Fire Alarm and Detection Systems Submittal Requirements

Introduction

Thank you for your role in supporting development and life safety within the City of Bryan. The expertise, coordination, and technical judgment provided by fire alarm and detection system design professionals are critical to protecting occupants, ensuring timely notification and system response, supporting fire department operations, and achieving code compliant construction.

The purpose of this Fire Alarm and Detection Systems Submittal Guide is to assist design professionals in navigating the City of Bryan's plan review and permitting process efficiently. This guide is intended to clearly communicate submittal expectations, coordination requirements, and documentation standards necessary for a complete and compliant fire alarm and detection system design. Many of the items included in this document are intended to clarify code provisions that allow for Fire Code Official discretion, as well as to address components that are commonly missed or incomplete in submittals.

Consistent and thorough submittals help reduce review cycles, minimize delays, and support successful installation, testing, and final acceptance.

By following the guidance outlined in this document, along with applicable adopted codes and the resources available through Development Services, design professionals can help facilitate a streamlined review process and a smoother progression through construction and Certificate of Occupancy approval.

We appreciate your professional contributions to projects within Bryan and look forward to working collaboratively throughout the design, review, and construction phases to support the long term safety and success of each project.

Bryan Fire Marshal's Office

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Fire Alarm and Detection System Permit Submittal Requirements

Contents

1. Code Adoption & Amendments

The 2021 edition of the International Fire Code, including appendix B, C, D, E, F, and G as published by the International Code Council, a copy of which is on file with the city secretary and the fire marshal, is adopted to the same extent as though such code were copied at length herein, subject however to the omissions, additions, supplements, and amendments contained in this article. City of Bryan Municode

NFPA Adoptions

2021 IFC Chapter 80 should be consulted to find which NFPA edition is enforced in the City of Bryan.

2. Fire Alarm Permit Fees

Fire alarm permit fees are based on the scope of work and may vary depending on factors such as new construction or modifications to existing systems, as well as the number of panels and devices. The permit fee includes the cost of plan review and acceptance testing. Additional fees may be assessed for reinspection's or repeat inspections due to non-compliance. Final fee amounts will be determined during the plan review process to ensure accurate assessment. Applicants are encouraged to review the current fee schedule, available at bryantx.gov/fire, prior to submittal.

Phased Construction and Multiple System Permits

When a project includes multiple fire alarm and detection systems that will not be constructed and commissioned simultaneously, and/or when phased construction is approved, each system or phase may require a separate permit application. The need for separate permits shall be determined at the discretion of the Fire Code Official. Applicants are encouraged to coordinate early with the Fire Marshal's Office to clarify permitting requirements for phased or multi-system projects.

3. Required Documents

Manufacture Specifications

All material submittals shall include all components specified in the product data section, as well as any additional items required to ensure a complete and code-compliant installation. Where multiple products are shown on a manufacturer's catalog sheet, the specific item(s) to be used shall be clearly identified. This may be accomplished by removing unrelated pages or by clearly marking the applicable products through circling or highlighting.

Fire Alarm Record of Completion

The required Record of Completion for fire alarm systems shall be documented using the Texas State Fire Marshal's Office Form SF-035 (Fire Alarm Installation Certificate).

In accordance with NFPA 72 (2019) Section 7.5.6 and 28 TAC §34.615(f)(2), this form shall be completed by the licensed fire alarm contractor upon completion of installation and testing. The completed SF-035 shall be provided to both the owner and the Fire Marshal's Office prior to scheduling the final acceptance test.

Submission of the SF-035 serves as the official Record of Completion and verifies that the fire alarm system has been installed, tested, and operates in accordance with the approved design and applicable codes and standards. It also confirms that the owner has received all required as-built drawings, operating instructions, and maintenance manuals.

The SF-035 is not required at the time of initial plan submittal; however, it shall be completed and submitted at the time the fire alarm acceptance test is requested.

Site-Specific Software Documentation and Document Box Requirements

Plans shall clearly identify the location of the fire alarm system document box and include notes outlining the requirements for the storage and handling of site-specific software.

In accordance with NFPA 72 (2019) Section 7.5.7, the construction documents shall include sufficient detail to demonstrate compliance with the following:

- The location of the document box shall be shown on the plans and installed in an approved, readily accessible location, typically at or near the fire alarm control unit.
- A complete copy of the site-specific software shall be provided to the system owner or the owner's designated representative.
- The site-specific software documentation shall include the user passcode and the system programming password, or specific instructions on how to obtain the programming password from the manufacturer.
- The provided access credentials shall enable qualified and currently certified personnel to access, edit, modify, and expand the system programming.
- A copy of the site-specific software shall be stored on-site in nonvolatile, nonerasable, and non-rewritable media capable of restoring the last installed and tested version of the system.
- The stored software shall include all files and data necessary to fully restore system operation, including programmed device locations and system configuration.

Plan notes and callouts shall be provided to clearly communicate these requirements to installers and inspection personnel and to ensure proper installation, documentation, and long-term maintainability of the system.

4. Drawings

Fire alarm system drawings shall be prepared in accordance with NFPA 72 (2019) Section 7.4 and 7.5, and must include all information necessary to demonstrate code compliance and facilitate plan review. Drawings shall be clear, scaled, and specific to the project scope.

Modifications to Existing Fire Alarm and Detection Systems

When a project involves the modification or addition to an existing fire alarm system, the submitted drawings shall clearly identify all new, relocated, and existing devices. Drawings must show the extent of work and demonstrate that the modified system will maintain full compliance with NFPA 72 (2019) and the approved system design.

Reacceptance Testing: Where an existing fire alarm or detection system is modified, repaired, or extended, the affected portions of the system shall comply with the reacceptance testing requirements of NFPA 72 §14.4.2 (A) through (H). All new or replaced components, circuits, or software changes shall be tested in accordance with the applicable portions of Chapter 14 to verify proper operation and integration with existing equipment. Reacceptance testing shall include any functions that could be adversely affected by the modification, and documentation of testing results shall be provided as part of the project close-out submittal.

High-Piled Combustible Storage Identification (City of Bryan Amendment)

Construction documents shall include specific notes and plan callouts identifying when a building is intended to be used for high-piled combustible storage, as defined by City of Bryan amendments. The fire alarm design shall clearly reflect any required features, monitoring, and system interfaces associated with high-piled storage conditions.

Any building classified as a Group S Occupancy or Speculative Building exceeding 12,000 square feet, with a clear height in excess of 14 feet such that storage over 12 feet in height is possible, shall be considered high-piled combustible storage. Where a specific commodity classification is not identified, the fire protection and life safety systems shall be designed based on Class IV commodities to the maximum anticipated storage height.

Plans shall include sufficient detail to demonstrate coordination between the fire alarm system and any required fire protection features associated with high-piled storage, including but not limited to sprinkler system monitoring, notification, and supervisory functions.

5. Building Design Components

Walls & Partitions

The locations of partitions and fire-rated walls shall be clearly identified on the drawings through the use of legends, callouts, or other methods approved by the Fire Code Official, to ensure accurate coordination with the fire alarm and detection system design.

Fire Stopping/ Caulking

Where fire alarm or detection system components penetrate rated fire-resistance–rated walls, the plans shall clearly identify which trade or contractor is responsible for providing and installing the required fire-stopping (fire caulking) for each penetration.

Room Identification and Device Location Requirements

All rooms and areas containing fire alarm detection or signaling devices shall be clearly identified on the drawings with the room name or number as it will appear on the final door signage and approved site plans. This ensures accurate correlation between the approved fire alarm drawings, installed devices, and on-site conditions for inspection and emergency response. The following requirements apply to all fire alarm system submittals:

- Each device location shall reference the room number, name, or functional use as shown on the architectural floor plans.

- Drawings shall be coordinated with the most current addressing and room numbering information approved by Development Services and GIS.
- ADA-compliant sleeping rooms (such as hotel, dormitory, or assisted living units) shall be distinctly identified on the drawings (e.g., “Accessible Room,” “ADA Room”) to verify inclusion of the required visible and audible notification appliances.
- Device addressing programmed into the fire alarm control panel shall match the room or area descriptions shown on the floor plans as closely as possible, considering the character or display limitations of the panel.
- Prior to requesting a final acceptance test, the fire alarm contractor shall coordinate with the general contractor to ensure that final room names and numbers have been installed on site. This allows for accurate device verification and correlation with the submitted drawings during acceptance testing.
- Device legends and symbols shall remain consistent across all sheets and must align with the riser diagram and sequence of operations.
- Generic or unlabeled areas (e.g., “Room,” “Office,” or “Area”) will not be accepted.

Note: Clear and consistent room identification—including panel address descriptions and final door signage—is required for effective system operation, inspection, and future maintenance. Submittals lacking accurate room names, ADA designations, or address descriptions will be returned for correction prior to approval. he party responsible for the execution and completion of this work.

6. Fire Alarm Control Panels

Location and Audible Indication

Fire alarm control panels (FACPs) shall be installed in a location where audible and visual supervisory and trouble signals can be clearly heard and seen by personnel in areas used for normal daily operations. Where the panel is located in a mechanical room, electrical room, or other area not routinely occupied, an annunciator panel or other approved means shall be provided in an accessible, attended location to ensure that trouble and supervisory conditions are immediately recognizable by responsible personnel. The location and method of annunciation shall be identified on the construction drawings and approved by the Authority Having Jurisdiction (AHJ).

Power Supplies

Where required, plans shall provide call outs for the following:

- NFPA 72 10.6.5.1 through 10.6.5.5

Circuit Breaker Lock

Provide a listed circuit breaker lock on the dedicated branch circuit serving the fire alarm control unit and any associated power supplies. The circuit breaker lock shall secure the breaker in the ON position, protect against accidental or unauthorized operation, and be clearly identified as serving the fire alarm system. The circuit breaker lock shall be red in color.

Construction documents shall include a specific plan callout identifying the required circuit breaker lock and its description.

This requirement is in accordance with NFPA 72 (2019) Section 10.6.5, Disconnecting Means.

Surge Protection Requirements

All fire alarm control panels and associated equipment shall be protected from voltage surges and transients in accordance with NFPA 70 (2020), Articles 242 and 760.32, and NFPA 72 §10.6.7.2. Surge-protective devices (SPDs) shall be listed for fire alarm system use, installed per the manufacturer's instructions, and bonded to the building grounding electrode system in accordance with NEC Article 250. The branch circuit supplying the fire alarm control panel shall include a listed Type 2 SPD located at or within the fire alarm control enclosure or immediately adjacent to it.

All power, signaling, and communications circuits entering or leaving the building shall be provided with surge protection or listed primary protectors where required. The construction drawings shall clearly depict the SPD locations and installation details, including connection points, conductor routing, grounding/bonding method, and equipment identification. Graphic details shall illustrate the specific installation configuration for each SPD, consistent with the manufacturer's listing and the system design intent. The drawings shall identify the SPD make, model, type, and installation location.

Circuit and Pathway Survivability Requirements:

Circuit pathways shall comply with NFPA 72 Chapter 12 and NFPA 70 Article 760, with clear identification of class designation, survivability level, and installation method on the construction drawings. Pathways that penetrate or cross rated assemblies shall maintain a fire-resistance rating equal to or greater than the assembly and utilize listed fire-stopping materials. Where survivability Level 2 or 3 is required, 2-hour circuit integrity (CI) cable or listed 2-hour raceway protection shall be provided. Drawings shall include detailed graphics illustrating routing, raceway or cable types, and protection methods. Verification of installation shall be required prior to final acceptance testing.

Verification and Acceptance Testing

- Contractors must verify that all circuit class and survivability requirements are installed as submitted prior to requesting a final acceptance test.
- Visual inspection of Class A routing and fire-rated protection shall be conducted before concealment.

7. Circuits and Pathways

Interbuilding Fire Alarm Circuits – Grounding, Bonding, and Surge Protection

Construction documents shall clearly identify and provide details for any fire alarm system circuits or pathways that extend between separate buildings or structures. Designs shall address grounding, bonding, surge protection, and pathway reliability in accordance with NFPA 72 (2019) and NFPA 70 (NEC) to ensure system performance and protection from voltage differentials, lightning, and physical damage.

At a minimum, the following shall be included in the submittal:

- **Interbuilding Pathway Identification:** Plans shall clearly identify all circuits connecting multiple buildings and specify the pathway type, including whether conductors are copper or fiber optic.

- **Grounding and Bonding:** Each building shall have an independent grounding electrode system in accordance with NFPA 70. Construction documents shall indicate how fire alarm system components and pathways are bonded to the building grounding system at each structure. Where metallic conductors are installed between buildings, bonding and grounding methods shall be clearly detailed.
- **Surge Protection:** Listed surge protective devices (SPDs) shall be provided where circuits enter or exit a building and at fire alarm control equipment as applicable. Plans shall indicate the location and type of surge protection devices provided.
- **Pathway Class and Reliability:** Interbuilding fire alarm circuits shall be designed to maintain system operation in the event of a single open fault. The use of Class A pathways is required unless an alternative method of equal or greater reliability is provided and approved. Where Class B or other pathway classes are proposed, the design professional shall provide justification demonstrating how system integrity and continuity of operation are maintained.
- **Preferred Pathway Design:** The use of fiber optic pathways between buildings is strongly recommended to eliminate conductive paths, reduce the risk of lightning and surge damage, and improve overall system reliability. Where copper conductors are proposed between buildings, additional details shall be provided to demonstrate compliance with grounding, bonding, surge protection, and pathway class requirements.
- **Circuit Protection and Isolation:** Designs shall address protection from induced voltages and potential differences between buildings. Where required, isolation methods shall be provided to prevent damage to system components and ensure proper system operation.
- **Coordination and Documentation:** Plans shall include sufficient notes and details to clearly communicate installation requirements to contractors and to facilitate inspection and acceptance testing.

Failure to provide adequate grounding, bonding, surge protection, and pathway reliability details for interbuilding fire alarm circuits may result in delays in plan review approval and acceptance testing.

Class A Circuit Requirements

The use of Class A circuits may be required where necessary to ensure system continuity and prevent loss of protection due to a single open fault. This includes, but is not limited to, systems serving large or complex buildings, high-rise structures, facilities with partial evacuation or zoning requirements, interbuilding connections, critical system monitoring, or installations with long or exterior circuit runs.

Where conditions warrant increased reliability, Class A pathways or other approved methods providing equivalent performance shall be provided as determined by the Fire Code Official.

Plans shall include sufficient detail and justification for the selected pathway class to demonstrate compliance with applicable codes and to support plan review, installation, and inspection.

8. Initiating Devices

All initiating devices included in the fire alarm system design shall be accompanied by a graphic detail or manufacturer's published installation diagram illustrating the specific installation requirements for that device. The graphic shall clearly depict mounting orientation, spacing, environmental limitations, and wiring or base configuration as applicable. These graphics shall be included on the construction drawings to demonstrate compliance with manufacturer installation instructions, device listings, and NFPA 72 requirements.

Sprinkler System Valve Tamper Switch Accessibility

Construction documents shall include notes and details demonstrating that all sprinkler system control valves and associated tamper switches are installed with sufficient clearance to allow proper operation, inspection, testing, and maintenance.

Tamper switches and valve assemblies shall be installed in a manner that provides adequate working space for personnel, including the ability to fully operate the valve and associated supervisory device while wearing structural firefighting gloves. Installations that restrict access due to proximity to walls, ceilings, piping, or other building components are not permitted.

Plans shall clearly indicate valve locations and surrounding clearances to ensure accessibility is maintained for both installation personnel and inspection staff.

Waterflow Alarm Activation Time

Construction documents shall include notes specifying that waterflow alarm initiating devices are set to operate within the required time parameters. Waterflow devices shall be adjusted to initiate an alarm signal no sooner than 30 seconds and not more than 90 seconds after the start of sustained waterflow.

Plans shall clearly communicate this requirement to ensure proper installation, adjustment, and verification during inspection and acceptance testing.

Smoke Detection Programming – R-1 Occupancies

Construction documents shall include notes and programming details identifying the required operation of smoke detection devices within R-1 occupancies.

Smoke detection devices located within individual sleeping units shall be programmed to initiate a supervisory signal. Smoke detection devices located in common areas shall be programmed to initiate a general alarm condition.

Plans shall clearly differentiate device locations and associated programming to ensure proper system operation, occupant notification, and compliance with applicable codes and standards.

9. Notification Appliances

Construction documents shall demonstrate that all notification appliances are designed and installed in accordance with the requirements of NFPA 72 (2019), National Fire Alarm and Signaling Code.

Plans shall include sufficient detail to verify compliance with applicable provisions for audibility, intelligibility where required, visible notification coverage, synchronization, mounting locations, and

candela ratings. Device locations and specifications shall be clearly identified to ensure proper system performance, coordination, and inspection.

Exterior Waterflow Notification Appliance Required

An approved exterior waterflow notification appliance shall be provided in accordance with Section 903.4.2 (Alarms), as amended by the City of Bryan.

The required exterior alarm device shall consist of a weatherproof horn/strobe notification appliance with a minimum strobe intensity rating of 75 candela. The appliance shall be installed as close as practicable to the Fire Department Connection (FDC) and shall activate upon sprinkler system waterflow.

The appliance shall be listed for outdoor use, installed in accordance with the manufacturer's instructions, and connected to the building fire alarm system or other approved monitoring equipment as required by the applicable codes and standards.

The location of the exterior horn/strobe shall be clearly identified on the submitted plans. Final placement is subject to approval by the Fire Code Official.

The exterior waterflow notification appliance shall be installed, tested, and operational prior to final acceptance of the fire sprinkler system.

10. Fire Department Access and Signage Requirements

Fire Alarm Control Panel (FACP) Location and Identification

Fire alarm control panels (FACPs) shall be installed in a location where audible and visual supervisory and trouble signals can be clearly heard and seen by personnel in areas used for normal daily operations. Where the panel is located in a mechanical room, electrical room, or other area not routinely occupied, an annunciator panel or other approved means shall be provided in an accessible, attended location to ensure that trouble and supervisory conditions are immediately recognizable by responsible personnel. The location and method of annunciation shall be identified on the construction drawings and approved by the Authority Having Jurisdiction (AHJ).

Rooms containing a Fire Alarm Control Panel (FACP) shall be clearly identified with approved signage to facilitate rapid location by emergency responders, maintenance personnel, and building staff. Signage requirements shall be as follows:

Interior Doors

- Red background with white lettering.
- Minimum letter height of 2 inches.
- Signs shall be constructed of durable materials suitable for the indoor environment.
- Signs shall be mounted approximately 60 inches above the finished floor to the centerline of the sign, either on the door or immediately adjacent to the door.
- Sign wording shall clearly identify the room as containing the Fire Alarm Control Panel.

Exterior Doors

- Red background with white lettering.
- Minimum letter height of 3 inches.
- Signs shall be constructed of durable, weather-resistant, and UV-resistant materials such as aluminum, acrylic, Dibond, or Alumalite.
- Vinyl and PVC signs are not permitted for exterior applications.
- Signs shall be mounted approximately 60 inches above grade to the centerline of the sign, either on the door or immediately adjacent to the door.
- Sign wording shall clearly identify the room as containing the Fire Alarm Control Panel.

The location of all FACP room signage shall be shown on the submitted plans and will be verified during acceptance testing. Sign design and wording are subject to approval by the Fire Code Official.

11. Fire Alarm and Detection System Acceptance Testing

Inspection Readiness and Scheduling Policy

Acceptance testing inspections shall not be scheduled until all fire alarm system work is complete and verified as code compliant by the contractor. This includes installation, programming, and functional testing of all devices, circuits, and system operations.

Prior to requesting the acceptance test, the contractor shall complete and submit the required Texas State Fire Marshal Form SF-035 (Fire Alarm Installation Certificate). The form shall be complete, accurate, and include all required signatures.

Submission of a request for acceptance testing constitutes confirmation that the system is fully installed, operational, and ready for final inspection, and that all required documentation, including the SF-035, has been provided.

If the work is found to be incomplete, the inspection may be immediately terminated, and a reinspection fee will be assessed. Rescheduling will be based on Fire Marshal's Office availability and may result in project delays.

Appointment cancellations made with less than one full business day notice may be subject to additional fees.