

## Fire Hydrants

Fire hydrants shall be installed in accordance with requirements of the Rockingham County Fire Prevention code and this design standard. Any reference to distance shall be measured along an approved path of travel for fire apparatus operating at the site. An approved path of travel for the laying of hose lines shall not be across a four-lane roadway. In order to receive credit for existing hydrant they must be brought into compliance with this standard

### General Requirements

- Fire hydrants shall be equipped with one 4 1/2 inch and two 2 1/2 inch connections. All threads shall be NST.
- The minimum size water line used for fire protection to properties zoned agricultural or single family residential shall be 6 inches in size. The minimum size water line used for fire protection in all other areas shall be 8 inches in size.
- The minimum sized fire service lines above shall be looped to provide feed from at least two directions.
- Not more than one fire hydrant shall be installed on a 6 inch dead line.
- Dead end lines shall not contain more than 600 feet of the minimum sized line.
- All new hydrants installed shall be designed to provide a minimum flow of 1,000 gpm.
- No fire hydrant shall be placed closer than 50 feet from the face or overhang of any building to be protected.
- A 3 foot clear space shall be maintained around the circumference of fire hydrants.
- All new fire hydrants shall be flow tested in accordance with American Water Works Association, manual 17, Chapter 6. Test results shall be provided to this office.
- Clear space around hydrants. A 3-foot clear space shall be maintained around the circumference of fire hydrants except as otherwise required or approved. (See Fig. 508.5.5)

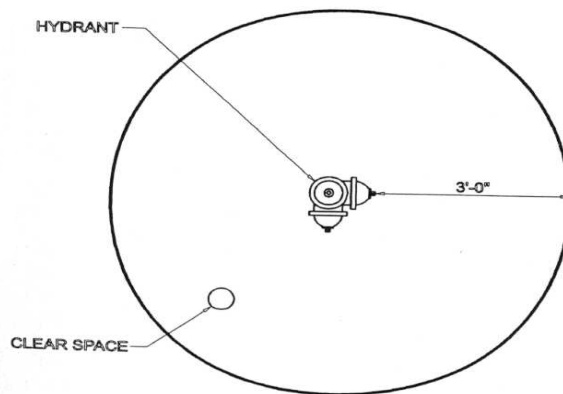


FIGURE 508.5.5  
HYDRANT CLEARANCE

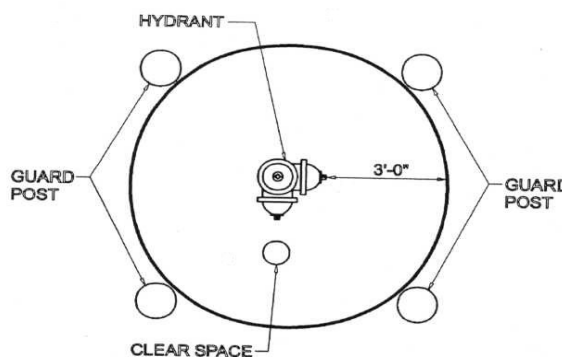


FIGURE 508.5.6  
HYDRANT IMPACT PROTECTION

- Physical protection. Where fire hydrants are subject to impact by a motor vehicle, guard posts or other approved means, (See Fig. 508.5.6)
- Guard Posts shall comply with all of the following requirements
  - 1 Constructed of steel not less than 4 inches (102 mm) in diameter and concrete filled.
  - 2 Spaced not more than 4 feet (1219 mm) between posts on center
  - 3 Set not less than 3 feet (914 mm) deep in a concrete footing of not less than a 15-inch (381 mm) diameter.
  - 4 Set with the top of the posts not less than 3 feet (914 mm) above ground.
  - 5 Located not less than 3 feet (914 mm) from the protected object.

## Marking of Fire Hydrants

Fire hydrants shall be painted in the following manner:

- 1 Hydrant bonnet and caps shall be color coded to indicate hydrant flow (DeVoe's safety paint or equivalent \*)
  - A Rate capacity of 1,500 gpm or greater: light blue (# 58108)
  - B Rated capacity of 1,000 to 1,499 gpm: green (#58111)
  - C Rated capacity of 500 to 999 gpm: orange (# 58172)
  - D Rated capacity less than 500 gpm: red (#58106)
- 2 Hydrant barrels shall be painted silver.
- 3 Hydrants shall be marked with a reflective collar, located below the bonnet, and above the connections. Collar shall be of a type approved by the Fire Marshal's Office.
- 4 Hydrants installed on a private fire main, supported by a fire pump shall have the above color scheme reversed. (i.e. barrel color shall indicate the available water flow, caps, and bonnet shall be painted silver.

\* Chip numbers for DeVoe paint are listed above.

### Hydrant Spacing Along Streets

- A fire hydrant shall be installed at each intersection
- In residential areas intermediate hydrants shall be provided between intersection so that the distance between hydrants does not exceed 600 feet
- In business, industrial or commercial areas intermediate hydrants shall be provided between intersections so that the distance between hydrants does not exceed 300 feet
- When possible these intermediate hydrants shall be installed along a lot separation line

## Site Fire Hydrants

Fire flow shall be calculated for each structure using ISO's Needed Fire Flow formula. Fire hydrants shall be provided to meet the calculated fire flow. Fire flow credit will be at the following rate:

- 1000 GPM maximum credit for hydrants within 300 feet of structure
- 670 GPM maximum credit for hydrants 301 to 600 feet of structure
- 250 GPM maximum credit for hydrants 601 to 1000 feet of structure
- No credit toward required fire flow shall be given for hydrants greater than 1000 feet from the structure. When evaluating existing hydrants to meet fire flow requirements, no credit will be given for any hydrant with a flow of 500 gpm or less

Fire hydrants shall be provided to within 300 feet of all portions of the facility or building as measured along an approved route around the exterior of the facility or building

No fire hydrant shall be placed closer than 50 feet from the face or overhang of any building to be protected

Where feasible, fire hydrants shall be located on the building side of roadways, streets, fire access roads or fire lanes

When determining the location of hydrants in close proximity to the building, consideration should be given to placing the hydrants outside the building's collapse zone.

Fire hydrants located in parking areas shall be installed in an island to ensure quick and easy access for fire apparatus attempting to utilize the hydrant

Structures protected by automatic sprinkler systems, or equipped with a fire department standpipe shall have a dedicated fire hydrant for the fire department connection located within 50 feet of the fire department connection. This fire hydrant shall be located along a fire access road or fire lane. This dedicated hydrant is not credited towards meeting the fire flow requirement

Where fire hydrants are subject to impact, guard posts or other approved means of protection shall be provided

Posts, fences, trash, storage, dumpsters, landscaping and other materials or objects shall not be placed or kept near fire hydrants, fire department inlet connections, fire department connections or fire protection system control valves in a manner that would prevent such equipment from being immediately discernible or that would prevent immediate access by the fire department



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# Standard for Installation of Fire Hydrants



**Rockingham County  
Department of Fire  
& Rescue**

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