



Rocky Mountain Fire Protection District

4390 Eldorado Springs Drive Boulder, CO 80303 303-494-3735



Contractor's Checklist and Installation Guide

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Fire Protection Narrative

A fire protection narrative is a written overview of the components and function of life safety systems. It must describe all aspects of fire detection and suppression systems. A narrative is required whenever a fire alarm or fire suppression system will be replaced, upgraded, or altered in terms of function; and, for all new construction and renovation projects.

If a building permit is required, the narrative must be submitted to the Building Department.

If a building permit is not required, the narrative should be submitted directly to the fire marshal for review and approval.

All appropriate permits must be pulled and a narrative provided prior to the start of construction.

Note: One set of plans (in pdf format) is required to be sent electronically to the fire marshal's office, if hard copies are submitted one copy will be kept by the fire marshal.

Fire Protection Requirements By Location

Front Entrance



A Knox-Box is required by the International Fire Code (Section 506) at any building where the fire department may need to gain access. The Knox-Box shall contain marked and tagged keys to the building, elevator, and the fire alarm system. - Please verify box location with fire marshal before installation.

In addition, the Knox-Box shall contain a laminated listing of three building contact numbers. It should be mounted 4/5' from grade. If hazardous materials are stored on site, Model 1308 with dual key option is recommended. If a hazardous materials Knox-Box is installed, it shall contain building plans, MSDS sheets (if applicable), and building keys, engraved key tags and contact number



As paper key tags decay over time, 1 ¼” engraved yellow key tags are recommended for the following keys:

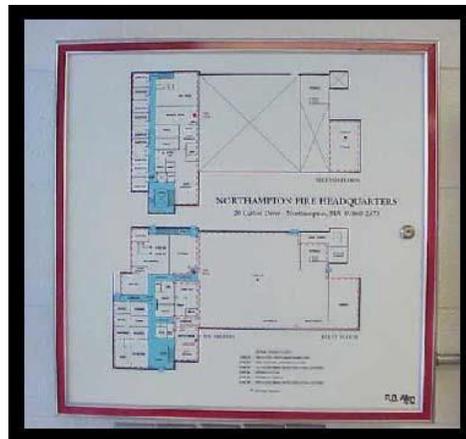
- Front Entrance
- Exterior Doors
- Master Key
- Fire Alarm Control Panel Key (FACP KEY)
- Elevator Key (3502 ELV.KEY)

Front Lobby

An approved fire alarm annunciator panel, with a permanently mounted graphic representation of the building above it, must be located directly inside the fire service entrance. The graphic representation is required to be located next to either the fire alarm control panel (FACP) or the fire alarm annunciator panel (FAAP).

The annunciator panel shall be properly labeled “Fire Alarm Annunciator Panel” with engraved labels consisting of 1” white letters on a red background

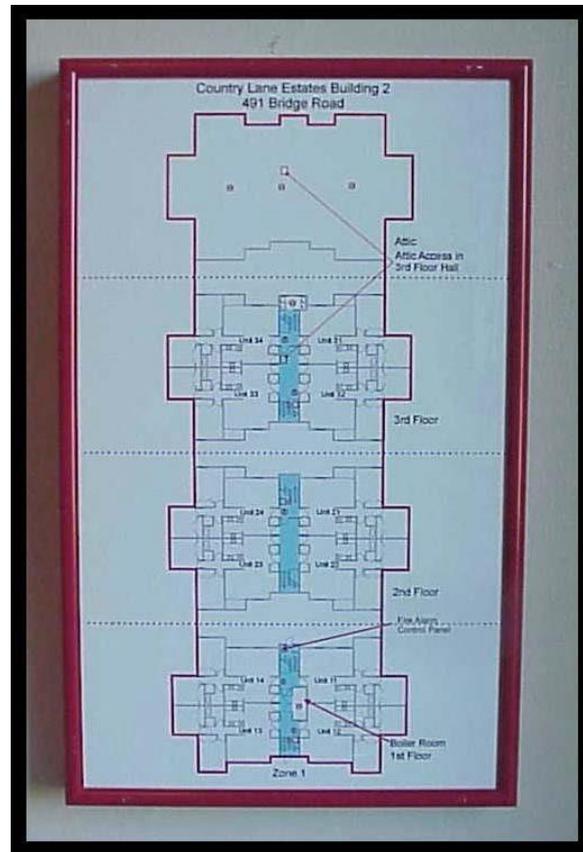
The following guidelines shall apply to the construction of graphic representation and graphic annunciators.



An electronic graphic annunciator is recommended if the building is over 100,000 sq. ft., or if hazardous operations are present.

An alpha text display will replace the need for a separate zone directory. All fire alarm components and devices must be shown on the map.

The fire alarm panel should be located either in the front lobby or the electrical room. An illustrated graphic representation of the building must be permanently mounted in proximity to both the annunciator (FAAP) and the fire alarm control panel (FACP). This representation should be designed as follows:



The fire alarm panel should be located in the front lobby, or the electrical room if authorized by the fire marshal. An illustrated graphic representation of the building must be permanently mounted in proximity to both the annunciator (FAAP) and the fire alarm control panel (FACP). This representation should be designed as follows:

- The building name and address along with the wording “Fire Alarm Graphic Representation” must be at the top of the map.
- All structural outlines must be black.
- All fire alarm zones and devices must be indicated in red.
- The means of egress (common areas leading to an exit) are to be shaded in light blue.

- A zone directory is to be located at the bottom of the map unless the system is fully addressable and an alpha text annunciator is provided adjacent to the map.
- The graphic representation must be be framed (for consistency, a red frame is preferred) and permanently mounted on the wall at eye level.

The fire alarm control (FACP), annunciator (FAAP) and digital communicator (FADC) panels shall be clearly marked “Fire Alarm Control Panel”, “Fire Alarm Annunciator Panel”, and “Fire Alarm Digital Communicator” with 1” engraved white letters on a red background. Zone descriptions shall be the same design with approximately ½” text.



Fire Protection Requirements By System Type

Sprinkler and Fire Suppression Systems

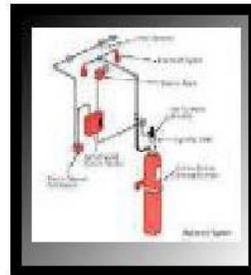
Sprinkler systems are required for high-hazard occupancies and are recommended for buildings over 5,000 sq. ft. Developers must submit a fire protection narrative and fire protection plans showing the location of the fire alarms and sprinklers. All applicable 2012 IFC and NFPA regulations for sprinkler system requirements apply.

All sprinkler systems must be hydrostatically tested per National Fire Protection Association (NFPA) standards and a letter of testing must be provided.

Other types of suppression systems must meet all applicable NFPA standards and the installer should anticipate the need to do a “puff” test at the time of inspection.

A building permit must be pulled prior to initiating work on any fire suppression system.

Based upon the International Building Code requirement pertaining to supervision - all suppression systems will need to be tied into a fire alarm system on a separate zone, sound an alarm throughout the entire structure, and be monitored.



Sprinkler Connections

Sprinkler connections should be located on the “A” or front street side of the building, marked with signage (1” in. white letters on a red background). An electric horn must be located over the fire department connection to sound only when water is flowing. This connection must be two 2.5” siamese connections or whatever IFC requires. It must be located within 100 ft. of a fire hydrant, unless a waiver relative to hydrant location is granted by the authority having jurisdiction.



Smoke Detection

Smoke detectors should be located on the ceiling, except if the building has a large air-handling system. For buildings with large air-handling systems, the NFPA 90 requires full duct detection. A duct detection must be clearly marked at the location of the detector and the alarm indicator/ test switch must be located in proximity to the detector. All smoke detection must be verified.

Smoke detectors in corridors should be installed 15’ from the end of the corridor and no less than every 30’ along the length of the corridor, and at square foot intervals prescribed by NFPA standards. All smoke detection zones are required to be verified, meaning that to transmit a general alarm, a smoke detector must either be activated for a certain period of time or two detectors must be activated through cross zoning.

All smoke detectors that function as a component of a zoned fire alarm system must be sequentially numbered with either a permanently affixed ½” red vinyl numeral or with a small red engraved plate with ½” white lettering. This requirement does not apply to smoke detectors that are functioning as a component of a fully addressable fire alarm system.

Specialized systems such as beam detection and laser obscuration must be UL Listed and a full set of technical specifications must be submitted for review and approval.



Pull Stations

Pull stations should be located by exits and ideally, horn strobe lights should be located above them. They are required to be the double-action type (making it necessary to pull in and push down to activate, or two other distinct actions.)

Fire extinguishers should be located below the pull station with ADA signage above.

Stopper II deterrent covers are required on all pull stations where children are generally present.



Occupant Notification

Horn strobes and other ADA approved notification devices and methodologies are required to sound throughout the entire structure or an approved subsection of the structure. Strobes are required in bathrooms. NFPA standards must be met in terms of synchronization of devices, decibel levels and placement of devices.



Fire Extinguishers

5-lb. ABC extinguishers may be required at each exit, under each double action pull station based on NFPA standards relative to maximum travel distance. In addition, a protruding plastic triangle sign is required above each extinguisher.



Fire Lanes

Must be marked, striped, signed, and approved as outlined by city ordinances.

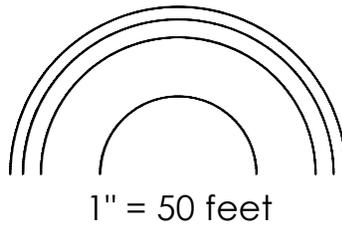
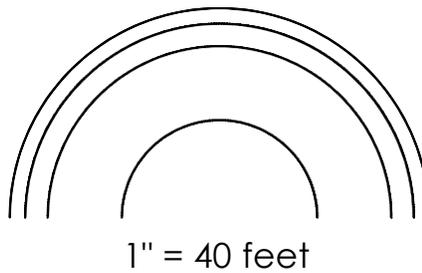
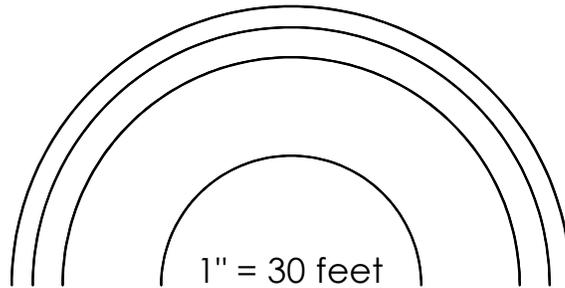
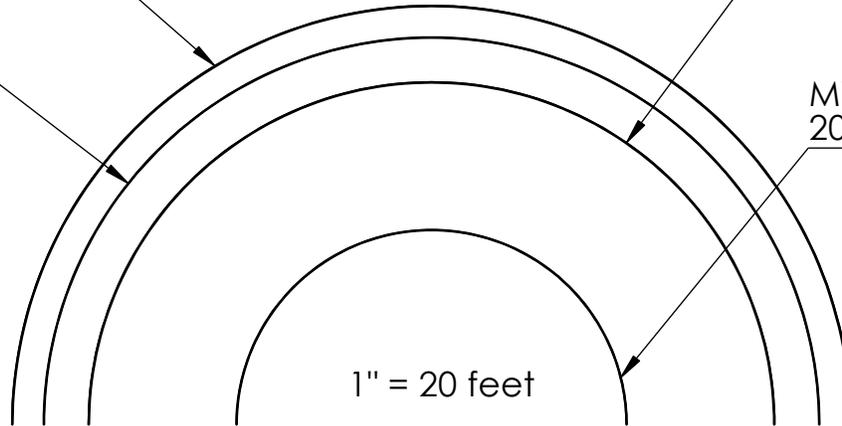


Platform Clearance
43' 10"

Tire Curb Clearance
35' 11"

Bumper Swing
40' 7"

Minimum Inside Radius
20' 2"



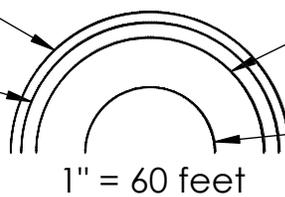
Platform Clearance
43' 10"

Tire Curb Clearance
35' 11"

Bumper Swing
40' 7"

Minimum Inside Radius
20' 2"

Radius based off
of 2717 on 4/20/13



Fire Alarm Equipment Listing Requirements

All fire alarm devices except for the exterior red indicator beacon must be UL Listed and listed to operate with the other devices in the fire alarm system.

Inspection Requirements

Prior to the request for an inspection, all devices must be installed and 100% tested. A letter on company stationery, indicating that the fire alarm or suppression system has been installed as designed and 100% tested, is required prior to the inspection. These requirements are further detailed below.

All Systems

A copy of the fire protection narrative, approved plans, and the designer's affidavit must be available onsite at the time of inspection and presented upon request. In addition, a contractor must be available onsite to operate all systems and answer questions.

Sprinkler Systems

A copy of the completed underground and aboveground piping certificates, and the hydrostatic test documentation must be presented to the inspector.

Fire Alarm Systems

A fully completed "Record of Completion" per NFPA 72 must be available onsite. The system shall have a 100% test prior to final inspection.

Monitoring

A letter from the central station that notes that the occupancy and address being inspected has been properly connected and tested is required. This letter must specify that this specific account has service that meets the requirements of NFPA 72, Chapter 8. It must also indicate that the central station agrees to notify the Rocky Mountain Fire District Fire Prevention Office, in writing, of any change in the service provided.

Certificate of Occupancy Inspection Process

All new buildings, additions to an existing building, renovations, and changes of use to an existing building, require an inspection by a fire official for the purpose of obtaining a Certificate of Occupancy (CO). Due to the rapid growth and the resulting demand for more CO inspections, it is important to notify the prevention bureau as far in advance as practical. A checklist for Temporary Certificate of Occupancy (TCO) or Certificate of Occupancy (CO) inspection is included below in an effort to provide information that may be beneficial in getting a CO quicker.

Certificate of Occupancy Checklist

The purpose of this checklist is to document the most common, minimum items that will be confirmed as being in compliance for Temporary Certificate of Occupancy (TCO) or full Certificate of Occupancy (CO). This checklist is not intended to include all items or issues. Compliance with additional items may be required prior to the Louisville Fire Department signing a TCO or CO.

SECTION I – Temporary Certificate of Occupancy (TCO)

- Fire sprinkler system inspected, tested, and approved by the fire department
- Fire alarm system inspected, tested, and approved by the fire department
- Commercial hood system inspected, tested, and approved by the fire department
- Knox Box installed
- Keys provided for placement in Knox Box (may be contractor’s keys at this time)
- Building address posted
- Caps on FDC

SECTION II – Full Certificate of Occupancy (CO)

- Fire sprinkler system inspected, tested, and approved by the fire department
- Fire alarm system inspected, tested, and approved by the fire department
- Commercial hood system inspected, tested, and approved by the fire department
- Fire riser room door marked FIRE RISER in contrasting color to background
- Fire alarm control panel door clearly marked FACP in contrasting color to background
- Fire apparatus access roads (fire lanes) posted and approved
- Suite numbers posted, front and rear doors
- FDC signage installed to identify building it serves
- Caps on FDC
- Knox Box installed
- Keys provided for placement in Knox Box (must be occupant’s keys at this time)
- Portable fire extinguisher installed in accordance with the International Fire Code
- Building address posted

Annual Testing and Maintenance

Testing and maintenance on all fire alarm systems, fire suppression systems, and fire extinguishers is required as outlined in the appropriate NFPA standard. Typically, fire extinguishers and extinguishing systems are tested once a year; fire alarm systems are tested twice a year. Documentation of all testing should be sent to the fire marshal’s office located at 4390 Eldorado Springs drive, Boulder, CO 80303.

Fire extinguishers and kitchen extinguishing systems should be tagged with the date of their last inspection.



Fees

Permit and Plan Review fees are administered as approved by the Rocky Mountain Fire Protection District board of directors. Please refer to Permit and Inspection Fees on our website www.rockymountainfire.org for current rates or contact the fire marshal's office if you have any questions.

Fire Prevention Contact Information

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