# Clark County Department of Building & Fire Prevention

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Samuel D. Palmer, Director/Building & Fire Official · Girard Page, Fire Marshal


**Permit Type: 105.7.1**
**Control Number: C.0**
**Effective Date: 12/15/11**

**TITLE: FIRE SPRINKLER SYSTEMS – NFPA 13R**

**SCOPE:** Clark County Department of Building & Fire Prevention requirements for the submittal and approval of NFPA 13R fire sprinkler systems for multi-family (three or more units) residential occupancies, 2-stories or less.

Other fire protection equipment and systems such as fire pumps, fire standpipe systems, water tanks and other fire extinguishing systems shall have separate permits. Submittals for sprinkler permits and in-riser/stub-in permits may be combined into a single permit.

For new work in existing buildings, see the "New Work in Existing Buildings" guideline.

**PURPOSE:** To standardize plan/permit requirements required by the Fire Prevention in accordance with the Clark County Fire Code. Permits are valid through the duration of construction. Work must commence within 180 days, and remain active with no period of inactivity exceeding 180 days, or the permit becomes invalid.

**DEFINITIONS:**

**ASSESSOR'S PARCEL NUMBER (APN):** A unique number assigned to each property by the Clark County Assessor's office.

**NFPA:** National Fire Protection Association is a nationally recognized code-developing organization.

**NICET:** National Institute for Certification in Engineering Technologies is a nationally recognized engineer technician certification organization.

**PERMIT FEES:**

Permit fees shall be assessed in accordance with the Permit Fee Schedule as adopted in the Clark County Fire Code. For applications that are expedited, additional fees shall apply.

**SPECIFICATIONS AND SUBMITTAL REQUIREMENTS:**
An application must be completed for each submittal. A minimum of three sets of plans shall be submitted with the permit application. Plans shall show compliance in accordance with Section 903 of the Clark County Fire Code and NFPA 13R, as adopted and amended. All submittals must be legible and readable or the plan shall be issued a correction letter for cause.

Plans shall address the following:

1. Name of owner and occupant.
2. Location, including street address and assessor's parcel number (APN).
3. Point of compass.
4. Name, address, phone number, and contractor's license number of sprinkler contractor.
5. Nevada State Fire Marshal registration number.
6. Signature and NICET number, or engineer's seal, of the designer.
7. Ceiling construction.
8. Full height cross section.
9. Ceiling/roof heights and slopes not shown in the full height cross section.
10. Location of fire walls.
11. Location of partitions, lintels, and doorways. Lintel openings require a cross section view to indicate the area of the opening.
12. Occupancy, label, and name of all areas or rooms.
13. Location and size of concealed spaces, attics, closets, and bathrooms.
14. Any small enclosures in which no sprinklers are to be installed.
15. For systems supplied by city mains, location and size of city main in street, and location, size, and type of domestic line, including length to city connection, and water meter location and size. Static and residual hydrants that were used in flow tests shall be shown. Water flow tests shall be witnessed by the fire code official and are valid for a period not to exceed six months. The location of the domestic demand shall be indicated.
16. Make, manufacturer, model, type, heat-response element, temperature rating, nominal K-factor, number of sprinklers installed, and nominal orifice size of the sprinkler, including sprinkler identification number.
17. Type and location of horn/strobes.
18. Type of pipe and fittings.
19. Pipe type and schedule of wall thickness.
20. Type of protection for nonmetallic pipe.
21. Nominal pipe size with lengths shown to scale.
22. Location and size of riser nipples.
23. Type of fittings and joints and the location of all welds and bends.
24. Type and locations of hangers, sleeves, braces, and methods of securing sprinklers, where applicable.
25. All control valves, check valves, drain pipes, and test connections.
26. Underground pipe size, length, location, weight, material, and point of connection to city main; type of valves, meters, and valve pits; and depth at which the top of the pipe is laid below grade.
27. In case of hydraulically designed systems, the information on the hydraulic data nameplate.

28. General notes as required by the AHJ.
    a. Describe the scope of work that is covered by permit. Indicate where sprinklers are being provided and for what purpose. For permits where the scope of work is only

over a portion of a facility, the area of work shall be marked by a boundary line that is labeled “Scope of Work”, and the narrative shall address this situation.

b. Provide a general description of building use and associated occupancy classification per NFPA 13 for all building areas.
c. Indicate the manufacturer, schedule, and type of branch line piping.
    i. **Exception**: Schedule 40 and Schedule 10 pipe does not require manufacturer name
d. Indicate the manufacturer, schedule, and type of main piping.
    i. **Exception**: Schedule 40 and Schedule 10 pipe does not require manufacturer name
e. Indicate the manufacturer, schedule, and type of fittings and couplings.
f. Indicate the manufacturer, schedule, and type of underground piping .
g. Indicate the manufacturer, model number and type of water meter assembly.
h. Indicate the type of freeze protection provided (i.e. building heated to 40 ºF at all times, dry system, etc.).
i. Indicate the maximum system pressure for each riser/system, and indicate the minimum pressure required for the hydrostatic test of each riser/system.
j. Indicate the maximum sprinkler deflector distance below the roof deck
k. Indicate the type of construction, whether combustible or non-combustible
l. Indicate whether there are any combustible concealed spaces. Indicate how combustible concealed spaces are protected.
m. Indicate whether construction is classified as unobstructed or obstructed construction.
n. Indicate the ceiling flatness and material. Indicate whether the ceiling is horizontal and flat, or it has a slope, has soffits, or other variations in ceiling height. For all instances of soffits and other variations of ceiling height, refer to details for each instance shown on the plan.
o. Indicate whether central station is required.
p. Indicate the location of the sprinkler head box, and indicate that the room where the box is located is conditioned to $100^0$ F or less.

29. Approximate capacity in gallons of each dry pipe system.
30. Make, type, model, and size of alarm or dry pipe valve.
31. Piping provisions for flushing.
32. 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.
33. A graphic representation of the scale used on all plans.
34. Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets.
35. The minimum rate of water application (density or flow or discharge pressure), the design area of water application, and the domestic demand.
36. The total quantity of water and the pressure required noted at a common reference point for each system.
37. Relative elevations of sprinklers, junction points, and supply or reference points.
38. Information about backflow preventers (manufacturer, size, type).
39. Information about antifreeze solution used (type and amount)
40. Size and location of hydrants, showing size and number of outlets. Static and residual hydrants that were used in flow tests shall be shown.
41. Size, location, and piping arrangement of fire department connections.
42. Location of fuel-fired equipment and heating and air-conditioning equipment.

43. Location of closets on exterior balconies, and a note indicating whether there is any type of door or penetration between the closet and the dwelling unit.
44. Edition year of NFPA 13R to which the sprinkler system is designed.
45. Utility plans and/or plumbing plans necessary to show connection from water supply to fire sprinkler system.

**PERMIT REVISIONS AND RESUBMITTALS:**

Revisions to approved plans are required to be submitted and approved. Revisions will be assessed additional plan review fees. A copy of the previously approved plan shall accompany the revised submittal to facilitate the review. Clearly indicate all changes to the revised plans by clouding the change with a delta number to signify the date of plan change. When several changes have been made, a detailed list of changes is required.

Re-submittals to address a Letter of Correction will require a full submittal. These plans require a copy of the red lined plan from the previous submittal to facilitate the review. Clearly indicate all changes by clouding the change with the delta number to signify the date of plan change.

**PLANS CHECK STATUS INSTRUCTIONS:**

The status of the review can be checked by logging on to:
www.clarkcountynv.gov/building/fire-prevention

**INSPECTION SCHEDULING INSTRUCTIONS:**

If approved, an inspection will need to be scheduled. To schedule an inspection, go to:
www.clarkcountynv.gov/building/fire-prevention
A fire inspector will review your site in accordance with the approved plans and this guideline.

The Fire Prevention (FP) may witness and accept inspection, testing and maintenance of fire and life safety systems conducted by approved individuals as required by and within the scope and authority of the Clark County Fire Code.

This Guideline does not take the place of the Fire Code and does not take precedence over any Fire Code requirement or position taken by the Fire Chief. When a conflict exists between the requirements of this Guideline and the Fire Code or the opinion of the Fire Chief, the Fire Code or opinion of the Fire Chief prevails.

Technical Assistance, when required by the Fire Chief, will require a Technical Opinion and Report prepared by a State of Nevada licensed: qualified engineer, specialist, laboratory, or fire safety specialty organization acceptable to the Fire Chief and the owner. The Fire Chief is authorized to require design submittals to bear the Wet Stamp and Signature of a professional engineer.

Acceptance of Alternative Materials and Methods requires a Technical Opinion and Report prepared by a State of Nevada licensed: qualified engineer, specialist, laboratory, or fire safety specialty organization acceptable to the Fire Chief and the owner. The Fire Chief is authorized to require design submittals to bear the Wet Stamp and Signature of a professional engineer.