Township of Collier
CODES DEPARTMENT
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FIRE SPRINKLER SYSTEM PLAN REVIEW SUBMITTAL
NFPA –13 or 13 R

Project Name : _____

Project Address : _____

Building Permit #: _____

Date : _____

All supporting documentation-showing items listed below are required for review. The checklist is based on NFPA 13 or 13 R, International Building Code AND International Fire Code.

General (All submissions shall include the following):

☐ Plans shall be stamped by a Fire Protection Engineer. (1) one hard copy and (1) electronic plans shall accompany this checklist and application.

☐ Name and address of project or tenant where system will be installed.

☐ Name, address, and telephone/fax numbers for the designer of the system.

☐ Drawings are to be uniform in size and drawn to a recognized scale. Minimum 36"

☐ Plans and calculations shall clearly indicate the design standard(s) and edition (ex: NFPA 13, 13 R) used to prepare the submission.

☐ Plans shall include a schematic drawing of the fire protection underground showing point of entry into building, size and length of pipe, point of connection to county main and location of referenced water flow test. Schematic drawing shall also include the location and type of all valves, meters, and backflow prevention devices.

☐ Plans and calculations shall clearly show a floor plan of each story, indicating the location of all walls, partitions, and fire rated assemblies; and the intended use of each area, room, or void space, underside of roof/ceiling and structural members. (obstructed or unobstructed)

☐ Plans shall clearly indicate total area, protected by each system riser on each floor.

☐ Plans shall clearly indicate the type and location of all control valves, drain valves, test connections, hose outlets, and related equipment and piping.

☐ Plans shall clearly indicate the location and type of audible and/or visual alarm devices located inside, and outside, of the building.

☐ Plans shall clearly indicate the manufacturer, temperature rating, orifice size, hydraulic K-factor, and quantity of each type of sprinkler to be installed.

☐ Plans shall clearly indicate the location of special sprinklers (Example: extended coverage, sidewall, intermediate/high temperature sprinklers).

☐ Plans shall clearly indicate pipe types and wall thickness, type of fittings and joints, and the type and locations of hangers, sleeves, braces, and methods to support sprinkler components.

☐ Plans shall clearly indicate nominal pipe size, and cutting lengths of pipe (center to center), including riser nipples, drop nipples, and armovers.

☐ Plans shall clearly indicate method of protection for non-metallic piping as required by pipe manufacturer. (nailer plates and/or thermal insulation)

☐ Plans shall clearly indicate method of maintaining minimum temperature of 40° F for sprinkler system piping installed in unconditioned spaces. (Special note: tenting method requires properly secured, minimum unfaced batt insulation.)

☐ Hydraulically designed systems:

1. Hydraulic data nameplate information.
    a. The minimum rate of water application (density).
    b. The location and size of the design area.
    c. Inside and outside hose stream allowances as actually provided.
    d. Required flow and residual pressure at base of riser.
    e. Occupancy classification.
2. Hydraulic reference points shall be indicated on the plan corresponding with hydraulic calculation sheets.
3. Protection areas per sprinkler head.
4. Provide a copy of the Utility water flow test results (dated within six months of plan submission date).

☐ Graph sheet. A graphic representation of the hydraulic demand shall be plotted on graph paper ($Q^{1.85}$) or computer generated hydraulic program based upon:

Water Utility flow data, Total sprinkler system hydraulic demand including hose streams.

Tenant fit out

☐ Where existing systems are to be modified, sufficient details of the existing system shall be shown on the plans to determine effect of proposed modification on total system.

☐ Provide shopping center key plan or building complete floor plan indicating the location of tenant space.

☐ Plans shall clearly indicate location and floor level of the hydraulic remote area and its design criteria.

☐ Work being performed in the hydraulic remote area shall include hydraulic calculations PAWC water flow test results (dated within 6 months of plan submission date).

Limited area sprinkler system:

☐ Provide key plan showing the room to space to be sprinklered. Provide location in the building and room number (s), floor, etc.

☐ Provide hydraulic calculations in accordance with NFPA 13, Where sprinkler system is supplied through domestic water meter PAWC Water Meter Sizing Form.

☐ When a valve is provided downstream from the domestic water control valve the limited area sprinkler system shall be supervised in accordance with IBC

Storage Occupancy:

Miscellaneous Storage ≤ twelve feet in height:

☐ Plans shall clearly indicate commodity classification, maximum storage height, proposed storage arrangement, widths and locations of all aisles.

☐ Plans shall clearly indicate roof/ceiling height within storage area.

Storage Commodities

☐ Plans shall clearly indicate fire control approach for storage commodities

☐ Plans shall clearly indicate commodity classification, maximum storage height, proposed storage arrangement, widths and locations of all aisles.

☐ Plans shall clearly indicate minimum and maximum distance between the sprinkler deflector and the top of storage.

☐ Plans shall clearly indicate rack configuration (width and height) and flue spaces: (Single row, Double row, Multiple rows), method of storage, i.e.; wood pallets on racks, expanded plastic pallets on racks, solid shelving, open shelving; or encapsulated wrapping

Manufacturers Data Sheet:

All submissions shall include the appropriate Manufacturers Data Sheets for the following:

- ☐ Pipe
- ☐ Fittings (Threaded, Grooved, Etc.)
- ☐ Valves (O.S. & Y., Butterfly, Etc.)
- ☐ Hangers/Rod/Fasteners/Clamps
- ☐ Alarm Check Valve/Retard Chamber/Water Motor Alarm
- ☐ Swing Check Valves
- ☐ Fire Department Connections
- ☐ Sprinkler Heads/Spray Nozzles
- ☐ Inspectors Test Connections/Drain Assemblies
- ☐ Riser Manifolds
- ☐ Backflow Preventers/RPZ's/Detector Check Valves
- ☐ Pressure Regulating Valves
- ☐ Dry Pipe Valves/Accelerators/Exhausters/Actuation Devices and System/Trim
- ☐ Deluge Valves/Preaction Valves/Actuation Devices and Systems/Trim.
- ☐ Valve Supervisory Switches
- ☐ Waterflow Vane Switches
- ☐ Pressure Switches
- ☐ Fire Pumps/Accessories
- ☐ Fire Pump Drivers/Accessories
- ☐ Fire Pump Controllers
- ☐ Jockey Pumps
- ☐ Jockey Pump Controllers
- ☐ Relief Valves
- ☐ Fire Hose Valves
- ☐ Special System Components (Foam, Antifreeze, Water Mist, Etc.)
- ☐ Other_____
- ☐ Other _____

Where multiple contractors are involved in the system design/installation, plan approval requires concurrent submittals and review of the fire suppression and detection systems.

Special Notes

- ☐ Plans shall clearly indicate location of device used for flow tests at system demand downstream of all backflow prevention valves in accordance with
- ☐ Sprinkler systems required to be monitored off-site in accordance with IBC
- ☐ Piping between the sprinkler system and a pressure actuated water flow alarm-initiating device shall be galvanized, nonferrous metal, or other approved corrosion resistant material.
- ☐ Plans shall clearly indicate the make, type, model, and size of dry pipe, pre-action, or deluge valves.

☐ Plans shall clearly indicate the water capacity in gallons of each dry pipe system.

☐ Plans shall clearly indicate air pressure settings for valves and supervisory air functions at normal and abnormal conditions.

☐ Antifreeze systems should be prepared with minimum freezing point of -26° F, and a recommended maximum 40-gallon capacity.

☐ An approved reduced pressure principle backflow prevention device (RPZ-listed assembly) including approved indicating control valves shall be provided on all antifreeze systems.

☐ An approved listed expansion chamber shall be provided on all antifreeze systems.

☐ Fire pump and booster fire pump installations shall comply with NFPA 20.

Hydraulic Calculation Forms

Hydraulic calculations shall be prepared on form sheets that include a summary sheet, detailed work sheets, and a graph sheet.

☐ Calculation summary sheet shall indicate hazard classification. When multiple design are required to protect various hazards with a common system area, separate calculations shall be provided for each hazard area.

☐ Calculation summary sheet shall include:

1. Design density and total design area (ex: .15gpm/ft²/1500 ft²).
2. Maximum area of coverage per sprinkler.
3. Total system demand at base of riser. Water for inside and outside hose streams shall be represented as actually provided.

☐ Graph sheet. A graphic representation of the hydraulic demand shall be plotted on graph paper (Q) or computer generated hydraulic program based upon:

1. PAWC flow data.
2. Total sprinkler system hydraulic demand including hose streams.

☐ Provide hydraulic calculations (including domestic water demand if sprinkler is supplied through a common meter) in accordance with NFPA 13