



Travis County ESD No. 12

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FIRE SPRINKLER SYSTEM SUBMITTAL REQUIREMENTS

TCESD No. 12 is governed by the 2015 International Fire Code as amended and adopted. The submittal shall conform to that, and the most current editions of NFPA 13, 13R and /or 13D and all other applicable codes and standards. The use of newer editions of code references is acceptable as long as the design meets or exceeds the requirements of the current adopted editions.

THE INFORMATION IN THIS DOCUMENT IS NOT ALL INCLUSIVE OF POSSIBLE ITEMS REQUIRED PER CODE. IT IS THE RESPONSIBILITY OF THE DESIGNER AND SUBMITTING CONTRACTOR TO INCLUDE ALL THE PERTINENT INFORMATION NOT MENTIONED IN THIS DOCUMENT.

REQUESTS FOR FIRE SPRINKLER SYSTEM INSPECTIONS WILL ONLY BE ACCEPTED FROM THE SPRINKLER SYSTEM INSTALLING CONTRACTOR.

- The fire sprinkler system plan submittal shall be approved by TCESD No. 12 prior to the installation of any system components.
- The approved fire sprinkler plan shall be on site at all times for TCESD No. 12 inspections. The TCESD No. 12 inspector will not perform the inspection without the TCESD No. 12 approved sprinkler plan.
- The cover page shall include:
 - Name of the project
 - Address of the project/buildings
 - Project description/scope of work
 - Travis County ESD No. 12 Reviewer Signature Block
 - Name, professional seal, and license(s) of registered professional designer/engineer
 - Contact information for property owner
 - All applicable codes referenced and applied for the project
 - Occupancy classification
 - Square footage of building(s)
 - Sheet index corresponding to all pages of the submittal

Additional sheets of the plan submittal shall include the following information:

- The TCESD No. 12 Fire Department Notes shall be on the plan.
- The name, complete address, and contact information of the installing company shall be noted on the plan. A copy of the State of Texas State Fire Marshal's Office license for the installing company is required.
- Prior to installation of a fire sprinkler system, written documentation shall be provided to TCESD No. 12 that verifies adequate fire flow for the system being installed is available.
- All underground mains and sprinkler risers shall be flushed in accordance with the standards of the local water jurisdiction, NFPA 13 and NFPA 24 **prior to the connection** to the overhead sprinkler system. If the underground piping is connected to the overhead sprinkler piping prior to a TCESD No. 12 witnessed flush, the system will be required to be backflushed. Installed sprinkler heads will be removed and replaced.

- The installing sprinkler contractor is responsible for verifying that all portions of the underground fire line have been flushed in accordance with NFPA 24 and TCESD No. 12 requirements PRIOR to connection to the aboveground piping.
- The presence of domestic water supply taps off of the main water line or a shared supply line with fire sprinkler riser does not override any requirements of TCESD No. 12 or applicable NFPA standards.
- Sprinkler systems for NFPA 13, 13R and 13D systems shall be designed with a minimum safety factor as follows:
 1. **When the static pressure exceeds 90 psi:** The maximum design static pressure shall be **80 psi** regardless of actual test pressure. The slope of the original water supply curve shall be used even though the design pressure is reduced to 80 psi. The actual flow test pressures shall be used to determine the need for sizing fire pumps, pressure reducing valves, and hanger requirements in accordance with NFPA 13, 13R and 13D.
 2. **When the static pressure is less than 90 psi:** A minimum 10 psi (69 kPa) safety factor shall be provided between the available water supply and the system flow and pressure demand and shall include hose stream allowances required by NFPA 13, 13R and 13D.
- Domestic demand for the building being calculated shall be included as part of the overall system demand for systems with common domestic/fire mains where no provisions are made to prevent the domestic waterflow upon sprinkler system activation.
- There shall be no dedicated shut off for the isolation of the fire sprinkler system water supply unless it meets the requirements for supervision noted in NFPA 13/13R/13D. The main control valve shall shut off water supply for both the domestic and fire system and the domestic system shall have a dedicated domestic shutoff valve.
- A separate shutoff valve shall be installed for the domestic water supply in installations having a common sprinkler/domestic main. This valve is required so that, if repairs need to be made to the domestic water system, the sprinkler system can remain in service.
- All sprinkler piping shall remain uncovered until inspected and approved by TCESD No. 12. Any significant deviation from the approved layout will require a resubmittal and approval by TCESD No. 12 before any additional work is completed.
- Each sprinkler system shall have a test connection. The test connection pipe shall be at least 1-inch nominal diameter and terminate in an orifice equal to or smaller than the same size as the smallest sprinkler installed in the system.
- A sprinkler legend shall be provided to include symbol and sprinkler head specification for each type of sprinkler to be installed.
- Only manufacturer detail sheets that pertain to the system shall be included with the submittal. These include, but are not limited to, hangers, sprinkler riser, inspectors test connection, auxiliary drain, sprinkler types. Do not submit the entire booklet of sprinkler types, hanger types, etc. Only submit what is being used on the specific project.
- The applicable graphic detail for the materials being used shall be included on the plan. No boiler plate or generic graphic details shall be provided.
- The riser diagram specific to the project installation shall be clearly shown on the plan.
- The location of pipe, type of pipe, size of pipe and all pipe fittings shall be noted on the plan. The location of fire sprinkler risers shall be clearly shown.
- Dimensions and square footage of each room shall be provided. Any floor plans shall be drawn free of extraneous information.
- A sprinkler legend shall be provided to include symbol and sprinkler head specification for each type of sprinkler to be installed.
- The area of coverage of each sprinkler head shall be provided. Sprinkler spacing for each head shall be noted on each page of the plan (e.g. 12'x12', 16'x16', 18'x18'). Any rooms or areas that have situation specific spacing shall be noted on the plan.
- Fire sprinkler riser rooms and fire pump rooms shall be maintained at or above 40 degrees. Any heating units shall be permanently installed per 2013 NFPA 13, Section 8.16.4 and 2016 NFPA 13R Section 6.7.2.1. The method used to maintain the appropriate

temperature shall conform to the most recent requirements of the International Building Code. If freeze protection is not provided at final, the sprinkler system inspection will fail the final TCESD No. 12 acceptance test.

- The plan shall indicate the responsible party with regards to freeze protection. If freeze protection is to be provided by someone other than the sprinkler company, it shall be indicated who is going to be responsible for the installation and drawings to indicate the heating method shall be provided with the submittal.
- The FDC shall contain a minimum of two 2 ½" inlets. When the system design demand, including the interior hose stream demand or a standpipe, is a minimum of 500 gpm, four 2 ½" inlets shall be provided. Locking Knox caps shall be provided on the inlets.
- Fire riser rooms and fire pump rooms shall be a 1-hour fire-rated enclosures and all penetrations shall be sealed. All equipment shall be installed so it is readily accessible for inspection and maintenance.
- Fire sprinkler riser rooms shall be provided with exterior access only. There shall be no access provided from the interior. The door shall face the fire lane, unless otherwise approved by the TCESD No. 12 Fire Marshal.
- All fire sprinkler system risers shall be equipped with a hydraulic design information sign as described in 2013 NFPA 13, Sections 25.5.1 and 25.5.2. The information shall be permanently marked by etching. Permanent marker will not be accepted.
- Waterflow switches shall be provided on fire sprinkler riser on every floor of a multi-story building. Each waterflow switch shall report to the FACP to indicate the location (floor) of the waterflow activation.
- The fire riser room shall have lighting (including emergency lighting) and be labeled appropriately with a permanent weatherproof reflective sign on the outside of the door. A weatherproof A/V strobe device to indicate a waterflow condition shall be mounted above the exterior riser door as amended per TCESD No. 12. Additional horn strobes may be required by the TCESD No. 12 fire marshal.
- At rough inspection, if excessive amounts of pipe glue are observed on CPVC sprinkler pipe, the TCESD No. 12 inspector may require the system to be drained and the heads inspected to ensure the heads are in operable condition and not clogged with pipe cement. Sections of pipe that display excessive pipe glue shall be removed, replaced and undergo an additional hydrostatic inspection in the presence of a TCESD No. 12 fire inspector.
- At final inspection, sprinklers shall be placed in their final position in the ceiling tile grid and ceiling tiles shall be in place. Hard-lid and all other types of ceilings shall have all patches, repairs and final finishes **completed**. Concealed sprinkler cover plates shall not be installed regardless of ceiling type, but shall be available on-site for inspection. The concealed cover plates may only be installed after TCESD No. 12 has inspected the installed sprinklers for any damage, paint, or related coatings.
- A copy of the approved sprinkler plan shall be in a secure document box in the fire sprinkler riser room.
- The installing contractor shall be responsible for completing and signing the TDI Contractor's Material and Test Certificate for Aboveground Piping. The completed and signed certificate shall be provided to TCESD No. 12 and all required parties.
- Submit the signed TCESD No. 12 Fire Sprinkler System Submittal Checklist your submittal.