

210000 Fire Suppression

General

Fire protections systems should be provided unless exempted by the local code and FM Global.

Systems shall be designed in accordance to the requirements of the local fire department, local code, NFPA standards and FM Global standards.

All devices and equipment shall be UL listed and FM approved.

Plans and specifications shall be submitted to FM Global prior to University approval.

Final contractor shop drawings and product submittals shall be submitted to FM Global for their approval prior to consultant approval.

Where Baltimore City does not require submission of shop drawings due to the limited nature of the modifications, the contractor shall request and obtain approval from FM Global to be relieved of the requirement for production of shop drawings.

Hazard classification shall be based on the applicable NFPA 101, Life Safety Code section.

Contract documents shall require that installing contractors maintain the existing fire protection facilities during the construction period. FM Global regulations regarding notification of sprinkler system shutdowns and modifications shall be followed.

Obtain a copy of the most recent hydrant flow test or fire pump test for the facility and list information on the contract documents. If information is more than a year old from the time shop drawings are submitted, a new test should be performed as part of the project. Coordinate new test with local fire department requirements.

211000 Water Based Fire Suppression Systems

Piping

All piping 3" and below shall be black steel schedule 40 pipe. Piping 4" and above shall be a minimum of schedule 20. Mechanical joints (Victaulic) may be used in piping less than schedule 40.

Fittings shall be grooved, shop welded or threaded only.

Piping shall be properly sloped to allow for proper drainage.

Specialties

Siamese Connections shall be provided on new systems and location shall be coordinated with the local Fire Marshall, FM Global and JHU.

Provide a sign for FDC, coordinate size and location with JHU.

Fire Department Valves shall be 2-1/2" chrome plated brass. Provided pressure reducing device capable of handling inlet pressures up to 300psi where required.

Coordinate alarm devices with fire alarm system when new systems are being installed.

211300 Fire Suppression Sprinkler Systems

Sprinkler Heads

Sprinkler Heads shall be FM listed quick response fusible element, type and style as indicated or required per the application. Heads shall be a nominal ½ inch discharge orifice, for “Ordinary” temperature range. High temperature heads shall be provided where a reasonable expectancy of elevated temperatures due to the normal operation of equipment are expected.

Sprinkler heads in unfinished spaces shall be standard bronze finish. Provide head guards where they may be exposed to damage such as a mechanical room.

Sprinkler heads where exposed to view shall be bright chrome with chrome plated escutcheon plate.

Additional sprinkler heads shall be provided as required by NFPA 13 and a matching number of escutcheon plates shall also be provided.

Automatic Sprinkler Protection

Sprinkler systems shall be hydraulically designed, based on a performance specification and shall meet or exceed NFPA standards.

Each sprinkler zone shall be equipped with a check valve.

Wherever partial coverage sprinkler systems are installed, the sprinkled area shall be separated from the unprotected areas by means of a fire partition.

Sprinkler systems installations shall be of the wet type except the following:

- Areas subject to freezing shall be covered by a Dry Pipe system.
- High Value spaces as determined by JHU (computer rooms, etc. shall be protected by a double protection pre-action system.

Laminated floor plans, 8-1/2”x11” in size, shall be provided adjacent to each sprinkler valve to indicate the area served by that valve. The floor plans shall show the current partitions as well as smoke and fire barriers. Floor plans shall be updated whenever any modifications are made to a sprinkler system.

213000 Fire Pumps

Size fire pumps as required by local fire department, local code, and FM Global standards, whichever is greater.

Fire pump heads shall include the pressure required at the top of the system, total system height, system friction and the minimum available suction pressure.

Provide fire pumps with a valved cross-connection between discharge and suction (inside the control valves) for testing.