Fire Alarm System Plan Submittal

Complete plan submittals are required for review/approval; all others will be returned

- **New system:** Each box must be checked off for acknowledgment, N/A for areas not applicable

- **Modification:** For existing systems fill out all that may apply.

**Rough Inspection:** Rough inspections are required to be signed off on the permit before installing: wall board, ceilings and insulation. 48 hour notice may be required for scheduling inspections. Failed inspection will require a re-inspection and a $150.00 re-inspection fee (Reference O-07-107) to be paid prior to scheduling the next inspection.

**Acceptance Test:** System shall pass 100% pretest prior to scheduling inspections.

Acceptance test are mandatory upon completion of install. 48 hour notice may be required for scheduling inspections. Failed test will require a re-inspection and a $150.00 re-inspection fee (Reference O-07-107) to be paid prior to scheduling the next inspection.

**The Final Inspection Check Sheet:** The Final Inspection Check Sheet shall be completed, initialed and dated prior to the final acceptance test.
DESIGN AFFIDAVIT
Fire Alarm System

Address of Installation: __________________________________________________________

Name
__________________________________________

Street
__________________________________________

City, State, Zip

Installing Contractor: Designer: (if different)

Co. Name
__________________________________________

Street
__________________________________________

City, State, Zip

Telephone
__________________________________________

Email
__________________________________________

The undersigned certifies that the system as designed conforms to the ___________ edition
of NFPA____________.

If not, areas of non-conformance for which we are applying for a variance are:

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

I have appropriate design expertise and authority to make this certification.

Attached is a list/copies of relevant training and certification in the field (2013 - NFPA 72)

Print Name                                            Signature
__________________________________________        ______________________________

Firm                                                Date
__________________________________________        ______________________________
PLAN REVIEW CERTIFICATION
Fire Alarm System

1) Name of Location: __________________________________________________________

2) Address of Installation: ___________________________________________________

3) Installing Company: _______________________________________________________

4) Designer: ________________________________________________________________

Required attachments to this certification statement are:

- Completed Design Affidavit.
- List/Copies of Installers Qualification/Certification
- Two sets of plans in accordance with Plan Requirements of Nashua Fire Marshal’s Office.
- One set of Cut Sheets/Devices
- Drawings
- Battery calculations (if applicable)
- System type: (circle) Addressable - Digital - Analog
- Scope of work
- Compatibility documentation
- Request for master box number (if applicable)

5) The undersigned certifies that the fire alarm system is to be installed in total conformance with the 2013 edition of NFPA 72. (If not, the areas of non-conformance are):

Print Name ____________________________  Signature ____________________________

Firm ____________________________________________  Phone No. ___________________

Email ____________________________________________  Date _________________________
The intent of these requirements is to ensure that the fire alarm systems installed in Nashua, NH are designed, installed and maintained to achieve the following:

- High Reliability
- Ease of operation and understanding
- Conformity to Fire Department operations and equipment
- Protection of consumers with regard to system quality
- Better understanding and working relations between contractors and Fire Department
- Reduction of needless alarms

These requirements will apply to any fire alarm system installed or modified within the city of Nashua.

All installations and/or modifications to systems within the city of Nashua require a permit to be issued prior to beginning of work.

All fire alarm systems will conform to National Fire Protection Association [NFPA] Fire Alarm code 72 and Chapter 156 of Nashua Revised Ordinances.

In addition to the above code requirements, all systems will comply with the following requirements:

**Plans:** Plans for proposed fire alarm systems will be submitted to Nashua Fire Rescue prior to any work being done. These plans will include the following:

- Executive summary outlining intended classification of occupancy
- Purpose and goals of fire protection system
- Sequence of operation
- Floor plan with device locations
- Wiring riser diagram
- Location of end of line devices
- Complete equipment lists and specifications to include anything that reports to the fire alarm control panel, including but not limited to:
  - Fire Alarm devices and interfaces with fire alarm devices
  - RTU test switches
  - Elevator recall
  - Door closers
  - Smoke control devices and interfaces
  - Fire Pumps
  - Kitchen Hoods
  - Delayed Egress
  - Access systems
- Type of occupancy, unusual hazards or unusual building features

Any changes from originally proposed or approved plans that should occur during construction will be documented by revision and initialed by the authority having jurisdiction. Plans showing actual “As-builts” will be submitted after completion of a system. These plans will become permanent record of the Nashua Fire Marshal’s Office.
**Wiring:** Wiring shall be neat, secure and easily recognizable as fire alarm wiring. All wiring and devices shall be installed as permanent to the building structure. When open type wiring is deemed acceptable to a particular installation, the means of supporting the wiring will be determined by the authority having jurisdiction, according to his/her assessment of the building structure. All work shall comply with the “National Electrical Code – NFPA 70, Article 760 “Fire Alarm Systems”.

**Annunciation:** Annunciation necessity and location will be determined by the Authority Having Jurisdiction. Number of zones and the allocation of their titles will be determined or approved by the Authority Having Jurisdiction.

An external red strobe will placed outside of the building in a location that is easily visible by responding apparatus to indicate a general alarm.

**Duct Smoke:** Duct smokes RTU’s are to be located at the Fire Alarm Control.

**Sprinklers:** All sprinkler risers will have an approved water flow alarm device. When necessary, these devices will be equipped with retard adjustment. All sprinklers shall have low pressure alarm devices on the system side. There shall be no shut off devices between alarm valve and alarm devices. Each sprinkler riser will have a separate zone.

**Municipal Fire Alarm Connection (Master Box):** The City of Nashua NH will assume the cost for labor and Wire for private fire alarm connections to its fire alarm system where the connection does not exceed two hundred feet (200 ft.) over private property, for an overhead connection from the nearest street pole. The owner or contractor will be responsible for all cost of materials (wire, cable, hardware, etc.) beyond 200 ft., over private property. The owner or contractor will also provide the necessary conduit, wire, weather-head from the fire alarm box to the fire alarm bracket, lightning arrester at the master box. Depending on the municipal infrastructure the contractor or owner shall provide either a red enamel terminal box furnished with a six double terminal block, [Power and Tel Part number ATB-R or equivalent] or a 3M Ready Access Closure for lashed or figure 8 wire and 2- 4 pair terminal blocks, [(1)-Power and Tel Part number 100MB or equivalent, and (2)-Power and Tel Part number 1645].

Where an underground entrance is required from an underground vault, the owner or contractor will assume the cost of conduit, cable and installation from the underground vault to the fire alarm box on the building and provide a 3M Better Buried Splice Closure System containing the following parts, [Power and Tel Part number (1) BB2X12 SB/SC-LHS, or equivalent, (2) 2” LHS BBDC End Caps, or equivalent, and (1) 3M 4442 High Gel Reenterable Encapsulant, or equivalent]

These materials will include enough to reach the fire alarm gain on the pole. Direct bury wire or cable will not be allowed. The size of the conduit will be one and one half inches in diameter.

- The wire shall be number 12 AWG solid copper wire. Riser cable shall be I.M.S.A 20-1 four conductor #12 gauge solid. The owner or contractor will be responsible to provide and install (1) 5/8” X 8’ ground rod, within 5 feet of the Fire Alarm box and connected with a # 8 AWG bare copper ground wire and an approved lightning arrester (Power & Tel Model 317B or equivalent). Materials and workmanship shall comply with industry standards and NFPA 70.
All fire alarm boxes connected to the municipal fire alarm system will be Gamewell three fold, local energy master box.

The building owner or designee will ensure that access to the Fire Alarm Master Box is accessible year round from a walkway or entranceway.

**Central Station Monitoring:** Fire Alarm systems required to report to an approved Central Monitoring Station must be in place prior to final acceptance test.

**Operation:** Any fire alarm system will have complete operating instructions permanently mounted in close proximity to the control panel or any remote control areas in an approved cabinet storage.

Keying of devices shall be *Cat 30* lock cylinder to the existing and remaining system components. Owner or contractor will provide additional copies of keys as needed.

The owner or contractor shall clearly label the fire alarm control panel and label the door to the fire alarm control panel room.

Unless otherwise determined by the Authority Having Jurisdiction manner of operation of the system in alarm should activate all audio and visual devices. Upon silencing of an alarm indication all visual alerting appliances shall remain active until the system is reset.

**Commissioning / Inspection of System:** Owner or contractor will comply with NFPA 72 and provide a complete copy of the installed software program along with an approved container to store the operating instructions. At the time of system commissioning and inspection the owner or contractor will have completed a 100% pre-inspection of the system. Any programming, installation or alteration to the system at the time of commissioning will be cause for failure and will require a re-inspection at a later date at a cost to the owner or contractor.

During commissioning of the fire alarm system the owner or contractor shall provide the necessary tools and personnel to perform such testing. Approved smoke detector test spray shall be used in testing all smoke detectors and shall be provided by the owner or contractor. All moveable ceiling tiles shall be opened to allow visual inspection of the fire alarm wiring and sprinkler piping during the inspection.

If the building is occupied at the time of inspection, all occupants shall be notified of the inspection PRIOR to the inspection.

**Test and Maintenance:** Building owners will be responsible for a regular and documented testing procedure. Frequency of this testing shall apply to applicable code and a copy of all tests will be forwarded to the Nashua Fire Marshal’s office.

**Exception:** It is understood by Nashua Fire Rescue that circumstances may arise that would make strict adherence to portions of this code impossible. The department will make every effort to facilitate these problems, so long as the adjustments do not conflict with the intent of the requirements. These adjustments will be made at the discretion of the Authority Having Jurisdiction.
Sequence of Alarm/Device Actions:

<table>
<thead>
<tr>
<th>Device</th>
<th>General Fire Alarm</th>
<th>Trips Master Box/ Central Monitoring Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoke Detector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat Detector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pull Station</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow Switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Pressure</td>
<td></td>
<td></td>
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<tr>
<td>Low Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Ext Removal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duct Smokes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Unit shut down for all duct smokes)</td>
<td></td>
</tr>
<tr>
<td>Tamper Switches</td>
<td>Local FA Trouble</td>
<td>Supervisory for Central Monitoring Station</td>
</tr>
<tr>
<td>CO Detector</td>
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