



# Standard for the Determination of Fire Sprinkler Retrofit

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Approved by:  
RWM

The intent of this Standard is to standardize the method by which the requirements for the retrofit of fire sprinklers in existing buildings are applied.

These requirements apply to residential and non-residential buildings undergoing repairs, alterations, additions or a combination thereof of more than 50% of the existing floor.

**Exception:** Detached, existing structures being converted into Accessory Dwelling Units (ADUs) as defined by the California Government Code and local ordinances, shall not require automatic fire sprinkler systems, unless the existing main residence is sprinklered.

## **Definitions:**

**ALTERATIONS.** A change that results in the reconfiguration of any space or use, excluding addition, elimination, relocation or associated in-fill of any door or window that results in an increase in the size of the compartment. Alterations also include changes in the use of a room or space to a more hazardous use, with or without a change in the size of the compartment. More hazardous uses include garages, and kitchens.

**COMPARTMENT.** A space completely enclosed by walls and a ceiling. Each wall in the compartment is permitted to have openings to an adjoining space if the openings have a minimum lintel depth of 8 in. (200 mm) from the ceiling and the total width of the openings in a single wall does not exceed 8 ft (2.4 m) in width. A single opening of 36 in. (900 mm) or less in width without a lintel is permitted when there are no other openings to adjoining spaces.

**FLOOR AREA, GROSS.** The floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and courts, without deduction for corridors, stairways, closets, the thickness of interior walls, columns or other features. This area includes garages. Any areas of a building that are outside of exterior walls shall not be considered unless the room created contains heating appliances that are under attached overhangs.

**REPAIRS.** The replacement, upgrading, or refinishing of any damaged structural or non-structural building element and includes the reconstruction or renewal of any part of an existing building for the purpose of its maintenance.

## **Section 1 - The following must be submitted by the Applicant:**

1. Building plans for the entire building which includes labeled dimensions, height of building, number of stories and height of each story.
2. Building plans must include the type of construction being used.
3. Building plans must include the type of fire protection system existing and/or being proposed.
4. Each new and altered room shall be identified and include its existing and new use, if applicable.
5. Each room shall be identified with its square footage and alphabetical identifier. (i.e. attachment D).
6. Each new and altered space (hallway, foyer, lobby, etc.) shall be identified and include dimensions.

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## Section 2 - The following guidelines should be used to measure the area of the proposed work:

**INTENT:** It is the intent of these regulations to require sprinklers when there is a significant increase (Greater than 50%) in fire area due to the enlargement of compartments. With this in mind, the measurements of proposed work shall adhere to the following:

1. New rooms shall be measured using the interior dimension surrounding the area of alteration proposed in the building plans.
2. Existing rooms modified in size are measured using inside perimeter walls surrounding the area of alteration proposed in the building plans.
3. Where the removal of a wall creates or enlarges a compartment, the entire floor area of the new compartment shall be considered
4. Existing spaces (hallways, foyers, lobbies, etc.) modified in size shall be measured using the dimensions of the new size of the space being considered.
5. Work within a room that changes the character, use, operation or nature of the room shall be identified as new. For example, an office that is converted into a server room shall be identified as new. However, work that involves only esthetics and/or substitution of existing components does not change the use of the room.
6. In a single family dwelling, only changes in use to something more hazardous shall be considered as new. More hazardous uses include kitchens, garages, and bedrooms.
7. To calculate the percentage of new/altered work: add together the square footage of the new and altered spaces. Divide this number by the total existing square footage before modifications. Multiply by 100 to obtain percentage.
8. Exterior work (i.e. new roof, installation of exterior deck or balcony) shall not be counted to calculate the area of proposed work.
9. Interior work such as sheetrock replacement, or window alterations does not count as new square footage, and shall not be calculated
10. Detached sheds, garages, carports, storage, or other ancillary buildings that are greater than 400 square feet and that do not meet the definition of an ADU shall require fire sprinklers. The water supply for the sprinklers may be combined with the domestic supply provided the sprinkler demand does not exceed the supply. A check valve, drain, and flow switch with horn/strobe alarm shall be installed. The number of sprinklers shall be installed using light or ordinary hazard calculations based on NFPA 13 hazard occupancies and its use.
11. Complete removal of walls, including roof members shall be considered as new construction. (i.e. demolition of all but one wall of a structure the reconstructing the building regardless of whether wall locations are moved)

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12. The following table shall govern more hazardous to less hazardous uses. Rooms not described below should fall into the use that most closely resembles the described use below:

Use	Rank
Kitchen, Garage	1 (Most Hazardous)
Bedroom/Sleeping Area, Any room or area on the level of a living area that contains heating equipment*	2
Bathrooms, Living Rooms, Family Rooms, Dens, Offices, Storage Rooms	3 (Least Hazardous)

*\*A living area is any area normally designed for human occupancy*

## **Section 3 - Committee Review**

To ensure that the Fire Department has made the most accurate determination regarding the requirement to install a fire sprinkler system, one plan reviewer appointed by the Fire Marshal shall re-evaluate plans that are either 5% below or above the threshold required (45%-55%). The final decision shall be made by the Fire Marshal with supporting documentation and placed in the applicant's file.

## **Section 4 - Waivers and Appeals**

There are no waivers for code requirements. Alternative means or methods or a modification of code may be requested (see Section 5).

Appeals may be made to the Fire Prevention Bureau only if the Applicant believes the determination that sprinklers are required is in error. A staff consultation fee may be required if the determination is upheld. The Fire Marshal shall review and decide the appeal.

An approval or denial of the appeal shall be provided to the Applicant in writing within 10 business days of receipt. The Fire Marshal's decision shall be final. A staff consultation fee may be required.

## **Section 5 - Alternate Means and Methods**

Whenever there are practical difficulties in carrying out the provisions of the code the Fire Marshal shall have the authority to grant the use of alternative means or methods which achieve **equivalent** life-safety or fire protection as permitted by the Fire Code. The evaluation for whether it is appropriate to permit alternate means or methods shall be made under the authority of California Fire Code Section 104.9, and Title 19 CCR, Division 1, Ch. 1, Sub Chapter 1, article 2.

Wherever possible, Alternate Means and Methods requests will be evaluated against NFPA 550: Guide to the Fire Safety Concepts Tree, 2017 Edition.