



Peoria Fire Department



Plan Review Guide for Engineering Design

This Plan Review Guide is designed as a baseline contents checklist prior to a detailed fire plan review for the City of Peoria ONLY. It is subject to changes at any time. The Engineering design submittals shall be in accordance with the criteria of the BTR, which can be found the website <http://www.btr.state.az.us/>.

It is the professional registrants' responsibility to establish the objectives and design criteria of the fire protection systems in the engineering design documents, which include design drawings, specifications, and incorporation of the requirements of nationally recognized codes and standards. The technicians execute a system layout in accordance with the engineer's design, prepare shop drawings in accordance with the engineer's design, and perform any supplemental calculations based on the engineering design.

The following items shall be included in the submittals of engineering design of fire protection systems.

Fire Sprinkler System

1. Consider the range of hazards of the project;
 - Scope of work
 - Indicate this is a new system/an existing system
 - Square footage of the project
 - Construction type of the building
 - Occupancy classification/usage (A, B, E, F, H, I, M, R, S, U, etc)
2. Prepare hazard analysis; identify the hazard classification of the intended occupancy, including any special hazards;
 - Occupancy hazard classification (light, ordinary, extra)
 - Special occupancy, such as flammable/combustible liquids, aircraft hanger, oxidizers, etc
 - Storage height exceeding 12 feet
 - Commodity classification if this is storage occupancy
 - Ceiling heights, which may bear additional requirements
3. Determine the applicable codes and standards and appropriate engineering practices;
 - Current codes adopted by the City of Peoria
 - The edition of codes and standards
4. Ascertain the availability and adequacy of the water supply for the project;
 - Flow test or water model
 - Tenant Improvements shall have a main drain test along with the existing Calc Plate information. Tests are limited to being a maximum 12 months old. Updated annual main drain test report is acceptable in lieu of the requirement of main drain test (applicable to TI project).
 - Define the working pressure for the sprinkler system (applicable to new/shell buildings)
 - Determine the water demand
5. Determine the appropriate design density and area of operation for each hazard area.

Fire Alarm System

1. Determine the system type
 - _____ Define fire alarm control units, such as conventional, addressable;
 - _____ Define alarm initiating devices;
 - _____ Define the class and style of fire alarm circuits, including initiating device circuits, signaling line circuits, and notification appliance circuits
 - _____ Define alarm notification appliance

2. Determine the applicable codes and standards and appropriate engineering practices
 - _____ Current codes adopted by the City of Peoria
 - _____ The edition of codes and standards

 - Determine device types and locations
 - _____ Plans showing preliminary layout of device and appliance locations along with candela ratings
 - _____ Plans shall be drawn to 1/8 inch scale

3. Prepare generalized riser diagram
 - _____ Riser diagram showing all devices as connected in the circuit
 - _____ Devices addresses, room numbers, and/or names

4. Coordinate and interfaces with other systems
 - _____ Sequence of operations

5. Develop system specifications
 - _____ A narrative describes the basis of the system design, the sequence of operations and testing criteria.