

# **FIRE PROTECTION SIGNAGE REQUIREMENTS**



**City of Canandaigua  
Office of the Fire Marshal**

**February 2020**

# Fire Protection Signage Requirements

## Purpose

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To establish a procedure governing the uniformity of Fire Protection System Signage along with fire alarm system and sprinkler system zone maps. The purpose of these zone maps is to enable responding emergency personnel to identify the location of the emergency quickly and accurately and to indicate the status of emergency equipment or fire safety functions

## Scope

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To provide our customers a single point of reference for required signage related to fire protection systems and related equipment. This guide was established to ensure consistent zone maps from each fire alarm and sprinkler contractor and expedite emergency personnel operations.

## References

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2015 Fire Code of New York State - Section 509.1 / Section 605.3.1

**§509.1 Identification.** Fire protection equipment shall be identified in an approved manner. Rooms containing controls for air-conditioning systems, sprinkler risers and valves, or other fire detection, suppression or control elements shall be identified for the use of the fire department. Approved signs required to identify fire protection equipment and equipment location shall be constructed of durable materials, permanently installed and readily visible.

**§605.3.1 Labeling.** Doors into electrical control panel rooms shall be marked with a plainly visible and legible sign stating ELECTRICAL ROOM or similar approved wording. The disconnecting means for each service, feeder or branch circuit originating on a switchboard or panelboard shall be legibly and durably marked to indicate its purpose unless such purpose is clearly evident.

## Sign or decal?

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NFPA 13 is very specific about the physical design of signs that are required for certain areas. All valve signs, hydraulic design signs, and general information signs must be a “permanently marked weatherproof metal or rigid plastic identification signs secured with corrosion-resistant wire, chain, or other approved means.”

In addition, the sign showing the Fire Department Connection to the sprinkler must have “raised or engraved letters at least 1 in. (25 mm) in height on plate or fitting” that spell out the service design of the system. Beyond those specific signs, a fair interpretation of NFPA code is that any other markings can be decals, stickers, or placards, as long as they are durable and convey the necessary information.

## FACP / Fire Sprinkler Riser Map Location and Requirements

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A fire alarm/sprinkler zone map shall be provided next to the fire alarm control panel. These map(s) shall show what areas of the building are covered by the system(s) installed. Maps shall be accurate, legible and easily understood.

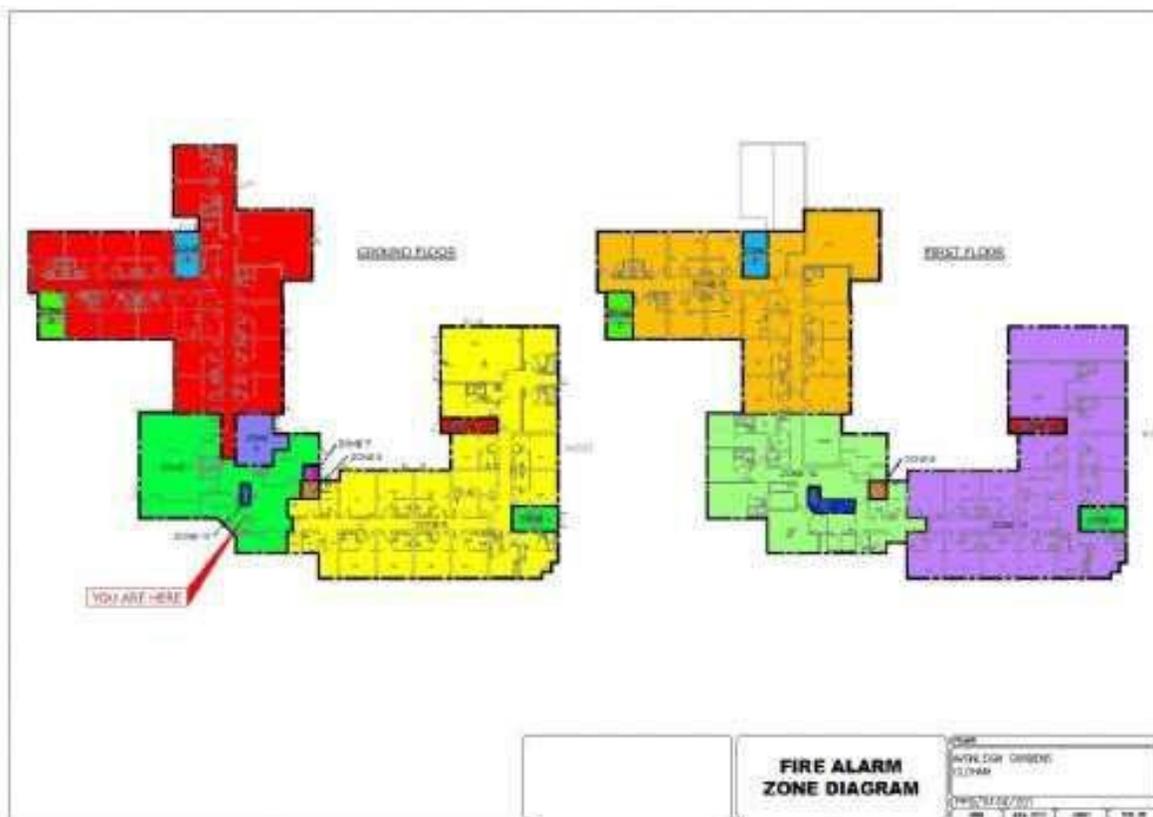
This sign shall be protected from damage/vandalism and shall be laminated or protected and permanently mounted on the wall in the FACP / Riser room.

When a building is equipped with multiple fire protection systems, a diagram indicating the location of all control valves, sprinkler risers and the area(s) protected by each riser shall be posted next to the fire alarm annunciator. The system number shall be stenciled on each riser with 3” high white numbers. (e.g.- inside a certificate holder).

When a building or system is modified, it is the responsibility of the contractor who made modifications to the system(s) to update these maps.

The following minimum items shall be included on the all FACP / Fire Sprinkler Zone map(s):

1. Name & Address of building or business
2. Date when FACP / Fire Sprinkler Zone map was installed
3. North arrow
4. You are here symbol to orient fire personnel with their location inside the building
5. Building layout
  - a. Stairwell identification
  - b. Location of fire-rated walls and their ratings
  - c. Knox Box location(s)
  - d. Room numbers / names (particularly electrical rooms, kitchens, break rooms and riser rooms), layout of major interior and exterior walls and area names (i.e. fabrication area, storage area, accounting area, etc...)
6. Fire alarm symbol legend
7. Segregation lines, hash marks or shading to show where one (1) zone stops and another zone begins. Fire alarm system notification zones should correlate with building smoke and fire zones. Not required on addressable FACP's.
8. Location of NAC panels
9. Point identification for each initiating device that matches what is shown on FACP and device.
10. Automatic Fire Sprinkler Information
  - a. Location of Fire Sprinkler Riser Room
  - b. Identification of all sprinkler zones
  - c. Standpipe outlets
  - d. Sprinkler control valves (Including PIV's and FDC's)
  - e. Water-flow alarm devices
  - f. Inspector's test valve(s)
  - g. Auxiliary drain(s)
11. Location of any Range hood suppression systems or Clean agent systems



## National Fire Protection Association – Chapter 13 – Section 6.7.4\* Identification of Valves

6.7.4.1 All control, drain, and test connection valves shall be provided with permanently marked weatherproof metal or rigid plastic identification signs.



For the system to work in an emergency, they must remain open – and missing signage that shows their location creates some very practical risks. NFPA states that closed valves are the primary cause of sprinkler failure during a fire; if a valve is shut off during testing or installation and a contractor fails to find and reopen it, the sprinkler won't perform.

If a fire has been controlled and the sprinklers need to be stopped to minimize water damage, it's essential to know where every control valve is located and what portion of the building it serves.

### Drain valve signs



A sign needs to identify the main drain valve assembly, which serves to drain water from the system and provides a way to measure water flow during the main drain test. Knowing where the system drains is essential for fire sprinklers that need to be taken out of service for any period of time (for testing or repair), or for systems that must be drained to avoid damage from water freezing in the pipes.

Section 8.16.2.5.3.7 Systems with low point drains shall have a sign at the dry pipe or preaction valve indicating the number of low point drains and the location of each individual drain.

Lack of providing this sign has caused numerous installing contractors to lose legal claims that were brought against them when systems experienced freeze damage. In one case, a maintenance crew drained all the low points that they saw but the system still experienced pipe damaged due to freezing. There were seven low points but two of them were not obvious. The low points were shown on the "as-built" drawings, but because the required signage was not provided, the installing contractor was still found liable.

### Test Connection Valve Signs



The inspector's test valve can be opened to simulate water flow through the sprinkler riser and out of the inspector's test connection. This test is used to make sure that the water flow alarm works, to test the opening of a dry-pipe or pre-action valve in those types of systems, or to simply assess how long it takes for water to arrive at an average sprinkler head at system working pressure.

The valve should be marked so that it can be easily found to conduct a test, as well as to make sure it is fully closed when not in use.

## Automatic Sprinkler Systems with Non-Fire Protection Connections



NFPA 13 Section 7.7.1.5.2 The caution sign shall be worded as follows: This valve controls fire protection equipment. Do not close until after fire has been extinguished. Use auxiliary valves when necessary to shut off supply to auxiliary equipment.

**CAUTION:** Automatic alarm can be sounded if this valve is closed

## Fire Department Connection

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NFPA 13 requires signs marking the fire department connections (FDC) connected to a sprinkler system, and they must include the following information: the service design of the FDC, which part of the building an FDC serves (if it serves only a portion), and “the pressure required at the inlets to deliver the greatest system demand” – if the system demand pressure is 150 psi or greater.



The Fire Department Connection Sign (FDC) will consist of 10-inch-high by 14-inch-wide, 2-inch high block letters a 0.5” letter stroke, red reflective letters on a white background, reading “FIRE DEPARTMENT CONNECTION, or FDC – DO NOT BLOCK” and shall be permanently attached above the fire department connection in a visible location approved by the Fire Marshal

FCNYS Section 912.4 Access. Immediate access to fire department connections shall be maintained at all times and without obstruction by fences, bushes, trees, walls or any other fixed or moveable object. Access to fire department connections shall be approved by the fire chief.

FCNYS Section 912.4.2 Clear space around connections. A working space of not less than 36 inches (914 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided and maintained in front of and to the sides of wall-mounted fire department connections and around the circumference of free-standing fire department connections, except as otherwise required or approved by the fire chief.



NFPA 13 – Section 8.17.2.4.5 Where a fire department connection services only a portion of a building, a sign shall be attached indicating the portions of the building served.

NFPA 13 – Section 8.17.2.4.7.1 Each fire department connection to sprinkler systems shall be designated by a sign having raised or engraved letters at least 1 in. (25 mm) in height on plate or fitting reading service design — for example, AUTOSPKR., OPEN SPKR., AND STANDPIPE.

NFPA 13 – Section 8.17.2.4.7.2 A sign shall also indicate the pressure required at the inlets to deliver the greatest system demand

NFPA 13 – Section 8.17.2.4.7.3 The sign required in 8.17.2.4.7.2 shall not be required where the system demand pressure is less than 150 psi (10.3 bar).

Signs may also distinguish FDCs from fire pump test headers. Usually, FDCs may be distinguished from fire pump test headers by the types of couplings provided. FDCs are customarily equipped with female couplings, while fire pump test headers usually have separately valved male couplings.

## Fire Alarm Control Panel

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“FIRE ALARM CONTROL PANEL” or “FACP”



Rooms containing the "Fire Alarm Control Panel" shall be provided signage a minimum of 7” high by 10” width with 2-inch high block letters a 0.5” letter stroke - white letters on a contrasting red background. and shall be permanently attached, at normal eye level to the door leading to the fire alarm control panel(s) unless otherwise approved by the Office of the Fire Marshal.

## Fire Sprinkler Riser Room

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### “SPRINKLER CONTROL ROOM”

Rooms containing the "Fire Sprinkler Control Equipment" shall be provided with signage which consist of 7” high by 10” width with a 0.5” letter stroke white reflective letters on a red background, and shall be permanently attached, at normal eye level to the door leading to the fire sprinkler control equipment unless otherwise approved by the Office of the Fire Marshal.

## Combined Fire Alarm & Sprinkler Control Room

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If the sprinkler riser/control valve and fire alarm control panel are in the same room, the sign should read “FIRE ALARM & SPRINKLER CONTROL ROOM” or “FACP & SPRINKLER CONTROL ROOM” be provided which consist of 7” high by 10” width with a 0.5” letter stroke white reflective letters on a red background, and shall be permanently attached, at normal eye level to the door leading to the fire sprinkler control equipment unless otherwise approved by the Office of the Fire Marshal.

## Fire Pumps and Piping

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Rooms containing the "Fire Pump Equipment" shall be provided with signage which consist of 7” high by 10” width with a 0.5” letter stroke white reflective letters on a red background, and shall be permanently attached, at normal eye level to the door leading to the fire pump equipment unless otherwise approved by the Office of the Fire Marshal.

## Hydraulic Placard

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A red placard form with white text and input fields. The title is "HYDRAULIC-SYSTEM". Below the title, it says "This Building is Protected by a Hydraulically Designed Automatic Sprinkler System". The form includes sections for "Location", "No. of Sprinklers", "Basis of Design" (with sub-sections for Density and Designed area of Discharge), "System Demand" (with sub-sections for GPM Discharge, Residual Pressure at the Base of the Riser, and Hose Stream Allowance), and a field for the name of the installing contractor.

<b>HYDRAULIC-SYSTEM</b>	
This Building is Protected by a Hydraulically Designed Automatic Sprinkler System	
Location	<input type="text"/>
No. of Sprinklers	<input type="text"/>
<b>Basis of Design</b>	
1. Density	<input type="text"/> GPM/SG. FT
2. Designed area of Discharge	<input type="text"/> SQ. FT
<b>System Demand</b>	
1. GPM Discharge	<input type="text"/> GPM
2. Residual Pressure at the Base of the Riser	<input type="text"/> PSI
3. Hose Stream Allowance	<input type="text"/> GPM
The name of the installing contractor	

The installing contractor shall identify a hydraulically designed sprinkler system with a permanently marked weatherproof metal or rigid plastic sign secured with corrosion-resistant wire, chain, or other approved means. Such signs shall be placed at the alarm valve, dry pipe valve, preaction valve, or deluge valve supplying the corresponding hydraulically designed area.

The sign shall include the following information:

Location of the design area or areas

Discharge densities over the design area or areas

Required flow and residual pressure demand at the base of the riser

Occupancy classification or commodity classification and maximum permitted storage height and configuration

Hose stream allowance included in addition to the sprinkler demand  
The name of the installing contractor

A supply of at least six spare sprinklers (never fewer than six) shall be maintained on the premises so that any sprinklers that have operated or been damaged in any way can be promptly replaced.

Fire "B" Gone 1111 N Fire Sprinkler Way, LV NV 89101

SIN #	Sprinkler Description	Orifice	Deflector	Temp	Pressure	Quantity	List Date
CL819C	GLOBE 8.1K QR REC	3/4"	PEN	155	175	14	01-2012
TY912B	TYCO 25.2K BR EC	1"	UPR	155	175	120	01-2012
K732C	RELIABLE 11.2K BR EC	3/4"	UPR	155	175	10	01-2012
V0007	VICTAULIC 8.1K BR DRY	1"	PEN	200	175	25	01-2012

FIRE PROTECTION SYSTEMS INC.  
1234 HYDRO WAY LV,NV 89101

A list of the sprinklers installed in the property shall be posted in the sprinkler cabinet.

The list shall include the following:

Sprinkler Identification Number (SIN) if equipped; or the manufacturer, model, orifice, deflector type, thermal sensitivity, and pressure rating

General description

Quantity of each type to be contained in the cabinet Issue or revision date of the list

General Information Sign

NFPA 13 Section 25.6

The installing contractor shall provide a general information sign used to determine system design basis and information relevant to the inspection, testing, and maintenance requirements required by NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.

Such general information shall be provided with a permanently marked weatherproof metal or rigid plastic sign, secured with corrosion-resistant wire, chain, or other acceptable means. Such signs shall be placed at each system control riser, antifreeze loop, and auxiliary system control valve.

**GENERAL INFORMATION SIGN**

NAME: Somewhere in town  
 ADDRESS: 10000 SOMEWHERE, LV, NV 89101  
 HIGH PILED STORAGE PRESENT: Yes x: Double Row Racks  
 MAXIMUM HEIGHT OF STORAGE PLANNED: 26'-0"  
 AISLE WIDTH PLANNED: No  
 ENCAPSULATION: No  
 PRESENCE OF SOLID SHELVES: Yes  
 PRESENCE OF FLAMMABLE/COMBUSTIBLE LIQUIDS: No  
 PRESENCE OF HAZARDOUS MATERIALS: Yes. Level 3 Aerosols  
 PRESENCE OF OTHER SPECIAL STORAGE: None Exist  
 AUXILIARY/LOW POINT DRAIN LOCATIONS: None Exist  
 ORIGINAL MAIN DRAIN TEST: Static P: 80 PSI Residual P: 70PSI  
 REQUIRED SPRINKLER CLEARANCE: 36 inches  
 ANTIFREEZE SYSTEM OR AUXILIARY VALVES: No  
 INSTALLING CONTRACTOR: Joes sprinkler emporium

The sign shall include the following information:

- Name and location of the facility protected
- Presence of high-piled and/or rack storage
- Maximum height of storage planned
- Aisle width planned
- Commodity classification
- Encapsulation of pallet loads
- Presence of solid shelving
- Flow test data
- Presence of flammable/combustible liquids
- Presence of hazardous materials
- Presence of other special storage
- Location of auxiliary drains and low point drains
- Original results of main drain flow test
- Name of installing contractor or designer
- Indication of presence / location of antifreeze or other auxiliary systems

## Electrical Control Panel Rooms



Doors into electrical control panel rooms shall be provided with a plainly visible and legible sign stating **ELECTRICAL ROOM** which consist of 7" high by 10" width with a 0.5" letter stroke white reflective letters on a red background, and shall be permanently attached, at normal eye level to the door leading to the fire pump equipment unless otherwise approved by the Office of the Fire Marshal.

## Mechanical Equipment Rooms



Doors into Mechanical Equipment rooms shall be provided with a plainly visible and legible sign stating **MECHANICAL ROOM** which consist of 7" high by 10" width with a 0.5" letter stroke white reflective letters on a red background, and shall be permanently attached, at normal eye level to the door leading to the fire pump equipment unless otherwise approved by the Office of the Fire Marshal

## Roof Top Units



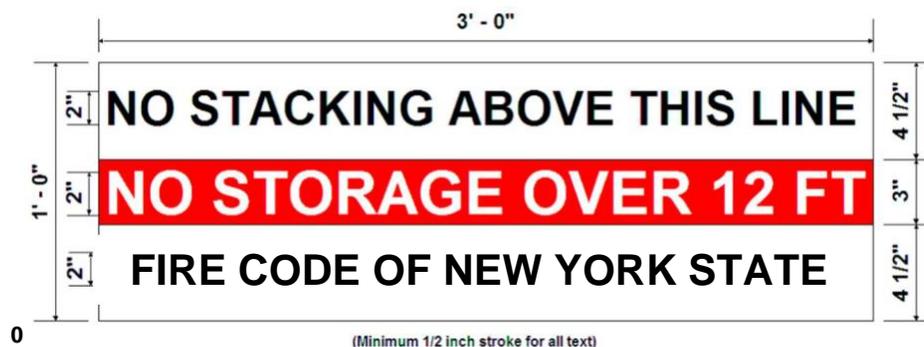
Roof top air handling units of each building shall display a 4" high minimum sign or label which consist of white reflective letters on a red background, and shall be permanently attached, at normal eye level on the roof top or air handling unit. The numbering of these units shall correspond with the FACP address.

Example supervisory duct smoke address. "AHU -1 / RTU-1 / MAU -1".

The purpose labeling these units is to assist and provide rapid identification for emergency response personnel.

## Storage Signage

A minimum of 1 foot by 3 feet permanent sign(s) of durable materials such as metal or plastic, shall be placed on the ends of each racks to indicate "MAX. STORAGE HEIGHT XX FEET" and "NO STORAGE ABOVE THIS LINE", wording in 2-inch black letters with at least a 1/2-inch stroke on a white background. For racks and areas in which a wall is not adjacent to the storage array. Signs shall be 12 in. x 12 in. with 2 in. lettering. Within a 3-inch-wide red stripe the full width of the sign, the maximum height permitted shall be stated in 2-inch white letters with at least a 1/2 inch stoke. All graphics shall be printed on the sign, or otherwise permanently affixed to the sign. See Figure below for signage specifications.



## Storage Striping

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An acceptable alternative to signage is striping. The striping shall consist of a 3-inch solid red stripe running the entire perimeter of the racking or area. Within this red stripe white wording, the maximum height permitted shall be stated in 2-inch white letters with at least a 1/2 inch stroke.



Wording shall be spaced at 50-foot intervals as measured from end of wording to start of wording as depicted in Figure below.

