Celina Fire Department
1413 S. Preston Road, Celina, TX 75009 972-382-2653

Fire Sprinkler Permit Requirements and Checklist

CONTRACTOR INFORMATION	PROJECT INFORMATION
Name:	Name:
Address:	Address: Suite
City, State & Zip:	City, State & Zip:
SCR #:	

First Submittal (Check One)	☐	Re-Submittal (Plans Rejected)	☐	Additional Submittal (Devices Added, Removed or Relocated)	☐

Reference Notes:

- Use this checklist when installing a new fire sprinkler system or modifying an existing system.

All plans shall be folded to fit an 8 ½" X 11" folder. Rolls may be accepted on large projects only.

- The planner shall mark with an "X" beside each line below to indicate the information is included with the submittal or indicate with "N/A" if not applicable.

INCOMPLETE PLAN SUBMITTALS WILL BE RETURNED WITHOUT A REVIEW.

Provide the following on all plan sheets (3 Sets required):

____ 1. Company Name, Address, City, State & Zip, Phone Number and State Registration Number
____ 2. Planner's Name, License Number, and Original Signature of RME.
____ 3. Project Name, Address, City, State & Zip
____ 4. Scale (1/8" = 1' Minimum, 1/16" = 1' acceptable for large buildings)
____ 5. Occupant/owner information is provided (i.e. names, addresses, and phone numbers)
____ 6. All graphical information is provided. (Scale, points of compass, matchlines, etc.)
____ 7. Building information. (Occupancy classification, construction type, square footage)
____ 8. Provide relevant building information.(Wall types, ceiling elevation, concealed spaces, elevations)
____ 9. Hazard classification. (Commodity type, class, storage arrangement, how the density was derived)
____ 10. Provide the type of sprinkler system, Design standard, referenced mains, hangers, makes, models
____11. Provide water supply information and hydraulic calculations.
____12. A minimum 10 psi safety factor is required.
____13. "Cloud", or Indicate, Revisions on Re-submittal or Additional Submittals
____14. Symbol Legend – quantities of each device.

I hereby certify that this submittal contains the information required by the City of Celina Fire Codes and Standards.

Signature: _____ **FPE#**_____
(Must be signed by the same Person who Signed Plans)

Print Name: _____ **Telephone #:** _____

Any omission by the Fire Inspector should not be misinterpreted as permission to install a system incorrectly.

Upon Arrival of Fire Inspector:

- Fire alarm contractor will provide a ladder for the inspector's use.
- The system shall be pumped up to 200 psi for 2 hours, or 50 psi over normal pressure on existing systems.
- A hydrostatic test will not be required when adding or relocating 20 heads or less.
- Provide a copy of State sprinkler forms for the fire inspectors file.

Fees:

Number of sprinklers installed:	
1 to 150	**$150**
Over 150	**$300**
Additional floors (over one)	**$50 each – does not pertain to single family residence**
Foam used in systems	**$50**
Fire pump(s) installed	**$300 each**
Red tag (may require re-inspection fee)	**$ 250 re-inspection fee**

Fire Sprinkler Systems

These guidelines shall be followed when an automatic fire sprinkler system within the City of Celina is to be installed or modified. These guidelines are not to be interpreted as containing all data required for proper design, installation, or approval.

All Fire Sprinkler Systems shall conform to the 2012 International Fire Code, as adopted and amended by the City of Celina, 2010 NFPA 13 and 2010 NFPA 14. These guidelines are not intended to replace, nor supersede any codes and/or ordinances adopted by the City of Celina, or determinations and positions of the Celina Fire Department.

Design

1) Sprinkler systems for all strip retail centers, multiple tenant commercial buildings, speculative warehouses, or any other multiple tenant building used for retail or commercial use, regardless of ceiling height, shall be designed to provide a minimum of Ordinary Hazard Group 2 for Class IV commodities. **A minimum of 1" outlets shall be provided on all branch lines. A hexagonal bushing to accommodate sprinklers attached directly to branch lines is permitted.**
2) Double Detector Check/Backflow Preventer is required and shall be installed inside the building.
3) A means shall be provided downstream of backflow prevention assembly for full-forward flow tests at system demand.
4) The system shall be designed with a 10 psi safety factor at 20 psi residual on City mains.
5) The water supply test used for design of the sprinkler systems shall be witnessed by the Celina Fire Department. The results of the flow test shall be within one year of the sprinkler plan submittal. The exact location of the static/residual hydrant and the flow hydrant shall be indicated on the design drawings. All fire protection plan submittals shall be accompanied by a water flow test report provided by the Celina Fire Department at the time of the water supply test.
6) The automatic fire sprinkler system shall be designed so it can be "zoned" with floor isolation valves in locations approved by the Fire Department.
7) All risers for buildings requiring multiple risers shall be centrally located.
8) Access to sprinkler riser room shall be from the exterior of the building or system shall be equipped with an OS&Y or WPIV. Valves must be electronically supervised.
9) Sprinkler system risers providing protection for buildings with multiple tenant spaces must be located in a ground floor room directly accessible from the exterior. The door must be labeled as the riser room.
10) Riser room shall be large enough to accommodate maintenance, be provided with lighting hard- wired to the building electrical system, and provided with emergency lighting,
11) In buildings exceeding 10,000 square feet in area per story, Class I automatic wet or manual wet standpipes shall be provided where any portion of the building's interior area is more than 200 feet of travel, vertically and/or horizontally, from the nearest point of fire department vehicle access.

    Exception: *Automatic dry and semi-automatic dry standpipes are allowed as provided for in NFPA 14.*

12) **For any residential structure 3 or more stories:**

    a) All residential portions of the building shall be fully protected with automatic fire sprinkler systems. NFPA 13R systems may be used in these residential areas, but sprinkler protection shall be provided for common corridors, balconies, attic spaces, bathroom's, closets exceeding 6 square feet, and closets with a minimum dimension exceeding 18 inches.
    b) NFPA 13 systems shall be provided for retail areas and parking structures.
    c) A standpipe system (designed in accordance with NFPA and IFC) shall be installed in every stairwell. The standpipe system shall be interconnected to the automatic fire sprinkler system.

13) **For all Group R-3 Occupancies 6000 Square feet and above:**

    a) Group R-3 Occupancies 6000 square feet of air conditioned space and above shall be required to install a fire sprinkler system in accordance with NFPA 13D. Bathrooms and closets with electrical outlets inside are required to receive fire sprinkler protection.

Installation

1) Riser rooms shall be permanently heated, and such heating appliances shall be hardwired to the building electrical system.
2) Inspector test connections, drains, and ball-drips shall be piped directly to the exterior.
3) At least one inspection test valve shall be located at the remote system area.
4) Water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow within 45 – 90 seconds. All control valves shall be electronically supervised, except for fire department hose connection valves.
5) Standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds.
6) Manual dry standpipe shall be supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low monitored supervisory alarm.
7) Dry-system air compressors shall be hard wired and shall have a listed air maintenance device connected to the compressor with a minimum 1/2" supply piping and connection.

Standpipes

1) When a hose connection is required by Section IFC 905.4, item 5, the hose connection shall be two-way.
2) When standpipes are required, connections shall be placed adjacent to all required exits to the structure and at two hundred feet (200') intervals along major corridors thereafter.
3) National Standard Thread (NST) shall be provided.

Fire Department Connection

1) FDC's for automatic sprinkler systems and/or standpipe systems for new buildings shall be equipped with a 5-inch "Storz" angled down with a "short bend" or 30° downturn. **(see Figure 1)**

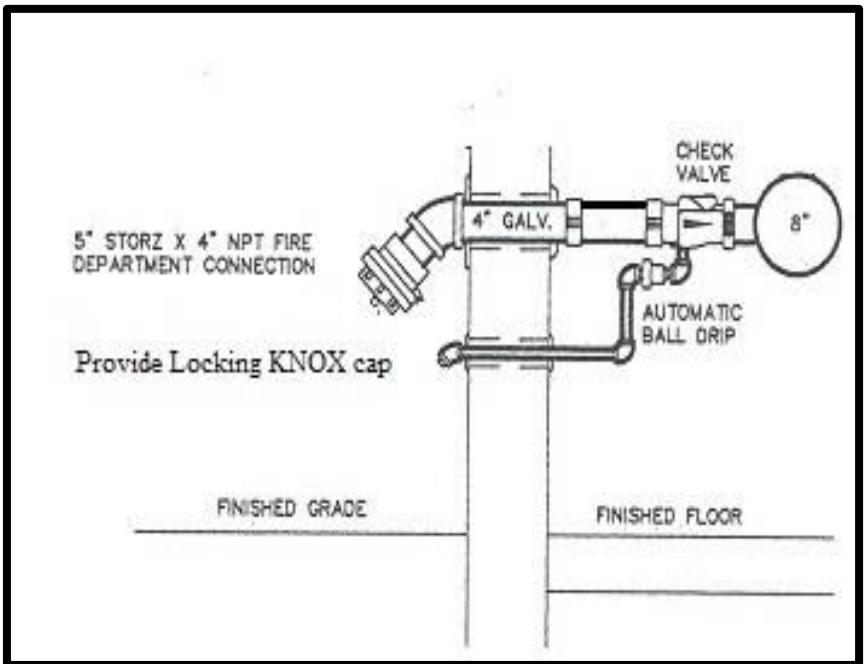
   Alternative Compliance: (see Figure 2) - Install only the 5–inch Storz connection but provide to the Celina Fire Department an adapter from the 5"Storz to a 2.5" female two-way Siamese clapper. **(Available at kochek.com model 20K0525)**

2) All FDC connections shall be equipped with a locking Knox FDC Cap/s. Knox products may be ordered online at www.knoxbox.com.
3) There shall be a check valve with ball drip located behind each connection. (See diagram)

Fire Department Connection (continued)

1) Check valves shall be accessible for 5-year inspection. If located underground, shall be installed within a meter can/valve box. (See diagram for example)
2) FDC shall be facing and visible from the fire lane.
3) FDC must be within 100-feet of a fire hydrant.
4) The FDC shall be clear and unobstructed with a minimum of a 5-feet clear all-weather path from fire lane access
5) The FDC shall be installed 36-48 inches above grade.
6) Fire hose threads used shall be national standard hose thread.
7) The FDC shall discharge into the system on the discharge side of the pump if a pump is present.

Figure 1: Fire Department Connection Detail



Inspection Requirements

1) Do not stack the riser until the underground flushing has been completed. Check Fire Sprinkler Underground permit for verification of completion.
2) Visual: All overhead piping and joints must be uncovered and exposed, with labeling of the pipe legible from the floor. All hangers will be visually inspected and must be uncovered and exposed to the floor.
3) Overhead Hydrostatic Test: Overhead piping will be visually inspected with all joints exposed and labeling of the pipe turned downward. The test will be at 200 psi for a minimum of two hours. No pressure drop or gain allowed.
4) A hydrostatic test is required for all new installations.
5) A hydrostatic test is required for all modifications/tenant finish-out regardless of the number of sprinkler heads added and/or relocated.
6) 24-hour air test: The test will be conducted at 40 psi of air for 24-hours with less than 1.5-psi loss.
7) Trip Test: Operational test of the dry-pipe valve is performed and the quick opening device (500+ gallon systems) is tested, 750+ gallon systems must trip within 60 seconds.
8) Compressor Test: Dry system compressor fills the system within 30 minutes.
9) Riser Main Flush: Upon completion of the overhead hydrostatic test, the overhead piping will be drained and witnessed by the Fire Department.
10) Riser Room: Verify riser room requirements, including floor drain for fire pumps, heat, light, markings, spare sprinkler head box and wrench, etc.
11) Standpipe and Fire Department Connection (FDC): Hydrostatic testing if not already done, the test will be at 200 psi for a minimum of two hours. No pressure drop or gain allowed. A flow test at hydraulically most remote standpipe through FDC to verify required pressure and flow.
12) Fire Pump: Hydrostatic testing (if not already done, the test will be at 200 psi for a minimum of two hours, no pressure drop or gain allowed.), all piping flushed, pump room requirements verified, and operational test conducted by manufacturer witnessed by the fire department.
13) Standpipe: Acceptance test in compliance with NFPA 14.
14) Fire Sprinkler Final: Final Fire Department sign-off at completion of all inspections and the receipt of all State require paperwork. The inspection shall be conducted when all sheet rock and millwork is completed.

Plan submittal is required for any alterations/modifications involving sprinkler heads, alterations/modifications to the system risers, and/or special applications (i.e. water curtains).

Submittal Requirements

Prior to fire sprinkler system submittal, the underground fire line plans must have been submitted and approved. Underground plans must be included as a reference for hydraulic calculations.

1) Plans shall be clear and legible and all sheets shall be in a common and appropriate scale (preferably computer generated). A minimum of three (3) sets of plans and minimum of one (1) set of specifications/cut sheets shall be submitted. Plans shall contain sufficient detail to enable the plan reviewer to accomplish a complete review**.**
Continued on next page

Plans that do not conform to the submittal requirements and are not clearly legible will not be rejected and require a re-submittal.

2) **Each submittal shall have a:**
   - ☐ Copy of State of Texas Fire Sprinkler RME-G license is required for installing contractor.
   - ☐ A copy of State of Texas Fire Sprinkler SCR license is required for the installing company.

3) **The following information shall be provided on the plans:**
   - ☐ Title block that contains the following:
     - ○ Business name and address of Installation
     - ○ Name, complete address, and phone number of the installing company
     - ○ Licensing information
     - ○ Date Drawn / Drawn by
   - ☐ Wet RME Signature
   - ☐ Designed accordance with the 2012 IFC
   - ☐ International Fire Code & NFPA 13 (latest edition)
   - ☐ A. H. J. as the City of Celina
   - ☐ Graphical scale
   - ☐ Scaled Floor plan with square footage
   - ☐ Use of each room is identified
   - ☐ North arrow provided
   - ☐ Location of the FDC
   - ☐ Site plan to include all fire hydrants, fire lanes, fire department connections and the fire service lead-in
   - ☐ **A legend shall be provided to include:** Symbols, sprinkler description, manufacturer, model number, and quantity for each device, pipe and fittings type
   - ☐ A complete full-height cross section of the building
   - ☐ Area of coverage of each sprinkler head
   - ☐ Total area protected by each system
   - ☐ Capacity of dry or antifreeze systems
   - ☐ Hydraulic node symbols
   - ☐ Elevations of sprinkler lines & node points
   - ☐ Hanger details and locations
   - ☐ Sprinkler riser diagram
   - ☐ Inspectors test connection detail
   - ☐ Auxiliary drain details
   - ☐ Size and location of hose stations
   - ☐ Design density of each design area
   - ☐ Adjustments to design area methodology
   - ☐ Clearly indicate each remote area
   - ☐ Provide notes to indicate the responsible party concerning freeze protection and insulation of piping
   - ☐ Water supply test information

   Specification booklet shall contain the following:
   - ○ Scope of Work
   - ○ Equipment List
   - ○ Hydraulic calculations for each design area
   - ○ Hydraulic Calculations shall include:
   - ○ Hydraulic Calculations shall include:
   - ○ "Wet" RME signature
   - ○ Summary sheet.
   - ○ Water supply graph sheet
   - ○ Supply analysis
   - ○ Node analysis and Worksheet

NOTE: Your plans may be performed by a third party plan review company. If so, you will be notified of the name and address of the company and who you need to contact for review and payment of their fee.

Any questions should be directed to Chief Mark Metdker at 972.382.2653, or email at mmetdker@celina-tx.gov