



AMHERST COLLEGE

ENVIRONMENTAL HEALTH & SAFETY
6 East Dr., Amherst MA 01002-5000

Michael Zlogar
April 11, 2001
Assistant Fire Chief...
Amherst Fire Department
68 North Pleasant St.
Amherst, MA 01004

FIRE ALARM / SUPPRESSION SYSTEM NARRATIVE - EXAMPLE

Converse Hall
100 Boltwood Ave

In accordance with the requirements of 780 CMR 9.0, the Massachusetts State Building Code, 6th addition, Amherst College is furnishing the above referenced narrative to outline changes, upgrades and modifications to and for the Simplex Fire Alarm System.

Section

- 1 BUILDING DESCRIPTION**
 - a. Use Group **A-3**
 - b. Building Square Footage **36,000**
 - c. Building Height **40'**
 - d. Floors - Above Grade **3**
 - e. Floors - Below Grade **1**
 - f. Floors – Square Footage **9,000 sq.ft.**
 - g. Occupancy Type **Assembly**
 - h. Construction Type **2-C Noncombustible / Unprotected**
 - i. Hazardous Material & Storage **Not Applicable**
 - j. Site Access **West end of building**
 - k. Sprinkler System **No Sprinkler**
 - l. Standpipe System **No Standpipe System**
 - m. Fire Alarm Annunciator **West Entry Door**
 - n. Fire Alarm System **Simplex 4020 - Bsmt Room B-21**

- 2 APPLICABLE LAWS, REGULATIONS AND STANDARDS**
 - a. Building Code, 780 CMR “Fire Protection System Requirements”
 - Not Applicable – System Upgrade without Renovation
 - b. NFPA Standards
 - Installed in accordance with the applicable sections of NFPA 72
 - c. Fire Prevention Code, Chapter 148

- Not Applicable - System Upgrade without Renovation
- d. Fire Prevention Regulations, 527 CMR**
 - Not Applicable - System Upgrade without Renovation
- e. Local Bylaws and Ordinances – Approved**
 - Not Applicable - System Upgrade without Renovation
- f. Specialized State Codes (ADA, DEP, Electric, Elevator, Gas and Plumbing etc.) - System Upgrade without Renovation**
 - Not Applicable
- g. Specialized Federal Codes (ADA, EPA, OSHA etc.)**
 - Not Applicable - System Upgrade without Renovation

3 DESCRIPTION (SPECIAL FEATURES) – DETECTION SYSTEM/SUPPRESSION SYSTEM

Check the applicable category below

- Required by Regulations**
- Non-Required, Developer Provides Voluntary**
- New System - Complete**
- New System – Partial**
- Existing System – Addition**
- Existing System – Expansion**

Existing System – Modification

- Existing System – Repair**

4 DESIGN METHODOLOGY

- a. Building Occupant Notification and Evacuation Procedures**
- The Fire Alarm Panel in Converse Hall was recently replaced with a new **Simplex 4020 Addressable Fire Alarm System**. The newer system will allow better communication with the campus wide fire alarm system that receives the trouble, fire and pre-alarm signals at the Amherst College Campus Police/Dispatch Area. The 4020 fire panel will provide the College with Alarm Verification and will eventually report the exact location of the activated device to the Campus Police / Dispatch Center, which will be communicated to the Amherst Fire Department Dispatch Center before an Engine is dispatched.

- The new fire alarm panel provides coverage for most public spaces, common areas as well as mechanical rooms and storage areas. The fire alarm system will be completed after modifications are made to the electrical and HVAC equipment.
- The activation of a manual pull station, smoke or heat detector in the public, common, mechanical and storage areas will transmit an “alarm” or “trouble signal to the Simplex panel. The panel will (as before) activate the buildings audio/visual horns and strobes and will forward the appropriate signal to the Amherst College Police Department / Dispatch Center who will dispatch the on-duty police officer.

b. Emergency Response Personnel, Site and Systems Features

- **Fire Alarm**

- Amherst College Campus Police Dispatch Center will...
 1. Notify the Amherst Fire Department and provide any additional information.
 2. Notify Amherst College Campus Police Officer who will also respond

- **Fire Trouble**

- Amherst College Campus Police Dispatch Center will...
 1. Contact Amherst College Campus Police Officer
 2. Contact Amherst College Physical Plant Electrician, EH&S and/or Simplex
 3. If the Fire Alarm System will remain in trouble, EH&S and/or the Amherst College Campus Police will initiate a “Fire Watch” and shall notify the Amherst Fire Department and our insurance company to outline the cause and corrective action.

c. Safeguards, Fire Prevention and Emergency Procedures during New Construction and Impairment Plans Associated with Existing Systems Modifications

- If the Fire Alarm System remains in trouble, EH&S and/or the Amherst College Campus Police can/will initiate a “Fire Watch” depending on the building occupancy, and shall notify the Amherst Fire Department and our insurance company to outline the cause and corrective action.

d. Method for Future Testing and Maintenance of Systems and Documentation

- The Fire Alarm System is monitored 24 hours a day, is maintained by the Amherst College Physical Plant Electrical Shop and is tested annually by Simplex.

5 SPECIAL CONSIDERATION AND DESCRIPTION

a. Application of Performance Based Design

b. Interpretation / Clarification between Designer and Code Officials

c. Waiver or Variance Sought through the Regulatory Appeal Process

6 SEQUENCE OF OPERATION

a. Operational Description of the System or Specific Devices within a System and the “Resulting Action” associated with the Operation of the System or Specific Devices

- The activation of a manual pull station, smoke or heat detector will transmit an “fire alarm”. The panel will (as before) activate the buildings audio/visual horns and strobes and will forward the appropriate signal to the Amherst College Police Department / Dispatch Center who will dispatch the on-duty police officer. Trouble signals will also report directly to the Simplex panel and will forward the appropriate signal to the Amherst College Police Department / Dispatch Area for corrective action.
- 200 degree fixed temperature/rate of rise hard-wired heat detectors have been installed in the basement mechanical room because of the high heat potential and the possibility that dust/moisture would activate the more sensitive smoke detector.
- Manual pull stations are located in close proximity to means of egress as required by code.
- New Audio/Visual (horn/strobe combinations) have replaced the older units. These units have been properly placed throughout the building as indicated by the manufacturer to insure proper audibility, in accordance with NFPA 72.
- The Fire Alarm System Horns are capable of being silenced for effective fire department operations without having to re-set the system. However, the visual strobes will continue to flash until the system has been properly re-set.
- The Converse Hall Fire Alarm System is equipped with a 24 hour battery back-up with a 5 minute “ring” time in cases of power failure and shall send a “trouble” signal once loss of power is detected.
- All alarm conditions will be indicated at the LCD Annunciator, which is part of the Fire Control Panel. The Fire Alarm Control Panel shall also be equipped with visible and audible signals to indicate “Alarm” and “Trouble” Conditions.

Converse Hall Fire Alarm Zones

0. Example
1. Example
2. Example

3. Example
4. Example

b. The Operation Description shall include all Interconnected (integrated) Fire Protection Systems and Devices required or non – required forming an entire Building Life Safety System

- Modifications being made at this time to the Fire Alarm Systems were not required by local, state or federal regulations. Amherst College has permission from Assistant Fire Chief Zlogar to install a partial system until future renovations to the electrical and HVAC systems have been completed. The College is in the process of improving the communication of the fire alarm systems on campus with the main receiver at the Amherst College Campus Police / Dispatch Center. It is our intent to have additional information, such as exact location of activated device at the main receiver instead of waiting until the officer was able to access the annunciator.

c. All Signage Indicating Equipment Location, Operational and Design Features and Certified Documents Attesting to System Installation Integrity

- The Simplex Fire Alarm panel is located in the basement, room B-21
- The Fire Alarm Annunciator Panel is located at the Main Entrance, West Door.

7 EQUIPMENT AND TOOLS

Identification of Equipment and Procedures to be used to verify System Performance.

- Manufacturer's Instructions**
- Specifier's Special Instructions**
- Approved Narrative Report**
- Smoke Machines**
- Smoke Candles**
- Smoke Tubes**
- Smoke Spray (can)**
- Device Initiating Magnets**
- Sound Meters**
- Fire Hose / Nozzles**

- Fire Engine
- Flow Measuring Gauges
- Voltage Meters
- Portable Radios / Cell Phones
- Other Fire Department Equipment: _____
- Specialized Tools: _____
- Notification Announcements

8 APPROVAL REQUIREMENTS

This Section identifies all the “Close-Out” documents for the Code Officials Departmental Records.

- a. Establish Method of Approval Required (**Verbal or Written**) from Code Official if Systems Satisfies all Operational Code Compliance Requirements
- b. Establish method of Remedial Action when a System or Portion of a System Fails to Operate Satisfactorily.
- c. Documentation to be submitted to Code Officials at completion verifying that systems are in compliance with all laws, regulations and standards and pre-approved narrative reports
- d. Documentation as required by 780 CMR, Sec 903.4
- e. Documentation to be submitted to Code Officials listing names, addresses and telephone number of personnel for emergency notification