

Fire Protection System Requirements

Fire Sprinkler

Construction Documents

1. Name of owner and occupant
2. Location, including street address
3. Name, address, and phone number of installing company
4. Name, address, and phone number of PE or planner if different than installing company
5. Point of compass
6. 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
7. Location of partitions
8. Location of fire walls
9. Occupancy class of each area or room
10. Location and size of concealed spaces, closets, attics, and bathrooms
11. Any small enclosures in which no sprinklers are to be installed
12. Size of main in street and whether dead end or circulating; if dead end, direction and distance to nearest circulating; and main test results and system elevation relative to test hydrant
13. Make, type, model, and nominal K-factor of sprinklers
14. Temperature rating and location of high-temperature sprinklers
15. Total area protected by each system on each floor
16. Number of sprinklers on each riser per floor
17. Total number of sprinklers on each dry pipe system, preaction system, combined dry pipe preaction system, or deluge system
18. Approximate capacity in gallons of each dry pipe system
19. Pipe type and schedule of wall thickness
20. 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
21. Location and size of riser nipples
22. 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
23. Type and locations of hangers, sleeves, braces, and methods of securing sprinklers when applicable
24. All control valves, check valves, drain pipes, and test connections
25. Make, type, model, and size of alarm or dry pipe valve
26. Make, type, model, and size of preaction or deluge valve
27. Kind and location of alarm bells
28. Size and location of standpipe risers, hose outlets, hand hose, monitor nozzles, and related equipment
29. Private fire service main sizes, lengths, locations, weights, materials, point of connection to 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
30. 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
31. For hydraulically designed systems, information on the hydraulic data nameplate
32. A graphic representation of the scale used on all plans

33. Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets
34. The minimum rate of water application (density), the design area of water application, in-rack sprinkler demand, and the water required for hose streams both inside and outside
35. The total quantity of water and the pressure required noted at a common reference point for each system
36. Relative elevations of sprinklers, junction points, and supply or reference points
37. If room design method is used, all unprotected wall openings throughout the floor protected
38. Calculation of loads for sizing and details of sway bracing
39. The setting for pressure-reducing valves
40. Information about backflow preventers (manufacturer, size, type)
41. Information about antifreeze solution used (type and amount)
42. 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
43. Size, location, and piping arrangement of fire department connections

Completion Documents

1. Signed record drawings (as-builts)
2. Contractor's Material and Test Certificate for Aboveground piping SF041
3. Contractor's Material and Test Certificate for Underground piping SF042
4. Service Tags
5. Hydraulic Design Information Sign
6. System Components Instructions
7. Care and Maintenance Instructions
8. NFPA 25