

**Moreno Valley Fire Department
Fire Prevention Bureau**

Fire Alarm Systems



Approved and Authorized By:

Doug Bloom, Fire Marshal

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Commercial Fire Alarm Systems

PURPOSE

This guideline has been prepared to assist those responsible for the design, installation, testing, and inspection of fire alarm systems to comply with 2022 NFPA 72, NFPA 70 (2022 California Electrical Code), 2022 California Fire/Building Code Chapter 9, Section 907 and the Moreno Valley Municipal Code.

SCOPE

This guideline applies to any fire alarm systems for commercial buildings. This guideline defines the requirements to obtain a permit for any new or existing fire alarm systems for plan submittal requirements, testing, and Fire Department notes required to be applied onto plan

SUBMITTAL REQUIREMENTS

Submit your digital plans through the City of Moreno Valley's [SimpliCITY](#) portal. Plans shall be scaled, complete technical data sheets/manufacturer's specifications, and a copy of the manufacturers' design and installation requirements. Fees are based on the number of fire alarm devices installed. These plans shall contain the following:

1. **Scope of work** for the project.
2. **Business/ Contractor Information** shall be provided and include: job site name, address, owner's contact name, owner's phone number; submitting company's name, address, contact name and number.
3. **Plan Design Statement** shall state: These plans have been designed in accordance with NFPA 72 (2022 edition), 2022 California Fire Code, 2022 California Electrical Code, 2022 California Building Code, the Moreno Valley Municipal Code, and the manufacturers design and installation requirements.
4. **Contractor's License and Certifications** shall be provided and include a current contractor's C-10 license and signature on the plans
5. **Material Listings** shall be met per NFPA 72 and any other manufacturer literature requirements.
6. **Basic Working Plan Requirements** indicating the building dimensions, cross section views, the location of partitions and other pertinent information detailing proposed structure layout.
7. **Sequence of Operation** shall indicate all trouble, supervisory, alarm signals and corresponding actions in accordance with the California Fire Code and NFPA 72.
8. **Central Station Monitoring Facility Information** shall be identified on the drawings to include the name, address, phone number, and copy of UL or FM listing number and certificate.
9. **Wire Legend** shall be noted on plans to identify the type and size of wire used on system installations and shall be provided to reference floor plan's circuit pathways.

10. **Floor Plan** detailed floor plan indicating locations of fire alarm control panel, annunciators, relay/monitory modules, notification devices (with circuits), and initiating devices (with circuits.) Location of all special system connections monitored by FACP such as suppression/extinguishing systems, duct detectors, magnetic door holders, and fire/smoke dampers shall match location from approved building plans. All fire alarm equipment shall be shown on floor plan in accordance with NFPA 170 symbols.
11. **Panel/Power Supply Location** shall be in a space/height adequate for access and in space to support manufacturer's required operating temperature requirements. Ambient space temperatures at a minimum of 32°F and maximum of 120°F. Details on how these conditions will be maintained shall be provided.
12. **Annunciator Location** if required or provided shall be located in a location readily accessible for responding fire department personnel. If an annunciator is provided in a multi-tenant building, it shall be located in lower numbered/lettered suite i.e. "A" or "1". If each suite has a different address, the suite with the lowest street address shall contain the remote annunciator
13. **Fire Alarm Riser Diagram** shall be provided to indicate system layout with all new and existing devices as connected to fire alarm equipment. For tenant improvements, fire alarm panel or power supply with altered battery load shall be provided at minimum.
14. **Device Cross Section Detail** shall be provided for all ceiling and wall mounted devices showing minimum and maximum height in accordance with NFPA 72. Method of device attachment to structure shall be an approved listed method and shown on details.
15. **Zone/Point Assignment List** shall be provided indicating addressable point or zone identification for all initiating devices.
16. **Cellular/Radio Communicators** shall provide primary and secondary power supply details. Cellular/radio communicators shall annunciate a low battery, charger fail, AC power fail, and communication fail digitally at the fire alarm control unit.
17. **Pathway Classifications** shall be listed on the plans based on an evaluation of the required performance in accordance with governing laws, codes, and a site-specific analysis.
18. **Conduit Fill Calculations** shall be provided where raceways in conduit are used in accordance with the California Electrical Code.
19. **Exterior Wiring and Devices** shall be listed for use in exterior, wet, damp locations in accordance with NFPA 72 and manufacturer's installation listings.
20. **Secondary Power Supply Battery Calculations** for fire alarm control units, power supply units, and cellular/radio communication units shall be provided in accordance with NFPA 72. A minimum of a 24-hour stand-by shall be provided with a 5-minute alarm function for fire alarm systems or a 15 minute alarm function for emergency voice evacuation systems. A twenty (20) percent safety margin shall be calculated for amp-hour rating of calculation.
21. **Voltage Drop Calculations** for all notification appliance circuits shall be provided. End of line voltage shall fall within manufacturer's operating voltage.
22. **Data Specification Sheets** shall be provided for all fire alarm system components. All values used to verify system compatibility, battery calculations, and voltage drop calculations shall be highlighted for Fire Plans Examiner's reference.

23. **CSFM Listings** shall be provided for all system components and shall be up to date.

TESTING REQUIREMENTS

1. **Rough Wire Inspection** shall be required for all new systems and system components. All wiring shall be installed onto structure in a 4 ½' interval and method of attachment shall be of an approved manner. Wire attachment methods are not allowed to be shared with other building attachments or other raceways. All junction boxes of devices shall be installed and mounted onto structure in a(n) listed/approved manner. Concealment of construction shall not take place until rough wire inspection has passed by Fire Prevention Bureau Staff.
2. **Device Verification and Function Testing** shall be required for all new system components. Systems shall first be pre-tested and pre-test signals shall be provided to Fire Inspector at time of field inspection. Fire Alarm Technician shall be responsible for placing system on test during all required function testing and providing all necessary components to fulfil required testing. Fire alarm system shall be subject to a device verification and function testing of all notification appliances and initiating devices per NFPA 72 requirements. When requested by Fire Inspector, a voltage drop test and duct detector magnehelic testing may be required. All signals received by supervising central station shall be provided to Fire Inspector for verification. Function testing shall not be approved until all required signals have been verified by Fire Prevention Staff.
3. **Secondary Power Battery Test** shall be conducted once all function testing has passed the necessary field testing. Battery test shall be initiated by locking and discontinuing fire alarm system's primary power for a 24-hour period and tested by initiating an alarm signal to allow system to ring out for designated time required on battery calculations (5 minutes for fire alarm systems and 15 minutes for voice evacuation systems.)
4. **Fire Alarm Final Inspection** will be conducted once all required testing has passed. Fire alarm system final components shall be in place such as signage, document cabinet with approved plans, and NFPA 72 Record of Completion in accordance with fire department notes.

FIRE DEPARTMENT INSPECTION AND TESTING NOTES

Fire Department Notes for Fire Alarm Systems are required to be added to plans verbatim.

1. **FACU Signage** shall be provided on exterior side of door housing fire alarm equipment.
2. **System Testing** shall be performed in accordance with NFPA 72 and Moreno Valley Fire Prevention Bureau Guideline requirements. Concealment of any construction shall not be permitted until system has undergone rough wiring and other required testing by Fire Prevention Bureau Staff.
3. **Pre-Test Signals** shall be onsite at time of Function Testing to ensure pre-testing has taken place and that fire alarm signals are properly programmed.
4. **Maintenance Access** shall be provided for all concealed spaces protected with fire

alarm initiating devices to fulfill required inspection, testing, and maintenance in accordance with NFPA 72.

5. **Primary Circuit Disconnect** shall be identified by providing label on fire alarm control panel/power supply unit and on circuit at electrical panel. Primary power shall be secured by providing lock on electrical circuit.
6. **System Keys** shall be provided for inclusion in building Knox Box.
7. **Zone List/Zone Map** shall be provided at annunciator and/or fire alarm control panel location and shall be provided in an 8"x10" glass frame.
8. **"As Built" or Revised Plans** shall be submitted and reviewed by the Moreno Valle Fire Prevention Bureau prior to Final Inspection according to field inspection changes and Fire Inspector's discretion.
9. **Document Cabinet** shall be provided by installing contractor at fire alarm panel location. A copy fire alarm approved plans, system programming equipment and literature/instructions provided by manufacturer shall be housed inside of cabinet.
10. **Record of Completion** shall be completed by the installing contractor before system's final inspection is approved.

**For additional assistance please call Fire Prevention at (951) 413-3370 or
Email us at FirePlanCheck@Moval.org**

To submit plans please use the [SimpliCITY](#) portal.