



**APPLICATION FOR FIRE PROTECTION PERMIT AND PLAN  
REVIEW GUIDE FOR FIRE SPRINKLER SYSTEMS**

City of Williamsburg, 401 Lafayette Street, Williamsburg, Virginia 23185-3617  
Office Phone (757)220-6136 Office Fax (757)220-6134

**STREET ADDRESS/LOCATION:** \_\_\_\_\_

**PROJECT NAME:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**APPLICANT:** OWNER \_\_\_\_\_ CONTRACTOR \_\_\_\_\_ LEASEHOLDER \_\_\_\_\_ OTHER \_\_\_\_\_  
**CONTRACTOR:** \_\_\_\_\_ **PROPERTY OWNER:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_ **ADDRESS:** \_\_\_\_\_

**ZIP CODE:** \_\_\_\_\_ **ZIP CODE:** \_\_\_\_\_

**JOB CONTACT:** \_\_\_\_\_

**CONTACT PHONE:** \_\_\_\_\_

**\*\*PROOF OF VALID STATE AND LOCAL LICENSES MUST BE PROVIDED AT TIME OF APPLICATION\*\***

STATE REGISTRATION # \_\_\_\_\_ CLASS: A B C EXPIRATION \_\_\_\_\_ WORK CLASS \_\_\_\_\_  
BUSINESS LICENSE LOCALITY \_\_\_\_\_ NUMBER \_\_\_\_\_ EXPIRATION \_\_\_\_\_

**BRIEF DESCRIPTION OF WORK** \_\_\_\_\_

Fire sprinkler system installation information shall be provided on the appropriate architectural drawings. A copy of this guide shall be attached to submitted drawings. **A review will not be conducted without this guide being submitted with the drawings.**

The following items shall be included on the drawings. Place initials beside each item to indicate information is included on or submitted with the drawings. **Place N/R for items not required by the code. Place N/A for items not applicable.**

1. Indicate the type of system to be installed:

USE GROUP \_\_\_\_\_ IS SYSTEM REQUIRED BY THE USBC? YES \_\_\_\_\_ NO \_\_\_\_\_

\_\_\_\_\_ AUTOMATIC SPRINKLER \_\_\_\_\_ Residential (13D) \_\_\_\_\_ Limited Area (20 heads)

\_\_\_\_\_ COMMERCIAL (13, 13R, 231C) NUMBER OF HEADS \_\_\_\_\_

\_\_\_\_\_ FIRE PUMPS (Per Pump) \_\_\_\_\_ STANDPIPE (Per Riser)

\_\_\_\_\_ FIRE PROTECTION (Per Hood) NUMBER OF HEADS \_\_\_\_\_

\_\_\_\_\_ FIRE ALARMS AND DETECTION: NUMBER OF DEVICES \_\_\_\_\_

TOTAL VALUE OF JOB: \$ \_\_\_\_\_ APPLICANT SIGNATURE: \_\_\_\_\_

PERMIT # F- \_\_\_\_\_ APPLICANT PRINTED NAME: \_\_\_\_\_

Place your initials beside the appropriate answer for items 2 through 5.

2. Will there be "in-rack", "bin", or "high piled" storage inside the building?

Yes \_\_\_\_\_ No \_\_\_\_\_

3. Will there be any storage of flammable and/or combustible liquids within the building? Yes \_\_\_\_\_ No \_\_\_\_\_

4. Will there be any Use, Dispensing, and/or Mixing of flammable and/or combustible liquids within the building? Yes \_\_\_\_\_ No \_\_\_\_\_

5. Will there be any Storage, Use, Dispensing, and/or Mixing of any hazardous materials other than flammable or combustible liquids inside the building?

Yes \_\_\_\_\_ No \_\_\_\_\_

Place your initials beside each statement to indicate necessary information is included, and/or submitted with the plans.

\_\_\_\_\_ 6. Plans shall be drawn to an indicated scale, on sheets of uniform size, with a plan of each floor, and shall show those items from the following list that pertain to the design of the system:

- \_\_\_\_\_ Name of owner and occupant.
- \_\_\_\_\_ Location, including street address.
- \_\_\_\_\_ Point of compass.
- \_\_\_\_\_ Full height cross section or schematic diagram with ceiling construction and method of protection for nonmetallic piping.
- \_\_\_\_\_ Location of partitions.
- \_\_\_\_\_ Location of fire walls.
- \_\_\_\_\_ Occupancy class of each area or room.
- \_\_\_\_\_ Location and size of concealed spaces, closets, attics, and bathrooms.
- \_\_\_\_\_ Any small enclosures in which no sprinklers are to be installed.
- \_\_\_\_\_ Size of city main in street, and whether dead end and city main test results and system elevation relative to test hydrant.
- \_\_\_\_\_ Other sources of water supply, with pressure of elevation.
- \_\_\_\_\_ Make, type, model, and nominal K-factor of sprinklers.
- \_\_\_\_\_ Temperature rating and locations for high-temperature sprinklers.
- \_\_\_\_\_ Total area protected by each system on each floor.
- \_\_\_\_\_ Number of sprinklers on each riser per floor.
- \_\_\_\_\_ Total number of sprinklers on each dry pipe system, pre-action, combined or deluge system.
- \_\_\_\_\_ Approximate capacity in gallons of each dry pipe system.
- \_\_\_\_\_ Pipe type and schedule of wall thickness.
- \_\_\_\_\_ Nominal pipe size and cutting lengths of pipe or center-to-center dimensions. Where typical branch lines prevail, it shall be necessary to size only one typical line.
- \_\_\_\_\_ Location and size of riser nipples.
- \_\_\_\_\_ Type of fittings and joints and location of all welds and bends. The contractor shall specify on drawing any sections to be shop welded and the type of fittings or formations to be used.
- \_\_\_\_\_ Type and locations of hangers, sleeves, braces, and methods of securing sprinklers when applicable.
- \_\_\_\_\_ All control valves, check valves, drain pipes, and test connections.

- \_\_\_\_\_ Make, type, model, and size of alarm or dry pipe valve.
- \_\_\_\_\_ Make, type, model, and size of preaction or deluge valve.
- \_\_\_\_\_ Kind and location of alarm bells.
- \_\_\_\_\_ Size and location of standpipes risers, hose outlets, and hose, monitor nozzles, and related equipment.
- \_\_\_\_\_ 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 tops of the pipes is laid below grade.
- \_\_\_\_\_ Piping provisions for flushing.
- \_\_\_\_\_ Where the equipment is to be installed as an addition to an existing system, enough of the existing system indicated of the plans to make all conditions clear.
- \_\_\_\_\_ For hydraulically designed systems, the information on the hydraulic data nameplate.
- \_\_\_\_\_ A graphic representation of the scale used on all plans.
- \_\_\_\_\_ Name and address of contractor.
- \_\_\_\_\_ Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheet.
- \_\_\_\_\_ The minimum rate of water application (density), the design area of water application, in-rack sprinkler demand, and water required for hose streams both inside and outside.
- \_\_\_\_\_ The total quantity of water and the pressure required noted at a common reference point for each system.
- \_\_\_\_\_ Relative elevations of sprinklers, junction points, and supply of reference points.
- \_\_\_\_\_ If room design method is used, all unprotected wall openings throughout the floor protected.
- \_\_\_\_\_ Calculation of loads for sizing and details of sway bracing.
- \_\_\_\_\_ The setting for pressure-reducing valves.
- \_\_\_\_\_ Information about backflow preventers (manufacturer, size, type).
- \_\_\_\_\_ Information about antifreeze solution used (type and amount).
- \_\_\_\_\_ 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.
- \_\_\_\_\_ Size, locations, and piping arrangement of fire department connections.

Please provide the following in a "DESIGN CRITERIA" box:

**Hazard class (Check all that apply)**

- |                                 |                              |
|---------------------------------|------------------------------|
| ▪ _____ Ordinary (135-170)      | Max. Ceiling Temperature 100 |
| ▪ _____ Intermediate (175-225)  | Max. Ceiling Temperature 150 |
| ▪ _____ High (250-300)          | Max. Ceiling Temperature 225 |
| ▪ _____ Extra High (400-475)    | Max. Ceiling Temperature 300 |
| ▪ _____ Very Ex. High (400-475) | Max. Ceiling Temperature 375 |
| ▪ _____ Ultra High I (500-575)  | Max. Ceiling Temperature 475 |
| ▪ _____ Ultra High II (650)     | Max. Ceiling Temperature 625 |

**System Protection Area Limitations**

- Light hazard - 52,000 sq.ft. (4831 m)
- Ordinary hazard - 52,000 sq.ft. (4831 m)
- Extra hazard - Pipe schedule - 25,000 sq.ft. (2323 m)
- Hydraulically calculated - 40,000 sq.ft. (3716 m)

*Exception No. 1: The floor area occupied by mezzanines shall not be included in the above area.*

*Exception No. 2: Where single systems protect extra hazard, high-piled storage, or storage covered by other NFPA standards, and ordinary or light hazard areas, the extra hazard or storage area coverage shall not exceed the floor area specified for the hazard and the total area coverage shall not exceed 52,000 sq.ft. (4831 m)*

- o \_\_\_\_\_ Design density \_\_\_\_\_ Design Area (sq. ft.)
- o \_\_\_\_\_ Number of sprinklers in design area
- o \_\_\_\_\_ Water supply data:

\_\_\_\_\_ a. Test date and location \_\_\_\_\_ b. Flow PSI and GPM \_\_\_\_\_ c. Residual PSI

\_\_\_\_\_ d. Static PSI

- o \_\_\_\_\_ Hose stream and in-rack sprinkler water allowance
- o \_\_\_\_\_ System demand: \_\_\_\_\_ PSI at riser \_\_\_\_\_ GPM at riser
- o \_\_\_\_\_

\_\_\_\_\_ 7. The Building Code occupancy class of each area or room in the building is indicated on the drawings.

\_\_\_\_\_ 8. Sprinkler heads are positioned no closer than 4 inches to any wall and no further from a wall than one-half the allowable distance between sprinklers.

\_\_\_\_\_ 9. The clear space below sprinklers is in accordance with NFPA 13.

\_\_\_\_\_ 10. The placement, location and contents of the spare sprinkler head cabinet is indicated on the drawings.

\_\_\_\_\_ 11. The location and size of the inspectors test valve is indicated on the drawings.

\_\_\_\_\_ 12. The maximum floor area on any single floor, served by an individual riser, does not exceed NFPA 13 allowance.

\_\_\_\_\_ 13. Cut sheet literature describing all system components are included as attachments; or component manufacturer, make, and model data is included on the drawings when the components are listed in the Underwriters Laboratories Inc. "Fire Protection Equipment Directory".

\_\_\_\_\_ 14. Sprinkler system installation under exterior combustibles roofs or canopies exceeding 4 feet in width, attached to the building is indicated on the drawings.

\_\_\_\_\_ 15. Sprinkler head installation under ducts (more than 4 feet in width) is indicated on the drawings.

\_\_\_\_\_ 16. Sprinkler head installation for shade structure 3000 square feet or more is indicated on the drawings.

\_\_\_\_\_ 17. Third party monitoring of water flow is provided for systems with 20 or more sprinkler heads.

\_\_\_\_\_ 18. Have sprinklers been installed under fixed obstructions?

\_\_\_\_\_ 19. Fire hose valves and stations (when required or provided) are spaced so that all protected areas are within 30 feet of a nozzle when attached to not more than 100 feet of hose. Fire hose valves shall be 2-1/2 male connections (NST) with gate valve. No hose shall be attached.

\_\_\_\_\_ 20. A detail of the hydraulic data nameplate is included on the drawings.

\_\_\_\_\_ 21. A calculation for hydraulically calculated systems contains the data required in accordance with NFPA 13.

**NOTE: A COMPLETED CONTRACTORS TEST CERTIFICATE PER NFPA 13-10.1 WILL BE REQUIRED AT THE TIME OF FINAL INSPECTION.**