


# County of Santa Clara

## Department of Planning and Development

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<b>STANDARD DETAILS &amp; SPECIFICATIONS</b>	Spec No	<u>CFMO-A1</u>
	Rev. Date	<u>04/20/2021</u>
SUBJECT: Access Roads and Driveways for One and Two-Family Dwellings and Associated Structures	Eff. Date	<u>07/01/2003</u>
	Approved By	
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### SCOPE

This standard is applicable to access roads and driveways serving new or expanded one and two-family dwellings and/or associated structures on residential properties where any portion of the protected structure(s) is in excess of 200 feet from the centerline of a public or private roadway (measured by an approved route around the exterior of the building). Specifications contained in this standard apply to all properties located within unincorporated Santa Clara County.

### AUTHORITY

California Fire Code (CFC) and Applicable Municipal/Town Codes and Standards.

### DEFINITIONS

**Access Road:** A vehicular access roadway serving more than two developed residential parcels of land.

**Driveway:** A vehicular access serving not more than two developed residential parcels of land.

**Ranchlands:** Designated as “AR” by the County Planning Department per the Santa Clara County Zoning Ordinance.

**Turnaround:** A clear, unobstructed driving surface which allows for a safe change of direction for emergency equipment.

**Turnout:** A widening of the driving surface to allow fire department vehicles to pass one another.

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**State Response Area (SRA):** All lands in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the state. SRA lands are subject to the requirements set forth under Title 14 of the California Code of Regulations [REF: Public Resources code §4290].

### REQUIREMENTS

These are minimum Fire Marshal standards. Should these standards conflict with any other local, state, or federal requirements, the most restrictive shall apply.

#### I. Timing/Penalties

- A. The minimum requirements of this standard shall be met prior to commencement of wood framing in order to provide adequate emergency service response during construction. A stop-work order may be placed on construction projects found not in compliance by the Fire Marshal's Office.
- B. Properties located within the State Response Area (SRA) are subject to concurrent review by CAL FIRE to enforce regulations set forth under Public Resources Code §4290.

#### II. Driveways and Access Roads

##### A. Width of Driving Surface:

1. Driveways: driveway width shall provide a minimum drivable surface of 12 feet excluding shoulders.
2. Access Roads: minimum width shall be 18 feet with a 3-foot shoulder on each side, in compliance with County Land Development Engineering Standards (LDE): LDE-SD-1 *Private Road*, LDE-SD-2 *Private Access Road* (Hillside Conditions), or LDE-SD-3 *Private Access Road* (Non-Hillside Conditions). **NOTE:** shoulders shall be capable of supporting full loading and shall be drivable in all weather conditions. Greater widths may be required by the Fire Marshal's Office to provide adequate emergency access.
  - a. State Response Area (SRA) – Access road width shall be a minimum of 20 feet per Public Resource Code §4290.

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### B. Vertical Clearance:

1. Driveways and Access Roads: the vertical clearance shall be a minimum of 13 feet, 6 inches [CFC §503.2.1].
  - a. State Responsibility Area (SRA) excluding Ranchlands (AR): the vertical clearance shall be a minimum of 15 feet in accordance with Public Resource Code §4290.

### C. Grade:

1. Maximum grade shall not exceed 15% (6.75 degrees). On grades up to 15%, the surface shall provide all-weather driving capability, including sufficient drainage and surface course consistent with good engineering practices. The Fire Marshal's Office may permit grades up to a maximum of 20% with mitigation to prevent slippage and scraping. Grades in excess of 15% shall be engineered asphalt, concrete, or another surface meeting LDE-SD-5 *Single Lot Driveway*. In no case shall each portion exceeding 15% gradient be longer than 300 feet in length. There is to be a minimum of 100 feet driveway length of 15% or less gradient between each 300-foot section.
  - a. State Responsibility Area (SRA) excluding Ranchlands (AR): maximum grade shall not exceed 16%.

### D. Turning Radius for Curves:

1. Driveways and Access Roads: the minimum inside turning radius shall be 42 feet as measured from the edge of the approved surface.
  - a. State Responsibility Area (SRA) excluding Ranchlands (AR): no roadway shall have a horizontal inside radius of curvature of less than 50 feet, and an additional surface width of 4 feet shall be added to curves of 50-100 feet radius; 2 feet to those from 100-200 feet.

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### E. Turnouts:

1. Driveways: driveways in excess of 500 feet shall be provided with passing turnouts at no more than 500-foot intervals. Turnouts shall be 10 feet wide by 30 feet long with a minimum 25-foot taper on each end in accordance with CFMO-SD16; *Standard Turnarounds & Turnouts*.
  - a. State Responsibility Area (SRA) excluding Ranchlands (AR): driveways exceeding 150 feet in length, but less than 800 feet in length, shall provide a turnout near the midpoint of the driveway. Where the driveway exceeds 800 feet, turnouts shall be provided no more than 400 feet apart. Turnouts shall be a minimum of 10 feet wide and 30 feet long, with a minimum 25-foot taper on each end.

### F. Turnarounds:

1. Driveways and Access Roads: dead-end fire apparatus driveways and access roads in excess of 150 feet in length shall be provided with an approved turnaround meeting CFMO-SD16. Due to practical difficulties, variations to CFMO-SD16, may be approved by the Fire Marshal's Office and Land Development Engineering on a case-by-case basis. All turnarounds shall have a maximum slope of 5% in any direction. Placement of any architectural feature within a turnaround is not permitted unless all requirements are met.

### G. Surface:

1. Driveways and Access Roads: driveways and access road surfaces shall be designed and maintained to support a 75,000 pound fire apparatus, designed for the latest edition of Caltrans Standard. Access roads shall be engineered asphalt, concrete or another surface meeting County Ordinance.

**NOTE:** For driveways and access roads not subject to Land Development Engineering review and permit, provide geotechnical engineer's proposed roadway design section, sufficient to meet loading capacity and all-weather driving capability. An observation letter for the construction of the design section shall be submitted prior to project final.

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2. For alternative roadway surfaces such as “Turf Block” or other materials that blend into landscaping and/or that do not readily appear to be driving surfaces, the boundary edges of the alternate material shall be delineated as approved by the fire code official. Delineation shall be concrete curbs, borders, posts or other means that clearly indicate the location and extent of the driving surface. Alternate surface materials may be approved by an alternate means/method request submittal on a case-by-case basis.

### H. Angle of Approach:

1. Driveways: the approach to a driveway shall be designed and constructed per LDE-SD-4 *Driveway Approach*.

### I. Bridges and Culverts:

1. 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 HB17.
2. All bridges, elevated surfaces and culverts shall be designed for a live load sufficient to carry the imposed load of a fire apparatus weighing at least 75,000 pounds. Vehicle load limits shall be posted at the entrance to the bridge. Additional signs may be 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.

### J. Gates:

1. Driveways and Access Roads: all gates crossing driveways shall comply with Fire Marshal’s Office Standard Detail and Specification CFMO-A3 *Installation of Security Gates for Access Roads and Driveways*.
  - a. State Responsibility Area (SRA) excluding Ranchlands (AR): gate entrances shall be at least two feet wider than the width of the traffic lane(s) serving the gate. All gates providing access from a road to a driveway shall be located at least 30 feet from the roadway and shall open to allow a vehicle to stop without obstructing traffic on that road.

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### K. Secondary Access Roads:

1. Access Roads: more than one fire apparatus road shall be provided when it is determined by the Fire Marshal that access by a single road might be impaired by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access [CFC §503.1.2].
  - a. State Responsibility Area (SRA) excluding Ranchlands (AR): the maximum length of a dead-end road, including all dead-end roads accessed from that dead-end road, shall not exceed the following cumulative lengths regardless of the number of parcels served:
    - i. Parcels zoned for less than one acre – 800 feet.
    - ii. Parcels zoned for 1 acres to 4.99 acres – 1,320 feet.
    - iii. Parcels zoned for 5 acres to 19.99 acres – 2,640 feet.
    - iv. Parcels zoned for 20 acres or larger – 5,280 feet.

All lengths shall be measured from the edge of the road surface at the intersection that begins the road to the end of the road surface at its farthest point. Where a dead-end road crosses areas of differing zoned parcel sizes requiring different length limits, the shortest allowable length shall apply.