FINAL
Asbestos Management Program
Abbotsford, BC

Prepared for:

School District No. 34
(Abbotsford)
2790 Tims Street
Abbotsford, BC V2T 4M7

Attention: Bob Mainman
Assistant Director, Facilities and Transportation

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## GLOSSARY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Amended Water</td>
<td>Water with wetting agent added for purpose of reducing surface tension to allow thorough wetting of ACM.</td>
</tr>
<tr>
<td>Asbestos-Containing Material(s) (ACM)</td>
<td>A material that contains 0.5% or any amount in vermiculite, as measured by U.S. Environmental Protection Agency Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, June, 1993.</td>
</tr>
<tr>
<td>Asbestos</td>
<td>Any of the following fibrous silicates: Actinolite; Amosite; Anthophyllite; Chrysotile; Crocidolite; Tremolite.</td>
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<tr>
<td>Asbestos Work Area</td>
<td>Area where work is being performed which will or may disturb ACM including overspray and fallen material or settled dust that may contain asbestos.</td>
</tr>
<tr>
<td>Competent Worker</td>
<td>In relation to specific work, means a worker who, is qualified because of knowledge, training and experience to perform the work is familiar with the Act and with the provisions of the regulations that apply to the work, and has knowledge of all potential or actual danger to health or safety in the work.</td>
</tr>
<tr>
<td>Encapsulation</td>
<td>The application of a liquid sealant to asbestos-containing materials; the sealant may penetrate and harden the material (penetrants) or cover the surface with a protective coating (bridging sealants). Also called encasement. This is generally not advisable.</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Enclosure of ACM means the construction of solid enclosure (walls, ceiling, bulkhead etc.) around ACM, or An Enclosure means the site isolation including hoarding walls, polyethylene sheeting and seals that isolates an Asbestos Work Area.</td>
</tr>
<tr>
<td>Friable Material</td>
<td>Material that: when dry, can be crumbled, pulverized or powdered by hand pressure or is crumbled, pulverized or powdered.</td>
</tr>
<tr>
<td>Glove Bag Removal</td>
<td>A method of removing friable insulation from a piping system using a prefabricated bag which isolates the section of insulation being removed. This is a Moderate Risk Procedure.</td>
</tr>
<tr>
<td>HEPA Filter</td>
<td>High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.</td>
</tr>
<tr>
<td>HEPA Filtered Negative Pressure Unit:</td>
<td>Portable air handling unit which extracts air directly from the Asbestos Work Area and discharges the air to the exterior of the building after passing through a HEPA filter.</td>
</tr>
<tr>
<td>OHSC</td>
<td>Organizational Health and Safety Committee.</td>
</tr>
<tr>
<td>Low Risk, Moderate and</td>
<td>Procedures defined under provincial regulations. The specific</td>
</tr>
<tr>
<td>High Risk Procedures</td>
<td>operations and their classification into these procedures are described under the Classification of Work Section.</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Phase Contrast Microscopy (PCM)</td>
<td>A method which uses an optical microscope to determine airborne fibres, normally in an occupational setting. Particles are observed for shape and size. Results are presented as a number of fibres per cubic centimetre or millilitre of air (f/mL). The method of analysis in Ontario is based on the US National Institute for Occupational Safety and Health (NIOSH) Manual of Analytical Methods, Method 7400, issue 2, Asbestos and Other Fibres by PCM (August 15, 1994).</td>
</tr>
<tr>
<td>US EPA</td>
<td>United States Environmental Protection Agency.</td>
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</table>
1.0 PURPOSE AND SCOPE

The Asbestos Management Program (AMP) provides information and procedures for Asbestos Management in School District No. 34 (Abbotsford). It applies to all categories of property with the exception of vacant lands. The AMP applies to all School District No. 34 (Abbotsford) (SD34) staff as well as all service providers and contractors performing work in School District No. 34 (Abbotsford) facilities, as well as students, parents, volunteers and other members of the public.

The AMP outlines the responsibilities of SD34 staff in their roles as the Owner of buildings containing Asbestos-Containing Material (ACM).

The AMP is a management system to control disturbance of asbestos-containing materials during demolition, renovation, alteration, maintenance, repair or other activities.

The AMP incorporates the following elements:

- Asbestos Assessments and Reassessments. Summaries are located in the office of each school that has an assessment completed.
- Regulatory Requirements and SD34 Policies.
- Roles and Responsibilities.
- Notifications.
- Training Requirements.
- Emergency Response and Procedures.
- Work Practices (Low Risk, Moderate Risk and Glove Bag work).
- Record Keeping.
- Contractor Requirements.

2.0 REGULATORY REQUIREMENTS AND SD34 POLICIES

2.1 Regulatory Requirements

The SD34 AMP was implemented in response to the following legislation in effect as of March 31, 2015.

- Occupational Health and Safety Regulation (B.C. Reg. 296/97), under WorkSafe BC.
- Safe Work Practices for Handling Asbestos, WorkSafe BC.
2.2 SD34 Policies Related to Asbestos

SD34 has established certain policies that exceed the minimum requirements of provincial regulations as follows:

- No SD34 staff shall undertake any asbestos abatement.
- All SD 34 staff must receive Asbestos Awareness information to ensure they are apprised that an Asbestos Management Program is in place and are informed of the key steps to take to prevent exposure or respond to an emergency and where to find regarding the Asbestos Management Program.
- Staff including Facilities Maintenance and Custodial staff must receive asbestos awareness training to ensure understanding of their roles and responsibilities within the Asbestos Management Program including exposure prevention measures and how to respond to an emergency and where to find regarding the Asbestos Management Program.
- When remedial action is undertaken on friable sprayed ACM, SD34 will generally opt for removal of the ACM. Encapsulation or encasement will not be undertaken unless removal is not practicable in specific locations.
- When remedial action is undertaken on friable mechanical insulation both removal and repair (re-jacketing or encapsulation of mechanical insulation) will be considered depending on the extent of work required.
- All asbestos work activities shall be undertaken by a qualified Asbestos Abatement Contractor in accordance with OHS Regulation 6.1.1.

3.0 BACKGROUND INFORMATION AND HEALTH EFFECTS

Refer to Appendix A for Background Information on Asbestos in Building Materials and Health Hazards.

4.0 SUMMARY OF ASBESTOS AT SCHOOL DISTRICT NO. 34 (ABBOTSFORD)

Surveys prepared for this school district by Pinchin West Ltd. Include Asbestos and Lead Paint Building Materials Assessment Report for the following locations:

- Abbotsford School of Integrated Arts (ASIA) North Poplar Campus;
- Abbotsford Traditional Secondary;
- Abbotsford Virtual School;
- Aboriginal Centre;
- Alexander Elementary;
- Bakerview Centre for Learning;
- Barrowtown Elementary;
- Blue Jay Elementary;
- Bradner Elementary;
- Centennial Park Elementary;
- Chief Dan George Middle School;
- Clearbrook Elementary;
- Dormick Park Elementary;
- Dr. Thomas A. Swift Elementary;
- Facilities and Transportation Building;
- Godson Elementary;
- Information Technology Centre;
- Jackson Elementary;
- John Maclure Elementary;
- King Traditional Elementary;
- Margaret Stenersen Elementary;
- McMillan Elementary;
- Mount Lehman Elementary;
- Prince Charles Elementary;
- Ross Elementary;
- School Board Office;
- South Poplar Traditional Elementary;
- STaRT Technology/CORE;
- Ten Broeck Elementary;
- Terry Fox Elementary;
- Upper Sumas Elementary;
- WJ Mouat Secondary;
- William A. Fraser Middle School; and
- Yale Secondary.
The following is a brief summary of the asbestos-containing materials present in these facilities:

- Acoustic Ceiling Tiles,
- Drywall Taping Compound,
- Firestopping,
- Mastic,
- Mechanical Insulation (vessels, boilers),
- Pipe insulation (hot water heating, domestic hot water),
- Texture Finish,
- Transite Pipe,
- Vinyl Floor Tile,
- Vinyl Sheet Flooring.

Please refer to the Asbestos and Lead Building Materials Assessment Reports referenced above for a complete description.

5.0 **ROLES AND RESPONSIBILITIES**

The following SD34 personnel have responsibilities for establishing and maintaining the AMP.

5.1 **Facility Manager**

The Facility Managers (Director of Facilities, and Assistant Director, Facilities & Transportation) shall:

1. Ensure that an asbestos assessment has been performed for all facilities constructed or occupied prior to 1986. Where such a survey has not been performed in pre-1986 facilities, arrange for a room-by-room survey of the facility.

2. Ensure the asbestos assessment report is available on line, and the summary report is available on site at each school listed in section 4.0.

3. Notify staff and outside contractors or service providers who may work with or may disturb the material in the record of its presence and location (issue Contractor Notification Letter as appropriate – Appendix J).

4. Arrange for the reassessment of asbestos-containing materials at regular intervals and ensure the asbestos assessment report is updated at least annually, or when new information is obtained as ACM is removed or its condition changes.

5. Arrange for the remediation of deteriorated ACM reported in the asbestos assessment report or in reassessment reports using the appropriate procedures (Low Risk, Moderate Risk or High Risk procedures).
6. Ensure all Project Managers, Architects, Engineers and others arranging for or planning work in the schools are provided with necessary information on ACM and a copy of the Asbestos Survey or record. Ensure that an intrusive pre-construction assessment for friable and non-friable ACM is performed prior to any renovation, alteration or demolition. Ensure this information is provided to Constructor in plans, drawings or specifications. Such assessments shall include destructive investigation where necessary.

7. Ensure that building occupants are informed in advance of projects which will require Moderate Risk or High Risk Procedures.

8. Arrange for awareness training for SD34 Facilities Maintenance and Custodial staff as required to respond to concerns over the presence of asbestos or planned asbestos work when required. (refer to Training Section).

9. Ensure all SD34 staff that may report an emergency are aware of emergency procedures (Appendix C) including contact names and numbers.

10. Ensure that procedures are in place in the Facility to respond to emergencies involving asbestos by using an Asbestos Abatement Contractor.

11. Maintain all documentation required by this program, including but not limited to: Asbestos Management Program, Asbestos Assessment Reports and Reassessments, Contractor Notification Forms, Asbestos Project Work Records, Training Certificates.

12. Upon unexpected discovery of suspect ACM, or upon an uncontrolled asbestos spill or disturbance, follow the emergency procedures of Appendix C.

13. Arrange for the inspection and air monitoring of asbestos work in the schools when contracted by Facility Manager.

14. At the completion of the work, to allow updating of the asbestos assessment report to reflect altered location and condition of ACM, complete the Asbestos Project Work Record in Appendix I for each project during which asbestos is removed that is managed by the Facility Manager.

15. Inform the Manager, Organizational Health and Safety of any sampling or testing as they have a right to be present during testing if desired.
5.2 **Project Manager**

Project Managers (may also include Building Maintenance Managers) who plan, arrange for or oversee work in the schools and facilities shall:

1. Ensure that an intrusive pre-construction assessment for friable and non-friable ACM is performed prior to any renovation, alteration or demolition. Ensure this information is provided to Constructor in plans, drawings or specifications. Such assessments shall include destructive investigation where necessary.

2. Based on the results of the pre-construction assessment report, provide or arrange for the provision of appropriate specifications (Low Risk, 2 or 3 operations) to Contractor to remove ACM from the work area.

3. Ensure all asbestos work in the facility is performed by Consultants and Asbestos Abatement Contractors who specialize in asbestos work and who have appropriate experience, equipment and insurance. See below.

4. Arrange for the inspection and air monitoring of asbestos work in the facility when contracted by Project Manager.

5. Notify the Facility Manager of work requiring Moderate Risk or High Risk precautions sufficiently in advance of work to allow occupant notification.

6. Ensure all necessary notification of the provincial regulator for Low, Moderate or High Risk Projects have been performed by the contractor prior to start of work and that all necessary forms are posted on site.

7. At the completion of the work provide information to Facility Manager to allow updating of the asbestos assessment report to reflect altered location and condition of ACM. Complete Asbestos Project Work Record in Appendix I for each project during which asbestos is removed or disturbed and submit to Facility Manager.

5.3 **Facility Occupants**

All persons in the Schools and Facilities who may arrange for maintenance or alteration of the Facilities are to be made aware of the presence of ACM and shall:

1. Ensure all personnel who may work near the location of ACM are aware of its presence and follow the procedures outlined in this AMP.

2. Avoid unnecessary contact with or disturbance of ACM.

3. Report any disturbance, damage or deterioration of ACM to the Facility Managers.
6.0 ASBESTOS ASSESSMENT AND REASSESSMENT POLICIES

6.1 Asbestos Assessments for Management Purposes (B.C. Reg 296/97, WorkSafe BC)

A description of ACM in these schools and facilities is included in Section 4 and in the 2014 Asbestos and Lead Paint Building Materials Reports are available on the Client’s online database, and the Summary Reports that are available in the School and Facility Offices listed in Section 4.0.

The re-assessment surveys shall be conducted on a room by room basis and shall indicate the location, condition, friability, accessibility and type of asbestos present in the Schools and Facilities as outlined below.

As the survey will be typically performed for maintenance purposes it will not usually include destructive sampling that may destroy the material or damage the building. Typical materials that will not be part of the assessment include:

- Owner or occupant articles (e.g. stored items, furniture, appliances, etc.);
- Underground materials or equipment (e.g. vessels, drums, underground storage tanks, pipes, etc.);
- Building envelope, structural components, inaccessible or concealed materials or other items where sampling may cause consequential damage to the property.
- Energized systems (e.g. internal boiler components, elevators, mechanical or electrical components);
- Controlled products (e.g. stored chemicals, operational or process-related substances); and
- Materials not typically associated with construction (e.g. settled dust, spills, residual contamination from prior spills, etc.).

The survey must include the information gathered on a room-by-room basis together with recommendations for asbestos management, control or removal for each material detected in each location. The location of materials suspected to contain asbestos but shown by analysis to be non-asbestos shall be reported. The original laboratory report of all analyses shall be provided as part of the report. Samples are to be collected at a rate that is in compliance with the requirements of provincial regulations, which states a minimum number of samples are to be collected and analyzed from each area of homogeneous material for the material to be considered non-asbestos. This frequency is indicated in the table below. A homogeneous sampling area is defined by the US EPA as containing material that is uniform in texture and appearance, was installed at one time and is unlikely to consist of more than one type or formulation of material.
6.2 Bulk Sample Collection Procedures

Bulk samples collected during the initial survey and all samples collected for future testing shall be collected following the procedures provided in Appendix B. Samples can be collected by an Asbestos Consultant, under the direction of the Facility Manager.

6.3 Bulk Analysis

Bulk samples will be analysed for asbestos in accordance with EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, July 1993. All analyses shall be performed by laboratories accredited in the US National Voluntary Laboratory Accreditation Program (NVLAP) or the American Industrial Hygiene Association (AIHA) asbestos in bulk sample programs.

6.4 Reassessment of ACM and Update of Survey Record

The Facility Manager will arrange for a regular reassessment of all accessible areas identified by the survey to contain ACM. The reassessment will be performed at least annually if ACM is present. If a specific area is subject to any change of use, frequent maintenance which may disturb the material, or if any report of damaged or deteriorated ACM is brought to the attention of the Facility Manager, the reassessment of materials in the specific area shall be performed on a more frequent basis. Reassessment shall always be performed of specific materials when damage or deterioration is reported. The OHSC shall be notified of the reassessment and be invited to attend.

The reassessment of ACM will be documented in writing using the forms provided in Appendix H. The survey record should be updated based on these forms.

6.5 Distribution of Assessment Record and Reassessment

The Facility Manager is responsible to maintain a copy of records, assessment reports and Reassessment reports available and accessible. In addition, the Facility Manager will ensure the following are provided with access (not additional copies) to these reports:

- Manager, Organizational Health and Safety
- Contractors planning or performing work in a SD34

6.6 Pre-Construction Asbestos Survey

Prior to the commencement of any renovation, construction or demolition project (including buildings built up to 1995), the building or specific areas of the building which are to be affected by the work, shall be assessed for friable and non-friable ACM. The survey must be performed by a specialized asbestos consultant and include destructive or intrusive testing of enclosed areas which will be affected by the work.
Upon completion of the pre-construction survey, if asbestos is present in the area, specifications for removal shall be prepared and provided to the Constructor in the work specifications.

7.0 NOTIFICATION

7.1 Notification of Contractors

All contractors and SD34 employees who perform work at facilities where ACM is present should be notified of the presence of the ACM if their work may bring them into contact or close proximity to the ACM and they may disturb it. This notification may include custodial, security, telephone, computer cabling suppliers, mechanical maintenance contractors, etc. This notification shall be performed by the Facility Manager or Project Manager.

7.2 Notification of Maintenance Personnel

Upon completion of the asbestos assessment, the Facility Manager will inform Maintenance Personnel of the presence of asbestos within the building and ensure they have access to the asbestos assessment report.

7.3 Notification of Asbestos Abatement

Contractors are to:

- Notify in writing, an inspector at the office of the Provincial Ministry of Labour (WorkSafe BC) nearest the project site (Notice of Project)
- Notify Sanitary Landfill.
- Inform all sub trades of the presence of ACM identified in the contract documents.
- Notify the Project Manager if suspect ACM not identified in the contract documents are discovered during the course of the work.

The Project Manager is to notify the OHSC of any testing or sampling that is proceeding.

_The Project manager is to notify the Facility Manager, which in turn, is to notify employees of any abatement work within their space or that will impact their operations. This is a procedural requirement, not a regulated requirement._
8.0 TRAINING REQUIREMENTS

SD34 employees will not undertake asbestos work. Therefore training shall be limited to the following:

- Maintenance personnel and supervisors shall receive training in asbestos including identification of ACM, uses and hazards of asbestos, and regulations applying to asbestos work.
- Facility and Project Managers shall receive training in asbestos management and the AMP of sufficient content to allow them to implement the policies outlined in the AMP.

SD34 requires all service providers, contractors, etc. to provide appropriate training to all workers who perform any asbestos work in SD34 Facilities.

9.0 EMERGENCY PROCEDURES AND CONTACTS

9.1 Fallen Debris or Damaged Material

SD34 staff may encounter fallen material suspected to contain asbestos. This may occur in locations where asbestos has been documented or in areas not included in the Assessment due to limited accessibility, etc.

Facility Management shall follow the protocol “Emergency Response” in the Event of a Suspected Asbestos Spill” (Appendix C).

In the event that Emergency Work must be undertaken, the procedures outlined in Appendix D – Work Practices for Emergency Work (all emergency clean-up work shall be completed by a competent abatement contractor). All emergency situations shall be reported to the Facility Manager as soon as possible.

Emergency Contacts:

- Director of Facilities 604.852.9494 ex. 2320
- Assistant Director, Facilities and Transportation 604.852.9494 ex. 2346

Pinchin West Limited:

- Main Office 604.244.8101

Abatement Contractor:

Quantum Murray Office 604.270.7388
Quantum 24/7 Emergency Response 877.378.7745

Abatement Contractor:
- Enviro-Vac 604.513.1324

Clearview Grinding
- Main Office Line 604.574.3036 x. 308
- Emergency Response 604.866.3359

9.2 Disturbance of Previously Unidentified Friable Material

Previously unidentified friable materials may also be uncovered during demolition of finishes, walls etc. during construction. The Project Manager shall follow the protocol “Emergency Response in the Event of a Suspected Asbestos Spill” (Appendix C).

If the material contains asbestos, the Project Manager is to notify WorkSafe BC of the discovery. This is a regulated requirement.

10.0 ASBESTOS WORK PRACTICES

The following sections briefly describe the standard operating procedures adopted for asbestos-related work. These meet or exceed the requirements of provincial regulatory requirements.

These procedures are provided as a minimum standard for all asbestos work in SD34 Facilities. No scheduled (non-emergency) asbestos work, including low-risk, moderate-risk or high-risk work will be undertaken by SD34 employees.

10.1 Classification of Scheduled Work

The provincial regulation classifies asbestos work into Low, Moderate and High risk procedures, depending on the type of disturbance, the material being disturbed, and the extent of work.

10.1.1 Low Risk Work

Low-risk work activities are those that involve working with or in proximity to asbestos-containing material if the material is not being:
a. Cut, sanded, drilled, broken, ground down, or otherwise fragmented

b. Disturbed, such that asbestos fibres may be released

Activities that carry a low risk of exposure to airborne asbestos fibres include:

- Disturbing materials that contain less than 0.5% asbestos, provided that dust controls are in place;
- Repairs to drywall that has asbestos-containing drywall filler, as long as the filler is not disturbed, such as adding new filler to the top of painted drywall and sanding the filler, provided there is no contact with the asbestos-containing mud beneath the paint;
- Installing a screw, nail or hanger on asbestos-containing drywall;
- Replacing a single asbestos-containing floor tile without breaking the tile;
- Moving asbestos-containing waste material that is contained within a double-bagged and sealed bag.

The procedures for Low Risk work are provided in Appendix E.

10.1.2 Moderate Risk Work

Moderate-risk work activities are those other than high-risk activities that involve working with or in proximity to asbestos-containing material that is being cut, sanded, drilled, broken, ground down, fragmented, or otherwise disturbed. It is necessary to use personal protective equipment (PPE) or engineering controls and specific procedures to prevent worker exposure to airborne asbestos fibres.

Activities that carry a moderate risk of exposure to airborne asbestos fibres include:

- Using hand tools to cut, shape, drill, grind, or remove non-friable manufactured products containing asbestos, such as asbestos cement pipe;
- Using power tools equipped with a HEPA-filtered local exhaust ventilation system to cut, shape, drill, grind or remove non-friable manufactured products containing asbestos. Air monitoring results should be available that demonstrate the effectiveness of the ventilation system;
- Backing mounting screws out of asbestos cement products and removing the boards or tiles intact;
- Buffing vinyl asbestos floor tiles with a coarse disc;
- Removing drywall materials where joint-filling materials containing asbestos have been used;
- Removing asbestos tape or paper on ductwork;
- Removing vinyl-asbestos floor tile or other non-friable materials;
- Demolishing a block wall that has residual asbestos debris in its cavity;
- Removing asbestos-containing asphalt roofing material;
- Dismantling a treated containment upon completion of an asbestos removal project;
- Setting up, using, and dismantling a prefabricated glove bag to remove asbestos insulation from piping systems;
- Using a HEPA vacuum to clean asbestos-containing debris from an area.

The procedures for Moderate Risk work are provided in Appendix F.

10.1.3 High Risk Work

High-risk work activities involve working with or in proximity to asbestos-containing material if a high level of control (such as an air-tight containment structure and powered purifying respirators or air-supplied respiration) is necessary to prevent worker exposure to airborne asbestos fibres.

Activities that carry a high risk of exposure to airborne asbestos fibres include:

- Removing, encapsulating, or enclosing materials containing friable asbestos during the repair, alteration, maintenance, demolition or dismantling of any part of a building, structure, machine, or piece of equipment;
- Cleaning, maintaining, or removing air-handling equipment in buildings where sprayed fireproofing materials containing asbestos have been applied to the airways or ventilation ducts or have been used as spray-on insulation;
- Removing asbestos-containing textured materials from ceilings or walls;
- Repairing, altering, or dismantling any part of a boiler, furnace, kiln, or similar device in which insulating materials containing asbestos have been used or applied;
- Using power tools (without water or dust controls) to cut or drill through asbestos-containing materials;
- Removing asbestos-containing vermiculite insulation;
- Removing any asbestos-containing materials in circumstances where there would be a significant release of fibres.
11.0 INSPECTION AND AIR MONITORING OF ASBESTOS WORK

11.1 Visual Inspection

The procedures provided in Appendices E, F, and G are suitable for the performance of most work on non-friable and friable ACM. The Facility or Project Manager, an assigned representative or an authorized consultant will be responsible for ensuring these procedures are followed. The primary method of ensuring compliance for Low Risk, Moderate Risk, and High Risk use is visual inspection of the site and work practices by a Competent Worker or Asbestos Consultant. The procedures outlined in the Appendices are to be enforced by those supervising the work.

11.2 Air Monitoring During Asbestos Work

Air monitoring and analysis during active asbestos removal will be performed using the NIOSH 7400 method using Phase Contrast Microscopy (PCM). PCM air samples may or may not be analyzed by the consultant performing the sample collection. PCM air samples must be submitted for analysis to a laboratory participating in a recognized quality control program such as the AIHA AAR.

The acceptable limit for samples collected outside the asbestos work area will be 0.05 fibres/mL (f/mL). This level has been established as 50% of the current Occupational Exposure Limit (OEL). In addition, the NIOSH REL (Recommended Exposure Limit), the US OSHA PEL (Permissible Exposure Limit) and the ACGIH TLV (Threshold Limit Values) for asbestos are 0.1 fibres/cc (or mL), including aspect ratio and length requirements.

Accurate determination of a lower concentration may be affected by the presence of low levels of non-asbestos fibrous dust in office or building environments.

11.3 Low Risk – Inspection and Air Monitoring

11.3.1 Inspection

The Facility or Project Manager or an assigned Competent Worker, will inspect Low Risk work upon completion of work to ensure all ACM has been removed and the area adequate cleaned of dust and debris.

11.3.2 Air Monitoring

Air monitoring is not required during or after Low Risk work.
11.4 Moderate Risk and Glove Bag – Inspection and Air Monitoring

11.4.1 Inspection
An outside Asbestos Consultant will inspect Moderate Risk and Glove Bag work. Upon completion of inspection and air monitoring by the Consultant, the Moderate Risk enclosure will be dismantled. The Facility or Project Manager or an assigned Competent Worker may inspect for final cleanliness after the enclosure has been dismantled. Part time inspection and air monitoring are required during Moderate Risk and Glove Bag work.

11.4.2 Air Monitoring
PCM air monitoring may be conducted on a part-time basis during Moderate Risk and Glove Bag work. Air monitoring may be conducted in occupied areas adjacent to the Moderate Risk Asbestos Work Area or Glove Bag Work Area during contaminated work.

11.5 High Risk – Inspection and Air Monitoring

11.5.1 Inspection
An outside Asbestos Consultant will inspect High Risk work. It is SD34 policy to ensure daily on-site inspection is performed.

11.5.2 Air Monitoring
PCM air monitoring will be conducted on a daily basis during High Risk work. Air monitoring will be conducted at the perimeter of the Asbestos Work Area (in occupied areas adjacent to the High Risk Work Area) to ensure no leakage from the enclosure. Air monitoring will be performed within the enclosure to ensure that respirator protection factors are not exceeded.

Clearance air monitoring must be performed within High Risk Asbestos Work Areas. The air sample will be relied upon to allow clean access to the site for the Teardown Inspection. Clearance levels of <0.02 f/ml must be achieved prior to dismantling the enclosure. Only if clearance using PCM is not possible, will the TEM method be utilized.

Once the clearance air testing is satisfactory and within 24 hours after the clearance air testing results are received,

a. The owner and the employer shall post a copy of the results in a conspicuous place or places at the work site.

b. A copy shall be provided to the Organizational Health and Safety Manager for the SD34.
The owner of the building shall keep a copy of the clearance air testing results for at least one year after receiving them.

12.0 RECORD KEEPING AND DOCUMENTATION OF AMP

The following records are to be kept by the Facility Manager for all sites with ACM:

- Asbestos Assessment Reports.
- Reassessment Reports.
- Contractor Notification and Acknowledgement Forms.
- Asbestos Project Work Records.
- Inspection reports during abatement from Hazardous Materials Consultants.
- Bulk sample analytical results from any sampling.
- Abatement or emergency response project records.
- Air monitoring reports. Note clearance air monitoring reports must be retained for a minimum of one year.

This AMP is to be re-evaluated each time there is a substantial change to Asbestos Regulations.

13.0 CONTRACTOR REQUIREMENTS

Contractors hired by SD34 are to meet the following minimum requirements:

- Must maintain a Comprehensive General Liability Policy, provided on an “occurrence” basis, for a minimum of $5,000,000 in coverage.
- Must maintain an Asbestos Liability or Pollution Liability Policy, provided on an “occurrence” basis, for a minimum of $5,000,000 in coverage.
- Must maintain an Automobile or Fleet Policy, and Non-owned Automobile Policy for a minimum of $2,000,000 in coverage.
- Maintain a valid Workplace Safety and Insurance Board Clearance Certificate.
- All supervisors and workers performing High Risk work are to have attended 3 day courses regarding asbestos, as of November 1, 2007.
- All workers are to be fit tested for respirators and trained in respirator care.
- If SD34 is signatory to any of the Labourers Union, Insulators Union or Painters and Allied Trades Unions, union labour must be provided by the contractor.
- For large projects, the Project Manager may wish to ask for references for 5 previous projects of similar scope and cost.
Custodial Work

Where exposed and badly damaged asbestos-containing materials are present, custodial staff are not to clean the area by dry sweeping or vacuuming. Instead, custodial staff are to contact an emergency contact to report the debris or damaged ACM.

12684F_AMP_July 21, 2015 FINAL.docx
Master Template for Asbestos Management Program, Nov 3, 2014
APPENDIX A

Background Information on Asbestos in Building Materials and Health Hazards
BACKGROUND INFORMATION ON ASBESTOS IN BUILDING MATERIALS AND HEALTH HAZARDS

BACKGROUND ON ASBESTOS

Occurrence and Types of Asbestos

Asbestos is not one mineral but a generic term used to describe a family of naturally occurring fibrous hydrated silicates. These are divided on the basis of mineralogical features into two groups; serpentines and amphiboles. The important property of asbestos as compared to non-asbestiform varieties of silicates is the presence of long, thin fibres that can be easily separated. According to some definitions, there are as many as thirty varieties of asbestos, but only six are of commercial importance. Chrysotile, which is by far the most abundant, is the only type that belongs to the serpentine group. Crocidolite and amosite, the two other most commonly used fibres, together with anthophyllite, tremolite, and actinolite belong to the amphibole group. The distinction between asbestos types is important due to the different degrees of severity of asbestos related disease with different asbestos types. Of the three commercially important types (chrysotile, amosite and crocidolite), chrysotile is considered the least hazardous. In general, Canadian regulations reflect this variation of health effects.

Health Effects of Asbestos

For many years asbestos has been recognized as a health hazard for workers employed in asbestos mining, processing and installing of asbestos products. Several serious, debilitating diseases that often end in death have been linked to the inhalation of fine asbestos fibres. It is not clear how asbestos fibres cause disease after they enter the lung. For each disease there is a period of latency, usually more than ten years, between first exposure to asbestos and the appearance of the disease. The diseases linked to asbestos exposure are described below.
Asbestosis

Asbestosis is a fibrosis (scarring) of the lung tissue, which makes breathing difficult. The most prominent symptom is breathlessness. Detection of asbestosis is by physical examination, X-ray examination and lung function testing. The disease is irreversible and may continue to progress even after exposure is stopped. Rarely a cause of death itself, asbestosis results in an appreciable reduction in life expectancy due to deaths from related illnesses. Asbestosis will develop only with chronic (long term) exposure to high levels of airborne asbestos.

Mesothelioma

This is a rare cancer of the cells of the pleura (lining of the chest cavity and lungs) and the peritoneum (lining of the abdominal cavity). The development of mesothelioma is characterized by a long latency period, usually at least 15 years and sometimes more than 40. There is no effective treatment for mesothelioma. Large proportions of mesothelioma patients die within a year of diagnosis; few survive longer than five years. The amphibole asbestos materials are considered more important than chrysotile in the causation of mesothelioma. Although asbestos was once thought to be responsible for all mesothelioma, other causes have now been identified. Still, the chance of getting mesothelioma in the absence of asbestos exposure is considered to be extremely remote. Mesothelioma is a very rare cancer in the general population.

Lung Cancer

Unlike asbestosis and mesothelioma, lung cancer is not associated only with asbestos exposure. Cigarette smoking has been and continues to be the major cause of lung cancer. Furthermore, there is no basic difference between lung cancer caused by asbestos and that due to other causes. In general, the risk of getting lung cancer increases with the extent of asbestos exposure, in terms of both intensity and duration. This risk is also greatly enhanced by smoking; most asbestos workers who develop lung cancer are smokers. There is no difference in the risk for lung cancer between chrysotile and the amphibole asbestos minerals.

Other Asbestos-Related Cancers

The relationship between asbestos exposure and asbestosis, mesothelioma and lung cancer has been clearly established and is beyond argument. Several other cancers have also been associated with inhalation of asbestos. Although the evidence is not as good as for the diseases discussed above, these cancers should be noted. They are gastrointestinal cancer affecting all sites in the gastrointestinal tract (oesophagus, stomach, colon and rectum) and cancer of the larynx. The elevated risks of these diseases in the most heavily exposed asbestos workers have always been much less than the elevated risk for
l lung cancer and mesothelioma. If asbestos exposures are controlled to prevent any increase in lung cancer or mesothelioma risk, the other potential cancer risks should also be well controlled.

Other Asbestos-Related Conditions

A number of less serious effects have been associated with asbestos exposure, namely pleural plaques and asbestos warts. Pleural plaques are areas of scarring of the pleural surfaces. In general, they are not associated with any functional abnormality and are merely an indicator of asbestos exposure. Asbestos warts are harmless skin growths that occur when asbestos fibres penetrate the skin. These will usually retract when exposure ceases.

Uses of Asbestos in Building Materials

Asbestos has been widely used in buildings and several uses continue today. The uses of asbestos are generally classed into two groups for purposes of hazard assessment; friable and non-friable products. A friable material is a material that when dry can be crumbled, pulverized or powdered by hand pressure. The use of friable materials in construction is banned today but due to the widespread use of friable materials in the past, these materials still are present in many buildings. In order to establish an asbestos management program, the possible uses of asbestos must be known. These are discussed below in the categories of non-friable, potentially friable and friable products.

Non-Friable Asbestos Materials

Asbestos-cement Products (Transite)

The largest use of asbestos, in terms of the tonnage of fibres employed, is as a reinforcing agent in cement products. Asbestos-reinforced cement is strong, durable, rigid and resistant to both fire and weather. Portland cement, water and asbestos are mixed to form a slurry from which end-products can be fabricated by a process similar to that used in paper making. Products include sheets, pipes and a wide variety of other shapes. The asbestos fibre content of asbestos cement products is usually about 15 percent.

Asbestos-cement sheet is produced in four basis forms: flat sheet, corrugated sheet, siding shingles and roofing shingles. The main use of asbestos cement sheet is for the roofing and cladding of buildings. Other uses are ceiling tiles, decorative panelling, electrical insulation, fume hood liners and laboratory tabletops. Asbestos-cement pipe is used for water supply, sewage, irrigation, drainage applications, the transport of corrosive chemical fluids, and electric and telephone conduits. Asbestos cement products are still in production. Non-asbestos substitute cement products are available for some though not all asbestos products.
Gaskets and Packings

The combination of long asbestos fibres and high temperature rubbers has provided some of the best gasket materials. The asbestos, in bulk fibre, woven, or plaited form, provides strength and temperature resistance, while the rubber or synthetic compound acts as binder and sealing material. Asbestos yarns have been commonly used in the manufacture of braided and woven packing materials. Many of these uses, particularly in sheet forms are still in production and use.
**Coatings and Sealants**

Asbestos has been used in roof coatings and cement and, to a lesser extent, in sealants and caulks. Roof coatings consist of asphalt liquefied with solvents and asbestos fibre filler. Roof cements are similar, but are formulated to a thicker consistency so that they can be used to seal openings through which a liquid coating would flow. Some of these are still in production.

**Paper Products**

Asbestos paper products have been used in a wide variety of applications. Among the most important in construction are roofing felt, gaskets, pipe wrap, as building paper under roof tiles and wood flooring, tape at joints on ducts and duct insulation, as a finishing layer over fibreglass pipe insulation, as heat shields in incandescent light fixtures, as an underpad beneath vinyl sheet flooring, millboard and electrical insulation. Some of these applications are discussed under the headings "Insulation" and "Gaskets and Packings".
Plastics

Asbestos has been used as a reinforcing agent in a wide range of asbestos/polymer composites. Applications include, floor tiles, engine housings, bins and containers, and a variety of coatings, adhesives, caulks, sealants, and patching compounds. Two areas dominated asbestos use in plastics: phenolic moulding compounds and vinyl-asbestos tile. Few of these products remain in production.
Asbestos Textiles

Asbestos textile materials are manufactured from chrysotile fibres. Two types of yarn are produced: plain, possibly braced with organic fibres, and reinforced, which incorporates either wire or another yarn such as nylon, cotton or polyester. Major uses for asbestos textiles are gaskets, packings, vibration damper/duct connectors, friction materials, thermal and electrical insulation, and fire resistant applications, e.g. welding curtains, protective clothing, theatre curtains, hot conveyor belts and ironing board covers. These products may be considered or become friable in use. Asbestos textiles are no longer in widespread production.

Friction Materials

Asbestos has been used in the manufacture of brake and clutch linings and pads. The asbestos fibres may be embedded in a phenolic resin with various mixtures of fillers or a woven asbestos cloth may be impregnated with the resin. Friction products are primarily used in vehicles but may be used in any
rotating machinery, for example elevators or printing presses. They are still produced and used although not widely.

**Drywall Joint Compound**

Drywall joint compound also contained asbestos until the early 1980’s. The concentration is quite low (near or less than 5%; always chrysotile). The product in place is quite hard and is normally treated as non-friable.

![Drywall joint compound on drywall](image1)

**Potentially Friable Asbestos Materials**

**Acoustic Ceiling Tiles**

Some types of mineral wool type acoustic ceiling tiles were formulated with asbestos from the early 1960’s. The use of asbestos in ceiling tiles was discontinued in the early 1980’s. Analytical testing is required to distinguish the asbestos and non-asbestos ceiling tiles. From field experience at Pinchin West Ltd., the fire-rated tiles are more likely to contain asbestos. Amosite was the predominant fibre type used. Acoustic tile, particularly if splined or glued on, can become friable or release dust when removed. They are usually considered non-friable as they are normally handled intact.
Asbestos was used in random fashion in the brown coat and surface coat of smooth plaster finishes. This has been used at a low level (less than 5% in most cases). In many instances the asbestos content is less than 1% or even less than 0.5%. This is often due to the presence of vermiculite in plaster. Vermiculite frequently contains actinolite or chrysotile as an impurity which contributes to the asbestos content. Only Chrysotile was ever intentionally added to plaster.

Plaster is non-friable in place but removal is impossible without causing it to become friable. This is significantly different than lay-in acoustic tiles or transite boards which can be removed intact.

Friable Asbestos Materials
Friable asbestos products are the main concern of the public and the asbestos management program due to the ease of fibre release. None of the products are still in production in North America or Europe.
Fireproofing or Sprayed Insulation

Several types of fireproofing or insulation were applied by spraying or trowel application in the period from the mid 1930’s to 1974. Fibrous products were spray applied after being blown as a dry mix through an application gun. These products may contain up to 90% asbestos and any of the three major types (chrysotile, amosite or crocidolite). Cementitious products were trowelled or sprayed as a wet slurry. These were harder products that did not contain more than 25% asbestos. Only chrysotile asbestos was used in the cementitious type materials.

Texture or Acoustic Plasters

The use of asbestos was widespread in trowelled or sprayed texture coats, stipple coats and acoustic plasters from the 1950’s to the late 1970’s (at least as late as 1980). These products always contain less than 25% chrysotile. Some of the harder stipple coats may be considered non-friable in place and only
become friable when disturbed by construction or demolition. Other products in this group can be very soft and extremely friable.

![Sprayed limpet texture ceiling on lath](image1)

![Texture coat ceiling](image2)

**Mechanical Insulation**

This is the most widespread use of friable asbestos in buildings. The use dates from the late 1800's to the late 1970's. The material can have a number of appearances and asbestos contents. The more prevalent types of asbestos mechanical insulations are:

- white, brown, pink or grey block (Magnesia block, Caposite).
- white or grey corrugated paper (Aircell).
- white, grey or brown layered paper (sweatwrap).
- grey trowelled or hand applied material (with the appearance of hard or granular, grey, dry mud) (Parging cement).

It is possible to find all asbestos types in mechanical insulation although chrysotile is predominant and amosite the next most common.
Vermiculite

Vermiculite, a mineral mined around the world, is used in a variety of commercial and consumer products. After crushing and processing, the raw ore was shipped to many plants in Canada for exfoliation or expanding. At these plants, the ore was heated to about 1000°C causing it to expand like popcorn into a lightweight granular material that is fire-resistant, absorbent, light weight and a good insulator. Vermiculite has been and continues to be used in a variety of building materials. It was made into a variety of insulation products, was used as a loose fill insulation inside masonry block walls (the largest volume use), stove pipe and stack insulation, fire separations, cold rooms and in walls and attics of buildings, mostly homes. It is important to understand not all vermiculite contains asbestos.
Hazards of Asbestos Materials in Buildings

Beginning in the late 1970's, public health authorities, the media, and the public in general, became concerned about the health effect of these asbestos materials on building occupants. It was known that asbestos miners and factory workers and installers who handled asbestos materials suffered a higher incidence of several respiratory diseases. These groups had been exposed to very high levels of asbestos dust for prolonged periods. In order to assess whether the public anxiety over the current situation of asbestos materials and the hazard of in-place materials was justified, the Ontario Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario was established in 1981. This 3 year study considered all aspects of the asbestos problem, from production, through installation and use in-place, to maintenance and demolition. After considering all available data and commissioning several research studies, the Commission concluded in its final report (Chapter 9, Page 585):

"....The risk to occupants from asbestos in buildings is a small fraction of the risks faced by workers exposed to asbestos under the 1 f/cc control limit for chrysotile (which was the current exposure limit for industrial asbestos use in Ontario at that time). It is less than 1/50 as great as the risk of commuting by car to and from those buildings. In concluding that this risk is insignificant, we conclude that the risk does not present a public health problem. While asbestos has caused serious health problems for workers and may present a problem for building maintenance, renovation, construction, and demolition workers, we conclude that it does not pose a significant problem for the general occupants of a building, except in the three situations outlined in Section D of this chapter, namely: (i) the occupant is in the immediate vicinity of work that disturbs friable asbestos-containing insulation; (ii) the occupant is within the range of air circulation of work that disturbs friable asbestos-containing insulation; or (iii) significant quantities of friable asbestos-containing insulation have fallen onto building surfaces and are being disturbed."

and in the overview to this section (Chapter 9, page 548):
"We will conclude that it is rarely necessary to take corrective action in buildings containing asbestos insulation in order to protect the general occupants of those buildings. On the other hand, construction, demolition, renovation, maintenance, and custodial workers in asbestos-containing buildings may be exposed to significant fibre levels and may, during their work, cause elevated fibre levels for nearby occupants."

The general conclusions of the Royal Commission have been supported by independent testing by independent researchers, the Ontario Ministry of Labour, and authorities in other jurisdictions. Air sampling has shown that the airborne asbestos levels in buildings with sprayed asbestos are no higher than outdoor levels, unless the friable asbestos or asbestos debris is being disturbed at the time. Airborne levels in buildings are not elevated even when the ceiling space containing the sprayed asbestos or asbestos mechanical insulation functions as an air plenum.

The Ministry of Labour Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations was modelled on the Commission findings. Several other provinces have since issued regulations or guidelines similar to the Ministry of Labour Regulation. The Asbestos Management Program was prepared to be consistent with the recommendations of the Commission and to meet all requirements of provincial requirements.
APPENDIX B

Bulk Sample Collection Procedures
BULK SAMPLE COLLECTION PROCEDURES

1.0 OBJECTIVES

To obtain a sample for analysis to determine if asbestos is present within a material.

To determine the type of asbestos and the quantity of asbestos of each type.

Sampling of vermiculite is specifically excluded from these procedures.

2.0 EQUIPMENT AND SUPPLIES

- Pen and Sharpie marker.
- Retractable knife (with extra blades).
- Hook knife.
- Flashlight and batteries.
- Screwdriver(s) with multiple bits.
- Small hammer.
- Sample bags.
- Insulation tape or duct tape.
- Spray bottle.
- Wipes for cleaning tools so as to not contaminate subsequent samples.
- NIOSH approved half-face respirator with P100 filters.

3.0 SAMPLE COLLECTION

Only those persons needed for sampling should be present in the immediate area.

Where necessary, provide a drop sheet below sample location if debris or dust may be generated by sampling operation (e.g. below a ceiling tile if sprayed fireproofing is above).

Use cleaned/new tools, or clean the tool to be used with a sanitizing wipe prior to sample collection. Wipe or wash again prior to each subsequent sample.

Spray the material with a light mist of water if necessary to prevent fibre release during sampling. Do not disturb the material any more than necessary. Note that using water may delay the receipt of sample results as samples cannot be analyzed if wet.

Each homogeneous material should be sampled separately.
Collect the sample by penetrating the entire depth of the material to the underlying substrate since it may have more than one layer. Examples of materials with more than one layer include plaster, sweatwrap with tar paper, and parging cement over other insulations, etc. The following points are exceptions to this rule.

- When collecting drywall joint compound samples, do not sample the paper on the drywall or the drywall itself. To ensure that the drywall joint compound itself is sampled, collect the sample at previously damaged outside corners or above ceiling where unpainted.

- When sampling texture coat that is applied in a thin layer to drywall, try to ensure that you only collect a sample of the texture coat and not any drywall compound beneath that may skew the sample result. Try to sample at an area that is 1' x 1' away from a corner (and likely away from drywall joint compound), or sample overspray above ceiling. Do not sample too deep, trying only to remove the texture coat itself.

- When collecting samples try to minimize damage to finishes. A piece as big as your thumbnail is all that is required.

- When sampling VAT, try to obtain a sample of the mastic whenever possible. If the survey is for pre-construction, the mastic must be analyzed. Add this note to the transmittal.

If pieces of material break off and fall during sampling, remove the debris by wet wiping and place wipe in sample bag for disposal.

Scrape directly into, or place sample into a Ziploc bag and seal closure strip. Write the following information on the sample bag:

- Sample Number. Ensure that samples of the same homogenous material are numbered the same number but with a different letter to signify it is a different sample of the same homogeneous material (e.g. 001A, 001B, and 001C for three samples of the same type of ceiling tile).

- Date (year/month/day).

- Collected by.

- Company name.

- Material.

- Location. Include building name, room name, location number, type of system etc.

Temporarily seal any openings created to collect the sample, for example, with metal foil tape or duct tape wrapped completely around pipe insulation where the jacket was cut.
4.0 PERSONAL SAFETY

The use of a respirator is required for all sampling of materials. A half-face air purifying respirator with P100 HEPA filters is the minimum requirement.

Wash your hands after sampling, and you must wash your hands prior to eating drinking or smoking.

5.0 SAMPLE SUBMISSION

Samples must be analyzed at only NVLAP or AIHA certified laboratories. Acceptable labs include:

Pinchin Ltd.. Mississauga Laboratory, 2470 Milltower Court, Mississauga ON, L5N 7W5, Contact: Kendra Bertuzzi, (905) 363-1433 (Direct line).

Complete the Bulk Sample Transmittal. On the transmittal ensure that you instruct the lab to use the Stop Positive approach.

6.0 SAMPLE HANDLING AND SHIPPING

Include the Bulk Sample Transmittal. Bulk samples do not require special handling (temperature, pressure, etc.).

7.0 ANALYSIS


Analysis is to be completed using a stop positive approach. Only one result of greater than the regulated limit is required to determine that a material is asbestos-containing, but all samples must be analyzed to conclusively determine that a material is non-asbestos. The laboratory will stop analyzing samples from a homogeneous material once greater than the regulated limit of asbestos is detected in any of the samples of that material. All samples are analyzed if no asbestos was detected.

8.0 INTERPRETATION OF BULK SAMPLE RESULTS

Any material containing more than 0.5% asbestos is considered an asbestos-containing material in British Columbia. The thresholds are as follows:

| BC                     | 0.5% or any amount if vermiculite |
# BULK SAMPLE TRANSMITTAL FORM

**Pinchin Ltd.**  
Asbestos Laboratory  
2470 Milltower Court  
L5N 7W5  
Attention: Kendra Bertuzzi  
Phone: (905) 363-1433

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E.g. Vinyl floor tile, beige and white, Managers Office, 2nd Floor, Room 123, Location 22.  
E.g. Parging cement insulation on pipe fitting, domestic hot water system, Basement, Boiler Room, Room B1, Location 1.

**TO BE COMPLETED BY LAB PERSONNEL ONLY**

<table>
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APPENDIX C

Emergency Response in the Event of Suspected Asbestos Spill
EMERGENCY RESPONSE AND NOTIFICATION IN THE EVENT OF ASBESTOS-SUSPECT MATERIAL DISCOVERED DURING MAINTENANCE OR CONTRACTED WORK OR REPORTED BY OCCUPANT

Contractor, Maintenance Worker, Tenant or Occupant discovers unexpected material that is suspected of containing asbestos.

Contact during the night
Secure the area, to prevent further disturbance (Follow procedures on next page).

Contact during the day
Facility Manager

Security

Facility Manager reviews asbestos building materials report.

Confirmed to be an asbestos-containing material (ACM).

Asbestos procedures to be used. Facility Manager ensures area is immediately isolated and arranges for Abatement Contractor and/or Asbestos Consultant to perform abatement.

Assume material is ACM. Collect sample for later confirmation.

Visual inspection by Facility Manager and/or OHS member to determine if ACM.

Confirmed to be ACM.

Confirmed to be non-asbestos. Resume scheduled work.

Indeterminate. Confirmed to be non-asbestos. Resume scheduled work.

Facility Manager engages asbestos consultant to sample and analyze material or submits sample for analysis.

Confirmed to be ACM.

Asbestos content not determined from report.
EMERGENCY RESPONSE IN THE EVENT OF SUSPECTED ASBESTOS SPILL

If asbestos-containing materials or suspect materials have been disturbed improperly, follow these directions:

Do not clean up, cover, move or contact asbestos-containing or suspect material. Cease work in the area and do not resume work that risks disturbing the suspect material. Workers are to leave the area and the SD34 Facility Manager and SD34 Project Manager is to be notified immediately.

Isolate the area by locking doors if this can be done without blocking emergency or fire routes.

If it is not possible to safely isolate the area, the Facility Manager will notify appropriate persons not to enter the area. If possible, post security to prevent unnecessary access.

The Facility Manager will arrange to shut down ventilation systems to the affected area including supply, return and exhaust.

The Facility Manager will determine if asbestos is contained in the debris. If material cannot be confirmed asbestos-free by records or appearance, follow procedures below.

The Facility Manager will contact an Asbestos Consultant to sample or identify testing of suspect material or to identify the material.

At their option, the Facility Manager may decide to employ an Asbestos Consultant to perform air monitoring and consulting, prior to and/or after clean-up to determine if building personnel were exposed to airborne asbestos and to ensure airborne fibre levels are within acceptable limits to re-occupy the space. The Facility Manager must notify the Organizational Health and Safety Manager of the results of air monitoring or testing.

If the material is confirmed or assumed to contain asbestos, the Facility Manager is to contract an Asbestos Abatement Contractor to clean-up contaminated area using Moderate Risk Emergency Procedures in Appendix of this document.

Enable ventilation systems after air monitoring or clean-up of ACM.
APPENDIX D

Work Practices – Emergency Work
WORK PRACTICES – MODERATE RISK EMERGENCY CLEAN UP

Emergency asbestos procedures shall be implemented, when required, in order to protect those undertaking the work, as well as to protect all others from, or limit exposure to, airborne asbestos. Procedures indicated shall be followed as closely as possible, in the event of an emergency situation.

Procedures for asbestos work, required as an immediate response to floods through asbestos fireproofing, accidental disturbance of ACM, ceiling collapses at asbestos-containing ceiling tiles, or other emergencies that affect asbestos materials, are as follows:

- Clear area of all occupants. In critical situations clear area of only non-essential personnel only, and provide essential personnel with proper respiratory protection.
- Shut down ventilation systems serving area including supply, return and exhaust.
- Isolate the area by locking doors, if this can be done without blocking emergency or fire routes.
- If it is not possible to safely isolate the area, the Facility Manager will notify personnel not to enter the area. If possible, post security to prevent unnecessary access.
- Close access doors to area or construct enclosure around area if time permits. Do not obstruct emergency exits under any circumstances.
- Only Abatement Contractors will perform the emergency clean up.
- Entrance to the area will now be limited to those wearing applicable respiratory protection and disposable Tyvek coveralls. Half face NIOSH approved respirators with P100 (HEPA) filters are adequate.
- No eating, smoking or chewing in the Asbestos Work Area.
- Remove all debris within the area of the accidental disturbance of ACM using HEPA vacuums.
- Place polyethylene drop sheets under area of repair.
- Repair ACM pipe insulation, replace ceiling tiles or stabilize ACM as required with minimum disturbance to ACM.
- Remove dust using HEPA vacuums or wet wiping from all surfaces within area of disturbance.
- Dispose of items that cannot be cleaned as asbestos waste.
- Dispose of all cleaning supplies and drop sheets as asbestos waste.
- Remove coveralls and dispose of as asbestos waste.
- Proceed to washroom and wash face and hands.
- At their option, the Facility Manager may decide to employ an Asbestos Consultant to perform air monitoring and consulting, after clean-up to ensure airborne fibre levels are within acceptable limits to re-occupy the space.
- The Facility Manager must notify the Manager, Organizational Health and Safety of the results of air monitoring or testing.
APPENDIX E
Low Risk Asbestos Work Procedures
LOW RISK ASBESTOS WORK PROCEDURES

Workers involved in Low Risk activities should have some knowledge of the hazards of asbestos and the location(s) of the materials.

All locations of asbestos-containing materials must be clearly identified.

All workers must be aware of any work procedure restrictions needed to prevent disturbing asbestos-containing materials.
APPENDIX F

Moderate Risk Asbestos Work Procedures
MODERATE RISK WORK PROCEDURES

These procedures are to be followed by contractors performing the following work at SD34 buildings.

To ensure that anyone in or near the work area is not exposed to airborne asbestos fibres:

- Clearly mark the designated work area boundary by placing barricades such as barrier tape around the work area.
- Place signs around the work area warning people not to enter the work area unless authorized to do so.
- Wear appropriate protective equipment, such as Tyvek suits, respirator with P100 HEPA filter.
- Do not use dry sweeping or compressed air to clean up or remove dust or materials from work surfaces or clothing.
- Use polyethylene drop sheets. If necessary, seal windows, doorways, and other openings to prevent the spread of asbestos dust to other work areas.
- Clearly describe how the work will take place, how the asbestos will be removed, what tools will be used, etc.
- During the work, clean up dust and waste (wetted if possible) using a HEPA vacuum or by wet-sweeping or mopping. Do not use pressure spraying equipment of any type to remove asbestos-containing materials.
- Immediately upon finishing the work, wet drop sheets and barriers, fold them to contain any remaining dust, bag or place them in sealable container, dispose of as asbestos waste.
- Before removing them from the work area, clean equipment by damp-wiping or HEPA vacuuming.
- Place asbestos waste in sealable and labelled container. Do not allow containers of asbestos waste to accumulate in the work area. Double bag waste containers and wipe with damp cloth or HEPA vacuum external surfaces before removing from work area.

1.0 EQUIPMENT

Equipment required for the work must be on site before proceeding.
1.1 HEPA Vacuum
An asbestos-approved vacuum (HEPA filtered) equipped with brushes, fittings, etc. A vacuum can be opened to empty only by a fully protected worker within a Moderate Risk enclosure.

1.2 Respirators
Workers within the work area must wear an approved respirator. Respirators and filters will be provided by the employer, and individually assigned to workers. Respirator shall be a half-face piece respirator with high efficiency (P100) filters, for all classifications of Moderate Risk work, except as follows: Full face piece air purifying respiratory or powered air purifying respirator with high efficiency (P100 or HEPA filters) shall be used for ceiling access with ACM debris on ceiling or for use of power tools equipped with HEPA filtered dust collector to cut, grind or abrade non-friable ACM. Respirators must be kept in position on the face during the entire time the worker is in the Moderate Risk Work Area. This is the period from the first removal of the ceiling tile, opening of hatches or the first disturbance of the asbestos material until the final cleaning of the area and the bagging of waste is completed. Change filters after 24 hours of wear or sooner if breathing resistance increases as filters become damp. No person wearing a respirator shall wear facial hair which affects seal between respirator and face.

1.3 Protective Clothing
All workers shall wear disposable Tyvek coveralls (or equivalent) with attached elasticized hood. Coveralls should be worn with the hood in place at all times. Coveralls may be vacuumed or wet wiped clean for re-use, for a maximum of 8 hours cumulative wear. Suit and head cover shall remain in place until worker leaves the Moderate Risk enclosure or work area. Boot covers are required if wet wiping or HEPA vacuuming cannot effectively clean footwear.

1.4 Other Equipment
Polyethylene (6 mil polyethylene) - to erect a total enclosure or to serve as drop sheet.
Framing or clips to support polyethylene sheeting, as appropriate to work area.
Duct tape to fasten plastic enclosure to ceiling, walls, or to tape drop sheet to floor; 3/4” double-sided tape recommended for attaching polyethylene to T-bar ceiling.
Labelled asbestos waste bag (6 mil) - for all asbestos waste, disposable suit, plastic for disposal, etc.
Pump sprayer containing water with wetting agent to wet asbestos as necessary; dilute wetting agent 2 oz. per gallon of water.
Asbestos warning signs.
Cleaning supplies - e.g. scouring pads, sponges, brushes, buckets, etc.

Insulation repair supplies (lagging compound, cloth, PVC covers).

Encapsulating sealer, for brush or airless spray application.

2.0 OTHER PROTECTIVE MEASURES

Do not eat, drink or smoke in the work area.

On completing clean-up of work area, use vacuum or wet cloth to clean hands, face, respirator and boots. Remove protective equipment and proceed to nearest washroom to wash exposed skin on hands and face.

3.0 SCHEDULING OF WORK

Schedule work when occupants are absent. If persons are present, do not start work.

If work is required on an emergency basis and the area is occupied, the Facility Manager or an assigned representative is to advise occupants to vacate area until work is complete and clearance is given to return.

4.0 PREPARATION

Shut down ventilation systems to and from the work area. Seal over all ventilation openings, diffusers, grilles, etc. with plastic and tape.

Where practical, clear areas of movable furnishings or equipment. This should include anything which occupants may wish to use during work period. Any furnishings or equipment not removed shall be adequately covered and sealed using 6-mil polyethylene and tape.

Post signs or barrier tape to indicate asbestos hazard and requirement for protective clothing for anyone entering the space.

For small rooms, cover walls with plastic such that the complete room becomes the work area. For larger rooms, erect enclosure of 6-mil polyethylene of suitable dimensions to enclose the work area. If a suspended ceiling is present, the enclosure shall extend to the ceiling line. The enclosure shall be as airtight as conditions permit including the provision of a double overlapping flap at the entrance. The floor of the work area shall be a layer of minimum 6-mil polyethylene sealed to the plastic walls of the enclosure.

Use polyethylene drop sheets. If necessary, seal windows, doorways, and other openings to prevent the spread of asbestos dust to other work areas.
Use a HEPA vacuum or appropriately sized air unit equipped with HEPA filter to induce negative pressure inside work area. Vacuum should be outside the enclosure with hose inserted inside enclosure to extract air from enclosure.

Don protective clothing and respirator prior to disturbing any asbestos-containing materials in Moderate Risk enclosure.

5.0 EXECUTION

Frequently, and at regular intervals during the work, clean up dust and waste in the work area by wet mopping, placing in disposal bags, or by HEPA vacuuming. Do not use pressure spraying equipment of any type to remove asbestos-containing materials.

After completion of removal, seal exposed ends of mechanical insulation with heavy layer of encapsulating sealer.

Apply post removal sealer and coat surfaces from which asbestos material was removed.

At completion of work, decontaminate equipment, tools and materials used in the work area by wet cleaning or HEPA vacuum.

Dispose of drop sheets and enclosures by wetting the polyethylene, then folding into disposal bags. Do not reuse drop sheets or enclosures.

Before leaving work area, decontaminate shoes and protective clothing by using HEPA vacuum or damp wiping. When protective clothing is to be disposed of, it shall be decontaminated as above and placed in labelled disposal bags. Workers shall vacuum all exposed skin, suit and respirator, and proceed to nearest washroom to wash hands and face.

6.0 WASTE TRANSPORT AND DISPOSAL

Place waste into asbestos labelled yellow disposal bag, seal with tape, clean the bag, and place into a second clean bag. Seal outer bag with tape.

Provide storage area for holding minor amounts of asbestos waste in sealed containers. Containers shall be labelled and assigned exclusively for asbestos waste. Do not allow containers of asbestos waste to accumulate in the work area.

When waste is removed from site, collect copies of the waste waybills from the disposal firm. For work performed by a contractor, the contractor will complete and provide to the Facility Manager copies of a waste manifest. Waste generated by personnel will be stored in a secure location until sufficient accumulates for a waste pick-up.
APPENDIX H
Reassessment of ACM
REASSESSMENT OF ACM

Upon completion of Reassessment, fill out the following form in its entirety and file in this facility’s Asbestos Management Program and survey.

Building Name/Address:

__________________________________________________________________________

__________________________________________________________________________

Dates of Reassessment:

__________________________________________________________________________

Organization completing Asbestos Reassessment:

__________________________________________________________________________

Name of surveyor:

__________________________________________________________________________

Name of surveyor:

__________________________________________________________________________

Others present:

__________________________________________________________________________

Signature of surveyor:

__________________________________________________________________________

Signature of surveyor:

Summary of findings: (If no deterioration noted, indicate here – Specifically indicate only areas requiring action).

<table>
<thead>
<tr>
<th>Room or Location</th>
<th>Material</th>
<th>Comments regarding condition – Disturbed/Undisturbed (if other, explain)</th>
<th>Action Required</th>
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<tbody>
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APPENDIX I
Asbestos Project Work Record
ASBESTOS PROJECT WORK RECORD

Building: (Building Address or Name)

Date: (Today’s Date)

Project Number: (SD34 Project Number or Purchase Order Number)

Project Type: □ Emergency □ Low Risk □ Moderate Risk
□ Planned Project □ Glove Bag □ High Risk

Area of Work: (Room Name, Number, Floor etc.)

Description: (Brief description of abatement, material, system, etc.)

Tenant: (Tenant name if any, department or group)

Project Start Date: (Mobilization date)

Project End Date: (After dismantling/clean-up)

Contractor: (Contracting firm or employee)

Telephone: (Contractor or employee telephone)

Consultant: (Name of consulting firm/contact if any)

Telephone: (Consultant telephone)

Pre-Construction Survey for ACM performed and report provided to Contractor?

□ Yes □ No (Explain) ______

Air Sampling during abatement?

□ Yes □ No

Clearance Air Monitoring performed (Regulated requirement after High Risk abatement)?
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Air Monitoring results to Joint Occupational Health and Safety Committee?</td>
<td></td>
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<tr>
<td>Asbestos Survey Updated to Reflect Changes in ACM Inventory?</td>
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<td>No changes to ACM inventory resulted.</td>
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<td>No Forward copies to Consultant prior to next re-assessment.</td>
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<td>Asbestos waste removed from site and disposed of?</td>
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<td>Yes Dump tickets attached.</td>
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<td>No ACM waste remains on site for later disposal.</td>
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<td>Append the following information relating to asbestos abatement to this work record, if applicable, and file Asbestos Work Record and attachments with Asbestos Management Program. Check where attached.</td>
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<td>Submittals including Insurance</td>
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<td>Dump tickets, waybills, etc. for waste.</td>
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<td>Specifications, Change Orders, Drawings.</td>
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<td>Consultant Inspection Reports.</td>
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<td>Air Monitoring Results.</td>
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<td>Analytical Certificates.</td>
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<td>Correspondence as required.</td>
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APPENDIX J

Contractor Notification and Acknowledgement Form
Asbestos Management Program
School District No. 34 (Abbotsford)
Contractor Notification and Acknowledgement Form

CONTRACTOR NOTIFICATION AND ACKNOWLEDGEMENT FORM

SD34 has identified the presence of various friable and non-friable asbestos-containing materials in the Building. An asbestos inventory report showing the locations and amounts of these materials is available for viewing from the Facility Manager.

The disturbance of asbestos building materials are only to be undertaken by Asbestos Abatement Contractors that maintain the appropriate insurance coverage and meet the requirements set out in the Asbestos Management Program AMP. The following activities may disturb asbestos materials. The Facility Manager must be notified prior to performing the following:

- Removal or repair of asbestos mechanical insulation or sprayed asbestos.
- Ceiling entry which may disturb sprayed fireproofing or pipe insulation.
- Any other operation which may generate airborne asbestos from friable asbestos.
- Any removal, cutting or other disturbance of non-friable asbestos material.
- Do not disturb any material excluded from the survey.

Declaration by Contractor

The Contractor and their sub-contractors shall follow the work procedures as specified by SD34’s Asbestos Management Program (AMP) and shall not disturb ACM without using proper procedures.

We agree that our staff will not disturb asbestos-containing materials without prior notification to the Facility Manager. This firm and our staff will follow all procedures specified by the SD34 Asbestos Management Program. All asbestos waste will be packaged and disposed of in accordance with Ministry of the Environment requirements.

Notification of Asbestos Abatement

All contractors and SD34 employees who perform work at facilities where ACM is present should be notified of the presence of the ACM if their work may bring them into contact or close proximity to the ACM and they may disturb it. This notification may include janitorial, security, telephone, computer cabling suppliers, mechanical maintenance contractors, etc. This notification shall be performed by the Facility Manager or Project Manager.

Contractors are to:

- Submit Notice of Project, work procedures and exposure control plan to WorkSafe BC prior to 24 hours before the start of the project.
- Notify Sanitary Landfill site.
- Inform all sub trades of the presence of ACM identified in the contract documents.
- Notify the Project Manager if asbestos materials not identified in the contract documents are discovered during the course of the work.

Building (Address):

Project:

Contractor:

Name and Title:

Signature:

Date: