

**[enter division name]**

**Asbestos**

**Control**

**Plan**

**June 2021**

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# 1.0 Introduction and Scope

The school division has numerous schools and facilities throughout Saskatchewan, many of which have been constructed with asbestos wrapped piping and boilers encased in Asbestos and are detailed in this plan.

Asbestos was once commonly used for commercial and household applications. Asbestos was most frequently used because of its fire-resistant properties, in both ships and buildings, as insulation wrapped around heating pipes and boilers, in ceiling coatings, in thermal acoustic insulating boards, and in cement cladding and pipes.

Asbestos is dangerous only if it is in a friable state (easily crumbled by hand pressure) because loose fibres may be inhaled. If the asbestos is located in a traffic area, and if it is easily moved or dislodged, there is a threat of exposure.

If it cannot be disturbed, for instance, if it is contained above a ceiling and in a good condition, or is a component in an asbestos cement floor, the risk of exposure is considered negligible.

*The Saskatchewan Occupational Health and Safety Regulations* 2-1, 23-5, 23-6, 23-7, 23-8, 23-9 addresses asbestos use on construction projects and in building and repair operations. It requires the following:

* The owner must maintain a record of the material (if friable material containing asbestos has been used in a building as fireproofing or in construction material).
* Advise workers who might disturb the material.
* The owner must label and identify all asbestos containing material in each facility.
	+ All entrances to rooms containing asbestos must be labelled and clearly defined on the doors (as for the identification of asbestos this will be identified either by a red dot or a red painted stencil reading “ASBESTOS”).
* The owner must have a training program for all workers who might work close to the material.
	+ Workers must know of its hazards, how to use the proper protective equipment, and what work practices and procedures to follow.
* The owner must ensure an annual inspection of the material is completed by a competent worker to determine its condition and document the condition of the material.
* The owner must ensure the asbestos containing material is in good condition.
	+ Any repairs and sealing that are necessary to prevent the breaking of asbestos or release of dust from an asbestos surface are done immediately.
	+ If necessary to disturb the asbestos the safe work procedure, practices and guidelines must be followed.

The [enter division name] double-bags all ACM (Asbestos containing materials) waste in 6-mil polyethylene approved bags which are label ASBESTOS and decontaminated with a HEPA vacuum (High Efficiency Particulate Air Filter) before transporting to a landfill site.

**Program Scope**

This program applies to all buildings and structures owned by the school division, to all employees, and to external organizations who may come into contact with or disturb friable asbestos containing material in school division buildings.

# 2.0 Definitions

**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, and crocidolite, anthophylite, actinolite, tremolite or a mixture of any of these materials.

**Asbestos Dust**

Means the dust that consists of or contains asbestos fibers that are likely to become airborne**.**

**Asbestos process**

 Means any activity that may release asbestos dust, and includes:

* The cutting, sawing or sanding of asbestos containing materials;
* The repair, maintenance, replacement or removal of asbestos surfaces;
* The cleaning or disposal of asbestos containing material;
* The mixing or application of asbestos shorts, cements, grouts, putties or similar compounds;
* The storing or conveyance of material containing asbestos; and
* The demolition of structures containing asbestos.

**Asbestos surface**

Means the surface of an object that contains asbestos.

**Friable**

Friable material means material that when dry can be crumbled, pulverized or powdered by hand pressure.

Three types of friable material commonly used in buildings are:

* sprayed fibrous fireproofing
* decorative or acoustic texture coatings
* thermal pipe insulation (potentially friable)

**HEPA**

High Efficiency Particulate Air Filter

# 3.0 Objective of the Asbestos Control Program

It is the objective of this asbestos control program to ensure that asbestos containing materials in the school division name are managed properly. The health of workers and building occupants is safeguarded in accordance with *The Saskatchewan Occupational Health and Safety Regulations* Part 23 *Asbestos* 2-1, 23-5 and 23-9.

# 4.0 Asbestos Control Program

*The Saskatchewan Occupational Health and Safety Regulation* 23-8 requires that the employer ensure that every asbestos process is carried out in a manner that prevents, to the extent where is practicable, the release into the air of asbestos dust. If there is an uncontrolled release of asbestos dust the school division will take measures to evacuate the facility and take the necessary precautions to conduct air sampling before during and after the cleaning of the asbestos and ensuring the air is safe before the facility is reopened. The program documented here is intended to meet the requirements of these regulations 23-1 through to 23-16.

The basic elements of the control program are:

1. Identification and recording of the locations of all material containing asbestos;
2. Annual inspections of all asbestos-containing material to determine its condition and repair of damage, and other remedial actions as appropriate;
3. The control of access to areas containing friable asbestos-containing materials;
4. Training and education of workers who may disturb asbestos-containing materials;
5. The provision of appropriate procedures for all asbestos-related work, and the classification of such work as described in Appendix, Table 5 of *The Saskatchewan Occupational Health and Safety Regulations.*
* Part A High Risk,
* Part B Moderate Risk
* Part C Low Risk
1. The maintenance of records of all asbestos-related work in the ( Division Specific)
2. Control and monitoring of external contractors performing work which may disturb any asbestos-containing materials; and
3. Asbestos-containing materials do not tend to become airborne unless damaged or disturbed.
* Asbestos containing material (ACM) could be disturbed by water damage, maintenance activities, or vandalism which could all increase the risk of generating significant airborne asbestos fiber concentrations. This program shall include annual inspections of the asbestos-containing materials and an assessment of the condition of these materials.
* Repair of damaged asbestos-containing materials must be carried-out by qualified personnel.
* The program includes the boiler or mechanical rooms, or flooring tiles where large quantities of asbestos are present. In areas where damage and deterioration are found, a plan and remedial action is implemented to repair the damage by taping, enclosing, or by removal.
* The condition of the ACM will dictate the urgency and kind of remedial action necessary.
* If there is a need for the abatement process then the Asbestos Work Procedure must be followed.

## 4.1 Operations Responsibilities

Operations workers must ensure that no ACM is disturbed during maintenance work. In order to protect the ACM from becoming friable, operation workers will protect the asbestos by taking the proper procedures listed in this plan, or safely remove the asbestos following the proper procedures of this plan.

Operations workers are provided with and required to wear respirators approved by the National Institute for Occupational Safety and Health (NIOSH) with cartridges that are a Minimum of N 100 or P 100 rating. Each worker is fit tested by a trained competent tester and is trained on the proper use and care of these respirators, and the worker will be clean shaven at time of donning respiratory equipment. Workers will be trained on the use and care of all Personal Protective Equipment (PPE) that is required. Workers are instructed on the potential health hazards of asbestos and on safe work practices.

A worker may stop the work process at any time if there is a danger to the worker or any other worker as a result of damaged or failed equipment, or from an uncontrolled asbestos release and will take the appropriate measures to notify the (Division Specific) The worker will fill out the Asbestos Work Order and follow the steps laid out in the Work Order and sign off when work is complete.

The Supervisor will give direction to the workers on which process to follow in this plan. The Supervisor may stop work at any time if there is a danger to any worker as a result of damage or equipment failure, or an uncontrolled release of asbestos.

## 4.2 Asbestos Abatement

If an area where ACM is being repaired it must be completely isolated from the rest of the building. This may involve the construction of a temporary plastic barrier with an "air lock" for worker entry. Ventilation in the area is shut off throughout the abatement. Exhaust fans equipped with a HEPA filter may be used to place the affected area under a slight negative pressure in relation to the rest of the building.

Workers in the area must wear the NIOSH-approved respirators, disposable coveralls and caps. Warning signs are posted around the work area to warn people of the dangers associated with the entry to the work area without wearing protective equipment. Air testing is performed routinely around the abatement area to ensure that asbestos fibers are not released into other areas in the building. Whenever possible, the work area is wetted prior to any disturbance to reduce asbestos fiber release. One the abatement is completed following the proper procedures the ACM must be contained in the appropriate disposal bag and marked as asbestos.

# 5.0 Standards and Guidelines

A number of standards and guidelines have been established for regulating exposure to asbestos. These are to protect workers who may, during the course of their work, disturb the ACM. School division workers performing renovations or maintenance must receive instructions on the health hazards associated with the exposure to asbestos fibers. These workers are made aware that exposure or repeated short exposures to airborne asbestos fibers can produce irreversible lung diseases.

In Saskatchewan, *The Occupational Health and Safety Regulations, 2020* outline specific strict measures.

* The Time-Weighted Average (TWA) exposure of an unprotected worker to airborne asbestos shall not exceed 0.1 fibres/cc (fibres per cubic centimetre of air) for any of the forms of airborne asbestos fibres.
* A worker must take all necessary precautions and follow school division procedures to ensure good work practices.
* Good hygiene practice dictates that airborne exposures in unprotected occupied areas surrounding a removal project are maintained below detection limits (0.01 fibres/cc). Sampling will be conducted at the time of any asbestos process.

# 6.0 Saskatchewan Occupational Health and Safety Asbestos Processes

High Risk Asbestos Processes

1. The removal, encapsulation, enclosure or disturbance of anything but minor amounts of friable asbestos-containing material during the repair, alteration, maintenance, demolition, or dismantling of any part of a plant.
2. The cleaning, maintenance or removal of air-handling equipment in buildings where sprayed fireproofing asbestos-containing materials have been applied to the airways or ventilation ducts.
3. The dismantling or the major alteration or repair of a boiler, furnace, kiln or similar device, or part of a boiler, furnace, kiln or similar device, that is made of asbestos-containing materials.
4. The use of power tools not equipped with HEPA filtration to grind, cut or abrade any asbestos-containing surface or product.
5. The use of suitable Personal Protective Equipment (PPE).

Moderate Risk Asbestos Processes

1. The use of a power tool equipped with HEPA filtration to cut, shape or grind any asbestos-containing surface or product.
2. The removal of a false ceiling or part of a false ceiling where friable asbestos- containing material is, or is likely to be, lying on the surface of the false ceiling.
3. The removal, encapsulation, enclosure or the disturbance of minor amounts of friable asbestos-containing material during the repair, alteration, maintenance, demolition, or dismantling of a structure, machine or equipment or part of a structure, machine or equipment.
4. The use of suitable Personal Protective Equipment (PPE).

Low Risk Asbestos Processes

1. The installation or removal of manufactured asbestos-containing products where sanding, cutting or similar disturbance is not required.
2. The use of hand tools to cut, shape, drill or remove a manufactured asbestos containing product.
3. The removal of drywall material where asbestos joint filling compounds have been used.
4. The use of personal protective equipment made of asbestos-containing textiles.
5. The transporting or handling of asbestos-containing materials in sealed containers.
6. The cleaning or disposing of minor amounts of asbestos debris that has come loose or fallen from a friable surface.
7. The removal of small samples of asbestos-containing material for the purpose of identification.
8. The use of suitable Personal Protective Equipment (PPE).

## 6.1 Low Risk Asbestos Process

In the event that samples need to be taken for identification, use appropriate Personal Protective Equipment.

* Tyvek suit or adequate disposable coveralls with hood
* NIOSH approved respirator with P100 cartridges
* Gloves
* Disposable boot coverings
* Safety glasses or goggles
* Appropriate sample media and containment

## 6.2 High Risk and Moderate Risk Asbestos Processes

NOTE:

*The Saskatchewan Occupational Health and Safety Act and Regulations*

Regulation 2-1 New Operations:

1. as soon as reasonably possible the employer, contractor or owner shall give written notice to the division
2. not later than 14 days before beginning the process an employer contractor or owner shall give notice to the division of the intention to begin a high risk asbestos process listed in Table 5 of the Appendix

Please see Appendix 6 for the notification to the division (Ministry of Labour Relations and Workplace Safety (LRWS) Form).

 General Safety Measures and Procedures:

1. The work area shall be identified by clearly visible signs warning of an asbestos dust hazard.
2. Signs required shall be posted in sufficient numbers to warn of the hazard and shall state in large clearly visible letters that:
3. there is an asbestos dust hazard; and
4. access to the work area is restricted; only persons wearing protective clothing and equipment.
5. A wetting agent shall be added to water that is to be used to control the spread of dust and fibers.
6. Eating, drinking, chewing or smoking is not be permitted in the work area.
7. Containers for dust and waste shall be:
8. dust tight;
9. suitable for the type of waste;
10. impervious to asbestos;
11. identified as asbestos waste;
12. cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before being removed from the work area; and
13. removed from the workplace frequently and at regular intervals.
14. Frequently and at regular intervals during the doing of the work and immediately on completion of the work:
15. dust and waste shall be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping, and placed in a container as described in # 5; and
16. drop sheets shall be wetted and placed in a container as described in #5, as soon as practicable.
17. Drop sheets shall not be reused.
18. After the work is completed, polyethylene sheeting and similar materials used for barriers and enclosures shall not be reused, but shall be wetted and placed in a container as described in # 5 as soon as practicable after # 6 has been complied with.
19. After the work is completed, barriers and portable enclosures that will be reused shall be cleaned by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as practicable after # 6 and # 8 have been complied with.
20. Barriers and portable enclosures shall not be reused unless they are rigid and can be cleaned thoroughly.
21. The employer shall provide every worker who will enter the work area with a NIOSH approved respirator and the worker shall wear and use the respirator as trained.
22. Protective clothing shall be provided by the employer and worn by every worker who enters the work area, and the protective clothing:
23. shall be made of a material that does not readily retain nor permit penetration of asbestos fibres;
24. shall consist of head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibers from reaching the garments and skin under the protective clothing;
25. shall include suitable footwear; and
26. shall be repaired or replaced if torn.
27. Compressed air shall not be used to clean up and remove dust from any surface.
28. Only persons wearing protective clothing and equipment shall enter a work area where there is an asbestos dust hazard.

## 6.3 Additional Safety Measures and Procedures, High Risk and Medium Risk Asbestos Process

1. If the operation is one that is deemed a High Risk or Medium Risk asbestos process the friable material that is likely to be disturbed shall be cleaned up and removed by using a vacuum equipped with a HEPA filter when access to the work area is obtained.
2. Before commencing work that is likely to disturb friable asbestos-containing material that is crumbled, pulverized or powdered and that is lying on any surface, the friable material shall be cleaned up and removed by damp wiping or by using a vacuum equipped with a HEPA filter.
3. Friable asbestos-containing material that is not crumbled, pulverized or powdered and that may be disturbed or removed during the work shall be thoroughly wetted before the work and kept wet during the work, unless wetting would create a hazard or cause damage.
4. To prevent the spread of dust from a work area, it shall be controlled by measures appropriate to the work to be done, including the use of drop sheets of polyethylene or other suitable material that is impervious to asbestos.
5. If the operation is High or Medium Risk and is carried out indoors, the spread of dust from the work area shall be prevented, if practicable, by:
6. using an enclosure of polyethylene or other suitable material that is impervious to asbestos (including, if the enclosure is opaque, one or more transparent window areas to allow observation of the entire work area from outside the enclosure), if the work area is not enclosed by walls;
7. disabling the mechanical ventilation system serving the work area; and
8. sealing the ventilation ducts to and from the work area.
9. Before leaving the work area, a worker shall:
10. decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing; and
11. if the protective clothing will not be reused, place it in an asbestos waste container for proper disposal.
12. Facilities for the washing of hands and face shall be made available to workers and shall be used by every worker when leaving the work area.

## 6.4 Procedure, Glove Bag Operations

The following measures and procedures apply to High Risk and Medium Risk processes:

1. The work area shall be separated from the rest of the workplace by walls, barricades, fencing or other suitable means.
2. The spread of asbestos-containing material from the work area shall be prevented by disabling the mechanical ventilation system serving the work area and sealing all openings or voids, including ventilation ducts to and from the working area.
3. Surfaces below the work area shall be covered with drop sheets of polyethylene or other suitable material that is impervious to asbestos.
4. The glove bag shall be made of material that is impervious to asbestos and sufficiently strong to support the weight of material the bag will hold.
5. The glove bag shall be equipped with:
6. sleeves and gloves that are permanently sealed to the body of the bag to allow the worker to access and deal with the insulation and maintain a sealed enclosure throughout the work period;
7. valves or openings to allow insertion of a vacuum hose and the nozzle of a water sprayer while maintaining the seal to the pipe, duct or similar structure;
8. a tool pouch with a drain;
9. a seamless bottom and a means of sealing off the lower portion of the bag; and
10. a high strength double throw zipper and removable straps, if the bag is to be moved during the removal operation.
11. A glove bag shall not be used to remove insulation from a pipe, duct or similar structure if:
12. it may not be possible to maintain a proper seal for any reason including without limitation;
13. the condition of the insulation; or
14. the temperature of the pipe, duct or similar structure; or
15. the bag could become damaged for any reason including, without limitation,
16. the type of jacketing, or
17. the temperature of the pipe, duct or similar structure.
18. Immediately before the glove bag is attached, the insulation jacketing or coating shall be inspected for damage or defects, and if any damage or defect is present, it shall be repaired.
19. The glove bag shall be inspected for damage or defects:
20. immediately before it is attached to the pipe, duct or other similar structure; and
21. at regular intervals during its use.
22. If damage or defects are observed when the glove bag is inspected, the glove bag shall not be used and shall be disposed of.
23. If damage or defects are observed when the glove bag is in use:
24. the use of the glove bag shall be discontinued;
25. the inner surface of the glove bag and the contents, if any, shall be thoroughly wetted;
26. the glove bag and the contents, if any, shall be removed and placed in a proper disposal container; and
27. the work area shall be cleaned by vacuuming with a vacuum equipped with a HEPA filter before removal work is resumed.
28. When the removal work is completed:
29. the inner surface of the glove bag and the waste inside shall be thoroughly wetted and the air inside the bag shall be removed through an elasticized valve, by means of a vacuum equipped with a HEPA filter;
30. the pipe, duct or similar structure shall be wiped down and sealed with a suitable encapsulant;
31. the glove bag, with the waste inside, shall be placed in the proper container; and
32. the work area shall be cleaned by damp wiping or by cleaning with a vacuum equipped with a HEPA filter.

## 6.5 Additional Measures and Procedures for High Risk Processes for Major Abatement Process

(1) In addition to the measures and procedures prescribed above, the following measures and procedures apply to High risk processes:

1. The work area shall be separated from the rest of the workplace by walls, the placing of barricades or fencing or other suitable means.

(2) In the case of a high risk operation, the following measures and procedures also apply:

1. The spread of dust from the work area shall be prevented by:
2. using enclosures of polyethylene or other suitable material that is impervious to asbestos (including, if the enclosure material is opaque, one or more transparent window areas to allow observation of the entire work area from outside the enclosure), if the work area is not enclosed by walls; and
3. using curtains of polyethylene sheeting or other suitable material this is impervious to asbestos, fitted on each side of each entrance or exit from the work area.
4. Unless the operation is carried on outdoors, or inside a building that is to be demolished and will not be entered by any person except the workers involved in the operation and the workers involved in the demolition, the spread of dust from the work area shall also be prevented by:
5. creating and maintaining within the enclosed area, by installing a ventilation system equipped with a HEPA filtered exhaust unit, a negative air pressure of 0.02 inches of water, relative to the area outside the enclose;
6. ensuring that replacement air is taken from outside the enclosed area and is free from contamination with any hazardous dust, vapour, smoke, fume, mist or gas, and
7. using a device, at regular intervals, to measure the difference in air pressure between the enclosed area and the area outside it.
8. The ventilation system referred to in subparagraph 2.1 shall be inspected and maintained by a competent worker before each use to ensure that there is no air leakage, and if the filter is found to be damaged or defective, it shall be replaced before the ventilation system is used.
9. Before leaving the work area, a worker shall:
10. decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing; and
11. if the protective clothing will not be reused, place it in a container as described in paragraph 5 of section 15.
12. Facilities for the washing of hands and face shall be made available to workers and shall be used by every worker when leaving the work area.

(3) In the case of paragraph 1, 2, 3 or 4 of a high risk operation that is carried on outdoors, the following measures and procedures also apply:

1. If practicable, any asbestos-containing material to be removed shall be thoroughly wetted before and during removal, unless wetting would create a hazard or cause damage.
2. Dust and waste shall not be permitted to fall freely from one work level to another.
3. If practicable, the work area shall be washed down with water after completion of the cleanup and removal described in paragraph 6 of section 15.
4. Temporary electrical power distribution systems for tools and equipment involved in wet removal operations shall be equipped with ground fault circuit interrupters.
5. A decontamination facility shall be located as close as practicable to the work area and shall consist of:
6. a room suitable for changing into protective clothing and for storing contaminated protective clothing and equipment;
7. a shower room as described in paragraph 7 of subsection (4), and
8. a room suitable for changing into street clothes and for storing clean clothing and equipment.
9. The rooms described in subparagraphs 5, 5 a), b), and c) shall be arranged in sequence and constructed so that any person entering or leaving the work area must pass through each room.
10. When leaving the work area, a worker shall enter the decontamination facility and shall, in the following order:
11. decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing;
12. if the protective clothing will not be reused, place it in a container as described in paragraph 5 of section 15;
13. shower, and
14. remove and clean the respirator.

(4) In the case of paragraph 1, 2, 3, 4 or 6 of a high risk operation that is carried on indoors, the following measures and procedures also apply:

1. Friable asbestos-containing material that is crumbled, pulverized or powdered and that is lying on any surface in the work area shall be cleaned up and removed using a vacuum equipped with a HEPA filter or by damp wiping and everything shall be removed from the work area or covered with polyethylene sheeting or other suitable material that is impervious to asbestos.
2. The spread of dust from the work area shall be prevented by an enclosure of polyethylene or other suitable material that is impervious to asbestos, if the work area is not enclosed by walls, and by a decontamination facility consisting of a series of interconnecting rooms including:
	1. a room suitable for changing into protective clothing and for storing contaminated protective clothing and equipment;
	2. a shower room as described in paragraph 7;
	3. a room suitable for changing into street clothes and for storing clean clothing and equipment; and
	4. curtains of polyethylene sheeting or other suitable material that is impervious to asbestos, fitted to each side of the entrance or exit to each room.
3. The rooms described in subparagraphs 2 a), b), and c) shall be arranged in sequence and constructed so that any person entering or leaving the work area must pass through each room.
4. The mechanical ventilation system serving the work area shall be disabled and all openings or voids, including ventilation ducts to or from the work area, shall be sealed by tape or other appropriate means.
5. Unless the operation is carried on inside a building that is to be demolished and will not be entered by any person except the workers involved in the operation and the workers involved in the demolition, the spread of dust from the work area shall also be prevented by:
6. creating and maintaining within the enclosed area, by installing a ventilation system equipped with a HEPA filtered exhaust unit, a negative air pressure of 0.02 inches of water, relative to the area outside the enclosed area;
7. ensuring that replacement air is taken from outside the enclosed area and is free from contamination with any hazardous dust, vapour, smoke, fume, mist or gas; and
8. using a device, at regular intervals, to measure the difference in air pressure between the enclosed area and the area outside it.
9. The ventilation system referred to in subparagraph 5 a) shall be inspected and maintained by a competent worker before each use to ensure that there is no air leakage, and if the filter is found to be damaged or defective, it shall be replaced before the ventilation system is used.
10. The shower room in the decontamination facility shall:
11. be provided with hot and cold water or water of a constant temperature that is not less than 40° Celsius or more than 50° Celsius;
12. have individual controls inside the room to regulate water flow and, if there is hot and cold water, individual controls inside the room to regulate temperature;
13. be capable of providing adequate supplies of hot water to maintain a water temperature of at least 40° Celsius; and
14. be provided with clean towels.
15. When leaving the work area, a worker shall enter the decontamination facility and shall, in the following order:
16. decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing;
17. if the protective clothing will not be reused, place it in a container as described in paragraph 5 of section 15;
18. shower; and
19. remove and clean the respirator.
20. If practicable, existing electrical power distribution systems that are not water-tight shall be de-energized and locked out where wet removal operations are to be carried out.
21. Temporary electrical power distribution systems for tools and equipment involved in wet removal operations shall be equipped with ground fault circuit interrupters.
22. Friable asbestos-containing material shall be thoroughly wetted before and during removal, unless wetting would create a hazard or cause damage.
23. The work area shall be inspected by a competent worker for defects in the enclosure, barriers and decontamination facility:
24. at the beginning of each shift;
25. at the end of a shift if there is no shift that begins immediately after the first named shift; and
26. at least once each day on days when there are no shifts.
27. Defects observed during an inspection under paragraph 12 shall be repaired immediately and no other work shall be carried out in the work area until the repair work is completed.
28. If practicable, dust and waste shall be kept wet.
29. On completion of the work:
30. negative air pressure shall be maintained if required by subparagraph
5 a);
31. the inner surface of the enclosure and the work area inside the enclosure shall be cleaned by a thorough washing or by vacuuming with a vacuum equipped with a HEPA filter;
32. equipment, tools and other items used in the work shall be cleaned with a damp cloth or by vacuuming with a vacuum equipped with a HEPA filter or they shall be placed in a container as described in paragraph 5 of section 15 before being removed from the enclosure; and
33. a visual inspection shall be conducted by a competent worker to ensure that the enclosure and the work area inside the enclosure are free from visible dust, debris residue that may contain asbestos.
34. Once the work area inside the enclosure is dry after the steps set out in subparagraphs 15 b), c), and d) have been completed, clearance air testing shall be conducted by a competent worker in accordance with subsection (5), unless the operation is carried on inside a building that is to be demolished and will not be entered by any person except the workers involved in the operation and the workers involved in the demolition.
35. The barriers, enclosure and decontamination facility shall not be removed or dismantled until:
36. cleaning has been done as described in paragraph 15, and
37. if clearance air testing is required, it has been completed and the work area inside the enclosure has passed the clearance air test.

The following rules apply to clearance air testing:

1. sample collection and analysis shall be done,
2. using the phase contrast microscopy method, in accordance with subsection (6),or
3. using the transmission electron microscopy method, in accordance with subsection (7).
4. If the work area inside the enclosure fails the clearance air test, the steps set out in subparagraphs 15 b), c) and d) of subsection (4) shall be repeated and the work area shall be allowed to dry before a further test is carried out, unless paragraph 6 of subsection (6) applies.

(5) Clearance air testing using the phase contrast microscopy method shall be carried out in accordance with U.S. National Institute of Occupational Safety and Health Manual of Analytical Methods, Method 7400, Issue 2: Asbestos and other Fibres by PCM (August 15, 1994), using the asbestos fibre counting rules, and shall comply with the following requirements:

1. Testing shall be based on samples taken inside the enclosure.
2. Forced air shall be used, both before and during the sampling process, to ensure that fibres are dislodged from all surfaces inside the enclosure before sampling begins and are kept airborne throughout the sampling process.
3. At least 2,400 litres of air shall be drawn through each sample filter, even though the standard mentioned above provides for a different amount.
4. The number of air samples to be collected shall be in accordance with Table 3.
5. The work area inside the enclosure passes the clearance air test only if every air sample collected has a concentration of fibres that does not exceed 0.01 fibres per cubic centimetres of air.
6. If the work area inside the enclosure fails a first test that is done using the phase contrast microscopy method, the samples may be subjected to a second analysis using transmission electron microscopy in accordance with the standard mentioned in subsection (7).
7. When a second analysis is done as described in paragraph 6, the work area inside the enclosure passes the clearance air test only if every air sample collected has a concentration of asbestos fibres that does not exceed 0.01 fibres per cubic centimetre of air.

(6) Clearance air testing using the transmission electron microscopy method shall be carried out in accordance with U.S. National Institute of Occupational Safety and Health Manual of Analytical Methods, Method 7402, Issue 2: Asbestos by TEM (August 15, 1994), and shall comply with the following requirements:

1. Testing shall be based on samples taken inside the enclosure and samples taken outside the enclosure but inside the building.
2. Forced air shall be used inside the enclosure, both before and during the sampling process, to ensure that fibres are dislodged from all surfaces before sampling begins and are kept airborne throughout the sampling process.
3. At least 2,400 litres of air shall be drawn through each sample filter, even though the standard mentioned above provides for a different amount.
4. At least five air samples shall be taken inside each enclosure and at least five air samples shall be taken outside the enclosure but inside the building.
5. Sampling inside and outside the enclosure shall be conducted concurrently.
6. The work area inside the enclosure passes the clearance air test if the average concentration of asbestos fibres in the samples collected inside the enclosure is statistically less than the average concentration of asbestos fibres in the samples collected outside the enclosure, or if there is no statistical difference between the two average concentrations.

(7) Within 24 hours after the clearance air testing results are received:

* 1. the owner and the employer shall post a copy of the results in a conspicuous place or places;
1. at the workplace, and
2. if the building contains other workplaces, in a common area of the building; and
	1. a copy shall be provided to the joint health and safety committee or the health and safety representative, if any, for the workplace and for the building.

(8) The owner of the building shall keep a copy of the clearance air testing results for at least one year after receiving them.

# 7.0 Instruction and Training

(1) The employer shall ensure that instruction and training in the following subjects are provided by a competent person to every worker working in High, Moderate and Low processes:

1. The hazards of asbestos exposure.
2. Personal hygiene and work practices.
3. The use, cleaning and disposal of respirators and protective clothing.

(2) The joint health and safety committee or the health and safety representative, if any, for the workplace shall be advised of the time and place where the instruction and training prescribed by subsection (1) are to be carried out.

(3) Without restricting the generality of paragraph 3 of subsection (1), the instruction and training related to respirators shall include instruction and training related to:

1. the limitations of the equipment;
2. inspection and maintenance of the equipment;
3. proper fitting of a respirator; and
4. respirator cleaning and disinfection.

### APPENDIX 1 - REGULATIONS AND GUIDELINES

1. *The Saskatchewan Occupational Health and Safety Regulations*, Regulations 2-1 and 23-1 to 23-16, and Table 5 of *The Saskatchewan Occupational Health and Safety Act and Regulations*, Appendix 5 (see Notification of High Risk Asbestos Process in Appendix 6 of this plan for Table 5).
2. *Transportation of Dangerous Goods Act and Regulations*, Schedule II, List II.

**Requirements:**

1. All handling, renovations, maintenance activities, construction, demolition, and other projects in areas containing ACM, must be performed in accordance with relevant school division work procedures and this asbestos control plan. In situations where these written procedures do not address specific circumstances, appropriate measures must be taken to control the release of asbestos fibres to protect all building occupants. The school division’s Health and Safety department are to be consulted when such matters arise, and will inform the Ministry of Advanced Education and Labour.
2. School division employees shall not attempt to handle or work in close proximity to ACM without first obtaining the Asbestos Awareness Training, in accordance with *The Occupational Health and Safety Act*, Regulation 23-14, and Regulation 3-8. Without proof of training, individuals will not be permitted to work on or in close proximity to ACM. Training may be provided by a competent recognized agency.
3. Access to all ceiling spaces must be performed in compliance with the requirements outlined in the, if applicable (specific policy).
4. All school division generated ACM waste must be double-packaged in approved asbestos bags, and transported to the designated waste-holding facilities on the school division premises at the completion of work. When required, this asbestos waste must be transported to an approved landfill site and must be transported to such site in compliance with Saskatchewan Regulation 23-12 and the *Transportation of Dangerous Goods Act and Regulations.*

### **APPENDIX 2** – GLOVE-BAG ASBESTOS PIPE INSULATION REMOVAL PROCEDURE

ANTEROOM PROCEDURE

Anteroom consists of porch, custom plastic containment unit and HEPA filter unit with alarms and monitoring gauge, stored in (Division Specific)

Engineering or maintenance staff or contractors shall follow the following preventative measures:

1. Disable the ventilation system and seal duct openings in the construction area until the project is completed.
2. Maintain negative pressure within the construction area by using portable HEPA filter-equipped air filtration units that include pressure gauges and an alarm (anteroom filter unit). Filters shall be monitored and replaced if clogged or functioning below the manufacturer's specifications.
3. Ensure that the air is exhausted directly outside and away from intake vents, or filtered through a HEPA filter before being recirculated.
4. Ensure that the ventilation system is functioning properly and is cleaned if contaminated by soil or dust after the construction project is complete.

GENERAL SURFACE CLEANING PROCEDURES FOR SMALL ASBESTOS PATCHES

\*\*\*Note: Seal off affected area, seal doors with duct tape, block off ventilation ductwork with cardboard covers and duct tape.

\*\*\* If area is to be closed, install a hasp and lock to prevent entrance into room.

The following procedure is to be followed when removing asbestos insulation from pipes.

Material Required:

* HEPA vacuum
* Drop sheet
* Glove bag
* Duct tape
* Wetting nozzle
* Tools
* Post Removal Encapsulant
* Asbestos Material Disposal Bag
* Category 3 Half Mast Respirator equipped with HEPA cartridges
* Disposable coveralls/Tyvek suit

Procedure:

1. Isolate the work area to a distance of 5 meters from the asbestos process activity and signage to prevent entrance to the work zone and to warn others of the possible asbestos exposure.
2. HEPA vacuum area and materials previously released by damaged material.
3. Lay a drop sheet in the immediate work area of the glove-bag removal.
4. Place required tools in glove bag and position the glove bag on the pipe. Seal all ends of glove-bag with duct tape.
5. Place wetting nozzle and HEPA vacuum nozzle into the bag through the custom ports and secure with duct tape.
6. Cut the insulation covering and mist the asbestos material using water amended with a wetting agent.
7. Clean visible debris off pipe.
8. Wet pipe and top section of bag.
9. Twist closed bottom section of bag and apply Post Removal Encapsulant to upper portion of bag and pipe. Start the HEPA vacuum and vent the bag.
10. Place tools in sleeve, double tape allowing space to cut off tool sleeve.
11. Remove glove-bag and place in a 6 mil double-bagged Asbestos Material Disposal
12. Bag and seal tightly.

### APPENDIX 3 - ASBESTOS HEALTH HAZARDS

**Asbestos Health Hazards**

Asbestos is a generic term referring to various fibrous mineral silicates, including chrysotile (hydrated magnesium silicate), amosite (iron-magnesium silicate), crocidolite (sodium-iron silicate), tremolite (calcium-magnesium silicate), anthophyllite (another iron-magnesium silicate), and actinolite (calcium-magnesium-iron silicate).

The potential health hazards associated with exposure to asbestos result from inhalation of airborne fibres; small asbestos fibres can pass readily through the upper respiratory tract and be deposited in the terminal bronchioles of the lung. There the fibres can produce a local irritation which the body attempts to overcome by initiating a tissue response resulting in the encapsulation of the fibres and consequent formation of "asbestos bodies." Asbestos fibres are the causative agents in cases of asbestosis, a progressive disease characterized by diffuse interstitial fibrosis and, at times, pleural changes of fibrosis and calcification. The disease is often evident by such clinical signs as rales and dyspnea. In its severe form, asbestosis can contribute to, and result in, death due to the inability of the body to obtain oxygen or the heart to pump blood through the scarred lungs.

Exposure to airborne asbestos fibres has also been associated with bronchogenic carcinoma (a malignancy of the interior of the lung), mesothelioma (a diffuse malignancy of the lining of the chest cavity or abdomen), and cancer of the stomach, colon and rectum. Cigarette smoking can enhance the incidence of bronchogenic carcinoma from this substance.

*The Saskatchewan Occupational Health and Safety Regulations, 2020*

**Section 23-13 An employer shall ensure that workers who are likely to be employed in**

**an asbestos process or are likely to be exposed to asbestos dust are informed of the**

**nature and extent of the risk to their health, including a warning that:**

**(a) the inhalation of asbestos may cause:**

**(i) pneumoconiosis;**

**(ii) lung cancer; or**

**(iii) mesothelioma; and**

**(b) the risk of injury to health caused by the inhalation of asbestos is increased**

**by smoking.**

Asbestos Awareness Presentation (separate document) to be provided to all workers employed in facilities with identified or suspected asbestos.

### APPENDIX 4 - ASBESTOS TRAINING PROGRAM

**ASBESTOS TRAINING PROGRAM TRAINING SEMINAR**

This training seminar will be offered to every worker employed by the school division who is likely to work in close proximity to and may disturb Asbestos Containing Material (ACM).

a) The hazards of asbestos exposure

b) The use, care and disposal of personal protective equipment (PPE)

c) Proper work practices and procedures

d) The types of asbestos operations to be performed by these workers

e) The work practices, procedures and PPE needed for each type as specified by the regulation

f) Standard operating procedures for each operation involving potential exposure to friable asbestos.

In addition, the following two items will also be presented:

1) The proper handling/use of HEPA vacuums

2) The action to take upon the discovery of suspicious material

### APPENDIX 5 - ASBESTOS PROJECT INFORMATION HANDOUT

The school division ensures that all asbestos removal procedures are performed in such a way as to prevent the spread of asbestos dust/debris and in accordance with governmental procedures and regulations.

Advanced notice will be provided by the project coordinator/supervisor to affected occupants. The notice shall include information on the anticipated duration of the project, type of work, and name of the group performing the work. All personnel working with or in proximity to friable asbestos projects will be informed of the known and/or potential hazards associated with the exposure to asbestos.

Maintenance or contracted personnel doing work on or near ACM, will adopt those controls that are appropriate to the type of work being done and as listed below:

1. Post the area with asbestos hazard signs.
2. Where classification of work requires it, disable the ventilation system serving the work area, and seal the ventilation ducts to and from the work area.
3. Install polyethylene enclosure (or utilize a portable enclosure) around the affected area to prevent the spread of ACM.
4. Wear personal protective equipment as prescribed to protect against the exposure to asbestos.
5. Maintain proper controls in the work area to prevent the release of ACM outside of the work area.
6. During, and immediately upon completion of the work, vacuum all exposed surfaces with asbestos vacuums and double-bag the waste with 6-mil polyethylene bags.

Since the enclosure of the work area is designed to prevent the spread of asbestos fibres, personnel working outside the enclosed area may continue to work in a normal manner. However, they should note that:

1. Access to the enclosed area is restricted to trained persons only wearing protective clothing and equipment.
2. Evidence of dust/debris created by the work and /or lack of enclosure should be reported to the Supervisor in charge of the project (Division specific). Contact numbers to be posted on signage at work site**.**

### APPENDIX 6 - NOTIFICATION OF HIGH RISK ASBESTOS PROCESS

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