



February 5, 2018

## CITY OF SASKATOON

# Asbestos-Containing Building Materials Assessment Report - Waste Water Treatment Plant Administration Building



REPORT

**Submitted to:**

The City of Saskatoon  
1101 Avenue P North  
Saskatoon, SK S7L 7K6

**Report Number: 1667963**

**Distribution:**

One Copy: City of Saskatoon  
One Copy: Golder Associates Ltd.





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## 1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by the City of Saskatoon (the Client) to conduct an asbestos-containing building materials assessment of the Waste Water Treatment Plant Administration Building (the Site) located in Saskatoon, Saskatchewan. This assessment report details our findings, conclusions and recommendations for the Site. A walkthrough of the Site was conducted on June 22, 2017, by Kody Henderson, OHS Project Manager, and the assessment was conducted on October 13 and 14, 2017 by Scott Bishop, Junior Occupational Hygienist. Asbestos-containing building materials were identified within the Administration Building during the assessment. Further information is provided in Section 3.0.

## 2.0 SCOPE OF WORK

In accordance with Tender 16-0844, Golder's scope of work included conducting an asbestos-containing building materials assessment of the Site to evaluate the quantities, locations, and conditions of asbestos-containing building materials.

Following the field work, Golder prepared this assessment report that includes laboratory analysis results, findings of the assessment, conclusions, and recommendations.

### 2.1 Asbestos-Containing Materials

The assessment involved a non-destructive inspection of the Site to assess the type and extent of suspect ACMs in the facility. The systems that were reviewed as part of the inspections included, but were not limited to:

- *Structural* - systems including: insulation between solid webbed joists, fireproofing, building envelope, and interior/exterior caulking around windows and doors;
- *Mechanical* - systems insulation including: hot water and steam system, condensate system, chilled water system, glycol system, domestic hot and cold water, emergency generator exhaust, boiler units, heat exchangers, and asbestos cement piping; and
- *Architectural* - systems including: texture coats, sheet flooring, vinyl floor tile, acoustical spray-applied materials, condensation control applications, ceiling tile, wall board, drywall joint compound, and asbestos sheet products.

Systematic sampling of suspect ACMs was conducted as part of the assessment. Samples were submitted under chain of custody to International Asbestos Testing Laboratory Inc. (IATL) and analyzed for asbestos type and percentage content using Polarized Light Microscopy (PLM) in accordance with EPA methodologies (EPA 600/R-93/116).

Further information related to the assessment and sample collection methods can be found in the Golder document *Golder Asbestos Assessment General Survey Plan and Protocol* provided to the Client.



## **3.0 RESULTS AND DISCUSSION**

The Waste Water Treatment Plant Administration Building consists of several offices, lunch rooms, change rooms, washrooms, work rooms and mechanical rooms. The Administration Building was constructed in 1971 with a 2015 addition. During the assessment, the building was treated as three functional spaces: the basement, the original construction on the main floor, and the 2015 addition on the main floor.

- The Laboratory Certificate of Analysis report for the bulk asbestos samples is included in Appendix A.
- Photographs collected during the assessment are provided in Appendix B.
- A room by room spreadsheet outlining the locations, quantities, friability, and condition of identified asbestos-containing materials as well as additional information is provided in Appendix C.
- Floor plans outlining the sample locations and locations of identified asbestos-containing materials are provided in Appendix D.
- Please refer to Sections 4.0 and 6.0 of this report for a summary of the limitations encountered.

### **3.1 Asbestos-Containing Materials**

A total of eighty-six (86) samples of building materials were collected and tested for asbestos content during the assessment of the Waste Water Treatment Plant Administration Building. One (1) of the samples was found to contain asbestos.

Potential asbestos-containing materials and components may be located within the electrical panels and fire doors on Site.

#### **3.1.1 List of Identified Asbestos-Containing Materials**

A list of the identified asbestos-containing materials is provided below.

- Grey and black window caulking.

Further information on the identified asbestos-containing materials listed is provided below.

##### ***Grey and Black Window Caulking***

One (1) sample of grey window caulking was collected during the assessment. The sample collected was found to contain 10% Chrysotile asbestos. A layer of black window caulking was found on the sample and found to contain 5.1% Chrysotile asbestos. Asbestos-containing window caulking (see Photograph 1 in Appendix B) was observed in the following locations:

- Room 102.1 (70 linear ft.) on window panes;
- Room 106 (20 linear ft.) on window panes; and
- Room 129.1 (70 linear ft.) on window panes.



### **3.1.2 Non Asbestos-Containing Materials**

The following materials were sampled during this assessment and were found to not contain asbestos or were observed to be non-suspect materials:

- Pipe-fitting insulation;
- Brown mastic pucks;
- 1' x 1' ceiling tiles with pinholes;
- Grey duct mastic;
- Brown duct mastic;
- Grey building caulking;
- Dark brown window caulking;
- Grey spray-applied insulation;
- Red firestop;
- Parging firestop material;
- Concrete floor coating;
- Boiler rope gasket;
- Beige, grey and white vinyl sheet flooring;
- Drywall joint compound;
- Grey and white vinyl sheet flooring;
- Grey stair tread material;
- Grey and white smeared vinyl sheet flooring;
- 2' x 2' ceiling tiles with random fissures;
- Grey expansion joint caulking;
- Light brown duct mastic;
- Brown duct mastic;
- Black window caulking;
- Grey vinyl floor tiles;
- Brown and tan stair trim;
- White sink undercoating;
- Concrete ceiling texture;



- Exterior dark brown window caulking;
- Exterior black window caulking;
- Brick mortar;
- Exterior grey caulking;
- Exterior black window caulking; and
- Exterior grey firestop putty.

Where applicable, materials were sampled to delineate between each functional space.

## **4.0 EXCLUDED AREAS AND MATERIALS**

The following is a list of the areas and/or materials excluded during the assessment.

- Building materials accessible by a ten foot ladder were assessed by Golder during the assessment. Materials located at heights that were inaccessible from a ten foot ladder were not assessed. If materials at heights are to be removed or impacted by future renovation or demolition activities, additional investigation and sampling of suspect materials may be required.
- The roof and associated components were not assessed by Golder during the assessment as per Tender 16-0844. If the roof and associated components are to be removed or impacted by future renovation or demolition activities, additional investigation and sampling of suspect materials may be required.
- The electrical panels and associated components were not inspected by Golder during the assessment. If the panels are to be removed or impacted by future renovation or demolition activities, additional investigation and sampling of suspect materials may be required.
- The fire doors were not assessed by Golder during the assessment. If the fire doors are to be removed or impacted by future renovation or demolition activities, additional coring, investigation and sampling of suspect materials may be required.

## **5.0 CONCLUSIONS AND RECOMMENDATIONS**

Based on the visual assessment and the laboratory analytical results, the following project specific conclusions and recommendations are provided.

### **5.1 Asbestos-Containing Materials**

Asbestos was positively identified within grey and black window caulking on Site. Asbestos was not identified in the remaining samples collected and analyzed.

If the building is scheduled for renovations that will impact the identified asbestos-containing materials, it must be removed. If additional suspect asbestos-containing building materials are encountered during renovation activities, additional sampling should be undertaken to evaluate asbestos content.



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## ASBESTOS-CONTAINING BUILDING MATERIALS ASSESSMENT REPORT - WASTE WATER TREATMENT PLANT ADMINISTRATION BUILDING

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Removal work should be completed by workers that are adequately trained in the hazards and proper methods of working with asbestos. Throughout the abatement activities, appropriate air monitoring and inspections should be conducted by a competent person to document that contamination is contained and that ACM are disposed of appropriately. Ensure asbestos waste is disposed of in accordance with the requirements of the Government of Saskatchewan.

All quantities listed in the report are approximate and are based on the conditions at the time of the assessment. Prior to abatement work it is recommended that a competent person conduct a review of the site to quantify and obtain all measurements of all building materials detailed in this report for cost estimating purposes.

In anticipation of potential abatement, Golder's recommendations for the asbestos-containing materials identified during the assessment are outlined below.

### **Grey and Black Window Caulking**

If scheduled for impact, asbestos-containing window caulking should be abated following low-risk abatement work procedures as outlined in the *Saskatchewan Asbestos Abatement Manual (2017)*. Alternatively, as the caulking was observed in good condition, and with a priority rating of 5 (please see the room by room spreadsheet provided in Appendix C for a description of the priority ratings), the glazing can be managed in place if not scheduled for impact.

## **6.0 SURVEY LIMITATIONS**

This report is based on data and information collected by Golder during the assessment conducted on October 13 and 14, 2017 and is based solely on site conditions encountered at the time of the assessment. Any use of this document or the findings, conclusions or recommendations provided in this report by any person other than the City of Saskatoon is at the sole risk of such user.

The conclusions and recommendations contained in this survey report are based upon professional opinions with regard to the subject matter. These opinions are in accordance with currently accepted environmental assessment standards and practices applicable to these locations and are subject to the following inherent limitations:

The data and findings presented in this report are valid as of the dates of the investigations. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration at the properties, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report. No assurance is made regarding changes in conditions or practices subsequent to the time of the investigation. It was beyond the scope of this assessment to conduct a risk assessment and the potential health risks that may be associated with asbestos exposure for building occupants.

The data reported and the findings, observations and conclusions expressed in this report are limited by the Scope of Work. The Scope of Work was defined by Tender 16-0844 and the initial site walkthrough with the Client, the time and budgetary constraints imposed by the Client, and availability of access to the property.

Because of the limitations stated above, the findings, observations and conclusions expressed by Golder in this report are not, and must not be, considered an opinion concerning compliance of any past or present owner or operator of the site with any federal, provincial or local laws or regulations.

No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon site conditions in existence at the time of investigation.



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## ASBESTOS-CONTAINING BUILDING MATERIALS ASSESSMENT REPORT - WASTE WATER TREATMENT PLANT ADMINISTRATION BUILDING

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Golder's assessment reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, provincial, or local governmental agencies. Any use of the survey report constitutes acceptance of the limits of Golder's liability.

Golder's liability extends only to its client and not to other parties who may obtain this survey report. Issues raised by the report must be reviewed by appropriate legal counsel.

### **7.0 CLOSURE**

We trust the information presented in this report meets your requirements. If you have any questions, please contact Kody Henderson at (780) 483-3499 or email at [kody\\_henderson@golder.com](mailto:kody_henderson@golder.com). Thank you for the opportunity to be of service. We look forward to working with you again in the future.





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**ASBESTOS-CONTAINING BUILDING MATERIALS ASSESSMENT  
REPORT - WASTE WATER TREATMENT PLANT  
ADMINISTRATION BUILDING**

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## Report Signature Page

### GOLDER ASSOCIATES LTD.

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Associate, OHS Project Director

SWB/KH/AG/ba

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# **APPENDIX A**

## **Laboratory Certificate of Analysis Report**

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369437  
**Client No.:** A-001  
**Description:** Grey Insulation  
**Facility:**  
**Location:** Room B20  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 30 Fibrous Glass 70

**Lab No.:** 6369438  
**Client No.:** A-002  
**Description:** White Insulation  
**Facility:**  
**Location:** Room B20  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 30 Cellulose 65  
5 Fibrous Glass

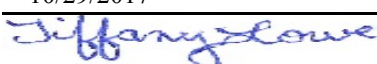
**Lab No.:** 6369439  
**Client No.:** A-003  
**Description:** Grey Insulation  
**Facility:**  
**Location:** Room B20  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 30 Fibrous Glass 70

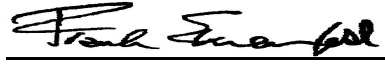
**Lab No.:** 6369440  
**Client No.:** A-004  
**Description:** Brown Mastic  
**Facility:**  
**Location:** Room B15  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369441  
**Client No.:** A-005  
**Description:** White Ceiling Tile; 1x1  
**Facility:**  
**Location:** Room B15  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 40 Cellulose 20  
40 Fibrous Glass

**Lab No.:** 6369442  
**Client No.:** A-006  
**Description:** White Ceiling Tile; 1x1  
**Facility:**  
**Location:** Room B15  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 40 Cellulose 20  
40 Fibrous Glass

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369443  
**Client No.:** A-007  
**Description:** White Ceiling Tile; 1x1  
**Facility:**  
**Location:** Room B15  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 40 Cellulose 20  
40 Fibrous Glass

**Lab No.:** 6369444  
**Client No.:** A-008  
**Description:** Grey Mastic  
**Facility:**  
**Location:** Room B15  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100


**Lab No.:** 6369445  
**Client No.:** A-009  
**Description:** Brown Mastic  
**Facility:**  
**Location:** Room B15  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

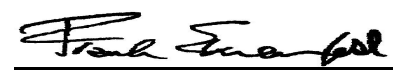
**Lab No.:** 6369446  
**Client No.:** A-010  
**Description:** Grey Caulk  
**Facility:**  
**Location:** Room B04.1  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369447  
**Client No.:** A-011  
**Description:** Dk Brown Caulk  
**Facility:**  
**Location:** Room 147  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369448  
**Client No.:** A-012  
**Description:** Grey Spray-On Fireproofing  
**Facility:**  
**Location:** Room 146  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 30 Cellulose 70  
Trace Fibrous Glass

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369449  
**Client No.:** A-013  
**Description:** Grey Spray-On Fireproofing  
**Facility:**  
**Location:** Room 145  
Percent Asbestos: *None Detected*  
Percent Non-Asbestos Fibrous Material: 30 Cellulose  
Percent Non-Fibrous Material: 70  
Trace Fibrous Glass

**Lab No.:** 6369450  
**Client No.:** A-014  
**Description:** Grey Spray-On Fireproofing  
**Facility:**  
**Location:** Room 144  
Percent Asbestos: *None Detected*  
Percent Non-Asbestos Fibrous Material: 30 Cellulose  
Percent Non-Fibrous Material: 70  
Trace Fibrous Glass


**Lab No.:** 6369451  
**Client No.:** A-015  
**Description:** Grey Insulation  
**Facility:**  
**Location:** Room 143  
Percent Asbestos: *None Detected*  
Percent Non-Asbestos Fibrous Material: 30 Fibrous Glass  
Percent Non-Fibrous Material: 70

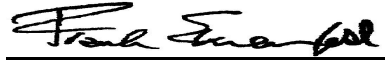
**Lab No.:** 6369452  
**Client No.:** A-016  
**Description:** Red Firestop  
**Facility:**  
**Location:** Room 143  
Percent Asbestos: *None Detected*  
Percent Non-Asbestos Fibrous Material: 10 Fibrous Glass  
Percent Non-Fibrous Material: 90

**Lab No.:** 6369453  
**Client No.:** A-017  
**Description:** Grey Insulation  
**Facility:**  
**Location:** Room 143  
Percent Asbestos: *None Detected*  
Percent Non-Asbestos Fibrous Material: 30 Fibrous Glass  
Percent Non-Fibrous Material: 70

**Lab No.:** 6369454  
**Client No.:** A-018  
**Description:** Brown Concrete  
**Facility:**  
**Location:** Room 157  
Percent Asbestos: *None Detected*  
Percent Non-Asbestos Fibrous Material: None Detected  
Percent Non-Fibrous Material: 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369455  
**Client No.:** A-019  
**Description:** White Gasket  
**Facility:**  
**Location:** Room 157  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 95 Fibrous Glass 5

**Lab No.:** 6369456  
**Client No.:** A-020  
**Description:** Grey Insulation  
**Facility:**  
**Location:** Room 157  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 30 Fibrous Glass 70

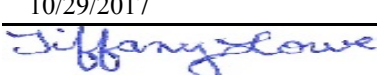
**Lab No.:** 6369457  
**Client No.:** A-021  
**Description:** Brown Concrete  
**Facility:**  
**Location:** Room 157  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

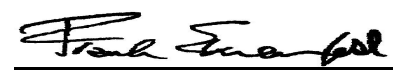
**Lab No.:** 6369457(L2)  
**Client No.:** A-021  
**Description:** Grey Concrete  
**Facility:**  
**Location:** Room 157  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369458  
**Client No.:** A-022  
**Description:** Brown Concrete  
**Facility:**  
**Location:** Room 157  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369459  
**Client No.:** A-023  
**Description:** Brown Concrete  
**Facility:**  
**Location:** Room 155  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

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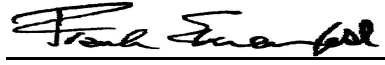
Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 6369460 <b>Client No.:</b> A-024	<b>Description:</b> Brown Concrete <b>Facility:</b>	<b>Location:</b> Room ST-3
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369461 <b>Client No.:</b> A-025	<b>Description:</b> Beige Vinyl Sheet Flooring <b>Facility:</b>	<b>Location:</b> Room 159
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 20 Synthetic	<u>Percent Non-Fibrous Material:</u> 80
<b>Lab No.:</b> 6369461(L2) <b>Client No.:</b> A-025	<b>Description:</b> Tan Mastic <b>Facility:</b>	<b>Location:</b> Room 159
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369461(L3) <b>Client No.:</b> A-025	<b>Description:</b> Grey Leveling Compound <b>Facility:</b>	<b>Location:</b> Room 159
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369462 <b>Client No.:</b> A-026	<b>Description:</b> White Sheetrock/Joint Compound <b>Facility:</b>	<b>Location:</b> Room 161; Composite
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 3 Cellulose 1 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 96
<b>Lab No.:</b> 6369463 <b>Client No.:</b> A-027	<b>Description:</b> White Joint Compound <b>Facility:</b>	<b>Location:</b> Lab-Instrument Room
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director


REVISED CERTIFICATE OF ANALYSIS

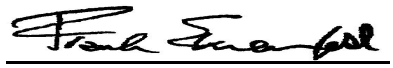
Client: Golder Associates Ltd 16820 107 Ave Edmonton AB T5P 4C3	Report Date: 10/29/2017 Report No.: 550058 - PLM Project: Administration And Maintenance Bldg Project No.: 1667963	Rev #2, 10/30/2017
Client: GOL572		

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 6369464 <b>Client No.:</b> A-028	<b>Description:</b> White Joint Compound <b>Facility:</b>	<b>Location:</b> Room 113
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369465 <b>Client No.:</b> A-029	<b>Description:</b> White Joint Compound <b>Facility:</b>	<b>Location:</b> Room 136
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369466 <b>Client No.:</b> A-030	<b>Description:</b> Tan Caulk <b>Facility:</b>	<b>Location:</b> Room 161
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369467 <b>Client No.:</b> A-031	<b>Description:</b> White Joint Compound <b>Facility:</b>	<b>Location:</b> Room 160
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369467(L2) <b>Client No.:</b> A-031	<b>Description:</b> Yellow Mastic <b>Facility:</b>	<b>Location:</b> Room 160
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369468 <b>Client No.:</b> A-032	<b>Description:</b> Grey Vinyl Sheet Flooring <b>Facility:</b>	<b>Location:</b> Room ST-4
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 10 Cellulose 10 Synthetic 5 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 75

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director



REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 6369468(L2)	<b>Description:</b> Yellow Mastic	<b>Location:</b> Room ST-4
<b>Client No.:</b> A-032	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

<b>Lab No.:</b> 6369468(L3)	<b>Description:</b> White Leveling Compound	<b>Location:</b> Room ST-4
<b>Client No.:</b> A-032	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

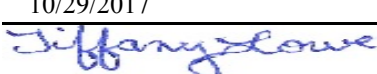
<b>Lab No.:</b> 6369469	<b>Description:</b> Grey Stair Tread	<b>Location:</b> Room ST-4
<b>Client No.:</b> A-033	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100


<b>Lab No.:</b> 6369470	<b>Description:</b> Grey Floor Tile	<b>Location:</b> Room ST-4
<b>Client No.:</b> A-034	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

<b>Lab No.:</b> 6369470(L2)	<b>Description:</b> Yellow Mastic	<b>Location:</b> Room ST-4
<b>Client No.:</b> A-034	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

<b>Lab No.:</b> 6369471	<b>Description:</b> White Ceiling Tile; 2x2	<b>Location:</b> Room ST-4
<b>Client No.:</b> A-035	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	90 Cellulose	10

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369472      **Description:** White Ceiling Tile; 2x2      **Location:** Room ST-4  
**Client No.:** A-036      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      90 Cellulose      10

**Lab No.:** 6369473      **Description:** White Ceiling Tile; 2x2      **Location:** Room ST-4  
**Client No.:** A-037      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      90 Cellulose      10

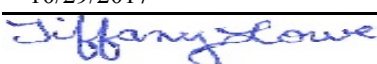
**Lab No.:** 6369474      **Description:** Grey Caulk      **Location:** Room 144  
**Client No.:** A-038      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

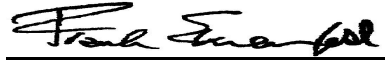
**Lab No.:** 6369475      **Description:** Grey Mastic      **Location:** Room 145  
**Client No.:** A-039      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369476      **Description:** Grey Insulation      **Location:** Room 149  
**Client No.:** A-040      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369477      **Description:** Grey Caulk      **Location:** Room 129  
**Client No.:** A-041      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369478 **Description:** White Sheetrock/Joint Compound **Location:** Room 129; Composite  
**Client No.:** A-042 **Facility:**  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* Trace Cellulose 100  
Trace Fibrous Glass

**Lab No.:** 6369479 **Description:** Black Glazing **Location:** Room 133  
**Client No.:** A-043 **Facility:**  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

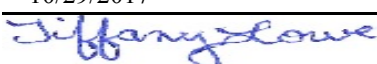
**Lab No.:** 6369480 **Description:** Grey Sink Undercoating **Location:** Room 130  
**Client No.:** A-044 **Facility:**  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 5 Cellulose 95

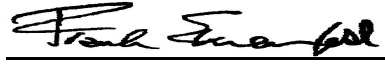
**Lab No.:** 6369481 **Description:** White Joint Compound **Location:** Room 130  
**Client No.:** A-045 **Facility:**  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369481(L2) **Description:** Yellow Mastic **Location:** Room 130  
**Client No.:** A-045 **Facility:**  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369482 **Description:** White Joint Compound **Location:** Room 128  
**Client No.:** A-046 **Facility:**  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369483  
**Client No.:** A-047  
**Description:** Grey Glazing  
**Facility:**  
**Location:** Room 102.1  
Percent Asbestos:  
*10 Chrysotile*  
Percent Non-Asbestos Fibrous Material:  
None Detected  
Percent Non-Fibrous Material:  
90

**Lab No.:** 6369483(L2)  
**Client No.:** A-047  
**Description:** Black Glazing  
**Facility:**  
**Location:** Room 102.1  
Percent Asbestos:  
*PC 5.1 Chrysotile*  
Percent Non-Asbestos Fibrous Material:  
None Detected  
Percent Non-Fibrous Material:  
94.9

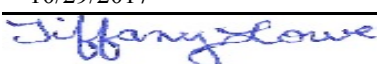
**Lab No.:** 6369484  
**Client No.:** A-048  
**Description:** White Joint Compound  
**Facility:**  
**Location:** Room 101  
Percent Asbestos:  
*None Detected*  
Percent Non-Asbestos Fibrous Material:  
None Detected  
Percent Non-Fibrous Material:  
100

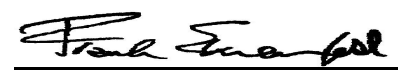
**Lab No.:** 6369484(L2)  
**Client No.:** A-048  
**Description:** Yellow Mastic  
**Facility:**  
**Location:** Room 101  
Percent Asbestos:  
*None Detected*  
Percent Non-Asbestos Fibrous Material:  
None Detected  
Percent Non-Fibrous Material:  
100

**Lab No.:** 6369484(L3)  
**Client No.:** A-048  
**Description:** Clear Caulk  
**Facility:**  
**Location:** Room 101  
Percent Asbestos:  
*None Detected*  
Percent Non-Asbestos Fibrous Material:  
None Detected  
Percent Non-Fibrous Material:  
100

**Lab No.:** 6369485  
**Client No.:** A-049  
**Description:** Grey Mastic  
**Facility:**  
**Location:** Room 103  
Percent Asbestos:  
*None Detected*  
Percent Non-Asbestos Fibrous Material:  
None Detected  
Percent Non-Fibrous Material:  
100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
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Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369486      **Description:** Lt Brown Mastic      **Location:** Room 109  
**Client No.:** A-050      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369487      **Description:** Brown Mastic      **Location:** Room 115  
**Client No.:** A-051      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100


**Lab No.:** 6369488      **Description:** Black Glazing      **Location:** Room 116  
**Client No.:** A-052      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

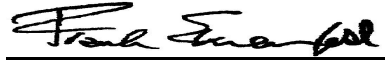
**Lab No.:** 6369489      **Description:** White Joint Compound      **Location:** Room 117  
**Client No.:** A-053      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369489(L2)      **Description:** Yellow Mastic      **Location:** Room 117  
**Client No.:** A-053      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369490      **Description:** White Joint Compound      **Location:** Room 124  
**Client No.:** A-054      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369491  
**Client No.:** A-055  
**Description:** Grey Floor Tile  
**Facility:**  
**Location:** Room ST-1  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369492  
**Client No.:** A-056  
**Description:** Dk Grey Rubber  
**Facility:**  
**Location:** Room ST-1  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

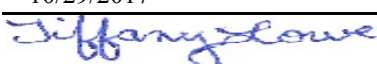
**Lab No.:** 6369492(L2)  
**Client No.:** A-056  
**Description:** Clear Mastic  
**Facility:**  
**Location:** Room ST-1  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

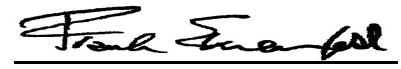
**Lab No.:** 6369492(L3)  
**Client No.:** A-056  
**Description:** Grey Rubber  
**Facility:**  
**Location:** Room ST-1  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* 5 Synthetic 95

**Lab No.:** 6369492(L4)  
**Client No.:** A-056  
**Description:** Tan Mastic  
**Facility:**  
**Location:** Room ST-1  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369493  
**Client No.:** A-057  
**Description:** Grey Floor Tile  
**Facility:**  
**Location:** Lab- Instrument Room  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369493(L2)      **Description:** Yellow Mastic      **Location:** Lab- Instrument Room  
**Client No.:** A-057      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369493(L3)      **Description:** White Leveling Compound      **Location:** Lab- Instrument Room  
**Client No.:** A-057      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

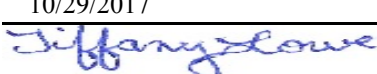
**Lab No.:** 6369494      **Description:** White/Tan Sink Undercoating      **Location:** Lab- Instrument Room  
**Client No.:** A-058      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

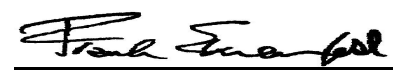
**Lab No.:** 6369495      **Description:** Tan Concrete      **Location:** Room ST-1.1  
**Client No.:** A-059      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369496      **Description:** Tan Concrete      **Location:** Room ST-1.1  
**Client No.:** A-060      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369497      **Description:** Tan Concrete      **Location:** Room ST-1  
**Client No.:** A-061      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director


REVISED CERTIFICATE OF ANALYSIS

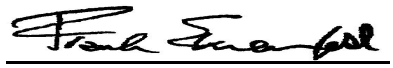
Client: Golder Associates Ltd 16820 107 Ave Edmonton AB T5P 4C3	Report Date: 10/29/2017 Report No.: 550058 - PLM Project: Administration And Maintenance Bldg Project No.: 1667963	Rev #2, 10/30/2017
Client: GOL572		

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 6369498 <b>Client No.:</b> A-062	<b>Description:</b> White Ceiling Texture <b>Facility:</b>	<b>Location:</b> Room ST-1.1
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369499 <b>Client No.:</b> A-063	<b>Description:</b> White Ceiling Texture <b>Facility:</b>	<b>Location:</b> Room B07
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369500 <b>Client No.:</b> A-064	<b>Description:</b> White Ceiling Texture <b>Facility:</b>	<b>Location:</b> Room B07
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369501 <b>Client No.:</b> A-065	<b>Description:</b> White Ceiling Texture <b>Facility:</b>	<b>Location:</b> Room B08
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369502 <b>Client No.:</b> A-066	<b>Description:</b> White Ceiling Texture <b>Facility:</b>	<b>Location:</b> Room B08
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369503 <b>Client No.:</b> A-067	<b>Description:</b> White Joint Compound <b>Facility:</b>	<b>Location:</b> Lunch Room
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
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Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director



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Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 6369503(L2)	<b>Description:</b> Yellow Mastic	<b>Location:</b> Lunch Room
<b>Client No.:</b> A-067	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

<b>Lab No.:</b> 6369504	<b>Description:</b> White Joint Compound	<b>Location:</b> Lunch Room
<b>Client No.:</b> A-068	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

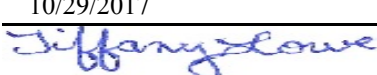
<b>Lab No.:</b> 6369504(L2)	<b>Description:</b> Yellow Mastic	<b>Location:</b> Lunch Room
<b>Client No.:</b> A-068	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

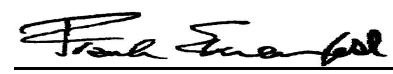
<b>Lab No.:</b> 6369505	<b>Description:</b> Beige Vinyl Sheet Flooring	<b>Location:</b> Lunch Room
<b>Client No.:</b> A-069	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	10 Synthetic 10 Fibrous Glass	80

<b>Lab No.:</b> 6369505(L2)	<b>Description:</b> Yellow Mastic	<b>Location:</b> Lunch Room
<b>Client No.:</b> A-069	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

<b>Lab No.:</b> 6369505(L3)	<b>Description:</b> Grey Leveling Compound	<b>Location:</b> Lunch Room
<b>Client No.:</b> A-069	<b>Facility:</b>	
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369506  
**Client No.:** A-070  
**Description:** White Joint Compound  
**Facility:**  
**Location:** Room 101  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369506(L2)  
**Client No.:** A-070  
**Description:** Yellow Mastic  
**Facility:**  
**Location:** Room 101  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

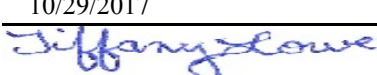
**Lab No.:** 6369507  
**Client No.:** A-071  
**Description:** Dk Brown Caulk  
**Facility:**  
**Location:** Exterior  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

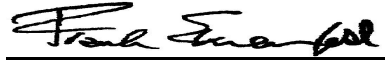
**Lab No.:** 6369508  
**Client No.:** A-072  
**Description:** Black Glazing  
**Facility:**  
**Location:** Exterior  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369509  
**Client No.:** A-073  
**Description:** Grey Mortar  
**Facility:**  
**Location:** Exterior  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

**Lab No.:** 6369510  
**Client No.:** A-074  
**Description:** Grey Caulk  
**Facility:**  
**Location:** Exterior  
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369511      **Description:** Grey Mortar      **Location:** Exterior  
**Client No.:** A-075      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369512      **Description:** Grey Mortar      **Location:** Exterior  
**Client No.:** A-076      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

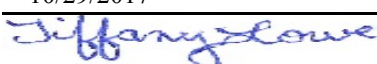
**Lab No.:** 6369513      **Description:** Grey Mortar      **Location:** Exterior  
**Client No.:** A-077      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

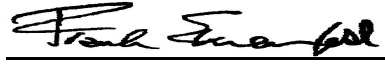
**Lab No.:** 6369514      **Description:** Dk Brown Caulk      **Location:** Exterior  
**Client No.:** A-078      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369515      **Description:** Black Glazing      **Location:** Exterior  
**Client No.:** A-079      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 6369516      **Description:** Grey Caulk      **Location:** Exterior  
**Client No.:** A-080      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director


REVISED CERTIFICATE OF ANALYSIS

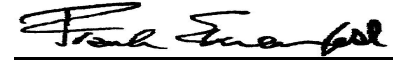
Client: Golder Associates Ltd 16820 107 Ave Edmonton AB T5P 4C3	Report Date: 10/29/2017 Report No.: 550058 - PLM Project: Administration And Maintenance Bldg Project No.: 1667963	Rev #2, 10/30/2017
Client: GOL572		

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 6369517 <b>Client No.:</b> A-081	<b>Description:</b> Black Caulk <b>Facility:</b>	<b>Location:</b> Exterior
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369518 <b>Client No.:</b> A-082	<b>Description:</b> Grey Mortar <b>Facility:</b>	<b>Location:</b> Exterior
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369519 <b>Client No.:</b> A-083	<b>Description:</b> Grey Mortar <b>Facility:</b>	<b>Location:</b> Exterior
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369520 <b>Client No.:</b> A-084	<b>Description:</b> Grey Mortar <b>Facility:</b>	<b>Location:</b> Exterior
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369520(L2) <b>Client No.:</b> A-084	<b>Description:</b> Tan Mortar <b>Facility:</b>	<b>Location:</b> Exterior
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6369521 <b>Client No.:</b> A-085	<b>Description:</b> Grey Putty <b>Facility:</b>	<b>Location:</b> Exterior
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

REVISED CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM Rev #2, 10/30/2017  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 6369522  
**Client No.:** A-086

**Description:** Dk Brown Caulk  
**Facility:**

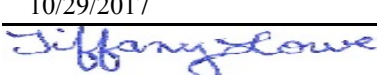
**Location:** Lunch Room

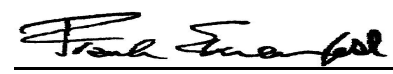
Percent Asbestos:  
*None Detected*

Percent Non-Asbestos Fibrous Material:  
None Detected

Percent Non-Fibrous Material:  
100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017  
Date Analyzed: 10/29/2017  
Signature:   
Analyst: Tiffany Lowe

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

---

REVISED CERTIFICATE OF ANALYSIS

---

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Report Date: 10/29/2017  
Report No.: 550058 - PLM  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Client: GOL572

## Appendix to Analytical Report

**Customer Contact:**

**Analysis:** US EPA 600, R93-116

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

**iATL Customer Service:** customerservice@iatl.com

**iATL Office Manager:** cdavis@iatl.com

**iATL Account Representative:** Pete Lesniak

**Sample Login Notes:** See Batch Sheet Attached

**Sample Matrix:** Bulk Building Materials

**Exceptions Noted:** See Following Pages

### General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at [www.iATL.com](http://www.iATL.com) and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

### Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

### Certifications:

- NIST-NVLAP No. 101165-0
- NY-DOH No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)  
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)>

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REVISED CERTIFICATE OF ANALYSIS

---

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Client: GOL572

Report Date: 10/29/2017  
Report No.: 550058 - PLM  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

### Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at [customerservice@iatl.com](mailto:customerservice@iatl.com).

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.

### Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) [www.atsdr.cdc.gov](http://www.atsdr.cdc.gov), United States Geological Survey (USGS) [www.minerals.usgs.gov/minerals/](http://www.minerals.usgs.gov/minerals/), US EPA [www.epa.gov/asbestos](http://www.epa.gov/asbestos). The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional.

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

- 1) **Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116  
**Requirements/Comments:** Minimum of 0.1 g of sample. ~0.25% LOQ for most samples.
- 2) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.
- 3) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Floats" only.
- 4) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.
- 5) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004

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REVISED CERTIFICATE OF ANALYSIS

---

Client: Golder Associates Ltd  
16820 107 Ave  
Edmonton AB T5P 4C3

Client: GOL572

Report Date: 10/29/2017  
Report No.: 550058 - PLM  
Project: Administration And Maintenance Bldg  
Project No.: 1667963

**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Suspension" only.

LOQ, Limit of Quantitation estimates for mass and volume analyses.

\*With advance notice and confirmation by the laboratory.

\*\*Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).





# **APPENDIX B**

## **Site Photographs**



## APPENDIX B Site Photographs



**Photograph 1: Asbestos-Containing Grey and Black Window Caulking**

\\golder\galledmonton\active\2016\3 proj\1667963 cityofsaskatoon\_asbsurveys\_saskatoon\07 reports\issued\55 - wastewater administration building\revised\appendix b - site photographs.docx



# **APPENDIX C**

## **Wastewater Treatment Plant Administration Building Room by Room Spreadsheet**



Appendix C  
Waste Water Administration Building  
ACM Inventory

Included/Excluded	Floor	Room #	Area Description	Elements	Subelements	Material Description	Accessibility	Suspect?	Sampled?	Asbestos Containing Material?	Condition	Field Notes	Sample Type	Sample ID	Sample Date	Asbestos Type	ACM Product	% of asbestos	Friable	Sprayed-on	Maintenance	Inspection	Priority	Potential for Disturbance	Recommended Action	Quantity	Photograph ID	Labelling Type
Included	B	B14	Storage	Mechanical	Piping	Insulation	High	No	Yes	No	Good	On pipe fittings.	Bulk	V.S. A-001, A-002, A-003	13-Oct-17													
Included	B	B14	Storage	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	B	B14	Storage	Electrical	Electrical Panels and Components	Electrical Panels and Components	High	Yes	No	Potential	Good	Not sampled due to safety concerns.													Inspect and sample if scheduled for removal.			
Included	B	B15	Mechanical Room	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	B	B15	Mechanical Room	Walls	Walls	Brown Mastic Pucks	High	No	Yes	No	Good		Bulk	A-004	13-Oct-17													
Included	B	B15	Mechanical Room	Walls	Walls	1' x 1' Ceiling Tiles	High	No	Yes	No	Good	With pinholes.	Bulk	A-005, A-006, A-007	13-Oct-17													
Included	B	B15	Mechanical Room	Floor	Floor	Concrete	High	No	No	No	Good																	
Included	B	B15	Mechanical Room	Ceiling	Ceiling	Concrete	High	No	No	No	Good																	
Included	B	B15	Mechanical Room	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	B	B15	Mechanical Room	Mechanical	Duct Work	Grey Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	A-008	13-Oct-17													
Included	B	B15	Mechanical Room	Mechanical	Duct Work	Brown Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	A-009	13-Oct-17													
Included	B	B15	Mechanical Room	Electrical	Electrical Panels and Components	Electrical Panels and Components	High	Yes	No	Potential	Good	Not sampled due to safety concerns.													Inspect and sample if scheduled for removal.			
Included	B	B15	Mechanical Room	Doors	Suspect Fire Doors	Suspect Fire Doors	High	Yes	No	Potential	Good	Not sampled as damage to the door would affect it's operational requirement.													Inspect and sample if scheduled for removal.			
Included	B	B17	Tunnel	Walls	Walls	Concrete	High	No	No	No	Good																	
Included	B	B17	Tunnel	Floor	Floor	Concrete	High	No	No	No	Good																	
Included	B	B17	Tunnel	Ceiling	Ceiling	Concrete	High	No	No	No	Good																	
Included	B	B17	Tunnel	Mechanical	Piping	Insulation	High	No	Yes	No	Good	On pipe fittings.	Bulk	V.S. A-001, A-002, A-003	13-Oct-17													
Included	B	B17	Tunnel	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	B	B17	Tunnel	Doors	Suspect Fire Doors	Suspect Fire Doors	High	Yes	No	Potential	Good	Not sampled as damage to the door would affect it's operational requirement.													Inspect and sample if scheduled for removal.			
Included	B	B20	Open Area	Walls	Walls	Concrete	High	No	No	No	Good																	
Included	B	B20	Open Area	Floor	Floor	Concrete	High	No	No	No	Good																	
Included	B	B20	Open Area	Ceiling	Ceiling	Concrete	High	No	No	No	Good																	
Included	B	B20	Open Area	Mechanical	Piping	Insulation	High	No	Yes	No	Good	On pipe fittings.	Bulk	A-001, A-002, A-003	13-Oct-17													
Included	B	B20	Open Area	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	B	B20	Open Area	Mechanical	Tank	Insulation	High	No	No	No	Good	Insulated with fiberglass, parging not found beneath.																
Included	B	B20	Open Area	Mechanical	Duct Work	Grey Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	V.S. A-008	13-Oct-17													
Included	B	B20	Open Area	Doors	Suspect Fire Doors	Suspect Fire Doors	High	Yes	No	Potential	Good	Not sampled as damage to the door would affect it's operational requirement.													Inspect and sample if scheduled for removal.			
Included	B	B22	Open Area	Walls	Walls	Concrete	High	No	No	No	Good																	
Included	B	B22	Open Area	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	B	B22	Open Area	Floor	Floor	Concrete	High	No	No	No	Good																	
Included	B	B22	Open Area	Ceiling	Ceiling	Concrete	High	No	No	No	Good																	
Included	B	B22	Open Area	Mechanical	Piping	Insulation	High	No	Yes	No	Good	On pipe fittings.	Bulk	V.S. A-001, A-002, A-003	13-Oct-17													
Included	B	B22	Open Area	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	B	B22	Open Area	Doors	Suspect Fire Doors	Suspect Fire Doors	High	Yes	No	Potential	Good	Not sampled as damage to the door would affect it's operational requirement.													Inspect and sample if scheduled for removal.			
Included	M	Throughout Floor	Open Area	Doors	Regular Doors	Non Suspect Doors	High	No	No	No	Good	Non-suspect door was observed at the Site.																
Included	M	100	Vestibule	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-042, A-046, A-048, A-070	13-Oct-17													
Included	M	100	Vestibule	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	100	Vestibule	Floor	Floor	Ceramic Tile	High	No	No	No	Good																	
Included	M	100	Vestibule	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	100	Vestibule	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good	No spray-applied insulation.																
Included	M	100	Vestibule	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	M	100	Vestibule	Miscellaneous	Caulking	Dark Brown Caulking	High	No	Yes	No	Good	On door frame.	Bulk	V.S. A-086	13-Oct-17													
Included	M	101	Waiting Room	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	A-048, A-070	14-Oct-17													
Included	M	101	Waiting Room	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	101	Waiting Room	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	101	Waiting Room	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	101	Waiting Room	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good	No spray-applied insulation.																
Included	M	101	Waiting Room	Miscellaneous	Caulking	Dark Brown Caulking	High	No	Yes	No	Good	On door frame.	Bulk	V.S. A-086	14-Oct-17													
Included	M	101	Waiting Room	Miscellaneous	Caulking	Grey Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	V.S. A-041	14-Oct-17													
Included	M	101	Waiting Room	Miscellaneous	Caulking	Beige Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	V.S. A-030	14-Oct-17													
Included	M	101	Waiting Room	Mechanical	Duct Work	Fibreglass Wrap	High	No	No	No	Good																	
Included	M	102 and 102.1	Reception	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-042, A-046, A-048, A-070	14-Oct-17													
Included	M	102 and 102.1	Reception	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	102 and 102.1	Reception	Walls	Walls	Brick	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	V.S. A-082, A-083, A-084	14-Oct-17													
Included	M	102 and 102.1	Reception	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	102 and 102.1	Reception	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	102 and 102.1	Reception	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good	No spray-applied insulation.																
Included	M	102 and 102.1	Reception	Windows	Panels	Metal	High	No	No	No	Good																	
Included	M	102 and 102.1	Reception	Miscellaneous	Caulking	Dark Brown Caulking	High	No	Yes	No	Good	On door frame.	Bulk	V.S. A-086	14-Oct-17													
Included	M	102 and 102.1	Reception	Miscellaneous	Caulking	Grey Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	V.S. A-041	14-Oct-17													
Included	M	102 and 102.1	Reception	Miscellaneous	Caulking	Beige Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	V.S. A-030	14-Oct-17													











Appendix C  
Waste Water Administration Building  
ACM Inventory

Included/Excluded	Floor	Room #	Area Description	Elements	Subelements	Material Description	Accessibility	Suspect?	Sampled?	Asbestos Containing Material?	Condition	Field Notes	Sample Type	Sample ID	Sample Date	Asbestos Type	ACM Product	% of asbestos	Friable	Sprayed-on	Maintenance	Inspection	Priority	Potential for Disturbance	Recommended Action	Quantity	Photograph ID	Labelling Type
Included	M	132	Server Room	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	132	Server Room	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	132	Server Room	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good	No spray-applied insulation.																
Included	M	132	Server Room	Mechanical	Duct Work	Bare Duct	High	No	No	No	Good	Uninsulated ducting.																
Included	M	132	Server Room	Electrical	Electrical Panels and Components	Electrical Panels and Components	High	Yes	No	Potential	Good	Not sampled due to safety concerns.													Inspect and sample if scheduled for removal.			
Included	M	133	Lunchroom	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	A-067, A068, A-069	14-Oct-17													
Included	M	133	Lunchroom	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	133	Lunchroom	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	133	Lunchroom	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	133	Lunchroom	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good	No spray-applied insulation.																
Included	M	133	Lunchroom	Windows	Caulking	Dark Brown Caulking	High	No	Yes	No	Good	On window frames.	Bulk	A-086	14-Oct-17													
Included	M	133	Lunchroom	Windows	Caulking	Black Window Caulking	High	No	Yes	No	Good	On window panes.	Bulk	A-043	14-Oct-17													
Included	M	133	Lunchroom	Mechanical	Duct Work	Grey Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	V.S. A-049	14-Oct-17													
Included	M	133	Lunchroom	Mechanical	Duct Work	Fibreglass Wrap	High	No	No	No	Good																	
Included	M	134	Washroom	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	14-Oct-17													
Included	M	134	Washroom	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	134	Washroom	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	134	Washroom	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	134	Washroom	Ceiling	Ceiling Space	Concrete	High	No	No	No	Good																	
Included	M	134	Washroom	Mechanical	Duct Work	Grey Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	V.S. A-039	14-Oct-17													
Included	M	135	Washroom	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	14-Oct-17													
Included	M	135	Washroom	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	135	Washroom	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	135	Washroom	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	135	Washroom	Ceiling	Ceiling Space	Concrete	High	No	No	No	Good																	
Included	M	135	Washroom	Mechanical	Duct Work	Grey Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	V.S. A-039	14-Oct-17													
Included	M	136	Washroom	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	A-029	14-Oct-17													
Included	M	136	Washroom	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	136	Washroom	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	136	Washroom	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	136	Washroom	Ceiling	Ceiling Space	Concrete	High	No	No	No	Good																	
Included	M	136	Washroom	Mechanical	Duct Work	Grey Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	V.S. A-039	14-Oct-17													
Included	M	137	Washroom	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	14-Oct-17													
Included	M	137	Washroom	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	137	Washroom	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	137	Washroom	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	137	Washroom	Ceiling	Ceiling Space	Concrete	High	No	No	No	Good																	
Included	M	137	Washroom	Mechanical	Duct Work	Grey Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	V.S. A-039	14-Oct-17													
Included	M	138	Exit Corridor	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	14-Oct-17													
Included	M	138	Exit Corridor	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	138	Exit Corridor	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	138	Exit Corridor	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	138	Exit Corridor	Ceiling	Ceiling Space	Spray-Applied Insulation	High	No	Yes	No	Good		Bulk	V.S. A-012, A-013, A-014	14-Oct-17													
Included	M	138	Exit Corridor	Mechanical	Duct Work	Fibreglass Wrap	High	No	No	No	Good																	
Included	M	139	Vestibule	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	14-Oct-17													
Included	M	139	Vestibule	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	139	Vestibule	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	139	Vestibule	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	139	Vestibule	Ceiling	Ceiling Space	Spray-Applied Insulation	High	No	Yes	No	Good		Bulk	V.S. A-012, A-013, A-014	14-Oct-17													
Included	M	139	Vestibule	Mechanical	Duct Work	Fibreglass Wrap	High	No	No	No	Good																	
Included	M	140	Work Room	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	14-Oct-17													
Included	M	140	Work Room	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	140	Work Room	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	140	Work Room	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	140	Work Room	Ceiling	Ceiling Space	Spray-Applied Insulation	High	No	Yes	No	Good		Bulk	V.S. A-012, A-013, A-014	14-Oct-17													
Included	M	140	Work Room	Mechanical	Duct Work	Fibreglass Wrap	High	No	No	No	Good																	
Included	M	141	Electrical Foreman Office	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	14-Oct-17													
Included	M	141	Electrical Foreman Office	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	141	Electrical Foreman Office	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	14-Oct-17													
Included	M	141	Electrical Foreman Office	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	141	Electrical Foreman Office	Ceiling	Ceiling Space	Spray-Applied Insulation	High	No	Yes	No	Good		Bulk	V.S. A-012, A-013, A-014	14-Oct-17													
Included	M	141	Electrical Foreman Office	Mechanical																								



Appendix C  
Waste Water Administration Building  
ACM Inventory

Included/Excluded	Floor	Room #	Area Description	Elements	Subelements	Material Description	Accessibility	Suspect?	Sampled?	Asbestos Containing Material?	Condition	Field Notes	Sample Type	Sample ID	Sample Date	Asbestos Type	ACM Product	% of asbestos	Friable	Sprayed-on	Maintenance	Inspection	Priority	Potential for Disturbance	Recommended Action	Quantity	Photograph ID	Labelling Type
Included	M	157	Boiler Room	Windows	Caulking	Dark Brown Caulking	High	No	Yes	No	Good	On window frames.	Bulk	V.S. A-011	13-Oct-17													
Included	M	157	Boiler Room	Mechanical	Duct Work	Grey Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	V.S. A-039	13-Oct-17													
Included	M	157	Boiler Room	Electrical	Electrical Panels and Components	Electrical Panels and Components	High	Yes	No	Potential	Good	Not sampled due to safety concerns.													Inspect and sample if scheduled for removal.			
Included	M	157	Boiler Room	Doors	Suspect Fire Doors	Suspect Fire Doors	High	Yes	No	Potential	Good	Not sampled as damage to the door would affect it's operational requirement.													Inspect and sample if scheduled for removal.			
Included	M	159	Janitor Closet	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	13-Oct-17													
Included	M	159	Janitor Closet	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	159	Janitor Closet	Walls	Walls	Brick	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	V.S. A-082, A-083, A-084	13-Oct-17													
Included	M	159	Janitor Closet	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	13-Oct-17													
Included	M	159	Janitor Closet	Ceiling	Ceiling	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	13-Oct-17													
Included	M	160	Women's Washroom	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	A-031	13-Oct-17													
Included	M	160	Women's Washroom	Walls	Walls	Brick	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	V.S. A-082, A-083, A-084	13-Oct-17													
Included	M	160	Women's Washroom	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	13-Oct-17													
Included	M	160	Women's Washroom	Ceiling	Ceiling	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	13-Oct-17													
Included	M	160	Women's Washroom	Miscellaneous	Caulking	Beige Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	V.S. A-030	13-Oct-17													
Included	M	161	Men's Washroom	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	A-026	13-Oct-17													
Included	M	161	Men's Washroom	Walls	Walls	Brick	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	V.S. A-082, A-083, A-084	13-Oct-17													
Included	M	161	Men's Washroom	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	13-Oct-17													
Included	M	161	Men's Washroom	Ceiling	Ceiling	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	13-Oct-17													
Included	M	161	Men's Washroom	Miscellaneous	Caulking	Beige Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	V.S. A-030	13-Oct-17													
Included	M	162	Wash Bay	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	162	Wash Bay	Walls	Walls	Brick	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	V.S. A-082, A-083, A-084	13-Oct-17													
Included	M	162	Wash Bay	Floor	Floor	Concrete	High	No	No	No	Good																	
Included	M	162	Wash Bay	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good	No spray-applied insulation.																
Included	M	162	Wash Bay	Mechanical	Duct Work	Bare Duct	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	M	162	Wash Bay	Mechanical	Duct Work	Canvas Wrapped	High	No	No	No	Good	Fibreglass insulated.																
Included	M	163	Building and Grounds	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	163	Building and Grounds	Walls	Walls	Brick	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	V.S. A-082, A-083, A-084	13-Oct-17													
Included	M	163	Building and Grounds	Floor	Floor	Concrete	High	No	No	No	Good																	
Included	M	163	Building and Grounds	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good	No spray-applied insulation.																
Included	M	163	Building and Grounds	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	M	163	Building and Grounds	Mechanical	Duct Work	Grey Duct Mastic	High	No	No	No	Good	Uninsulated ducting.																
Included	M	163	Building and Grounds	Mechanical	Duct Work	Canvas Wrapped	High	No	No	No	Good	Fibreglass insulated.																
Included	M	164	Shop/Oil Storage	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	164	Shop/Oil Storage	Walls	Walls	Brick	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	V.S. A-082, A-083, A-084	13-Oct-17													
Included	M	164	Shop/Oil Storage	Floor	Floor	Concrete	High	No	No	No	Good																	
Included	M	164	Shop/Oil Storage	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good	No spray-applied insulation.																
Included	M	164	Shop/Oil Storage	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	M	164	Shop/Oil Storage	Mechanical	Duct Work	Grey Duct Mastic	High	No	Yes	No	Good	Uninsulated ducting.	Bulk	V.S. A-039	13-Oct-17													
Included	M	164	Shop/Oil Storage	Miscellaneous	Caulking	Grey Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	A-041	13-Oct-17													
Included	M	165	Vestibule	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	13-Oct-17													
Included	M	165	Vestibule	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	M	165	Vestibule	Walls	Walls	Brick	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	V.S. A-082, A-083, A-084	13-Oct-17													
Included	M	165	Vestibule	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	13-Oct-17													
Included	M	165	Vestibule	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	M	165	Vestibule	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good	No spray-applied insulation.																
Included	M	165	Vestibule	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fiberglass and PVC fittings.																
Included	M	165	Vestibule	Miscellaneous	Caulking	Beige Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	V.S. A-030	13-Oct-17													
Included	S	ST-1	Stairwell	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	13-Oct-17													
Included	S	ST-1	Stairwell	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	S	ST-1	Stairwell	Walls	Walls	Concrete	High	No	No	No	Good																	
Included	S	ST-1	Stairwell	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey, beige and white.	Bulk	V.S. A-025	13-Oct-17													
Included	S	ST-1	Stairwell	Floor	Floor	Vinyl Floor Tiles	High	No	Yes	No	Good	Grey.	Bulk	A-055	13-Oct-17													
Included	S	ST-1	Stairwell	Floor	Floor	Trim	High	No	Yes	No	Good	Brown.	Bulk	A-056	13-Oct-17													
Included	S	ST-1	Stairwell	Floor	Floor	Concrete	High	No	No	No	Good																	
Included	S	ST-1	Stairwell	Floor	Floor	Concrete Coating	High	No	Yes	No	Good		Bulk	A-059, A-060, A-061	13-Oct-17													
Included	S	ST-1	Stairwell	Ceiling	Ceiling	2' x 4' Ceiling Tile	High	No	No	No	Good	Date coded to a time period where asbestos use was not widespread.																
Included	S	ST-1	Stairwell	Ceiling	Ceiling Space	Concrete	High	No	No	No	Good																	
Included	S	ST-1	Stairwell	Ceiling	Ceiling Space	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	13-Oct-17													
Included	S	ST-2	Stairwell	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	13-Oct-17													
Included	S	ST-2	Stairwell	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	S	ST-2	Stairwell	Floor	Floor	Vinyl Floor Tiles	High	No	Yes	No	Good	Grey.	Bulk	V.S. A-033, A-055	13-Oct-17													
Included	S	ST-2	St																									

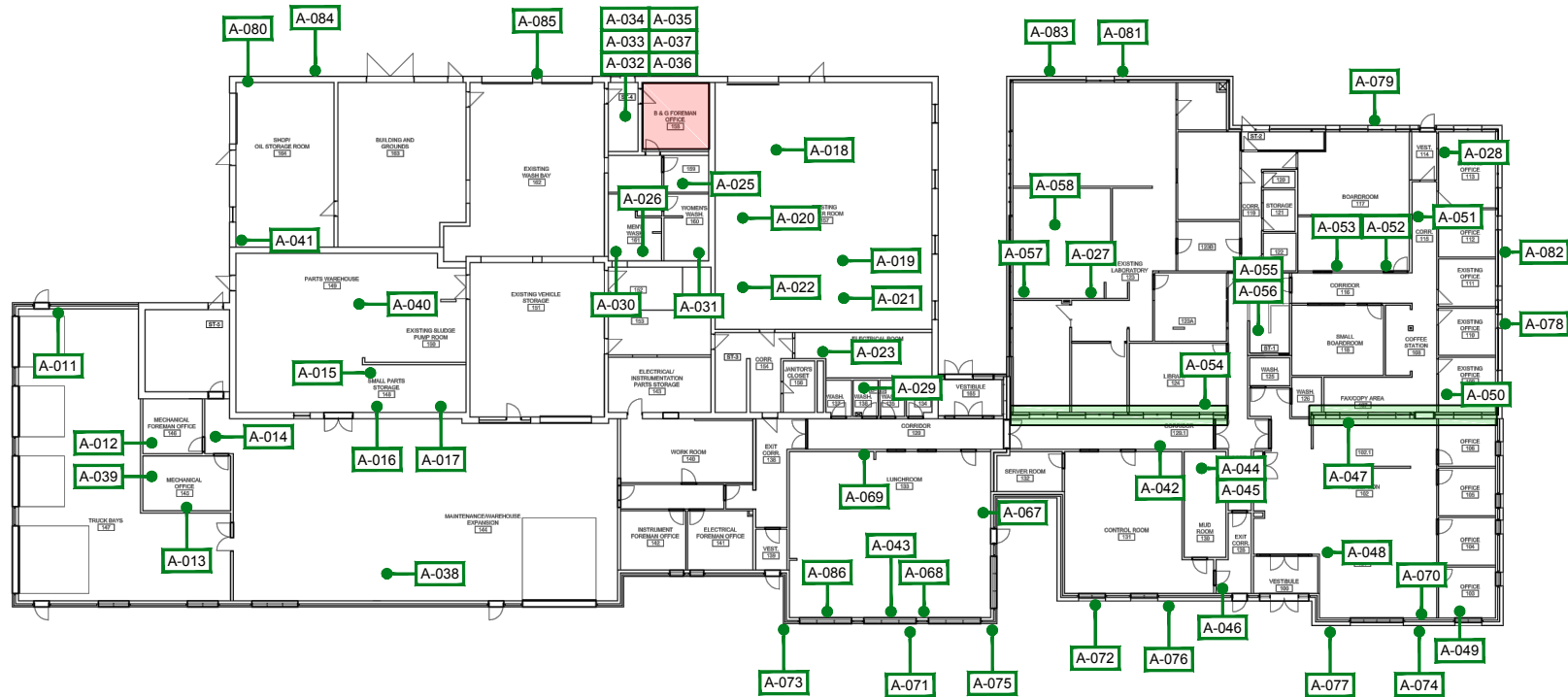
Appendix C  
Waste Water Administration Building  
ACM Inventory

Included/Excluded	Floor	Room #	Area Description	Elements	Subelements	Material Description	Accessibility	Suspect?	Sampled?	Asbestos Containing Material?	Condition	Field Notes	Sample Type	Sample ID	Sample Date	Asbestos Type	ACM Product	% of asbestos	Friable	Sprayed-on	Maintenance	Inspection	Priority	Potential for Disturbance	Recommended Action	Quantity	Photograph ID	Labelling Type
Included	S	ST-3	Stairwell	Mechanical	Piping	Insulation	High	No	Yes	No	Good	On pipe fittings.	Bulk	V.S. A-015, A-020, A-040	13-Oct-17													
Included	S	ST-4	Stairwell	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	S	ST-4	Stairwell	Floor	Floor	Vinyl Sheet Flooring	High	No	Yes	No	Good	Grey and white.	Bulk	A-032	13-Oct-17													
Included	S	ST-4	Stairwell	Floor	Floor	Vinyl Floor Tiles	High	No	Yes	No	Good	Grey.	Bulk	A-033	13-Oct-17													
Included	S	ST-4	Stairwell	Floor	Floor	Trim	High	No	Yes	No	Good	Grey and white smears.	Bulk	A-034	13-Oct-17													
Included	S	ST-4	Stairwell	Ceiling	Ceiling	2' x 2' Ceiling Tile	High	No	Yes	No	Good	Random fissures.	Bulk	A-035, A-036, A-037	13-Oct-17													
Included	S	ST-4	Stairwell	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good																	
Included	S	ST-4	Stairwell	Miscellaneous	Caulking	Dark Brown Caulking	High	No	Yes	No	Good	On door frame.	Bulk	V.S. A-011	14-Oct-17													
Included	S	ST-5	Stairwell	Walls	Walls	Drywall	High	No	Yes	No	Good		Bulk	V.S. A-027, A-028, A-029, A-053	14-Oct-17													
Included	S	ST-5	Stairwell	Walls	Walls	Cinderblock	High	No	No	No	Good																	
Included	S	ST-5	Stairwell	Walls	Walls	Concrete	High	No	No	No	Good																	
Included	S	ST-5	Stairwell	Floor	Floor	Concrete	High	No	No	No	Good																	
Included	S	ST-5	Stairwell	Ceiling	Ceiling Space	Metal Q-Deck	High	No	No	No	Good																	
Included	S	ST-5	Stairwell	Mechanical	Piping	Metal Pipes	High	No	No	No	Good	Bare or insulated with fibreglass and PVC fittings.																
Included	S	ST-5	Stairwell	Miscellaneous	Caulking	Beige Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	V.S. A-030	14-Oct-17													
Included	S	ST-5	Stairwell	Miscellaneous	Caulking	Grey Caulking	High	No	Yes	No	Good	Building caulking.	Bulk	V.S. A-041	14-Oct-17													
Included	S	ST-5	Stairwell	Miscellaneous	Firestop	Red Firestop	High	No	Yes	No	Good		Bulk	V.S. A-016	14-Oct-17													
Included	E	Exterior	Exterior	Walls	Walls	Brick (Original Building)	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	A-082, A-083, A-084	14-Oct-17													
Included	E	Exterior	Exterior	Walls	Walls	Brick (2015 Addition)	High	No	Yes	No	Good	Brick mortar sampled.	Bulk	A-073, A-075, A-076, A-077	14-Oct-17													
Included	E	Exterior	Exterior	Windows	Caulking	Dark Brown Caulking (Original Building)	High	No	Yes	No	Good	On window frames.	Bulk	A-078	14-Oct-17													
Included	E	Exterior	Exterior	Windows	Caulking	Black Window Caulking (Original Building)	High	No	Yes	No	Good	On window panes.	Bulk	A-079	14-Oct-17													
Included	E	Exterior	Exterior	Windows	Caulking	Black Window Caulking (Original Building)	High	No	Yes	No	Good	On window panes.	Bulk	A-081	14-Oct-17													
Included	E	Exterior	Exterior	Windows	Caulking	Dark Brown Caulking (2015 Addition)	High	No	Yes	No	Good	On window frames.	Bulk	A-071	14-Oct-17													
Included	E	Exterior	Exterior	Windows	Caulking	Black Window Caulking (2015 Building)	High	No	Yes	No	Good	On window panes.	Bulk	A-072	14-Oct-17													
Included	E	Exterior	Exterior	Miscellaneous	Caulking	Grey Caulking (Original Building)	High	No	Yes	No	Good	Building caulking.	Bulk	A-080	14-Oct-17													
Included	E	Exterior	Exterior	Miscellaneous	Caulking	Grey Caulking (2015 Addition)	High	No	Yes	No	Good	Building caulking.	Bulk	A-074	14-Oct-17													
Included	E	Exterior	Exterior	Miscellaneous	Firestop	Grey Putty	High	No	Yes	No	Good		Bulk	A-085	14-Oct-17													
Excluded	E	Exterior	Roof	Exterior Roof	Exterior Roof							Not assessed due to scope of work.																
Excluded	B	B08	N/A	Entire Room	Entire Room	N/A	N/A	N/A	N/A	N/A	N/A	Access to area was not provided.																
Excluded	B	B16	Crawl Space	Crawl Space	Crawl Space							Not assessed due to scope of work.																
Excluded	M	158	N/A	Entire Room	Entire Room		N/A	N/A	N/A	N/A	N/A	Access to area was not provided.																



# **APPENDIX D**

## **Floor Plans**



**LEGEND**

	#	ASBESTOS SAMPLE LOCATION
		ASBESTOS - CONTAINING WINDOW GLAZING
		NO ACCESS

**NOTE(S)**  
 1. ASBESTOS IS A CARCINOGEN. DO NOT BREATHE ASBESTOS DUST.

**REFERENCE(S)**  
 PLAN OBTAINED FROM INFRASTRUCTURE SERVICES DEPARTMENT CITY OF SASKATOON. DATED: 17/11/2016

CLIENT  
 CITY OF SASKATOON

CONSULTANT



YYYY-MM-DD	2017-11-23
DESIGNED	KH
PREPARED	VI
REVIEWED	KH
APPROVED	AG

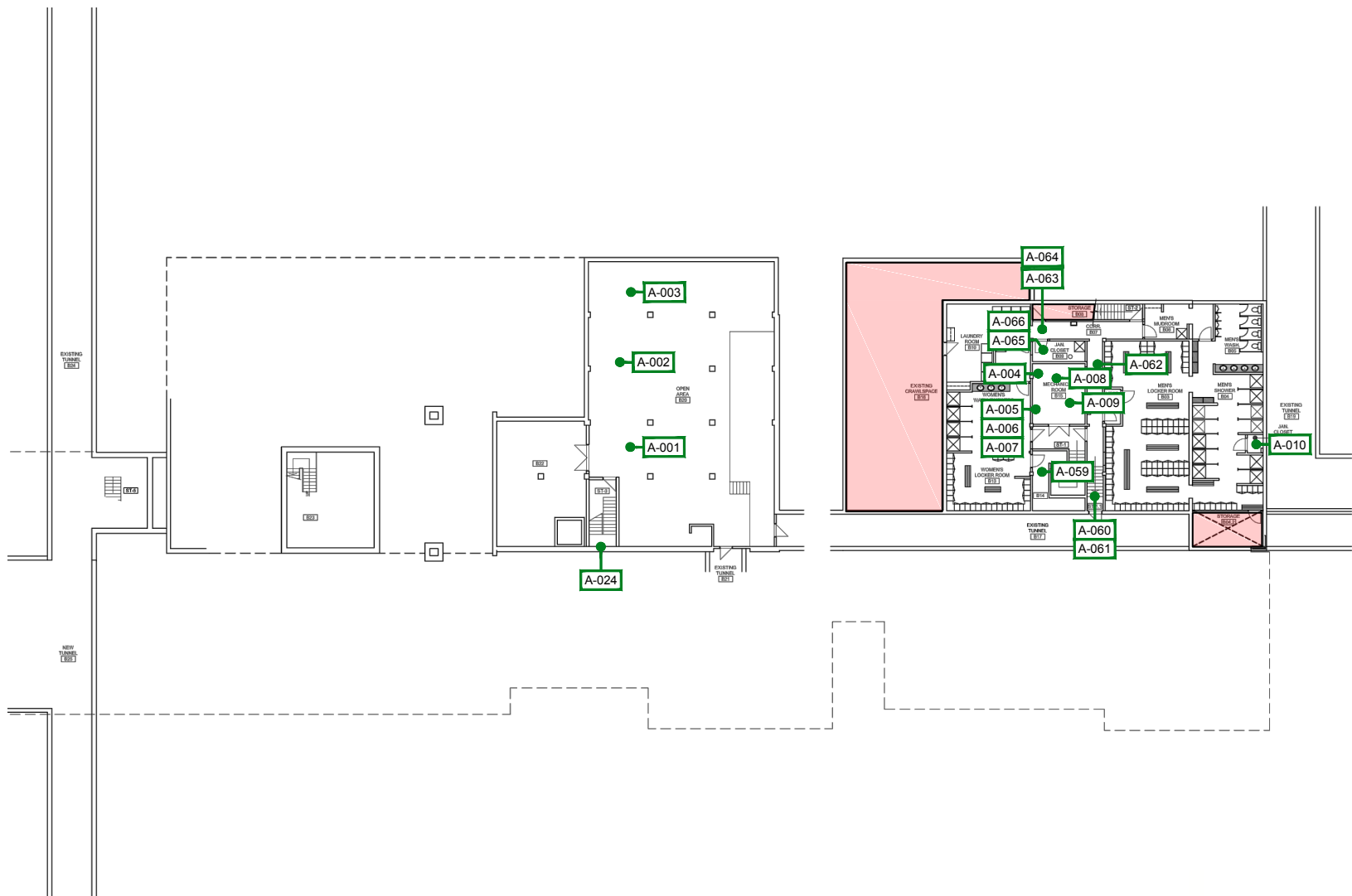
SCHEMATIC ONLY, NOT TO SCALE

PROJECT  
 ASBESTOS ASSESSMENT  
 WASTE WATER TREATMENT PLANT ADMINISTRATION BUILDING

TITLE  
**MAIN FLOOR**

PROJECT NO.	CONTROL	REV.	FIGURE
1667963	1000-HM-0001	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIA 26 mm



**LEGEND**

	ASBESTOS SAMPLE LOCATION
	ASBESTOS - CONTAINING WINDOW GLAZING
	NO ACCESS

**NOTE(S)**  
 1. ASBESTOS IS A CARCINOGEN. DO NOT BREATHE ASBESTOS DUST.

**REFERENCE(S)**  
 PLAN OBTAINED FROM INFRASTRUCTURE SERVICES DEPARTMENT CITY OF SASKATOON. DATED: 06/02/2017

CLIENT  
 CITY OF SASKATOON

CONSULTANT



YYYY-MM-DD	2017-11-24
DESIGNED	KH
PREPARED	VI
REVIEWED	KH
APPROVED	AG

PROJECT  
 ASBESTOS ASSESSMENT  
 WASTE WATER TREATMENT PLANT ADMINISTRATION BUILDING

TITLE  
**BASEMENT FLOOR**

PROJECT NO.	CONTROL	REV.	FIGURE
1667963	1000-HM-0002	0	2

SCHEMATIC ONLY, NOT TO SCALE

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

26 mm



As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

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**Golder Associates Ltd.**  
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**Canada**  
**T: +1 (780) 483 3499**



August 29, 2019

City of Saskatoon  
Saskatoon Wastewater Treatment  
1030 Ave H S  
Saskatoon, SK  
S7M 1X5

**ATTENTION: John Lacny**

**SUBJECT: Bulk Sample Analysis Report – Wastewater Treatment Plant**

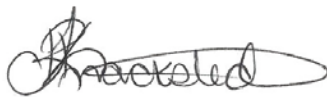
Please find attached the laboratory results for the bulk samples collected on August 23, 2019 from the Wastewater Treatment Plant located at 470 Whiteswan Drive, Saskatoon, Saskatchewan. The samples were analyzed for the identification of asbestos. Asbestos **was not** detected within the samples.

The results for the samples submitted was obtained by examination in accordance with the current USEPA 600/R-93/116 Method for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as less than 1% by volume.

This test report relates only to the materials sent for examination and any use or extension of the information by the client of these results is the responsibility of the client.

If any questions arise on the results of the attached information, please contact our office. Thank you for this opportunity of service.

Sincerely,



Tyneal Knackstedt  
Bersch Consulting Ltd.  
B67BLH23I - WWTP

## Bulk Sample Analysis Report

August 29, 2019

Project Number: B67.19

Client: City of Saskatoon

Contact: John Lacny

Location: Wastewater Treatment Plant

File Number: B67BAH23I

Sample Number	Sample Date	Sample Material	Sample Location and Information	Asbestos	%	Analyst
1	2019/08/23	Concrete	Digester Building Basement west wall.	No asbestos detected.		EMSL/WB
2	2019/08/23	Concrete	Digester Building Basement south wall.	No asbestos detected.		EMSL/WB
3	2019/08/23	Concrete	Digester Building Northwest corner. Block wall.	No asbestos detected.		EMSL/WB

**Note:** The results for the samples submitted were obtained by examination in accordance with the current USEPA 600/R-93/116 Method for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as less than 1% by volume.

# **BERSCH**

## **CONSULTING LTD.**

### **PRE-RENOVATION ASSESSMENT**

February 26, 2018

**CLIENT:** Saskatoon Water  
City of Saskatoon  
1030 Avenue H South  
Saskatoon, SK  
S7M 1X5

**ATTENTION: Syed Naqvi**

**PROJECT: Waste Water Treatment Plant- A504 Crawlspace- Asbestos Investigation**

**FILE NUMBER: B67PRB21H**

---

Brad Berschiminsky and Evan Westad of Bersch Consulting Ltd. conducted a site visit on February 21, 2018 to the Waste Water Treatment Plant located at 470 Whiteswan Drive, Saskatoon, Saskatchewan. The purpose of the visit was to investigate and collect bulk samples to determine the presence/absence of asbestos. No bulk samples were collected.

#### **SITE OBSERVATION AND INFORMATION:**

The scope of this PRA was to investigate the A504 crawlspace and collect samples in order to determine the presence/absence of asbestos in any suspect materials. The crawlspace was constructed in 1990. Upon investigation it was noted that all insulated water lines consist of fiberglass insulation and foil tape. The lineal fiberglass is 45° at the elbows or wrapped in fiberglass and covered with a PVC elbow. One PVC drainpipe ran the length of the crawlspace. Walls throughout the area are finished with gypsum board with no drywall mud compound. The exterior foundation walls are insulated with Styrofoam, with fiberglass along the upper portion of the wall. Some pipe penetrations are insulated with fiberglass insulation while others are void of any insulation. The floor of the crawlspace is a poured in place, rough finished slab with the exception of the south end which is the existing tunnel roof. The ceiling of the area is a poured in place structural concrete slab. No asbestos concerns were noted in the area.

If any questions arise on the results of the attached information, please contact me at 306.222.7477 or our office at 306.978.6665. Thank you for this opportunity of service.

Sincerely,



Brad Berschiminsky  
Bersch Consulting Ltd.  
File No.: B67PRB21H – WWTP- A504 Crawlspace

## SITE PHOTOS

**PHOTO 1 – Fiberglass Lineal Pipe Insulation w Fiberglass Elbow in Foil Wrap**



**PHOTO 2 – Fiberglass Lineal Pipe Insulation & PVC Drainpipe**



**PHOTO 3 – Fiberglass Lineal Pipe Insulation & PVC Drainpipe**



**Photo 4- Glycol Heating Lines -Fiberglass Insulation- Adj. Supply Air Duct**

