of 6-mil polyethylene sheeting for disposal. If there is insulation
material such as fiberglass batt on top of or behind wallboard, spray with wetting agent and remove as asbestos waste. Remove all asbestos dust or residue remaining on any nearby surfaces with tack rags and HEPA vacuuming. If a removal encapsulant is used, remove all residue from sprayed surfaces before encapsulant dries. If substrate or nearby surfaces dry before complete removal of residue, re-wet with removal encapsulant and re-wipe.

13. If asbestos-containing materials is mudded joint HVAC duct fitting insulation, spray with a mist of amended water or removal encapsulant. Allow amended water or removal encapsulant to saturate material to substrate. Remove job molded fitting insulation in chunks and hand place in disposal bag. Do not drop waste to floor. Remove any residue on duct with stiff bristle nylon hand brush or equivalent. In locations where duct fitting insulation is removed from duct with straight runs insulated with fibrous glass or other non-asbestos-containing material, remove such insulation material a minimum of 6” from the point where it contacts the ACM insulation.

14. If asbestos-containing material is HVAC unit or duct joint/pin mastic, spray with a mist of amended water or removal encapsulant. Remove metal HVAC unit or duct materials by cutting out small sections of the materials (maximum 4’x4’ sheets) taking care to avoid cutting through mastic unless necessary. Once metal sheets are removed, carefully cover and seal with minimum two layers of 6-mil polyethylene sheeting for disposal.

15. If asbestos-containing material is HVAC unit or duct vapor barrier sheeting inside of or attached to fiberglass insulation material, spray surface with mist of amended water or removal encapsulant. Allow amended water or removal encapsulant to saturate material to HVAC unit or duct. Cut vapor barrier sheeting in sizes manageable for hand
placing inside asbestos waste bags. Once bagging the vapor barrier
and associated asbestos-contaminated fiberglass insulation materials,
remove any residue from HVAC unit for duct with stiff bristle nylon
brush. Deposit all such debris from this cleaning activity into asbestos
waste bags.

16. If asbestos-containing material is "Transite" paneling material, or
similar ACM (e.g. lab bench tops, fume hood panels, sinks, etc.) spray
all wall surfaces with a mist of amended water or removal encapsulant.
Allow time to adequately saturate wall panels. Remove panels in
whole sheets by unscrewing each panel and separating at joints.
(Should panels require cutting, only HEPA-filtered mechanical cutting
devices will be used. Immediately wrap and seal wall panel material in
minimum two layers of 6-mil polyethylene sheeting for disposal.

17. If asbestos-containing material is an insulated fire door, disconnect
door from frame by removing hinge screws from frame. Do not
remove any hardware from fire door. Immediately wrap and seal entire
door and attached hardware in minimum two layers of 6-mil
polyethylene sheeting for disposal.

18. If ACM is thermal system gasket or rope, spray ACM with a mist of
removal encapsulant to completely saturate material. Do not over
saturate to cause excess dripping. Pull or scrape rope from substrate
and immediately place into asbestos waste bags. Clean any remaining
asbestos-contaminated materials from substrate using stiff nylon-
bristled brushes. Hold the nozzle from an operating HEPA filtered
vacuum cleaner in the immediate vicinity of and below the work while
brushing the substrate surface.

19. If ACM is acoustic ceiling plaster, ceiling tile and / or related mastic,
which requires drilling through the ACM for the purpose of installing
suspended ceiling tile hanger wires, holes will be either drilled using HEPA filtered tools, or this will be done inside full containment.

C. Removal of Exterior Asbestos-Containing Materials

1. The Successful Firms will thoroughly wet asbestos containing materials to be removed prior to cutting, stripping and/or removing to reduce fiber dispersal into the air (unless wet methods are not feasible or will create safety hazards). Accomplish wetting by a fine spray (mist) of amended water or appropriate removal encapsulant. Saturate material sufficiently to wet the substrate without causing excess dripping or risk of building interior water damage or contamination. Allow time for water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. Perforate outer covering of any installation which has been painted/or jacketed in order to allow penetration of amended water or removal encapsulant, or where necessary, carefully strip away small sections of exterior asbestos containing roofing materials while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

2. Mist each work site continuously with amended water whenever necessary to reduce airborne fiber levels. Remove saturated asbestos-containing roofing, siding, paneling, painted coating, caulking or glazing materials in small sections from all areas. Do not allow materials to dry out at any time. Do not crack, break or abrade asbestos siding or paneling materials if such action can be avoided.

3. For asbestos-containing roofing materials, cutting machines will be continuously misted during use, unless a competent person determines that misting substantially decreases worker safety. When removing
asbestos-containing roofing felts using power roof cutter, all dust resulting from the cutting operation will be collected by a HEPA dust collector, or will be HEPA vacuumed along the cut line.

4. Asbestos-containing roofing, siding, paneling, painted coating, caulking or glazing materials are removed, simultaneously pack material while still wet into waste disposal bags. HEPA vacuum excess air from within bags, twist neck of bags, bend neck over, and seal with a minimum of three wraps of duct or bag sealing tape. If approved by the OEHS Representative, and the ACM are NESHAP Category I or II non-friable, and the work may be categorized as an OSHA Class II activity, it may not require bagging. In these cases, the ACM will be carefully placed within a poly-lined truck bed or waste roll-off, covered and sealed prior to transport, and properly transported and disposed of within a disposal site which is EPA approved to accept such non-friable ACM waste.

5. When removing cement asbestos-containing siding and shingles or transite panels, cutting, abrading or breaking of these materials will be prohibited, unless the Successful Firms can demonstrate that methods less likely to result in asbestos fiber release cannot be used. Unwrapped or non-bagged panels or shingles will be immediately lowered to the ground via covered dust tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

6. ACM that has been removed from a roof will not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it will be lowered to the ground via covered, dust-tight chute, crane or hoist. All ACM will be lowered to the ground as soon as practicable, but in any event, no later than the end of the work shift. While any non-intact ACM remains on the roof, it will either be kept
wet, placed in impermeable waste bags, or wrapped in plastic sheeting. Upon being lowered, unwrapped materials will be transferred to closed receptacles in such a manner so as to preclude the dispersion of dust.

7. Wipe down outside of bags with clean wetted cloths, HEPA vacuum, and then move to waste staging/double bagging area outside of immediate removal site, but inside of barricaded area.

8. Using either wash down station with waste water properly filtered to 5 microns or further wipe down and HEPA vacuuming procedures while in the waste staging area, re-clean outside of bag, insert into second waste bag, HEPA vacuum excess air from inside bag, twist neck, bend neck over, and seal with a minimum three wraps of duct or bag sealing tape.

9. All remaining asbestos-containing materials debris will be similarly wetted and placed into disposal bags, or HEPA vacuumed from all work site surfaces, and the bags sealed and cleaned in the same manner as above.

10. For any roofing or siding materials removal project, all workers will use proper safety ropes and harnesses throughout the work, as required by OSHA.

11. In addition to these procedures, the Successful Firms will follow all applicable work procedures described within OSHA 1926.1101 (g) Methods of Compliance.

*NOTE: Alternate methods of removing exterior ACM will be described in the Successful Firm’s asbestos abatement plan, and will be subject to the approval by the OEHS Representative prior to the Successful Firms proceeding with them.

D. Removal of Asbestos Contaminated Soil
1. Should the work site contain damp or wet topsoil contaminated with asbestos debris, the Successful Firms will remove the top one inch (1") of soil and all general construction debris (e.g. blocks, bricks, wood, stone, etc.) and trash and place in disposal bags. Start removal at the point of work farthest from the entrance to the soil floor area and proceed toward the entrance. Do not permit traffic into the fresh soil surface. Arrange negative air system so that air flow is from the starting point of work toward the entrance. After the entire first layer of soil is removed completely within the soil-contaminated area, change coveralls, and at the entrance to the soil removal area, don clean boot covers. Remove the second one inch (1") of soil in the same manner as the first. Carry out the decontamination procedures set forth in the work area decontamination section of these specifications at this time. At the end of work site decontamination, remove the third one inch (1") of soil in the same manner as the previous two inches (2").

2. Should the work site contain dry topsoil contaminated with asbestos debris, the Successful Firms will use the same procedure as above except saturate soil with amended water or removal encapsulant. If a removal encapsulant is used, use in accordance with manufacturer's instructions. Saturate soil beyond the inch of soil currently being removed. If amended water is used keep the surface of the soil continuously wet throughout removal and decontamination.

3. Repeat all ACM-contaminated topsoil removal in this manner until all visible remains of asbestos debris are completely removed and properly disposed of.

4. Should the work site contain soil contaminated with asbestos debris in which the soil lies on top of a concrete floor (i.e. such as within a
concrete pipe trench, etc.), all soil, trash, building materials, etc. will be removed as asbestos waste down to the concrete surface.

NOTE: Alternate methods of asbestos-contaminated soil removal will be described in the Successful Firm’s asbestos abatement plan and approved by the OEHS Representative prior to performing work.

### 3.04 DISPOSAL OF ASBESTOS WASTE

**A. Procedure**

1. The procedure for hauling and disposal of asbestos waste will comply with 40 CFR 61 (Subpart B), Virginia Department of Environmental Quality #VR672-20-10, OSHA regulations in 29 CFR 1926.58, regional and local standards. All asbestos waste, scrap, debris, containers and asbestos-contaminated clothing and equipment which may produce airborne concentrations in asbestos fibers will be collected and placed in sealed and properly labeled, six (6) mil impermeable bags, or wrapped and sealed in two layers of properly labeled six (6) mil polyethylene sheeting. NESHAP Category I or II ACM which have not become friable, if approved by the OEHS Representative, may be disposed of directly into a poly-lined truck or roll-off. Once full, the waste materials will be covered, properly sealed for transport, and then disposed of in a facility which is EPA-approved for accepting such non-friable ACM waste in this form.

2. The Successful Firms will provide waste generator and DANGER labels and affix to containers of all asbestos materials, scrap, waste, debris and other products contaminated with asbestos. Waste generator labels will list the generator's name, address and phone number along with the Successful Firm’s name, address and phone.
number. Danger labels will be of sufficient size to be clearly legible, displaying the following:
3. When transporting properly bagged and labeled ACM waste from the work site(s) to the waste disposal vehicle, sealed containers such as garbage cans with sealed or locking lids, will be used. Any other methods of waste transport through the building must have prior approval from the OEHS Representative.

4. For ACM from building roofs or side-mounted scaffolding, etc., all double-bagged or polyethylene-wrapped asbestos waste materials will be let down from the roof or scaffold surface using rope and pulley, crane, elevator or other appropriate equipment which will prevent any possible rupture of the polyethylene. Also, if approved by the OEHS Representative, roofing materials waste may be lowered to the sealed waste vehicle or roll-off by use of an enclosed chute on the side of the building. If this procedure is used, the disposal container on ground level will be enclosed with polyethylene plastic, reinforced by an outer tarp, and the chute will enter through the poly and tarp in a way that allows no roofing waste, debris or dust to exit the path from roof to ground container.

5. Once exterior ACM is on the ground or interior ACM outside of building, carefully load containerized waste on trucks with sealed storage compartments lined with removable 6-mil polyethylene sheets or other appropriate sealed vehicles for transport. Exercise care before and during transport, to ensure that no unauthorized persons have access to the material.
6. Do not store disposal bagged or wrapped material outside of the barricaded work area. Take bags or wrapped ACM from the work area directly to a sealed truck or dumpster without exiting barricaded area. For temporary storage, store sealed impermeable bags in approved asbestos waste containers (drums, skips, etc.) inside the barricaded work area.

7. Carefully load containerized waste on sealed trucks or other appropriate enclosed body vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.

*NOTE: Alternate methods of waste handling must have the approval of the OEHS Representative prior to proceeding with them.

**B. Disposal - Landfill**

1. Advise the sanitary landfill operator, at least 24 hours in advance of transport, of the quantity of material to be delivered.

2. This waste material will be disposed of only at a USEPA and Virginia State Department of Environmental Quality approved sanitary landfill. The procedure for hauling and disposal will comply with NESHAPS 40 CFR 61 (Subpart B), state, regional, and local standards. All asbestos waste must be accompanied by appropriate manifest shipping papers as required by the EPA NESHAPS (Nov. 20, 1990) final regulation to identify the waste, its origin, and its destination. No waste may be received at a disposal facility without these waste shipment documents. Sealed plastic bags must be hand placed from containers into the burial site unless the bags have been broken or damaged. Damaged bags will remain in the container and the entire contaminated containers may be recycled. Workers unloading
containers will wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.

C. Certificate of Disposal
   1. The Successful Firms will submit copies of the signed certificates of receipt from the landfill, as well as copies of the NESHAPS waste shipment manifests to the Contract Manager within one week after each load of asbestos waste is deposited in the landfill, and within 30 days after completion of abatement.
   2. This certificate will list the quantity of materials delivered to the disposal site, a description of these materials, the location of the site and a statement attesting to the fact that the site is an EPA and State of Virginia Department of Environmental Quality (if inside the Commonwealth of Virginia) approved disposal location. The signatures of the Successful Firms, transporter and landfill operator must appear on the certificates.

   *NOTE: Project will not be considered completed until all such certificates of disposal are presented to the OEHS Representative as per the "Final Asbestos Abatement Project Completion Report" requirements.

3.05 DECONTAMINATION PROCEDURES

A. Work Area Decontamination
   1. The Successful Firms will wipe clean all surfaces of all non-disposable equipment and asbestos waste containers in each work site with wetted cotton cloths, sponges, or tack rags and vacuum these surfaces with a HEPA filtered vacuum.
   2. The Successful Firms will carry out a first cleaning of all surfaces of each work site including items of remaining sheeting, tools, scaffolding
and/or staging by use of damp-cleaning and mopping, and/or a HEPA filtered vacuum. (Note: A HEPA vacuum will fail if used with wet material). Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces. The Successful Firms will supply each worker with a flashlight or portable electric utility light during all phases of work area decontamination and fine cleaning. This light will be used to assist the worker in locating asbestos dust and/or debris.

3. Immediately following the cleaning of all surfaces in the work area, the Successful Firms on-site project supervisor will perform a complete visual inspection of the work site using effective portable lighting to ensure that it is dust free and no visible asbestos containing materials remain. If dust or asbestos-containing materials remain, the cleaning procedure will be repeated.

4. Remove all negative air machine pre-filters and dispose of as asbestos-containing waste prior to OEHS performing clearance testing.

5. After passing the Successful Firm’s project supervisor's inspection, the work area will be visually inspected by the OEHS Representative as specified herein.

6. After approval has been granted by the OEHS Representative and the primary inspection checklist is completed in total, any existing areas from which asbestos has been removed will receive two sprayed coats of lock down encapsulant. After the encapsulant has sufficiently dried, the polyethylene sheeting will be removed from floors, walls, and other surfaces and disposed of by the Successful Firms as asbestos-contaminated waste. (Note: Polyethylene barriers are not to be removed from doors, vents, windows, or any areas separating the work
site from the rest of the building. Polyethylene sheeting over light fixtures, clocks, speakers or other equipment in the work area will also not be removed at this time.) After the removal of this polyethylene sheeting, all surfaces in the entire work site will be thoroughly HEPA vacuumed, wet mopped, and sprayed with encapsulant if necessary. Again, portable lighting will be used to assist each worker in this fine cleaning operation.

7. In all work sites where it is decided by the OEHS Representative that asbestos-containing sprayed-on fireproofing cannot be accessed for removal, the remaining fireproofing will be sealed/enclosed as follows: Use of rigid, foiled backed insulation board enclosure required. Gaps of 1” or less, use FSK tape. Gaps of 1”-4”, use mineral wool or Thermafiber felt and FSK tape. Gaps of larger than 4”, use FSK faced mineral wool board and FSK tape, with self-adhesive pins as necessary. In all cases, the foil-backed insulation board should completely cover the inaccessible asbestos, as required for re-spraying purposes (i.e. no exposed mineral wool).

8. In all work sites where carpeting exits, HEPA vacuum carpeting designated to remain in work areas using a floor cleaning attachment adjusted so that rubber skirting is in contact with carpet surface. Use a passive (non power brush type) floor attachment with rubber floor seals and adjustable above-floor height. Completely clean carpeting in one direction with each pass of the floor attachment overlapping the previous pass by one-half the attachment width. At the completion of one such cleaning, vacuum clean in the same manner in a direction at right angles to the initial cleaning.
B. Work Area Visual Inspection by OEHS Representative

1. Following the removal and disposal of all asbestos-containing materials, and after the asbestos-contaminated equipment and waste containers have been decontaminated and removed from the work site, after the initial cleaning of the work site surfaces, and after the inspection and approval by the Successful Firm’s project supervisor, the OEHS Representative will inspect the work site for visible evidence of remaining asbestos-containing materials, dust or debris. The Successful Firms will arrange for this inspection with the OEHS through the University’s Representative at least 24 hours in advance.

2. To verify that each work site has passed the post-removal inspection, the OEHS Representative may complete an "Asbestos Abatement Project Post-Removal Checklist" form (ATTACHMENT 7). All items within Section 1, "Primary Inspection", must be checked-off by the OEHS Representative prior to the Successful Firms proceeding with encapsulant application and/or polyethylene sheeting removal.

3. Should any work site not pass this visual inspection and completion of the primary inspection checklist by the OEHS Representative, remaining asbestos containing material, dust or debris will be removed, and initial cleaning and decontamination repeated by the Successful Firms, and arrangements made through the University’s Representative for another inspection by the OEHS Representative.

4. Only after the work site has successfully passed this inspection by the OEHS Representative and all final inspection checklist items completed in total will the Successful Firms proceed with the application of encapsulant, primary polyethylene sheeting removal, and any secondary cleaning procedures as per these specifications.
C. Encapsulant/Enclosure Material Application (Interior ACM abatement only)

1. After satisfactorily passing the visual inspection and completing the primary inspection checklist in total by the OEHS Representative, the Successful Firms will apply to all exposed surfaces within the work site, including the substrate from which the asbestos-containing material was removed, the polyethylene sheeting, and all other covered or uncovered items or structures, two sprayed-on coatings of an appropriate lock down encapsulant.

2. After the second application of sealant has dried, the Successful Firms will then remove all polyethylene sheeting covering light fixtures, clocks, speakers, or other equipment in the work site (but not critical barriers). This equipment will then be properly cleaned and decontaminated.

3. Where asbestos-containing materials may be physically inaccessible for removal by the Successful Firms, but remain visible or accessible by air streams (e.g. above ductwork, HVAC units, other ceiling or wall mounted equipment located adjacent to the asbestos-containing material, etc.) these materials will be enclosed by use of fitted hardboard materials sealed as described within the previous section (addressing inaccessible fireproofing), or other suitable method of enclosure as approved by the OEHS Representative. The method and materials to be used in the enclosure process will be specified in the Successful Firm’s Asbestos Abatement Plan and approved by the OEHS Representative prior to use.

4. In the case of crawlspace areas having asbestos-contaminated soil, after passing the visual inspection by the OEHS Representative, and after the second application of the lockdown sealant has dried (but prior to work site clearance), the Successful Firms will completely enclose the soil floor with minimum ten (10) mil polyethylene sheeting
to be installed on ground, walls, columns, etc. (sheeting is not required on underside of floor structure). This sheeting will also be securely attached to crawlspace walls, building supporting members, etc. at a height of at least 18 inches by means of continuous furring strips. This polyethylene sheeting will act as a permanent enclosure of any non-visible asbestos contamination of the topsoil within the crawlspace.

D. Pre-Clearance Visual Inspection by the OEHS Representative

1. After final cleaning, encapsulation and, where appropriate, enclosure processes are completed within a work site, the OEHS Representative will perform a pre-clearance visual inspection. This inspection will be performed while the work site is still under negative pressure and prior to removal of any critical barriers of the work site enclosure.

2. This inspection will confirm that the encapsulant has dried, all poly sheeting is removed except for critical barriers, all surfaces of the work site and equipment are completely free of visible dust, all waste bags are removed and properly stored or transported off-site, all abatement tools and equipment are properly decontaminated and removed from work site, and the decontamination unit is free of supplies and visible dust.

3. The OEHS Representative will not proceed with work site clearance air testing until all items within the "Pre-Clearance Inspection" portion of the "Asbestos Abatement Project Post-Removal Checklist" form (ATTACHMENT 7) have been completed.

E. Work Area Clearance (Interior ACM abatement only)

1. After all items within the Pre-Clearance Visual Inspection Checklist have been completed in total, the OEHS Representative will proceed with final work area post-abatement air monitoring. This air
monitoring will be performed using aggressive methods while the Successful Firm’s negative pressure HEPA filtration system is operating, and prior to the removal of any critical barriers of the work area enclosure. The Successful Firms will also arrange for this air monitoring at least 24 hours in advance.

2. After final air testing by the OEHS Representative shows the airborne asbestos levels within each site to be acceptable by the appropriate (i.e. either AHERA or State Buildings Method) clearance protocol (PCM vs. TEM) and all items within the Clearance Testing Checklist have been completed in total, the remaining asbestos barriers and clean room will be dismantled and disposed of as contaminated waste, and the HEPA filtration system may be dismantled. If this final air testing does not show the air quality within the work area to be acceptable, the Successful Firms will repeat the HEPA vacuuming and wet mopping process, and the OEHS Representative will repeat this final testing. This process will be repeated as necessary with the Successful Firms paying for any required additional TEM analyses and associated testing fees and handling charges until final air testing shows acceptable airborne asbestos levels within the work site.

F. Project Completion Requirements

1. After each work site passes the post-abatement air test, the Successful Firms may remove remaining critical barriers, decontamination unit, etc. All polyethylene sheeting and other disposable materials will be removed and disposed of as asbestos waste. All surfaces from which the critical barriers are removed will be re-cleaned at this time using wet wiping in addition to HEPA vacuum techniques. All tape or glue residue from the Successful Firm’s containment or other operations, will be completely removed, and any damaged repaired to the original
building conditions. The intake end of all negative air machines will be properly sealed with polyethylene and duct tape prior to removing them from site.

2. The OEHS Representative will not report the project as "completed" until each work site has been visually re-inspected after the re-cleaning has been performed and all items within the Asbestos Abatement Project Post-Removal Checklist (ATTACHMENT 7) have been completed.

3.06 ALTERNATE USE OF GLOVEBAGS

A. In the case of asbestos-containing pipe or pipe fitting insulation materials, the Successful Firms may have the option of using glove bagging procedures to remove these materials if approved by the OEHS Representative. The Successful Firm’s asbestos abatement plan will state the work sites in which the glove bagging method would be preferred, and the procedures the Successful Firms will follow to insure the complete protection of the University's personnel and property. If glove bags are used, the Successful Firm’s procedures and equipment will be in compliance with the EPA AHERA Regulation as well as 29 CFR 1926.1101(g).

B. If so directed by the OEHS Representative, the Successful Firms will use work area critical barrier enclosures, negative pressure systems and decontamination units in addition to glove bagging procedures to insure the adequate and complete protection of any persons occupying the building or adjoining property.
Asbestos Abatement Project Pre-Removal Checklist

Project: _____
Work Site: _____
Date: _____ Asbestos Abatement Successful Firms: _____
Project Supervisor: _____ Project Manager: _____

I. Posting Requirements
   - Project notifications and permits
   - Successful Firms, supervisor and worker licenses
   - Contingency plan
   - Supervisor’s emergency contact information
   - Warning signs (barricade tape, etc.)
   - MSDS forms
   - OSHA standard
   - Respiratory protection plan
   - Other: _____

II. Work Site Preparation
   - HVAC system disabled
   - Critical barriers properly sealed
   - Adequate or temporary power sources provided
   - All movable objects decontaminated (if required) and removed
   - All fixed objects pre-cleaned and properly enclosed
   - Work site has proper lighting
   - GFCI for all equipment inside enclosure
   - Negative pressure achieved and smoke testing performed
   - Decontamination units properly constructed
   - Other: _____

Comments: _____

Work Order #: _____ Project Monitor: _____

cc _____
    _____
    _____
Asbestos Abatement Project Daily Checklist

Project: _____

Date: _____ Asbestos Abatement Successful Firms: _____

Project Supervisor: _____ Project Manager: _____

☐ Air monitoring results posted and acceptable
☐ Warning signs posted
☐ Daily project log book completed
☐ Negative pressure maintained
☐ Work site enclosure(s) maintained
☐ Decontamination unit and shower functioning properly
☐ Respiratory protection properly used
☐ Protective clothing properly used
☐ Contaminated reusable equipment properly stored
☐ First aid items and fire extinguishers on-site
☐ Supervisor at job site
☐ Work practices/methods acceptable
☐ Work area well kept
☐ Waste material doubled-bagged, labeled and stored
☐ Other: _____

Comments: _____

Work Order #: _____ Project Monitor: _____

cc: _____
     _____
     _____
Asbestos Abatement Project Post-Removal Checklist

Project: ______
Work Site: ______
Date: ______ Asbestos Abatement Successful Firms: ______
Project Supervisor: ______ Project Manager: ______

I. Primary Inspection

☐ Supervisor present during inspection
☐ All bulk asbestos removed per scope of specifications
☐ Any remaining asbestos enclosed/encapsulated and labeled
☐ All surfaces wet-cleaned and/or HEPA vacuumed
☐ All surfaces free of visible dust
☐ Decontamination unit wet-cleaned and/or HEPA vacuumed
☐ Approval given to encapsulate work site
☐ Other: ______

II. Pre-Clearance Inspection

☐ Supervisor present during inspection
☐ Encapsulant dry
☐ All poly removed except for critical barriers
☐ All surfaces of work site and equipment free of visible dust
☐ All waste bags removed and stored properly
☐ All abatement tools and equipment properly removed from work site
☐ Decontamination unit free of supplies and visible dust
☐ Other: ______

III. Clearance Testing

☐ All clearance samples less than 0.01 f/cc by PCM or average less than 70 s/mm² by TEM
☐ Approval given to remove enclosure
☐ Other: ______

IV. Post-Enclosure Removal

☐ Work area free of visible suspect ACM and other debris
☐ All equipment, supplies, waste materials, etc. removed from work area

Comments: ______

Work Order #: ______ Project Monitor: ______

cc: ______
    ______
    ______
Final Asbestos Abatement Project Completion Report

Project: ______

Date: ______  Asbestos Abatement Successful Firms: ______

Project Supervisor: ______  Project Manager: ______

☐ All asbestos removed per scope of project specifications
☐ Remaining asbestos properly encapsulated and labeled
☐ Visual inspection(s) satisfactory
☐ All clearance samples satisfactory
☐ All personal employee air sample results acceptable
☐ Copies of all required notifications received and acceptable
☐ Landfill receipts and waste manifests received and acceptable
☐ Project daily log book reviewed and acceptable
☐ Other: ______

Comments: ______

Work Order #: ______

Project Monitor: ______

cc: ______
     ______
     ______
Asbestos Abatement Successful Firms Submittals Review

Project: _____

Date: _____ Asbestos Abatement Successful Firms: _____

Project Manager _____ Work Order #: _____

The Asbestos Abatement Successful Firms submittals for the above referenced project have been reviewed by the University Office of Environmental Health and Safety (OEHS) representative. All items checked below are satisfactory. Missing items should be completed by the Successful Firms and sent to our attention for further review.

- Asbestos abatement plan
- Respirator program
- Medical surveillance program
- Laboratory qualifications
- Landfill qualifications
- MSDS forms for chemical products
- Project supervisor information
- Contingency plan
- HEPA filtration equipment certification
- Project notification forms
- Daily log format
- Building/fixture damage report
- Other: _____

Comments: _____

Project Designer: ______________________________

cc: _____
    _____
    _____