South King Fire & Rescue
Fire Sprinkler System Requirements For
The Cities of Des Moines and Federal Way

An automatic fire sprinkler system shall be installed in all occupancies requiring 2,000 gpm or more fire flow or where the total floor area included within the surrounding exterior walls on all floor levels, including basements, exceeds 5,000 square feet. Fire walls shall not be considered to separate a building to enable deletion of the required automatic fire-extinguishing system.

Automatic fire sprinkler systems are required if other wise identified in the International Fire Code.

> Exception: Group R Division 3 occupancies are required to install an automatic fire sprinklers system when:
>
> 1) The occupancy exceeds 3600 square feet (including attached garages) without adequate fire flow.
>
> 2) Without approved fire department access.
>
> 3) When the occupancy exceeds 10,000 square feet.
>
> 4) When the building is classified as an over-water structure.

All fire sprinkler systems in the city of Des Moines shall meet the criteria as set forth.

- NFPA 13 Sprinkler System, Current Approved Edition
- NFPA 13D Sprinkler Systems Dwellings, Current Approved Edition
- NFPA 13R Sprinkler Systems Residential Occupancies up to and including four stories, Current Approved Edition
- NFPA 14 Standpipe and Hose Service, Current Approved Edition
- International Fire Code, Current Approved Edition
- International Building Code, Current Approved Edition
- **The system demand pressure (to the source) required in a hydraulically designed automatic fire sprinkler system shall be at least 10 per cent less than the correlative water supply curve pressure.**
- Sprinkler systems shall be connected to and controlled by a listed Post Indicator Valve

  Exception: Buildings having the sprinkler riser room directly accessible from the outside via an exterior access door.
- The valve pit shall be equipped with a water level float switch installed to the fire alarm system in the event of water filling the pit.
- Sprinkler plans, hydraulic calculations, and check lists shall bear the stamp of a currently licensed sprinkler contractor per RCW 18.160.
- Heat tracing and anti-freeze systems are prohibited unless specifically permitted by the Fire Marshal.

- Fire Department Connection FDC's serving sprinkler systems shall not be located on any wall of the building, unless otherwise approved by the Fire Marshal.
- Fire Department Connection (FDC): Fire department hose connection shall be located as noted on the approved plans. The installation of Fire Department Connections shall be in accordance with South King Fire and Rescue Administrative Policy 10.002

One and Two Family Dwellings and Manufactured Homes (per NFPA 13D except as noted
below):

- Sprinklers shall protect all foyers.
- All storage spaces beneath stairways shall be sprinkled.
- A dry pendent or dry sidewall head shall be installed in the garage close to the entry door to the dwelling.
- All areas of a garage directly below living areas shall be sprinkled using ordinary hazard Group 1 Standards.

Residential Occupancies up to and including four stories in height (per NFPA 13R except as noted below):

- All closets, rooms and storage spaces beneath stairways shall be sprinkled.
- Sprinklers are required for all covered (roofed) attached porches.
- Sprinkler protection is required below balconies or decks extending six or more feet out from building walls.
- Sprinklers are required below balconies or decks connected to three or more building walls.
- Garages and storage areas shall be protect by Ordinary Group 1 Hazard calculated sprinkler systems.

Commercial Buildings (NFPA 13) except as noted below:

- Multi-story buildings that exceed a gross area of 10,000 square feet shall have a control valve and water flow indicator for each floor.
- Warehouse storage areas must be identified on drawings providing the following design criteria:
    a. Commodity Class
    b. Storage height
    c. Rack configuration
    d. Space between the racks
    e. Encapsulation (if any) of stored commodities
    f. Size and temperature rating if ceiling and in-rack heads
    g. Calculated density/area criteria
- Unless approved by the Fire Marshal, use of fixed automatic extinguishing systems (carbon dioxide,FM 200, etc.) are not acceptable in lieu of sprinklers.
- Class I hose outlets are required in all covered garage parking levels. Hose outlets shall be located so that all areas of the garage can be reached with 200 feet of hose.