

# ROSS VALLEY FIRE DEPARTMENT



Developed by

Robert Bastianon, Fire Inspector  
Approved by

Roger Meagor, Fire Chief

Fire Protection Standard 401-D

## Residential Fire Sprinkler Systems (NFPA 13D)

Date: August 5, 2008

Revision: \_\_\_\_\_

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This standard is promulgated pursuant to the Ross Valley Fire Department amendments to the California Fire Code. This standard applies to one and two family dwellings (as classified by the California Building Code) under 6000 square feet where fire sprinkler systems are installed when such systems are required by code or specific local ordinance or as an approved Alternate Method of Compliance. The system design criteria, as set forth in this standard, are based on total building square footage. Note that all usable spaces such as attached garages, carports, attics used for storage, etc. are included when determining total building square footage.

### Definitions

#### **Alternate Method of Compliance:**

An approved method of compliance that, in the opinion of the Fire Department, meets the intent of the provisions outlined in the Fire Code.

#### **NFPA 13D:**

National Fire Protection Association Standard 13D, Fire Sprinkler Systems in One and Two Family Dwellings and Mobile Homes.

### Requirements

#### **General**

The sprinkler system design and installation shall comply with provisions of the most recently adopted edition of NFPA Standard 13D except as specified in this Standard. A field flow test will be required for all systems using a ¾ inch meter.

#### **Number of design sprinklers**

- For buildings up to 3600 square feet, the number of design sprinklers shall be in accordance with NFPA Standard 13D.
- For buildings 3601 to 6000 square feet, the number of design sprinklers shall include all sprinklers within the most remote room or area up to a maximum of three (3) sprinklers.

**Note:** If the most remote room or area contains less than three (3) sprinklers, the number of design sprinklers shall include all of the heads within the room. In addition, calculations shall be provided that demonstrate the operation of 3

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sprinklers in the most remote room that requires three (3) or more heads for coverage.

- Buildings in excess of 6000 square feet, shall meet the requirements of N.F.P.A. 13-R

## **Additional locations of Fire Sprinklers**

- Fire sprinklers shall be provided in any attached garage, carport, basement, foyer, bathroom, closet, or accessible space under stairs, regardless of the size of the space. Covered balconies, patios, and exit ways that extend greater than four feet from the structures shall also be provided with fire sprinkler protection.
- Attics, crawl spaces, or concealed spaces, with a greater than 22 inch by 30 inch access opening and/or, if provided with access stairs and/or, if intended to be used for living or storage purposes, shall be provided with fire sprinkler protection.
- Attic spaces that contain mechanical equipment such as furnaces and water heaters shall be provided with sprinklers limited to the protection of the equipment itself. Attic sprinkler coverage at a minimum shall protect the access opening.
- Small spaces that contain furnaces, water heaters or other mechanical equipment shall be provided with sprinkler protection regardless of the size of the space.

## **Alarms and Monitoring**

- Exterior audible water flow alarms shall be provided. Additionally, water flow shall activate either a separate interior audible device that can be heard in all sleeping areas or, through interconnection with the smoke detectors, which will sound an alarm in the sleeping areas.
- Water flow switches and control valves shall be electrically monitored when the system includes 100 or more heads. Valve monitoring, water-flow alarm and trouble signals shall be automatically transmitted to a U.L. certified central or remote station monitoring service.

## **Inspectors Test**

- An inspector test valve shall be installed at the furthest portion of the system. A durable and permanent sign shall be provided at the test valve stating "Inspector Test Valve".

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### Spare Head Box

- 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.

### Hydrostatic Testing

- All fire extinguishing systems installed in accordance with NFPA Standard 13-D shall be tested for leakage by undergoing a hydrostatic test made at 200 psi for a one hour duration or at 50 psi above static pressure in excess of 150 psi for a two hour duration.

### Control Valves

- Valves controlling the water supply to residential fire sprinkler systems installed in accordance with NFPA Standard 13D, shall be distinguishable, accessible, and located adjacent to the structure, proximal to the domestic shut off valve. The main system control valve shall be distinguishable from the domestic valve by means of a permanently attached tag and be of contrasting color (i.e.: red handle for main system, versus black handle for the domestic supply).

