AUTOMATIC ALARM SYSTEM STANDARDS
Development Standard #5

This standard applies to the design and installation of automatic and manual fire alarm systems. It shall be used in conjunction with NFPA 72-2002, California Building Code (CBC) 2001, California Fire Code (CFC) 2001 and local amendments, National Electrical Code (NEC) 2002, and other applicable codes.

I. RESPONSIBILITY

A. All individuals and companies who intend to engage in the installation or alteration of fire alarms are subject to the requirements of this standard.

B. Installer: Fire alarms shall be installed by an individual who holds a State of California C-10 Electrical License.

C. Designer: Plans shall be designed by a C-10 licensed contractor or by a qualified person as defined in NFPA 72.

D. C-10 contractors may only design systems that the firm has a contract to install.

II. PLANS SUBMITTAL PROCEDURE

A. Plan check and inspection fees for the installation of automatic and manual fire alarm systems are based on the number of initiating devices. Please call the Fire Prevention Bureau at (805) 566-2451 Monday through Friday, 8:00 a.m. to 5:00 p.m., to obtain the appropriate fees.

B. Submit a minimum of three sets of plans with a transmittal form to the Fire Prevention Bureau located at 911 Walnut Avenue, Carpinteria, CA 93013. All fees shall be paid prior to the issuance of approved plans.

C. Plans will be checked and if approved, will be stamped "Approved", signed, and dated. The Fire District will retain one set. Plans are automatically returned via U.S. Mail. If you wish to pick up the plans, please specify, "Call for Pick Up" on your transmittal.

D. The Fire District uses location addresses for tracking all projects submitted for review. When calling the Fire District for information or status, please have the correct address available.

E. Applicant must obtain a permit from the appropriate Building & Safety Department to install the fire alarm systems.

F. One copy of the Fire District stamped plans shall be maintained on the job site.

G. All modifications/changes to existing systems require a plan check and inspection by the Fire District.

H. Plan check fees include the original plan check and one re-check. Please ensure that all corrections are made prior to re-submission to avoid additional fees.

I. Excessive field changes may require re-submittal of plans along with additional plan check fees.

III. SCHEDULING INSPECTIONS

A. The inspection fee that is paid at the time of plan submittal will provide you with two inspections to complete the project. For projects that exceed this limit, inspection requests will not be accepted unless additional fees are paid prior to scheduling an inspection.

B. It is the responsibility of the installing contractor to be on the job site during the inspection with approved plans. Failure to do so will result in the cancellation of the inspection. Cancelled inspections will be counted as one inspection.

C. Inspection requests can only be taken from the installing contractor.

D. Call (805) 566-2451 two business days prior to inspection for scheduling an inspection.

E. When scheduling an inspection by phone be sure to leave a return call telephone number, so the inspector can call you back to verify our inspection time.

F. Inspection times are approximate and may vary because of delays at previous inspections or emergency response by Fire District personnel. Please allow time on either side of the inspection time for the inspector to arrive.

IV. PLANS

All fire alarm system plan submittals shall include:

A. Three sets of the following drawings:

1) Scaled floor plan showing:
   a) Room use/description.
   b) Device locations.
   c) Type of device.
   d) Controls location.
   e) Smoke/fire damper locations.
   f) Location and identification of other fire protection systems, i.e. hoods, FM-200, pre-action, etc.
   g) Exterior mounted devices. (Weatherproof fixture)

2) Point to point system wiring diagram showing:
   a) Interconnection of identified devices.
   b) Type of power feed to the control panel.
   c) External connection of modules in the control panel.
   d) Conduit connection and size.
   e) Type and size of wire or cable.

3) Symbol list and equipment identification on drawing showing:
    a) Symbols to be used on drawings.
    b) Symbol description.
    c) Model number and manufacturer's name.
    d) Quantity.
    e) California state Fire Marshal listing number.

4) Riser diagram showing:
    a) Single line interconnection of devices.
    b) Conductor quantity, either hash marks or number.
    c) Initiating and indicating zone designations.

5) Circuit load consumption of the furthest indicating circuit on the drawing showing voltage drop:
    a) Quantity of audio/visual indicating devices on furthest circuit and current consumption.
    b) Length of furthest circuit and resistance of wire.
    c) Formula on drawing and acceptable limit.

6) Battery calculation sheet showing:
    a) Standby power consumption for all current drawing devices, multiplied by the hours required by the applicable NFPA Standard.
    b) Alarm power consumption of all current drawing devices, multiplied by the minutes required by the applicable NFPA Standard.

7) Design details shall include:
    a) Standards used for the design of the system.
    b) Details on the occupancy classification.
    c) Identify sprinklered buildings.
    d) List of initiating and signaling zone assignments.
    e) Sequence of operation matrix.

B. Two complete sets of the following attachments:
    1) Manufacturer's data sheets on all system components and devices.
    2) California State Fire Marshal listing sheets for all system components and devices.
    3) U.L. certificate for a central station monitoring company.

V. GENERAL REQUIREMENTS

A. All fire alarm systems wiring shall be installed per the current National Electrical Code requirements.

B. Combination Fire/Burglary alarm units are not permitted in the Fire District.

1) A combination unit may be used for fire alarm only, with the following note placed verbatim on the plans.

a) This installation shall conform to the 2001 CFC section 1006.3.3.4 and shall be used for fire alarm purposes only.

2) An engraved plastic placard with white letters on red background shall be permanently affixed with epoxy to the front of the fire alarm control panel. It shall read "Fire Alarm Circuit Wiring Only".

C. Apartment buildings in which an alarm is required shall have an audible device in each dwelling unit, as well as an exterior device.

D. Upon completion of the work on the approved plans, a satisfactory test of the entire installation shall be conducted in the presence of a Fire Prevention Bureau representative.

E. Audible devices shall be the three-pulse temporal pattern.

F. ADA required visual devices shall be non-silenceable.

G. For installations with a voice evacuation system, submit the voice evacuation message for review and approval.

H. Upon general alarm, all doors with electro-magnetic locks shall release.

I. Duct detectors.

1) Duct detectors shall sound an alarm or supervisory signal at the panel, but are not required to sound a general alarm.

2) Duct detectors shall shut down the individual unit along with its smoke/fire dampers.

3) Duct detectors that are not readily visible shall have a remote LED with label mounted on the ceiling directly below the detector.

4) Duct detectors that are connected to a sprinkler monitoring panel shall be monitored for power loss. They must be capable of being reset by the FACP or a remote LED/reset switch mounted on the ceiling directly below the detector.

J. A manual alarm, area smoke detectors, and heat detectors shall shut down all HVAC units and close smoke/fire dampers.

K. Provide a sign at the door to the fire control panel to read "FIRE ALARM CONTROL PANEL INSIDE", or equivalent.

L. A copy of the operating instructions shall be made of a durable material and shall be permanently affixed on or adjacent to the fire alarm control panel.

M. A final copy of the "RECORD OF COMPLETION" shall be given to the system owner and the fire inspector after completion of an acceptable pre-test and prior to scheduling a final acceptance test.

N. The contractor shall conduct a 100% pre-test of the system prior to inspection. The inspection will include an actual test of the system. If during the inspection, deficiencies are noted, the test may be stopped and a re- inspection fee will be charged.