



UNDERGROUND PETROLEUM STORAGE TANKS

KELLER FIRE-RESCUE FIRE MARSHAL'S OFFICE

These guidelines shall be adhered to when a business, facility or organization proposes to install, move or otherwise add underground petroleum storage tank within the City of Keller. All underground petroleum storage tank installations for the purposes of this guideline and any other guidelines or requirements of the Fire Department, shall conform to the 2021 International Fire Code, as amended and adopted by City of Keller and the most current Edition of NFPA 30. This guide does not replace, nor supersede any adopted codes and/or ordinances adopted by the City of Keller, or determinations and positions of the Fire Chief or Fire Marshal.

UNDERGROUND STORAGE TANK (UST) REQUIREMENTS

1. The tank must be installed by a TECQ licensed underground storage tank installer.
2. Vent lines, flame arrestors and pressure vacuum vents shall be installed in accordance with the 2021 IFC Section 5704.2.7.3.2 and NFPA 30.
3. Secondary containment. An approved method of secondary containment shall be provided for underground tank and piping systems.
4. The tank must display the UL Listed placard.
5. A leak detection system shall be installed and provided with approved vapor and liquid detection, equipped with on-site audible and/or visual warning devices with battery backup, as approved by 2021 IFC Section 5704.2.8.11 and NFPA 30.
6. A spill container having a capacity of not less than 5 gallons shall be provided at each fill connection.
7. An overfill prevention system shall be provided for each tank to prevent being filled in excess of 95% capacity.

During fill operation, the system shall:

- a. Provide an independent means of notifying the person filling that the fluid level has reached 90 percent of tank capacity by providing a tank level gauge marked at 90 percent of tank capacity, or other approved means.
 - b. Automatically shut off the flow of fuel to the tank when the quantity reaches 95 percent of tank capacity.
 - c. Reduce the flow rate to not more than 15 gallons per minute so that at the reduced flow rate, the tank will not overflow for 30 minutes, and automatically shut off flow into the tank so that none of the fittings on the top of the tank are exposed to product because of overfilling.
8. Leak Detection. Underground storage tank systems shall be provided with an approved method of leak detection from any component of the system that is designed and installed in accordance with NFPA 30 and as specified by 2021 IFC Section 5704.2.7.10.
 9. Observation Wells/Dry Sumps. Approved sampling tubes of a minimum 6 inches in diameter shall be installed in the backfill material of each underground flammable or combustible liquid storage tank. The tubes shall extend from a point 12 inches below the average grade of the excavation to ground level and

shall be provided with suitable surface access caps. Each tank site shall provide a sampling sump at the corners of the excavation with a minimum of four sumps. Sampling tubes shall be placed in the product line excavation within 10 feet of the tank excavation and one every 50 feet routed along the product lines towards the dispensers, a minimum of two are required.

10. The tank fill connection shall be provided with a means for making a direct connection to the tank's vehicle fuel delivery hose so that no fuel is exposed to the open air during the filling operation.
11. A permanent sign shall be placed at the fill point for the tank, documenting the filling procedure and tank calibration chart.
12. Anti-siphon devices shall be installed in each pipe connected to the UST, where the piping extends below the level of the tank.
13. Emergency shut-offs shall be provided during filling and dispensing operations.
14. Relief valves, both emergency and normal, shall be provided and shall be in the closed position.
15. Pump dispensing devices shall be equipped with vapor-recovery connections.
16. Thrust blocks, safety straps/dead man anchors or other suitable means of restraint must be installed for each underground storage tank and at each change in direction of the piping.
17. Appropriate labeling and signs in accordance with 2021 IFC Section 5704.2.3, must be provided.
18. A permanent sign shall be placed at the fill point for the tank, documenting the filling procedure and tank calibration chart.
19. "Smoking or Open Flames Prohibited".
20. A permanent sign indicating that when filling the tank, parking in the fire lane is prohibited.
21. A placard specifically identifying the material therein. The placard shall be in accordance with NFPA 704.
22. Any additional requirements of NFPA 30 and 2021 IFC Chapter 57 shall also be met.

To expedite the permitting and inspection processes, please refer to the information listed below.

PERMITTING REQUIREMENTS

1. Provide a written description of the operation and contents of all tanks and/or systems.
2. Site plan drawings of the existing site location and conditions, to include;
 - a. All buildings, structures, fire lanes and fire hydrants.
 - b. Location of tanks, vent lines, underground piping, leak detection, dry sumps and dispensing locations with regards to the above.
3. Full equipment listing of all tanks, piping, valves, pumps and equipment specific to the installation.
4. Manufacturer documentation for all parts and materials used in the project. This is to include all UL or NRTL (Nationally Recognized Testing Laboratory) listings and evaluations.
5. Plan drawings shall show the actual install layout, including all piping and pumps.
6. Drawings shall be submitted for review and approval, PRIOR to installation.
7. Drawings shall be generated by the installing company specific to the installation. Drawings shall show plan view and other pertinent information.
8. Submittal package must identify and include all the above requirements to be accepted for review. No underground storage tank(s) or associated piping may be abandoned-in-place on the site until a UST Abandon-In-Place Permit has been issued. Any work performed prior to the issuance of this permit may result in a citation being issued for violation of Section 112.4 of the 2021 International Fire Code as amended and adopted.

GENERAL SUBMITTAL REQUIREMENTS

1. Each submittal shall have a completed Keller Fire Department Application for Permit.
2. Signed copy of the Executed Contract for the scope of work.
3. Signed Checklist.

4. Scale Drawing in PDF format.
5. One full set of equipment specifications.
6. Plans approved by the Fire Marshal's Office give authorization for removal. Final approvals are subject to field verification. Any approval issued by the Fire Marshal's Office does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances.
7. All Keller Fire-Rescue inspection forms and permits shall be kept on the job site until final inspection.
8. All installations shall comply with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Marshal's Office.
9. All underground storage tanks for the purposes of this guideline and any other guidelines or requirements of the Fire-Rescue shall conform to the 2021 International Fire Code, as amended and adopted by the City of Keller.
10. This guide does not replace, nor supersede any codes and/or ordinances adopted by the City of Keller, or determinations and positions of the Fire Chief or Fire Marshal.