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GLENDALE FIRE DEPARTMENT  
ENVIRONMENTAL MANAGEMENT CENTER  
780 FLOWER STREET  
GLENDALE, CA 91201

**UNDERGROUND STORAGE TANK REMOVAL AND DISPOSAL**

**A. PERMITS**

The following licenses or permits for the removal of underground storage tanks are required.

1. Glendale Business License and proof of workers compensation.
2. Fire Dept. Permit for removal of Underground Storage Tank(s).
3. Building Dept. Demolition Permit
4. Grading Permit (when applicable)
5. Evidence of state contractor's license.
6. Generator (tank owner) must obtain EPA identification number.

**B. PROCEDURE FOR OBTAINING PERMITS**

1. Apply for all permit at: City of Glendale, Permit Services Center, 633 East Broadway, first floor Room #101. Three sets of plans are required to be submitted and one Site specific Health & Safety Plan.
2. Plans shall show the following: Location of the tank(s) with respect to structures, property lines, public right-of-way, depth of tank(s), limits of excavation in plan and elevation view.
3. Obtain Glendale Business License at the Permit Services Center, City Hall, 633 E. Broadway, Glendale.
4. The State Contractors' License law requires one of the following licenses:
  - a. General Engineering "A" - For removal or installation of any type of underground storage tank.
  - b. General Building "B" - Limitations apply, contact Sacramento, Contractors State License Board.
  - c. General Plumbing C-36
  - d. Limited Specialty C-61/D40 - For removal or installation of service station-type underground storage tanks only. Limited to 20,00 gallons per site.

**ALL CONTRACTORS MUST HAVE A HAZARDOUS CERTIFICATE ON THEIR STATE CONTRACTORS LICENSE.**

Any questions regarding State Contractors Licenses and their limitations or any other information can be answered by calling the State Contractors License Board at (800) 321-2752.

4. Generator (tank owner/ operator) may obtain an EPA identification number from the State of California, Department of Toxic Substances Control by calling (916) 324-1781.

To schedule an appointment for underground tank removal, contact the Glendale Fire Department Environmental Management Center, between the hours of 7:30 - 8:30 am and 4:30 - 5:30 pm Monday through Friday, at (818) 548-4030.

An appointment can only be made with the District Inspector responsible for the area where your site is located. Please schedule at least five (5) working days in advance of the day you would like an inspection. This does not guarantee that you will get the appointment on the day you would like.

A Site Specific Health and Safety Plan shall be submitted a minimum of five (5) working days prior to tank removal to the appropriate field inspector at the Glendale Fire Department, Environmental Management Center, 780 Flower Street, Glendale, California, 91201.

The Glendale Fire Department approves two (2) separate methods for removal and transportation of underground storage tanks.

METHOD #1 The tank is removed from the ground and transported before being cleaned. In this method the tank must be "manifested" and transported as a "hazardous waste" and must be removed to a recognized TSD facility by a Licensed Hazardous Waste Transporter, subject to all applicable governmental regulations.

METHOD #2 The tank is cleaned "on site", "certified" by a certified Marine Chemist or certified Industrial Hygienist as clean, vapor free, and "safe for hot work". The cleaned tank(s) can then be transported (with their respective certification) for material recycling or salvage.

The following steps are required in the location, excavation, removal, cleaning and handling of Underground Storage Tanks. These steps also apply to contents, residue and tank disposition.

BOTH METHODS REQUIRE A MINIMUM 2A 10BC FIRE EXTINGUISHER TO BE PRESENT ON SITE AT A MAXIMUM DISTANCE OF 50 FEET APART. EXTINGUISHERS MUST HAVE A CURRENT STATE FIRE MARSHAL'S TAG ATTACHED.

METHOD #1 "TANK IS REMOVED AND TRANSPORTED BEFORE BEING CLEANED".

Note: It is mandatory that a properly calibrated flammable/combustible gas analyzer and oxygen meter be on the job site from start to finish. Calibration of the units must be within the last two months with approved sticker or tag on the unit.

1. No on-site work shall be initiated until all necessary permits have been obtained and in evidence at the site. **Tank owners/operators must obtain the generator's U.S. EPA Identification Number. Any hazardous waste removed from the site must be transported under manifest by registered transporter using certified containers and subject to all applicable governmental regulations.**
2. All permits and the approved set of plans shall be kept on site and available to the Fire Inspector.
3. Reminder: Notify any other governmental agency inspectors having jurisdiction 48 hours in advance of proceeding with tank removal to obtain proper clearance to proceed with work and arrange for required inspections.
4. Prior to large equipment moving to the tank location, observe ingress and egress including any overhead wiring and other possible obstructions relative to safety, persons and equipment.
5. All tanks shall be checked for flammability and oxygen content. Use a flammable/combustible gas analyzer and oxygen meter. Log the time and LEL (lower explosive limit) and oxygen percentage on job paperwork. Log shall be available to the Fire Inspector. If contents are unknown, a sample should be drawn and subject to analysis for constituency. **Only trained personnel, schooled in the use of such meters shall perform this operation.**
6. All electricity, supply lines and like items known to be associated with tank shall be "locked out" or disconnected. Barriers, colored tape and signs shall be installed and any source of ignition shall be at least 50 feet away from the excavation. Signs shall state **NO SMOKING OR OPEN FLAME.**
7. Site security shall be maintained at all times using a minimum 6 foot high chain link fence.
8. Remove all possible remaining liquid via the use of an appropriate vacuum truck and hose(s). **Observe grounding and bonding procedures.** The liquid, if hazardous, must be transported to an appropriate reclaiming, recycling or TSD facility. **Manifesting procedures must be followed.**
9. Saw cut asphalt pavement if necessary to minimize the amount of asphalt removed to accommodate the tank removal.
10. Break out and remove asphalt pavement, concrete slabs, etc. and dispose of in a lawful manner in an approved disposal area.
11. Uncover the top(s) of underground tank(s) to be removed. **DO NOT** completely excavate the site, as this may allow flammable vapors to pool in this area.
12. Disconnect all piping other than fill pipe and vent pipes. Cap all unused openings.
13. Place a minimum of 20 pounds of crushed dry ice (carbon dioxide) per 1,000 gallon capacity of tank(s) through the fill pipe. Cap fill pipe and dissipate the vapors through the vent pipe for a minimum of two (2) hours. Vapor recovery shall be in accordance with A.Q.M.D. Rule 1149. Log the time and LEL on job paperwork. LEL should be measured at near top levels of the tank.

14. Disconnect all piping from the tank(s) and plug all tank openings, allowing pressure relief, but not cross ventilation.
15. **A Fire Inspector shall witness the following operations. (Requirements #16 through #24).**
16. Check the tank for an explosive atmosphere utilizing a combustible gas indicator. If the atmosphere inside the tank is found to be above 5 percent of the lower explosive limits (LEL), the tank shall be reinerted. Reinert the tank with a minimum of 20 lbs of dry ice per 1,000 gallons of capacity.
17. Complete balance of excavation necessary to remove the tank(s).
18. Record the tank numbers and furnish same to the Glendale Fire Department Inspector. All tank identifications shall remain on tank. Do not remove the underwriters laboratory tag or any other identification from the tank.
19. After approval of the Glendale Fire Department Inspector has been obtained, complete removal of underground tank(s). Tank(s) shall be removed by crane only, unless contractor at time of permit application can show the Inspector that another piece of equipment is acceptable and safe.
20. Lift the tank from the excavation and secure it on an appropriate transport vehicle with its openings at the top. Underground storage tanks shall be removed intact.
21. Tanks shall not be punctured or crushed on-site. All vent piping and product lines are considered part of the tank and shall be removed at the same time as the tank. Disposal method for piping shall be the same as tank(s).
22. The licensed hazardous waste transporter shall prepare a uniform Hazardous Waste Manifest and transport the tank to a licensed hazardous waste disposal site, subject to all applicable governmental regulations. The Fire Inspector witnessing the abandonment shall be provided with a copy of the Manifest and informed of the destination where the tank will be transported to.
23. For Soil Sample Requirements, see UST Sampling Requirements.
24. The contractor shall schedule his work so that it can be completed between the hours of 8:30 a.m. and 4:30 p.m., Monday through Friday. If it becomes necessary for the work to extend beyond these time limitations, the contractor will be charged an hourly fee based on the established standby firefighter rate. This fee is in addition to the permit fee and additional hourly charge.
25. Clear excavation of all loose soil before proceeding with backfill.
26. Excavation shall be backfilled under the supervision of an accredited soils laboratory engaged by contractor. Only nonexpansive soils will be permitted to be used for backfill purposes. Existing soil can be used only if it satisfies this stipulation and is approved by the soils laboratory; otherwise, the material shall be removed and nonexpansive material shall be imported for backfill.
27. Fill must be placed in level, loose layers of six (6) inches in thickness, moistened near

optimum moisture and properly compacted. Succeeding layers of fill shall be similarly placed and compacted during the placement of the backfill, the upper portion of the excavation's sidewalls shall be broken down (benched) to provide a transition between the compacted fill and adjoining ground.

28. If asphalt pavement is not to be replaced, the excavated area shall be smoothly graded to provide a clear, even surface. All excess materials shall be removed and the area shall be left in a broom clean condition.
29. If asphalt pavement is to be replaced, backfill shall be placed and compacted to subgrade elevation after which the paving section shall be installed providing a neat and smooth transition with existing pavement surfaces properly broom cleaned.
30. Upon request, contractor shall furnish certified compaction report from the soils laboratory acknowledging that a minimum of 90% of maximum density has been obtained. Copies of the compaction report shall also be forwarded to the Glendale Building Department in addition to the two copies furnished to the owner.

#### METHOD #2 "CLEANING TANK ON-SITE"

1. No on-site work shall be initiated until all necessary permits have been obtained and in evidence at the site. Tank owners must obtain the generator's U.S. EPA Identification Number. Any hazardous waste removed from the site must be transported under manifest by registered transporter using certified containers and subject to all applicable governmental regulations.
2. All permits and the approved set of plans shall be kept on site and available to the Fire Inspector.
3. Reminder: Notify any other governmental agency inspectors having jurisdiction 48 hours in advance of proceeding with tank removal to obtain proper clearance to proceed with work and arrange for required inspections.
4. Site security shall be maintained at all times using a minimum 6 foot high chain link fence.
5. Prior to large equipment moving to the tank location, observe ingress and egress including any overhead wiring and other possible obstructions relative to safety, persons and equipment.
6. All electricity, supply lines and like items known to be associated with the tank shall be "Locked Out" or disconnected. Barriers, colored tape and signs shall be installed and any source of ignition shall be at least 50 feet away from the excavation. Signs shall state NO SMOKING OR OPEN FLAME.
7. Remove all possible remaining liquid via the use of an appropriate vacuum truck and hose(s). Observe grounding and bonding procedures. The liquid, if hazardous must be transported to an appropriate reclaiming, recycling or TSD facility. Manifesting procedures must be followed.
8. Saw cut asphalt pavement if necessary to minimize the amount of asphalt removed to

- accommodate the tank removal.
9. Break out and remove asphalt pavement, concrete slabs, etc. and dispose of in a lawful manner in an approved disposal area.
  10. Uncover the underground tank(s) to be removed.
  11. **A Fire Inspector shall witness the following operations. (Requirements #12 through #24).**
  12. All tanks shall be checked for flammability and oxygen content. Use a flammable/combustible gas analyzer and oxygen meter. Calibration of the units must be within the last two months with approved sticker or tag on the unit. Log the time and LEL (Lower Explosive Limit) and oxygen percentage on job paperwork. If contents are unknown, a sample should be drawn and subject to analysis for constituency. Only trained personnel schooled in the use of such meters shall perform this operation.
  13. Air purging of the tank shall begin whenever the product is found within its explosive range. Continue purging until readings are at or below 10% of the LEL of the contents of the tank(s). This can be accomplished using an air compressor and a venturi unit or air eductor with a charcoal filter, per A Q M D Rule 1149. Electrical bonding is to be observed. Log the time and readings on job records.
  14. Should there be no installed manhole in the tank, a pneumatic cold cutting tool will cut the manhole at the appropriate location. Use only beryllium or approved non-sparking tools. The minimum sized hole will be 24" x 24". Confined space safety procedures shall be followed. This shall be witnessed by a representative of the Fire Department.
  15. Begin water blasting the tank interior using a minimum of 2,000 psi of water and detergent if necessary. Loose scale, sludge and rinse water are to be removed and deposited in the vacuum truck. When the sludge and other debris has been removed, and the LEL reading is 0%, the washing may cease. NOTE: Other cleaning methods as per NFPA #327 may be permitted at the Fire Inspector's discretion.
  16. Piping shall be flushed **before** it is disconnected from the tank, if not, it is subject to being hauled as hazardous Waste.
  17. All interior rinse water and sludge, if hazardous, shall be manifested and transported to a fully approved and permitted TSD facility by a licensed hazardous waste transporter, subject to all applicable governmental regulations. A copy of this manifest shall be provided to the Fire Inspector witnessing the abandonment.
  18. Complete balance of excavation necessary to remove the tank(s).
  19. Record the tank numbers and furnish same to the Glendale Fire Department Inspector.
  20. After approval of Glendale Fire Department Inspector has been obtained, complete removal of underground tank(s). Tank(s) shall be removed by crane only unless contractor, at time of permit application, can show the Inspector that another piece of equipment is acceptable and safe.
  21. All vent piping and product lines are considered part of the tank and shall be removed at the same time as the tank. Disposal method for piping shall be the same as tank(s).

22. A certified marine chemist or similarly qualified person shall inspect the tank and issue a "certificate", stating that the tank is safe for hot work.
23. In the event that a marine chemist will not certify the tank as safe for hot work, the tank will be "iced" and the procedures for removal of an uncleaned tank (Method #1 ) will be employed.
24. The chemist or other qualified person shall apply an identification number and date that corresponds to the "certification" with a can of spray paint to the tank. This can be accomplished by affixing the certificate to the tank with tape or by other means. Log this certification in the job paperwork.
25. Load and secure the tank(s) on appropriate transporting equipment and remove from the premises. The cleansed tank(s) can be transported with their respective certifications for material recycling or salvage.
26. Should additional soil, dirt or hazardous debris require removal, it shall be done in a safe manner, manifested and transported in certified containers and receipted at the appropriate facility.
27. For Soil Sample Requirements, see attached.
28. The contractor shall schedule his work so that it can be completed between the hours of 8:30 a.m. and 4:30 p.m., Monday through Friday. If it becomes necessary for the work to extend beyond these time limitations, the contractor will be charged an hourly fee based on the established stand by Firefighter rate. This fee is in addition to the permit fee and additional hourly charge.
29. Clear excavation of all loose soil before proceeding with backfill.
30. Excavation shall be backfilled under the supervision of an accredited soils laboratory engaged by contractor. Only nonexpansive soils will be permitted to be used for backfill purposes. Existing soil can be used only if it satisfies this stipulation and is approved by the soils laboratory; otherwise, the material shall be removed and nonexpansive material shall be imported for backfill.
31. Fill must be placed in level, loose layers and six (6) inches in thickness, moistened near optimum moisture and properly compacted. Succeeding layers of fill shall be similarly placed and compacted during the placement of the backfill, the upper portion of the excavation's sidewalls shall be broken down (benched) to provide a transition between the compacted fill and adjoining ground.
32. If asphalt pavement is not to be replaced, the excavated area shall be smoothly graded to provide a clear, even surface. All excess materials shall be removed and the area shall be left in a broom clean condition.
33. If asphalt pavement is to be replaced, backfill shall be placed and compacted to subgrade elevation after which paving section shall be installed providing a neat and smooth transition with existing pavement surfaces and area shall be properly broom cleaned.
34. Upon request, contractor shall furnish certified compaction report from the soils

laboratory acknowledging that a minimum of 90% of maximum density has been obtained. Copies of the compaction report shall also be forwarded to the Glendale Building Department in addition to the two copies furnished to the owner.

#### POST REMOVAL PROCEDURES

The following steps will be required after the completion of Method Nos. 1 or 2 above:

A FIRE INSPECTOR SHALL WITNESS THE COLLECTION OF SOIL SAMPLES.

1. Soil samples shall be obtained from beneath the tank, piping and dispensers.
2. Soil sampling shall be performed by a professional geologist, civil engineer, or engineering geologist who is registered or certified by the State of California. A technician trained and experienced in the taking of soil samples who is working under the direct supervision of one of the aforementioned professionals shall be deemed qualified to take soil samples.
3. Soil samples shall be analyzed by a State certified laboratory for all products that have been stored in the underground tank. If the product or products are known to degrade or transform to other substances in the soil environment, the analysis shall include these degradation and/or transformation substances.
4. Soil samples shall be collected from natural soil, NOT backfill material, where the bottom of the tank rested in the excavation. Take the soil sample two (2) to six (6) feet into the natural soil.
5. In no case shall samples be taken from a distance greater than 20 feet apart. If the tank ends are more than 20 feet apart, a third sample shall be taken from under the center of the tank.
6. Samples shall be kept in a container which contains ice or other frozen material.
7. All excavated soil as the result of unearthing an underground storage tank must be retained on-site until determination of contamination has been made.
8. When the soil samples are analyzed, a report of the results shall be sent to the Fire Inspector who is responsible for the district where the tank was abandoned.

Compliance with Fire Department requirements does not preclude the necessity for complying with the regulations and requirements of other authorities and licensing agencies.

ANY DELAY IN WORK LONGER THAN 30 MINUTES, EITHER DURING TANK REMOVAL AND SOIL SAMPLING OR FROM THE SCHEDULED INSPECTION START TIME MAY BE SUBJECT TO SHUTDOWN AND RESCHEDULING.

## CLOSURE REPORT REQUIREMENTS

A closure report shall be submitted within 30 days after tank removal to the appropriate Fire Inspector at the Glendale Fire Department, Environmental Management Center 780 Flower St. Glendale, CA 91201

1. Site address and permit number of tank removal.
2. Plot plan to scale showing locations of tanks, sampling points, buildings, adjacent streets and north arrow.
3. Description of methods for obtaining, handling and transporting samples.
4. Time and date samples were obtained.
5. If borings were established, boring Logs certified by a CA Registered Geologist, CA Certified Engineer Geologist or CA Registered Civil engineer.
6. Chain of custody documentation initiated by person obtaining sample through person at State Department of Health Services certified laboratory.
7. Disposal destination of tanks and evidence of legal disposal.
8. Analysis results by a State certified laboratory submitted on laboratory letterhead showing analysis date, methods of extraction and methods of analysis.
9. Documentation as to depth of groundwater at site.
10. Manifests to document hazardous waste disposal of all removed waste from site.
11. Any observations of site contamination.
12. Remedial action plan to mitigate contamination.
13. Report to be signed by CA Registered Geologist, CA Certified engineering geologist or CA Registered Civil Engineer.

Rev. 7/92

I have received a copy of the Underground Storage Tank  
**REMOVAL AND DISPOSAL** Requirements

\_\_\_\_\_ printed

signed

Date \_\_\_\_\_ Company \_\_\_\_\_

Project Address \_\_\_\_\_