

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 1 of 18



**SAFETY PROGRAM:
ASBESTOS MANAGEMENT**

CONTENTS

Introduction 3

 Program Objectives 3

 Program Review 3

Scope 4

Legislative Requirements 4

 Maximum Allowable Asbestos Exposure Levels 4

Responsibilities 4

Asbestos Inventory 6

 Uses of Asbestos 7

Assessing Health and Exposure Risk 7

 Perimeter Block Walls 8

Asbestos Sampling 9

Control of Asbestos Hazards 9

 Training 9

 Inspection Schedule 9

 Access to Areas Containing Friable Asbestos-Containing Materials 10

 Maintenance of Asbestos-Containing Materials 10

 Personal Protective Equipment 10

 Medical Surveillance Program 11

Working with Asbestos Containing Materials 11

Asbestos Abatement 11

 Removal 12

 Encapsulation 12

 Enclosure 12

Asbestos Abatement Contractor Management 12

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 2 of 18

Waste Transport and Disposal..... 13

Emergency Procedures in the Event of Unexpected Asbestos Release..... 13

 Exit Procedures for Injured Asbestos Workers..... 14

 Exit Procedures in the Event of a Fire..... 14

Definitions..... 15

References..... 16

Revision History 16

Appendices 16

 Appendix A: Emergency Repair Procedure..... 17

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 3 of 18

INTRODUCTION

Asbestos is a fibrous material used historically in many building materials because of its strength, heat resistance, and chemical resistance properties. Types of asbestos include chrysotile, amosite, crocidolite, tremolite, actinolite, or anthrophyllite. Exposures to asbestos can result in serious health problems such as asbestosis or cancer.

This program provides measures to be used to prevent the uncontrolled release of asbestos and the procedures to be followed if there is an uncontrolled release. It provides guidance on the selection of appropriate maintenance, remediation, and abatement procedures to be used at Mount Royal University to prevent potential exposure to airborne asbestos by the University community.

PROGRAM OBJECTIVES

The Asbestos Management Program establishes a comprehensive system to actively manage and control all asbestos-containing materials (ACM) in the University, and all activities which may disturb the materials, including maintenance, alteration, and repair operations.

The objectives of the Program are:

- To protect University employees from the potential health risks associated with hazardous exposure to airborne asbestos fibres;
- To provide a safe and healthy work and study environment for employees, students, contractors and visitors, in accordance with the University's Health and Safety Policy;
- To comply with the legislated requirements outlined under the Alberta OHS Code.
- To ensure absolute compliance with this Program by all employees and contracted personnel.

The removal of all ACM from University buildings is a long-term objective.

Priority for asbestos removal will be assigned as follows:

1. All ACM will be removed or encapsulated prior to any demolition activity which may result in their disturbance.
2. ACM which have been damaged to the extent that repair measures will not effectively contain the material are to be removed.
3. Consideration must be given to the proactive removal of ACM during renovation projects.
4. Work should not include installing rigid flooring over existing asbestos-containing vinyl floor tiles or sheeting.

PROGRAM REVIEW

The Asbestos Management Program is developed, maintained and administered by the Office of Environmental Health and Safety. The Program will be reviewed at least once every five years or where there has been an update to the regulation, in consultation with the Joint Occupational Health and Safety Committee.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 4 of 18

SCOPE

The Asbestos Management Program applies to all buildings, structures, machinery and equipment owned, occupied, or operated by Mount Royal University. It applies to all employees and students of the University, to occupants of University buildings, and to external organizations who may come into contact with or disturb ACM in University Buildings.

LEGISLATIVE REQUIREMENTS

Alberta's Occupational Health and Safety (OHS) Code outlines the requirements for asbestos control in Part 4, Sections 16 to 40. Occupational Exposure Limits (OELs) are included in Schedule 1.

As per Alberta's Occupational Health and Safety Code, Section 26(1), an employer must have a code of practice governing the storage, handling, use and disposal of asbestos when present at a work site as a pure substance in an amount over 10 kg or in a mixture in an amount over 10 kg and at a combination of 0.1% by weight or more.

All employers must give Alberta Labour 72 hour's notification prior to starting asbestos abatement activities.

The City of Calgary requires the submission of an Asbestos Abatement Information Form prior to building permit or demolition permit release for buildings to be renovated or demolished. Materials with the potential to release asbestos fibres shall be removed prior to renovation or demolition.

MAXIMUM ALLOWABLE ASBESTOS EXPOSURE LEVELS

As outlined in the AB OHS Code Schedule 1, the occupational exposure limit (OEL) for all forms of asbestos is 0.1 f/cc (fibre per cubic centimeter) based on eight-hours of exposure. If workers may be working for more than eight hours, the exposure limit must be adjusted using the equation in section 18(1) of the Alberta OHS Code.

RESPONSIBILITIES

The responsibility for ensuring compliance with this Asbestos Management Program rests with several departments, divisions, and other parties at the MRU as outlined below.

Department Heads, Project Managers and Others Who Contract Asbestos Work:

- Implement and enforce the requirements of the Asbestos Management Program for all work initiated by their department, working closely with appropriate departments.
- Be responsible for all asbestos work performed by contractors hired by their department.
- Review all work activities to determine if ACM are present and might be disturbed by such activities; notify their staff, other staff at the University and prospective contractors of the location of asbestos-containing materials and ensuring workers are notified. Asbestos work includes cleanup of flood water in building with asbestos-containing sprayed fireproofing.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 5 of 18

- Maintain and update annually the asbestos inventory; notify building occupants and the JOHSC of the inventory and provide inventory information to staff and contractors.
- Label asbestos-containing fireproofing locations and post signage in buildings with asbestos or non-asbestos sprayed fireproofing.
- Perform regular workplace inspections including evaluation of ACM in buildings.
- Classify all asbestos work in consultation with the Environmental, Health & Safety Department (EH&S).
- Obtain approval for asbestos work from Facilities Management.
- Ensure staff who have access to and may perform work on ACM are informed of the locations of asbestos, receive training and are given the opportunity to participate in the University's asbestos medical surveillance program.
- Maintain all records for asbestos work.
- Ensure that all contractors employed by MRU have appropriate and site-specific emergency response and evacuation plans in place.

All Department Heads, Managers, and Supervisors:

- Ensure that all employees in the department are familiar with and comply with their responsibilities under the Asbestos Management Program.
- Ensure that, where a building contains sprayed asbestos fireproofing above a 'false ceiling', their employees do not access the area above the false ceiling unless they have been properly trained to do so and have received appropriate approval from EH&S.
- Ensure that employees and other building occupants are notified of scheduled asbestos work within their workplace.
- Ensure that all employees in the department are informed about the location of ACM present in their workplace which may be disturbed in the course of their duties, the location of the Asbestos Inventory for their workplace, and their means of access to the Inventory.

Employees:

- Understand their responsibilities and work in compliance with the requirements of the Asbestos Management Program, when applicable.
- Avoid accessing the area above the false ceiling in any building which contains sprayed asbestos fireproofing, unless properly trained to do so.
- Abide by all access control restrictions posted on areas containing asbestos material.
- Immediately notify their supervisor or other appropriate person of any damage or deterioration of suspected or known ACM in their work or study environment.

Environmental, Health and Safety (EH&S):

- Be responsible for the development, maintenance, quality and effectiveness of the Asbestos Management Program, and to ensure that it meets all legislative requirements and industry standards.
- Provide technical advice and recommendations regarding asbestos identification, hazard, evaluation, and control measures related to asbestos.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 6 of 18

- Provide ongoing asbestos training and education programs and maintain records of training.
- Conduct respiratory protection training and fit-testing for all University employees who may conduct asbestos work.
- Audit the implementation of the Asbestos Management Program on an ongoing basis.

Human Resources (HR):

- Coordinate medical surveillance when required and manage medical surveillance records as per legislative requirements. Medical surveillance records are maintained by a qualified and approved third party provider.

External Contractors and Subcontractors:

- Provide acknowledgement that they have read and will comply with the requirements of the Alberta OHS Code and MRU's Asbestos Management Program.
- Ensure that all employees and subcontractors under their control are informed about the location of ACM that may be disturbed.
- Work in a manner to avoid the disturbance of ACM, other than those asbestos work activities they have been contracted to carry out.
- Ensure that all employees and subcontractors under their direction are properly trained on asbestos hazards and control procedures prior to conducting any work that may disturb asbestos, and to provide documentation of this to the department contracting the work.
- Ensure that workers immediately stop all work and notify the department contracting the work in the event that previously unidentified ACM are discovered in the course of work.
- Ensure that all asbestos waste is safely packaged and properly disposed in accordance with legislative requirements and with the Asbestos Management Program.

ASBESTOS INVENTORY

The Asbestos Inventory is a record of the type and locations of known and suspected ACM in a given building. It enables the tracking of such materials so their condition can be inspected and assessed on a scheduled basis to determine the need for cleanup and remediation of damaged material, and ensures that appropriate controls are put in place when other work is done at a location which might disturb the asbestos.

1. The University has prepared Asbestos Inventories of the locations of known or suspected ACM in buildings and structures owned by the University.
2. The Inventory for each building contains the following information:
 - a. Building address;
 - b. The location of all ACM within the building;
 - c. Whether the material is friable or non-friable;
 - d. An indication as to whether the material is assumed to contain asbestos or if it has been sampled and proven to contain asbestos;
 - e. If known to be asbestos, the type of asbestos.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 7 of 18

3. The inventory shall be made readily available for inspection by the JOHSC and any building occupant who so requests.
4. Written or electronic copies of the inventory can be obtained from EH&S.

USES OF ASBESTOS

Properties that make asbestos useful are its incombustibility, strength, and flexibility when separated into fibres. The uses for asbestos ranged from products in which the fibres were well bound to friable products in which the fibres could easily become airborne.

Sprayed insulation, stucco, and joint cements manufactured in Canada and the United States no longer contain asbestos in a friable form.

Friable asbestos materials are loosely held together and tend to crumble easily with hand pressure. The more friable the material, the more likely it is to release fibres into the air and the higher the potential hazard.

One product that is usually friable and a major cause of concern in buildings is asbestos-containing sprayed-on acoustic or thermal insulation. The use of asbestos-containing spray products was widespread until approximately 1972, although the use of several acoustic products containing asbestos continued after this date.

Non-friable products which may contain asbestos pose little danger of releasing airborne fibres unless they are cut, broken, sawn, ground, sanded, or are in deteriorating condition. Building materials containing asbestos in a non-friable or bound form include products such as insulation, stucco, ceiling tiles, flooring, plaster or drywall materials, and fireproofing.

Materials at MRU that have been identified as asbestos-containing include the following:

- Duct joining mastic
- Window putty
- Door and window caulking
- Spray-applied insulation
- Texture coat
- Drywall joint compound
- Ceramic tile wall thinset
- Mechanical insulation
- Floor tile and floor tile mastic
- Transite pipe

ASSESSING HEALTH AND EXPOSURE RISK

Asbestos must be inhaled to cause health issues. Intact and undisturbed asbestos presents no direct health hazard but does present a potential exposure hazard should fibres be released and inhaled. The health risk is considered minimal for asbestos materials in good condition in an inaccessible location and protected from damage.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 8 of 18

Air monitoring alone is insufficient to determine the potential health and exposure risk since asbestos fibres cannot usually be detected above background levels unless the material is disturbed in some way. Additional criteria are needed to determine the risk of exposure or the need for removal.

Mount Royal University has hired a qualified third party contractor to complete the sampling and analysis of all areas that are suspected of containing asbestos. The results are included in the Asbestos Inventory. When building repairs, rehabilitation, or retrofitting is planned or being conducted, the inventory and test results will be reviewed to determine if there is asbestos in the area and if further sampling or abatement is required.

There are eight main factors which assist in evaluating the condition of a particular asbestos installation. The assessment and determination of potential health risk should be conducted by competent personnel, trained in the evaluation of potential asbestos exposure risk.

1. **Condition of Material:** The condition of the ACM may indicate how easily fibres can cause contamination by being released into the area.
2. **Water Damage:** Water can dislodge, delaminate and disturb friable ACM that are otherwise in good condition.
3. **Exposed Surface Area:** The exposed surface area of friable material affects potential fibre fallout levels and the possibility for contact and damage. Visible friable material is considered to be exposed.
4. **Accessibility:** If the ACM can be reached, it is accessible and subject to accidental or intentional contact and damage. Friable material is considered accessible if it is close to heating, ventilation, lighting and plumbing systems requiring maintenance or repair.
5. **Activity and Movement:** This factor combines the effects of general causes that may result in contact with, or damage to, friable material.
6. **Air Distribution System:** According to the Alberta OHS Code Part 4 Section 33, asbestos material may not be located in air distribution systems or equipment in a form in which or location where asbestos fibres could enter the air supply or return air systems.
7. **Friability:** The easier the material can be crumbled, the more friable the material and the greater the potential for asbestos fibre release and contamination.
8. **Asbestos Content:** To calculate total asbestos content, the percentage content for each type of asbestos present in a given sample should be summed.

The final risk level evaluated will determine the level of control required. Control may include immediate removal of the material, restricted access to the area, repairs or enclosure of material, or the implementation of an Asbestos Management Plan.

PERIMETER BLOCK WALLS

Most of the exterior walls at MRU are free of asbestos-containing materials, but some of the older exterior block walls may contain vermiculite, an asbestos-containing material.

When performing intrusive work on exterior walls, or on walls that used to be exterior walls but are now inside due to a building addition or renovations, follow the following steps to check for the presence of vermiculite:

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 9 of 18

1. Wearing full PPE (fitted dust mask or respirator, safety goggles), drill a small pilot hole.
2. If any granular material spills from the hole, immediately seal the hole with tape and contact your Supervisor for next steps.
 - a. Next steps may include having a worker trained on low-risk asbestos work complete the task using a glove bag, full PPE, and air monitor, or having the area remediated by external professionals (depending on the work to be performed).
3. If no material spills from hole, then work can proceed as planned.

ASBESTOS SAMPLING

When sampling is required, it shall be performed by qualified third-party contractors and shall follow the procedures outlined in the Alberta Asbestos Abatement Manual.

Grab sampling via the random sampling method is used by third party contractors to extract a piece of the suspected building material. The extracted grab sample is analyzed for asbestos at a qualified third party laboratory. The results reveal if asbestos is present, what type of asbestos, and the concentration of asbestos in the material.

Air sampling to determine airborne asbestos fibre concentration is required before and during abatement work and prior to the removal of an enclosure. All air sampling must be completed by competent personnel following methods specified in Alberta OHS legislation. Results will be made available to workers on the same day or as soon as possible following the sampling.

CONTROL OF ASBESTOS HAZARDS

The Asbestos Management Program acts to control asbestos hazards through training, inspection, and maintenance. This program will remain in place while there are ACM present at the University.

TRAINING

All Facilities Management, Building Operations, and Information Technology Services (ITS) Infrastructure and Network Services frontline workers will receive asbestos awareness training within the first 6 months of employment and all workers will receive refresher training at least once every 3 years.

The awareness training provides a general overview of asbestos hazards and identification; monitoring, measuring, and remediation techniques; and asbestos hazard controls. The course will not provide the training needed to remediate ACM, as remediation work is outside the scope of MRU personnel. Selected MRU Building Operations employees will receive additional training on hazards and controls for low risk asbestos work, to aid in performing emergency repairs on potential ACM.

INSPECTION SCHEDULE

ACM must be inspected regularly to evaluate their condition and assess the need for remedial action if there is evidence of damage that could increase the risk of asbestos exposure.

Accessible ACM at MRU are inspected as part of the annual and semi-annual workplace inspections completed by Building Operations and EH&S.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 10 of 18

ACM that are enclosed, concealed, or generally out of reach of all but maintenance personnel will be inspected each time the space is accessed. If the materials show signs of damage, assessment will be made to determine whether repair or remediation is required.

Informal inspections are also completed by Building Operations and ITS Infrastructure Network Services personnel as part of routine maintenance and upgrading activities. Any identified deficiencies in ACM will be communicated to EH&S through the Frontline system and repairs or abatement will be completed as needed.

ACCESS TO AREAS CONTAINING FRIABLE ASBESTOS-CONTAINING MATERIALS

Most of the friable ACM are in concealed areas that require the removal of a building component to access, such as rarely-entered crawl spaces and attic spaces.

- Access to concealed materials is limited to approved Building Operations personnel, contractors, and members of the MRU ITS Infrastructure Network Services team.
- Access to visible material is limited by the location (ceilings, walls in unused areas).

MAINTENANCE OF ASBESTOS-CONTAINING MATERIALS

If ACM on site are discovered to be damaged during inspections or pre-work hazard assessments, a qualified contractor will be contacted to promptly remediate the materials. If there is a risk of exposure to MRU employees, students, or others, the area will be isolated until the materials can be remediated or repaired.

Whenever possible, ACM should be removed and replaced with safer alternatives (if required). Where this is not feasible, the material will be repaired to reduce the risk of ACM being released.

PERSONAL PROTECTIVE EQUIPMENT

MRU employees are not expected to work with ACM. On rare occasions, emergency repairs may need to be completed by MRU employees that may disturb ACM. The personal protective equipment required and procedure to be followed is outlined in Appendix A.

All contractors working with asbestos are required to wear personal protective equipment if and when they work with ACM.

Examples of what is expected of personal protective equipment, at a minimum, include;

- Protective clothing that is made of material such as Tyvek that resists penetration by asbestos fibres; covers the body and fits snugly at the neck, wrists and ankles; covers the head and feet (lace-less rubber boots are recommended); and is immediately repaired or replaced if torn.
- The wearing of disposable coveralls is recommended. Street clothes should not be worn under disposable coveralls if work is conducted inside a containment.
- Respiratory protection that is a NIOSH-approved respirator equipped with a 100-series particulate filter must be worn. Disposable, single use respirators must not be used. The respirator selected

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 11 of 18

must have a sufficient protection factor to provide adequate protection for the fibre levels encountered during the project.

- Additional protective equipment such as safety boots, hard hats, safety glasses, etc. appropriate to other hazards present at the worksite.

MEDICAL SURVEILLANCE PROGRAM

It is not expected that any MRU employees will require medical surveillance for asbestos exposure, as they do not perform asbestos abatement procedures or otherwise work in areas with concentrations of asbestos over the Alberta OEL.

If it is determined that an MRU employee has been exposed to asbestos at a concentration exceeding the OEL, the MRU Human Resources (HR) department will be notified. HR will work with the Alberta Workers' Compensation Board (WCB) to determine next steps, including ongoing medical surveillance if required.

WORKING WITH ASBESTOS CONTAINING MATERIALS

When MRU employees are required to perform intrusive work in an area that may include ACM, the asbestos inventory shall be consulted during the planning stage to determine if asbestos sampling or remediation is required.

- If the inventory indicates that the area is clear of ACM, no further action is required.
- If the inventory does not indicate that the area is clear, a qualified contractor will be brought in to sample materials and determine the risk level.
- If ACM are identified, further evaluation will be completed to determine the appropriate abatement technique to be used; removal is the preferred option.

The asbestos inventory does not need to be consulted when performing the following low risk tasks:

- Performing non-intrusive tasks (e.g. painting) on non-friable materials, providing the task will not damage or disperse the materials
- Installing or removing non-friable products in good condition without cutting, breaking, sanding, or vibrating the materials. E.g. handling ACM-containing gaskets, floor tiles, or cement products.
- Work done near friable asbestos that does not require contact with the asbestos.
- Transporting or handling ACM in sealed containers. E.g. collecting properly-bagged ACM waste for disposal (see Appendix A for instructions on bagging ACM waste).

When emergency repairs (e.g. repairing or identifying leaking pipe in the walls) need to be completed in an area that includes materials that are known or suspected to contain asbestos, employees must follow the procedures outlined in Appendix A.

ASBESTOS ABATEMENT

The ultimate goal is to remove all ACM from University property. To that end, MRU will make every effort to use asbestos-free materials for building projects when available and to conduct asbestos abatement

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 12 of 18

activities as part of renovation and demolition projects, emergency clean-up activities, and priority removal projects based on material condition assessments.

There are three approaches to abatement:

- Removal
- Encapsulation
- Enclosure

Abatement of any sort, including removal, encapsulation, or enclosure, shall be conducted by qualified third-party contractors. Mount Royal University employees do not conduct asbestos abatement activities.

REMOVAL

During removal, all ACM are taken off the underlying surface and collected and placed in containers for burial at an approved waste disposal site. This process is the most expensive in the short-term and may require interruption of building activities. Removal is a necessary pre-requisite for demolition of a building containing ACM or when planned renovations will disturb the asbestos.

The long-term goal at the University is the removal of all ACM.

ENCAPSULATION

During encapsulation, ACM are coated with a bonding agent called a sealant. Sealants penetrate and harden the material and/or cover the surface of the material with a protective coating.

Encapsulation should be limited to areas where the ACM will not be subject to further damage by contact. Encapsulation should also be limited to material that is capable of supporting the additional weight of the sealant. The fire rating of the material must be considered before applying a sealant. Encapsulated material needs to be routinely inspected for deterioration or damage. Although the method may be less costly than removal in the short term, the long term cost will be greater due to increased management of the material, and removal will eventually be required.

ENCLOSURE

Enclosure requires that a physical barrier be placed between ACM and the building environment. Since the asbestos has not been removed, fibres will continue to be released and will accumulate behind the barrier. If the enclosure is damaged or entered for maintenance, this accumulation may be released into the building environment. Although the abatement method may be less costly than removal in short term, the long term cost will be greater due to increased management of the material, and removal will eventually be required.

ASBESTOS ABATEMENT CONTRACTOR MANAGEMENT

Asbestos removal activities are only to be performed by qualified third-party contractors. As outlined in the Contractor Management Procedure, companies hired to perform the work must pass a vetting

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 13 of 18

process to ensure that they have the technical skill and knowledge to safely perform asbestos-abatement. Contractors must be COR certified, have their own WCB coverage, and all workers must have asbestos remediation training, to the level that is appropriate for their role and the job scope.

As the prime contractor, the hired asbestos-remediation company will be primarily responsible for safety within the worksite. Additional information on the management of contractors can be found in the Contractor Management Procedure.

WASTE TRANSPORT AND DISPOSAL

The Alberta OHS Code requires that asbestos waste be stored, transported and disposed of in sealed containers that are impervious to asbestos and asbestos waste.

The disposal of hazardous waste is under the mandate of Alberta Environment and Parks (AEP). AEP has published "Guidelines for the Disposal of Asbestos Waste", which defines asbestos waste as 'a waste containing more than one per cent asbestos by weight'.

Contractors hired to perform asbestos abatement are required to dispose of all asbestos waste produced during abatement activities as part of their contracted work scope. Where MRU staff have directly created asbestos waste (e.g. produced as a result of emergency repairs), EH&S will coordinate removal with an asbestos remediation contractor.

EMERGENCY PROCEDURES IN THE EVENT OF UNEXPECTED ASBESTOS RELEASE

In the event that an individual unexpectedly disturbs or discovers damaged known or suspected ACM, the following procedures are to be immediately implemented to prevent or minimize the exposure of individuals to airborne asbestos fibres, and to report the incident to the appropriate authorities.

1. Immediately stop all activities which may disturb the asbestos material.
2. Leave the area and do not resume any work in the area until advised to do so by the Supervisor or Project Manager. If work clothing or equipment have been contaminated with asbestos, do not leave the immediate work area until appropriate decontamination has been carried out.
3. Promptly notify the Supervisor or Project Manager, who will inform EH&S.
4. The Supervisor or Project Manager must contact Building Operations to shut down the ventilation system to and from the affected area. For laboratories, EH&S will be consulted prior to shutting down the ventilation system.
5. The Supervisor or Project Manager, in consultation with EH&S, will:
 - a. Determine whether the material contains asbestos or not, by consulting with the Asbestos Inventory and/or taking a representative sample for rush analysis.
 - b. Arrange for appropriate asbestos remediation and cleanup should the results be positive for asbestos.
 - c. Give authorization for return to work when safe to do so.
 - d. Investigate the incident in consultation with the JOHSC and determine the cause. Prepare a list of all employees who were involved in the incident and who may have been exposed to asbestos.
 - e. Complete a Workplace Incident report and submit it to Intalex and EH&S.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 14 of 18

- f. After a complete investigation of the incident, file a written report detailing the events, the cause, and the control measures taken to prevent recurrence, in consultation with the JOHSC and EH&S.
- g. For all confirmed asbestos materials, to complete an incident report for each employee that has been exposed and report the incident to HR. HR will notify Alberta WCB as required.
- h. Provide any employee potentially exposed to asbestos as a result of the incident with the opportunity to consult with a physician.

EXIT PROCEDURES FOR INJURED ASBESTOS WORKERS

In the event that an emergency arises during asbestos work, these procedures provide guidance for removing an injured worker from a contaminated asbestos work site and for preventing undue exposure to emergency response workers:

1. If an employee has been appropriately trained, they can provide first aid to the injured party if it is safe to do so.
2. Contact MRU Security, the Supervisor and/or Project Manager.
3. If the injured worker is ambulatory and can be moved safely from the contaminated work area, follow standard decontamination procedures prior to removing the injured worker from the contaminated area.
4. If the injured work is not ambulatory or movement of the injured worker would be unsafe, in waiting for the emergency response personnel:
 - a. Make the injured party as comfortable as possible.
 - b. Conduct standard decontamination procedures on the injured worker only if it is safe to do so.
 - c. Clean obvious contamination from the worker using a HEPA vacuum or damp wiping methods.
 - d. Mist and clean the work area using water to reduce fibre levels prior to the arrival of the emergency response personnel.
 - e. Emergency response personnel are to wear respirators equipped with HEPA filters and disposable coveralls prior to entering the contaminated work area.
 - f. Assist the emergency response personnel in covering the injured party with clean polyethylene prior to removal from the work area.
 - g. Continue to mist the work area with water during and after the removal of the injured party.

EXIT PROCEDURES IN THE EVENT OF A FIRE

Contractors involved in abatement must have a decontamination plan for emergency evacuations in place prior to work start. If evacuation occurs, abatement contractors shall contact MRU Security or Project Manager after reaching the muster point to check in and provide a status update on the contractor crew.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 15 of 18

If emergency personnel need to enter an area with ACM, EH&S and/or Facilities Management shall communicate this hazard to them as soon as reasonably possible, so that they can enact appropriate decontamination procedures.

DEFINITIONS

Abatement: Procedures to encapsulate, enclose or remove ACM

Air Monitoring: The process of measuring airborne fibre levels in a specified area over a period of time. This involved drawing a known volume of air through a filtered cassette with an effective pore size, counting the fibres that collect on the filter and expressing the result as fibres per cubic centimeter (f/cc)

Air Purifying Respirator: A respirator that filters air inhaled by the respirator wearer. Air is exhaled through a valve in the bottom of the respirator.

Asbestos: Asbestos is a generic term describing a number of naturally occurring fibrous, hydrated mineral silicates that differ in chemical composition and are suitable for use as non-combustible, non-conducting and chemically resistant materials. Different types of asbestos which may be found in buildings are chrysotile, amosite, tremolite, actinolite or anthrophyllite.

Asbestos Abatement: Corrective actions taken to minimize or eliminate the hazards associated with ACM, including repair, encapsulation, enclosure or removal.

Asbestos-Containing Material (ACM): A material found to contain 0.5% or greater content of asbestos by dry weight.

Asbestos Inventory: A record of the location of all ACM (or those suspected of containing asbestos) present within a building. The record includes notes on whether the materials are friable or non-friable and the type of asbestos present (if known). The inventory must be updated at least once in each 12-month period and whenever the owner becomes aware of new information. It must be available on the premises, and the information must be provided to any employee whose work involves these materials or may result in the disturbance of such materials, and to any occupier of that area of the building.

Asbestos Waste: Material that is discarded because there is a reasonable chance that asbestos might be released from it and become airborne, including protective clothing that is contaminated with asbestos.

Asbestosis: A fatal lung disease caused by the inhalation of high concentrations of asbestos fibres, leading to a build-up of scar tissue around the fibres. It is a chronic lung disease with symptoms that include coughing, weight loss and difficulty in breathing.

Friable Materials: Asbestos-containing materials that, when dry, can be crumbled or powdered by hand pressure. This term may also refer to materials that are already crumbled and powdered. Even some non-friable materials, such as vinyl-asbestos floor tiles or asbestos cement boards, have the potential to become friable if handled in an aggressive manner (e.g. sanded with a power sander) or dropped from a height. Friable material present a greater hazard of releasing asbestos fibres than non-friable materials. Common friable asbestos-containing building materials include sprayed fibrous fireproofing, thermal pipe insulation, and decorative or acoustic texture plasters.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 16 of 18

HEPA (High Efficiency Particulate Air) Filter: HEPA filters are used in both respirators and air handling equipment. The filters have a minimum particulate removal efficiency of 99.97 per cent for thermally generated mono-dispersed DOP aerosol particles with a diameter of 0.3 micrometers and a maximum pressure drop of 1.0 inch water gauge when lean and operating at their rated airflow capacity.

Intrusive Work: Any work that disturbs the fabric of a building plant, or equipment, e.g. drilling or otherwise creating a hole in a wall, ceiling, or floor; removing a wall; removal or repair of sinks, toilet cisterns, or wall heaters; or roofing work.

NIOSH: The National Institute for Occupational Safety and Health. It is the United States-based approval agency for respiratory protective equipment and methods of analyzing air samples.

Occupational Exposure Limit (OEL): The maximum airborne concentration of a toxic substance to which a worker can be exposed over a period of time without suffering any harmful consequences. In Alberta, the OHS Code Schedule 1 outlines the 8-hour and 15-minute or ceiling OELs.

Protection Factor: The workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program.

Restricted Area: An area of the work site where there is a reasonable chance that the airborne concentration of asbestos exceeds the Occupational Exposure Limit (OEL) under an adopted code (from the OHS Regulation, Section 1).

REFERENCES

Alberta Occupational Health and Safety Code, Government of Alberta, 2018

Alberta Asbestos Abatement Manual, Government of Alberta, 2012

Safe Work Practices for Handling Asbestos, WorkSafe BC, 2006

REVISION HISTORY

Date	Revision	Notes
April 2019	01	Creation of Safe Work Program
September 2019	02	Update to title (Safety Program) and addition of Perimeter Block Wall section

APPENDICES

[Appendix A: Emergency Repair Procedure](#)

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 17 of 18

APPENDIX A: EMERGENCY REPAIR PROCEDURE

This procedure shall be followed any time emergency repairs need to be completed in an area that may disturb ACM as identified in the Asbestos Inventory. This procedure does not address remediation of asbestos; rather, it is a procedure to follow when materials that may include asbestos must be disturbed to perform emergency repairs when there is not time for testing and remediation of the hazard prior to the task being completed (e.g. leaking pipe needs to be identified).

In order for a project to be classified as low risk and able to be performed using this procedure, it must meet the following criteria:

- Only non-friable materials can be disturbed
- Cutting, drilling, or abrading of the non-friable material must be performed with water to control the release of dust and fibres
- Only non-powered hand tools can be used to perform the task

Prior to work start, notification must be provided to Alberta OHS. Contact the OHS Contact Center at 1-866-415-8690. Confirm with OHS if an Asbestos Project Notification Form must be submitted. If so, it can be found here: <https://ohs-pubstore.labour.alberta.ca/whs3910>.

After the repair has been completed, the area will be fully remediated by contractors, as outlined in this program. If the disturbed material is shown to include asbestos, EH&S will coordinate with HR to determine if medical assessments are required.

Personal Protective Equipment Required:

- Half-mask respirator with 100-series filter (N-100, R-100, or P-100)
- Disposable nitrile gloves
- Disposable coveralls
- Other standard PPE as required for task (e.g. safety glasses / goggles, hearing protection)

Additional Materials / Equipment Required:

- Polyethylene drop sheets – 6 mil polyethylene
- Asbestos disposal bags, labelled – 6 mil polyethylene
- HEPA-filtered vacuum
- Water in a spray bottle
- Signage and barriers
- Hand powered tools – no electrical tools
- Mops and/or rags and water for clean-up

Procedure:

1. Set up barriers around the work area and erect warning signs at main access points to restrict access to the work area.

Mount Royal University: Safety Program		
Asbestos Management		
Rev: 02	Date: September 2019	Page: 18 of 18

2. Set up polyethylene drop sheets below and around the area to be cut, to collect waste materials and dust.
3. Set up the labelled asbestos disposal bags, so they are ready to receive debris.
4. Don PPE, including coveralls, gloves, and respirator. Perform positive and negative seal checks to confirm respirator fit.
5. Wet area to be cut to minimize dust and fibre release. Ensure area to be cut remains wet throughout the procedure.
6. After cutting materials, place larger debris inside an asbestos disposal bag.
7. Use damp cloth or mop, and/or HEPA-filtered vacuum to clean all visible dust from the work area. Do NOT dry sweep as this may cause fibres to become airborne.
8. Dampen the drop sheets, fold them in on themselves to contain any residual dust, and add to the asbestos disposal bag.
9. Remove gloves and disposable coveralls and add to the asbestos disposal bag. Use a damp cloth to wipe shoes of any dust and add the cloth to the bag.
10. Tie the bag securely and place it inside a second asbestos disposal bag. Wipe the outside of the bag with a damp cloth or use the HEPA-vacuum to clean off any dust.
11. Remove the respirator and place the used half-mask filters into the second disposal bag.
12. Wash hands and clean respirator as per manufacturer's instructions. Do NOT use air pressure to clean any asbestos-contaminated materials or equipment.
13. Ensure the second disposal bag is labelled "asbestos waste" and place with hazardous wastes for disposal and contact EH&S to coordinate disposal. Do NOT dispose of in regular garbage.
14. No person may eat, drink, smoke, or chew gum or tobacco in a work area where this work is occurring. Workers must remove protective equipment and clothing and clean their hands and faces prior to any of these activities.
15. Upon completion of the work, the work area must be visually inspected to ensure that all visible asbestos-containing debris has been properly cleaned up prior to removing the signs and barricades. If there are any holes left in the walls, they should be sealed with polypropylene sheeting.