

Marietta Fire Department

<p>Fire Marshal's Office</p>  <p>Plan Review</p>	<p>Fire Sprinkler- New System Checklist (NFPA 13, 2013 Ed)¹</p> <p>Tenant Name: _____ Date: _____ Address: _____ Bldg: _____ Suite: _____ City: _____ Zip: _____ Phone: (____)-____-____ Permit Number: _____ E-Mail: _____</p> <p>GENERAL BUILDING INFORMATION</p> <p>Construction Type: _____ Stories/Height (ft): _____/_____ Contractor Name/Company: _____ Contact Email: _____ Company Address: _____ Type: <input type="checkbox"/> wet <input type="checkbox"/> dry <input type="checkbox"/> pre-action Total Heads/Per Riser: _____/_____ <div style="text-align: right;">✓ = Pass, X = Fail, NA = Not applicable</div></p>
DRAWING SUBMITTAL REQUIREMENTS - SUBJECT TO AUTOMATIC REJECTION	
1) Provide 2 sets of drawings, 1 set of submittal data, 1 set of calculations, CD of PDF format with All drawings, Scope of work on letterhead, Tech Sheets for all components, and calculations	
2) Declaration of Applicable Current Codes: NFPA 13 (2013), NFPA 101 (2012), IBC (2012), IFC (2012), 120-3-3 Rules and Regulations, Marietta City Ordinance(s)	
3) Certificate of Competency or PE seal and counter signature (may be electronic) [120-3-19-.11]	
4) Use a common scale (1/8" = 1 ft is preferred) and labeled graphically [23.1.3]	
5) Location key map and north arrow [23.1.3]	
6) Label all rooms and specify HAZARD OCCUPANCY PER AREA [5.1.2 and 23.1.3]	
7) Provide legends for system components and sprinkler heads: Quantity (total page and total project), SIN #, Make, Type, Model, K-Factor, Diameter, Temp Rating, Max spacing	
8) Provide a copy of the approved utility drawings with the Fire Marshal's Office's FIRE LINE stamp. Include FDC, water meter, PIV, DCDA backflow assembly and all applicable devices.	
9) Accurate riser detail (DCDA water dept. approved backflow assembly if required), valves, gauges, water flow (requires monitoring), FDC tie in, test and drains, and fire pump (when each are applicable).	
SPRINKLER COVERAGE² / SYSTEM / FDC / PIV (8.1.1)	
10) Basic Requirements: Verify spacing, location and position of sprinklers [8.1]	
11) Deflector Position: Show ceiling heights and branch line elevations [8.5.4; 8.5.6]	
12) Small Room Rule (light hazard only): Show room area and dimensions [A.8.6.3.2.4]	
13) Provide General Note: Where sprinklers are to be omitted. [23.1.3]	
14) Show locations of installed floor control valve assemblies, PIV, check valves, hose valves [8.16.1]	
15) FDC: hose connections, system tie in, and size of piping [8.17.2.4.1]	
16) PRV > 175 psi: Show PRV settings and locations on drawings [8.16.1.2; 23.1.3]	
17) Local water flow alarm 110V electric bell or water motor alarm [8.17.1.1]	
18) Area of Protection: Show on drawing total area per riser/standpipe of area each is protecting [8.2]	
19) Inspectors Test and Auxiliary Drains [8.16.2.1 and 8.17.4.2.1]	
20) Provide hanger details and spacing [9.1]	
21) Show method of freeze protection and include details [8.16.4.1]	
CONCEALED SPACES AND SPECIAL SITUATIONS (8.15)	
22) Consideration: ceiling pockets, shafts/stairways, elevators/hoist way, exterior projections, small rooms, electrical/mechanical/janitorial rooms, overhead doors [8.15.1(11)]	
23) Provide General Note: Show all canopies, the construction and loading docks or areas. [8.15.7.1]	
24) Provide General Note: Identify all 4 ft obstructions to include ductwork, open grate floors, cloud ceilings [8.5.5.3.1]	
25) Provide General Note: All sprinklers under skylights or in unventilated areas shall be intermediate temperature [8.3.2.5; 8.5.7]	
26) Provide General Note: Deflector positions identified with construction type, unobstructed/obstructed and the deflector to deck distance [8.5.4]	
27) Provide General Note: Identify temperature restrictive areas, hanging heaters or other heat producing devices [8.3.2.1 & 8.3.2.5]	
CONSTRUCTION AND MATERIALS⁴	
28) Breezeway Crossings: Require Marietta Planning and Zoning approval, P.E. stamp, calculations per permit. Include UL number for penetration details. Multiple calculations may be required. [AHJ]	
29) Show all pipe materials, schedules, pipe sizes, cut lengths, and routing to include changes in elevations	

30) ³ All materials, system components and hardware are listed for use [23.1.3; 6.1; table A.6.1.1]	
31) Identify all fire walls, fire barriers or partitions. [23.1.3]	
32) Provide elevation drawings showing ceiling/floor slope and construction, specify wet or dry pipe, and sprinklers incorporated: multiple elevation drawings maybe required [9.2; 8.5 and 23.1.3]	
DRY/PREACTION SYSTEM	
33) Provide capacity in gallons for dry pipe systems [7.2]	
34) Show type and location of alarms and valves for pre-action, dry or deluge pipe valve [23.1.3]	
HYDRAULIC CALCULATIONS (11.2; 23.2.1; 23.3.2) - ≥ 20 HEADS REQUIRE CALCULATIONS	
35) All remote areas are clearly defined and call out the design data for the remote area. [AHJ]	
36) Remote areas requiring an increase of 30%: Dry systems and ceiling slope greater than 2 in 12. [11.2]	
37) Location and date of 24-hr static pressure test within 6 months of plan review. [AHJ]	
38) Hydraulic base must account for lowest pressure over any 30 min for 24-hr period [23.4]	
39) Hydraulic reference points must be shown; include the test hydrant, meter, backflow [23.1.3]	
40) Call out the backflow make and model. Provide technical data sheet [23.1.3]	
41) Show static pressure, residual pressures and flow (GPM) of the water supply [23.1.3]	
42) Provide elevations of the hydrant, the base of riser, sprinklers and junction points [23.1.3]	
43) Water demand requirements and design areas are clearly marked for the applicable areas (occupancy hazard/special design) [11.1.4]	
44) Provide detail of new hydraulic name plate information to be posted on riser and include hazards [25.5.2]	
STORAGE AND COMMODITY ASSESSMENT⁴ - REQUIRED FOR STORAGE AREAS	
45) ⁴ Commodity Assessment (CPA): Show max heights of storage and ceilings, shelving methods [23.1]	
46) Provide cross sectional drawings for racks and specify commodities being stored. [5.6]	
47) ⁴ Provide storage arrangement and commodity specific letter including type of packing materials and enclosures signed by the owner. *All buildings with racks require an Owner's Information Certificate* [4.3]	

¹ The above is not an all-inclusive list; all applicable codes must be met.

² All non applicable items must be documented on the plans.

³ All components are required to be listed for the intended use.

⁴ Information for storage areas to include: Type of storage, class type (I-IV and group A plastics), max storage height, ceiling height, method of packaging, shelving/piled methods, encapsulated or not, and PSI and GPM requirements.

Notes: _____

Stamp:

Reviewer: _____

Date: _____

Sampling of NFPA 13 Sections¹

23.1.3 (note Figures A.23.1(a) and A.23.1.1) – Working plans shall be drawn to an indicated scale (1/8th is preferred), sheets of uniform size, with a plan of each floor; and shall show those items from the following that pertain to the design:

1. Name of Occupant
2. Location (street)
3. North Arrow
4. Full height cross section (structural members information for clarity, ceiling construction and method of protection for nonmetallic piping)
5. Location of partitions
6. Location of fire walls / fire barriers
7. Occupancy class of each area
8. Location and size of concealed spaces, closets, attics, and bathrooms
9. Any small enclosures
10. Size of city main (dead-end or circulating), city main test results and system elevations relative to test hydrant.
11. Other sources of water supply including pressure or elevations
12. Sprinkler head: SIN, make, type, model, and nominal K-factor, temperature rating and location of high-temperature sprinklers.
13. Total area protected by each system on each floor.
14. Number of sprinklers on each riser per floor
15. Total number of sprinklers each dry pipe system, preaction system, combined dry pipe-preaction system, or deluge system.
16. Approximate capacity in gallons of each dry pipe system.
17. Pipe type and schedule of wall thickness.
18. Nominal pipe size and cutting lengths of pipe.
19. Location and size of riser nipples.
20. Type of fittings and joints.
21. Type and locations of hangers, sleeves, braces, and methods of securing sprinklers.
22. All control valves, check valves, drain pipes, and test connections.
23. Make, type, model, and size of alarm or dry pipe valve.
24. Make, type, model, and size of preaction or deluge valve.
25. Kind and location of alarm bells.
26. Size and location of standpipe risers, hose outlets, hand hose, monitor nozzles, and related equipment.
27. Private fire service 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.
28. Piping provisions for flushing.
29. 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.
30. A graphic representation of the scale.
31. Name and address of contractor.
32. Wet or electronically generated stamps are acceptable, and should appear on all pages.
33. Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets.
34. The minimum rate of water application, the design area of water application, in-rack sprinkler demand, and the water required for hose streams both inside and outside.
35. The total quantity of water and the pressure required noted at the common reference point for each system.
36. Relative elevations of sprinklers, junction points, and supply or reference points.
37. If room design method is used, all unprotected wall openings throughout the floor protected.
38. Calculation of loads for sizing and details of sway bracing.
39. The settings for pressure-reducing valves.
40. Information about backflow preventers (manufacturer, size and type).
41. Information about listed antifreeze solutions used (type and amount)
42. Size and location of hydrants, showing size and number of outlets and if outlets are to be equipped with independent gate valves. Whether hose houses and equipment are to be provided, and by whom, shall be indicated. Static and residual hydrants that were used in flow tests shall be shown.
43. Size, location, and piping arrangement of FDC.
44. Ceiling/Roof heights and slopes not shown in the full height cross sections.
45. Edition year of NFPA 13 to which the sprinkler system is designed. (**should be 2013**)

Sampling of Georgia State Modifications to NFPA 13¹

(a) Modification to Chapter 4:

1. Add a new Section 4.7 to read as follows:

“4.7 Modification of Existing Sprinkler Systems. In existing sprinkler systems, heads may be relocated from original installation locations. All alterations or modifications to existing branch lines shall be submitted with hydraulic calculations if work is outside of scope of subsections 4.4.1 through 4.4.4. New hydraulic data nameplate shall be placed on any modified system at the riser or sectional valve along with the existing hydraulic data nameplate.

4.7.1 One additional sprinkler may be added to an original installation location if the additional sprinkler is in a remotely located or non-communicating compartment from the existing or relocated sprinkler.

4.7.2 Two sprinklers may be added to an existing branch line if the additional sprinklers are in remotely located or non-communicating compartments from the existing or relocated sprinkler.

4.7.3 New branch lines added to existing cross mains shall be sized the same as the existing branch lines.

4.7.4 No more than two heads shall be supplied from 1 inch (25.4 mm) pipe unless the existing system was calculated to supply more than two heads. In such case, the calculated maximum for 1 inch (25.4 mm) pipe shall take precedence.”