



County of Riverside  
**DEPARTMENT OF ENVIRONMENTAL HEALTH**

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**HAZARDOUS MATERIALS MANAGEMENT BRANCH**

**UNDERGROUND STORAGE TANK PROGRAM**

**Plan Check Guidelines**

NOTE: It is the responsibility of the UST owner or duly authorized representative, to notify other governmental agencies that may have applicable permit requirements. This includes, but is not limited to, the following: Local Fire Agency; Local Building Department; and Air Quality Management District (AQMD).

The plan review of new installations, upgrades, repairs, or modifications includes, but is not limited to the following items:

**A. STATE AND LOCAL AGENCY REQUIREMENTS**

Underground Storage Tank requirements can be found in the California Code of Regulations (CCR), Title 23, Division 3, Chapter 16, in the California Health and Safety Code (HSC), Chapter 6.7 and in the Riverside County Code, Title 8, Chapter 8.140.

**B. PLAN SUBMITTAL REQUIREMENTS**

- \_\_\_1. Completed plan check application and a complete set of plans, drawn to scale, shall be submitted electronically following the “UST Electronic Plan Submittal” guidelines available on the County DEH website, <https://www.rivcoeh.org/OurServices/HazardousMaterials/UndergroundStorageTanks>, or alternatively, submit a completed plan check application and **four (4)** complete sets of drawings to any branch office.
- \_\_\_2. Proper fees shall be paid for each tank as specified in Riverside County Ordinance 640.
- \_\_\_3. Documentation that all equipment is approved by an independent testing organization (e.g. UL Listing) for its particular use shall be submitted (Cut Sheets). UST system equipment must bear appropriate independent testing company markings.
- \_\_\_4. Provide certification that the UST system equipment and materials are compatible with the hazardous substances stored. (Fuels, solvents, alcohols, acids, etc.)
- \_\_\_5. Copy of the contractor’s license, ICC certifications and manufacturer’s training documents.

**C. GENERAL PLAN INFORMATION**

- \_\_\_1. The plans for the proposed installation, upgrade, repair or modification shall include the required information and shall be in compliance with State Law and Regulations (Chapter 6.7, California Health and Safety Code, and Title 23, California Code of Regulations).

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- \_\_\_2. In addition to this agency, the applicant must submit plans to the appropriate fire department, city building department, the Air Quality Management District and/or other local agencies (if applicable) for their approval.
- \_\_\_3. New tank construction and upgrades must begin within one (1) year of stamped approval date for plans to remain valid.
- \_\_\_4. Repairs or modifications to an underground tank system must begin within ninety (90) days of stamped approval date for plans to remain valid.
- \_\_\_5. A one-time permit extension may be granted if a written request for additional time is received by the department prior to the original plan expiration date. Only one extension may be granted.

The request for extension shall include at a minimum:

- The reason for the delay;
- A statement that there have been no changes/modifications to the originally approved plans;
- The new anticipated construction start date.

If an extension is granted, the additional amount of time allowed for the start of construction shall not exceed one year for new installations or 90 days for repairs, modifications, or upgrades.

- \_\_\_6. Provide a plot plan and vicinity map, drawn to scale with the name and address of the facility clearly indicated.
- \_\_\_7. Provide a scope of work detailing work to be completed during the project.
- \_\_\_8. Show the location and details of all USTs, piping, monitoring system, sensors, fill pipes, overfill prevention, spill containment, turbines, pumps, sumps, anchoring, set backs, etc. as applicable to your project.
- \_\_\_9. Provide a drawing indicating the location of building/structures on site, including the location of existing and proposed underground tank(s).
- \_\_\_10. Provide statement that Dig Alert or other alternative utility service line locator will be contacted prior to any excavations. Dig Alert may be contacted at the nationally established number by dialing 811 or [www.digalert.org](http://www.digalert.org).
- \_\_\_11. Indicate the highest anticipated level of groundwater and the source of this information (contact the local water purveyor for information or Riverside County Flood Control at (951) 955-1200). All underground storage tanks subject to flotation or if tanks are installed in an area identified as a "Flood Zone" on FEMA flood maps must be anchored using methods specified by the manufacturer or, if none exist, best engineering practices. <https://www.fema.gov/flood-maps/national-flood-hazard-layer>
- \_\_\_12. Provide an equipment list showing all components to be used including manufacturer and all model numbers.
- \_\_\_13. For new installs, provide on the plans, the statements listed under section I and ensure requirements are complied with during the construction project. For upgrades, repairs or modifications, list applicable statements for your project.
- \_\_\_14. Provide statement that tank hole excavation pit will meet OSHA construction and shoring requirements as applicable.

- \_\_\_15. CUPA Compliance Notes returned with approved plans shall be reviewed and complied with in order to complete the final inspection. Failure to comply with any attached CUPA Compliance Notes may result in non-issuance of operating permit.

#### D. ADDITIONAL REQUIREMENTS:

##### TANK REPAIRS (Single walled tanks may not be repaired and must be permanently closed)

- \_\_\_1. All tank repairs shall be made in accordance with CCR Title 23, Article 6.
- \_\_\_2. Notification shall be made to the State Waterboard prior to any tank entry using the notification form available online at:  
[https://www.waterboards.ca.gov/ust/adm\\_notices/cupa\\_ust\\_entry\\_notification.pdf](https://www.waterboards.ca.gov/ust/adm_notices/cupa_ust_entry_notification.pdf)
- \_\_\_3. Contractor shall follow and comply with the Riverside County Tank Entry Guidelines.
- \_\_\_4. Repaired tank shall be tested for tightness within 30 days of repair before placing tank into service.

#### E. TANK INFORMATION

An owner or operator shall identify on the plans if an underground storage tank has been previously “used” at another location and the DEH will only approve the setting of a “used” underground storage tank if the requirements set forth in Title 23, Chapter 16, Section 2631(b) have been met to include the following:

- Recertification by an independent testing organization.
  - A new UST label affixed to the exterior of the tank certifying that the tank has been tested and meets current standards.
- \_\_\_1. Provide the name of the tank manufacturer(s) and the size of the tank(s). All new tanks must be double wall. The exterior of the underground storage tank shall bear a marking, code stamp or label as specified in CCR Title 23 Section 2631(b).
- \_\_\_2. Specify the materials used in the construction of the tank  
a. Steel b. Plasteel c. Fiberglass d. Glasteel e. Other
- \_\_\_3. Provide a detailed drawing of the tank(s); side view, end view, and top view. Show the manufacturer’s UST separation distances between tanks and native soils. Ensure that the placement of the USTs and dispensers will allow enough room for the fuel delivery truck to drop fuel. (Fuel is normally dropped from the passenger side of the tanker. (Tanker trucks normally require a 50 foot turning radius.)
- \_\_\_5. Provide details for the UST uplift protection if required by the manufacturer. Show the location of deadmen, strapping, and tank pads. Provide registered engineer buoyancy calculations for tanks subject to flotation and/or tanks installed in a flood zone.
- \_\_\_6. Indicate the location of required strike plates under all accessible primary containment openings.
- \_\_\_7. Provide the name(s) of the manufacturer(s) for the overfill protection equipment to be installed and provide a detailed drawing; side view. Indicate the highest level of overfill protection (90-95%). Electronic alarms shall be set to activate when tank is 90% full and each tank must be able to independently activate an alarm in the event of multiple tank overfills. Overfill shut off valves shall be set to provide positive shut off of fuel to the tank when the tank is filled to no more than 95% capacity. For electronic overfill protection, indicate location of the audible/visual alarm(s) for the delivery driver.

- \_\_\_8. Indicate the approved tank test method to be completed prior to operation of the tank(s). UST tanks installed after July 1, 2004 require Enhanced leak Detection (ELD) testing. Test method must be listed in LGI13 and be appropriate for the type of tank installed. E.g., wet or dry annular.
- \_\_\_9. Indicate the type and size of backfill material to be used and if filter fabric will be installed. (Note: material should not mask, absorb, or react with the hazardous materials upon an unauthorized release).
- \_\_\_10. Describe the corrosion protection method, if applicable, for underground tank system(s).

#### F. PIPING INFORMATION

- \_\_\_1. Provide the name of the piping manufacturer and materials used in the construction of the piping. New VPH systems (USTs installed after July 1, 2004) require **all** piping to have secondary containment. All UST system piping conveying flammable or combustible liquids must meet the UL 971 standard and be marked with "UL971". Above ground piping for flammable or combustible liquids shall be metal, including the vent piping.
- \_\_\_2. Indicate the type of piping system; remote fill, gravity, pressure or suction.
- \_\_\_3. Provide the name of the manufacturer for the spill container and provide a detailed drawing; side view. The spill container must meet the following requirements:
- A minimum capacity of five (5) gallons.
  - A drain valve that allows drainage of the collected spill into the primary container or provide a means to keep spill container empty.
  - Protected from galvanic corrosion, if made of metal.
- \_\_\_4. Provide a detailed piping diagram including proposed secondary containment – e.g. product line(s), vent line(s), shear valves, flex lines, extractor housings, risers, fittings, etc.
- \_\_\_5. Product, fill, vent and vapor recovery piping shall be sloped towards the tanks a minimum of 1/8 inch per one foot of run.

#### G. SECONDARY CONTAINMENT INFORMATION

- \_\_\_1. Provide the name of the manufacturers and materials used in the construction of all secondary containment components of the UST systems.
- \_\_\_2. Provide detailed drawings of fill sumps, turbine sumps, piping sumps, transition sumps, under dispenser containment sumps, etc. Show piping and conduit, penetrations, sensor locations, sensor mounting details, etc.
- \_\_\_3. Any new tank system installed after July 1, 2004 must comply with California Health and Safety Code Section 25290.1 requirements for all sumps and piping to be double walled and monitored by vacuum, pressure or hydrostatic means.

#### H. CONTINUOUS MONITORING DEVICE SYSTEM

- \_\_\_1. Provide the name of the manufacturer and the model numbers for the continuous monitoring device system and its components. The monitoring panel must have audible and visual alarms and a printer. The monitoring panel must be located in an area where facility personnel can immediately detect the alarms at all times. An automatic dialer or remote alarm may be necessary for unmanned facilities.
- \_\_\_2. Show the location of each sump sensor, how all sensors will be properly mounted at the low point in the sumps and secured to prevent tampering using mounting kits or sleeves.

- \_\_\_3. Only leak detection equipment listed on the State Water Resources Control Board (SWRCB) LG-113 may be used.
- \_\_\_4. List all functions the continuous monitoring device system will be programmed to perform:
- Monitoring of annular space.
  - Monitoring of product piping sump (specify if positive shut down of turbine will occur upon detection of liquid/release).
  - Monitoring of fill sump.
  - Automatic tank gauge (ATG).
  - Electronic overfill protection.
  - Monitoring of under dispenser containment sumps.
  - For new VPH Systems (tanks installed after July 1, 2004) list the type of monitoring (vacuum, pressure, or hydrostatic) that will be used for the secondary containment portions of the tank systems. For vacuum monitored components, provide a detail drawing identifying the components monitored by each vacuum sensor.
- \_\_\_5. All pressurized piping must have automatic line leak detectors. Indicate the type of automatic line leak detection device(s) to be installed for the pressurized piping system(s), include the manufacturer name and the model number:
- mechanical line leak detector
  - electronic in-line leak detector

## I. ADDITIONAL INFORMATION

**1. For new installs or upgrades, the following statements shall be noted on the plans and shall be complied with. For repairs and modifications, use statements that are applicable to your project:**

The Hazardous Materials Management Branch (HMMB) will be contacted a minimum of 5 working days prior to starting work and all site inspections shall be requested through [USTNotifications@rivco.org](mailto:USTNotifications@rivco.org) and scheduled a minimum of 5 working days in advance of requested date.

Contractor conducting the install, upgrade, repair or modification shall be registered with Riverside County and on the approved contractor list.

The Hazardous Materials Management Branch shall inspect tank systems at four (4) separate construction phases:

- a. Setting of tanks.
- b. During primary piping NFPA 30 testing (hydrostatic or pneumatic testing of lines for 30 minutes).
- c. Inspection of all secondary containment, including testing in accordance with manufacturer's guidelines.
- d. At the final inspection, including all portions of the leak detection system.

The contractor performing the work shall maintain a General "A" with HAZ Certification. Prior to starting work the contractor shall provide a copy of their CSLB license, ICC Certifications and Manufacturer's Training Certifications to Riverside County Environmental Health Hazmat Branch.

Any individual(s) installing underground storage tank system components shall be adequately trained as evidenced by a current certificate of training issued by the manufacturer(s) of the underground storage tank system components. These individuals shall possess or work under the direct and personal supervision of an individual physically present at the work site who possess a current Underground Storage Tank System Installation/Retrofitting Certificate from the International Code Council (ICC).

Service technicians shall possess or work under the direct and personal supervision of an individual physically present at the work site who possesses a current certificate from the International Code Council

(ICC), indicating he or she has passed the California UST Service Technician exam.

Individuals performing the work of a service technician must possess manufacturer's certification for each component that is serviced.

All new installations of piping, fittings and components must comply with the revised UL 971 Standard and bear the required UL mark. the date of manufacture on the piping at 10-foot intervals, and on fittings or fitting bulk packaging. Therefore, the date of manufacture must be on or after July 1, 2005. Contact your piping manufacturer to ensure that your new piping system is ordered correctly.

The underground storage tank system(s) shall be compatible with the product to be stored.

The tank construction/testing shall be in accordance with nationally recognized codes.

All continuous monitoring equipment shall be on the State's approved equipment list and all equipment shall be approved for use with the continuous monitoring system.

All underground storage tank (UST) equipment shall meet voluntary consensus standards.

All materials to be used (piping, couplings, sealant, adhesive, resins, etc.) shall be compatible and used as per nationally recognized codes.

All materials shall be installed as per manufacturers' specifications.

The electrical supply wiring for the continuous monitoring system shall be hardwired to the junction/breaker box.

All sensors will be properly mounted at the low point in the sumps and secured to prevent tampering using mounting kits or sleeves.

The contractor shall ensure that all fills and monitoring wells are properly labeled.

The contractor shall ensure that the Emergency shut-off switch is operational.

The contractor shall ensure that the secondary piping terminations within sumps are not obstructed and will allow a release to drain into a monitored sump. (This does not apply to VPH systems.)

The contractor shall ensure that on-line leak detectors are installed on turbines and are operational. All leak detectors shall be properly tested in line by a certified technician.

A complete and accurate Underground Storage Tank submittal shall be made in the California Environmental Reporting System (CERS) prior to the Final Inspection. The submittal shall include a completed Underground Storage Tank Certification of Installation/Modification Form.

Any additional plan check/inspection fees shall be submitted to the HMMB before the Final Inspection.

USTs removed from one facility and reinstalled at another facility without prior review and approval by the Department and certification by an independent testing organization cannot be installed and installation plans will be rejected. Facilities that fail to comply with this directive are subject to immediate enforcement.

Per AB 1702, before the underground storage tank is placed in use, the UST shall be tested after installation using one of the methods in Health & Safety Code 25290.1(j) to demonstrate that the tank is product tight. According to SWRCB, ELD is the only approved test method at this time. The UST will be tested after installation, before it is placed into use, using enhanced leak detection (ELD). If the results of post-installation testing indicate that the UST system is leaking liquid or

vapor, the owner or operator must take appropriate actions to correct the leakage, and retest the system using ELD, until the system is no longer leaking liquid or vapor. Approval to operate will not be given until the UST system has a passing ELD test.

**2. For repairs or modifications to existing UST systems, in addition to appropriate statements above, the following shall be noted on the plans (as applicable) and complied with:**

If concrete is broken and there is evidence of a release, soil/pea gravel samples shall be taken as directed and witnessed by Riverside County Environmental Health, Hazardous Materials Management Branch personnel. The samples should have no headspace, be placed on ice, and immediately analyzed on a 24-hour turnaround schedule. Sample results shall be submitted to HMMB prior to backfill. If sampling indicates that there is petroleum hydrocarbon contamination, the contractor shall notify HMMB of the contamination and obtain guidance on required remedial action prior to backfilling.

Sump installation or repair shall be done in conformance with the California Code of Regulations, Title 23, Division 3, Chapter 16, Section 2661, which states that areas shall be covered with epoxy or isophthalic polyester based resin. Fiberglass cloth with a minimum weight of 1.5 ounce per yard that is silane-treated shall be worked completely in the resin base. The resin base shall be installed a minimum of two inches beyond the fiberglass cloth. All repairs shall include installation of fiberglass cloth with a minimum dimension of 12 by 12 inches centered over the area to be repaired. A second layer of fiberglass cloth of the same weight shall be installed directly over the primary cloth layer and shall be cut to overlap the primary patch by 1.5 inches on all sides.

Secondary containment repairs shall be SB989 tested for integrity by an approved tester and results shall be submitted on the State's Secondary Containment Testing Report Form prior to final inspection. The secondary containment tester shall possess or work under the direct and personal supervision of an individual physically present at the work site who possesses a current certificate from the International Code Council (ICC), indicating he or she has passed the California UST Service Technician exam.

All pneumatic pressure tests shall be conducted using an inert gas to prevent fires and/or explosions.

**HAZARDOUS MATERIALS MANAGEMENT BRANCH  
UNDERGROUND STORAGE TANK PLAN CHECK FEE CATEGORIES**

The following information is applicable to those submitting Underground Storage Tank (UST) plans to this agency for review. The appropriate category must be indicated on the plan check application according to the information provided below.

**1. New Installation & Upgrade includes but is not limited to the following:**

- Installation of new underground storage tank system.
- Installation of dispenser containment.
- Installation of double-wall piping.
- Installation of sump around turbine.

**New Installation & Upgrade Fee(s) – Refer to County Ordinance 640**

These fees allow six (6) hours for the first UST system and two (2) hours for each additional UST system for plan review, inspection, and sampling activities. Additional time required to complete these activities will be charged at the consultation rate as specified in Ordinance 640.

**2. Repair & Modification includes, but is not limited to the following:**

- Repair of a damaged portion of an underground storage tank system.
- Alteration of method of operation or monitoring of an underground storage tank system through structural additions or deletions to that underground storage tank system.
- Installation of electronic in-line leak detector with positive shutdown of turbine.
- Installations of striker plates beneath tank openings, overfill protection, and spill containment.
- Installation of a cathodic protection system.
- Repair of piping systems.
- Repair of secondary containment systems.

**Repair & Modification Fee(s) – Refer to County Ordinance 640**

These fees allows four (4) hours for plan review, inspection, and sampling activities. Additional time required to complete these activities will be charged at the consultation rate as specified in Ordinance 640.

**FEES WILL BE DOUBLED IF WORK IS STARTED WITHOUT HMMB APPROVAL.**