



## **REQUIREMENTS FOR THE SUBMITTAL OF NFPA 13 (ePLANS)**

Effective: May 1, 2016

Supersedes:  
January 1, 2008

### **A. PERMIT PROCEDURES**

1. Permit applications shall conform to all applicable codes and standards enforced by the State of Maryland and Montgomery County.
2. For systems designed using other standards or codes please refer to requirements as appropriate. (e.g. NFPA 13D, NFPA 13R, NFPA 14, and NFPA 20)
3. For projects within the [City of Gaithersburg](#), contact their Fire Marshal at (301) 258-6330
4. For projects within the [City of Rockville](#), contact their Fire Marshal at (240) 314-8240.

### **B. GENERAL SUBMITTAL REQUIREMENTS**

1. Drawing files shall be submitted separately (one drawing per file). The site plans are drawings. Drawings shall be uploaded in landscape format.
2. Equipment submittal files shall be combined into a PDF book and submitted together as a single file.
3. Calculation files shall be submitted separately. Provide a list showing the file number, area/floor, and the drawing number for plans with more than 5 calculation files.

### **C. INFORMATION REQUIRED ON DRAWINGS**

1. Plans shall include all information required by [NFPA 13 section 23.1.3](#).
2. Building permit number (where applicable).
3. Sprinkler contractor license number and expiration date (State of Maryland and Montgomery County license numbers).

### **D. BUILDING INFORMATION**

1. The minimum accepted scale for floor plans is 1/8" per ft.
2. Provide details for ceiling obstructions (lights, bulkheads, etc.).
3. Provide floor elevation and building section elevation above sea level (corresponds to gradient information).
4. Provide location and rating of any and all fire doors, fire walls, and fire or smoke partitions, particularly when employing the room design method. All information provided shall be consistent with the latest DPS approved architectural plans.
5. Show water curtains and 18" draft stops for floor openings.

6. Any canopy with the potential for extended vehicle standing or parking below must have sprinkler protection on the underside of the canopy.
7. When a sprinkler system serves more than one level, each level must be consistently and separately valved by a listed and approved control valve. In addition, where a sprinkler system is required to activate a building fire alarm system, the sprinkler system must have a separate and distinct water flow detecting device for each floor and zone.
  - Exception 1: In buildings not exceeding three floors and 3000 square feet per floor.
  - Exception 2: Unoccupied and unused attics may be zoned with the level below.
  - Exception 3: Mezzanines not exceeding 3000 square feet in area.
  - Exception 4: Detention and correctional facilities.
8. Coordinate with fire alarm & smoke control zones. Atriums will usually require independent zones.
9. For 2 story floor openings not classified as atriums: sprinklers at the top must be zoned with the lower level if enclosed on the upper level; otherwise sprinklers must be zoned with the upper level.
10. Sprinklers are required under attached balconies or porches unless at least 50 percent of the longest exterior side is open to the atmosphere.

**E. SITE PLAN / WATER INFORMATION**

1. Provide an approved [WSSC](#) site plan for new water service.
2. Provide a hydraulic information sheet. (located on WSSC approved site plan)
3. For existing water service provide a flow test inside the building due to the unknown condition of the underground pipe. DPS does not need to witness this test. It must be no older than 1 year. You must adjust for low gradient as above and submit a copy of the test results with the submittal.

**F. SPRINKLER / EQUIPMENT INFORMATION**

1. In dwelling units, ordinary temperature sprinklers must be used.
2. Intermediate temperature sprinkler heads shall only be installed if an acceptable layout cannot be achieved without a sprinkler head in the high temperature area.
3. Listed residential sprinkler heads must be used in dwelling units except in detention and correctional occupancies.
4. When sprinklers are required, sprinklers must not be installed directly above shelving.
5. Dry pipe systems may only be installed where heat is not adequate to prevent freezing.
6. Sprinkler control valves (except elevator control valves) must be in stairs, valve rooms, or pump rooms for any building except schools.
7. Fire department connections must be located within 100 feet of a fire hydrant, and between 18 and 48 inches from grade to the centerline of the inlets.
8. Number of 2 1/2 in. inlets for FDC:
 

System Demand (GPM)	No. of Inlets
up to 749	2
750-999	3
1000 and above	4
9. Multiple connections for the same building must be interconnected.
10. When a section of a building is fed by a connection (i.e., partial systems), permanent all weather identification signs must be provided on connections.
11. The FDC must be sized at least as large as the main sprinkler system riser pipe or the fire pump discharge line, whichever is larger.

**G. DESIGN/ CALCULATION INFORMATION**

1. Calculations for new systems or new portions of systems must meet the criteria below.
  - (a) Highest hazard and most demanding use allowed by building construction permit or property zoning.
  - (b) Storage use: Available storage height for high storage of a class 4 non-encapsulated material.
  - (c) All uses: 20% safety factor. For systems without a pump, this is based on the demand pressure only at the supply point. For systems with a pump, this is based on both the demand pressure and demand flow at the pump discharge. All design options, except grids in speculative buildings, must be explored.
2. Exception to safety factor only: Owner occupied buildings may use a lower safety factor if a pump would be necessary to achieve the 20%. (Pressure and flow availability as determined by a hydraulic information sheet received from a public utility must be used for new taps. Pressure and flow availability for existing taps must be determined by an interior flow test. In any case, the supply information must be corrected for the low hydraulic gradient. Fire pumps and fire pump/tank supplies must only be used where it is demonstrated that the public water supply is inadequate.)
3. See [NFPA 13 section 23.3](#) for acceptable calculation forms and formats.
4. **Speculative Spaces** (subject to tenant changes regardless of lease term)  
If project covers common areas, but not tenant areas, provide phantom calculations to establish sizing & spacing for future tenant work. Shell approval must include protection for all non-leasable areas including means of egress.
  - a.) Piping layout must be a tree or looped system; grids are not permitted.
  - b.) Sprinklers: Extended coverage sprinklers are not permitted in speculative business and mercantile occupancies.
  - c.) Include elevation loss in calculations to roof deck for future tenants without ceilings.
  - d.) If using QR area reduction, use full height to roof deck for future tenants without ceilings.
  - e.) Minimum 1" outlets shall be provided. Face bushings are not permitted.

## **H. TENANT PLAN INFORMATION**

1. The tenant location must be clearly noted on the plan(s).
2. The NOTES TO BE SHOWN ON TENANT SPRINKLER DRAWINGS (see next page) worksheet must appear on one of the submitted plans.
3. Provide arm-over and tie-in details.
4. Original criteria must be adhered to on any given floor. Criteria may only be changed on an "entire floor" basis.
5. Change to a higher hazard must be recalculated except rooms with 6 or less heads. These small rooms may use the same pipe sizing with a decrease in head spacing by density conversion. Example: Orig. head flow 16.8 gpm for 168 SF spacing at light hazard density of 0.10. New spacing for small mechanical room (ord. gr. 1) will be  $16.8 \text{ gpm} / 0.15 \text{ density} = 112 \text{ SF}$ .
6. Change to a lesser hazard must use the same pipe sizing as shell calculations; spacing may be increased by density conversion. Example: Orig. head flow 20.0 gpm for 100 SF spacing at ordinary group 2 density of 0.20. New spacing for light hazard will be  $20.0 \text{ gpm} / 0.10 \text{ density} = 200 \text{ SF}$ .
7. Newly plugged outlets must be considered heads for the purpose of pipe sizing.



**DPS**

**Montgomery County  
Department of Permitting Services**

255 Rockville Pike, 2<sup>nd</sup> Floor  
Rockville, MD 20850-4166  
Phone: 311 in Montgomery County or (240)777-0311  
Fax: (240)777-6262  
<http://www.montgomerycountymd.gov/permittingservices>



**NOTES TO BE SHOWN ON TENANT SPRINKLER DRAWINGS**

Original hazard occupancy per calc: \_\_\_\_\_ calc area \_\_\_\_\_ density \_\_\_\_\_ safety factor \_\_\_\_\_

Original calculated pipe sizing: \_\_\_\_\_ sprinklers on \_\_\_\_\_ pipe  
\_\_\_\_\_ sprinklers on \_\_\_\_\_ pipe  
\_\_\_\_\_ sprinklers on \_\_\_\_\_ pipe  
arm-over length \_\_\_\_\_  
arm-over size \_\_\_\_\_

Original calculated sprinkler head spacing: \_\_\_\_\_ SF max.

Original pipe type: \_\_\_\_\_ original fitting type: \_\_\_\_\_

Original sprinkler information (SIN#, symbol, make, model, orifice, temp):

New pipe type: \_\_\_\_\_ new fitting type: \_\_\_\_\_

New sprinkler information (symbol, make, model, orifice, temp): -  
\_\_\_\_\_

Number of new sprinklers \_\_\_\_\_ relocated sprinklers (off original outlets) \_\_\_\_\_

Density conversion to higher hazard: ( \_\_\_\_\_ SF orig. flow) / ( \_\_\_\_\_ new density) = \_\_\_\_\_ new  
spacing to be used in all rooms of \_\_\_\_\_ hazard, group \_\_\_\_\_, with 6 or less heads.

Density conversion to lower hazard: ( \_\_\_\_\_ SF orig. flow) / ( \_\_\_\_\_ new density) = \_\_\_\_\_ new spacing  
to be used in all rooms of \_\_\_\_\_ hazard, group \_\_\_\_\_.

All rooms are \_\_\_\_\_ occupancy unless noted otherwise (indicate room name, not hazard class).

Ceiling height is \_\_\_\_\_ unless noted otherwise.

Laboratories are class per NFP A 45 according to owner rep \_\_\_\_\_

Hangers to be installed as required by NFPA 13; See detail # \_\_\_\_\_ for types of hangers.