ST. CATHERINE SCHOOL
150 BROTHERTON AVENUE
REGINA, SK.

ASBESTOS SURVEY REPORT
OCTOBER 2012

Prepared For: Regina Catholic School Division
Prepared by: Bersch & Associates Ltd.
Project No.: R01.12

1.0 EXECUTIVE SUMMARY

The asbestos audit of St. Catherine School located at 150 Brotherton Avenue in Regina, SK. entailed the inspection of all accessible suspect asbestos-containing materials (ACM) located within the facility. Materials inspected included mechanical equipment insulating material, suspended ceiling tile, vinyl floor coverings and transite rainwater leader. As a result, asbestos was detected in the various areas of the facility. Accessible ACM within the facility has been clearly identified to eliminate uncertainty of asbestos content. The identification of this material is as follows:

- All accessible asbestos-containing pipefitting compound has been identified with a red dot of spray paint. Such material may be found at, but may not be limited to, elbows, tees, hangers, expansions and valves.

- Asbestos sheet vinyl flooring was identified within the facility. These areas have been identified on the attached floor plans.

- The transite rainwater leaders located throughout the facility were found to contain asbestos. Where accessible, these rainwater leaders have been labeled "ASBESTOS" in red stencil. All transite rainwater leaders located within the facility shall be considered to be asbestos-containing.

- Asbestos-containing vermiculite was identified within the Basement. Please note that similar material may be present in other block walls of the facility.

- **Any material located within 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.**

- **Please note that there is confirmation of vermiculite insulation to be present within the interior block walls of the original school building. The block walls in the addition of the building around the library have not been tested and are assumed to contain asbestos-containing vermiculite insulation until further testing. Vermiculite insulation has the potential to contain trace amounts of asbestos. Therefore, any renovation activity that will require demolition of any portion of a block wall shall only be conducted after it has been determined that asbestos-containing vermiculite insulation is not present within the affected wall cavity. Any work that will penetrate the block walls within this facility must be carried out by personnel that are trained in the processes involved while working with asbestos containing material.**

Please refer to Appendix I for Bulk Sample Analysis results.

Throughout the survey of St. Catherine School, 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 attention.

2.0 INTRODUCTION

Bersch & Associates Ltd. was retained by Regina Catholic School Division to conduct an asbestos audit of St. Catherine School located at 150 Brotherton Avenue. The purpose of the survey was to identify all accessible Asbestos-Containing Materials (ACM) located within the facility and note any concerns relating to the ACM identified. This report gives an account of the inspection 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. completed the survey in October 2012.

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 within the facility. This will prevent any uncontrolled disturbance of the asbestos materials and possible exposure to asbestos.

3.0 METHODOLOGY

Bersch & Associates Ltd. began conducting the survey of St. Catherine School located at 150 Brotherton Avenue in July 2012. 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, fourteen (14) bulk samples of suspect asbestos-containing materials were collected within St. Catherine School. 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 U.S. 40 CFR Part 763, Vol. 52, No.210 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 greater than 1%.

4.0 RECOMMENDATIONS

The following information is a list of observations and recommendations with regards to the asbestos-containing materials identified within St. Catherine School located at 150 Brotherton Avenue.

Priority One - Removed/Cleaned up Summer 2017

~~**Basement -**~~

1. ~~**Pipefitting Compound** – Asbestos was detected in the pipefitting compound located throughout the Basement. Visible debris was identified in various areas of the Basement including:~~

   ~~**a) Top of Ducting Adjacent Caretaker's Main Stairwell**~~
   ~~**b) Top of Ducting in Furnace Room**~~
   ~~**c) South Wall of Furnace Room**~~

   ~~Due to the fact that numerous damaged fittings were noted and that visible debris is present, it is our recommendation that all remaining fittings be removed and the ground area throughout the Basement be substantially cleaned up to prevent further deterioration and subsequent dissemination of the asbestos-containing material.~~

   ~~**PRIORITY: ONE**~~
   ~~**CONDITION: POOR**~~
   ~~**POTENTIAL FOR DISTURBANCE: HIGH**~~
   ~~**ACTION: REMOVE / CLEAN UP**~~

2. ~~**Transite Rainwater Leader** – A damaged piece of asbestos-containing transite rainwater leader was identified in the ceiling space adjacent Classrooms #5 & #6. It is recommended that this piece of damaged pipe be removed and the immediate area cleaned up.~~

   ~~**PRIORITY: ONE**~~
   ~~**CONDITION: POOR**~~
   ~~**POTENTIAL FOR DISTURBANCE: MODERATE**~~
   ~~**ACTION: REMOVE / CLEAN UP**~~

Priority Two

No repairs to report at time of inspection.

Priority Three - **All areas to be reviewed by Facilities Supervisor in July of each Calendar year to determine if any damage or harmful deterioration has occurred.**

Corridor Adjacent Staff Room –

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Corridor adjacent the Staff Room. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

2. **Transite Rainwater Leader** – Asbestos-containing transite rainwater leader was identified in the Corridor adjacent the Staff Room. All transite rainwater leader located within the facility shall be considered to be asbestos-containing. This material is considered non-friable and will not produce an elevated fibre release unless rigorously disturbed (i.e. cutting, grinding, smashing, etc.). It is recommended that this material remain in place until renovations warrant removal.

PRIORITY:	**THREE**
CONDITION:	**GOOD**
POTENTIAL FOR DISTURBANCE:	**LOW**
ACTION:	**MANAGE**

Pre-K Washroom

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Pre-K Washroom. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

2. **Transite Rainwater Leader** – Asbestos-containing transite rainwater leader was identified in the Pre-K Washroom. This material was not accessible for labeling at the time of our site visit. All transite rainwater leader located within the facility shall be considered to be asbestos-containing. This material is considered non-friable and will not produce an elevated fibre release unless rigorously disturbed (i.e. cutting, grinding, smashing, etc.). It is recommended that this material remain in place until renovations warrant removal.

PRIORITY:	**THREE**
CONDITION:	**GOOD**
POTENTIAL FOR DISTURBANCE:	**LOW**
ACTION:	**MANAGE**

Staff Washroom

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Staff Washroom. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

2. **Transite Rainwater Leader** – Asbestos-containing transite rainwater leader was identified in the Staff Washroom. This material was not accessible for labeling at the time of our site visit. All transite rainwater leader located within the facility shall be considered to be asbestos-containing. This material is considered non-friable and will not produce an elevated fibre release unless rigorously disturbed (i.e. cutting, grinding, smashing, etc.). It is recommended that this material remain in place until renovations warrant removal.

PRIORITY:	**THREE**
CONDITION:	**GOOD**
POTENTIAL FOR DISTURBANCE:	**LOW**
ACTION:	**MANAGE**

Gymnasium Storage Room

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Gymnasium Storage Room. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

2. **Transite Rainwater Leader** – Asbestos-containing transite rainwater leader was identified in the Gymnasium Storage Room. All transite rainwater leader located within the facility shall be considered to be asbestos-containing. This material is considered non-friable and will not produce an elevated fibre release unless rigorously disturbed (i.e. cutting, grinding, smashing, etc.). It is recommended that this material remain in place until renovations warrant removal.

PRIORITY:	**THREE**
CONDITION:	**GOOD**
POTENTIAL FOR DISTURBANCE:	**LOW**
ACTION:	**MANAGE**

Resource Centre

1. **Transite Rainwater Leader** – Asbestos-containing transite rainwater leader was identified in the Resource Centre. All transite rainwater leader located within the facility shall be considered to be asbestos-containing. This material is considered non-friable and will not produce an elevated fibre release unless rigorously disturbed (i.e. cutting, grinding, smashing, etc.). It is recommended that this material remain in place until renovations warrant removal.

PRIORITY:	**THREE**
CONDITION:	**GOOD**
POTENTIAL FOR DISTURBANCE:	**LOW**
ACTION:	**MANAGE**

Main Corridor (Adjacent Rooms 1 – 6)

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Main Corridor extending from Classroom #1 to Classroom #6. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Book Storage Room

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Book Storage Room. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

2. **Transite Rainwater Leader** – Asbestos-containing transite rainwater leader was identified in the Book Storage Room. This material was not accessible for labeling at the time of our site visit. All transite rainwater leader located within the facility shall be considered to be asbestos-containing. This material is considered non-friable and will not produce an elevated fibre release unless rigorously disturbed (i.e. cutting, grinding, smashing, etc.). It is recommended that this material remain in place until renovations warrant removal.

PRIORITY:	**THREE**
CONDITION:	**GOOD**
POTENTIAL FOR DISTURBANCE:	**LOW**
ACTION:	**MANAGE**

Main Corridor (Adjacent Rooms 8 – 12)

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Main Corridor extending from Classroom #8 to Classroom #12. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

3. **Transite Rainwater Leader** – Asbestos-containing transite rainwater leader was identified in the Main Corridor extending from Classroom #8 to Classroom #12. All transite rainwater leader located within the facility shall be considered to be asbestos-containing. This material is considered non-friable and will not produce an elevated fibre release unless rigorously disturbed (i.e. cutting, grinding, smashing, etc.). It is recommended that this material remain in place until renovations warrant removal.

PRIORITY:	**THREE**
CONDITION:	**GOOD**
POTENTIAL FOR DISTURBANCE:	**LOW**
ACTION:	**MANAGE**

Nurse's Room

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Nurse's Room. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Nurse's Room - Washroom

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Nurse's Room - Washroom. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Copy Room

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Copy Room. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Com. Office

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Com. Office. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Staff Room

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in the Staff Room. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Classroom #1

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in Classroom #1. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Classroom #2

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in Classroom #2. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Classroom #3

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in Classroom #3. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Classroom #4

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in Classroom #4. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Classroom #8

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in Classroom #8. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Classroom #9

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in Classroom #9. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

Classroom #10

1. **Sheet Vinyl Floor -** Asbestos was detected in the sheet vinyl floor located in Classroom #10. The flooring in this area was observed in moderate condition. This material may be managed in place until renovations warrant removal. The location of this material has been identified on the floor plans attached in Appendix II.

PRIORITY:	**THREE**
CONDITION:	**MODERATE**
POTENTIAL FOR DISTURBANCE:	**MODERATE**
ACTION:	**MANAGE**

The remaining asbestos-containing materials identified within the facility may be managed in place until renovations warrant removal.

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 carcinogenisis 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.

For the specifics of this report Removal, Repair and Management of the asbestos containing materials are the recommended planned activities. Removal of the asbestos containing material observed in poor condition is the only solution to provide permanent elimination of any potential for airborne fibre release. 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.