

MIAMI-DADE COUNTY FIRE ENGINEERING INSTRUCTIONS FOR FIRE ALARM PRE-SUBMITTAL CHECKLIST

In order to provide a comprehensive plan review in a timely manner, and to insure the design and installation of fire alarm systems according to all applicable codes, the following information will be required with all applications for a fire alarm permit.

The designer is to complete the accompanying form indicating the location of the requested information for each item and supplying any pertinent information or comments for the reviewer in the space provided.

This form is to be completed prior to application for plan review with Miami Dade County Fire Engineering and must accompany the drawings at the time of submittal. Include all supporting documentation in the submittal package or on the plan.

Additions and alterations to existing systems must include all pertinent information in order to determine if the system capacity will accommodate the additional load and functions. Therefore, it will be necessary to supply all existing device counts and loads as well as the capacity of the existing system circuits and power supplies. This information should be included on the system as-built drawings located at the protected premises or in the logbook. Approval of the drawings cannot be made without this information. If an existing system component is not affected by the addition or alteration, then it may not be necessary to supply information on that component.

The design of the system shall comply with the Florida Fire Prevention Code as required by Florida Statute 633. The Florida Fire Prevention Code adopts the current edition of NFPA 1, (currently the 2000 edition with modification) which then adopts the current editions of NFPA 101 (currently the 2000 edition) and NFPA 72 (currently the 1999 edition).

The following instructions and clarifications correspond with each numbered line on the pre-submittal checklist:

1. Provide the process number, and/or the permit number if it is a revision to an existing permit. The Miami Dade County Building Department or the municipality having jurisdiction issues all fire alarm permits, subject to review and approval by the Miami Dade County Fire Engineering Bureau. You must apply to the Miami Dade County Building Department for a fire alarm permit before coming to the fire department. The Miami Dade County Building Department will issue you a process number at that time. You must then bring the plan to the fire department for review.

The process number is not needed for fire alarm permits in municipalities served by the Miami Dade County Fire Rescue Department. Each municipality has it's own procedure for making application for a fire alarm permit. Generally, you need to bring the plan to the Miami Dade County Fire Engineering Bureau for review before making application with the municipality. Contact the specific municipality for instructions.

2. The Fire Department Application number will be provided by Miami Dade Fire Engineering and will be written on the plan.
3. Provide an accurate name of the project or business. The business name of the occupant is the preferred name. (i.e. Mary's Florist, Arco Business Systems, etc.)
4. Provide the exact street address as recorded in the Public Records.
5. The copy of the contract should include the entire cost of the contract including materials and installation and the type of service and maintenance agreement if applicable, such as Central Station Fire Alarm System Service or Remote Station Fire Alarm System Service.
6. All submittals costing more than \$5000 must bear the seal or approval of a State of Florida Registered Engineer.
7. Provide a current copy of the qualifier's license that is pulling the permit.
8. Specify the section of NFPA 101 that requires the fire alarm system or indicate which code or authority is requiring the system. If the system is not required by any code or authority, indicate that it is not a required system.
9. For fire alarm systems that are required by some code or authority (AHJ), such as the owner, an insurance company or bonding agent, another government agency having jurisdiction, a contractual agreement, the fire protection engineer, an equivalency agreement by the AHJ, etc., provide the details on the plan or in an attachment as part of the submittal documents and indicate the location of the information in the comment section on the right hand side of the checklist.
10. If the work is as a result of a Notice of Violation or a Life Safety Plan agreement filed with Miami Dade County Fire Prevention, supply copies of the notice or the relevant sections of the life safety plan specifying the particulars of the violation or agreement and indicate where that can be found in the comments section.
11. State a clear and accurate scope of work on the plan.
12. Give a total device count including horns, speakers, horn/strobes, speaker strobes, strobes, sync modules, control relays, power supplies, monitor modules, controllers, control panels, and sub panels being installed under this permit.
13. Provide a description of the type of building, new or existing, type of occupancy, use, number of stories, square footage, elevation of the highest occupiable floor if over 5 stories, fire suppressions systems, fire detection systems, and any other pertinent details.
14. Provide a location key showing the area of work if other than the complete building.
15. Identify all areas in which the voltage, temperature, and humidity variations exceed those conditions stated in NFPA 72 and provide devices listed for those conditions.
16. Provide a specific sequence of operation for all alarm, trouble, supervisory, monitoring, and control functions. It is advised that duct detectors not sound a general evacuation alarm unless the designer specifically desires this feature. Include the interaction of the fire alarm system with all fire suppression systems, control systems, door controllers; smoke control systems, monitoring stations, dialers, etc.
17. Provide a statement on the plan that the system is either "power limited" or "non-power limited".
18. Indicate if "emergency forces notification" and/or sprinkler supervision is required by NFPA 101 or another applicable code, or is not required, but is being provided.

19. Indicate if the system is monitored off-site (Central Station Fire Alarm System or Remote Supervising Station Fire Alarm System) or not monitored off-site (Local or Proprietary Supervising Station Fire Alarm System).
20. Indicate the method of communication to the monitoring station, such as a DACT via two telephone lines, or one telephone line and a radio transmitter (DART).
21. Provide specification sheets for all devices, appliances, control units and components, including relays, control modules, power supplies, monitor modules, dialers, transmitters, batteries, chargers and so on. It is not necessary to include installation or operation manuals at plans review. These items are to be provided in the logbook at the time of delivery of the system documents to the owner, per rule 4A-48 and NFPA 72.
22. Provide documentation of device compatibility for all devices receiving power from a control unit or receiving signals or sharing information from a control unit such as synchronization signals.
23. Specify the exact model number in the legend for each device and component utilized in the system. This is especially important for different candela strobes and weather resistant notification appliances that have varying device draws. You must specify the exact devices and components being used and cannot substitute equivalent devices without a revising the plans.
24. All plans must be drawn to 1/8" scale to accommodate the use of templates in determining the adequacy of device coverage. If a scale other than 1/8" is used, then you must diagram to scale all device coverage, such as strobes and smoke detectors, and dimension all rooms and spaces containing such devices. Corridor spaced devices should be dimensioned from the ends of the corridor and between devices as well.
25. Identify each device and component by its own unique identification number and indicate this number on the floor plan and the riser. This can be the device address as indicated in an addressable system, but this is not required.
26. Show all existing and relocated devices in the area of any addition or alteration of the system and all contiguous areas adjacent to, or affected by the scope of work.
27. Label all rooms and spaces in a manner, which indicates the use of the space, and indicate an occupant load for all assembly use rooms with an occupant load of 50 or more.
28. If there are any ceiling mounted devices such as strobes, smoke detectors, or heat detectors, indicate the ceiling height, and /or mounting height if different, and the conditions. Such as peaked ceiling, drop ceiling, twin-T construction, bar joists etc., and take these factors into consideration in the design of the system.
29. Provide a riser diagram showing each floor or building and identify all zones and circuits and number each device to match the numbering system on the floor plan. Include the candela rating of all strobes and show all control panels and devices. This is an installation diagram and it is expected that the system will be installed in accord with this diagram.
30. Indicate the wire size, wire type, and number of conductors for each circuit.
31. If the FACP is not installed in an occupied area, or the occupancy requires annunciation and zoning, or is provided with annunciation and zoning, install the FACP, or provide a remote annunciator, near the front entrance or lobby. If there is a Central Control Station or a continuously manned security location (manned 24 hours, 7 days a week) then the FACP or a remote annunciator can be located in the manned location. Small buildings or large single story buildings (mercantile occupancies such as grocery stores or department

stores, or warehouses) with only a few rooms will not require annunciation at the front entrance, but will require annunciation in an area normally occupied such as a service desk or managers office.

32. Blank area.
33. All FACP's, control panels and sub panels not installed in a continuously manned location require protection by a smoke detector installed within 21' of the panel.
34. If the system is activated by an automatic detection system or an automatic extinguishing system installed throughout the entire building and manual activation is not required by NFPA 101, then provide 1 manual pull station on each floor or 2 pull stations for large buildings 40,000 sq. ft. or larger.
35. If the system is a manually activated system, then provide a pull station at all exits and within 200' of any point in the building.
36. All automatic initiating devices shall be installed per the guidelines in NFPA 72, the manufacturer's specifications and accepted engineering practices. The installation of smoke and heat detection requires careful planning based on system objectives, the desired level of response and protection, and anticipated hazards. Supporting information will assist the plan reviewer in determining if the design meets the code and the intended application. It may be necessary to provide documentation supporting the design, which indicates that all relevant factors and conditions have been taken into consideration, and stating the objectives of the design. This applies to all required and non-required automatic detection.
37. The tables in NFPA 72 indicate how visible devices will be placed for visible notification of a fire alarm in public mode notification for the purposes of evacuation. Other codes, such as the Florida Accessibility Code, may also dictate device placement. Ensure that the installation is in accord with these tables and other applicable codes and provide the candela rating of all strobes on the floor plan and riser.
38. Consult the tables mentioned above for corridor placement of strobes.
39. Provide audible notification levels as indicated in NFPA 101 and NFPA 72 for "public mode" or "private mode" notification as required or intended.
40. Show on the floor plan all racks, shelves, partitions or equipment that may obstruct the visible device coverage and indicate the height of such items. This would apply to less than full height partitions and walls as well. All walls and partitions are assumed to go to the ceiling unless otherwise indicated.
41. Show the relays or the duct smoke detectors on the floor plan and riser for all air handlers requiring duct smoke detection. That is most systems over 2000 cfm.
42. The fire pump shall be provided with relays to monitor "run", "phase reversal", and "phase loss" to a supervised fire alarm or to a continuously manned location for monitoring.
43. Elevator recall shall be interconnected with the fire alarm system so that the elevator lobby, shaft and machine room smoke detectors will sound a general alarm as well as initiate elevator recall. Heat detectors provided for shunt trip for elevators in sprinklered buildings need not be system heat detectors.
44. Interconnected fire alarm and fire suppression control panels shall be arranged to function as a single unit within the same building. A portion of a building separated from another occupancy by 2-hour walls and not sharing common exiting may be considered a separate building. All components will also be monitored for integrity of circuits per NFPA 72.

45. Show on the floor plan and riser all relays for all automatic extinguishing systems in the building for activation of the fire alarm upon discharge and for supervision of the fire suppression system. Trouble on these systems shall annunciate as a supervisory signal at the fire alarm panel.
46. State the class or style for all initiating device circuits, signaling device circuits and notification appliance circuits (bell circuit, strobe circuits etc.).
47. State the maximum number of each type of device for each Initiating Device Circuit or Signaling Line Circuit based on the class and style of the circuit, per the manufacturer's specifications and NFPA 72.
48. Specify the model number for each power supply and indicate the capacity of each power supply. This can be a stand-alone power supply or a power supply module in a control panel. Many systems have optional power supplies available and this information is needed to verify the system load calculations.
49. State the total device load for each notification appliance circuit in each control panel and a total device load for each control panel or booster power supply panel. Provide voltage drop calculations for each notification appliance circuit. This can be done in a table or as part of the riser adjacent to each circuit.
50. Indicate the wattage tap for each speaker, on the floor plan, in a table, or in a note on the plan.
51. Provide the wattage capacity and load for each amplifier in the system and provide battery calculations for each amplifier if it is not powered from the FACP.
52. Highlight all specification sheets for device load or draw, or available power and make sure these quantities are reflected in all calculations. All calculations must correlate with the specification sheets for the specified devices.
53. Indicate if this is a Local Fire Alarm System or a Proprietary Supervising Station Fire Alarm System and provide 24 hours of secondary power supply. This is a system that is either not monitored or is a system that is being monitored on-site and serves contiguous or non-contiguous buildings on the same property under the same ownership with trained personnel in attendance at all times.
54. Specify on the plan if this is a Central Station Fire Alarm System and provide 24 hours of secondary power supply. This does not mean that a company who is licensed as a Central Station by U.L. or F.M is simply monitoring the system. A Central Station Fire Alarm System means that the system is certified by a Central Station certified company according the standards of the certifying agency (UL or FM). It further implies a contractual level of response to alarms, supervisory and trouble signals as outlined in NFPA 72 and requires a specific standard of operation and equipment upon the servicing company. It is not to be confused with a Central Station company that is providing "remote supervision" of the system. All Central Station Fire Alarm Systems require a certificate issued by the certifying agency at the time of inspection.
55. Specify on the plan if this is a Remote Supervising Station Fire Alarm System and provide 60 hours of secondary power supply. This is a system being monitored at a remote location that is not provided with Central Station Service as specified in NFPA 72. The larger secondary power supply requirement is necessary because of a possible extended response time over weekends and holidays.
56. Secondary power supply calculations for Emergency Voice Evacuation systems requires two hours of operation under fire alarm load conditions as well as the required standby

power as stated above. It has been determined that 15 minutes of "...evacuation alarm operation at maximum connected load" is equivalent to two hours of emergency condition load. Factor in 15 minutes (.25 hours) of full alarm load in the secondary power calculations instead of the 5 minutes (.083 hours) required by non-emergency voice communication systems.

57. If the system is connected to an emergency generator installed to meet the conditions of NFPA 72 and NFPA 110 and has the required capacity for the secondary power supply requirements of NFPA 72, then the system will only need internal batteries which can supply 4 hours of secondary standby power plus the required alarm load for 5 or 15 minutes.
58. Battery calculations are required for all power supplies in each control unit or component utilizing internal or external battery power. This can be supplied in table form on the plan or by utilizing the forms supplied in the installation manual for the system or a generic form and included in the submittal documents. For all other secondary power supply options allowed by NFPA 72, submit proper documentation indicating compliance with NFPA 72. Note: The Electrical Division of the Miami Dade County Building Department requires that all calculations must be part of the plans.
59. Indicate the designer of the system.
60. This form shall be signed by the designer, indicating compliance with all required information.