

# DETAILED ASBESTOS-CONTAINING BUILDING MATERIALS SURVEY REPORT



## DURHAM DISTRICT SCHOOL BOARD EA LOVELL CONTINUING EDUCATION CENTRE 120 CENTRE STREET SOUTH OSHAWA, ONTARIO

**Presented to:**

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**November, 2017**

**Maple Project No. 16312-118**

### Executive Summary

Maple Environmental Inc. was retained by the Durham District School Board (“DDSB”) to perform a Detailed Asbestos Survey of EA Lovell Continuing Education Centre located at 120 Centre Street South, Oshawa, Ontario. The findings of the current Survey are summarized below. Please refer to the main body of this Report for details regarding all asbestos-containing materials.

#### **FINDINGS**

A summary of the asbestos-containing materials identified within the building at the time of the Current Assessment are provided in Table A.

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

<b>ASBESTOS BUILDING MATERIALS SUMMARY</b>								
<b>MATERIAL</b>		<b>ASBESTOS</b>			<b>FRIABILITY</b>			<b>Remedial Work Required</b>
		<b>Yes</b>	<b>No</b>	<b>Suspect</b>	<b>Friable</b>	<b>Potentially</b>	<b>Non-Friable</b>	
Sprayed Fireproofing			<b>X</b>		<b>X</b>			<b>NO</b>
Textured Coat Finish			<b>X</b>		<b>X</b>			<b>NO</b>
Mechanical Insulations	Pipe Fittings	<b>X</b>			<b>X</b>			<b>NO</b>
	Pipe Straight			<b>X</b>	<b>X</b>			<b>NO</b>
	Ductwork		<b>X</b>		<b>X</b>			<b>NO</b>
	Mechanical Equip.		<b>X</b>		<b>X</b>			<b>NO</b>
Ceiling Tiles			<b>X</b>			<b>X</b>		<b>NO</b>
Vinyl Sheet Flooring			<b>X</b>			<b>X</b>		<b>NO</b>
Textured Plaster Finishes		<b>X</b>		<b>X</b>		<b>X</b>		<b>YES</b>
Smooth Plaster Finishes		<b>X</b>		<b>X</b>		<b>X</b>		<b>YES</b>
Vinyl Floor Tiles		<b>X</b>					<b>X</b>	<b>YES</b>
Asbestos Cement (Transite)				<b>X</b>			<b>X</b>	<b>NO</b>
Drywall Joint Compound				<b>X</b>		<b>X</b>		<b>NO</b>
Vermiculite			<b>X</b>		<b>X</b>			<b>NO</b>
Other (mastic, gaskets, door insulation, etc.)		<b>X</b>		<b>X</b>			<b>X</b>	<b>YES</b>

These materials were generally observed to be in GOOD condition except for the damaged materials identified in Table B.

**Table B - Summary of Damaged Asbestos-Containing Materials**

Material	Condition	
	FAIR	POOR
Suspect exposed woven gaskets on the redundant boiler within eBase #B01 (Boiler Room).	-	2 Units
12"x12" beige with brown and white streak vinyl floor tile within eBase #140 (Corridor) sporadically placed.	-	10 SF
Damaged textured plaster wall within eBase #221 (Classroom).	~5SF	
Damaged smooth plaster wall within eBase #338 (Classroom, within Closet).	~1SF	
Smooth plaster debris/remnants above ceiling within the following eBase locations: <ul style="list-style-type: none"> <li>• 112A (Classroom)</li> <li>• 112B (Classroom)</li> <li>• 114 (Preschool)</li> <li>• 128 (Woman's Washroom)</li> <li>• 225 and 225A-G (Offices)</li> <li>• 227 (Guidance)</li> <li>• 227A and 227B (Offices)</li> <li>• 233 and 233A-C (Office)</li> <li>• 237 (Men's Washroom)</li> <li>• 334 and 334B-D (Adult Literacy, Storage and Offices)</li> <li>• 338 (Classroom)</li> </ul> <p>It appears that within the above locations, the smooth plaster 2<sup>nd</sup> ceiling has been removed; however, debris is still present.</p>		~10SF

**Recommendations**

Using Type 2 Asbestos procedures remove two (2) damaged suspect asbestos-containing woven gaskets within eBase #B01 in POOR condition. It is recommended that the material be sampled prior to disturbance.

Using Type 1 Asbestos procedures remove and replace one (10) square feet of damaged asbestos-containing vinyl floor tiles within eBase #140 in POOR condition.

Using Type 2 Asbestos procedures repair five (5) square feet of damaged textured plaster present within eBase #221 and one (1) square foot of damaged textured plaster present within eBase #338 in FAIR condition. It is recommended that the material is sampled prior to disturbance.

Using Type 2 clean-up procedures, remove the suspect asbestos-containing smooth plaster debris present within the eBase locations listed in Table 2. Upon entry into the ceiling space, Type 2 entry procedures apply.

Bulk samples of drywall joint compound, smooth plaster and textured plaster were not collected as part of the current survey. The materials are suspected to be asbestos-containing until representative sampling proves non-ACM.

**Detailed Asbestos-Containing Building Materials Survey**  
**DDSB – EA Lovell, 120 Centre St S, Oshawa, Ontario**  
**Maple Project No. 16312-118**

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All remaining asbestos-containing materials identified within the building were observed to be in GOOD condition and therefore no additional immediate recommendations are warranted.

Due to the presence of ACM within the building, DDSB must maintain their existing Asbestos Management Program for this property. A re-assessment of known ACM is to be conducted at least once annually in accordance with O. Reg. 278/05.

Appropriate procedures for all identified ACM in the building must be observed if these materials are likely to be disturbed by scheduled renovations. Please refer to Section 5.0 of the Report to review the required disturbance procedures for these materials.

## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
<b>2.0</b>	<b>ONTARIO ASBESTOS REGULATIONS.....</b>	<b>1</b>
2.1	ONTARIO REGULATION 278/05 .....	1
2.2	ONTARIO REGULATION 558.....	2
<b>3.0</b>	<b>INVENTORY SCOPE AND METHODOLOGY .....</b>	<b>2</b>
3.1	ASBESTOS SAMPLING STRATEGY AND ANALYTICAL METHODS .....	3
3.3	DRAWINGS.....	5
3.4	LIMITATIONS AND OMISSIONS FROM SCOPE .....	5
<b>4.0</b>	<b>INVENTORY FINDINGS.....</b>	<b>5</b>
4.1.1	SPRAYED FIREPROOFING (FRIABLE).....	9
4.1.2	MECHANICAL INSULATIONS (FRIABLE AND NON-FRIABLE) .....	9
4.1.3	TEXTURE COAT FINISH (FRIABLE).....	10
4.1.4	PLASTER (POTENTIALLY FRIABLE) .....	10
4.1.5	ACOUSTIC CEILING TILES (POTENTIALLY FRIABLE).....	11
4.1.6	DRYWALL JOINT COMPOUND (POTENTIALLY FRIABLE) .....	12
4.1.7	VINYL SHEET FLOORING (POTENTIALLY FRIABLE) .....	12
4.1.8	VINYL FLOOR TILE (NON-FRIABLE) .....	13
4.1.9	ASBESTOS CEMENT PRODUCTS "TRANSITE" (NON-FRIABLE) .....	15
4.1.10	VERMICULITE (FRIABLE) .....	15
4.1.11	OTHER .....	16
<b>5.0</b>	<b>RECOMMENDATIONS.....</b>	<b>16</b>
5.1	SPECIFIC RECOMMENDATIONS .....	16
5.2	GENERAL RECOMMENDATIONS .....	17
<b>6.0</b>	<b>LIMITATIONS AND EXCEPTIONS.....</b>	<b>18</b>

### **APPENDICES**

<b>APPENDIX I</b>	CURRENT LABORATORY ANALYSIS REPORT
<b>APPENDIX I-A</b>	PREVIOUS LABORATORY ANALYSIS REPORT
<b>APPENDIX II</b>	ROOM-BY-ROOM ASBESTOS INVENTORY
<b>APPENDIX III</b>	DRAWINGS

## **1.0 INTRODUCTION**

Maple Environmental Inc. ("Maple") was retained by the Durham District School Board ("DDSB") to conduct a detailed Asbestos Survey of EA Lovell Continuing Education Centre located at 120 Centre Street South, Oshawa, Ontario (the "Site"), and to provide recommendations to fulfill requirements set forth within Ontario Regulation 278/05.

The findings of the Asbestos Survey are contained in the following Report. The fieldwork was completed by Maple representative Ms. Samantha Russo and on October 2<sup>nd</sup>, 2017.

The Site consists of an educational facility that was originally constructed in 1923, with an addition being added in 1974. The floor space of the school is approximately 49,611 square feet over three levels and a basement.

## **2.0 ONTARIO ASBESTOS REGULATIONS**

Three regulations govern the control, handling, transport and disposal of asbestos in Ontario: Ontario Regulation 278/05, *The Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations* under the Occupational Health and Safety Act; Ontario Regulation 558 under the Environmental Protection Act; and the *Regulation Respecting the Handling and Offering for Transport and Transporting of Dangerous Goods*. Two of these regulations are briefly outlined below.

### **2.1 Ontario Regulation 278/05**

Ontario Regulation 278/05 ("O.Reg. 278/05") applies to buildings with regards to maintenance, renovations or demolition work where ACM is present and may be disturbed. The regulation requires all buildings where asbestos has been used as part of the building to implement an Asbestos Management Program (AMP).

The major requirements of the AMP include:

- Preparation and maintenance of an on-site record of where asbestos material is located;
- Written notification provided to tenants or lessees occupying space where asbestos is present;
- Advise workers of the owner, other staff and outside contractors of the presence and location of ACM;
- Institute and maintain a program for the training and instruction of every worker employed in the building that is likely to work in close proximity to and may disturb asbestos. Such training must include;

- o health effects of exposure,
- o the use, care and disposal of personal protective equipment and personal hygiene, and
- o work practices prescribed by the Regulation.
- Update the asbestos report minimum of every 12 months.
- Preparation of written asbestos work practices;
- Repair or removal of all damaged asbestos where it may be disturbed; and
- Other record keeping.

O.Reg. 278/05 requires that a detailed asbestos-containing building materials inventory must be performed in all buildings where asbestos materials are likely to be present. The inventory must be available at the work place and must identify the type of asbestos, and location of asbestos on a room-by-room basis. The following report meets or exceeds the requirements for an asbestos survey under O.Reg. 278/05.

## **2.2 Ontario Regulation 558**

Ontario Regulation 558 ("O.Reg. 558") applies to the transport of asbestos waste from the location of generation to a landfill site authorized to receive asbestos waste. The method also prescribes procedures for the handling of asbestos waste at the landfill site.

The major requirements of the building owner and the person(s) removing the waste are to ensure that:

- The waste is appropriately packaged and labelled;
- The transport vehicle is appropriately placard; and
- The asbestos waste is to be transported as directly as possible to the landfill site once it leaves the Site.

It is important to note that the building owner can be held responsible for the asbestos waste until the waste disposal site accepts it.

## **3.0 INVENTORY SCOPE AND METHODOLOGY**

The survey was performed on a non-intrusive, room-by-room basis. In order to determine the location of ACM in the building, the project technologist entered each room, service area, etc. where practical (i.e. where access was possible without the demolition of walls, roofs, ceilings, or flooring). Representative views were made above accessible suspended ceiling systems. Drywall or plaster ceilings were accessed via existing ceiling access panels only.

The scope of the survey included all friable and major non-friable material suspected to contain asbestos. The term friable is applied to a material that can be readily reduced to dust or powder by hand or moderate pressure. Asbestos materials that are friable have a much greater potential to release airborne asbestos fibres when disturbed. Typical friable asbestos materials include; sprayed fireproofing, texture coat finishes, and mechanical insulations. Typical non-friable materials include: asbestos cement (transite) products, vinyl floor tiles, and drywall joint compound. Additional materials such as acoustic ceiling tiles and vinyl sheet flooring are classified as non-friable, but because of their ability to release dust when disturbed are considered as “potentially friable” for the purpose of this Report.

### **3.1 Asbestos Sampling Strategy and Analytical Methods**

Where possible, Maple utilized the observations and representative bulk sampling results from previous Survey Reports that were made available at the time of the survey. Maple utilized sampling data from the following sources:

- March 3, 2014 – Maple Environmental Inc. – Bulk Sample Analysis Report (Project No. 14210).
- May, 2009 – Building Survey Consultants – Summary Bulk Sample Results (Project No: C0904685).
- February 18, 2009 – Building Survey Consultants – Summary Bulk Sample Results (Project No: A0901503).
- September 22, 2008 – Building Survey Consultants – Summary Bulk Sample Results (Project No: C0809261).
- August 3, 2007 – Baran Analytical Services – Analysis of Bulk Samples.
- July 5, 1999 – TS Polarized Microscopy Results (Project No: A911).
- June 29, 1990 – T. Harris Partnership Inc. – Bulk Sample Analysis Report.

Maple reviewed the sampling protocol of the previous reports to ensure the samples were collected with sufficient frequency to obtain a general pattern of asbestos use within the building and in accordance with O. Reg. 278/05 sampling requirements.

Due to building renovations or modifications that may have occurred in the past, the consistency of the application of asbestos in plaster and drywall may not be uniform throughout the entire Site. It is important to note that without sampling every wall, ceiling, etc. it is not possible to identify the possible asbestos content in every material present in the building. For this reason, all plaster and drywall joint compound will be considered as suspect materials until sampling proves otherwise.



The recommendations and suggestions made as part of this Report with respect to asbestos have taken into account several considerations described below. The evaluation takes into consideration the condition and accessibility of the asbestos material as well as other factors such as water damage, vibration, air movement, and general activities in the area.

Where ACM was found to be in GOOD condition with no visible damage and was not likely to deteriorate or fall during regular activities taking place in the location, the general recommendation would be to re-evaluate the condition of the material on an annual basis as required by O. Reg. 278/05. This recommendation can be subject to change if the material is located in a manner that persons untrained in asbestos awareness or the general public could physically damage it and release asbestos fibres.

Where the ACM is found to be damaged (i.e. FAIR or POOR condition), a recommendation to have the material cleaned-up, repaired, removed, enclosed, or encapsulated is offered. The recommendation will also indicate which asbestos procedure should be used to perform the remedial work (i.e. Type 1, Type 2, Type 3, or Glove Bag Removal Methods).

In each area or room inventoried, the project technologist recorded the following information about the ACM identified:

- Quantity;
- Condition (GOOD, FAIR, or POOR); and
- Accessibility (A, B, C, D or E) of each suspect material.

The definitions for condition and accessibility items are as follows:

<b>GOOD</b>	Material is intact with no visible signs of damage.
<b>FAIR</b>	Material is visibly damaged but can be repaired.
<b>POOR</b>	Material is damaged beyond repair and likely needs to be removed.
<b>Access A</b>	Accessible to all occupants of the building.
<b>Access B</b>	Accessible to Maintenance personnel without the use of a ladder (i.e. Mechanical Room, pipe chase etc.).
<b>Access C</b>	Accessible to Maintenance personnel with the use of a ladder and is exposed to view without removing building components.
<b>Access D</b>	Accessible to Maintenance personnel with the use of a ladder and is concealed from viewing due to a building component (i.e. above a removable ceiling).

**Access E** Not accessible without demolition of a building component (i.e. above a fixed ceiling system).

### **3.3 Drawings**

Drawings included in Appendix III reference Location Numbers referred to on the Room-by-Room Asbestos Inventory (included in Appendix II). Drawings are not to scale and are to represent general areas only. Drawings indicate the general location of ACM identified as part of the assessment. However, it is important to note that it is not practicable to indicate the precise location of all ACMs.

### **3.4 Limitations and Omissions from Scope**

As the Detailed Asbestos Survey was conducted on a non-intrusive basis, it did not include the demolition of building systems or finishes in order to observe concealed locations.

Further, during a standard ACM inventory performed for the purposes of regulatory compliance, it is industry practice to exclude some types of suspected ACMs from sampling. These materials are often excluded from sampling due to the risk of compromising the health and safety of the project technologist, other building occupants, or the integrity of the systems with which these materials are associated. Examples of such materials include; "Transite" asbestos cement piping, flex-duct connection joints, elevator brakes, roofing felts and mastics, high voltage wiring, mechanical packing and gaskets, underground services or piping, fire-doors, and levelling compounds. Where observed, these materials were presumed to be ACM. Further, no identification was made of asbestos products directly involved in manufacturing processes, operations, or equipment.

It should be noted that there was no access into eBase location #114A and #124 at the time of the assessment.

## **4.0 INVENTORY FINDINGS**

### **4.1 General**

The following is a brief discussion of the extent to which ACM was identified in the building at the time of the current Survey. The discussion is organized under the headings of materials that are generally suspected of containing asbestos.

Thirty-nine (39) bulk samples were collected for the determination of asbestos content and submitted to the lab for analysis. Due to the presence of more than one phase of material in some of the original samples the laboratory may have performed multiple analysis for some samples. Additionally, some of the samples may not have been analysed due to the positive confirmation of

asbestos in a previous sample of the same material during analysis. As a result, a total of fifty-five (55) samples were analysed.

Please refer to the Room-by-Room Asbestos Inventory presented in Appendix II for more detailed information as to the location, estimated quantity and condition of the ACM product at the time of the Survey.

**Table 1**  
**Summary of Analysis of Bulk Samples**  
**EA Lovell ACEC**

<b>Sample No.</b>	<b>Sample Location</b>	<b>Sample Description</b>	<b>Result</b>
S01-A	eBase 341	12"x12" Blue Fleck Vinyl Floor Tile	ND
		Black Mastic	ND
<b>S01-B</b>	<b>eBase 341</b>	12"x12" Blue Fleck Vinyl Floor Tile	ND
		<b>Black Mastic</b>	<b>1% CH</b>
S01-C	eBase 341	12"x12" Blue Fleck Vinyl Floor Tile	ND
		Black Mastic	ND
S02-A	eBase 112A	12"x12" White with Grey Fleck Vinyl Floor Tile	ND
S02-B	eBase 332	12"x12" White with Grey Fleck Vinyl Floor Tile	ND
		Black Mastic	ND
S02-C	eBase 352	12"x12" White with Grey Fleck Vinyl Floor Tile	ND
		Black Mastic	ND
S03-A	eBase 335	12"x12" Light Brown, Dark Brown & White Chunk Vinyl Floor Tile	ND
			ND
S03-B	eBase 351	12"x12" Light Brown, Dark Brown & White Chunk Vinyl Floor Tile	ND
			ND
S03-C	eBase 351	12"x12" Light Brown, Dark Brown & White Chunk Vinyl Floor Tile	ND
			ND
<b>S04-A</b>	<b>eBase 140</b>	<b>12"x12" Beige with Brown &amp; White Streak Vinyl Floor Tile</b>	<b>1% CH</b>
		Black Mastic	ND
S04-B	eBase 351	12"x12" Beige with Brown & White Streak Vinyl Floor Tile	NA
		Black Mastic	ND

<b>Table 1            Summary of Analysis of Bulk Samples            EA Lovell ACEC</b>			
Sample No.	Sample Location	Sample Description	Result
S04-C	eBase 351	12"x12" Beige with Brown & White Streak Vinyl Floor Tile	NA
		Black Mastic	ND
<b>S05-A</b>	<b>eBase 351</b>	<b>12"x12" White-Yellow with Orange &amp; White Streak Vinyl Floor Tile</b>	<b>1% CH</b>
		Black Mastic	ND
S05-B	eBase 351	12"x12" White-Yellow with Orange & White Streak Vinyl Floor Tile	NA
		Black Mastic	ND
S05-C	eBase 351	12"x12" White-Yellow with Orange & White Streak Vinyl Floor Tile	NA
		Black Mastic	ND
S06-A	eBase 351	12"x12" Off-White Vinyl Floor Tile	ND
		Black Mastic	ND
S06-B	eBase 351	12"x12" Off-White Vinyl Floor Tile	ND
		Black Mastic	ND
S06-C	eBase 351	12"x12" Off-White Vinyl Floor Tile	ND
		Black Mastic	ND
S07-A	eBase 140	12"x12" White with Light Brown Streak Vinyl Floor Tile	ND
		Black Mastic	ND
S07-B	eBase 351	12"x12" White with Light Brown Streak Vinyl Floor Tile	ND
		Black Mastic	ND
S07-C	eBase 351	12"x12" White with Light Brown Streak Vinyl Floor Tile	ND
		Black Mastic	ND
<b>S08-A</b>	<b>eBase 140</b>	<b>12"x12" Yellow-Beige with White &amp; Brown Streak Vinyl Floor Tile</b>	<b>1% CH</b>
		Black Mastic	ND

<b>Table 1 Summary of Analysis of Bulk Samples EA Lovell ACEC</b>			
<b>Sample No.</b>	<b>Sample Location</b>	<b>Sample Description</b>	<b>Result</b>
S08-B	eBase 125	12"x12" Yellow-Beige with White & Brown Streak Vinyl Floor Tile	NA
S08-C	eBase 234	12"x12" Yellow-Beige with White & Brown Streak Vinyl Floor Tile	NA
S09-A	eBase 132	12"x12" Cream Fleck Vinyl Floor Tile	ND
		Black Mastic	ND
S09-B	eBase 132	12"x12" Cream Fleck Vinyl Floor Tile	ND
S09-C	eBase 132B	12"x12" Cream Fleck Vinyl Floor Tile	ND
S10-A	eBase 113	12"x12" Tan Fleck Vinyl Floor Tile	ND
S10-B	eBase 117	12"x12" Tan Fleck Vinyl Floor Tile	ND
S10-C	eBase 119	12"x12" Tan Fleck Vinyl Floor Tile	ND
S11-A	eBase 140	2'x4' Small Pinhole & Small Fissure Acoustic Ceiling Tile	ND
S11-B	eBase 140	2'x4' Small Pinhole & Small Fissure Acoustic Ceiling Tile	ND
S11-C	eBase 340	2'x4' Small Pinhole & Small Fissure Acoustic Ceiling Tile	ND
S12-A	eBase 118A	2'x4' Textured Small Pinhole Acoustic Ceiling Tile	ND
S12-B	eBase 118B	2'x4' Textured Small Pinhole Acoustic Ceiling Tile	ND
S12-C	eBase 351	2'x4' Textured Small Pinhole Acoustic Ceiling Tile	ND
S13-A	eBase 331	2'x4' Small Pinhole & Width-Wise Fissure Acoustic Ceiling Tile	ND
S13-B	eBase 331	2'x4' Small Pinhole & Width-Wise Fissure Acoustic Ceiling Tile	ND
S13-C	eBase 331	2'x4' Small Pinhole & Width-Wise Fissure Acoustic Ceiling Tile	ND

CH – Chrysotile Asbestos, ND – None Detected, NA – Not Analysed

It should be noted that due to the presence of solid walls and ceilings (i.e. cinder block walls and above solid ceilings) throughout the survey area, access

for viewing within the wall and ceiling cavities was not always possible. Suspect asbestos-containing materials may be present within wall and ceiling cavities that were not identified in this report. Caution should be taken when demolishing solid walls and ceilings within the areas being surveyed.

#### **4.1.1 Sprayed Fireproofing (Friable)**

No sprayed fireproofing was observed within the building at the time of the assessment.

#### **4.1.2 Mechanical Insulations (Friable and Non-Friable)**

Asbestos-containing, suspect asbestos and non-asbestos mechanical insulations are present throughout the building. Mechanical insulations are applied to the following systems:

- Pipe Systems (included insulation on pipe fittings and pipe straights);
- Duct Systems; and
- Mechanical Equipment.

##### **Piping Systems**

Suspect asbestos and non-asbestos piping systems were identified throughout the building at the time of the assessment.

##### Pipe Straights

Layered paper insulation known as "Cellulose" was observed to be limited to eBase #122 and #123. Cellulose is historically found on cold water piping, drains, and in some instances on condensate return piping.

No samples of the cellulose pipe straight insulation were collected at the time of the current assessment as the material was too high to sample. The material should be presumed to contain asbestos until sampling proves otherwise.

Suspect asbestos-containing cellulose was observed to be in GOOD condition at the time of the assessment.

All remaining pipe straights observed are either not insulated or are insulated with fibreglass, foam, or horse hair, which are not suspected to contain asbestos.

##### Pipe Fittings

Parging cement insulation was observed to be limited to pipe fittings (which include elbows, valves, tees, hangers, etc.) within eBase #122.

No bulk samples of parging cement insulation were collected during the current survey as the material was previously sampled by Others (Sample 5)

and was found to contains **40-45% Chrysotile asbestos**.

Asbestos-containing parging cement was observed to be in GOOD condition at the time of the assessment.

All remaining pipe fittings observed are either not insulated or are insulated with fibreglass, PVC, or foam, which are not suspected to contain asbestos.

### **Duct Systems**

Duct systems observed throughout the building are either not insulated or are insulated with fibreglass which is not suspected to contain asbestos.

### **Mechanical Equipment**

Mechanical systems throughout the building were observed to be externally not insulated.

Woven gaskets were observed on the boiler within eBase #B01. See section 4.1.11 for additional details.

#### **4.1.3 Texture Coat Finish (Friable)**

No texture coat finishes were observed within the building at the time of the assessment.

#### **4.1.4 Plaster (Potentially Friable)**

Asbestos-containing and suspect asbestos-containing plaster finishes were identified within the building at the time of the assessment.

Three (3) visually distinct types of plaster finishes were observed within the building. A brief description of each finish is outlined below.

- **Smooth Plaster**

Smooth plaster was observed throughout the building.

Representative samples of the material were not collected at the time of the current assessment. However, twenty-two (22) smooth plaster samples have been collected during various surveys of the building by Maple and Others (Sample Sets 14210-1-3, 503-01-04, 685-01-04 and Samples 1-3). Analysis of the material found that one (1) sample contained **1.2% Chrysotile asbestos** and eleven (11) samples contained 0.25% to trace amounts of Chrysotile asbestos. The remaining samples were found to be non-asbestos.

As stated in Ontario Regulation 278/05, if analysis establishes that a bulk material is asbestos-containing, all homogeneous material is deemed asbestos-containing. As such, all smooth plaster is to be considered asbestos-containing until sampling proves otherwise.

Asbestos-containing smooth plaster was observed to range from GOOD to POOR condition at the time of the assessment.

- **Interior Textured Plaster**

Interior textured plaster was observed throughout the building.

Two (2) samples of interior textured plaster were previously collected by Others (Sample 3 & Sample 503-01) and were found to contain **0.5 to <10% Chrysotile asbestos**.

As stated in Ontario Regulation 278/05, if analysis establishes that a bulk material is asbestos-containing, all homogeneous material is deemed asbestos-containing. As such, all interior textured plaster is to be considered asbestos-containing until sampling proves otherwise.

Asbestos-containing interior textured plaster was observed to range from GOOD to FAIR condition at the time of the assessment.

- **Exterior Textured Plaster**

Exterior textured plaster was observed to be limited to the front entrance of the building.

No samples of the exterior textured plaster were collected at the time of the current assessment as the material was too high to sample. The material should be presumed to contain asbestos until sampling proves otherwise.

Suspect asbestos-containing exterior textured plaster was observed to be in GOOD condition at the time of the assessment.

#### **4.1.5 Acoustic Ceiling Tiles (Potentially Friable)**

No asbestos-containing acoustic tiles were identified within the building at the time of the assessment.

Six (6) visually distinct types of acoustic ceiling tiles were observed within the building. A brief description of each tile is outlined below.

- **AT-01 (2'x4' Small Pinhole & Random Fleck)**

AT-01 was not suspected to contain asbestos as the tile was visually confirmed to be new based on the manufacturing date code (05/29/2011) stamped on the back side of the tiles.

- **AT-02 (2'x4' Small Pinhole & Small Fissure)**

Three (3) representative samples (Sample Set S11A-C) of AT-02 were collected and analysed for determination of asbestos content. Analysis of Sample Set S11 found that the samples do not contain asbestos.



- AT-03 (2'x4' Textured Small Pinhole)

Six (6) samples of 2'x4' pinhole acoustic ceiling tile were previously sampled by Others (Sample Sets 261-05 and 261-06) during a previous survey and was found not to contain asbestos. In order to determine if the same visually distinct 2'x4' pinhole acoustic ceiling tile was non-asbestos, the material was resampled.

Three (3) representative samples (Sample Set S12A-C) of AT-03 were collected and analysed for determination of asbestos content. Analysis of Sample Set S12 found that the samples do not contain asbestos.

- AT-04 (2'x4' Small Pinhole & Width-Wise Fissure)

Three (3) representative samples (Sample Set S13A-C) of AT-04 were collected and analysed for determination of asbestos content. Analysis of Sample Set S13 found that the samples do not contain asbestos.

- AT-05 (1'x1' Flat White)

AT-05 was not suspected to contain asbestos as the tile was visually confirmed to be constructed out of cellulose.

- AT-06 (2'x4' Drywall Gypsum)

AT-06 was not suspected to contain asbestos as the tile was visually confirmed to be constructed out of gypsum board.

#### **4.1.6 Drywall Joint Compound (Potentially Friable)**

Joint compound applied to drywall finishes was observed throughout the building at the time of the assessment.

Representative samples of the material were not collected at the time of the current or past assessments. Due to the various building construction phases in the building and the non-homogeneous application of asbestos in joint compound, all joint compound is suspected to be asbestos-containing until representative sampling proves otherwise.

Suspect asbestos-containing drywall joint compound was observed to be in GOOD condition at the time of the assessment.

#### **4.1.7 Vinyl Sheet Flooring (Potentially Friable)**

No vinyl sheet flooring finishes were observed within the building at the time of the assessment.

#### 4.1.8 Vinyl Floor Tile (Non-Friable)

Asbestos and non-asbestos containing vinyl floor tiles were identified throughout the building at the time of the assessment.

Ten (10) visually distinct types of vinyl floor tiles were observed within the building. A brief description of each tile is outlined below.

- **VFT-01 (12"x12" Blue Fleck)**

Three (3) representative samples (Sample Set S01A-C) of VFT-01 were collected and analysed for determination of asbestos content. Analysis of Sample Set S01 found that the samples do not contain asbestos. Black mastic associated with the tile was also analysed as part of the sample set and analysis of Sample S01B found that the sample contains **5% Chrysotile asbestos**. As the tile cannot be removed without disturbing the asbestos-containing mastic, VFT-01 is also deemed to be asbestos-containing.

Asbestos-containing VFT-01 and mastic was observed throughout the building and was found to be in GOOD condition at the time of the assessment.

- VFT-02 (12"x12" White with Grey Fleck)

Three (3) representative samples (Sample Set S02A-C) of VFT-02 were collected and analysed for determination of asbestos content. Analysis of Sample Set S02 found that the samples do not contain asbestos. Black mastic associated with the tile was also analysed as part of the sample set and was found not to contain asbestos.

- VFT-03 (12"x12" Light Brown, Dark Brown & White Chunk)

Three (3) representative samples (Sample Set S03A-C) of VFT-03 were collected and analysed for determination of asbestos content. Analysis of Sample Set S03 found that the samples do not contain asbestos. Black mastic associated with the tile was also analysed as part of the sample set and was found not to contain asbestos.

- **VFT-04 (12"x12" Beige with Brown & White Streak)**

Three (3) representative samples (Sample Set S04A-C) of VFT-04 were collected and analysed for determination of asbestos content. Analysis of Sample S04A found that the samples contain **1% Chrysotile asbestos**. Black mastic associated with the tile was also analysed as part of the sample set and was found not to contain asbestos.

Asbestos-containing VFT-04 was observed throughout the building and was found to range from GOOD to POOR condition at the time of the assessment.

- **VFT-05 (12"x12" White-Yellow with Orange & White Streak)**

Three (3) representative samples (Sample Set S05A-C) of VFT-05 were collected and analysed for determination of asbestos content. Analysis of Sample S05A found that the samples contain **1% Chrysotile asbestos**. Black mastic associated with the tile was also analysed as part of the sample set and was found not to contain asbestos.

Asbestos-containing VFT-05 was observed throughout the building and was found to be in GOOD condition at the time of the assessment.

- VFT-06 (12"x12" Off-White)

Three (3) representative samples (Sample Set S06A-C) of VFT-06 were collected and analysed for determination of asbestos content. Analysis of Sample Set S06 found that the samples do not contain asbestos. Black mastic associated with the tile was also analysed as part of the sample set and was found not to contain asbestos.

- VFT-07 (12"x12" White with Light Brown Streak)

Three (3) representative samples (Sample Set S07A-C) of VFT-07 were collected and analysed for determination of asbestos content. Analysis of Sample Set S07 found that the samples do not contain asbestos. Black mastic associated with the tile was also analysed as part of the sample set and was found not to contain asbestos.

- **VFT-08 (12"x12" Yellow-Beige with Light Brown Streak)**

Three (3) representative samples (Sample Set S08A-C) of VFT-08 were collected and analysed for determination of asbestos content. Analysis of Sample S08A found that the samples contain **1% Chrysotile asbestos**. Black mastic associated with the tile was also analysed as part of the sample set and was found not to contain asbestos.

Asbestos-containing VFT-08 was observed to be limited to eBase #122, #125, #140 and #234 and was found to be in GOOD condition at the time of the assessment.

- VFT-09 (12"x12" Cream Fleck)

Three (3) representative samples (Sample Set S09A-C) of VFT-09 were collected and analysed for determination of asbestos content. Analysis of Sample Set S09 found that the samples do not contain asbestos.

Black mastic associated with the tile was also analysed as part of the sample set and was found not to contain asbestos.

- VFT-10 (12"x12" Tan Fleck)

Three (3) representative samples (Sample Set S10A-C) of VFT-10 were collected and analysed for determination of asbestos content. Analysis of Sample Set S10 found that the samples do not contain asbestos.

#### **4.1.9 Asbestos Cement Products "Transite" (Non-Friable)**

Suspect asbestos-containing transite cement products were identified within the building at the time of the assessment.

- **Transite Panels**

A Transite panel was observed to be limited to eBase #B01.

No samples were collected of the material as sampling could damage the integrity of the transite panel. Transite is historically known to contain Chrysotile, Amosite and/or Crocidolite Asbestos. Visual identification of this material is usually reliable although a non-asbestos equivalent is also available.

The suspect transite cement panel was observed to be in GOOD condition at the time of the assessment.

- **Transite Soffit**

Transite soffits were observed on the exterior of the building.

No samples were collected of the material as sampling could damage the integrity of the soffit. Transite is historically known to contain Chrysotile, Amosite and/or Crocidolite Asbestos. Visual identification of this material is usually reliable although a non-asbestos equivalent is also available.

The suspect transite soffits were observed to be in GOOD condition at the time of the assessment.

#### **4.1.10 Vermiculite (Friable)**

No vermiculite insulation was observed within the building during the current assessment.

It should be noted that loose fill vermiculite insulation can often be present within voids of masonry and possibly some pre-manufactured building components that would not be identified during the course of this assessment.

#### 4.1.11 Other

- Woven Gaskets

Woven gaskets were observed on the boiler within eBase #B01.

No samples of the material were collected at the time of the assessment as sampling could damage the integrity of the material. The woven gaskets should be presumed to contain asbestos until sampling proves otherwise.

Suspect asbestos-containing gaskets were observed to be in POOR condition at the time of the assessment.

- Fire Door Insulation

A fire door was observed at the entrance to eBase #B01, B02 and 347.

No samples of the internal material were collected as the material is sealed within the door. The material should be assumed to contain asbestos until sampling proves otherwise.

## 5.0 RECOMMENDATIONS

### 5.1 Specific Recommendations

Based on the Laboratory Analytical Results and observations made on Site, Maple recommends the following remedial action plans in accordance to O. Reg. 278/05:

- Using Type 2 Asbestos procedures remove two (2) damaged suspect asbestos-containing woven gaskets within eBase #B01 in POOR condition. It is recommended that the material is sampled prior to disturbance.
- Using Type 1 Asbestos procedures remove and replace one (10) square feet of damaged asbestos-containing vinyl floor tiles within eBase #140 in POOR condition.
- Using Type 2 Asbestos procedures repair five (5) square feet of damaged textured plaster present within eBase #221 and one (1) square foot of damaged textured plaster present within eBase #338 in FAIR condition. It is recommended that the material is sampled prior to disturbance.
- Using Type 2 clean-up procedures, remove the asbestos-containing smooth plaster debris present within the eBase locations listed below. Upon entry into the ceiling space, Type 2 entry procedures apply.
  - 112A (Classroom), 112B (Classroom), 114 (Preschool), 128 (Woman's Washroom), 225 and 225A-G (Offices), 227 (Guidance), 227A and 227B (Offices), 233 and 233A-C (Office),

237 (Men's Washroom), 334 and 334B-D (Adult Literacy, Storage and Offices) and 338 (Classroom)

All remaining asbestos-containing materials identified within the building were observed to be in GOOD condition and therefore no additional immediate recommendations are warranted.

## **5.2 General Recommendations**

Due to the presence of ACM within the building, DDSB must maintain their existing Asbestos Management Program for this property. A re-assessment of known ACM is to be conducted at least once annually.

It is important to note that due to the presence of solid walls and ceiling systems, ACM may be present in concealed locations not identified in this report.

The assessment confirmed the presence of ACM mechanical insulations within the building (Refer to room-by-room data for condition and quantities). Should any proposed renovations likely cause disturbance of the mechanical insulations, the materials would require removal using Type 2, Type 3 or Glove Bag Asbestos procedures as appropriate for the work being performed.

Removal or disturbance of ACM drywall less than 1m<sup>2</sup> will require the use of Type 1 Asbestos procedures, greater than 1m<sup>2</sup> Type 2 Asbestos procedures.

Removal or disturbance of ACM plaster finishes less than 1m<sup>2</sup> will require the use of Type 2 Asbestos procedures, greater than 1m<sup>2</sup> Type 3 Asbestos procedures.

Removal or disturbance of vinyl floor tiles and mastic requires the use of Type 1 Asbestos procedures (provided no power tools are used and the material is wetted). If power tools are required Type 3 Asbestos procedures need to be applied.

Removal or disturbance of transite cement products requires the use of Type 1 Asbestos procedures (provided no power tools are used and the material is wetted). If power tools are required Type 3 Asbestos procedures need to be applied.

Prior to any renovation or demolition activities that would disturb the drywall finishes, textured plaster and smooth plaster in specific areas, additional sampling should be performed. This is due to the various phases (dates) of installation of these finishes at the Site, as well as the non-homogeneous application of asbestos within these compounds.

Materials suspected of containing asbestos should be sampled prior to any disturbance. Suspect materials include; cellulose pipe straights, woven gaskets, fire doors, etc. unless previously confirmed to contain asbestos.

## **6.0 LIMITATIONS AND EXCEPTIONS**

Due to the nature of building construction some limitations exist as to the possible thoroughness of any building materials inventory. The field observations are considered sufficient in detail and scope to form a reasonable basis for the findings presented in this Report. Maple warrants that the findings and conclusions contained herein have been made in accordance with generally accepted evaluation methods in the industry and applicable regulations at the time of writing this Current Survey Report.

It is possible that conditions may exist which could not be reasonably identified within the scope of the survey or which were not apparent during field work. Maple believes that the information collected during the survey is reliable. No other warranties are implied or expressed.

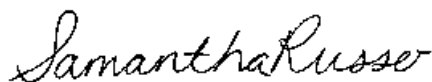
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The liability of Maple or its staff will be limited to the lesser of the fees paid or actual damages incurred by the Client. Maple will not be responsible for any consequential or indirect damages. Maple will only be liable for damages resulting from negligence of Maple; all claims by the Client shall be deemed relinquished if not made within two years after last date of services provided.

Please contact Maple Environmental Inc. at (905) 257-4408 for inquiries regarding this project.

**MAPLE Environmental Inc.  
Environment, Health & Safety Consultants**

**Prepared By:**



**Samantha Russo  
Project Technologist**

**Reviewed By:**



**Brad Panzer  
Senior Project Manager**

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**APPENDIX I**  
**CURRENT LABORATORY ANALYSIS REPORTS**



To:

**Samantha Russo**  
 Maple Environmental Inc.  
 482 South Service Road East, Suite 116  
 Oakville, Ontario  
 L6J 2X6

**EMC LAB REPORT NUMBER:** A34548  
**Job/Project Name:** DDSB:EA Lovell ACEC  
**Analysis Method:** Polarized Light Microscopy – EPA 600  
**Date Received:** Oct 3/17      **Date Analyzed:** Oct 11/17  
**Analysts:** Thasan Kandasamy, *Analyst*, Jack Eastwood, *Analyst* & Arabee Sathiaseelan, *Laboratory Supervisor*  
**Reviewed By:** Fajun Chen, Ph.D., *Laboratory Director*

**Job No:** 16312-118  
**Number of Samples:** 39  
**Date Reported:** Oct 12/17

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)		
				Asbestos Fibres	Non-asbestos Fibres	Non-fibrous Material
S01-A	A34548-1	12"x12" Blue Fleck Vinyl Floor Tile EB 341	2 Phases: a) Blue, vinyl floor tile b) Black, mastic	ND ND	0.5	100 99.5
S01-B	A34548-2	12"x12" Blue Fleck Vinyl Floor Tile EB 341	2 Phases: a) Blue, vinyl floor tile b) Black, mastic	ND Chrysotile	5	100 95
S01-C	A34548-3	12"x12" Blue Fleck Vinyl Floor Tile EB 341	2 Phases: a) Blue, vinyl floor tile b) Black, mastic	ND ND	0.5	100 99.5
S02-A	A34548-4	12"x12" White with Grey Fleck Vinyl Floor Tile EB 112A	White, vinyl floor tile	ND		100
S02-B	A34548-5	12"x12" White with Grey Fleck Vinyl Floor Tile EB 332	2 Phases: a) White, vinyl floor tile b) Black, mastic	ND ND		100 100
S02-C	A34548-6	12"x12" White with Grey Fleck Vinyl Floor Tile EB 352	2 Phases: a) White, vinyl floor tile b) Black, mastic	ND ND		100 100
S03-A	A34548-7	12"x12" Light Brown, Dark Brown & White Chunk Vinyl Floor Tile EB 335	2 Phases: a) White, vinyl floor tile b) Black, mastic	ND ND		100 100
S03-B	A34548-8	12"x12" Light Brown, Dark Brown & White Chunk Vinyl Floor Tile EB	2 Phases: a) Beige, vinyl floor tile	ND		100

**EMC LAB REPORT NUMBER:** A34548

**Client's Job/Project No.:** 16312-118

**Analysts:** Thasan Kandasamy, *Analyst*, Jack Eastwood, *Analyst* & Arabee Sathiaselvan, *Laboratory Supervisor*

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)		
				Asbestos Fibres	Non-asbestos Fibres	Non-fibrous Material
		351	b) Black, mastic	ND		100
S03-C	A34548-9	12"x12" Light Brown, Dark Brown & White Chunk Vinyl Floor Tile EB 351	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	ND ND		100 100
S04-A	A34548-10	12"x12" Beige with Brown & White Streak Vinyl Floor Tile EB 140	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	Chrysotile ND	1	99 100
S04-B	A34548-11	12"x12" Beige with Brown & White Streak Vinyl Floor Tile EB 351	2 Phases: a) NA b) Black, mastic	NA ND		100
S04-C	A34548-12	12"x12" Beige with Brown & White Streak Vinyl Floor Tile EB 351	2 Phases: a) NA b) Black, mastic	NA ND		100
S05-A	A34548-13	12"x12" White-Yellow with Orange & White Streak Vinyl Floor Tile EB 351	2 Phases: a) Light yellow, vinyl floor tile b) Black, mastic	Chrysotile ND	1	99 100
S05-B	A34548-14	12"x12" White-Yellow with Orange & White Streak Vinyl Floor Tile EB 351	2 Phases: a) NA b) Black, mastic	NA ND		100
S05-C	A34548-15	12"x12" White-Yellow with Orange & White Streak Vinyl Floor Tile EB 351	2 Phases: a) NA b) Black, mastic	NA ND		100
S06-A	A34548-16	12"x12" Off-White Vinyl Floor Tile EB 351	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	ND ND		100 100

**EMC LAB REPORT NUMBER:** A34548

**Client's Job/Project No.:** 16312-118

**Analysts:** Thasan Kandasamy, *Analyst*, Jack Eastwood, *Analyst* & Arabee Sathiaselvan, *Laboratory Supervisor*

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)		
				Asbestos Fibres	Non-asbestos Fibres	Non-fibrous Material
S06-B	A34548-17	12"x12" Off-White Vinyl Floor Tile EB 351	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	ND ND		100 100
S06-C	A34548-18	12"x12" Off-White Vinyl Floor Tile EB 351	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	ND ND		100 100
S07-A	A34548-19	12"x12" White with Light Brown Streak Vinyl Floor Tile EB 140	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	ND ND		100 100
S07-B	A34548-20	12"x12" White with Light Brown Streak Vinyl Floor Tile EB 351	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	ND ND		100 100
S07-C	A34548-21	12"x12" White with Light Brown Streak Vinyl Floor Tile EB 351	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	ND ND		100 100
S08-A	A34548-22	12"x12" Yellow-Beige with White & Brown Streak Vinyl Floor Tile EB140	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	Chrysotile ND	1	99 100
S08-B	A34548-23	12"x12" Yellow-Beige with White & Brown Streak Vinyl Floor Tile 125	NA	NA		
S08-C	A34548-24	12"x12" Yellow-Beige with White & Brown Streak Vinyl Floor Tile 234	NA	NA		
S09-A	A34548-25	12"x12" Cream Fleck Vinyl Floor Tile EB132	2 Phases: a) Beige, vinyl floor tile b) Black, mastic	ND ND		100 100
S09-B	A34548-26	12"x12" Cream Fleck Vinyl Floor	Beige, vinyl floor tile	ND		100

**EMC LAB REPORT NUMBER:** A34548

**Client's Job/Project No.:** 16312-118

**Analysts:** Thasan Kandasamy, *Analyst*, Jack Eastwood, *Analyst* & Arabee Sathiaselalan, *Laboratory Supervisor*

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)		
				Asbestos Fibres	Non-asbestos Fibres	Non-fibrous Material
		Tile EB 132				
S09-C	A34548-27	12"x12" Cream Fleck Vinyl Floor Tile EB 132B	Beige, vinyl floor tile	ND		100
S010-A	A34548-28	12"x12" Tan Fleck Vinyl Floor Tile EB 113	Beige, vinyl floor tile	ND		100
S010-B	A34548-29	12"x12" Tan Fleck Vinyl Floor Tile EB 117	Beige, vinyl floor tile	ND		100
S010-C	A34548-30	12"x12" Tan Fleck Vinyl Floor Tile EB 119	Beige, vinyl floor tile	ND		100
S011-A	A34548-31	2'x4' Small Pinhole & Small Fissure Acoustic Ceiling Tile EB 140	Grey, ceiling tile	ND	80	20
S011-B	A34548-32	2'x4' Small Pinhole & Small Fissure Acoustic Ceiling Tile EB 140	Grey, ceiling tile	ND	80	20
S011-C	A34548-33	2'x4' Small Pinhole & Small Fissure Acoustic Ceiling Tile EB 340	Grey, ceiling tile	ND	80	20
S012-A	A34548-34	2'x4' Textured Small Pinhole Acoustic Ceiling Tile EB 118A	Grey, ceiling tile	ND	80	20
S012-B	A34548-35	2'x4' Textured Small Pinhole Acoustic Ceiling Tile EB 118B	Grey, ceiling tile	ND	80	20
S012-C	A34548-36	2'x4' Textured Small Pinhole Acoustic Ceiling Tile EB 351	Grey, ceiling tile	ND	80	20
S013-A	A34548-37	2'x4' Small Pinhole & Width-Wise Fissure Acoustic Ceiling Tile EB 331	Grey, ceiling tile	ND	80	20
S013-B	A34548-38	2'x4' Small Pinhole & Width-Wise Fissure Acoustic Ceiling Tile EB 331	Grey, ceiling tile	ND	80	20

**EMC LAB REPORT NUMBER:** A34548

**Client's Job/Project No.:** 16312-118

**Analysts:** Thasan Kandasamy, *Analyst*, Jack Eastwood, *Analyst* & Arabee Sathiaseelan, *Laboratory Supervisor*

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)		
				Asbestos Fibres	Non-asbestos Fibres	Non-fibrous Material
S013-C	A34548-39	2'x4' Small Pinhole & Width-Wise Fissure Acoustic Ceiling Tile EB 331	Grey, ceiling tile	ND	80	20

**Note:**

1. Bulk samples are analyzed using Polarized Light Microscopy (PLM) and dispersion staining techniques. The analytical procedures are in accordance with EPA 600/R-93/116 method.
2. The results are only related to the samples analyzed. **ND** = None Detected (no asbestos fibres were observed), **NA** = Not Analyzed (analysis stopped due to a previous positive result).
3. This report may not be reproduced, except in full without the written approval of EMC Scientific Inc. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.
4. The Ontario Regulatory Threshold for asbestos is 0.5%. The limit of quantification (LOQ) is 0.5%.
5. Vinyl floor tiles may contain very fine asbestos fibres which the PLM method cannot detect. TEM analysis may be necessary to confirm the absence of asbestos.

**APPENDIX I-A**  
**PREVIOUS LABORATORY ANALYSIS REPORTS -**  
**ASBESTOS**

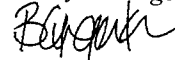
# Laboratory Analysis Report

To:

**Brad Panzer**  
 Maple Environmental Inc.  
 482 South Service Road East, Suite 116  
 Oakville, Ontario  
 L6J 2X6

**EMC LAB REPORT NUMBER:** A13393  
**Job/Project Name:** Durham Continuing Education  
**Analysis Method:** Polarized Light Microscopy – EPA 600  
**Date Received:** Feb 28/14      **Date Analyzed:** March 3/14  
**Analyst:** Dilshad Naeem, *Analyst*  
**Reviewed By:** Banu Gurgen-Keough, *Laboratory Manager*

**Job No:** 14210  
**Number of Samples:** 3  
**Date Reported:** March 3/14



Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)		
				Asbestos Fibres	Non-asbestos Fibres	Non-fibrous Material
Sample 1	A13393-1	Boiler room / ceiling plaster	Grey, plaster	ND	1	99
Sample 2	A13393-2	Boiler room / ceiling plaster	Grey, plaster	ND	1	99
Sample 3	A13393-3	Boiler room / ceiling plaster	Grey, plaster	ND		100

**Note:**

1. Bulk samples are analyzed using Polarized Light Microscopy (PLM) and dispersion staining techniques. The analytical procedures are in accordance with EPA 600/R-93/116 method.
2. The results are only related to the samples analyzed. **ND** = None Detected (no asbestos fibres were observed), **NA** = Not Analyzed (analysis stopped due to a previous positive result).
3. The Ontario Regulatory Threshold for asbestos is 0.5%.
4. The limit of quantification (LOQ) is 0.5%

### Summary Bulk Sample Results (Polarized Light Microscopy)

Project: E.A. Lovell Public School / Durham District Board

Project No.: A0901503

Date: February 18, 2009

Sample #	Location / Description	% Asbestos			% Non-Asbestos					Non-Fibrous Materials
		Chrysotile	Amosite	Other	Cellulose	Mineral Wool	Fibrous Glass	Synthetic Fibres	Other	
503-01	Room 228 Wall Plaster	0.5%	-	-	-	-	-	-	-	99.5%
503-02	Room 224 Wall Plaster	1.2%	-	-	-	-	-	-	-	98.8%
503-03	Room 111 Wall Plaster	0.25%	-	-	-	-	-	-	-	99.75%
503-04	Room 112B Window Frame Plaster	0.25%	-	-	-	-	-	-	-	99.75%



Don Panzer  
Building Survey Consultants



# Summary Bulk Sample Results

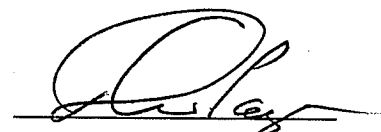
(Polarized Light Microscopy)

Project: E.A. Lovell PS / Durham District School Board

Project No.: C0904685

Date: May 2009

Sample #	Location / Description	% Asbestos			% Non-Asbestos					
		Chrysotile	Amosite	Crocidolite	Cellulose	Mineral Wool	Fibrous Glass	Synthetic Fibres	Other Fibres	Non-Fibrous Materials
685-01A	Room 134 Plaster	Trace	-	-	-	-	-	-	-	100%
685-01B	Room 134 Plaster	Trace	-	-	1%	-	-	-	-	99%
685-01C	Room 134 Plaster	Trace	-	-	-	-	-	-	-	100%
685-02A	Room 132 Plaster	-	-	-	1%	-	-	-	-	99%
685-02B	Room 132 Plaster	-	-	-	Trace	-	-	-	-	100%
685-02C	Room 132 Plaster	-	-	-	Trace	-	-	-	-	100%
685-03A	Room 133 Plaster	Trace	-	-	-	-	-	-	-	100%
685-03B	Room 133 Plaster	-	-	-	Trace	-	-	-	-	100%

  
 Don Panzer  
 Building Survey Consultants

# Summary Bulk Sample Results


(Polarized Light Microscopy)

Project: E.A. Lovell PS / Durham District School Board

Project No.: C0904685

Date: May 2009

Sample #	Location / Description	% Asbestos			% Non-Asbestos					Non-Fibrous Materials
		Chrysotile	Amosite	Crocidolite	Cellulose	Mineral Wool	Fibrous Glass	Synthetic Fibres	Other Fibres	
685-03C	Room 133 Plaster	Trace	-	-	Trace	-	-	-	-	100%
685-04A	Corridor Plaster	Trace	-	-	-	-	-	-	-	100%
685-04B	Corridor Plaster	Trace	-	-	Trace	-	-	-	-	100%
685-04C	Corridor Plaster	Trace	-	-	Trace	-	-	-	-	100%

  
 Don Panzer  
 Building Survey Consultants

**Summary Bulk Sample Results**  
(Polarized Light Microscopy)

*E.A.*

Project: R.A. Lovell Public School / Durham District Board

Project No.: C0809261

Date: September 22, 2008

Sample #	Location / Description	% Asbestos			% Non-Asbestos					
		Chrysotile	Amosite	Other	Cellulose	Mineral Wool	Fibrous Glass	Synthetic Fibres	Other Fibres	Non-Fibrous Material
261-01A	Room 125B 12" beige Floor Tile	-	-	-	-	-	-	-	-	100%
	Tile Adhesive	-	-	-	-	-	-	-	-	100%
261-01B	Room 125B 12" beige Floor Tile	-	-	-	-	-	-	-	-	100%
	Tile Adhesive	-	-	-	-	-	-	-	-	100%
261-01C	Room 125B 12" beige Floor Tile	-	-	-	-	-	-	-	-	100%
	Tile Adhesive	-	-	-	-	-	-	-	-	100%
261-02A	Room 125B 12" Light Beige FT	-	-	-	-	-	-	-	-	100%
	Tile Adhesive	-	-	-	-	-	-	-	-	100%
261-02B	Room 125B 12" Light Beige FT	-	-	-	-	-	-	-	-	100%
	Tile Adhesive	-	-	-	-	-	-	-	-	100%



Don Panzer  
Building Survey Consultants

## Summary Bulk Sample Results (Polarized Light Microscopy)

Project: R.A. Lovell Public School / Durham District Board

Project No.: C0809261

Date: September 22, 2008

Sample #	Location / Description	% Asbestos			% Non-Asbestos						
		Chrysotile	Amosite	Other	Cellulose	Mineral Wool	Fibrous Glass	Synthetic Fibres	Other Fibres	Non-Fibrous Material	
261-02C	Room 125B 12" Light Beige FT	-	-	-	-	-	-	-	-	-	100%
	Tile Adhesive	-	-	-	-	-	-	-	-	-	100%
261-03A	Room 126 2'x4' Old Fiss. Ceil Tile	-	-	-	60%	5%	-	-	-	-	35%
261-03B	Room 126 2'x4' Old Fiss. Ceil Tile	-	-	-	60%	5%	-	-	-	-	35%
261-03C	Room 126 2'x4' Old Fiss. Ceil Tile	-	-	-	60%	5%	-	-	-	-	35%
261-04A	Room 128 2'x4' Fiss Ceil Tile	-	-	-	50%	20%	-	-	-	-	30%
261-04B	Room 128 2'x4' Fiss Ceil Tile	-	-	-	50%	20%	-	-	-	-	30%
261-04C	Room 128 2'x4' Fiss Ceil Tile	-	-	-	50%	20%	-	-	-	-	30%



Don Panzer  
Building Survey Consultants

**Summary Bulk Sample Results**  
(Polarized Light Microscopy)

Project: R.A. Lovell Public School / Durham District Board

Project No.: C0809261

Date: September 22, 2008

Sample #	Location / Description	% Asbestos			% Non-Asbestos					
		Chrysotile	Amosite	Other	Cellulose	Mineral Wool	Fibrous Glass	Synthetic Fibres	Other Fibres	Non-Fibrous Material
261-05A	Corridor 129A 2'x4' Pinhole Ceil Tiles	-	-	-	60%	10%	-	-	-	30%
261-05B	Corridor 129A 2'x4' Pinhole Ceil Tiles	-	-	-	60%	10%	-	-	-	30%
261-05C	Corridor 129A 2'x4' Pinhole Ceil Tiles	-	-	-	60%	10%	-	-	-	30%
261-06A	Corridor 129A 2'x4' Pinhole Ceil. Tille	-	-	-	55%	10%	-	-	-	35%
261-06B	Corridor 129A 2'x4' Pinhole Ceil. Tille	-	-	-	55%	10%	-	-	-	35%
261-06C	Corridor 129A 2'x4' Pinhole Ceil. Tille	-	-	-	55%	10%	-	-	-	35%
261-07A	Room 115 12" White Floor Tile	-	-	-	-	-	-	-	-	100%
261-07B	Room 115 12" White Floor Tile	-	-	-	-	-	-	-	-	100%



Don Panzer  
Building Survey Consultants

**Summary Bulk Sample Results**  
(Polarized Light Microscopy)

Project: R.A. Lovell Public School / Durham District Board

Project No.: C0809261

Date: September 22, 2008

Sample #	Location / Description	% Asbestos			% Non-Asbestos					
		Chrysotile	Amosite	Other	Cellulose	Mineral Wool	Fibrous Glass	Synthetic Fibres	Other Fibres	Non-Fibrous Material
261-07C	Room 115 12" White Floor Tile	-	-	-	-	-	-	-	-	100%
261-08A	Corridor 140 12" Brown Floor Tile	1.8%	-	-	-	-	-	-	-	98.2%
261-08B	Corridor 140 12" Brown Floor Tile	Not Analysed								
261-08C	Corridor 140 12" Brown Floor Tile	Not Analysed								
261-09A	Corridor 140 12" Brown Floor Tile	2.1%	-	-	-	-	-	-	-	97.9%
	Tile Adhesive	-	-	-	-	-	-	-	-	100%
261-09B	Corridor 140 12" Brown Floor Tile	-	-	-	-	-	-	-	-	100%
261-09C	Corridor 140 12" Brown Floor Tile	-	-	-	-	-	-	-	-	100%



Don Panzer  
Building Survey Consultants

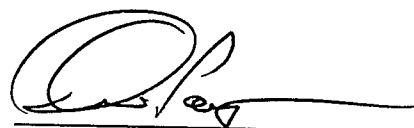
**Summary Bulk Sample Results**  
(Polarized Light Microscopy)

Project: R.A. Lovell Public School / Durham District Board

Project No.: C0809261

Date: September 22, 2008

Sample #	Location / Description	% Asbestos			% Non-Asbestos						
		Chrysotile	Amosite	Other	Cellulose	Mineral Wool	Fibrous Glass	Synthetic Fibres	Other Fibres	Non-Fibrous Material	
261-10A	Room 344 (W/R) 12" Beige Floor Tile	<b>Trace</b>	-	-	-	-	-	-	-	-	100%
	Tile Adhesive	<b>2.2%</b>	-	-	-	-	-	-	-	-	97.8%
261-10B	Room 344 (W/R) 12" Beige Floor Tile	<b>Trace</b>	-	-	-	-	-	-	-	-	100%
261-10C	Room 344 (W/R) 12" Beige Floor Tile	<b>Trace</b>	-	-	-	-	-	-	-	-	100%



Don Panzer  
Building Survey Consultants

August 3, 2007

# ANALYSIS OF BULK SAMPLES

E.A. LOVELL PUBLIC SCHOOL

SAMPLE DESCRIPTION	APPROXIMATE COMPOSITION		COMMENTS
	ASBESTOS FIBRE	OTHER COMPONENTS	
1 of 3 Basement corridor; floor tile	none detected	cellulose <10% non-fibrous material >90%	
2 of 3 Basement corridor; floor tile	chrysotile <10%	cellulose <10% non-fibrous material 80-90%	
1 of 3 Classroom 118A; textured wall plaster	chrysotile <10%	cellulose <10% horse hair <10% non-fibrous material 80-90%	






**POLARIZED MICROSCOPY RESULTS**

Lab Project No: A911

Client Name: Durham District School Board      Project Name: E.A. Lovell Public School

Laboratory Sample No.	Location	Description	Asbestos Percent(vol)	Other Materials Percent(vol)
A911-01	Corridor 135	Ceiling Tile 2' x 4' grey fibrous material compressed into a thick tile	ND	Cellulose 30-35% MMMF 15-20% Non Fibrous Material 45-55%
A911-02	Staff Room 126	Ceiling Tile 2' X 4' light grey fibrous material compressed into a thick tile	Amosite 5-10%	MMMF 60-65% Non Fibrous Material 25-35%

\* MMMF (Man-Made Mineral Fibres) may include fibreglass, mineral wool, slag wool, rock wool and ceramic fibres.  
ND None Detected  
T Traces

Signature:   
Ursula Drewniak, Laboratory Supervisor  
Microscopy Analytical Services

Date: July 5, 1999

Previously participated in AIHA Laboratory ID Number: 011677  
(AIHA Bulk Asbestos Proficiency Analytical Testing Program)



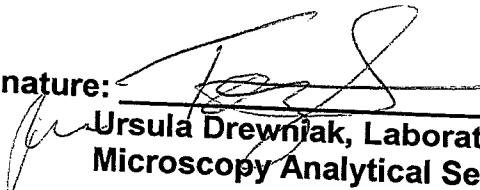
POLARIZED MICROSCOPY RESULTS

Lab Project No: A911

Client Name: Durham District School Board      Project Name: E.A. Lovell Public School

Laboratory Sample No.	Location	Description	Asbestos Percent(vol)	Other Materials Percent(vol)	
A911-03	Boys' Washroom	Ceiling Tile 2' x 4' grey fibrous material compressed into a thick tile	ND	Cellulose	25-30%
				MMMF	15-20%
				Non Fibrous Material	50-60%
A911-04	Washroom	Ceiling Tile 2' x 4' grey fibrous material compressed into a thick tile	ND	Cellulose	25-30%
				MMMF	15-20%
				Non Fibrous Material	50-60%

\* MMMF (Man-Made Mineral Fibres) may include fibreglass, mineral wool, slag wool, rock wool and ceramic fibres.  
ND None Detected  
T Traces

Signature:   
Ursula Drewniak, Laboratory Supervisor  
Microscopy Analytical Services

Date: July 5, 1999

Previously participated in AIHA Laboratory ID Number: 011677  
(AIHA Bulk Asbestos Proficiency Analytical Testing Program)

## BULK SAMPLE ANALYSIS REPORT

Lab Accreditation #1274  
Polarized Light Dispersion Staining Method

Client: **TREVOR HARRIS PARTNERSHIP INC.**  
**370 DUNDAS STREET EAST**  
**TORONTO, ONTARIO** MEA 243

Laboratory Batch #: **74-90-0437**  
 Date Received: **6-28-90**  
 Date Analyzed: **6-29-90**  
 Project Identification: **E.A. LEVELL PUBLIC SCHOOL / DURHAM BOARD OF EDUCATION**

Sample #	Description	ASBESTOS %				PERCENT OTHER FIBROUS MATERIAL			
		CHRY	AMOS	CROC	AC/TA	FBGL	MM	CELL	OTHER
1	HALL COVERING BOTTOM LAYER GRAY & WHITE (BOYS PLAY ROOM)							10-15	AGGREGATE 35-40% PLASTER 35-40%
2	HALL COVERING MIDDLE LAYER TAN (BOYS PLAY ROOM)							5-10%	PLASTER 30-35% AGGREGATE 35-50%
3	HALL COVERING OUTER LAYER / WHITE (BOYS PLAY ROOM)								PLASTER 70-75% LATEX 20-25%
4	BREECHING INSULATION / WHITE (BOILER ROOM)	1-15	15-20						CROC FILLER 60-65%
5	ELBOW MATERIAL / GRAY (TYPICAL MTL. FAN ROOM)	40-45						5-10%	BINDER 10-15% CROC FILLER 25-30%
6	VINYL MATERIAL / BEIGE (FLOOR SHEETING-BOYS WASH RM 1ST FLOOR)	15-20							VINYL 80-85% BINDER 20-25%
7	CEILING TILE / TAN (TEXTURED CEILING TILE-RESOURCED)					10-15		45-50	LATEX 5-10% PERLITE 20-25%
8	CEILING TILE / GRAY (FIBERED) (LAY-IN CEILING TILE)					10-15		45-50	PERLITE 20-25% LATEX 5-10%

CHRY = Chrysotile  
 CROC = Crocidolite  
 AMOS = Amosite

ANTH = Anthophyllite  
 AC/TA = Actinolite/Tremolite  
 FBGL = Fiberglass

CELL = Cellulose  
 MM = Manmade  
 NO ENTRY = None Detected

Sample Not homogenized  
 Percentages Given Are Visual Estimates  
 Report Must Not Be Reproduced Without Laboratory Approval  
 Laboratory Not Responsible For Sampling Technique  
 Test Report Relates Only To Items Submitted

Analyst: *[Signature]*

Respectfully Submitted: *[Signature]*  
 Laboratory Testing Division

**APPENDIX II**  
**ROOM-BY-ROOM ASBESTOS INVENTORY**























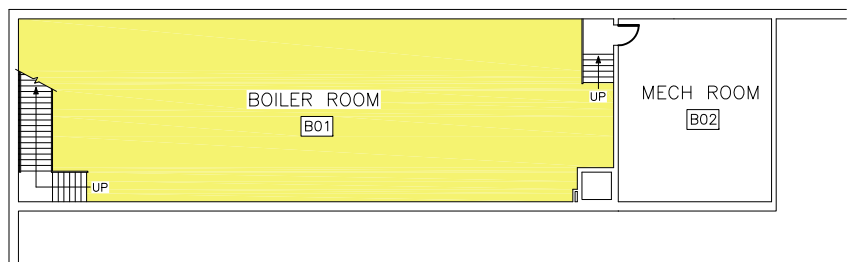
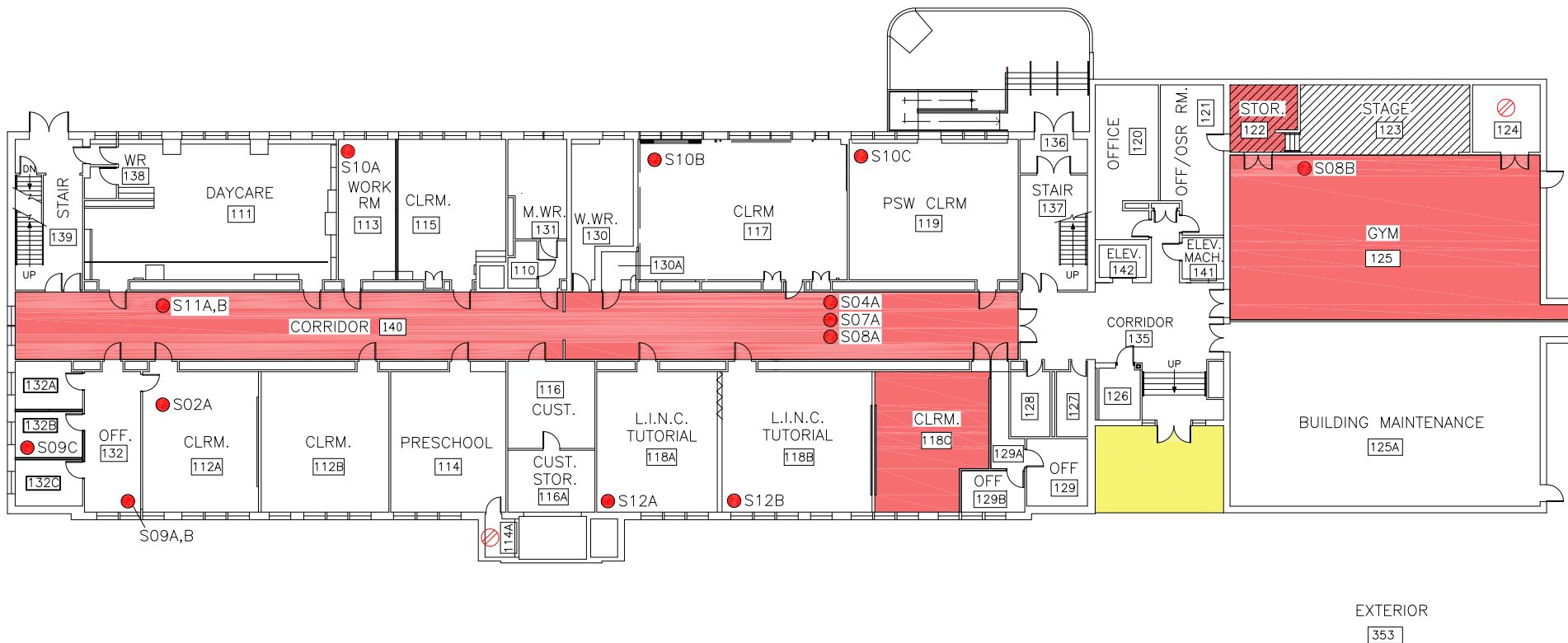


**APPENDIX III**  
**DRAWINGS**



- NOTE:**
- 1) Drywall joint compound and exterior textured plaster are suspected to contain asbestos until sampling proves otherwise. Locations are not shown.
  - 2) Interior smooth and textured plaster are confirmed to be asbestos-containing through limited sampling. Locations are not shown.
  - 3) Woven gaskets present in B01 are suspected to contain asbestos.
  - 4) Fire rated doors present within eBase #B01, B02 and 347 are suspected to contain asbestos until sampling proves otherwise.

Refer to main report.



**MAPLE ENVIRONMENTAL INC.**  
 ENVIRONMENT, HEALTH & SAFETY CONSULTANTS  
 482 South Service Rd. E. - Suite 116  
 Oakville - Ontario - L6J-2K6  
 Tel: (905) 257 4408 - Fax: (905) 257 8865  
 www.MapleEnvironmental.com

PROJECT NO.:  
**16312-118**  
 Drawn By:  
**S. Russo**  
 Checked By:  
**B. Panzer**

SAMPLE LOCATIONS	
SYMBOL	DESCRIPTION
●	ASBESTOS BULK SAMPLE: S##
⊘	NO ACCESS

CONFIRMED & SUSPECTED ACM	
SYMBOL	DESCRIPTION
■	VINYL FLOOR TILES & MASTIC
■	TRANSITE CEMENT PRODUCTS
▨	MECHANICAL INSULATIONS
NOTE	DRYWALL, SMOOTH & TEXTURED PLASTER, WOVEN GASKETS & FIRE RATED DOORS

Asbestos Containing Building Materials Survey

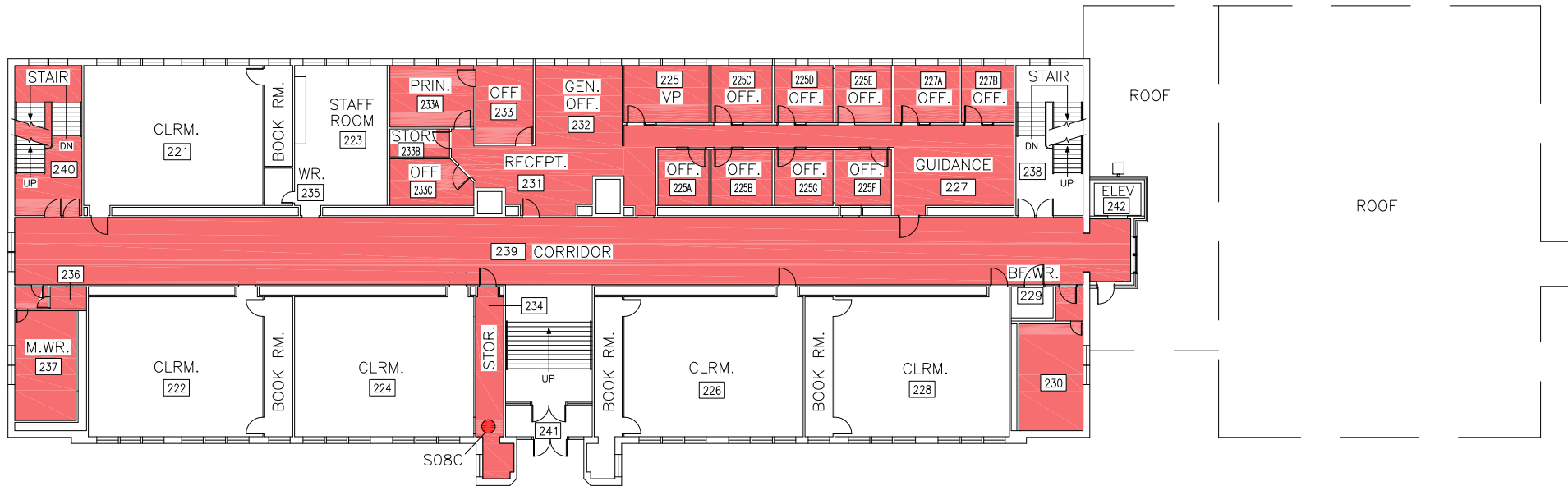
DDSB  
 EA Lovell Continuing Education Centre  
 120 Centre Street South  
 Oshawa, ON  
 LH1 N12

First Floor Plan

SCALE	
NTS	
SHEET	
AS-01-03	DATE:
	November, 2017

- NOTE:**
- 1) Drywall joint compound and exterior textured plaster are suspected to contain asbestos until sampling proves otherwise. Locations are not shown.
  - 2) Interior smooth and textured plaster are confirmed to be asbestos-containing through limited sampling. Locations are not shown.
  - 3) Woven gaskets present in B01 are suspected to contain asbestos.
  - 4) Fire rated doors present within eBase #B01, B02 and 347 are suspected to contain asbestos until sampling proves otherwise.

Refer to main report.



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 Oakville - Ontario - L6J-2X6  
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PROJECT NO.:  
**16312-118**

Drawn By:  
**S. Russo**

Checked By:  
**B. Panzer**

SAMPLE LOCATIONS	
SYMBOL	DESCRIPTION
	ASBESTOS BULK SAMPLE: S##
	NO ACCESS

CONFIRMED & SUSPECTED ACM	
SYMBOL	DESCRIPTION
	VINYL FLOOR TILES & MASTIC
	TRANSITE CEMENT PRODUCTS
	MECHANICAL INSULATIONS
NOTE	DRYWALL, SMOOTH & TEXTURED PLASTER, WOVEN GASKETS & FIRE RATED DOORS

Asbestos Containing Building Materials Survey

DDSB  
 EA Lovell Continuing Education Centre  
 120 Centre Street South  
 Oshawa, ON  
 LH1 1N2

Second Floor Plan

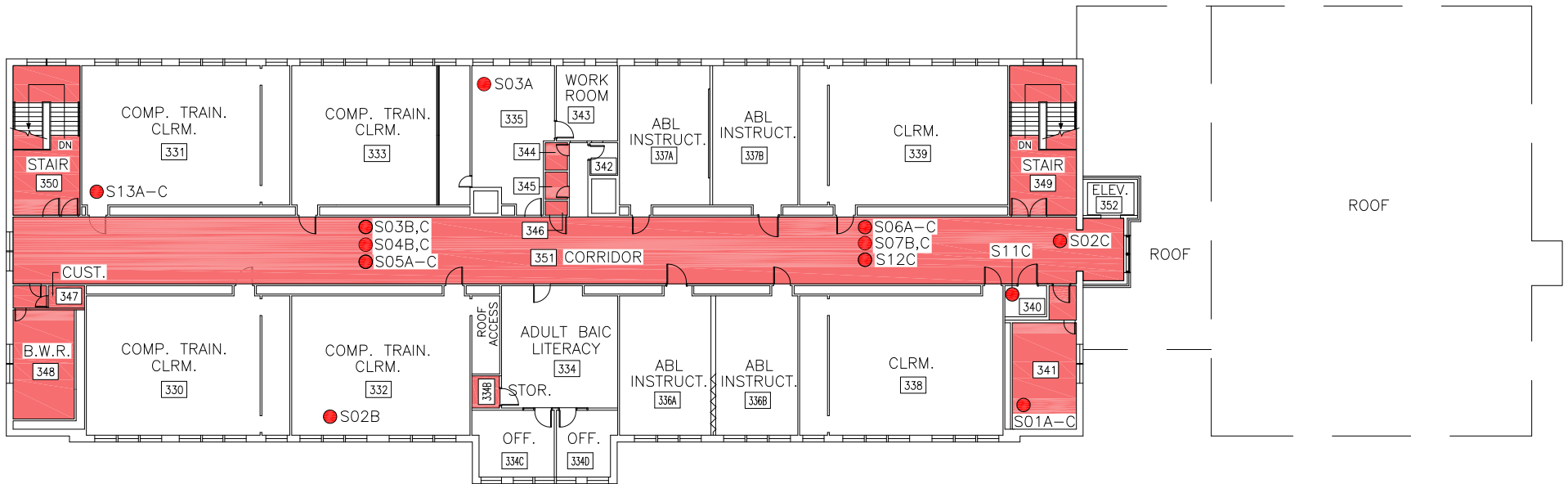
SCALE
NTS
SHEET
AS-02-03



DATE:  
 November, 2017

- NOTE:
- 1) Drywall joint compound and exterior textured plaster are suspected to contain asbestos until sampling proves otherwise. Locations are not shown.
  - 2) Interior smooth and textured plaster are confirmed to be asbestos-containing through limited sampling. Locations are not shown.
  - 3) Woven gaskets present in B01 are suspected to contain asbestos.
  - 4) Fire rated doors present within eBase #B01, B02 and 347 are suspected to contain asbestos until sampling proves otherwise.

Refer to main report.



482 South Service Rd. E. - Suite 116  
 Oakville - Ontario - L6J-2X6  
 Tel: (905) 257 4408 - Fax: (905) 257 8865  
 www.MapleEnvironmental.com

PROJECT NO.:  
**16312-118**

Drawn By:  
**S. Russo**

Checked By:  
**B. Panzer**

SAMPLE LOCATIONS	
SYMBOL	DESCRIPTION
●	ASBESTOS BULK SAMPLE: S##
⊘	NO ACCESS

CONFIRMED & SUSPECTED ACM	
SYMBOL	DESCRIPTION
■	VINYL FLOOR TILES & MASTIC
■	TRANSITE CEMENT PRODUCTS
▨	MECHANICAL INSULATIONS
NOTE	DRYWALL, SMOOTH & TEXTURED PLASTER, WOVEN GASKETS & FIRE RATED DOORS

Asbestos Containing Building Materials Survey

DDSB  
 EA Lovell Continuing Education Centre  
 120 Centre Street South  
 Oshawa, ON  
 LH1 1N2

Third Floor Plan

SCALE	
NTS	
SHEET	
AS-03-03	DATE:

November, 2017