

# Water Storage Tank Construction Checklist

Texas Commission on Environmental Quality  
Water Supply Division  
Plan Review Team MC-159  
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Public Water System I.D. No. \_\_\_\_\_  
TCEQ Log. No. P- \_\_\_\_\_

The following list is a brief outline of the "Rules for Public Water Systems", 30 TAC Chapter 290 regarding proposed water storage tank construction. Sealed plans, capacity report, and specifications meeting, but not limited to, the minimum requirements cited here shall be prepared under the supervision of a Texas licensed professional engineer and submitted to TCEQ for approval. This list is not a substitute for the rules and this checklist cannot be accepted in lieu of the required engineering submittals. Failure to submit the following items may delay project approval. Copies of the rules may be obtained from **Texas Register, 1019 Brazos St, Austin, TX, 78701-2413, Phone: (512) 463-5561** or downloaded from the website: <http://www.tceq.texas.gov/rules/indxpdf.html>

1.  The minimum capacity shall be governed by the requirements in §290.45 relating to Minimum Water System Capacity Requirements; [§290.43(a)]
2.  Submission of engineering report showing the adequacy of the facilities with regard to delivery capacity and pressure throughout the system; [§290.39(e)(1)(H)]
3.  Not located within 500 feet of sewage treatment plant or disposal area or any land which is spray irrigated with treated sewage effluent or sludge disposal; [§290.43(b)(1)]
4.  Not located under any buildings and, when possible, constructed partially or above ground; [§290.43(b)(2)]
5.  Not located below ground level within 50 feet of a sanitary sewer or septic tank (10 feet for pressure rated pipe with pressure-tested, watertight joints); [§290.43(b)(3)]
6.  Not below ground level within 150 feet of a drainfield; [§290.43(b)(4)]
7.  All facilities for potable water storage shall be covered and designed, fabricated, erected, tested, and disinfected in strict accordance with current American Water Works Association (AWWA) standards and shall be provided with the minimum number, size and type of: [§290.43(c)]
  - (i) Roof vents;
  - (ii) Manways;
  - (iii) Drains;
  - (iv) Sample connections;
  - (v) Access ladders;
  - (vi) Overflows; and
  - (vii) Liquid level indicators.
8.  The roof of all tanks shall be designed and erected so that no water ponds at any point on the roof and, in addition, no area of the roof shall have a slope of less than 0.75 inch per foot; [§290.43(c)]
9.  Roof vents shall be gooseneck or roof ventilator and designed based on the maximum outflow; [§290.43(c)(1)]
10.  Vents shall be equipped with screens fabricated of corrosion-resistant material and shall be 16-mesh or finer; [§290.43(c)(1)]
11.  All roof openings shall be 30 inches in diameter. If an alternate 30-inch diameter access opening is provided, the roof opening shall not be less than 24 inches in diameter. Each access opening shall have a raised curbing at least four inches in height with a lockable cover that overlaps the curbing at least two inches in a downward direction. Where necessary, a gasket shall be used to make a positive seal when the hatch is closed; [§290.43(c)(2)]

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12.  Overflows: [§290.43(c)(3)]
- (i) Gravity-hinged and weighted cover, an elastomeric duckbill valve, or other approved device to prevent the entrance of insects and other nuisances;
  - (ii) Cover shall close automatically and have no gap over 1/16 inch;
  - (iii) Sized to handle the maximum possible fill rate; and
  - (iv) Discharge opening shall be above the surface of the ground and shall not be subject to submergence.
13.  All tanks shall have a liquid level indicator located at the tank site. The indicator can be a float, an ultrasonic, or a pressure gauge calibrated in feet of water. Pressure gauges must not be less than three inches in diameter and calibrated at not more than two-foot intervals; [§290.43(c)(4)]
14.  Inlet and outlet located to prevent short circuiting; [§290.43(c)(5)]
15.  Clearwells used for disinfectant contact time shall be appropriately baffled; [§290.43(c)(5)]
16.  Tight against leakage, above the ground water table, and no common walls with any other plant units containing water in the process of treatment; [§290.43(c)(6)]
17.  Provided with a means of removing silt and deposits. Drains shall not be connected to any waste or sewage disposal system; [§290.43(c)(7)]
18.  Painted and disinfected with AWWA standards. Paint conforms to ANSI/NSF Standard 61; [§290.43(c)(8)]
19.  No tanks or containers shall be used to store potable water that have previously been used for any nonpotable purpose. Where a used tank is proposed for use, a letter from the previous owner or owners must be submitted to the executive director which states the use of the tank; [§290.43(c)(9)]
20.  Access manways in the riser pipe, shell area, access tube, bowl area or any other location opening directly into the water compartment shall not be less than 24 inches in diameter. However, in the case of a riser pipe or access tube of 36 inches in diameter or smaller, the access manway may be 18 inches times 24 inches with the vertical dimension not less than 24 inches. The primary access manway in the lower ring or section of a ground storage tank shall be not less than 30 inches in diameter;
21.  Intruder resistant fence with lockable gates. Pedestal-type elevated storage tanks with lockable doors and without external ladders are exempt; and [§290.43(e)]
22.  Service pump installations taking suction from storage tanks shall provide automatic low water level cutoff devices to prevent damage to the pumps. The service pump circuitry shall also resume pumping automatically once the minimum water level is reached in the tank. [§290.43(f)]