

Virginia Statewide Fire Prevention Code - 2009 Edition

Addressing of Property:

505.1 Address identification. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 0.5 inch. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.

505.2 Street or road signs. Streets and roads shall be identified with approved signs. Temporary signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles. Signs shall be of an approved size, weather resistant and be maintained until replaced by permanent signs.

Building Access Roads:

503.1.1 Buildings and facilities. Approved access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet of all portions of the facility or any portion of the exterior wall of the first story of the building.

503.2.1 Dimensions. Fire apparatus access road shall have an unobstructed width of not less than 20 feet, and an unobstructed vertical clearance of not less than 13 feet 6 inches.

503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.

503.2.5 – Dead ends. Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved area for turning around fire apparatus. Examples of approved turnarounds are located on page 6.

503.2.7 Grade. The grade of the fire apparatus access road shall be within the limits established by the fire code official based on fire departments apparatus. The Waynesboro Fire Department limit is set to not exceed 10 percent in grade.

Water Supply:

507.1 Required water supply. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into.

507.5.1 – Where required. Fire hydrant systems shall be located and installed as directed by the fire department. Fire hydrant systems shall conform to the written standards of the jurisdiction and the fire department. All hydrants will be equipped with (2) 2½ inch national standard thread connections, (1) 5-inch Stortz® connection (approved by fire department), a 5¼ inch main valve, and with a minimum flow of 1,000 gallons per minute.

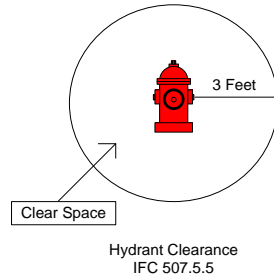
City detail: <http://www.waynesboro.va.us/pw/standarddetails/W-3.pdf>.

Additionally, use city detail: <http://www.waynesboro.va.us/pw/standarddetails/W-21.pdf>.

Fire hydrant distribution pertaining to single and two family dwellings, the Waynesboro Fire Department requires that two fire hydrants will be within 500 feet. Triplex or larger residential units (apartments, condominiums, etc.), commercial, factory, etc. types of structures are evaluated on a per structure basis. The fire flow for these structures and hydrant distribution are contained in the fire Suppression Rating Schedule as established by the Insurance Services Office, Inc.

507.5.4 – Obstruction. Unobstructed access to fire hydrants shall be maintained at all times. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

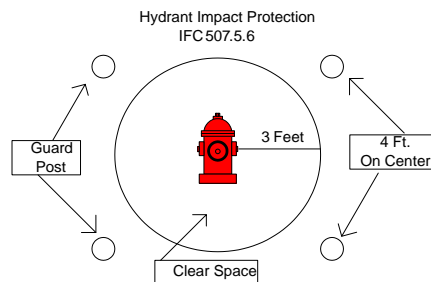
507.5.5 – Clear space around hydrants. A 3-foot clear space shall be maintained around the circumference of fire hydrants except as otherwise required or approved.



507.5.6 Physical protection. Where fire hydrants are subject to impact by a motor vehicle, guard posts or other approved means shall comply with Section 312.

312.2 Posts. Guard posts shall comply with all of the following requirements:

1. Constructed of steel not less than 4 inches in diameter and concrete filled.
2. Spaced not more than 4 feet between posts on center.
3. Set not less than 3 feet deep in a concrete footing of not less than a 15-inch diameter.
4. Set with the top of the post not less than 3 feet above ground.
5. Located not less than 3 feet from the protected object.



Key Boxes and Locks:

506.1 Key Boxes. Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the code official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type listed in accordance with UL 1037 and shall contain keys to gain access as required by the fire code official.

506.1.1 Locks. An approved lock (Knox® Lock) shall be installed on gates or similar barriers when required by the fire code official.

506.2 Key Box Maintenance. The operator of the building shall immediately notify the fire code official and provide the new key when a lock is changed or rekeyed. The key to such lock shall be secured in the key box.

Knox® Box installation notes: **The key box needs to be within 6 feet horizontally (left or right side) of the front door and between 3 to 5 feet vertically.**

Fire Department Connections, Sprinkler, and Standpipe Systems:

903.3.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Section 903.3.1.1.1.

903.3.6 Hose Threads. Fire hose thread and fittings used in connection with automatic sprinkler systems shall be as prescribed by the fire code official.

903.3.7 Fire department connections. The location of fire department connections shall be approved by the fire code official.

903.4.2 Alarms. Approved audible devices shall be connected to every automatic sprinkler system. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Alarm devices shall be provided on the exterior of the building in an approved location. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system. As noted on drawing “signage and annunciator”.

912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections shall be approved by the fire chief.

912.2.1 Visible location. Fire department connections shall be located on the street side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access or as otherwise approved by the fire chief.

912.2.2 Existing buildings. On existing buildings, wherever the fire department connection is not visible to approaching fire apparatus, the fire department connection shall be indicated by an approved sign mounted on the street front or on the side of the building. Such sign shall have the letters “FDC” at least 6 inches high and words in letters at least 2 inches high or an arrow to indicate the location. All such signs shall be subject to approval of the fire code official.

912.3 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.

912.3.2 Clear space around connections. A working space of not less than 36 inches in width, 36 inches in depth and 78 inches 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.

912.3.3 Physical protection. Where fire department connections are subject to impact by a motor vehicle, vehicle impact protection shall be provided in accordance with Section 312.

912.4 Signs. A metal sign with raised letters at least 1 inch (25 mm) in size shall be mounted on all fire department connections serving automatic sprinklers, standpipe or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable. This is for the ring around the given system.

NFPA 13 R – 2010 Edition

9.2 The water supply shall be capable of supplying the system demand for at least 30 minutes.

NFPA 14 – 2010 Edition

6.4.5.4 Fire department connections shall be located not more than 100 ft. from the nearest fire hydrant connected to an approved water supply.

NFPA 24 – 2010 Edition

5.9.2.4 The use of threadless couplings shall be permitted where required by the authority having jurisdiction and where listed for such use. The fire department requires 5 inch Stortz® connections on fire hydrants, sprinkler, and standpipe systems. Sprinkler and standpipe systems will additionally be equipped with a 30° turndown and a blind cap tethered to the system. The connection shall be installed no less than 36 inches nor higher than 42 inches above finished grade as shown on drawing “signage and annunciator”.

5.9.5.1 Fire department connections shall be located at the nearest point of fire department apparatus accessibility or at a location approved by the authority having jurisdiction.

5.9.5.2 Fire department connections shall be located and arranged so that hose lines can be attached to the inlets without interference.

5.9.5.3 Each fire department connection shall be designated by a sign as follows:

1. The sign shall have raised or engraved letters at least 1 in. in height on a plate or fitting.
2. The sign shall indicate the type of system for which the connection is intended.
3. This is for the ring around the given system.

5.9.5.4 Where the system demand pressure exceeds 150 psi, the sign required by 5.9.5.3 shall indicate the required design pressure.

5.9.5.5 Where a fire department connection only supplies a portion(s) of the building, a sign shall be attached to indicate the portion(s) of the building supplied.

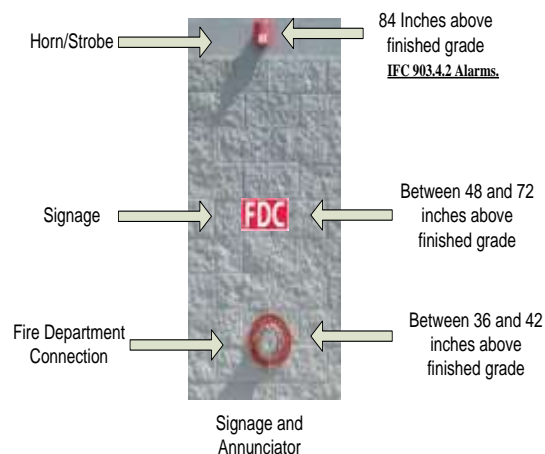
If a standalone fire department connection is used rather than a wall-mount, for instance on a parking lot island or along a street, the FDC sign shall be posted on a post not blocking the connection.

Fire Department Connection Signage:

- Sign will be red metal with white reflective letters
- Sign will be 7 H x 14 W inches
- The letters will be 6 inch in height and have a 1 inch letter stroke and state FDC as noted on drawing “signage and annunciator”
- The sign will be between 48 and 72 inches above finished grade
- Sign shall be approved by the fire department.

Fire Department Connection Annunciator:

- All fire department connections will be required to have a horn/strobe annunciator located on the outside of the building as shown on drawing “signage and annunciator”
- The annunciator shall activate upon water flow within the automatic sprinkler system
- The annunciator shall be mounted 84 Inches above finished grade.



Apparatus Specifications:

Engine 10 – 1999 Sutphen Rescue Pumper

Length = 29.9'
Wheel Base = 170"
Turning Radius = 78'
Cramp Angle = 40⁰

Tower 1 – 1990 Grumman Aerial Cat

Length = 43.8'
Wheel Base = 236"
Turning Radius = 90'
Cramp Angle = Undetermined

Engine 12 – 2003 Pierce Rescue Pumper

Length = 35'
Wheel Base = 222"
Turning Radius = 70'
Cramp Angle = 45⁰

