**Sunnyvale Department of Public Safety**

**FIRE PREVENTION UNIT**

# REQUIREMENTS FOR FIRE DEPARTMENT VEHICLE ACCESS

The following standard identifies the requirements for Fire Department vehicle access. Where noted, contact the local fire agency for further information and approval.

1. **Access and loading**. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete or other approved driving surface capable of supporting the imposed load of fire apparatus weighing at least 90,000 pounds (40860 kg) or as otherwise determined by the fire code official.

2. **Minimum clear width.** The minimum clear width of fire department access roads shall be 20 feet. This width may be increased based upon specific department operations and/or apparatus. Alternate designs may be approved on a case-by-case basis. **(16.52.503 SMC)**

Modifications to the configuration or width of a fire access road, or additional access road(s) may be required when the fire code official determines that access to the site or a portion thereof may become compromised due to emergency operations or nearby natural or manmade hazards (flood prone areas, railway crossings, bridge failures, hazardous material-related incidents, etc.)

3. **Minimum clear height.** Vertical clearance over required vehicular access roads and driveways shall be 13'6". Vertical clearances shall be increased when in the opinion of the fire code official, vertical clearances are not adequate to provide fire apparatus access. **(16.52.503 SMC)**

4. **Grade**. Fire apparatus access roads shall not exceed 10% in grade, unless approval is granted by the fire code official prior to construction.

5. **Turning radius**. The minimum turning radius shall be determined by the fire code official.

   20 foot road – Minimum inside turning radius of 30
   24 foot road – Minimum inside turning radius of 30
   26 foot road – Minimum inside turning radius of 25

6. **Dead ends.** Dead-end fire apparatus access roads in excess of 150 feet (45720 mm) shall be provided with width and turnaround provisions as determined by the fire code official.

7. **Parking.** When parking is permitted on streets, in both residential/commercial applications, it shall conform to the following:
   - Parking is permitted both sides of the street with street widths of 36 feet or more
   - Parking is permitted on one side of the street with street widths of 28 – 35 feet
   - No parking is permitted when street widths are less than 28 feet

   **NOTE:** Where rolled curbs are a part of the curb/sidewalk, the width of fire department access roads is measured from flow line to flow line. Flow line is the lowest continuous elevation on a rolled curb street

Additional requirements may apply for buildings 30 feet in height or greater. See requirements under item 18, Aerial Fire Apparatus Access Roads

8. **Access to a hydrant.** Fire hydrants located on a public or private street, or on-site, shall have an unobstructed clearance of not less than 30 feet (15 feet either side of hydrant), in accordance with California vehicle code 22514. Marking shall be per California vehicle code 22500.1

9. **Bollards.** Bollards when used to limit access to the roadway shall be moveable or fold-over type. 'Lift-out' or knocked down types are not allowed. Hydraulic type bollards are allowed under special conditions only. All bollards shall be approved by the fire code official prior to installation.

10. **Traffic calming.** Traffic calming devices and the design thereof shall be approved by the fire code official prior to installation.

11. **Alternate paving material**. Alternative paving materials such as 'Grass Crete', turf block or similar type material may be used for emergency vehicle access (EVA) under certain conditions. An Alternate Materials and Methods request in accordance with California Fire Code Appendix Chapter 1, Section 104.9 may be required. Check with your local fire code official. The submittal shall include the design criteria based upon the imposed load of fire apparatus as identified in item 1 of this document (Access and Loading). The EVA shall:
    - Be marked, the lane at the curb delineated with lights, bollards, paint, contrasting material, etc.
    - Be structurally sound to preclude movement or disbanding with soil movement.

- Be field tested by the contractor in the presence of the fire code official. Contact the local fire agency for specifications on testing. Testing may include driving the EVA by a weight verified vehicle. Prior to testing, the soil shall be soaked three days in a row.

Prior to final approval, the engineer of record (civil or soils engineer) shall certify the installation.

12. **Gates.** No gate may be installed across a required fire department access road or driveway without prior approval from the fire code official. A detailed plan shall be submitted for review and approval prior to commencing any work.
Gate width shall be a minimum of 20 feet unobstructed.
Security gates equipped with electronic control devices shall have an approved fire department override key switch (Knox), and shall allow operation of the gate during power outages. Forms for ordering fire department approved key switches and padlocks can be obtained from the Fire Prevention website *(FirePrevention.inSunnyvale.com)* or the Knox Website.
Manual locking mechanisms, such as padlocks, shall be Knox brand only.
All manually operated gates shall be designed to remain in the open position when left unattended. Activation of an approved key switch for an electronically controlled gate shall open the gate and cause it to remain in the open position until reset by emergency response personnel.
When open, gates shall not obstruct any portion of the required width of the driveway or access road, shall be adequately supported to prevent dragging, and shall be operable by one person. Sliding gates shall slide parallel to the security fence. Swing-style gates shall open a full 90 degrees (minimum) and may swing in either direction. Contact your local fire agency for setback distance.
Gate components shall be maintained in an operative condition at all times and be replaced or repaired when defective.

13. **Separation of access roads.** 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, i.e. from centerline to centerline.

14. **Fire Apparatus Access Roadway Signs.** Where required by the Fire Code Official, fire apparatus access roads shall be designated and marked as a fire lane as set forth in Section 22500.1 of the California Vehicle Code and the Sunnyvale Municipal Code. The designation shall be indicated:

(1) by a sign posted immediately adjacent to, and visible from, the designated place clearly stating in letters not less than one inch in height that the place is a fire lane,
(2) by outlining or painting the place in red and, in contrasting color, marking the place with the words "FIRE LANE", which are clearly visible from a vehicle, or
(3) by a red curb or red paint on the edge of the roadway upon which is clearly marked the words "FIRE LANE'. Refer to 16.52.503 SMC for additional specifications.

15. **Commercial and Industrial Developments**.
    a) **Buildings exceeding three stories or 30 feet in height.** Buildings or facilities exceeding 30 feet (9144 mm) or three stories in height shall have a least two means of fire apparatus access for each structure.

    b) **Buildings exceeding 62,000 square feet in area.** Buildings or facilities having a gross building area of more than 62,000 square feet (5760 mm) shall be provided with two separate and approved fire apparatus access roads.
    **Exception:** Projects having a gross building area of up to 124,000 square feet (11520 mm) that have a single approved fire apparatus access road when all buildings are equipped throughout with approved automatic sprinkler systems.

16. **Residential Developments**
    **Projects having more than 50 dwelling units.** Residential projects having more than 50 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads.

17. **Secondary access roads**
    a) **Connection to other roads:** Where a secondary access roadway connects to a public or private street there shall be either; no curb, a rolled curb or a driveway cut as approved by the fire code official.

    b) **Maintenance:** Secondary access roadways shall be maintained at all times by the property owner. The roadway surface gates/locks and vertical and horizontal clearances shall be maintained in serviceable condition. Maintenance of secondary access roadways on commonly held lands shall be clearly stated in the Covenant, Conditions, and Restrictions (CC&R) or Landscape Maintenance agreements of the development project. The CC&Rs shall mandate that the owner's association shall retain professional management to oversee maintenance responsibilities.

c) **Easements:** Only lands owned or in control of the property owner, held in common with adjacent properties or publicly owned may be used for secondary access. Secondary access roadways shall not be located in easements through private property unless specifically approved by the fire code official. When easements are required for secondary access roadways, they shall be recorded as Emergency Vehicle Ingress Egress Easements (E.V.I.E.E) granted to the Fire Department.

d) **Marking and Identification:** When necessary, signs or other approved notices shall be posted at secondary access roadways to prevent obstruction by parked vehicles. Such signs or notices shall be in accordance with Fire Department Standards.

18. **Aerial Fire Apparatus Access Roads.**

a) **Where required.** Buildings or portions of buildings or facilities exceeding 30 feet (9144 mm) 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. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

b) **Width.** Fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925) in the immediate vicinity of any building or portion of building more than 30 feet (9144 mm) in height.

c) **Proximity to building.** At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4572) and a maximum of 30 feet (9144mm) from the building, and shall be positioned parallel to one entire side of the building, as approved by the fire code official.