

COLLIER FIRE DISTRICTS FIRE & LIFE SAFETY FIRE ALARM PLAN CHECKLIST COVER PAGE

The following is intended to assist the design professional and or installing contractor in designing and submitting for review a "code compliant" fire alarm system. This document in no way details all of the requirements that may be necessary for a complete code compliant system.

Note: Systems shall be designed in accordance with the codes and standards adopted in Rule Chapter 69A-60, The Florida Fire Prevention Code 5th edition, NFPA 1 (2012 edition) the Florida specific version, NFPA 101 (2012 edition) the Florida specific version, NFPA 72 (2010 edition), NFPA 70 (2010 edition), NFPA 90A (2012 edition), NFPA 110 (2010 edition), and the Collier Fire Districts Fire and Life Safety Policy and Procedures Manual found at <http://www.ccfdin.com/Policies-and-Procedures/>

Building Information: Number of stories _____ Sq. Ft. _____/_____ (per floor and building total); # of Units: _____
Is the building protected with an automatic fire sprinkler system Partial Full Sprinkler System None
If so denote which type: 13 13R 13D
Occupancy type per FFPC: _____ Chapter _____ Occupant Load: _____
To your knowledge, is this a "Required System"? YES NO Master Permit #: _____

Type of Permit:

New Fire Alarm System Existing Fire Alarm System Dedicated Function Fire Alarm System
 Fire Alarm Monitoring Only (A separate permit is required for monitoring in addition to fire alarm permit)
Communication method: _____/_____ Format FACP(IE: 4/2, Contact ID, etc) _____
(New ie: RF, Cell) (Existing) Format DACT (ie: 4/2, Contact ID, etc) _____
 Local Alarm Only Remote Supervising Station Proprietary Supervising
 Central Station Service (not required in Collier Co) *If performance based, contact Fire Marshal

Required Information on Plan (Check box to indicate compliance)

- Project name and address on plan.
- Floor plans shall be 1/8" scale. On electronic review, please provide dimension line so the scale can be set.
- Utilize NFPA 170 Symbols when possible (Mandatory December 31, 2017).
- Provide a comprehensive scope of work and input/output matrix.
- Provide sequence of operations which shall include specific conditions being supervised, as well as detailed actions taken for trouble, supervisory, alarm conditions and any other emergency operations/functions.
- Mark all device and component model numbers and quantities (new/ existing/ relocated) on plan or bill of materials.
- Riser Diagram shall be provided delineating each floor, circuit and zone and all devices, appliances and/or components.
- Provide documentation that all components are "compatible" and "listed" for the specific fire alarm applications for which they are used. Provide verification of compatibility between components and the respective panel per manufacturer. Fire alarm system components shall be installed per their "listed" application for the ambient conditions (i.e., voltage, temperature and humidity) expected. NFPA 72 10.14.1, 10.14.2.4
- Provide specification sheets.
- Provide battery calculations in chart format. A 20% safety margin is required per NFPA 72-10.5.6.3.1 Existing systems shall provide new and existing calculations. (Excluding monitoring take over).
- Provide wire legend, wire burial detail and installation method. All wiring located in wet or damp locations shall be listed for this use (Wet & Direct Burial). Include the location of the wiring method or circuit, the type of wiring method or circuit, the minimum cover requirements cut sheets.
- There shall be a minimum of one listed "weatherproof" audio/ visual appliance, located in accordance with FAL01-1.
- Provide site plan.

New Fire Alarm

Required Information on Plan (Check box to indicate compliance)

- Project name and address on plan.
- Floor plans shall be to scale (1/8" scale is preferred). On electronic review, please provide dimension line so the scale can be set.
- Utilize NFPA 170 Symbols when possible (Mandatory December 31, 2017).
- Provide a comprehensive scope of work and input/output matrix.
- Provide sequence of operations which shall include specific conditions being supervised, as well as detailed actions taken for trouble, supervisory, alarm conditions and any other emergency operations/functions.
- Mark all device and component model numbers and quantities on plan or bill of materials.
- Riser Diagram shall be provided delineating each floor, circuit and zone and all devices, appliances and/or components.
- Provide documentation that all components are "compatible" and "listed" for the specific fire alarm applications for which they are used. Provide verification of compatibility between components and the respective panel per manufacturer. Fire alarm system components shall be installed per their "listed" application for the ambient conditions (i.e., voltage, temperature and humidity) expected. NFPA 72 10.14.1, 10.14.2.4
- Provide specification sheets.
- Provide battery calculations in chart format. A 20% safety margin required per NFPA 72-10.5.6.3.1 Existing systems shall provide new and existing calculations. (Excluding monitoring take over).
- Provide wire legend, wire burial detail and installation method. All wiring located in wet or damp locations shall be listed for this use (Wet & Direct Burial). Include the location of the wiring method or circuit, the type of wiring method or circuit, the minimum cover requirements cut sheets.
- There shall be a minimum of one listed "weatherproof" audio/ visual appliance, located in accordance with FAL01-1.
- Provide site plan.

Plans

- Scope of work shall include: design parameter regarding type of fire alarm system (power-limited, nonpower-limited, conventional, addressable analog, etc.), communication method or fire alarm signal transmission means, secondary supply capacity, voltage drop, wire type and size, IDCs, SLCs and NACs designated by class, interfacing of sub-panels and other systems, mass notification, outputs, inputs, etc.
- Label all exits, rooms and spaces clearly on the floor plan.
- Number each device, appliance, circuit and component on floor plan. The devices on the floor plan shall match the riser diagram for number, count, type, and etc.
- Ceiling elevations for all spaces shall be noted on plans. If all one height, note as such. If ceiling is higher than 10', note if they are not smooth or flat.

Monitoring

- A separate permit is required for monitoring the fire alarm system. If monitoring permit is not attached to this set of plans, a CO hold will be placed on this permit.

Panel

- Smoke detection shall be provided for protection of the fire alarm control panel/unit, power supplies/extenders and supervising station transmitting equipment. NFPA 72 10.15
- Panel shall be located, and approved by AHJ, in an area where it is likely to be heard (trouble/supervisory signals). NFPA 72 10.12.5
- Relays for control devices shall be within 3' of the controlled circuit or appliance and is the installation wiring between the FACU and the relay, or other appliance, monitored for integrity or fail-safe. NFPA 72 21.2.4

General

- Local alarms shall have signs at each pull station "Local Alarm Only – In Case of Fire Call 911" Existing Apartment Buildings FFPC 5th ed. 101: 31.3.4.3.5.1
- FACU trouble sounder/piezo shall be able to be heard by occupants.

New Fire Alarm

Non-Addressable System Yes No

- Indicate the number of zones on the submittal/drawings and provide a zone legend.

Campus Style Yes No

- A fire alarm system that is part of a campus-style arrangement (it serves more than one building or is reporting to a master fire alarm control panel), with the purpose of having only one off-site premises connection, ensure compliance with FAL02-08.
- Pull stations are installed in an unobstructed location. FAL02-07
- Each building shall be indicated separately and the alarm, supervisory and trouble signal for each building shall be transmitted to the supervising station. NFPA 72-10.16.6.3 and 26.6.2.3

Voltage Calculations/Battery

- All voltage calculations shall be provided for each notification appliance circuit and/or for any circuits that draw power.
- Provide wattage calculations for each amplifier. Wattage tap shall be indicated for all speakers and circuits on riser and on floor plan.
- Voltage drop calculations shall correlate with the alarm and non-alarm current draws for the respective components in the Catalog/Specification sheets provided.

Wiring

- Indicate the wiring installation method within the building on the plan (ie. free wired, wire mold, conduit, etc) per NFPA 72 12.2.4.3 and 2011 NEC 70 760.24, 760.53, 760.130.
- Riser diagram shall delineate each floor, circuit, zone and all devices, appliances and/or components.
- List the wire sizes, types, quantities as well as the conduit size and type on riser diagram and floor plan.
- Clearly delineate the Notification Appliance Circuits (NACs), Initiating Device Circuits (IDCs) & Signaling Line Circuits (SLCs) shall be on the floor plan and riser diagram. This shall include the EOL's. Include class designation for all initiating, notification and signaling line circuits.

Battery / Generator BackUp

- Battery calculations shall be detailed in a "chart format" for each battery back-up power supply in the system. This shall include remotely located control equipment such as satellite control units, circuit interfaces, and other equipment essential to system operation. NFPA 7210.5.8
- Battery calculations shall show a 20% safety margin. NFPA 72 10.5.6.3.1(1)
- Battery calculations shall correlate with the alarm and non-alarm current draws for the respective components in the Catalog/Specification sheets provided and current draws indicated/highlighted on plans.
- Protected Premises, which utilizes an automatic-starting, engine-driven generator for secondary power supply, shall indicate such on plan. NFPA 7210.5.6

Electrical (acknowledge compliance for these items for field inspection on plan)

- Circuit breaker shall be mechanically protected and the disconnect means marked in red "Fire Alarm Circuit". NFPA 72 10.5.5.3
- Location of breaker shall be identified inside fire alarm panel.
- Indicate location of surge suppressors on both the wire riser diagram and floor plans. Specification sheets shall be included in the submittal package. If surge suppression is located in a concealed location (such as a drop ceiling) specify on plan. No installation of surges will be allowed inside electrical panel box. NFPA 12.2.4.2

Generator Monitoring Yes No

- NFPA 110 5.6.6 requires emergency generators (EPSS) to have an audible alarm (annunciator) in a work site observable by personnel. If a separate generator annunciator panel is not installed, please specify if fire alarm panel will be monitoring the generator functions.

Annunciator Yes No

- FACU or remote annunciator located at main entrance. NFPA 72 10.16.3 If other location, this location shall be approved by Fire Marshal and a durable sign shall be installed at main entrance indicating its location.

New Fire Alarm

Emergency Voice Evacuation Yes No

The Emergency Voice Evacuation System shall have the required battery size to meet the following:

- Battery standby requirements must match the fire alarm system type used in the building and the alarm must sound for not less than 15 minutes. NFPA 72 10.5.6.3
- Additional panels and/or power supplies provided for control units, circuit interfaces, or other equipment essential to system operation, shall meet the same primary and secondary power supply requirements.

Pull Stations

- Location shall be within 5' of the exit door and horizontal distance shall not exceed 200'.
- If only one pull station required, please contact AHJ for location requirements.

Heat Detectors

- Plans shall reflect ceiling height and ceiling surface construction to ascertain that heat detectors are installed per spacing requirements. NFPA 72 17.6.3

Smoke Detector Placement

- Smoke detectors that are located on solid joists or beams spaced. NFPA 17.6.3
- Smoke detectors that are installed on peaked or sloped ceilings located. NFPA 72 17.7.3.3
- Smoke detectors located 3' away from AC diffusers, kitchen and bathroom doors. NFPA 72 17.7.4.1
- Smoke detectors required for initiation of mechanical ventilation and/or pressurized stair enclosure shall be within 10' of the entrance to the smoke proof enclosure. NFPA 1017.2.3.10.1

Duct Detectors

- Duct smoke detectors shall be installed in HVAC system capable of producing 2000 cfm or greater NFPA 90A 6.4.2.1 (1)
- At each story prior to the connection to a common return and prior to any recirculation or fresh air inlet connection in air return systems having a capacity greater than 7080 L/sec (15,000 ft³/min) and serving more than one story. NFPA 90A 6.4.2.1(2)
- Duct smoke detectors, not part of a smoke control system and used solely for closing dampers or for heating, ventilating, and air-conditioning system shutdown, shall initiate a supervisory signal. NFPA 72 17.7.5
- Even when a licensed mechanical contractor is used to install duct smoke detectors - in lieu of licensed fire alarm contractors or certified electrical contractors - the final responsibility for ensuring that the sampling tube(s) and the smoke detector(s) have been installed correctly rests with the alarm system contractor, and to this end a manometer reading must be posted on the duct at the site of each respective duct smoke detector test. FAL 03-01 and 03-02

Notification Yes No

- Clearly specify the occupant notification as general evacuation or selective evacuation. Indicate if this system has mass (distributed/recipient) notification.
- Partial or selective evacuation or relocation of residents when fire alarm systems are designed for partial, selective evacuation or relocation of building occupants, what provisions been made that attack by fire within an evacuation signaling zone shall not impair control and operation of the notification appliances outside the evacuation signaling zone. NFPA 72- 12.4, 24.4.1.8.4.3
 - A 2-hour rated cable or cable system
 - 2-hour rated enclosure
 - Performance alternatives approved by AHJ

Notification Appliances

- Each audio/visual appliance have its candela rating listed on the floor plan, adjacent to each appliance
- Every visual appliance shall be adequate for the area covered and located per NFPA 72 -18.5 requirements. (See annex section.)
- Indicate on plans method used to determine spacing in corridors.
- Audio/visual appliances shall be placed no more than 100' apart in corridors and within 15' from each end of the corridor. (NOTE: when the concentrated viewing path is interrupted due to jogs in corridors, changes in elevation, corridor doors which close, or other such obstructions, the area shall be treated as a separate corridor) NFPA 72-18.5.4.4
- Fire alarm system shall be designed to comply with audibility and visual requirements. NFPA 101 9.6.3.5
- Visual signal appliances provided in each of the following areas: restrooms and any other general usage areas, meeting rooms, conference rooms, hallways, lobbies and any other area for common use shall comply with NFPA 101 9.6.3.1.

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Examples of common use areas include classrooms, cafeterias, filing and photocopy rooms, employee break rooms, dressing rooms, examination rooms, treatment rooms, and similar spaces that are not used solely as an employee work areas.

- Audible public mode notification appliances that produce a sound level at least 15dB above the average ambient sound level or 5dB above the maximum sound level lasting at least 60 seconds, whichever is greater (dBA). NFPA 72-18.4.3.1
- Audible appliances shall provide a distinctive three-pulse temporal pattern fire alarm evacuation signal. NFPA 72- 18.4.2
- Bathrooms accessible to the public shall have proper A/V appliance(s) installed. If stalls constitute individual rooms, visual appliances are required inside each stall. If Showers and/ or Saunas are present “weatherproof” appliances are required to be installed.
- Visible notification appliances within the same field of view shall flash in synchronization. NFPA 72-18.5.4.3.2 and 18.5.4.4.7
- Sleeping area notification appliances shall be least 75dB measured at the pillow level as well as complying with low frequency requirements. NFPA 72 18.4.5.1 and 18.4.5.3
- Devices (via relays, circuits or other such interfaces) shall be installed to stop background ambient noise produced in areas such as theaters, dance halls, nightclubs, machine shops and other such high noise areas. NFPA 72 18.4.3.5

Emergency Control Functions

(ie: Door release, door unlocking, access controlled, elevator recall, emergency warning light illumination, smoke control, stair pressurization, other extinguishing system, HVAC shutdown and etc.)

- Shall be indicated on floor plan and riser diagram and detailed in the sequence of operations
- Access controlled doors shall unlock and meet the provisions of NFPA 72 21.9.
- Access control systems shall be required to have a low voltage permit.

Elevator Recall

- Elevator Recall detectors shall be connected to the fire alarm system as required by NFPA 72-6.16.3.1.
- Heat detectors that are used to shutdown elevator power shall be monitored for integrity by the building FACP. NFPA 72-21.4.5
- Consideration has been given to a “delay” in the activation of the power shunt trip, whereby the “delay” parallels the time it takes the elevator cab to travel from the top of the hoistway to the lowest recall level.
- Smoke detectors used for elevator recall and the heat detectors used to shutdown elevator power shall initiate an alarm condition and actuate the fire alarm system notification appliances. (FAL02-04)
- Control circuit used to shut down elevator power shall be monitored for presence of operating voltage. Loss of this voltage shall indicate a supervisory signal at the control unit and remote annunciators. NFPA 72 -21.4.4
- Elevator warning lights complies with NFPA 72 21.3.12.3. (flashes from activation of initiating devices from machine space/control room/shaft and steady state on Phase 1 recall)

Suppression Systems

- Control valves shall be monitored for integrity per Collier County Fire Code COD 00-1 and NFPA 72 “sprinkler supervision” provided in accordance with NFPA 72-23.8.5.6
- All waterflow alarms shall be non-silenceable while water is flowing. NFPA 13-6.9.2.1
- Double detector check valves serving more than one building shall be monitored by every building fire alarm control panel it serves. Per Collier County Policy COD 00-1
- Sprinkler valve tamper switches shall cause an audible and visual supervisory indication. COD 00-1, NFPA 72-23.8.5.6 and 17.16.1.1
- All other suppression systems (hood, FM200, Halon, Clean Agent, etc) shall be connected to the fire alarm system. NFPA 72-23.8.5.7

Fire Pump

- Electric Fire Pump monitored for run, phase reversal & power failure. NFPA 72- 23.8.5.9
- Engine-driven Fire Pump monitored for run, failure to start, controller off “automatic,” and trouble (e.g., low oil, high temperature, overspeed). NFPA 72- 23.8.5.9

Interconnected Panels Yes No

(ie: Elevator Recall Fire Alarm to Building Fire Alarm Panel, Clean Agent Fire Alarm Panel to Building Fire Alarm Panel, External

New Fire Alarm

(DACT to FACP)

- The satellite fire alarm control unit, interconnected to the master FACU, which experiences a trouble or supervisory condition shall report that condition to the master FACU indicating the interconnected fire alarm control unit is off-normal. If that circuit experiences a fault condition, a trouble condition for that circuit (zone or point) shall be indicated at the master fire alarm control unit. NFPA 72 26.6.3.1.4
- The interconnection between the satellite fire alarm control unit and the master FACU shall be monitored for integrity.
- Provide details, including relays/modules/contacts, on how interconnected panels are connected.
- Each interconnected control unit shall be separately monitored for alarm, supervisory, and trouble conditions in accordance with NFPA 72 Ch23.

I hereby attest that, to the best of my knowledge, the aforementioned checklist information and the battery calculation(s) are accurate and adequate for the fire alarm system being submitted.

Applicant Company

Applicant Name (print)

Date

Address

City

State

Zip Code

State License Number

Expiration Date

Applicant Signature

Telephone Number

E-mail address