GUIDELINES FOR INSTALLATION OF UNDERGROUND STORAGE TANKS

A. GENERAL INFORMATION

These guidelines are applicable to the installation of hazardous materials Underground Storage Tank systems in Stanislaus County. The guidelines serve as a supplement to other requirements and/or guidelines (e.g., California Fire Code, California Underground Storage Tank Regulations, manufacturer’s guidelines, etc.). These guidelines are for the Department of Environmental Resources; please contact the building and fire departments in the area of installation for their requirements.

1. Two sets of plans, State tank and facility forms, along with completed tank monitoring and designated operator forms and the UST application and permit form will need to be submitted (see “Underground Storage Tank Application and Permit”). The permit will need to be signed by both the building and fire departments for the area of installation before submitting to the Department of Environmental Resources.

2. Contractors shall submit, or have on file with the Department of Environmental Resources, information verifying they possess a current State Contractor’s License (A, B, C-36, C-61D-40), Workmen’s Compensation Insurance, and Certification by ICC.

3. Underground Service Alert should be contacted at 800-642-2444 prior to the start of excavation.

4. The contractor shall be responsible for ensuring that conditions at the site provide for workplace safety, protection of the environment, and maintenance and integrity of nearby structures.

5. Under no circumstances shall any regulated material be placed into underground storage tank systems without approval of this department.
6. All tanks, piping and equipment shall be installed and tested in accordance with the manufacturer’s recommendations/guidelines and the California Underground Storage Tank Regulations.

7. New or revised Hazardous Materials Business Plan if appropriate.

8. The Underground Storage Tank Permit is good for 6 months from the plan submittal.

B. INSPECTIONS

Appointments for construction inspections must be made a minimum of 48 hours in advance. Call the Hazardous Materials inspector for your area at 209-525-6700 to schedule an inspection.

1. FIRST INSPECTION – TANK TEST
   a. Record and verify the U.L. number of the tanks, annular vacuum on each tank, tank sizes, view holiday test (if required), fiber liner and backfill material.
   b. Bedding and backfill material for all tanks and pipelines is limited to clean, washed sand or pea gravel with a minimum bed depth of 12”.
   c. Witness tanks being set into the excavation.
   d. Tanks properly sloped toward the annular space.

2. SECOND INSPECTION – PRIMARY SYSTEM TEST (Pressure gauges must be in good working order and calibrated to the appropriate scale.)
   a. Check the pressure of all primary piping for 30 minutes or as indicated by the manufacturer. A passing test is achieved with zero pressure loss. Gauges confirmed to zero by depressurizing lines after test.
      1. 5 PSI for vent/vapor recovery systems
      2. 150 percent of operating pressure (or 50 PSI) for pressure
      3. Check the slope of the piping
   b. Witness the soaping of all piping, joints, and fittings.
   c. Verify the water test at all sumps. A passing test is recorded as zero liquid loss for one hour, with all seams and penetrations exposed for viewing.

3. THIRD INSPECTION – SECONDARY SYSTEM TEST
   a. Check all secondary piping. A passing test is achieved with zero pressure loss.
      1. 5 PSI for a minimum of 30 minutes
   b. Witness the fiberglass coating of any tank top bung/bung cap openings, if not contained in a sump.
   c. Lake test sumps and overfill containment.
d. Witness the fiberglass coating of any tank top bung/bung cap openings, if not contained in a sump.

4. FOURTH INSPECTION – FINAL
a. Witness the operation of all equipment for the leak monitoring system as installed.
b. Witness ball float/flapper valve proper installation or overfill prevention alarm operation.
c. Witness the emergency shut-off switch operation.
d. Witness the line leak detector and dispenser sump operation and positive shut down.
e. Witness proper operation of overfill buckets.
f. Verify the precision test is complete.

OPERATION OF ANY UNDERGROUND STORAGE TANK WITHOUT HAVING COMPLETED ALL CONSTRUCTION INSPECTIONS AND WITHOUT HAVING AN OPERATING PERMIT IS A VIOLATION OF CALIFORNIA HEALTH AND SAFETY CODE, DIVISION 20, CHAPTER 6.7, SECTION 25299.
DEFICIENCIES WILL REQUIRE AMENDMENT OR ADDENDUMS TO THE ORIGINAL PLANS.

General construction standards and information required for new underground storage tank installations:

Inspector: ___________________________ Date: ________________

<table>
<thead>
<tr>
<th>NA</th>
<th>OK</th>
<th>DEFICIENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1. Name and address of the facility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Name and address of the contractor(s). Include the telephone number for each.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Two (2) complete sets of plans; one set to be retained by this office. Specification sheets, equipment brochures, monitoring and response plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Plans to scale in non-erasable blueprint</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Location, size, and number of tanks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Secondary containment provided throughout</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Primary and secondary containment are product tight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. Tank construction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Striker plates under all accessible openings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double-wall fiberglass</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double-wall steel w/fiberglass clad (Holiday test required)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double-wall steel primary, fiberglass secondary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Detail of monitoring equipment as installed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10. Pipeline system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pressure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Suction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gravity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11. Continuous monitoring system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vapor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pressure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liquid</td>
</tr>
</tbody>
</table>
12. Leak monitoring system
   - Console manufacturer_________________________
   - Model # ____________________
   - Sensors installed in:
     - [ ] Tank annular
       - Manufacturer ______________________
       - Model # ____________________
     - [ ] Tank turbine sump
       - Manufacturer ______________________
       - Model # ____________________
     - [ ] Tank fill sumps
       - Manufacturer ______________________
       - Model # ____________________
     - [ ] Dispenser sumps
       - Manufacturer ______________________
       - Model # ____________________

13. Volume and contents to be stored in each tank listed on blue prints

14. Detail of tank – cross sectional, excavation and cover

15. Double-walled tank and system allow for monitoring of the annular space
   - A. Releases from primary containers designed to drain to a specific location within the annular space to be detected by a monitoring device or method
     - Type of detectors:
       - [ ] Brand name __________________
       - [ ] Model number ________________
       - Sensor type
         - [ ] Vapor
         - [ ] Liquid
       - Manufacturer’s written installation instructions

16. Precision testing company ___________________________

NOTE: PASSING ENHANCED LEAK DETECTION TEST (OR EQUIVALENT TEST) IS REQUIRED PRIOR TO THE SYSTEM BEING PLACED IN USE.
<table>
<thead>
<tr>
<th>NA</th>
<th>OK</th>
<th>DEFICIENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

17. Tanks subject to flotation
   A. Buoyancy calculations provided
   B. Anchored by Deadman or slab
   C. Anchors to be installed as specified by manufacturer
   D. Installation detail provided on plans

18. Fiber liners between tank(s) and excavation to prevent infiltration of native soil into backfill material

19. Manufacturer’s written installation instructions. Include all piping, monitors, tanks, etc. *(NOTE: NFPA 30 TEST or equivalent is required on BOTH the primary and secondary containment systems.)*

20. Detail of fill sumps, dispenser, piping and tank sumps

21. Overfill Protection System
   A. Fill sump
      ☐ Minimum 19 liters with diverter
      ☐ Other (code section ____________________________)

22. Overfill Prevention
   ☐ Ball float
      ☐ Manufacturer ____________________________
      ☐ Model # ____________________________
   ☐ Flapper valve
      ☐ Manufacturer ____________________________
      ☐ Model # ____________________________
   ☐ Electronic
      ☐ Manufacturer ____________________________
      ☐ Model # ____________________________

23. Detail of piping – cross section of termination(s) at dispenser and piping sump(s), excavation and cover

24. Pipeline leak detector
   ☐ Manufacturer ____________________________
   ☐ Model # ____________________________
   A. Mechanical
   ☐ B. Electronic
25. Piping construction: Product lines
   (Manufacturer ________________________  
   A. Double-wall fiberglass  
   B. Double-wall flex pipe
26. Piping construction: Vent & vapor lines:
   (Manufacturer ________________________  
   A. Double-wall fiberglass  
   B. Double-wall flex pipe
27. Secondary container floor
   A. Constructed on firm base  
   B. Sloped to collection sump
28. Penetration sealant (manufacturer ____________  
29. All manways and access points designed to prevent entry of surface waters
30. Remote emergency shut-off device installed within 100 feet of furthest dispensing unit
31. Secondary container other than double-walled tanks (includes sumps and detection systems)
   A. Secondary container capable of precluding high groundwater.  
   B. Secondary container sloped to a monitoring sump from which leakage or precipitation can be detected and removed  
   C. Water tight cover that extends at least one foot beyond each boundary of the original excavation for primary tanks installed completely below grade
32. Any special accessories, fittings, coatings, or linings not inherent within the initial design of the primary container or double-walled underground storage tank
   A. Approved by a nationally recognized independent testing organization, or  
   B. Demonstration of integrity with the primary container or double-walled underground storage tank
<table>
<thead>
<tr>
<th>PROPOSED WORK</th>
<th>FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Tank Installations</td>
<td>WLR (17 hours min)</td>
</tr>
<tr>
<td>(includes 7 hour plan review &amp; 10 hour on-site inspections)</td>
<td></td>
</tr>
<tr>
<td>Tank Upgrades</td>
<td>WLR (5 hours min)</td>
</tr>
<tr>
<td>(includes 5 hours of staff time)</td>
<td></td>
</tr>
<tr>
<td>Tank Closure</td>
<td>WLR (6 hours min)</td>
</tr>
<tr>
<td>(includes 6 hours of staff time)</td>
<td></td>
</tr>
</tbody>
</table>

rev. 7.08