

SOUTHERN MARIN FIRE PROTECTION DISTRICT



Fire Protection Standard 401

FIRE SPRINKLER SYSTEMS

Date: August 1, 2009

Revision: October 5, 2011

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This Standard is promulgated pursuant to the Southern Marin Fire Protection District amendments to the California Fire Codes regarding the requirements for automatic fire sprinkler systems.

For alarm monitoring requirements reference Southern Marin Fire District Standard 400.

I When Required:

A. A fully automatic fire sprinkler system shall be required:

1. In all new construction
2. In all substantially remodeled structures.
3. As otherwise required by ordinance.

Exceptions:

1. Free standing Group U Occupancies not more than 1,000 square feet and provided with exterior wall and opening protection as per Table 5-A of the Building Code.
2. Agricultural buildings as defined in Appendix C of the California Building Code and not exceeding 2,000 square feet, having clear unobstructed side yard of combustible materials, exceeding 60 feet in all directions and not exceeding 25 feet in height, and located within an Agricultural zoned district as defined in the Marin County Planning Code.
3. Any permissible reductions in fire flow stipulated by California Fire Codes shall not be applied unless approved and the entire building is fully sprinkled in accordance with NFPA Std. 13. Such cases may be approved by the Fire Marshal / Fire Code Official. In any case, the available fire flow shall not be less than 1,500 gallons per minute.

II Permits and Plans

A. A Fire Department Permit application shall be obtained for all fire protection and extinguishing systems. The Permit application shall be completed and plans reviewed prior to installation. Contact the Southern Marin Fire Protection District (415) 388-8182 for permit applications.

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B. Plans shall be submitted as follows. At least three (3) sets of architectural or engineered blue or black line drawings shall be accompanied by three sets of calculations and material specification sheets for piping, fittings, and sprinkler heads.

III One and Two Family Dwelling Units

A. Buildings that are intended for occupancy as a one or two family dwelling unit shall have an automatic residential fire sprinkler system installed in accordance with most recent published edition of National Fire Protection Association Standard 13D with the following modifications:

1. Control valves and riser shall be installed as shown in Figure 1.
2. A remote inspector test valve is required at the furthest remote portion of the system.
3. Pilot heads shall be installed in the attic spaces directly above every attic access opening.
4. All garages shall be sprinkled.
5. A sprinkler head box shall be installed in every unit near the main sprinkler riser and shall include at least one head of each type installed, a sprinkler head wrench, and a water key to test the remote inspector test valve.
6. A durable and permanent sign shall be installed at the test valve stating "Inspector Test Valve".

IV One and Two Family Dwellings Greater than 6,000 Square Feet

A. Any Group R Division 3 Occupancy as defined by the California Building Code in excess of 6,000 square feet, shall have an automatic residential fire sprinkler system installed in accordance with most recent published edition of National Fire Protection Association Standard 13R with the following modifications:

1. A remote inspector test valve is required at the furthest remote portion of the system.
2. Pilot heads shall be installed in the attic spaces directly above every attic access opening.
3. All garages shall be sprinkled.



4. A sprinkler head box shall be installed in every building near the main sprinkler riser and shall include at least one head of each type installed, a sprinkler head wrench, and a water key to test the remote inspector test valve.
5. A durable and permanent sign shall be installed at the test valve stating "Inspector Test Valve".

B. Any permissible reductions in fire flow stipulated by the California Fire Codes shall not be applied unless approved and the entire building is fully sprinkled. Such cases may be approved by the Fire Marshal / Fire Code Official. In any case, the available fire flow shall not be less than 1,500 gallons per minute.

V Hotels/Motels and Apartment Buildings

A. Buildings that are intended for occupancy as a Group R Division 1 Occupancy as defined by the California Building Code, shall have an automatic residential fire sprinkler system installed in accordance with the most recent published edition of National Fire Protection Association Standard 13R with the following modifications:

1. A remote inspector test valve is required at the furthest remote portion of the system.
2. Pilot heads shall be installed in the attic spaces directly above every attic access opening.
3. All garages shall be sprinkled in accordance with NFPA Std. 13 for Ordinary Hazard occupancies.
4. A sprinkler head box shall be installed in every building near the main sprinkler riser and shall include at least six heads of each type installed, a sprinkler head wrench, and a water key to test the remote inspector test valve.
5. A durable and permanent sign shall be installed at the test valve stating "Inspector Test Valve".

B. Any permissible reductions in fire flow stipulated by the California Fire Codes shall not be applied unless approved and the entire building is fully sprinkled in accordance with NFPA Std. 13. Such cases may be approved by the Fire Marshal / Fire Code Official. In any case, the available fire flow shall not be less than 1,500 gallons per minute.



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VI All Commercial Structures

A. An automatic fire sprinkler system shall be installed in all of the following in accordance with the most recent published edition NFPA Std. 13:

1. Every newly constructed, freestanding building or facility.
2. In newly created attached second dwelling units.
3. In all buildings which has more than fifty per cent (50%) floor area added or any "substantial remodel" as defined in this standard, within any 36-month period. The Chief / Fire Code Official may grant exceptions when alternate means of protection are installed as approved by the Chief / Fire Code Official.
4. In all buildings except R-3 occupancies, in excess of 3,000-sq. ft. which have more than ten per cent (10%) floor area added within any 12-month period. The Chief / Fire Code Official may grant exceptions when alternate means of protection are installed as approved by the Chief / Fire Code Official.
5. In all existing buildings, where fire sprinklers are required by provisions of this code, they shall be extended into all unprotected areas of the building in accordance with standards developed by the Chief / Fire Code Official.
6. All public storage facilities shall be provided with an automatic fire sprinkler system.

VII Substantial Remodel Defined

A. Substantial Remodel shall mean the renovation of any structure, which combined with any additions to the structure, affects a floor area, which exceeds fifty percent of the existing floor area of the structure within any 36 month period. When any changes are made in the building, such as walls, columns, beams or girders, floor or ceiling joists and coverings, roof rafters, roof diaphragms, foundations, piles or retaining walls or similar components, the floor area of all rooms affected by such changes shall be included in computing floor areas for purposes of applying this definition. This definition does not apply to the replacement and upgrading of residential roof coverings.

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Example of calculation:	Total base of initial existing walls	1232 feet
	50% of base =	616 feet
	Walls removed	281 feet
	Walls added	<u>312 feet</u>
	Walls altered	593 feet

The total walls altered is less than 50% of the base, therefore, sprinklers are not required.

Figure 1

