MILPITAS FIRE DEPARTMENT
FIRE PREVENTION DIVISION
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RESIDENTAL FIRE SPRINKLERS NFPA 13D

FILE REVIEW

1. **REVIEW FILE –** Is there an alternate method application approved and are the conditions incorporated?
2. **REVIEW PLANS, PLAN NOTES AND FD APPROVAL LETTER**

REQUIRED INSPECTIONS

3. **UNDERGROUND –** NFPA 13D, An examination of the underground to determine that the calculated pipe diameter and water meter size are provided.
4. **OVERHEAD HYDROSTATIC –** NFPA 13D, System shall be pressurized at 200 psi for two hours. Gauge shall be marked upon pressurization.
5. **FIRE SPRINKLER FINAL -** NFPA 13D, A main drain, inspector test and final walkthrough of sprinkler coverage shall be performed.

GENERAL

6. Approved plans are on site

VERIFY INSPECTION REQUIREMENTS

7. Verify that the water supply configuration, including the underground line and meter, match the approved plans. The underground supply, including lateral size, meter size and pipe run to the base of the riser shall be the same as the plans submitted for a sprinkler permit.
8. For one and two family dwellings, ensure the meter size and the lateral (corporation stop to meter box) is of sufficient size to supply a residential fire sprinkler system. Generally, 1-1/2 inch is sufficient for one and two family dwellings.

9. Each system shall have an indicating ball style brass control valve at the base of the riser that controls both the sprinkler system and domestic water. The valve shall be installed a minimum 6” above grade and easily accessible. A separate shut-off valve for the domestic water may be installed on the system side of the control valve. Other than the water meter shut-off valve no other system control valves are permitted including valves on a backflow device. All valves shall be signed.
10. Sprinkler system has a single soft seated check valve installed on the system side of the control valve. Unless approved by the fire department, no additional check valves or pressure reducing valves shall be installed on the sprinkler system. If backflow devices are required by the water purveyor, the device shall be installed before the domestic connection and be reflected in the hydraulic calculations.
11. A pressure gauge shall be installed on the riser.
12. A drain and test connection are provided.
13. A water flow test connection is provided. The test connection shall be in a hydraulically remote location unless a combination drain/test valve is provided at the riser.
14. Verify that the hydrostatic test pressure is at 200 psi, the pump disconnected and the gauge has been marked.

PIPING

15. Listed pipe is supported in accordance with any listing limitations.
16. Pipe that is not listed, and listed pipe with listing limitations that do not include piping support requirements, shall be supported from structural members using support methods comparable to those required by applicable local plumbing codes.
17. Piping laid on open joists or rafters shall be supported in a manner that prevents lateral movement.
18. Sprinkler piping shall be supported in a manner that prevents the movement of piping upon sprinkler operation.
19. Pipes in attics are adequately insulated.
20. Antifreeze system is installed in accordance with the approved set of plans.
21. - CPVC fire sprinkler pipe may be used. All materials shall be installed per their listing requirements. CPVC piping is acceptable for use in a garage when it is installed in the following manner: The piping is installed above a smooth flat horizontal ceiling. The entire ceiling and all

the walls are covered with a minimum of 1/2 inch plywood or 3/8 inch gypsum board.

SPRINKLERS

22. Sprinkler heads are not painted or covered or blocked.
23. Proper type and temperature sprinklers are used.
24. - Escutcheon plates are installed and pendent/upright deflectors are within 1in. to 4 in. from the ceiling, sidewalls are within 4 in. to 6 in. from the ceiling or all are per their listing.
25. Pendent and upright deflectors in closets can be installed within 12 in. of the ceiling.
26. - Sprinkler protection for covered porches and balconies, adjacent to kitchens and other covered areas that could accommodate the use of portable cooking equipment.
27. Sprinklers are in all areas as shown on the approved set of plans.
28. Spacing between sprinklers does not exceed 12 ft., sprinklers are not greater than 6 ft. from a wall, and sprinklers are not within 8 ft. of each other unless listing allows it.
29. Sprinklers in the garage are spaced at a maximum of 130 square feet per each sprinkler head.
30. Sprinklers in all areas of the structure including:
    31. Attached garage
    32. Attic Spaces
    33. Crawl Spaces
    34. Closets
    35. Under combustible balconies
36. Full sprinkler coverage provided in attached garages. Attached carports shall be protected by coverage along the separation wall between the dwelling unit and carport.
37. Sprinklers may be omitted from attics which are not intended for living purposes or storage provided that coverage is installed above the attic access and above any furnace or air handling units. Any attic areas or under-floor areas used or intended to be used for storage shall be provided with full coverage using sprinklers installed in accordance with their listing. The number of sprinklers to be calculated in these areas shall be the two most remote sprinklers.
38. A pilot sprinkler shall be provided above any attic access openings.

39. Garages and small enclosures containing heat producing devices (i.e. furnaces, hot water heater, etc.) may be standard type with intermediate temperature rating within the vicinity of the hazard.

SIGNAGE

40. Signs provided for the system:

A permanent plate labeled “INSPECTOR’S TEST/MAIN DRAIN” securely affixed at the inspector’s test/main drain.

Hydraulic calculation plate provided and permanently attached to the riser, which indicates the system demand and pressure.

ALARMS

41. Alarms installed adjacent to the system riser and include a sign that reads **“FIRE ALARM – CALL 911**” or equivalent language.
42. An exterior notification appliance shall be placed in a location to permit notification in sleeping areas.
43. An inspector’s test connection is provided. The outlet shall be in a remote location unless a combination “drain/test” valve is installed at the riser. If a hose bib is utilized, the hose threads shall be disabled. The outlet shall be supplied with an inspector’s test sign.

TESTING

44. All piping and attached appurtenances subjected to system working pressure hydrostatically tested. Piping hydrostatically tested at 200 psi. The piping shall be exposed for the test and the system maintained at pressure without loss for two hours.
45. System control valve for both the sprinkler and domestic systems is on, operable and secured.
46. Operate the drain valve on the system side of the control valve and record the static and residual pressure.
47. Contractor to open the inspectors test valve – record the number of seconds until alarm activation, must be >90 seconds.
48. External alarm operational.