

BERSCH

CONSULTING LTD.

Shaw Centre Pre-Renovation Assessment



January 2017

**Prepared For: City of Saskatoon
3130 Laurier Drive
Saskatoon, SK S7L 5J7
Attn: John Hiltz**

**Prepared By: Bersch Consulting Ltd.
Project No: B67PRA25F**

1.0 EXECUTIVE SUMMARY

The assessment of the Shaw Centre located in Saskatoon, Saskatchewan entailed the inspection of select areas for the identification of asbestos containing material (ACM). The materials examined: Floor surface material, mechanical insulation, drywall joint compound, duct mastic, caulking, mortar, concrete and wall insulation.

Bulk sample analysis resulted in no asbestos detected within the samples collected from the Shaw Centre located at 122 Bowlit Crescent Saskatoon, SK. Please refer to **Appendix I for the Bulk Sample Analysis**. Because no asbestos was detected in the bulk samples, we do not offer recommendations towards the management of asbestos materials.

2.0 INTRODUCTION

The City of Saskatoon retained Bersch Consulting Ltd. to conduct an inspection of the building materials for asbestos content throughout select areas of the Shaw Centre, titling this document a Pre-Renovation Assessment. The areas selected for investigation are the result of the 4 Proposed Projects throughout the facility:

- 1) 50 Metre Pool Project – entailing the floor surface replacement
- 2) 206/216 Mechanical Room – Intake Air Retrofit Project
- 3) Pool Pak Project
- 4) Lighting Project (Luminair) – Replacement of Pool Lighting

Bulk samples were collected throughout the various areas resulting in no asbestos materials detected that would impede on the projects listed above. As for the 4) Lighting Project there is no suspect asbestos material that requires bulk analysis therefore, no samples were collected for this portion of the assessment. The new lighting will be replaced and potentially new services fastened along the steel roof trusses.

3.0 METHODOLOGY

Bersch & Associates Ltd. conducted the assessment of the Shaw Centre in Saskatoon, SK. in January of 2017. 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 areas of asbestos containing material then pre-removal of the asbestos containing materials may be necessary.

In total, sixteen (16) bulk samples of suspect asbestos-containing materials were collected from the facility. Asbestos was not detected in the samples collected. Refer to Appendix I for a copy of the Bulk Sample Analysis Report. All bulk samples collected were analyzed 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:

No asbestos containing materials were identified during the Pre-Renovation Assessment. Bersch Consulting Ltd. does not provide recommendations other than if any material is encountered during the select projects, to report the material for sampling.

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 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

CONSULTING LTD.

February 2, 2017

City of Saskatoon
3130 Laurier Drive
Saskatoon, SK
S7L 5J7

ATTENTION: John Hiltz – Project Coordinator

SUBJECT: Bulk Sample Analysis Report – Shaw Centre

Please find attached the laboratory results for the bulk samples collected January 25th, 2017 and January 26th 2017 from the Shaw Centre 122 Bowlt Crescent, Saskatoon, SK. The samples were analyzed in our laboratory for the identification of asbestos. Asbestos **was not** detected within the 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 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,



Brad Berschminsky
Bersch Consulting Ltd.

File No. – B67BLA25F

Bersch & Associates Ltd.

B67BAA25G

244-2002 Quebec Avenue
Saskatoon, SK S7K 1W4

BULK SAMPLE ANALYSIS REPORT**PROJECT NO: B67.17****CLIENT: CITY OF SASKATOON****CONTACT: JOHN HILTZ****LOCATION: SHAW CENTRE - 122 BOWLT CRESCENT, SASKATOON, SK**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
1	25-Jan-17	50m Pool - Project - Beige Floor Surface Behind The Diving Boards.	No Asbestos Detected		WB
2	25-Jan-17	50m Pool - Project -Floor Surface Green and Brown Along East Side Of The 50-M Pool Adjacent 165 Mechanical Room.	No Asbestos Detected		WB
3	25-Jan-17	B216 - Mechanical Room - Duct Repair Project - Fresh Air Intake Gray Duct Mastic From Penetration Into Main Unit.	No Asbestos Detected		WB
4	25-Jan-17	B216 - Mechanical Room - Duct Repair Project - Drywall Mud Compound From North Wall At The Intake Duct Wall Penetration.	No Asbestos Detected		WB
5	25-Jan-17	B216 - Mechanical Room - Duct Repair Project - Intake Duct Insulation Beneath The Canvas.	No Asbestos Detected		WB
6	25-Jan-17	B216 - Mechanical Room - Duct Repair Project - Mud Compound At A Hanger Along The Intake Duct Requiring Repair.	No Asbestos Detected		WB

Bersch & Associates Ltd.

B67BAA25G

244-2002 Quebec Avenue
Saskatoon, SK S7K 1W4

BULK SAMPLE ANALYSIS REPORT**PROJECT NO: B67.17****CLIENT: CITY OF SASKATOON****CONTACT: JOHN HILTZ****LOCATION: SHAW CENTRE - 122 BOWLT CRESCENT, SASKATOON, SK**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
7	26-Jan-17	B206 - Mechanical Room - Duct Repair Project - Drywall Mud Compound From North Wall At The Intake Duct Wall Penetration.	No Asbestos Detected		WB
8	26-Jan-17	Pool Pak Project -Caulking From the West Corner of Exterior Doors.	No Asbestos Detected		WB
9	26-Jan-17	Pool Pak Project -Mortar From Above Exterior Doors.	No Asbestos Detected		WB
10	26-Jan-17	Pool Pak Project - White Fibrous Paper Beneath Mastic on Pool Pak Unit.	No Asbestos Detected		WB
11	26-Jan-17	Pool Pak Project -Gray Mastic From Penetration into Main Unit.	No Asbestos Detected		WB
12	26-Jan-17	Pool Pak Project -Black Styrofoam from Small Line off of Main Unit.	No Asbestos Detected		WB

Bersch & Associates Ltd.

B67BAA25G

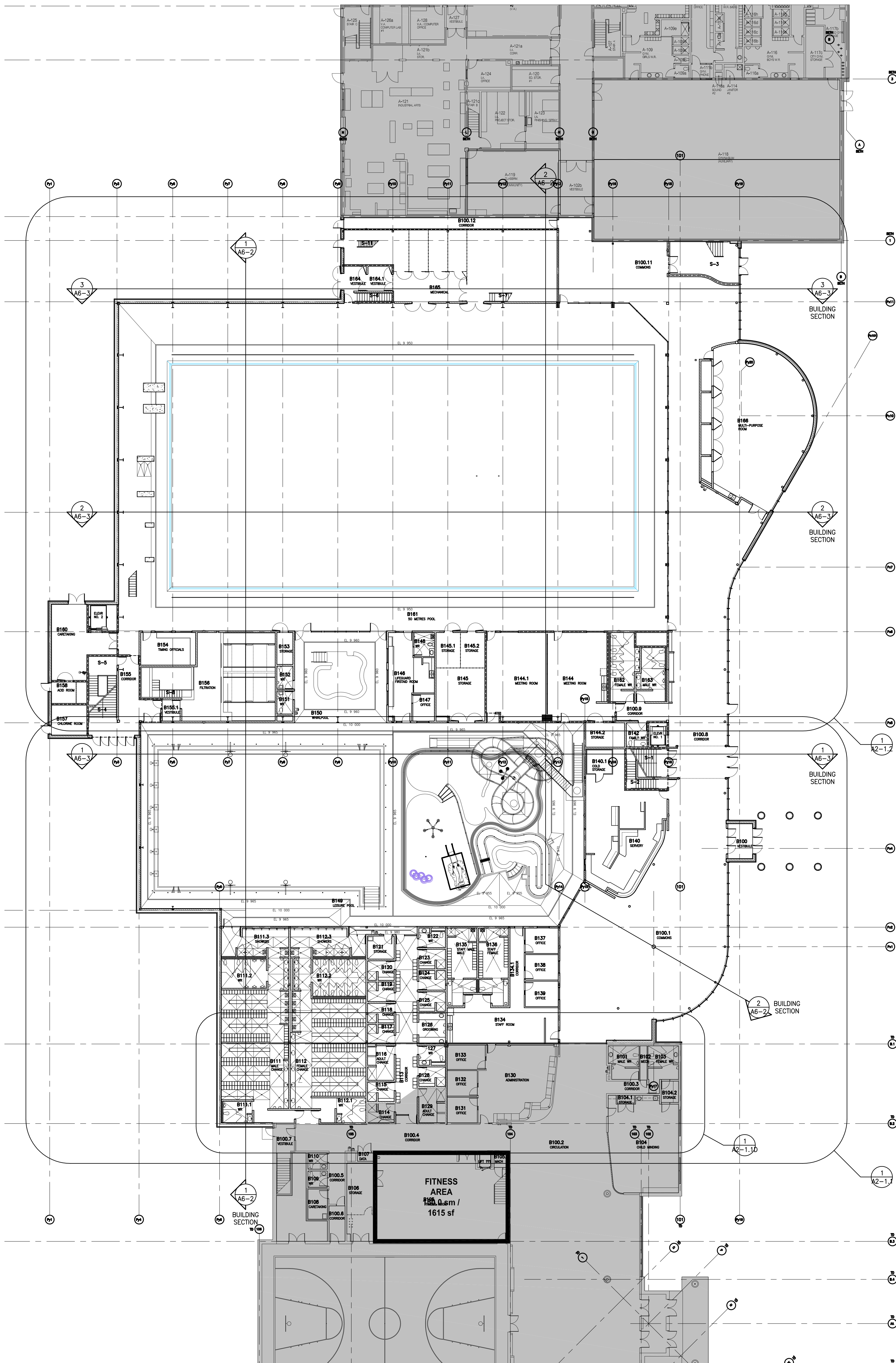
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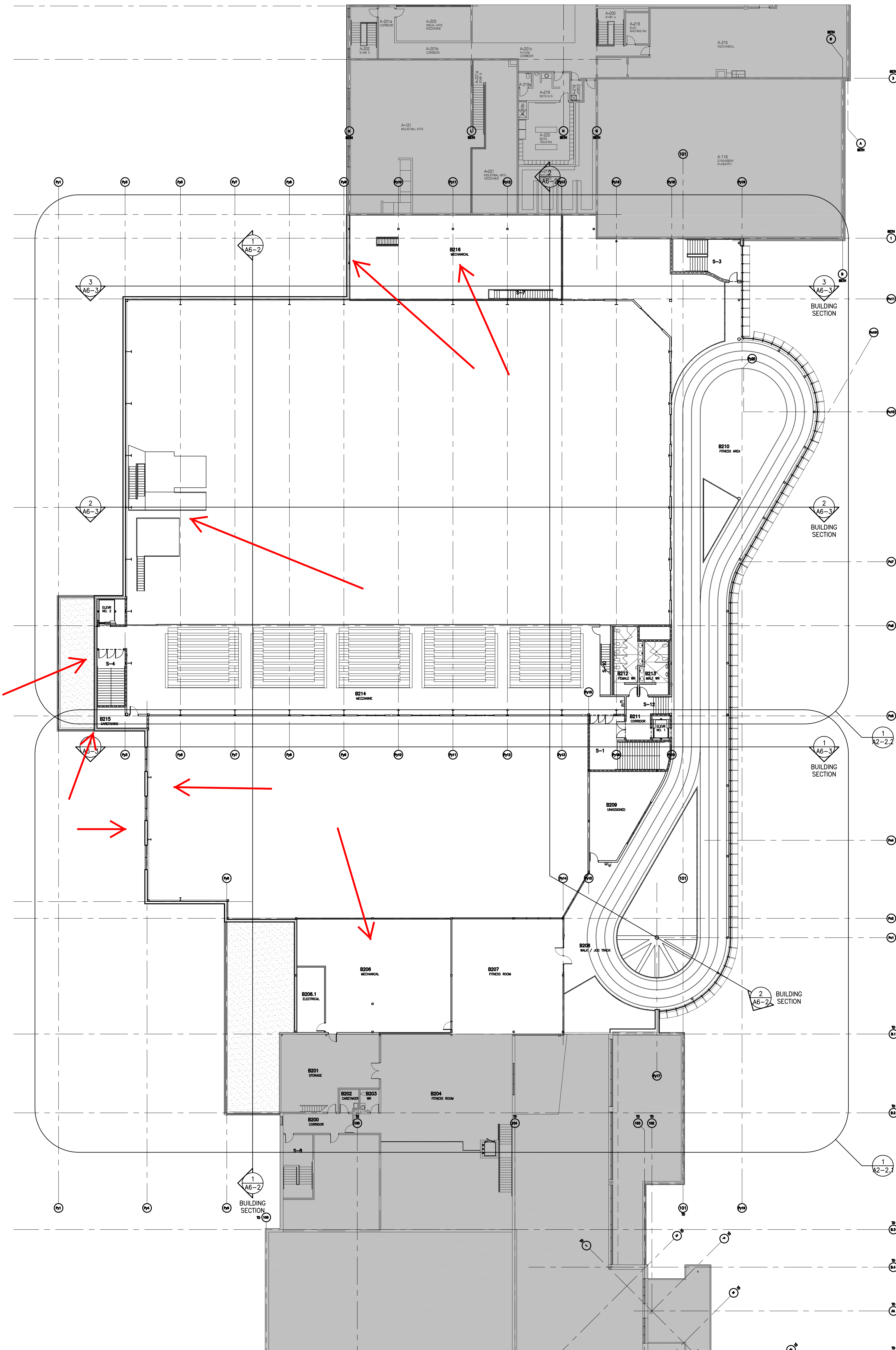
NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
13	26-Jan-17	Pool Pak Project -Pipe Insulation From Line Adjacent to North Wall of Building.	No Asbestos Detected		WB
14	26-Jan-17	Pool Pak Project -Concrete From Foundation of Building.	No Asbestos Detected		WB
15	25-Jan-17	Pool Pak Project B215 Caretaking - Beige Floor Surface With Red Dot Pattern.	No Asbestos Detected		WB
16	25-Jan-17	Pool Pak Project B215 Caretaking - Caulking From West Wall.	No Asbestos Detected		WB

APPENDIX II

FLOOR PLANS



1 MAIN FLOOR PLAN - OVERALL
1 : 200



2 SECOND FLOOR PLAN - OVERALL
1 : 200

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frigstad downing henry

DRAWING REVISED TO
REFLECT CHANGES MADE
DURING CONSTRUCTION
USING INFORMATION
PROVIDED BY THE
CONTRACTOR

KEY PLAN

Rev	Description	Date
1		

SHAW CENTRE

SASKATOON, SASKATCHEWAN

FILE: 2897 DATE: MAY 2007 DRAWING: LHM SCALE: 1/200

PROJECT: 939-2/05 OVERALL FLOOR PLAN

CONTRACT: 7-0001 MAIN AND SECOND FLOORS

DRAWING NUMBER **A2-1**

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