

HAZARDOUS MATERIALS SURVEY AND 2023 REASSESSMENT LEBLANC RESIDENCE, OTTAWA, ON



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Prepared for:

University of Ottawa

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McINTOSH PERRY

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REASSESSMENT SURVEY 2023

McIntosh Perry Limited (**MPL**) was retained by the University of Ottawa, to complete a Hazardous Materials Survey for the residence building located at 45 Louis-Pasteur Private, Ottawa, ON. MPL was also retained to reassess the condition of hazardous building materials found. The survey was conducted on July 20th to 27th, 2020. The reassessment was completed on August 15th, 2023.

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 Drywall Joint Compound was observed to be in Good Condition throughout the subject building.
- ACM Vinyl Floor Tile was observed to be in Good Condition throughout the subject building.
- ACM Pipe Fittings/Elbow Insulation and Pipe Straight Insulation were observed to be in Good Condition.
- ACM Tank Insulation was observed to be in Good Condition.
- 1'x1' and 2'x2' ACM Ceiling Tiles were observed to be in Good Condition.
- Water damaged Ceiling Tile (Non-ACM) was observed in Room 046, 046A and 139..

Summary of Recommendations:

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

EXECUTIVE SUMMARY

McIntosh Perry Limited (**MPL**) was retained by the University of Ottawa, to complete a Hazardous Materials Survey for Leblanc Residence located at 45 Louis-Pasteur Private, Ottawa, ON. The original survey was conducted on July 20th to 27th, 2020. **The Reassessment Survey was conducted on August 15th, 2023.**

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 previously identified or suspected to be present in the building:

Table A: Summary of Asbestos-Containing Materials Identified

Material Description	Friable?	Location	Type of Asbestos
Drywall Joint Compound	-	Throughout Building	Confirmed
Vinyl Floor Tiles	No	Specific Areas Only	Confirmed
Ceiling Tiles	-	Specific Areas Only	Confirmed
Mechanical Insulation	Yes	Specific Areas Only	Confirmed
Ceramic Wall/Tile Grout	-	Throughout Building	Suspected
Brick Mortar	-	Throughout Building	Suspected
Concrete Block Mortar	-	Throughout Building	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 previously identified or suspected to be present in the building:

Table B: Summary of Designated Substances & Hazardous Materials Identified

Material Description	Location
Lead Paint	Specific Areas Only
Mercury Liquid	Specific Equipment
Mercury Vapour	Specific Equipment
Silica	Throughout Building
Ozone Depleting Substances	Specific Equipment
Mould	Specific Areas Only

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

Designated Substances are 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 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 Ontario (EACO) 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

March 7, 2024

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

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

Re: 45 Louis-Pasteur Private, Ottawa, ON
Hazardous Materials Survey and 2023 Reassessment
McIntosh Perry Limited Reference No. Z2021102HZ / CCC-230252-00

1.0 INTRODUCTION

In accordance with your instructions, McIntosh Perry Limited (MPL) carried out a Hazardous Materials Survey and 2023 Reassessment at the Leblanc Residence building located at 45 Louis-Pasteur Private, Ottawa, ON. The site is situated on the east side of Louis-Pasteur Private, located between Louis-Pasteur Private and King Edward Avenue. The survey of the building was conducted between July 20th to 27th, 2020. **The reassessment was completed on August 15th, 2023.**

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 four-storey residence building that was constructed in 1965 and covers 41, 064 square feet. The subject building was observed to be constructed with a concrete slab floor; flat tar and gravel roof. The interior walls were gypsum wallboard and plaster. Within the subject building, ceilings were observed to be drywall. The floors were generally concrete, vinyl sheet flooring, vinyl floor tiles and carpet.

3.0 FINDINGS & RECOMMENDATIONS

Designated Substances

3.1 Asbestos

Findings

A total of (44) bulk samples were previously collected during the survey and sent to an 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 217	VSF (Grey/White/Red Pattern)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 1.2	Room 317	VSF (Grey/White/Red Pattern)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 1.3	Room 417	VSF (Grey/White/Red Pattern)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 2.1	Room 231	VFT (9"x9" White with Grey Streaks)	3% Chrysotile	Non-Friable
		Mastic (Black)	None Detected	N/A
BS 2.2	Room 331	VFT (9"x9" White with Grey Streaks)	Positive Stop – Not Analyzed	Non-Friable
		Mastic (Black)	None Detected	N/A
BS 2.3	Room 431	VFT (9"x9" White with Grey Streaks)	Positive Stop – Not Analyzed	Non-Friable
		Mastic (Black)	None Detected	N/A
BS 3.1	Room 327	VFT (12"x12" Grey Marble)	None Detected	N/A
BS 3.2	Room 327	VFT (12"x12" Grey Marble)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 3.3	Room 327	VFT (12"x12" Grey Marble)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 4.1	Room 301	VFT (12"x12" Green)	None Detected	N/A
BS 4.2	Room 301	VFT (12"x12" Green)	None Detected	N/A
BS 4.3	Room 401	VFT (12"x12" Green)	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
BS 5.1	Room 315	Window Caulking (Black/Grey)	None Detected	N/A
BS 5.2	Room 421	Window Caulking (Black/Grey)	None Detected	N/A
BS 5.3	Room 011	Window Caulking (Black/Grey)	None Detected	N/A
BS 6.1	Room 03	Drywall Joint Compound	None Detected	N/A
BS 6.2	Room 01	Drywall Joint Compound	None Detected	N/A
BS 6.3	Room 014	Drywall Joint Compound	None Detected	N/A
BS 6.4	Room 014	Drywall Joint Compound	None Detected	N/A
BS 6.5	Room 03	Drywall Joint Compound	None Detected	N/A
BS 6.6	Room 116X	Drywall Joint Compound	2% Chrysotile	-
BS 6.7	Room 116A	Drywall Joint Compound	Positive Stop – Not Analyzed	-
BS 7.1	Room 05	VFT (Beige with Beige/White Flecks)	None Detected	N/A
BS 7.2	Room 047	VFT (Beige with Beige/White Flecks)	None Detected	N/A
		Mastic (Black/Yellow)	None Detected	N/A
BS 7.3	Room 049	VFT (Beige with Beige/White Flecks)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 8.1	Room 056	VFT (12"x12" White with Blue and Red Specks)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 8.2	Room 056	VFT (12"x12" White with Blue and Red Specks)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 8.3	Room 056	VFT (12"x12" White with Blue and Red Specks)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 9.1	Room 136	VFT (12"x12" Grey with Grey/White Flecks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 9.2	Room 214	VFT (12"x12" Grey with Grey/White Flecks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 9.3	Room 342	VFT (12"x12" Grey with Grey/White Flecks)	None Detected	N/A
BS 10.1	Room 101	VFT (12"x12" Beige with Black/Green/Red Dots)	None Detected	N/A
BS 10.2	Room 108	VFT (12"x12" Beige with Black/Green/Red Dots)	None Detected	N/A
BS 10.3	Room 112	VFT (12"x12" Beige with Black/Green/Red Dots)	None Detected	N/A
BS 11.1	Room 101	Caulking (Grey)	None Detected	N/A
BS 11.2	Room 101	Caulking (Grey)	None Detected	N/A
BS 11.3	Room 101	Caulking (Grey)	None Detected	N/A
BS 12.1	Room 201	Plaster – Skim Coat	None Detected	N/A
		Plaster – Base Coat	None Detected	N/A
BS 12.2	Room 201	Plaster – Skim Coat	None Detected	N/A
		Plaster – Base Coat	None Detected	N/A
BS 12.3	Room 301	Plaster – Skim Coat	None Detected	N/A
		Plaster – Base Coat	None Detected	N/A
BS 12.4	Room 317	Plaster – Skim Coat	None Detected	N/A
		Plaster – Base Coat	None Detected	N/A
BS 12.5	Room 401	Plaster – Skim Coat	None Detected	N/A
		Plaster – Base Coat	None Detected	N/A
BS 12.6	Room 101	Plaster – Skim Coat	None Detected	N/A
		Plaster – Base Coat	None Detected	N/A
BS 12.7	Room 049	Plaster – Skim Coat	None Detected	N/A
		Plaster – Base Coat	None Detected	N/A

N/A – Not Applicable;
VFT – Vinyl Floor Tiles;
VSF– Vinyl Sheet Flooring; and
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

No fireproofing was observed in the subject building.

3.1.2 Mechanical Pipe Insulation

3.1.2.1 Mechanical Pipe Straight Insulation

Previously identified mechanical pipe straight insulation was observed within the basement of the subject building. The laboratory analytical results indicate that this material **contains 40% Chrysotile asbestos**. This material is considered to be friable and was observed to be good condition.

3.1.2.2 Mechanical Piping Elbows/Fittings Insulation

Previously identified mechanical pipe elbow/fitting insulation was observed within the basement of the subject building. The laboratory analytical results indicate that this material **contains 70% Chrysotile asbestos**. This material is considered to be friable and was observed to be good condition.

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 not observed in the subject building.

3.1.2.5 Other Mechanical Insulation

Previously identified tank insulation was observed in Room 014 within the subject building. The laboratory analytical results indicate that this material **contains 60% Chrysotile asbestos**. This material is considered to be friable and was observed to be good condition.

3.1.3 Flexible Duct Connector

No flexible duct connectors were observed in the subject building.

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

Wall plaster was observed throughout the subject building. The laboratory analytical results of wall plaster samples previously collected from Rooms 049, 101, 201, 301, and 401 indicate that this material does not contain asbestos.

3.1.7 Drywall Joint Compound

Drywall joint compound was observed throughout the subject building. The laboratory analytical results of drywall joint compound samples previously collected from Rooms 116A and 116X indicate that this material **contains 2% Chrysotile asbestos**. Since drywall joint compound is a homogeneous material, all areas must be treated as asbestos-containing unless additional bulk sampling and analysis proves otherwise. This material was observed in good condition.

3.1.8 Ceiling Tiles

Previously identified ceiling tiles (1'x1' - white with large dot, random pattern) was observed within the subject building. The laboratory analytical results indicate that this material **contains 1% Amosite**. This material is considered to be friable and was observed to be good condition.

Previously identified ceiling tiles (2'x2' - white with dots and squiggle pattern) was observed within the subject building. The laboratory analytical results indicate that this material **contains 1% Amosite asbestos and 1% Chrysotile asbestos**. This material is considered to be friable and was observed to be good condition.

3.1.9 Vinyl Floor Tiles

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

- Vinyl floor tiles (9"x9" – White with Grey Streaks) were observed and previously sampled in Rooms 231, 331, and 441. This material **contains 3% Chrysotile asbestos** and is considered to be non-friable. This material was observed to be in good condition. The associated mastic (black) was found not to contain asbestos.
- Vinyl floor tiles (12"x12" – Grey Marble) were observed and previously sampled in Room 327. The laboratory analytical results of the vinyl floor tile samples collected indicated that this material does not contain asbestos. The associated mastic (yellow) was found not to contain asbestos.
- Vinyl floor tiles (12"x12" – Green) were observed and previously sampled in Room 301 and 401. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material does not contain asbestos.

- Vinyl floor tiles (12"x12" – Beige with Beige/White Flecks) were observed and previously sampled in Rooms 05, 047, and 049. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material does not contain asbestos. The associated mastic (yellow) was found not to contain asbestos.
- Vinyl floor tiles (12"x12" – White with Blue and Red Specks) were observed and previously sampled in Room 056. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material does not contain asbestos. The associated mastic (yellow) was found not to contain asbestos.
- Vinyl floor tiles (12"x12" – Grey with Grey and White Flecks) were observed and previously sampled in Room 056, 136, and 214. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material does not contain asbestos. The associated mastic (yellow) was found not to contain asbestos.
- Vinyl floor tiles (12"x12" – Beige with Black/Green/Red Dots) were observed and previously sampled in Room 342, 101, and 108. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material does not contain asbestos. The associated mastic (yellow) was found not to contain asbestos.

3.1.10 Vinyl Sheet Flooring

Vinyl sheet flooring (Grey/White/Red Pattern) was observed in Rooms 217, 317, and 417. The laboratory analytical results of the vinyl sheet flooring samples previously collected indicate that this material does not contain asbestos. The associated mastic (yellow) was also found not to contain asbestos.

3.1.11 Brick Mortar

To avoid damage and compromising the integrity of the structure, no bulk samples of the concrete block mortar were collected. Prior to renovation/demolition, concrete block mortar should be examined and tested for asbestos content. Concrete block mortar should therefore be considered to contain asbestos until bulk samples and analysis proves otherwise.

3.1.12 Concrete Block Mortar

To avoid damage and compromising the integrity of the structure, no bulk samples of the concrete block mortar were collected. Prior to renovation/demolition, concrete block mortar should be examined and tested for asbestos content. Concrete block mortar should therefore be considered to contain asbestos until bulk samples and analysis proves otherwise.

3.1.13 Ceramic Wall / Floor Tile Grout

To avoid damage and compromising the integrity of the structure, no bulk samples of the ceramic wall/floor tile grout were collected. Prior to renovation/demolition, concrete block mortar should be examined and tested

for asbestos content. ceramic wall/floor tile grout should therefore be considered to contain asbestos until bulk samples and analysis proves otherwise.

3.1.14 Transite (Asbestos Cement)

No transite materials were observed in the subject building.

3.1.15 Caulking

Caulking (Black/Grey) was previously sampled from Rooms 315, 421, and 011. Laboratory analytical results indicate that this material does not contain asbestos.

Caulking (Grey) was previously sampled from Room 101. Laboratory analytical results indicate that this material does not contain asbestos.

3.1.16 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.

3.1.17 Roofing Material

Roofing material observed previously sampled on the exterior of the building. Laboratory analytical results indicate that this material does not contain asbestos.

Recommendations

- 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;
- Entry into ceiling spaces where asbestos-containing ceiling tiles are present will require Type 1/2 asbestos abatement procedures.
- Prior to renovation/demolition of materials which are assumed to be asbestos-containing (suspect materials which were not sampled, i.e., ceramic wall/floor tile grout, brick mortar, concrete block mortar 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

A total of five (5) paint samples from the subject building were previously collected and analyzed for lead content. Results of bulk sampling testing are summarized in Table 2 and the laboratory certificate of analysis can be found in Appendix C

Table 2:
Lead Sampling Locations and Laboratory Results

Sample I.D.	Location	Material	Colour	Lead Concentration Weight by Conc. (%)
PB1	Room 010	Door Frame Paint	Blue	0.13
PB2	Room 116X	Wall Paint	Beige	<0.0080
PB3	Room 055	Wall Paint	Orange	3.1
PB4	Room 101	Door Paint	Grey	0.018
PB5	Room 116X	Wall Paint	White	<0.014
Previously Identified Lead Paint				
LBC-3-LBP-081507-01	Room 326	Door and Doorframe	Blue	0.05
LBC-3-LBP-081507-02	Room 331	Walls	Beige	0.04
LBC-B-LBP-081507-03	Room 055	Walls and Door	Orange/Yellow	3.7

LBC-1-LBP-081507-04	Room 145	Door	Blue	0.09
LBC-1-LBP-081507-05	Room 110	Doorframe	Grey	0.12
LBC-3B-LBP-081507-06	Room 057	Floor	Grey	0.10

The paint finishes highlighted in blue in the above table were determined to contain low concentrations of lead which are less than or equal to 0.1%. These paint finishes were observed to be in good condition with the exception of select areas that were observed in poor condition.

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 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.

Laboratory certificate of analysis for the paint sample is also included in Appendix C.

3.2.2 Battery Packs

MPL identified lead-containing acid battery packs throughout the subject building. These battery packs were observed on walls and above exits throughout the surveyed building.

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 throughout the subject building. MPL also identified suspected float switches that may contain liquid mercury 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 (α -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/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 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. These lamps may contain PCB-containing light ballasts. These ballasts were not investigated during the survey as they could not be readily or safely disassembled.

3.5.2 *HID Light Ballasts*

MPL observed HID Lamps at the interior of the buildings. These lamps may contain PCB-containing light ballasts. These ballasts were not investigated during the survey as they could not be readily or safely disassembled.

3.5.3 *Transformers*

MPL did not observe any PCBs containing electrical transformers within the subject building.

Recommendations

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

Prior to any renovations, all light ballasts and HID lamps containing or suspected of containing PCBs that will be affected by the work, must be decommissioned by a licensed contractor such that PCBs are contained and not released to the environment during decommissioning and properly disposed of.

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.

No other equipment containing ODSs or other halocarbons was observed in the subject building.

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 observed Kidde brand smoke detectors, which contains small quantities of radioactive material.

Recommendations

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

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. 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.

No USTs and ASTs were present within the surveyed area.

Recommendations

Since no underground and/or above ground storage tanks (USTs and ASTs) were observed or suspected to be present during the site survey, no further action is required.

3.9 Mould

Findings

3.9.1 Mould

A visual survey of the subject building was conducted to determine if any water damaged was present. MPL did not find any areas with mould growth.

3.9.2 Water Damage

A visual survey of the subject building was conducted to determine if any mould was present. MPL identified ceiling tiles where materials were affected water damage

Recommendations

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

Water stained/damaged ceiling tiles observed throughout the subject building should be replaced as part of regular maintenance and the underlying cause of the water leakage should be identified and repaired.

Water stained/damaged ceiling tiles that are 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 AIHA 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 45 Louis Pasteur Private 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,

- Designated Substance Inventory by Conestoga-Rovers & Associates (dated January 2008, reference # 045870(86));
- Asbestos Abatement- Thermal Insulation Removal- Lebanc Residence by EHS Environmental (dated August 11, 2014 reference # 04-0033-14-040);
- Post Asbestos Abatement Inspections- Basement - Lebanc Residence by EHS Environmental (dated June 8, 2011 reference # 04-0033-11-008);

- Asbestos Abatement Project Summary-Leblanc Residence- Room 014 by EHS Environmental (dated January 15, 2014 reference # 04-0033-15-001);
- Potential Asbestos Material Sampling-Leblanc Residence- Rooms 014 by EHS Environmental (dated October 22, 2013 reference # 04-0033-13-057);
- Asbestos Sampling-Leblanc Residence- Rooms 325 & 425 by CM3 Environmental (dated July 5, 2017 reference # TLW 1456);
- Asbestos Abatement Summary-Leblanc Residence- Room 052A by CM3 Environmental (dated July 5, 2017 reference # TLW 1413);
- Asbestos Abatement – Thermal Insulation Removal- Leblanc Residence- Room 103 by EHS Environmental (dated August 11, 2014 reference # 04-0033-014-0040); and
- Asbestos Sampling-Leblanc Residence- 2018 Roof Renewal by CM3 Environmental (dated July 20, 2018 reference # TLW 1413).

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 EMSL Canada Inc. (EMSL), an independent laboratory. EMSL is an independent laboratory accredited by National Institute of Standards and Technology/National Voluntary Laboratory Accreditation (NIST/NVLAP) (Lab Code #200877-0).

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 Ontario (EACO) 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 EACO 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 thermostat 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 (α-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 hydrochlorofluorocarbons (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 Ontario (EACO) 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



EMSL CANADA, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

6720 0 1217

EMSL CANADA, INC.
22 ANTARES DR. SUITE 102
NEPEAN, ON K2E 7Z6
PHONE: (343) 882-6076
FAX: (343) 882-6077

Company : McIntosh Perry		EMSL Customer ID:	
Street: 115 Walgreen Road		City: Carp	State/Province: Ontario
Zip/Postal Code: K0A1L0	Country: Canada	Report To (Name): Monica Black	
Telephone #: 6132276953	Fax #:	Email Address: m.black@mcintoshperry.com	
Project Name/Number: Unfiversity of Ottawa 022-021102 - Marchand Residence "Ottawa DSS" Leblanc			
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order: 022-021102	State/Province Samples Taken: ONT
EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party			
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
*For TEM Air 3 hours through 6 hours, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.			
PCM - Air		TEM - Air	
<input type="checkbox"/> NIOSH 7400		<input type="checkbox"/> AHERA 40 CFR, Part 763	
<input type="checkbox"/> IRSST PCM		<input type="checkbox"/> NIOSH 7402	
PLM - Bulk (reporting limit)		<input type="checkbox"/> EPA Level II	
<input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)		TEM - Bulk	
<input type="checkbox"/> 400 PTCT (<0.25%)		<input type="checkbox"/> TEM EPA NOB	
<input type="checkbox"/> 1000 PTCT (<0.1%)		<input type="checkbox"/> IRSST TEM (NYS 198.4)	
<input type="checkbox"/> PLM EPA NOB (<1%)		TEM - Dust	
<input type="checkbox"/> 400 PTCT (<0.25%)		<input type="checkbox"/> Microvac - ASTM D 5755	
<input type="checkbox"/> 1000 PTCT (<0.1%)		<input type="checkbox"/> Wipe - ASTM D6480	
<input type="checkbox"/> IRSST PLM		TEM - Water	
<input type="checkbox"/> NIOSH 9002 (<1%)		<input type="checkbox"/> EPA 100.2 (All fibre sizes)	
<input type="checkbox"/> Other		<input type="checkbox"/> EPA 100.2 (Fibres >10µm)	
Soil/Rock/Vermiculite		Asphalt	
<input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%)		<input type="checkbox"/> PLM EPA Gravimetric with milling prep (<0.25%)	
<input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.1%)			
<input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%)			
<input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.01%)			
<input type="checkbox"/> ASTM D7521 Sieve Method			
<input type="checkbox"/> TEM Qualitative via Filtration Prep			
<input type="checkbox"/> TEM Qualitative via Drop Mount Prep			
<input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM*			
*(required for vermiculite in BC and NS)			
<input checked="" type="checkbox"/> Check Positive Stop - Clearly Identify Homogenous (HM) Groups			Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm
Samplers Name: Monica Black		Sampler's Signature: <i>Monica Black</i>	
Sample #	Sample Description	Volume/Area (Air) HM-Homogeneous Material # (Bulk)	Date/Time Sampled
1.1-1.3	Leblanc Residence - VFT grey/white/red vinyl sheet flooring	HM1(3)	
2.1-2.3	" - 9x9 VFT white with grey streaks	HM2(3)	
3.1-3.3	" -VFT grey marble	HM3(3)	
4.1-4.3	" - VFT green	HM4(3)	
5.1-5.3	"- black/grey window caulking	HM5(3)	
6.1-6.7	" - drywall joint compound	HM6(7)	
7.1-7.3	"- VFT beige with beige/white flecks	HM7(3)	
Client Sample # (s):		Total # of Samples: <i>12</i>	
Relinquished (Client): <i>Monica Black</i>		Date: <i>2020-07-27</i>	Time:
Received (Lab): <i>Ottawa Dropbox Opt</i>		Date: <i>7/27/20</i>	Time: <i>3:47 PM</i>
Comments/Special Instructions:			



EMSL CANADA, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*:

6720 0 1217

EMSL CANADA, INC.
22 ANTARES DR. SUITE 102
NEPEAN, ON K2E 7Z6
PHONE: (343) 882-6076
FAX: (343) 882-6077

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HM-Homogeneous Material # (Bulk)	Date/Time Sampled
8.1-8.3	"- VFT white with red/blue specks	HM(3)	
9.1-9.3	" - VFT grey with grey/white flecks	HM(3)	
10.1-10.3	"-VFT beige with black,green, red dots	HM(3)	
11.1-11.3	"- grey caulking	HM(3)	
12.1-12.3	" - wall plaster	HM(7)	

*Comments/Special Instructions:



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EMSL Canada Order 672001217
 Customer ID: 55CTCS25B
 Customer PO: 0Z2-021101
 Project ID: Ottawa DSS

Attn: Monica Black Phone: (613) 836-2184
 McIntosh Perry Consulting Engineers Ltd Fax:
 115 Walgreen Rd RR 3 Collected:
 Carp, ON K0A 1L0 Received: 7/27/2020
 Analyzed: 8/03/2020

Proj: University of Ottawa 0Z2-021101 (Leblanc Residence) (Ottawa DSS)

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 1.1-VFT **Lab Sample ID:** 672001217-0001

Sample Description: Leblanc Residence/VFT - grey/white/red vinyl sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Gray/White/Red	0.0%	100.0%	None Detected	

Client Sample ID: 1.1-Mastic **Lab Sample ID:** 672001217-0001A

Sample Description: Leblanc Residence/VFT - grey/white/red vinyl sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 1.2-VFT **Lab Sample ID:** 672001217-0002

Sample Description: Leblanc Residence/VFT - grey/white/red vinyl sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Gray/White/Red	0.0%	100.0%	None Detected	

Client Sample ID: 1.2-Mastic **Lab Sample ID:** 672001217-0002A

Sample Description: Leblanc Residence/VFT - grey/white/red vinyl sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 1.3-VFT **Lab Sample ID:** 672001217-0003

Sample Description: Leblanc Residence/VFT - grey/white/red vinyl sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Gray/White/Red	0.0%	100.0%	None Detected	

Client Sample ID: 1.3-Mastic **Lab Sample ID:** 672001217-0003A

Sample Description: Leblanc Residence/VFT - grey/white/red vinyl sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 2.1-VFT **Lab Sample ID:** 672001217-0004

Sample Description: Leblanc Residence/9x9 VFT - white with grey streaks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	White/Red	0.0%	97.0%	3% Chrysotile	



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EMSL Canada Order 672001217
 Customer ID: 55CTCS25B
 Customer PO: 0Z2-021101
 Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 2.1-Mastic **Lab Sample ID:** 672001217-0004A

Sample Description: Leblanc Residence/9x9 VFT - white with grey streaks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 2.2-VFT **Lab Sample ID:** 672001217-0005

Sample Description: Leblanc Residence/9x9 VFT - white with grey streaks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020		Positive Stop (Not Analyzed)			

Client Sample ID: 2.2-Mastic **Lab Sample ID:** 672001217-0005A

Sample Description: Leblanc Residence/9x9 VFT - white with grey streaks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 2.3-VFT **Lab Sample ID:** 672001217-0006

Sample Description: Leblanc Residence/9x9 VFT - white with grey streaks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020		Positive Stop (Not Analyzed)			

Client Sample ID: 2.3-Mastic **Lab Sample ID:** 672001217-0006A

Sample Description: Leblanc Residence/9x9 VFT - white with grey streaks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 3.1 **Lab Sample ID:** 672001217-0007

Sample Description: Leblanc Residence/VFT - grey marble

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Gray/Yellow	18.0%	82.0%	None Detected	Result includes a small amount of inseparable attached material

Client Sample ID: 3.2-VFT **Lab Sample ID:** 672001217-0008

Sample Description: Leblanc Residence/VFT - grey marble

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Gray	20.0%	80.0%	None Detected	Result includes a small amount of inseparable attached material

Client Sample ID: 3.2-Mastic **Lab Sample ID:** 672001217-0008A

Sample Description: Leblanc Residence/VFT - grey marble

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Yellow	0.0%	100.0%	None Detected	



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EMSL Canada Order 672001217
Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 3.3-VFT **Lab Sample ID:** 672001217-0009
Sample Description: Leblanc Residence/VFT - grey marble

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Gray	20.0%	80.0%	None Detected	Result includes a small amount of inseparable attached material

Client Sample ID: 3.3-Mastic **Lab Sample ID:** 672001217-0009A
Sample Description: Leblanc Residence/VFT - grey marble

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 4.1 **Lab Sample ID:** 672001217-0010
Sample Description: Leblanc Residence/VFT - green

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Green	0.0%	100.0%	None Detected	

Client Sample ID: 4.2 **Lab Sample ID:** 672001217-0011
Sample Description: Leblanc Residence/VFT - green

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Green	0.0%	100.0%	None Detected	

Client Sample ID: 4.3 **Lab Sample ID:** 672001217-0012
Sample Description: Leblanc Residence/VFT - green

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Green	0.0%	100.0%	None Detected	

Client Sample ID: 5.1 **Lab Sample ID:** 672001217-0013
Sample Description: Leblanc Residence/Black/grey window caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Gray/Black	0.0%	100.0%	None Detected	

Client Sample ID: 5.2 **Lab Sample ID:** 672001217-0014
Sample Description: Leblanc Residence/Black/grey window caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Gray/Black	0.0%	100.0%	None Detected	

Client Sample ID: 5.3 **Lab Sample ID:** 672001217-0015
Sample Description: Leblanc Residence/Black/grey window caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Gray/Black	0.0%	100.0%	None Detected	



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EMSL Canada Order 672001217
 Customer ID: 55CTCS25B
 Customer PO: 0Z2-021101
 Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 6.1 **Lab Sample ID:** 672001217-0016
Sample Description: Leblanc Residence/Drywall joint compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 6.2 **Lab Sample ID:** 672001217-0017
Sample Description: Leblanc Residence/Drywall joint compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Tan/White	0.0%	100.0%	None Detected	

Client Sample ID: 6.3 **Lab Sample ID:** 672001217-0018
Sample Description: Leblanc Residence/Drywall joint compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 6.4 **Lab Sample ID:** 672001217-0019
Sample Description: Leblanc Residence/Drywall joint compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 6.5 **Lab Sample ID:** 672001217-0020
Sample Description: Leblanc Residence/Drywall joint compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 6.6 **Lab Sample ID:** 672001217-0021
Sample Description: Leblanc Residence/Drywall joint compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020	Tan	0.0%	98.0%	2% Chrysotile	

Client Sample ID: 6.7 **Lab Sample ID:** 672001217-0022
Sample Description: Leblanc Residence/Drywall joint compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/31/2020					Positive Stop (Not Analyzed)

Client Sample ID: 7.1 **Lab Sample ID:** 672001217-0023
Sample Description: Leblanc Residence/VFT - beige with beige/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White/Yellow/Beige	0.0%	100.0%	None Detected	Result includes a small amount of inseparable attached material



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EMSL Canada Order 672001217
 Customer ID: 55CTCS25B
 Customer PO: 0Z2-021101
 Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 7.2-VFT **Lab Sample ID:** 672001217-0024

Sample Description: Leblanc Residence/VFT - beige with beige/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White/Beige	0.0%	100.0%	None Detected	

Client Sample ID: 7.2-Mastic **Lab Sample ID:** 672001217-0024A

Sample Description: Leblanc Residence/VFT - beige with beige/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Black/Yellow	0.0%	100.0%	None Detected	Result includes a small amount of inseparable attached material

Client Sample ID: 7.3-VFT **Lab Sample ID:** 672001217-0025

Sample Description: Leblanc Residence/VFT - beige with beige/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White/Beige	0.0%	100.0%	None Detected	

Client Sample ID: 7.3-Mastic **Lab Sample ID:** 672001217-0025A

Sample Description: Leblanc Residence/VFT - beige with beige/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 8.1-VFT **Lab Sample ID:** 672001217-0026

Sample Description: Leblanc Residence/VFT - white with red/blue specks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White/Red/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 8.1-Mastic **Lab Sample ID:** 672001217-0026A

Sample Description: Leblanc Residence/VFT - white with red/blue specks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Tan/Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 8.2-VFT **Lab Sample ID:** 672001217-0027

Sample Description: Leblanc Residence/VFT - white with red/blue specks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White/Red/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 8.2-Mastic **Lab Sample ID:** 672001217-0027A

Sample Description: Leblanc Residence/VFT - white with red/blue specks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Yellow	0.0%	100.0%	None Detected	



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EMSL Canada Order 672001217
 Customer ID: 55CTCS25B
 Customer PO: 0Z2-021101
 Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 8.3-VFT **Lab Sample ID:** 672001217-0028

Sample Description: Leblanc Residence/VFT - whie with red/blue specks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White/Red/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 8.3-Mastic **Lab Sample ID:** 672001217-0028A

Sample Description: Leblanc Residence/VFT - whie with red/blue specks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 9.1-VFT **Lab Sample ID:** 672001217-0029

Sample Description: Leblanc Residence/VFT - grey with grey/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 9.1-Mastic **Lab Sample ID:** 672001217-0029A

Sample Description: Leblanc Residence/VFT - grey with grey/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 9.2-VFT **Lab Sample ID:** 672001217-0030

Sample Description: Leblanc Residence/VFT - grey with grey/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 9.2-Mastic **Lab Sample ID:** 672001217-0030A

Sample Description: Leblanc Residence/VFT - grey with grey/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Black/Yellow	0.0%	100.0%	None Detected	Result includes a small amount of inseparable attached material

Client Sample ID: 9.3 **Lab Sample ID:** 672001217-0031

Sample Description: Leblanc Residence/VFT - grey with grey/white flecks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White/Red/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 10.1 **Lab Sample ID:** 672001217-0032

Sample Description: Leblanc Residence/VFT - beige with black, green, red dots

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Red/Green/Beige	0.0%	100.0%	None Detected	



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EMSL Canada Order 672001217
Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 10.2 **Lab Sample ID:** 672001217-0033
Sample Description: Leblanc Residence/VFT - beige with black, green, red dots

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Red/Green/Beige	0.0%	100.0%	None Detected	

Client Sample ID: 10.3 **Lab Sample ID:** 672001217-0034
Sample Description: Leblanc Residence/VFT - beige with black, green, red dots

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Green/Beige/Orange	0.0%	100.0%	None Detected	

Client Sample ID: 11.1 **Lab Sample ID:** 672001217-0035
Sample Description: Leblanc Residence/Grey caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 11.2 **Lab Sample ID:** 672001217-0036
Sample Description: Leblanc Residence/Grey caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 11.3 **Lab Sample ID:** 672001217-0037
Sample Description: Leblanc Residence/Grey caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 12.1-Skim Coat **Lab Sample ID:** 672001217-0038
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 12.1-Base Coat **Lab Sample ID:** 672001217-0038A
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 12.2-Skim Coat **Lab Sample ID:** 672001217-0039
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White	0.0%	100.0%	None Detected	



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Customer PO: 0Z2-021101
Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 12.2-Base Coat **Lab Sample ID:** 672001217-0039A
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 12.3-Skim Coat **Lab Sample ID:** 672001217-0040
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 12.3-Base Coat **Lab Sample ID:** 672001217-0040A
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 12.4-Skim Coat **Lab Sample ID:** 672001217-0041
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 12.4-Base Coat **Lab Sample ID:** 672001217-0041A
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 12.5-Skim Coat **Lab Sample ID:** 672001217-0042
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 12.5-Base Coat **Lab Sample ID:** 672001217-0042A
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Gray/White	0.0%	100.0%	None Detected	

Client Sample ID: 12.6-Skim Coat **Lab Sample ID:** 672001217-0043
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White	0.0%	100.0%	None Detected	



EMSL Canada Inc.

22 Antares Drive Suite 102 Ottawa, ON K2E 7Z6
Phone/Fax: (343) 882-6076 / (343) 882-6077
<http://www.EMSL.com> / ottawalab@EMSL.com

EMSL Canada Order 672001217
Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 12.6-Base Coat **Lab Sample ID:** 672001217-0043A
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 12.7-Skim Coat **Lab Sample ID:** 672001217-0044
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 12.7-Base Coat **Lab Sample ID:** 672001217-0044A
Sample Description: Leblanc Residence/Wall plaster

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	8/03/2020	Brown	0.0%	100.0%	None Detected	

Analyst(s):
Jose Sanchez PLM (63)

Reviewed and approved by:

Simon Parent, Laboratory Manager
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency or the U.S. Government



EMSL CANADA, INC.
LABORATORY PRODUCTS TRAINING

Lead (Pb) Chain of Custody

EMSL Canada Order ID (Lab Use Only):

EMSL CANADA, INC.
2756 SLOUGH STREET
MISSISSAUGA, ON L4T 1G3
PHONE: (289) 997-4602
FAX: (289) 997-4607

[Blank Box]

55200-8896

Company : McIntosh Perry		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 115 Walgreen Road		Third Party Billing requires written authorization from third party	
City: Carp	State/Province: ON	Zip/Postal Code: K0A 1L0	Country: Canada
Report To (Name): Monica Black		Telephone #: 613-227-6953	
Email Address: m.black@mcintoshperry.com		Fax #:	Purchase Order:
Project Name/Number: University of Ottawa 022-0211012 "LeBlanc - uOttawa DSS		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken:		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

Turnaround Time (TAT) Options* - Please Check

3 Hour
 6 Hour
 24 Hour
 32 Hour¹
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

¹ 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Matrix	Method	Instrument	Reporting Limit	Check
Chips* <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> ppm (mg/kg) <input type="checkbox"/> mg/cm ² *Reporting limit based upon minimum 0.25 g sample weight	SW846-7000B	Flame Atomic Absorption	0.008% (80 ppm)	<input checked="" type="checkbox"/>
	SW846-6010B or C	ICP-OES	0.0004% (4 ppm)	<input type="checkbox"/>
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	<input type="checkbox"/>
	NIOSH 7300M/NIOSH 7303	ICP-OES	0.5 µg/filter	<input type="checkbox"/>
Wipe* ASTM <input type="checkbox"/> non ASTM <input type="checkbox"/> *If no box is checked, non-ASTM Wipe is assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	<input type="checkbox"/>
	SW846-6010B or C	ICP-OES	1.0 µg/wipe	<input type="checkbox"/>
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW846-1311/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
SPLP	SW846-1312/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW846-1312/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
TTLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	<input type="checkbox"/>
STLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	<input type="checkbox"/>
	SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	<input type="checkbox"/>
Wastewater Unpreserved <input type="checkbox"/> Preserved with HNO ₃ <input type="checkbox"/> pH <2	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Drinking Water Unpreserved <input type="checkbox"/> Preserved with HNO ₃ <input type="checkbox"/> pH <2	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
Other:				<input type="checkbox"/>

Name of Sampler: Monica Black Signature of Sampler: *Monica Black*

Client Sample #s: - Total # of Samples: 5

Sample #	Location	Volume/Area	Date/Time Shipped
PB1	Leblanc - blue door frame paint	1	
PB2	" - beige wall paint	1	

Relinquished (Client): Monica Black Date: 2020-01-27 Time: 11:27 AM

Received (Lab): LAB 55 Date: 1/28/20 Time: 11:27 AM

Comments:

RECEIVED
 EM
 CANADA, INC.
 MISSISSAUGA, ONTARIO

FEDEX

7711 0233 7297

**EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L4T 1G3

Phone/Fax: (289) 997-4602 / (289) 997-4607

<http://www.EMSL.com>torontolab@emsl.com

EMSL Canada Or	552008896
CustomerID:	55CTCS25B
CustomerPO:	0Z2-0211012
ProjectID:	Ottawa DSS

Attn: **Monica Black**
McIntosh Perry Consulting Engineers Ltd
115 Walgreen Rd RR 3
Carp, ON K0A 1L0

Phone: (613) 836-2184
 Fax:
 Received: 7/28/2020 11:27 AM
 Collected:

Project: **University of Ottawa 0Z2-0211012 LeBlanc - uOttawa DSS****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client SampleDescription</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
PB1 552008896-0001		7/28/2020	0.2475 g	0.0081 % wt	0.13 % wt
	Site: LeBlanc - Blue Door Frame Paint				
PB2 552008896-0002		7/28/2020	0.2514 g	0.0080 % wt	<0.0080 % wt
	Site: LeBlanc - Beige Wall Paint				
PB3 552008896-0003		7/28/2020	0.1884 g	0.11 % wt	3.1 % wt
	Site: LeBlanc - Orange Wall Paint				
PB4 552008896-0004		7/28/2020	0.1093 g	0.018 % wt	0.018 % wt
	Site: LeBlanc - Grey Door Paint				
PB5 552008896-0005		7/28/2020	0.1401 g	0.014 % wt	<0.014 % wt
	Site: LeBlanc - White Wall Paint Insufficient sample to reach reporting limit.				

Rowena Fanto, Lead Supervisor
 or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.
 Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.
 Samples analyzed by EMSL Canada Inc. Mississauga, ON AIHA-LAP, LLC - ELLAP #196142

Initial report from 08/04/2020 09:46:08

APPENDIX D
Site Photographs



Photo 1: View of typical finishes observed at the building located at 45 Louis- Pasteur Private.



Photo 2: View of typical finishes observed at the building located at 45 Louis- Pasteur Private.



Photo 3: View of typical finishes observed at the building located at 45 Louis- Pasteur Private.



Photo 4: View of asbestos-containing vinyl floor tiles (9"x9" - white with beige streaks observed in Room 101



Photo 5: View of asbestos-containing suspended ceiling tiles (2'x2' - white with dots and squiggle pattern) observed in Room 140.

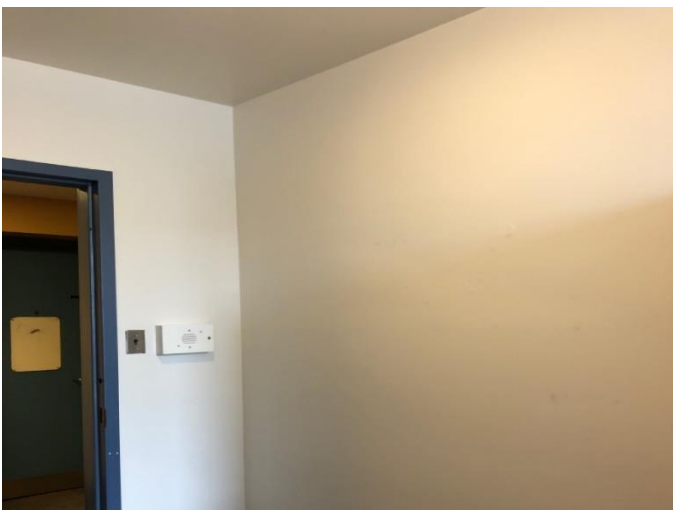


Photo 6: View of asbestos-containing drywall joint compound observed throughout the subject building.



Photo 7: View of asbestos-containing tank insulation observed in Room 014.



Photo 8: View of asbestos-containing pipe fitting insulation observed in Room 012.

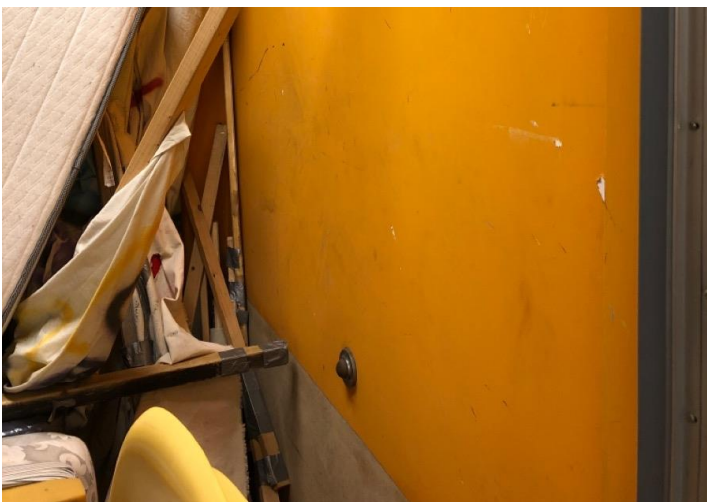


Photo 9: View of lead-containing orange paint observed in Room 055.



Photo 10: View of lead-containing blue paint observed in Room 145.



Photo 11: Typical view of smoke detectors containing radioactive materials.



Photo 12: View of water damaged ceiling tiles observed in Room 046.

APPENDIX E

Asbestos-Containing Materials Checklists

Floor/Level	Room	Type of ACM	Description	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approx. Quantity	Unit	Recommended Action	Estimated Abatement Cost	Comments
0	Throughout Subject Floor	Drywall Joint Compound	Walls and Ceiling	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place		
0	Room 04	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	106	SF	Manage in Place		
0	Room 05	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	107	SF	Manage in Place		
0	Room 06	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	220	SF	Manage in Place		
0	Room 07	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	307	SF	Manage in Place		
0	Room 08	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	308	SF	Manage in Place		
0	Room 09	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	188	SF	Manage in Place		
0	Room 010	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	210	SF	Manage in Place		
0	Room 010	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Fair Condition	Moderate	Low	3	SF	Repair or Remove Following Type 1 Abatement Procedures		
0	Room 011	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	195	SF	Manage in Place		
0	Room 013	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	122	C	Manage in Place		
0	Room 014	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	5	C	Manage in Place		
0	Room 014	Pipe Straight Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	35	LF	Manage in Place		
0	Room 015	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	128	C	Manage in Place		
0	Room 015	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	7	C	Manage in Place		
0	Room 016	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	129	C	Manage in Place		
0	Room 016	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	7	C	Manage in Place		

Hazardous Materials Survey and 2023 Reassessment
 Leblanc Residence, Ottawa, ON
 Appendix E - Asbestos Containing Materials Checklist

Z2021102HZ

Floor/Level	Room	Type of ACM	Description	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approx. Quantity	Unit	Recommended Action	Estimated Abatement Cost	Comments
0	Room 017	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	124	C	Manage in Place		
0	Room 017	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	7	C	Manage in Place		
0	Room 018	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	5	C	Manage in Place		
0	Room 021	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	7	C	Manage in Place		
0	Room 045	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	330	C	Manage in Place		
0	Room 045	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	2	C	Manage in Place		
0	Room 045	Pipe Straight Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	150	LF	Manage in Place		
0	Room 046A	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	114	C	Manage in Place		
0	Room 048	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	46	C	Manage in Place		
0	Room 048	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	2	C	Manage in Place		
0	Room 048	Pipe Straight Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	22	LF	Manage in Place		
0	Room 052	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	2	C	Manage in Place		
0	Room 052	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	318	SF	Manage in Place		
0	Room 052A	Pipe Fitting/Elbow Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	11	C	Manage in Place		
0	Room 052A	Pipe Straight Insulation	Grey	Confirmed	Friable	Good Condition	Moderate	Low	70	LF	Manage in Place		
0	Room 052A	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	112	SF	Manage in Place		
0	Room 053	1'x1'- Ceiling Tile	White Large Random Dots	Confirmed	-	Good Condition	Moderate	Low	1572	SF	Manage in Place		

Hazardous Materials Survey and 2023 Reassessment
 Leblanc Residence, Ottawa, ON
 Appendix E - Asbestos Containing Materials Checklist

Z2021102HZ

Floor/Level	Room	Type of ACM	Description	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approx. Quantity	Unit	Recommended Action	Estimated Abatement Cost	Comments
1	Throughout Subject Floor	Drywall Joint Compound	Walls and Ceiling	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place		
1	Room 101	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	30	C	Manage in Place		
1	Room 139	2'x2' Ceiling Tile	White, Dots with Squiggle Pattern	Confirmed	-	Good Condition	Easy	Low	20	C	Manage in Place		
1	Room 140	2'x2' Ceiling Tile	White, Dots with Squiggle Pattern	Confirmed	-	Good Condition	Easy	Low	90	C	Manage in Place		
1	Room 140A	2'x2' Ceiling Tile	White, Dots with Squiggle Pattern	Confirmed	-	Good Condition	Easy	Low	28	C	Manage in Place		
1	Room 141	2'x2' Ceiling Tile	White, Dots with Squiggle Pattern	Confirmed	-	Good Condition	Easy	Low	190	C	Manage in Place		
2	Throughout Subject Floor	Drywall Joint Compound	Walls and Ceiling	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place		
2	Room 231	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	140	C	Manage in Place		
3	Throughout Subject Floor	Drywall Joint Compound	Walls and Ceiling	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place		
3	Room 331	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	140	C	Manage in Place		
4	Throughout Subject Floor	Drywall Joint Compound	Walls and Ceiling	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place		
4	Room 431	9"x9" Vinyl Floor Tile	White with Grey Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	140	C	Manage in Place		
All	Throughout Subject Building	Concrete Block Mortar	Green	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
All	Throughout Subject Building	Brick Mortar	Grey	Suspected	Non-Friable	Good Condition	Easy	Low			Manage in Place		
All	Stairwell B	Pipe Fitting/Elbow Insulation	-	Confirmed	Friable	Good Condition	Moderate	Low	4	C	Manage in Place		
All	Stairwell C	Pipe Fitting/Elbow Insulation	-	Confirmed	Friable	Good Condition	Moderate	Low	6	C	Manage in Place		
All	Throughout Subject Building	Ceramic Wall/Floor Tile Grout	Grey	Suspected	Non-Friable	Good Condition	Easy	Low	-	-	Manage in Place		

APPENDIX F

Hazardous Containing Materials Checklists

Hazardous Materials Survey and 2023 Reassessment
 Leblanc Residence, Ottawa, ON
 Appendix F - Hazardous Containing Materials Checklist

Z2021102HZ

Floor/Level	Location	DS Type	Component	Colour	Condition	Manufacturer	Quantity #	Unit	Suspected/ Confirmed	Recommended Action	Estimated Abatement Cost	Comments
0	Throughout Subject Building	Lead	Floor Paint	Grey	Good Condition	-	-	-	Confirmed	Manage in Place		
0	Room 046	Water Damage	Ceiling Tiles		Poor Condition	-	1	C	Suspected	Should be replaced as part of regular maintenance.		
0	Room 046A	Water Damage	Ceiling Tiles		Poor Condition	-	2	C	Suspected	Should be replaced as part of regular maintenance.		
1	Room 139	Water Damage	Ceiling Tiles		Poor Condition	-	2	C	Suspected	Should be replaced as part of regular maintenance.		
1	Hallway	Ozone Depleting Substances (ODS)	Water Fountain	N/A	Good Condition	-	1	C	Suspected	Manage in Place	Refrigerant Unknown	
2	Hallway	Ozone Depleting Substances (ODS)	Water Fountain	N/A	Good Condition	-	1	C	Suspected	Manage in Place	Refrigerant Unknown	
3	Hallway	Ozone Depleting Substances	Water Fountain	N/A	Good Condition	-	1	C	Suspected	Manage in Place	Refrigerant Unknown	
4	Hallway	Ozone Depleting Substances (ODS)	Water Fountain	N/A	Good Condition	-	1	C	Suspected	Manage in Place	Refrigerant Unknown	

Hazardous Materials Survey and 2023 Reassessment
 Leblanc Residence, Ottawa, ON
 Appendix F - Hazardous Containing Materials Checklist

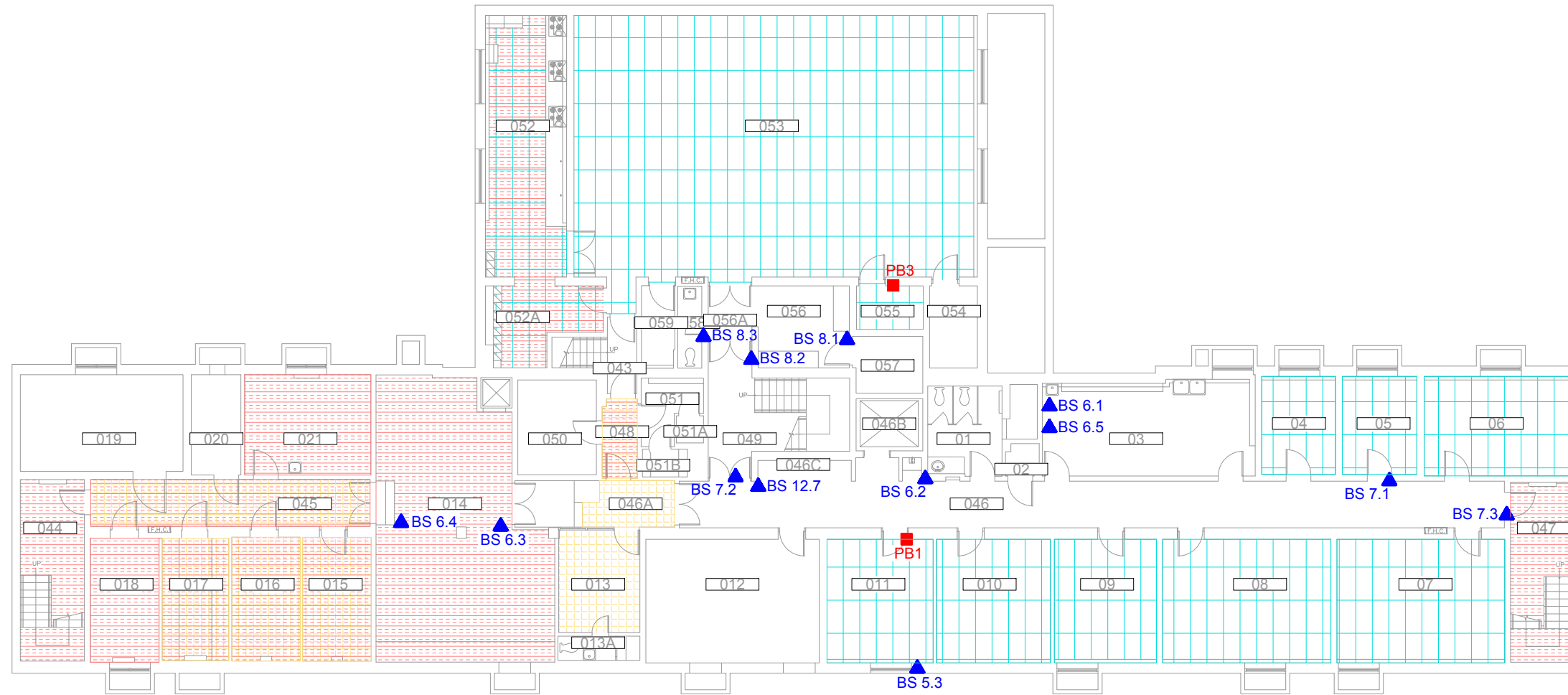
Z2021102HZ

Floor/Level	Location	DS Type	Component	Colour	Condition	Manufacturer	Quantity #	Unit	Suspected/ Confirmed	Recommended Action	Estimated Abatement Cost	Comments
All	Throughout Subject Building	Lead	Wall Paint	Orange	Good Condition	-	-	-	Confirmed	Manage in Place		
All	Throughout Subject Building	Lead	Wall Paint	Blue	Good Condition	-	-	-	Confirmed	Manage in Place		
All	Throughout Subject Building	Lead	Wall Paint	Grey	Good Condition	-	-	-	Confirmed	Manage in Place		
All	Throughout Subject Building	Lead	Wall Paint	White	Good Condition	-	-	-	Confirmed	Manage in Place		
All	Throughout Subject Building	Lead	Wall Paint	Beige	Good Condition	-	-	-	Confirmed	Manage in Place		
All	Throughout Subject Building	Radioactive Material	Smoke Detector	N/A	Good Condition	-	-	-	Suspected	Manage in Place		
All	Throughout Subject Building	Lead	Wall Paint	Grey	Good Condition	-	-	-	Confirmed	Manage in Place		
All	Throughout Subject Building	Lead	Door Frame Paint	Grey	Good Condition	-	-	-	Confirmed	Manage in Place		
All	Throughout Subject Building	Mercury	Florescent Light Bulb	N/A	Good Condition	-	-	-	Suspected	Manage in Place		
All	Throughout Subject Building	Lead	Battery Pack	N/A	Good Condition	-	-	-	Suspected	Manage in Place		

APPENDIX G

Site Sampling & Location Plans

U:\CLIENTS\McINTOSH PERRY\PROJECTS\LEBLANC - 45 LOUIS-PASTEUR.DWG - 45 LOUIS-PASTEUR.DWG



McINTOSH PERRY
 6240 HIGHWAY 7 SUITE 200 WOODBRIDGE ON L4H 4G3
 Tel: 905.856.5200 Fax: 905.695.0221
 Toll Free: 1.888.348.8991 www.mcintoshperry.com

Legend:

- ▲ Asbestos Bulk Sample
- Lead Paint Sample <LOD
- Lead Paint Sample >LOD

- ACM Vinyl floor Tile (VFT)
- ACM Mechanical Insulation
- ACM Ceiling Tile

Notes:

Drywall with ACM Joint Compound is present throughout. Asbestos containing concrete block mortar, brick mortar, and ceramic wall/floor tile grout is present throughout.

CLIENT: UNIVERSITY OF OTTAWA

TITLE: SAMPLE LOCATIONS

PROJECT: HAZARDOUS MATERIALS SURVEY
 45 LOUIS-PASTEUR PRIV., OTTAWA, ON

SCALE: 1:200 DATE: NOVEMBER 3, 2020

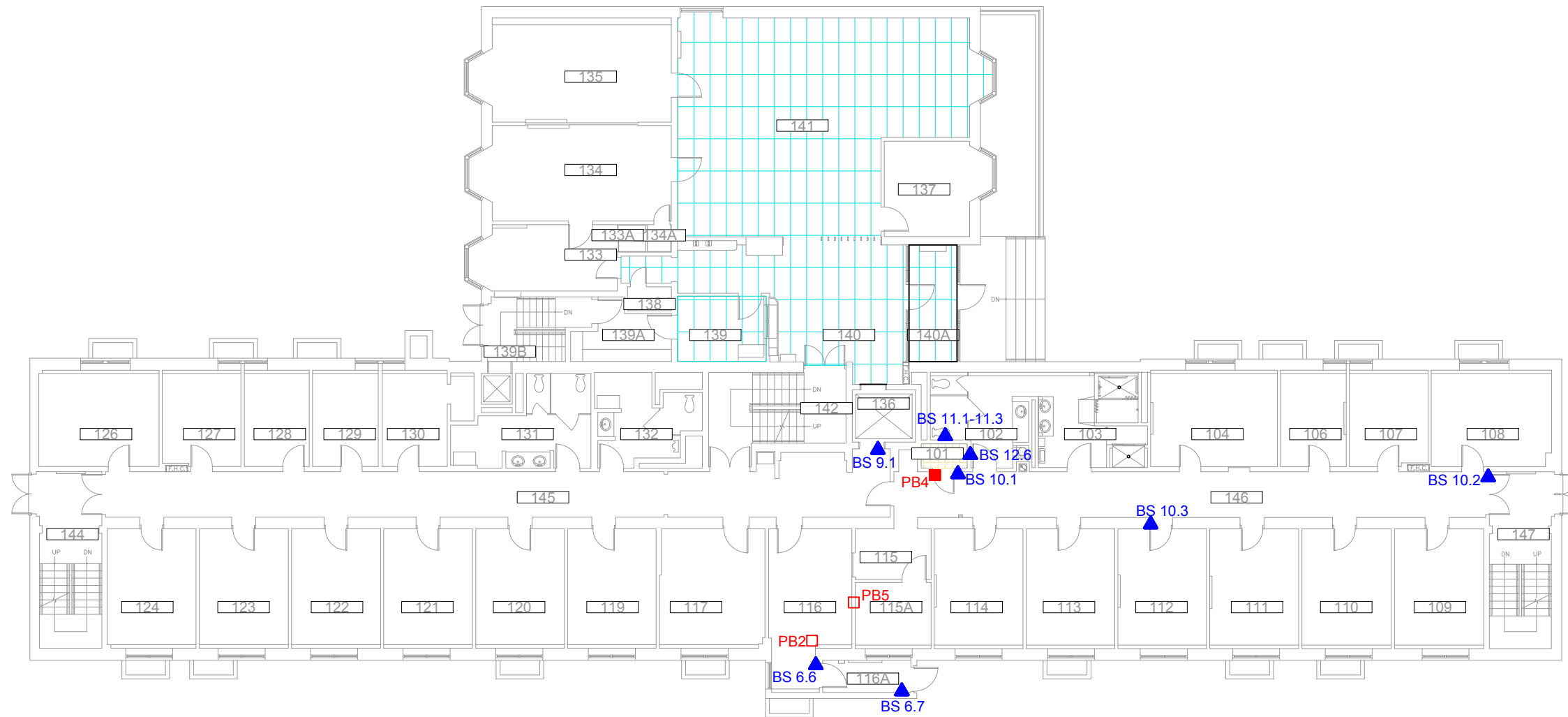
DRAWN: J.T. CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A-0

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS. REPORT ALL ERRORS AND OMISSIONS TO THE CONSULTANTS, PRIOR TO PROCEEDING WITH ANY WORKS.

U:\CLIENTS\McINTOSH PERRY\PROJECTS\LEBLANC - 45 LOUIS-PASTEUR.DWG - 45 LOUIS-PASTEUR.DWG



McINTOSH PERRY

6240 HIGHWAY 7 SUITE 200 WOODBRIDGE ON L4H 4G3
 Tel: 905.856.5200 Fax: 905.695.0221
 Toll Free: 1.888.348.8991 www.mcintoshperry.com

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS.
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 TO PROCEEDING WITH ANY WORKS.

Legend:

- ▲ Asbestos Bulk Sample
- Lead Paint Sample <LOD
- Lead Paint Sample >LOD

- ACM Vinyl floor Tile (VFT)
- ACM Mechanical Insulation
- ACM Ceiling Tile

Notes:

Drywall with ACM Joint Compound is present throughout. Asbestos containing concrete block mortar, brick mortar, and ceramic wall/floor tile grout is present throughout.

CLIENT: UNIVERSITY OF OTTAWA

TITLE: SAMPLE LOCATIONS

PROJECT: HAZARDOUS MATERIALS SURVEY
 45 LOUIS-PASTEUR PRIV., OTTAWA, ON

SCALE: 1:200 DATE: NOVEMBER 3, 2020

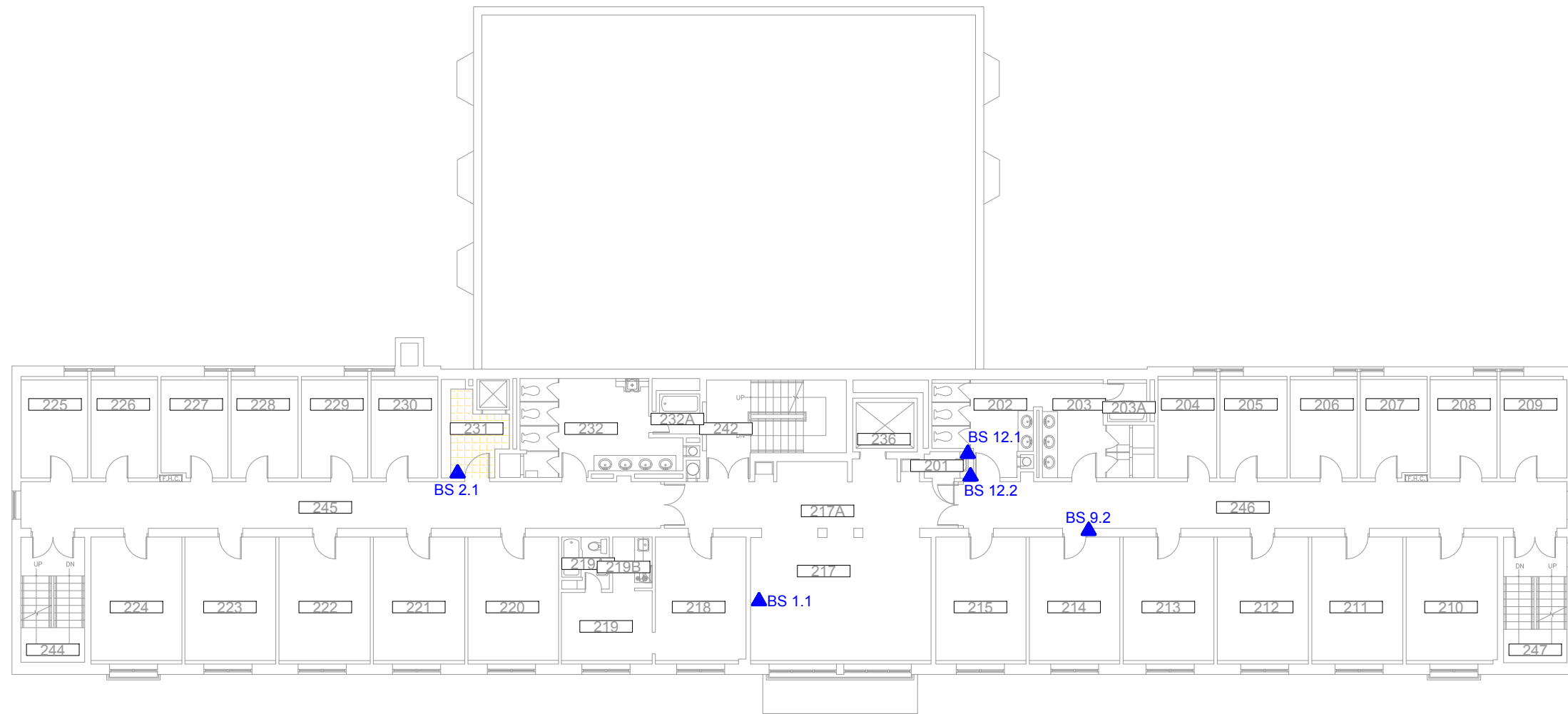
DRAWN: J.T. CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A-1

REV.:

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- Lead Paint Sample <LOD
- Lead Paint Sample >LOD

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- ACM Mechanical Insulation
- ACM Ceiling Tile

Notes:

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CLIENT: UNIVERSITY OF OTTAWA

TITLE: SAMPLE LOCATIONS

PROJECT: HAZARDOUS MATERIALS SURVEY
 45 LOUIS-PASTEUR PRIV., OTTAWA, ON

SCALE: 1:200 DATE: NOVEMBER 3, 2020

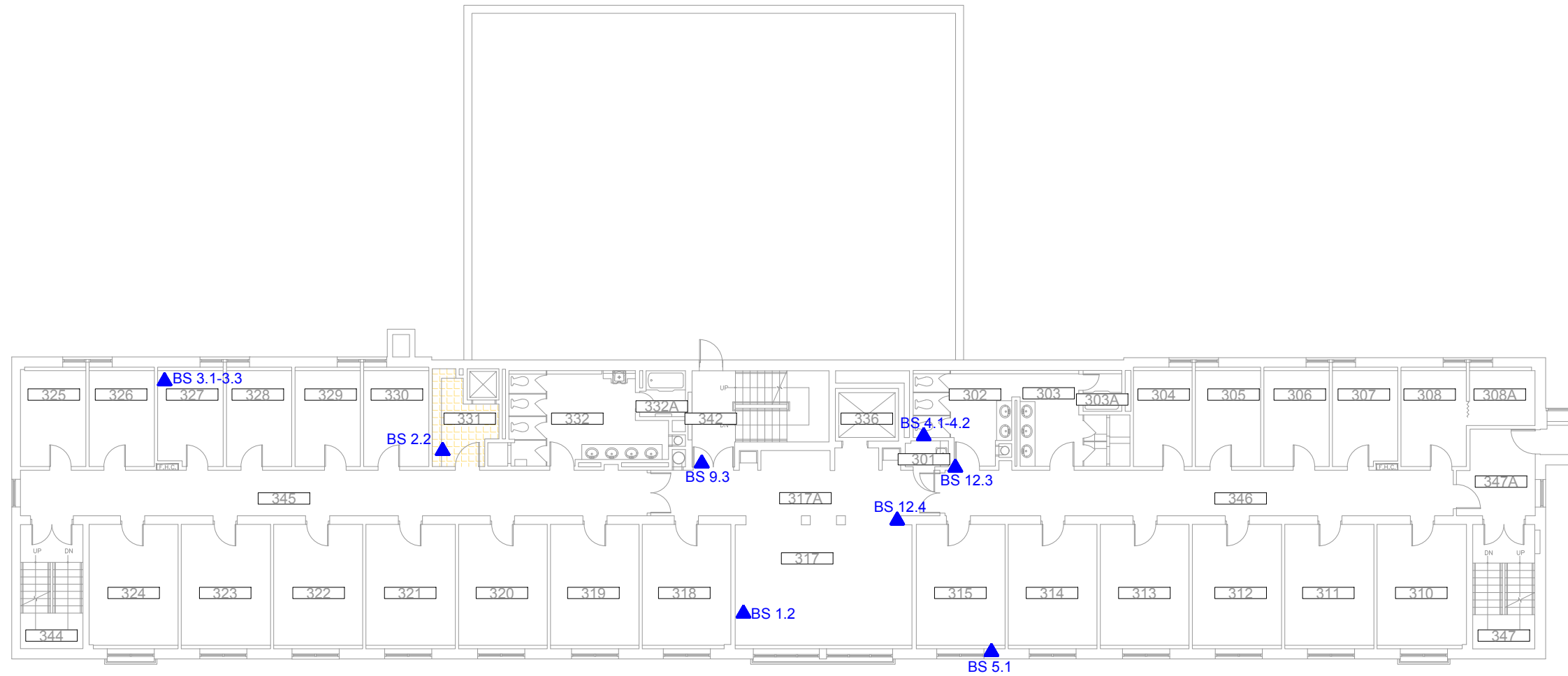
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REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A-2

REV.:

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Legend:

- ▲ Asbestos Bulk Sample
- Lead Paint Sample <LOD
- Lead Paint Sample >LOD

- ACM Vinyl floor Tile (VFT)
- ACM Mechanical Insulation
- ACM Ceiling Tile

Notes:

Drywall with ACM Joint Compound is present throughout. Asbestos containing concrete block mortar, brick mortar, and ceramic wall/floor tile grout is present throughout.

CLIENT: UNIVERSITY OF OTTAWA

TITLE: SAMPLE LOCATIONS

PROJECT: HAZARDOUS MATERIALS SURVEY
 45 LOUIS-PASTEUR PRIV., OTTAWA, ON

SCALE: 1:200 DATE: NOVEMBER 3, 2020

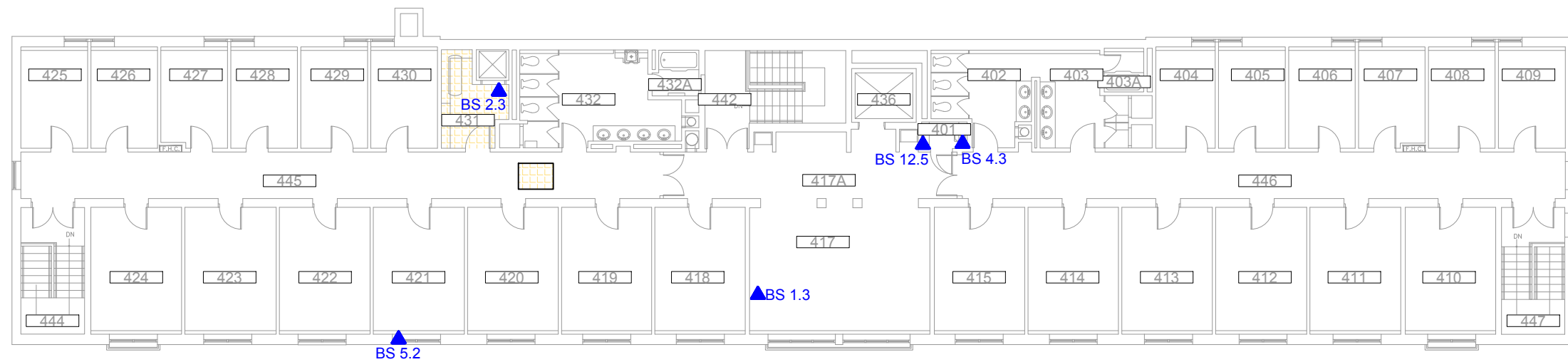
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REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A-3

REV.:

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 TO PROCEEDING WITH ANY WORKS.

Legend:

- ▲ Asbestos Bulk Sample
- Lead Paint Sample <LOD
- Lead Paint Sample >LOD

- ACM Vinyl floor Tile (VFT)
- ACM Mechanical Insulation
- ACM Ceiling Tile

Notes:

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CLIENT: UNIVERSITY OF OTTAWA

TITLE: SAMPLE LOCATIONS

PROJECT: HAZARDOUS MATERIALS SURVEY
 45 LOUIS-PASTEUR PRIV., OTTAWA, ON

SCALE: 1:200 DATE: NOVEMBER 3, 2020

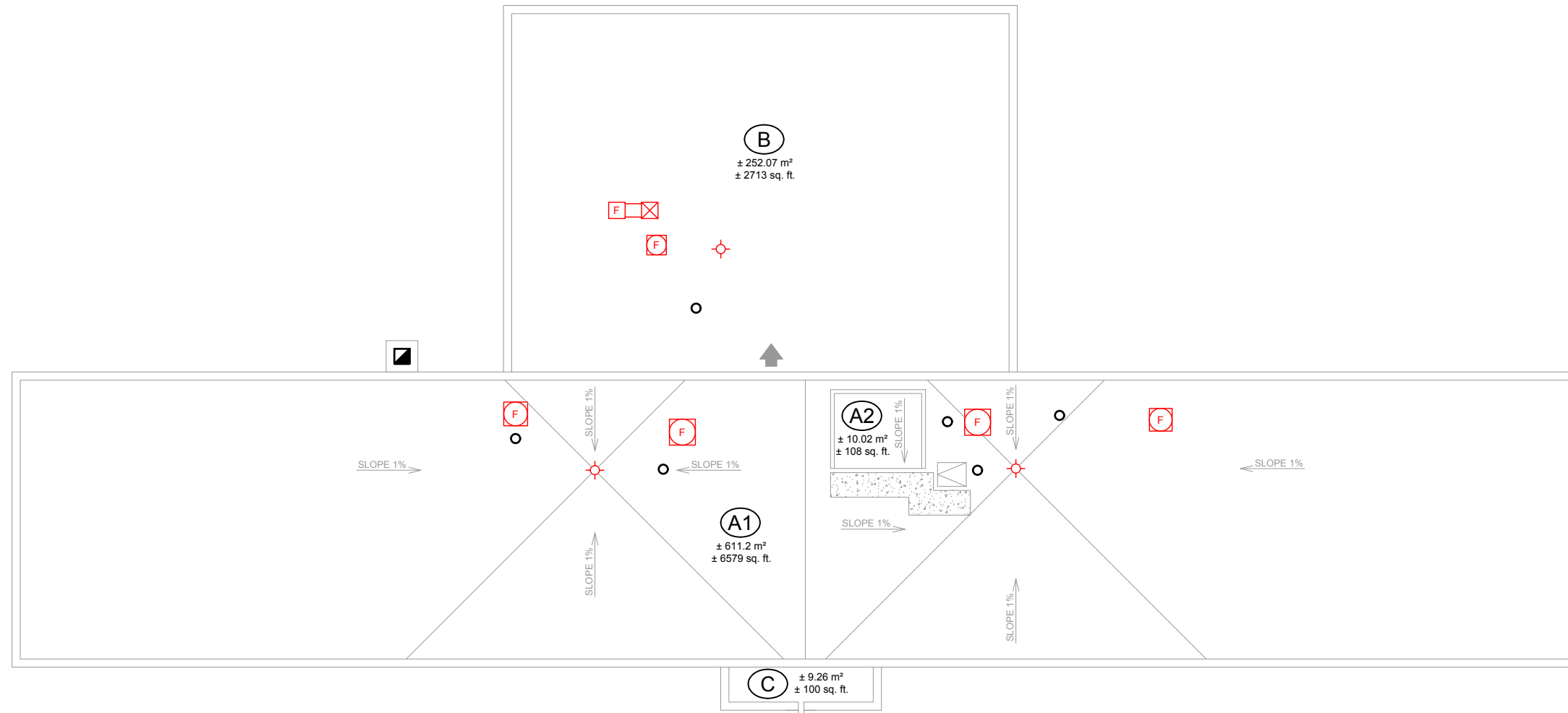
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REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A-4

REV.:

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Legend:

- ▲ Asbestos Bulk Sample
- F Lead Paint Sample <LOD
- Lead Paint Sample >LOD

- ACM Vinyl floor Tile (VFT)
- ACM Mechanical Insulation
- ACM Ceiling Tile

Notes:

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CLIENT: UNIVERSITY OF OTTAWA

PROJECT: HAZARDOUS MATERIALS SURVEY
 45 LOUIS-PASTEUR PRIV., OTTAWA, ON

TITLE: SAMPLE LOCATIONS

SCALE: 1:200 DATE: NOVEMBER 3, 2020

DRAWN: J.T. CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A-5