



San Ramon Valley Fire Protection District  
Fire & Life Safety Division  
1500 Bollinger Canyon Road, San Ramon, CA 94583  
925.838.6600 www.firedepartment.org

## FIRE PREVENTION STANDARD

### FIRE APPARATUS ACCESS ROADS

The San Ramon Valley Fire Protection District developed this standard to be used as a guide for establishing a reasonable degree of fire and life safety relative to fire apparatus access roads.

#### **PURPOSE**

The purpose of this document is to provide the minimum standards that apply when identifying required fire department access roads.

#### **GENERAL**

1. Fire Apparatus Access Roads shall be installed and serviceable prior to any combustible construction on the project associated with said access road. Upon completion of road improvements a Fire District inspection and approval is required prior to combustible construction.
2. Fire Apparatus Access Roads shall be provided in accordance with *The California Fire Code Chapter 5*, and as further amended by local ordinance for every facility, building or portion of a building hereafter constructed or moved into or within this jurisdiction.
3. Engineered site specific plans incorporating the requirements as detailed in this Standard shall be submitted for review and approval to the Fire District prior to the issuance of grading and building permits.
4. The Fire Apparatus access road shall extend to within 150 feet of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.
5. The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairments of a single road by vehicle congestion, condition of terrain, climatic conditions, or other factors that could limit access.
6. A Fire Apparatus Access Road shall have an unobstructed minimum width of not less than 20 feet and an unobstructed vertical clearance of not less than 13 feet 6 inches.
7. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus weighing at least 75,000 pounds and shall be surfaced so as to provide all weather driving capabilities.
8. A Fire Apparatus Access Road shall have a minimum standard turning radius of 35 foot inside and a 28 foot outside radius.
9. A Fire Apparatus Access Road shall not exceed a maximum grade of 16%.  
**Exception:** A Fire Apparatus Access Road having a grade of between 16% and 20% shall be designed to have a finished surface of grooved concrete designed to hold a 75,000 pound (*H- 20 Cal-Trans Design Standard*) traction load. Design for grooved concrete shall be ½ inch wide by ½ inch deep and 1 ½ inches on center with a 10° - 45° angle to the centerline of roadway.
10. Other surfaces may be used if the skid resistance is equivalent to or better than grooved concrete as certified by a registered engineer. Surface shall also be approved by *Contra Costa County, City of San Ramon, or Town of Danville*, as applicable, prior to construction.

## Standard: Fire Apparatus Access Roads

11. Vertical Curve, Angle of Approach, Angle of Departure and High Centering Of Fire Apparatus. Transitions between grades along access roads and driveways shall not exceed a 6% elevation change along any 10 foot section.
12. A Fire Apparatus Access Road designed to be a minimum 20 feet in width shall be provided with outlets adjacent to and in front of fire hydrants providing a 26 foot wide roadway for at least 20 feet in both directions from the fire hydrant.
13. A Fire Apparatus Access Road 150 feet or more in length shall be provided with a turnaround provision at its terminus or as approved by the Fire District. Standard Fire Apparatus Access Road turnarounds shall be designed as shown.
14. Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved area for turning around fire apparatus.
15. Fire Apparatus Access Roads, Turnarounds, Turnouts, and Outsets shall not be obstructed in any manner, including the parking of motor vehicles and are required to be posted, reference SRVFPD Fire Lane Standard.
16. Where the vertical distance between the grade plane and the highest roof surface exceed 30 feet, approved aerial fire apparatus access roads shall be provided. 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.
17. Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet, exclusive of shoulders, in the immediate vicinity of the building.
18. 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. The side of the building on which the aerial fire apparatus access road is positioned shall be approved by the fire code official.
19. Overhead utility power lines shall not be located over the aerial fire apparatus access road or between the aerial fire apparatus road and the building. Other obstructions shall be permitted to be placed with the approval of the fire code official.
20. Alternate surfaced roads as outlined above shall be certified by a Registered Civil Engineer as being "all weather" based upon Standard R Value Analysis,. A copy of the certification shall be provided for the Fire Prevention file and a statement recorded on the parcel deed that the access road is an all-weather road and shall be maintained by the property owner. Drainage and erosion controls shall be recommended by the Engineer and shall be provided and maintained. Alternate surfacing will be acceptable on grades up to 10%. NOTE: Compacted dirt or base is not an all-weather road. When the road or driveway serves 2 or more parcels, provisions for maintenance of the road shall be assured by a permanent homeowners association or equivalent organization and a deed restriction requiring this is recorded on each parcel.

## **BRIDGES**

1. The minimum design standard for private bridges that serve as an element of a Fire Apparatus Access Road shall be as follows:
  - a. The bridge shall have a clear width of 20 feet.
  - b. There shall be a minimum of 13 feet 6 inches of vertical clearance.

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2. The maximum live loads of bridges shall be clearly posted at both entrances of the bridge. Signs shall be a minimum 16 inches high by 18 inches wide made of durable material approved by the Fire District. Lettering to be black a minimum 6 inches in height and a  $\frac{3}{4}$  inch stroke on a white background. Reflective materials are recommended.

### **GATES**

1. The design for all gates across Fire Apparatus Access Roads shall be approved by the Fire District. Plans and specifications shall be submitted to the Fire District for review and approval prior to construction.
2. Gate specifications are to be as follows:
  - a. Access width to be a minimum of 20 feet, clear and unobstructed.
  - b. Vertical clearance to be a minimum of 13 feet 6 inches.
  - c. Location of the gate shall have a minimum setback of 30 feet from the intersection of the driveway, which is deemed a Fire Access Road, and the roadway.

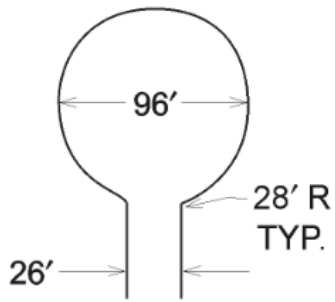
**Exception:** Gates at the end of a roadway or on roads with light traffic may have a lesser setback.

- d. All locking devices shall provide for Fire District emergency access by means of an electronic key switch keyed to the established Fire District master key system, reference Fire District Key Box and Key Switch Installation Standard.

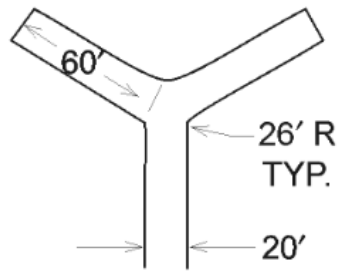
### **TEMPORARY FIRE APPARATUS ACCESS ROADS**

1. The installation and use of a temporary Fire Apparatus Access Road in lieu of a permanent Fire Apparatus Access Road is approved when approved by the Fire District.

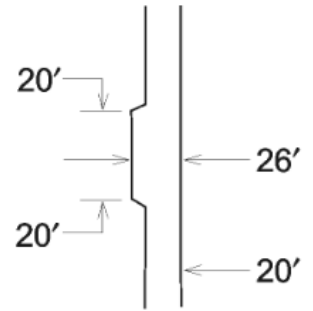
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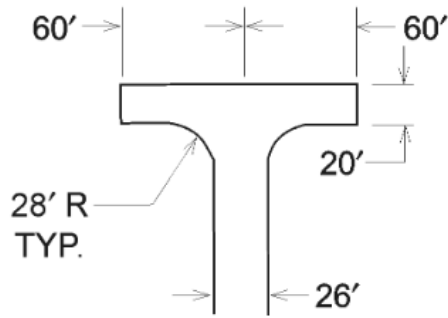
96-FOOT DIAMETER  
CUL-DE-SAC



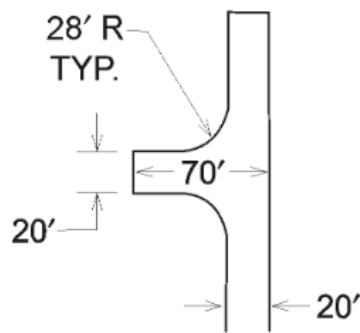
60-FOOT "Y"



MINIMUM CLEARANCE  
AROUND A FIRE  
HYDRANT



120-FOOT HAMMERHEAD



ACCEPTABLE ALTERNATIVE  
TO 120-FOOT HAMMERHEAD