

**Part 1 General****1.1 Summary**

- .1 Unless otherwise indicated, follow the standards below when specifying sprinkler protection modifications or installations. All requirements outlined herein shall be reviewed with the McGill University Fire Prevention Office (FPO) and confirmed before commencing any sprinkler system design, installation or modification.

**1.2 Design Requirements**

- .1 Clearly indicate items or equipment to be relocated. Indicate their current and future location.
- .2 Indicate when protection of existing items is needed if they are to remain or if they are designated for salvage.
- .3 A check valve must be installed on all floor control assemblies.
- .4 A 286°F sprinkler head with a heavy duty sprinkler guard must be installed in electrical rooms with structures having less than 2 hours fire resistance.
- .5 A very extra high sprinkler heads must be installed in mechanical rooms with boilers and where steam could be a risk.

**1.3 Reference**

- .1 Comply with the requirements of the latest version of:
  - .1 Quebec Construction Code
  - .2 NFPA 13 and other applicable sections
  - .3 Provincial and Municipal regulations
  - .4 McGill Standards

**1.4 Signage**

- .1 A dated placard with design details, general information and/or relevant information to the inspection of the sprinkler system and areas of coverage shall be posted at the main valve of the system. (Details in NFPA #13).
- .2 Signage identifying the location of any section valves in a ceiling space or other concealed space shall be provided so that the valves can be found quickly in an emergency.
- .3 Signs indicating the location of the main water valve shall be posted in the building. The signs shall permit the Fire Department to find the valve quickly from the location of the fire alarm panel.
- .4 Identification signs shall be provided at each valve to indicate its function and what it controls.
- .5 Fire connections should have a sign respecting the NFPA 170. (details in NFPA 13, chapter 16 & 30)

**1.5 Required Documentation**

- .1 As-built drawings of the sprinkler system modifications/installations shall be provided to the FPO.
- .2 Copies of the Hydraulic calculations and the contractor's detailed sprinkler plans must be provided to the FPO and to McGill Risk Management for the insurers.
- .3 As part of the system acceptance, original copies of the Contractor's Material and Test Certificates for above ground piping and below ground mains must be provided to the FPO. (Samples in NFPA # 13 Chapter 28).
- .4 An electronic version of a list of all fire alarm points related to the monitoring of the sprinkler system will be submitted to the FPO.
- .5 The installing contractor shall provide all literature and instruction manuals submitted by the manufacturer describing proper operation and maintenance of any equipment and devices installed.

**1.6 Restrictions**

- .1 Work on existing systems must be coordinated with McGill Facilities Supervisors and the Project Manager.
- .2 Specify the period of the day for work, to avoid noise in the building.
- .3 Flow tests must be conducted with fire alarm horns/bells deactivated to avoid noise in the building.
- .4 In coordination with the Project Manager, specify the path for garbage disposal. All materials that are recyclable should be pointed out to the Project Manager for recycling through either Building Services or the Waste Management Program.
- .5 Mercury switches that are removed from sprinkler systems should be treated as hazardous waste and put aside for the Waste Management Program.

**Part 2 Products****2.1 Materials**

- .1 Sprinkler system control valves should be OS&Y or butterfly type valves. Non gear operated valves are refused unless used on small lines (less than 1 in.).
- .2 All sprinkler system control valves should be quickly accessible. If they need to be in concealed spaces an access panel must be quickly removable.
- .3 All sprinkler system components must be ULC listed for use on a sprinkler system.
- .4 Devices are required for the monitoring of water flow, high/low water or air pressure in the system and control valves. All of these devices shall be separately connected to the fire alarm system for supervision by the Central Monitoring Station. If a fire pump is installed, power off to the pump and pump running must be supervised.

- .5 All spaces in a sprinklered building must be protected. Provisions must be made for the protection of: offices with new suspended ceilings, beneath new mezzanines, beneath large ventilation ducts, modified office spaces with new partitions, etc.

**Part 3 System Acceptance****3.1 System Operational Tests**

- .1 Water flow tests using the inspector's test pipe shall be conducted in the presence of an FPO and of a representative of Facilities Operations. A 2 in. drain test shall be done as well and the results are to be recorded on the contractor's test certificate.
- .2 A hydrostatic test shall be done on renovated or new installations. If the project involves the modifications of 20 or fewer sprinkler heads, the testing pressure is not required to exceed the system's working pressure. Results are to be entered on the Contractor's material and test certificate.

**END OF SECTION**