

## **Part 1 General**

### **1.1 SUMMARY**

- .1 The following section of the specifications is an integral part of the contractual documents and must be interpreted alongside the other sections of the procedures.
- .2 Respect all requirements in this section of the specifications during the execution of the work detailed below.
  - .1 Removal of the asbestos cement panels which are used as a fire resistant separation in the attic as well as the cleaning and collection of the pieces of panels littering the floor in the attic close to the fire resistant separation as indicated on the architecture plans. A new and compliant fire resistant separation will be erected afterwards.
- .3 All work must be done in low risk conditions as defined in article 3.23.14 of the "Code de sécurité pour les travaux de construction" and in accordance with the requirements of the following section of the specifications.

### **1.2 RELATED REQUIREMENTS**

- .1 The Contractor must coordinate the removal of the panels and the asbestos cement debris with the removal of the wood pieces constituting the roof structure under mold conditions as described in section 02 85 00.02 (Mould Remediation – Medium Precautions), as well as with the disassembly work of the stone facing, masonry filling and brick chimneys, under lead conditions, as described in sections 02 83 10 (Lead Abatement – Minimal Precautions) and 02 83 12 (Lead Abatement – Maximum Precautions).
- .2 The Contractor must implement appropriate work measures in order to prevent the dispersion of dust emanating from the asbestos removal area (local exhaust ventilation, protection of the floor, regular cleaning with a HEPA vacuum and/or a damp cloth, etc.)
- .3 The Contractor must submit, for approval by the Departmental Representative, the sequence and the work methods that they intend to follow as well as a detailed timetable for the completion of all the asbestos work. These documents are mandatory in order to obtain authorization to start the work.
- .4 Once the work has started, the required work must be done continuously until it is completed.
- .5 The Contractor must repair all damaged surfaces and replace the material or damaged equipment to the complete satisfaction of the Departmental Representative in the event that the damage is a result of the work that was executed by the Contractor.
- .6 All asbestos waste must be disposed of daily in a suitable container (see article 2.1.5 – Asbestos waste containers, in the following section of the specifications) and transported to the container which is reserved for this purpose. Place the waste containers in an area designated by the Departmental Representative. Keep the containers secured, closed off and sealed while on site. The loading area must remain clean at all times. The location of each container will be specified at the first on site meeting by the Departmental Representative. Waste disposal must be done daily during the on-site activities.

- .7 The Contractor is required to wait for the authorization of the Departmental Representative before starting the asbestos removal work.
- .8 The Contractor must provide lighting, when needed, which meets the requirements of the CSST.
- .9 The Contractor must bear all costs related to temporary storage, handling, transportation and disposal of asbestos waste.

### **1.3 REFERENCES**

- .1 Department of Justice Canada (Jus)
  - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .2 Transport Canada (TC)
  - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .3 Health and Safety at Work Act (1979) (LSST) (L.R.Q., c.S-2.1)
  - .1 Health and Safety at Work Regulation (C S-2.1, r.13);
  - .2 Code de sécurité pour les travaux de construction (C S-2.1, r.4).
- .4 Commission de la Santé et de la sécurité au travail (CSST).
- .5 Transportation of hazardous materials Regulation (C-24.2, 4.4.2).
- .6 Canadian Standards Association (CSA) / CSA International.
- .7 United States Department of Labor Occupational Safety and Health Administration (OSHA)
  - .1 29 CFR 1910.134 Respiratory Protection
  - .2 29 CFR 1910.1200 Hazard Communication

### **1.4 DEFINITIONS**

- .1 Asbestos-Containing Materials (ACMs): materials that contain 0.1 per cent or more asbestos by dry weight and are identified under Existing Conditions including fallen materials and settled dust.
- .2 Occupied Area: any area of the building or work site that is outside Asbestos Work Area.
- .3 Asbestos Work Area: area where work takes place which will, or may, disturb ACMs.
- .4 Competent worker [person]: in relation to specific work, means a worker who:
  - .1 Is qualified because of knowledge, training and experience to perform the work.
  - .2 Is familiar with the provincial and federal laws and with the provisions of the regulations that apply to the work.
  - .3 Has knowledge of all potential or actual danger to health or safety in the work.
- .5 Contractor : Contractor who is responsible for the execution of the asbestos abatement work according to the current section of the specifications.
- .6 Authorized Visitors: Departmental Representative and representatives of regulatory agencies.

- .7 Departmental Representative: project manager who is responsible for the monitoring of the work or their Representative, which includes the asbestos consultant who is responsible for the preparation of the specification documents concerning the asbestos, lead and mould abatement work as well as the monitoring of the aforementioned work.
- .8 PPE : Personal Protective Equipment

## **1.5 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Respect all following instructions before starting the work:
  - .1 Submit to the Departmental Representative necessary permits for transportation and disposal of asbestos-containing waste and proof that asbestos-containing waste has been received and properly disposed.
  - .2 Submit proof satisfactory to the Departmental Representative that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with the requirements of the authority having jurisdiction.
  - .3 Submit proof to the satisfaction of the Departmental Representative that all asbestos workers have received appropriate training and education by a competent person in the hazards of asbestos exposure, good personal hygiene and work practices while working in Asbestos Work Areas, and the use, cleaning and disposal of respirators and protective clothing.
  - .4 Submit to the Departmental Representative, for his approval, the sequence and work methods that need to be followed and a detailed schedule of work for the work that is planned in the current section of the specifications.
  - .5 Submit to the Departmental Representative, for his approval, the waste evacuation method. This method must be controlled and controllable.
  - .6 Submit the notice of worksite start implicating the manipulation of asbestos containing materials as well as the prevention program from the CSST.
  - .7 Submit proof of Contractor's Asbestos Liability Insurance.
  - .8 Submit proof satisfactory to the Departmental Representative that employees have respirator fitting and testing. Workers must be fit tested (irritant smoke test) with a respirator that is personally issued.

## **1.6 QUALITY ASSURANCE**

- .1 Regulatory Requirements: comply with Federal, Provincial/Territorial, and local requirements pertaining to asbestos, provided that in case of conflict among these requirements or with these specifications, more stringent requirement applies. Comply with regulations in effect at the time that the work is performed.
- .2 The Ministry, as well as all Contractors, employees and workers affected by the project must respect the Code de sécurité pour les travaux de construction (S-2.1, r.4), at all times and at all locations.
- .3 Health and Safety:
  - .1 Safety Requirements: worker protection.
    - .1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:

- .1 Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is equipped with a hood or helmet. The respirator is to be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker. The damaged or deteriorated parts of a respirator must be replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer must establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.
- .2 Disposable-type protective clothing that does not readily retain or permit penetration of asbestos fibres. Protective clothing to be provided by the employer and worn by every worker who enters the work area, and the protective clothing shall consist of a hood and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing to include suitable footwear, and to be repaired or replaced if torn.
- .2 Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.
- .3 Before leaving Asbestos Work Area, the worker can decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing, or, if the protective clothing will not be reused, place it in a container for dust and waste. The container must be dust tight, suitable for asbestos waste, impervious to asbestos, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before removal from the work area, and removed from the work area frequently and at regular intervals.
- .4 Facilities for washing hands and face shall be provided within or close to the Asbestos Work Area.
- .5 Ensure workers wash hands and face when leaving work area. The location of facilities for washing will be designated during the first worksite meeting.
- .6 Ensure that no person required to enter an Asbestos Work Area has facial hair or hair that affects seal between respirator and face.

## **1.7 WASTE MANAGEMENT AND DISPOSAL**

- .1 Disposal of asbestos waste generated by asbestos removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of asbestos waste in sealed and doubled plastic bags of at least 0.15 mm of thickness, reinforced and double sealed polyethylene sheets or leak proof drums. Label containers with appropriate warning labels, as specified in section 3.23.13 of the Code de sécurité pour les travaux de construction.
- .2 Unless specified otherwise, all materials that must be removed become the property of the Contractor who is required to dispose of the material from the work site in accordance with current regulations and guidelines.
- .3 The transportation of asbestos waste is subject to the Transportation of Dangerous Goods Act (C-24.2, r.4.2), asbestos containing materials which belong to Class 9.1 «miscellaneous dangerous goods». This implies that the driver of a vehicle carrying asbestos waste must have received training on the transportation of dangerous goods. Moreover, for each trip, the driver must have on hand the certificate attesting that he has received training as well as the shipping document detailing the information about the products being transported. In addition, if the amount of asbestos contained in the vehicle is greater than 500 kg (1100 lbs), the vehicle must have a plate indicating the class of the goods being transported.
- .4 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

## **1.8 EXISTING CONDITIONS**

- .1 The fire resistant separation in the attic is made of 6 mm thick asbestos cement panels nailed to the side of the existing wood roof on the existing lumber with a fire retardant coating sprayed on the south side. Debris of these panels currently litters the floor close to the fire resistant separation. The panels and the debris of the asbestos cement panels may present a risk to health and the environment. The management of this debris must be done in accordance to current practices. However, the sprayed fire retardant coating does not contain asbestos or any hazardous materials.
- .2 Notify the Departmental Representative of the discovery of any material that may contain asbestos during the work, but that is not indicated in article 1.8.1 Existing Conditions of the current section of the specifications. Do not touch these materials before receiving instructions on the matter from the Departmental Representative.

## **1.9 SCHEDULING**

- .1 Before starting the work that is detailed in the current contract, notify in writing the following organizations and persons:
  - .1 Provide the CSST a notice of a project involving the manipulation of asbestos.
  - .2 Notify all authorized visitors, traders and subcontractors of all risks related to the presence of asbestos materials, in accordance with the article on existing conditions.
  - .3 Submit to the Departmental Representative all notices transmitted to subcontractors, if any.

## **1.10 PERSONNEL TRAINING**

- .1 Before beginning Work, provide the Departmental Representative satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.
- .2 Instruction and training related to respirators includes, following minimum requirements:
  - .1 Fitting of equipment.
  - .2 Inspection and maintenance of equipment.
  - .3 Disinfecting of equipment.
  - .4 Limitations of equipment.
- .3 Instruction and training must be provided by a competent, qualified person.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Warning tape: yellow "Danger" tape for defining the asbestos removal work area.
- .2 Warning Signs: printed sign indicating, in both official languages, of asbestos work. This poster (dimensions are described below) must be yellow, measure 500 mm in height and 350 mm in width and indicate, via a black font the following information:

#### Dimensions

ASBESTOS	50 mm
DANGER	40 mm
Do Not Breath the Dust	15 mm
Safety Equipment Required	15 mm
Access Restricted	15 mm
Inhalation of Asbestos Dust May Be Harmful to Your Health	10 mm

- .3 Drop Sheets:
  - .1 Polyethylene: at least 0.15 mm thick and of sufficient with such that the least seams possible must be made
  - .2 FR polyethylene: 0.15 mm thick woven fibre reinforced fabric bonded both sides with polyethylene.
- .4 Tape: fibreglass - reinforced duct tape suitable for sealing polyethylene under both dry conditions and wet conditions using amended water.
- .5 Waste Containers: contain waste in two separate containers.
  - .1 Inner container: 0.15 mm thick sealable polyethylene waste bag.
  - .2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm thick sealable polyethylene bag.

- .3      Labelling requirements: affix pre-printed cautionary asbestos warning in both official languages that is visible when ready for removal to disposal site. The containers must be labelled according to the Controlled Products Regulations. The label must be permanent, legible and have the following information:
  - .1      Asbestos Containing Material
  - .2      Toxic By Inhalation
  - .3      Keep Container Closed
  - .4      Do Not Breathe the Dust
- .6      HEPA Vacuum: vacuum with a high efficiency filtration system, designed to collect and retain 99.97% of fibers of which one or the other dimension exceeds 0.3 micrometers.
- .7      All individual protective equipment outlined in article 1.6, as well as any other pertinent equipment not mentioned in the aforementioned article.
- .8      All equipment that is necessary to the execution of all the work described in the current document.

### **Part 3            Execution**

#### **3.1            PROCEDURES**

- .1      Comply with construction occupational health and safety requirements of federal, provincial, territorial and municipal agencies as well as the general terms and conditions of the project.
- .2      Asbestos work area:
  - .1      Before beginning Work, clearly indicate the asbestos work area using pre-printed cautionary warning tape and signs asbestos warning signs in both official languages that are visible at access routes to the asbestos work area.
- .3      The asbestos work must not begin before:
  - .1      Appropriate measures have been taken concerning the asbestos disposal.
  - .2      The tools, materials, equipment and waste containers are on site.
  - .3      Appropriate building security measures have been put in place.
  - .4      Proof has been provided that all workers have received adequate training in compliance with the Workplace Health and Safety Act.
  - .5      All notices have been issued and proof is made available to the Departmental Representative.
  - .6      All warning signs have been set up at the access points to the asbestos work area.
  - .7      The Departmental Representative has been notified that the work is ready to begin and has inspected the work zone and the materials, and that the work methods are acceptable to the CSST.

#### **3.2            SUPERVISION**

- .1      At least one (1) supervisor must be designated for each group of ten (10) workers or less.

- .2 An authorized supervisor must, at all times, remain on site during any activity related to removal or any other handling of asbestos containing materials in order to ensure that the provisions described in the current section of the specifications are met.

### **3.3 ASBESTOS REMEDIATION**

- .1 Organize and set up the worksite.
- .2 Collect all pieces of the asbestos-cement panels littering the floor close to the fire resistant separation. Afterwards, in the same area, clean the floor with a HEPA Vacuum in order to clean the dust and asbestos residues. All waste, including the vacuum bags must be disposed and eliminated as asbestos containing waste.
- .3 Install a floor lining composed of reinforced polyethylene sheets, with a width of approximately 2 meters starting from the fire resistant separation, in order to collect all debris generated by the asbestos cement panel removal work and facilitate the final cleaning activities in this work area.
- .4 Remove nails from the asbestos cement panels according to a work method that will keep them in a non-friable state. If necessary, proceed with their removal using a tool equipped with a vacuum system at the source and with a high efficiency filter (HEPA). Bag all asbestos cement panels as soon as they are removed in 0.15 mm thick bags and for panels which are bigger, cover them with reinforced polyethylene sheets and sealed with reinforced tape or place them directly in the asbestos waste container for their eventual transport.
- .5 Seal the container when it is full. Using a wet sponge, thoroughly clean the bottom of the exterior surface of the container. Evacuate the asbestos containing material from the asbestos removal zone and place them in the container. Regularly dispose of waste during the work in the waste containers in order to avoid any accumulation on site.
- .6 At frequent and regular intervals, during the execution of the work and upon completion of all work, remove dust and asbestos waste with a HEPA vacuum or wet cloths.
  - .1 Dust and waste must be eliminated and removed with a HEPA vacuum or with a wet mop and they must be disposed of in an appropriate container.
  - .2 Polyethylene sheets used for the floor lining must be wetted and disposed of in appropriate containers.
- .7 All work will be subject to a visual inspection done by the Departmental Representative and air sampling will also done, if necessary. If a visual inspection or an air sampling test reveals that adjacent areas have been contaminated, they must be contained and cleaned thoroughly.

### **3.4 FINAL CLEANING**

- .1 Begin with final cleaning only once all work has been completed and approved by the Departmental Representative.
- .2 Clean sealed waste containers as well as all used materials, and, when deemed appropriate, carry them out of the work area.



- .3 As the work progresses and in order not to exceed the storage capacity, transport the sealed and labeled asbestos waste containers to an approved treatment and disposal site, in accordance with the requirements of competent authorities.

### **3.5 INSPECTION**

- .1 Regularly inspect the work area in order to ensure the compliance of the current work to the requirements outlined in the specifications and by competent authorities. Any deviation from these requirements, which has not been approved in writing by the Departmental Representative, may result in a work stoppage.
- .2 The Departmental Representative will inspect the work in order to ensure that the following conditions are respected:
  - .1 Compliance with the procedures and the specific requirements to the different materials and devices;
  - .2 The completion of all the work and the cleanliness of the premises;
  - .3 The supply, at no extra cost, of the labor, the materials and equipment and of any additional devices that are necessary to the execution of the work according to the specified parameters.
- .3 The Departmental Representative will suspend work in the event of a leak or any risk of a leak of asbestos particles or of any asbestos containing material outside of the work area:
  - .1 Labor, materials and equipment and any additional devices that are necessary to the execution of the work according to the specified parameters must be provided at no extra charge.

**END OF SECTION**