

# **DESIGNATED SUBSTANCES AND HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT**

**GBC Athletics Renovation Stage 2  
Men's and Women's Change Rooms and Shower Areas  
Building 'C'  
160 Kendal Avenue  
Toronto, Ontario  
M5T 2T9**

***Prepared for:*  
Sergei Plehhanov, BTech.,  
Project Manager, Design and Construction**

**George Brown College  
160 Kendal Avenue  
Toronto, Ontario  
M5T 2T9**

***Prepared by:*  
Safetech Environmental Limited**

A handwritten signature in black ink, appearing to read 'A. Fiume', positioned above a horizontal line.

**Anthony J. Fiume, BA, CAPM  
Project Coordinator**

***Reviewed by:***

A handwritten signature in black ink, appearing to read 'J. Macklin', positioned above a horizontal line.

**James Macklin  
Project Manager**

**Safetech Project Number: 1-3230785**

**Date of Site Work: September 18, 2023  
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## EXECUTIVE SUMMARY

Safetech Environmental Limited (Safetech) was commissioned by George Brown College to conduct a designated substances and hazardous materials assessment in the Men's and Women's Change Rooms and Shower Areas of 160 Kendal Avenue, Toronto, Ontario.

The objective of the assessment was to determine the presence, location, condition and quantities of designated substances and other hazardous materials that have the potential to be disturbed as part of planned construction activities (i.e. GBC Athletics Renovation Stage 2) so that appropriate control measures can be implemented to protect workers during the work.

A summary of the assessment results and general recommendations based on our findings are provided in the following table. This table should be considered a summary only. Please refer to the Results (Section 2.0), Conclusions and Recommendations (Section 3.0) and Site Drawings (Appendix A) of our report for additional details.

**Table 1: Summary of Hazardous Materials and Designated Substances**

Designated Substance	Findings	Recommendations
Asbestos	No asbestos-containing materials were identified in the areas assessed that would be impacted during the project.	No action required.
Lead	<p>The following materials are assumed to be lead-containing:</p> <ul style="list-style-type: none"> <li>- glazing associated with ceramic tiles</li> </ul>	<p>Disturbance of lead-containing materials must be conducted in accordance with the Ontario Ministry of Labour, Immigration, Training and Skills Development (MLTSD) <i>Lead on Construction Projects</i> guideline (2011) and/or the Environmental Abatement Council of Canada (EACC) <i>Lead Guideline</i> (October 2014). For additional details, refer to Section 2.1.2 (Results) and Section 3.1.2 (Conclusions and Recommendations). Lead-containing wastes should be recycled if practicable or handled and disposed of according to R.R.O. 1990, Regulation 347, <i>General- Waste Management</i>.</p>

Mercury	Sources of mercury were observed in the subject area and include the following:  - vapour in fluorescent lamps	If required, handle lamps with care and keep intact. All waste lamps are recommended to be sent to a lamp recycling facility.
Silica	Building materials identified that are suspected to contain crystalline silica and may be disturbed as part of the planned construction project include:  - drywall/drywall joint compound - concrete - concrete block - mortar - sprayed fireproofing	Any work involving the disturbance of silica-containing materials should follow the procedures outlined in the Ontario Ministry of Labour, Immigration, Training and Skills Development “ <i>Silica on Construction Projects</i> ” guideline. For additional information, refer to Section 2.1.4 (Results) and Section 3.1.4 (Conclusions and Recommendations).
Other Designated Substances	No other designated substances are expected to be present in any significant quantities or in a form that would represent an exposure concern.	No protective measures or procedures specific to acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride are considered necessary.
<b>Other Hazardous Materials</b>	<b>Findings</b>	<b>Recommendations</b>
Urea Formaldehyde Foam Insulation	No UFFI was identified or is suspected in the subject area.	No action required.
Mould Contamination	No suspect mould contamination was observed on building finishes in the subject area.	No action required.
Pest Infestation	No pest infestations were observed in the areas assessed.	No action required.
Polychlorinated Biphenyls	No equipment was observed that is suspected to contain PCBs.	No action required.
Ozone Depleting and Global Warming Substances	No equipment was observed that is suspected to contain ozone depleting and/or global warming substances	No action required.

This assessment satisfies the Owner’s requirements under Section 30 of the Ontario Occupational Health and Safety Act (OHSA), Revised Statutes of Ontario 1990, as amended.

Should you have any questions regarding the information contained in the report, please contact our office.

**Safetech Environmental Limited**



**Anthony J. Fiume, BA, CAPM**  
**Project Coordinator**

October 2, 2023

George Brown College  
160 Kendal Avenue  
Toronto, Ontario  
M5T 2T9

Attention: Sergei Plehhanov, BTech.,  
Project Manager, Design and Construction

**RE: Designated Substances and Hazardous Materials Assessment  
GBC Athletics Renovation Stage 2  
Building 'C' – Men's and Women's Change Rooms and Shower Areas  
160 Kendal Avenue, Toronto, Ontario**

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## **1.0 INTRODUCTION**

### **1.1 Background and Objectives**

Safetech Environmental Limited (Safetech) was commissioned by George Brown College to conduct a designated substances and hazardous materials assessment in Men's and Women's Change Rooms and Shower Areas at 160 Kendal Avenue, Toronto, Ontario (subject area). The objective of the assessment was to determine the presence, location, condition and quantities of designated substances and other hazardous materials in the subject area that have the potential to be disturbed as part of planned construction activities (i.e. GBC Athletics Renovation Stage 2) so that appropriate control measures can be implemented to protect workers during the work.

This assessment satisfies the Owner's requirements under Section 30 of the Ontario Occupational Health and Safety Act (OHSA), Revised Statutes of Ontario 1990, as amended. Section 30(1) requires a building owner to determine if there are any designated substances present at a project site prior to construction or demolition activities. Sections 30(2), (3) and (4) require the Owner and constructors for a project to provide the findings in this report as part of the tendering information for any tendered project or to prospective contractors (and subcontractors) of a project before entering into a binding contract.

This report documents findings of our on-site inspection that was conducted on September 18, 2023 and provides conclusions and recommendations based on our findings and knowledge of the planned construction project.

### **1.2 Scope of Work**

In accordance with our fee proposal document, our scope of work included the following activities:

- A review of existing documents, including renovation documents and drawings, floor plans and existing environmental assessment reports, etc., where available;
- A visual assessment of accessible area(s) in the subject area to identify the presence, location, condition and quantities of designated substances and other hazardous materials;
- Collection, analysis and interpretation of representative bulk samples of suspect asbestos-containing building materials for the determination of asbestos content and material classification; and
- Preparation of a report to document findings and provide recommendations regarding control measures and/or special handling procedures for designated substances or specific hazardous materials that may be disturbed as part of planned construction activities.

Documents reviewed to aid in the assessment included the following:

- Architectural, Structural, Mechanical and Electrical Drawings Issued for Pre-Tender Review dated September 8, 2023

This assessment only identified designated substances and hazardous materials that were deemed to be part of the building or somehow otherwise incorporated into the building structure and its finishes. **The following items were not included in our scope of work:**

- Assessing occupant items such as stored products, furnishings, items and materials used or produced as part of a manufacturing process;
- Investigating underground materials or equipment (vessels, drums, underground storage tanks, duct-banks, pipes, or cables);
- Assessing materials beneath subflooring;
- Assessing enclosed wall or ceiling cavities; and
- Assessing risers and pipe chases.

### **1.3 Description of Area(s) Assessed**

The area(s) investigated included all accessible locations of Corridor (144), Women's Change Room (144A), Women's Shower (144C), Men's Change Room (144D), Men's Shower (144F) and Showers (146A and 148A). The extent of the area investigated is indicated on the floor plan(s) provided in Appendix A.

## **2.0 RESULTS**

Results of our visual assessment and bulk sample analytical findings are summarized in the sections below.

## 2.1 Designated Substances

### 2.1.1 Asbestos

Results of bulk sample analysis for the determination of asbestos content are summarized in the following table. Materials have been classified as “ACM”, “Non-ACM”, “Suspected ACM” or “Presumed Non-ACM” based on analytical results. Materials classified as Suspected ACM or Presumed Non-ACM may require further analysis (depending on site-specific conditions) to verify whether the material should be classified as ACM or Non-ACM. Please refer to the Limitations section of this report (Section 4.0) for additional details. The Laboratory Certificate of Analysis is included in Appendix B.

**Table 2: Bulk Sample Analytical Results for Determination of Asbestos Content**

Sample No.	Material Description	Sample Location	Asbestos Content	Material Classification
1a	Drywall Joint Compound	Women's Shower (144C)	None Detected	Non-ACM
1b		Women's Shower (146A)		
1c		Men's Shower (148A)		
2a	Sprayed Fireproofing	Women's Washroom (144A)	None Detected	Non-ACM
2b		Corridor (144)		
2c		Men's Washroom (148A)		
3a	Ceramic Floor Tile Backing/Mortar	Men's Washroom (148A)	None Detected	Non-ACM
3b		Women's Shower (146A)		
3c				
4a	Ceramic Wall Tile Mortar/Thinset	Men's Washroom (148A)	None Detected	Non-ACM
4b				
4c				
5a	Ceramic Floor Tile Grout	Women's Washroom (144A)	None Detected	Non-ACM
5b				
5c				
6a	Concrete Block Mortar	Women's Washroom (144A)	None Detected	Non-ACM
6b		Men's Washroom (144B)		
6c		Women's Shower (144C)		







Sample No.	Material Description	Sample Location	Asbestos Content	Material Classification
7a	Ceramic Wall Tile Grout	Women's Washroom (144A)	None Detected	Non-ACM
7b		Women's Shower (144C)		
7c		Women's Shower (146C)		





As per O.Reg. 278/05, ACM contains  $\geq 0.5\%$  asbestos by dry weight.


Materials assessed for asbestos content are summarized in the following table based on the type/use of the material.

**Table 3: Results of Assessment for Asbestos-Containing Materials**

Sprayed and Loose Fill Insulating Materials	Location/Description	
Sprayed Fireproofing	Sprayed fireproofing was observed in the subject area. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 2 in Table 2.	
Sprayed Insulation	None identified in subject area.	
Loose Fill / Vermiculite Insulation	None identified in subject area.	
Thermal System Insulation	Location/Description	
Mechanical Pipe Insulation – Straights & Fittings (elbows, valves, tees, hangars, etc.)	Visible sections of mechanical pipes were observed to be insulated with fiberglass insulation. This material is not asbestos-containing.	
HVAC Duct Insulation	None identified in subject area.	

Breeching / Exhaust Insulation	None identified in subject area.	
Tank Insulation	None identified in subject area.	
Boiler Insulation	None identified in subject area.	
Other Mechanical Equipment Insulation	None identified in subject area.	
<b>Architectural Finishes &amp; Finishing Materials</b>	<b>Location/Description</b>	
Sprayed Texture / Stucco Finishes	None identified in subject area.	
Plaster Finishes	None identified in subject area.	
Drywall Joint Compound	Drywall joint compound was observed in the subject area. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 1 in Table 2.	
<b>Ceiling Tiles</b>	<b>Location/Description</b>	
Lay-in Acoustic Ceiling Tiles	Lay-in ceiling tiles observed in the subject area had manufacturer date stamps indicating the material had been made within the last twenty (20) years and therefore should not be asbestos-containing.	
Glued-on Acoustic Ceiling Tiles	None identified in subject area.	
Cement Ceiling Panels	None identified in subject area.	
<b>Flooring</b>	<b>Location/Description</b>	
Vinyl Floor Tiles	None identified in subject area.	
Vinyl Sheet Flooring	None identified in subject area.	

Ceramic Floor Tile Backing / Mortar	Ceramic floor tile backing/mortar was observed in the subject area. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 3 in Table 2.	
Ceramic Floor Tile Grout	Ceramic floor tile grout was observed in the subject area. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 5 in Table 2.	
<b>Asbestos Cement Products</b>	<b>Location/Description</b>	
Piping	None identified in subject area.	
Roofing, Siding, Wallboard	None identified in subject area.	
Other Cement Products	None identified in subject area.	
<b>Misc. Materials</b>	<b>Location/Description</b>	
Ceramic Wall Tile Mortar/Thinset	Ceramic wall tile mortar/thinset was observed in the subject area. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 4 in Table 2.	
Concrete Block Mortar	Concrete block mortar was observed in the subject area. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 6 in Table 2.	

Ceramic Wall Tile Grout	Ceramic wall tile grout was observed in the subject area. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 7 in Table 2.	
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### 2.1.2 Lead

**Suspect lead-containing materials** observed in the subject area included the following:

- glazing associated with ceramic tiles

### 2.1.3 Mercury

Mercury is present in the subject area in the form of:

- vapour in fluorescent lamps

### 2.1.4 Silica

A number of building materials were identified in the subject area that are **suspected to contain crystalline silica**. This includes the following materials:

- drywall/drywall joint compound
- concrete
- concrete block
- mortar
- sprayed fireproofing

### 2.1.5 Other Designated Substances

Acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride were not included in the assessment as these substances are not expected to be a significant component of building materials or present in a form that would represent an exposure concern. Additionally, no specific information regarding their use was provided to us.

## 2.2 Other Hazardous Materials

### 2.2.1 Chemical Hazards

No visible evidence of UFFI installation (i.e. injection openings) or overspray of foam insulation at wall/ceiling joints was identified in the subject area.

## **2.2.2 Biological Hazards**

### **2.2.2.1 Mould Contamination**

There was no visible evidence of obvious mould growth on building finishes in the subject area at the time of the assessment. In addition, there was no visible evidence of any significant water staining or discolouration to building finishes in the subject area that would suggest the potential for hidden mould growth behind these finishes.

### **2.2.2.2 Pest Infestation**

There was no visible evidence of a pest infestation in the subject area.

## **2.2.3 Environmental Hazards**

### **2.2.3.1 Polychlorinated Biphenyls (PCBs)**

No sources of polychlorinated biphenyls (PCBs) were observed in the subject area.

### **2.2.3.2 Ozone Depleting and Global Warming Substances**

No fixed equipment suspected to contain ODS/GWS was observed in the subject area.

## **3.0 CONCLUSIONS AND RECOMMENDATIONS**

### **3.1 Designated Substances**

#### **3.1.1 Asbestos**

As results summarized in Table 2 indicate, no asbestos was detected in any of the bulk samples of drywall joint compound, sprayed fireproofing, ceramic wall tile grout or backing/thinset, ceramic floor tile grout or backing/mortar or concrete block mortar retrieved for analysis. Therefore, these building materials are considered to be Non-ACM and there are no requirements for management, disturbance or removal of these materials under O. Reg. 278/05

#### **3.1.2 Lead**

**Suspect lead-containing products** includes glazing associated with ceramic tiles. Future testing of these materials and specific handling/disposal requirements may be necessary if/when these materials are to be disturbed.

At this time the method of disturbance, if any, of lead-containing materials is unknown. It is recommended that any contractor whose work requires lead-containing materials to be disturbed consult the EACC or Ontario MLITSD guidelines prior to the start of work to determine the Class/Type of operation(s) and the corresponding control measures (engineering controls, work/hygiene practices, protective clothing and equipment and worker training) necessary to conduct the work in a manner that will prevent worker overexposure to lead. The following table outlines the classification of lead disturbance based on the EACC guideline.

Operation	Description
Class 1	<ol style="list-style-type: none"> <li>1. Removal of lead-containing or lead-based paints and surface coatings with a chemical gel/stripper or paste;</li> <li>2. Application of lead-containing or lead-based paints and surface coatings with a brush, roller or sponge.</li> <li>3. Installation or removal of lead sheeting or flashing.</li> <li>4. Installation or removal of lead-containing packing, babbitt, caulking, gasket or similar material.</li> <li>5. Removal of materials coated with lead-containing or lead-based paints and surface coatings, using non-powered hand tools, where the material remains chiefly intact and is not crumbled, pulverized or powdered.</li> <li>6. Operating construction or demolition equipment (e.g. excavator, bulldozer) during building renovation or demolition where lead-based paints or surface coatings are present on building materials and are being disturbed.</li> <li>7. Soldering with lead solder.</li> <li>8. Removing lead-containing or lead-based paints or surface coatings with a heat gun.</li> <li>9. Removing lead-containing and lead-based paints and surface coatings using a high-pressure water jet (e.g. pressure washer).</li> </ol>
Class 2a	<ol style="list-style-type: none"> <li>1. Removal of lead-containing or lead-based paints and surface coatings or lead-containing materials using a power tool that has an effective dust collection system equipped with a HEPA filter*.</li> <li>2. Welding, torching or high temperature cutting of lead-containing materials indoors when using an effective fume collector or smoke eater that filters and exhausts lead fume and expels it directly outdoors (away from occupants, entrances, walkways, rest areas, etc.). Fume collector or smoke eater must have effective source control and capture velocity, minimum of 0.5 metres per second (100 feet per minute) at the work surface.</li> <li>3. Welding, torching or high temperature cutting of lead-containing and lead-based paints and surface coatings or lead-containing materials outdoors.</li> <li>4. Removal of lead-containing mortar using handheld non-powered tools.</li> <li>5. Removal of lead-containing and lead-based paints and surface coatings or lead-containing materials by scraping or sanding (including wet sanding) using non-powered hand tools.</li> <li>6. Demolition of plaster or building components that crumble, pulverize or powder and are covered with lead-containing or lead-based paints or surface coatings.</li> <li>7. Clean up and removal of a significant amount of lead-containing dust and debris (that can be made easily airborne) using wet methods or HEPA vacuums.</li> </ol>
Class 2b	<ol style="list-style-type: none"> <li>1. Spray application of lead-containing paints and surface coatings</li> </ol>



Operation	Description
Class 3a	<ol style="list-style-type: none"> <li>1. Removal of lead-containing or lead-based paints and surface coatings or lead-containing materials using a power tool without an effective dust collection system equipped with a HEPA filter.</li> <li>2. Welding, torching or high temperature cutting of lead-containing materials indoors or in a confined space (e.g. within a ditch or pit).</li> <li>3. Removal of lead-containing mortar using a powered cutting device.</li> <li>4. Burning of a material containing lead.</li> <li>5. Removal, cleaning or repair of a ventilation system or ductwork used for controlling lead exposure.</li> <li>6. Spray application of lead-based paints and surface coatings.</li> <li>7. In the absence of an exposure assessment: <ol style="list-style-type: none"> <li>a. demolition or cleanup of a facility where lead-containing products were manufactured and significant dust and debris, which can be made easily airborne, is present.</li> <li>b. cleanup of dust and debris down range of a firing station in an indoor firing range. an operation that may expose a worker to lead dust, fume or mist that is not a Class 1, Class 2, or Class 3B operation.</li> </ol> </li> </ol>
Class 3b	<ol style="list-style-type: none"> <li>1. Abrasive blasting of lead-containing and lead-based paints and surface coatings or lead-containing materials (including wet, slurry and dry abrasive blasting and dry-ice blasting).</li> </ol>

\* Effective implies that the dust collection system should be capable of controlling airborne lead concentration levels to below 0.05 mg/m<sup>3</sup>. Employers should follow manufacturer's recommendations and maintenance specifications for optimal function.

If practicable, all bulk lead waste materials should be separated from other wastes and sent to a recycling facility. If not practicable, lead-containing waste should be handled and disposed of according to R.R.O. 1990, Regulation 347, *General - Waste Management* (Reg. 347) made under the Environmental Protection Act. Under this regulation (and depending on the quantity of waste generated) the waste may be subject to analysis following the Toxicity Characteristic Leaching Procedure (TCLP) to determine if it is a "leachate toxic waste" based on the leachate quality criteria provided in Schedule 4 of the regulation. Such wastes must meet specific treatment requirements (Schedule 5) or undergo alternative treatment for hazardous debris (Schedule 8) prior to land disposal.

### 3.1.3 Mercury

Fluorescent lamps that require removal should be handled with care and kept intact to avoid potential exposure to mercury vapour present within the lamps. Under Reg. 347, waste mercury produced in amounts less than 5 kilograms (kg) in any month or otherwise accumulated in an amount less than 5 kg are exempt from hazardous waste registration, treatment and disposal requirements and can be disposed of in landfill as regular waste. Larger quantities of waste mercury must be treated and disposed of in accordance with the requirements of Reg. 347. To prevent the release of mercury into the environment, Safetech recommends that all waste lamps be sent to a lamp recycling facility and not disposed of in landfill.

### 3.1.4 Silica

Suspect silica-containing materials were identified to be present in the subject area. In their current state, building materials containing silica do not represent a risk to building occupants or construction workers. Risks associated with exposure to silica arise during demolition activities that cause silica dust to be created (particularly grinding, drilling or cutting operations and during major demolition), resulting in a crystalline silica inhalation hazard.

If any materials suspected to contain silica are to be removed or otherwise disturbed as a result of renovation/demolition activities it is recommended that procedures be put in place to control the generation of dust (such as routine water misting) and thus reduce the potential for worker exposure. Workers that have the potential to be exposed to airborne silica should also wear appropriate protective clothing and respiratory protection.

Any work involving the disturbance of silica-containing materials should follow the procedures outlined in the Ontario MLITSD “Silica on Construction Projects” guideline (April 2011). The appropriate engineering controls, work practices, hygiene practices, personal protective measures and training necessary to conduct the work in a safe manner are provided in this guideline. The general measures and procedures (or Type of operation) necessary depends on the type of work to be conducted. The following table outlines the classification of silica disturbance based on the Ontario MLITSD guideline.

Operation	Description
Type 1	<ol style="list-style-type: none"> <li>1. The drilling of holes in concrete or rock that is not part of a tunneling operation or road construction.</li> <li>2. Milling of asphalt from concrete highway pavement</li> <li>3. Charging mixers and hoppers with silica sand (sand consisting of at least 95% silica) or silica flour (finely ground sand consisting of at least 95% silica)</li> <li>4. Any other operation at a project that requires the handling of silica-containing material in a way that may results in a worker being exposed to airborne silica.</li> <li>5. Entry into a dry mortar removal or abrasive blasting area while airborne dust is visible for less than 15 minutes for inspection and/or sampling.</li> <li>6. Working within 25 metres of an area where compressed air is being used to remove silica-containing dust outdoors.</li> </ol>
Type 2	<ol style="list-style-type: none"> <li>1. Removal of silica containing refractory materials with a jackhammer</li> <li>2. The drilling of holes in concrete or rock that is part of a tunneling or road construction.</li> <li>3. The use of a power tool to cut, grind, or polish concrete, masonry, terrazzo or refractory materials.</li> <li>4. The use of a power tool to remove silica containing materials.</li> <li>5. Tunneling (operation of the tunnel boring machine, tunnel drilling, and tunnel mesh installation).</li> <li>6. Tuckpoint and surface grinding</li> <li>7. Dry mortar removal with an electric or pneumatic cutting device</li> <li>8. Dry method dust cleanup from abrasive blasting operations</li> <li>9. The use of compress air outdoors for removing silica dust</li> <li>10. Entry into area where abrasive blasting is being carried out for more than 15 minutes</li> </ol>



Operation	Description
Type 3	<ol style="list-style-type: none"> <li>1. Abrasive blasting with an abrasive that contains &gt;1% silica</li> <li>2. Abrasive blasting of a material that contains &gt;1% silica</li> </ol>

### 3.1.5 Other Designated Substances

No other designated substances are expected to be a component of building materials in the subject area in a form that would represent an exposure concern. Therefore, no protective measures or procedures specific to acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride are considered necessary.

## 3.2 Other Hazardous Materials

### 3.2.1 Chemical Hazards

As no UFFI was identified or is suspected to be present in the subject area, no further action is required. However, given that no destructive testing was conducted, there is a remote possibility that UFFI could be hidden within locations such as exterior wall cavities. If suspect foam insulation is identified during renovation/demolition activities work should be stopped and the area should be re-assessed to evaluate conditions and determine appropriate control measures and worker protection, if necessary.

### 3.2.2 Biological Hazards

#### 3.2.2.1 Mould Contamination

No mould contamination was identified in the subject area and no further action is required at this time. Although no obvious mould contamination or evidence to suggest possible hidden mould contamination was identified in the subject area, there is still a potential for hidden mould growth to exist behind or underneath building finishes. Should suspect mould growth be discovered during the course of renovation or demolition work, Safetech recommends that all work stop so that the area can be assessed to evaluate proper control measures and remediation protocols in order to avoid worker exposure to mould and possible contamination of adjacent areas.

#### 3.2.2.2 Pest Infestation

No visual evidence of any significant pest infestation was observed in the subject area. Therefore, no additional precautionary measures are deemed necessary for protection against biological contaminants potentially associated with pest infestation.

### 3.2.3 Environmental Hazards

#### 3.2.3.1 Polychlorinated Biphenyls (PCBs)

Given that the subject area is known to be completely renovated in 2016, no light fixtures are expected to have PCB-containing ballasts as the manufacture of PCBs in the U.S. was banned in 1979 and Canada banned the import, manufacture and sale of PCBs in 1977. Similarly, no other electrical equipment (such as transformers and capacitors)

present in the subject area(s) is expected to contain PCBs based on the age of building construction.

### **3.2.3.2 Ozone Depleting and Global Warming Substances**

No equipment was identified in the subject area that is expected to contain ozone depleting or global warming substances. As such, no recommendations are considered necessary at this time.

## **4.0 LIMITATIONS**

The information and recommendations detailed in this report were carried out by trained professional and technical staff in accordance with generally accepted environmental and industrial hygiene work practices and procedures. Recommendations provided in this report have been generated in accordance with accepted industry guidelines and practices. These guidelines and practices are considered acceptable as of the date of this report.

In preparation of this report, Safetech relied on information supplied by others, including without limitation, information pertaining to the history and operation of the site, test results and reports of other consultants and testing services provided by independent laboratories. Except as expressly set out in this report, Safetech has not made any independent verification of information provided by independent entities.

The collection of samples at the location noted was consistent with the scope of work agreed-upon with the person or entity to whom this report is addressed and the information obtained concerning prior site investigations. As conditions between samples may vary, the potential remains for the presence of unknown additional contaminants for which there were no known indicators.

The analytical method used for determination of asbestos content meets the requirements of O. Reg. 278/05. However, small asbestos fibres may be missed by PLM due to resolution limitations of the optical microscope. Interfering binder/matrix and/or low asbestos content may also hinder positive identification by PLM. These conditions are common for vermiculite attic insulation (VAI) and non-friable organically bound (NOB) materials such as vinyl floor tiles, roofing materials, mastics and caulking and can lead to “false negative” results. If PLM analytical results for these types of materials indicate no asbestos detected they have been reported as “Presumed Non-ACM”. Due to limitations of the analytical method we cannot confirm that low quantities of asbestos are not present in these samples using solely PLM analysis. Additional analytical procedures should be considered for such materials to rule out false negative results.

Conclusions are based on site conditions at the time of inspection and can only be extrapolated to an undefined limited area around inspected locations. The extent of the limited area depends on building construction and conditions. Building materials that are not detailed within this survey due to inaccessibility during the time of survey and/or are

uncovered during renovation/demolition activities should be properly assessed by a qualified person prior to their disturbance. Safetech cannot warrant against undiscovered environmental liabilities. If any information becomes available that differs from the findings in this report, we request that we be notified immediately to reassess the conclusions provided herein.

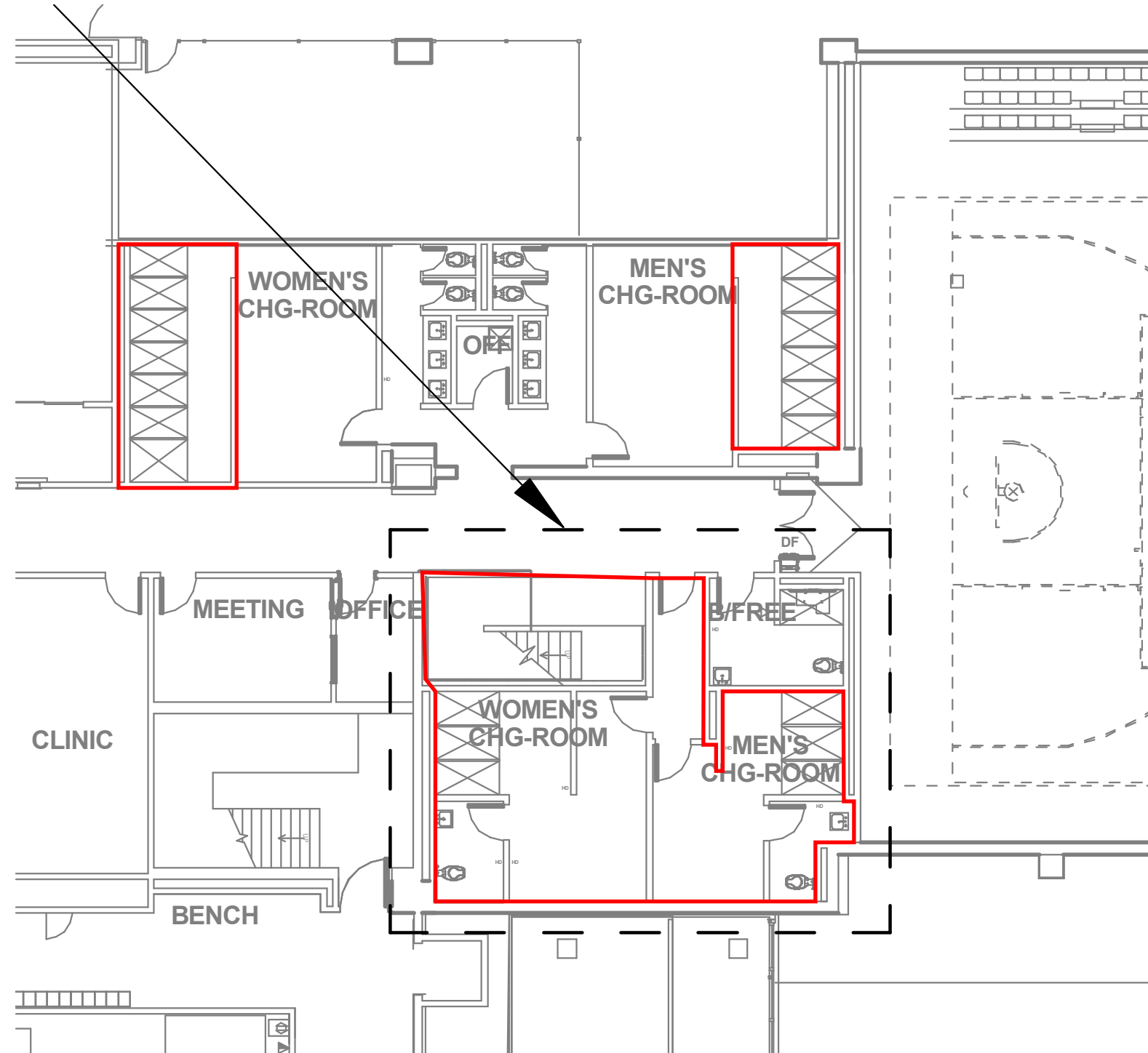
No other person or entity is entitled to use or rely upon this report without the express written consent of Safetech and the person or entity to who it is addressed. Any use that a third party makes of this report, or any reliance based on conclusions and recommendations made, are the responsibility of such third parties. Safetech accepts no responsibility for damages suffered by third parties as a result of actions based on this report.

## **Appendix A: Site Drawings**

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LEGEND

AREA ASSESSED



- 1) THIS FLOOR PLAN MUST BE READ IN CONJUNCTION WITH THE DESIGNATED SUBSTANCE AND HAZARDOUS MATERIALS ASSESSMENT REPORT.
- 2) NOT ALL ASBESTOS-CONTAINING MATERIALS ARE INDICATED IN THE FLOOR PLAN. REFER TO THE DESIGNATED SUBSTANCE AND HAZARDOUS MATERIALS REPORT FOR FURTHER DETAILS.
- 3) REMOVAL OR DISTURBANCE OF ASBESTOS-CONTAINING BUILDING MATERIALS MUST BE CONDUCTED IN ACCORDANCE WITH ONTARIO REGULATION 278/05 "DESIGNATED SUBSTANCE - ASBESTOS ON CONSTRUCTION PROJECTS AND IN BUILDINGS AND REPAIR OPERATIONS".

LEVEL 1

GBC ATHLETICS RENOVATION STAGE  
2

160 KENDAL AVENUE  
TORONTO, ONTARIO

DRAWING NO.

DS-1

DATE: SEPTEMBER 18, 2023

SAFETECH PROJECT NO.  
1-3230785



3045 SOUTHCREEK RD, UNIT 14  
MISSISSAUGA, ONTARIO  
L4X 2X7

## **Appendix B: Laboratory Certificate of Analysis – Asbestos**

---



# EMSL Canada Inc.

2756 Slough Street Mississauga, ON L4T 1G3  
Phone/Fax: (289) 997-4602 / (289) 997-4607  
<http://www.EMSL.com> / [torontolab@emsl.com](mailto:torontolab@emsl.com)

EMSL Canada Order 552314341  
Customer ID: 55SELI62  
Customer PO: 1-3230785  
Project ID:

**Attn:** Anthony Fiume  
Safetech Environmental Limited  
3045 Southcreek Road  
Unit 14  
Mississauga, ON L4X 2X7  
**Phone:** (905) 624-2722  
**Fax:** (905) 624-4306  
**Collected:** 9/18/2023  
**Received:** 9/18/2023  
**Analyzed:** 9/20/2023  
**Proj:** 1-3230785 - George Brown College, Athletics Renovations Stage 2

## Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

**Client Sample ID:** 1a **Lab Sample ID:** 552314341-0001

**Sample Description:** Drywall Joint Compound - Drywall Ceiling - Women's Shower 144C

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	White	0.0%	100.0%	None Detected	

**Client Sample ID:** 1b **Lab Sample ID:** 552314341-0002

**Sample Description:** Drywall Joint Compound - Drywall Ceiling - Women's Washroom 146A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	White	0.0%	100.0%	None Detected	

**Client Sample ID:** 1c **Lab Sample ID:** 552314341-0003

**Sample Description:** Drywall Joint Compound - Drywall Ceiling - Men's Shower 148A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	White	0.0%	100.0%	None Detected	

**Client Sample ID:** 2a **Lab Sample ID:** 552314341-0004

**Sample Description:** Sprayed Fireproofing - Women's Washroom 144A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	Beige	40.0%	60.0%	None Detected	

**Client Sample ID:** 2b **Lab Sample ID:** 552314341-0005

**Sample Description:** Sprayed Fireproofing - Corridor 144

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	Beige	40.0%	60.0%	None Detected	

**Client Sample ID:** 2c **Lab Sample ID:** 552314341-0006

**Sample Description:** Sprayed Fireproofing - Men's Washroom 144B

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	Beige	35.0%	65.0%	None Detected	

**Client Sample ID:** 3a **Lab Sample ID:** 552314341-0007

**Sample Description:** Ceramic Floor Tile Backing/Mortar - Men's Washroom 148A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	Gray	0.0%	100.0%	None Detected	



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EMSL Canada Order 552314341  
Customer ID: 55SELI62  
Customer PO: 1-3230785  
Project ID:

## Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

**Client Sample ID:** 3b **Lab Sample ID:** 552314341-0008

**Sample Description:** Ceramic Floor Tile Backing/Mortar - Men's Washroom 148A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 3c **Lab Sample ID:** 552314341-0009

**Sample Description:** Ceramic Floor Tile Backing/Mortar - Women's Washroom 146A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 4a **Lab Sample ID:** 552314341-0010

**Sample Description:** Ceramic Wall Tile Mortar/Thinset - Men's Washroom 148A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 4b **Lab Sample ID:** 552314341-0011

**Sample Description:** Ceramic Wall Tile Mortar/Thinset - Men's Washroom 148A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 4c **Lab Sample ID:** 552314341-0012

**Sample Description:** Ceramic Wall Tile Mortar/Thinset - Men's Washroom 148A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 5a **Lab Sample ID:** 552314341-0013

**Sample Description:** Ceramic Floor Tile Grout - Women's Washroom 144A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 5b **Lab Sample ID:** 552314341-0014

**Sample Description:** Ceramic Floor Tile Grout - Women's Washroom 144A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/19/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 5c **Lab Sample ID:** 552314341-0015

**Sample Description:** Ceramic Floor Tile Grout - Women's Washroom 144A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	Gray	0.0%	100.0%	None Detected	





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EMSL Canada Order 552314341  
Customer ID: 55SELI62  
Customer PO: 1-3230785  
Project ID:

## Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

**Client Sample ID:** 6a **Lab Sample ID:** 552314341-0016

**Sample Description:** Concrete Block Mortar - Women's Washroom 144A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 6b **Lab Sample ID:** 552314341-0017

**Sample Description:** Concrete Block Mortar - Men's Washroom 144B

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 6c **Lab Sample ID:** 552314341-0018

**Sample Description:** Concrete Block Mortar - Women's Shower 144C

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	Gray	0.0%	100.0%	None Detected	

**Client Sample ID:** 7a **Lab Sample ID:** 552314341-0019

**Sample Description:** Ceramic Wall Tile Grout - Women's Washroom 144A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	White	0.0%	100.0%	None Detected	

**Client Sample ID:** 7b **Lab Sample ID:** 552314341-0020

**Sample Description:** Ceramic Wall Tile Grout - Men's Washroom 144C

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	White	0.0%	100.0%	None Detected	

**Client Sample ID:** 7c **Lab Sample ID:** 552314341-0021

**Sample Description:** Ceramic Wall Tile Grout - Women's Shower 146A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/20/2023	White	0.0%	100.0%	None Detected	



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EMSL Canada Order 552314341  
Customer ID: 55SELI62  
Customer PO: 1-3230785  
Project ID:

### Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

#### Analyst(s):

Hassan Moez PLM (14)  
Kira Ramphal PLM (7)

#### Reviewed and approved by:

Matthew Davis or other approved signatory  
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This is a summary report; official reports are available on LabConnect or upon request and relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Initial report from: 09/20/2023 15:26:19

## **Appendix C: Methodology**

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## A. METHODOLOGY

The presence of hazardous materials was assessed by visual inspection. For the purpose of this assessment and this document, hazardous materials include designated substances as well as other chemical, biological and environmental hazards as defined below:

- Designated Substances (as prescribed by Ontario Regulation 490/09):
  - Acrylonitrile, Arsenic, Asbestos, Benzene, Coke Oven Emissions, Ethylene Oxide, Isocyanates, Lead, Mercury, Silica and Vinyl Chloride.
- Other Hazardous Materials:
  - **Chemical Hazards** – Urea Formaldehyde Foam Insulation (UFFI)
  - **Biological Hazards** – Mould Contamination and Pest Infestation
  - **Environmental Hazards** – Polychlorinated Biphenyls (PCBs) and Ozone Depleting & Global Warming Substances

Concealed locations such as above solid plaster or drywall ceilings, within plaster or drywall wall cavities, enclosed mechanical/pipe shafts and bulkheads, etc. were not investigated, unless otherwise stated in Section 1.3. Similarly, motors, blowers, electrical panels, etc., were not de-energized or disassembled to examine concealed conditions. Building materials that are not detailed within this assessment due to inaccessibility at the time of our site visit and/or uncovered during renovation/demolition activities should be assessed by a qualified person prior to their disturbance.

Bulk sampling followed by laboratory analysis was also conducted to confirm the presence/absence of select hazardous materials. Bulk sampling was limited to asbestos in building materials and lead in paint on building finishes (if flaking paint was present). All other hazardous materials were identified by visual inspection only. Where possible, observations regarding the location, quantity and condition of the hazardous materials identified were made in order to determine the potential for exposure and provide appropriate recommendations for remedial action, if necessary. Specific methodology for each individual hazardous material assessed is further detailed below.

### A.1 Designated Substances

#### A.1.1 Asbestos

A visual inspection for the presence of both friable and non-friable asbestos-containing material (ACM) was performed in the subject area.

If an existing asbestos survey was available for review, Safetech relied on the information present. Building materials that were visually similar to materials previously tested and that were confirmed to be either ACM or non-ACM were considered to have consistent content and were not re-sampled. Additional sampling was only conducted where the investigator believed a need existed.

Bulk samples of building materials suspected to contain asbestos were retrieved by Safetech only for materials that were deemed to have a potential to be disturbed as part

of the construction project. Some suspect materials may not have been sampled during our investigation. Bulk samples were retrieved in accordance with Section 3 and Table 1 of Ontario Regulation 278/05, "Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations". The number of samples collected for each material was based on the type and quantity of the material present in the subject area. Each individual sample was placed in a labeled zip-lock bag for transportation to an independent laboratory (EMSL). EMSL is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis.

Analysis for asbestos content was performed by the independent laboratory in accordance with the U.S. Environmental Protection Agency (EPA) Test Method *EPA/600/R-93-116: Method for the Determination of Asbestos in Bulk Building Materials (June 1993)*. This method identifies the asbestos fibre content of building materials using polarized light microscopy (PLM) analytical techniques, with confirmation of presence and type of asbestos made by dispersion staining optical microscopy. This analytical method meets the requirements set forth in Section 3 of O. Reg. 278/05.

In accordance with O. Reg. 278/05, an asbestos-containing material is defined as material that contains 0.5 per cent or more asbestos by dry weight. The laboratory was instructed to conduct "stop-positive" analysis for all materials. If a sample was found to be asbestos-containing no further analysis was conducted for samples taken from the same homogeneous material.

Locations where ACM have been identified are detailed in this report. Recommendations pertaining to ACM were made based on the friability, accessibility and condition of the material in conjunction with the potential for the planned renovation work to disturb the ACM.

### **A.1.2 Assessment of Asbestos-Containing Building Materials**

Accessibility, Condition and Action (Priority) ratings for individual items, or defined areas were developed by Safetech to determine remedial action plans specific to the facility's needs.

#### **A.1.2.1 Accessibility**

Accessibility has been assessed as: (A) Accessible to all non-maintenance occupants of the building; (B) Accessible to maintenance staff without a ladder; (C) Accessible to maintenance staff with a ladder and exposed to view without moving a building component; (D) Accessible to maintenance staff with a ladder and concealed from view due to a building component; (E) Not accessible without demolition or removal of fixed building components or building systems

### A.1.2.2 Condition

The condition of asbestos-containing materials identified in the subject area was assessed as Good (G), Fair (F) or Poor (P). The assessment criteria used to determine condition is dependent on material characteristics, such as friability. The following table summarizes the criteria used by Safetech to evaluate the condition of ACM.

<b>Sprayed Fireproofing, Sprayed Insulation and Sprayed Texture Finishes</b>	
<b>Good</b>	<ul style="list-style-type: none"> <li>Surface shows no significant signs of damage, deterioration, or delamination (i.e. &lt;1%).</li> <li>Unencapsulated or unpainted fireproofing or texture finishes, where no delamination or damage is observed.</li> <li>Encapsulated fireproofing or texture finishes where encapsulation applied after damage or fallout.</li> </ul>
<b>Fair</b>	<ul style="list-style-type: none"> <li>Not utilized as part of condition assessment for these materials.</li> </ul>
<b>Poor</b>	<ul style="list-style-type: none"> <li>Greater than 1% damage, delamination, or deterioration to surface.</li> </ul>
<b>In areas where damage exists in isolated locations, both Good and Poor may be applicable.</b>	
<b>Mechanical Insulation (boilers, breeching, ductwork, piping, tanks, equipment, etc.)</b>	
<b>Good</b>	<ul style="list-style-type: none"> <li>Insulation completely covered in jacketing and exhibits no evidence of damage or deterioration.</li> <li>Jacketing may have minor damage (i.e. scuffs or stains), but is not penetrated.</li> </ul>
<b>Fair</b>	<ul style="list-style-type: none"> <li>Minor penetrating damage to jacketed insulation (cuts, tears, nicks, deterioration or delamination).</li> <li>Undamaged insulation that had never been jacketed.</li> <li>Insulation is exposed but not showing surface disintegration.</li> <li>Extent of missing insulation ranges from minor to none.</li> <li>Damage that can be repaired.</li> </ul>
<b>Poor</b>	<ul style="list-style-type: none"> <li>Original insulation jacket is missing, damaged, deteriorated, or delaminated.</li> <li>Insulation is exposed and significant areas have been dislodged.</li> <li>Damage that cannot be easily repaired.</li> </ul>
<b>Non-Friable and Potentially Friable Materials (includes materials such as plaster finishes, drywall compound, ceiling tiles, asbestos cement products, vinyl asbestos tile and asbestos paper backed vinyl sheet flooring, etc., which have the potential to become friable when handled)</b>	
<b>Good</b>	<ul style="list-style-type: none"> <li>No significant damage.</li> <li>Material may be cracked or broken but is stable and not likely to become friable upon casual contact.</li> <li>No friable debris present</li> </ul>
<b>Fair</b>	<ul style="list-style-type: none"> <li>Not utilized as part of condition assessment for these materials.</li> </ul>
<b>Poor</b>	<ul style="list-style-type: none"> <li>Material is severely damaged.</li> <li>Debris is present or binder has disintegrated to the point where the material has become friable.</li> </ul>
<b>Asbestos-Containing Debris (noted separately from the presumed source material)</b>	
<b>Poor</b>	<ul style="list-style-type: none"> <li>Debris is always considered to be in Poor condition.</li> </ul>

### A.1.2.3 Action

Recommended ACTION for compliance and for management of identified asbestos-containing materials has been provided for each condition and component outlined in the above table. Recommendations have been classified under the following 8 ACTIONS:

1. Action dealing with the immediate clean-up of fallen ACM likely to be disturbed.

2. Action dealing with the need to use Type 2 asbestos procedures to enter an area (other than a ceiling space).
3. Action dealing with performing asbestos removal for compliance with regulations.
4. Action dealing with Type 2 asbestos procedures for ceiling entry where friable ACM debris is present on the top side of a ceiling system.
5. Action dealing with the removal of asbestos that goes beyond compliance requirements but simplifies the asbestos management.
6. Action dealing with the repair of asbestos.
7. Action dealing with ACM surveillance requirements of the regulation.
8. Action for dealing with material that may contain asbestos but was not conclusively identified in the survey.

#### **A.1.2.4 Quantity**

The approximate quantity and the units of measure related to the quantity (i.e.: linear feet (LF), square feet (SF) or each (EACH) as appropriate to the item) have only been provided for materials requiring remedial or corrective action (i.e. materials in Fair or Poor condition). In such circumstances any quantities provided should be considered rough estimates only and should not be solely relied upon for bidding purposes. It is the responsibility of the selected Contractor to obtain actual quantities.

#### **A.2 Lead**

If paint samples were collected, they would be collected by scraping the paint down to the base material substrate to ensure collection of all layers of paint. Care would be taken to avoid collection of the underlying substrate to reduce analytical substrate matrix interference.

If collected, paint samples would be submitted to an independent laboratory for the determination of lead content. The laboratory would participate in and accredited by the EPA (U.S. Environmental Protection Agency) for analysis of lead in paint chips through the American Industrial Hygiene Association (AIHA) Environmental Lead Laboratory Accreditation Program (ELLAP). Analysis would be conducted by the laboratory following the EPA "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), Method 7000B "Flame Atomic Absorption Spectrophotometry". Result of analysis would be reported by the laboratory as the percentage of lead by weight of the total sample (% by wt.).

The presence of lead in other materials, such as lead sheeting, pigmented mortar, lead piping, lead solder, etc. would be noted where observed but not sampled to verify lead content. Lead can be present in these materials to varying degrees, depending on their age of application and should be considered lead-containing until proven otherwise.

### **A.3 Mercury**

The type, quantity and location of mercury-containing equipment and devices in the subject area were determined by visual inspection based on appearance, age and knowledge of historical uses. Sampling for mercury-containing building materials and dismantling of suspect mercury-containing equipment was not performed. Where possible, attempts were made to verify the presence/absence of mercury by gathering additional information such as equipment model number, serial number, etc.

### **A.4 Silica**

The presence of crystalline silica in building materials was determined through visual inspection of building materials only, based on knowledge of the historic use of silica-containing materials in certain building materials. Sampling to verify the presence/absence of silica in building materials was not performed.

### **A.5 Other Designated Substances**

Other designated substances (i.e. acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride) are typically not expected to be encountered in building materials as significant constituents or in a form that would represent an exposure concern. These substances were not included in the assessment unless specific information regarding their use (e.g. in a manufacturing process) was provided to us. No sampling for these designated substances was performed.

### **A.6 Other Hazardous Materials**

#### **A.6.1 Chemical Hazards**

##### **A.6.1.1 Urea Formaldehyde Foam Insulation (UFFI)**

A visual inspection to evaluate the possible presence of Urea Formaldehyde Foam Insulation (UFFI) was conducted in the subject area. Our visual inspection was limited to identifying evidence of possible UFFI installation (i.e. repaired nozzle holes in walls) and overspray at wall/ceiling joints, etc. No destructive testing or material sampling was conducted as part of the assessment.

### **A.7 Biological Hazards**

#### **A.7.1.1 Mould Contamination**

A visual inspection to determine the possibility of mould growth was conducted in the subject area. The assessment was limited to identifying evidence of mould growth and water damage (staining, material deterioration, efflorescence, etc.) on the surface of building materials, which may be an indicator of hidden mould growth. No moisture content readings of building materials were taken to determine their current condition. Additionally, destructive testing to confirm the presence/absence of hidden mould growth and material sampling to verify the presence/absence of mould on suspect surfaces was beyond the scope of this assessment.



#### **A.7.1.2 Pest Infestation**

The presence and extent of pest infestation in the subject area was based on visually inspecting for evidence of significant pest activity, including signs of nesting, droppings/fecal accumulation, dead insects/carcass accumulation, etc. Evidence of minor pest presence was not considered to be indicative of pest infestation.

### **A.8 Environmental Hazards**

#### **A.8.1 Polychlorinated Biphenyls (PCBs)**

The presence of PCB-containing electrical equipment in the subject area was identified through visual inspection and knowledge of the timeline of historical use.

For stand-alone transformers and capacitors, information from the manufacturer nameplate (such as the date of manufacture, dielectric fluid trade name or “Type Number”, etc.) was gathered, where possible, to further evaluate if the equipment may contain PCBs. This information was then compared to the information provided in the Environment Canada document entitled “Handbook on PCB’s in Electrical Equipment” (Third Edition, April 1988) to aid in identification. Transformers and capacitors confirmed to be manufactured after 1979 were assumed to not contain PCBs. If appropriate information could not be obtained it was assumed that the transformer or capacitor contained PCBs.

For fluorescent light ballasts, a representative number of fixtures were inspected, if possible, for assessment areas that were constructed prior to 1980 and where there was no history or evidence of a complete lighting retrofit. The light fixtures were examined by removing any lenses and ballast covers to expose the ballast and identify information such as ballast make, model number, serial number, and date code. This information was then compared to the information provided in the Environment Canada document entitled “Identification of Lamp Ballasts Containing PCBs” (Report EPS 2/CC/2 (revised) August 1991) to aid in identification. Ballasts that could not be confirmed Non-PCB-containing were assumed to contain PCBs. The light fixtures were not de-energized and ballasts were not removed to obtain manufacturer information that may be on the back of the ballast. If visual confirmation of ballast type could not be made it was assumed that light fixtures in areas constructed prior to 1980 that have not undergone a complete lighting retrofit have PCB-containing ballasts until proven otherwise.

No sampling of materials or fluids within equipment was conducted to verify the presence/absence of PCBs. Inspection and testing of other materials for PCB content, including (but not limited to) caulking, asphalt, oil-based paint, plastics, switches, electric cables and hydraulic fluids was beyond the scope of the assessment.

#### **A.8.2 Ozone Depleting and Global Warming Substances**

The presence of fixed equipment likely to contain ozone-depleting substances (ODS) and/or global-warming substances (GWS) was identified through visual inspection and

knowledge of the timeline of historical use. This included equipment such as chillers, air-conditioners, walk-in refrigeration and freezer units and fixed dry-chemical fire extinguishers, where chemicals such as hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs) or halons may be present. Where possible, information regarding the type and quantity of refrigerant present was obtained from the manufacturer nameplate. Our visual assessment was limited to fixed equipment in the subject area and did not include portable equipment such as stand-alone refrigerators, freezers, water coolers, air-conditioners and fire extinguishers, etc.