



CHARLESTON FIRE DEPARTMENT



Fire Marshal Division

Information Bulletin

Site Plan Review

A site plan is a crucial first step in the plan review process for new construction or substantial renovation projects and helps to ensure the project is headed in the right direction. In order to make sure the site plan submittal is successful we have established several minimum elements that must be included in order to initiate a site review. Please develop a plan entitled “Fire Protection”, or similar, that includes the following:

Building Information

1. Provide the construction type (IBC), total square footage, stories above and below grade.
2. Will the project include a fire sprinkler system?
3. Indicate or describe any anticipated fire separations or fire walls.
4. Indicate the location of any fuel storage tanks, vaults, or pits.

Hydrants

5. Indicate all existing hydrants in the area or at least within 500’ of the project. Fire hydrant quantities and spacing must be approved. Guidance may be found in the appendix of the IFC. Hydrants located outside of drawing area may be indicated by a measurement from a known reference point.
6. Indicate the size and type of water mains servicing the fire protection (hydrants, sprinkler, etc.).
7. Provide the available fire flow at the site, measured at 20 PSI residual pressure, available for firefighting.
8. Indicate the required fire flow in accordance with an acceptable calculation method. Basic guidance may be found in the appendix of the IFC. Flow rate reductions must be submitted for review and approval.
9. Indicate the locations of Fire Department Connections. Connections must be at least 40 feet away from the building and no closer than 20’ but no further than 100’ from a hydrant.
10. Hydrants shall be clearly identified and color coded. Private hydrants shall be painted red, public hydrants shall be painted yellow. Private hydrants shall have the bonnet and caps color coded in accordance with NFPA 291 after verification flow testing has been completed.

Access

11. Provide fire apparatus access road in accordance with IFC 2018 section 503. It may be necessary to provide a vehicle overlay to verify turn radius – utilize a template for a 40’ straight frame vehicle.
12. Access roads must be provided within 150 feet of all points of the structure and the minimum road width of 20’ for all fire access lanes. Any deviations must be approved.
13. Access roads must be designed to meet the imposed loads of fire apparatus and shall be constructed of an all-weather driving surface. Fire Apparatus design weight shall be 75,000 lbs. All fire access roads shall be inspected by a third party inspector approved by the Charleston Fire Marshal Office.
14. Indicate any substantial grade changes along a fire apparatus access route.
15. Provide an approved turn-around for any access roads greater than 150 feet.
16. Fire lane signs and stripping will be required in front site hydrants, fire department connections, or other critical areas subject to obstructions. Indicate all anticipated fire lanes on the plan. Contractors should receive approval for striping and signage prior to initiating work.

Key Box

17. A key box for fire department use will be required on buildings equipped with an automatic fire sprinkler or fire alarm system. A key override system shall be provided for secured gates along fire apparatus access routes. The Charleston Fire Department utilizes the “Knox” key system.