



# Fire & Life Safety Requirements for Fire Department Access and Water Supplies

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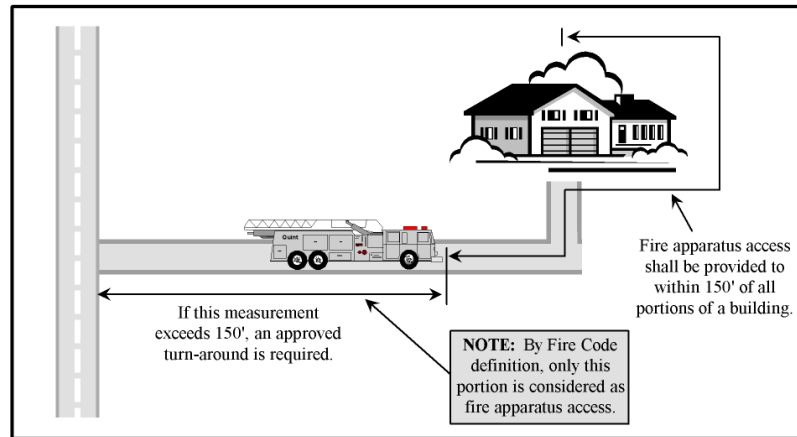
The items listed inside are the requirements most generally cited on plans for approval. If these items are included on the plans, the likelihood of a timely approval on the initial review is greatly increased.

If questions arise with regard to any of the provisions, please call.

Fire Prevention Office	(510)-494-4200
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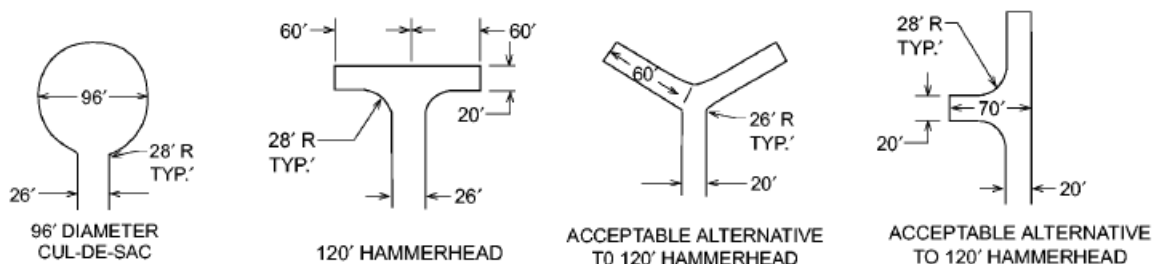
**1) FIRE APPARATUS ACCESS ROAD DISTANCE FROM BUILDING AND TURNAROUNDS:**

Access roads shall be within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building. An approved turnaround is required if the remaining distance to an approved intersecting roadway, as measured along the fire apparatus access road, is greater than 150 feet.



**2) DEAD END ROADS:**

Dead end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround.



**3) ADDITIONAL ACCESS ROADS COMMERCIAL:**

Where buildings exceed 30 feet in height or three stories in height shall have at least three separate means of fire apparatus access. Buildings or facilities having a gross area of more than 62,000 square feet shall be provided with at least two separate means of fire apparatus access. Buildings up to 124,000 square feet provided with fire sprinklers may have a single access.

**4) ADDITIONAL ACCESS ROADS – ONE-OR TWO-FAMILY RESIDENTIAL:**

Where there are more than 30 one- or two-family dwelling units, not less than two separate approved means of access shall be provided. Where there are more than 30 dwelling units and all are protected by approved residential sprinkler systems, a single access may be allowed.

**5) ADDITIONAL ACCESS ROADS – MULTIPLE-FAMILY RESIDENTIAL:**

Where there are more than 100 multiple family dwelling units, not less than two separate approved means of access shall be provided. Projects up to 200 dwelling units that are protected by approved residential sprinkler systems may have a single access. Projects having more than 200 dwelling units shall have two separate approved means of access regardless of whether they are equipped with fire sprinkler systems.

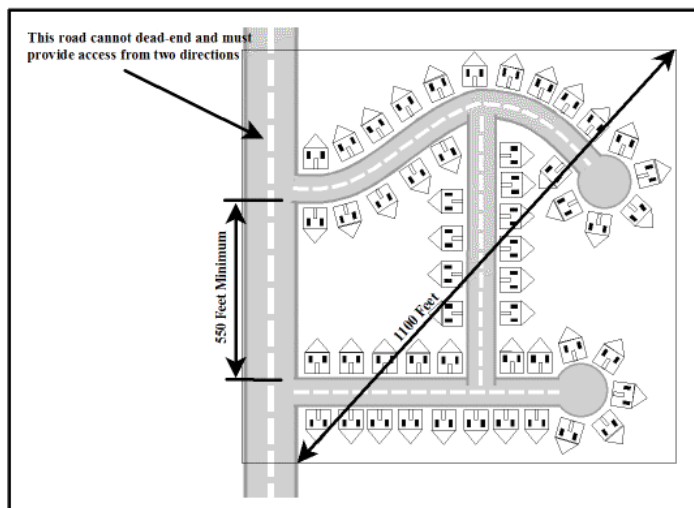
**6) AERIAL FIRE APPARATUS ACCESS:**

Buildings or portions of buildings or facilities exceeding 30 feet in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus. For purposes of this section, the highest roof surface shall be determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of parapet walls, whichever is greater.

Fire apparatus access roads shall have a minimum unobstructed width of 26 feet, exclusive of shoulders, in the immediate vicinity of any building or portion of a building more than 30 feet in height. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet and a maximum of 30 feet from the building, and shall be positioned parallel to one entire side of the building. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

**7) REMOTENESS:**

Where two access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

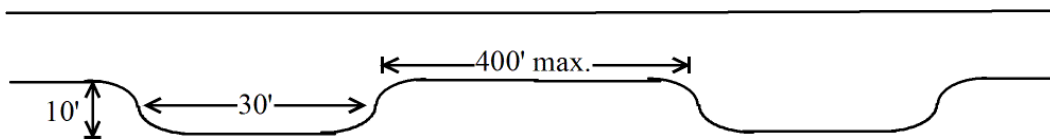


**8) FIRE APPARATUS ACCESS ROAD WIDTH AND VERTICAL CLEARANCE:**

Fire apparatus access roads shall have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13 feet 6 inches. The fire apparatus roadway width is increased to an unobstructed width of not less than 26' when building heights exceed 30' from the lowest level of fire department access.

**9) TURNOUTS:**

When any fire apparatus access road exceeds 400 feet in length, turnouts 10 feet wide and 30 feet long may be required by the fire code official. These distances may be adjusted based on visibility and light distances..



**10) NO PARKING SIGNS:**

Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface (26' where building heights exceed 30 feet), "No Parking" signs shall be installed on one or both sides of the roadway and in turnarounds as needed.

**11) SURFACE AND LOAD CAPACITIES:**

Fire apparatus access roads shall be of an all-weather surface that is easily distinguishable from the surrounding area and is capable of supporting not less than 12,500 pounds point load (wheel load) and 75,000 pounds live load (gross vehicle weight). You may need to provide documentation from a registered engineer that the design will be capable of supporting such loading.

**12) BRIDGES:**

Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO Standard Specification for Highway Bridges. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required by the fire code official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, approved barriers, approved signs or both shall be installed and maintained when required by the fire code official.

**13) TURNING RADIUS:**

The inside turning radius and outside turning radius shall be not less than 22.5 feet and 37.5 feet respectively, measured from the same center point.

**14) PAINTED CURBS:**

Where required, fire apparatus access roadway curbs shall be painted red and marked “NO PARKING FIRE LANE” at approved intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background.

**15) GRADE:**

Fire apparatus access roadway grades shall not exceed 15 percent. Intersections and turnarounds shall be level (maximum 5%) with the exception of crowning for water run-off.

**16) GATES:**

Security Gates shall be operable at all times and not be obstructed. Automatic Security gates that cross fire department access roadways shall be equipped with an approved infrared receiver and key knock key override switch. Manual gates shall be equipped with an approved key box.

**17) REQUIRED FIRE FLOW:**

The minimum available fire flow shall be in accord with 20016 CFC Appendix B.

**18) RURAL BUILDINGS - REQUIRED FIRE FLOW:**

Required fire flow for rural and suburban areas in which adequate and reliable water supply systems do not exist may be calculated in accordance with National Fire Protection Association Standard 1142, Current Edition, when approved by the fire code official. Please contact the Fire Marshal’s Office for special assistance and other requirements that may apply.

**19) FIRE HYDRANT SPACING:**

Single-family residential projects shall be spaced at 500-foot intervals. Commercial and multi-family residential buildings or complexes shall be spaced at 300-foot intervals. On-site water mains and hydrants shall be installed to maintain these intervals.

Considerations for placing fire hydrants may be as follows:

- Existing hydrants in the area may be used to meet the required number of hydrants as approved
- Hydrants that are separated from the subject building by railroad tracks shall not contribute to the required number of hydrants
- Hydrants that are separated from the subject building by divided highways or freeways shall not contribute to the required number of hydrants. Heavily traveled collector streets only as approved by the fire code official.
- Hydrants that are accessible only by a bridge shall be acceptable to contribute to the required number of hydrants only if approved by the fire code official.

**20) FIRE HYDRANT DISTANCE FROM AN ACCESS ROAD:**

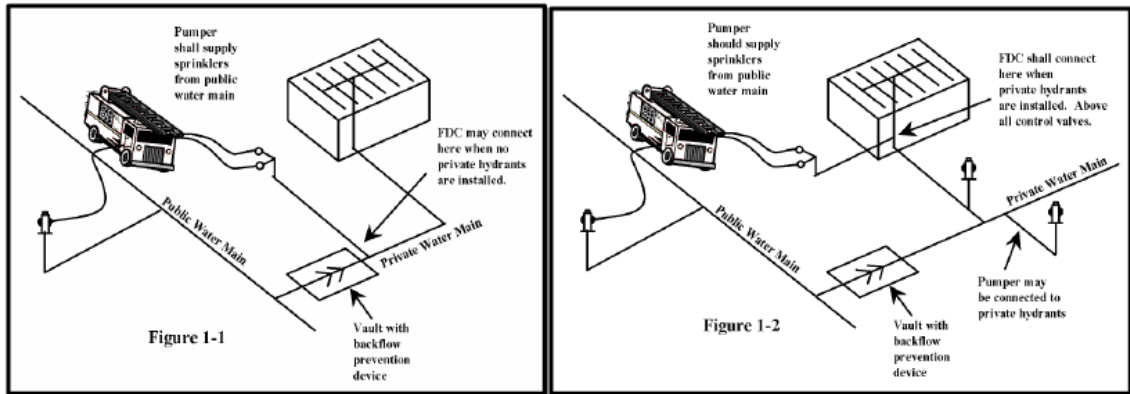
See COF Standard Detail # 34 for hydrant installation details. On-site fire hydrants shall be located not more than 15 feet from an approved fire apparatus access roadway.

**21) REFLECTIVE HYDRANT MARKERS:**

Fire hydrant locations shall be identified by the installation of reflective markers. The markers shall be blue. They shall be located adjacent and to the side of the centerline of the access roadway that the fire hydrant is located on. In case that there is no center line, then assume a centerline, and place the reflectors accordingly.

**22) FIRE HYDRANT/FIRE DEPARTMENT CONNECTION:**

A fire hydrant shall be located within 100 feet of a fire department connection (FDC). Fire hydrants and FDC's shall be located on the same side of the fire apparatus access roadway. FDCs shall normally be remote except when approved by the fire code official.



**23) ACCESS AND FIRE FIGHTING WATER SUPPLY DURING CONSTRUCTION:**

Approved fire apparatus access roadways and firefighting water supplies shall be installed and operational prior to any combustible construction or storage of combustible materials on the site.

**24) KNOX BOX:**

A Knox Box for building access is required for this building. Please contact the Fire Marshal's Office for an order form and instructions regarding installation and placement.