



NOTICE OF PLAN REVIEW PROCESS CHANGES

Effective January 3, 2017, the Sunnyvale Fire Department will be using a third-party fire protection plan review service to supplement our current review process. All plans shall be submitted directly to the Town of Sunnyvale, Town Hall and those required to be reviewed by a third-party, as noted below, will be picked up and delivered twice per week by the third-party review company. If your submittal is determined to need to be reviewed by a third-party, you will be notified via email on the email address provided on the Plan Review Permit Application.

The submitting contractor shall be responsible for any and all fees and costs to review the plans. The contractor shall contact the third-party plan review company directly with regard to their fee schedule. There will be an additional fifty-dollar fee to the Town of Sunnyvale if the third-party is required.

Once reviewed and approved by the third-party, the Sunnyvale Fire Department will permit the plans through Town Hall and a separate permit fee shall be paid at the time the permit is picked up.

The following types of plans are subject to be reviewed by a third-party plan review service.

- Fire Sprinkler Systems for facilities with a fire pump, standpipes, high-piled storage, hazardous materials or complex and unique fire protection systems.
- Fire Alarm Systems for facilities with a fire pump, standpipes, high-piled storage, hazardous materials or complex and unique fire protection systems.
- Smoke Exhaust / Smoke Control

Additional types of plan review submittals may be selected for review by a third-party based upon the uniqueness or the project or complexity of the submittal. The Sunnyvale Fire Department may still review plans approved by the third-party and additional revisions may be required.

APPROVED THIRD-PARTY PLAN REVIEW COMPANIES

Traditions Fire Consulting
P.O. Box 5587
Frisco, Texas 75035
972-979-0631
traditionsfire@gmail.com

Other third-party review companies can be used; however, they must be vetted by the Sunnyvale Fire Department and written approval provided, prior to submitting for plan review.



RESIDENTIAL FIRE SPRINKLER REQUIREMENTS

Fire sprinkler systems shall be required in all homes greater than or equal to Five Thousand (5000) square feet, measured including porches, attached breezeways, and garages.

All residential fire sprinkler systems shall be installed according to NFPA 13D or 13R and additionally to the amendments setforth.

-All garages shall be sprinklered.

-Unheated storage areas in attached garages with an area over thirty-two (32) square feet shall be protected.

-All bathrooms shall be protected.

-A water flow alarm shall be installed, such alarm shall be an integral part of the security system and monitored by an independent central office if a monitored security is installed.

-A fire department connection shall be installed on the front elevation 1 ½" in size.

-All sprinkler systems shall be hydrostatically tested according to NFPA 13 at 200psi.

-Backflow testing is required annually.

FREEZE PROTECTION

-Insulation shall be foil backed or approved paper back with an R-value of R-13 or higher and shall be stapled along the sides.

-There shall be a minimum of one foot insulation on each side, in instances where piping is ran above the joist cavity.

-All piping shall be covered, any gaps where insulation is not tight, additional insulation will be required.

-Temperatures in the home must be maintained at a level to prevent freezing.

Piping installed in unheated areas shall be protected by use of one of the following methods.

1. Antifreeze system
2. Dry pipe system
3. Pre-action system
4. Listed standard dry pendant, dry upright, or dry sidewall sprinklers extended from heated areas.

-Antifreeze systems require a maximum concentration for glycerin for new systems of 48% by volume or a maximum concentration of propylene glycol of 38% by volume.

-Existing systems shall not have concentrations exceeding 50% glycerin or 40% propylene glycol.

-Antifreeze systems shall be tested annually prior to the onset of freezing weather.



PLAN SUBMITTAL and INSPECTION REQUIREMENTS

-Four (4) complete sets of plans that comply with the design and plan requirements of the 2009 International Fire Code.

-Four (4) sets of hydraulic calculations

-Four (4) sets of manufacturers' material information sheets for the sprinkler heads, piping, and backflow preventers.

-All plans shall be signed and sealed.

All sprinkler systems shall be designed and installed by a registered and approved fire protection contractor.

Inspection shall be scheduled 48 hours prior to the day of inspection.

Stamped approved plan shall be on site for inspection.

Insulation shall be in place for inspection.

PLAN REVIEW

Fire Department

-Reviews site plan for: Fire lanes and fire hydrant locations

-Reviews site plan for location of building(s) on property

-Reviews construction plans for: Fire-extinguishing system and Fire Alarm System, if applicable; Smoke Control System, if applicable; Standpipe System, if applicable; Automatic Smoke and Heat Vents, if applicable.

-Other related requirements, based on occupancy type and use, as applicable.

COMPLETE SUBCONTRACTOR VALIDATION

Fire Protection Systems Contractors

-Fire sprinkler underground

-Fire sprinkler overhead

-Fire Alarm

-Automation suppression systems



Types of Plans for Review:

- Underground fire sprinkler supply piping.
- Automatic fire sprinkler and fire alarm plans for remodel and interior finish permits for 50 sprinkler heads or 40 fire alarm devices maximum or 10,000 square feet maximum with no change in use.
- Fire sprinkler monitoring plans.
- Above ground fuel tanks 1,000 gallons or less.
- Above ground propane tanks.

Types of Inspections:

- Fire Sprinkler Hydrostatic Test
- Fire Sprinkler Component Review
- Fire Sprinkler Visual Inspection
- Fire Sprinkler Insulation Inspection
- Fire Sprinkler Dry System Test
- Fire Sprinkler Pre-action System Trip
- Fire Sprinkler FD Backflow Addition
- Fire Pump
- Alternative Agent System
- Fixed Extinguishing System / Hood
- Knox Box Keys
- Fire Alarm Final, Fire Alarm Central Station Monitoring
- Fire Alarm Elevator Recall
- Underground Storage Tank Final, Pressure Test, Product Line Pressure, Strapping Vapor Recovery Pressure, 2nd Line Pressure
- Flammable Liquid Tank
- High Pile Storage
- LPG Tank



- Materials Storage
- Smoke Control System / Stair Pressurization
- Gated Fire Lane Access
- In-Home Day Care / Foster Homes
- Fire Department Final Inspection
- Annual Commercial Fire Inspections

FIRE DEPARTMENT KNOX FDC CAPS

In accordance with the International Fire Code, locking fire department connection caps will be required on all new fire sprinkler and standpipe installations Effective February 1, 2017.

New Construction

All plans submitted on or after February 1, 2017 must have the Knox 2 ½" FDC locking caps and Knox 5" storz cap as required for the design of the system.

You can order the FDC plugs and caps through the Knox-Box Company by going to <http://www.knoxbox.com/store/> or by calling 800-552-5669 or request a Knox Order form through the Sunnyvale Fire marshal's Office.

Existing Systems

Inspecting Contractors

The fire department connections shall be inspected in accordance with NFPA 25. If caps are missing from the system, all items listed in NFPA 25 shall be verified. New caps meeting the requirements of the International Fire Code shall be installed. The Town of Sunnyvale Fire Department is using the Knox locking FDC cap system. The caps may be purchased from Knox using one of the above listed methods.

The installing contractor shall back flush the FDC and provide a maintenance report to the property owner for review by the fire inspector.



FIRE PROTECTION BACKFLOW PREVENTION

New Fire Sprinkler Systems:

All new fire sprinkler systems installed in the Town of Sunnyvale require backflow prevention.

Existing Building Sprinkler Systems:

Interior finish projects **exceeding 10,000 square feet or affecting 50 or more sprinkler heads** will require the existing building to be equipped with a new backflow preventer as approved by the Utility Operations Department.

A thorough hydraulic analysis, including plans, hydraulic analysis, revised hydraulic calculations, new fire flow data, and all necessary system modifications to accommodate the additional friction loss will need to be provided for existing systems being retrofit with a backflow preventer.

The existing system design will need to meet the safety factor that the system was built under as shown below. New areas of a building or changes to the existing design to a new hazard will need to meet the current sprinkler design requirements.

Existing System Safety Factor:

-Since the 2000 International Fire Code, a 10psi safety factor is required.

All backflow assemblies shall be located inside of the building. Adequate room shall be accounted for and shown on the approved plans.

All backflow assemblies must be capable of being monitored electronically or locked in the full and open position.

Backflow assemblies must also be listed for use with fire protection systems.

All Fire Sprinkler Plan Submittals:

Must include a backflow preventer statement stating the make and model of the existing backflow preventer provided for the buildings fire sprinkler systems or shall state that an existing backflow preventer is not provided for the main building fire sprinkler systems.

For additional information, contact the Town of Sunnyvale.



Automatic Sprinkler System Requirements:

- The FDC shall be freestanding within 50-feet and no more than 100-feet of a fire hydrant.
- The FDC shall be clear and unobstructed with a minimum 3-foot clearance.
- A single point for the Fire Department Connection (FDC) shall be provided for buildings with multiple risers.
- All inspectors' test, ball-drips, and main-drains shall be piped directly to the outside of the building.
- At least one inspection test value shall be located at the remote system area.
- Reduced Pressure Zone valves shall be used on antifreeze systems.
- Risers shall be located in heated areas. Riser-room electrical heaters shall be hard wired.
- The riser-room shall be large enough to facilitate maintenance and testing of the sprinkler system.
- The riser room shall have an access door accessible from the outside. The door shall be marked "Riser Room".
- Elevator shaft tops and machine rooms shall **not** be sprinklered.
- Drip drums shall be in heated areas.
- Dry-system air compressors shall be hard wired.
- A high- and low-air-pressure alarm is required for all dry systems.
- Pre-action systems shall be designed in accordance with NFPA requirements for battery backup. They are not required to be in fail safe.



POLICIES

To provide a smooth and seamless process for building plan review and acceptance testing, all fire-protection plans must be **submitted prior to the general contractor receiving a framing inspection.**

The Fire Department's goal is to provide a *complete and accurate review in the shortest possible time.* We will strive to accommodate plan review requests within 10 working days for the first submittals, and 5 working days for interior finishes (less than 20 sprinklers), resubmittals, and undergrounds.

-Plans shall not be submitted until the contractor has a confirmed contract to install a system.

-Inspections above ceilings:

-All inspections shall be completed before the ceiling is closed.

-Hydrostatic test can be conducted as a partial inspection.

-The Fire Department will issue a release to close the ceiling when all above ceiling inspections are complete. The completion of a hydro or visual does not automatically give approval to cover the ceiling.

-High pile storage **under** 12,000 square feet:

-Show commodity, storage height, etc. used to design the system.

-Rack storage plan required prior to sprinkler plan approval.

-High pile storage **over** 12,000 square feet:

-Show commodity, storage height etc. used to design the system.

-Rack storage plan required prior to sprinkler plan approval.

-Smoke and heat vents shall be shown as an overlay to the sprinkler plans. This insures that sprinklers are not located in the vent cavity.