

Sprinkler Systems

Guidelines for Plan Review

Submit preliminary layouts to the Building Department for review by the Fire Department.

Working plans shall be drawn to an indicated scale, on sheets of uniform size, with plan of each floor and shall show the following data:

1. Name of owner and occupant
2. Location, including street address with water flow data and the source of the information.
3. Point of compass
4. Ceiling construction
5. Full height cross section
6. Location of fire walls
7. Location of partitions
8. Occupancy of each area or room
9. Location and size of concealed spaces, closets, and bathrooms
10. Any questionable small enclosures in which no sprinklers are to be installed
11. Size of city main in street, pressure and flow information.
12. Other sources of water supply, with pressure or elevation, (if any).
13. Make, type and nominal orifice size of sprinkler head(s)
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. Make, type, model and size of alarm or dry-pipe valve
18. Make, type, model, and size of precaution or deluge valve
19. Type and location of alarm horns/bells

20. Total number of sprinklers on each dry-pipe system, precaution system, combined dry-pipe/precaution system, or deluge system
21. Approximate capacity in gallons of each dry-pipe system
22. Pipe type and schedule of wall thickness
23. Nominal pipe size and cutting lengths of pipe (or center to center dimensions)
NOTE: Where typical branch lines prevail, it will be necessary to size only one line.
24. Location and size of riser nipples
25. Type of fittings and joints and location of all welds and bends
NOTE: Foster City Fire Department requires an on the ground weld inspection.
26. Type and locations of hangers, sleeves, braces, and methods of securing sprinklers when applicable
27. All control valves, check valves, drain pipes, and test connections
28. Size and location of hand hose, hose outlets, and related equipment
29. Underground pipe size, length, location, material, point of connection to city main; the type of valves, meters, and valve pits; and the depth that top of the pipe is laid below grade
30. Provision for flushing
31. When the equipment is to be installed as an addition to an existing system enough of the existing system shall be indicated on the plans to make all conditions clear
32. For hydraulically designed systems, the system data shall be provided on the hydraulic data nameplate
33. Name, address and California State C16 license number of contractor.

For Existing Residential Structures

1. Alteration shall mean any change to an existing floor plan, proposed or completed, within the original square footage of the building or structure.
2. Repair shall mean any construction or work to the existing floor plan without alterations, proposed or completed, within the original square footage of the building or structure.
3. Addition shall mean any construction or work, proposed or completed, beyond the original square footage of the building or structure.

4. The original square footage shall remain consistent for a 24-month period, after completion of the addition, at which time the addition shall become part of the original square footage. See sub section 3) of sub section 1003.2.2.
5. Any alteration or repair proposed or completed, to less than 50% of the original square footage of the structure does not require a sprinkler system. Exceptions are sub sections 1), 2) or 3) of sub section 1003.2.2.
6. Any alteration or repair, proposed or completed, to more than 50% of the original square footage of the structure requires a full sprinkler system throughout the entire structure.
7. Any addition, proposed or completed, to the original square footage in less than 50% of the structure does not require a sprinkler system. Exceptions are in the Municipal Code Amendment to UFC section 1003.2.2.sub sections 1), 2) or 3).
8. Any addition, proposed or completed, to the original square footage in more than 50% of the structure requires a full sprinkler system throughout the entire structure.

Residential Building System Requirements

1. All new domestic fire sprinkler systems shall have a minimum size one and one half inch (1½") water line from the street main. This line shall be completely separate from the domestic water service and shall have a minimum size 1 1/2" water meter. A backflow prevention device shall be installed on the fire service line. Please contact the Public Works Engineering Department for an Encroachment Permit application.
2. Sprinklers are required in all areas of the structure including:
 - Bathrooms
 - Closets
 - Garages
 - Attic Spaces (as described below)
 - Crawl Spaces (as described below)
3. All heads within the living areas are to be quick response type and listed for residential occupancies.
 1. Sprinklers in the garage and in small enclosures containing heat-producing devices (i.e. furnaces, hot water heater, etc.) may be standard response 7/16" orifice.
 2. Sprinklers may be omitted from small closets that are completely shelved, such as linen closets and kitchen pantries.
 3. Sprinklers are required in attic and crawl spaces that have the potential to be used for storage and/or contain heat-producing devices. The sprinklers are required only in the local vicinity of the hazard.

4. CPVC pipe may be used within the structure if it is installed within its listing requirements. CPVC installation certificates are required for all workers and copies are required to be submitted with the plans.
5. All systems shall be tested for leakage at normal system operating water pressure.
6. No pipe shall be covered prior to a system final inspection.
7. Submit a minimum of 4 sets (plans and calculations) for approval.

Commercial Building

1. When serving more than 100 sprinklers, systems shall be supervised by an approved central station service. An audible signal shall be provided at a constantly attended location.
2. All PIV, OS & Y, Zone valves, etc. must have tamper switches.
3. All fire department connections (FDC's) must be within 50' of a fire hydrant. FDC's must have a minimum of two 2 ½" inlets.

Hydraulic Calculation Plan Review Requirements

1. Outline the calculation area(s) on the plans.
2. Calculations are required for the four most remote sprinklers along with any supplemental areas that may be in question.
3. Indicate all hydraulic reference points on the plan.
4. Indicate manufacturer of the flow switch on the plan and show the location.
5. Indicate the meter size on the plan and include the appropriate pressure drop on the calculations.
6. Provide water flow data and the source of information on the plan.

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