

FIRE PLAN REVIEW CHECKLIST – NFPA 13 SPRINKLER SYSTEMS

Date:

Project Name:

Address:

Permit Number:

Plan Reviewer: [@longbeach.gov](mailto:longbeach@longbeach.gov); (562)570-

The plans submitted for the project referenced above have been reviewed. The information or corrections identified below are needed to demonstrate compliance with 2022 California Building and Fire Codes (CBC/CFC), CCR Title 19, Title 18 of the Long Beach Municipal Code, adopted standard and policies, and best practices utilized by The City of Long Beach.

A. ADMINISTRATION (Permits that begin with the letter “F”)

To streamline the plan review process, please follow the steps outlined below to ensure that there is no delay in processing your application and reviewing your responses to these plan check corrections.

- Resubmittal of corrected plans, documents and calculations shall incorporate or address all required corrections from email correspondences, redlined plans and this plan check corrections document. Provide a separate written response to each correction comment and show where and how it has been addressed. Cloud all corrections to the plans; Identify the sheet number and detail or reference note on the corrected plans that show where corrections have been made. Time spent searching for corrections will delay the review and approval process. Refer to email instructions for resubmittal of PDF’s and documents.
- Should you have any questions or need clarification pertaining to correction comments made on your project, you may contact the plan check staff that reviewed your plans via email and/or telephone from 7:30am to 4pm; Monday – Friday.
- Resubmit via email directly to the plan checker that sent you the corrections. We will ensure that the resubmitted documents will proceed as expeditiously as possible. If an impasse is reached during the recheck, you may request that the plan check supervisor be summoned for a 2nd opinion or to attempt to resolve and/or clarify the matter.
- Major revisions to approved plans that necessitate additional review time may be subject to resubmittal and additional plan check fees as authorized by Section 18.06.030 of the Long Beach Municipal Code.

- Reviewed plans and/or calculations not addressed past the expiration date of the permit application will require a new permit application form if you want to continue with the permit.
- Pursuant to LBMC Section 18.04.060 and as amended by City Council Resolution, the plan check for your project shall expire after one (1) year and six (6) months from the date the plan check fees were paid to review your project. The plan review for your project will expire on _____. If the plan review for your project is expired, no permit will be issued. A new plan check for your project along with new plan check fees will be required to continue the project. Prior to plan check expiration, the Building Official may consider granting an extension of time not to exceed one hundred eighty (180) days when justifiable cause is demonstrated. For additional information, please refer to the “Plan Check Extension Request Form” located on our department website at longbeach.gov/lbds/forms.
- The final set of construction documents must be stamped by the following department/bureau/agency:
 - Fire Plan Check Only
- The address of the project and the name/address of the owner/applicant are required on the first sheet or title sheet of the construction documents.
- Provide complete engineer and architect information on the first or title sheet of the construction documents.
- Provide a building data section.
 - Scope of work, clearly identify on the plans all areas of work
 - Occupancy classification (CBC Chapter 3)
- Remove all plans, details or notes that do not pertain to the project from the final set of construction documents.
- 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 Fire Code and relevant laws, ordinances, rules and regulations as determined by the fire code official. (CFC § 106.2.1)
- One final electronic set of construction documents will be required during permit issuance. Construction documents must be:
 - Clear electronic .pdf drawings with no background color
 - Scaled floor plans, including north reference
- When all required approvals are obtained, the permit application must be signed by the licensed contractor, or authorized agent at the time the permit is to be issued.

B. CHECKLIST

GENERAL

1. Each sheet of construction documents must bear the stamp, registration number and expiration date of the Responsible Party. The Responsible Party is the Registered Fire Protection Engineer, or Licensed Fire Protection Contractor (C-16).
2. Obtain a Fire Flow Report from Long Beach Utilities, Water Division prior to resubmitting corrected plans. Contact Dennis Santos @ (562) 570-2381
3. Fire protection and life safety system not required by this code or the California Building Code shall be furnished for complete protection throughout the entire building and meet all requirements of this code and the California Building Code unless a fire wall, with no door or window opening, is constructed per the California Building Code Section 706 to separate the building or fire areas. (LBMC § 18.48.400 (CFC § 901.4.2))
4. Note on plans: The current prevailing building and construction codes in the City of Long Beach as follows:
 - 2022 Edition of the California Building Code
 - 2022 Edition of the California Mechanical Code
 - 2022 Edition of the California Electric Code
 - 2022 California Fire Code
 - 2022 NFPA 13
 - Title 19 California Code of Regulations
 - Title 18 of The Long Beach Municipal Code.
5. Fire protection systems and equipment subject to possible vehicular damage shall be adequately protected with guard posts in accordance with Section 312 Vehicle Impact Protection, and modifications adopted under this code. (LBMC § 18.48.410 (CFC § 901.4.8))
6. An automatic sprinkler system shall be installed in all existing occupancies as required by this section, if any of the following occurs: (LBMC § 18.48.420 (CFC § 903.1.2))
 - a. There is a change in occupancy classification to one that would require an automatic sprinkler system per the Fire Code in the new occupancy.
 - b. The Fire Code Official determines that an automatic sprinkler system is required to provide a minimum level of public safety.
7. Partial automatic sprinkler systems are not allowed. Where automatic sprinkler systems are required to be installed by this section, or by any other sections in this code, or any nationally recognized standards, or are electively installed, the

automatic sprinkler system shall be installed throughout the entire building, unless a fire wall, with no door or window openings, is constructed per the California Building Code Section 706 to separate the building or fire areas. (LBMC § 18.48.420 (CFC § 903.1.3))

8. All new commercial, industrial and non-residential buildings that require two or more exits or that are greater than 3,000 sq. ft. shall be protected by an automatic sprinkler system. (LBMC § 18.48.430 (CFC § 903.2))
9. All new multi-family (3 or more units) residential, hotels, motels and similar buildings shall be protected by an automatic sprinkler system. All new single-family dwellings and duplexes shall be protected by an automatic sprinkler system. (LBMC § 18.48.440 (CFC § 903.2.8))
10. Provide hydraulic calculations for design areas identified on the plans.
11. Hydraulic calculations shall be calculated back to the source. Show on the plans and in the hydraulic calculations.
12. Fire protection system hydraulic calculations shall include a 10 percent safety margin between the available water supply and the required system supply. (LBMC § 18.48.450 (CFC § 903.3.5.3))
13. Identify the Occupancy Hazard Classification for each room/space on the plans. (NFPA 13 § 4.3)
14. Show all existing fire hydrants within 300 feet of the proposed building on plans.
15. Fire Department connections shall be located as per the approved architectural plans, unless approved otherwise by the Fire Code Official.
16. Fire Department connections shall be located on the address side of the building or structure and shall be within 150 of a public fire hydrant. (LBMC § 18.48.600 (CFC § 912.2.1))
17. Where Fire Department Connections are located in landscaping or other similar areas, provide a minimum 3-foot concrete pad around the FDC, and an approved concrete pathway leading to the FDC. (LBMC 18.48.610 (CFC § 912.4))
18. Fire department connections, where required, shall be provided with a minimum number of two (2) 2-1/2 inch inlets, regardless of the size of the fire sprinkler system. Where fire protection system demands are in excess of 1,000 gpm a minimum of four (4) 2-1/2 inch inlets shall be provided. (LBMC § 18.48.590)
19. The exterior alarm device shall be a horn and strobe device or a speaker and strobe (for voice evacuation systems), located on the address side of the building, 10 feet above grade with no building obstructions and closest to the

location of the fire department connection. This device shall be operable on any alarm. (LBMC § 18.48.480 (CFC § 903.4.2))

20. The Fire Underground Line from the connection at the City Main up to and through the double detector check assembly (DDCA) shall be ductile iron pipe (DIP). Revise the plans and hydraulic calculations accordingly.
21. Obtain approvals from departments circled below for location of Backflow in sidewalks or other obscure locations.
 - a. Long Beach Water Department
 - b. Public Works Department
22. Provide a sprinkler legend to include: Sprinkler type, model number, sprinkler identification number (SIN), K-factor (orifice size), response type, temperature, etc.
23. Identify on the plans all framing members, beams, ceiling joists, pocketed areas, skylights, and any ceiling features that would obstruct the sprinkler design. Provided size and depth of framing members or design details on the plans. (NFPA 13 § 9.5.5, 10.2.6.1.1 & 10.2.6.1.2)
24. Unless the requirements of 17.1.2 are met, types of hangers shall be in accordance with the requirements of Chapter 17. (NFPA 13 § 17.1.1)
25. T-Bar/Drop/Suspended Ceilings. All sprinkler heads (drops) except fire-resistance-rated floor/ceiling or roof/ceiling assemblies, shall be designed to allow for free movement of the sprinkler pipes with oversize rings, sleeves, or adaptors through the ceiling tile. Sprinkler heads and other penetrations shall have a 2 in. (50 mm) oversize ring, sleeve, or adapter through the ceiling tile to allow for free movement of at least 1 in. (25 mm) in all horizontal directions. Alternatively, a swing joint that can accommodate 1 in. (25 mm) of ceiling movement in all horizontal directions is permitted to be provided at the top of the sprinkler head extension. Sprinkler heads penetrating fire-resistance-rated floor/ceiling or roof/ceiling assemblies shall comply with Section 714 of the CBC. (LBMC § 18.40.330)
26. Provide a section view(s)
27. Show maximum protection area per sprinkler on the plans. (NFPA 13 § 9.5.2)
28. Show all required hangers and spacing on the plans. (NFPA 13 Chapters 9 & 17)
29. Private fire service mains shall be restrained against movement at changes in direction in accordance with 6.6.1, 6.6.2 or 6.6.3 (NFPA 13 § 6.6)

30. Note on plans: Stock of Spare Sprinklers. A supply of at least six spare sprinklers shall be maintained on the remised so that any sprinklers that have operated or been damaged in any way can be promptly replaced. Update sprinklers in the cabinet. (NFPA 13 § 16.2.7.1)
31. Note on plans: The sprinklers shall be kept in a cabinet located where the temperature to which they are subjected will at no time exceed the maximum ceiling temperatures specified in Table 7.2.4.1 for each of the sprinklers within the cabinet. (NFPA 13 § 16.2.7.3)
32. Unless the requirements of Section 8.1.2.2 are met, a wet pipe system shall be provided with a listed relief valve not less than ½ in. in size and set to operate at 175 psi or 10 psi in excess of maximum system pressure, whichever is greater. Show on the plans. (NFPA 13 § 8.1.2.1)
33. Air Venting. A single air vent with a connection conforming to 16.7 shall be provided on each wet pipe system utilizing metallic pipe. (NFPA 13 § 8.1.5)
34. Air Venting. The vent required by 8.1.5 shall be located near a high point in the system to allow air to be removed from that portion of the system by one of the following methods: (NFPA 13 § 16.7)
 - a. Manual valve, minimum ½ in. (15 mm) size
 - b. Automatic air vent
 - c. Remote inspectors test valve
 - d. Other approved means
35. NFPA 13 § 19.2.3.2.3.1 (Revised). Where listed quick-response sprinklers, excluding extended coverage quick-response sprinklers, are used throughout a system or portion of a system having the same hydraulic design basis, the system area of operation shall be permitted to be reduced without revising the density as indicated in Figure 19.2.3.2.3.1 when all of the following conditions are satisfied:
 - a. Wet pipe system
 - b. Light hazard occupancy
 - c. 20ft. maximum ceiling height
 - d. There are no unprotected ceiling pockets as allowed by 10.2.9 and 11.2.7 exceeding 32 sq. ft.
36. System hydraulic calculation plate. The sign shall include the following information:
 - a. Location of the design area or areas
 - b. Discharge densities over the design area or areas
 - c. Required flow and pressure of the system at the base of the riser

- d. Occupancy classification or commodity classification and maximum permitted storage height and configuration
- e. Hose stream allowance included in addition to the sprinkler demand
- f. The name of the installing contractor
- g. Required flow and pressure of the system at the water supply source
- h. Required flow and pressure of the system at the discharge side of the fire pump where a fire pump is installed
- i. Type or types and number of sprinklers or nozzles installed including the orifice size, temperature rating, orientation, K-Factor, sprinkler identification number (SIN) for sprinkler heads when applicable, and response type
- j. The minimum discharge flow rate and pressure required from the hydraulically most demanding sprinkler
- k. The required pressure settings for pressure reducing valves
- l. For deluge sprinkler systems, the required flow and pressure at the hydraulically most demanding sprinkler or nozzle. (NOT REQUIRED FOR THIS SYSTEM)
- m. The protection area per sprinkler based on the hydraulic calculations
- n. The edition of NFPA 13 to which the system was designed and installed. (NFPA 13 § 29.4.3)

SYSTEM COMPONENTS AND HARWARE

1. Unless the requirements of 7.1.1.3, 7.1.1.4 or 7.1.1.5 are met, all materials and devices essential to successful system operation shall be listed. (NFPA 13 § 7.1.1.2) Provide the manufacturer's product data sheets.

STANDPIPE SYSTEMS

1. All standpipe systems, except Class II systems, shall be designed to deliver a minimum of 125 psi at the discharge of all standpipe outlets. (LBMC § 18.48.510 (CFC § 905.1.1))
2. In every required stairway, a hose connection shall be provided for each floor level. Hose connections shall be located at the floor landing of each floor, unless otherwise approved by the fire code official. See California Building Code Section 909.20.3 for additional provisions in smokeproof enclosures. (LBMC § 18.48.520 (CFC § 905.4))

To request this information in an alternative format or to request a reasonable accommodation, please contact the Community Development Department at longbeach.gov/lbcd and 562.570.3807. A minimum of three business days is requested to ensure availability; attempts will be made to accommodate requests with shorter notice.