

507.5.1 Where required. Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.

Exceptions:

1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet (183 m).
2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement shall be 600 feet (183 m).

Q: Is it the intent of Section 507.5.1 that on a large site, fire hydrants must be located so they are spaced at no more than 400 feet intervals (600 feet if the building is protected by an automatic sprinkler system) around the perimeter of the building?

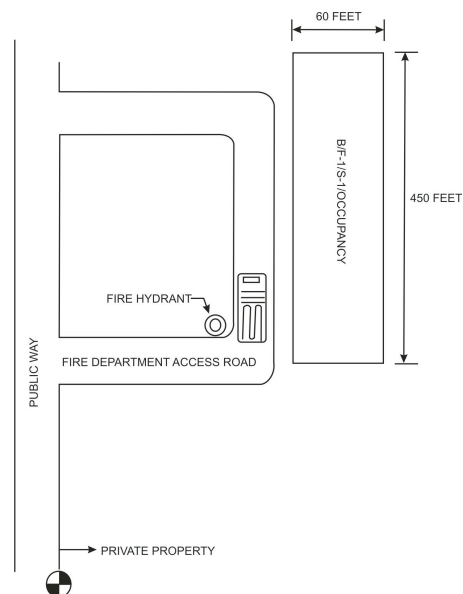
A: This provision requires that any point at the exterior grade level of the building is located within 400 feet (600 feet in a sprinklered building) of a fire hydrant, as measured along the fire apparatus access road. The text allows the code official some flexibility in hydrant spacing in instances where it may be reasonable to exceed code specified limits. This provision does not limit the fire official from approving an alternative water supply in areas where a conventional private fire protection water main and hydrant system is not feasible. [5-8]

Q: Does this section imply that if a building or portion of a building is more than 400 feet from an approved fire hydrant on an approved route, then an additional on-site hydrant is needed, or it will be necessary to relocate one of the hydrants within the 400 foot measurement?

A: Yes, assuming that the building in question is new construction or is being moved into the jurisdiction and will not be protected by an automatic sprinkler system. [5-9]

Q: We are reviewing a site plan for a proposed non-sprinklered building. The building length is 450 feet, and the fire hydrant is located near a corner of the building's front. The site has a fire apparatus road that serves the front of the building, and it is constructed in accordance with Section 507.5.1. The back of the building is 510 feet (450 foot length + 60 foot width = 510 feet) from a fire hydrant. There are no fire apparatus roads at the sides or the rear of the building. Is it necessary to add a fire hydrant that is located no more than 400 feet from any portion of the exterior wall of the building?

A: No; the current design complies with Section 507.5.1. All portions of the exterior of the structure are within 400 feet of a fire hydrant if the jurisdiction is protecting a non-sprinklered building or 600 feet for a sprinklered building. This distance is measured from the fire apparatus roadway. The bigger issue in this case is compliance with Section 503.1.1, which requires fire department access within 150 feet of all buildings. The current arrangement violates Section 503.1.1 because not all portions are accessible to within 150 feet of where the apparatus can be located. Based on the area and layout of the building, either an additional roadway is required, or the building requires an automatic sprinkler system. If the building is used for high-piled storage, access doorways complying with Section 2306.6.1 would also be required. [5-10]



**FIRE DEPARTMENT ACCESS
FIGURE 5-10**

Q: One source states that no more than 400 feet of hose should be needed to reach the building. Does this include both the supply line and the attack line, or is this just the supply line?

A ● Your source illustrates only one method of measuring hose lay distances. Because fire department procedures vary, operations could include an apparatus at the hydrant with the attack hose line deployed to the building or a forward hose lay from the fire hydrant to the pumping apparatus with attack hose lines extended. The site, building geometry and fire operations for deploying supply and attack hose lines will dictate how these distances are measured to comply with the IFC. [5-11]
