

ASBESTOS MANAGEMENT PROGRAM

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1.0 Purpose

This program outlines procedures and controls to ensure safe working conditions when working with or near asbestos at the University of Waterloo.

2.0 Scope

University of Waterloo's Asbestos Management Program encompasses all work with asbestos containing material ($\geq 0.5\%$ asbestos by dry weight) under University of Waterloo control including buildings, equipment and grounds. This program incorporates the requirements of Ontario Regulation 278/05 Designated Substance - Asbestos on Construction Projects and In Buildings and Repair Operations. The University of Waterloo Joint Health and Safety Committee reviews this program.

3.0 Definitions

Asbestos

A general term given to a group of naturally occurring mineral silicates that are made up of long thin fibres. It was added to a wide variety of products to strengthen them, to provide heat or electrical insulation, to offer fire or chemical resistance, and/or to absorb sound. Asbestos-containing products ranged from fireproofing to vehicle brake pads.

Asbestos family

Refers to six unique substances that belong to the serpentine and amphibole mineral families: chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite. These terms do not refer to mineral descriptions but to a broad term that refers to unique fibers.

Asbestos inventory

A listing of locations of all UW buildings that contains asbestos. It is available through the Safety Office.

Asbestos-containing material (ACM)

A material that contains 0.5 percent or more asbestos by dry weight.

Friable material

Material that when dry can be crumbled, pulverized or powdered by hand pressure or is crumbled, pulverized or powdered.

HEPA filter

Sometimes called high-efficiency particulate arresting or high-efficiency particulate air, is a type of air filter. To qualify as HEPA, an air filter must remove (from the air that passes through) 99.97% of particles that have a diameter of 0.3 μm or greater.

HEPA Vacuum Cleaner for Hazardous Materials

HEPA filtration system designed for hazardous materials and used to clean up asbestos debris.

4.0 Roles and Responsibilities

4.1 Supervisors and Managers

- Notify workers who may be affected by asbestos work.
- Adhere to the requirements of the Asbestos Management Program, and Asbestos Regulations prior to any repair, modification, or renovation to buildings.

4.2 Senior Managers (Directors/Deans/Chairs/Department Managers)

- Provide the direction and resources required to support and maintain the University of Waterloo Asbestos Management Program.
- Enforce the University of Waterloo Asbestos Management Program.
- Confirm that occupants are notified of the University of Waterloo Asbestos Management Program.

4.3 Workers

- Follow task-specific standard operating procedures (SOPs) that address both the hazards and the necessary controls required to perform the requested work.
- Inform supervisor of any discovery of suspected asbestos and any asbestos-containing material that requires repair or removal.
- Complete asbestos training as required for specific work duties.
- Clean and maintain personal protective equipment as required.
- Log hours of work while performing Type 2 asbestos operations so the supervisor can provide an asbestos work report to the MOL.
- Document repairs or removals of asbestos containing material (ACM) and inform supervisor.
- Notify your supervisor of any asbestos waste requiring pickup.
- Notify supervisor of any ACM in poor condition that requires repair or removal.
- Ensure the supervisor is aware of any repairs and removals that affect the University's asbestos inventory.

4.4 Safety Office

- Maintain the University of Waterloo's Asbestos Management Program.
- Prepare a record containing both friable and non-friable asbestos for all University owned buildings and update when new information is made available.
- Conduct annual asbestos inspections to evaluate the condition of ACM.

- Notify the Joint Health & Safety Committee of air clearance testing for Type 3 operations involving maintenance and repair work in non-construction projects.
- Provide notification to building occupiers of asbestos in the area(s) they occupy.
- Provide yearly asbestos refresher training both online and classroom.
- Arrange for asbestos worker (Type 1 and 2) full-day training.
- Arrange specific Type 2 training as required (glove bag, enclosures, AHU filter changes in buildings containing ACM fire spray).

4.5 Joint Health & Safety Committee (JHSC) Worker Members

- Review the University of Waterloo Asbestos Management Program on an annual basis.
- Review and participate in air clearance testing for Type 3 operations involving maintenance and repair work in non-construction projects.

4.6 Plant Operations

4.6.1 Design and Construction Services

Responsibilities with respect to planned construction, renovation, demolition includes the following:

- Provide an updated designated substances assessment report to all bidders.
- Prepare detailed plans and specifications showing the locations of all asbestos materials.
- Hire asbestos abatement contractors with proper training, experience, certifications and adequate insurance and maintain a record of approved contractors.
- Notify Safety Office of all projects that involve direct and/or potential contact with ACM.
- All asbestos abatement work involving repairs, removals, renovations and demolishment to be documented and forwarded to the Safety Office to keep the asbestos record (inventory) current.
- Inform employees about planned asbestos abatement.
- Share inspection/air monitoring results with 3rd party, required by Regulation 278/05 for final clearance of type 3 work.
- Submit Ministry of Labour (MOL) Notice of Project where applicable.
- Ensure MOL is advised in writing of all projects involving required Type 2 and all Type 3 operations (Reg. 278/05 Section 11 - advance notice re: Type 2 and 3 operations).

- Provide notification to workers and contractors who may work in close proximity and could disturb the asbestos.
- Submit analysis of ACM (Reg. 278/05 - Table 3) results to Safety Office for filing.

4.6.2 Maintenance and Utilities

- Repair and removal of asbestos following approved procedures.
- Asbestos is to be maintained in good condition.
- Ensure all work procedures are compliant with the University's Respiratory Protection Program.
- Provide notification to workers and contractors who may work in proximity and could disturb the asbestos.
- Hire asbestos abatement contractors with proper training, experience, certifications and adequate insurance and maintain a record of approved contractors.
- Supervisors develop and update task specific SOPs for workers performing asbestos work under their supervision.
- All asbestos abatement work involving repairs, removals, renovations, and demolition must be documented and forwarded to the Safety Office in order to keep the asbestos record (inventory) current.
- Adhere to asbestos waste containment and disposal procedures.
- Ensure the MOL is advised in writing of all projects involving all required Type 2 and all Type 3 operations.
- Supervisors provide Asbestos Work Report (Reg. 278/05, Section 21) to the MOL Provincial Physician each calendar year and upon the termination of any worker who has performed Type 2 work. Reports must be sent to Safety Office for filing.

4.7 Contractors and Subcontractors

- Work in compliance with the University's Asbestos Management Program and Asbestos Regulation 278/05.
- General contractors are responsible for arranging air clearance testing of Type 3 Operations and providing the reports to the University.

5.0 Procedures

5.1 Notification

Various notification procedures are required to ensure that workers and occupants of buildings as well as contractors are not exposed to asbestos during repairs/removals.

5.1.1 Notification to Building Occupants and Workers

- [University of Waterloo buildings contain asbestos](#) and therefore caution must be exercised prior to doing any work that may disturb asbestos-containing material.
- Asbestos awareness training sessions for all workers who may work with or in proximity to materials that are (or are presumed to be) friable or non-friable asbestos.
- Supervisors shall advise their workers of asbestos locations when the workers are working near friable or non-friable asbestos-containing material. (Reg. 278/05 Section 5 - Information for workers).
- In the event of discovery of suspected asbestos-containing material not on the inventory, a worker shall notify their supervisor immediately.
- View the [Sample List of Suspect Asbestos-Containing Building Materials](#).

5.1.2 Registration of Workers Involved in Asbestos Repairs/Removals

- The Safety Office shall be notified by the supervisor of any University worker involved in a certain Type 2 or Type 3 asbestos work. (Reg. 278/05 Section 11 - Advance notice re: Type 2 and 3 operations)

5.1.3 Notification to Contractors/Sub-contractors

- Plant Operations Design and Construction Services must inform their contractor or sub-contractor of the location of friable or non-friable asbestos containing material that is in proximity and may be disturbed by the work.
- Plant Operations Design and Construction Services contracting work are responsible for ensuring that the contractor or sub-contractor follow work procedures under Ontario Regulation 278/05 and the University's Asbestos Management Program.
- If the type of friable asbestos is not known, it shall be treated as though it contained a type of asbestos other than chrysotile.

5.1.4 Ministry of Labour (MOL) Notification of Work

The Ministry of Labour shall be notified:

- When Type 1 and 2 work is covered by a "Notice of Project" (covered by notice of project not Reg. 271/05).
- Prior to commencing Type 2 asbestos glove bag work when more than one square meter of asbestos is to be removed, or prior to commencing Type 3 asbestos work. Reg. 278/05 Section 11 - Advance notice re: Type 2 and 3 operations applies.

5.2 Discovery of Suspected Asbestos

5.2.1 Unexpected Discovery/Release of Asbestos During the Course of Work

- Follow the [Accidental Asbestos Discovery/Release Procedure](#).

- No work will be performed unless it is determined that the material is not asbestos, or the work is performed as though the material is asbestos, or in the case of sprayed on material, as though it contained a type of asbestos other than chrysotile.

5.2.2 Work is Covered Under a "Notice of Project"

- The worker or contractor must report the discovery immediately to the supervisor or project coordinator.
- The supervisor shall stop any work that may disturb the suspected asbestos-containing material.
- The supervisor shall immediately notify the Ministry of Labour Inspector nearest the workplace in writing and orally.
- The supervisor shall notify the project coordinator in Plant Operations Design and Construction Services, the JHSC, and the Safety Office.
- Plant Operations Design Section will arrange collection and analysis of bulk samples as well as communication of results to the Safety Office.
- No work will be performed unless it is determined that the material is not asbestos or, the work is performed as though the material is asbestos or in the case of sprayed on material, as though it contained a type of asbestos other than chrysotile.

5.3 Waste Disposal

Contractors and sub-contractors are responsible for disposing of asbestos waste generated under their contract. Asbestos waste generated by Plant Operations will be handled as follows:

1. Asbestos waste must be transported as per Transport of Dangerous Goods Regulations. Only accredited waste haulers may transport waste to the Waterloo Region Waste Facility.
2. Asbestos waste is wetted and double bagged in approved asbestos disposal bags and then sealed with duct tape.
3. The exterior of the bags are to be cleaned with a damp cloth or a HEPA vacuum immediately before removal from the work area.
4. Adhere to the Transportation and Management of Asbestos Waste procedure. This activity is done by qualified personnel only.
5. Place asbestos waste in designated area (permanent bin) at the Bauer Warehouse.
6. Plant Operations maintenance section will arrange for a roll-off bin designed for the transport of asbestos waste in accordance with Transportation of Dangerous Goods Regulations and the Environmental Protection Act, Reg. 347, Section 17.

5.4 Work Procedures

Asbestos work procedures have been developed to minimize exposure to asbestos. The University Joint Health and Safety Committee reviewed these procedures. Supervisors are required to develop task specific SOPs for workers performing asbestos work under their supervision.

[Checklist for Type 1 Operations \(DOCX\)](#)

[Checklist for Type 2 Operations \(DOCX\)](#)

[Checklist for Type 3 Operations \(DOCX\)](#)

5.5 Suspected Exposure to Asbestos

If a worker believes they experienced an inhalation exposure to asbestos in the course of employment, the worker should:

1. Report the suspected exposure to the supervisor.
2. Complete an Incident and Investigation form.

6.0 Asbestos Record

The asbestos record (inventory) of all asbestos in University buildings can be found at the Safety Office. If you require information from the asbestos record, please contact your supervisor. Supervisors that require information can contact the Safety Office.

7.0 Classification of Asbestos Work

Asbestos work is classified according to the potential for exposing workers and occupants to asbestos fibres.

What does the classification of work determine?

The classification of the work determines what other provisions of the Regulation apply to an operation; for example, notification requirements (section 11), measures and procedures (sections 14, 15, 16, 17, and 18), medical surveillance (section 22), record keeping (sections 21 and 22), and training and certification requirements for workers involved in Type 3 operations (section 20). As the classification of the work goes from Type 1 to Type 3, the corresponding requirements of the Regulation become increasingly more stringent. The Regulation does not specify who is to do the classification, but, in most cases, it will be the constructor or employer, often in consultation with an appropriately qualified consultant.

What is the difference between the classifications of work?

The three classifications of operations (Type 1, Type 2 and Type 3) have been established according to the asbestos hazard presented by the work, both to those doing the work

and to others outside the work area. They can be thought of as being associated with a low, medium, and high risk of exposure. Activities have been assigned to one of the three types of operations based on an assessment of the risk of exposure. Factors that affect worker exposure to asbestos include the type of asbestos, the type of binder or matrix, the type of work, and the type of control measures used.

8.0 Record of Revisions

Date	Author/Editor	Change	Version
March 2023	Robert Mullins	<ul style="list-style-type: none"> Modified companion document "Buildings containing asbestos" list. Removed highlighting on buildings containing fire spray and added wording "According to Building Management Surveys and its Limitations". 	Asbestos Management Program v.1.5 MAR2023
March 2022	Robert Mullins	<ul style="list-style-type: none"> Modified Section 4.4 Provide yearly asbestos refresher training both online and classroom. Removed Section 4.6.1- This work is done by a consultant working with a general contractor. Type 3 air clearance testing is the responsibility of the general contractor. 5.3 Modified to include a permanent bin on site at the Bauer for asbestos waste. 	Asbestos Management Program v.1.4 MAR2022
March 2021	Robert Mullins	<ul style="list-style-type: none"> Modified Section 5.3 Discovery of Suspected Asbestos 	Asbestos Management Program v.1.3 MAR2021
March 2020	Robert Mullins	<ul style="list-style-type: none"> Modified section 5.1.1 Notification to Building Occupants and Workers. Modified section 5.1.2 Registration of Workers Involved in Asbestos Repairs/Removals. Updated responsibilities in section 5.2.1 Unexpected Discovery During the Course of Work. Updated section 5.3 Waste Disposal to include adherence to the University's Transportation and Management of Asbestos Waste procedure. 	Asbestos Management Program v.1.2 MAR2020
March 2019	Robert Mullins	<ul style="list-style-type: none"> Updated reporting responsibility for Type 2 worker hours and responsibilities. Clarified Type 2 training and transportation and management of asbestos waste requirements. 	Asbestos Management Program v.1.1 MAR2019