Asbestos Reassessment

McMaster University Medical Centre (MUMC)
1200 Main Street West,
Hamilton, Ontario

Prepared for:

Hamilton Health Sciences

1200 Main Street West
Hamilton, Ontario, L8N 1H4

January 23, 2025

Pinchin File: 336568.061

Issued to:	**Hamilton Health Sciences**
Issued on:	**January 23, 2025**
Pinchin File:	**336568.061**
Issuing Office:	**Hamilton, ON**
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EXECUTIVE SUMMARY

Hamilton Health Sciences (Client) retained Pinchin Ltd. (Pinchin) to conduct an asbestos building materials reassessment of McMaster University Medical Centre (MUMC) located at 1200 Main Street West, Hamilton, Ontario. The reassessment was performed on December 3-5, 2024.

The objective of the reassessment was to evaluate the condition and quantity of previously reported asbestos-containing materials (ACM) and develop corrective action plans as required for the purposes of long-term management. The results of this assessment are not intended for construction, renovation, demolition or project tendering purposes.

SUMMARY OF FINDINGS

Asbestos-containing materials (ACM) are present as follows:

- Spray-applied cementitious fireproofing (‘Monokote MK3’ – encapsulated and unencapsulated)
- Trowel-applied cementitious fireproofing (‘Pyrok’)
- Texture finishes
- Pipe insulation
- Duct insulation
- Mechanical equipment insulation
- Acoustic ceiling tiles
- Plaster
- Drywall joint compound
- Paint
- Asbestos cement products
- Vinyl sheet flooring
- Vinyl floor tiles
- Floor mastic
- Floor levelling compound
- Firestopping
- Caulking and putty
- Bakelite

- Mastics and Adhesives
- Paper heat shields
- Paper insulation
- Roofing materials

SUMMARY OF RECOMMENDATIONS

The following is a summary of significant recommendations; refer to the body of the report for detailed recommendations.

1. Remediate any materials listed in the Remedial Recommendation Report in Appendix II.
2. Continue to apply the policies and procedures as outlined in the building's Asbestos Management Program (AMP).
3. Perform a reassessment of asbestos materials on an annual basis.
4. Prior to renovations or demolition, perform a pre-construction assessment to identify any hazardous materials that may be disturbed by the work.
5. Follow appropriate safe work procedures when handling or disturbing asbestos.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

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1.0 INTRODUCTION AND SCOPE

Hamilton Health Sciences (Client) retained Pinchin Ltd. (Pinchin) to conduct an asbestos building materials reassessment at McMaster University Medical Centre (MUMC), located at 1200 Main Street West, Hamilton, Ontario.

Pinchin performed the reassessment on December 3-5, 2024. The surveyor was unaccompanied during the reassessment. The assessed area was occupied at the time of the assessment.

The objectives of the reassessment were to document the locations, quantities and conditions of previously identified asbestos containing building materials (ACM) and develop corrective action plans as required. This reassessment is only to be used for the purposes of long-term management and routine maintenance. The results of this reassessment are not to be used for construction, renovation, demolition or project tendering purposes.

1.1 Scope of Assessment

The objective of the reassessment was to evaluate the condition and quantity of previously reported ACM, and develop corrective action plans as required.

Additional objectives included the following:

- Assessment of any rooms/areas that were inaccessible during the previous assessment (if access could be obtained).
- Documentation of any asbestos abatement that was performed since the last reassessment.

2.0 METHODOLOGY

Pinchin conducted an assessment of previously identified ACM to evaluate the current condition of all accessible materials identified in the most recent assessment. The surveyor made reference to any existing assessment or abatement reports (as provided by the Client).

As per the original scope of work, ceiling spaces were not assessed, and concealed locations such as shafts and chases were accessed via existing access panels. Our investigation did not include demolition of drywall or plaster walls to view concealed conditions. Structural items or exterior building finishes were not removed to determine the presence of concealed materials.

Please refer to Appendix I for a detailed description of the methodology used for this assessment.

3.0 BACKGROUND INFORMATION

3.1 Building Description

Description Item	Details
Use	Hospital
Number of Floors	Four (4) occupied levels with interstitial spaces between, a mechanical penthouse and two levels below grade.
Year of Construction	The building was constructed in 1972. The South Parking Garage was constructed in 1986.
Structure	Structural steel, concrete
Exterior Cladding	Pre-cast concrete, glass curtain wall, drywall soffits
HVAC	Forced-air and radiant heating
Roof	Built-up roofing
Flooring	Vinyl tile, vinyl sheet flooring, wood, carpet, rubber/linoleum sheet flooring, poured concrete, ceramic tiles
Interior Walls	Drywall, concrete block, poured concrete, glass curtain wall, plaster
Ceilings	Drywall, plaster, acoustic ceiling tiles

3.2 Existing Reports

Pinchin was provided with and instructed to rely upon, the following reports:

- Asbestos-Containing Materials Reassessment – MUMC, April 20, 2016, Prepared By ECOH, Project No. 16262.

Pinchin most recently prepared the following reports which were used for reference:

- Asbestos Reassessment Report – McMaster University Medical Centre", dated February 1, 2024 (Pinchin File: 320566.054).
- HMIS 2.0 Online Database.

3.3 Inaccessible Locations

Inaccessible locations (rooms or areas), if any, are indicated in the HMIS 2.0 online database. These locations within the assessed areas were not accessible to the surveyor and are therefore not included in the report.

4.0 FINDINGS

The following section summarizes the findings of the reassessment and provides a general description of the asbestos materials identified and their general locations.

For details on quantities, condition and locations of ACM; refer to the HMIS 2.0 online database.

The sample numbers referenced below refer to the analytical reports found in “336568.061 Asbestos Analytical Results Letter McMaster University Medical Centre HHS January 23, 2025” on the HMIS 2.0 online database. Laboratory reference numbers have been included where applicable to distinguish sample numbers from previous projects. Sample numbers where “HHS” is present before a sample number indicates that the sample results were provided by HHS.

4.1 Main Building (Red, Yellow, Blue, and Purple Quads including Interstitials MM to 4M)

4.1.1 Fireproofing

Cementitious spray-applied fireproofing (photo 1), containing chrysotile asbestos, is present on structural steel beams and framing (trusses, cross-bracing, columns, etc.) throughout the interstitial spaces of the building (all quads, Locations 9001-9004). This material was identified by the trade name “Monokote MK3” and historically contained 6-10% asbestos added during application which is consistent with sample results (e.g., sample 001, lab reference no. b54378). The spray-applied fireproofing has been encapsulated (encased), with a surface coating material.

Where fireproofing is present above the double drywall ceilings above lay-in ceiling systems, the material between the top layer of drywall and the bottom flange of the beam above has not been encapsulated.

Spray-applied fireproofing overspray is present on all items in proximity to the asbestos-containing fireproofing in the interstitial spaces and the majority of systems and fixtures, including but not limited to: conduits, supports, pipe systems, mechanical insulation, ducts, pipes, controls, walls, mechanical equipment, and the corrugated metal deck.

Asbestos-containing spray-applied fireproofing is assumed to be present in the following areas, which include but are not limited to:

- Behind precast panels at perimeter walls
- Concealed locations (above solid ceilings, within column enclosures, etc.)
- Structural junctions

Spray-applied cementitious fireproofing present on the structure in the Yellow quad shipping/receiving area and the Campus Store (Red quad, Location 1136) does not contain asbestos. The fireproofing is tinted green/blue (Retroguard) to indicate as non-asbestos.

Spray-applied fibrous fireproofing present on the poured concrete deck in the north-east corner of the Blue quad Parking Area (Blue quad, Location 10) does not contain asbestos (samples 011A-E, lab reference no. b54379).

Spray-applied fibrous fireproofing present on structural steel beams and framing (trusses, cross-bracing, columns, etc.) in the 1M interstitial space above the Red pharmacy area (Red quad, Location 9001) does not contain asbestos based on the date of installation as reported by the Client.

Spray-applied cementitious fireproofing covered with an encasement product and present on structural steel beams and cross-bracing in the fourth-floor corridor (Blue quad, Location 4007) does not contain asbestos (samples S0027A-C, lab reference no. b277203).

Trowel-applied cementitious fireproofing ('Pyrok') present in occupied areas of the building does not contain asbestos (for further detail, refer to the results in "Pyrok Bulk Sample Results Letter - McMaster University Medical Centre", dated June 2023, Pinchin File no. 303980.007).

As per O. Reg. 278/05 (Section 12 (4) 3), ducts and air handling equipment in a building with asbestos-containing spray-applied fireproofing are to be presumed to be contaminated by asbestos. Dust inside ductwork has been tested in representative locations in the building and is not an asbestos-containing material. Ducts are to be removed following the Varied Type 3 procedures as outlined in the HHS Asbestos Management Program (AMP).

Photo 1

4.1.2 Texture Finishes (Decorative)

Spray-applied texture finish (photo 1), containing chrysotile asbestos (sample 012A, lab reference no. b54379), is present on the drywall bulkhead within the southeast corner of the Yellow Parking Garage (Yellow quad, Location 12).

Spray-applied texture finish, containing chrysotile asbestos (sample 2018-0017B-C, lab reference no. 51825828), is present on the drywall ceiling of the corridor in the Blue Parking Garage (Blue quad, Location 8).

Overspray from the asbestos-containing texture coat is assumed present above the ceiling at light fixture openings, on the deck, ducts and within junction boxes.

Photo 1

4.1.3 Pipe Insulation

Parging cement (photo 1), containing asbestos (samples 002 and 005, lab reference no. b54378), is present on the majority of insulated pipe fittings (elbows, valves, tees, hangers etc.) in Parking, MM levels, and interstitial spaces of all quads, as well as in sporadic locations throughout the occupied areas (e.g., under fume hoods in laboratories).

Tar (photo 2), containing asbestos (sample 004A, lab reference no. b54378), is present on pipe fittings (elbows, valves, tees, etc.) on the chilled water and domestic water systems within the MM levels and interstitial spaces of all quads.

Remaining pipes are either uninsulated or insulated with fibreglass. Asbestos-containing spray-applied fireproofing overspray is present on and/or beneath pipe insulations in areas of spray-applied fireproofing.

Photo 1

Photo 2

4.1.4 Duct Insulation and Mastic

Preformed block/parging cement insulation, containing asbestos (sample 0001A, lab reference no. b163789), is present on the exhaust duct system in the 1M Interstitial Space of the Red Quad (Red quad, Location 9001).

Remaining ducts are either uninsulated or insulated with non-asbestos fibreglass. Asbestos-containing spray-applied fireproofing overspray may be present on and/or beneath duct insulations in areas of spray-applied fireproofing.

Ductwork in buildings with asbestos-containing spray-applied fireproofing is considered contaminated by Regulation 278/05. All ductwork was found to be in good condition. Dust within ducts has been sampled in the past in various locations and determined to be non-asbestos.

Brown/red duct mastic (photo 1), containing asbestos (ECOH samples 16262-MUMC-ASB-05A, lab reference no. 551600473), is present throughout the building.

Grey duct mastic present throughout the building does not contain asbestos (ECOH samples 16262-MUMC-ASB-04A-C, lab reference no. 551600473).

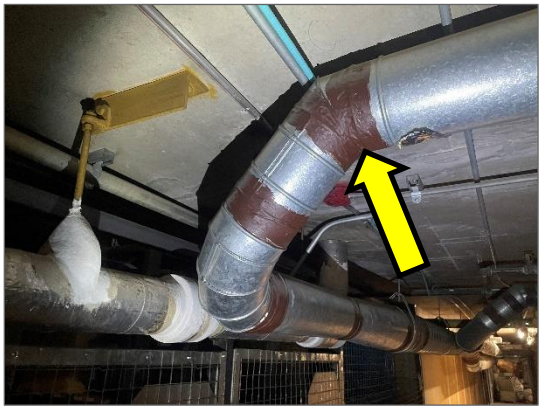

Photo 1

4.1.5 Mechanical Equipment Insulation

Parging cement, containing asbestos (sample 008, lab reference no. b54378), is present over fibreglass insulation on two chilled water holding tanks within the MM Level of the Purple Quad (Purple quad, Location 15).

Brown/red mastic, containing asbestos (previously sampled), is present on mechanical equipment throughout the building.

Remaining mechanical equipment is either uninsulated or insulated with non-asbestos fibreglass. Asbestos-containing spray-applied fireproofing overspray may be present on and/or beneath mechanical insulations in areas of spray-applied fireproofing.

4.1.6 Acoustic Ceiling Tiles

Acoustic lay-in ceiling tiles (30” x 48” small and large pinhole pattern, photo 1), containing asbestos, are present throughout the building (sample 0004A, lab reference no. b114075).

The same pattern of acoustic ceiling tiles (30” x 48” small and large pinhole pattern) have been sampled within the building and determined to be non-asbestos in some locations (samples S0003A-C, lab reference no. b242510 and 0001A-C, lab reference no. b238260). The acoustic ceiling tiles cannot be visually distinguished, therefore, all 30” x 48” small and large pinhole pattern acoustic ceiling tiles should be presumed to contain asbestos unless specific sampling proves otherwise.

Remaining ceiling tiles are presumed to be non-asbestos based on previous sampling, the date of manufacture determined from the date stamp applied to the top of the tiles or the age of the materials determined from the date of renovations. The tiles were manufactured after asbestos stopped being used in acoustic ceiling tiles.

Photo 1

4.1.7 Plaster

Rough plaster (photo 1) is present sporadically on perimeter shaft walls in the interstitial spaces (all quads, Locations 9001-9004). Seven samples of rough plaster were collected (samples S001A-C, lab reference no. b182855, S0014A-C, lab reference no. b247200, and sample S0031A, lab reference no. 10016154) and it was found that four samples contained actinolite/tremolite asbestos, with two samples containing more than 0.5% asbestos which is the definition of an asbestos-containing material under O. Reg. 278/05. The variable asbestos content is a result of vermiculite mixed into the plaster during

construction, which was contaminated with Libby Amphibole asbestos (asbestos-contaminated vermiculite insulation mined in Libby, Montana). The asbestos-positive results indicate that at a minimum, a portion of rough plaster application contains asbestos and all rough plaster in the interstitial spaces in all quads should be presumed to be asbestos-containing.

Smooth plaster present on walls, ceilings, and decorative ceilings within Lecture Hall 1A6 (Purple quad, Location 1002) does not contain asbestos (samples 007A-C and 008A-B, lab reference no. 1707008, and samples 009A-E, lab reference no. 1707696).

Plaster present as a firestop in the Yellow Janitor's Closet (Yellow quad, Location 1056) does not contain asbestos (samples S0015A-C, lab reference no. b247200).

Photo 1

4.1.8 Drywall Joint Compound

Drywall joint compound (photo 1), containing asbestos, is present on wall and ceiling finishes throughout the building (previously sampled under various projects). Assume all original joint compound to contain asbestos unless specific sampling proves otherwise.

Double drywall ceilings present above lay-in ceiling tiles throughout the building did not have any joint compound applied during the original building construction, so any joint compound present on double drywall ceilings in the building is assumed to have been applied during renovations and would not contain asbestos based on the installation date.

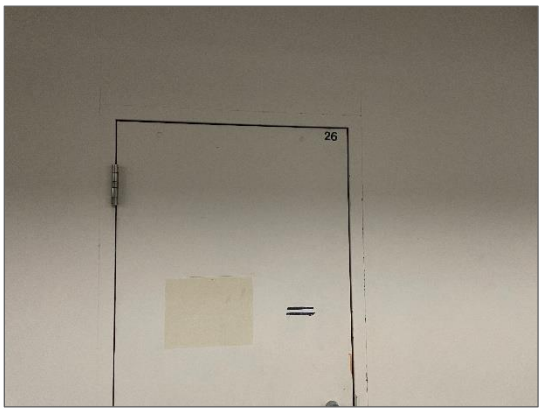

Photo 1

4.1.9 Paint and Coating Material

Asbestos and non-asbestos paint/coating material is present on concrete block walls throughout the building (photo 1). Refer to “Paint Bulk Sample Results Letter – McMaster University Medical Centre” (Pinchin File No. 303980.008) on the HMIS 2.0 online database for details. All paint/coating material should be presumed to be asbestos-containing unless sampling has indicated otherwise.

Photo 1

4.1.10 Asbestos Cement Products (Transite)

Transite board (photo 1), presumed to contain asbestos based on visual observation, is present within fume hoods throughout the building, the majority of which are present within the third and fourth floor laboratories. It is also present under lab counters and as cabinet liners in lab areas.

Transite pipe, presumed to contain asbestos based on visual observation, is present as exhaust ducting from the fume hoods.

Photo 1

4.1.11 Vinyl Sheet Flooring

Vinyl sheet flooring that has been sampled is present as follows:

Pattern, Colour, Photo #	Sample Number, Lab Ref No.	Asbestos
Beige square, photo 1	016A, b54379	Yes
Brown with white squares photo 2	038A, b54506	Yes
Dark green squares	042A, b54507	Yes
Dark green/white squares	044A, b54507	Yes
Red with green squares, photo 3	047A, b54507	Yes

Remaining sheet flooring present throughout the building is presumed to be non-asbestos based on historical knowledge of the type of flooring (linoleum without a paper backing layer). Mastic under non-asbestos sheet flooring throughout the building is presumed to contain asbestos unless specific sampling indicates otherwise.

Photo 1

Photo 2

Photo 3

4.1.12 Vinyl Floor Tile and Mastic

Examples of asbestos-containing vinyl floor tiles present in significant quantities throughout the building are as follows. Refer to the HMIS 2.0 online database for more details and quantities of vinyl floor tiles and mastic throughout the building.

Size, Pattern, Colour, Photo #	Example Location (Quad, Location #)	Sample Number, lab reference no.	Asbestos (tile)	Asbestos (mastic)
12” x 12”, green with white streak, photo 1	Corridor (Red, Location 1034)	013A, b54379	Yes	Yes
12” x 12”, red with white streaks, photo 2	Biochem Teaching Lab (Purple, Location 1044)	015A, b54379	Yes	Yes
12” x 12”, beige with brown lines, photo 3	Corridor/Storage (Purple, Location 1017)	020A, b54380	Yes	Yes
12” x 12”, beige with black and white streaks, photo 4	Female Locker Room (Purple, Location 1034)	S022a, b54381	Yes	Yes
12” x 12”, beige with black streaks, photo 5	Maintenance Shop (Red, Location 1012)	S023a, b54381	Yes	Yes
12” x 12”, red with black streaks, photo 6	Corridor (Blue, Location 1026)	S025a, b54381	Yes	Yes
12” x 12”, yellow, photo 7	Office (Blue, Location 1108)	S026a-c, b54381	Yes	None Detected
12” x 12”, brown with dark brown streaks, photo 8	Corridor (Blue, 1015)	027A, b54505	Yes	Presumed

Vinyl floor tiles that are non-asbestos in HMIS are either confirmed to be non-asbestos by previous sampling or the date of installation as reported by the Client. Mastic under non-asbestos vinyl floor tiles throughout the building is presumed to contain asbestos unless specific sampling indicates otherwise.

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

4.1.13 Firestopping

Parging cement firestopping (photo 1), presumed to contain asbestos (previously sampled), is present around pipe penetrations throughout the building, particularly beneath sinks and fume hoods within the third and fourth floor laboratories.

White firestopping, presumed to contain asbestos (previously sampled), is present at wall penetrations into the shafts from the interstitial spaces of the building (all quads, Locations 9001-9004).

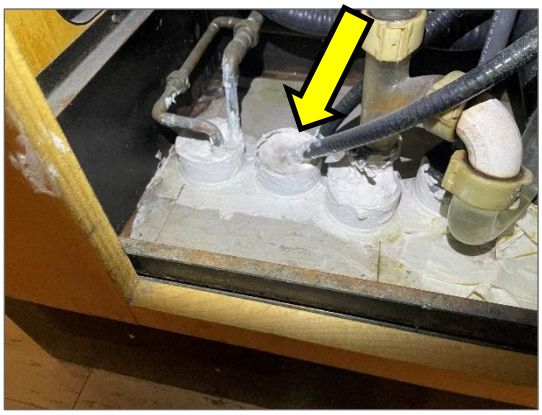

Photo 1

4.1.14 Levelling Compound

Levelling compound, containing asbestos, was identified beneath non-asbestos linoleum sheet flooring and carpets in sporadic locations in the building (sample 0002A, lab reference no. b173908, sample S003A, lab reference no. b186202, and samples S0001A and C, lab reference no. b242510). Levelling compound may be present in other locations within the building.

Drywall joint compound, applied as levelling compound, containing asbestos, was identified in the Cafeteria (Red quad, Location 1099) at perimeter walls (sample S0004A, phase C, lab reference no. 1710851).

4.1.15 Roofing Products

The built-up roofing materials present in Courtyard 1 (Red quad, Location 3212) do not contain asbestos (samples 0007A-C, lab reference no. b187904).

4.1.16 Caulking and Putty

Caulking (various colours), containing asbestos, has been identified in various locations and applications throughout the building (sample 0001A, lab reference no. b164437 and samples S0004A-C, lab reference no. b237735).

Putty (various colours), containing asbestos, has been identified in various locations between window glazing and metal frames throughout the building (sample 005A, lab reference no. 7124168, S0018A, lab reference no. b249652, and sample S0015A, lab reference no. 71930350).

Caulking and putties have been sampled throughout the building during various projects. Caulking and putties throughout the building are presumed to contain asbestos unless specific sampling indicates otherwise.

4.1.17 Other Building Materials

Black mastic (photo 1), containing asbestos (previously sampled under various projects), is present as an undercoating on sinks throughout the building.

Gold mastic (photo 2), containing asbestos, is present as an undercoating on sinks throughout the building (sample 0001A, lab reference no. b129908 and sample S0023A, lab reference no. 10016154).

Textile gaskets, containing asbestos, are present in flammable cabinets throughout the building (samples 0003A, lab reference no. b175157, S002A, lab reference no. b182478, and 0001a, lab reference no. 1516821).

Rope gasket, containing asbestos (sample S0002A, lab reference no. b249808), is present between the concrete block wall and a steel beam in General Stores (Red quad, Location 1049).

Adhesive (photo 3), containing asbestos (sample S0021A, lab reference no. b261784), is present behind rigid insulation on exterior precast panels. The material was discovered during a renovation project and is assumed to be present in similar applications in the building.

Bakelite counters, presumed to contain asbestos, are present in various laboratories throughout the building.

Bakelite, present as racking in Lab 2N13 (Blue quad, Location 2034) does not contain asbestos (samples S0035A-C, lab reference no, 10036732)

Asbestos-containing foil-faced paper heat shields were reported to be present within incandescent light fixtures throughout the Fourth Floor Yellow quad and are presumed present throughout the building.

Photo 1

Photo 2

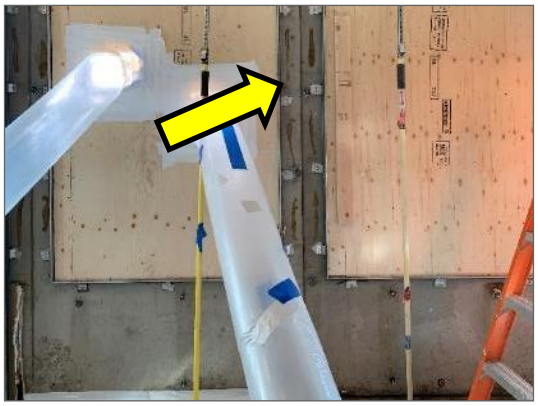

Photo 3 (photo from renovation project)

4.2 Roof and Exterior

4.2.1 Fireproofing

Cementitious spray-applied fireproofing, containing chrysotile asbestos (previously sampled), is present on the structure in the Electrical Room (Location 5005) and above metal and drywall soffits on the Level 5 Roof (Locations 5001-5004). The spray-applied fireproofing in the Electrical Room (Location 5005) has been encapsulated (encased), with a surface coating material.

Non-asbestos green/blue spray-applied fireproofing is also present adjacent to the asbestos-containing spray-applied fireproofing in the Electrical Room (Location 5005) and in the Elevator Lobby (Location 5006). The fireproofing is tinted green/blue (Retroguard) to indicate it as non-asbestos.

Cementitious spray-applied fireproofing present on structural members on the tops of Shafts 44, 47, 74, and 77 does not contain asbestos (samples S0002A-C and S0005A-C, lab reference no. b237735).

4.2.2 Pipe Insulation

Parging cement, containing asbestos (previously sampled), is present on insulated pipe fittings in the Electrical Room (Location 5005).

Remaining pipes are either uninsulated or insulated with fibreglass. Asbestos-containing spray-applied fireproofing overspray is presumed to be present on and/or beneath pipe insulations in areas of spray-applied fireproofing.

4.2.3 Duct Insulation

Ducts are uninsulated.

4.2.4 Mechanical Equipment Insulation

Mechanical equipment is uninsulated.

4.2.5 Drywall Joint Compound

Drywall joint compound (photo 1), containing asbestos (previously sampled), is present as a finish on drywall soffits on the Roof (Locations 5001-5004). Ongoing abatement of soffits has been occurring since July 2022, and HMIS has been updated accordingly.

Photo 1

4.2.6 Caulking and Tar

Grey caulking, containing asbestos (sample 0004A, phase B, lab reference no. b173908 and HHS sample S-009(b), December 2015), is present at expansion joints between pre-cast concrete panels on exterior canopies and the building exterior (Location 0).

Grey caulking, containing asbestos, is present around the windows on all shafts (samples S0004A-C, lab reference no. b237735).

Tar, containing asbestos, is present at roof penetrations on top of Shaft 74 (sample S0003A, phase a, lab reference no. b237735).

Remaining caulking and tar present on the exterior is presumed asbestos-containing until sampling is performed.

4.2.7 Firestopping

Black firestopping (mastic) present at conduit penetrations on the roofs of Shafts 44 and 74 does not contain asbestos (samples S0006A-C, lab reference no. b237735).

4.2.8 Roofing Products

Residual tar roofing material (photo 1), containing asbestos (sample S0006B-C, lab reference no. b290700), is present in the channels of the steel decking below the non-asbestos roofing on the Level 6 Mechanical Penthouse Roof (Location 6001).

Non-asbestos roofing (reported by HHS based on the date of installation) is present on the Level 5 Roof (Locations 5001-5004) and the Level 6 Mechanical Penthouse Roof (Location 6001).

Photo 1 (photo taken during sampling)

4.3 Level 5M

4.3.1 Fireproofing

Cementitious spray-applied fireproofing, containing chrysotile asbestos (previously sampled), is present on structural steel beams and framing (trusses, cross-bracing, columns, etc.) throughout the Level 5M interstitial space (Locations 1-4). The spray-applied fireproofing is unencapsulated, therefore Type 2 entry procedures are required for entry.

The asbestos-containing spray-applied fireproofing in the 5M Interstitial Space between Shafts 22 and 23 has been encapsulated (encased), with a surface coating material.

4.3.2 Pipe Insulation

Parging cement, containing asbestos (previously sampled), is present on the majority of insulated pipe fittings (elbows, valves, tees, hangers etc.) in the 5M interstitial space (Locations 1-4).

Remaining pipes are either uninsulated or insulated with fibreglass. Asbestos-containing spray-applied fireproofing overspray is present on and/or beneath pipe insulations in areas of spray-applied fireproofing.

4.3.3 Duct Insulation and Mastic

Ducts are either uninsulated or insulated with non-asbestos fibreglass. Asbestos-containing spray-applied fireproofing overspray may be present on and/or beneath duct insulations.

Brown/red duct mastic, containing asbestos (previously sampled), is present on ducts throughout the 5M interstitial space (Locations 1-4).

4.3.4 Mechanical Equipment Insulation

Mechanical equipment is either uninsulated or insulated with non-asbestos fibreglass. Asbestos-containing spray-applied fireproofing overspray may be present on and/or beneath mechanical insulations.

Brown/red mastic, containing asbestos (previously sampled), is present on mechanical equipment throughout the 5M interstitial space (Locations 1-4).

4.3.5 Drywall Joint Compound

Drywall joint compound, containing asbestos (previously sampled), is present as a wall and soffit finish throughout the 5M interstitial space (Locations 1-4). Assume all original joint compound to contain asbestos unless specific sampling proves otherwise.

4.4 Level 6

4.4.1 Fireproofing

Cementitious spray-applied fireproofing, containing chrysotile asbestos (previously sampled), is present on the structure throughout the Level 6 Mechanical Penthouse. The spray-applied fireproofing has been encapsulated (encased), with a surface coating material.

4.4.2 Pipe Insulation

Parging cement, containing asbestos (previously sampled), is present on the majority of insulated pipe fittings (elbows, valves, tees, hangers etc.) in the Level 6 Mechanical Penthouse.

Remaining pipes are either uninsulated or insulated with fibreglass. Asbestos-containing spray-applied fireproofing overspray is present on and/or beneath pipe insulations in areas of spray-applied fireproofing.

4.4.3 Duct Insulation and Mastic

Ducts are either uninsulated or insulated with non-asbestos fibreglass. Asbestos-containing spray-applied fireproofing overspray may be present on and/or beneath duct insulations in areas of spray-applied fireproofing.

Brown/red duct mastic, containing asbestos (previously sampled), is present throughout the Level 6 Mechanical Penthouse.

4.4.4 Mechanical Equipment Insulation

Breeching on redundant diesel generator exhausts (photo 1) throughout the Level 6 Mechanical Penthouse is insulated with preformed block insulation containing asbestos (mag block) covered with parging cement containing asbestos (previously sampled).

Air handling units throughout the Level 6 Mechanical Penthouse are partially uninsulated and insulated in limited areas. Asbestos-containing spray-applied fireproofing overspray is present on and/or beneath insulations of these units and is present on uninsulated portions of the units.

Photo 1

4.4.5 *Acoustic Ceiling Tiles*

Acoustic lay-in ceiling tiles (24” x 48” pinhole with fleck pattern) in the Office (Location 7) do not contain asbestos based on the age of the material installation. The tiles were manufactured after asbestos stopped being used in acoustic ceiling tiles.

4.4.6 *Drywall Joint Compound*

Drywall joint compound (photo 1), containing asbestos (previously sampled), is present as a wall and ceiling finish throughout the Level 6 Mechanical Penthouse. Assume all original joint compound to contain asbestos unless specific sampling proves otherwise.

Photo 1

4.4.7 *Paint and Coating Material*

Paint present on the concrete block wall in the Elevator 22 Mechanical Room (Location 72) contains <0.5% asbestos (samples S0001A-C, lab reference no. b244186). As defined by Ontario Regulation 278/05, the material is deemed non-asbestos with less than the cut-off of 0.5% asbestos by dry weight.

4.4.8 Asbestos Cement Products (Transite)

Transite board (photo 1), presumed to contain asbestos based on visual observation, is present within air handling units 44 (Location 13) and 47 (Location 26).

Photo 1

4.4.9 Vinyl Floor Tiles and Mastic

Vinyl floor tiles (12” x 12” beige with dark beige pattern) and mastic in the Washroom Adjacent to Shaft 46 (Location 25) do not contain asbestos based on the date of installation.

4.4.10 Caulking

Grey caulking (photo 1), containing asbestos (sample S0002A, lab reference no.10016137), is present at the joint of the bottom flange of the beam and the poured concrete floor between Shaft 22 and Shaft 23 (Location 19). Grey caulking is assumed to be present in the same application throughout Level 6.

Photo 1

4.4.11 Other Building Materials

Black mastic (photo 1), presumed to contain asbestos, is present as a sink undercoating in the Corridor (Location 34).

Photo 1

4.5 Shafts and Stairwells

4.5.1 Fireproofing

Fireproofing is present in the shafts and stairwells as follows.

Refer to “Pyrok Bulk Sample Results Letter”, Pinchin File No. 303980.007 on the HMIS 2.0 Online Database for further details.

Trade Name/Type, Photo #	Observations	Locations	Asbestos Type
Pyrok (trowel-applied cementitious fireproofing), Photo 1	On structural members	Glass Shafts Stairwell Shafts	Chrysotile Actinolite/Tremolite
Monokote MK3 (spray-applied cementitious fireproofing)	On structural members, **unencapsulated**	Mechanical Shafts 43, 45, and 56 Elevator Shafts 23, and 28 Type 2 procedures are required for access	Chrysotile
Residual Monokote MK3 (spray-applied cementitious fireproofing), Photo 2	Backside of columns, **unencapsulated**	Level 1 of Mechanical shafts 33, 34, 53, 55, 58, 73, 78 and presumed in others	Chrysotile

Trade Name/Type, Photo #	Observations	Locations	Asbestos Type
Monokote MK3 (spray-applied cementitious fireproofing)	On structural members, **encapsulated**	Mechanical Shafts 36, 48, 63, and 68 Elevator Shafts 22, 24, 25, and 27	Chrysotile
Retroguard (spray-applied cementitious fireproofing)	Tinted blue/green to indicate as non-asbestos	Various mechanical shafts	None

Photo 1

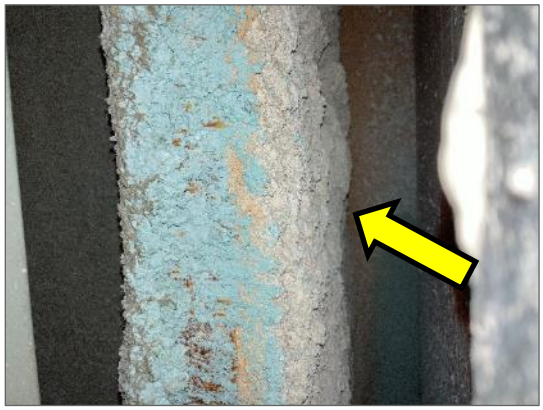

Photo 2

4.5.2 Pipe Insulation

Parging cement, containing asbestos (previously sampled), is present on insulated pipe fittings (elbows, valves, tees, hangers etc.) throughout the shafts and stairwells.

Remaining pipes are either uninsulated or insulated with fibreglass. Asbestos-containing spray-applied fireproofing overspray is present on and/or beneath pipe insulations in areas of spray-applied fireproofing.

4.5.3 Duct Insulation and Mastic

Preformed block/parging cement insulation, containing asbestos (ECOH samples 15319-ACM-01A-C), is present on exhaust ducting in Shaft 47 (Location 47).

Remaining ducts are either uninsulated or insulated with non-asbestos fibreglass. Asbestos-containing spray-applied fireproofing overspray may be present on and/or beneath duct insulations in areas of spray-applied fireproofing.

Brown/red duct mastic, containing asbestos (previously sampled), is present throughout the shafts and stairwells.

4.5.4 Mechanical Equipment Insulation

Brown/red mastic, containing asbestos (previously sampled), is present on mechanical equipment.

Mechanical equipment is either uninsulated or insulated with non-asbestos fibreglass. Asbestos-containing spray-applied fireproofing overspray may be present on and/or beneath mechanical insulations in areas of spray-applied fireproofing.

4.5.5 Acoustic Ceiling Tiles

Acoustic lay-in ceiling tiles (30” x 48” small and large pinhole pattern), containing asbestos (previously sampled), are present in the top of Stairwell Shaft 36 (Location 2).

4.5.6 Drywall Joint Compound

Drywall joint compound, containing asbestos (previously sampled), is present as a wall and ceiling finish throughout the shafts and stairwells. Assume all original joint compound to contain asbestos unless specific sampling proves otherwise.

4.5.7 Vinyl Floor Tiles and Mastic

Vinyl floor tiles (12” x 12” brown) and mastic (photo 1), containing asbestos (previously sampled), are present in the stairwell shafts. Remaining vinyl floor tiles do not contain asbestos based on the date of installation as reported by the client. Mastic under non-asbestos vinyl floor tiles is presumed to contain asbestos.

Photo 1

4.5.8 Firestopping

White firestopping, presumed to contain asbestos (previously sampled), is present at wall penetrations throughout the shafts and stairwells.

4.5.9 *Other Building Materials*

Paper insulation, containing asbestos (samples S0005A-C, lab reference no. A69577), is present in between steel door frames in Elevator Shaft 23 (Location 8). Paper insulation is presumed to be present in steel door frames of other elevator shafts.

4.6 South Parking Garage

4.6.1 *Fireproofing*

Cementitious spray-applied fireproofing present in the Parking Area (Location 6) does not contain asbestos (samples S0027A-C, lab reference no. 71930350).

4.6.2 *Pipe Insulation*

Pipes are either uninsulated or insulated with non-asbestos fibreglass.

4.6.3 *Duct Insulation*

Ducts are uninsulated.

4.6.4 *Mechanical Equipment Insulation*

Mechanical equipment is uninsulated.

4.6.5 *Plaster*

Plaster present in the South Stairwell (Location 3) does not contain asbestos (samples S0023A-C, lab reference no. 71930350).

4.6.6 *Caulking and Putty*

The following table presents a summary of caulking and putties present:

Material, Colour	Location	Sample Number, lab reference no.	Asbestos
Putty, black	In between window frames	S0025A-C, 71930350	Yes
Caulking, grey	Around window frames	S0024A-C, 71930350	None Detected
Caulking, grey	Expansion joint on wall	S0026A-C, 71930350	None Detected

4.6.7 *Other Building Materials*

Tar paper present as a vapour barrier in the Parking Area (Location 6) does not contain asbestos (samples S0028A-C, lab reference no. 71930350).

4.7 Cogen

4.7.1 Pipe Insulation

Parging cement, containing asbestos (previously sampled), is present on insulated pipe fittings in the Mechanical Room (Location 10).

Tar paper over fiberglass pipe insulation, present on domestic cold water pipes in the Mechanical Room (Location 10), does not contain asbestos (samples S0007A-C, lab reference no. 10036729)

Remaining pipes are either uninsulated or insulated with non-asbestos fibreglass.

4.7.2 Duct Insulation and Mastic

Ducts are either uninsulated or insulated with non-asbestos fibreglass or mineral wool.

Grey mastic present on ducts throughout Cogen does not contain asbestos (previously sampled).

4.7.3 Mechanical Equipment Insulation

Parging cement (photo 1), containing asbestos (previously sampled), is present over fibreglass insulation on hot water tanks #1, #2, and #3 and three unidentified tanks in the Mechanical Room (Location 10).

Remaining mechanical equipment is either uninsulated or insulated with non-asbestos fibreglass.

Photo 1

4.7.4 Vinyl Floor Tiles and Mastic

Vinyl floor tiles (12” x 12” beige with black streaks) and mastic (photo 1), containing asbestos (previously sampled), are present in the Vestibule and Telecom Room (Location 1) and the Records Storage Room (Location 2).

Vinyl floor tiles (12” x 12” beige with white flecks) present in the Mechanical Room (Location 10) do not contain asbestos based on the date of installation. Mastic under non-asbestos vinyl floor tiles is presumed to contain asbestos until specific sampling can prove otherwise.

Photo 1

5.0 RECOMMENDATIONS

5.1 General

Perform a detailed intrusive assessment prior to building renovation or demolition operations. The assessment should include; destructive testing (e.g. coring and/or removal of building finishes and components), sampling of other hazardous materials (lead, mercury, PCBs, mould, etc.), and materials not tested in this study (e.g. roofing materials, caulking, mastics).

5.1.1 Excluded Asbestos Materials

Materials listed as exclusions in the previous reports remain as exclusions. Sampling, assessment or verification of excluded materials was not conducted.

The following is a list of materials which may contain asbestos, which were not observed and/or not sampled during the assessment; these materials are presumed contain asbestos until otherwise proven by sampling and analysis:

- Roofing felts and tar, mastics (residual, where not sampled)
- Floor levelling compound
- Ceramic tile setting compound
- Elevator and lift brakes
- Electrical components
- Refractory materials and insulations in boilers, incinerators, and stacks

- Insulation under metal clad boilers and vessels
- Mechanical packing, ropes, and gaskets
- Vermiculite
- Adhesives and duct mastics
- Caulking and putties
- Paper products
- Soffit and fascia boards
- Fire resistant doors
- Stucco, plaster or other cementitious parge coatings
- Vibration dampers on HVAC equipment
- Dust in ductwork
- Ropes and gaskets in cast-iron bell and spigot joints
- Sealants on pipe threads

5.2 Remedial Work

Refer to the Remedial Recommendation Report in Appendix II for a list of any recommended remedial work.

5.3 On-going Management and Maintenance

The following recommendations are made regarding on-going management and maintenance work involving the asbestos materials identified.

Continue to apply the policies and procedures as outlined in the building's Asbestos Management Program (AMP).

Perform a reassessment of asbestos materials on an annual basis.

Remove asbestos-containing materials (ACM) prior to alteration or maintenance work if ACM may be disturbed by the work. Follow appropriate asbestos precautions for the classification of work being performed.

Update the asbestos inventory report for the building upon completion of any abatement of ACM.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

7.0 REFERENCES

The following legislation and documents were referenced in completing the assessment and this report:

1. Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05.
2. Designated Substances, Ontario Regulation 490/09.
3. Ministry of the Environment Regulation, R.R.O. 1990 Reg. 347 as amended.

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Template: Master Report for Asbestos Reassessment, HAZ, July 2, 2024

APPENDIX I

Methodology

1.0 GENERAL

Pinchin conducted an investigation of previously identified asbestos-containing materials (ACM) to evaluate the current condition of all accessible ACM identified in the most recent assessment.

The surveyor made reference to any existing assessment or abatement reports (as provided by the Client).

Materials listed as exclusions in the previous reports have remained as exclusions. Sampling, assessment or verification of excluded materials was not conducted.

Existing sampling data, where available, was reviewed and relied upon.

Where sampling was conducted, sample collection was conducted in accordance with our Standard Operating Procedures.

A separate set of samples was collected of each type of homogenous material suspected to contain asbestos. A homogenous material is defined by the US EPA as 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. The homogeneous materials were determined by visual examination and available information on the phases of construction and prior renovations.

Samples were collected at a rate that is in compliance with the requirements of local regulations and guidelines. The sampling strategy was also based on known ban dates and phase out dates of the use of asbestos; sampling of certain building materials is not conducted after specific construction dates. In addition, to be conservative, several years past these dates are added to account for some uncertainty in the exact start / finish date of construction and associated usage of ACM. In some cases, manufactured products such as asbestos cement pipe were visually identified without sample confirmation.

The asbestos analysis for select materials was completed using a stop-positive approach. Only one result meeting the regulated criteria was 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 stopped analyzing samples from a homogeneous material once a result equal to or greater than the regulated criteria is detected in any of the samples of that material. All samples of a homogeneous material were analyzed if no asbestos is detected. In some cases, all samples were analyzed in the sample set regardless of result.

The analysis was performed in accordance with Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, July 1993.

Analytical results were compared to the following criteria:

Jurisdiction	Friable	Non-Friable
Ontario	0.5%	0.5%

Where building materials are described in the report as “non-asbestos” or “does not contain asbestos”, this means that either no asbestos was detected by the analytical method utilized in any of the multiple samples or, if detected, it is below the lower limit of an asbestos-containing material in the applicable regulation. Additionally, these terms are used for materials which historically are known to not include asbestos in their manufacturing.

Asbestos materials are evaluated in order to make recommendations regarding remedial work. The priority for remedial action is based on several factors:

- Friability (friable or non-friable)
- Condition (good, fair, poor, debris)
- Accessibility (ranking from accessible to all building users to inaccessible)
- Visibility (whether the material is obscured by other building components)
- Efficiency of the work (for example, if damaged ACM is being removed in an area, it may be most practical to remove all ACM in the area even if it is in good condition)

For a complete description of the Evaluation Criteria and Basis of Recommendations, refer to Annex A.

Template: Methodology for Asbestos Reassessment, HAZ, January 16, 2024

METHODOLOGY ANNEX A EVALUATION CRITERIA

1.0 EVALUATION CRITERIA AND BASIS OF RECOMMENDATIONS

The detailed asbestos assessment provides information regarding the location, condition, accessibility and friability of the asbestos-containing materials (ACM). In order to make recommendations for compliance with current regulations, Pinchin developed the following criteria.

2.0 EVALUATION OF CONDITION

2.1 Friable Sprayed or Trowelled Fireproofing, Thermal Insulation and Texture Finishes (Surfacing Materials)

To evaluate the condition of ACM sprayed or trowelled on fireproofing, sprayed or trowelled thermal insulation (non-mechanical), or texture, decorative or acoustic finishes, the following criteria are applied:

Good	Surface of material shows no significant signs of damage, deterioration or delamination. Good condition includes unencapsulated or unpainted fireproofing or texture finishes, where no or limited delamination or damage is observed, or encapsulated fireproofing or texture finishes where the encapsulant or paint has been applied after the damage or fallout occurred.
Poor	A sprayed material that shows signs of significant damage or is significantly delaminating or deteriorating. This may be limited to surface delamination or some portion of the substrate may be exposed.

In Locations where damage exists in isolated areas, both good and poor condition may be applicable. The extent of each condition will be recorded. Fair condition is not utilized in the evaluation of ACM sprayed or trowelled fireproofing, sprayed or trowelled thermal insulation (non-mechanical), or texture, decorative or acoustic finishes.

The evaluation of the above products above ceilings may be limited by the number of observations and by building components such as ducts or full height walls that obstruct the above ceiling observations.

2.2 Friable Mechanical or Thermal System Insulation (TSI)

To evaluate the condition of mechanical insulation on vessels, boilers, breeching, ducts, pipes, fan units, equipment etc. the following criteria are applied:

Good	Insulation is completely covered in jacketing and exhibits no evidence of damage or deterioration. No insulation is exposed. Includes conditions where the jacketing has minor damage (i.e. scuffs or stains), but the jacketing is not penetrated.

Fair	Minor penetrating damage to jacketed insulation (cuts, tears, nicks, deterioration or delamination) or undamaged insulation that has never been jacketed. Insulation is exposed but not showing surface disintegration. The extent of missing insulation ranges from minor to none. Damage can be repaired.
Poor	Original insulation jacket is missing, damaged, deteriorated or delaminated. Insulation is exposed and significant areas have been dislodged. Damage cannot be readily repaired. Includes components where insulation may have been removed incompletely.

The evaluation of mechanical insulation may be limited by the number of observations made and building components such as ducts or full height walls that obstruct observations. It is often not possible to observe each foot of mechanical insulation from all angles.

2.3 Potentially Friable Materials and Miscellaneous Friable Materials

Potentially friable ACM are products that are basically non-friable while in place but have the potential to generate friable dust upon removal or if significantly disturbed without appropriate procedures. These products may become friable if damaged. Potentially friable materials include materials such as acoustic ceiling tiles and plaster. To evaluate the condition of potentially friable materials, the following criteria are applied:

Good	No significant damage or deterioration. Still serving its intended use as a building material or finish.
Fair	Showing signs of some cracking or breakage, but is not deteriorating (e.g. cracked plaster, broken but in place ceiling tile, missing tile or section of plaster etc.). The condition is such that it is still serving its intended use as a building material or finish but may require repair for mainly cosmetic purposes.
Poor	Significant deterioration or breaking apart of the material. Material has deteriorated to the point it is not serving its intended use as building material or finish. Material has deteriorated to a point it has become friable. Normally potentially friable ACM in Poor condition is not repairable and requires at least localized removal and replacement.

2.4 Non-Friable Materials

Non-friable ACM cover a wide range of products with a wide variation in their tendency to release dust or asbestos fibres to the air. Many of these materials, (particularly where the matrix is an unweathered bitumen, asphalt or tar material) do not release fibres except in very unusual circumstances or during significant disturbance (e.g. use of abrasive power tools). Others with a cementitious matrix (asbestos-cement products) can more readily release dust due to abrasion, demolition, weathering, etc. The

potential for asbestos release from non-friable ACM is always lower than from friable ACM. To evaluate the condition of non-friable Materials, the following criteria are applied:

Good	No significant damage or deterioration. Still serving its intended use as a building material or finish.
Fair	Showing signs of some cracking or breakage but is not deteriorating (e.g. cracked vinyl floor tile, missing piece of tile or transite, etc.). The condition is such that it is still serving its intended use as a building material or finish but may require repair for mainly cosmetic purposes.
Poor	Significant deterioration or breaking apart of the material to the point at which it cannot be repaired, and it will require at least local removal. Material has deteriorated to the point it is not serving its intended use as building material or finish. Material may have deteriorated to a point where traffic or disturbance may cause it to become friable.

2.5 Evaluation of ACM Debris

The identification of the exact location or presence of debris on the top of ceiling tiles is limited by the number of observations made and the presence of building components such as ducts or full height walls that obstruct observations.

The presence of fallen or dislodged ACM is noted separately from the ACM source and is referred to as Debris. Debris may be friable if from a friable ACM source or a badly deteriorated non-friable ACM source. Debris may also be non-friable (such as fallen pieces of transite sheet or mastic fittings, or broken, dislodged floor tiles).

Debris	Debris may be friable or non-friable but is always identified as “debris” as the component of an observation and quantified as Poor condition.

2.6 Evaluation of Presumed Asbestos-Containing Material (PACM)

Presumed asbestos-containing materials (PACM), are building materials that may contain asbestos but were not sampled or analyzed due to inaccessibility or the need to perform destructive testing to obtain a reasonable sample set. Evaluation of these materials is based on the assumption that these PACM are asbestos-containing.

A list of PACM is provided in the report and they are generally not included in the detailed room by room reports. Typically, they are excluded because they are inaccessible or present in very small quantities. If PACM are evaluated, Pinchin uses the criteria that correspond with the type (and friability) of the material listed above.

3.0 EVALUATION OF ACCESSIBILITY

The accessibility of building materials known or suspected of being ACM is rated according to the following criteria:

Access (A)	Common areas of the building within reach of all building users (approximately 8 ’- 9’ from floor or standard ceiling height). Includes other areas where occupant activities may result in disturbance of material that is not normally within reach from floor level, but may be disturbed by common activities (e.g. gymnasiums, workshops, warehouses.)
Access (B)	Areas of the building accessed primarily by Maintenance/Caretaking/Janitorial Staff and within reach without use of a ladder. Includes areas within reach in Boiler Rooms, Electrical Rooms, Janitors Closets, Elevator Rooms, Mechanical Rooms, etc. Includes materials within reach from fixed ladders or catwalks, mezzanines, and accessible pipe chases.
Access (C) and Visible	Areas of the building above 8' - 9’ where use of a ladder or scaffold is required to reach the ACM. Only includes ACM that are visible to view without the removal or opening of other building components such as ceiling tiles or service access panels.
Access (C) and not Visible / Limited Visibility	Areas of the building above 8' - 9’ where use of a ladder or scaffold is required to reach the ACM. Includes ACM that are not visible or partially visible to view and require the removal of a building component to see, such as ceilings tiles or access panels to view and access. Includes rarely entered crawl spaces, attic spaces, etc. Observations will be limited to the extent visible from the access points.
Access (D)	Areas of the building behind inaccessible solid ceiling systems, walls or equipment etc. where demolition of the ceiling, wall or equipment etc. is required to reach the ACM. Material inaccessible due to height or location or is only accessed under unusual situations. Evaluation of condition and extent of ACM is limited or impossible, depending on the surveyor's ability to visually examine materials in Access D.

4.0 ACTION MATRIX AND DEFINITIONS

Pinchin’s evaluation of the viability of a specific asbestos control option is based on the consideration of the friability, condition, accessibility and visibility of a material. The logic used is that damaged ACM located in an area frequently accessed by all building occupants is of a higher priority than damaged ACM located in an infrequently accessed service area. The action matrix considers the potential for fibre release (primarily from friable ACM) and the possible concerns from regulatory bodies and many building occupants to all damaged ACM (including non-friable).

In any building with asbestos, many current regulations require an Asbestos Management Program be implemented. Depending on the condition and the accessibility, more active measures such as repair or removal may be recommended. The following matrix provides guidance for recommended Actions in the absence of renovation or demolition. In the event of construction or maintenance activity which will disturb ACM more aggressive control or removal will be required.

4.1 Action Matrix

The following tables outline the action decisions based on the relationship of assessed factors. Table I applies to friable ACM. Table II applies to non-friable ACM.

Table I Decision Matrix for Friable ACM

	Condition			
Access	**Good**	**Fair**	**Poor**	**Debris**
(A)	Action 5[1]	Action 5[2]	Action 3	Action 1
(B)	Action 7	Action 6[3]	Action 3	Action 1
(C) Visible	Action 7	Action 6	Action 3	Action 2
(C) Not Visible / Limited Visibility	Action 7	Action 7	Action 4	Action 2
(D)	Action 7	Action 7	Action 7	Action 7

Table II Decision Matrix for Potentially Friable and Non-Friable ACM

	Condition			
Access	**Good**	**Fair**	**Poor**	**Debris**
(A)	Action 7	Action 7[4]	Action 3	Action 1
(B)	Action 7	Action 7	Action 3	Action 1
(C) Visible	Action 7	Action 7	Action 4	Action 2
(C) Not Visible / Limited Visibility	Action 7	Action 7	Action 4	Action 2
(D)	Action 7	Action 7	Action 7	Action 7

[1] If friable ACM in access (A)/Good condition is not proactively removed Action 7 (Manage) is recommended.
[2] If friable ACM in access (A)/Fair condition is not proactively removed repair is recommended.
[3] If friable ACM in access (B)/Fair condition is likely to be disturbed after repair proactive removal is recommended.
[4] Action 7 is recommended for all non-friable ACM in Fair condition however some clients may wish to repair or take some action primarily for cosmetic reasons

4.2 Action Definitions

The following are the definitions in the Action Matrix Table presented above:

Action Definitions	
Action 1	Clean-Up of ACM Debris Restrict access that is likely to cause a disturbance of the ACM Debris and clean up ACM Debris. Utilize appropriate asbestos precautions.
Action 2	Precautions for Access Which may Disturb ACM Debris Use appropriate means to isolate the debris or to limit entry to the area which may disturb the material. At locations where ACM Debris can remain in place in lieu of removal or clean-up (e.g. Debris on top of ceiling tiles or behind lockable door), Utilize appropriate asbestos precautions to enter the area if this will disturb debris. The precautions will be required until the ACM Debris has been cleaned up.
Action 3	ACM Removal Remove ACM. Utilize asbestos procedures appropriate to the scope of the removal work. Until it is removed, restrict access to the material so it is not disturbed.
Action 4	Precautions for Work Which may Disturb ACM in Poor Condition. Utilize appropriate asbestos precautions if ACM may be disturbed by work on or near ACM. This does not require restricting access to the area, only control of work which may contact or disturb the ACM. Removal is the only viable option if work will disturb ACM.
Action 5	Proactive ACM Removal Remove friable ACM where the presence of friable asbestos in Good condition is not desirable. If friable ACM in Fair condition is not removed, then Repair friable ACM.
Action 6	ACM Repair Repair friable ACM in Fair condition which is not likely to be damaged again or disturbed by normal use of the area or room. Pinchin recommends proactive removal if friable ACM is likely to be damaged or disturbed during normal use of the area or room.
Action 7	Asbestos Management Program with Routine Surveillance Implement an Asbestos Management Program, including routine surveillance of ACM. Reassess materials regularly (typically once per year).

Master Template: Methodology Annex A to Appendix I Evaluation Criteria, HAZ, April 3, 2024

APPENDIX II

Remedial Recommendations Report

Client: Hamilton Health Sciences | **Site: 1200 Main Street West, Hamilton, ON** | **Building Name: Blue** | **Surveyor:** | **Survey Date: 2024-12-02**

Location #: 2034 | **Location Name: Lab** | **Floor: 2** | **Room #: 2N13** | **Square ft: 864**

ASBESTOS											
System	**Component**	**Material**	**Friable**	**Item**	**Covering**	**Access**	**Visible**	**Fair**	**Poor**	**Unit**	**Recommended Procedure**
Other	Debris	Mastic, Black, SINK UNDERCOATING, UNDER SINK ADJACENT TO 2N14	NF			B	N	()	2 (1)	SF	Clean up following Type 1 asbestos procedures

Client: Hamilton Health Sciences | **Site: 1200 Main Street West, Hamilton, ON** | **Building Name: Level 6** | **Surveyor:** | **Survey Date: 2024-12-02**

Location #: 48 | **Location Name: Elevator Mechanical Room 14-17 Floor: 6 (60 Line - 80 Line)** | **Room #:** | **Square ft: 872**

ASBESTOS											
System	**Component**	**Material**	**Friable**	**Item**	**Covering**	**Access**	**Visible**	**Fair**	**Poor**	**Unit**	**Recommended Procedure**
Structure	Beam Deck Joist	Fireproofing (Cementitious) (Photo 1 & 2)	F		Encapsulant	C	Y	2 (6)	()	SF	Repair following Type 2 asbestos procedures

Photo 1

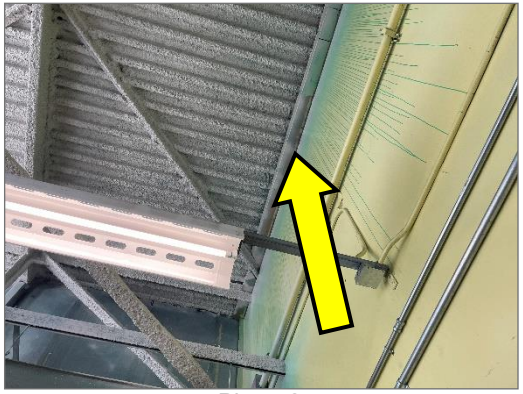

Photo 2

Client: Hamilton Health Sciences **Site: 1200 Main Street West, Hamilton, ON** **Building Name: Level 6** **Surveyor:** **Survey Date: 2024-12-02**

Location #: 58 **Location Name: Elevator Mechanical Room 18-19 Floor: 6 (60 Line - 80 Line)** **Room #:** **Square ft: 622**

ASBESTOS											
System	Component	Material	Friable	Item	Covering	Access	Visible	Fair	Poor	Unit	Recommended Procedure
Wall		Drywall and joint compound (Photo 3)	NF			B	Y	()	4 (3)	SF	Type 2 clean up and repair

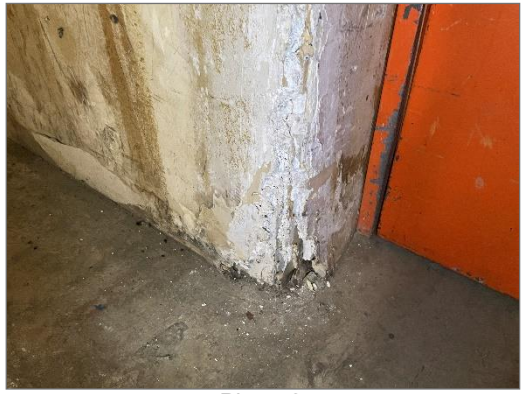

Photo 3

Client: Hamilton Health Sciences | **Site: 1200 Main Street West, Hamilton, ON** | **Building Name: Red** | **Surveyor:** | **Survey Date: 2024-12-06**

Location #: 15 | **Location Name: Corridor** | **Floor: MM** | **Room #:** | **Square ft: 1000**

ASBESTOS											
System	**Component**	**Material**	**Friable**	**Item**	**Covering**	**Access**	**Visible**	**Fair**	**Poor**	**Unit**	**Recommended Procedure**
Wall		Drywall and joint compound (Photo 4 & 5)	NF			B	Y	()	3 (3)	SF	Type 1 removal and repair

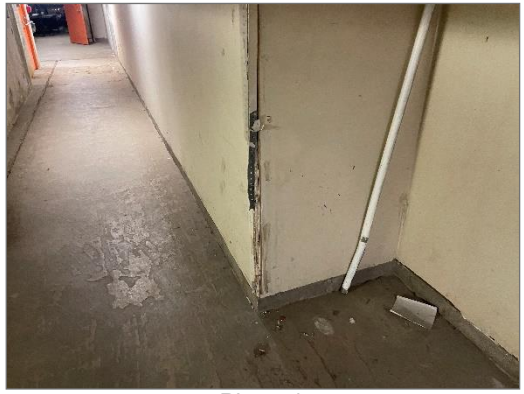

Photo 4

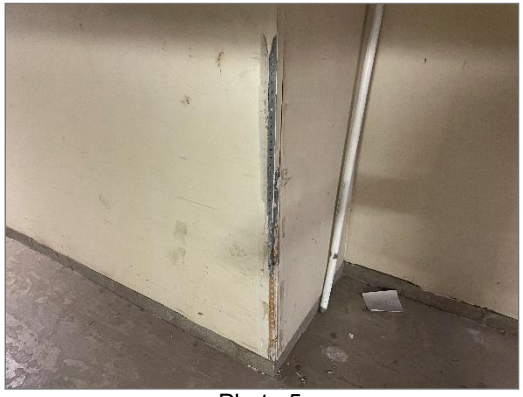

Photo 5

Client: Hamilton Health Sciences | **Site: 1200 Main Street West, Hamilton, ON** | **Building Name: Red** | **Surveyor:** | **Survey Date: 2024-12-06**

Location #: 1049 | **Location Name: General Stores** | **Floor: 1** | **Room #: 1E6B&C** | **Square ft: 3617**

ASBESTOS											
System	Component	Material	Friable	Item	Covering	Access	Visible	Fair	Poor	Unit	Recommended Procedure
Wall		Drywall and joint compound (Photo 6)	NF			A	Y	()	3 (3)	SF	Clean up and repair using Type 2 asbestos procedures

Photo 6

Client: Hamilton Health Sciences | **Site: 1200 Main Street West, Hamilton, ON** | **Building Name: Purple** | **Surveyor:** | **Survey Date: 2024-12-02**

Location #: 3013 | **Location Name: Lab** | **Floor: 3** | **Room #: 3H31** | **Square ft: 3791**

ASBESTOS											
System	**Component**	**Material**	**Friable**	**Item**	**Covering**	**Access**	**Visible**	**Fair**	**Poor**	**Unit**	**Recommended Procedure**
Other	Sink	Mastic, Black, UNDERCOATING (Photo 7 & 8)	NF	Debris		A	N	()	2 (3)	SF	Clean up following Type 1 asbestos procedures
Other	Sink	Firestopping (friable) (Photo 9)	F		Unjacketed	A	N	()	2 (6)	SF	Type 2 repair


Photo 7


Photo 8

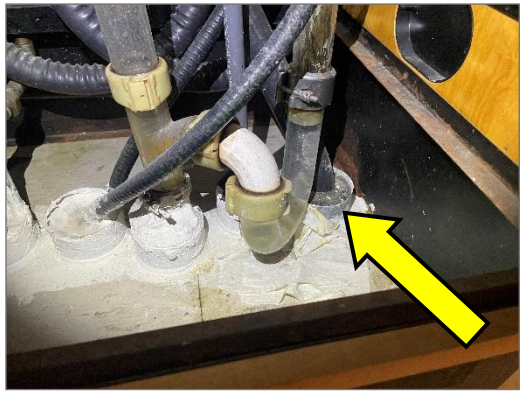
Photo 9

Client: Hamilton Health Sciences | **Site: 1200 Main Street West, Hamilton, ON** | **Building Name: Purple** | **Surveyor:** | **Survey Date: 2024-12-05**

Location #: 4023 | **Location Name: Lab** | **Floor: 4** | **Room #: 4H32** | **Square ft: 3722**

ASBESTOS											
System	**Component**	**Material**	**Friable**	**Item**	**Covering**	**Access**	**Visible**	**Fair**	**Poor**	**Unit**	**Recommended Procedure**
Other	Sink	Mastic, Black, UNDERCOATING (Photos 10-12)	NF	Debris		A	N	()	6 (3)	SF	Clean up following Type 1 asbestos procedures


Photo 10


Photo 11


Photo 12

Client: Hamilton Health Sciences | **Site: 1200 Main Street West, Hamilton, ON** | **Building Name: Yellow** | **Surveyor:** | **Survey Date: 2024-12-02**

Location #: 12 | **Location Name: Parking Area** | **Floor: P** | **Room #:** | **Square ft: 30000**

ASBESTOS											
System	**Component**	**Material**	**Friable**	**Item**	**Covering**	**Access**	**Visible**	**Fair**	**Poor**	**Unit**	**Recommended Procedure**
Piping		Parging Cement (Photo 13)	F	Fitting		C	Y	4 (6)	()	EA	Type 2 repair

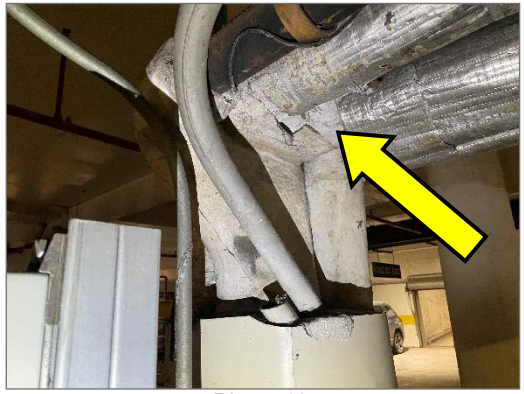

Photo 13

Legend:

Sample number	
S####	Asbestos sample collected
V####	Material visually similar to numbered sample collected
V0000	Known non-asbestos material
V9000	Visually identified as an asbestos material
V9500	Material is presumed to be an asbestos material

Units	
SF	Square feet
LF	Linear feet
EA	Each
%	Percentage

Other	
A	Access
V	Visible
AP	Air Plenum
F	Friable material
NF	Non Friable material
PF	Potentially Friable material

Access	
A	Accessible to all building occupants
B	Accessible to maintenance and operations staff without a ladder
C	Accessible to maintenance and operations staff with a ladder. Also rarely entered, locked areas
D	Not normally accessible

Condition	
Good	No visible damage or deterioration
Fair	Minor, repairable damage, cracking, delamination or deterioration
Poor	Irreparable damage or deterioration with exposed and missing material

Visible	
Y	The material is visible when standing on the floor of the room, without the removal or opening of other building components (e.g. ceiling tiles or access panels).
N	The material is not visible to view when standing on the floor of the room and requires the removal of a building component (e.g. ceilings tiles or access panels) to view and access. Includes rarely entered crawlspaces, attic spaces, etc. Observations will be limited to the extent visible from the access points.

Air Plenum	
Yes or No	The material is in a return air plenum or in a direct airstream or there is evidence of air erosion (e.g. duct for heating or cooling blowing directly on or across an ACM). This field is only completed where Air Plenum consideration is required by regulation.

Colour Coding	
	The material is a hazardous material, either by analytical results or by visible identification.
	The material is presumed to be a hazardous material, based on visual appearance, and was not sampled due to limited access or the non-destructive nature of sampling.

Action					
(1)	Clean up of ACM Debris	(2)	Precautions for Access Which may Disturb ACM Debris	(3)	ACM removal
(4)	Precautions for Work Which may Disturb ACM in Poor Condition	(5)	Proactive ACM removal (Minimum repair required for fair condition)	(6)	ACM repair
(7)	Management program and surveillance				