



PLAINFIELD FIRE PROTECTION DISTRICT

23748 W 135th Street, Plainfield, Illinois 60544

(815) 436-5335 • (815) 436-6420 fax

Sprinkler System Plan Review Submittal Guidelines

The Plainfield Fire Protection District has adopted the 2021 International Fire Code with amendments. Our Ordinance requires the installation of a fire sprinkler system that complies with the 2021 International Fire Code, all applicable 2019 edition NFPA Codes and Standards and PFPD Ordinance 23-0411 for all new commercial and multi-family construction as well as renovation projects, large remodeling projects and when a building undergoes a change of use and in all circumstances has a fire area of over 2,000 square feet. Plans must be submitted for review and approval prior to the installation of the fire sprinkler system. Electronic submittal is the preferred method of plan submittal through our website at: <https://www.plainfieldfpd.org/wp-content/uploads/2020/05/File-Upload-Instructions.pdf>. All plan review and acceptance test fees need to be paid in full prior to the plan review letter being released and the acceptance test getting scheduled. Please call our office at 815-436-5335 if you have any questions. Please note the following:

1. The owner(s) of a building or structure where the fire sprinkler system is going to be installed or their authorized agent shall provide the sprinkler system installer with the following information prior to the layout and detailing of the fire sprinkler system:
 - a. The intended use of the building including the materials within the building and the maximum height of any storage.
 - b. A preliminary plan of the building or structure along with the design concepts necessary to perform the layout and detail for the fire sprinkler system.
 - c. Water supply information as identified in Section 5.2.2 of NFPA 13, 2019 edition.
 - d. Any special knowledge of the water supply, including known environmental conditions that might be responsible for corrosion, including microbiologically influenced corrosion (MIC).
2. Fire sprinkler plan review submittals shall include the following:
 - a. Hydraulic calculations where systems are required to be calculated.
 - b. Data sheets for the system components.
 - c. Signed owner's certificate.
 - d. Indicate scale and include a plan of each floor.
 - e. Name of owner and occupant.
 - f. Location, including street address.
 - g. Point of compass.
 - h. Full height cross section or schematic diagram, including structural member information if required for clarity and including ceiling construction and method of protection for nonmetallic piping.
 - i. Ceiling/roof heights and slopes not shown in the full height cross section.
 - j. Location of partitions.
 - k. Location of fire walls.
 - l. Occupancy class of each area or room.
 - m. Location and size of concealed spaces, closets, attics, and bathrooms.
 - n. Any small enclosures in which no sprinklers are to be installed.
 - o. Size of city main in street and whether dead end or circulating; if dead end, direction and distance to nearest circulating main; and city main test results and system elevation relative to test hydrant.
 - p. Other sources of water supply, with pressure or elevation.
 - q. Make, type, model, and nominal K-factor of sprinklers, including sprinkler identification number.
 - r. Temperature rating and location of high-temperature sprinklers.
 - s. Total area protected by each system on each floor.
 - t. Number of sprinklers on each riser per floor.
 - u. Total number of sprinklers on each dry pipe system, preaction system, combined dry pipe–preaction system, or deluge system.

- v. Approximate capacity in gallons of each dry pipe system.
- w. Pipe type and schedule of wall thickness.
- x. Nominal pipe size and cutting lengths of pipe (or center-to-center dimensions). Where typical branch lines prevail, it shall be necessary to size only one typical line.
- y. Location and size of riser nipples.
- z. Type of fittings and joints and location of all welds and bends. The contractor shall specify on drawing any sections to be shop welded and the type of fittings or formations to be used.
- aa. Type and locations of hangers, sleeves, braces, and methods of securing sprinklers when applicable.
- bb. All control valves, check valves, drain pipes, and test connections.
- cc. Make, type, model, and size of backflow prevention assembly, and means to forward flow test at system demand.
- dd. Make, type, model, and size of alarm or dry pipe valve.
- ee. Make, type, model, and size of preaction or deluge valve.
- ff. Kind and location of alarm bells.
- gg. Size and location of standpipe risers, hose outlets, hand hose, monitor nozzles, and related equipment.
- hh. Private fire service main sizes, lengths, locations, weights, materials, point of connection to city main; the sizes, types and locations of valves, valve indicators, regulators, meters, and valve pits; and the depth that the top of the pipe is laid below grade.
- ii. Piping provisions for flushing.
- jj. Where the equipment is to be installed as an addition to an existing system, enough of the existing system indicated on the plans to make all conditions clear.
- kk. For hydraulically designed systems, the information on the hydraulic data nameplate.
- ll. A graphic representation of the scale used on all plans.
- mm. Name, address, email and phone number(s) of contractor.
- nn. Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets.
- oo. The minimum rate of water application (density or flow or discharge pressure), the design area of water application, in-rack sprinkler demand, and the water required for hose streams both inside and outside.
- pp. The total quantity of water and the pressure required noted at a common reference point for each system.
- qq. Relative elevations of sprinklers, junction points, and supply or reference points.
- rr. If room design method is used, all unprotected wall openings throughout the floor protected.
- ss. Calculation of loads for sizing and details of sway bracing.
- tt. Zones of influence used in calculations for seismic bracing indicated on plans.
- uu. The setting for pressure-reducing valves.
- vv. Information about listed antifreeze solution used (type and amount).
- ww. Size and location of hydrants showing size and number of outlets and if outlets are to be equipped with independent gate valves. Whether hose houses and equipment are to be provided, and by whom, shall be indicated. Static and residual hydrants that were used in flow tests shall be shown.
- xx. Size, location, and piping arrangement of fire department connections.
- yy. Edition year of NFPA 13 to which the sprinkler system is designed.
- zz. A signed copy of the owner's certificate and the working plan submittal shall include the manufacturer's installation instructions for any specially listed equipment, including descriptions, applications, and limitations for any sprinklers, devices, piping, or fittings.

All contractors must be registered with the State of Illinois, Office of the State Fire Marshal, and shall provide a copy of their State License and Insurance Bond/Certificate.

No guarantee is rendered as to the completeness of the plan review, and the responsibility for full compliance with both state and locally adopted codes, standards and regulations rests with the owner or their authorized agent or subcontractor. Subsequent discovery of errors or omissions shall not be construed as authority to violate, cancel or set aside any provision of any applicable codes or standards.