



# **Fire & Life Safety Requirements for Fire Department Access at 1 & 2 Family Dwellings**

This brochure is being provided as a resource only.

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. Any deviations from this guide, not approved in writing by the Fire Marshal shall not be allowed.

Fire Marshal's Office:

2860 Southwest Dr.  
Sedona, AZ 86336  
(928) 204-8926

- 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. (SFC Sec. 503.1.1)
- 2) ACCESS ROADS ADJACENT TO BUILDINGS:** Access roadways shall not be closer than 20 feet to a structure unless topographical restrictions dictate the location. (SFC Sec. 503.1.1)
- 3) FIRE APPARATUS ACCESS ROAD WIDTH AND VERTICAL CLEARANCE:** Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (with 12 foot minimum driving surface for one or two dwelling units and out buildings), and an unobstructed vertical clearance of not less than 13 feet 6 inches. (SFC Sec. 503.2.1)
- 4) AERIAL APPARATUS ROAD WIDTHS:** Buildings more than 30 feet in height shall have fire apparatus access roads constructed for use by aerial apparatus with an unobstructed driving surface width of not less than 26 feet. (SFC Appendix D, Sec. D105)
- 5) 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. Documentation from a registered engineer that the finished construction is in accordance with the approved plans or the requirements of the Fire Code may be requested. (SFC Sec. 503.2.3 and D102.1)
- 6) FIRE APPARATUS ACCESS ROAD GATES:** Gates securing the fire apparatus access roads shall comply with all of the following criteria:
  - All gates shall be approved by the Fire Marshal
  - Electric gate operators, where provided, shall be *listed* in accordance with UL 325
  - Gates intended for automatic operation shall comply with the requirements of ASTM F 2200
  - The minimum gate width shall be 20 feet (16 feet if approved by the Fire Marshal)
  - Gates shall be of the swinging or sliding type
  - Construction of gates shall be of materials that allow manual operation by one person
  - Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective
  - Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be from the "Knox Box" Brand Key Cylinder Entry system and are available for purchase through [www.knoxbox.com](http://www.knoxbox.com).
  - Manual opening gates shall not be locked with a padlock or chain and padlock unless they are equipped with a Knox Box brand padlock which is available for purchase through [www.knoxbox.com](http://www.knoxbox.com).
  - Locking device specifications shall be submitted for approval by the fire code official
- 7) BRIDGES AND ELEVATED SURFACES.** 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, (75,000 lbs). 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. (SFC Sec. 503.2.6)

- 8) GRADE:** Private fire apparatus access roadway grades shall not exceed an average grade of 10 percent with a maximum grade of 15 percent for lengths of not more than 200 feet. Intersections and turnarounds shall be level (maximum 5%) with the exception of crowning for water run-off. Public streets shall have a maximum grade of 15%. (SFC Sec. 503.2.7 and D103.2)

**Note:** A 12% grade may be exceeded when an automatic fire sprinkler system is installed, but in no case shall the grade exceed 20 percent.

- 9) TURNING RADIUS:** The inside turning radius and outside turning radius shall be not less than 28 feet\* and 48 feet\* respectively, measured from the same center point. (SFC Sec. 503.2.4) – (See diagrams attached) \*in certain cases, where topography or other constraints are present, the Fire Marshal may approve a turn radius of less than 28’ inside and 48’ outside, but in no case shall the turn radius be less than 20 feet inside and 40 feet outside.

- 10) DRAINAGE:** When subject to run-off damage, access roads shall be provided with approved drainage. (SFC Sec D103.3.2)

- 11) DEAD END ROADS:** Dead end fire apparatus access roads in excess of 150 feet in length shall be provided with approved width and turnaround provisions. (SFC Sec. 503.2.5 and D103.4) - (see diagrams on back)

- 12) ADDRESSING:** New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be Arabic numerals or alphabet letters. Addressing for 1 & 2 family dwellings shall meet the requirements of CRR Policy #1307. (SFC 505.1)

**The following applies if the property is located within the Wildland Urban Interface:**

**1) 403.2.1 Dimensions.**

Driveways shall provide a minimum unobstructed width of 12 feet (3658 mm) and a minimum unobstructed height of 13 feet 6 inches (4115 mm).

**2) 403.2.2 Length.**

Driveways in excess of 150 feet (45 720 mm) in length shall be provided with turnarounds. Driveways in excess of 200 feet (60,960 mm) in length and less than 20 feet (6096 mm) in width shall be provided with turnouts in addition to turnarounds.

**3) 403.2.4 Turnarounds.**

Driveway turnarounds shall have inside turning radii of not less than 30 feet (9144 mm) and outside turning radii of not less than 45 feet (13 716 mm). Driveways that connect with a road or roads at more than one point shall be considered as having a turnaround if all changes of direction meet the radii requirements for driveway turnarounds.

**4) 403.2.5 Turnouts.**

Driveway turnouts shall be an all-weather road surface not less than 10 feet (3048 mm) wide and 30 feet (9144 mm) long. Driveway turnouts shall be located as required by the code official

**5) 403.3 Fire apparatus access road.**

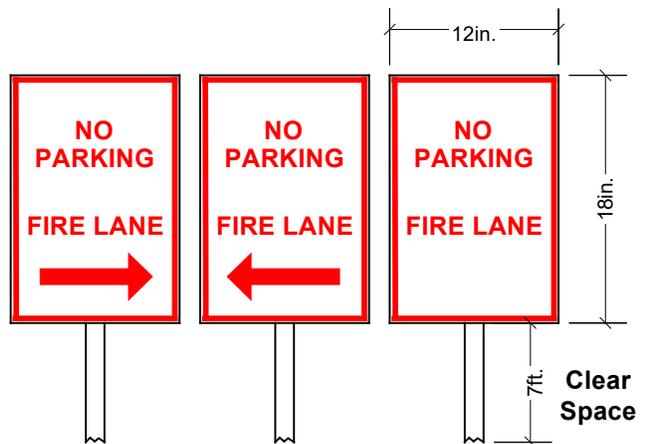
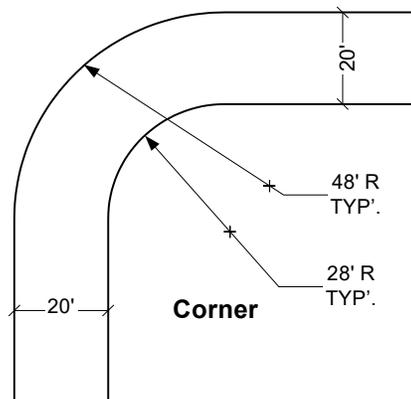
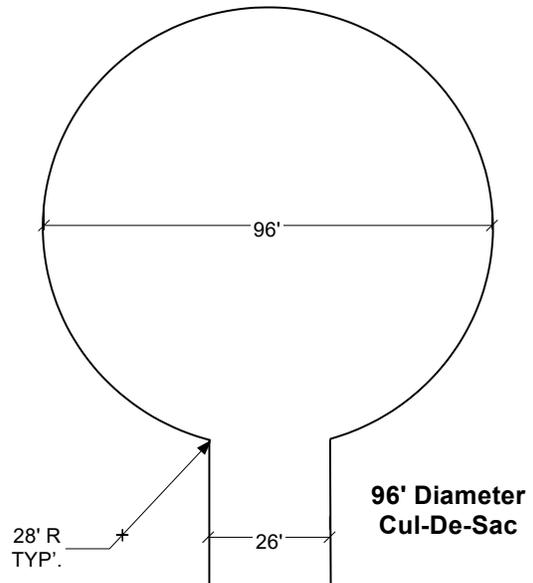
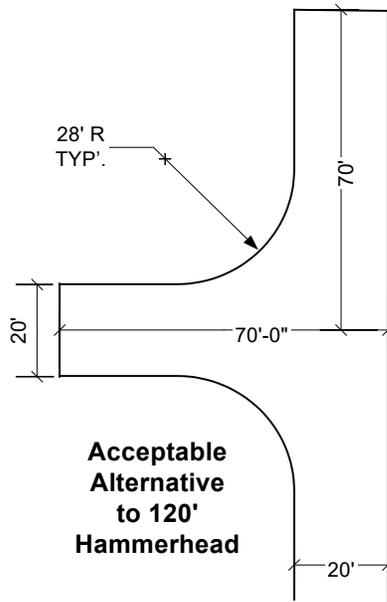
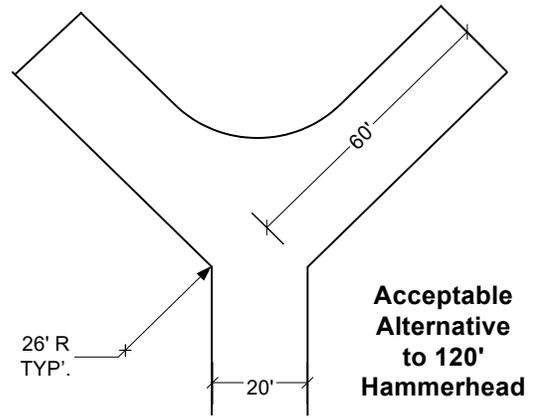
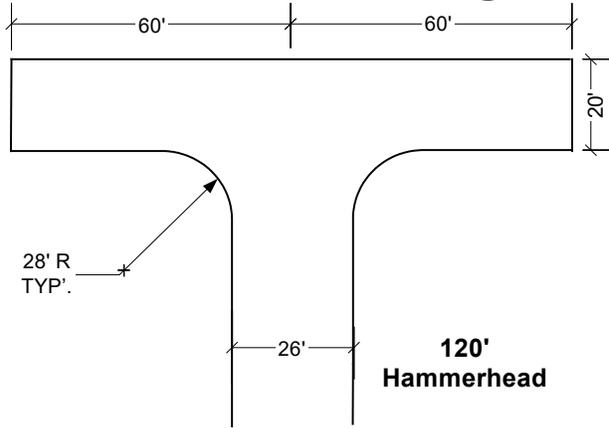
Where required, fire apparatus access roads shall be all-weather roads with a minimum width of 20 feet (6096 mm) and a clear height of 13 feet 6 inches (4115 mm); shall be designed to accommodate the loads and turning radii for fire apparatus; and shall have a gradient negotiable by the specific fire apparatus normally used at that location within the jurisdiction. Dead-end roads in excess of 150 feet (45 720 mm) in length shall be provided with turnarounds as *approved* by the code official. An all-weather road surface shall be any surface material acceptable to the code official that would normally allow the passage of emergency service vehicles typically used to respond to that location within the jurisdiction.

**SFC** = 2012 Sedona Fire Code

**IBC**= International Building Code

**IWUIC** = 2018 International Wildland Urban Interface Code

# Dead End, Turning Radius and No Parking Sign Diagrams



# Fire Department Access Criteria

The following requirements have been adopted by Sedona Fire District as established minimum access roadway design criteria for fire apparatus to all proposed and newly constructed structures.

## Wheel load

Required access roads and streets shall be constructed to support a minimum of 12,500 pounds wheel point load and a gross vehicle weight of 75,000 pounds. Road design and compaction reports verifying load carrying capacity shall be submitted prior to construction. An inspection may be required for final approval.

**Wheel load is weight applied to contact area.**

