



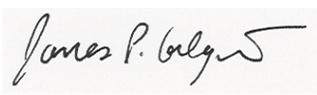
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## BUILDINGS BULLETIN 2010-029

### Technical

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**Supersedes:** None

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Assistant Commissioner for Technical Affairs and Code Development

**Issuance Date:** December 21, 2010

**Purpose:** This document clarifies the installation standards to be utilized when an existing automatic sprinkler system, that was designed and approved under the 1968 building code or prior codes, is to be altered.

<b>Related Code/Zoning Section(s):</b>	AC 28-101.4.3	BC 905.4	BC Q104
	AC 28-101.5	BC Q102	
	BC 903	BC Q103	

**Subject(s):** Sprinkler systems, limited sprinkler alteration; Sprinkler systems, alteration; Sprinkler systems, replacement; Change of use or occupancy, sprinkler systems; Enlargement, sprinkler systems; Addition, sprinkler systems; Fire protection, automatic sprinkler systems; Existing buildings, sprinkler systems; Sprinkler systems, exiting buildings; Standpipe systems, limited standpipe alteration; Standpipe systems, alteration; Fire protection, standpipe systems; Existing buildings, standpipe systems; Standpipe systems, existing buildings.

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An application for an Alteration Work Permit or a Limited Alteration Application (“LAA”) must be filed for any work involving an existing automatic sprinkler system or standpipe system, including in-kind replacement of parts to maintain it in working order. For the purposes of this bulletin, an “existing building” and an “existing sprinkler system” shall mean a building and a sprinkler system lawfully constructed pursuant to the 1968 Building Code or prior codes.

### I. LAA Applications

Work involving sprinkler systems or standpipe systems that constitute a “LIMITED SPRINKLER ALTERATION” or “LIMITED STANDPIPE ALTERATION” as defined in section AC 28-101.5 of the 2008 NYC Construction Codes and filed as a LAA application must comply with the 2008 NYC Construction Codes. Where compliance with the 2008 NYC Construction Codes is impracticable, an application for a work permit shall be submitted in accordance with section II or III of this bulletin.

## II. Automatic sprinkler system work requiring an alteration permit

1. An existing automatic sprinkler system affected by the scope of work shall comply with the following:

### a. System components.

- i) Newly installed components, including sprinkler heads, valves, and piping, shall comply with the 2008 NYC Construction Codes and shall be permitted to interconnect with the existing standpipe and sprinkler system.
- ii) Existing functional components not affected by the scope of work shall be permitted to remain.

### b. Sprinkler head locations.

- i) Sprinkler heads installed on new piping shall comply with the requirements of section BC 903 and Appendix Q as required for new construction.
- ii) Replacement sprinkler heads may be installed in the existing locations provided such sprinkler heads comply with the requirements for the component as per Appendix Q.
- iii) Existing functional sprinkler heads not affected by the scope of work shall be permitted to remain.

c. **Water supply.** The water supply demand for the entire system shall be calculated in accordance with the 2008 NYC Construction Codes and shall include the demand incurred by any new sprinkler system components and any existing functional components that are to remain. The existing water supply shall be permitted to remain provided that the newly calculated sprinkler system water supply demand does not exceed the existing system water supply capacity.

*Exception:* Where the existing sprinkler system water supply demand is calculated by taking the reduction in size of the calculated remote area of operation as permitted by NFPA 13 – 2002, §11.2.3.2.3 (as modified by Appendix Q), and such system is supplied by a fixed duration water supply (e.g. gravity tank, pressure tank or pump taking suction from a tank) of less than 5,000 gallons, a supplemental water supply demand calculation shall be made by using the Design/Area Method allowed in §11.2.3.2 or the Room Design Method allowed by §11.2.3.3, without taking the area reduction allowed by §11.2.3.2.3.

i) **Existing water supply insufficient to meet newly calculated demand.** Where the newly calculated water supply demand exceeds the existing system water supply capacity, the existing water supply shall be modified to provide the newly required sprinkler system demand. Where the addition or modification of water reserve tanks is impracticable, the Commissioner may authorize a reduction of storage to a 20-minute duration in light hazard occupancies only, and without taking the reduction in size of the calculated remote area of operation as described in the exception to paragraph (c) above, provided that mechanical automatic means of makeup to the storage tank are installed in accordance with the following:

1. Automatic means of makeup for a tank fire reserve shall be capable of pumping water into the tank at a rate, for a period of 20-minutes, sufficient to equal the difference between the normal 30-minute demand and the alternate 20-minute demand. The demand required shall be calculated for the most demanding remote area from the riser without taking the reduction in size of the remote area otherwise permitted by NFPA 13-2002, §11.2.3.2.3 (as modified by Appendix Q); and
2. Where the domestic water house pumps are used for makeup, at least two pumps, each of sufficient capacity to meet the makeup requirement, shall be provided; and
3. A low water alarm, listed for its use, shall be located at a point 500 gallons above the fire level reserve.

**d. Emergency power requirements for fire pumps.**

1. In an existing building equipped with an emergency power system, new or replacement fire pumps shall be connected to the emergency power system where Chapter 27 of the 2008 Building Code requires fire pumps to be connected to the emergency power system.
2. In an existing building not equipped with an emergency power system, a new emergency power system shall be installed to supply power to any fire pump required by Chapter 27 of the 2008 Building Code to be connected to the emergency power system.

*Exceptions:*

1. Where the scope of alteration does not involve a change in the main use or dominant occupancy of the building, a newly installed emergency power system is not required provided that electrical power to the motor is taken ahead of the main from the street side of the house service switch.
2. Where the scope of alterations does not include modifications to an existing fire pump, a newly installed emergency power system shall not be required.
3. Where the scope of alterations includes the replacement of an existing fire pump with a new fire pump of the same capacity, a newly installed emergency power system shall not be required.

**III. Standpipe system work requiring an alteration permit.**

1. **Existing standpipe systems.** An existing standpipe system affected by the scope of work shall comply with this section. All new system components added through the course of alteration, repair or maintenance shall comply with the 2008 NYC Construction Codes. Existing functional components not affected by the scope of work shall be permitted to remain.
  - a) **Buildings with occupied floors located more than 300 feet above fire apparatus access.** In existing buildings with occupied floors located more than 300 feet above the lowest level of fire department vehicle access, compliance with §7.9.4.2.1 or §7.9.4.3 of NFPA 14-03 (as modified by Appendix Q) shall not be required provided that the existing standpipe system is already equipped with a manual fire pump and the requirements for the location of standpipe hose connections as per section BC 905.4, Item 6 are satisfied.
2. **Newly constructed stair shafts.** A newly constructed required exit stair shaft shall be equipped with a standpipe in accordance with the 2008 NYC Construction Codes.
  - a) **Single story enlargements.** Where the alteration involves the addition of a single story to an existing building with an existing standpipe system, and one or more stair shafts are not equipped with standpipes, the installation of standpipes to such stair shafts shall not be required provided the requirements of the location of standpipe hose connections as per section BC 905.4, Item 6, are satisfied and the demand on the standpipe system with respect to flow and pressure does not exceed the capacity of the existing approved system. Where the alteration involves the addition of a single story to an existing building without an existing standpipe system, the installation of standpipes shall not be required.