



**City of Saskatoon
Kilburn Park Building
Asbestos Survey Report**



December 2015

**Prepared For: City of Saskatoon – Recreation Facilities and Fleet Management
Kilburn Park Building
1510 Kilburn Avenue, Saskatoon SK, Canada S7M 0K3
Attn: Dale Hrynuik**

**Prepared By: Bersch & Associates Ltd.
Project No. : B67SRL03**

1.0 EXECUTIVE SUMMARY

The survey of the Kilburn Park Building located at 1510 Kilburn Avenue, in Saskatoon, Saskatchewan entailed the inspection of all accessible suspect asbestos-containing material (ACM) located throughout the facility. Materials inspected included: block wall mortar, foundation board material, and vermiculite insulation.

Bulk sample analysis results indicate the presence of “Actinolite/Tremolite” asbestos within the Kilburn Park Building. Please refer to **Appendix I for Bulk Sample Analysis** results and **Appendix II Floor Plans** for the location of the areas containing vermiculite block wall insulation. The recommended actions to be implemented in reference to the ACM identified are Management, and clean-up. Please refer to section 5 Asbestos Abatement Discussion for definitions. It should be noted that the recommendation of “Management” as part of the asbestos action plan is based upon the premise that renovations are not scheduled throughout the area that would impact the asbestos containing material present. ***Prior to any major renovation/demolition activity, a destructive investigation is recommended to identify any inaccessible ACM that is physically concealed or isolated in areas such as enclosed wall/ceiling/floor cavities and pipe chases.*** Asbestos was detected in the following forms throughout the facility:

- **Vermiculite** block wall insulation has been identified within the Kilburn Park Building. The samples were collected from Room 103 Park’s Storage and Room 104 Balls Interest from an existing wall penetration and the pipe chase. All perimeter walls are assumed to contain vermiculite insulation. The interior block walls shall also be considered suspect of containing vermiculite insulation.

Throughout the survey of the Kilburn Park Building, 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 is a total of one (1) Priority One Item.

Bersch & Associates Ltd. implemented the use of doorjamb labels that are applied to all the doorjambs of the rooms containing asbestos within the facility. This permits anyone accessing the room to easily identify the ACM present without having to reference the written report. Legends providing explanation of the abbreviations used on doorjambs was placed on the backside of the door of Room 104 Balls Interest. Employees and contractors will use the legend as a reference to identify ACM within the areas they are working.

2.0 INTRODUCTION

Bersch & Associates Ltd. was retained by the City of Saskatoon to conduct an Asbestos Survey and Hazard Assessment of the Kilburn Park Building located in Saskatoon, SK. The survey entailed the inspection of all accessible areas of the facility; including ceiling spaces and pipe chases. The purpose of the survey was to locate, identify and assess the condition of all Asbestos Containing Materials (ACM) located throughout the facility. This report gives a detailed account of the inspection results and our firm's recommendations on control options to be implemented to bring the facility in compliance with the Province of Saskatchewan Occupational Health and Safety Act and Regulations. Brad Berschiminsky and Mitch Webber of Bersch & Associates Ltd. completed the survey in December 2015. 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. conducted the survey of the Kilburn Park Building located in Saskatoon, SK. in December of 2015. 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 further testing may be necessary.

In total four (4) bulk samples of suspect asbestos-containing materials were collected within the Kilburn Park Building. 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. In reference to the Vermiculite insulation the USEPA 600/R-93/116 method for 0.1% target analytical sensitivity using analytical electron microscopy. The detection limit for this analytical method is listed as greater than 0.1% amphibole asbestos.

4.0 RECOMMENDATIONS

Throughout the survey of the Kilburn Park Building, 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. As a result, a Priority One item was identified as cleanup of the vermiculite insulation within the 103 Parks Storage Bathroom Pipe Chase. The actions to be implemented in the facility is Cleanup and Management. ***Consider all Block Walls to contain Asbestos Vermiculite Insulations.***

A. 103 Parks Storage – Kilburn Park Building

Asbestos containing vermiculite is present within the facility. This material is located within the exterior block walls of the facility. The material for the most part is in good condition with the exception of the vermiculite debris within the pipe chase. Bersch recommends HEPA vacuuming the vermiculite insulation within the bathroom pipe chase. Consider all block walls to be asbestos containing.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	CLEANUP/MANAGE

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 of so called 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 renovations or maintenance is performed within 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, January 1996.
- .2 Province of Saskatchewan Human Resources, Labor, and Employment "The Management of Asbestos" January, 1991.
- .3 USEPA, 1985. 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 Training For Inspectors & Management Planners
- .5 McCrone Research Institute Course Hayward California "Asbestos Identification"
- .6 Environment Management and Protection Act, Saskatchewan Environment, October 2002
- .7 Hazardous Substances and waste Dangerous Goods Regulations, Saskatchewan Environment, April 1989

APPENDIX I

BULK SAMPLE ANALYSIS REPORT

BERSCH & ASSOCIATES LTD.

December 3, 2015

City of Saskatoon - Infrastructure Services Department
1101 Avenue P North
Saskatoon, Sk.
S7L 7K6

ATTENTION: Dale Hrynuik

SUBJECT: Bulk Sample Analysis Report

Please find attached our laboratory's results for the bulk material samples taken from the Kilburn Park Building located at 1510 Kilburn Avenue in Saskatoon, SK. The samples were analyzed in our laboratory for the identification of asbestos. Asbestos was detected within the vermiculite samples.

The results for the vermiculite samples submitted were obtained by examination in accordance with the current USEPA 600/R-93/116 method for 0.1% target analytical sensitivity using analytical electron microscopy. The detection limit for this analytical method is listed as greater than 0.1% amphibole asbestos. The results for the remainder samples 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.

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 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 me at 306 222 7477. Thank you for this opportunity of service!

Sincerely,

Brad Berschiminsky
Bersch & Associates Ltd.
File: B67BLL03

Bersch & Associates Ltd.

B67BAL03

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.15

CLIENT: CITY OF SASKATOON - RECREATION FACILITIES AND FLEET MANAGEMENT

KILBURN PARK BUILDING

CONTACT: DALE HRYNUIK

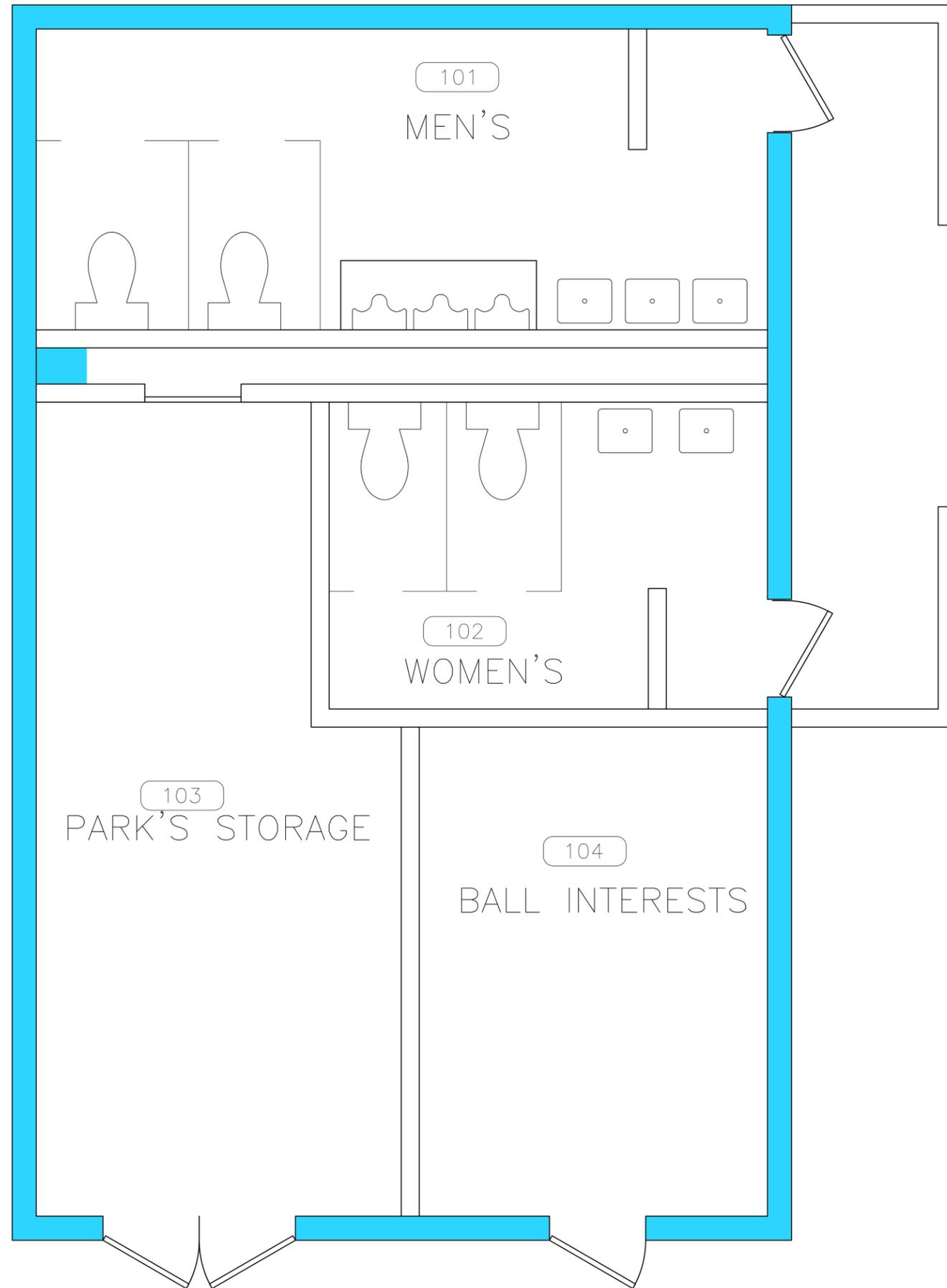
LOCATION: 1510 KILBURN AVENUE , SASKATOON, SK.

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
1	3-Dec-15	103 Park's Storage - Vermiculite Debris In The Bathroom Pipe Chase At The Base Of The West Wall.	Actinolite /Tremolite	> 0.1%	WB
2	3-Dec-15	103 Park's Storage - Block Wall Mortar on West Wall	No Asbestos Detected		WB
3	3-Dec-15	104 Ball Interests - Vermiculite In Exterior Block Wall Adjacent Freezer	Actinolite /Tremolite	> 0.1%	WB
4	3-Dec-15	103 Park's Storage - Board Material At Base Of Block Wall and Floor Slab Adjacent Water Meter	No Asbestos Detected		WB

APPENDIX II

FLOOR PLANS

Legend
 Vermiculite -



**City of
 Saskatoon**

Infrastructure Services
 Department

Facilities Branch
 306-975-3300

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
 ANY 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:	REQUESTED BY:
SCALE:	TO		DATE:
N.T.S.			12/01/09

SHEET NAME
**Main Floor
 Floor Plan**

PROJECT TITLE
**763
 Kilburn Ballfields**

PROJECT NO.	SHEET
REV. NO.	△