



COMMUNITY DEVELOPMENT DEPARTMENT CHARTER TOWNSHIP OF WEST BLOOMFIELD

COMMERCIAL FIRE SPRINKLER / STANDPIPE SYSTEM APPLICATION CHECKLIST

- Completed and signed Fire Alarm Permit Application with estimated cost of construction
- Application Fee - \$150.00
- Minimum Plan Review Fee - \$150.00
- Sealed & Signed Deferred Submittal/Plans (106.1):** All drawings must have the original hand written signature (no stamped signature), seal and date of the State of Michigan Registered Design Professional in responsible charge of the design. Section 106 of MBC- 2006
- Business Description (NFPA 13 Sec. 14.1.3 - 2002ed. and NFPA 14 Sec. 6.1 – 2000ed.):** Provide a cover sheet indicating the owner and/or tenant describing the business, location, including address and date.
- Floor Plan Drawings (NFPA 13 Sec. 14.1.3 - 2002ed., NFPA 14 Sec. 6.1 – 2000ed. and IFC 2003 Section 903.3):** Provide three sets of plans of uniform size (preferred scale 1/8") including the following information:
 - 1. Basic Information required:**
 - ___ Name of owner and occupant
 - ___ Location, including street address
 - ___ Point of compass
 - ___ Ceiling construction
 - ___ Full-height cross section
 - ___ Location of fire walls
 - ___ Location of partitions
 - ___ Occupancy of each area or room
 - ___ Location and size of blind spaces and closets
 - ___ Any questionable small enclosures in which no sprinklers are to be installed
 - 2. Water supply**
 - ___ Size of city main in street, pressure and whether dead end or circulation and, if dead end, direction and distance to nearest circulating main, city main test results
 - ___ Other source of water supply, with pressure or elevation
 - 3. Sprinkler**
 - ___ Make, type and orifice size of sprinkler
 - ___ Temperature rating and location of high-temperature sprinklers
 - ___ Number of sprinklers on each riser and on each system by floors and total area by each system on each floor
 - 4. Piping, valves, fittings and alarms**
 - ___ Make, type, model and size of alarm or dry pipe valve
 - ___ Make, type, model and size of preaction or deluge valve
 - ___ Type and location of alarm bells
 - ___ Total number of sprinklers on each dry pipe system or preaction

- deluge system
- ___ Approximate capacity in gallons or each dry pipe system
- ___ Cutting lengths of pipe (or center-to-center dimensions)
- ___ Type of fittings, riser nipples and size, and all welds and bends
- ___ Type and location of hangers, inserts and sleeves
- ___ All control valves, checks, drain pipes and test pipes
- ___ Small hand-hose equipment
- ___ Underground pipe size, length, location, weight, material, point of connection to city main; the type of valves, meters and valve pits; and the depth that top of the pipe is laid below grade
- ___ When the equipment is to be installed as an addition to an old group of sprinklers without additional feed from the yard system, enough of the old system shall be indicated on the plans to show the total number of sprinklers to be supplied and to make all connections clear
- ___ Name, address and phone number of contractor and sprinkler designer
- ___ Hydraulic reference points shall be shown by a number and/or letter designation and shall correspond with comparable reference points shown on the hydraulic calculation sheets
- ___ System design criteria showing the minimum rate of water application (density), the design area of water application and the water required for hose streams both inside and out side
- ___ Actual calculated requirements showing the total quantity of water and the pressure required at a common reference point for each system
- ___ Elevation data showing elevations of sprinklers, junction points and supply or reference points
- Bill of Materials (NFPA 13 Sec. 14.1.3 - 2002ed., and NFPA 14 Sec. 6.1 – 2000ed. and IFC 2003 Section 903.3):**
Equipment schedule or bill of materials for each piece of equipment or device showing device name, manufacturer, model or part number, quantity, description.
- Manufacturer’s product brochures (NFPA 13 Sec. 14.1.3 – 2002 ed., NFPA 14 Sec. 6.1 – 2000ed.):** Information to include description, models numbers, listing information for all devices, fittings, valves and materials.
- Hydraulic Calculations (IFC 2003 Section 903.3, NFPA 13 sec.14.1.3- 2002ed. and NFPA 14 Sec. 6.1 – 2000ed.):**
 - 1. System design requirements include:**
 - ___ Design area of water application
 - ___ Minimum rate of water application (density)
 - ___ Area of sprinkler coverage
 - ___ Hazard or commodity classification
 - ___ Building height
 - ___ Storage height
 - ___ Storage method
 - ___ Total water requirements, as calculated, including allowance for hose demand water supply information
 - ___ Location and elevation static and residual test gauge with relation to the riser reference point
 - ___ Flow location
 - ___ Static pressure, psi
 - ___ Residual pressure, psi
 - ___ Flow, gpm
 - ___ Date
 - ___ Time
 - ___ Test conducted by whom
 - ___ Sketch to accompany gridded system calculations to indicate flow quantities and directions for lines with sprinklers operated in the remote area

2. Additional information necessary for complete review includes:

- Sprinkler description and discharge constant (K value)
- Hydraulic reference points
- Flow, gpm
- Pipe diameter (actual internal diameter)
- Pipe length
- Equivalent pipe length for fittings and components
- Friction loss in psi per foot of pipe
- Total friction loss between reference points
- Elevation difference between reference points
- Required pressure in psi at each reference point
- Velocity pressures and normal pressure if included in calculations
- Notes to indicate starting points, reference to other sheets or classification of date

3. Included with the submittal must be a graph sheet showing water supply curves and systems requirements includes:

- Hose demand plotted on graph paper so as to present a graphic summary of the complete hydraulic calculations