

Halton District School Board

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey

**Thomas A. Blakelock High School
1160 Rebecca Street, Oakville, Ontario**

April 9, 2024

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Contents

1	Introduction	1-1
1.1	Scope of Work.....	1-1
2	Regulatory Discussion and Methodology	2-1
2.1	Asbestos.....	2-2
2.2	Lead.....	2-3
2.3	Mercury.....	2-3
2.4	Silica.....	2-4
2.5	Vinyl Chloride.....	2-4
2.6	Acrylonitrile.....	2-4
2.7	Other Designated Substances	2-5
2.8	Polychlorinated Biphenyls (PCBs)	2-5
2.9	Ozone-Depleting Substances (ODS) and Other Halocarbons.....	2-6
2.10	Mould	2-7
3	Results and Discussion	3-1
3.1	Asbestos.....	3-1
3.2	Lead.....	3-19
3.3	Mercury.....	3-20
3.4	Silica.....	3-20
3.5	Vinyl Chloride.....	3-20
3.6	Acrylonitrile.....	3-21
3.7	Other Designated Substances	3-21
3.8	Polychlorinated Biphenyls (PCBs)	3-21
3.9	Ozone-Depleting Substances (ODS) and Other Halocarbons.....	3-21
3.10	Mould	3-22
4	Limitations and Service Constraints	4-1

Tables

Table 3-1	Summary of Results of Analyses of Bulk Samples for Asbestos Content.....	3-1
Table 3-2	Summary of Results of Analyses of Bulk Samples for Lead Content.....	3-19

Appendices

Appendix A	Floor Plans
Appendix B	Laboratory Reports
Appendix C	Summary of Asbestos, Lead and Silica Work Classifications

1 Introduction

Arcadis Canada Inc. (Arcadis) was retained by the Halton District School Board (HDSB) to conduct a pre-renovation designated substances and hazardous materials survey in designated areas of Thomas A. Blakelock High School located at 1160 Rebecca Street, Oakville, Ontario.

The information in this report is to be provided to all bidders on a project in accordance with the requirements of the *Occupational Health and Safety Act*.

The site is a three-storey masonry structure. The original building was constructed in 1955 with additions constructed in 1959, 1969 and 1989.

It is our understanding that renovations are scheduled to take place in designated areas of the building referred to in this report as the *designated study areas*. The survey was limited to inspecting and testing materials in the designated study areas that may be affected by the renovation project based on information provided by HDSB.

The designated study areas and eras of construction are shown on the floor plans provided in Appendix A.

The survey was undertaken to report on the presence or suspected presence of readily observable designated substances and hazardous materials.

1.1 Scope of Work

The scope of work for our investigation included:

- review of existing information;
- investigation of readily-accessible areas in the designated study areas for the presence of designated substances and hazardous materials used in building construction materials;
- obtaining representative bulk samples of materials suspected of containing asbestos;
- laboratory analyses of bulk samples for asbestos content;
- preparation of a report outlining the findings of the investigation.

Mr. Viraj Daruwala of Arcadis visited the site on March 19 and 20, 2024 to conduct the designated substances and hazardous materials survey at Thomas A. Blakelock High School.

2 Regulatory Discussion and Methodology

Ontario Occupational Health and Safety Act (OHSA)

The Ontario *Occupational Health and Safety Act* (OHSA) sets out, in very general terms, the duties of employers and others to protect workers from health and safety hazards on the job. These duties include, but are not limited to:

- taking all reasonable precautions to protect the health and safety of workers [clause 25(2)(h)];
- ensuring that equipment, materials and protective equipment are maintained in good condition [clause 25(1)(b)];
- providing information, instruction and supervision to protect worker health and safety [clause 25(2)(a)]; and
- acquainting a worker or a person in authority over a worker with any hazard in the work and in the handling, storage, use, disposal and transport of any article, device, equipment or a biological, chemical or physical agent [clause 25(2)(d)].

In addition, Section 30 of the OHSA deals with the presence of designated substances on construction projects. Compliance with the OHSA and its regulations requires action to be taken where there is a designated substance hazard on a construction project.

Section 30 of the OHSA requires the owner of a project to determine if designated substances are present on a project and, if so, to inform all potential contractors as part of the bidding process. Contractors who receive this information are to pass it onto other contractors and subcontractors who are bidding for work on the project.

Regulation for Construction Projects, O.Reg. 213/91

The *Regulation for Construction Projects*, O.Reg. 213/91, applies to all construction projects. The following sections of the regulation would apply to situations where there is the potential for workers to be exposed to designated substances:

- Section 14 (5) A competent person shall perform tests and observations necessary for the detection of hazardous conditions on a project.
- Section 21 (1) A worker shall wear such protective clothing and use such personal protective equipment or devices as are necessary to protect the worker against the hazards to which the worker may be exposed.
- (2) A worker's employer shall require the worker to comply with subsection (1).
- (3) A worker required to wear personal protective clothing or use personal protective equipment or devices shall be adequately instructed and trained in the care and use of the clothing, equipment or device before wearing or using it.

Section 30 Workers who handle or use substances likely to endanger their health shall be provided with washing facilities with clean water, soap and individual towels.

Section 46 (1) A project shall be adequately ventilated by natural or mechanical means,
(a) if a worker may be injured by inhaling a noxious...dust or fume;
(2) If it is not practicable to provide natural or mechanical ventilation in the circumstances described in clause (1)(a), respiratory protective equipment suitable for the hazard shall be provided and be used by the workers.

Section 59 If the dissemination of dust is a hazard to a worker, the dust shall be adequately controlled or each worker who may be exposed to the hazard shall be provided with adequate personal protective equipment.

Regulation for Designated Substances (O.Reg. 490/09)

The *Designated Substance Regulation* (O.Reg. 490/09) specifies occupational exposure limits (OELs) for designated substances and requires an assessment and a control program to ensure compliance with these OELs.

Although, O.Reg. 490/09 and the OELs do not apply to an employer on a construction project, or to their workers at the project, employers still have a responsibility to protect the health of their workers and to comply with the OHSA and other applicable regulations. Section 25(2)(h) of the OHSA requires that employers take "every precaution reasonable in the circumstances for the protection of a worker".

Other regulatory requirements (and guidelines) which apply to control of exposure to designated substances and hazardous materials are referenced in the sections below.

2.1 Asbestos

Asbestos has been widely used in buildings, both in friable applications (materials which can be crumbled, pulverized or powdered by hand pressure, when dry) such as pipe and tank insulation, sprayed-on fireproofing and acoustic texture material and in non-friable manufactured products such as floor tile, gaskets, cement board and so on. The use of asbestos in friable applications was curtailed around the mid-1970s and, as such, most buildings constructed prior to about 1975 contain some form of friable construction material with an asbestos content. The use of asbestos in certain non-friable materials continued beyond the mid-1970s.

Control of exposure to asbestos is governed in Ontario by Regulation 278/05 – *Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations*. Disposal of asbestos waste (friable and non-friable materials) is governed by Ontario Regulation 278/05 and by Ontario Regulation 347, *Waste Management – General*. O.Reg. 278/05 classifies asbestos work operations into three types (Type 1, 2 and 3), as shown in Table C-1 in Appendix C, and specifies procedures to be followed in conducting asbestos abatement work.

2.2 Lead

Lead is a heavy metal that can be found in construction materials such as paints, coatings, mortar, concrete, pipes, solder, packings, sheet metal, caulking, glazed ceramic products and cable splices. Lead has been used historically in exterior and interior paints.

The *Surface Coating Materials Regulations* (SOR/2016-193) made pursuant to the Canada Consumer Product Safety Act states that a surface coating material must not contain more than 90 mg/kg total lead. Health Canada defines a lead-containing surface coating as a paint or similar material that dries to a solid film that contains over 90 mg/kg dry weight of lead.

Information from the United States Occupational Health and Safety Administration (OSHA) suggests that the improper removal of lead paint containing 600 mg/kg lead results in airborne lead concentrations that exceed half of the permissible exposure limit. Lead concentrations as low as 90 mg/kg may present a risk to pregnant women and children⁽¹⁾.

The *National Plumbing Code* allowed lead as an acceptable material for pipes until 1975 and in solder until 1986.

The Ministry of Labour *Guideline, Lead on Construction Projects*, dated April 2011, provides guidance in the measures and procedures that should be followed when handling lead containing materials during construction projects. In the guideline, lead-containing construction operations are classified into three groups - Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of lead, as shown in Appendix C, Table C-2. Any operation that may expose a worker to lead that is not a Type 1, Type 2, or Type 3b operation, is classified as a Type 3a operation.

2.3 Mercury

Mercury has been used in electrical equipment such as alkaline batteries, fluorescent light bulbs (lamps), high intensity discharge (HID) lights (mercury vapour, high pressure sodium and metal halide), “silent switches” and in instruments such as thermometers, manometers and barometers, pressure gauges, float and level switches and flow meters. Mercury-containing lamps, the bulk of which are 1.22 m (four foot) fluorescent lamps contain between 7 and 40 mg of mercury each. Mercury compounds have also been used historically as additives in latex paint to protect the paint from mildew and bacteria during production and storage.

The intentional addition of mercury to Canadian-produced consumer paints for interior use was prohibited in 1991. Mercury may have remained in paints after 1991, however, as a result of impurities in the paint ingredients or cross-contamination due to other manufacturing processes. The *Surface Coating Materials Regulations* made under the *Hazardous Products Act* set a maximum total mercury concentration of 10 mg/kg (0.001 percent) for surface coating materials (including paint). This criterion level applies to the sale and importation of new surface coating materials.

⁽¹⁾ *Lead-Containing Paints and Coatings: Preventing Exposure in the Construction Industry*. WorkSafe BC, 2011.

Mercury-containing thermostats and silent light switches are mercury tilt switches which are small tubes with electrical contacts at one end of the tube. A mercury tilt switch is usually present when no switch is visible. Mercury switches often have the word "TOP" stamped on the upper end of the switch, which is visible after removing the cover plate. If mercury switches are to be removed, the entire switch should be removed and placed into a suitable container for storage and disposal.

Waste light tubes generated during renovations or building demolition and waste mercury from equipment must either be recycled or disposed of in accordance with the requirements of Ont. Reg. 347 - *Waste Management, General*.

Waste mercury in amounts less than 5 kg (per month) are exempt from the generator registration requirements prescribed by O.Reg. 347 – *Waste Management – General*. Waste mercury from mercury switches or gauges should, however, be properly collected and shipped to a recycling facility or disposed of as a hazardous waste. Removal of mercury-containing equipment (e.g., switches, gauges, controls, etc.) should be carried out in a manner which prevents spillage and exposure to workers.

2.4 Silica

Silica exists in several forms of which crystalline silica is of most concern with respect to potential worker exposures. Quartz is the most abundant type of crystalline silica. Some commonly used construction materials containing silica include brick, refractory brick, concrete, concrete block, cement, mortar, rock and stone, sand, fill dirt, topsoil and asphalt containing rock or stone.

The Ministry of Labour *Guideline, Silica on Construction Projects*, dated April 2011, provides guidance in controlling exposure to silica dust during construction activities. In the guideline, silica-containing construction operations are classified into three groups - Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of respirable crystalline silica in the form of cristobalite, tridymite, quartz and tripoli as shown in Appendix C, Table C-3.

2.5 Vinyl Chloride

Vinyl chloride vapours may be released from polyvinyl chloride (PVC) products in the event of heating or as a result of decomposition during fire. PVC is used in numerous materials that may be found in building construction, including, for example, piping, conduits, siding, window and door frames, plastics, garden hoses, flooring and wire and cable protection.

2.6 Acrylonitrile

Acrylonitrile is used to produce nitrile-butadiene rubber, acrylonitrile-butadiene-styrene (ABS) polymers and styrene-acrylonitrile (SAN) polymers. Products made with ABS resins which may be found in buildings include telephones, bottles, packaging, refrigerator door liners, plastic pipe, building panels and shower stalls. Acrylonitrile can be released into the air by combustion of products containing ABS.

2.7 Other Designated Substances

Isocyanates are a class of chemicals used in the manufacture of certain types of plastics, foams, coatings and other products. Isocyanate-based building construction materials may include rigid foam products such as foam-core panels and spray-on insulation and paints, coatings, sealants and adhesives. Isocyanates may be inhaled if they are present in the air in the form of a vapour, a mist or a dust.

Benzene is a clear, highly flammable liquid used mainly in the manufacture of other chemicals. The commercial use of benzene as a solvent has practically been eliminated, however it continues to be used as a solvent and reactant in laboratories.

Arsenic is a heavy metal used historically in pesticides and herbicides. The primary use in building construction materials was its use in the wood preservative chromated copper arsenate (CCA). CCA was used to pressure treat lumber since the 1940's. Pressure-treated wood containing CCA is no longer being produced for use in most residential settings.

Ethylene oxide is a colourless gas at room temperature. It has been used primarily for the manufacture of other chemicals, as a fumigant and fungicide and for sterilization of hospital equipment.

Coke oven emissions are airborne contaminants emitted from coke ovens and are not a potential hazard associated with building construction materials.

2.8 Polychlorinated Biphenyls (PCBs)

The management of equipment classified as waste and containing Polychlorinated Biphenyls (PCBs) at concentrations of 50 parts per million (mg/kg) or greater is regulated by Ontario Regulation 362, *Waste Management – PCBs*. Under this regulation, PCB waste is defined as any waste material containing PCBs in concentrations of 50 mg/kg or greater. Any equipment containing PCBs at or greater than this level, such as transformers, switchgear, light ballasts and capacitors, which is removed from service due to age, failure or as a result of decommissioning, is considered to constitute a PCB waste. Although current federal legislation (effective 1 July 1980) has prohibited the manufacture and sale of new equipment containing PCBs since that time, continued operation of equipment supplied prior to this date and containing PCBs is still permitted. Handling, storage and disposition of such equipment is, however, tightly regulated and must be managed in accordance with provincial and federal government requirements as soon as it is taken out of service or becomes unserviceable.

In most institutional, commercial facilities and in smaller industrial facilities, the primary source of equipment potentially containing PCBs is fluorescent and H.I.D. light ballasts. Small transformers may also be present. In larger industrial facilities, larger transformers and switch gear containing, or potentially containing, PCBs may also be present.

PCBs were also commonly added to industrial paints from the 1940s to the late 1970s. PCBs were added directly to the paint mixture to act as a fungicide, to increase durability and flexibility, to improve resistance to fires and to increase moisture resistance. The use of PCBs in new products was banned in Canada in the 1970s. PCB amended paints were used in speciality industrial/institutional applications prior to the 1970s including government buildings

and equipment such as industrial plants, radar sites, ships as well as non-government rail cars, ships, grain bins, automobiles and appliances.

Removal of in-service equipment containing PCBs, such as fluorescent light ballasts, capacitors and transformers, is subject to the requirements of the federal *PCB Regulations* (discussed below).

The *PCB Regulations*, which came into force on 5 September 2008, were made under the *Canadian Environmental Protection Act, 1999* (CEPA 1999) with the objective of addressing the risks posed by the use, storage and release to the environment of PCBs, and to accelerate their destruction. The *PCB Regulations* set different end-of-use deadlines for equipment containing PCBs at various concentration levels.

The Regulations Amending the PCB Regulations and Repealing the Federal Mobile PCB Treatment and Destruction Regulations were published on 23 April 2014, in the Canada Gazette, Part II, and came into force on 1 January 2015. The most notable part of the amendments is the addition of an end-of-use deadline date of 31 December 2025 for specific electrical equipment located at electrical generation, transmission and distribution facilities.

When the PCB materials are classified as waste, jurisdiction falls under the Ontario Ministry of the Environment and Climate Change (MOECC) and O.Reg. 362. All remedial and PCB management work must be carried out under the terms of a Director's Instruction issued by an MOECC District Office (for quantities of PCB fluid greater than 50 litres). The PCB waste stream, regardless of quantity, must be registered with the MOECC, in accordance with O.Reg. 347, *General - Waste Management*. O.Reg. 362 applies to any equipment containing greater than 1 kg of PCBs.

2.9 Ozone-Depleting Substances (ODS) and Other Halocarbons

Ontario Regulation 463/10 – *Ozone Depleting Substances and Other Halocarbons*, applies to the use, handling and disposal of Class 1 ozone-depleting substances, including various chlorofluorocarbons (CFCs), halons and other halocarbons, Class 2 ozone-depleting substances, including various hydrochlorofluorocarbons (HCFCs) and halocarbons, and other halocarbons, including fluorocarbons (FCs) and hydrofluorocarbons (CFCs). The most significant requirements for handling of ozone-depleting substances (ODS) and other Halocarbons, which include, for example, refrigerants used in refrigeration equipment and chillers, include the following:

- certification is required for all persons testing, repairing, filling or emptying equipment containing ODS and other halocarbons;
- the discharge of a Class 1 ODS or anything that contains a Class 1 ODS to the natural environment or within a building is prohibited;
- the making, use of, selling of or transferring of a Class 1 ODS is restricted to certain conditions;
- the discharge of a solvent or sterilant that contains a Class 2 ODS is prohibited;
- the making, use of, selling of or transferring of a solvent or sterilant that contains a Class 2 ODS is restricted to certain conditions;

- fire extinguishing equipment that contains a halon may be discharged to fight fires, except fires for firefighting training purposes;
- portable fire extinguishing equipment that contains a halon may be used or stored if the extinguisher was sold for use for the first time before 1 January 1996;
- records of the servicing and repair of equipment containing ODS and other halocarbons must be prepared and maintained by the owner of the equipment; and
- equipment no longer containing ODS and other halocarbons must be posted with a notice completed by a certified person.

Ontario Regulation 347, *General – Waste Management*, has also been amended to provide for more strict control of CFCs. The requirements under the amended regulation apply primarily to the keeping of records for the receipt or recycling of CFC waste.

2.10 Mould

Moulds are forms of fungi that are found everywhere both indoors and outdoors all year round. Outdoors, moulds live in the soil, on plants and on dead and decaying matter. More than 1000 different kinds of indoor moulds have been found in buildings. Moulds spread and reproduce by making spores, which are all small and light-weight, able to travel through air, capable of resisting dry, adverse environmental conditions, and hence capable of surviving a long time. Moulds need moisture and nutrients to grow and their growth is stimulated by warm, damp and humid conditions.

Control of exposure to mould is required under Section 25(2)(h) of the Ontario *Occupational Health and Safety Act*, which states that employers shall take every precaution reasonable in the circumstances for the protection of workers. Recommended work practices are outlined in the following documents:

- *Mould Guidelines for the Canadian Construction Industry*. Standard Construction Document CCA 82 2004. Canadian Construction Association.
- *Mould Abatement Guidelines*. Environmental Abatement Council of Ontario. Edition 3. 2015.

3 Results and Discussion

3.1 Asbestos

Arcadis reviewed a report prepared by Arcadis for the HDSB titled *Pre-Renovation Designated Substances and Hazardous Materials Survey, T.A. Blakelock High School, 1160 Rebecca Street, Oakville, Ontario* dated February 8, 2023. Information and/or bulk sample analysis results obtained from this existing report were utilized by Arcadis during the course of our investigation and in the preparation of this report.

During the course of our site investigation, additional representative bulk samples of material were collected by Arcadis staff. The samples were forwarded to EMSL Canada Inc. for asbestos analyses. Results of bulk sample analysis for asbestos content are provided in Table 3.1. Table 3.1 also include sample results obtained from existing report and include results that are outside of the designated study areas, which are provided for references purposes only. Laboratory reports from the 2024 investigation are provided in Appendix B. Locations of accessible asbestos-containing materials are shown on the floor plan provided in Appendix A.

Table 3-1 Summary of Results of Analyses of Bulk Samples for Asbestos Content

Thomas A. Blakelock High School

Sample No.	Location	Description	
1-A	Room 103	Black paper behind rad walls	None Detected (TEM)
1-A	Room 103	Brown paper behind rad walls	None Detected (TEM)
1-A Insulation	Room 103	Brown paper behind rad walls	None Detected
1-B	Room 103	Black and brown paper behind rad walls	None Detected
1-C	Room 101	Black and brown paper behind rad walls	None Detected
2-A	Room 101A	Cement board from fume hood	None Detected
2-B	Room 101A	Cement board from fume hood	None Detected
2-C	Room 101A	Cement board from fume hood	None Detected
3-A	Room 101	Sink coating	None Detected
3-B	Room 103	Sink coating	None Detected
3-C	Room 104	Sink coating	None Detected
4-A	Room 101	Black vinyl baseboard	None Detected (TEM)
4-A	Room 101	Baseboard mastic	None Detected
4-B	Room 101	Black vinyl baseboard	None Detected
4-B	Room 101	Baseboard mastic	None Detected
4-C	Room 103	Black vinyl baseboard	None Detected
4-C	Room 103	Baseboard mastic	None Detected
5-A	Room 101	12" white vinyl floor tiles with black streaks	None Detected (TEM)
5-A	Room 101	Floor tile mastic	None Detected
5-B	Room 101	12" white vinyl floor tiles with black streaks	None Detected
5-B	Room 101	Floor tile mastic	None Detected

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
5-C	Room 103	12" white vinyl floor tiles with black streaks	None Detected
5-C	Room 101	Floor tile mastic	None Detected
6-A	Room 115	9" vinyl floor tiles – red	1.8% Chrysotile
6-A	Room 115	Floor tile mastic	None Detected
6-A	Room 115	Floor leveller	None Detected
6-B	Room 115	Floor tile mastic	None Detected
6-B	Room 115	Floor leveller	None Detected
6-C	Room 115	Floor tile mastic	None Detected
7-A	Room 115	12" white acoustic wall tiles – small and medium holes	None Detected
7-B	Room 115	12" white acoustic wall tiles – small and medium holes	None Detected
7-C	Room 115	12" white acoustic wall tiles – small and medium holes	None Detected
8-A	Room 214	Luxury vinyl floor tiles	None Detected (TEM)
8-A	Room 214	Floor tile mastic/ leveller	None Detected
8-B	Room 214	Luxury vinyl floor tiles	None Detected
8-B	Room 214	Floor tile mastic/ leveller	None Detected
8-C	Room 214	Luxury vinyl floor tiles	None Detected
8-C	Room 214	Floor tile mastic	None Detected
9-A	Room 115	12" cream vinyl floor tiles with brown streaks	1.2% Chrysotile
9-A	Room 115	Floor tile mastic	None Detected
9-B	Room 115	Floor tile mastic	None Detected
9-C	Room 115	Floor tile mastic	None Detected
10-A	Room 117	12" white floor tiles with black flecks	None Detected (TEM)
10-A	Room 117	Floor tile mastic	None Detected
10-B	Room 117	12" white floor tiles with black flecks	None Detected
10-B	Room 117	Floor tile mastic	None Detected
10-C	Room 117	12" white floor tiles with black flecks	None Detected
10-C	Room 117	Floor tile mastic	None Detected
1-A	Room 263	2' x 4' ACT – pinholes and small fissure with brown backing (1969 Construction era)	None Detected ⁽¹⁾
1-B	Room 141	2' x 4' ACT – pinholes and small fissure with brown backing (1969 Construction era)	None Detected ⁽¹⁾
1-C	Room 263	2' x 4' ACT – pinholes and small fissure with brown backing (1969 Construction era)	None Detected ⁽¹⁾
2-A	Room 144	Tile - 12" x 12" white VFT with black/brown fleck (1969 Construction era)	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
2-B	Room 145	Tile - 12" x 12" white VFT with black/brown fleck (1969 Construction era)	None Detected ⁽¹⁾
2-C	Room 144	Tile - 12" x 12" white VFT with black/brown fleck (1969 Construction era)	None Detected ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
3-A	Room 136	Mastic - 12" x 12" VFT (1969 Construction era)	None Detected ⁽¹⁾
3-B	Room 135	Mastic - 12" x 12" VFT (1969 Construction era)	None Detected ⁽¹⁾
3-C	Room 136	Mastic - 12" x 12" VFT (1969 Construction era)	None Detected ⁽¹⁾
4-A	Room 159B	Mastic - 12" x 12" white with black VFT (1955 Construction era)	None Detected ⁽¹⁾
4-B	Room 159B	Mastic - 12" x 12" white with black VFT (1955 Construction era)	None Detected ⁽¹⁾
4-C	Room 159B	Mastic - 12" x 12" white with black VFT (1955 Construction era)	None Detected ⁽¹⁾
5-A	Room 159B	Levelling compound under 12" x 12" white with black VFT (1955 Construction era)	None Detected ⁽¹⁾
5-B	Room 159B	Levelling compound under 12" x 12" white with black VFT (1955 Construction era)	None Detected ⁽¹⁾
5-C	Room 159B	Levelling compound under 12" x 12" white with black VFT (1955 Construction era)	None Detected ⁽¹⁾
6-A	Room 134	Carpet mastic (1969 Construction era)	None Detected ⁽¹⁾
6-B	Room 134	Carpet mastic (1969 Construction era)	None Detected ⁽¹⁾
6-C	Room 134	Carpet mastic (1969 Construction era)	None Detected ⁽¹⁾
7-A	Room 134	Black vinyl baseboard (1969 Construction era)	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
7-B	Room 134A	Black vinyl baseboard (1969 Construction era)	None Detected ⁽¹⁾
7-C	Room 134D	Black vinyl baseboard (1969 Construction era)	None Detected ⁽¹⁾
8-A	Room 134	Yellow mastic under black vinyl baseboard (1969 Construction era)	None Detected ⁽¹⁾
8-B	Room 134A	Yellow mastic under black vinyl baseboard (1969 Construction era)	None Detected ⁽¹⁾
8-C	Room 134D	Yellow mastic under black vinyl baseboard (1969 Construction era)	None Detected ⁽¹⁾
9-A	Room 159B	Grey vinyl baseboard (1955 Construction era)	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
9-B	Room 159B	Grey vinyl baseboard (1955 Construction era)	None Detected ⁽¹⁾
9-C	Room 159B	Grey vinyl baseboard (1955 Construction era)	None Detected ⁽¹⁾
10-A	Room 159B	Brown mastic under grey baseboard (1955 Construction era)	None Detected ⁽¹⁾
10-B	Room 159B	Brown mastic under grey baseboard (1955 Construction era)	None Detected ⁽¹⁾
10-C	Room 159B	Brown mastic under grey baseboard (1955 Construction era)	None Detected ⁽¹⁾
11-A	Room 134	Black door frame caulking (1969 Construction era)	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
11-B	Room 141	Black door frame caulking (1969 Construction era)	None Detected ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
11-C	Room 259C	Black door frame caulking (1969 Construction era)	None Detected ⁽¹⁾
12-A	Room 158C	2" x 2" beige ceramic tile – grout (1955 Construction era)	None Detected ⁽¹⁾
12-B	Room 158C	2" x 2" beige ceramic tile – grout (1955 Construction era)	None Detected ⁽¹⁾
12-C	Room 158C	2" x 2" beige ceramic tile – grout (1955 Construction era)	None Detected ⁽¹⁾
13-A	Room 158C	2" x 2" beige ceramic tile – mortar bed (1955 Construction era)	None Detected ⁽¹⁾
13-B	Room 158C	2" x 2" beige ceramic tile – mortar bed (1955 Construction era)	None Detected ⁽¹⁾
13-C	Room 158C	2" x 2" beige ceramic tile – mortar bed (1955 Construction era)	None Detected ⁽¹⁾
14-A	Room 159C	4" x 4" white ceramic tile – grout (1955 Construction era)	None Detected ⁽¹⁾
14-B	Room 159C	4" x 4" white ceramic tile – grout (1955 Construction era)	None Detected ⁽¹⁾
14-C	Room 159C	4" x 4" white ceramic tile – grout (1955 Construction era)	None Detected ⁽¹⁾
15-A	Room 159C	4" x 4" white ceramic tile – mortar bed (1955 Construction era)	None Detected ⁽¹⁾
15-B	Room 159C	4" x 4" white ceramic tile – mortar bed (1955 Construction era)	None Detected ⁽¹⁾
15-C	Room 159C	4" x 4" white ceramic tile – mortar bed (1955 Construction era)	None Detected ⁽¹⁾
16-A	Room 259A	1" x 1" beige ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
16-B	Room 259A	1" x 1" beige ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
16-C	Room 259A	1" x 1" beige ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
17-A	Room 259A	1" x 1" beige ceramic tile – mortar bed (1969 Construction era)	None Detected ⁽¹⁾
17-B	Room 259A	1" x 1" beige ceramic tile – mortar bed (1969 Construction era)	None Detected ⁽¹⁾
17-C	Room 259A	1" x 1" beige ceramic tile – mortar bed (1969 Construction era)	None Detected ⁽¹⁾
18-A	Room 259A	4" x 4" beige ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
18-B	Room 259A	4" x 4" beige ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
18-C	Room 259A	4" x 4" beige ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
19-A	Room 259A	4" x 4" beige ceramic tile – mortar bed (1969 Construction era)	<0.25 Chrysotile (Pt Ct) ^(1,2)

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
19-B	Room 259A	4" x 4" beige ceramic tile – mortar bed (1969 Construction era)	<0.25 Chrysotile (Pt Ct) ^(1,2)
19-C	Room 259A	4" x 4" beige ceramic tile – mortar bed (1969 Construction era)	<0.25 Chrysotile (Pt Ct) ^(1,2)
20-A	Room 259B	6" x 6" pink with black spots ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
20-B-Grout 1	Room 259B	6" x 6" pink with black spots ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
20-B-Grout 2	Room 259B	6" x 6" pink with black spots ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
20-C	Room 259B	6" x 6" pink with black spots ceramic tile – grout (1969 Construction era)	None Detected ⁽¹⁾
21-A	Room 259B	6" x 6" pink with black spots ceramic tile – mortar bed (1969 Construction era)	None Detected ⁽¹⁾
21-B	Room 259B	6" x 6" pink with black spots ceramic tile – mortar bed (1969 Construction era)	None Detected ⁽¹⁾
21-C	Room 259B	6" x 6" pink with black spots ceramic tile – mortar bed (1969 Construction era)	None Detected ⁽¹⁾
22-A	Room 159C	Glazed ceramic tile – grout (1955 Construction era)	None Detected ⁽¹⁾
22-B	Room 159C	Glazed ceramic tile – grout (1955 Construction era)	None Detected ⁽¹⁾
22-C	Room 159C	Glazed ceramic tile – grout (1955 Construction era)	None Detected ⁽¹⁾
23-A-Mortar 1	Room 266	Interior brick mortar (1969 Construction era)	None Detected ⁽¹⁾
23-A-Mortar 2	Room 266	Interior brick mortar (1969 Construction era)	None Detected ⁽¹⁾
23-B-Mortar 1	Room 266	Interior brick mortar (1969 Construction era)	None Detected ⁽¹⁾
23-B-Mortar 2	Room 266	Interior brick mortar (1969 Construction era)	None Detected ⁽¹⁾
23-C-Mortar 1	Room 266	Interior brick mortar (1969 Construction era)	None Detected ⁽¹⁾
23-C-Mortar 2	Room 266	Interior brick mortar (1969 Construction era)	None Detected ⁽¹⁾
24-A	Room 134	Exterior brown window caulking (1969 Construction era)	None Detected ⁽¹⁾
24-B	Room 134D	Exterior brown window caulking (1969 Construction era)	None Detected ⁽¹⁾
24-C	Room 134A	Exterior brown window caulking (1969 Construction era)	None Detected ⁽¹⁾
25-A	Room 134	Exterior brick mortar (1969 Construction era)	<0.25 Chrysotile (Pt Ct) ^(1,2)
25-B	Room 134A	Exterior brick mortar (1969 Construction era)	<0.25 Chrysotile (Pt Ct) ^(1,2)
25-C	Room 134A	Exterior brick mortar (1969 Construction era)	<0.25 Chrysotile (Pt Ct) ^(1,2)

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
26-A	Room 134	Interior grey window caulking (1969 Construction era)	None Detected ⁽¹⁾
26-B	Room 134A	Interior grey window caulking (1969 Construction era)	None Detected ⁽¹⁾
26-C	Room 134D	Interior grey window caulking (1969 Construction era)	None Detected ⁽¹⁾
27-A	Room 134A	Glass block mortar	None Detected ⁽¹⁾
27-B	Room 134A	Glass block mortar	None Detected ⁽¹⁾
27-C	Room 134A	Glass block mortar	None Detected ⁽¹⁾
28-A	Room 162A	Black mastic under cork on wall	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
28-B	Room 162A	Black mastic under cork on wall	None Detected ⁽¹⁾
28-C	Room 162A	Black mastic under cork on wall	None Detected ⁽¹⁾
29-A	Room 162A	Brown cork mastic on ceiling	None Detected ⁽¹⁾
29-B	Room 162A	Brown cork mastic on ceiling	None Detected ⁽¹⁾
29-C	Room 162A	Brown cork mastic on ceiling	None Detected ⁽¹⁾
30-A	Room 162A	Surfacing material on concrete ceiling under cork	None Detected ⁽¹⁾
30-B	Room 162A	Surfacing material on concrete ceiling under cork	None Detected ⁽¹⁾
30-C	Room 162A	Surfacing material on concrete ceiling under cork	None Detected ⁽¹⁾
1A	Room 124	Boiler tank insulation	<0.25% chrysotile ^(1,2,3)
1B	Room 124	Boiler tank insulation	0.25% chrysotile ^(1,2,3)
1C	Room 124	Boiler tank insulation	<0.25% chrysotile ^(1,2,3)
1A	Roof	Duct insulation - tar	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
1B	Roof	Duct insulation - tar	None Detected ⁽¹⁾
1C	Roof	Duct insulation - tar	None Detected ⁽¹⁾
2A	Roof	Grey caulking – bottom layer	None Detected ⁽¹⁾
2B	Roof	Grey caulking – bottom layer	None Detected ⁽¹⁾
2C	Roof	Grey caulking – bottom layer	None Detected ⁽¹⁾
3A	Roof	Grey caulking – top layer	<1% chrysotile (PLM) ⁽¹⁾ 0.39% chrysotile (PLM Grav) ^(1,2)
3B	Roof	Grey caulking – top layer	<1% chrysotile (PLM) ⁽³⁾ <0.27% chrysotile (PLM Grav) ^(1,2)
3C	Roof	Grey caulking – top layer	None Detected ⁽¹⁾
4A	Roof	Grey caulking – old	None Detected ⁽¹⁾
4B	Roof	Grey caulking – old	None Detected ⁽¹⁾
4C	Roof	Grey caulking – old	None Detected ⁽¹⁾
5A	Roof	Brown caulking at electrical penetration	None Detected ⁽¹⁾
5B	Roof	Brown caulking at electrical penetration	None Detected ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
5C	Roof	Brown caulking at electrical penetration	None Detected ⁽¹⁾
6A	Roof	Tar	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
6B	Roof	Tar	None Detected ⁽¹⁾
6C	Roof	Tar	None Detected ⁽¹⁾
7A	Roof	Tar	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
7B	Roof	Tar	None Detected ⁽¹⁾
7C	Roof	Tar	None Detected ⁽¹⁾
1A	Room 103A	Mastic under (12" x 12") vinyl floor tile	None Detected ⁽¹⁾
1B	Room 103A	Mastic under (12" x 12") vinyl floor tile	None Detected ⁽¹⁾
1C	Room 103A	Mastic under (12" x 12") vinyl floor tile	None Detected ⁽¹⁾
1A	Room 127	1" x 1" brown ceramic floor tile - grout	None Detected ⁽¹⁾
1B	Room 224	1" x 1" brown ceramic floor tile - grout	None Detected ⁽¹⁾
1C	Room 127	1" x 1" brown ceramic floor tile - grout	None Detected ⁽¹⁾
2A	Room 127	1" x 1" brown ceramic floor tile – mortar bed	None Detected ⁽¹⁾
2B	Room 224	1" x 1" brown ceramic floor tile – mortar bed	None Detected ⁽¹⁾
2C	Room 127	1" x 1" brown ceramic floor tile – mortar bed	None Detected ⁽¹⁾
3A	Room 256	Concrete block-filler paint (era 1959)	None Detected ⁽¹⁾
3B	Room 263	Concrete block-filler paint (era 1959)	<0.25% chrysotile ^(1,2)
3C	Room 263	Concrete block-filler paint (era 1959)	<0.25% chrysotile ^(1,2)
4A	Room 240	Concrete block mortar (era 1969)	<0.25% chrysotile ^(1,2)
4B	Room 246	Concrete block mortar (era 1969)	<0.25% chrysotile ^(1,2)
4C	Room 249	Concrete block mortar (era 1969)	<0.25% chrysotile ^(1,2)
5A	Room 274	Concrete block mortar (era 1989)	None Detected ⁽¹⁾
5B	Room 277	Concrete block mortar (era 1989)	None Detected ⁽¹⁾
5C	Room 278	Concrete block mortar (era 1989)	None Detected ⁽¹⁾
6A	Room 115	Concrete block-filler paint (era 1955)	None Detected ⁽¹⁾
6B	Room 126	Concrete block-filler paint (era 1955)	None Detected ⁽¹⁾
6C	Room 127	Concrete block-filler paint (era 1955)	None Detected ⁽¹⁾
7A	Room 126	Ceramic block mortar (era 1955)	None Detected ⁽¹⁾
7B	Room 127	Ceramic block mortar (era 1955)	None Detected ⁽¹⁾
7C	Room 223	Ceramic block mortar (era 1955)	None Detected ⁽¹⁾
8A	Exterior (275)	Caulking (grey) – on front door	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
8B	Room 221	Caulking (grey) – on window frame and wall	None Detected ⁽¹⁾
8C	Exterior (275)	Caulking (grey) – on front door	None Detected ⁽¹⁾
9A	Room 275	Paint (1989)	None Detected ⁽¹⁾
9B	Room 275	Paint (1989)	None Detected ⁽¹⁾
9C	Room 275	Paint (1989)	None Detected ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
10A	Room 138	Paint (1969)	<0.25% chrysotile ^(1,2)
10B	Room 139	Paint (1969)	<0.25% chrysotile ^(1,2)
10C	Room 137	Paint (1969)	<0.25% chrysotile ^(1,2)
11A	Room 204	Mastic (black) – 12"x12" vinyl floor tile (beige with brown streaks)	None Detected ⁽¹⁾
11B	Room 204	Mastic (black) – 12"x12" vinyl floor tile (beige with brown streaks)	None Detected ⁽¹⁾
11C	Room 204	Mastic (black) – 12"x12" vinyl floor tile (beige with brown streaks)	None Detected ⁽¹⁾
12A	Room 106	Mastic (black) – 12"x12" vinyl floor tile (beige with light and dark flecks)	None Detected ⁽¹⁾
12B	Room 106	Mastic (black) – 12"x12" vinyl floor tile (beige with light and dark flecks)	None Detected ⁽¹⁾
12C	Room 107	Mastic (black) – 12"x12" vinyl floor tile (beige with light and dark flecks)	None Detected ⁽¹⁾
13A	Room 106A	Mastic (black) – 9"x9" vinyl floor tile (red with grey streaks)	None Detected ⁽¹⁾
13B	Room 106A	Mastic (black) – 9"x9" vinyl floor tile (red with grey streaks)	None Detected ⁽¹⁾
13C	Room 106A	Mastic (black) – 9"x9" vinyl floor tile (red with grey streaks)	None Detected ⁽¹⁾
14A	Room 118	Mastic (black) – 9"x9" vinyl floor tile (light grey with green streaks)	<0.25% chrysotile ^(1,2)
14B	Room 118	Mastic (black) – 9"x9" vinyl floor tile (light grey with green streaks)	None Detected ⁽¹⁾
14C	Room 118	Mastic (black) – 9"x9" vinyl floor tile (light grey with green streaks)	None Detected ⁽¹⁾
15A	Room 215	Mastic (black) – 12"x12" vinyl floor tile (light pink with brown flecks)	None Detected ⁽¹⁾
15B	Room 212	Mastic (black) – 12"x12" vinyl floor tile (light pink with brown flecks)	None Detected ⁽¹⁾
15C	Room 214	Mastic (black) – 12"x12" vinyl floor tile (light pink with brown flecks)	None Detected ⁽¹⁾
16A	Room 117	Mastic (black) – 12"x12" vinyl floor tile (white with brown flecks)	None Detected ⁽¹⁾
16B	Room 116	Mastic (black) – 12"x12" vinyl floor tile (white with brown flecks)	None Detected ⁽¹⁾
16C	Room 116	Mastic (black) – 12"x12" vinyl floor tile (white with brown flecks)	None Detected ⁽¹⁾
17A	Room 118	Mastic (cream) – baseboard (black)	None Detected ⁽¹⁾
17B	Room 116	Mastic (cream) – baseboard (black)	None Detected ⁽¹⁾
18C	Room 119	Mastic (tan) – baseboard (black)	None Detected ⁽¹⁾
19A	Exterior (106)	Caulking (black) – glass and window frame	9.6% chrysotile ^(1,3)
20A	Room 118A	Caulking (beige) – on door (118A and 119)	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
20B	Room 217	Caulking (beige) – on window	None Detected ⁽¹⁾
20C	Room 216	Caulking (beige) – on window	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
21A	Exterior (106)	Caulking (grey) – on window frame	1.1% chrysotile ^(1,3)
22A	Exterior (103)	Caulking (grey, tacky) – on window frame and wall	0.85% chrysotile ^(1,3)
23A	Exterior (125)	Caulking (grey) – on window frame and wall	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
23B	Room 213	Caulking (grey) – on window frame and wall	None Detected ⁽¹⁾
23C	Exterior (106)	Caulking (grey) – on window frame and wall	3% chrysotile ^(1,3)
24A	Room 117	Caulking (dark grey) – on window frame	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
24B	Room 221	Caulking (dark grey) – on window frame	None Detected ⁽¹⁾
24C	Room 218	Caulking (dark grey) – on window frame	None Detected ⁽¹⁾
25A	Room 201	Caulking (light grey) – on window frame	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
25B	Exterior (111)	Caulking (light grey) – on window frame	None Detected ⁽¹⁾
25C	Room 215	Caulking (light grey) – on window frame	None Detected ⁽¹⁾
26A	Exterior (115)	Caulking (brown) – on window	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
26B	Exterior (138)	Caulking (brown) – bay door	None Detected ⁽¹⁾
26C	Exterior (137)	Caulking (brown) – bay door	None Detected ⁽¹⁾
1A	Room 169	2'x4' ceiling tile – fissure on 2' with pinhole	None Detected ⁽¹⁾
1B	131	2'x4' ceiling tile – fissure on 2' with pinhole	None Detected ⁽¹⁾
1C	128	2'x4' ceiling tile – fissure on 2' with pinhole	None Detected ⁽¹⁾
2A	106	12"x12" vinyl floor tile – beige with dark and light flecks	None Detected ⁽¹⁾
2B	107	12"x12" vinyl floor tile – beige with dark and light flecks	None Detected ⁽¹⁾
2C	107	12"x12" vinyl floor tile – beige with dark and light flecks	None Detected ⁽¹⁾
3A	215B	9"x9" vinyl floor tile – brown with beige flecks	None Detected ⁽¹⁾
3B	215B	9"x9" vinyl floor tile – brown with beige flecks	None Detected ⁽¹⁾
3C	215B	9"x9" vinyl floor tile – brown with beige flecks	None Detected ⁽¹⁾
4A	215B	Mastic - 9"x9" vinyl floor tile – brown with beige fleck	None Detected ⁽¹⁾
4B	215B	Mastic - 9"x9" vinyl floor tile – brown with beige fleck	None Detected ⁽¹⁾
4C	215B	Mastic - 9"x9" vinyl floor tile – brown with beige fleck	None Detected ⁽¹⁾
5A	213	12"x12" vinyl floor tile – grey with dark and light flecks	None Detected ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
5B	213	12"x12" vinyl floor tile – grey with dark and light flecks	None Detected ⁽¹⁾
5C	213	12"x12" vinyl floor tile – grey with dark and light flecks	None Detected ⁽¹⁾
6A	213	Mastic - 12"x12" vinyl floor tile – grey with dark and light flecks	None Detected ⁽¹⁾
6B	213	Mastic - 12"x12" vinyl floor tile – grey with dark and light flecks	None Detected ⁽¹⁾
6C	213	Mastic - 12"x12" vinyl floor tile – grey with dark and light flecks	None Detected ⁽¹⁾
7A	280	2'x4' ceiling tile – dense small random fissure with pinhole	None Detected ⁽¹⁾
7B	278	2'x4' ceiling tile – dense small random fissure with pinhole	None Detected ⁽¹⁾
7C	278	2'x4' ceiling tile – dense small random fissure with pinhole	None Detected ⁽¹⁾
8A	131	2'x4' ceiling tile – thin fissure on 2' with pinhole	None Detected ⁽¹⁾
8B	131	2'x4' ceiling tile – thin fissure on 2' with pinhole	None Detected ⁽¹⁾
8C	131	2'x4' ceiling tile – thin fissure on 2' with pinhole	None Detected ⁽¹⁾
1-A	Room 211	12"x12" Cellulose Wall Tile – Big and Small Uniform Hole (Orange painted white on front surface)	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
1-B	Room 216	12"x12" Cellulose Wall Tile – Big and Small Uniform Hole (Orange painted white on front surface)	None Detected ⁽¹⁾
1-C	Room 208	12"x12" Cellulose Wall Tile – Big and Small Uniform Hole (Orange painted white on front surface)	None Detected ⁽¹⁾
2-A	Corridor 230	2'x4' Ceiling Tile – Rough surface with pinhole	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
2-B	Corridor 231	2'x4' Ceiling Tile – Rough surface with pinhole	None Detected ⁽¹⁾
2-C	Corridor 232	2'x4' Ceiling Tile – Rough surface with pinhole	None Detected ⁽¹⁾
3-A	Room 214	Caulking Between Concrete Roof Deck Panels - Grey	5.9% chrysotile ⁽¹⁾
4-A	Room 234	Flex Joint Connector - Grey	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
4-B	Room 234	Flex Joint Connector - Grey	None Detected ⁽¹⁾
4-C	Room 234	Flex Joint Connector - Grey	None Detected ⁽¹⁾
5-A	Room 215	Concrete Block Mortar (era 1955)	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
5-B	Room 234	Concrete Block Mortar (era 1955)	None Detected ⁽¹⁾
5-C	Room 216	Concrete Block Mortar (era 1955)	None Detected ⁽¹⁾
6-A	Corridor 290	Brick Mortar	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
6-B	Exterior Wall	Brick Mortar	None Detected ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
6-C	Exterior Wall	Brick Mortar	None Detected ⁽¹⁾
7-A	Room 283	Ceramic Block Mortar – White (era 1959)	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
7-B	Room 284	Ceramic Block Mortar – White (era 1959)	None Detected ⁽¹⁾
7-C	Room 285	Ceramic Block Mortar – White (era 1959)	None Detected ⁽¹⁾
8-A	Room 255	12"x12" Ceiling Tile – Uniform Hole (White with White Painted Surface)	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
8-B	Corridor 271	12"x12" Ceiling Tile – Uniform Hole (White with White Painted Surface)	None Detected ⁽¹⁾
8-C	Corridor 273A	12"x12" Ceiling Tile – Uniform Hole (White with White Painted Surface)	None Detected ⁽¹⁾
8-D	Corridor 272	12"x12" Ceiling Tile – Uniform Hole (White with White Painted Surface)	None Detected ⁽¹⁾
8-E	Corridor 289	12"x12" Ceiling Tile – Uniform Hole (White with White Painted Surface)	None Detected ⁽¹⁾
9-A	Corridor 271	12"x12" Ceiling Tile – Pinhole (Grey with White Painted Surface)	2% amosite ⁽¹⁾ 1% chrysotile ⁽¹⁾
10-A	Room 235E	12"x12" Ceiling tile – Cellulose Flat (Orange with White Painted Surface)	None Detected ⁽¹⁾
10-B	Room 236F	12"x12" Ceiling tile – Cellulose Flat (Orange with White Painted Surface)	None Detected ⁽¹⁾
10-C	Room 235E	12"x12" Ceiling tile – Cellulose Flat (Orange with White Painted Surface)	None Detected ⁽¹⁾
11-A	Room 235E	Mastic on 12"x12" Ceiling Tile – Cellulose Flat	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
11-B	Room 235E	Mastic on 12"x12" Ceiling Tile – Cellulose Flat	None Detected ⁽¹⁾
11-C	Room 235E	Mastic on 12"x12" Ceiling Tile – Cellulose Flat	None Detected ⁽¹⁾
7A	Roof A	Roof membrane	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
7B	Roof A	Roof membrane	None Detected ⁽¹⁾
7C	Roof A	Roof membrane	None Detected ⁽¹⁾
8A	Roof A	Asphaltic vapour barrier	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
8B	Roof A	Asphaltic vapour barrier	None Detected ⁽¹⁾
8C	Roof A	Asphaltic vapour barrier	None Detected ⁽¹⁾
9A	Roof B	Roof membrane	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
9B	Roof B	Roof membrane	None Detected ⁽¹⁾
9C	Roof B	Roof membrane	None Detected ⁽¹⁾
10A	Roof C	Roof membrane	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
10B	Roof C	Roof membrane	None Detected ⁽¹⁾
10C	Roof C	Roof membrane	None Detected ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
11A	Roof C	Asphalt vapour barrier	None Detected (PLM) ⁽¹⁾ None Detected (TEM) ⁽¹⁾
11B	Roof C	Asphalt vapour barrier	None Detected ⁽¹⁾
11C	Roof C	Asphalt vapour barrier	None Detected ⁽¹⁾
1-A	Room 252	12" x 12" vinyl floor tile – beige with wide brown directional streaks	5.6% chrysotile ⁽¹⁾
2-A	Room 252	Mastic on vinyl floor tile Sample #1 – black coloured	1.1% chrysotile (TEM) ⁽¹⁾
3-A	Room 252	Mastic on vinyl baseboard – brown coloured	None Detected (TEM) ⁽¹⁾
3-B	Room 251	Mastic on vinyl baseboard – brown coloured	None Detected ⁽¹⁾
3-C	Room 114	Mastic on vinyl baseboard – brown coloured	None Detected ⁽¹⁾
4-A	Room 252	Vinyl baseboard – black coloured	<0.25% chrysotile (TEM) ^(1,2)
4-B	Room 251	Vinyl baseboard – black coloured	None Detected ⁽¹⁾
4-C	Room 114	Vinyl baseboard – black coloured	None Detected ⁽¹⁾
5-A	Room 251	Mastic on non-asbestos vinyl floor tiles – black coloured	None Detected (TEM) ⁽¹⁾
5-B	Room 251	Mastic on non-asbestos vinyl floor tiles – black coloured	None Detected ⁽¹⁾
5-C	Room 251	Mastic on non-asbestos vinyl floor tiles – black coloured	None Detected ⁽¹⁾
6-A	Room 273	Glue pucks on ceiling tiles – dark brown coloured	None Detected (TEM) ⁽¹⁾
6-B	Room 273	Glue pucks on ceiling tiles – dark brown coloured	None Detected ⁽¹⁾
6-C	Room 114A	Glue pucks on concrete roof deck – brown coloured	None Detected ⁽¹⁾
7-A	Room 273	Textured plaster on ceiling – top coat	None Detected ⁽¹⁾
7-B	Room 273	Textured plaster on ceiling – top coat	None Detected ⁽¹⁾
7-C	Room 273	Textured plaster on ceiling – top coat	None Detected ⁽¹⁾
8-A	Room 273	Plaster on ceiling – scratch coat	None Detected ⁽¹⁾
8-B	Room 273	Plaster on ceiling – scratch coat	None Detected ⁽¹⁾
8-C	Room 273	Plaster on ceiling – scratch coat	None Detected ⁽¹⁾
9-A	Room 114	Mastic on asbestos vinyl floor tile – black coloured	None Detected (TEM) ⁽¹⁾
9-B	Room 114B	Mastic on asbestos vinyl floor tile – black coloured	None Detected ⁽¹⁾
9-C	Room 111	Mastic on asbestos vinyl floor tile – black coloured	None Detected ⁽¹⁾
10-A	Room 111	Black paper on medium sized anti-sweat thermal insulation	<0.25% chrysotile (TEM) ^(1,2)
10-B	Room 113	Black paper on medium sized anti-sweat thermal insulation	None Detected ⁽¹⁾
10-C	Room 114	Black paper on medium sized anti-sweat thermal insulation	None Detected ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
11-A	Room 252	Joint compound on drywall wall	3.7% chrysotile ⁽¹⁾
12-A	Room 251	Joint compound on drywall bulkhead	3.7% chrysotile ⁽¹⁾
13-A	Room 114	Joint compound on drywall wall	None Detected ⁽¹⁾
13-B	Room 113	Joint compound on drywall wall	None Detected ⁽¹⁾
13-C	Room 111	Joint compound on drywall wall	None Detected ⁽¹⁾
E122	Corridor E122	Paper on anti-sweat thermal insulation on pipe straights	35% chrysotile ^(1,2)
134a	134	Drywall joint compound (1969)	2.3% chrysotile ⁽¹⁾
252	252	Drywall joint compound (1969)	None Detected ⁽¹⁾
153	153	Drywall joint compound (1969)	None Detected ⁽¹⁾
154	154	Drywall joint compound (1969)	None Detected ⁽¹⁾
113	113	Drywall joint compound (1955)	None Detected ⁽¹⁾
136	136	Drywall joint compound (1969)	1.5% chrysotile ⁽¹⁾
114A	114A	Drywall joint compound (1955)	None Detected ⁽¹⁾
258-1	258	Drywall joint compound (1959)	None Detected ⁽¹⁾
258-2	258	Drywall joint compound (1959)	None Detected ⁽¹⁾
280A	280A	Drywall joint compound (1989)	None Detected ⁽¹⁾
280B	280B	Drywall joint compound (1989)	None Detected ⁽¹⁾
280C	280C	Drywall joint compound (1989)	None Detected ⁽¹⁾
256	256	Drywall joint compound (1959)	None Detected ⁽¹⁾
104A	104A	Drywall joint compound (1955)	None Detected ⁽¹⁾
159b-A	159b	2' X 4' ceiling tile (circular small fissures and random dot)	None Detected ⁽¹⁾
159b-B	159b	2' X 4' ceiling tile (circular small fissures and random dot)	None Detected ⁽¹⁾
159b-C	159b	2' X 4' ceiling tile (circular small fissures and random dot)	None Detected ⁽¹⁾
257a-A	257a	2' X 4' ceiling tile (random small and medium dot)	None Detected ⁽¹⁾
257a-B	257a	2' X 4' ceiling tile (random small and medium dot)	None Detected ⁽¹⁾
257a-C	257a	2' X 4' ceiling tile (random small and medium dot)	None Detected ⁽¹⁾
122-A	122	2' X 4' ceiling tile ("chicken feet")	None Detected ⁽¹⁾
122-B	122	2' X 4' ceiling tile ("chicken feet")	None Detected ⁽¹⁾
122-C	122	2' X 4' ceiling tile ("chicken feet")	None Detected ⁽¹⁾
128-1A	128	2' X 4' ceiling tile (small random fissures with random dot)	1-5% chrysotile ^(1,3)
128-1B	128	2' X 4' ceiling tile (small random fissures with random dot)	1-5% chrysotile ^(1,3)
128-1C	128	2' X 4' ceiling tile (small random fissures with random dot)	1-5% chrysotile ^(1,3)

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
168b-A	168b	2' X 4' ceiling tile (width wide fissures with random dot)	None Detected ⁽¹⁾
168b-B	168b	2' X 4' ceiling tile (width wide fissures with random dot)	None Detected ⁽¹⁾
168b-C	168b	2' X 4' ceiling tile (width wide fissures with random dot)	None Detected ⁽¹⁾
34	263	2' x 4' ceiling tiles	0.75% chrysotile ^(1,3)
160-A	160	12" X 12" ceiling tile (small and large holes)	None Detected ⁽¹⁾
160-B	160	12" X 12" ceiling tile (small and large holes)	None Detected ⁽¹⁾
160-C	160	12" X 12" ceiling tile (small and large holes)	None Detected ⁽¹⁾
110-A	110	12" X 12" ceiling tiles (small and large uniform dot)	None Detected ⁽¹⁾
110-B	110	12" X 12" ceiling tiles (small and large uniform dot)	None Detected ⁽¹⁾
110-C	110	12" X 12" ceiling tiles (small and large uniform dot)	None Detected ⁽¹⁾
N/A	N/A	12" X 12" ceiling tiles (small and large square)	3.3% amosite ⁽¹⁾
111C-A	111	12" X 12" ceiling tiles (floral)	4.8% amosite ^(1,3)
123-A	123	12" X 12" ceiling tiles (large uniform dots)	None Detected ⁽¹⁾
123-B	123	12" X 12" ceiling tiles (large uniform dots)	None Detected ⁽¹⁾
123-C	123	12" X 12" ceiling tiles (large uniform dots)	None Detected ⁽¹⁾
126a	126a	Air cell pipe straight insulation	None Detected ⁽¹⁾
123a-2	123a	Pipe straight parging	42% chrysotile ⁽¹⁾
158b	158b	"Aircell" pipe straight insulation in pipe chase	65% chrysotile ⁽¹⁾
127-A	127	Texture ceiling coat	None Detected ⁽¹⁾
127-B	127	Texture ceiling coat	None Detected ⁽¹⁾
127-C	127	Texture ceiling coat	None Detected ⁽¹⁾
159a-1	159a	Texture ceiling coat	None Detected ⁽¹⁾
159a-2	159a	Texture ceiling coat	None Detected ⁽¹⁾
159a-3	159a	Texture ceiling coat	None Detected ⁽¹⁾
33	250	Texture ceiling spray	4.5% chrysotile ⁽¹⁾
17	123	Texture wall plaster	2.8% chrysotile ⁽¹⁾
224-A	224	Texture plaster coat	None Detected ⁽¹⁾
224-B	224	Texture plaster coat	None Detected ⁽¹⁾
224-C	224	Texture plaster coat	None Detected ⁽¹⁾
269	269	Anti-sweat pipe insulation	None Detected ⁽¹⁾
25	163	Pipe straight insulation	36% chrysotile ⁽¹⁾
5	124	Hot water heating pipe fitting insulation	80% chrysotile ^(1,3)
6	124	Domestic water pipe fitting insulation	40% chrysotile ^(1,3)
7	124	Domestic water pipe straight insulation	36% chrysotile ^(1,3)
19	126A	Rainwater leader fitting insulation	36% chrysotile ⁽¹⁾
31	242A	Hot water heating pipe fitting insulation	36% chrysotile ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
32	242A	Duct insulation	57% chrysotile ⁽¹⁾
38	269	Rainwater leader hanger insulation	57% chrysotile ⁽¹⁾
118-A	118	9" X 9" vinyl floor tile (beige with dark green)	19.9% chrysotile ^(1,3)
123a-A	123A	9" X 9" vinyl floor tile (tan with brown)	15.6% chrysotile ⁽¹⁾
259b-A	250b	9" X 9" vinyl floor tile (sky blue)	4.8% chrysotile ⁽¹⁾
209-A	209	9" X 9" vinyl floor tile (orange with beige)	None Detected ⁽¹⁾
209-B	209	9" X 9" vinyl floor tile (orange with beige)	None Detected ⁽¹⁾
209-C	209	9" X 9" vinyl floor tile (orange with beige)	None Detected ⁽¹⁾
288-A	288	9" X 9" vinyl floor tile (blue with white and green)	None Detected ⁽¹⁾
288-B	288	9" X 9" vinyl floor tile (blue with white and green)	None Detected ⁽¹⁾
288-C	288	9" X 9" vinyl floor tile (blue with white and green)	None Detected ⁽¹⁾
206-A	206	9" X 9" vinyl floor tile (chocolate brown with white)	7.0% chrysotile ^(1,3)
206a-A	206a	9" X 9" vinyl floor tile (beige with brown and pink)	None Detected ⁽¹⁾
206a-B	206a	9" X 9" vinyl floor tile (beige with brown and pink)	None Detected ⁽¹⁾
206a-C	206	9" X 9" vinyl floor tile (beige with brown and pink)	None Detected ⁽¹⁾
284-A	284	9" X 9" vinyl floor tile (brown with beige and white)	None Detected ⁽¹⁾
284-B	284	9" X 9" vinyl floor tile (brown with beige and white)	None Detected ⁽¹⁾
284-C	284	9" X 9" vinyl floor tile (brown with beige and white)	None Detected ⁽¹⁾
287-A	287	9" X 9" vinyl floor tile (brown with white)	None Detected ⁽¹⁾
287-B	287	9" X 9" vinyl floor tile (brown with white)	None Detected ⁽¹⁾
287-C	287	9" X 9" vinyl floor tile (brown with white)	None Detected ⁽¹⁾
216-A	216	9" X 9" vinyl floor tile (green with dark green)	None Detected ⁽¹⁾
216-B	216	9" X 9" vinyl floor tile (green with dark green)	None Detected ⁽¹⁾
216-C	216	9" X 9" vinyl floor tile (green with dark green)	None Detected ⁽¹⁾
208-A	208	9" X 9" vinyl floor tile (light brown with brown)	None Detected ⁽¹⁾
208-B	208	9" X 9" vinyl floor tile (light brown with brown)	None Detected ⁽¹⁾
208-C	208	9" X 9" vinyl floor tile (light brown with brown)	None Detected ⁽¹⁾
116-A	116	9" X 9" vinyl floor tile (light brown with white)	15.1% chrysotile ^(1,3)
107-A	107	9" X 9" vinyl floor tile (orange)	13.0% chrysotile ^(1,3)
164-A	164	12" X 12" vinyl floor tile (fake wood look)	None Detected ⁽¹⁾
164-B	164	12" X 12" vinyl floor tile (fake wood look)	None Detected ⁽¹⁾
164-C	164	12" X 12" vinyl floor tile (fake wood look)	None Detected ⁽¹⁾
115-A	115	12" X 12" vinyl floor tile (white with dark brown)	None Detected ⁽¹⁾

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
 Thomas A. Blakelock High School

Sample No.	Location	Description	
115-B	115	12" X 12" vinyl floor tile (white with dark brown)	None Detected ⁽¹⁾
115-C	115	12" X 12" vinyl floor tile (white with dark brown)	None Detected ⁽¹⁾
111b-A	111	12" X 12" vinyl floor tile (white with tan)	None Detected ⁽¹⁾
111b-B	111	12" X 12" vinyl floor tile (white with tan)	None Detected ⁽¹⁾
111b-C	111	12" X 12" vinyl floor tile (white with tan)	None Detected ⁽¹⁾
160-A	160	12" X 12" vinyl floor tile (black with white)	None Detected ⁽¹⁾
160-B	160	12" X 12" vinyl floor tile (black with white)	None Detected ⁽¹⁾
160-C	160	12" X 12" vinyl floor tile (black with white)	None Detected ⁽¹⁾
165-A	165	12" X 12" vinyl floor tile (tan with brown)	4.3% chrysotile ⁽³⁾
159b-A	159b	12" X 12" vinyl floor tile (grey with black)	None Detected ⁽¹⁾
159b-B	159b	12" X 12" vinyl floor tile (grey with black)	None Detected ⁽¹⁾
159b-C	159b	12" X 12" vinyl floor tile (grey with black)	None Detected ⁽¹⁾
172a-A	172a	12" X 12" vinyl floor tile (grey with grey)	None Detected ⁽¹⁾
172a-B	172a	12" X 12" vinyl floor tile (grey with grey)	None Detected ⁽¹⁾
172a-C	172a	12" X 12" vinyl floor tile (grey with grey)	None Detected ⁽¹⁾
236-A	236	12" X 12" vinyl floor tile (pink with pink)	None Detected ⁽¹⁾
236-B	236	12" X 12" vinyl floor tile (pink with pink)	None Detected ⁽¹⁾
236-C	236	12" X 12" vinyl floor tile (pink with pink)	None Detected ⁽¹⁾
148-A	148	12" X 12" vinyl floor tile (green with dark green)	None Detected ⁽¹⁾
148-B	148	12" X 12" vinyl floor tile (green with dark green)	None Detected ⁽¹⁾
148-C	148	12" X 12" vinyl floor tile (green with dark green)	None Detected ⁽¹⁾
104-A	104	12" X 12" vinyl floor tile (white with black)	None Detected ⁽¹⁾
104-B	104	12" X 12" vinyl floor tile (white with black)	None Detected ⁽¹⁾
104-C	104	12" X 12" vinyl floor tile (white with black)	None Detected ⁽¹⁾
150-A	150	12" X 12" vinyl floor tile (light blue with dark blue)	None Detected ⁽¹⁾
150-B	150	12" X 12" vinyl floor tile (light blue with dark blue)	None Detected ⁽¹⁾
150-C	150	12" X 12" vinyl floor tile (light blue with dark blue)	None Detected ⁽¹⁾
160-A	160	12" X 12" vinyl floor tile (grey with white)	None Detected ⁽¹⁾
160-B	160	12" X 12" vinyl floor tile (grey with white)	None Detected ⁽¹⁾
160-C	160	12" X 12" vinyl floor tile (grey with white)	None Detected ⁽¹⁾
151-A	151	12" X 12" vinyl floor tile (cream with brown)	25.5% chrysotile ⁽¹⁾
111a-A	111	12" X 12" vinyl floor tile (tan with brown)	16.8% chrysotile ^(1,3)
117-A	117	12" X 12" vinyl floor tile (brown with white)	17.2% chrysotile ^(1,3)
1A	W206	12" ceiling tiles, uniform holes, grey interior	None Detected ⁽¹⁾
1B	W203	12" ceiling tiles, uniform holes, grey interior	None Detected ⁽¹⁾
1C	W208	12" ceiling tiles, uniform holes, grey interior	None Detected ⁽¹⁾

NOTES:

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey
Thomas A. Blakelock High School

NOTES:

(1) Sample results taken from a report prepared by Arcadis for the Halton District School Board titled *Pre-Renovation Designated Substances and Hazardous Materials Survey, T.A. Blakelock High School* dated February 8, 2023.

(2) "Asbestos-containing material" is defined as material that contains 0.5% or more asbestos by dry weight.

(3) Material collected in the area have since been removed and are provided here for references purposes only.

Bulk samples were analyzed by Polarized Light Microscopy (PLM) analysis, except where "TEM" is noted, in which case Transmission Electron Microscopy analysis was also performed.

< = less than.

Chrysotile = Chrysotile asbestos.

Amosite = Amosite Asbestos

Determination of the locations of asbestos-containing material was made based on the review of existing information, results of bulk sample analysis, visual observations and physical characteristics of the applications as well as our knowledge of the uses of asbestos in building materials.

Based on visual observations and results of laboratory analyses of samples collected by Arcadis Canada Inc., the following asbestos-containing materials were found to be present in the designated study areas:

- Thermal insulation applied to pipe straights and fittings above ceiling in Room113;
- Thermal insulation applied to pipe straights and fittings in various locations behind lockers in Corridor 122;
- Thermal insulation applied to pipe straights and fittings may be present inside inaccessible areas such as spaces behind plywood panels located behind radiator cabinets Rooms 101, 101A, 103, 104, 104A, 115, 116, 117, 118, 118A, 213 and 214;
- Thermal insulation applied to pipe straights and fittings may be present in accessible areas such as behind wall finishes on east walls in Rooms 103 and 115.
- Thermal insulation applied to pipe fittings is assumed to be present behind millwork in Rooms 152 and 152A.
- Thermal insulation applied to pipe fittings in Room 139;
- Thermal insulation applied to pipe fittings above ceiling and in floor trenches in Room 152;
- 2'x4' acoustic ceiling tiles in Rooms 152 and 152A;
- 12"x12" vinyl floor tiles in Rooms 115, 152, and 152A.
- 9"x9" vinyl floor tiles in closet in Room 115;
- Caulking located between concrete roof deck panels in Rooms 213 and 214;
- Joint compounds on gypsum board applications located above lockers and on gypsum board panels above doors in Corridor 155;
- Joint compounds on gypsum board panels above doors in Room 152; and
- Adhesives, that may be present behind chalkboards, marker boards and tack boards are assumed to contain asbestos.

During the course of a previous site investigations, Arcadis staff accessed cavities in exterior concrete block walls in several different locations in the study area. Materials suspected of containing asbestos (e.g. vermiculite block-fill insulation) was not observed in all block wall cavities accessed.

Glass fibre insulation is readily visually distinguishable (typically yellow in colour) from asbestos-containing insulation materials and was, therefore, not tested for asbestos content.

Thermal insulation is a friable material. The removal, alteration and/or disturbance of less than 1 m² of friable asbestos-containing materials is classified as a Type 2 enclosure operation as specified in O.Reg. 278/05. The removal, alteration and/or disturbance of more than 1 m² of friable asbestos-containing materials is classified as a Type 3 operation.

Vinyl floor tile, caulking and adhesives are non-friable materials. The removal, alteration and disturbance of these non-friable asbestos-containing materials can be performed as a Type 1 operation as specified in O. Reg. 278/05 if the material is wetted and the work is done only using non-powered, hand-held tools (see Table C-1 in Appendix C). If the removal, alteration and/or disturbance work is done using power tools that are attached to dust-collecting devices equipped with HEPA filters, then the work is classified as Type 2. If the power tools do not have HEPA filtered dust collecting devices, then the work is Type 3.

The removal, alteration and/or disturbance of less than 7.5 m² of asbestos-containing ceiling tiles is a Type 1 operation (if the tiles are removed without being broken, cut, etc.). The removal, alteration and/or disturbance of 7.5 m² or more asbestos-containing ceiling tiles is a Type 2 operation (if the tiles are removed without being broken, cut, etc.).

The removal, alteration and/or disturbance of less than one square meter of gypsum board in which asbestos-containing joint filling compounds have been used is classified as a Type 1 operation. The removal, alteration and/or disturbance of one square meter or more of gypsum board with asbestos-containing joint compounds is a Type 2 operation.

Asbestos may also be present in materials which were not sampled during the course of the asbestos survey carried out by Arcadis, including, but not limited to, areas outside the designated study areas, which include components of electrical equipment (e.g. electric wiring insulation, non-metallic sheathed cable, electrical panel partitions, arc chutes, high-grade electrical paper, etc.), threaded pipe sealants, mortar, concrete, asphaltic pavement. Confirmatory testing of any such materials could be undertaken as the need arises (i.e., at the time of renovations, modifications or demolition) or the materials can be assumed to contain asbestos based on findings in adjacent areas.

If any materials which may contain asbestos and which were not tested during the course of the designated substances and hazardous materials survey are discovered during any construction activities, the work shall not proceed until such time as the required notifications have been made and an appropriate course of action is determined.

3.2 Lead

Arcadis reviewed a report prepared by Arcadis for the HDSB titled “*Designated Substances and Hazardous Materials Survey, Frontenac Public School, 5141 Pinedale Avenue, Burlington, Ontario* dated July 2, 2020. Information and bulk sample analysis results obtained from this existing report was utilized by Arcadis during the course of our investigation and in the preparation of this report.

Results of bulk sample analysis of paint samples for lead content taken from the above-referenced report are provided in Table 3-2.

Table 3-2 Summary of Results of Analyses of Bulk Samples for Lead Content

Thomas A. Blakelock High School

Sample No.	Sample Location	Sample Description	Lead Content
P-1	Room 259A	White paint on drywall ceiling	400 mg/kg ⁽¹⁾
P-2	Room 259A	White paint on concrete block wall	250 mg/kg ⁽¹⁾
P-1	Room 126	Beige paint on concrete block	<5.5 mg/kg ⁽¹⁾

NOTE:

(1) Sample results taken from a report prepared by Arcadis for the Halton District School Board titled *Pre-Renovation Designated Substances and Hazardous Materials Survey, T.A. Blakelock High School* dated February 8, 2023.

< = less than.

mg/Kg = milligrams lead per kilogram paint.

1 mg/Kg - 1 part per million (ppm).

Lead was detected at a level above the criteria of 90 mg/kg (Surface Coating Materials Regulations criterion value) in two of three paint samples tested. Lead was detected at a level below the 90 mg/kg criteria value in the remaining paint sample.

Due to the constraints and difficulty of obtaining adequate volumes of paint from metal substrate materials, all paint on metal substrates is assumed to contain lead and these paint applications were not sampled. Paint applications and associated metal substrate materials removed as part of renovation activities, must be either sent for recycling at an approved facility or disposed at a licensed hazardous waste disposal facility as lead-containing waste.

Lead may also be present in lead pipe, mortar, glazing on ceramic tiles, in the solder on the seals of bell joints of any cast iron drainpipe and in the solder on the sweated-on joints between copper pipe and fittings.

The Ministry of Labour *Guideline – Lead on Construction Projects*, dated April 2011, provides guidance in the measures and procedures that should be followed when handling lead containing materials during construction projects. In the guideline, lead-containing construction operations are classified into three groups - Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of lead, as shown in Appendix C, Table C-2. Any operation that may expose a worker to lead that is not a Type 1, Type 2, or Type 3b operation, is classified as a Type 3a operation.

In addition, the *EACO Lead Abatement Guidelines, 2014 — Edition 1*, Environmental Abatement Council of Ontario, also provides guidance and recommended work practices.

3.3 Mercury

During the course of our site investigation, fluorescent lights were observed in the designated study areas. Mercury should be assumed to be present as a gas in all fluorescent light tubes and in all paint applications, albeit at low levels. The fluorescent light tubes should be recycled for mercury, if the lights are removed.

Proper procedures for removing and handling mercury-containing fluorescent light tubes typically involve:

- ensuring that electrical power to light fixtures has been disconnected and locked out;
- taking all necessary precautions to ensure that fluorescent lamp tubes are removed in a manner that prevents breakage; and
- transporting fluorescent lamp tubes to a licensed processing location for separation and recovery of mercury.

The measures and procedures outlined in the *MOL Guideline, Lead on Construction Projects* for control of potential exposure to lead in paint during construction activities will also serve to control potential exposure to any mercury in paint.

3.4 Silica

Materials observed in the designated study areas which should be considered to contain silica included concrete, concrete blocks, drywall, and cement products

Silica can also be assumed to be present in any gravel ballast on roofs and will also be found in asphalt roofing materials if rock or stone are present in the asphalt.

The Ministry of Labour *Guideline, Silica on Construction Projects*, April 2011, provides guidance in controlling exposure to silica dust during construction activities. In the guideline, silica-containing construction operations are classified into three groups - Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of silica, as shown in Appendix C, Table C-3.

Additional precautionary measures should also be implemented for certain types of materials (e.g., plaster and texture coat materials, including non-asbestos applications, concrete block, etc.). For minor disturbances such as drilling, a HEPA-filtered attachment should be used. For removal of more than a minor amount of material, enclosures should be constructed for dust control and separation of the work area from adjacent areas.

3.5 Vinyl Chloride

As mentioned in Section 2.5 above, vinyl chloride would only be a potential exposure concern in the event of combustion of PVC products.

3.6 Acrylonitrile

As mentioned in Section 2.6 above, acrylonitrile would only be a potential exposure concern in the event of combustion of ABS products.

3.7 Other Designated Substances

No other designated substances (benzene, isocyanates, arsenic, ethylene oxide and coke oven emissions) were observed to be present in the designated study areas, and none would be expected to be encountered in any building materials in a form that would represent an exposure concern. Arsenic may be present at low levels in paint applications. The measures and procedures outlined in the *MOL Guideline, Lead on Construction Projects* for control of potential exposure to lead in paint during construction activities will also serve to control potential exposure to any arsenic (or mercury) in paint.

3.8 Polychlorinated Biphenyls (PCBs)

Fluorescent lights were observed in the designated study areas during the course of our site investigations. Light ballasts, such as those associated with the type of fluorescent lights (T8s) observed in the designated study areas, are usually an electronic type which do not contain PCBs, however, this would be confirmed by an electrician at the time of dismantling of the lights.

3.9 Ozone-Depleting Substances (ODS) and Other Halocarbons

Two air conditioner units suspected of containing ODS were observed in Rooms 213 and 214.

Two refrigerator units suspected of containing ODS were observed in Rooms 101A, and 104A,

If any ODS-containing equipment is to be removed then they must be handled in the following manner:

- any equipment designated for disposal as scrap must be drained of its contents by a licensed technician and equipped with a label indicating that the equipment no longer contains any refrigerant. The specific requirements for information on the label, as specified in the regulation, must be adhered to;
- equipment designated for relocation to another facility owned by Conseil scolaire Viamonde must be drained and labelled, as above; and
- any equipment that is drained to facilitate relocation to another facility owned by Conseil scolaire Viamonde must be tested for leaks prior to re-filling. The equipment must be re-filled within six months of the leak test.

3.10 Mould

The investigation for mould included a visual inspection of readily-accessible surfaces throughout the designated study areas to determine if any mould was evident. The inspection of mould did not include intrusive inspections of wall cavities. Readily evident suspect mould was not observed in the designated study areas during the course of the site investigation. During renovations or interior demolition work, any mould-impacted materials uncovered/discovered should be remediated following the measures and procedures outlined in the *Canadian Construction Association Standard Construction Document CCA-82 2004 - Mould Guidelines for the Canadian Construction Industry*.

4 Limitations and Service Constraints

The opinions, conclusions and recommendations presented in this report are limited to the information obtained during the performance of the specific scope of service identified in the report. To the extent that Arcadis relied upon any information prepared by other parties not under direct contract to Arcadis, no representation as to the accuracy or completeness of such information is made. This report is an instrument of professional service and the services described in the report were performed in accordance with generally accepted standards and level of skill and care ordinarily exercised by members of the profession working under similar conditions including comparable budgetary and schedule constraints. No warranty, guarantee or certification express or implied, is intended or given with respect to Arcadis' services, opinions, conclusions or recommendations.

Arcadis' observations, the results of any testing and Arcadis' opinions, conclusions and recommendations apply solely to conditions existing at the specific times when and specific locations where Arcadis' investigative work was performed. Arcadis affirms that data gathered and presented in this report was collected in an appropriate manner in accordance with generally accepted methods and practices. Arcadis cannot be responsible for decisions made by our client solely on the basis of economic factors. Observation and testing activities such as those conducted by Arcadis are inherently limited and do not represent a conclusive or complete characterization. Arcadis analyzed only the substances, conditions and locations described in the report at the time indicated. Conditions in other parts of the project site, building or area may vary from conditions at the specific locations where observations were made and where testing was performed by Arcadis. Additionally, other building material hazards which were not identified by Arcadis, may also be present un-accessed areas and in walls, ceilings, cavities, and floors.

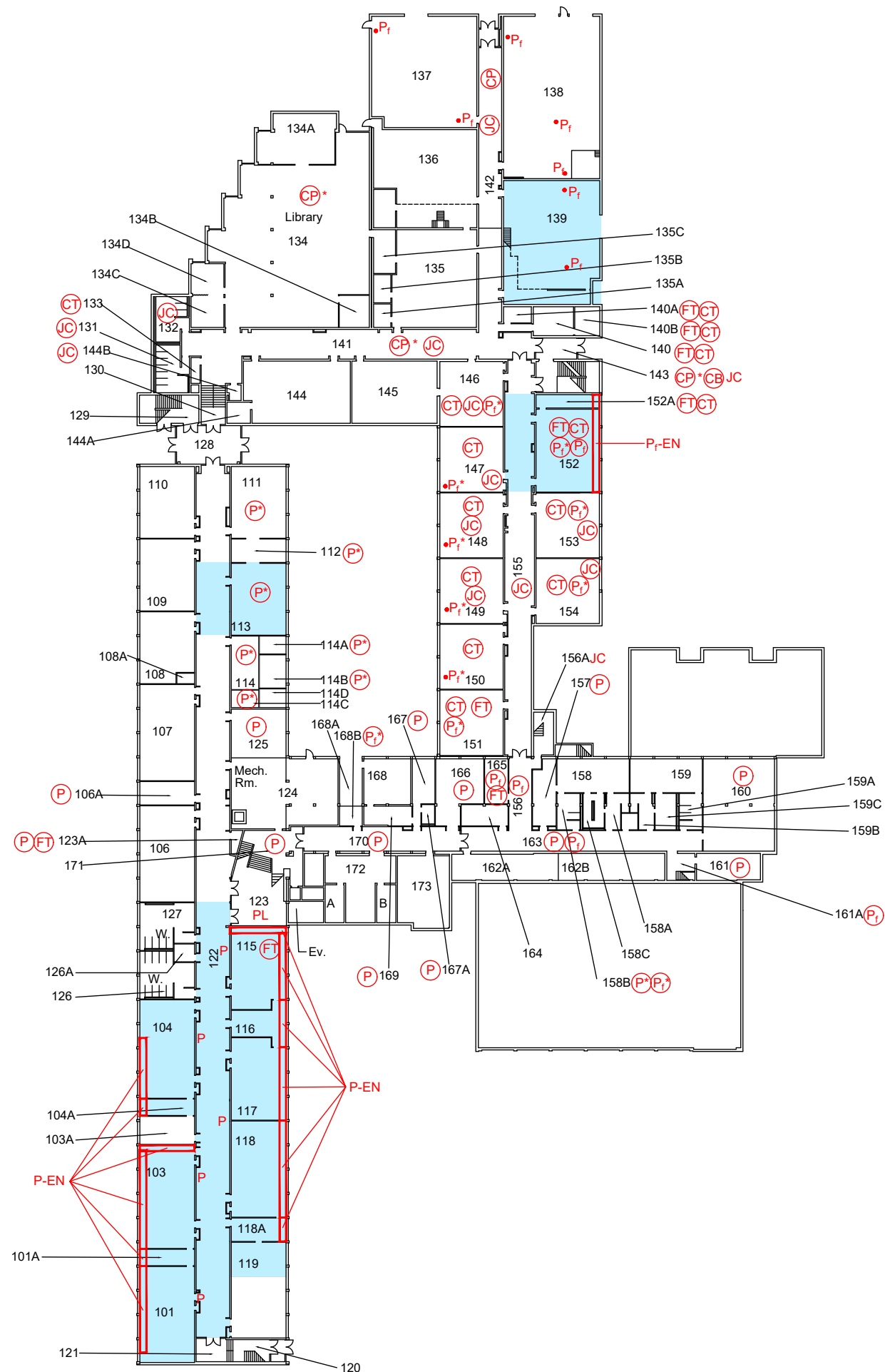
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The survey did not include for identification of asbestos in process materials, equipment (including electrical equipment and wiring), furniture (e.g., chairs, tabletops, chalkboards, etc.), nor material outside of the building (e.g., asphaltic pavement).

This report is not intended to be used as a scope of work or technical specification for remediation of designated substances or hazardous materials.

Appendix A

Floor Plans



LEGEND:

- 112 FUNCTIONAL SPACE
- THROUGHOUT FUNCTIONAL SPACE
- * ABOVE CEILING ASSEMBLY
- EN INSIDE ENCLOSED SPACE
- P ASBESTOS ON PIPING (FRIABLE)
- P_f ASBESTOS ON PIPE FITTINGS ONLY (FRIABLE)
- EQ ASBESTOS ON MECHANICAL EQUIPMENT (FRIABLE)
- PL ASBESTOS TEXTURED PLASTER (NON-FRIABLE)
- CT ASBESTOS CEILING TILE (NON-FRIABLE)
- FT ASBESTOS FLOOR TILE (NON-FRIABLE)
- CP ASBESTOS CEMENT PRODUCT (NON-FRIABLE)
- JC ASBESTOS DRYWALL JOINT COMPOUND (NON-FRIABLE)
- CB ASBESTOS CEMENT BOARD (NON-FRIABLE)
- STUDY AREA

NOTES:

1.

REVISIONS:

No.	Date:	By:	Revisions

REFERENCE:

1.



HALTON DISTRICT SCHOOL BOARD
**PRE-RENOVATION DESIGNATED
 SUBSTANCES AND HAZARDOUS MATERIALS
 SURVEY**

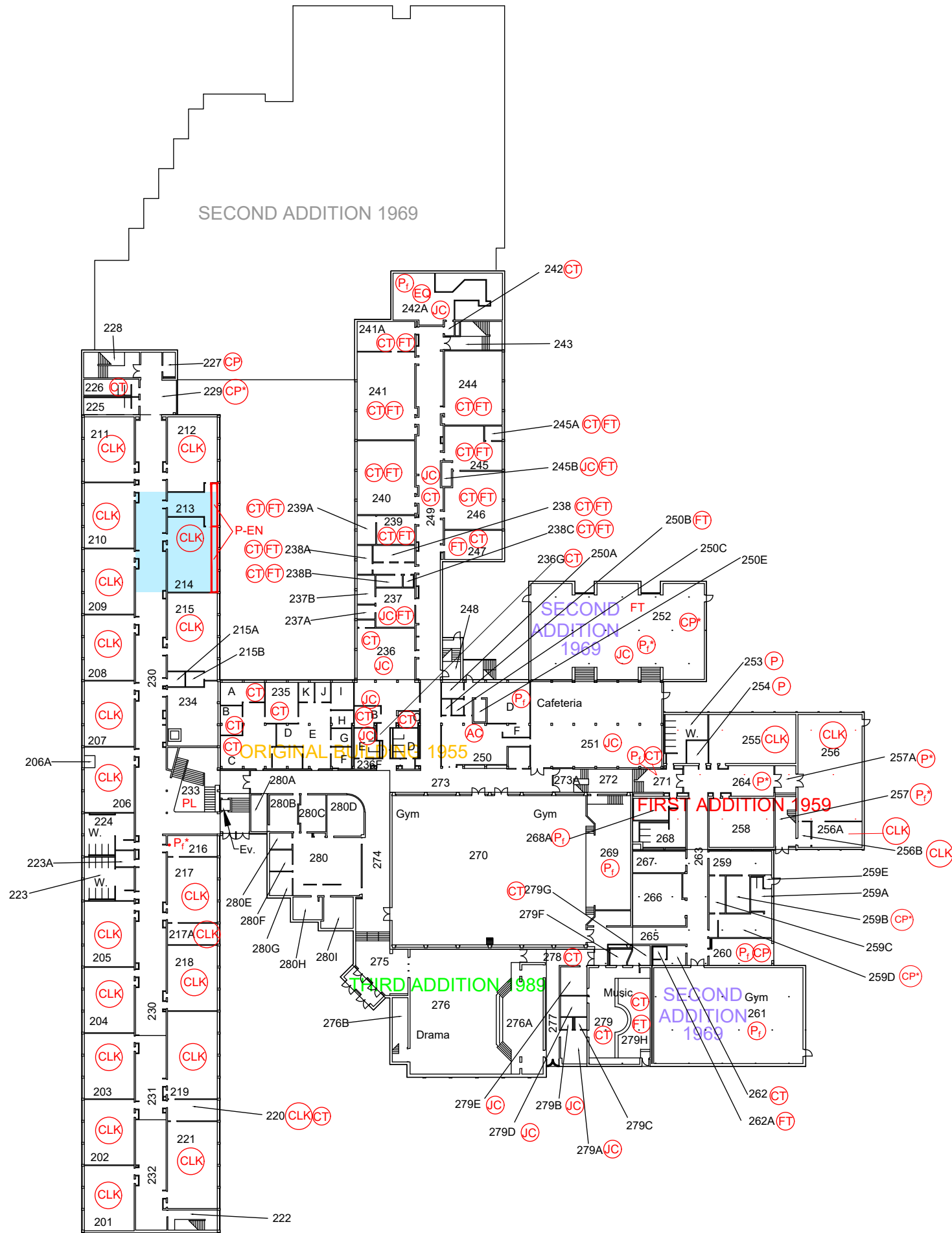
T.A. BLAKELOCK HIGH SCHOOL
 1160 REBECCA STREET, OAKVILLE, ONTARIO

LOCATIONS OF ASBESTOS CONTAINING
 MATERIALS AND STUDY AREAS

FIRST FLOOR PLAN

Drawn By: B.R	Approved By: V.D	Project No: 30217738
Date: APRIL 2024	Scale: N.T.S	Drawing No: 30217738-1

CITY:\(Red) DIV\GROUP\(\Red) DB\(\Red) LD\(\Red) PIC\(\Red) PM\(\Red) LVR\(\Red) ON*\OFF\REF
 C:\Users\byrappa386\OneDrive\Arcadis ACC US\ACA-98898994-HALTON_ON\Project Files\10_WIP\101_ARC_ENV\202401-DWG\30217738 TA Blakelock HS.dwg LAYOUT: FIRST & SECOND FLOOR (B3) - SAVED: 4/5/2024 2:30 PM ACADVER: 24.3S (LMS TECH)
 PAGESETUP: --- PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 4/8/2024 8:00 PM BY: BYRAPPA, BYRAREDDY
 XREFS: IMAGES: PROJECTNAME: ---



LEGEND:

- 273 FUNCTIONAL SPACE
- THROUGHOUT FUNCTIONAL SPACE
- * ABOVE CEILING ASSEMBLY
- EN INSIDE ENCLOSED SPACE
- P ASBESTOS ON PIPING
- Pi ASBESTOS ON PIPE FITTINGS ONLY
- EQ ASBESTOS ON MECHANICAL EQUIPMENT
- PL ASBESTOS TEXTURED PLASTER (NON-FRIABLE)
- CT ASBESTOS CEILING TILE
- FT ASBESTOS FLOOR TILE
- CP ASBESTOS CEMENT PRODUCT
- JC ASBESTOS DRYWALL JOINT COMPOUND
- CLK ASBESTOS CAULKING
- AC ASBESTOS ACOUSTIC SPRAY
- STUDY AREA

NOTES:

1.

REVISIONS:

No.	Date:	By:	Revisions

REFERENCE:

1.



HALTON DISTRICT SCHOOL BOARD

PRE-RENOVATION DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS SURVEY

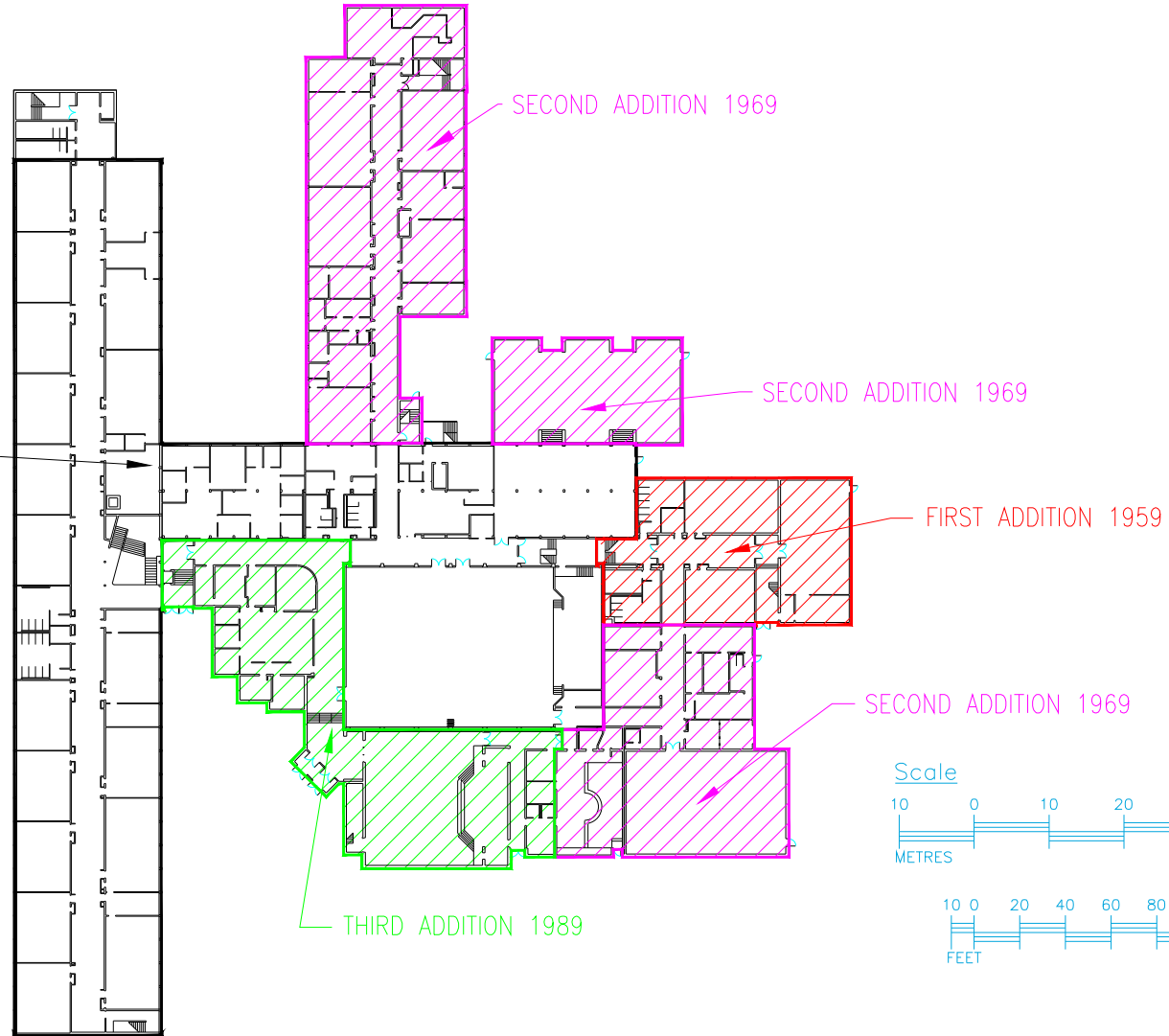
T.A. BLAKELOCK HIGH SCHOOL
 1160 REBECCA STREET, OAKVILLE, ONTARIO

LOCATIONS OF ASBESTOS CONTAINING MATERIALS AND STUDY AREAS

FIRST AND SECOND FLOOR PLAN

Drawn By: B.R	Approved By: V.D	Project No: 30217738
Date: APRIL 2024	Scale: N.T.S	Drawing No: 30217738-2

ORIGINAL BUILDING 1955



SECOND ADDITION 1969

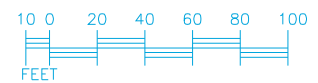
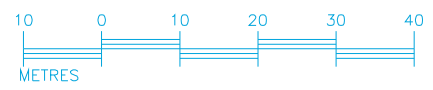
SECOND ADDITION 1969

FIRST ADDITION 1959

SECOND ADDITION 1969

THIRD ADDITION 1989

Scale



NOTES

REVISION	NO.	DATE

NO.	DATE



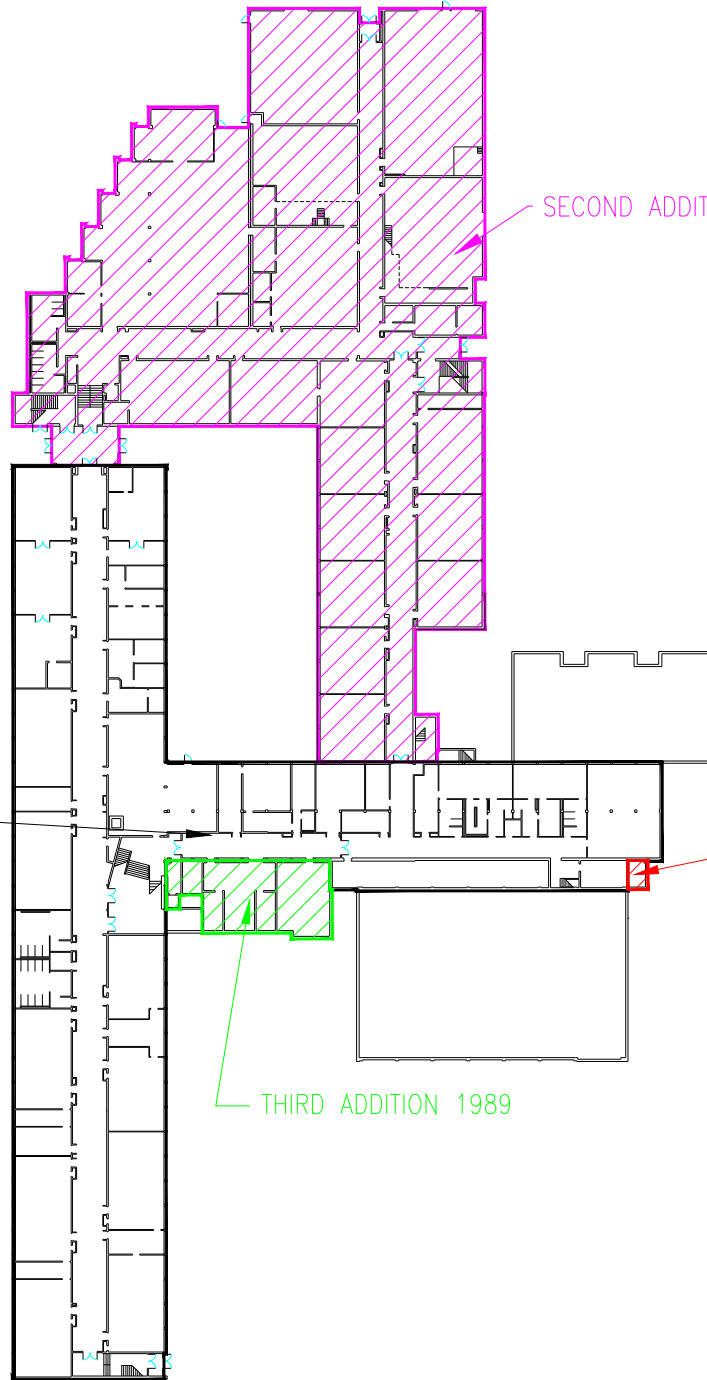
T. A. Blacklock High School

LOCATION
1140 REBECCA STREET
DANVILLE, ONTARIO

LAST UPDATED	8 JULY 2014
PREVIOUS UPDATE	15 FEB 2012
SPACES	9-12
SCALE (TO FIT)	1"=100'-0"
SHOWN	RDZ
PROJECT LAST UPDATED	25 OCT 2011
YEAR BUILT	1955
AREA SQ. FT.	166255 (15445m ²)
GRID FILE NAME	TABSHS

PROJECT NAME	AREA
DIVISION	NUMBER

ORIGINAL BUILDING 1955

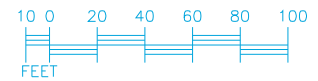
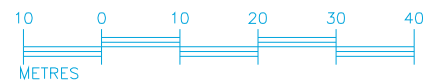


SECOND ADDITION 1969

FIRST ADDITION 1959

THIRD ADDITION 1989

Scale



NOTES

REVISIONS

NO.	DATE



T. A. Bickelock High School

LOCATION
1160 REBECCA STREET
DANVILLE, ONTARIO

LAST UPDATED: 8 JULY 2014
 PREVIOUS UPDATE: 15 FEB 2012
 SPACES: 9-12
 SCALE (TO FIT): 1"=100'-0"
 DRAWN: RDZ
 PROJECT LAST UPDATED: 25 OCT 2011
 YEAR BUILT: 1955
 AREA SQ. FT: 66255 (1544sqm)
 CAD FILE NAME: TABSH

SHEET TITLE

PROJECT NAME: AREA
 DIVISION: NUMBER

NOTES

NOTES

REVISIONS	
NO.	DATE



T.A. Blacklock High School

LOCATION
1140 REBECCA STREET
DANVILLE, ONTARIO

LAST UPDATED 8 JULY 2014
PREVIOUS UPDATE 15 FEB 2012

SPACES 9-12

SCALE (TO FIT) 1"=100'-0"

DRAWN RDZ

PROJECT LAST UPDATED 25 OCT 2011

YEAR BUILT 1955

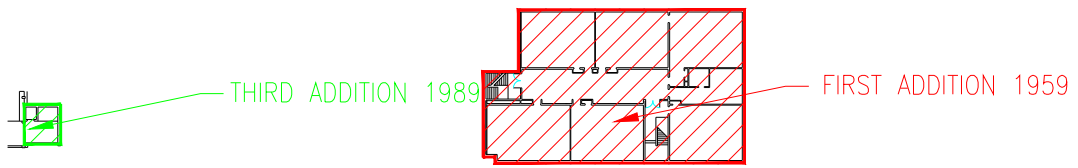
AREA SQ. FT. 166255 (15445m²)

GRID FILE NAME TABSHS

SHEET TITLE

PROJECT NAME

DIVISION NUMBER



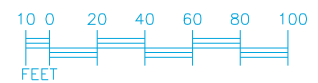
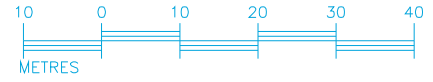
THIRD ADDITION 1989

FIRST ADDITION 1959



THIRD ADDITION 1989

Scale



Appendix B

Laboratory Reports



EMSL Canada Inc.

2756 Slough Street Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
<http://www.EMSL.com> / torontolab@emsl.com

EMSL Canada Order 552404541
Customer ID: 55DCSL97
Customer PO: 30217738
Project ID:

Attn: Viraj Daruwala
ARCADIS Canada Inc.
8133 Warden Avenue, Unit 300
Markham, ON L6G 1B3
Phone: (905) 882-5984
Fax: (905) 882-8962
Collected:
Received: 3/25/2024
Analyzed: 4/03/2024
Proj: 30217738 - TA Blakelock HS

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 1-A-Black Tar Paper **Lab Sample ID:** 552404541-0001

Sample Description: Black and brown paper behind rad walls/103

TEST	Analyzed		Non-Asbestos		Asbestos	Comment
	Date	Color	Fibrous	Non-Fibrous		
PLM Grav. Reduction	3/28/2024	Black	0.0%	100%	None Detected	
TEM Grav. Reduction	3/28/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 1-A-Brown Tar Paper **Lab Sample ID:** 552404541-0001A

Sample Description: Black and brown paper behind rad walls/103

TEST	Analyzed		Non-Asbestos		Asbestos	Comment
	Date	Color	Fibrous	Non-Fibrous		
PLM Grav. Reduction	3/28/2024	Brown	0.0%	100%	None Detected	
TEM Grav. Reduction	3/28/2024	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 1-A-Insulation **Lab Sample ID:** 552404541-0001B

Sample Description: Black and brown paper behind rad walls/103

TEST	Analyzed		Non-Asbestos		Asbestos	Comment
	Date	Color	Fibrous	Non-Fibrous		
PLM	3/28/2024	Beige	80.0%	20.0%	None Detected	

Client Sample ID: 1-B **Lab Sample ID:** 552404541-0002

Sample Description: Black and brown paper behind rad walls/103

TEST	Analyzed		Non-Asbestos		Asbestos	Comment
	Date	Color	Fibrous	Non-Fibrous		
PLM	3/28/2024	Brown/Black	60.0%	40.0%	None Detected	

Client Sample ID: 1-C **Lab Sample ID:** 552404541-0003

Sample Description: Black and brown paper behind rad walls/101

TEST	Analyzed		Non-Asbestos		Asbestos	Comment
	Date	Color	Fibrous	Non-Fibrous		
PLM	3/28/2024	Brown/Black	60.0%	40.0%	None Detected	

Client Sample ID: 2-A **Lab Sample ID:** 552404541-0004

Sample Description: Cement board from fume hood/101A

TEST	Analyzed		Non-Asbestos		Asbestos	Comment
	Date	Color	Fibrous	Non-Fibrous		
PLM	3/28/2024	Gray	60.0%	40.0%	None Detected	

Client Sample ID: 2-B **Lab Sample ID:** 552404541-0005

Sample Description: Cement board from fume hood/101A

TEST	Analyzed		Non-Asbestos		Asbestos	Comment
	Date	Color	Fibrous	Non-Fibrous		
PLM	3/28/2024	Gray	60.0%	40.0%	None Detected	



EMSL Canada Inc.

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<http://www.EMSL.com> / torontolab@emsl.com

EMSL Canada Order 552404541
Customer ID: 55DCSL97
Customer PO: 30217738
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 2-C **Lab Sample ID:** 552404541-0006

Sample Description: Cement board from fume hood/101A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Gray	60.0%	40.0%	None Detected	

Client Sample ID: 3-A **Lab Sample ID:** 552404541-0007

Sample Description: Sink coating /101

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	White	8.0%	92.0%	None Detected	

Client Sample ID: 3-B **Lab Sample ID:** 552404541-0008

Sample Description: Sink coating /103

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	White	8.0%	92.0%	None Detected	

Client Sample ID: 3-C **Lab Sample ID:** 552404541-0009

Sample Description: Sink coating /104

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	White	5.0%	95.0%	None Detected	

Client Sample ID: 4-A-Baseboard **Lab Sample ID:** 552404541-0010

Sample Description: Black baseboard and mastic/101

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	3/28/2024	Brown	0.0%	100%	None Detected	
TEM Grav. Reduction	3/28/2024	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 4-A-Mastic **Lab Sample ID:** 552404541-0010A

Sample Description: Black baseboard and mastic/101

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Yellow/Beige	0.0%	100.0%	None Detected	

Client Sample ID: 4-B-Baseboard **Lab Sample ID:** 552404541-0011

Sample Description: Black baseboard and mastic/101

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 4-B-Mastic **Lab Sample ID:** 552404541-0011A

Sample Description: Black baseboard and mastic/101

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Yellow	0.0%	100.0%	None Detected	



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EMSL Canada Order 552404541
Customer ID: 55DCSL97
Customer PO: 30217738
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 4-C-Baseboard **Lab Sample ID:** 552404541-0012

Sample Description: Black baseboard and mastic/103

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 4-C-Mastic **Lab Sample ID:** 552404541-0012A

Sample Description: Black baseboard and mastic/103

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 5-A-Floor Tile **Lab Sample ID:** 552404541-0013

Sample Description: 12" white vinyl floor tiles with black streaks/101

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	3/28/2024	White	0.0%	100%	None Detected	
TEM Grav. Reduction	3/28/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 5-A-Mastic **Lab Sample ID:** 552404541-0013A

Sample Description: 12" white vinyl floor tiles with black streaks/101

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 5-B-Floor Tile **Lab Sample ID:** 552404541-0014

Sample Description: 12" white vinyl floor tiles with black streaks/101

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 5-B-Mastic **Lab Sample ID:** 552404541-0014A

Sample Description: 12" white vinyl floor tiles with black streaks/101

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 5-C-Floor Tile **Lab Sample ID:** 552404541-0015

Sample Description: 12" white vinyl floor tiles with black streaks/103

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 5-C-Mastic **Lab Sample ID:** 552404541-0015A

Sample Description: 12" white vinyl floor tiles with black streaks/103

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Black	0.0%	100.0%	None Detected	



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<http://www.EMSL.com> / torontolab@emsl.com

EMSL Canada Order 552404541
Customer ID: 55DCSL97
Customer PO: 30217738
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 6-A-Floor Tile **Lab Sample ID:** 552404541-0016

Sample Description: 9" vinyl floor tiles - red/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	3/28/2024	Red/Black	0.0%	98.2%	1.8% Chrysotile	
TEM Grav. Reduction	3/28/2024		Positive Stop (Not Analyzed)			

Client Sample ID: 6-A-Mastic **Lab Sample ID:** 552404541-0016A

Sample Description: 9" vinyl floor tiles - red/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 6-A-Leveler **Lab Sample ID:** 552404541-0016B

Sample Description: 9" vinyl floor tiles - red/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 6-B-Floor Tile **Lab Sample ID:** 552404541-0017

Sample Description: 9" vinyl floor tiles - red/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024		Positive Stop (Not Analyzed)			

Client Sample ID: 6-B-Mastic **Lab Sample ID:** 552404541-0017A

Sample Description: 9" vinyl floor tiles - red/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 6-B-Leveler **Lab Sample ID:** 552404541-0017B

Sample Description: 9" vinyl floor tiles - red/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 6-C-Floor Tile **Lab Sample ID:** 552404541-0018

Sample Description: 9" vinyl floor tiles - red/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024		Positive Stop (Not Analyzed)			

Client Sample ID: 6-C-Mastic **Lab Sample ID:** 552404541-0018A

Sample Description: 9" vinyl floor tiles - red/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Black	0.0%	100.0%	None Detected	



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EMSL Canada Order 552404541
Customer ID: 55DCSL97
Customer PO: 30217738
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 7-A **Lab Sample ID:** 552404541-0019

Sample Description: 12" white acoustic wall tiles - small and medium holes/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Brown/Blue	90.0%	10.0%	None Detected	

Client Sample ID: 7-B **Lab Sample ID:** 552404541-0020

Sample Description: 12" white acoustic wall tiles - small and medium holes/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Brown/Blue	90.0%	10.0%	None Detected	

Client Sample ID: 7-C **Lab Sample ID:** 552404541-0021

Sample Description: 12" white acoustic wall tiles - small and medium holes/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Brown	80.0%	20.0%	None Detected	

Client Sample ID: 8-A-Floor Tile **Lab Sample ID:** 552404541-0022

Sample Description: Luxury vinyl floor tiles /214

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	3/28/2024	Gray/Black	0.0%	100%	None Detected	
TEM Grav. Reduction	3/28/2024	Gray/Black	0.0%	100.0%	None Detected	

Client Sample ID: 8-A-Mastic/Leveler **Lab Sample ID:** 552404541-0022A

Sample Description: Luxury vinyl floor tiles /214

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Gray/Orange	0.0%	100.0%	None Detected	

Client Sample ID: 8-B-Floor Tile **Lab Sample ID:** 552404541-0023

Sample Description: Luxury vinyl floor tiles /214

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Gray/Black	0.0%	100.0%	None Detected	

Client Sample ID: 8-B-Mastic/Leveler **Lab Sample ID:** 552404541-0023A

Sample Description: Luxury vinyl floor tiles /214

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Gray/Orange	0.0%	100.0%	None Detected	

Client Sample ID: 8-C-Floor Tile **Lab Sample ID:** 552404541-0024

Sample Description: Luxury vinyl floor tiles /214

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	Gray/Black	0.0%	100.0%	None Detected	



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EMSL Canada Order 552404541
Customer ID: 55DCSL97
Customer PO: 30217738
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 8-C-Mastic/Leveler **Lab Sample ID:** 552404541-0024A

Sample Description: Luxury vinyl floor tiles /214

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Gray/Orange	0.0%	100.0%	None Detected	

Client Sample ID: 9-A-Floor Tile **Lab Sample ID:** 552404541-0025

Sample Description: 12" cream vinyl floor tiles with brown streaks/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	3/28/2024	Brown/Beige	0.0%	98.8%	1.2% Chrysotile	
TEM Grav. Reduction	3/28/2024		Positive Stop (Not Analyzed)			

Client Sample ID: 9-A-Mastic **Lab Sample ID:** 552404541-0025A

Sample Description: 12" cream vinyl floor tiles with brown streaks/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 9-B-Floor Tile **Lab Sample ID:** 552404541-0026

Sample Description: 12" cream vinyl floor tiles with brown streaks/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024		Positive Stop (Not Analyzed)			

Client Sample ID: 9-B-Mastic **Lab Sample ID:** 552404541-0026A

Sample Description: 12" cream vinyl floor tiles with brown streaks/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 9-C-Floor Tile **Lab Sample ID:** 552404541-0027

Sample Description: 12" cream vinyl floor tiles with brown streaks/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024		Positive Stop (Not Analyzed)			

Client Sample ID: 9-C-Mastic **Lab Sample ID:** 552404541-0027A

Sample Description: 12" cream vinyl floor tiles with brown streaks/115

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Black	0.0%	100.0%	None Detected	

Client Sample ID: 10-A-Floor Tile **Lab Sample ID:** 552404541-0028

Sample Description: 12" white floor tiles with black flecks/117

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	3/28/2024	White	0.0%	100%	None Detected	
TEM Grav. Reduction	3/28/2024	White	0.0%	100.0%	None Detected	



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EMSL Canada Order 552404541
Customer ID: 55DCSL97
Customer PO: 30217738
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 10-A-Mastic **Lab Sample ID:** 552404541-0028A

Sample Description: 12" white floor tiles with black flecks/117

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 10-B-Floor Tile **Lab Sample ID:** 552404541-0029

Sample Description: 12" white floor tiles with black flecks/117

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 10-B-Mastic **Lab Sample ID:** 552404541-0029A

Sample Description: 12" white floor tiles with black flecks/117

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 10-C-Floor Tile **Lab Sample ID:** 552404541-0030

Sample Description: 12" white floor tiles with black flecks/117

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	3/28/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 10-C-Mastic **Lab Sample ID:** 552404541-0030A

Sample Description: 12" white floor tiles with black flecks/117

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	4/03/2024	Beige	0.0%	100.0%	None Detected	



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Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Analyst(s):

Ashley Brito	PLM (1)
	PLM Grav. Reduction (6)
Caroline Allen	TEM Grav. Reduction (6)
Diana Costantino	PLM (8)
Natalie D'Amico	PLM (19)
Nickesh Mistry	PLM (12)
Vanessa Gallego	PLM Grav. Reduction (2)

Reviewed and approved by:

Matthew Davis or other approved signatory
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This is a summary report; official reports are available on LabConnect or upon request and relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Initial report from: 03/28/2024 14:28:05

Appendix C

Summary of Asbestos, Lead and Silica Work Classifications

TABLE C-1
SUMMARY OF CLASSIFICATION OF
TYPE 1, 2 AND 3 OPERATIONS
(Ont. Reg. 278/05)

TYPE 1 OPERATIONS

- removing less than 7.5 m² asbestos-containing ceiling tiles;
- removing non-friable asbestos-containing material other than ceiling tiles, if the material is removed without being broken, cut, drilled, abraded, ground, sanded or vibrated;
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the material is wetted and the work is done only using non-powered, hand-held tools; and
- removing less than 1 m² of drywall in which asbestos-containing joint compounds have been used.

TYPE 2 OPERATIONS

- removing all or part of a false ceiling to obtain access to a work area, if asbestos-containing material is likely to be lying on the surface of the false ceiling;
- removal of one square metre or less of friable asbestos-containing material;
- enclosing friable asbestos-containing material;
- applying tape or a sealant or other covering to asbestos-containing pipe or boiler insulation;
- removing 7.5 m² or more asbestos-containing ceiling tiles (if removed without being broken, cut, drilled, abraded, ground, sanded or vibrated);
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the material is not wetted and the work is done only using non-powered, hand-held tools;
- removal of one square metre or more of drywall in which asbestos-containing joint compounds have been used;
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the work is done using power tools that are attached to dust-collecting devices equipped with HEPA filters;
- cleaning or removing filters used in air-handling equipment in a building that has asbestos-containing sprayed fireproofing.

TABLE C-1 (Continued)
SUMMARY OF CLASSIFICATION OF
TYPE 1, 2 AND 3 OPERATIONS
(Ont. Reg. 278/05)

TYPE 3 OPERATIONS

- removal of more than one square metre of friable asbestos-containing material;
- spray application of a sealant to friable asbestos-containing material;
- cleaning or removing air-handling equipment, including rigid ducting but not including filters, in a building that has sprayed asbestos-containing fireproofing;
- repairing or demolishing a kiln, metallurgical furnace or similar structure that is made in part of asbestos-containing refractory materials;
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing materials, if the work is done using power tools that are not attached to dust-collecting devices equipped with HEPA filters.

TABLE C-2
SUMMARY OF CLASSIFICATION OF
LEAD-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE – LEAD ON CONSTRUCTION PROJECTS, APRIL 2011

Type 1 Operations	Type 2 Operations		Type 3 Operations	
	Type 2a	Type 2b	Type 3a	Type 3b
<0.05 mg/m ³	>0.05 to 0.50 mg/m ³	>0.50 to 1.25 mg/m ³	>1.25 to 2.50 mg/m ³	>2.50 mg/m ³

Note: The classification of Type 1, 2 and 3 operations is based on presumed airborne concentrations of lead, as shown above.

TYPE 1 OPERATIONS

- application of lead-containing coatings with a brush or roller;
- removal of lead-containing coatings with a chemical gel or paste and fibrous laminated cloth wrap;
- removal of lead-containing coatings or materials using a power tool that has an effective dust collection system equipped with a HEPA filter;
- installation or removal of lead-containing sheet metal;
- installation or removal of lead-containing packing, babbitt or similar material;
- removal of lead-containing coatings or materials using non-powered hand tools, other than manual scraping or sanding;
- soldering.

TYPE 2 OPERATIONS

Type 2a Operations

- welding or high temperature cutting of lead-containing coatings or materials outdoors. This operation is considered a Type 2a operation only if it is short-term, not repeated, and if the material has been stripped prior to welding or high temperature cutting. Otherwise it will be considered a Type 3a operation;
- removal of lead-containing coatings or materials by scraping or sanding using non-powered hand tools;
- manual demolition of lead-painted plaster walls or building components by striking a wall with a sledgehammer or similar tool.

Type 2b Operations

- spray application of lead-containing coatings.

TABLE C-2 (Continued)
SUMMARY OF CLASSIFICATION OF
LEAD-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE – LEAD ON CONSTRUCTION PROJECTS, APRIL 2011

TYPE 3 OPERATIONS

Type 3a Operations

- welding or high temperature cutting of lead-containing coatings or materials indoors or in a confined space;
- burning of a surface containing lead;
- dry removal of lead-containing mortar using an electric or pneumatic cutting device;
- removal of lead-containing coatings or materials using power tools without an effective dust collection system equipped with a HEPA filter;
- removal or repair of a ventilation system used for controlling lead exposure;
- demolition or cleanup of a facility where lead-containing products were manufactured;
- an operation that may expose a worker to lead dust, fume or mist that is not a Type 1, Type 2, or Type 3b operation

Type 3b Operations

- abrasive blasting of lead-containing coatings or materials;
- removal of lead-containing dust using an air mist extraction system.

TABLE C-3
SUMMARY OF CLASSIFICATION OF SILICA-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE, SILICA ON CONSTRUCTION PROJECTS, APRIL 2011

	Type 1 Operations	Type 2 Operations	Type 3 Operations
Cristobalite and Tridymite	>0.05 to 0.50 mg/m ³	>0.50 to 2.50 mg/m ³	>2.5 mg/m ³
Quartz and Tripoli	>0.10 to 1.0 mg/m ³	>1.0 to 5.0 mg/m ³	>5.0 mg/m ³

Note: The classification of silica-containing construction tasks is based on presumed concentrations of respirable crystalline silica, as shown above.

TYPE 1 OPERATIONS

- The drilling of holes in concrete or rock that is not part of a tunnelling operation or road construction.
- Milling of asphalt from concrete highway pavement.
- Charging mixers and hoppers with silica sand (sand consisting of at least 95 per cent silica) or silica flour (finely ground sand consisting of at least 95 per cent silica).
- Any other operation at a project that requires the handling of silica-containing material in a way that may result in a worker being exposed to airborne silica.
- Entry into a dry mortar removal or abrasive blasting area while airborne dust is visible for less than 15 minutes for inspection and/or sampling.
- Working within 25 metres of an area where compressed air is being used to remove silica-containing dust outdoors.

TYPE 2 OPERATIONS

- Removal of silica containing refractory materials with a jackhammer.
- The drilling of holes in concrete or rock that is part of a tunnelling or road construction.
- The use of a power tool to cut, grind, or polish concrete, masonry, terrazzo or refractory materials.
- The use of a power tool to remove silica containing materials.
- Tunnelling (operation of the tunnel boring machine, tunnel drilling, tunnel mesh installation).
- Tuckpoint and surface grinding.
- Dry mortar removal with an electric or pneumatic cutting device.
- Dry method dust cleanup from abrasive blasting operations.
- The use of compressed air outdoors for removing silica dust.
- Entry into area where abrasive blasting is being carried out for more than 15 minutes.

TABLE C-3 (Continued)
SUMMARY OF CLASSIFICATION OF SILICA-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE, SILICA ON CONSTRUCTION PROJECTS, APRIL 2011

TYPE 3 OPERATIONS

- Abrasive blasting with an abrasive that contains ≥ 1 per cent silica.
- Abrasive blasting of a material that contains ≥ 1 per cent silica.

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