



WINDSOR FIRE PROTECTION DISTRICT

FIRE SPRINKLER SUBMITTAL—DOCUMENT REQUIREMENTS



- Two sets of completed drawings (one to be retained by the fire district; one to return to the applicant with notations and/or approvals)
- Two sets of hydraulic calculations
- Design details in accordance with the appropriate reference standard (i.e. NFPA 13, 13D, 13R).
- Plans shall be drawn to an indicated scale, on sheets of uniform size, with a plan of each floor, and shall show all relevant items from the following list:
 - Name of owner and occupant
 - Location, including street address
 - Point of compass
 - Scale
 - Name and address of fire sprinkler contractor
 - Full height cross section, or schematic diagram, including structural member information, if required for clarity, including ceiling construction and method of protection for nonmetallic piping
 - Location of partitions and/or fire walls
 - Occupancy type of each area or room being protected
 - Location and size of concealed spaces, closets, attics, and bathrooms
 - Any small enclosures in which no sprinklers are to be installed
 - Size of Town of Windsor water main in street and whether it dead ends or circulates (loop). If dead end, direction and distance to nearest circulating main.
 - Town of Windsor water main test results and system elevation relative to flow test hydrant. Important Note: WFPD requires a 10% safety factor.
 - Other sources of water supply, with pressure or elevation, such as fire tank, pump, etc.
 - Make, type, model, and nominal K-factor of sprinklers
 - Temperature rating and location of high-temperature sprinklers; color coded drawings preferred.
 - Total area protected by each system on each floor
 - Number of sprinklers on each riser per floor
 - Pipe type, UL listing, and schedule
 - 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 and location of alarm bell(s)
 - Private fire-service main sizes, lengths, locations, weights, materials, point of connection to Town of Windsor water 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. Note: Refer to NFPA 24 for underground main requirements.
 - Piping provisions for flushing (who, when, where)
 - Location and information on the hydraulic data nameplate



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Hydraulics:

- Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets
- All prints and hydraulic submittals must be stamped and assigned by a fire protection engineer.
- The minimum rate of water application (density), the design area of water application, in-rack sprinkler demand, and the water required for hose streams both inside and outside. Note: WFPD requires a 10% safety factor.
- The total quantity of water and the pressure required noted at a common reference point for each system
- Calculation of loads for sizing and details of sway bracing
- The setting for pressure-reducing valves is required.

References:

NFPA 13 – Installation of Fire Sprinkler Systems

NFPA 13 D – Installation of Sprinkler system in One and Two Family Dwellings and Manufactured Homes

NFPA 13 R – Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height

NFPA 14 – Standpipes, Private Fire Hydrants, Hose Systems

NFPA 24 – Installation of Underground Fire Mains and Private

Sonoma County Fire Prevention Officers Association installation standards for NFPA 13 D systems