

4.11 Sprinkler System Water Flow Alarms and Monitoring (2025)

Reference: 2025 CFC Section 903.4 and 2025 NFPA 72; 2025 SFFD Administrative Bulletins 2.01 and 2.04

I. GENERAL REQUIREMENTS

1. **Electrical Monitoring Required for NFPA 13 and 13R.** Electrical monitoring of the sprinkler system shall be required for all NFPA 13 or NFPA 13R sprinkler systems, including R-3 occupancies. NFPA 13D sprinkler systems shall not be required to be electrically monitored.

II. MONITORED SYSTEMS

Sprinkler systems that are electrically monitored in accordance with 2025 CFC Section 903.4 and 2025 NFPA 72 Section 23.8.5.5 shall be subject to the following features and requirements:

1. **Notification Requirements.** The following conditions shall apply for notification appliances for sprinkler system monitoring:
 - A. **Sprinkler Bell.** A 24VDC (or 12VDC) sprinkler bell shall be located directly above the Fire Department Connection (FDC), 90" above the finished floor, or other approved location. Other audible notification appliances are prohibited (ex. Horns, chimes, horn/strobes, sounders, speaker/strobes, speakers, 120VAC sprinkler bells, etc.).
 - B. **Multiple Risers.** If multiple risers are provided, both a sprinkler bell and a weatherproof (WP) visual notification appliance (ex. strobe) shall be provided directly above the FDC, 90" above the finished floor, or other approved location for each riser. A separate dedicated NAC shall be provided for each riser's notification appliances. Visual notification is not required if one riser is provided.
 - C. **Non-Silenceable Notification.** The exterior sprinkler bell and WP visual notification appliance, where provided, shall activate upon water flow switch activation only and shall not be silenced until the water flow switch has been reset.
 - D. **Location and Reference.** The specific location of the exterior sprinkler bell and WP visual notification appliance, where provided, shall be indicated by the C-16 fire sprinkler contractor on the sprinkler permit plans as "F.B.O (Furnished by Others)". These devices shall be designed and installed by the C-10 fire alarm contractor with associated fire alarm or sprinkler monitoring system permit plans. Sprinkler plans shall be provided as a reference to the fire alarm/sprinkler monitoring system permit plans.
2. **Pull Station.** One (1) manual fire alarm box (pull station) shall be installed adjacent to the Fire Alarm Control Unit (FACU).
3. **Monitoring.** The sprinkler system shall be electrically monitored by either a building fire alarm system or by a dedicated function(s) fire alarm system or sprinkler monitoring and supervisory. A UL 864 listed FACU shall be required and installed at an approved location (see SFFD AB 2.01 Section H) and supervised off-site by an approved supervising station. The C-10 contractor shall include the supervising station information on the associated permit plans. See 2025 SFFD Administrative Bulletin 2.01 Section GG for specific requirements of the supervising station.

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4. **Smoke Detector.** A single smoke detector shall be provided at the location of each FACU (see NFPA 72 Section 17.4.8 for location where the ceiling height exceeds 15 feet).

Exception: The FACU shall not be required to have an associated smoke detector if it is located in a constantly attended location within the building (24 hours a day / 7 days a week). The SFFD considers a constantly attended location only where a minimum of two (2) trained personnel are present.

5. **Design and Installation.** All fire alarm systems (building fire alarm systems and dedicated function fire alarm systems) installation require fire and electrical permits and shall be designed and installed in accordance with 2025 NFPA 72.

III. UNMONITORED SYSTEMS

Unmonitored Sprinkler System. Only 2025 NFPA 13D sprinkler systems are not required to be monitored by an off-site supervising station. If on a voluntary basis, at the R-3 owner's request, the 2025 NFPA 13D sprinkler system (as determined by the DBI Building Inspector) is provided with a waterflow switch, the sprinkler C-16 contractor shall indicate on the sprinkler plans that a 120VAC exterior bell shall be provided on the exterior of the building outside the riser location. The installation of the 120VAC sprinkler bell shall be by a licensed high-voltage electrician with a dedicated circuit connected to the waterflow switch and with a dedicated circuit breaker. In that case, the sprinkler plans shall indicate that a separate dedicated function fire alarm system for sprinkler waterflow and monitoring (Sprinkler monitoring system) shall not be required and the waterflow switch and exterior bell are provided on a voluntary basis at the R-3 Owner's request and that a C-10 Contractor is not required for this work.

Note: Per 2025 NFPA 13D Section 7.6, "local waterflow alarms shall be provided on all sprinkler systems in homes not equipped with smoke alarms or smoke detectors in accordance with 2025 NFPA 72." Therefore, the SFFD does not require a waterflow switch and an exterior bell for R-3 Occupancies provided with 2025 NFPA 13D systems and protected with smoke alarms per 2025 NFPA 72.