



**Greystone Heights Park Aquatic Rec-Unit  
Asbestos Survey Report**



**October 2016**

**Prepared For: City of Saskatoon  
1101 Avenue P North  
Saskatoon, SK S7L 7K6  
Attn: Hazel Fernandez**

**Prepared by: Bersch & Associates Ltd.  
Project No. : B67SRI27F**

## 1.0 EXECUTIVE SUMMARY

The survey of the Greystone Heights Park Aquatic Rec-Unit located in Saskatoon, Saskatchewan entailed the inspection of all accessible suspected asbestos containing material (ACM) located within the facility. The original survey entailed the inspection of all accessible areas of the facility; including crawlspaces, ceiling spaces, pipe chases, and attics. Materials inspected included mechanical insulating material, drywall mud, duct expansion joints, caulking, etc.

Bulk sample analysis results indicate the presence of “Actinolite/Tremolite” asbestos within the Greystone Heights Park Aquatic Rec-Unit located in Saskatoon, SK. Please refer to **Appendix I for Bulk Sample Analysis and Appendix II Asbestos Survey Database**. Asbestos was detected in the following forms throughout the facility:

- **Vermiculite** was identified within the block walls of the building. *It is suspected that all block walls within the building will be containing this material. Please refer to Appendix I & II.*

Throughout the survey of the Greystone Heights Park Aquatic Rec-Unit the Asbestos Containing Materials were assessed and given a Priority Rating of One, Two or Three, with Priority One being the items requiring the most immediate attention. See the Survey Database in Appendix II for a room-by-room account.

The recommended action to be implemented in reference to the ACM identified is Management. It should be noted that the recommendation of a “Management” Asbestos Abatement Action is based upon the premise that renovations are not scheduled in that area that will require disturbing or violating the asbestos containing material.

**NOTE: All areas, which are inaccessible at this time, shall be considered to contain asbestos material until bulk sampling determines otherwise. Prior to any renovation/demolition activity, a destructive investigation is recommended to identify any inaccessible ACM that is physically concealed or isolated. Destructive Sampling of all types of suspect materials was not performed during this Survey. Materials such as the following may require more extensive destructive testing to determine the presence/absence of Asbestos:**

- **Drywall Mud Compound** - At joints and nail/screw holes on drywall.
- **Pipe Fitting Compound** – located in areas where access is limited such as wall cavities and ceiling space.
- **Vermiculite Insulation** - Potential locations for this type of insulation are within attics, walls and block wall cavities.

The various types of accessible ACM within the facility have been clearly identified to eliminate uncertainty of asbestos content. The additional identification of these materials are as follows:

- Any material located within enclosed ceilings, wall cavities, pipe chases or other inaccessible areas or areas of limited access shall be considered asbestos-containing until testing of the material can determine the presence or absence of asbestos.

## 2.0 INTRODUCTION

The City of Saskatoon retained Bersch & Associates Ltd. to conduct a re-audit of the building materials throughout the Greystone Heights Park Aquatic Rec-Unit identified in the August 2013 Asbestos Survey Report. The survey entailed the inspection of all accessible areas of the facility; including crawlspaces, ceiling spaces, pipe chases, and attics. The purpose of the site inspection was to ensure that all accessible asbestos containing material was identified in the building.

This report gives a detailed account of the results of the inspection and our firm's recommendations on control options to be implemented to ensure the facility remains in compliance with the Province of Saskatchewan Occupational Health and Safety Act and Regulations.

A review of this report shall be conducted with all trades that are entering the facilities to perform maintenance or renovation activity. This will ensure they are familiar with the types and locations of asbestos-containing materials present within each facility and prevent any uncontrolled disturbance and/or possible exposure to asbestos.

## 3.0 METHODOLOGY

Bersch & Associates Ltd. began conducting the survey of the Greystone Heights Park Aquatic Rec-Unit in Saskatoon, SK in August of 2013. The primary documents for guidance and criteria in this survey were the Province of Saskatchewan "Occupational Health and Safety Act and Regulations, 1996", Province of Saskatchewan "Managing Asbestos", and the U.S. Environmental Protection Agency "Guidance for Controlling Asbestos Containing Materials in Buildings". The USEPA document identifies factors associated with the "condition" and the "potential for disturbance or erosion" of asbestos containing materials (ACM). These factors help to determine potential for exposure to ACM and were used to make a qualitative evaluation of the material. It should be noted that the recommendation of "Management" Asbestos Abatement Action is based upon the premise that renovations are not scheduled in that area that will require disturbing or violating the asbestos containing material. In the event that renovations are scheduled that impact upon the areas of asbestos containing material then pre-removal of the asbestos containing materials may be necessary.

In total, five (5) bulk samples of suspect asbestos-containing materials were collected from within the facility. Refer to Appendix I for a copy of the Bulk Sample Analysis Report. All bulk samples collected were analyzed by Bersch & Associates Ltd. laboratory 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 <1% by volume.

## 4.0 RECOMMENDATIONS:

Throughout the survey of the Greystone Heights Park Aquatic Rec-Unit the Asbestos Containing Materials were assessed and given a Priority Rating of One, Two or Three, with Priority One being the items requiring the most immediate attention. There were no Priority One Items identified during the survey. There was one Priority Three item identified during the survey. The **Survey Database found in Appendix II** identifies the location and the type of asbestos identified in the building. Priority Ratings for all other ACM identified is also found in the database on a room-by-room account.

## 5.0 ASBESTOS ABATEMENT DISCUSSION

Asbestos is a known carcinogen and is listed in the Province of Saskatchewan under the Occupational Health and Safety Appendix, Part V as a Hazardous Chemical Substance and any release of asbestos fibres into the atmosphere creates a potential health hazard. Although the mechanism and epidemiology of asbestos carcinogenesis is not yet well defined, accumulating evidence suggests the significance of exposure at even very low fibre concentrations and hence human exposure should be kept to a minimum. It should be noted however that asbestos is a natural mineral and a measurable background concentration can be detected in any location sampled (inside buildings, outside buildings, urban, rural, etc.). The recommendations of the report are therefore intended to keep the potential exposure to an absolute minimum with the knowledge that a zero exposure is not possible.

Asbestos containing materials have been used in a wide variety of applications. Of particular concern, is the group known as friable products. A friable product is one which can be crumbled or reduced to powder or smaller fragments by hand pressure. Publications from the U.S.E.P.A. as early as 1977 have indicated the potential hazard of asbestos exposure in buildings containing these friable products. The two main uses of friable asbestos products are as spray insulation (thermal, acoustic or fireproofing) on deck and/or beams or as thermal insulation on piping or mechanical equipment. A large amount of non-friable asbestos-containing materials have also been used in building construction such as asbestos cement board and asbestos containing vinyl flooring.

The mere presence of a friable asbestos containing material does not imply that there is an actual presence of elevated airborne fibre. As numerous studies have indicated, elevated asbestos fibre levels are generally found when settled dust or the actual asbestos containing material itself is disturbed by maintenance, renovation, inadvertent contact or vibration. The factors considered in the Environmental Protection Agency (USEPA) exposure assessment (condition of material, water damage, activity, movement, exposed surface area, accessibility, friability and presence in an air stream) often give some indication of the likelihood of fibre release but are not in any way definitive in determining whether a hazard exists or not. That is, even if the most friable product exists in a building, elevated fibre levels will not likely occur unless there is some disturbance by physical contact, vibration or an air stream.

There are four possible approaches to control exposure to airborne asbestos once a friable material is identified in a building. These methods briefly are as follows:

- A) Removal** - Asbestos material is removed and disposed of by burial and replaced by non-asbestos materials.
- B) Encapsulation** - Asbestos material is coated with a bridging or penetrating sealant.
- C) Enclosure** - Asbestos containing materials are separated from the building environment by barriers such as suspended ceilings or cladding materials.
- D) Deferred Action or Management and Custodial Control** - The Province of Saskatchewan Human Resources, Labor and Employment Branch under the Occupational health and Safety Regulations publish a document outlining “The Management of Asbestos”. In the guide for compliance, an action plan is outlined for management of the asbestos materials identified and in summary is:
  1. Identification, which has been accomplished by this report.
  2. Development of Written Handling Procedures for maintenance personnel or often arrangements are made for a qualified contractor to conduct the necessary removal or spot maintenance prior to the regular staff conducting maintenance.
  3. Asbestos Abatement Awareness and Process Training if the regular maintenance personnel are required to conduct asbestos related activities.
  4. Inspection on regular basis is conducted to determine the ongoing condition of the material. Sask. Occupational Health & Safety Regulations require an “annual” inspection of all “friable” asbestos materials by a competent person.

In the event of renovations or maintenance to areas containing asbestos materials, written procedures must be developed to conduct the activity or prior removal if the situation warrants.

## 6.0 REFERENCES

- .1 Province of Saskatchewan "The Occupational Health and Safety Act and The Occupational Health and Safety Regulations" Office Consolidation, December 1996.
- .2 Province of Saskatchewan Human Resources, Labor, and Employment "The Management of Asbestos" January, 1991.
- .3 USEPA, U.S. Environmental Protection Agency, "Guidance for Controlling Asbestos-Containing Materials in Buildings". Washington, DC: Office of Toxic Substances, USEPA.
- .4 Midwest Centre for Occupational Health & Safety St. Paul's, Minnesota – Asbestos Inspectors & Management Planners
- .5 McCrone Research Institute Course Hayward California " Asbestos Identification"

**APPENDIX I**

**BULK SAMPLE ANALYSIS REPORT**

***BERSCH & ASSOCIATES LTD.***

October 12<sup>th</sup>, 2016

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

**ATTENTION: Hazel Fernandez**

**SUBJECT: Bulk Sample Analysis Report**

Please find attached our laboratory's results for the bulk samples collected September 27<sup>th</sup>, 2016 from Greystone Heights Park Recreation Unit, Saskatoon, SK. The samples were analyzed in our laboratory for the identification of asbestos. Asbestos **was** detected within one or more samples.

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 <1% by volume.

The laboratory detected actinolite/tremolite (amphibole) asbestos greater than 0.1% by weight. Based on the sample results, the material is classified as a **hazardous** material. Materials containing greater than 0.1% asbestos by weight are considered to be asbestos-containing materials and must be handled as such. Please refer to the attached analytical report for the sample results.

This test report relates only to the material 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,



Brad Berschiminsky  
Bersch & Associates Ltd.  
B67BL127F



**Bersch & Associates Ltd.**

B67BAI27F

Box 3568  
Humboldt, Sask. S0K 2A0**BULK SAMPLE ANALYSIS REPORT****PROJECT NO:** B67.16  
**CLIENT:** City of Saskatoon  
**CONTACT:** Hazel Fernandez  
**LOCATION:** Greystone Heights Park Rec-Unit

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
1	6-Aug-13	Exterior of Building - Brick Wall Parging	No Asbestos Detected		WB
2	6-Aug-13	103 Men's W/C - Cement Compound From Flooring	No Asbestos Detected		WB
3	27-Sep-16	101 Rec Unit (Attic) -Insulation	No Asbestos Detected		WB
4	27-Sep-16	101 Rec Unit (Attic) -Tar Paper	No Asbestos Detected		WB
5	27-Sep-16	101 Rec Unit - Vermiculite	Actinolite /Tremolite	>0.1%	WB

**APPENDIX II**

**ASBESTOS SURVEY DATABASE**

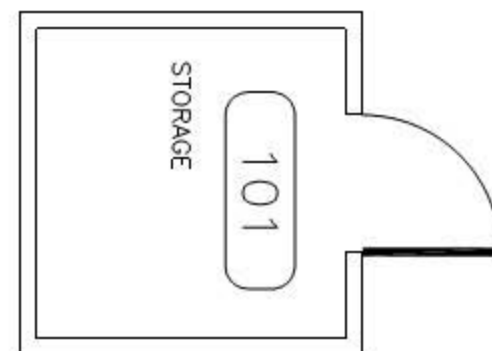
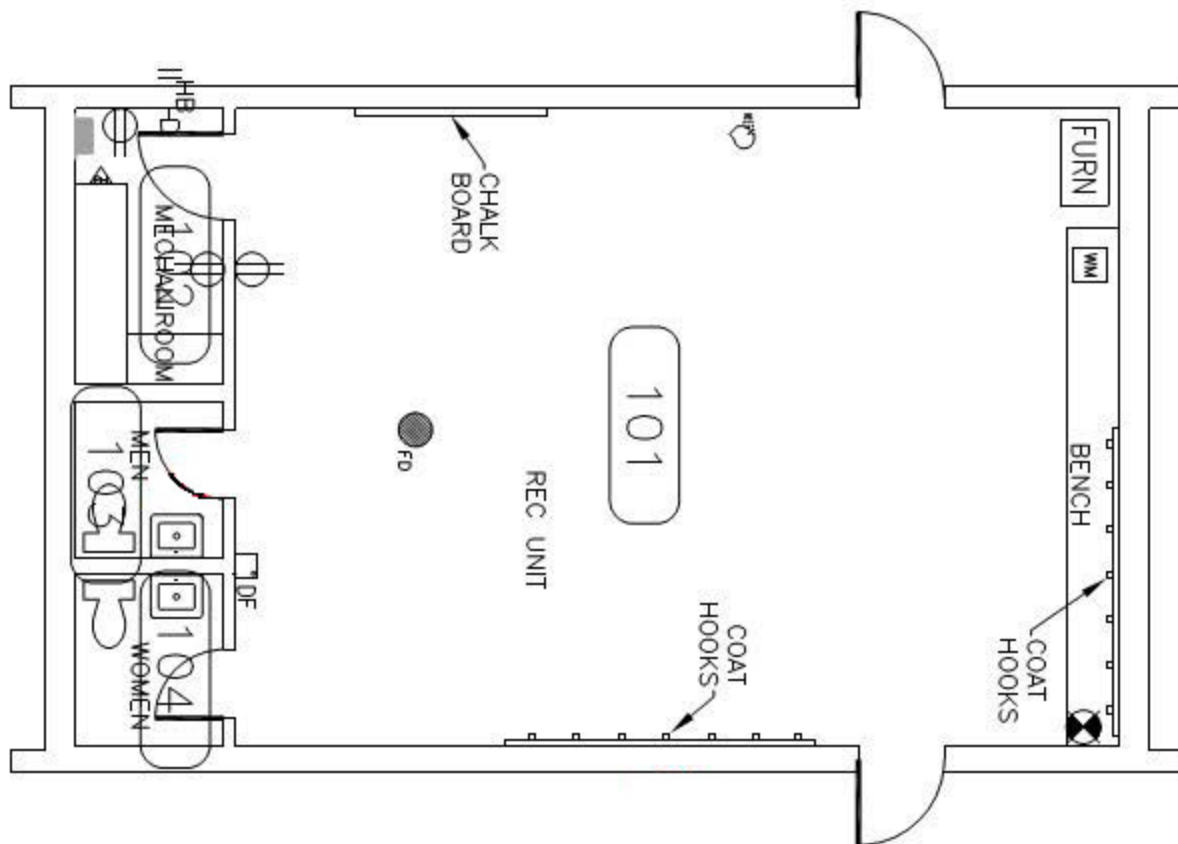
Building Use		Sample Data								Risks and Management	
Room	Use	Sample /Rep	Sample Number	Date Sampled	Asbestos Type	% Asbestos	ACM Trade Name	Description	Priority	Recommended Actions	Comments
101	Rec Unit	Sample	3	27-Sep-16	No Asbestos Detected			101 Rec Unit (Attic) -Insulation			No Accessible ACM
101	Rec Unit	Sample	4	27-Sep-16	No Asbestos Detected			101 Rec Unit (Attic) -Tar Paper			No Accessible ACM
101	Rec Unit	Sample	5	27-Sep-16	Actinolite /Tremolite	>0.1%	Vermiculite (Block Wall Insulation)	101 Rec Unit - Vermiculite		Manage	Located within the block wall of the building.
102	Mech Room										No Accessible ACM
103	Men's W/C	Sample	2	6-Aug-13	No Asbestos Detected			103 Men's W/C - Cement Compound From Flooring			No Accessible ACM
104	Women's W/C										No Accessible ACM
Exterior	N/A	Sample	1	6-Aug-13	No Asbestos Detected			Exterior of Building - Brick Wall Parging			No Accessible ACM

**APPENDIX III**

**FLOOR PLAN**

NOTE:  
THESE DRAWINGS HAVE BEEN PREPARED  
BASED ON INFORMATION PROVIDED BY  
OTHERS. THE CITY HAS TAKEN STEPS  
TO VERIFY THE ACCURACY AND/OR  
COMPLETENESS OF THIS INFORMATION  
BUT SHALL NOT BE RESPONSIBLE FOR  
AND ERRORS OR OMISSIONS THAT  
MAY BE INCORPORATED AS A RESULT  
OF ERRONEOUS INFORMATION PROVIDED  
BY OTHERS THAT WAS NOT ABLE TO BE  
VISUALLY CONFIRMED.

- GENERAL NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES
  2. DRAWINGS ARE NOT TO BE SCALED.
  3. ALL DRAWINGS TO BE READ IN CON-  
JUNCTION WITH THE SPECIFICATIONS  
UNLESS OTHERWISE NOTED.
  4. VERIFY SITE CONDITIONS, DIMENSIONS  
AND LOCATION OF ALL UTILITIES PRIOR  
TO THE START OF CONSTRUCTION.
  5. REPORT ALL DISCREPANCIES TO THE  
CONSULTANT.



REV	ISSUED FOR	DATE

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY

SCALE: 1:50  
DATE: 18/06/2008  
DRAWN BY: Asfalt

Main Floor  
Base Plan  
PROJECT TITLE  
705  
Greystone PP &  
Rec Unit

PROJECT NO.	SHEET

Page 20

# BERSCH CONSULTING LTD.

## PRE-RENOVATION ASSESSMENT REPORT

**CLIENT:** City of Saskatoon  
Facilities & Fleet Division  
1101 Avenue P North  
Saskatoon, SK  
S7L 7K6

**ATTENTION:** Nick Findlay / Hazel Fernandez

**PROJECT:** Greystone Heights Park Aquatic Recreation Unit – Ceiling Heating Unit  
Removal/Installation

**FILE NUMBER:** B67IRI14G

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### Visual Inspection

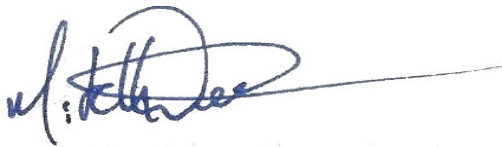
Mitch Webber of Bersch Consulting Ltd. conducted the pre-renovation assessment at the Greystone Heights Aquatic Recreation Unit on September 13, 2017 at 1300 hours. The assessment was performed to verify the absence of vermiculite insulation in the attic space for the removal/installation of the heating unit renovation.

Other materials identified within the attic space include fiberglass insulation and rolled rock/tar paper from the original roof. These materials had been previously collected and analyzed in September 2016 resulting in *no asbestos detected* within any of the samples. Asbestos containing vermiculite was identified within the wall cavities and *not* within the attic ceiling space. No other asbestos containing materials were discovered within the Greystone Heights Park Aquatic Recreation Unit. There are no concerns regarding the renovation for the heating unit removal/installation.

If you have any questions or concerns regarding the activity at the Greystone Heights Park Aquatic Recreation Unit, please contact Mitch Webber of Bersch Consulting Ltd.

Thank you for this opportunity of service to your organization.

Sincerely,



Mitch Webber  
Bersch Consulting Ltd.  
B67IRI14G