2016 Plan Review Reminder List - Fire Sprinkler

Applicable Codes and Standards
NFPA 13 - 2016

Instructions: The following items are to be verified for completeness prior to submitting to OSHPD for plan review.

CHK. N/A  Submittal Requirements
☐ ☐ 1. Two (2) sets of plans and calculations  CAC, Sec. 7-113 (a) 2. C
☐ ☐ 2. Two (2) sets of equipment submittals (cut sheets and product information)  CAC, Sec. 7-113 (a) 2. C
☐ ☐ 3. Water supply and pressure data from city, district or water purveyor. (test data must be no more than one year old)  NFPA 13, Sec. 23.2.1.1
☐ ☐ 4. Transmittal letter with name, address, phone, fax, email and license number of sprinkler contractor  CAC, Sec. 7-115 (c) 5.
☐ ☐ 5. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of the California Fire Code and relevant laws, ordinances, rules and regulations as determined by the fire code official.  CFC, Sec. 105.4.2
☐ ☐ 6. Shop drawings shall contain all information as required by the referenced installation standards in the California Fire Code, Chapter 9.  CFC, Sec. 105.4.2.1

CHK. N/A  I. General Information - Working Plans
☐ ☐ 1. Name of owner and occupant  NFPA 13, Sec. 23.1.3 (1)
☐ ☐ 2. Location, including street address  NFPA 13, Sec. 23.1.3 (2)
☐ ☐ 3. Symbol legend, sheet numbers  CFC, Sec. 105.4.2
☐ ☐ 4. Point of compass, graphic scale  NFPA 13, Sec. 23.1.3 (3) (32)
☐ ☐ 5. Scope of work. Indicate if part of a remodel or new building project or a separate fire sprinkler project.  CFC, Sec. 105.4.2
☐ ☐ 6. Stamp and signature of the designer in responsible charge, if applicable  CAC, Sec. 7-115 (a) & (b)
☐ ☐ 7. Location of partitions and fire-resistance rated walls and partitions  NFPA 13, Sec. 23.1.3 (5) (6)
☐ ☐ 8. Design numbers and details of through penetration fire stop systems  CFC, Sec. 105.4.2
☐ ☐ 9. Full height cross section of building showing location of fire sprinklers, piping, structural members and ceiling construction  NFPA 13, Sec. 23.1.3 (4)
☐ ☐ 10. Reflected ceiling plans indicating fire sprinkler locations and structural members  CFC, Sec. 105.4.2
☐ ☐ 11. Use and function of each area or room  NFPA 13, Sec. 23.1.3 (7)
☐ ☐ 12. Location and size of concealed spaces, closets, attics, and bathrooms  NFPA 13, Sec. 23.1.3 (8)
☐ ☐ 13. Any small enclosures in which no sprinklers are to be installed  NFPA 13, Sec. 23.1.3 (9)
☐ ☐ 14. Make, type, model, sprinkler identification number and nominal K-factor of sprinklers. Indicate existing sprinkler type where applicable  NFPA 13, Sec. 23.1.3 (12)
☐ ☐ 15. Temperature rating and location of high temperature sprinklers  NFPA 13, Sec. 23.1.3 (13)
☐ ☐ 16. Number of sprinklers on each riser per floor and total area of protected space  NFPA 13, Sec. 23.1.3 (15)
☐ ☐ 17. Total number of sprinklers on each dry pipe, preaction, or deluge system  NFPA 13, Sec. 23.1.3 (16)
☐ ☐ 18. Approximate capacity in gallons of each dry pipe system  NFPA 13, Sec. 23.1.3 (17)
☐ ☐ 19. Pipe type and schedule of wall thickness  NFPA 13, Sec. 23.1.3 (18)
☐ ☐ 20. Nominal pipe size and cutting lengths of pipe  NFPA 13, Sec. 23.1.3 (19)
☐ ☐ 21. Location and size of riser nipples  NFPA 13, Sec. 23.1.3 (20)
☐ ☐ 22. Location and complete detail of sprinkler and standpipe risers  CFC, Sec. 105.4.2
☐ ☐ 23. Types of fittings and joints and location of all welds (Welding inspection to be included on TIO)  NFPA 13, Sec. 23.1.3 (21)
24. Type and location of hangers, trapezes, methods of restraint, sleeves and braces (Provide calculations for sway bracing)

25. All control valves, check valves, drain pipes, and test connections

26. Make, type, model and size of alarm, dry pipe, preaction or deluge valve

27. Size and location of standpipe risers, hose connections, small hand hose and related equipment

28. Type and location of outside alarm

29. Reference plans of the private fire service main to the city connection including size, type and location of pipe control valves and check valves

30. Type and location of backflow prevention devices

31. Size, location, and piping arrangements for fire department connections

32. Complete installation details for fire pumps where provided

33. Where the installation is an addition to an existing system, enough of the existing system indicated on the plans to make all conditions clear

34. The information on the hydraulic data nameplate

35. Hydraulic reference points shown on the plan that correspond to the hydraulic calculations

36. The minimum rate of water application (density or flow or discharge pressure), the design area of water application and the water required for hose streams both inside and outside

37. When room design method is used, show unprotected wall openings on floor

38. The pressure setting for pressure reducing/regulating valves

39. Relative elevations of sprinklers and hydraulic reference points

40. Location of fire hydrants

41. Ceiling heights and slopes not included in full height cross section

42. When scope includes installation of private fire mains, provide 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 (See NFPA 24)

II. Hydraulic Calculation Worksheets

1. Hydraulic calculations on sheets that include a summary sheet, graph sheet, water supply analysis, node analysis and detailed worksheets

2. Sheet number

3. Sprinkler discharge, discharge constant (K ), and flow in GPM

4. Hydraulic reference points

5. Provide hazard classification for all areas to be sprinkled

6. Indicate if system is hydraulic, pipe schedule or a combination

7. System design requirements including design area, minimum rate of application, area per sprinkler and number of sprinklers calculated.

8. Pipe Size, internal diameter, pipe lengths center to center of fittings

9. Equivalent pipe lengths for fittings and devices

10. Friction loss in psi/ft of pipe and appropriate "C" factor of pipe

11. Total friction loss between reference points

12. Elevation head in psi between each reference point

13. Required pressure in psi at each reference point

14. Velocity pressure and normal pressure if included in calculations

15. Diagram of gridded system indicating flows and directions for remote area

16. Pressure loss assigned the backflow device

17. Graph sheet showing supply curve, demand and hose allowance
### III. Additional Information

1. General notes
   - CFC, Sec. 105.4.2

2. Basic building information including occupancy group, type of construction, number of stories, floor area and presence of sprinkler protection in adjacent buildings or areas
   - CFC, Sec. 105.4.2

3. Indication of applicable editions of NFPA 13, CBC & CFC
   - CFC, Sec. 105.4.2

4. Reference CBC amendments to NFPA 13 in CBC Chapter 35
   - CFC, Sec. 105.4.2

5. Reference OSHPD Policy Intent and Code Application Notices
   - CFC, Sec. 105.4.2

6. Record of local authority approval for appliance locations, water supply requirements and cross-connection protection - OSHPD form available
   - CFC, Sec. 507, Sec. 912 & T-17, CCR, Sec. 7583 et seq.

### IV. Equipment Submittals

1. Manufacturer’s installation instructions for any specially listed equipment, including descriptions, applications, and limitations for any sprinklers, devices, piping, or fittings
   - NFPA 13, Sec. 23.1.4

2. California State Fire Marshal listing sheets indicating expiration date for all listed
   - CFC, Sec. 907.1.3

### NOTE

Compliance with all items on this list does not necessarily assure compliance with all provisions of the applicable codes and standards. This check list should be used only by persons with a comprehensive knowledge of the applicable codes and standards.

- OSHPD Project Review Status
  - [http://www.oshpd.ca.gov/FDD/project_status/index.asp](http://www.oshpd.ca.gov/FDD/project_status/index.asp)
- OSHPD Public Use Forms
  - [http://www.oshpd.ca.gov/FDD/Forms/index.html](http://www.oshpd.ca.gov/FDD/Forms/index.html)