Automatic Sprinkler 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.

Office use: Permit # ____________________

☐ Revisions required
☐ Plans approved

rev May 2020
### SPRINKLER SYSTEMS

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SPRINKLER SYSTEMS</td>
<td>New ☐</td>
<td>Modification ☐</td>
<td></td>
</tr>
<tr>
<td>Base fee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adding sprinkler heads: Up to 6 heads ($30.00) 7-20 heads ($110.00) 21-100 heads ($220.00)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. OTHER – Minor and miscellaneous work not covered above (each) Describe:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. REINSPECTION fee - for same work due to failure to pass final inspection (per Ordinance 0-07-107)</td>
<td>150.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. SURCHARGE for permits issued after construction started without a permit *100% of applicable fee, but not to exceed $250. Such violations also subject to criminal penalties under NH law.</td>
<td>250.00 *</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. APPLICATION FEE (non-refundable) Following receipt, if plans are modified – fee may be adjusted.</td>
<td>20.00</td>
<td></td>
<td>$20.00</td>
</tr>
</tbody>
</table>

#### Minimum total fee - $30.00

Receipt # _________________ TOTAL $20.00

I, the undersigned, notify the City of Nashua that there ☐ will not / ☐ will be a need to abate asbestos containing material while performing work on this permit. All state and local health laws pertaining to the disposal of waste material are to be abided by. The applicant shall contact the Environmental Health Department, 18 Mulberry Street, 589-4530. I certify the owner of record authorizes the proposed work and I have been authorized by the owner to make this application as his agent and we agree to conform to all applicable laws of the City of Nashua. I attest all statements made on this application are true to the best of my knowledge. Applicants are advised that the making of a false statement on this form is a criminal offense.

Contractor ____________________________________________

Address ____________________________________________

City ____________________________ State __________ ZIP __________

Email Address ____________________________

Applicant name printed ____________________________

Signature of applicant ____________________________ Telephone number ________________

Fire Marshal or Designee ____________________________ Date __________

Please have your project number and type of inspection ready so we may expedite your inspection request.

Permit valid for one (1) year from date of issue. Call for Inspections – 589-3460

**ALL PERMITS MUST BE POSTED ON SITE**

Revised May 2020
PLAN REVIEW CERTIFICATION
Fire Suppression /Automatic Sprinkler System

1) Date of Application: ________________________________________________

2) Name of Location: ________________________________________________
   Address of Installation: ____________________________________________
   ________________________________________________________________

3) Installing Company: ________________________________________________
   ________________________________________________________________
   ________________________________________________________________

4) Designer: _________________________________________________________

5) Required attachments to this certification statement are:
   ☐ Completed Design Affidavit.
   ☐ List/copies of Installers qualification/certification
   ☐ Two sets of plans and one set of calculations and cut sheets in accordance with
     Plan Requirements of Nashua Fire Marshal's Office.

6) The undersigned certifies that the automatic sprinkler system is to be installed in total
   conformance with the 2013 edition of NFPA 13. (If not, the areas of non-
   conformance are):

__________________________________________  _______________________
Print Name                                                   Signature

__________________________________________  _______________________
Firm                                                       Phone No.

__________________________________________  _______________________
Email                                                  Date
DESIGN AFFIDAVIT
Fire Suppression System

Address of Installation: ____________________________________________

Name
______________________________________________________________

Street
______________________________________________________________

City, State, Zip

Installing Contractor: ____________________________________________

Co. Name
______________________________________________________________

Street
______________________________________________________________

City, State, Zip
______________________________________________________________

Telephone
______________________________________________________________

Email
______________________________________________________________

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.

__________________________________________
Print Name

Signature

__________________________________________
Firm

Date

rev April 2020
PLAN REQUIREMENTS
Fire Suppression /Automatic Sprinkler System

Project Name:_________________________________________ ____________________________

Project Address:_______________________________________

File Number:_________________________ Date:__________________________

Code Edition:___________________________________________

All supporting documentation, showing items listed below are required for review. The checklist is based on 2013 Edition of NFPA 13. All plans submitted must be stamped and signed by a Fire Protection Engineer familiar with all applicable State and local rules and regulations. A fire protection engineer stamp shall not be required for plans involving the modification of 12 or less heads; these plans can be stamped by a NICET Level III designer.

General (All submissions shall include the following):

☐ A minimum of two copies of dimensioned shop drawings, and submittal data shall be provided with the permit application permitting evaluation of the system PRIOR to installation.

☐ Name and address of project or tenant space where system will be installed or modified.

☐ Name, address, and telephone number for the designer of the system.

☐ Owners Information Certificate Form.

☐ Drawings are to be uniform in size, dimensioned, and drawn to a recognized scale.

☐ Plans and calculations shall clearly indicate the design standard(s) and edition (ex: NFPA 13, 2013 Edition) used to prepare the submission.

☐ Plans shall include a schematic drawing of the fire protection underground piping showing point of entry into building, size and length of pipe, point of connection to water main and location of referenced water flow test. Schematic drawing shall also include the location and type of all valves, meters and backflow prevention devices.

☐ Plans and calculations shall clearly show a floor plan of each story, indicating the location of all walls, partitions, and fire rated assemblies; and the intended use of each area, room or void space.
A dimensioned reflective ceiling plan complete with shadow gram of all walls and obstructions shall be submitted indicating the placement of all sprinkler heads shall be provided.

Plans shall indicate the location and pipe size of the device, located downstream of all backflow prevention valves, used to verify the full flow system demand.

Plans shall clearly indicate total area protected by each system riser on each floor.

Plans shall include full height cross-section elevation details indicating construction and vertical/horizontal distances of sprinklers relative to underside of roof/ceiling and structural members. (Obstructed or unobstructed)

Plans shall clearly indicate the type and location of all control valves, drain valves, test connections, hose outlets, and related equipment and piping.

Plans shall clearly indicate the location and type of audible and/or visual alarm devices located inside and outside of the building.

Plans shall clearly indicate the make, model, temperature rating, nominal hydraulic K-factor, sprinkler identification number, and quantity of each type of sprinkler to be installed.

Plans shall clearly indicate the location of special sprinklers (Examples: extended coverage, sidewall, intermediate/high temperature sprinklers).

Plans shall clearly indicate pipe types and wall thickness, type of fittings and joints, and the type and locations of hangers, sleeves, braces, and methods to support sprinkler components.

Plans shall clearly indicate nominal pipe size and cutting lengths of pipe (center to center), including riser nipples, drop nipples, and armovers.

Plans shall clearly indicate method of protection for non-metallic piping as required by pipe manufacturer. (nailer plates and/or thermal insulation)

Plans shall clearly indicate method of maintaining minimum temperature of 40°F for sprinkler system piping installed in unconditioned spaces. (Special note: tenting method requires properly secured, minimum R-30 unfaced batt insulation.)

Hydraulically designed systems:
1. Hydraulic data nameplate information.
   a. The minimum rate of water application (density).
   b. The location and size of the design area.
   c. Inside and outside hose stream allowances as actually provided.
   d. Required flow and residual pressure at base of riser.
   e. Occupancy classification.
2. Hydraulic reference points shall be indicated on the plan corresponding with hydraulic calculation sheets.
3. Protection areas per sprinkler head.
4. Provide a copy of the Pennichuck Water Works water flow test results (dated within **twelve months** of plan submission date).

☐ Graph sheet. A graphic representation of the hydraulic demand shall be plotted on graph paper (Q1·85) or computer generated hydraulic program based upon: Pennichuck Water Works flow data
   1. Water supply curve
   2. Total sprinkler system hydraulic demand
   3. Hose streams demand.
   4. In-Rack sprinkler demand (where applicable)

**Tenant Fit-up**

☐ Where existing systems are to be modified, sufficient details of the existing system shall be shown on the plans to determine effect of proposed modification on total system.

☐ Provide shopping center key plan or building complete floor plan indicating the location of tenant space.

☐ Plans shall clearly indicate location and floor level of the hydraulic remote area and its design criteria.

☐ Work being performed in the hydraulic remote area shall include hydraulic calculations and Pennichuck Water Works water flow test results (dated within **twelve months** of plan submission date).

**Limited area sprinkler system:**

☐ Provide key plan showing the room or space to be sprinklered. Provide location in the building and room number(s), floor, etc.

☐ Provide hydraulic calculations in accordance with NFPA and IBC
   a. Where sprinkler is supplied through domestic water meter provide Pennichuck Water Works water meter sizing form.
   b. Where sprinkler is supplied through a separate fire line connection 2” or smaller Pennichuck Water Work Specification FIR-1 shall be used.

☐ When a valve is provided downstream from the domestic water control valve the limited area sprinkler system shall be supervised in accordance with IBC or International Plumbing Code.
Storage Occupancy:

**Miscellaneous Storage ≤ twelve feet in height:**

- Plans shall clearly indicate commodity classification, maximum storage height, proposed storage arrangement, widths and locations of all aisles.
- Plans shall clearly indicate roof/ceiling height within storage area.

**Storage Commodities**

- Plans shall clearly indicate fire control approach for storage commodities.
- Plans shall clearly indicate commodity classification, maximum storage height, proposed storage arrangement, widths and locations of all aisles.
- Plans shall clearly indicate minimum and maximum distance between the sprinkler deflector and the top of storage.
- Plans shall clearly indicate rack configuration (width and height) and flue spaces: (Single row, Double row, Multiple rows).
- Plans shall clearly indicate the method of storage, i.e.; wood pallets on racks, expanded plastic pallets on racks, solid shelving, open shelving; or encapsulated wrapping materials.
- Plans shall clearly indicate interior small hose stations or approved alternative.

**Manufacturers Data Sheet:**

All submissions shall include the appropriate Manufacturers Data Sheets for the following:

- Pipe
- Fittings (Threaded, Grooved, Etc.)
- Valves (O.S. & Y., Butterfly, Etc.)
- Hangers / Rod / Fasteners / Clamps
- Alarm Check Valve / Retard Chamber / Water Motor Alarm
- Swing Check Valves
- Fire Department Connections
- Sprinkler Heads/Spray Nozzles
- Inspectors Test Connections / Drain Assemblies
- Riser Manifolds
- Backflow Preventers / RPZ’s Valves
- Pressure Regulating Valves
- Dry Valves / Preaction Valves / Actuation Devices and Systems / Trim
- Valve Supervisory Switches
- Water flow Vane Switches
- Pressure Switches
- Fire Pumps / Accessories
- Fire Pump Drivers / Accessories
Fire Pump Controllers
Jockey Pumps
Jockey Pump Controllers
Relief Valves
Fire Hose Valves, Fire Hose and Nozzles
Special System Components (Foam, Antifreeze, Water Mist, Etc.)
Other __________________________________________
Other __________________________________________

Where multiple contractors are involved in the system design / installation, plan approval requires concurrent submittals and review of the fire suppression and detection systems.

Special Notes

☐ A low-pressure switch is required to be installed each riser on the system side of main control valve. In zoned systems, this will be required on the system side of each zone. (Local Requirement)

☐ Sprinkler systems required to be monitored off-site.

☐ Piping between the sprinkler system and a pressure actuated water flow alarm-initiating device shall be galvanized, nonferrous metal, or other approved corrosion resistant material.

☐ Plans shall clearly indicate the make, type, model, and size of dry pipe, pre-action, or deluge valves.

☐ Plans shall clearly indicate the water capacity in gallons of each dry pipe system.

☐ Plans shall clearly indicate air pressure settings for valves and supervisory air functions at normal and abnormal conditions.

☐ Information about antifreeze used (type and amount).

☐ Calculation of loads for sizing and details of sway bracing.

☐ An approved reduced pressure principle backflow prevention device (RPZ-listed assembly) including approved indicating control valves shall be provided on all antifreeze systems.

☐ An approved listed expansion chamber shall be provided on all antifreeze systems

☐ Fire pump and booster fire pump installations shall comply with NFPA 20.
Hydraulic Calculation Forms

Hydraulic calculations shall be prepared on form sheets that include a summary sheet, detailed work sheets, and a graph sheet.

☐ When multiple designs are required to protect various hazards with a common system area, separate calculations shall be provided for each hazard area.

☐ All code credits/exceptions utilized in the design must be clearly marked on the plan complete with the calculation and code cite referenced.

☐ Calculation summary sheet shall include:

1. Date
2. Location
3. Description of Hazard
4. System Design Requirements
   a. Total design area (ft²)
   b. Minimum rate of water application (density), gpm/ft².
   c. Area of coverage per sprinkler.
5. Total system demand at base of riser. Water for inside and outside hose streams shall be represented as actually provided.
6. Allowance for in-rack sprinklers, gpm.
7. Limitation (dimension, flow, and pressure) on extended coverage or other listed special sprinklers.
OWNER’S INFORMATION CERTIFICATE
Fire Suppression /Automatic Sprinkler System

Name/Address of property to be protected with sprinkler protection: ________________________________

Name of owner: __________________________________________________________________________

Existing or planned construction is

- Fire resistive or noncombustible
- Wood frame or ordinary (masonry walls with wood beams)
- Unknown

Is the system installation intended for one of the following special occupancies:

- Aircraft hangar
- Fixed guideway transit system
- Race track stable
- Marine Terminal, pier, or wharf
- Airport Terminal
- Aircraft engine test facility
- Power plant
- Water-cooling tower

If the answer to any of the above is “yes”, the appropriate NFPA standard should be referenced for sprinkler density/area criteria.

Indicate whether any of the following special materials are intended to be present:

- Flammable or combustible liquids
- Aerosol products
- Nitrate film
- Pyroxylin plastic
- Compressed or liquefied gas cylinders
- Liquid or solid oxidizers
- Organic peroxide formulations
- Idle pallets

If the answer to any of the above is “yes”, describe type, location, arrangement, and intended maximum quantities. ____________________________________________________________
Indicate whether the protection is intended for one of the following specialized occupancies or areas:

<table>
<thead>
<tr>
<th>Specialized Occupancy</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spray area or mixing room</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solvent extraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory using chemicals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen-fuel gas system for welding or cutting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetylene cylinder charging</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production or use of compressed or liquefied gases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial cooking operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class A hyperbaric system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleanroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incinerator or waste handling system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linen handling system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial furnace</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water-cooling tower</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the answer to any of the above is “yes”, describe type, location, arrangement, and intended maximum quantities.

Will there be any storage of products over 12 ft (3.6m) in height?

- Yes  - No

If the answer is “yes”, describe product, intended storage arrangement, and height.

Will there be any storage of plastic, rubber, or similar products over 5 ft (1.5m) high except as described above?

- Yes  - No

If the answer is “yes”, describe product, intended storage arrangement, and height.

I certify that I have knowledge of the intended use of the property and that the above information is correct.

Signature of owner’s representative or agent: ________________________________

Date: ________________

Name of owner’s representative or agent completing certificate (print): __________________________

Relationship and firm of agent (print): ________________________________