

Summit County Life Safety Standards Guide

PURPOSE:

This guide aims to establish countywide uniformity of fire protection and life safety systems while reducing the occurrence of false activations. It provides additional details not covered by the National Fire Protection Association (NFPA) and the currently adopted IFC, as amended. The "authority having jurisdiction" (AHJ) is the organization or individual responsible for approving equipment, installation, or procedure.

POLICY:

SECTION 1: PLAN REVIEW SUBMITTAL

- 1.1 **General.** Every fire suppression and detection system plan submitted for review must contain the items required in this section. Fire protection and life safety systems shall comply with, be designed to, and be installed and maintained in accordance with the most current adopted edition of the IFC, as amended; the most current edition of NFPA standards; other nationally recognized standards; and manufacturers' requirements. See Sections 11 - 14 for residential occupancy requirements. All submittals shall include a copy of the plans, calculations, and specifications in a portable document format (PDF). Design-specific components shall be highlighted or outlined in the submittals.
- 1.2 **Application.** The plan review submittal shall include an application form, plans, specification sheets, calculations, and fees. Work shall not start until all documentation and fees have been submitted and paid. If this procedure is not followed, the AHJ reserves the right to investigate and assess additional costs, as outlined in the Fire District's Fee Schedule.
 - 1.2.1 **Alarm Systems.** Technical specification sheets shall be provided for system components, primary panel configuration, communication equipment, and all devices. Specification sheets shall include information on component operation and device operation. Design-specific components and battery draw (in standby and alarm modes) shall be highlighted or outlined. An equipment list shall be provided, including the number of devices, part numbers, and equipment descriptions. A NICET Level III or equivalent certified designer shall submit all plans
 - 1.2.1.1 **Battery Type and Capacity.** Battery calculations and manufacturer specifications shall be provided. At a minimum, the batteries shall support 24 hours of standby time plus 5 minutes of alarm time. The AHJ can require an additional safety factor of 1 amp hour above the minimum calculated battery size. (e.g., a 7 amp/hour system may require an 8 amp/hour battery)

1.2.1.2 **Wire Size Calculations.** The plan submittal shall include wire size calculations and a statement that the proposed system meets the equipment manufacturer's specifications. Voltage drop calculations and supporting documentation shall be required.

1.2.1.3 **Point-to-Point Wiring Diagram.** The AHJ may require a point-to-point wiring diagram that shows the exact number of devices per circuit.

1.2.1.4 **Riser Diagram.** The riser diagram shall indicate the zone configuration and designate the number of devices per floor.

1.2.2 **Sprinkler Systems.** Specification sheets shall provide information on all component operational functions. An equipment list shall be provided. It shall include the number of devices, part numbers, and equipment descriptions.

1.2.2.1 **NFPA 13 Design.** Multi-story buildings with mixed commercial and residential occupancies shall be designed using NFPA 13 when the fire area is less than 50% residential space. Accessory uses shall not be used to calculate residential space.

1.2.2.2 **Hydraulic Calculations.** The hydraulic calculation method shall provide at least a 10 percent or ten (10) psi safety factor (whichever is greater) between the system demand curve and the water supply curve. The AHJ shall approve the hydrant data source.

1.2.2.3 **Gridded Systems.** Hydraulic calculations for gridded systems shall be peaked to verify the most hydraulically demanding sprinkler combination.

1.2.3 **Kitchen Hood Extinguishing Systems.** Specification sheets shall provide information on all component operational functions. The equipment list shall include the number of devices, part numbers, and equipment descriptions. A schematic diagram of the appliance layout shall be required.

1.2.4 **Standpipes.** Standpipe submittals shall be separate from fire protection submittals. Specification sheets shall provide information on all component operational functions. The equipment list shall include the number of devices, part numbers, and equipment descriptions. **The maximum design distance from any hose connection shall not exceed 140 feet.**

1.2.5 **Carbon Dioxide.** Carbon dioxide systems of more than 100 pounds and/or Refrigerants of more than 220 pounds of A1 or 30 pounds of any other group shall require a permit.

1.2.6 **Other Detection and/or Protection Systems.** Specification sheets shall provide information on all component operational functions. The equipment list shall include the number of devices, part numbers, and equipment descriptions.

- 1.3 **Manuals.** Operation and maintenance manuals shall be provided to the customer.
- 1.4 **Approval Process.** Following the fire department's review, an approved notification may be sent to the applicant indicating items that require correction. The approved plans and permit shall be available during inspections. The applicant shall be responsible for corrections before receiving final approval of the system.
 - 1.4.1 **Alternative Materials and Methods.** Alternative materials and methods may be substituted for those outlined in this guide. However, **PRIOR** approval from the AHJ shall be required. Proposed changes shall meet the intent of this guide. The burden of proof lies with the person requesting approval of alternate materials and methods.
- 1.5 **Rejection Process.** The AHJ may reject the submitted plans if they do not meet the requirements of the application process and/or review process. A re-submittal fee shall be required. See Fee Schedule for more information.
- 1.6 **Components.** All fire protection and life safety system components shall be listed for their intended use by a third-party listing agent and approved by the AHJ. Components shall be installed per the manufacturer's instructions and in locations approved by the AHJ.
- 1.7 **Table of Contents and Equipment List.** A quick reference list shall be provided for the plan review.
- 1.8 **Required Fire Flow.** The required fire flow shown in Appendix B of the IFC, as amended, shall not be reduced by more than fifty (50) percent for the installation of a fire sprinkler system.