

Part 1 General**1.1 Summary**

- .1 Unless otherwise indicated, follow the standards below when specifying Facility Remediation of Hazardous Materials. These standards are not intended to restrict or replace professional judgment.

1.2 Related McGill's Guidelines

- .1 Construction / Demolition Waste management Disposal (section 01 74 21);
- .2 McGill's EHS's Construction Safety
www.mcgill.ca/ehs/programs-and-services/construction
- .3 McGill's Waste Disposal Guidelines
www.mcgill.ca/hwm/guidelines

1.3 Hazardous Material Assessment

- .1 More than 50% of McGill University's buildings contain hazardous materials. Consequently, such materials will be encountered on many renovation projects. To assure the Health and Safety of McGill University's Community is not impacted, hazardous materials management must be considered from the design stage of a project. The consultants must immediately inform the Project Manager if they suspect hazardous material are present in the projected construction area and take appropriate measures, notably through testing of any suspected material.
- .2 For all projects where hazardous materials are present, the consultants must include general notes to their documents informing the contractor of his obligations of hazardous material removal or containment. This note shall specify the type of hazardous material, the location and the hazardous material risk level.

1.4 Codes and Standards

- .1 Specify that any work performed within an area identified as containing Hazardous Materials must be carried out in conformity with:
 - .1 Quebec Safety Code for the Construction Industry (S-2.1, r. 6),
 - .2 Quebec Regulation respecting Occupational Health and Safety (S-2.1, r.19.01) and,
 - .3 CCA 82- Mold Guidelines for the Canadian Construction Industry (Canadian Construction Association).

1.5 Hazardous Materials Remediation

- .1 The level of risk associated with a given hazardous material, and the methods of work for its removal, must be identified according to the Authorities Having Jurisdiction's requirements and be communicated to McGill's Project Manager before any work commencing.
- .2 Handling of materials containing or covered with hazardous materials present dangers to health. The consultants must specify in their documents that if such materials are

discovered during demolition or construction works, or if there is any doubt they may, the works must be stopped immediately and McGill's Project Manager be notified without delay.

.3 Asbestos:

.1 Examples of materials which may contain asbestos (non-exhaustive list):

- .1 Mechanical insulation,
- .2 Flocking flame retardant,
- .3 Refractory materials,
- .4 Seals,
- .5 Vinyl floor tiles (VAT),
- .6 Acoustic ceiling tiles,
- .7 Plaster,
- .8 Cement

.2 The work carried out as "moderate risk" level must be conducted under containment area;

.3 High risk hazard:

- .1 All containment areas must be fitted with at least one viewing window allowing visual control of the decontamination work area from outside the restricted zone (allows McGill's personnel and other to perform some controls without having to wear protective equipment, go through showers, etc.). These windows must be at least 12" x 12" (300mm x 300mm);
- .2 Specify periodical tests in occupied areas adjacent to the containment area, throughout the decontamination works;
- .3 Specify that new insulation materials replacing materials containing asbestos be coloured green to avoid any future confusion;
- .4 Specify decontamination works be supervised by Environmental Consultants;
- .5 Specify "as built plans" of the decontaminated zone be prepared by the Environmental Consultants at the end of the project;
- .6 For all areas where works are performed under containment area, all partitions and separations put in place to permanently separate decontaminated spaces from adjoining areas where asbestos is still present, should be made of gypsum boards and be completely sealed.

.4 Beryllium

.1 If the work generates beryllium in the form of dust or vapor, locker rooms and showers must be provided and be compliant to articles 3.2.11 to 3.2.15 of the Safety Code for the Construction Industry (S-2.1, r. 6).

.2 Examples of materials which may contain beryllium (non-exhaustive list):

- .1 Glass,
- .2 Mirrors,
- .3 Fluorescent lamps.

- .5 Crystalline Silica (quartz):
 - .1 Examples of materials which may contain crystalline silica (non-exhaustive list):
 - .1 Concrete,
 - .2 Mortar,
 - .3 Terra cotta,
 - .4 Bricks,
 - .5 Cement.
 - .2 If works are projected in areas where materials may generate crystalline silica (quartz) dusts, adequate measures must be put in place to protect the workers and the public.
 - .3 The dust emission of crystalline silica (quartz) must be limited to a strict minimum. According to Annex 1 of the Regulation respecting Occupational Health and Safety (S-2.1, r.19.01), the exposure limit value must be kept below 0.1 mg/m³ at any time. These dusts must be managed by wet process or vacuum removed at to the source using a system of HEPA filtration (preferred method).

- .6 Lead:
 - .1 Examples of materials which may contain lead (non-exhaustive list):
 - .1 Paint.
 - .2 If the work generates lead in the form of dust or vapor, locker rooms and showers must be provided and be compliant to articles 3.2.11 to 3.2.15 of the Safety Code for the Construction Industry (S-2.1, r. 6).

- .7 Mercury:
 - .1 Examples of materials which may contain mercury (non-exhaustive list):
 - .1 Siphon plumbing (P-traps),
 - .2 Thermostats,
 - .3 Thermometers.
 - .2 If the work generates mercury in the form of dust or vapor, locker rooms and showers must be provided and be compliant to articles 3.2.11 to 3.2.15 of the Safety Code for the Construction Industry (S-2.1, r. 6).

- .8 Mold:
 - .1 Examples of materials which may contain mold (non-exhaustive list):
 - .1 Any organic material (wood, cardboard, paper, gypsum board, cellulose, etc.).
 - .2 Works in areas identified as containing mold must be carried out in accordance with the latest version of the Canadian Construction Association's Mold Guidelines for the Canadian Construction Industry (CCA 82).

- .9 PCBs:
 - .1 Examples of materials which may contain PCBs (non-exhaustive list):
 - .1 Lighting fixtures ballasts,
 - .2 Condensers,
 - .3 Transformers;
 - .2 The removal or manipulation of any element which may contain PCBs, must be executed in accordance with section 01 74 21 - *Construction/Demolition Waste Management and Disposal* and according to the applicable Codes and Standards.

END OF SECTION 02 80 00