

NFPA 13 Sprinkler System Acceptance Test

City of Mercer Island
Development Services Group
2009 IFC and 2007 NFPA 13

Date of Inspection: _____ Permit Number: _____

Business/Bldg Name: _____ Address of Project: _____

Contractor: _____ Contractor's Phone: _____

The numbers following checklist comments represent **NFPA code sections** unless otherwise specified.

Pass | Fail | NA

1. ____ | ____ | ____ Approved drawing and aboveground piping certification documents are on site.
2. ____ | ____ | ____ **Underground supply testing and flushing** is witnessed by the City of Mercer Island Underground Utilities Inspector and underground piping certification is provided Test and Materials Certificate. Flushing requirements shall be 880 gpm for 6", 1,560 gpm for 8", 2,440 gpm for 10", 3,520 for 12", have them pitot and calculate that flow and the velocity is at least 10 ft/sec.
3. ____ | ____ | ____ Hydro test: wet system, 200 psi for 2 hours and it should include the FDC piping.
4. ____ | ____ | ____ Hydro test: dry system and double interlocks; 200 psi for 2 hours and a 40 psi air leak test for 24 hours with less than 1.5 psi loss, 16.2.2.
5. ____ | ____ | ____ Double back flow prevention valve is installed.
6. ____ | ____ | ____ Systems subject to pressures greater than 50 psi shall be hydro tested at 150 psi above system working pressure, 16.2.1.2.
7. ____ | ____ | ____ Operational test of dry-pipe valve performed and quick opening device (500+ gallon systems) is tested, 750+ gallon system must trip within 60 seconds.
8. ____ | ____ | ____ PRVs are tested at maximum and normal inlet pressures, the supply pressure is recorded on the cert., a relief valve is on the discharge side and gauges on each side of the valve.

Riser Room

9. ___ | ___ | ___ Main drain is routed to the exterior with a turned down elbow. Flow test is performed. Main drain pipe is .75" or greater for a riser up to 2", 1.25" or greater for a riser 2.5" to 3.5", 2" for a riser 4" or greater, 8.15.2.4, 16.2.3.4.
10. ___ | ___ | ___ Test valve and flow switch are monitored for I-1 occupancies with 20 or more sprinklers, and for other occupancies with 100 or more sprinklers.
11. ___ | ___ | ___ Paddle type water flow is not allowed for dry, preaction, or deluge systems.
12. ___ | ___ | ___ 24 hour monitoring service agency received signals.
13. ___ | ___ | ___ Water flow alarm is tested, located above the FDC, and it is properly signed, 16.2.
14. ___ | ___ | ___ Water supply valves are indicating type and supervised by one of 4 means, 8.15.1.1.2.
15. ___ | ___ | ___ Highrise: each floor system shall have water flow device with a test connection and be connected to the fire alarm system.
16. ___ | ___ | ___ Permanent system identification signs for each control valve and what portion of the building each valve serves, 6.7.4.
17. ___ | ___ | ___ Permanent label of the hydraulic calculations is attached to the riser.
18. ___ | ___ | ___ Riser supported by hanger or attachment, for multistory at the lowest level, each alternate level, above and below offsets, and at the top.
19. ___ | ___ | ___ Gauges are above and below riser check valve, 7.1.1.2.

Fire Dept. Connection (Pumper Connection)

20. ___ | ___ | ___ FDC capped and permanently signed with system type, PSI required, and area or building served, 8.16.2.4.7.
21. ___ | ___ | ___ FDC has check valve and ball drip auto drain valve, 8.16.2.5.
22. ___ | ___ | ___ FDC for wet single riser system connects to the system side, 8.16.2.4.
23. ___ | ___ | ___ FDC for wet multi-riser system connects after the main system shut off valve, 8.16.2.4.
24. ___ | ___ | ___ FDC for dry system connects between the indicating and dry-pipe valves.
25. ___ | ___ | ___ FDC is a minimum 4" pipe, 18"- 48" above grade, and properly supported, 8.16.2.

Sprinklers

26. ___ | ___ | ___ Extra sprinklers; no less than 6, some of each type: 6 per 300, 12 per 300 to 1000 and 24 per 1000+ and a wrench are provided, 6.2.9.
27. ___ | ___ | ___ Sprinkler head and wrench location are the same as indicated on the plans.
28. ___ | ___ | ___ Sprinklers shall be a minimum of 4" from the wall and be properly spaced, 8.6.3.3.
29. ___ | ___ | ___ Sprinkler heads have a guard if subject to damage.
30. ___ | ___ | ___ Sprinkler heads are not painted or covered.
31. ___ | ___ | ___ Upright deflectors are a minimum 7" above the top of the pipe, 8.12.5.3.
32. ___ | ___ | ___ EFSR sprinklers are at least 1' horizontally from the bottom edge of bar joist or open truss and 36" above the storage level, 8.12.6.

33. ____ | ____ | ____ **Proper type and temperature sprinklers are used.**
34. ____ | ____ | ____ Escutcheon plates are installed.

Pipe: Hangers, Seismic, and Penetrations

35. ____ | ____ | ____ Piping layout and size are the same as the plans.
36. ____ | ____ | ____ Pipe penetrations have proper clearance 2" for pipe 1"-3.5", 4" for pipe 4" and larger, 9.3.
37. ____ | ____ | ____ Flexible couplings may be used for pipe 2.5" or larger at structural separations, within 24" of expansion joints, within 24" of the top and bottom of all risers, within 12" above and below a floor penetration in multistory buildings, and on both sides of and within 1' of concrete or masonry wall penetrations unless pipe clearance is provided, 9.3.2.
38. ____ | ____ | ____ Minimum clearance around pipes: holes are 2" larger than pipe 1"- 3.5", 4" larger than pipe 4" and larger. Clearance is not required through sheetrock which is not required to be fire rated nor when flexible couplings are used on each side and within 1' of penetration. A listed fire stop system shall be used for penetration holes, the system listing sheet is available, 9.3.4.
39. ____ | ____ | ____ A 6 ell seismic separation assembly, is provided at building seismic joints, 6-4.3.
40. ____ | ____ | ____ Lateral sway bracing is required at a maximum spacing of 40' for all mains, cross mains, and branchlines 2.5" and larger. Bracing is provided for the last length of pipe but within 20" of the end of a feed or cross main. Bracing is required unless all the pipe is supported by rods less than 6" or by 30⁰ wrap-around u-hooks for any size pipe, 9.3.5.3.
41. ____ | ____ | ____ Longitudinal sway bracing is a maximum of 80' for mains and crossmains, check spacing on the plans, 9.3.5.4.
42. ____ | ____ | ____ A 4-way sway brace is provided at least every 25' and at the top of each riser, 9.3.5.5.
43. ____ | ____ | ____ Longitudinal and lateral bracing is provided for each run of pipe and between the change of pipe direction unless the pipe run is less than 12', 9.3.5.11.
44. ____ | ____ | ____ Sprig ups greater than 4' are restrained from lateral movement, 9.3.6.5.
45. ____ | ____ | ____ Splayed seismic bracing wire, wrap-around u-hooks, or lateral sway bracing shall not exceed 30' spacing and is used to restrict sprinkler movement that could impact the building, equipment or finishing materials, 9.3.6.4.
46. ____ | ____ | ____ Restraining straps are on all C-clamps and the strap is bolted through if there is not a lip on the beam, 9.3.7.1.
47. ____ | ____ | ____ Branch lines have one hanger per section of pipe, 9.2.3.2.
48. ____ | ____ | ____ Mains and crossmains have one hanger between each branch lines and at the end of the main.
49. ____ | ____ | ____ The maximum distance between the end sprinkler and hanger is 36" for 1" pipe, 48" for 1.25", and 60" for 1.5" pipe and greater, 9.2.4.

50. ____|____|____ Risers in multi-story buildings have supports at the lowest level, at each alternate level, below offsets, and at the top, 9.2.5.3.
51. ____|____|____ Risers in vertical shafts or buildings with ceiling greater than 25' have support for each pipe section.
52. ____|____|____ Hangers are not within 3" of upright sprinklers, 9.2.3.3.

Dry and Preaction Systems

53. ____|____|____ Dry system compressor with a minimum .5" fill line, pressure gauges, and relief valve that function automatically and fill the system within 30 minutes.
54. ____|____|____ Preaction and deluge systems are tripped by activation of the detection system.
55. ____|____|____ Riser room is heated, 7.2.5.
56. ____|____|____ Air pressure is set at least 20 psi above the trip pressure, 16.2.2.
57. ____|____|____ Preaction system is supervised and water reaches furthest point within 3 minutes.
58. ____|____|____ Preaction systems exceeding 20 sprinklers automatically supervise (constant monitoring) pipe pressure (maintain at least 7 psi) and detection devices.

Additional Comments

Inspection Date: _____ Approved or Disapproved FD Inspector: _____

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