

Asbestos Building Materials Assessment

Multi-Unit Residential Building
3 Miller Drive
Mallorytown ON



Prepared for:
United Counties of Leeds & Grenville
100-25 Central Avenue West
Brockville ON K6V 4N6

Prepared by:
Stantec Consulting Ltd.
400-1331 Clyde Avenue
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Project No.: 122150275

February 15, 2017

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Executive Summary

Stantec Consulting Ltd. (Stantec) was commissioned by the United Counties of Leeds & Grenville (Leeds Grenville) to conduct an Asbestos Building Materials Assessment of the multi-unit residential building (subject building), located at 3 Miller Drive in Mallorytown, Ontario.

The purpose of the assessment was to assist Leeds Grenville to meet the requirements of *Ontario Regulation 278/05 Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations*, as amended (O. Reg. 278/05), made under the *Occupational Health and Safety Act* (OHSA). The assessment includes the identification of building materials suspected to be asbestos-containing materials (ACMs) that may require special attention during the operation of the building.

The assessment is intended for the long-term management of asbestos-containing building materials to be included as part of an overall Asbestos Management Program (AMP) and not for construction or renovation purposes. The conclusions presented herein represent the findings for a limited number of residential units. Intrusive inspections and additional testing of suspect ACMs and presumed asbestos-containing materials (PACMs) may be required to complement the information provided in this report if any work activities are planned which may disturb ACMs and/or PACMs.

The work was carried out in accordance with the requirements of the OHSA. The site work was conducted by Will Madden-Macavelia on January 16, 2017.

Based on the visual assessment and laboratory analysis, ACMs were identified to be present in the form of:

- Stucco (friable);
- Interior glazing compound – white (non-friable);
- Exterior door caulking – white (non-friable);
- 12"x12" vinyl floor tiles – beige with grey specks (non-friable); and,
- 12"x12" vinyl floor tiles – olive with white streaks (non-friable).

Interior glazing compound – white was observed to be in poor condition (cracking and lifting at the west stairwell). The remaining materials were observed to be in good condition.

The following building materials were observed to be present but not sampled, and are listed as PACMs:

- Cement pipe;
- Ceramic tile grout and mortar/adhesive;
- Fire rated doors;
- Brick mortar;

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- Exterior window caulking – beige; and,
- Exterior door caulking – white.

These materials were observed to be in good condition. These materials were not sampled to preserve their integrity. As these materials are known to have been manufactured with asbestos, they should be presumed to be asbestos-containing unless proven otherwise by laboratory analysis.

Similar materials are likely to present in units not assessed and these should be treated as ACMs or PACMs.

The statements made in this Executive Summary text are subject to the same limitations included in this report, and are to be read in conjunction with the remainder of this report.

Recommendations pertaining to the handling, removal, disposal and management of identified asbestos-containing materials are provided within this report.

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1.0 INTRODUCTION

Stantec Consulting Ltd. (Stantec) was commissioned by the United Counties of Leeds & Grenville (Leeds Grenville) to conduct an Asbestos Building Materials Assessment of the multi-unit residential building (subject building), located at 3 Miller Drive in Mallorytown, Ontario.

The purpose of the assessment was to assist the Leeds Grenville to meet the requirements of *Ontario Regulation 278/05 Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations*, as amended (O. Reg. 278/05), made under the *Occupational Health and Safety Act* (OHSa). The assessment includes the identification of building materials suspected to be asbestos-containing materials (ACMs) that may require special attention during the operation of the building.

The assessment is intended for the long-term management of asbestos-containing building materials to be included as part of an overall Asbestos Management Program (AMP) and not for construction or renovation purposes. The conclusions presented herein represent the findings for a limited number of residential units. Intrusive inspections and additional testing of suspect ACMs and presumed asbestos-containing materials (PACMs) may be required to complement the information provided in this report if any work activities are planned which may disturb ACMs and/or PACMs.

The work was carried out in accordance with the requirements of the OHSa. The site work was conducted by Will Madden-Macavelia on January 16, 2017.

2.0 SCOPE

The scope of work for this assessment involved the following:

- A review of existing information, including site drawings, previous assessment and/or abatement documentation and discussions with site personnel, where available;
- A visual assessment of readily accessible areas for the presence of asbestos-containing building materials; The assessment generally included common areas, mechanical rooms, and a representative number of residential units;
- The collection of representative bulk samples from building materials suspected of containing asbestos fibres;
- Submission of samples collected for laboratory analysis; and,
- Evaluation and interpretation of field findings and laboratory analytical results to develop conclusions and recommendations pertaining to the management of ACMs and PACMs identified within the building.

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2.1 LIMITATIONS

This report reflects the observations made within accessed areas and the results of analyses performed on specific materials sampled during the assessment. Analytical results reflect the sampled materials at the specific sample locations.

Concealed spaces were assessed via existing access panels, where present. Interior and exterior finishes, solid ceilings, walls, flooring and structural elements were not removed to access concealed areas. An inaccessible area, where ACMs may be present includes, but is not limited to: ceiling spaces, wall cavities, crawlspaces, and buried materials.

Due to limitations on the agreed to scope of work for this project as well as physical limitations in accessing concealed areas and limitations associated with working in occupied/operational spaces, there are specific limitations to the information that can be provided for each suspect ACM or PACM considered in this assessment. The presence and asbestos content of some building materials could not be confirmed.

Building materials that may contain asbestos but were not accessible for sampling include, but are not limited to the following:

- Sub-grade materials (e.g., asbestos cement drainage pipe);
- Flooring material concealed beneath carpeting, ceramic tile, brickwork, hardwood flooring, and/or concealed beneath existing sub-floors;
- Insulation material present inside walls (e.g., suspected asbestos-containing vermiculite insulation inside concrete block and/or brick walls);
- Drywall and/or wall plaster and associated finish materials concealed behind new and/or additional walls;
- Woven tape inside duct connection joints;
- Mechanical (e.g., piping and ducting) insulation within wall cavities, crawlspaces tunnels or other concealed spaces;
- Insulation materials inside fire doors;
- Window and door glazing compounds;
- Heating, ventilation and air conditioning (HVAC) units mechanical inner linings and/or inner ducting insulation;
- Heat protection materials inside mechanical installations and light fixtures; and,
- Ceramic tile grout and mortar/adhesive concealed behind ceramic tiles.

2.1.1 Project-Specific Limitations

It should be noted that the roof and vinyl floor tiles (unit 107, west stairwell and 2nd floor laundry room) were reported by Leeds Grenville to have been removed and replaced within with last 3 years.

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The areas included in this assessment were limited to the following:

- Units 107 and 209;
- Common areas (storage rooms, common room, entrance vestibule, hallways, laundry room, lobby, and stairwells);
- Mechanical (electrical room); and,
- Exterior.

2.1.2 Information from Previous Reports

Stantec was not provided with previous reports for review.

3.0 REGULATORY FRAMEWORK

Asbestos is included in the *Ontario Regulation, 490/09 Designated Substances*, as amended (O. Reg. 490/09) made under Ontario's OHS Act, which primarily regulates worker exposure to asbestos during manufacturing of asbestos-containing products, but also includes requirements related to respiratory equipment, measurement of airborne fibres, and medical surveillance of exposed workers.

Ontario Regulation 278/05 clearly defines ACM as a material that contains 0.5 per cent or more asbestos by dry weight. Additionally, the regulation requires that the "record" (i.e., the Asbestos Building Materials Assessment) be updated at least once in each 12 month period or whenever the owner of the facility becomes aware of new information relating to the suspect and confirmed ACMs.

The general waste management regulation for the province of Ontario is *R.R.O. 1990, Regulation 347 General - Waste Management*, as amended (R.R.O. 1990, 347), under the *Environmental Protection Act* (EPA) of Ontario, sets out the requirements for the proper disposal of asbestos waste in Ontario. The waste must be placed in a double sealed container, properly labeled, free of cuts, tears or punctures and disposed of at a licensed waste station which has been properly notified of the presence of asbestos waste.

4.0 ASSESSMENT METHODOLOGY

Asbestos-containing materials are grouped into two classifications, friable and non-friable materials. Friable ACMs are those that can easily be crumbled or broken apart by mere hand pressure. When these materials break apart asbestos fibres are then released into the atmosphere. Non-friable ACMs or "manufactured products" are materials that by the nature of their manufacturing/construction do not readily allow the release of asbestos fibres. These materials should not be cut or shaped with power tools, since this procedure may allow for the

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release of the asbestos fibres. Some non-friable materials such as plaster, drywall and ceiling tiles are considered to be non-friable in an undisturbed state, but can release fibers when damaged or disturbed.

It is Stantec's understanding that the subject building was constructed before 1990. This construction time period is consistent with those dates when asbestos-containing building materials were commonly used.

A visual assessment of accessible areas was undertaken in order to check for the presence of materials suspected of containing asbestos. Locations to collect discrete bulk asbestos samples of suspect building materials were identified. Samples of representative materials were then collected at these locations. An assessment of the condition and accessibility was completed for each occurrence of an ACM. The Public Works and Government Services Canada (PWGSC) document entitled *Deputy Ministers Directive 057 – Asbestos Management* (Last Revised June 16, 1999) was used as the basis for the criteria that was applied in evaluating the presence of ACMs and PACMs within the subject building, where applicable.

Samples of suspect ACMs from various building materials were collected and submitted to Paracel Laboratories Ltd. (Paracel) located in Ottawa, Ontario for analysis using Polarized Light Microscopy (PLM) with dispersion staining. The analysis was conducted following the U.S. EPA/600/R-93/116 Method. Paracel is certified under the National Voluntary Laboratory Accreditation Program (NVLAP) to perform asbestos analysis of bulk samples. Asbestos-containing materials are defined as a material that contains 0.5 per cent or more asbestos by dry weight.

A positive stop option was used. Multiple samples of visually similar material were collected and submitted for laboratory analysis. Once one sample within the set is identified to contain asbestos, further analysis of the subsequent samples is deemed to be unnecessary and not conducted.

4.1 FACILITY DESCRIPTION

The multi-residential building located at 3 Miller Drive consists of a two (2) level building with 18 units. The reported construction date of the building is 1978. The typical structural components and finishes associated with this building consist of brick exterior walls, various types of flooring including cement, vinyl floor tile, ceramic tile, carpet and vinyl sheet flooring and interior concrete block and drywall walls with drywall and stucco ceilings.

4.2 DOCUMENT REVIEW

Stantec was not provided with previous reports for review.

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5.0 FINDINGS

A summary list of the bulk samples collected by Stantec, including a description of the material, sampling location, type of analysis and laboratory test results is provided in **Appendix A**. A copy of the PLM Laboratory Certificates of Analysis for bulk samples collected is provided in **Appendix B**.

A summary of occurrences of ACMs and/or PACMs is provided in **Appendix C**. Each ACM occurrence includes the following information:

- Room component that contains ACM;
- Location of the ACM within the room space;
- ACM description;
- Estimated quantity;
- Original sample number or representative sample number;
- Friability;
- Condition; and,
- Comments regarding recommended actions.

Selected site photographs are provided in **Appendix D**.

5.1 FRIABLE ASBESTOS-CONTAINING MATERIALS

Friable building materials were observed to be present and identified by laboratory analysis to be asbestos-containing in the form of:

- Stucco.

This material was observed to be in good condition.

5.2 NON-FRIABLE ASBESTOS-CONTAINING MATERIALS

Non-friable building materials were observed to be present and identified by laboratory analysis to be asbestos-containing in the form of:

- Interior glazing compound – white;
- Exterior door caulking – white;
- 12"x12" vinyl floor tiles – beige with grey specks; and,
- 12"x12" vinyl floor tiles – olive with white streaks.

Interior glazing compound – white was observed to be in poor condition (cracking and lifting at the west stairwell). The remaining materials were observed to be in good condition.

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Similar asbestos-containing materials are likely to present in units not assessed and should be treated as asbestos-containing materials. Materials not sampled should be presumed to be asbestos-containing.

5.3 PRESUMED ASBESTOS-CONTAINING MATERIALS

The following building materials were observed to be present but not sampled, and are listed as PACMs:

- Cement pipe;
- Ceramic tile grout and mortar/adhesive;
- Fire rated doors;
- Brick mortar;
- Exterior window caulking – beige; and,
- Exterior door caulking – white.

These materials were observed to be in good condition. These materials were not sampled to preserve their integrity. As these materials are known to have been manufactured with asbestos, they should be presumed to be asbestos-containing unless proven otherwise by laboratory analysis.

5.4 NON-ASBESTOS-CONTAINING MATERIALS

It should be noted that the roof and vinyl floor tiles (unit 107, west stairwell and 2nd floor laundry room) were reported by Leeds Grenville to have been removed and replaced within with last 3 years.

A summary list of the bulk samples collected during this assessment and confirmed to be non-ACMs by laboratory analysis is provided in **Appendix A**.

5.5 POTENTIAL FOR VERMICULITE INSULATION

Various walls of the subject building were comprised of masonry (concrete) blocks. Asbestos-contaminated vermiculite was historically used as insulating material in masonry block or brick walls. To assess for this potential ACM, destructive sampling is required, which was not conducted as part of this assessment. Although various holes, breaches and cracks were observed and no vermiculite was present, the presence of this potential ACM cannot be ruled out without destructive testing.

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6.0 RECOMMENDATIONS

Stantec recommends the following with regards to meeting the requirements of O. Reg. 278/05:

- Damaged asbestos-containing interior window glazing compound – white (recommended corrective action), should be removed;
- Asbestos-containing materials that may be impacted during renovation and/or demolition activities should be removed prior to the renovation and/or demolition activities;
- Prior to renovation and/or demolition activities that would disturb them, undertake testing of PACMs that may be impacted to determine their asbestos content. Confirmed asbestos materials should be handled accordingly;
- Should a material suspected to contain asbestos fibres become uncovered during renovation and/or demolition activities, all work in the areas that may disturb the material should be stopped. Samples of the suspect material should be submitted for laboratory analysis to determine if asbestos fibres are present. Confirmed asbestos materials should be handled accordingly;
- If masonry block walls are to be impacted by renovation and/or demolition work, and these walls have not been checked for the presence of vermiculite insulation, intrusive assessments for vermiculite should be undertaken prior to planned renovation and/or demolition work. If vermiculite insulation is suspected to be present, this material should be treated as an ACM until testing can show otherwise; and,
- This report should be added to the Asbestos Management Program and referred to as the current asbestos record.

7.0 CLOSURE

This report has been prepared for the sole benefit of United Counties of Leeds & Grenville. The report may not be used or relied upon by any other person or entity without the express written consent of Stantec Consulting Ltd. and United Counties of Leeds & Grenville.

Any uses that a third party makes of this report, or any reliance on decisions based on it, are the responsibility of such third parties. Stantec Consulting Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time the work was performed. Conclusions presented in this report should not be construed as legal advice.

The conclusions presented in this report represent the best technical judgment of Stantec Consulting Ltd. based on the data obtained from the work. The conclusions are based on the

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site conditions encountered by Stantec Consulting Ltd. at the time the work was performed at the specific assessment and/or sampling locations, and can only be extrapolated to an undefined limited area around these locations. The extent of the limited area depends on building construction and conditions, weather, building usage and other factors. Due to the nature of the investigation and the limited data available, Stantec Consulting Ltd. cannot warrant against undiscovered environmental liabilities.

If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we request that we be notified immediately to reassess the conclusions provided herein.

We trust that the above is satisfactory for your purposes at this time. Should you have any questions or concerns, or require additional information, please do not hesitate to contact the undersigned at your convenience.

This report was prepared by Victoria Pereira and reviewed by Linda Fleet and Rob Robinson.

Regards,

STANTEC CONSULTING LTD.



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Appendix A
Summary of Results for Analysis of
Bulk Samples for Asbestos Content
February 15, 2017

Appendix A Summary of Results for Analysis of Bulk Samples for Asbestos Content

Summary of Bulk Sample Analysis for Asbestos Type and Content

Sample Number	Sampling Location	Description of Sampled Material	Asbestos Type and Content	Analysis
3-BS-01A	First Floor - Unit 107 Storage Wall	Drywall Joint-Fill Compound	None Detected	PLM
3-BS-01B	Second Floor - Unit 209 Storage Wall	Drywall Joint-Fill Compound	None Detected	PLM
3-BS-01C	First Floor - Hallway Wall	Drywall Joint-Fill Compound	None Detected	PLM
3-BS-01D	First Floor - Electrical Room Wall	Drywall Joint-Fill Compound	None Detected	PLM
3-BS-01E	First Floor - West Stairwell Wall	Drywall Joint-Fill Compound	None Detected	PLM
3-BS-01F	Second Floor - Hallway Wall	Drywall Joint-Fill Compound	None Detected	PLM
3-BS-01G	Second Floor - Laundry Room Wall	Drywall Joint-Fill Compound	None Detected	PLM
3-BS-02A	First Floor - Unit 107 Hallway Ceiling	Stucco	None Detected	PLM
3-BS-02B	Second Floor - Unit 209 Storage Room Ceiling	Stucco	1% Chrysotile	PLM
3-BS-02C	Second Floor - Hallway Ceiling	Stucco	Positive Stop Not Analyzed	PLM
3-BS-02D	Second Floor - Hallway Ceiling	Stucco	Positive Stop Not Analyzed	PLM
3-BS-02E	First Floor - Lobby Ceiling	Stucco	Positive Stop Not Analyzed	PLM
3-BS-02F	First Floor - Entrance Vestibule Ceiling	Stucco	Positive Stop Not Analyzed	PLM
3-BS-02G	First Floor - Common Room Ceiling	Stucco	Positive Stop Not Analyzed	PLM
3-BS-03A	Second Floor - Unit 209 Storage	12"x12" Vinyl Floor Tile - Beige with Grey Specks	4.06% Chrysotile	PLM
3-BS-03B	First Floor - Common Room	12"x12" Vinyl Floor Tile - Beige with Grey Specks	Positive Stop Not Analyzed	PLM
3-BS-03C	First Floor - Chair Storage Room	12"x12" Vinyl Floor Tile - Beige with Grey Specks	Positive Stop Not Analyzed	PLM

Summary of Bulk Sample Analysis for Asbestos Type and Content

Sample Number	Sampling Location	Description of Sampled Material	Asbestos Type and Content	Analysis
3-BS-04A	First Floor - East Stairwell	12"x12" Vinyl Floor Tile - Olive with White Streaks	2.27% Chrysotile	PLM
3-BS-04B	First Floor - East Stairwell	12"x12" Vinyl Floor Tile - Olive with White Streaks	Positive Stop Not Analyzed	PLM
3-BS-04C	First Floor - East Stairwell	12"x12" Vinyl Floor Tile - Olive with White Streaks	Positive Stop Not Analyzed	PLM
3-BS-05A	First Floor - Washroom	12"x12" Vinyl Floor Tile - Peach with Light Flecks	None Detected	PLM
3-BS-05B	First Floor - Washroom	12"x12" Vinyl Floor Tile - Peach with Light Flecks	None Detected	PLM
3-BS-05C	First Floor - Washroom	12"x12" Vinyl Floor Tile - Peach with Light Flecks	None Detected	PLM
3-BS-06A	Exterior - West Stairwell Window	Exterior Window Glazing Compound - White	None Detected	PLM
3-BS-06B	Exterior - West Stairwell Window	Exterior Window Glazing Compound - White	None Detected	PLM
3-BS-06C	Exterior - West Stairwell Window	Exterior Window Glazing Compound - White	None Detected	PLM
3-BS-07A	Exterior - West Stairwell Door	Exterior Door Caulking - Brown	None Detected	PLM
3-BS-07B	Exterior - West Stairwell Door	Exterior Door Caulking - Brown	None Detected	PLM
3-BS-07C	Exterior - West Stairwell Door	Exterior Door Caulking - Brown	<0.5% Chrysotile	PLM
3-BS-08A	Exterior - West Stairwell Door	Exterior Door Caulking - White	1.22% Chrysotile	PLM
3-BS-08B	Exterior - West Stairwell Door	Exterior Door Caulking - White	Positive Stop Not Analyzed	PLM
3-BS-08C	Exterior - West Stairwell Door	Exterior Door Caulking - White	Positive Stop Not Analyzed	PLM
3-BS-09A	First Floor - West Stairwell Window	Interior Window Glazing Compound - White	0.86% Chrysotile	PLM
3-BS-09B	First Floor - West Stairwell Window	Interior Window Glazing Compound - White	Positive Stop Not Analyzed	PLM

Summary of Bulk Sample Analysis for Asbestos Type and Content

Sample Number	Sampling Location	Description of Sampled Material	Asbestos Type and Content	Analysis
3-BS-09C	First Floor - West Stairwell Window	Interior Window Glazing Compound - White	Positive Stop Not Analyzed	PLM

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Appendix B
Laboratory Analytical Reports – Asbestos: Polarized Light Microscopy
February 15, 2017

Appendix B
Laboratory Analytical Reports – Asbestos: Polarized Light Microscopy

Certificate of Analysis

Stantec Consulting Ltd. (Ottawa)

300-675 Cochrane Dr West Tower
Markham, ON L3R 0B8
Attn: Linda Fleet

Client PO: 3 Miller Drive Mallorytown
Project: 122150275
Custody:

Report Date: 24-Jan-2017
Order Date: 18-Jan-2017

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

Paracel ID	Client ID
1703256-01	3-BS-01A (DJC)
1703256-02	3-BS-01B (DJC)
1703256-03	3-BS-01C (DJC)
1703256-04	3-BS-01D (DJC)
1703256-05	3-BS-01E (DJC)
1703256-06	3-BS-01F (DJC)
1703256-07	3-BS-01G (DJC)
1703256-08	3-BS-02A (stucco ceiling)
1703256-09	3-BS-02B (stucco ceiling)
1703256-10	3-BS-02C (stucco ceiling)
1703256-11	3-BS-02D (stucco ceiling)
1703256-12	3-BS-02E (stucco ceiling)
1703256-13	3-BS-02F (stucco ceiling)
1703256-14	3-BS-02G (stucco ceiling)
1703256-15	3-BS-03A (VFT)
1703256-16	3-BS-03B (VFT)
1703256-17	3-BS-03C (VFT)
1703256-18	3-BS-04A (VFT)
1703256-19	3-BS-04B (VFT)
1703256-20	3-BS-04C (VFT)
1703256-21	3-BS-05A (VFT)
1703256-22	3-BS-05B (VFT)
1703256-23	3-BS-05C (VFT)
1703256-24	3-BS-06A (white caulking)
1703256-25	3-BS-06B (white caulking)
1703256-26	3-BS-06C (white caulking)

Approved By:



Emma Diaz
Senior Analyst

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.

Certificate of Analysis

Client: **Stantec Consulting Ltd. (Ottawa)**

Client PO: **3 Miller Drive Mallorytown**

Report Date: 24-Jan-2017

Order Date: 18-Jan-2017

Project Description: **122150275**

1703256-27	3-BS-07A (brown caulking)
1703256-28	3-BS-07B (brown caulking)
1703256-29	3-BS-07C (brown caulking)
1703256-30	3-BS-08A (white caulking)
1703256-31	3-BS-08B (white caulking)
1703256-32	3-BS-08C (white caulking)
1703256-33	3-BS-09A (white caulking)
1703256-34	3-BS-09B (white caulking)
1703256-35	3-BS-09C (white caulking)

Certificate of Analysis
 Client: **Stantec Consulting Ltd. (Ottawa)**
 Client PO: **3 Miller Drive Mallorytown**

Report Date: 24-Jan-2017
 Order Date: 18-Jan-2017
 Project Description: **122150275**

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

Parcel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1703256-01	16-Jan-17	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: 3-BS-01A (DJC) Non-Fibers	100
1703256-02	16-Jan-17	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: 3-BS-01B (DJC) Non-Fibers	100
1703256-03	16-Jan-17	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: 3-BS-01C (DJC) Non-Fibers	100
1703256-04	16-Jan-17	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: 3-BS-01D (DJC) Non-Fibers	100
1703256-05	16-Jan-17	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: 3-BS-01E (DJC) Non-Fibers	100
1703256-06	16-Jan-17	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: 3-BS-01F (DJC) Non-Fibers	100
1703256-07	16-Jan-17	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: 3-BS-01G (DJC) Non-Fibers	100
1703256-08	16-Jan-17	sample homogenized	Grey	Stucco	No	Client ID: 3-BS-02A (stucco ceiling) Non-Fibers	100
1703256-09	16-Jan-17	sample homogenized	Grey	Stucco	Yes	Client ID: 3-BS-02B (stucco ceiling) Chrysotile Non-Fibers	1 99
1703256-10	16-Jan-17					Client ID: 3-BS-02C (stucco ceiling) not analyzed	
1703256-11	16-Jan-17					Client ID: 3-BS-02D (stucco ceiling) not analyzed	
1703256-12	16-Jan-17					Client ID: 3-BS-02E (stucco ceiling) not analyzed	
1703256-13	16-Jan-17					Client ID: 3-BS-02F (stucco ceiling) not analyzed	
1703256-14	16-Jan-17					Client ID: 3-BS-02G (stucco ceiling) not analyzed	
1703256-15	16-Jan-17	sample homogenized	Grey	Floor Tile	Yes	Client ID: 3-BS-03A (VFT) [AS-PRE] Chrysotile Non-Fibers	4.06 95.94
1703256-16	16-Jan-17					Client ID: 3-BS-03B (VFT) not analyzed	

Certificate of Analysis

Report Date: 24-Jan-2017

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 18-Jan-2017

Client PO: 3 Miller Drive Mallorytown

Project Description: 122150275

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

Parcel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1703256-17	16-Jan-17					Client ID: 3-BS-03C (VFT) not analyzed	
1703256-18	16-Jan-17	sample homogenized	Grey	Floor Tile	Yes	Client ID: 3-BS-04A (VFT) [AS-PRE] Chrysotile Non-Fibers	2.27 97.73
1703256-19	16-Jan-17					Client ID: 3-BS-04B (VFT) not analyzed	
1703256-20	16-Jan-17					Client ID: 3-BS-04C (VFT) not analyzed	
1703256-21	16-Jan-17	sample homogenized	Beige	Floor Tile	No	Client ID: 3-BS-05A (VFT) [AS-PRE] Non-Fibers	100
1703256-22	16-Jan-17	sample homogenized	Beige	Floor Tile	No	Client ID: 3-BS-05B (VFT) [AS-PRE] Non-Fibers	100
1703256-23	16-Jan-17	sample homogenized	Beige	Floor Tile	No	Client ID: 3-BS-05C (VFT) [AS-PRE] Non-Fibers	100
1703256-24	16-Jan-17	sample homogenized	Grey	Caulking	No	Client ID: 3-BS-06A (white caulking) [AS-PRE] Non-Fibers Other fibers	96.27 3.73
1703256-25	16-Jan-17	sample homogenized	Grey	Caulking	No	Client ID: 3-BS-06B (white caulking) [AS-PRE] Non-Fibers Other fibers	95.66 4.34
1703256-26	16-Jan-17	sample homogenized	Grey	Caulking	No	Client ID: 3-BS-06C (white caulking) [AS-PRE] Non-Fibers Other fibers	95.78 4.22
1703256-27	16-Jan-17	sample homogenized	Brown	Caulking	No	Client ID: 3-BS-07A (brown caulking) [AS-PRE] MMVF Non-Fibers	1.84 98.16
1703256-28	16-Jan-17	sample homogenized	Brown	Caulking	No	Client ID: 3-BS-07B (brown caulking) [AS-PRE] MMVF Non-Fibers	2.42 97.58
1703256-29	16-Jan-17	sample homogenized	Brown	Caulking	Yes	Client ID: 3-BS-07C (brown caulking) [AS-PRE] [ASTrc] Chrysotile MMVF Non-Fibers	<MDL 1.94 98.06

Certificate of Analysis

Report Date: 24-Jan-2017

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 18-Jan-2017

Client PO: 3 Miller Drive Mallorytown

Project Description: 122150275

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

Parcel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1703256-30	16-Jan-17	sample homogenized	White	Caulking	Yes	Client ID: 3-BS-08A (white caulking) [AS-PRE] Chrysotile	1.22
						Non-Fibers	95.74
						Other fibers	3.04
1703256-31	16-Jan-17					Client ID: 3-BS-08B (white caulking) not analyzed	
1703256-32	16-Jan-17					Client ID: 3-BS-08C (white caulking) not analyzed	
1703256-33	16-Jan-17	sample homogenized	Grey	Caulking	Yes	Client ID: 3-BS-09A (white caulking) [AS-PRE] Chrysotile	0.86
						Non-Fibers	94.86
						Other fibers	4.28
1703256-34	16-Jan-17					Client ID: 3-BS-09B (white caulking) not analyzed	
1703256-35	16-Jan-17					Client ID: 3-BS-09C (white caulking) not analyzed	

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

** Analytes in bold indicate asbestos mineral content.

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code *	Analysis Date
Asbestos, PLM Visual Estimation	by EPA 600/R-93/116	2 - Ottawa West Lab	200812-0	19-Jan-17

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

Qualifier Notes

Sample Qualifiers :

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

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

Work Order Revisions / Comments

None

ASBESTOS BUILDING MATERIALS ASSESSMENT

Appendix C
Summary of Occurrences of Asbestos-Containing Materials
February 15, 2017

Appendix C Summary of Occurrences of Asbestos-Containing Materials

Summary of Occurrences of Asbestos-Containing Materials

Level	Room	Specific Location	ACM Location	ACM Type	Estimated Quantity	Sample Number	Original Sample?	Asbestos Content	Friable? Visible?	Access.	ACM Condition	Comments/ Notes
1	Chair Storage	Floor	Floor	12"x12" Vinyl Floor Tile - Beige with Grey Specks	2 sq.m	Ref: 3-BS-03A	No	4.06% Chrysotile	No Yes	A	good	ACM
1	Chair Storage	Floor	Under Floor Tile	Mastic Associated with 12"x12" Vinyl Floor Tile - Beige with Grey Specks	2 sq.m	NS	No	PACM	No No	D	unknown (PACM)	PACM
1	Common Room	Ceiling	Ceiling	Stucco	40 sq.m	Ref: 3-BS-02B	No	1% Chrysotile	Yes Yes	C	good	ACM
1	Common Room	Floor	Floor	12"x12" Vinyl Floor Tile - Beige with Grey Specks	5 sq.m	Ref: 3-BS-03A	No	4.06% Chrysotile	No Yes	A	good	ACM
1	Common Room	Floor	Under Floor Tile	Mastic Associated with 12"x12" Vinyl Floor Tile - Beige with Grey Specks	5 sq.m	NS	No	PACM	No No	D	unknown (PACM)	PACM
1	Entrance Vestibule	Floor	Floor	Ceramic Tile Grout and Mortar / Adhesive	4 sq.m	NS	No	PACM	No Yes	A	good (PACM)	PACM
1	Entrance Vestibule	Ceiling	Ceiling	Stucco	4 sq.m	Ref: 3-BS-02B	No	1% Chrysotile	Yes Yes	C	good	ACM
1	Hallway	Floor	Floor	Ceramic Tile Grout and Mortar / Adhesive	5 sq.m	NS	No	PACM	No Yes	A	good (PACM)	PACM
1	Janitor's Storage	Floor	Floor	12"x12" Vinyl Floor Tile - Beige with Grey Specks	2 sq.m	Ref: 3-BS-03A	No	4.06% Chrysotile	No Yes	A	good	ACM
1	Janitor's Storage	Floor	Under Floor Tile	Mastic Associated with 12"x12" Vinyl Floor Tile - Beige with Grey Specks	2 sq.m	NS	No	PACM	No No	D	unknown (PACM)	PACM
1	Laundry Room	Floor	Floor	Ceramic Tile Grout and Mortar / Adhesive	15 sq.m	NS	No	PACM	No Yes	A	good (PACM)	PACM

Accessibility Classification

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- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

- Notes:
- ACM - asbestos-containing material
 - PACM - presumed asbestos-containing material
 - Access. - accessibility
 - nq - not quantified
 - na - not applicable
 - ns - not sampled
 - ref - reference sample
 - F - friable
 - NF - non friable
 - RCA - recommend corrective action
 - BS - bulk sample

* Based on a non-intrusive inspection of visible surfaces within the room space.

Summary of Occurrences of Asbestos-Containing Materials

Level	Room	Specific Location	ACM Location	ACM Type	Estimated Quantity	Sample Number	Original Sample?	Asbestos Content	Friable?	Visible?	Access.	ACM Condition	Comments/ Notes
1	Lobby	Floor	Floor	Ceramic Tile Grout and Mortar / Adhesive	20 sq.m	NS	No	PACM	No	Yes	A	good (PACM)	PACM
1	Lobby	Ceiling	Ceiling	Stucco	20 sq.m	Ref: 3-BS-02B	No	1% Chrysotile	Yes	Yes	C	good	ACM
1	Unit 107	Ceiling	Ceiling	Stucco	42 sq.m	Ref: 3-BS-02B	No	1% Chrysotile	Yes	Yes	C	good	ACM
1	Unit 107	Washroom	Walls	Ceramic Tile Grout and Mortar / Adhesive	2 sq.m	NS	No	PACM	No	Yes	A	good (PACM)	PACM
1/2	Throughout	Floor	Under Floor Tile	Mastic Associated with Vinyl Floor Tiles	NQ	NS	No	PACM	No	No	D	unknown (PACM)	PACM
1-2	East Stairwell	Floor	Under Floor Tile	Mastic Associated with 12"x12" Vinyl Floor Tile - Olive with White Streaks	NS	PACM	No	PACM	No	No	D	unknown (PACM)	PACM
1-2	East Stairwell	Floor	Floor	12"x12" Vinyl Floor Tile - Olive with White Streaks	25 sq.m	3-BS-04A	Yes	2.27% Chrysotile	No	Yes	A	good	ACM
1-2	Stairs and Hallways	Doors	Doors	Fire Rated Doors	NQ	NS	No	PACM	No	Yes	A	good (PACM)	PACM
1-2	Stairwell	Windows	Windows	Interior Glazing Compound - White	12 m	3-BS-09A	Yes	0.86% Chrysotile	No	Yes	A	poor	OBSERVED CRACKING AND LIFTING AT THE WEST STAIRWELL WINDOW
2	Hallway	Ceiling	Ceiling	Stucco	50 sq.m	Ref: 3-BS-02B	No	1% Chrysotile	Yes	Yes	C	good	ACM
2	Storage	Stored on Shelf	Stored on Shelf	12"x12" Vinyl Floor Tile - Beige with Grey Specks	5 sq.m	Ref: 3-BS-03A	No	4.06% Chrysotile	No	Yes	A	good	ACM

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Summary of Occurrences of Asbestos-Containing Materials

Level	Room	Specific Location	ACM Location	ACM Type	Estimated Quantity	Sample Number	Original Sample?	Asbestos Content	Friable?	Visible?	Access.	ACM Condition	Comments/ Notes
2	Storage	Floor	Floor	12"x12" Vinyl Floor Tile - Beige with Grey Specks	2 sq.m	Ref: 3-BS-03A	No	4.06% Chrysotile	No	Yes	A	good	ACM
2	Storage	Floor	Under Floor Tile	Mastic Associated with 12"x12" Vinyl Floor Tile - Beige with Grey Specks	2 sq.m	NS	No	PACM	No	No	D	unknown (PACM)	PACM
2	Unit 209	Washroom	Walls	Ceramic Tile Grout and Mortar / Adhesive	2 sq.m	NS	No	PACM	No	Yes	A	good (PACM)	PACM
2	Unit 209	Floor	Floor	12"x12" Vinyl Floor Tile - Beige with Grey Specks	48 sq.m	3-BS-03A	Yes	4.06% Chrysotile	No	Yes	A	good	ACM
2	Unit 209	Floor	Under Floor Tile	Mastic Associated with 12"x12" Vinyl Floor Tile - Beige with Grey Specks	48 sq.m	NS	No	PACM	No	No	D	unknown (PACM)	PACM
2	Unit 209	Ceiling	Ceiling	Stucco	42 sq.m	3-BS-02B	Yes	1% Chrysotile	Yes	Yes	C	good	ACM
Basement	Crawlspace	Mechanical	Below Ceiling	Cement Pipe	50 m	NS	No	PACM	No	Yes	B	good (PACM)	PACM
Exterior	Exterior	Doors	Doors	Exterior Caulking - White	32 m	3-BS-08A	Yes	1.22% Chrysotile	No	No	A	good	FOUND BENEATH BROWN CAULKING AT WEST STAIRWELL
Exterior	Exterior	Garage	Doors	Exterior Caulking - White	12 m	Ref: 3-BS-08A	No	1.22% Chrysotile	No	No	A	good	FOUND BENEATH BROWN CAULKING
Exterior	Exterior	Walls	Walls	Brick Mortar	NQ	NS	No	PACM	No	Yes	A	good (PACM)	PACM

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Exterior	Units and Main Entrance	Walls	Door	Exterior Caulking - White	NQ	NS	No	PACM	No	Yes	A	good (PACM)	PACM
Exterior	Units and Main Entrance	Walls	Window	Exterior Caulking - Beige	NQ	NS	No	PACM	No	Yes	A	good (PACM)	PACM

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ASBESTOS BUILDING MATERIALS ASSESSMENT

Appendix D
Selected Site Photographs
February 15, 2017

Appendix D
Selected Site Photographs

ASBESTOS BUILDING MATERIALS ASSESSMENT

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Selected Site Photographs
February 15, 2017



Photo 1: Asbestos-containing interior glazing compound – white was observed to be in poor condition at the west stairwell.



Photo 2: Asbestos-containing 12"x12" vinyl floor tile – beige with grey specks was observed in unit 209 hallway.



Photo 3: Asbestos-containing stucco on ceiling was observed in unit 107.



Photo 4: Asbestos-containing exterior door caulking – white was observed beneath brown caulking at the exterior west stairwell.

ASBESTOS BUILDING MATERIALS ASSESSMENT

Appendix D
Selected Site Photographs
February 15, 2017



Photo 5: Asbestos-containing 12" x12" vinyl floor tile – olive with white streaks was observed in the east stairwell.



Photo 6: Presumed asbestos-containing ceramic tile grout and mortar / adhesive was observed in the 1st floor laundry room.



Photo 7: Presumed asbestos-containing cement pipe was observed in the crawlspace.



Photo 8: Presumed asbestos-containing brick mortar observed on exterior walls