



REQUIREMENTS FOR REMOVAL OF ASBESTOS CONTAINING ROOFING MATERIALS AT THE UNIVERSITY OF VERMONT

1) PROJECT MONITORING

UVM will designate a Vermont certified Asbestos Project Monitor who will be on site to monitor the asbestos abatement portion of the roofing demolition project. The Project Monitor will assure work is conducted in compliance with applicable regulations and these requirements. The Project Monitor may perform limited, random air monitoring in/around the work area.

The Project Monitor will keep the Physical Plant Training and Compliance Office advised of any changes or modifications to the work plan. The Contractor will work in cooperation with the Project Monitor on all phases of the asbestos abatement portion of the roofing demolition project.

The Physical Plant Training and Compliance Office and Project Monitor have the authority to stop Contractor's work at any time throughout the duration of the project under the following circumstances:

Contractor's work does not comply with applicable Federal, State or Local regulations;
Contractor's work does not comply with these Requirements for Removal of Asbestos Containing Roofing Materials;
Contractor's work presents a potential immediate or future health hazard to current or future building occupants.

At UVM or the Project Monitor's request, Contractor shall immediately stop all activities and correct any deficiency in their work. Contractor shall not start work again without approval of UVM or the Project Monitor.

2) HAZARDOUS WASTES, MATERIALS, AND SUBSTANCES

Contractor shall handle all hazardous wastes, hazardous materials, and hazardous substances used or encountered throughout the duration of the project according to the procedures required by appropriate Federal, State, and Local agencies. Contractor shall have a Material Safety Data Sheet (MSDS) on site at all times for all materials with hazardous components which are used throughout the duration of the project. Contractor shall properly protect all their employees and all building occupants from all hazardous wastes, materials, and substances which are used or encountered during the project.

3) EXPOSURE (PERSONAL) MONITORING (Surfaces exceeding 5, 580 square feet)

Contractor shall conduct personal air sample collection on representative numbers (one in four) of Contractor's employees involved in the asbestos abatement portion of the roofing demolition project. This shall include, but not be limited to initial monitoring (or valid statistical prediction of initial airborne fiber levels) and daily representative monitoring.

Analysis of samples shall be conducted by a Vermont state certified analytical service, the cost of which shall be borne by the Contractor. Analysis results which report the sampling cassette to be overloaded or too dirty to analyze shall not

qualify as valid information for expressing exposure monitoring information. Exposure monitoring data shall be expressed as an eight hour time weighted average. Personal exposure information shall be submitted to UVM and reported by Contractor to all Contractors' employees represented by the sampling procedure, in a timely fashion. Exposure monitoring data shall be made available to UVM at any time throughout the duration of the project.

4) WORKER PROTECTION

Contractor shall comply with OSHA 29 CFR 1926.1101 and appropriate ANSI standards (Personal Protective Equipment - PPE). PPE may include, but is not limited to, respiratory protection, full body disposable protective clothing (including head, body and foot coverings, consisting of materials impenetrable by asbestos fibers), gloves, hard hats, eye protection, and safety shoes.

5) RESPIRATORY PROTECTION

Contractor shall comply with OSHA 29 CFR 1910.134 (Respiratory Protection Standard) and OSHA 29 CFR 1926.1101 (Construction Standard for Asbestos Containing Materials). If work practices used are likely to exceed the PEL, the Contractor shall submit a copy of their Respiratory Protection Program to the Physical Plant Training and Compliance Office for review.

6) SIGNAGE

Contractor shall establish a designated work area. This shall include all space within thirty (30) feet of the building foundation (where feasible), the area around the on-site storage/transportation container and the area established for waste containerization. The designated work area shall be defined by, at minimum, continuous yellow caution tape. In addition, Contractor shall post at the boundaries of the designated work area, the UVM Asbestos Abatement Notification and danger asbestos signs in accordance with OSHA 29 CFR 1926.1101. Danger asbestos signs shall be posted in a manner that allows any individuals the opportunity to avoid entering the designated work area. Signage shall be maintained in an orderly manner at all times throughout the asbestos abatement portion of the roofing demolition project.

7) PROTECTIVE POLYETHYLENE SHEETING

Where feasible, the contractor shall cover all ground surfaces within the thirty (30) feet of the side or foundation of the building utilizing, at minimum, one continuous layer of 6 mil sheeting and/or waterproof tape. Protective polyethylene sheeting shall be maintained in an orderly and controlled manner at all times throughout the duration of the asbestos abatement portion of the roofing demolition project.

8) ASBESTOS ABATEMENT

Contractor shall remove all designated asbestos roofing materials using proper wet methods and housekeeping techniques which are detailed in applicable Federal and State regulations including the OSHA settlement agreement with the National Roofing Contractors Association 3/15/1995. Asbestos material shall be adequately wet at all times and shall not be allowed to accumulate on the roof surface. Contractor shall avoid causing water damage to the building when using water. Contractor shall not saw, sand, chip, grind, abrade, or drill asbestos roofing materials during removal activities. Whenever possible, asbestos materials shall be removed in large sections with minimal breakage or disturbance. Contractor shall carefully lower containerized roofing materials from the roof to the on-site storage/transportation container in a manner that prevents loss of asbestos materials onto the ground or into the atmosphere. Contractor shall not, at any time, throw or drop asbestos roofing materials from the roof to the ground.

9) CONTAINERIZATION AND ON-SITE STORAGE OF ASBESTOS WASTE

UVM shall provide on-site storage/transportation container (i.e. 30-40 cubic yard dumpster) and materials (polyethylene sheeting or polyethylene dumpster liners, spray glue and waterproof tape) for lining dumpster. Contractor shall line the entire on-site storage/transportation container with, at minimum, two layers of 6 mil sheeting or two dumpster liners, prior to placing any asbestos waste containers into the on-site storage/transportation container. Sheeting/liners shall be constructed and maintained to be watertight. Contractor shall clearly designate, label and maintain the on-site storage/transportation container as indicated in (6) SIGNAGE. Asbestos materials shall be containerized (bagged, bundled, or placed in drums) according to the following:

Bags shall consist of a minimum of two 6 mil polyethylene bags.

Bundles shall consist of two layers of 6 mil polyethylene sheeting.

Fiber drums shall be lined with two 6 mil polyethylene bags.

All containers (bags, bundles, or drums) shall be sealed to discourage water leakage prior to being lowered into the on-site storage/transportation container.

The Contractor shall lower that material from the roof to the ground using a crane or adequate machinery. The Contractor shall use caution to avoid dropping materials as to cause loss of material to the ground or atmosphere. The crane or adequate machinery platform shall be lined with at least two layers of 6ml polyethylene sheeting, secured to the platform. All asbestos-containing materials shall be placed on the crane platform and lowered to the storage/transportation container. The material shall be removed and lowered in easily manageable sizes and carefully deposited in the container.

The Contractor shall place all containerized materials into the on-site storage/transportation container. All asbestos material shall be adequately wet when placed into the on-site storage/transportation container. Accumulated asbestos waste shall be removed from the roof each day. No asbestos waste shall be stored on the roof over night. Asbestos waste shall only be stored in the on-site storage/transportation container and shall never be stored in another location on UVM's property without prior approval of UVM. Contractor shall assure that asbestos waste is evenly distributed in the on-site storage/transportation container to discourage shifting during transport. Contractor shall maintain daily records itemizing the specific number of containers (bags, bundles or drums) which were generated during the project. Contractor shall provide this information daily to the Project Monitor.

Contractor shall cover the on-site storage/transportation container at the end of each workday using a tarpaulin or other means to guarantee contents remain intact. Covering shall be constructed in a manner which withstands the elements.

10) VISUAL INSPECTION

The Project Monitor shall perform a visual inspection of all surfaces within the designated work area for visible asbestos dust, dirt, debris, or residue. Contractor's supervisor shall be present with the Project Monitor during the visual inspection. Contractor shall re-clean all areas which have visible asbestos dust, dirt, debris, or residue, at the request of the Project Monitor, until there is no visible asbestos dust, dirt, debris, or residue remaining. The Project Monitor shall issue written report of visual inspection results to UVM within 30 days of project completion.

11) REMOVAL OF PROTECTIVE POLYETHYLENE SHEETING

Immediately upon completion of the visual inspection, Contractor shall remove the protective polyethylene sheeting which is on the ground and roof. Protective polyethylene sheeting shall be containerized as indicated in 9) CONTAINERIZATION AND ON-SITE STORAGE OF ASBESTOS WASTE, and placed in the on-site storage/transportation container as asbestos waste.

12) TRANSPORTATION OF ASBESTOS WASTE

UVM shall arrange and pay for transportation of asbestos waste. Contractor shall prepare the transportation container for transport by completing the following:

Individually seal the two polyethylene liners to achieve an airtight unit. Clearly label the package with danger asbestos signage in a way that it is legible, visible, and permanent. Mark the container with four white square on point panels that read "2212" on the four exterior vertical sides. Securely cover the container, using a tarpaulin or other means, to guarantee the package remains intact while transported. Preparation of the on-site storage/transportation container shall be adequate to withstand transport. Contractor shall make the package and container available for inspection by UVM and the Project Monitor prior to transport and shall correct any deficiencies identified during the inspection process. UVM shall supply labels, markings, and tarpaulin.

13) DISPOSAL OF ASBESTOS WASTE

UVM shall prepare shipping papers, schedule disposal, and pay disposal fee. Contractor's Supervisor and Project Monitor shall sign for the release of the container to the designated hauler.

14) FINAL INSPECTION

The Project Monitor and Contractor's Supervisor shall perform a final inspection in and around the designated work area prior to formal release of Contractor. Contractor shall correct any deficiencies at UVM's or the Project Monitors request. Formal release shall be granted when all waste, equipment and materials pertaining to the asbestos abatement portion of the roofing demolition project have been removed from UVM's property.

15) ADDITIONAL NOTES

The use of these procedures does not absolve the Contractor from the responsibility of complying with existing and applicable Federal, State, and Local regulations.

Close communication between Contractor and the Project Monitor shall be maintained to facilitate the necessary steps and assurances.