



# SANTA CLARA COUNTY FIRE DEPARTMENT

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## STANDARD DETAILS & SPECIFICATIONS

SUBJECT: Driveways, Turnarounds, and Turnouts Serving  
Up to Two (2) Single Family Parcels

Spec No	D-1
Review Date	03.11.25
Revis. Date	03.11.25
Eff. Date	07.10.08
Approved By	HRE
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## SCOPE

This standard is applicable to access roads and driveways serving up to two (2) single family parcels 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 and the incorporated city/town service areas of the Santa Clara County Fire Department.

## AUTHORITY

California Fire Code (CFC) and applicable Municipal/Town/County Codes and standards.

## DEFINITIONS

**Access Road**: A vehicular access roadway serving three (3) or more developed parcels of land.

**Driveway**: A vehicular access roadway serving no more than two (2) single family parcels.

**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 in a roadway or driveway to allow vehicles to pass.

**State Responsibility Area (SRA)**: The State Responsibility Areas of Santa Clara County lie within the emergency response area of California Department of Forestry and Fire Protection which are subject to the requirements set forth under Title 14 of California Code of Regulations. [REF: Public Resources Code §4290].



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**Very High Fire Hazard Severity Zone (VHFHSZ):** Areas designated by the State Fire Marshal as having the highest fire hazard which 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 SCCFD standards. Should these standards conflict with any other local, state, or federal requirement, the most restrictive shall apply.

### I. Time & 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 SCCFD.

### II. State Response Area

- A. Properties located within the State Response Area are subject to concurrent review by CAL FIRE to enforce regulations set forth under Public Resources Code §4290.

### III. Easements

- A. Where access roads, driveways, turnarounds, and/or turnouts are located on, or pass through, adjacent parcels they shall be recorded by way of an emergency vehicle access easement (EVAE), emergency vehicle ingress egress easement (EVIEE), or other appropriate easement. New easements shall be recorder prior to project final.

### IV. Fire Safety Setbacks

- A. Unless specifically permitted by other regulations, all permitted structures, including Accessory Dwelling Units (ADU's), shall be provided with a minimum four (4) feet setback from lot lines, as measured from nearest wall, eave, overhang, or other projection to the lot line.

### V. Driveways and Access Roads

- A. Width of Driving Surface



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1. Driveway width shall provide a minimum drivable surface of 12 feet, exclusive of shoulders.
  - a. State Responsibility Area (SRA) excluding Ranchlands (AR) and VHFHSV: Driveway width shall provide a minimum drivable surface of 10 feet, with 14 feet unobstructed horizontal clearance in accordance with PRC 4290.
2. Access roads shall provide an unobstructed width not less than 20 feet for engines, exclusive of shoulders, and 26 feet for aerial fire apparatus, exclusive of shoulders.
  - a. Unincorporated areas where roads serve residential lots subject to single-site development, a minimum width of 18 feet with a 3-foot shoulder on each side is allowed. Roads shall comply with County Standards SD-1, *Private Road*, SD-2, *Private Access Road (Hillside Conditions)*, or 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 SCCFD to provide adequate emergency access.

## B. Vertical Clearance

1. Driveways and Access Roads
  - a. The vertical clearance shall be a minimum of 13 feet 6 inches, in accordance with California Fire Code § 503.2.1

## C. Grade

1. Maximum grade shall not exceed 15%. The SCCFD may permit grades up to a maximum of 20% with approved mitigation measures if no other method is practical and when approved by the Fire Code official. In no case shall each section greater than 15% gradient exceed 300 feet in length. There shall be a minimum 100 feet length of 15% or less gradient between each 300-foot section. NOTE: See surface requirements in item II.G, below.
  - a. State Responsibility Area (SRA) excluding Ranchlands (AR): Maximum grade shall not exceed 16%.

## D. Turning Radius for Curves

1. Driveways



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- a. The minimum inside turning radius shall be 20 feet and the outside turning radius shall be 40 feet, as measured from the edge of the approved surface.

## 2. Access Roads

- a. The minimum inside turning radius shall be 30 feet and the outside turning radius shall be 50 feet, as measured from the edge of the approved surface.
  - i. 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.

## E. Turnouts

### 1. Driveways

- a. 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.
  - i. 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

- a. An approved fire apparatus turnaround is required for all dead-end access roads and driveways in excess of 150 feet. [Ref: CFC 503.2.5]. All turnarounds shall have a maximum slope of 5% in any direction. Placement of any architectural feature within a turnaround is not permitted.
- b. All turnarounds shall be provided an approved metal, all weather sign or other approved notices or markings that shall include the words "NO PARKING – FIRE DEPARTMENT TURNAROUND". Turnarounds located on parcels shall be provided with a sign at the entrance to the parcel that shall include the words "FIRE DEPARTMENT TURNAROUND ON SITE".



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## G. Surface

### 1. Driveways

- a. The driveway surface shall be designed and maintained to support a 75,000-pound fire apparatus, designed per the latest edition of Caltrans Standard. On grades up to 15%, the surface shall provide all-weather driving capability, including sufficient drainage and surface course consistent with good engineering practices. Grades in excess of 15% may be approved by the Fire Code Official on a case-by-case basis through an Alternate Means and Methods request.

### 2. Access Road

- a. The access road surface shall be designed and maintained to support 75,000-pound fire apparatus, designed for the latest edition of CalTrans Standard, and shall be engineered asphalt, concrete or other surface meeting local ordinance.

3. Alternate driveway surfaces such as "Turf Block," pavers, or other materials may be approved by the Fire Code Official on a case-by-case basis through an Alternate Means and Methods request. The boundary edges of the alternate material shall be delineated by concrete curbs, borders, posts, signs, or other means that clearly indicate the location and extent of the driving surface.

## H. Angle of Approach

### 1. Driveways

- a. The approach to a driveway shall be designed and constructed with a maximum 5% slope for a minimum of 20 feet.

## I. Bridges, Elevated Surfaces, and Culverts

1. All bridges shall be designed and maintained in accordance with AASHTO HB-17.
2. All 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.
3. Appropriate signage, including but not limited to weight or vertical clearance limitations or any special conditions, shall be provided.



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## J. Gates

### 1. Driveways and Access Roads

- a. All gates crossing driveways and access roads shall comply with SCCFD Standard Detail and Specification G-1, *Installation of Security Gates, Chains, and Bollards for Access Roads and Driveways*.
- i. State Response 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.

## K. Secondary Access Roads

### 1. Access Roads

- a. Development of one or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads and shall meet the requirements listed under separation of access roads. Note, providing approved automatic fire sprinkler systems shall not reduce the number of required access roads. [REF: CFC, Appendix D].
- b. More than one fire apparatus road shall be provided when it is determined by the Fire Code official that access by a single road might be impaired by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access. [REF: CFC §503.1.2].
- c. 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, measure in a straight line between accesses (from centerline to centerline). [REF: CFC, Appendix D].

## L. Dead End Roads

1. State Response Area (SRA) excluding Ranchlands (AR) and Very High Fire Hazard Severity Zone (VHFHSZ): 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:



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- a. Parcels zoned for less than one acres – 800 feet
  - b. Parcels zoned for 1 acre to 4.99 acres – 1,320 feet
  - c. Parcels zoned for 5 acres to 19.99 acres – 2,640 feet
  - d. Parcels zoned for 20 acres or larger – 5,280 feet
2. 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.

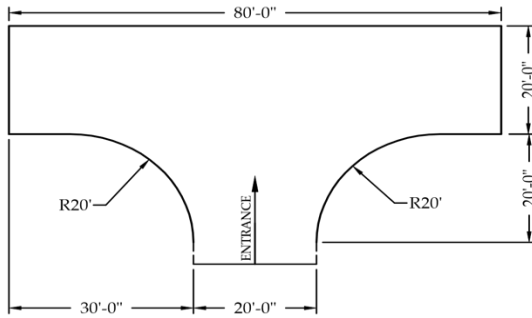


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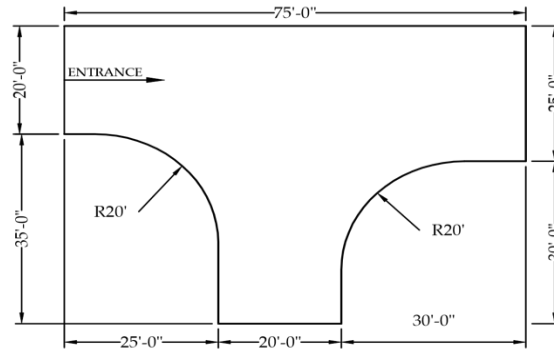
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FIG. 1

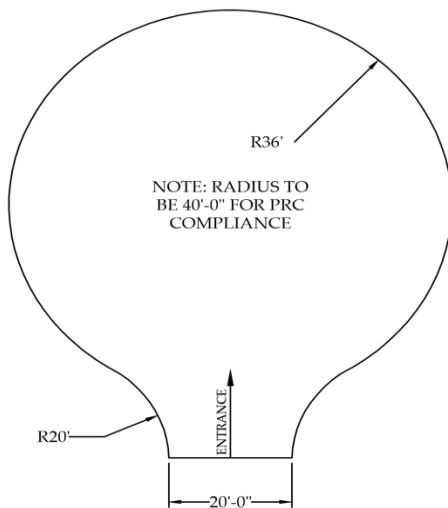
## TURNAROUNDS & TURNOUT



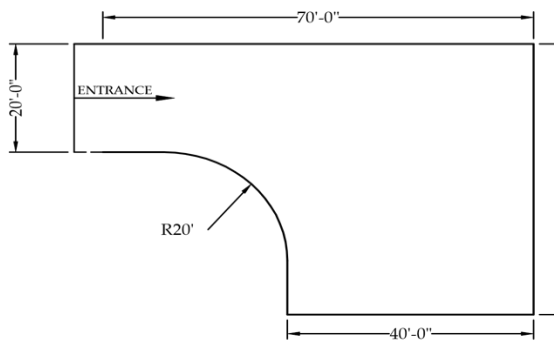
TURNAROUND A



TURNAROUND B

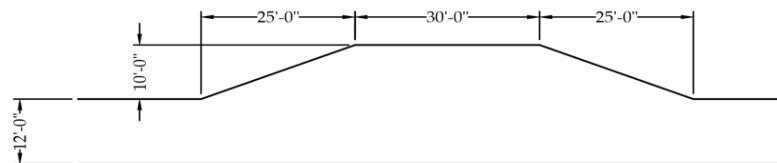


TURNAROUND C



TURNAROUND D

NOTE: TURNAROUND A AND TURNAROUND C (WITH A 40'-0" RADIUS) COMPLY WITH PRC 4290



### TURNOUT:

- DRIVEWAYS EXCEEDING 500 FEET
- DRIVEWAYS EXCEEDING 150 FEET IN SRA OR VHFHSZ

DO NOT SCALE DRAWINGS

**Note:** Turnaround slope shall not exceed 5% in any one direction.