

210500 COMMON WORK RESULTS FOR FIRE SUPPRESSION

Part 1 – GENERAL

1.1 Description

A. This section details the guidelines and expectations for design and installation of fire alarm and suppression systems on Johns Hopkins University Homewood Campus. Project conditions and requirements vary, thus precluding the absolute adherence to the items identified herein in all cases. However, unless there is adequate written justification and approval from the JHFRE Engineering and Energy Department, it is expected that these guidelines will govern the design and specifications.

B. In locations where multiple buildings are code-required to have interconnected fire alarm systems, one system needs to be designed and installed with complete coverage of both buildings.

1.2 Submittals

A. Provide a plan for a complete hard-wired and zoned building fire alarm system that conforms to all local, state and Federal regulations.

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

C. 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 Zurich to be relieved of the requirement for production of shop drawings.

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

1.3 Quality Assurance

A. Fire protections systems should be provided unless exempted by the local code and Zurich.

B. Systems shall be designed in accordance to the requirements of the local fire department, local code, NFPA standards and Zurich standards. All devices and equipment shall be UL listed and Zurich approved. Plans and specifications shall be submitted to Zurich prior to University approval.

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

Part 2 – PRODUCTS

2.1 Engineered Fire Alarm System

A. Any new or significantly upgraded Fire Alarm System shall be Honeywell Notifier.

B. Any informational releases pertaining to potential system obsolescence and the age of proposed model (introduction year) shall be included in proposal.

2.2 Initiating Devices

A. Manual pull stations shall be mounted at locations as specified in NFPA 72, but at a height such that the centerline of the actuation device is not more than 48" above the finished floor.

B. Smoke detectors shall be located in all elevator lobbies, elevator shafts, elevator machine rooms, mechanical rooms, electrical rooms and IT rooms.

C. Heat detectors shall be located in all elevator shafts and elevator machine rooms.

D. Duct smoke detectors shall be located in the supply and return ductwork of each AHU where required. The duct smoke detectors shall be interlocked to shut down the associated supply and return fans of the AHU upon activation of the device.

2.3 Notification Devices

A. Audible alarm devices shall produce a sound that exceeds the prevailing equivalent sound level in the room or space by at least 15 dBA or exceeds any maximum sound level with a duration of 60 seconds by 5 dBA (whichever is louder). Sound levels for alarm signals shall not exceed 120 dBA.

B. Visual alarm devices shall be provided in the following areas: toilets, hallways, lobbies, meeting rooms, breakrooms, areas designated for public use, common use and general use areas. Visual devices shall have the following minimum photometric and location features:

1. The lamp shall be a xenon strobe type or equivalent.
2. The lens color shall be clear or nominal white (unfiltered or clear filtered white light).
3. The maximum pulse duration shall be 0.2 seconds with a maximum duty cycle of 40%. The pulse duration is the time interval between initial and final points of 10% of maximum signal.
4. The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz.
5. The centerline of the appliance shall be placed 80" above the highest floor level or within the space of 6" below the ceiling (whichever is lower).
6. In common corridors or hallways, all visual devices shall be no more than 50' apart.
7. The flashing of all visual devices shall be synchronized in the building.

2.4 Provide input addressable modules (IAMs) to interface with all water flow and tamper switches. Provide IAMs to all security doors to deactivate electronic locks upon alarm initiation. Provide fire door holders where required to ensure proper fire separation.

Part 3 – EXECUTION

3.1 For all high-rise classification buildings, provide a Fire Command Center located near the lobby with a preference for having a direct exterior door access.

3.2 For all other buildings, provide an annunciator panel located in the lobby or in view of the security desk. Integrate all required auxiliary systems including but not limited to elevators, emergency generators, smoke evacuation systems, etc.