



San Mateo County Fire Department

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Standard Detail and Specification Manual

Section: Fire Sprinkler Systems	Title: Residential Fire Sprinkler Requirements
Effective: January 1, 2023	Revised: March 17, 2023
Number: CFS-003	Authorized By: Patrick Griffin, Fire Marshal

PURPOSE:

The San Mateo County Fire Department, in an effort to speed the approval of plans reviewed by the District, is establishing this Standard for the use of the submitter. The installation of Residential Sprinklers shall comply with the following code requirements:

- 2023 San Mateo County Fire Code Ordinance
- National Fire Protection Association, NFPA 13 D 2022 Edition
- National Fire Protection Association, NFPA 13, Chapter 12, 2022 Edition
- 2022 California Fire Code, Chapter 9 as amended in Chapter 80.

Residential Sprinkler Specifications required by the San Mateo County Fire Department:

- A California licensed C-16 contractor shall design automatic fire sprinkler systems. C-16 contractors must install the system they design.
- A minimum of 1 spare sprinkler of each type, temperature rating, and orifice size plus appropriate wrench shall be provided in a box located 5-6 feet above floor next to the system riser. Instructions on maintenance shall be provided to the building owner.
- In residential structures greater than 3,600ft² contractors shall install a remote inspector’s test complete with an orifice the equivalent diameter as the smallest sprinkler head in the system. In addition, the test fixture shall be labeled with an approved sign stating: “Inspector’s Test.”
- The waterflow switch shall be set to operate the alarm within 10-60 seconds after system activation and verified during the final inspection.
- Mechanical rooms shall be sprinklered (i.e., furnace and water heater).
- Exterior sprinkler heads shall be corrosion resistant.

- All valves shall have adequate clearances for grasping.
- Use manufacturer's specifications for installations and locations near heat zones, slopes, obstructions, etc.
- All devices, combination of devices, and equipment shall be approved or listed for the purposes for which they are intended. Manufacturer's Specification Sheets shall be made available.
- All attached garages shall be sprinklered.
- A head shall be mounted on a metal sprig above any attic access opening, and where required by San Mateo County Fire Department.
- An interior audible device shall be mounted in a central location, audible from the primary bedroom upon activation of the required flow switch.
- An exterior bell and interior audible device are required to be wired into the required flow switch on your fire sprinkler system. The bell, horn, and flow switch are to be wired into a separate circuit breaker at the main electrical panel and labeled. Circuit breaker to read "Fire Alarm" in red.
- Passive Purge systems as discussed in NFPA 13 D Section 7.8, are not permitted by San Mateo County Fire Department.
- (NFPA 13 D, Section 6.3.4) A warning sign, with minimum ¼ inch (6mm) letters, shall be affixed adjacent to the main shutoff valve and shall state the following:

WARNING: THE WATER SYSTEM FOR THIS HOME SUPPLIES FIRE SPRINKLERS THAT REQUIRE CERTAIN FLOWS AND PRESSURES TO FIGHT A FIRE. DEVICES THAT RESTRICT THE FLOW DECREASE THE PRESSURE OR AUTOMATICALLY SHUT OFF THE WATER TO THE FIRE SPRINKLER SYSTEM, SUCH AS WATER SOFTENERS, FILTRATION SYSTEMS, AND AUTOMATIC SHUTOOF VALVES, SHALL NOT BE ADDED TO THIS SYSTEM WITHOUT A REVIREW OF THE FIRE SPRINKLER SYSTEM BY A FIRE PROTECTION SPECIALIST. DO NOT REMOVE THIS SIGN.
- The use of Schedule 40 PVC for portions of fire sprinkler piping underground shall not be permitted.

SUBMITTAL REQUIREMENTS:

The following information is required for all sprinkler plan submittals:

- Submit all plans and hydraulic calculations in digital format to San Mateo County Planning & Building Department.
- Name, address, and phone number of:
 - Developer/owner
 - Sprinkler Installer
 - Designer

- Designer's stamp and signature
- Engineer's stamp and signature
- Street address of building
- Drawings must be to scale
- Sprinkler type, manufacturer, temperature rating, orifice size, minimum flows and operating pressure (include cut sheet)
- Sprinkler spacing
- Type of piping and schedule
- Identify all rooms, including details (soffits, slopes, etc.)
- Building elevations and plan views
- Use 2-head calculations, except on sloped ceilings. Ceilings with a slope of 8:12 shall use 3-head calculations or show listed head for sloped ceilings.
- Show water supply from City water main or water tank if City main is unavailable.
- Detail all segments of underground water supply piping from the meter to the base of the riser.
- Include cutsheets for all portions of system.

INSPECTIONS:

Contact the Fire Marshal's Office at SMCFDfiremarshal@fire.ca.gov to schedule an inspection appointment. Include the project address, permit number, contact information, and type of inspection you would like to request. Allow a minimum of 48 hours advanced notice for all required inspections. The following inspections are required:

- An overhead rough/hydro is required for this project. All system piping shall be hydrostatically tested at 200 PSI for two (2) hours or 50 psi above the system pressure, whichever is greater.
- An underground flush is required for any project that requires addition or alteration to underground piping. Underground systems will not be allowed to be connected to the overhead system without a flush witnessed by the Fire Code Official.
- A final fire system inspection is required for this project. This inspection requires that all related fire system components be tested in conjunction with one another. All components must function properly to pass the inspection. The spare sprinkler head box must be installed near the riser in a protected location. Cover plates on concealed heads must be uninstalled at final to ensure that the sprinklers can be visualized.