



FIRE PREVENTION STANDARD

FIRE APPARATUS ACCESS ROAD REQUIREMENTS

SCOPE

This Standard applies to all required fire apparatus access roadways, whether public or private, that provide fire apparatus access from a fire station to a facility, building, or portion thereof. It includes the requirements for fire apparatus access road design and surface materials. Information contained herein applies to typical circumstances and may not address all situations. Fire District apparatus access roads shall be designed, installed, and maintained in accordance with Chapter 5 of the California Fire Code (CFC) and the local ordinance.

GENERAL REQUIREMENTS

The developer/contractor shall submit site improvement plans indicating all existing and proposed fire apparatus access roads for review and approval prior to construction.

Fire apparatus access roadways shall be provided for every facility, building, or portion of a building constructed or moved into or within this jurisdiction. Fire apparatus access shall extend to within 150 feet of all portions of the facility and all portions of the exterior walls of the first story of a building as measured along an improved route around the exterior of the building or facility. All newly proposed buildings, including single family homes and accessory structures, shall be reviewed for fire apparatus access requirements by the fire district prior to project approval.

All required fire apparatus access roads shall be installed, in-service, and inspected by the fire district prior to on-site construction or combustible storage.

ROAD SPECIFICATIONS

Fire apparatus access roads shall have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13 feet, 6 inches (13'6").

Exception: Access driveways serving no more than two single family residence shall have an unobstructed width of not less than 16 feet.

Properties with a combination vehicle entrance and exit that is divided by a median shall have an unobstructed roadway with of no less than 14 feet on each side of the entrance/exit median.

The fire code official shall have the authority to require an increase in the minimum access width where they are considered inadequate for fire or rescue operations.

GRADES AND TYPE OF SURFACE

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 all-weather driving surface capable of supporting the imposed load of fire apparatus weighing at least 74,000 pounds (34,473 kg) in accordance with Caltrans Design Standard HS- 20-44.

Exception: Driveways serving one or two single-family dwellings may be constructed of an alternate surface material, providing the imposed weight load design minimums are met and the grade does not exceed 10 percent.

An all-weather driving surface is defined in the District Ordinance 2022-37 as a roadway with a minimum surface finish that is designed to carry the imposed weight loads of fire apparatus.

Fire department access roadways having a grade of between 16% and 20% shall be designed to have a finished surface of grooved concrete sufficient to hold a 44,000 pound (19 958 kg) traction load. The grooves in the concrete surface shall be ½ inch (13 mm) wide by ½ inch (13 mm) deep and 1 ½ inch (38 mm) on center and set at a 30 to 45 degree angle across the width of the roadway surface. No grade shall exceed 20%, nor shall the cross slope exceed 8%, unless authorized in writing by the fire code official.

The angles of approach and departure for any means of access shall not exceed 10% at 10 feet of the grade break.

ALTERNATE ROADWAY SURFACES

The proposal of an alternate roadway service material (e.g., grasscrete or any porous grass pavers) shall require an application and fees for an alternate materials and methods review. Alternate materials for paving systems involving plastic components or involving turf/sod installed over the paving system will not be permitted.

Porous paving system shall have a maximum deflection of 1/2 inch when subject to fire apparatus loads of 37 tons. Where the porous paving system is proposed adjacent to grass surfaces, a minimum 6-inch-wide concrete mow strip curb with reflector markers spaced at 25 feet intervals at the edge of the porous paving is required, delineating the extent of the proposed porous paving.

When required by the fire district, the alternate road service material shall be identified by signs indicating alternate surface pavers will support a 37 ton load.

Acceptance of porous paving shall require the submittal of a special inspection report by a civil engineer or geotechnical engineer indicating that the proposed porous paving system installed at the subject site meets manufacturers installation specifications and is capable of supporting the specified apparatus loading.

Final acceptance of the porous paving system shall require a live field test with the fire apparatus. If the live field test fails, the proposed porous paving system shall be deemed unacceptable and shall be replaced with an approved roadway surface.

Porous paving installer and property owner shall submit in writing on letterhead that they fully understand the fire district position and that the failure of the light field test will result in the complete removal of the proposed porous system.

TURNING RADIUS

Fire apparatus access roads shall have a minimum outside turning radius of 45 feet and a minimum inside turning radius of 25 feet, based on a 20-foot-wide roadway.

Exception: When approved by the Fire District, homes within hillside developments with roadway grades exceeding 16%, accessible solely by engine company response, and when protected by an approved automatic fire sprinkler system, may have a roadway with a minimum outside turning radius of 35 feet and a minimum inside radius of 15 feet.

TURNAROUNDS AND TURNOUTS

Dead-end fire apparatus access roads in excess of 150 feet long shall be provided with an approved turnaround. Fire District turnarounds shall not be obstructed in any manner. Access roadways permitted to be less than 20 feet wide, that exceed 750 feet in length, shall be provided with outsets or turnouts every 300 feet along the length of the road or driveway, or at locations approved by the Fire Code Official. Each outset or turnout shall provide for a roadway with a minimum width of 29 feet for a length of 40 feet.

TRAFFIC CALMING DEVICES

Traffic calming methods are reviewed by the Fire District on a case-by-case basis to verify compliance with minimum access requirements and the potential impact on emergency response times. See District standards for Traffic Calming Devices.

SECONDARY ACCESS

A second emergency apparatus access road shall be provided when it is determined by the Fire District that access by a single roadway might be impaired by vehicle congestion, condition of terrain, climatic conditions, or other factors.

Multiple-family residential projects having more than 100 dwelling units shall be provided with two separate and approved fire apparatus access roads and shall be placed a distance apart equal to but 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.

AERIAL FIRE APPARATUS ACCESS ROADS

Buildings exceeding 30 feet in height, measured from grade plane to the highest roof surface, shall be provided with approved aerial fire apparatus access roads. 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.

Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet, exclusive of shoulders, and shall be located within a minimum of 15 feet and a maximum of 30 feet from the building and positioned parallel to one entire side of the building. Overhead utility and power lines shall not be located over the aerial fire apparatus access road or between the aerial fire apparatus access road and the building.

TEMPORARY ACCESS ROADS

When approved by the Fire District, temporary access roads may be installed to serve projects under construction until such time that the permanent access road is in place. Temporary access roads shall meet the same requirements as permanent access roads. Plans submitted shall include, but not be limited to, stamped civil or structurally engineered specifications, indicating load requirements, cross-sectional details, timelines for use, and acknowledgement that the integrity of the roadway shall be maintained at all times. All utilities proposed to run under temporary roads shall be installed prior to final acceptance of the temporary access road. Temporary access roads constructed of compacted gravel or crushed rock are prohibited between October 15 and April 15. A Completed Alternate Materials and Methods application, engineering certification and fees for the temporary access road construction shall be submitted to the Fire District for review and approval prior to the time of the acceptance inspection or testing of the roadway. These requirements may be modified in writing by the fire code official depending on inclement weather conditions. A temporary fire department access road shall be established and maintained as follows:

1. Obtain Fire District written approval for the temporary access road.
2. Prior to start of combustible construction the applicant shall call for inspection to verify that the temporary access road has been installed and that it meets fire district standards.
3. If at any time a condition of a temporary access road permit is violated, a "Stop Work Order" will be issued at which time all combustible construction will be halted until the conditions of the permit are re-established. If several conditions are violated or if repeated violations occur, a "Stop Work Order" may be issued and will remain in effect until permanent roadways are installed.

EXHIBIT A – TURNAROUNDS

