



**Cosmo Senior Center
Asbestos Survey Report**



February 2015

Prepared For: City of Saskatoon Infrastructure Services - Facilities Branch
3130 Laurier Drive, Saskatoon, SK.
Attn: Brent Anderson

Prepared By: Bersch & Associates Ltd.
Project No. : B67SRF02

1.0 EXECUTIVE SUMMARY

The survey of the Cosmo Senior Center located at 614 - 11th Street East in Saskatoon, Saskatchewan entailed the inspection of all accessible suspect asbestos containing material (ACM) located throughout the facility. Materials inspected included mechanical insulating material, vinyl floor covering, drywall mud compound, ceiling tile and acoustical tile.

Bulk sample analysis results indicate the presence of “Chrysotile” asbestos within the Cosmo Senior Center located in Saskatoon, SK. Please refer to *Appendix I for Bulk Sample Analysis* results.

The recommended actions to be implemented in reference to the ACM identified are Remove and Management. 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. Further testing of drywall mud compound may also be required prior to renovation.* Asbestos was detected in the following forms throughout the facility:

- **Vinyl Asbestos Sheet Flooring** is located in Basement Custodial Room. Due to the Sheet Flooring lifting on some of the shelves. It is recommended that the whole shelving unit be dismantled and the shelving containing asbestos sheet flooring disposed of as asbestos waste.
- **Drywall Asbestos Mud Compound** was identified applied to the drywall located within Basement Furnace Room. Therefore, all mud compound found applied to the drywall in the facility is considered asbestos containing until further testing proves otherwise. Obtaining additional samples of drywall mud compound prior to any drywall renovation/maintenance is recommended.
- **Mud Compound** is located at the duct penetration into the exterior wall within the Basement Furnace Room. Remnants were left when the mud compound was removed on the ducting. The Mud Compound has been identified with a “red” dot of paint. It is recommended that the Mud Compound be removed.
- **The Block Walls** throughout the facility were inspected for Vermiculite content as some forms of Vermiculite do contain asbestos. No Vermiculite was observed during the asbestos inspection activity. However, a thorough destructive investigation is recommended prior to building demolition to ensure the absence of vermiculite asbestos material.

Throughout the survey of the Cosmo Senior Center 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 Spreadsheet Database** in *Appendix II* for a room-by-room account.

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 were placed on the backside of all maintenance/custodial doors within the facility. 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 Cosmo Senior Center 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. Bersch & Associates Ltd. conducted the survey in February 2015. A review of this report shall be conducted with all trades that are entering the facility to perform maintenance or renovation activity. This will ensure they are familiar with the types and locations of asbestos-containing materials present and prevent any uncontrolled disturbance and/or possible exposure to asbestos.

3.0 METHODOLOGY

Bersch & Associates Ltd. conducted the survey of the Cosmo Senior Center in Saskatoon, SK in February 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 that impact upon the areas of asbestos containing material then pre-removal of the asbestos containing materials may be necessary.

In total, nine (9) bulk samples of suspect asbestos-containing materials were collected throughout the facility. Chrysotile asbestos was identified within three (3) of the samples collected. 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 Cosmo Senior Center 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, "Priority One" items were identified in the forms of Asbestos Sheet Flooring lifting on a shelving unit within the Basement Custodial Room. Along with remnants of Asbestos Mud Compound found on ducting in the Basement Furnace Room. Future planning should begin to address these areas as per the recommendations provided in the attached **Asbestos Survey Database found in Appendix II**. 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 of so called friable products. A friable product is one that 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, February 1996.
- .2 Province of Saskatchewan Human Resources, Labor, and Employment "The Management of Asbestos" February, 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.

February 3, 2015

City Of Saskatoon
Infrastructure Services Department
3130 Laurier Drive
Saskatoon, Sk.
S7L 5J7

ATTENTION: Brent Anderson

SUBJECT: Bulk Sample Analysis Report

Please find attached the laboratory results for the bulk analysis of the samples collected throughout the Cosmo Senior Center located at 614 - 11th Street East in Saskatoon, SK. The samples were analyzed in our laboratory for the identification of asbestos.

The results for the bulk 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.

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: B67BLF03

Bersch & Associates Ltd.

B67BAB03

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.15****CLIENT: City of Saskatoon****Infrastructure Services - Facilities Branch****Contact: Brent Anderson****Location: Cosmo Senior Center - 614 11th Street East, Saskatoon, SK.**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
1	16-May-13	Main Hall Stage - 1' x 1' Acoustical Tile On The Wall	None detected		WB
2	16-May-13	Basement Women's Washroom - Sheet Flooring, Gray/Black/Tan Stone Pattern	None detected		WB
3	16-May-13	Basement Custodial - Sheet Flooring On Shelving Unit	Chrysotile	30	WB
4	16-May-13	Basement Furnace Room - Pipeline Fitting Compilation	None detected		WB
5	16-May-13	Basement Furnace Room - Mud Compound Beneath Canvass On Ducting Along West Wall Adjacent Hot Water Heater	Chrysotile	50	WB
6	03-February-15	Basement Furnace Room - Insulation At Duct Penetration Into Wall	None detected		WB
7	03-February-15	Basement Office - 2' x 4' Ceiling Tile	None detected		WB

Bersch & Associates Ltd.

B67BAB03

Box 3568
Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.15

CLIENT: City of Saskatoon

Infrastructure Services - Facilities Branch

Contact: Brent Anderson

Location: Cosmo Senior Center - 614 11th Street East, Saskatoon, SK.

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
8	03-February-15	Basement Furnace Room - Dry Wall Mud	Chrysotile	1 to 5	WB
9	03-February-15	Basement Furnace Room - Lineal Pipeline Insulation	None detected		WB

APPENDIX II

ASBESTOS SURVEY DATABASE

Bersch Associates Ltd.

Cosmo Senior Center															
			SAMPLE DATA												
Floor	Room Number	Use	SAMPLE REP	Sample ID	Date DD/MM/YY	Asbestos Type	% of Asbestos	Tradename ACM Product	Condition	Priority	Description of Sample Location	Asbestos Content In Area	Potential for Disturbance	Recommended Action	Comments
B		Main Hall Stage	Sample	B67-ASB.1	16-May-13	None Detected		Acoustical Tile			Main Hall Stage - 1' x 1' Acoustical Tile On The Wall	No Accessible ACM			
B		Women's Washroom	Sample	B67-ASB.2	16-May-13	None Detected		Vinyl Sheet Flooring			Basement Women's Washroom - Sheet Flooring, Gray/Black/Tan Stone Pattern	No Accessible ACM			
B		Men's Washroom										No Accessible ACM			
B		Custodial	Sample	B67-ASB.3	16-May-13	Chrysotile	30%	Asbestos Sheet Flooring	Poor/Mod	1	Basement Custodial - Sheet Flooring On Shelving Unit	Asbestos Sheet Flooring	Low/Mod	Remove	Remove Shelving Unit. Sheet Flooring Is Lifting On Shelves.
B		Furnace Room	Sample	B67-ASB.4	16-May-13	None Detected		Pipeline Fitting Compound			Basement Furnace Room - Pipeline Fitting Compound	Mud Compound, Dry Wall Mud			
B		Furnace Room	Sample	B67-ASB.5	16-May-13	Chrysotile	50%	Mud Compound	Poor	1	Basement Furnace Room - Mud Compound Beneath Canvass On Ducting Along West Wall Adjacent Hot Water Heater	Mud Compound, Dry Wall Mud	Moderate	Remove	Remove Remnants Of Mud Compound At Duct Penetration Into Exterior Wall.
B		Furnace Room	Sample	B67-ASB.6	03-Feb-15	None Detected		Insulation			Basement Furnace Room - Insulation At Duct Penetration Into Wall	Mud Compound, Dry Wall Mud			
B		Furnace Room	Sample	B67-ASB.8	03-Feb-15	Chrysotile	1-5%	Dry Wall Mud	Moderate	3	Basement Furnace Room - Dry Wall Mud	Mud Compound, Dry Wall Mud	Low	Manage	Consider All Drywall Mud Compound To Be Asbestos Containing.
B		Furnace Room	Sample	B67-ASB.9	03-Feb-15	None Detected		Lineal Pipeline Insulation			Basement Furnace Room - Lineal Pipeline Insulation	Mud Compound, Dry Wall Mud			
B		Office	Sample	B67-ASB.7	03-Feb-15	None Detected		Ceiling Tile			Basement Office - 2' x 4' Ceiling Tile	No Accessible ACM			
M		Recreation Room										No Accessible ACM			
M		Kitchen										No Accessible ACM			
M		Stage										No Accessible ACM			
2		Kinsmen Area										No Accessible ACM			