

## POLICY

### MODIFICATIONS OF NFPA 13D 2002 EDITION

**1.1\* Scope:** This standard covers the design and installation of automatic sprinkler systems for protection against the fire hazards in one- and two-family dwellings and manufactured homes. Vista Fire Department requires the installation of sprinklers in residential occupancies and attached garages, carports, workshops and storage rooms.

**1-5.1 Sprinklers:** Only new residential sprinklers shall be employed in the installation of sprinkler systems. At least one spare sprinkler head of each type used in the installation and appropriate wrench shall be provided on the premises in a sprinkler head box.

**1-5.4 Sprinkler Testing:** The system shall be tested at a minimum of street pressure in accordance with NFPA 13D.

**2-1 Water Supply - General Provisions:** Every automatic fire sprinkler system shall have at least one automatic water supply. When stored water is used as the sole source of supply, the minimum quantity shall equal the water demand rate times 10 minutes.

**2-2 Water Supply Sources:** Connection to a reliable water works system is an acceptable water source. All other proposals require prior approval of the Fire Marshal.

**3-Note – Riser Location:** The system riser shall be located inside the garage with complete access to the system components, either exterior or interior.

**3-1.1 Control Valve:** No control valve is permitted which could shut off only the fire sprinkler system. In a piping system serving both sprinkler and domestic needs a shut off valve shall be installed above ground, exterior of the residence adjacent to the riser, which will shut off both the fire sprinkler system and the domestic water supply.

**3-1.2 Main Drain:** Each sprinkler system shall have a ½ inch or larger main drain valve on the system riser.

**3-1.4 Inspector Test:** Each fire sprinkler system shall have an inspector's test valve which shall be ½ inch threaded keyless valve (hose bibb). The valve shall be remote to the riser and located on the building exterior about five (5) feet above finished grade. The valve shall be labeled with a permanent plate with minimum ¼ inch lettering, color contrasting with background, stating "Inspector Test".

**3-2 Pressure Gauge:** A listed 300 psi pressure gauge shall be permanently installed on the system riser. Water supply pressure tanks shall also be provided with listed pressure gauges.

**3-4.3 Hold-downs and Hangers:** Plastic piping shall be supported per the manufacturer's installation instructions. In addition, hold-downs and hangers shall be installed within six (6") inches of sprinkler heads to prevent reactive movement if the head is activated. Hold-downs and hangers shall be listed and shall have no sharp edges coming in contact with plastic pipe.

**3-6 Alarms:** Local waterflow alarms with facilities for flow testing shall be provided on all fire sprinkler systems.

**3-6.1 Alarm Signal:** An audible fire alarm signal bell actuated by a waterflow switch shall be provided. The installation of an interior alarm horn is recommended to assure proper notification.

**3-6.2 Alarm Bell:** The alarm bell shall be located on the exterior of the building in the vicinity of the master bedroom. The bell shall be clearly audible in all bedrooms over background noise with all doors closed.

**3-6.3 Waterflow Switch:** Waterflow switch shall be a retarding type with a delay set between 30 – 45 seconds.

**4-6 Location of Sprinklers:** Sprinklers shall be installed in all areas.

**Exception 1:** Sprinklers are not required in bathrooms where the area does not exceed 55 sq. ft.

**Exception 2:** Sprinklers are not required in clothes closets, linen closets and pantries within the dwelling units where the area of the space does not exceed 24 sq. ft. and the least dimension does not exceed 3 ft. and the walls and ceilings are surfaced with noncombustible or limited combustible materials as defined by NFPA 220, Stand on Types of Building Construction.

**Exception 3:** Sprinklers may be omitted from open attached porches provided the porch is not the sole exit; however, attached garages shall be protected with QR sprinklers with not more than 150 sq. ft. coverage area. Sprinkler heads in garages shall be protected against mechanical damage by approved guards, except on recessed heads.

**Exception 4:** Sprinklers may be omitted from attics, crawl spaces and other concealed spaces that are not used or intended for living purposes, storage or mechanical equipment.

**Exception 5:** Sprinklers may be omitted from exterior entrance foyers that are not the only means of egress.

**4-6.1 Spare Sprinkler Head Box:** A spare sprinkler head box shall be located near the riser and contain at least 1 spare sprinkler for each type used in the residence, a wrench to change out heads and the key for the inspector test valve.

**Plan Submittal:** Plans submitted shall comply with the "Plan Review Checklist". Care should be exercised to include all the information required.

**Plan Check and Inspection Fee:** A plan check and inspection fee is required to be paid at the time plans are submitted for approval.

**Inspections:** Two inspections are required.

1. The "pressure test" and "Piping inspection" shall be completed prior to drywall or insulation being installed.
  - (a) All piping in place with sprinkler heads in place and wrapped to prevent damage.
  - (b) The inspectors test installed with keyless hose bibb.
  - (c) The system shall be pressurized as required.
  - (d) All hangers and hold-downs shall be in place.

- (e) Pressure relief valve shall be installed after the pressure test.
  - (f) Size and type of underground piping to be inspected prior to bury.
2. The "Final inspection" shall be completed prior to Building Department Final inspection.
- (a) Guards protecting all heads in the garage against mechanical damage, unless recessed heads are installed.
  - (b) All heads free of protective wraps and with escutcheon plates in place.
  - (c) The alarm bell connected to the flow switch with temporary or permanent power to confirm complete system operation. (Flow switch to activate between 30-45 seconds.)
  - (d) Pressure relief valve in normal operating status.
  - (e) An "INSPECTOR TEST" sign permanently affixed at the inspectors test valve.
  - (f) Size and type of underground piping to be inspected prior to bury. Inspection may be performed at final if not previously inspected.
  - (g) Spare sprinkler head box installed near the riser containing 1 spare head for each type used in the residence, 1 wrench for changing out the heads and the key for the inspector test valve.

**4.8 On-Site Document Requirements:** The following must be on-site throughout the installation process.

- (a) An approved set of Fire Sprinkler plans and hydraulic calculations.
- (b) A copy of the pipe manufacturer's installation pamphlet.
- (c) Building inspection card.
- (d) An approved set of building plans.

**6.3 Multipurpose Piping Systems:**

- (a) Where domestic and/or irrigation water is supplied by a common meter **with the fire sprinklers**, and where grove irrigation, long-term use of lawn sprinklers or unusually high domestic demands occur; those usages shall be considered in the design of the water supply unless provisions are made to prevent domestic and/or irrigation flow in the event of fire sprinkler activation.
- (b) The peak anticipated domestic water demand shall be added to the sprinkler demand. In no case shall any anticipated domestic demand be less than 5 gpm.

POLICY APPROVAL:

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Gary Fisher  
Fire Chief

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