



MERRIMACK FIRE RESCUE

Office of the Fire Marshal

OFM-CON-03-008

FIRE ALARM SYSTEM PLAN CONDITIONS

Fire Alarm System plan(s) MUST be reviewed and approved by the Merrimack Department of Fire Rescue, Office of the Fire Marshal prior to the start of construction. The design and any changes must be fully compliant with NFPA 1, NFPA 101, NFPA 72, and NFPA 13, local, state and nationally recognized regulations, ordinances, rules or codes and approved by the Fire Marshal. The Fire Marshal reserves the right to require any changes by the Authority Having Jurisdiction (AHJ) or for regulatory compliance at any time.

The Town of Merrimack, Department of Fire Rescue utilizes NFPA 72®, National Fire Alarm Code® and documents listed in Chapter 2 of that code; prescribing regulations governing conditions hazardous to life and property from fire or explosion; providing for the issuance of permits. The following additional requirements are required by the Authority Having Jurisdiction and include:

1. All gates/doors within the structure or providing access to the structure(s) if locked shall be keyed to a building MASTER KEY and the master key placed into a SUPRA Key Box to provide keys for access to all doors at the building in the event of an emergency. Applications for the Key Box can be obtained from the Office of the Fire Marshal, 424-3690.
2. The Key Box shall be installed unobstructed outside of the door which leads directly to the Fire Alarm Control Panel (FACP) at a height accessible to emergency personnel (4 ft. To 5 ft. above the ground). Additional Key Boxes may be required depending on the size and configuration of the structure(s) and property.
3. The Fire Alarm Control Panel (FACP) must be connected to a UL Certified Central Station Alarm Company (NFPA 72, NFPA 1, and NFPA 101) via an automatic dialer system capable of notifying responders in the event of an activation of the system for any trouble or fire condition.
4. Fire Alarm Control Panel
 - a. The FACP shall be located in such a location as to allow emergency personnel to travel not more than twenty (20) feet into the building to identify a potential problem.
 - b. The automatic dialer shall have one dedicated phone line and one non dedicated secondary backup phone line connected to it.
 - c. Final location and approval of the FACP is required from the Fire Marshal prior to starting construction of the system.
 - d. Written instruction and security codes shall be available for emergency responders at the FACP to allow for the silencing and isolation of device or zones when needed.
 - e. An updated list of emergency contact personnel for the facility (Building) shall be posted by the FACP and shall be updated as needed to ensure that the information is correct.
 - f. The FACP and all remote fire panels shall be addressable for buildings larger than 10,000 square feet and have the ability to silence horns without disarming the strobes, identify in common language the location of the alarm condition, have the ability to enable and disable zones as well as reset the system.
 - g. Buildings under 10,000 square feet are not required to have addressable systems but may have specific requirements and should be reviewed by the Fire Marshal. All Fire Alarm Systems Shall have the ability to silence the horn units without deactivating the strobe units.
 - h. FACP in Multi tenement buildings must have the capability of activating an alarm in each unit in the event of a water flow activation associated with any other unit within the building.
 - i. FACP in multi-tenement building must have the capability of activating an alarm within the unit where the smoke detection has occurred, but not activate an alarm within any other unit within the building.
 - j. Any fire alarm activation signal received by the FACP shall transmit a fire alarm via an automatic dialer to a UL Approved Central Station Alarm Company and said information communicated to the Merrimack Fire Rescue Dispatch Center.



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- k. Any trouble alarm activation signal received by the FACP shall be transmitted via automatic dialer to a UL Approved Central Station Alarm Company and said information handled by said company and **NOT** automatically communicate an alarm to the Merrimack Fire Rescue Dispatch Center.
 - l. All common areas, service areas, storage areas, equipment rooms and void spaces shall be monitored by Smoke Detectors or if approved by the Fire Marshal Heat or Rate-of-Rise Detectors and if activated shall activate an alarm in the common areas as well as each unit within the building.
5. A diagram/layout of the building (8 ½ X 11", 11" X 17" or larger Graphic Display) identifying the location of area names, detection devices, zones, pull stations, and hazardous conditions within the building shall be laminated or behind a plastic protection cover, of an appropriate size print of the facility and shall be displayed next to the Fire Alarm Control Panel and Remote Fire panels.
6. All Fire Alarm Pull Stations (single or dual action), Fire Alarm Control Panels (FACP) including remote panels and dialer boxes must be keyed alike with a CAT 30 key marked and placed in the SUPRA Key Box.
7. If the Fire Alarm Control Panel or Remote Panels which are located behind a door or off of an entryway or hallway behind a passage door. The door(s) SHALL be labeled "FIRE ALARM CONTROL PANEL" in 1 1/2 inch BOLD white letters (minimum) with a Red background.
8. The fire alarm system must be tested and certified by a qualified installer 100% and documented prior to final acceptance by the Department of Fire Rescue (Pre-Test Certification Form.) For final acceptance test please notify the department two (2) working days prior to the needed inspection. Devices will be tested again and witnessed by the Fire Inspector. Any point failure will conclude the inspection and the inspection will be rescheduled for acceptance at a later date (a reinspection fee of \$50.00 will be assessed). Contact a Fire Inspector at 603-424-3690.
9. If an existing system is modified by adding or removing any devices, all devices within the old system, new system or modified system must be tested and certified 100% and reinspected by the Fire Inspector.
10. Duct Detection Systems
 - a. All Duct (Smoke etc.) Detectors shall be installed with a keyed test/reset switch located at the main FACP (alternatives with digital system can be programmed within the panel.)
 - b. All duct Detector(s) Location(s) shall be identified on the ceiling or ceiling grid and on the duct with an RED LED indicator light and signage identical to the Fire Alarm Control Panel Readout, Remote Panel Readout.
11. All Detection Devices and pull stations must be labeled (on or adjacent to the device) with signage exactly the same as the identification labeling on the Fire Alarm Control Panel Readout, Remote Panel Readouts. In non addressable systems the zone should be identified on the device.
12. All HVAC units must be identified on at a minimum of two opposite sides (or as deemed best for identification) with reflective numbers a minimum of 6 inches in height on the outside of the units.
13. A red strobe light or rotating beacon light (minimum 4 inches in diameter and 6 inches high) shall be located above the SUPRA Key Box indicating the location of the SUPRA Key box, access door to the building and the Fire Alarm Control Panel to expedite emergency access and response to the building.
14. All buildings shall be fitted with an exterior red strobe light (minimum 4 inches in diameter and 6 inches high) capable of notifying responding emergency personnel which building or location is in alarm (only if the key box strobe will not perform this function.)



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15. FIRE ALARM SYSTEM PLAN REVIEW all fire alarm systems plans (new and modifications) must be submitted to the Town of Merrimack, Department of Fire Rescue, Office of the Fire Marshal for review prior to any permits being issued. Fees for plan reviews are dependant upon the current fee structure established by the Town's governing body. Applications can be obtained at the Fire Marshals Office located at 432 Daniel Webster Highway, Central Fire Station.
- a. Work shall not start on the project until an approved stamped set of drawings has been returned to the contractor.
 - b. All fire associated wiring which is not within conduit shall be plenum rated wire.
 - c. All fire alarm associated wiring which passes through walls, ceiling and floors shall be within conduit.
 - d. All fire alarm associated wiring passing through any fire separations shall be within conduit and appropriately fire stopped to maintain the fire rating of the separation.
 - e. All completed plan reviews will be available at the Merrimack Fire Department located at 432 Daniel Webster Highway Merrimack NH. The Office of the Fire Marshal will contact the contractor once to have their plans picked-up. It is the responsibility of the contractor to have the approved plans in their possession and available on site for inspection before starting work and during work performed on the project.
 - f. If the plans are not approved due to incomplete information, missing devices or not legible, the contractor shall make the necessary changes and resubmit the updated design package for final approval to the Merrimack Department of Fire Rescue, Office of the Fire Marshal located at 432 Daniel Webster Highway Merrimack NH, 03054.
 - g. The plan package for the project must include:
 - i. Two (2) Copies of the system drawing and support documentation must be provided.
 - ii. A Technical Information Booklet including the following information:
 - 1. Scope of Work
 - a. General Description of the Occupancy
 - b. Control Equipment
 - c. Remote Notification
 - d. Initiation
 - e. Local Notification
 - iii. Fire Alarm System one line diagram
 - iv. Fire Alarm System Components Technical/Cut Sheets
 - 1. Battery and Battery Calculations
 - 2. Manual Activation Devices; Pull Stations etc.
 - 3. Detection Devices, Smoke Detectors (Ionization, Photoelectric, Duct Smoke), Heat, Rate of Rise etc.
 - 4. Visual/Audio Notification; Horn Strobe, Strobes, Horns etc.
 - 5. Modules and Switches
 - v. UL Approval for Alarm Service Company (copy)
16. Work on the project shall not commence until the contractor has in their possession a set of approved plans which are stamped from the Town of Merrimack, Department of Fire Rescue, Office of the Fire Marshal.
17. If work is started on any project prior to being issued a PERMIT the contractor may be in violation of The State of NH and the Town of Merrimack Fire Regulations, Ordinances and Requirements. The permit may be revoked pending legal actions.
18. Any work that has been completed by at the site by the contractor prior to the receipt of the PERMIT may require additional actions (at a cost to the contractor) to meet any inspection and testing requirements prior to receiving acceptance documentation and a Certificate of Occupancy for the building.

To obtain copies of forms and fire requirements within the Town of Merrimack, Department of Fire Rescue, please reference to the Fire Web Site at www.merrimacknh.gov/fire/fireprevention

If a company representative, or contractor has any question or concerns about the installation of fire alarms and associated components please feel free to contact the Fire Marshal at 603-424-3690