

# Henrico Fire

## Plan of Development Review Guidelines

All Plans of Development (POD'S) reviewed regarding businesses or subdivisions (including multi-family or single family) are examined and / or reviewed with a “*what if scenario*” that the Division of Fire must employ. This method is necessary based upon the overall mission of our organization. This process helps to promote the safety of the Occupants during an emergency while assisting our efforts in preventing loss of a Structure to fire.

The Office of the Fire Marshal works in close conjunction with the Departments of Public Utilities, Planning, Public Works and Building Official's Office on all Projects where the design, layout or site maybe of concern in firefighting efforts.

Of special concern in our review procedures are;

- ♦ **Fire hydrants** – adequacy of hydrants, access to, location of, water main size.
- ♦ **Use groups** – manufacturing, high hazard, public assembly. (What will be in this structure and what are the dangers?)
- ♦ **Built in features** – Sprinklered structures, standpipes, and fire alarm systems for occupants.

The attached sheet outlines the major comments in our review process. Explanations of the comments are as follows:

1. Provide ISO calculations for all structures planned, based on 1981 rating schedule.

*The ISO calculations (rounded up to the next 250 gpm) form the basis for determining the number of fire hydrants needed to adequately protect a building from destruction by fire.*

2. Provide hydrants to satisfy needed fire flow as established by the ISO requirements. The following GPM credits, as per ISO Standards, will apply. Hydrant within 300 feet of structure = 1000 GPM; 301 to 600 feet = 670 GPM; Over 600 feet = 250 GPM.

*This standard allows for the incorporation of friction loss through fire hose as it travels from a hydrant to a fire truck at a fire scene. The pressure available at a fire hydrant is reduced as it travels through hose to the fire truck.*

3. Hydrants must be within a 350-foot hose lay of the building circumference, a minimum of 50 foot from the structure wall and accessible to emergency equipment.

*This standard simply states that from any single point around the structure, there should be no hose lay of greater than 350 feet. This measurement is derived from the way fire apparatus would approach the structure using existing roadways. The 50-foot standard is an attempt to get the hose outside of the collapse zone of most structures.*

4. Hydrants must be between 1 foot and 7 feet from the curb line and have the 4-inch opening facing the street, unless otherwise instructed.

*All fire trucks carry a short section of hose approximately 12 to 15 feet long to make hydrant connections. A one to seven foot offset from the curb line allows the contractor some flexibility in fire hydrant placement while keeping the hydrant well positioned for fire division utilization. We also want the large discharge cap facing the street so additional lengths of hose are not required to make the connection.*

5. All structures must be accessible to emergency equipment. A minimum of 20 feet of roadway width is required.

*We prefer access to all sides of any structure, however we realize that is not always practical. We seek access to three sides and occasionally accept two depending on occupancy of structure. Access limited to one side of a building is not acceptable as an adequate fire protection feature. If a roadway is one-way, we accept 20 feet of roadway width. If travel is two-way, we desire 24 feet or more of roadway width. NOTE: A ladder truck requires 18 feet, 6 inches to set up for ladder operations.*

6. If railway delivery is part of operations, fire department access by a 20-foot roadway must be provided to that area of the property.

*This is a fire lane to the railway operation.*

7. Relocate hydrants as shown on the plans.

*We use this section if we relocate the location of fire hydrants on any plans we review.*

8. Provide dedicated hydrant to serve as a supply for the FD connection. FD connection should be remote from the building and within 50-ft of the dedicated hydrant.

*Any building that is protected by a fire sprinkler system having a system siamese connection requires one fire hydrant to serve as a supply hydrant. It is in addition to those required by the ISO requirements.*

9. Fire lanes may be required before final Certificate of Occupancy is approved by the Division of Fire.

*If we find (or suspect) that traffic or parking conditions will develop that will not allow adequate movement of fire apparatus around a building or complex, we reserve the right to have fire lanes installed to remedy this potential hazardous condition.*

10. No fire hose lays allowed across four-roadway travel lanes.

*Hose lays across four travel lanes create major traffic direction problems for the Police Division, which also slows responding fire and rescue vehicles. Since all four-lane roadways are considered major thoroughfares, it is only prudent to attempt to facilitate the movement of vehicles traveling those roadways. This also assists the movement of emergency vehicles that may be traveling to other emergencies.*

While the above is not all inclusive of the firefighting concerns that some projects bring with them, our comments normally cover the majority of the issues.