# HAZARDOUS MATERIALS SURVEY AND 2023 REASSESSMENT
# VANIER HALL, OTTAWA, ON


Project No.: Z1920014HZ / CCC-230252-00

Prepared for:

University of Ottawa

Prepared by:

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Date:

January 24, 2024

McINTOSH PERRY

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# REASSESSMENT SURVEY 2023

McIntosh Perry Limited **(MPL)** was retained by the University of Ottawa, to complete to a hazardous materials survey of Marchand Residence located at 136 Jean-Jacques-Lussier Private. The original survey was conducted on October 10th to 15th, 2019. **The reassessment was completed on January 10th, 2024.**

The purpose 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 assessment and reassessment determined the following findings and recommendations.

**Summary of the Reassessment Findings:**

- ACM Plaster Wall and Ceiling finishes were observed to be in Good Condition except for rooms 0141, 1070, 1070A, Stairwell 3C, 5015, 5040 and 5082 which were found to be in poor condition in the subject building.
- ACM Window Caulking was observed to be in Good Condition throughout the subject building. subject building.
- ACM Tar was observed to be in Good Condition in Room 1021 of the subject building.
- Water damaged materials were observed in rooms 0141, 5015, 5040 and 5082 condition in the subject building.
- No mould affected materials were observed during the site survey.

**Summary of Recommendations:**

- Perform a reassessment of asbestos materials on an annual basis.
- Perform a pre-construction assessment and remove all asbestos-containing materials (ACM) prior to alterations or maintenance work if ACM may be disturbed by the work.
- Follow appropriate safe work procedures when handling or disturbing asbestos.
- Sample any presumed ACM prior to alteration or maintained work if presumed ACM may be disturbed by the work.

# EXECUTIVE SUMMARY

McIntosh Perry Limited **(MPL)** was retained by the University of Ottawa, to complete a hazardous materials survey for Vanier Hall located at 136 Jean-Jacques-Lussier Private. The original survey was conducted from October 10th to 15th, 2019. **The Reassessment Survey was completed on January 10th, 2024.**

The purpose of the survey was to determine the presence of building materials containing Designated Substances and other hazardous materials, as defined under the Ontario Occupational Health and Safety Act. Designated Substances are eleven chemical agents prescribed under Ontario Regulation 490/09. In addition, a visual assessment was conducted for the presence of polychlorinated biphenyls (PCBs), radioactive materials, ozone depleting substances (ODSs), other halocarbons and mould.

Based on the assessment conducted by MPL, the following ACMs were identified or suspected to be present in the building:

**Table A: Summary of Asbestos-Containing Materials Identified**

| Material Description | Friable? | Location | Type of Asbestos |
|---|---|---|---|
| Plaster | Yes | Throughout Building | Chrysotile |
| Window Caulking | No | Specific Areas Only | Chrysotile |
| Tar | No | Specific Areas Only | Chrysotile |
| Transite Rainwater Leaders | No | Specific Areas Only | Suspected |
| Fire doors | - | Throughout Building | Suspected |
| Roofing Materials | - | Roof | Suspected |

**Note: Please refer to the complete report for specific details and recommendations.**

All repairs or removal of asbestos-containing materials must be conducted according to Ontario Regulation 278/05, Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act. Asbestos containing waste must also be handled and disposed of according to Ontario Regulation 347/90 as amended – made under the Environmental Protection Act. Any suspect building materials encountered that were not assessed as part of this survey, should be assumed to contain asbestos until proven otherwise by analytical testing;

Sub-trades working with or in close proximity to asbestos-containing material should be informed of its presence;

Given that asbestos containing materials (ACMs) have been identified and will likely remain in place, an Asbestos Management Plan (AMP) is therefore required and an inventory of ACMs must be kept on site. All ACMs must be routinely inspected to ensure no damage has occurred, and the inventory must be updated once in each 12-month period and as may be required based on expected changing site conditions, abatement and/or renovation activities.

Based on the assessment conducted by MPL, the following Designated Substances and Hazardous Materials were identified or suspected to be present in the building:

**Table B: Summary of Designated Substances & Hazardous Materials Identified**

| Material Description | Location |
|---|---|
| Lead Paint | Throughout Building |
| Mercury Vapour | Throughout Building |
| Silica | Throughout Building |
| Above Ground Storage Tanks (ASTs) | Specific Areas Only |
| Ozone Depleted Substances | Specific Areas Only |
| Water Damage/Staining | Specific Areas Only |

**Note: Please refer to the complete report for specific details and recommendations.**

Designated Substances area regulated under Ontario Regulation 490/09 — Designated Substances, made under the Ontario Health and Safety Act, which applies to controlling designated substances in the workplace.

In addition to Ontario Regulation 490/09, the following guidelines must also be adhered to when conducting work activities that that involve disturbance of the above-mentioned materials:

- Guideline: Lead on Construction Projects, issued April 2011 by the Occupational Health and Safety branch of the Ministry of Labour
- Guideline: Silica on Construction Projects issued April 2011 by the Occupational Health and Safety branch of the Ministry of Labour.
- Environmental Abatement Council of Canada (EACC) Mould Abatement Guidelines.

Prior to any renovations or demolition activities within building, designated substances and hazardous materials must be decommissioned by a licensed contractor such that they are contained and not released to the environment during decommissioning as per O. Reg. 347/09- made under the Environmental Protection Act.

Any suspect building materials encountered that were not assessed as part of this survey, should be assumed to contain designated substances or hazardous materials until proven otherwise by analytical testing.

This report should be made available to contractors tendering on any renovation or demolition work. In turn, all contractors requesting tenders from subcontractors shall furnish this report to subcontractors.

**This executive summary is not to be used alone. This report should be reviewed in its entirety.**

McINTOSH PERRY

January 24, 2024

**University of Ottawa**
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via email: martine.bergeron@uottawa.ca

Attention: Martine Bergeron, Senior Specialist, Occupational Health and Safety

Re: Vanier Hall - 136 Jean-Jacques-Lussier Private
Hazardous Materials Survey and 2023 Reassessment
McIntosh Perry Limited Reference No. Z1920014HZ / CCC-230252-00

# 1.0 INTRODUCTION

In accordance with your instructions, McIntosh Perry Limited (MPL) carried out a Hazardous Materials Survey at Vanier Hall located at 136 Jean-Jacques-Lussier Private. The original survey of the building was conducted from October 10th to 15th, 2019. **The Reassessment Survey was completed on January 10th, 2024.**

The purpose of the survey was to determine the presence of building materials containing Designated Substances and other hazardous materials, as defined under the Ontario Occupational Health and Safety Act. Designated Substances are eleven chemical agents prescribed under Ontario Regulation 490/09. In addition, a visual assessment was conducted for the presence of polychlorinated biphenyls (PCBs), radioactive materials, ozone depleting substances (ODSs), other halocarbons and mould.

MPL completed the following,

- Visual review of the building to identify materials which could contain Designated Substances and hazardous materials;
- Review of previously completed Hazardous Materials Survey(s) and historical building record(s); and,
- Recommendations for appropriate action where required.

# 2.0 PROPERTY DESCRIPTION

The subject building is a seven-storey university building constructed in 1954. The subject building was observed to be constructed with a concrete slab floor; metal roof supported by steel trusses, beams and columns and contains an area of 150,320 square feet. The interior walls were gypsum wallboard and plaster. Within the subject building, ceilings were observed to be either suspended ceiling tiles, while open ceilings were observed in other areas of the building. The floors were generally polished concrete, terrazzo, and laminate, with the exception of select areas containing vinyl floor tiles and carpet.

# 3.0 FINDINGS & RECOMMENDATIONS

## Designated Substances

## 3.1 Asbestos

*Findings*

A total of thirty-six (36) bulk samples were previously collected during the survey and sent to an independent accredited laboratory for analysis. A summary of potential asbestos-containing samples collected along with the sample location, type and friability are presented in Table 1.

Laboratory certificates of analysis for asbestos are included in Appendix C.

**Table 1: Asbestos Laboratory Results**

| Sample ID | Location | Material | Type and Content | Friability |
|---|---|---|---|---|
| BS 1.1 | Room 5041 | Sprayed Fireproofing (Grey) | None Detected | N/A |
| BS 1.2 | Room 5063 | Sprayed Fireproofing (Grey) | None Detected | N/A |
| BS 1.3 | Room 5068 | Sprayed Fireproofing (Grey) | None Detected | N/A |
| BS 1.4 | Room 5000H | Sprayed Fireproofing (Grey) | None Detected | N/A |
| BS 1.5 | Room 5000H | Sprayed Fireproofing (Grey) | None Detected | N/A |
| BS 1.6 | Room 5000H | Sprayed Fireproofing (Grey) | None Detected | N/A |
| BS 1.7 | Room 5000H | Sprayed Fireproofing (Grey) | None Detected | N/A |
| BS 2.1 | Room 5076 | Wall/Ceiling Plaster (White) | None Detected | N/A |
| | | Wall/Ceiling Plaster (Grey) | None Detected | N/A |
| BS 2.2 | Room 5076 | Wall/Ceiling Plaster (White) | None Detected | N/A |
| | | Wall/Ceiling Plaster (Grey) | None Detected | N/A |
| BS 2.3 | Room 5040 | Wall/Ceiling Plaster (White) | None Detected | N/A |
| | | Wall/Ceiling Plaster (Grey) | None Detected | N/A |
| BS 2.4 | Room 5040 | Wall/Ceiling Plaster (White) | None Detected | N/A |
| | | Wall/Ceiling Plaster (Grey) | None Detected | N/A |

| Sample ID | Location | Material | Type and Content | Friability |
|---|---|---|---|---|
| BS 2.5 | Room 1026 | Wall/Ceiling Plaster (White) | None Detected | N/A |
| | | Wall/Ceiling Plaster (Grey) | None Detected | N/A |
| **BS 2.6** | **Room 5082** | Wall/Ceiling Plaster (White) | None Detected | N/A |
| | | **Wall/Ceiling Plaster (Grey)** | **0.5% Chrysotile** | **Friable** |
| **BS 2.7** | **Room 5082** | Wall/Ceiling Plaster (White) | None Detected | N/A |
| | | **Wall/Ceiling Plaster (Grey)** | **Stop Positive** | **Friable** |
| BS 3.1 | Room 5000F | SCT-2'x4'-Pinholes w/ Large Fissures | None Detected | N/A |
| BS 3.2 | Room 5000F | SCT-2'x4'-Pinholes w/ Large Fissures | None Detected | N/A |
| BS 3.3 | Room 5000F | SCT-2'x4'-Pinholes w/ Large Fissures | None Detected | N/A |
| **BS 4.1** | **Room 1021** | **Tar (Black)** | **2% Chrysotile** | **Non-Friable** |
| **BS 4.2** | **Room 1021** | **Tar (Black)** | **Stop Positive** | **Non-Friable** |
| **BS 4.3** | **Room 1021** | **Tar (Black)** | **Stop Positive** | **Non-Friable** |
| BS 5.1 | Room 7028 | Tar Paper Debris | None Detected | N/A |
| BS 5.2 | Room 7028 | Tar Paper Debris | <0.5% Chrysotile | N/A |
| BS 5.3 | Room 7028 | Tar Paper Debris | <0.5% Chrysotile | N/A |
| BS 6.1 | Room 0140 | Wall Mastic (Black) | None Detected | N/A |
| BS 6.2 | Room 0140 | Wall Mastic (Black) | None Detected | N/A |
| BS 6.3 | Room 0140 | Wall Mastic (Black) | None Detected | N/A |
| **BS 7.1** | **Room 1070** | **Window Caulking (Black)** | **1% Chrysotile** | **Non-Friable** |
| **BS 7.2** | **Room 1070** | **Window Caulking (Black)** | **Stop Positive** | **Non-Friable** |
| **BS 7.3** | **Room 1070** | **Window Caulking (Black)** | **Stop Positive** | **Non-Friable** |

N/A – Not Applicable
VFT – Vinyl Floor Tiles
SCT-Suspended Ceiling Tiles
Stop Positive – Material considered being asbestos-containing as per O. Reg. 278/05.

Please refer to Appendix E – Asbestos-Containing Materials Checklist for material conditions, quantities (where applicable), and recommended actions.

The following building materials (if present) were investigated for asbestos content,

### *3.1.1 Fireproofing*

Sprayed fireproofing (Grey) was observed and previously sampled in Rooms 5043, 5063, 5068 and 5000H. The laboratory analytical results of samples collected indicate that this material does not contain asbestos.

### *3.1.2 Mechanical Pipe Insulation*

#### *3.1.2.1 Mechanical Pipe Straight Insulation*

Mechanical pipe straight insulation was observed in Rooms 0140, 0189, 0100K. MPL previously made several incisions throughout to investigate its composition, and it was visually identified as fiberglass, and therefore not suspected of containing asbestos.

Mechanical pipe straight insulation was observed and previously sampled in Room 0140. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.

#### *3.1.2.2 Mechanical Piping Elbows/Fittings Insulation*

No mechanical pipe elbows/fittings insulation was observed in the subject building.

#### *3.1.2.3 Mechanical Piping Hangers Insulation*

No mechanical pipe hanger insulation was observed in the subject building.

#### *3.1.2.4 HVAC Duct Insulation*

No HVAC duct insulation was observed in the subject building.

#### *3.1.2.5 Other Mechanical Insulation*

No other mechanical insulation was observed in the subject building.

### *3.1.3 Flexible Duct Connector*

Flexible duct connectors were observed in Room 2041. This material was visually identified as a non-asbestos containing material (i.e. rubber).

### *3.1.4 Heat Shield or Heat Shield Insulation*

No heat shield insulation was observed in the subject building.

### *3.1.5 Texture Finishes*

No texture coat finishes were observed in the subject building.

### *3.1.6 Plaster*

Previously identified wall plaster was observed in Room 1000E, 1000H, 3000K and 3000N. This material **contains 1% Chrysotile asbestos.** Since plaster is a homogeneous material, all areas must be treated as asbestos-containing unless additional testing confirms otherwise. **This material is considered friable and observed to be in good condition with the exception of select areas that were observed to be in fair and poor condition during the 2023 Reassessment.**

Ceiling and wall plaster were observed and sampled from Room 1026, 5040, 5076, and 5082. The laboratory analytical results for the samples collected indicate that this material **contains 0.5% Chrysotile.** Since plaster is a homogeneous material, all areas must be treated as asbestos-containing unless additional testing confirms otherwise. **This material is considered friable and observed to be in good condition with the exception of select areas that were observed to be in fair and poor condition during the 2023 Reassessment.**

### *3.1.7 Drywall Joint Compound*

Drywall joint compound was previously sampled from Rooms 014B,014E, 1011, 1017, 1025, and 1030. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.

### *3.1.8 Ceiling Tiles*

Several different types of ceiling tiles were observed and previously sampled within the subject building as follows:

- Suspended ceiling tile (2'x4'-Pinholes) was observed and previously sampled in Room 3047 were previously sampled and the laboratory analytical results indicate that this material does not contain asbestos.
- Suspended ceiling tile (2'x4'-Larege and Small Pinholes) was observed and previously sampled in Room 3000F.  was sampled and the laboratory analytical results indicate that this material does not contain asbestos.
- Suspended ceiling tiles (2'x4'-Pinholes and Large Fissures) were observed in Rooms 1021, 4000B, 4001, 4002, 4003, 4004, 4005, 4006, 4007, 4008, 4008A, 4009, 4010, 4012, 4013, 4015, 4016, 4017, 4018, 45019, 4020, 4021, 4022, 4023, 4024, 4025, 4026, 4027, 4028, 4040, 4041, 4042, 4043, 4044, 4044 (A-C), 4047, 4048, 4049, 4058, 4059, , (4059A-C), 4062, 4063, , 4064, 4064 (A-C), 4067, 4068, 4069, 5000H, 5015, 5016, 5017, 5018, 5019, 5020, 5021, 5022, 5023, 5024, 5025, 5026, 5027 and 5078. The laboratory analytical results of ceiling tile samples previously collected indicate that this material does not contain asbestos.
- Suspended ceiling tiles (2'x4'-Pinholes w/ Small Fissures) were observed in Room 5042, 5076, 5077, 5080, 5080(A-C). The date stamp on the back of these tiles indicated that they were manufactured in 2012 and therefore, this material is not considered to contain asbestos.
- Suspended ceiling tiles (2'x4'-Pinholes w/ Small Fissures) were observed in Room 1001(A-F). The date stamp on the back of these tiles indicated that they were manufactured in 2010 and therefore, this material is not considered to contain asbestos.
- Suspended ceiling tiles (2'x4'-Pinholes w/ Texture) were observed in Room 5002. The date stamp on the back of these tiles indicated that they were manufactured in 2012 and therefore, this material is not considered to contain asbestos.

### *3.1.9 Vinyl Floor Tiles*

No vinyl floor tiles were observed in the subject building.

### *3.1.10 Vinyl Sheet Flooring*

Several different types of ceiling tiles were observed and previously sampled within the subject building as follows:

- Vinyl sheet flooring (Grey) was observed and previously sampled in Room 3047. The laboratory analytical results indicate that this material does not contain asbestos.
- Vinyl sheet flooring (Beige) was observed and previously sampled in Room 1025. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.
- Vinyl sheet flooring (Red) was observed and previously sampled in Room 1030. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.
- Vinyl sheet flooring (Light Grey) was observed and previously sampled in Room 1011. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.

### *3.1.11 Brick Mortar*

No brick mortar was observed in the subject building.

### *3.1.12 Concrete Block Mortar*

No concrete block mortar was observed subject building.

### *3.1.13 Transite (Asbestos Cement)*

Transite rainwater leaders are suspected to be present in Room 5068 and 5069. The condition of the material could not be visually assessed in these areas due to the presence of fireproofing insulation covering the transite. To avoid possible damage, no bulk samples of the transite piping were collected. However, this material is known to contain asbestos. This material is considered to be non-friable and was observed in good condition.

### *3.1.14 Caulking*

Window caulking (Black) was observed and previously sampled from Room 1070 and all stairwells throughout the subject building. The laboratory analytical results indicate that this material **contains 1% Chrysotile asbestos**. This material is considered to be non-friable and was observed in good condition.

### *3.1.15 Cementitious Coating*

No cementitious coating finishes were observed in the subject building.

### *3.1.16 Tar*

Several different types of tar materials were observed and previously sampled within the subject building as follows:

- Tar (Black) was previously sampled and observed on the ceiling in Room 1021. The laboratory analytical results indicate that this material **contains 2% Chrysotile asbestos**. This material is considered non-friable and was observed to be in fair condition.

- Tar paper debris was previously sampled and observed from Room 7028. The laboratory analytical results indicate that this material **contains <0.5% Chrysotile asbestos**. Under O. Reg.278/05 this material is less than the stated regulatory limit and is considered to be non-asbestos containing.

- Tar adhesive (Black) was observed and previously sampled in Rooms 0141B and 0141E. The laboratory analytical results indicate that this material does not contain asbestos.

### *3.1.17 Mastic*

Wall mastic (Black) observed and sampled on the walls of Room 0140. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.

### *3.1.18 Fire Doors*

Fire doors were observed at various locations throughout the subject building. To avoid possible damage, no bulk samples of the internal door insulation materials were collected. Prior to removal and/or replacement, fire doors should be examined and tested for asbestos content. Fire doors should be considered to contain asbestos until bulk samples and analysis proves otherwise. All fire doors were observed to be in good condition.

### *3.1.19 Roofing Material*

To avoid damage and compromising the integrity of roofing material, no bulk samples of the roofing materials were collected. Prior to removal and/or replacement, roofing materials should be examined and tested for asbestos content. Roofing materials should be considered to contain asbestos until bulk samples and analysis proves otherwise.

#### *Recommendations*

- Asbestos-containing materials identified to be in poor condition must be repaired/removed immediately, following Type 1/2/3 asbestos abatement work procedures as detailed in O. Reg. 278/05 and disposed of as asbestos waste under O. Reg. 347;

- Asbestos-containing materials that have been identified to be in fair condition should be either repaired (where possible) and/or closely monitored for signs of further deterioration. Depending on type of material and location, these materials should be scheduled for removal if there is potential risk of exposure to worker and/or occupants;

- Materials identified to contain asbestos that are in good condition and do not pose a risk to workers or occupants can be managed in place. Prior to renovation/demolition activities that may disturb the ACMs, these materials must be removed following appropriate Type 1/2/3 asbestos abatement work procedures as detailed in O. Reg. 278/05 and disposed of as asbestos waste under O. Reg. 347;

- Please refer to Appendix E – Asbestos-Containing Materials Checklist for material conditions, quantities (where applicable), and recommended actions;

- Prior to renovation/demolition of materials which are assumed to be asbestos-containing (suspect materials which were not sampled, i.e., roofing materials and fire doors), these materials must either be tested for asbestos content or removed following appropriate asbestos abatement work procedures (Type 1/2/3) as detailed in O. Reg. 278/05 and disposed of as asbestos waste under O. Reg. 347;

- All repairs or removal of asbestos-containing materials must be conducted according to Ontario Regulation 278/05, Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act. Asbestos containing waste must also be handled and disposed of according to Ontario Regulation 347/90 as amended – made under the Environmental Protection Act. Any suspect building materials encountered that were not assessed as part of this survey, should be assumed to contain asbestos until proven otherwise by analytical testing;

- Sub-trades working with or in close proximity to asbestos-containing material should be informed of its presence; and

- Given that asbestos containing materials (ACMs) have been identified and will likely remain in place, an Asbestos Management Plan (AMP) is therefore required and an inventory of ACMs must be kept on site. All ACMs must be routinely inspected to ensure no damage has occurred, and the inventory must be updated once in each 12-month period and as may be required based on expected changing site conditions, abatement and/or renovation activities.

## 3.2 Lead

*Findings*

### *3.2.1 Paint Finishes*

Various paint finishes previously identified to contain lead were observed throughout the subject building as follows,

**Table 2:**

**Previously Sampled Lead Paint Finishes**

| Sample I.D. | Location | Material | Colour | Lead Concentration Weight by Conc. (%) |
|---|---|---|---|---|
| VNR-4-LBP-050906-10 | Room 4020 | Door Frame Paint | Dark Green | 0.13 |
| VNR-3-LBP-050906-11 | Room 3015 | Wall Paint | White | 0.08 |
| VNR-2-LBP-051006-14 | Room 2070 | Stair Railing Paint | Grey | 1.20 |
| PB-2 | Room 1011 | Door Frame Paint | Grey | <0.002 |

The paint finishes highlighted in pink in the above table are considered lead-containing paints or surface coatings with concentrations greater than 0.1% lead by weight. These paint finishes were observed to be in good condition with the exception of select areas that were observed good condition with the exception of select areas that were observed to be in poor condition.

All remaining paints tested were below the laboratory limit of detection for lead. However, all other paints throughout the subject building that are not mentioned in this report must be considered to be lead-containing unless sampling and analysis proves otherwise.

Lead may also be present in the following materials in the building:

- Solder used on copper domestic water lines;
- Solder used in bell fittings for cast iron pipes;
- Solder used in electrical equipment;
- Ceramic tile glaze; and
- Concrete and mortar products, etc.

*Recommendations*

Paints identified to contain lead that are in poor condition must be immediately repaired and/or stabilized following a minimum Type 1/2 lead abatement procedures as per OMOL “Lead on Construction Project” dated April 2011.

Paints identified to contain lead that are in fair condition should be either repaired (where possible) and/or closely monitored for signs of further deterioration.

Paints identified to contain lead that are in good condition and do not pose a risk to workers or occupants can be managed in place.

Detailed worker protection protocols are outlined in the OMOL Guideline "Lead on Construction Projects" dated April 2011. Generally, the removal of the lead-based paint with the use of a chemical gel or paste, or a power tool equipped with a HEPA filter is considered a Type 1 operation. The removal of lead-based paint by scraping or sanding using non-powered hand tools is considered a Type 2 operation. The removal of lead-based paint using abrasive blasting, or power tools without a HEPA filter, is considered a Type 3 operation, and requires the most stringent worker protection protocols (similar to asbestos); Furthermore, high temperature cutting or welding would also require Type 3 Operations under the Guideline for Lead on Construction Projects. If this type of work is required, it may be prudent to chemically remove the lead paint in selected locations prior to performing any high temperature cutting or welding.

All lead materials that are removed must follow the Ministry of Labour and Environmental Abatement Council of Ontario Lead Guidelines.

Please refer to Appendix F – Hazardous Materials Checklist for material conditions, quantities (where applicable), and recommended actions.

Precautions should be taken as required during major renovations and demolition projects to ensure that workers' exposure levels to airborne lead does not exceed 0.05 mg/m3. This can be achieved by:

- providing workers with proper training;
- providing the workers with respiratory protection;
- wetting the surface of the materials to prevent dust emissions; and,
- providing workers with hygiene facilities to properly wash prior to exiting the work area.

Sub-trades working with or in close proximity to lead based paint should be informed of its presence.

All waste material must be handled and disposed of according to the Revised Regulation of Ontario 347/90 as amended – made under the Environmental Protection Act. Lead waste generated may also be subject to Leachate Criteria (Schedule 4) of this regulation.

## 3.3 Mercury

*Findings*

### *3.3.1 Thermostat Switches*

MPL did not observe thermostats containing liquid mercury within the subject building.

### *3.3.2 Fluorescent Light Tubes*

MPL identified fluorescent light fixtures throughout the surveyed area containing 2 to 4 fluorescent light tubes per fixture. Mercury is likely to be present in vapor form in the fluorescent light tubes.

### *3.3.3 Pressure Gauges and Float Switches*

MPL identified pressure gauges containing liquid mercury in Room 0189.

MPL also identified suspected float switches that may contain liquid mercury within the Room 0189 within the subject building. They were observed in good condition.

*Recommendations*

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, quantities (where applicable), and recommended actions.

Precautions must be taken to prevent mercury liquid/vapours from becoming airborne during building demolition. Exposure to mercury is regulated under Ontario Regulation 490/09, Designated Substances - made under the Occupational Health and Safety Act." Prior to renovations to the building, all mercury containing fluorescent light tubes, thermostats, and equipment must be removed and stored in a safe, secure location and/or properly disposed of in accordance with R.R.O. 1990, Regulation 347 General – Waste Management, made under the Environmental Protection Act.

## 3.4 Silica

*Findings*

Silica is expected to be present in building materials such as concrete, brick, mortar and ceramic tiles located throughout the structures. Free crystalline silica ($\alpha$-Quartz) may be a component in ceiling tiles and gypsum board. Silica (including free crystalline silica) may also be a component of concrete and brick surfaces noted in the building.

*Recommendations*

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, quantities (where applicable), and recommended actions.

Precautions should be taken as required during major renovations and demolition projects on concrete (i.e. coring through concrete slabs, demolition of masonry, etc.) to ensure that workers' exposure levels to airborne silica does not exceed 0.05 mg/m$^3$.

This can be achieved by:

- providing workers with proper training;
- providing the workers with respiratory protection;
- wetting the surface of the materials to prevent dust emissions; and,
- providing workers with facilities to properly wash prior to exiting the work area.

Demolition work that is likely to impact silica-containing materials should be carried out in accordance with the requirement detailed in the Ontario Ministry of Labour document entitled "Guideline: Silica on Construction Projects", dated April 2011.

## Other Hazardous Materials

## 3.5 Polychlorinated Biphenyls (PCBs)

*Findings*

### *3.5.1 Light Ballasts*

The subject building is illuminated by LED and fluorescent lights. MPL assessed representative ballasts in the building, and these ballasts were identified as non-PCBs content. These light ballasts were observed to be manufactured by Phillips.

### *3.5.2 Transformers*

MPL did not observe any PCBs containing electrical transformers within the subject building. Transformers that could be assessed were observed to be dry-type and manufactured by Warner Power.

*Recommendations*

Since no PCB-containing equipment was observed or suspected to be present during the site survey, no further action is required.

## 3.6 Ozone Depleting Substances (ODSs) and Other Halocarbon

*Findings*

A visual assessment for equipment potentially containing ODSs and other halocarbons was conducted. MPL observed equipment such as refrigerators, water fountains, water coolers, freezers, etc. which contain or are suspected of containing ODSs or other halocarbons.

*Recommendations*

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, quantities (where applicable), and recommended actions.

Under the management of a licensed contractor, equipment containing R-22 and R-134a does not represent a significant threat to human health or the environment however, a licensed contractor must decommission equipment such that CFCs are contained and not released to the environment during servicing or operation.

## 3.7 Radioactive Materials

*Findings*

A visual assessment of the subject building was conducted to determine if any electrical components containing radioactive materials were present. MPL identified equipment suspected of containing radioactive materials in Room 2041.

*Recommendations*

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, approximate (where applicable), and recommended actions.

These materials do not pose a hazard as long as they remain contained and properly disposed at the time of removal or replacement.

Prior to any renovations or demolition of the building, all equipment containing radioactive materials must be decommissioned by a licensed contractor such that radioactive materials are contained and not released to the environment during decommissioning as per O.Reg. 347/09.

## 3.8 Underground and Above Ground Storage Tanks (USTs and ASTs)

*Findings*

A visual survey of the subject building was conducted to determine if any USTs and ASTs were present. MPL observed one (1) diesel Storage Tanks located in Rooms 0140 and 7028A.

*Recommendations*

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, quantities (where applicable), and recommended actions.

Prior to any demolition in the buildings within the facility, all USTs and ASTs equipment must be decommissioned by a licensed contractor such that substances are contained and not released to the environment during decommissioning.

## 3.9 Mould

*Findings*

### *3.9.1 Mould*

A visual survey of the subject building was conducted to determine if any mould was present. MPL did not observe any areas with obvious signs of visible mould growth.

### *3.9.2 Water Damage*

A visual survey of the subject building was conducted to determine if any water damaged was present. **MPL identified select areas throughout the subject building, where materials were affected by water damage during the 2023 Reassessment.**

*Recommendations*

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, quantities (where applicable), and recommended actions.

Water stained/damaged wall and ceiling plaster that is also determined to contain asbestos must be replaced following appropriate asbestos abatement procedures as outlined in O.Reg. 278/05.

**This report should be made available to contractors tendering on any renovation or demolition work. In turn, all contractors requesting tenders from subcontractors shall furnish this report to subcontractors.**

# 4.0 GENERAL CONSIDERATIONS AND LIMITATIONS

The information presented in this report is based on information provided by others, direct visual observation made by personnel with **McIntosh Perry Limited (MPL)**, and the results of laboratory testing as identified herein.

It should be noted that there might be hazardous materials in locations not visible during our investigation. In the event such material is encountered during demolition operations in the building, this material should be tested and dealt with accordingly.

The findings detailed in this report are based upon the information available at the time of preparation of the report. No investigative method eliminates the possibility of obtaining imprecise or incomplete information. Professional judgement was exercised in gathering and analyzing the information obtained and in the formulation of our conclusions and recommendations.

MPL does not certify or warrant the environmental status of the property nor the building on the property.

Please note that the passage of time affects the information provided in the report. Environmental conditions of a site can change. Opinions relating to the site conditions are based upon information that existed at the time that the conclusions were formulated.

The client expressly agrees that it has entered into this agreement with MPL, both on its own behalf and as agent on behalf of its employees and principals.

The client expressly agrees that MPL's employees and principals shall have no personal liability to the client in respect of a claim, whether in contract, tort and/or any other cause of action in law. Accordingly, the client expressly agrees that it will bring no proceedings and take no action in any court of law against any of MPL's employees or principals in their personal capacity.

We trust that we have detailed our findings clearly and that we have satisfactorily addressed the scope of work you require at this time. In the event you wish us to review our findings with you, or require our services further in this regard, please do not hesitate to contact our office.

Yours truly,

**MCINTOSH PERRY LIMITED**

Pegah Parichehreh, M.Sc.
Project Technician
Hazardous Materials/ Environmental Health & Safety

John Tufts, B.Sc.
Project Manager
Hazardous Materials/ Environmental Health & Safety

# APPENDIX A

## Regulatory Requirements

# REGULATORY REQUIREMENTS

In Ontario, there is a total of eleven Designated Substances. These substances have been regulated under Ontario Regulation 490/09 — *Designated Substances*, made under the Ontario Health and Safety Act, which applies to controlling designated substances in the workplace.

In addition to the Ontario Regulation 490/09 noted above, the following were observed for this survey:

Guideline: Lead on Construction Projects, issued April 2011 by the Occupational Health and Safety branch of the Ministry of Labour

Guideline: Silica on Construction Projects issued April 2011 by the Occupational Health and Safety branch of the Ministry of Labour.

The Occupational Health and Safety Act (OHSA), R.S.O. 1990, c.0.1, s.30 (1) specifies that: "Before beginning a project, the owner shall determine whether any Designated Substances are present at the project site and shall prepare a list of all Designated Substances that are present at the site.

Section 30 of The Act requires that the list of Designated Substances be provided to prospective contractors and subcontractors who may do work on a site and come into contact at the site with Designated Substances.

The Ministry of Labour has designated the following substances:

- Acrylonitrile
- Arsenic
- Asbestos
- Benzene
- Coke Oven Emissions
- Ethylene Oxide
- Isocyanates
- Lead
- Mercury
- Silica
- Vinyl Chloride

Ontario Regulation 278/05 (O. Reg. 278/05), the Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations, made under the Occupational Health and Safety Act (OHSA), requires owners of a building to identify Asbestos-containing Materials (ACMs) prior to potential disturbance of the materials.

In addition, an owner of a building is required to have an Asbestos Management Plan (AMP) if ACMs (friable or non-friable) are present in the building and are to remain in place. An inventory of ACMs must be kept on site. All ACMs must be routinely inspected to ensure no damage has occurred, and the inventory must be updated once in each 12-month period and as may be required based on expected changing site conditions, abatement and/or renovation activities. Removal of all asbestos containing materials is required prior to building demolition.

In addition to the Designated Substances, the building was also surveyed for the presence of other hazardous materials such as polychlorinated biphenyls (PCBs), radioactive materials, ozone depleting substances (ODSs), other halocarbons, and mould.

We understand that this survey has been conducted to comply with the regulatory requirements of Ontario Regulation 278/05.

# APPENDIX B

## Survey Methodology & Background Information

# SURVEY METHODOLOGY

For the purpose of this survey, not all Designated Substances or suspect hazardous material were sampled. Selective sampling was carried out only for substances that were suspected to be present or those deemed to have a likely source of origin in the survey areas.

Materials that were homogeneous in nature and/or similar in appearance to other materials tested were considered to be of similar composition. The likelihood of ACMs being present in inaccessible areas such as above gypsum board ceilings or behind gypsum wallboards was determined by assessing the presence of asbestos-containing systems in adjacent areas. Equipment such as boilers, motors, blowers, electrical panels, fire doors etc., were not de-energized or disassembled to examine internal components or materials. These items should be considered to contain hazardous materials until proven otherwise.

During the survey, representative samples of suspect building materials were collected and sent to CAELA accredited independent laboratory for analysis. Laboratory Certificate of Analysis are attached in Appendix C.

Other potential hazardous materials were identified by visual observation and/or by reviewing Material Safety Data Sheets (MSDS) and/or safety labels where available.

## Investigated Areas

The survey included all accessible areas and ceiling space within Vanier Hall as required under our scope of work. No destructive investigations were performed as part of this survey. Photographs of the areas investigated can be found in Appendix D.

The assessment was directed on the interior structure and finishes of the building. It did not consider current or past owner or occupant articles within the building (i.e. contents, furniture, etc.) and does not report on possible contaminants in the soil under and surrounding the building, or contents of vessels, drums, etc. that may be concealed.

## Sampling and Assessment Methodologies

Sampling was conducted as part of this assessment. Results for asbestos and lead samples can be found in the Findings & Recommendation Section 3.0.

A historical review of previous designated substance survey reports and abatement reports was examined as part of this survey. Due to concerns regarding certain historical analytical results, mainly in 2008 and prior years, confirmatory re-sampling was conducted for selected materials previously identified not to contain asbestos. However, building materials previously identified to be asbestos-containing were not re-sampled. The reports are listed as follows,

- Project Specific Designated Substance Survey 1 Nicholas Consolidated on Campus-Vanier Hall by CM3 Environmental (dated February 7, 2019, reference#TLW-2301);
- Mould and Particulate Sampling Rooms 0115 and 0117-Vanier Hall by CM3 Environmental (dated March 16,2018, reference#TLW-1862);
- Asbestos Abatement Summary Vanier Hall-Level 0 by CM3 Environmental (dated September 26, 2016, reference# TLW-1156);

- Asbestos Sampling-Cork Ceiling Room 0188, Vanier Hall by CM3 Environmental (dated June 3, 2016, reference# TLW-1058);
- Asbestos Sampling Report Vanier Hall Building -Animal Care Wing by EHS Partnerships LTD (dated February 9, 2016, reference#04-0033-16-007);
- Potential Asbestos Containing Material Assessment, Room 0140, Vanier Hall by EHS Partnerships LTD (dated July 16, 2015, reference#04-0033-15-020);
- Potential Asbestos Material Assessment, Vanier Hall, D-Stairwell & Rooms 0141B & E by EHS Partnerships LTD (dated March 11, 2015, reference# 04-0033-15-013);
- Project Specific Asbestos Sampling Report – Dust, Vanier Hall – Social Science Faculty Old Tunnel Access by EHS Partnerships LTD (dated April 27, 2012, reference# 04-0033-12-013);
- Potential Asbestos Sampling Report – Plaster on Drywall and Plaster on Lathe, Vanier Hall-Penthouse by EHS Partnerships LTD (dated January 23, 2012, reference# 04-0033-12-001);
- Project Specific Asbestos Sampling-Pipe Shaft Debris, Vanier Hall, Somerset Wing, Basement by EHS Partnerships (dated October 20, 2011, reference# 04-0033-11-005);
- Asbestos Abatement Work Room 002A, Vanier Hall by Conestoga Rovers & Associates (dated October 2006, reference# 47378); and,
- Designated Substance Inventory by Conestoga Rovers & Associates (dated July 2006, reference#45870(2)).

## Asbestos

### *Background Information on Asbestos*

Asbestos is a generic name that has been given to a group of naturally occurring fibrous minerals. In the past, asbestos was commonly used as a component in building materials such as insulation, fireproofing and acoustic or decorative panels. Although there are many types of asbestos, the three main forms of commercial importance in Ontario are chrysotile, amosite and crocidolite.

An Asbestos-Containing Material (ACM) is defined by O. Reg. 278/05 as a material that contains 0.5% or more asbestos by dry weight. ACMs are placed into two general classes, “friable” and “non-friable” ACMs. Friable ACMs are those materials that when dry can be crumbled, pulverized and reduced to powder by hand pressure. Typical friable ACMs include acoustical or decorative texture coats, fireproofing and thermal insulation. Non-friable ACMs are much more durable as they are held together by a binder such as cement, vinyl or asphalt. Typical non-friable ACMs include floor tiles, fire blankets, roofing materials and cementitious products such as wallboards, pipes or siding.

It has been recognized that hazardous situations may exist in buildings where asbestos-containing materials are found. This is especially true where asbestos fibres may become airborne as a result of material ageing, physical damage, and water damage or air movement.

In contrast, there is little reason for concern if the asbestos is in good condition, has not been damaged and is not in a location where it is likely to be disturbed.

*Asbestos Survey Methodology*

The asbestos survey included the identification of potential friable and non-friable asbestos-containing materials within the surveyed areas of the subject building.

The likelihood of ACMs being present in inaccessible areas such as above gypsum wallboard ceilings and walls was determined by assessing the presence of asbestos-containing materials in adjacent areas.

Fiberglass insulation was not submitted for analysis as it can be identified visually as non-asbestos material.

Building materials suspected of containing asbestos were identified and representative sampling and laboratory testing of these materials was conducted. The number of bulk material samples collected from a homogeneous area was in accordance with Table 1. O. Reg. 278/05 s. 3 (3) below. Building materials suspected of containing asbestos were collected using wetting techniques and hand sampling tools.

Table 1 - O. Reg. 278/05 s. 3(3): Minimum Asbestos Bulk Material Sample Requirements

| Item | Type of material | Size of area of homogeneous material | Minimum number of bulk material samples to be collected |
|---|---|---|---|
| 1. | Surfacing material, including without limitation, material that is applied to surfaces by spraying, by troweling or otherwise, such as acoustical plaster on ceilings and fireproofing materials on structural members | Less than 90 square metres | 3 |
| | | 90 or more square metres, but less than 450 square metres | 5 |
| | | 450 or more square metres | 7 |
| 2. | Thermal insulation, except as described in item 3 | any size | 3 |
| 3. | Thermal insulation patch | Less than 2 linear metres or 0.5 square metres | 1 |
| 4. | Other material | Any size | 3 |

Preliminary identification of the samples was made using polarized light microscopy (PLM), with confirmation of presence and type of asbestos made by dispersion staining optical microscopy. This analytical procedure follows the U.S. Environmental Protection Agency Test Method EPA/600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials, June 1993.

All bulk samples were analysed for asbestos content by Paracel Laboratories Ltd., an independent laboratory. Paracel is a fully accredited facility for asbestos analysis and is accredited under National Voluntary Laboratory Accreditation (NVLAP Lab Codes 200812-0 and 200863-0). Paracel is accredited for asbestos bulk analysis in PLM in Ottawa and Mississauga, respectively. For the Scope of Accreditation under the (CALA) Membership Number 1262, Paracel is accredited for asbestos in air samples by PCM.

Vinyl floors tiles were analyzed using the phase light microscopy (PLM) method of analysis. However, given the composition of vinyl floor products, the PLM analysis method may be prone to yielding false negative analytical results. Therefore, prior to removal or replacement, vinyl floor products previously identified to be negative, should undergo additional analysis by Transmission Electron Microscopy (TEM) to confirm asbestos content, if any.

Materials identified to contain asbestos were assessed on the relative possibility of fibre release into the air due to a combination of their condition and accessibility.

### *Evaluation of ACMs Based on Condition*

In evaluating an ACM's condition, the following criteria was applied:

- Good – Material shows no signs of damage and/or is encapsulated. Asbestos-containing material could remain in place until eventual building demolition or major renovation.
- Fair – Material shows signs of minor damage (<5% damage) or otherwise near the end of useful life. This includes minor shrinking, cracking, delamination and/ or other damage. Material should be monitored closely and scheduled to be repaired, encapsulated or removed.
- Poor – Damage is greater than 5% to any ACM material and is highly recommended to be removed, repaired or encapsulated.

*Note: The above evaluation criteria was also applied to other hazardous materials where applicable. Please refer to the Asbestos and Hazardous Materials Checklist in Appendix E & F for further details.*

## Lead

### *Background Information on Lead*

Lead was a common additive in exterior and hard-wearing paint applications. Lead was used to prolong shelf life of paint and to increase its flexibility and durability to wear and weather. Acute exposure to lead by inhalation or ingestion may cause headaches, fatigue, nausea, abdominal cramps and joint pain. Chronic exposures can cause reduced haemoglobin production and reduced lifespan. It has also been known to impact the body's central and peripheral nervous systems and brain function and has been linked to learning disabilities in children.

Currently in Ontario, there is no regulatory limit that determines what concentration of lead constitutes a "lead containing material". On October 21, 2010, Health Canada, under the *Hazardous Products Act*, stated that the lead content in surface-coating materials, furniture, toys and other articles for children, should not exceed 90 mg/kg (0.009%, 90 ppm). However, this is intended for the importation or sale of products within Canada. Therefore, this is not to be misconstrued as a limit established to define a lead-containing material or a limit with respect to lead on construction projects.

The Environmental Abatement Council of Canada (EACC) has also developed the "*Lead Guideline for Construction, Renovation, Maintenance or Repair*" dated October 2014, which discusses the classification, handling, disturbance and removal of lead-containing materials. For the purpose of this guideline, paints or surface coatings containing less than or equal to 0.1% lead by weight (1000 mg/kg or 1000 ppm) are considered low-level lead paints or surface coatings. If these materials (and their respective surfaces) are disturbed in a non-aggressive manner and performed using adequate dust control procedures, then worker protection from the inhalation of lead is not required.

Furthermore, paints or surface coatings containing greater than 0.1% lead by weight are considered lead-containing paints or surface coatings. If these materials (and their respective surfaces) are disturbed, appropriate lead abatement procedures must always be followed.

Exposure to lead-containing materials is regulated under Ontario Regulation 490/09, *Designated Substances* - made under the Occupational Health and Safety Act. Care must be taken to prevent lead-containing particles from becoming airborne during the disturbance of lead-containing surfaces (i.e., during renovation or demolition projects). All lead abatement work must follow procedures outlined in the Guideline Lead on Construction Projects, issued in September 2004 (amended in April 2011) by the Occupational Health and Safety branch of the Ministry of Labour (Type 1-3). Similarly, the lead abatement work procedures outlined in the EACC Lead Guideline for Construction, Renovation, Maintenance or Repair (October 2014) may also be implemented (Class 1-3).

Lead is known to have been used in solder on copper plumbing fixtures, in lead conduit pipes, in lead-calcium battery plates, ammunition, and in nuclear and X-ray shielding devices. However, these materials were not sampled during this investigation, but were noted where applicable.

To verify lead content in paints, representative bulk samples of paint and finishes suspected of containing lead were collected. Bulk samples were scraped down to the building base structure, with all possible layer's present, placed in sealed plastic bags and labeled; and then submitted to an independent laboratory for analysis. Samples were treated with a dilute nitric acid sample digestion prior to filtration. Analysis utilized for lead detection in filtered samples was inductively coupled plasma optical emission spectrometry (ICP-OES).

## Mercury

### *Background Information on Mercury*

Mercury is known to cause poisoning in humans through the inhalation of vapours, ingestion of contaminated materials or skin absorption through direct contact with the liquid.

Precautions must be taken to prevent mercury vapours from becoming airborne during renovations or demolition of the building. Exposure to airborne mercury is regulated under the Revised O. Reg. 490/09 as amended – Regulation respecting Mercury – made under the Occupational Health and Safety Act; and under O. Reg. 558, which amended O. Reg. 347/90 (General - Waste Management), mercury is classified as a Schedule 2(b) Hazardous Waste Chemical. Its hazardous waste number is U151.

Mercury is found in products such as thermostats, temperature and pressure gauges, fluorescent lamps and batteries. Mercury in products can be released to the environment through breakage, or disposal at the end of a product's useful life. Improper disposal of these mercury products poses a health and environmental risk to everyone. In addition, the disposal of mercury-containing products can create wastes that are often classified as hazardous. Wastes that leach mercury in concentrations exceeding Ontario Regulation 347/90 (General - Waste Management) limits are also considered hazardous.

The mercury in thermostats switch contains approximately 3-4 grams of mercury in a glass ampoule, typically attached to a metal coil. Mercury-containing switches have been used in thermostats for over 40 years.

Mercury is an essential component in fluorescent lamps and HID lamps. The mercury is in a vapour form and in the phosphor coating on the lamp tube. Estimates of the mercury content contained in compact, 4 foot, and 8-foot lamps are 10 mg, 23 mg, and 46 mg respectively.

Most fluorescent lamps qualify as hazardous waste when removed from service and are therefore prohibited from disposal in the solid waste stream. Fluorescent lamps would be classified as 146T on your facility

Generator Registration Report under O. Reg. 347/90 - General Waste Management, as amended by O. Reg. 558/00. Under this regulation, if the leachate results exceed 0.1 milligrams of mercury per litre for a given waste, then the facility must treat the waste as hazardous waste. Most fluorescent and HID lamps will exceed the leachate toxicity limit; therefore, these wastes must be registered and treated as hazardous waste or sent for recycling.

## Silica

### *Background Information on Silica*

Silica is expected to be present in building materials such as concrete, brick, mortar and ceramic tiles located throughout the structures. Free crystalline silica ($\alpha$-Quartz) may be a component in ceiling tiles and gypsum board. Silica (including free crystalline silica) may also be a component of concrete and brick surfaces noted in the building.

Exposure to airborne silica is regulated under Ontario Regulation 490/09, *Designated Substances* - made under the Occupational Health and Safety Act.

## Polychlorinated Biphenyls (PCBs)

### *Background Information on PCBs*

Polychlorinated Biphenyls (PCBs) were commonly used as dielectric insulating fluid in electrical equipment such as transformers and capacitors, and in the fluorescent and HID lamp ballasts. The production of PCBs in the North America started in 1929 and was banned at the beginning of 1979. After 1981, no manufacturers produced fluorescent and HID lamps with PCB-containing ballasts.

PCBs are not a designated substance under the Occupational Health and Safety Act.

### *PCB Regulations (SOR/2008-273)*

The *PCB Regulations* (the Regulations) set specific deadlines for ending the use of PCBs in concentrations at or above 50 mg/kg, eliminating all PCBs and equipment containing PCBs currently in storage and limiting the period of time PCBs can be stored before being destroyed. The Regulations also establish sound practices for the better management of the remaining PCBs in use (i.e. those with content of less than 50 mg/kg), until their eventual elimination, to prevent contamination of dielectric fluids and dispersion of PCBs in small quantities into other liquids.

## Ozone Depleting Substances (ODSs) and Other Halocarbons

### *Background Information on ODSs*

Within Ontario, the general use of ozone depleting substances (ODSs) and other halocarbons is controlled through Regulation 463/10 of the Environmental Protection Act. Production of ODSs in the form of hydro chlorofluorocarbons (HCFCs) and chlorofluorocarbons (CFCs) ceased in Canada in 1993 as a result of their ozone-depleting characteristics. Importation of CFCs into Canada ceased in 1997 and total ban was placed on their use since 2010. The use of these materials is still permitted in existing equipment, but equipment must be serviced by a licensed contractor such that CFCs are contained and not released to the environment during servicing or operation.

### Radioactive Materials

There are two types of smoke detectors commonly found in building (residential, institutional, commercial, industrial, etc). Photoelectric-type smoke detectors detect smoke using an optical sensor, whereas ionization-type smoke detectors use an ionization chamber containing radioactive material. The ionization type is cheaper and is particularly common in older buildings. A typical modern detector contains about 1.0 microcurie of the radioactive element americium, a decrease from 3 microcurie in 1978. The use of sealed radioactive material sources in fire detection systems is still permitted and regulated by the Canadian Nuclear Safety Commission (CNSC) and the Canadian Nuclear Safety Act. The radioactive sources in smoke alarms are sealed and contained within a metal case inside the smoke detector and must not be damaged or tampered with.

### Mould & Water Damage

Mould growth inside buildings is due to excess moisture caused by leakages, condensation or capillary movement of water into the building. Toxic moulds such as *Stachybotrys chartarum* and some species of *Aspergillus* spp. are greenish-black, wet and slimy moulds that grow on soaking wet cellulose-based materials. They are often found near water leaks or where drying is very slow and can form after flooding if insufficient cleanup and drying occurred. They will generally not occur if materials are kept dry.

MPL conducted a general visual assessment for any obvious signs of visible mould and/or water damage. Based on our visual observations, the following guidelines were used in providing our recommendations for remedial action where required:

- Institute of Inspection Cleaning and Restoration Certification (IICRC) S520 Standard and Reference for Professional Mould Remediation,
- The Canadian Construction Association (CCA) Mould Guidelines for the Canadian construction industry (CCA document 82-2004)
- Environmental Abatement Council of Canada (EACC) Mould Abatement Guidelines.

## Other Designated Substances

*Select Designated Substances (acrylonitrile, arsenic, coke oven emissions, ethylene oxide, isocyanates, benzene, or vinyl chloride) are not expected to be present in the building in matrix or sufficient quantities to cause an exceedance of Ministry of Labour exposure guidelines. As such, no sampling was conducted for these materials.*

### Vinyl Chloride

Vinyl chloride (monomer) is likely to be present in stable form within poly vinyl-chloride (PVC) piping and conduits and as a component of interior finishes. Such building materials are not considered to be hazardous in their current matrix/composition.

### Acrylonitrile

Acrylonitrile or ACN (also known as vinyl cyanide) is an explosive, flammable liquid used in the manufacture of acrylic fibres, rubber-like materials and pesticide fumigants. Acrylonitrile was not noted and would not be expected to be present in the project specific area/surveyed area/subject building.

## Arsenic

Arsenic is used in metallurgy for hardening copper, lead and alloys, in pigment production, in the manufacture of certain types of glass, in insecticides, fungicides and rodenticides, as a by-product in the smelting of copper ores, and as a dopant material in semiconductor manufacturing. Arsenic or arsenic compounds were not noted and are not expected to be present in the project specific area/surveyed area/subject building.

## Benzene

Benzene or benzol is a colourless liquid. It is used as an intermediate in the production of styrene, phenol, cyclohexane, and other organic chemicals, and in the manufacture of detergents, pesticides, solvents, and paint removers. It is also found in gasoline. Benzene may be present in stable form in roofing materials, paints and adhesives located throughout the subject building. Such building materials are not considered to be hazardous in their current matrix/composition.

## Coke Oven Emissions

Coke oven emission is benzene soluble fraction of total particulate matter of the substances emitted into the atmosphere from metallurgical coke ovens.

## Ethylene Oxides

Ethylene oxide is a colourless gas liquefying below 12°C. It is used generally as a fumigant and sterilizing agent for medical equipment. It is used generally as a fumigant and sterilizing agent for medical equipment.

## Isocyanates

Isocyanates compounds may be present in stable form in paint finishes, varnishes, and polyurethane plastics, synthetic rubbers, foams and adhesives. Such building materials are not considered to be hazardous in their current matrix/composition.

In order to reduce the potential for exposure to workers or occupants, any suspect hazardous building material(s) that are not detailed within this survey due to inaccessibility and/or are discovered during renovation/demolition activities, must be properly assessed and/or tested prior to their disturbance.

# APPENDIX C

## Laboratory Analytical Reports

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# Certificate of Analysis

**McIntosh Perry Limited (Concord)**

6240 Hwy 7, Suite 200
Woodbridge, ON L4H 0R2
Attn: Diana Banakh

Client PO:
Project: Z1920014HZ (Vanier Hall)
Custody:

Report Date: 22-Nov-2019
Order Date: 18-Nov-2019

**Order #: 1947116**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

| Paracel ID | Client ID |
|---|---|
| 1947116-01 | BS1.1 Sprayed Insulation - 5041 |
| 1947116-02 | BS1.2 Sprayed Insulation - 5063 |
| 1947116-03 | BS1.3 Sprayed Insulation - 5068 |
| 1947116-04 | BS1.4 Sprayed Insulation - 5th Hallway |
| 1947116-05 | BS1.5 Sprayed Insulation - 5th Hallway |
| 1947116-06 | BS1.6 Sprayed Insulation - 5th Hallway |
| 1947116-07 | BS1.7 Sprayed Insulation - 5th Hallway |
| 1947116-08.1 | BS2.1 Wall/Ceiling Plaster - 5076 |
| 1947116-08.2 | BS2.1 Wall/Ceiling Plaster - 5076 |
| 1947116-09.1 | BS2.2 Wall/Ceiling Plaster - 5076 |
| 1947116-09.2 | BS2.2 Wall/Ceiling Plaster - 5076 |
| 1947116-10.1 | BS2.3 Wall/Ceiling Plaster - 5040 |
| 1947116-10.2 | BS2.3 Wall/Ceiling Plaster - 5040 |
| 1947116-11.1 | BS2.4 Wall/Ceiling Plaster - 5040 |
| 1947116-11.2 | BS2.4 Wall/Ceiling Plaster - 5040 |
| 1947116-12.1 | BS2.5 Wall/Ceiling Plaster - 1026 |
| 1947116-12.2 | BS2.5 Wall/Ceiling Plaster - 1026 |
| 1947116-13.1 | BS2.6 Wall/Ceiling Plaster - 5082 |
| 1947116-13.2 | BS2.6 Wall/Ceiling Plaster - 5082 |
| 1947116-14.1 | BS2.7 Wall/Ceiling Plaster - 5082 |
| 1947116-14.2 | BS2.7 Wall/Ceiling Plaster - 5082 |
| 1947116-15 | BS3.1 SCT 2' x 4' PH with LF -5th elev lobby |
| 1947116-16 | BS3.2 SCT 2' x 4' PH with LF -5th elev lobby |
| 1947116-17 | BS3.3 SCT 2' x 4' PH with LF -5th elev lobby |
| 1947116-18 | BS4.1 Tar on Ceiling - RM1021 |
| 1947116-19 | BS4.2 Tar on Ceiling - RM1021 |

Approved By:

Emma Diaz

Senior Analyst

| | |
|---|---|
| 1947116-20 | BS4.3 Tar on Ceiling - RM1021 |
| 1947116-21 | BS5.1 Tar Paper Debris - RM 7028 |
| 1947116-22 | BS5.2 Tar Paper Debris - RM 7028 |
| 1947116-23 | BS5.3 Tar Paper Debris - RM 7028 |
| 1947116-24 | BS6.1 Wall Mastic - RM0140 |
| 1947116-25 | BS6.2 Wall Mastic - RM0140 |
| 1947116-26 | BS6.3 Wall Mastic - RM0140 |
| 1947116-27 | BS7.1 Window Caulking - Stairwall 1D |
| 1947116-28 | BS7.2 Window Caulking - Stairwall 1D |
| 1947116-29 | BS7.3 Window Caulking - Stairwall 1D |

Certificate of Analysis

Report Date: 22-Nov-2019

**Client: McIntosh Perry Limited (Concord)**

Order Date: 18-Nov-2019

**Client PO:**

**Project Description: Z1920014HZ (Vanier Hall)**

## Asbestos, PLM Visual Estimation **MDL - 0.5%**

| Paracel ID | Sample Date | Colour | Description | Asbestos Detected | Material Identification | % Content |
|---|---|---|---|---|---|---|
| 1947116-01 | 10-Oct-19 | Grey | Sprayed Insulation | No | **Client ID: BS1.1 Sprayed Insulation - 5041** | |
| | | | | | Cellulose | 60 |
| | | | | | Non-Fibers | 40 |
| 1947116-02 | 10-Oct-19 | Grey | Sprayed Insulation | No | **Client ID: BS1.2 Sprayed Insulation - 5063** | |
| | | | | | Cellulose | 60 |
| | | | | | Non-Fibers | 40 |
| 1947116-03 | 10-Oct-19 | Grey | Sprayed Insulation | No | **Client ID: BS1.3 Sprayed Insulation - 5068** | |
| | | | | | Cellulose | 60 |
| | | | | | Non-Fibers | 40 |
| 1947116-04 | 10-Oct-19 | Grey | Sprayed Insulation | No | **Client ID: BS1.4 Sprayed Insulation - 5th Hallway** | |
| | | | | | Cellulose | 60 |
| | | | | | Non-Fibers | 40 |
| 1947116-05 | 10-Oct-19 | Grey | Sprayed Insulation | No | **Client ID: BS1.5 Sprayed Insulation - 5th Hallway** | |
| | | | | | Cellulose | 60 |
| | | | | | Non-Fibers | 40 |
| 1947116-06 | 10-Oct-19 | Grey | Sprayed Insulation | No | **Client ID: BS1.6 Sprayed Insulation - 5th Hallway** | |
| | | | | | Cellulose | 60 |
| | | | | | Non-Fibers | 40 |
| 1947116-07 | 10-Oct-19 | Grey | Sprayed Insulation | No | **Client ID: BS1.7 Sprayed Insulation - 5th Hallway** | |
| | | | | | Cellulose | 60 |
| | | | | | Non-Fibers | 40 |
| 1947116-08.1 | 10-Oct-19 | White | Plaster | No | **Client ID: BS2.1 Wall/Ceiling Plaster - 5076** | |
| | | | | | Non-Fibers | 100 |
| 1947116-08.2 | 10-Oct-19 | Grey | Plaster | No | **Client ID: BS2.1 Wall/Ceiling Plaster - 5076** | |
| | | | | | Non-Fibers | 100 |

Certificate of Analysis

Report Date: 22-Nov-2019

**Client: McIntosh Perry Limited (Concord)**

Order Date: 18-Nov-2019

**Client PO:**

**Project Description: Z1920014HZ (Vanier Hall)**

## Asbestos, PLM Visual Estimation **MDL - 0.5%**

| Paracel ID | Sample Date | Colour | Description | Asbestos Detected | Material Identification | % Content |
|---|---|---|---|---|---|---|
| 1947116-09.1 | 10-Oct-19 | White | Plaster | No | **Client ID: BS2.2 Wall/Ceiling Plaster - 5076** | |
| | | | | | Non-Fibers | 100 |
| 1947116-09.2 | 10-Oct-19 | Grey | Plaster | No | **Client ID: BS2.2 Wall/Ceiling Plaster - 5076** | |
| | | | | | Non-Fibers | 100 |
| 1947116-10.1 | 10-Oct-19 | White | Plaster | No | **Client ID: BS2.3 Wall/Ceiling Plaster - 5040** | |
| | | | | | Non-Fibers | 100 |
| 1947116-10.2 | 10-Oct-19 | Grey | Plaster | No | **Client ID: BS2.3 Wall/Ceiling Plaster - 5040** | |
| | | | | | Non-Fibers | 100 |
| 1947116-11.1 | 10-Oct-19 | White | Plaster | No | **Client ID: BS2.4 Wall/Ceiling Plaster - 5040** | |
| | | | | | Non-Fibers | 100 |
| 1947116-11.2 | 10-Oct-19 | Grey | Plaster | No | **Client ID: BS2.4 Wall/Ceiling Plaster - 5040** | |
| | | | | | Non-Fibers | 100 |
| 1947116-12.1 | 10-Oct-19 | White | Plaster | No | **Client ID: BS2.5 Wall/Ceiling Plaster - 1026** | |
| | | | | | Non-Fibers | 100 |
| 1947116-12.2 | 10-Oct-19 | Grey | Plaster | No | **Client ID: BS2.5 Wall/Ceiling Plaster - 1026** | |
| | | | | | Non-Fibers | 100 |
| 1947116-13.1 | 10-Oct-19 | White | Plaster | No | **Client ID: BS2.6 Wall/Ceiling Plaster - 5082** | |
| | | | | | Non-Fibers | 100 |
| 1947116-13.2 | 10-Oct-19 | Grey | Plaster | **Yes** | **Client ID: BS2.6 Wall/Ceiling Plaster - 5082** | [AS-PT] |
| | | | | | **Chrysotile** | 0.5 |
| | | | | | Non-Fibers | 99.5 |
| 1947116-14.1 | 10-Oct-19 | White | Plaster | No | **Client ID: BS2.7 Wall/Ceiling Plaster - 5082** | |
| | | | | | Non-Fibers | 100 |
| 1947116-14.2 | 10-Oct-19 | | | | **Client ID: BS2.7 Wall/Ceiling Plaster - 5082** | |
| | | | | | not analyzed | |

Certificate of Analysis

Report Date: 22-Nov-2019

**Client:** McIntosh Perry Limited (Concord)

Order Date: 18-Nov-2019

**Client PO:**

**Project Description: Z1920014HZ (Vanier Hall)**

## Asbestos, PLM Visual Estimation **MDL - 0.5%**

| Paracel ID | Sample Date | Colour | Description | Asbestos Detected | Material Identification | % Content |
|---|---|---|---|---|---|---|
| 1947116-15 | 10-Oct-19 | White/Grey | Ceiling Tile | No | **Client ID: BS3.1 SCT 2' x 4' PH with LF -5th elev lobby** | |
| | | | | | Cellulose | 40 |
| | | | | | MMVF | 30 |
| | | | | | Non-Fibers | 30 |
| 1947116-16 | 10-Oct-19 | White/Grey | Ceiling Tile | No | **Client ID: BS3.2 SCT 2' x 4' PH with LF -5th elev lobby** | |
| | | | | | Cellulose | 40 |
| | | | | | MMVF | 30 |
| | | | | | Non-Fibers | 30 |
| 1947116-17 | 10-Oct-19 | White/Grey | Ceiling Tile | No | **Client ID: BS3.3 SCT 2' x 4' PH with LF -5th elev lobby** | |
| | | | | | Cellulose | 40 |
| | | | | | MMVF | 30 |
| | | | | | Non-Fibers | 30 |
| 1947116-18 | 10-Oct-19 | Black | Tar | **Yes** | **Client ID: BS4.1 Tar on Ceiling - RM1021** | |
| | | | | | **Chrysotile** | 2 |
| | | | | | Non-Fibers | 98 |
| 1947116-19 | 10-Oct-19 | | | | **Client ID: BS4.2 Tar on Ceiling - RM1021** | |
| | | | | | not analyzed | |
| 1947116-20 | 10-Oct-19 | | | | **Client ID: BS4.3 Tar on Ceiling - RM1021** | |
| | | | | | not analyzed | |
| 1947116-21 | 10-Oct-19 | Black | Tar Paper | No | **Client ID: BS5.1 Tar Paper Debris - RM 7028** [AS-PRE] | |
| | | | | | Cellulose | 60 |
| | | | | | MMVF | 0.55 |
| | | | | | Non-Fibers | 39.45 |
| 1947116-22 | 10-Oct-19 | Black | Tar Paper | **Yes** | **Client ID: BS5.2 Tar Paper Debris - RM 7028** [AS-PRE, AS-PT] | |
| | | | | [ASTrc] | **Chrysotile** | <MDL |
| | | | | | Cellulose | 60 |
| | | | | | Non-Fibers | 40 |

PARACEL LABORATORIES LTD.

**Order #: 1947116**

Certificate of Analysis

Report Date: 22-Nov-2019

**Client: McIntosh Perry Limited (Concord)**

Order Date: 18-Nov-2019

**Client PO:**

**Project Description: Z1920014HZ (Vanier Hall)**

## Asbestos, PLM Visual Estimation **MDL - 0.5%**

| Paracel ID | Sample Date | Colour | Description | Asbestos Detected | Material Identification | % Content |
|---|---|---|---|---|---|---|
| 1947116-23 | 10-Oct-19 | Black | Tar Paper | **Yes** | **Client ID: BS5.3 Tar Paper Debris - RM 7028** | [AS-PRE, AS-PT] |
| | | | | [ASTrc] | **Chrysotile** | <MDL |
| | | | | | Cellulose | 60 |
| | | | | | Non-Fibers | 40 |
| 1947116-24 | 10-Oct-19 | Black | Mastic | No | **Client ID: BS6.1 Wall Mastic - RM0140** | [AS-PRE] |
| | | | | | Non-Fibers | 100 |
| 1947116-25 | 10-Oct-19 | Black | Mastic | No | **Client ID: BS6.2 Wall Mastic - RM0140** | [AS-PRE] |
| | | | | | MMVF | <MDL |
| | | | | | Non-Fibers | 100 |
| 1947116-26 | 10-Oct-19 | Black | Mastic | No | **Client ID: BS6.3 Wall Mastic - RM0140** | [AS-PRE] |
| | | | | | Non-Fibers | 100 |
| 1947116-27 | 10-Oct-19 | Beige | Caulking | **Yes** | **Client ID: BS7.1 Window Caulking - Stairwall 1D** | |
| | | | | | **Chrysotile** | 1 |
| | | | | | MMVF | 1 |
| | | | | | Non-Fibers | 98 |
| 1947116-28 | 10-Oct-19 | | | | **Client ID: BS7.2 Window Caulking - Stairwall 1D** | |
| | | | | | not analyzed | |
| 1947116-29 | 10-Oct-19 | | | | **Client ID: BS7.3 Window Caulking - Stairwall 1D** | |
| | | | | | not analyzed | |

* MMVF: Man Made Vitreous Fibers: Fiberglass, Mineral Wool, Rockwool, Glasswool

** **Analytes in bold indicate asbestos mineral content.**

PARACEL LABORATORIES LTD.

**Order #: 1947116**

Certificate of Analysis

Report Date: 22-Nov-2019

**Client: McIntosh Perry Limited (Concord)**

Order Date: 18-Nov-2019

**Client PO:**

**Project Description: Z1920014HZ (Vanier Hall)**

## Analysis Summary Table

| Analysis | Method Reference/Description | Lab Location | NVLAP Lab Code * | Analysis Date |
|---|---|---|---|---|
| Asbestos, PLM Visual Estimation | by EPA 600/R-93/116 | 1 - Mississauga | 200863-0 | 21-Nov-19 |

* Reference to the NVLAP term does not permit the user of this report to claim product certification , approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Mississauga Lab: 15 - 6800 Kitimat Rd Mississauga, Ontario, L5N 5M1

## Qualifier Notes

Sample Qualifiers :

AS-PRE: Due to the difficult nature of the bulk sample (interfering fibers/binders), additional NOB preparation was required prior to analysis

AS-PT: Asbestos quantitation by PLM Point Count method.

ASTrc: Trace asbestos was observed below the noted detection limit but could not be accurately quantified.

## Work Order Revisions | Comments

None

1947116

PARACEL LABORATORIES LTD. | RELIABLE.

Head Office
300-2319 St. Laurent Blvd.
Ottawa, Ontario K1G 4J8
p: 1-800-749-1947
e: paracel@paracellabs.com

**Chain of Custody**
(Lab Use Only)

| | |
|---|---|
| Client Name: McIntosh Perry | Project Reference: Z1920014HZ (Varier Hall) |
| Contact Name: Diana Banakh | Quote #: 19-651 |
| Address: 6240 Highway 7, Suite 200, Concord, Ontario L4K 2A3 | PO #: |
| | Email Address: d.banakh@mcintoshperry.com |
| Telephone:905-856-5200 | |

**Turnaround Time:**
☐ Immediate ☐ 1 Day
☐ 4 Hour 2 Day
☐ 8 Hour x Regular

Date Required:

## ASBESTOS & MOLD ANALYSIS

**Matrix:** ☐ Air x Bulk ☐ Tape Lift ☐ Swab ☐ Other **Regulatory Guideline:** x ON ☐ QC ☐ AB ☐ SK ☐ Other:

**Analyses:** ☐ Microscopic Mold ☐ Culturable Mold ☐ Bacteria GRAM ☐ PCM Asbestos X PLM Asbestos ☐ Chatfield Asbestos ☐ TEM Asbestos

**Paracel Order Number:** 1947116

| Sample ID | | Sampling Date | Air Volume (L) | Analysis Required | Asbestos - Bulk: Identify Distinct Building Materials to Be Analyzed | | Positive Stop? |
|---|---|---|---|---|---|---|---|
| BS1.1-1.7 | Sprayed Insulation - 5041,5063,5068, 5th hallway | October 10th 2019 | N/A | PLM | | | x |
| BS2.1-2.7 | Wall/ceiling plaster 5076,5076,5040,5040,1026,5082,5082 | October 10th 2019 | N/A | PLM | | | x |
| BS3.1-3.3 | SCT 2' x 4' PH with LF -5th elev lobby | October 10th 2019 | N/A | PLM | | | x |
| BS4.1-4.3 | Tar on ceiling - RM1021 | October 10th 2019 | N/A | PLM | | | x |
| BS5.1-5.3 | Tar paper debris - RM 7028 | October 10th 2019 | N/A | PLM | | | x |
| BS6.1-6.3 | Wall Mastic - RM0140 | October 10th 2019 | N/A | PLM | | | x |
| BS7.1-7.3 | Window Caulking - Stairwall 1D | October 10th 2019 | N/A | PLM | | | x |

* If left blank, Paracel will analyze all materials identified during analysis ** If left blank, Paracel will analyze all materials as individual samples (**at additional cost**) per EPA 600/R -93/116

Comments: 32 samples

Method of Delivery: United

| Relinquished By (Sign): | Received at Depot: | Received at Lab: Cynthia Ch | Verified By: Cynthia Ch |
|---|---|---|---|
| Relinquished By (Print): Diana Banakh | | | |
| Date/Time: | Date/Time: | Date/Time: Nov 18 2019 16:35 | Date/Time: Nov 18 2019 16:44 |

# APPENDIX D

## Site Photographs

**Photo 1:** View of asbestos-containing tar (Black)observed to be in fair condition on the plaster ceiling in Room 1021.

**Photo 2:** View of asbestos-containing window caulking observed to be in good condition in Room 1070 and other stairwells throughout the subject building.

**Photo 3:** View of asbestos-containing wall plaster observed to be in poor condition in Room 5082.

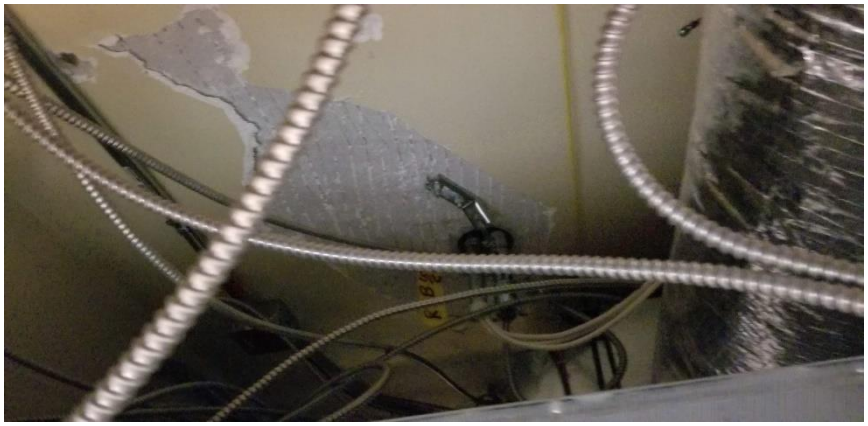

**Photo 4:** View of asbestos-containing ceiling plaster observed to be in poor condition above the suspended ceiling tiles in Room 1026.


**Photo 5:** View of asbestos-containing wall plaster observed to be in poor condition in Room 1070.

**Photo 6:** View of asbestos-containing wall plaster observed to be in poor condition Room 1076.

**Photo 7:** View of asbestos-containing wall plaster observed to be in poor condition in Room 0189.

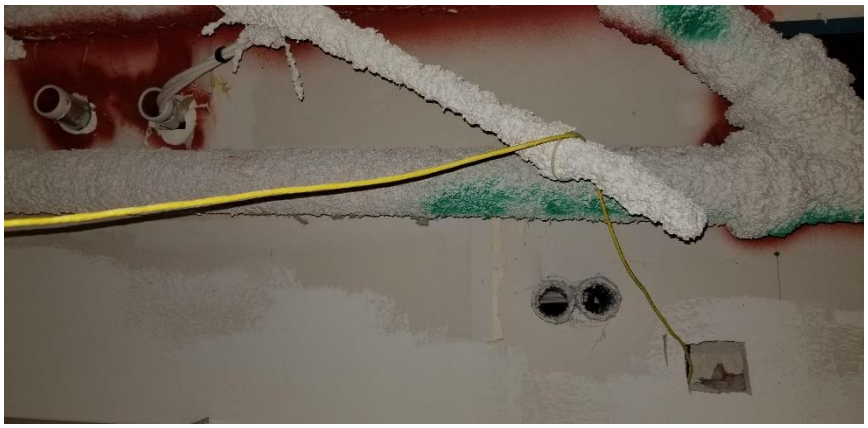

**Photo 8:** View of suspect transite pipe observed to be in good condition in Room 5068.

**Photo 9:** View of non-asbestos containing wall mastic (Black) observed in Room 0140.


**Photo 10:** View above ground storage tank observed to be in good condition in Room 7028A.

**Photo 11:** View of water-staining observed on suspended ceiling tiles in Room 5069A.

**Photo 12:** View of storage unit containing radioactive materials observed to be in good condition in Room 2041.


**Photo 13:** View of asbestos-containing plaster wall observed to be in poor condition in Room 0170 during the 2022 Reassessment.

**Photo 14:** View of asbestos-containing plaster wall observed to be in poor condition in Stairwell 1E during the 2022 Reassessment.

**Photo 15:** View of asbestos-containing plaster wall observed to be in poor condition in Room 3065 during the 2022 Reassessment.

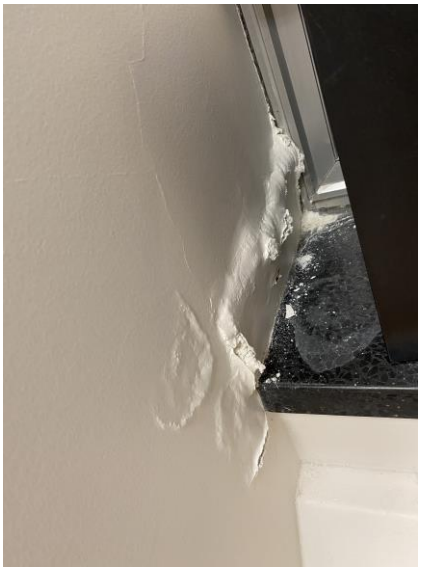

**Photo 16:** View of the water damaged asbestos-containing plaster wall observed to be in poor condition in Room 3079 during the 2022 Reassessment.

# APPENDIX E

## Asbestos-Containing Materials Checklists

| Floor/Level | Location | Type of ACM | Asbestos Confirmed/ Suspected | Friable/Non-Friable | Damaged/ Deteriorated | Accessibility | Level of Work Near Material | Approx. Quantity | Unit | Recommended Action | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | Throughout Level | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | - | - | Manage in Place | |
| 0 | Room 0141 | Ceiling and Wall Plaster | Confirmed | Friable | Poor Condition | Difficult | Low | 16 | SF | Remove Following Type 3 Abatement Procedures | |
| 0 | Room 0170 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 2 | SF | Manage in Place | |
| 0 | Room 0170 | Wall Plaster | Confirmed | Friable | Fair Condition | Difficult | Low | 1 | SF | Monitor Condition of Material. Consider Removal or Repair. | |
| 0 | Stairwell 0A | Wall Plaster | Confirmed | Friable | Fair Condition | Difficult | Low | 1 | SF | Monitor Condition of Material. Consider Removal or Repair. | |
| 0 | Throughout Level | Fire Doors | Suspected | - | Good Condition | Easy | Low | - | - | Manage in Place | |
| 1 | Throughout Level | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | - | - | Manage in Place | |
| 1 | Throughout Level | Fire Doors | Suspected | - | Good Condition | Easy | Low | - | - | Manage in Place | |
| 1 | Stairwell 1C | Wall Plaster | Confirmed | Friable | Fair Condition | Difficult | Low | 2 | SF | Monitor Condition of Material. Consider Removal or Repair. | |
| 2 | Stairwell 1B | Wall Plaster | Confirmed | Friable | Fair Condition | Difficult | Low | 1 | SF | Monitor Condition of Material. Consider Removal or Repair. | |
| 1 | Stairwell 1E | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 1 | Stairwell 1085 | Wall Plaster | Confirmed | Friable | Fair Condition | Moderate | Low | 4 | SF | Monitor Condition of Material. Consider Removal or Repair. | |
| 1 | Room 1000C | Wall Plaster | Confirmed | Friable | Fair Condition | Easy | Low | 1 | - | Monitor Condition of Material. Consider Removal or Repair. | Hole and crackes on Wall |
| 1 | Room 1000E | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | Throughout | - | Manage in Place | |
| 1 | Room 1000E | Wall Plaster | Confirmed | Friable | Fair Condition | Easy | Low | Throughout | - | Monitor Condition of Material. Consider Removal or Repair. | Crackes on Wall corner |

| Floor/Level | Location | Type of ACM | Asbestos Confirmed/ Suspected | Friable/Non-Friable | Damaged/ Deteriorated | Accessibility | Level of Work Near Material | Approx. Quantity | Unit | Recommended Action | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Room 1000H | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | Throughout | - | Manage in Place | |
| 1 | Room 1021 | Tar on Ceiling | Confirmed | Non-Friable | Good Condition | Difficult | Low | 60 | LF | Manage in Place | |
| 1 | Room 1021 | Ceiling and Wall Plaster | Confirmed | Non-Friable | Good Condition | Difficult | Low | 4 | SF | Manage in Place | |
| 1 | Room 1024 | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 8 | SF | Manage in Place | |
| 1 | Room 1026 | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 6 | SF | Manage in Place | |
| 1 | Room 1041 | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 3 | SF | Manage in Place | |
| 1 | Room 1070 | Window Caulking (Black) | Confirmed | Friable | Good Condition | Easy | Low | 12 | LF | Manage in Place | |
| 1 | Room 1070 | Wall Plaster | Confirmed | Friable | Poor Condition | Difficult | Low | 3 | SF | Repair or Remove Following Type 2 Abatement Procedures | |
| 1 | Room 1070A | Ceiling and Wall Plaster | Confirmed | Friable | Poor Condition | Easy | Low | 1 | SF | Repair or Remove Following Type 2 Abatement Procedures | |
| 1 | Room 1070 | Wall Plaster | Confirmed | Friable | Fair Condition | Difficult | Low | 2 | SF | Monitor Condition of Material. Consider Removal or Repair. | Water Damage on Window Sill |
| 1 | Room 1075 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 2 | SF | Monitor Condition of Material. Consider Removal or Repair. | |
| 1 | Room 1076 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 1 | Room 1076 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 1 | Room 1080 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 1 | Room 1081 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 1 | Room 1082 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 1 | Room 1083 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |

| Floor/Level | Location | Type of ACM | Asbestos Confirmed/ Suspected | Friable/Non-Friable | Damaged/ Deteriorated | Accessibility | Level of Work Near Material | Approx. Quantity | Unit | Recommended Action | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Throughout Level | Window Caulking (Black) | Confirmed | Friable | Good Condition | Easy | Low | Throughout | - | Manage in Place | Throughout All Stairwells |
| 2 | Throughout Level | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | - | - | Manage in Place | |
| 2 | Throughout Level | Fire Doors | Suspected | - | Good Condition | Easy | Low | - | - | Manage in Place | |
| 2 | Stairwell 2A | Ceiling Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 5 | SF | Manage in Place | |
| 2 | Stairwell 2B | Ceiling Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 2 | Stairwell 2C | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 2 | Stairwell 2D | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 2 | Room 2063 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 2 | Room 2066 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 2 | SF | Manage in Place | |
| 2 | Room 2068 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 2 | Room 2068 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 2 | Room 2076B | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 2 | Room 2079 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 2 | Room 2081 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 3 | Throughout Level | Window Caulking (Black) | Confirmed | Non-Friable | Good Condition | Easy | Low | Throughout | - | Manage in Place | Throughout All Stairwells |
| 3 | Stairwell 3B | Ceiling Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 5 | SF | Manage in Place | |
| 3 | Room 3065 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 2 | SF | Manage in Place | |
| 3 | Room 3067 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |

| Floor/Level | Location | Type of ACM | Asbestos Confirmed/ Suspected | Friable/Non-Friable | Damaged/ Deteriorated | Accessibility | Level of Work Near Material | Approx. Quantity | Unit | Recommended Action | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | Room 3076 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 3 | SF | Manage in Place | |
| 3 | Room 3076 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 3 | Room 3077 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 3 | Room 3079 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 3 | SF | Manage in Place | |
| 3 | Room 3082 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 3 | Room 3083 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 3 | Room 3000K | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | Throughout | - | Manage in Place | |
| 3 | Throughout Level | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | - | - | Manage in Place | |
| 3 | Room 3000N | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | Throughout | - | Manage in Place | |
| 3 | Throughout Level | Fire Doors | Suspected | - | Good Condition | Easy | Low | - | - | Manage in Place | |
| 3 | Stairwell 3C | Wall Plaster | Confirmed | Friable | Poor Condition | Difficult | Low | 3 | SF | Remove Following Type 2 Abatement Procedures | |
| Roof | Throughout Level | Roofing Materials | Suspected | - | Good Condition | Easy | Low | - | - | Manage in Place | |
| 4 | Throughout Level | Window Caulking (Black) | Confirmed | Non-Friable | Good Condition | Easy | Low | Throughout | - | Manage in Place | Throughout All Stairwells |
| 4 | Throughout Level | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | - | - | Manage in Place | |
| 4 | Throughout Level | Fire Doors | Suspected | - | Good Condition | Easy | Low | - | - | Manage in Place | |
| 4 | Stairwell 4A | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 1 | SF | Manage in Place | |
| 4 | Stairwell 4B | Ceiling Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 2 | SF | Manage in Place | |
| 4 | Stairwell 4C | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 5 | SF | Manage in Place | Hole in Wall |

| Floor/Level | Location | Type of ACM | Asbestos Confirmed/ Suspected | Friable/Non-Friable | Damaged/ Deteriorated | Accessibility | Level of Work Near Material | Approx. Quantity | Unit | Recommended Action | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | Room 4042 | Wall Plaster | Confirmed | Friable | Fair Condition | Difficult | Low | <1 | SF | Monitor Condition of Material. Consider Removal or Repair. | |
| 5 | Throughout Level | Window Caulking (Black) | Confirmed | Non-Friable | Good Condition | Easy | Low | Throughout | - | Manage in Place | Throughout All Stairwells |
| 5 | Stairwell 5A | Ceiling Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 2 | SF | Manage in Place | Hole in Ceiling |
| 5 | Stairwell 5B | Ceiling Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 3 | SF | Manage in Place | |
| 5 | Stairwell 5C | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 2 | SF | Repair or Remove Following Type 2 Abatement Procedures | Wall Bubble |
| 5 | Room 5015 | Ceiling and Wall Plaster | Confirmed | Friable | Poor Condition | Difficult | Low | 3 | SF | Repair or Remove Following Type 2 Abatement Procedures | |
| 5 | Room 5040 | Ceiling and Wall Plaster | Confirmed | Friable | Poor Condition | Difficult | Low | 4 | SF | Repair or Remove Following Type 2 Abatement Procedures | |
| 5 | Room 5063 | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | <1 | SF | Manage in Place | Wall Bubble |
| 5 | Room 5068 | Transite Rainwater Leader | Suspected | Non-Friable | Good Condition | Difficult | Low | 30 | LF | Manage in Place | |
| 5 | Room 5069 | Transite Rainwater Leader | Suspected | Non-Friable | Good Condition | Difficult | Low | 30 | LF | Manage in Place | |
| 5 | Room 5076 | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | Throughout | - | Manage in Place | |
| 5 | Room 5082 | Ceiling and Wall Plaster | Confirmed | Friable | Poor Condition | Difficult | Low | 9 | SF | Repair or Remove Following Type 2 Abatement Procedures | |
| 6 | Throughout Level | Window Caulking (Black) | Confirmed | Non-Friable | Good Condition | Easy | Low | Throughout | - | Manage in Place | Throughout All Stairwells |
| 6 | Throughout Level | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | - | - | Manage in Place | |
| 6 | Throughout Level | Fire Doors | Suspected | - | Good Condition | Easy | Low | - | - | Manage in Place | |
| 6 | Stairwell 6A | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 7 | SF | Manage in Place | |

| Floor/Level | Location | Type of ACM | Asbestos Confirmed/ Suspected | Friable/Non-Friable | Damaged/ Deteriorated | Accessibility | Level of Work Near Material | Approx. Quantity | Unit | Recommended Action | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Stairwell 6B | Ceiling Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 5 | SF | Manage in Place | |
| 6 | Stairwell 6C | Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | 2 | SF | Manage in Place | |
| 7 | Throughout Level | Ceiling and Wall Plaster | Confirmed | Friable | Good Condition | Difficult | Low | - | - | Manage in Place | |
| 7 | Throughout Level | Fire Doors | Suspected | - | Good Condition | Easy | Low | - | - | Manage in Place | |
| Roof | Throughout Level | Roofing Materials | Suspected | - | Good Condition | Easy | Low | - | - | Manage in Place | |

# APPENDIX F

## Hazardous Containing Materials Checklists

| Floor/Level | Location | Type | Component | Colour | Condition | Manufacturer | Approx. Quantity | Unit | Suspected/ Confirmed | Recommended Action | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | Throughout Level | Mercury | Fluorescent Light Tubes | N/A | Good Condition | Varies | - | - | Confirmed | Manage in Place | |
| 0 | Room 0140 | USTs/ASTs | Diesel Storage Tank | N/A | Good Condition | N/A | 1 | C | Confirmed | Manage in Place | |
| 0 | Room 0141 | Mould/ Water Damage | Plaster | N/A | Poor Condition | Difficult | 16 | SF | Confirmed | Must be removed following Level II mould remediation procedures, as per EACO Guidelines | *Asbestos-containing plaster is present in this area. Please follow appropriate Abatement Procedures |
| 0 | Room 0160 | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Frigidaire, Whirlpool | 2 | C | Confirmed | Manage in Place | R-134A |
| 0 | Throughout Level | Silica | Concrete, Mortar, Etc. | N/A | Good Condition | N/A | - | - | Confirmed | Manage in Place | |
| 1 | Throughout Level | Mercury | Fluorescent Light Tubes | N/A | Good Condition | Varies | - | - | Confirmed | Manage In Place | |
| 1 | Throughout Level | Silica | Concrete, Mortar, Etc. | N/A | Good Condition | N/A | - | - | Confirmed | Manage in Place | |
| 1 | Room 1001 | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Danby | 1 | C | Confirmed | Manage in Place | |
| 1 | Room 1026 | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Whirlpool | 1 | C | Confirmed | Manage in Place | |
| 1 | Room 1026A | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Kenmore | 1 | c | Confirmed | Manage in Place | |
| 2 | Throughout Level | Mercury | Fluorescent Light Tubes | N/A | Good Condition | Varies | - | - | Confirmed | Manage in Place | |
| 2 | Room 2002 | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Danby | 1 | C | Confirmed | Manage in Place | |

| Floor/Level | Location | Type | Component | Colour | Condition | Manufacturer | Approx. Quantity | Unit | Suspected/ Confirmed | Recommended Action | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Room 2023 | Lead | Paint | Grey | Poor Condition | N/A | <1 | SF | Confirmed | Paint must be removed and/or stabilized following Class 1/2 or Type 1/2 lead Procedures as per MOL and EACO Guidelines. | |
| 2 | Room 2028 | Lead | Paint | Grey | Poor Condition | N/A | <1 | SF | Confirmed | Paint must be removed and/or stabilized following Class 1/2 or Type 1/2 lead Procedures as per MOL and EACO Guidelines. | |
| 2 | Room 2029 | Lead | Paint | Grey | Poor Condition | N/A | 2 | SF | Confirmed | Paint must be removed and/or stabilized following Class 1/2 or Type 1/2 lead Procedures as per MOL and EACO Guidelines. | |
| 2 | Room 2030A | Lead | Paint | Grey | Poor Condition | N/A | 1 | SF | Confirmed | Paint must be removed and/or stabilized following Class 1/2 or Type 1/2 lead Procedures as per MOL and EACO Guidelines. | |
| 2 | Room 2041 | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Various | 2 | C | Confirmed | Manage in Place | |
| 2 | Room 2041A | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Various | 2 | C | Confirmed | Manage in Place | |
| 2 | Room 2041 | Radioactive Materials | Storage Unit | N/A | Good Condition | N/A | 1 | C | Confirmed | Manage in Place | |
| 2 | Room 2060 | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Danby | 1 | C | Confirmed | Manage in Place | |
| 2 | Room 2066 | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Danby | 1 | C | Confirmed | Manage in Place | |
| 2 | Room 2070 | Lead | Paint | Grey | Poor Condition | N/A | 1 | SF | Confirmed | Paint must be removed and/or stabilized following Class 1/2 or Type 1/2 lead Procedures as per MOL and EACO Guidelines. | |

| Floor/Level | Location | Type | Component | Colour | Condition | Manufacturer | Approx. Quantity | Unit | Suspected/ Confirmed | Recommended Action | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Room 2086 | Ozone Depleting Substances (ODS) | Refrigerator/Freezer/Mini-Fridge/Water Cooler | N/A | Good Condition | Danby | 1 | C | Confirmed | Manage in Place | |
| 3 | Room 3015 | Lead | Paint | White | Good Condition | N/A | Throughout | - | Confirmed | Manage in Place | |
| 3 | Throughout Level | Mercury | Fluorescent Light Tubes | N/A | Good Condition | Varies | - | - | Confirmed | Manage in Place | |
| 2 | Throughout Level | Silica | Concrete, Mortar, Etc. | N/A | Good Condition | N/A | - | - | Confirmed | Manage in Place | |
| 3 | Throughout Level | Silica | Concrete, Mortar, Etc. | N/A | Good Condition | N/A | - | - | Confirmed | Manage in Place | |
| 4 | Room 4020 | Lead | Paint | Dark Green | Enclosed | N/A | 15 | LF | Confirmed | Manage in Place | Underneath a layer of grey paint |
| 4 | Throughout Level | Mercury | Fluorescent Light Tubes | N/A | Good Condition | Varies | - | - | Confirmed | Manage in Place | |
| 5 | Throughout Level | Mercury | Fluorescent Light Tubes | N/A | Good Condition | Varies | - | - | Confirmed | Manage in Place | |
| 5 | Throughout Level | Silica | Concrete, Mortar, Etc. | N/A | Good Condition | N/A | - | - | Confirmed | Manage in Place | |
| 5 | Room 5015 | Mould/ Water Damage | Plaster | N/A | Poor Condition | N/A | 3 | SF | Confirmed | Must be removed following Level I mould remediation procedures, as per EACO Guidelines | *Asbestos-containing plaster is present in this area. Please follow appropriate Abatement Procedures |
| 5 | Room 5040 | Mould/ Water Damage | Plaster | N/A | Poor Condition | N/A | 4 | SF | Confirmed | Must be removed following Level I mould remediation procedures, as per EACO Guidelines | *Asbestos-containing plaster is present in this area. Please follow appropriate Abatement Procedures |
| 5 | Room 5082 | Mould/ Water Damage | Plaster | N/A | Poor Condition | N/A | 9 | SF | Confirmed | Must be removed following Level I mould remediation procedures, as per EACO Guidelines | *Asbestos-containing plaster is present in this area. Please follow appropriate Abatement Procedures |
| 6 | Throughout Level | Mercury | Fluorescent Light Tubes | N/A | Good Condition | Varies | - | - | Confirmed | Manage in Place | |
| 6 | Throughout Level | Silica | Concrete, Mortar, Etc. | N/A | Good Condition | N/A | - | - | Confirmed | Manage in Place | |
| 7 | Throughout Level | Mercury | Fluorescent Light Tubes | N/A | Good Condition | Varies | - | - | Confirmed | Manage in Place | |
| 7 | Throughout Level | Silica | Concrete, Mortar, Etc. | N/A | Good Condition | N/A | - | - | Confirmed | Manage in Place | |
| 7 | Room 7028 | USTs/ASTs | Diesel Storage Tank | N/A | Good Condition | N/A | 1 | C | Confirmed | Manage in Place | |

# APPENDIX G

## Site Sampling & Location Plans


**Legend:**

▲ Asbestos Bulk Sample Locations

■ Lead Paint SampleLocations

ACM Window Caulking

**Notes:**

**Asbestos-containing plaster present throught level.**

| REV | DATE | DESCRIPTION | BY |
|---|---|---|---|
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VANIER HALL

136 JEAN-JACQUES-LUSSIER

Dessin / Drawing:

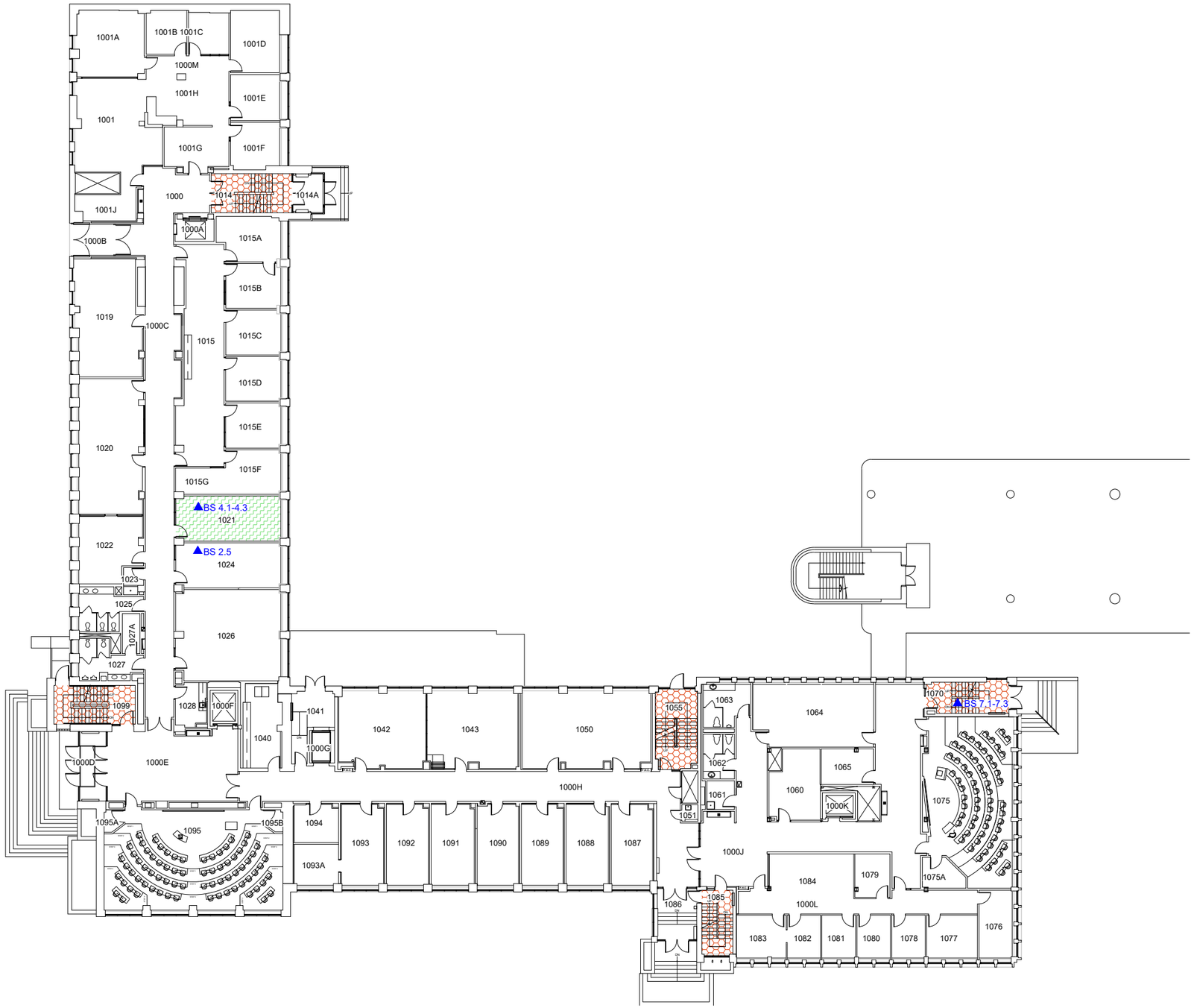
LEVEL 0

BUILDING COMBINATION

BUILDING COMBINED

| Édifice/Bldg | | | Niveau/Level: |
|---|---|---|---|
| ---- | 060 | ---- | 0 ---- |
| ---- | ---- | ---- | Feuille/Sheet: |
| Échelle/Scale: 1:300 | Revision: 1 | | A-0 of/de |

JB 08/08/2015




**Legend:**

▲ Asbestos Bulk Sample Locations

■ Lead Paint Sample Locations

ACM Window Caulking  ACM Tar

**Notes:**

**Asbestos-containing plaster present throught level.**

| REV | DATE | DESCRIPTION | BY |
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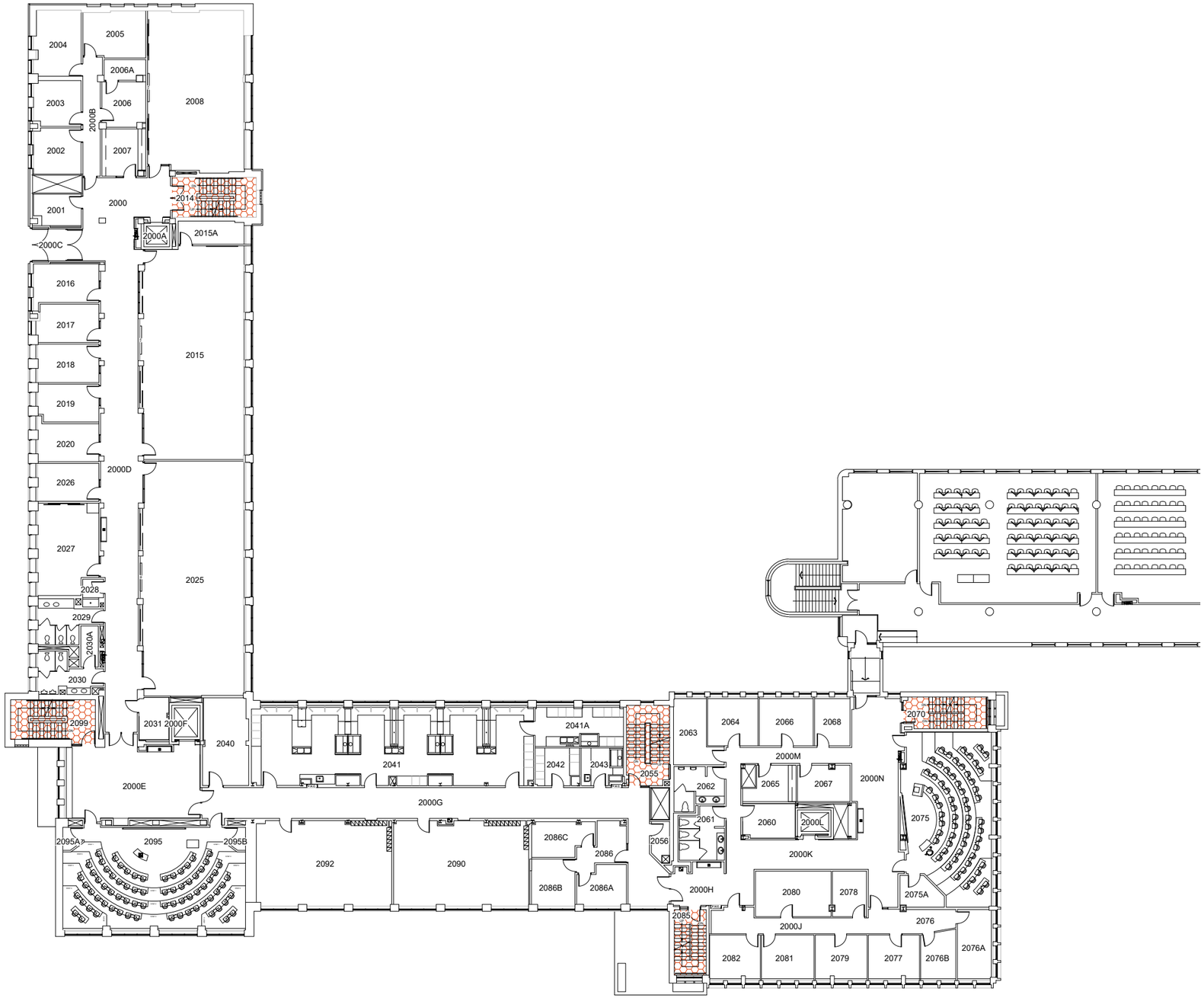
BUILDING COMBINED

Dessin / Drawing:
LEVEL 1
BUILDING COMBINATION

| Édifice/Bldg | Niveau/Level: |
|---|---|
| ---- 060 ---- | 0 ---- |
| ---- ---- ---- | Feuille/Sheet: A-1 |
| Échelle/Scale: 1:300 | Revision: 1 |

JB 08/08/2015 of/de




**Legend:**

- ▲ Asbestos Bulk Sample Locations
- ■ Lead Paint SampleLocations
- ACM Window Caulking

**Notes:**

**Asbestos-containing plaster present throught level.**

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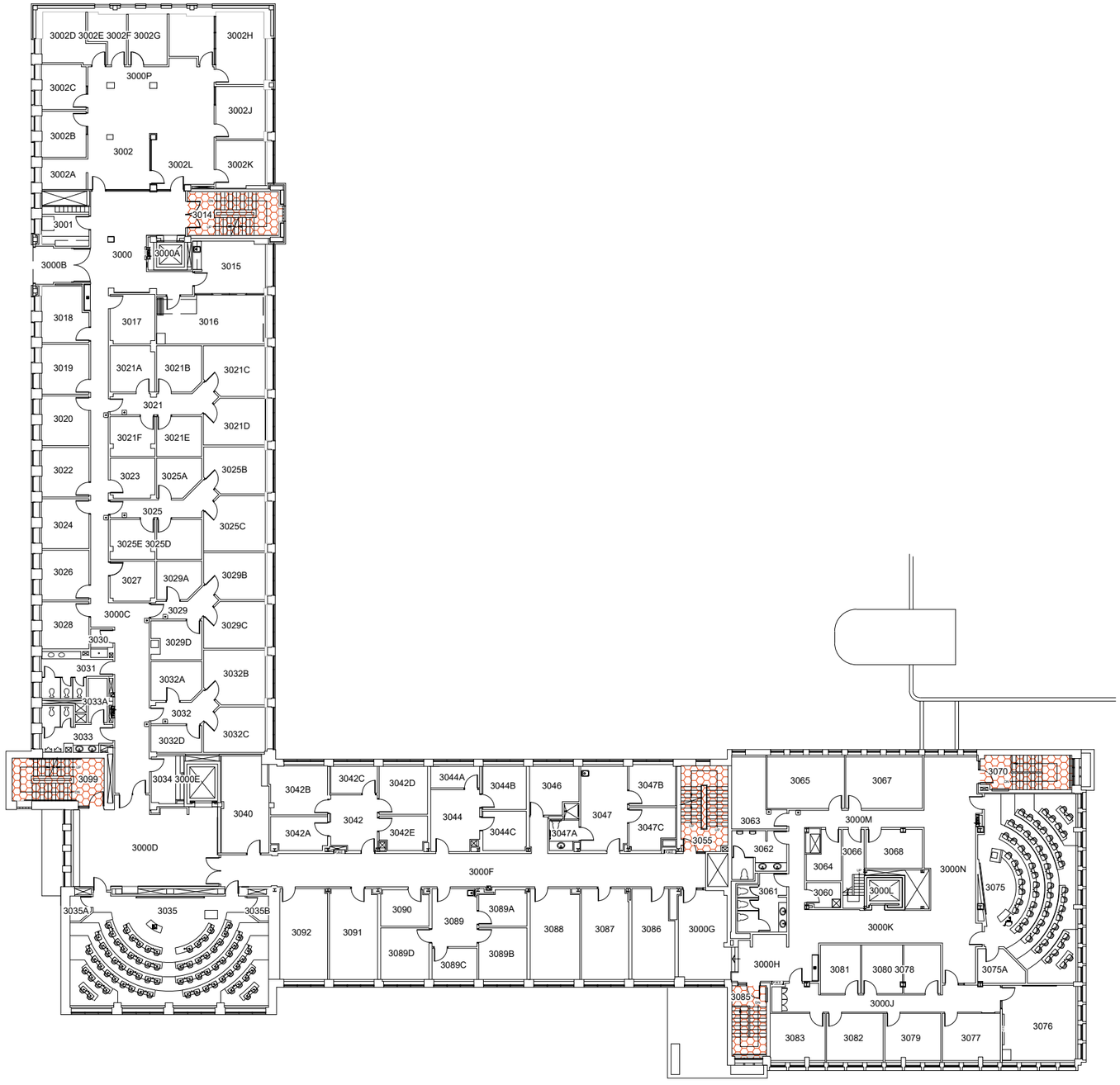
Dessin / Drawing:

LEVEL 2
BUILDING COMBINATION

| Édifice/Bldg | Niveau/Level: |
|---|---|
| ---- 060 ---- | 0 ---- |
| Échelle/Scale: 1:350 | Revision: 1 |
| Feuille/Sheet: A-2 of/de | |

BUILDING COMBINED

JB 08/09/2015




**Legend:**

▲ Asbestos Bulk Sample Locations

■ Lead Paint SampleLocations

ACM Window Caulking

**Notes:**

**Asbestos-containing plaster present throught level.**

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Dessin / Drawing:

LEVEL 3

BUILDING COMBINATION

BUILDING COMBINED

| Édifice/Bldg | | | Niveau/Level: |
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| ---- | ---- | ---- | Feuille/Sheet: |
| Échelle/Scale: | Revision: | | A-3 |
| 1:350 | 1 | | of/de |

JB 08/06/2015


**Legend:**

- ▲ Asbestos Bulk Sample Locations
- ■ Lead Paint SampleLocations
- ACM Window Caulking

**Notes:**

**Asbestos-containing plaster present throught level.**

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Dessin / Drawing:
LEVEL 4
BUILDING COMBINATION

| Édifice/Bldg | | | Niveau/Level: |
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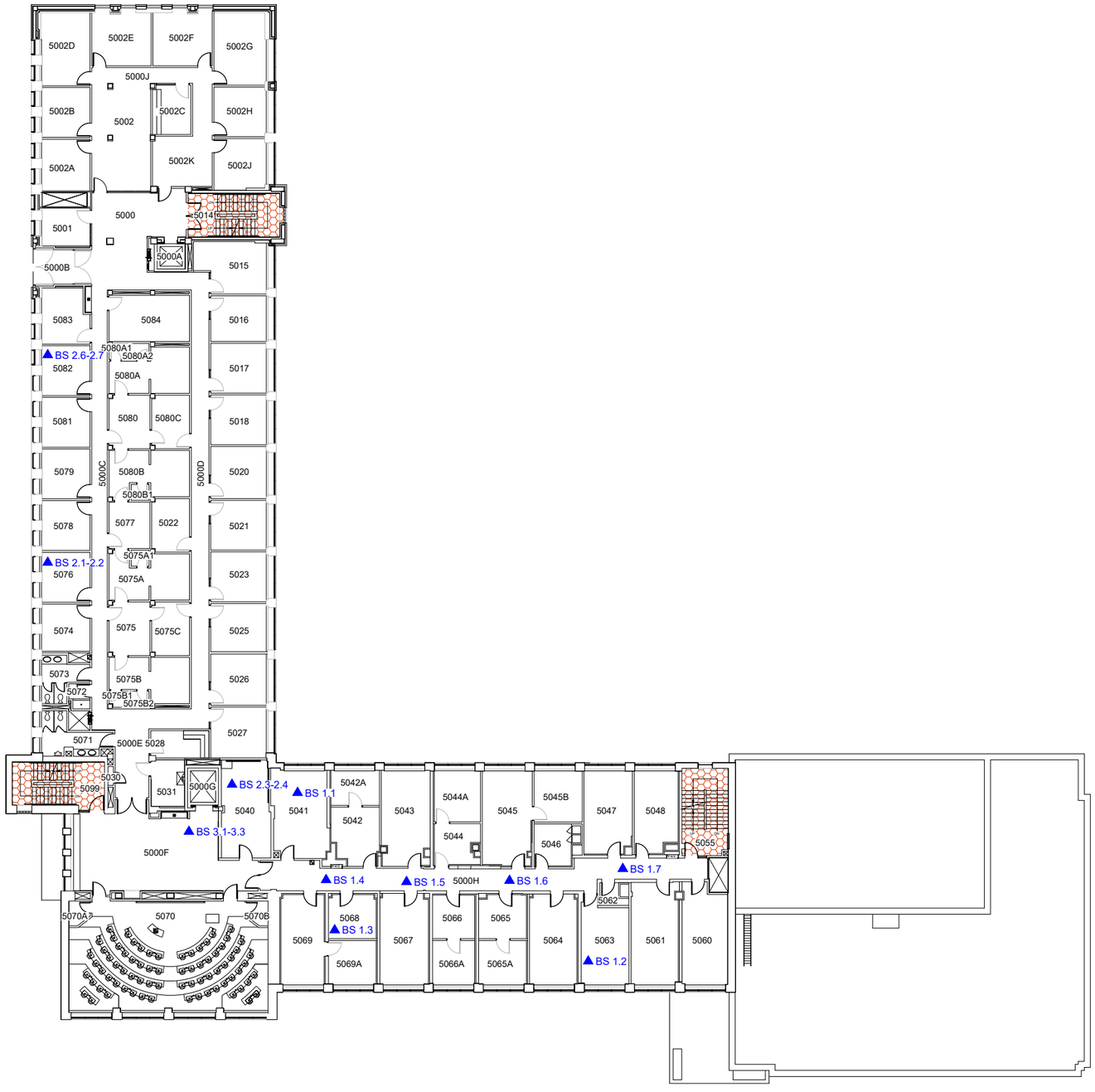
| Échelle/Scale: 1:350 | Revision: 1 | | A-4 of/de |

BUILDING COMBINED
JB
08/06/2015




**Legend:**

- ▲ Asbestos Bulk Sample Locations
- ■ Lead Paint SampleLocations
- ACM Window Caulking

**Notes:**

**Asbestos-containing plaster present throught level.**

| REV | DATE | DESCRIPTION | BY |
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Dessin / Drawing:
LEVEL 4
BUILDING COMBINATION

BUILDING COMBINED

| Édifice/Bldg | | | Niveau/Level: |
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| Échelle/Scale: 1:350 | Revision: 1 | | A-4 of/de |

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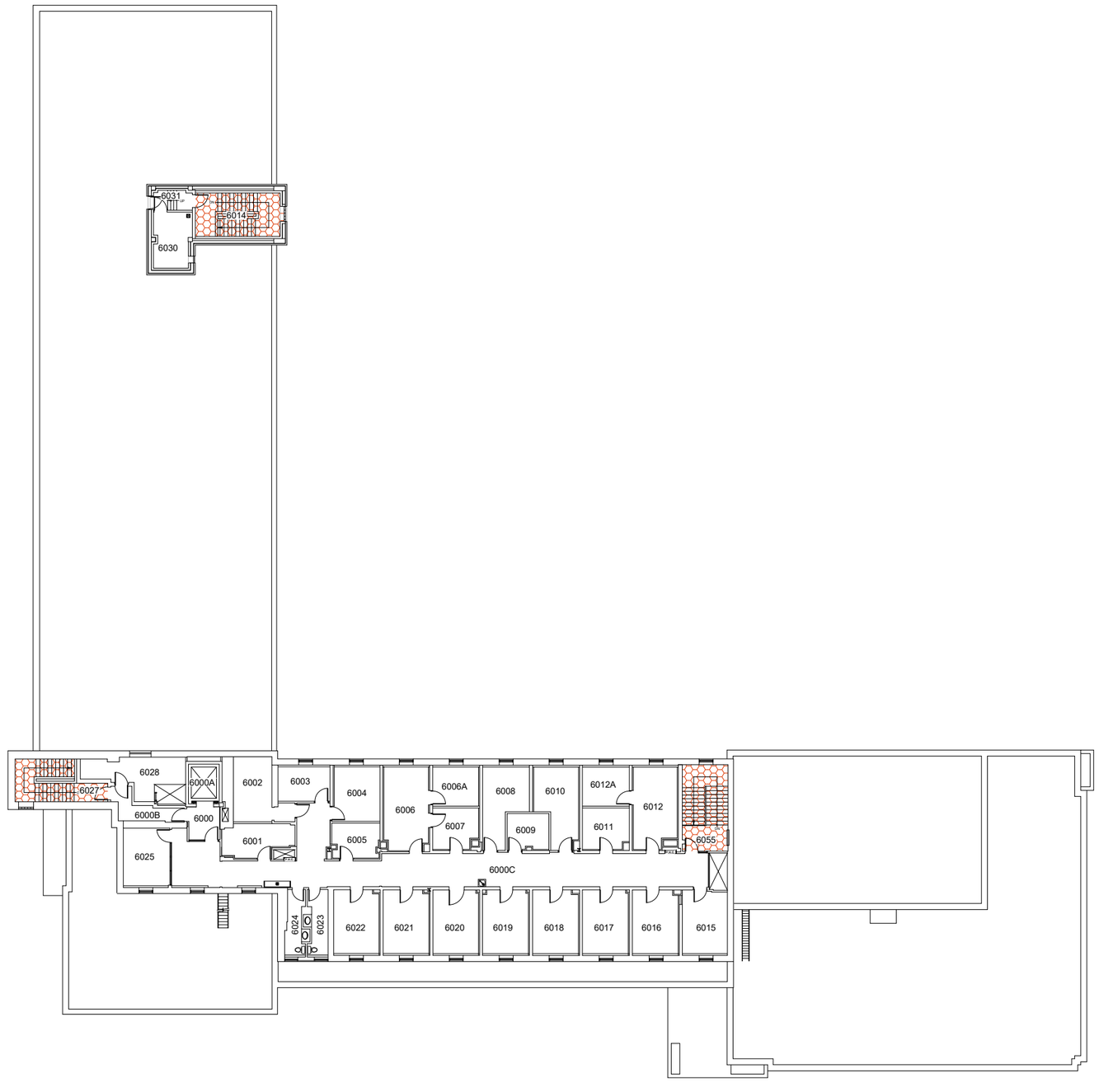


**Legend:**

- ▲ Asbestos Bulk Sample Locations
- ■ Lead Paint SampleLocations
- ACM Window Caulking

**Notes:**

**Asbestos-containing plaster present throught level.**

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Dessin / Drawing:
LEVEL 6
BUILDING COMBINATION
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| Édifice/Bldg | Niveau/Level: |
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| ---- ---- ---- | Feuille/Sheet: A-6 |
| Échelle/Scale: 1:350 | Revision: 1 |

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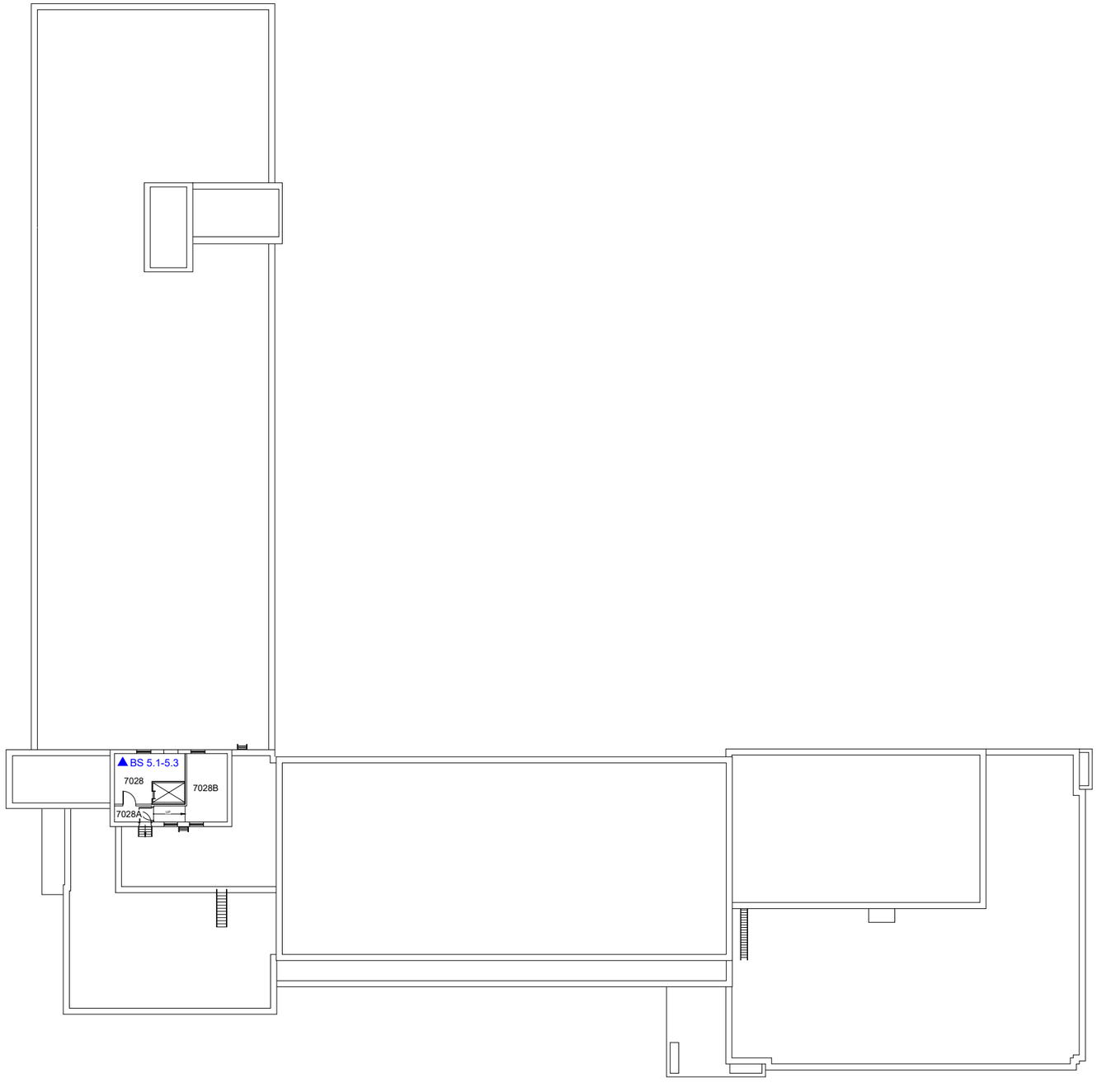


**Legend:**

- ▲ Asbestos Bulk Sample Locations
- ■ Lead Paint SampleLocations
- ACM Window Caulking

**Notes:**

**Asbestos-containing plaster present throught level.**

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Dessin / Drawing:
LEVEL 7
BUILDING COMBINATION
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| Édifice/Bldg | | | Niveau/Level: |
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