

Serving the Cities of Kent, Covington and King County Fire District 37

NFPA 13 Automatic Fire Sprinkler Systems

Please print in black ink only.

Scope

This checklist pertains to the installation of automatic fire sprinkler systems in light, ordinary and extra hazard occupancies and for storage occupancies where the commodity is stored to 12 feet high. For warehouses and speculative use buildings see high piled and rack storage section of this handout.

Minimum Requirements for Construction Drawings

Plans which do not contain the minimum information required will not be accepted for plan check. Plans shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show that it will conform to the provisions of the adopted International Codes and ordinances.

- Three (3) copies of plans (24" x 36", or 30" x 42") must be submitted for review.
- Copies shall **all** be the same size.
- Working Drawings – scale to 1/8" = 1'.
- Shall be drawn in indelible ink.
- Sheets that are cut and pasted, taped, or that have been altered by any means (pen, pencil, marking pen, etc.) **will not** be accepted for plan check.
- Site Plans – scale to 1" = 20' or 1" = 40'
- Washington State law requires that any registered professional who prepares or supervises the preparation of drawings and construction documents stamp and sign such documents.

Other Checklists/Permits that may be Required

- ✓ Fire Prevention: Fire Pumps Checklist
- ✓ Building Services: Rack Permit
- ✓ Public Works: Water Permit for Backflow Prevention Device

PROJECT NAME

General

- | Yes | No | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Is there a construction permit application on this project? |
| <input type="checkbox"/> | <input type="checkbox"/> | Owner's name, address and telephone number. |
| <input type="checkbox"/> | <input type="checkbox"/> | Contractor's name, address, telephone and fax numbers and Washington State Contractor's license number. |
| <input type="checkbox"/> | <input type="checkbox"/> | How many heads are you replacing?
_____ |
| | | How many new?
_____ |
| <input type="checkbox"/> | <input type="checkbox"/> | Kent City Code Speculative Warehouse |

Documentation—One Set

- | Yes | No |
|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> The design information to be included on the hydraulic data nameplate – pipe schedule/hydraulic calculations. |
| <input type="checkbox"/> | <input type="checkbox"/> A summary sheet for the hydraulic calculations, including: <ul style="list-style-type: none">● Date● Location● Name of owner or occupant● Building identifier● Description of hazard |
| <input type="checkbox"/> | <input type="checkbox"/> System design criteria <ul style="list-style-type: none">● Design density● Area of discharge |
| <input type="checkbox"/> | <input type="checkbox"/> Total water requirements including: <ul style="list-style-type: none">● Hose streams allowance.● Water supply information, source and data.● Detailed worksheets or computer printouts containing the following:<ul style="list-style-type: none">• Sheet number.• Sprinkler head description and discharge constant (K-Factor).• Hydraulic reference points up to and including the point of connection.• Flow in gallons per minute.• Pipe size.• Pipe lengths, center-to-center, of fittings.• Equivalent pipe lengths for fittings and devices.• Friction loss in psi per foot of pipe.• Total friction loss between reference points.• In-rack sprinkler demand, if applicable.• Elevation head loss in psi between reference points.• Required pressure in psi at each reference point.• Small hose stream demand |
| <input type="checkbox"/> | <input type="checkbox"/> Other sources of supply, with quantity, pressure and elevation. |
| <input type="checkbox"/> | <input type="checkbox"/> Sway brace calculations for each type of brace used. |
| <input type="checkbox"/> | <input type="checkbox"/> Current approved Annual Backflow Prevention Device Test and Maintenance Report (copy). |

Working Drawings—Floor Plans

- | Yes | No |
|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> Compass direction and clearly marked scale. |
| <input type="checkbox"/> | <input type="checkbox"/> Ceiling construction and reflected ceiling plan. |
| <input type="checkbox"/> | <input type="checkbox"/> Full-height cross section. |
| <input type="checkbox"/> | <input type="checkbox"/> Location of area and/or occupancy separation walls, partitions and stairway enclosures. |
| <input type="checkbox"/> | <input type="checkbox"/> Location and size of concealed spaces and closets. |
| <input type="checkbox"/> | <input type="checkbox"/> Any questionable enclosures in which no sprinklers are to be installed. |
| <input type="checkbox"/> | <input type="checkbox"/> Key Plan (Location within existing structure, if applicable). |

Pipe, Valves, Fittings

- | Yes | No |
|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> Size of municipal or private water main and whether dead-end or looped. If dead-end, direction and distance to nearest circulating main. |
| <input type="checkbox"/> | <input type="checkbox"/> Nominal pipe size and cut lengths of pipe or center-to-center dimensions. |
| <input type="checkbox"/> | <input type="checkbox"/> Location and size of riser nipples. |
| <input type="checkbox"/> | <input type="checkbox"/> Type of fittings and joints. |
| <input type="checkbox"/> | <input type="checkbox"/> Type and location of hangers |
| <input type="checkbox"/> | <input type="checkbox"/> Type, size and location of bracing, including calculations and fasteners. |
| <input type="checkbox"/> | <input type="checkbox"/> All control valves, check valves, drains and test pipes. |
| <input type="checkbox"/> | <input type="checkbox"/> Total area protected by each system on each floor. |
| <input type="checkbox"/> | <input type="checkbox"/> Make, type, model and size of alarm, dry-pipe valve, preaction, or deluge valve. |
| <input type="checkbox"/> | <input type="checkbox"/> Pipe type and schedule of wall thickness. |

Fire Sprinklers

- | Yes | No |
|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> Make, type and nominal orifice size of sprinklers. |
| <input type="checkbox"/> | <input type="checkbox"/> Temperature rating and location of high temperature sprinklers. |

Miscellaneous Information

Yes No

- Size and location of all hand-held hose, hose outlets and related equipment.
- Hydraulically most remote area(s).
- Hydraulic reference points (nodes).
- When a fire pump is employed, provide submittal per NFPA 20 (separate permit).
- Location and type of fire department hose connection for supply.
- Location and type of backflow prevention device.

Automatic Sprinklers Over Cooking Surfaces

Yes No

- Location and type of cooking appliances and char-broilers.
- Type, location and configuration of duct, plenum and surface nozzles.
- Type, size and configuration of sprinkler piping.
- Clearance of surface nozzles over cooking surface.
- Make, type and nominal orifice size of sprinklers.
- Cross-sectional view of sprinklers in hood and duct.
- Location of pendent sprinklers and frames in relation to deep fat fryers.
- Provision for water run-off control.
- Location of indicating-type control valve, test connection and water flow switch.
- Means of limiting sprinkler flow to thirty (30) psi.

Flammable/Combustible Liquids

Yes No

- Provide calculation for 20 minutes of flow (**number of heads in room/area * \sqrt{P} * K-Factor * 20 minutes**) plus single largest container.
- Provide details and description of storage arrangement.

High Piled, Rack Storage and Speculative Use Occupancies

This section applies to storage occupancies with top of storage at 12' or more and speculative use buildings. It is applicable whether or not material is store in racks or on the floor. [For speculative use buildings assume Class IV commodity, non-encapsulated, double row racks. For so-called 24 feet clear space warehouses, assume 19 feet to top of storage.] For taller building design to protect available rack storage height.

Yes No

- Accurate description and classification of the commodity to be stored, including its height, array, packaging, encapsulation, banding, or other storage method. State which sprinkler system design curve was utilized for design criteria.
- Show draft curtains, smoke vent, with temperature ratings, and skylights on working plans.
- Show designated storage areas of idle pallets. State wood or plastic.

PLEASE READ THE INFORMATION BELOW AND SIGN BEFORE SUBMITTING YOUR APPLICATION

Your application shall be deemed complete only if this checklist is completed and submitted along with the submittal package. Submittals not accompanied by a checklist will not be accepted. Accuracy of the submittal package, including this checklist, is the responsibility of the applicant. Failure to submit an accurate submittal package will be considered an incomplete application by the Plan Reviewer. An incomplete submittal will result in a HOLD. A Re-submittal (new submittal package) will be required and always results in a delay.

I have checked the applicable boxes and have included those requirements in my submittal.

Print Name

Signature

Date