



## TOWN OF SOUTHOLD - FIRE MARSHAL

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### FIRE SPRINKLER SYSTEM DESIGN AND SUBMITTAL GUIDELINES

All new and existing fire sprinkler systems within the jurisdiction of the Town of Southold shall meet all applicable sections of the following current codes:

- 2020 Building Code of New York State
- Code of the Town of Southold
- Manufacturer's Instructions
- 2020 Fire Code of New York State
- 2016 Editions of NFPA 13, 13D, 13R

The intent of this document is to facilitate the process of design and installation of a fire sprinkler system. Consult the applicable code sections for any unmentioned detail information.

#### 1. Submittal Requirements

Plans shall be submitted to the Building Department. All fire sprinkler system submittals shall include:

- A. A completed [Fire Protection System Permit Application](#).
- B. Three (3) complete sets of the required plans signed and stamped by an engineer or registered architect licensed by the State of New York, specifications, and calculations conforming to design criteria. (Refer to #5 - Plan Submittal Requirement Checklist).
- C. Owner's Information Certificate: A signed copy of the owner's certificate completed per NFPA 13 Chapter 4 shall be submitted.
- D. Payment of Fees. A \$250 permit fee is required for a non-residential permit. A \$50 Certificate of Occupancy fee is required if the project is not part of an existing open building permit. All checks are to be made payable to the Town of Southold.

NOTE: Failure to provide all of the requested information will result in unnecessary delays in the plan review process.

#### 2. Approval of Plans

- A. Plans are reviewed in the order they were submitted.
- B. Plan reviews will be completed as soon as possible. Plan revisions, changes, or incomplete submittal packages may delay your final plan approval.
- C. The approved plans, specifications, calculations, and permit shall remain on the job site at all times. Installations are subject to final acceptance testing, inspection and approval.
- D. Plan approvals do not release the contractor or property owner from responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
- E. Any equipment or piping shall not be installed prior to the approval of plans and issuance of permits.

### 3. Acceptance Testing and Inspections

It is the installer's responsibility to perform sufficient pre-inspection testing to ensure operational integrity and reliability of the system in order to avoid any delays at the time of inspection. Fire Marshal Witnessed Acceptance Test - Scheduling of inspections shall be requested by calling the Town of Southold Building Department at (631) 765-1802.

The sprinkler system installed in accordance with NFPA 13, 13R or 13D shall be properly inspected, tested, and maintained in accordance with the applicable standard.

### 4. Fire Sprinkler System Design Criteria

1. The fire sprinkler system shall be designed and installed in accordance with the 2016 edition of NFPA 13, 13R, 13D.
2. Plans shall be signed and stamped by an engineer or registered architect licensed by the State of New York.
3. The occupancy classification and commodity classifications shall be defined.
4. The Owner's Information Certificate shall be submitted per NFPA 13 Chapter 4.
5. Design and installation of a fire pump system shall be in compliance with NFPA 20 (2016 Edition) and manufacturer's specifications.
6. A permanently marked sign shall be posted for test valves, main drain, auxiliary drain, control valves (which area), main riser room or any other special function.

### 5. Plan Submittal Requirement Checklist

A typical fire sprinkler system plan submittal will include three (3) complete sets of the following items (A thru K). Check off completed items. Failure to provide the required information will result in the delay of your plan review.

#### A. Title Sheet which includes:

- Address of project.
- Name and Address of Owner.
- Name and Address of Tenant.
- Name and Address of Project Engineer and/or Architect.
- Name and Address of System Designer and/or Installing Contractor.

#### B. Scope of Work. Written narrative providing the intent and system type description.

#### C. Design Details, which includes:

- Standards used for the design of the system.
- Details on the occupancy type.
- Construction type.
- Building features such as combustible concealed spaces, floor openings, areas subject to freezing and areas from which it is intended to omit sprinkler protection
- Proposed location and approximate size, if a water supply employing pumps or tanks is contemplated.
- Tentative location of major piping, including mains underground, risers, overhead mains and fire department connections.
- Water supply source with pressure or elevation.

- Make, type, model and nominal K-factor of sprinklers including sprinkler identification number.
- Temperature rating and location of high-temperature sprinklers.
- Total area protected by each system on each floor.
- Number of sprinklers on each riser per floor.
- Total number of sprinklers on each dry pipe system, preaction system, combined dry pipe-preaction system or deluge system.
- Approximate capacity in gallons of each dry pipe system.
- Pipe type and schedule of wall thickness.
- Type of fittings and joints and location of all welds and bends. The contractor shall specify on drawing any sections to be shop welded and the type of fittings or formations to be used.
- Calculations of loads for sizing and details of sway bracing.
- Information about backflow preventers (manufacturer, size, type).
- Information about listed antifreeze solution used (type and amount).
- Size, location and piping arrangement of fire department connections.
- Ceiling/roof heights, slopes and construction not shown in the full height cross-section.

D. Floor Plan, which includes:

- Point of compass.
- Plans shall be drawn to an established scale.
- A graphic representation of the scale used on all plans.
- All rooms shall be labeled reflecting intended use.
- Floor or level identification.
- All walls, fire walls, doors and partitions.
- Omitted coverage areas - location and size of concealed spaces, closets, attics and bathrooms.
- Any small enclosures in which no sprinklers are to be installed.
- Nominal pipe size and cutting lengths of pipe (or center-to-center dimensions). Where typical branch lines prevail, it shall be necessary to size only one typical line.
- Location and size of riser nipples.
- Sprinkler head deflector distance from roof/floor structural member shall be indicated on plan.
- Type and locations of hangers, sleeves, braces and methods of securing sprinklers when applicable.
- All control valves, check valves, drain pipes and test connections.
- Make, type, model and size of alarm or dry pipe valve.
- Make, type, model and size of preaction or deluge valve.
- Type and location of alarm bells.
- Size and location of standpipe risers, hose outlets, hand hose, monitor nozzles and related equipment.
- Private fire service main sizes, lengths, locations, weights, materials, point of connection to city main; the sizes, types and location of valves, valve indicators, regulators, meters and valve pits.
- Piping provisions for flushing.
- For hydraulically designed systems, the information on the hydraulic data nameplate.

- Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets.
- The minimum rate of water application (density or flow or discharge pressure), the design area of water application, in-rack sprinkler demand, and the water required for hose streams both inside and outside.
- The total quantity of water and the pressure required noted at a common reference point for each system.
- Relative elevations of sprinklers, junction points, and supply or reference points.
- If room design method is used, all unprotected wall openings throughout the floor protected.
- Roof structural members, full height wall (to bottom of roof structural member), light fixture, mechanical duct wider than four feet or any obstruction that interferes with the sprinkler head discharge pattern shall be shown on plan.
- Details of ceiling height and construction.

E. Symbol List and Equipment Identification on Drawing, which includes:

- Symbols to be used on drawings.
- Symbol description.
- Model number and manufacturer's name.

F. Two (2) Sets of Manufacturer's Data Sheets on all system components and devices. Only new and nationally recognized testing agency sprinkler heads shall be used. If a submitted data sheet shows multiple devices, the exact device to be used is to be circled, highlighted or called out. Data sheets can be submitted electronically to [jamese@southoldtownny.gov](mailto:jamese@southoldtownny.gov).

G. Water Supply Information, which includes:

- Location and elevation of static and residual test gauge with relation to the riser reference point.
- Flow location.
- Static Pressure, psi (bar).
- Residual pressure, psi (bar).
- Flow, gpm (L/min)
- Date
- Time
- Name of Person who conducted the test or supplied the information.
- Other sources of water supply, with pressure or elevation.
- Water flow test conducted no more than 12 months prior to plan submittal determining water supply capacity at 20 psi residual.

H. Hydraulic Calculation Forms, which includes:

- Summary sheet
- Detailed worksheet
- Graph sheet
- Indicate the calculation method used: density area method or room design method.

- A minimum of a 10% safety margin below the available city main water supply is required.
- In accordance with the suggestion of the NFPA 13, a maximum flow velocity of 20 feet/second shall not be exceeded when providing calculation based on the Hazen-Williams formula.
- All hydraulic reference nodes shall be shown on plan including the underground portion with pipe size, length and control devices.

I. Sprinkler System Alarm Monitoring

- Sprinkler System Supervision and Alarms - Valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures and waterflow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit.
- Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved supervising station or, where approved by the fire code official, shall sound an audible signal at a constantly attended location.
- An approved audible device, located on the exterior of the building in an approved location, shall be connected to each automatic sprinkler system. Such sprinkler waterflow alarm device shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.
- Activation of the initiating device shall occur within 90 seconds of waterflow at the alarm-initiating device as required by NFPA 72 17.12.2.

J. Signage

- Hydraulic design information shall be provided on a permanently marked weatherproof metal or rigid plastic sign secured with corrosion-resistant wire chain or other approved means. This sign shall be located on the main riser.
- All signage shall be installed and displayed per NFPA 13, 13R, or 13D.

K. The installing contractor shall provide an adequate amount of spare sprinkler heads, wrench(s) and box(s), at the location of main riser or fire alarm control panel room.