



# CITY OF PHILADELPHIA FIRE DEPARTMENT

240 SPRING GARDEN STREET, PHILADELPHIA, PA 19123-2991

LLOYD AYERS  
FIRE COMMISSIONER

(215) 686-1300  
FAX (215) 922-3952

## **Philadelphia Fire Code 2004 - Standpipe System Requirements for Existing Buildings**

The 2004 Philadelphia Fire Code (Fire Code), which took effect on 1/1/04, requires standpipe systems in existing buildings to meet new requirements. The requirements are listed in Section 905.11 of the Fire Code and are paraphrased below. Compliance is required within three years of the effective date of the Fire Code, with written approval from the Fire Department's Fire Code Unit (215-686-1356).

### **Buildings Requiring Standpipe Systems**

Existing buildings with occupied floors located more than 50 feet above or below the lowest level of fire department vehicle access are required to have Class I standpipe systems. New installations are required to be installed in accordance with F-905 and NFPA 14 (F-905.11, 905.2 and 905.4).

### **Type of System, Minimum Flow and Pressure**

Class I standpipe systems are required to be automatic wet systems and provide a minimum pressure of 100 pounds per square inch (psi) at the top or most remote hose outlet, while flowing 500 gallons per minute (gpm) for the first riser and 250 gpm for additional risers, except as permitted below (F-905.11, F-905.3.1, F-905.8 and NFPA 14-3.4.1, 14-3.5 and 14-5-9.1.1).

1. In existing buildings having the highest occupied floors located not more than 75 feet above the lowest level of fire department vehicle access, Class I standpipe systems are permitted to be manual wet systems.
2. Class I standpipe systems installed prior to January 1, 1995, that provide a residual pressure of 65 psi or greater at the highest hose outlet are exempt from the requirement to provide a residual pressure of 100 psi at the highest hose outlet.
3. Class I standpipe systems with a residual pressure of less than 100 psi at the topmost hose outlet are permitted where:
  - 3.1 The building existed prior to the effective date of this code;
  - 3.2 The building is equipped throughout with an automatic sprinkler system; and
  - 3.3 The highest floor level is not more than 150 feet above the lowest level of fire department vehicle access.
4. Class I manual wet standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet above the lowest level of fire department vehicle access.
5. Where subject to freezing temperatures, standpipe systems are permitted to be automatic dry or semiautomatic dry systems.

### **Location of Hose Outlets**

Hose outlets are required in the following areas (F-905.4):

1. On each floor level in required exit stairways.  
New installations shall be located at intermediate floor landing  
Existing installations can be located at floor landings or intermediate floor landings.
2. On each side of the wall of a horizontal exit.
3. In exit passageways to other areas of a building.

4. On roofs with a slope of less than 33.3 percent or at the highest landing of stairways accessing a roof.
5. Where the most remote portion of a nonsprinklered floor is more than 150 feet from a hose connection or where the most remote portion of a sprinklered floor is more than 200 feet from a hose connection, the fire code official is authorized to require additional hose connections be installed.

#### **Type of Hose Outlets**

Hose outlets are required to be 2-1/2 inch male National Hose standard thread connections (F-905.4). Pressure regulating hose valves are required on other than manual systems where the static or residual pressure exceeds 175 psi (F-905.2.1).

#### **Risers and Drain Risers**

New and existing standpipes are required to be at least four inches in diameter (NFPA 14-5-6.1). New standpipe installations are required to have a three-inch drain riser adjacent to each standpipe that is equipped with a pressure-regulating or pressure-restricting device to facilitate tests of each device (NFPA 14-5.11.1).

#### **Interconnection of Risers**

All standpipes are required to be interconnected (F-905.4.2).

#### **Fire Department Connections and Signs**

##### **Connections**

Standpipe systems are required to have at least one fire department connection. High-rise buildings, for new installations, are required to have two remotely located fire department connections for each zone. Where one connection exists on a high-rise building, a second is not required (F-912.1.1 and NFPA 14-5-12.2).

Fire department connections newly installed are required to be within 100 feet of a fire hydrant. Newly installed fire department connections are permitted to exceed 100 feet from a fire hydrant, subject to approval of the location by the Fire Department (NFPA 14-4-3.5.4).

Connections are required to have a minimum of two 2-1/2 inch internal thread (female) swivel fittings having National Hose standard threads with caps (F-912.1.1).

##### **Signs**

Fire department connections are required to be visible from the street by approaching fire vehicles. Where an existing connection is not visible from the street, a sign shall be installed at the street indicating the location of the connection. Signs are subject to the approval of the Fire Department (F-912.2.2).

A durable, weather-resistant sign is required at each fire department connection indicating the type of system. Where standpipes risers are not interconnected, the sign must indicate in which exit stairway the standpipe riser is located that the connection feeds (F-912.4).

RB:StandpipesExistingBldgsPFC04