WATER WELL DRILLERS AND WATER WELL PUMP INSTALLERS

Administrative Rules of the Texas Department of Licensing and Regulation
16 Texas Administrative Code, Chapter 76

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76.1. Purpose of Rules. *(Effective January 3, 1999, 23 TexReg 13059; amended effective December 1, 2003, 28 TexReg 10468; amended effective September 15, 2014, 39 TexReg 7090)*

To provide procedural and substantive requirements for licensing, complaint procedures, continuing education, and technical standards for well drillers and pump installers, and to ensure the quality of the State's ground water for the safety and welfare of the public under the Texas Occupations Code, Chapters 1901 and 1902.

76.10. Definitions. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective October 1, 2004, 29 TexReg 9183; amended effective December 1, 2006, 31 TexReg 9604; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

(1) **Altering**--The process of changing the original design or intent of a completed well.

(2) **Abandoned well** -- A well that is not in use. A well is considered to be in use if:

(A) the well is not a deteriorated well and contains the casing, pump, and pump column in good condition;

(B) the well is not a deteriorated well and has been capped;

(C) the water from the well has been put to an authorized beneficial use, as defined by the Texas Water Code;

(D) the well is used in the normal course and scope and with the intensity and frequency of other similar users in the general community; or

(E) the owner is participating in the Conservation Reserve Program authorized by Sections 1231-1236, Food Security Act of 1985 (16 U.S.C. Sections 3831-3836), or a similar governmental program.

(3) **Annular space**--The space between the casing and borehole wall.

(4) **Atmospheric barrier**--A section of cement placed from two feet below land surface to the land surface when using granular sodium bentonite as a casing sealant or plugging sealant in lieu of cement.

(5) **Bentonite**--A sodium hydrous aluminum silicate clay mineral (montmorillonite) commercially available in powdered, granular, or pellet form which is mixed with potable water and used for a variety of purposes including the stabilization of borehole walls during drilling, the control of potential or existing high fluid pressures encountered during drilling below a water table, and to provide a seal in the annular space between the well casing and borehole wall.

(6) **Bentonite grout**--A fluid mixture of sodium bentonite and potable water mixed at manufacturers' specifications to a slurry consistency that can be pumped through a pipe directly into the annular space between the casing and the borehole wall. Its primary function is to seal the borehole in order to prevent the subsurface migration or communication of fluids.

(7) **Borehole or well bore**--The drilled hole.

(8) **Capped well**--A well that is closed or capped with a covering capable of preventing surface pollutants from entering the well and sustaining weight of at least 400 pounds and constructed in such a way that the covering cannot be easily removed by hand.

(9) **Casing**--A watertight pipe which is installed in an excavated or drilled hole, temporarily or permanently, to maintain the hole sidewalls against caving, advance the borehole, and in conjunction

with cementing and/or bentonite grouting, to confine the ground waters to their respective zones of origin, and to prevent surface contaminant infiltration.

(A) Plastic casing--National Sanitation Foundation (NSF-WC) or American Society of Testing Material (ASTM) F-480 minimum SDR 26 approved water well casing.

(B) Steel Casing--New ASTM A-53 Grade B or better and have a minimum weight and thickness of American National Standards Institute (ANSI) schedule 10.

(C) Monitoring wells may use other materials, such as fluoropolymer (Teflon), glass-fiber-reinforced epoxy, or various stainless steel alloys.

(10) **Cement**--A neat portland or construction cement mixture of not more than seven gallons of water per 94-pound sack of dry cement, or a cement slurry which contains cement along with bentonite, gypsum or other additives.

(11) **Cessation of drilling**--When the borehole has been drilled to total depth and casing has been placed in the borehole.

(12) **Chemigation**--A process whereby pesticides, fertilizers or other chemicals, or effluents from animal wastes is added to irrigation water applied to land or crop, or both, through an irrigation distribution system.

(13) **Closed Loop Geothermal Well**--A vertical closed system well used to circulate water, and other fluids or gases through the earth as a heat source or heat sink.

(14) **Code**--Refers to Texas Occupations Code, Chapters 1901 and 1902.

(15) **Commingling**--The mixing, mingling, blending or combining through the borehole casing annulus or the filter pack of waters that differ in chemical quality, which causes quality degradation of any aquifer or zone.

(16) **Completed monitoring well**--A monitoring well which allows water from a single water-producing zone to enter the well bore, but isolates the single water-producing zone from the surface and from all other water-bearing zones by proper casing and/or cementing procedures. Annular space positive displacement or pressure tremie tube grouting or cementing (sealing) method shall be used when encountering injurious water or constituents above or below the zone to be monitored or if the monitoring well is greater than twenty (20) feet in total depth. The single water-producing zone shall not include more than one continuous water-producing unit unless a qualified geologist or a groundwater hydrologist has determined that all the units screened or sampled by the well are interconnected naturally.

(17) **Completed to produce undesirable water**--A completed well which is designed to extract water from a zone which contains injurious water.

(18) **Completed water well**--A water well, which has sealed off access of injurious water or constituents to the well bore by utilizing proper casing and annular space positive displacement or pressure tremie tube grouting or cementing (sealing) methods.

(19) **Constituents**--Elements, ions, compounds, or substances which may cause the degradation of the soil or ground water.

(20) **Deteriorated well** -- A well that, because of its condition, will cause or is likely to cause pollution of any water in this state, including groundwater.

(21) **Dry litter poultry facility**--Fully enclosed poultry operation where wood shavings or similar material is used as litter.

(22) **Easy access**--Access is not obstructed by other equipment and the fitting can be removed and replaced with a minimum of tools without risk of breakage of the attachment parts.

(23) **Edwards aquifer**--That portion of an arcuate belt of porous, water bearing, predominantly carbonate rocks known as the Edwards and Associated Limestones in the Balcones Fault Zone trending from west to east to northeast in Kinney, Uvalde, Medina, Bexar, Comal, Hays, Travis, Williamson, and Bell Counties; and composed of the Salmon Peak Limestone, McKnight Formation, West Nueces Formation, Devil's River Limestone, Person Formation, Kainer Formation, Edwards Formation and Georgetown Formation. The permeable aquifer units generally overlie the less-permeable Glen Rose Formation to the south, overlie the less-permeable Comanche Peak and Walnut formations north of the Colorado River, and underlie the less-permeable Del Rio Clay regionally.

(24) **Environmental soil boring**--An artificial excavation constructed to measure or monitor the quality and quantity or movement of substances, elements, chemicals, or fluids beneath the surface of the ground. The term shall not include any well that is used in conjunction with the production of oil, gas, or any other minerals.

(25) **Filter pack**--The media that is used in the annular space around the well screen to create a filter to prevent sand or sediment from entering the well.

(26) **Flapper**--The clapper, closing, or checking device within the body of the check valve.

(27) **Foreign substance**--Constituents that include recirculated tailwater and open-ditch water when a pump discharge pipe is submerged in the ditch.

(28) **Freshwater**--Water whose bacteriological, physical, and chemical properties are such that it is suitable and feasible for beneficial use.

(29) **Granular sodium bentonite**--Sized, coarse ground, untreated, sodium based bentonite (montmorillonite) which has the specific characteristic of swelling in freshwater.

(30) **Grout**--This term shall include cement or bentonite mixed with water, or a combination of bentonite and cement mixed with water and/or department-approved additives.

(31) **Injection well** -- This term includes:

(A) an air-conditioning return flow well used to return water that has been used for heating or cooling in a heat pump to the aquifer that supplied the water;

(B) a cooling water return flow well used to inject water that has been used for cooling;

(C) a drainage well used to drain surface fluid into a subsurface formation;

(D) a recharge well used to replenish water in an aquifer;

(E) a saltwater intrusion barrier well used to inject water into a freshwater aquifer to prevent the intrusion of salt water into fresh water;

(F) a sand backfill well used to inject a mixture of water and sand, mill tailings, or other solids into subsurface mines;

(G) a subsidence control well used to inject fluids into a non-oil-producing or non-gas-producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water; and

(H) a closed system geothermal well used to circulate water, other fluids, or gases through the earth as a heat source or heat sink.

(32) **Injurious water**--Water that is harmful to vegetation, land or other water as set forth in §1901.254(a)

and §1902.252(a) of the Code.

(33) **Irrigation distribution system**--A device or combination of devices having a hose, pipe, or other conduit which connects directly to any water well or reservoir connected to the well, through which water or a mixture of water and chemicals is drawn and applied to land. The term does not include any hand held hose sprayer or other similar device, which is constructed so that an interruption in water flow automatically prevents any backflow to the water source.

(34) **Monitoring well**-- An artificial excavation that is constructed to measure or monitor the quantity or movement of substances below the surface of the ground, and that is not used in conjunction with the production of oil, gas, or other minerals.

(35) **Mud for drilling**--A relatively homogenous, viscous fluid produced by the suspension of clay-size particles in water or the additives of bentonite or polymers.

(36) **Offering to perform**--Making a written or oral proposal, contracting in writing or orally to perform well drilling or pump installing work, or advertising in any form through any medium that a person or business entity is a well driller or pump installer, or that implies in any way that a person or business entity is available to contract for or perform well drilling or pump installing work.

(37) **Piezometer**--A device so constructed and sealed as to measure hydraulic head at a point in the subsurface.

(38) **Piezometer well**--A well of a temporary nature constructed to monitor well standards for the purpose of measuring water levels or used for the installation of piezometer resulting in the determination of locations and depths of permanent monitor wells.

(39) **Placement and preparation for operation of equipment and materials**--Includes but is not limited to removing the pump.

(40) **Plugging**--An absolute sealing of the well bore.

(41) **Pollution**--The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water that renders the water harmful, detrimental, or injurious to humans, animals, vegetation, or property, or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any or reasonable purpose.

(42) **Positive Displacement method**--The process in which the cement, bentonite or a combination of the two sealing materials is forced through the well casing followed by water or drilling fluids, via a mechanical pump and out through relief holes in the casing at the maximum depth of the zone to be grouted. The grout then returns under pressure to the surface through the annular space and upon curing or setting causing an annular seal.

(43) **Potable water**--Water which is safe for human consumption in that it is free from impurities in amounts sufficient to cause disease or harmful physiological effects.

(44) **Public water system**--A system supplying water to a number of connections or individuals, as defined by current rules and regulations of the Texas Commission on Environmental Quality, 30 TAC Chapter 290.

(45) **Recharge zone**--Generally, that area where the stratigraphic units constituting the Edward Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer. The recharge zone is identified as that area designated as such in official maps in the appropriate regional office of the Texas Commission on Environmental Quality.

(46) **Reconditioning**--The process where a well is cleaned out to original depth and the water production is

restored. This term shall include any procedures that make the well operable.

(47) **Re-completion**--The process to bring an existing well into compliance with §76.100 or §76.105 by installing any and all sanitary seals, safeguards, casing, grouting, and the re-setting of well screens as required.

(48) **Recovery well**--A well constructed for the purpose of recovering injurious groundwater for treatment or removal of contamination.

(49) **Sanitary well seal**--A watertight device to maintain a junction between the casing and the pump column.

(50) **Test well**--A well drilled to explore for groundwater.

(51) **Tremie pipe method**--The process in which a small diameter pipe or tubing is inserted in the annular space of the well to the maximum depth of the zone to be sealed, before the grouting procedure is commenced to pump sealing material through. The tubing or pipe may be retrieved during the grouting process, causing an annular seal.

(52) **Water or waters in the state**--Groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or non-navigable, and including the beds and banks of all watercourses and bodies of surface water, that are wholly or partially inside or bordering the state or inside the jurisdiction of the state.

(53) **State of Texas Well Report (Well Log)**--A log recorded on forms prescribed by the department, at the time of drilling showing the depth, thickness, character of the different strata penetrated, location of water-bearing strata, depth, size, and character of casing installed, together with any other data or information required by the executive director.

76.20. Licensing Requirements--General. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

A person may not act or offer to act as a driller or pump installer unless the person is licensed by the executive director pursuant to the Texas Occupations Code, Chapters 1901 and 1902.

76.21. Requirements for Issuance of a Driller or Pump Installer License. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective October 1, 2004, 29 TexReg 9183; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) An applicant must submit a completed application, the required fee, and have the required two (2) years of experience.

(b) An applicant must complete all requirements within one year of the date the application is filed.

(c) A licensee, not licensed to perform all types of well drilling and pump installation, may apply for endorsements. Applications for additional endorsements shall be accompanied by the appropriate application fee, and must contain all information required by this chapter for an initial license. Upon examination of the applicant's qualifications, the executive director must deny or grant additional endorsements to an existing license.

(d) An applicant must have sufficient installation/drilling experience as set forth in paragraphs (1) and (2) to be eligible to take each endorsement examination.

(1) Drillers Endorsements--Qualifying number of installation/drillings

(A) Water Wells (W)--15

(B) Monitor Wells (M)--50

(C) Injection Wells (N)--50

(D) Dewatering Wells (D)--50

(E) Closed Loop Geothermal Wells (C)--50

(2) Pump Installer Endorsements--Qualifying number of installation/drillings

(A) Single Phase Pumps (P)--15

(B) 3 Phase Pumps (K)--15

(C) Turbine Pump (T)--15

(D) Windmill, Pump jack, hand pump--15

(e) An applicant who has demonstrated competency in all types of well drilling is qualified for a master driller's license.

(f) An applicant who has demonstrated competency in all types of pump installation is qualified for a master pump installer's license.

76.22. Applications for Licenses and Renewals. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) Application must be made on forms approved by the department.

(b) The application must include the applicant's statement that he has drilled or installed pumps under supervision of a driller or pump installer licensed under the Code and this chapter.

(c) The applicant is eligible to take the examination when the department determines the application and qualifications submitted meet requirements.

(d) A license issued by the department will expire annually from the date issued (as provided in §76.24).

76.23. Examinations. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective March 1, 2013, 38 TexReg 1142)*

(a) To be eligible for an examination, the applicant must submit a completed license application and pay the required fee.

(b) A person taking an examination must comply with the department's examination requirements under 16 TAC, Chapter 60, Subchapter E.

(c) A passing grade is 70%.

76.24. License Renewal. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective September 1, 2003, 28 TexReg7366; amended effective December 1, 2003, 28 TexReg 10468; amended effective October 1, 2004, 29 TexReg 9183; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) On or before the expiration date of the license, the licensee must pay an annual renewal fee to the department and submit an application for renewal.

(b) To renew a license, the licensee must show proof of four (4) hours of continuing education in compliance with §76.25(b).

76.25. Continuing Education. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective October 1, 2004, 29 TexReg 9183; amended effective December 1, 2006, 31 TexReg 9604; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) Terms used in this section have the meanings assigned by Chapter 59 of this title, unless the context indicates otherwise.

(b) To renew a license as a driller or pump installer, a licensee must complete four (4) hours of continuing education in courses approved by the department. The continuing education hours must include the following:

(1) one (1) hour of instruction dedicated to the Water Well Driller/Pump Installer statutes and rules; and

(2) three (3) hours of instruction in topics directly related to the water well industry, including but not limited to well and water well pump standards, geologic characteristics of the state, state groundwater laws and related regulations, well construction and pump installation practices and techniques, health and safety, environmental protection, technological advances, or business management.

(c) The continuing education hours must have been completed within the term of the current license, in the case of a timely renewal. For a late renewal, the continuing education hours must have been completed within the one year period immediately prior to the date of the late renewal.

(d) A licensee may not receive continuing education credit for attending the same course more than once.

(e) Licensees must retain a copy of the certificate of course completion for one year after the date of completion. In conducting any inspection or investigation of the licensee, the department may examine the licensee's records to determine compliance with this subsection.

(f) To be approved under Chapter 59 of this title, a provider's course must be dedicated to instruction in one or more of the topics listed in subsection (b), and the provider must be registered under Chapter 59 of this title.

(g) A licensee whose license has been placed on "inactive" status pursuant to Texas Occupations Code, §51.4011 is not required to complete continuing education as required by this section until the licensee seeks to change to "active" status.

76.26. A Person Assisting Licensed Driller or Licensed Pump Installers. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective October 1, 2004; 29 TexReg 9183; amended effective December 1, 2007, 31 TexReg 9604; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) A person not licensed to perform drilling or pump installing work may assist a licensed driller or pump installer provided that the unlicensed person is not primarily responsible for the drilling or installation operations, and provided that the unlicensed person:

(1) performs drilling work under the direct supervision of a licensed driller who has been licensed for a minimum of two (2) years; or

(2) performs pump installing work under the direct supervision of a licensed pump installer who has been licensed for a minimum of two (2) years.

(b) A licensed driller or pump installer may directly supervise no more than three (3) unlicensed persons at any time.

(c) At the time of license renewal, the licensed driller or pump installer must provide a department-approved form with a list of all unlicensed assistants the licensee directly supervises to perform drilling or pump installing work at the time of the renewal, including those supervised at any time during the previous twelve (12) month period.

(d) For purposes of this chapter and the Code, a licensed driller or pump installer provides "direct supervision" to an unlicensed assistant if the licensed driller or pump installer:

(1) is present at the well site at all times during all drilling or pump installing operations; or

(2) is represented at the well site by an unlicensed assistant, capable of immediate communication with the licensed driller or pump installer at all times and the licensed driller or pump installer is no more than a reasonable distance from the well site, but no further than a two (2) hour arrival time; and

(3) inspects the well site at least once in every twenty-four (24) hour period of operation.

(e) The supervising licensee is responsible for ensuring that the unlicensed person performs drilling or pump installing work in compliance with the Code, and with this chapter.

(f) Any allegation of a violation of this chapter or the Code against an unlicensed person performing work as set forth in this chapter, shall be opened as a complaint against the supervising licensee.

(g) The provisions listed in subsection (c) are effective for water well driller and pump installer licenses that expire on or after May 1, 2013.

(h) An unlicensed assistant may not contract, bid, advertise and/or accept payment for drilling or pump installing services.

76.30. Exemptions. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

The following are not required to obtain a license under the Code.

(1) Any person who, pursuant to 30 TAC, Chapter 334, Subchapter I, possesses a Class A or Class B Underground Storage Tank (UST) Installers' license who drills observation wells within the backfill of the original excavation for UST's, including associated piping and pipe trenches (tank plumbing and piping), to a depth of no more than two feet below the tank bottom. However, if the total depth exceeds twenty (20) feet below ground surface, a licensed driller is required to drill the well.

(2) Any person who drills environmental hand auger soil borings no more than ten (10) feet in depth.

(3) Any person who installs or repairs water well pumps and equipment on his own property, or on property that he has leased or rented, for his own use.

76.62. Responsibilities of the Department--Injurious water or constituents. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

If injurious water or constituents are encountered, the department shall, within thirty (30) days of notification by the driller, notify the person having the well drilled, deepened, or altered that the driller is required by law to ensure that the well is plugged, repaired, or completed under the standards and procedures in this chapter.

76.65. Advisory Council. *(Effective January 3, 1999, 23 TexReg 13059; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) All notices of regular or special meetings of the council will be sent to the residential address of council members as recorded in the official records of the council and department.

(b) The presiding officer shall preside at all council meetings and shall not vote except to break a tie vote.

(c) In the absence of the presiding officer, the members present shall choose one member to act as presiding officer.

(d) The permanent or temporary presiding officer may appoint any member of the council present to act for any other officer of the council who is not present.

76.70. Responsibilities of the Licensee--State Well Reports. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

Every well driller who drills, deepens, or alters a well, within this state shall record and maintain a legible and accurate State of Texas Well Report on a department-approved form. Each copy of a State of Texas Well Report, other than a department copy, shall include the name, mailing address, web address and telephone number of the department.

(1) Every well driller shall transmit electronically through the Texas Well Report Submission and Retrieval System or deliver or send by certified mail, the original of the State of Texas Well Report to the department. Every well driller shall deliver or send by first-class mail a photocopy to the groundwater conservation district in which the well is located, if any. Every well driller shall also deliver or send by first-class mail a photocopy to the owner or person for whom the well was drilled, within sixty (60) days from the completion or cessation of drilling, deepening, or otherwise altering a well.

(2) Each State of Texas Well Report and Plugging Report shall include the specific geographic coordinates with the longitude and latitude of the subject well.

(3) The person that plugs a well shall, within thirty (30) days after plugging is complete, transmit electronically through the Texas Well Report Submission and Retrieval System or deliver or send by certified mail, the original of the State of Texas Plugging Report to the department. The person that plugs the well shall deliver or send by first-class mail a copy of the State of Texas Plugging Report to the groundwater conservation district in which the well is located, if any. The person that plugs the well shall deliver or send by first-class mail a copy of the State of Texas Plugging Report to the owner or person for whom the well was plugged.

(4) The department shall furnish State of Texas Plugging Reports on request.

(5) The executive director shall prescribe the contents of the State of Texas Plugging Reports.

76.71. Responsibilities of the Licensee--Reporting Injurious Water or Constituents. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

Each well driller or installer shall, within twenty-four (24) hours of becoming aware of the existence of injurious water or constituents, inform the landowner or person having a well drilled, deepened, or otherwise altered. The well driller or installer shall, within thirty (30) days of becoming aware of the existence of injurious water or constituents transmit electronically through the Texas Well Report Submission and Retrieval System or deliver or send by certified mail, the original of the Injurious Water or Constituents Report to the department. The well driller or installer shall also deliver or send by first-class mail a copy of the Injurious Water or Constituents Report to the groundwater conservation district in which the well is located, if any, and the landowner or person having the well drilled, deepened, or altered.

76.72. Responsibilities of the Licensee and Landowner--Well Drilling, Completion, Capping and Plugging. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) All well drillers, installers and persons having a well drilled, deepened or altered, and persons in possession of abandoned or deteriorated wells, shall adhere to the provisions of the Code and this chapter prescribing the location of wells and proper drilling, completion, capping and plugging.

(b) A licensed driller shall ensure that when injurious water or constituents are knowingly encountered, the well is plugged or is converted into a properly completed monitoring well as defined in §76.10(33), and under the standards set forth in §76.104.

(c) A driller must comply with applicable requirements of the Texas Commission on Environmental Quality rules under 30 TAC, Chapter 331, if injurious water or constituents are encountered while drilling a Class V Injection well.

(d) If a landowner, or person having the well drilled, deepened or altered refuses to allow a licensed driller or installer access to the well which requires plugging or completion or otherwise precludes the driller or installer from plugging or completing a well where injurious constituents or water have been encountered, the driller shall, within forty-eight (48) hours of the refusal, file a signed statement to that effect with the department and provide a copy of the statement to the local groundwater conservation district. The statement shall indicate that:

(1) the driller, installer or person under his supervision, encountered injurious water or constituents while drilling the well;

(2) the driller or installer has informed the person having the well drilled, deepened or otherwise altered that injurious water or constituents were encountered and that the well must be plugged or completed pursuant to Texas Occupations Code, §1901.254 or §1902.253, and this chapter;

(3) the person or landowner having the well drilled, deepened or altered has denied the driller or installer access to the well;

(4) the reason, if known, for which access has been denied; and

(5) if known, whether the person having the well drilled, deepened or otherwise altered intends to have the well plugged or completed.

(e) A deteriorated well must be plugged. An abandoned well must be either capped or plugged. If a landowner or person who possesses an abandoned or deteriorated well fails to have the well plugged or capped under standards and procedures adopted by the commission within one hundred eighty (180) days from learning of its condition, the department shall notify the local groundwater conservation district and the department may initiate a contested case against the landowner or person for a violation of Texas Occupations Code, §1901.255.

(f) It is the responsibility of a landowner or person in possession of a well that is open at the surface, to have the well capped under standards set forth in §76.104, unless subsection (g) of this section applies.

(g) The driller of a newly-drilled well shall place a cover or cap which is not easily removed over the boring or casing if the well is intended to be left unattended without a pump installed. It shall be the responsibility of the pump installer to place a cap over the casing which is not easily removable if the well is intended to be left unattended with the pump removed.

76.73. Responsibilities of the Licensee--Standards of Completion for Public Water System Wells. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142)*

(a) A licensed well driller shall complete a well intended for use with a public water system in accordance with 30 TAC, Chapter 290 (Rules and Regulations for Public Water Systems) and any other local or regional regulations.

(b) The landowner or person having the well drilled, deepened or altered that is intended for use as a part of a public water system shall comply with 30 TAC, Chapter 290 and any other local or regional regulations.

76.74. Responsibilities of the Licensee--Marking Vehicles and Equipment. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

Licensees shall mark their well rigs and pump installer vehicles used by them or their employees in the well drilling or pump installer business with legible and plainly visible identification numbers.

(1) The identification number to be used on rigs and vehicles shall be the licensee's license number.

(2) License numbers shall be printed, upon each side of every well rig or pump installer vehicle, not less than two (2) inches high and in a color sufficiently different from the color of the vehicle or equipment so that the license number shall be plainly visible.

(3) A licensee shall have thirty (30) days from the date a license is issued to properly mark all well rigs or pump installer vehicles used by him or his employees as provided in paragraphs (1) and (2).

76.75. Responsibilities of the Licensee--Representations. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142)*

(a) No licensee shall offer to perform services unless such services can be competently performed.

(b) A licensee shall accurately and truthfully represent to a prospective client the licensee's qualifications and the capabilities of the equipment to perform the services to be rendered.

(c) A licensee shall neither perform nor offer to perform services for which the licensee is not qualified by experience or knowledge in any of the technical fields involved.

(d) A licensee shall not enter into a partnership or any agreement with a person, not legally qualified to perform the services to be rendered, and who has control over the licensee's equipment and/or independent judgment as related to construction, alteration, or plugging of a well or installation of pumps or equipment in a well.

(e) A licensee shall not make false, misleading, or deceptive representations.

(f) A licensee shall make known to prospective clients, all adverse, or suspicions of adverse conditions concerning the quantity or quality of groundwater in the area. If there is any uncertainty regarding the quality of water in any well, the licensee shall recommend that the client have the suspected water analyzed.

76.76. Responsibilities of the Licensee--Unauthorized Practice. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) A licensee shall inform the department of any unauthorized well drilling or pump installation practice of which the licensee has knowledge.

(b) A licensee shall not aid or abet an unlicensed person to unlawfully drill or offer to drill wells or install pump equipment.

(c) A licensee shall, upon request of the department, furnish any information the licensee possesses concerning any alleged violation of the Code or this chapter.

(d) A licensee shall have the following information on all proposals and invoices given to consumers: Regulated by the Texas Department of Licensing and Regulation, P.O. Box 12157, Austin, Texas 78711, 1-800-803-9202, (512)-463-7880, www.tdlr.texas.gov.

76.78. Responsibilities of the Licensee--Adherence to Manufacturer's Recommended Well Construction Materials and Equipment. *(Effective November 8, 2001, 26 TexReg 8814; amended effective March 1, 2013, 38 TexReg 1142)*

(a) Unless waived by the landowner, a licensee shall use a manufacturer's well screen, and select the correct slot size for the screen in the installation of a domestic (household use) or landscape irrigation water well.

(b) The waiver must be on a department-approved form, signed by the landowner or person having the well drilled and the driller, and presented to the landowner.

(c) A licensee shall adhere to manufacturers' recommended pump sizing and wiring specifications.

(d) A licensee shall select the proper hydraulic collapse pressure for casing to be installed.

76.80. Fees. *(Effective January 3, 1999, 23 TexReg 13059; amended effective December 5, 1999, 24 TexReg 10858;amended effective November 5, 2001, 26 TexReg 8820; amended effective August 14, 2003, 28 TexReg 6272; amended effective October 1, 2004, 29 TexReg 9183; amended effective March 1, 2013, 38 TexReg 1142)*

(a) Application Fees

(1) Driller license -- $215

(2) Installer license -- $215

(3) Combination Driller and Installer license -- $325

(b) Renewal Fees

(1) Driller license--$215

(2) Installer license--$215

(3) Combination Driller and Installer license--$325

(4) Late renewal fees for licenses issued under this chapter are provided in §60.83 of this title.

(c) Lost, revised, or duplicate license--$25

(d) Variance request fee -- $100

(e) Inactive License Status

(1) The fee for an inactive license -- No charge.

(2) The fee to renew a license marked 'inactive' is the renewal fee as stated in subsection (b).

(3) The fee to change from an inactive license to an active license is $25.

76.90. Disciplinary Actions. *(Effective January 3, 1999, 23 TexReg 13059; amended effective December 5, 1999, 24 TexReg 10858; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective October 1, 2004, 29 TexReg 9183; amended effective March 1, 2013, 38 TexReg 1142)*

If a person violates the Texas Occupations Code, Chapters 51, 1901 and 1902, or a rule or order of the executive director or commission, proceedings may be instituted to impose administrative sanctions and/or recommend administrative penalties in accordance with the Code or Texas Occupations Code, Chapter 51, and Chapter 60 of this title.

76.100. Technical Requirements--Locations and Standards of Completion for Wells. *(Effective January 3, 1999, 23 TexReg 1305; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective October 1, 2004, 29 TexReg 9183; amended effective December 1, 2006, 31 TexReg 9604; amended effective March 1, 2013, 38 TexReg 1142; section repealed effective September 15, 2014, 39 TexReg ----; new section effective September 15, 2014, 39 TexReg 7090)*

(a) Wells shall be completed in accordance with the following specifications and in compliance with the local groundwater conservation district rules or incorporated city ordinances.

(1) Siting Method. A well shall be located a minimum horizontal distance of one hundred fifty (150) feet from any concentrated sources of potential contamination such as, but not limited to, existing or proposed livestock or poultry yards, cemeteries, pesticide mixing/loading facilities, and privies, except in the case of monitoring, dewatering, piezometer, and recovery wells which may be located where necessity dictates. A well shall be located a minimum horizontal distance of one hundred (100) feet from an existing or proposed septic system absorption field, septic system spray area, a dry litter poultry facility and fifty (50) feet from any adjacent property line provided the well is located at the minimum horizontal distance from the sources of potential contamination.

(2) A well shall be located a minimum horizontal distance of fifty (50) feet from any water-tight sewage and liquid-waste collection facility except in the case of monitoring, dewatering, piezometer, and recovery wells which may be located where necessity dictates.

(3) A well shall be located at a site not generally subject to flooding; provided however, that if a well must be placed in a flood-prone area, it shall be completed with a watertight sanitary well seal, so as to maintain a junction between the casing and pump column, and a steel sleeve extending a minimum of thirty-six (36) inches above ground level and twenty-four (24) inches below the ground surface.

(4) A driller is not required to adhere to the property line distance requirements if:

(A) the well is located within a groundwater conservation district, and the district's rules regulate the spacing of wells;

(B) the well is located on property that has restrictions regulating the spacing of wells and on-site sewage systems; or

(C) public wastewater treatment is provided and utilized by the owner.

(b) Alternative siting methods

(1) Unless the well is drilled within the Edwards Aquifer, the distances given for separation of wells from sources of potential contamination in subsection (a)(1) may be decreased to a minimum of fifty (50) feet provided the well is cemented with positive displacement technique to a minimum of one hundred (100) feet to surface or the well is tremie pressure filled to the depth of one hundred (100) feet to the surface provided the annular space is three inches larger than the casing. For wells less than one hundred (100) feet deep, the cement slurry, bentonite grout, or bentonite column shall be placed to the top of the production zone. In areas of shallow, unconfined groundwater aquifers, the cement slurry, bentonite grout, or bentonite column need not be placed below the production zone. In areas of shallow, confined groundwater aquifers having artesian head, the cement slurry, bentonite grout, or bentonite column need not be placed below the top of the water-bearing strata.

(2) A well is cemented with positive displacement technique to a minimum of one hundred (100) feet to surface or the well is tremie pressure filled to the depth of one hundred (100) feet to the surface provided the annular space is three (3) inches larger than the casing may encroach up to five (5) feet of the property line. For wells less than one hundred (100) feet deep, the cement slurry, bentonite grout, or bentonite column shall be placed to the top of the producing layer. In areas of shallow, unconfined groundwater aquifers having artesian head, the cement slurry, bentonite grout, or bentonite column need not be placed below the top of the water production zone.

(c) Drilling the well

(1) All wells shall be completed so that aquifers or zones containing waters that differ in chemical quality are not allowed to commingle through the borehole casing annulus or the filter pack and cause quality degradation of any aquifer or zone. When aquifers or zones of lesser quality are overlying the production aquifer or zone, the borehole annulus shall be pressure grouted with bentonite or cement from the top of the production zone back to the surface unless formations make total grouting impossible or impractical. In this case the entire borehole annulus which is groutable shall be grouted and sealed including proper surface annular grouting and completion.

(2) The well casing shall be capped or completed in a manner that will prevent pollutants from entering the well.

(3) Each licensee shall use potable water in drilling fluids.

(4) Each licensed well driller drilling, deepening, or altering a well shall keep any drilling fluids, tailings, cuttings or spoils contained in such a manner so as to prevent spillage onto any property not under the jurisdiction or control of the well owner without the property owner's written consent.

(5) Each licensed well driller drilling, deepening, or altering a well shall prevent the spillage of any drilling fluids, tailings, cuttings or spoils into any body of surface water.

(6) A test well that is drilled for exploring for groundwater shall not be open at the surface or allowing water zones of different chemical qualities to commingle and must be completed or plugged within six (6) months of drilling.

(7) Water wells located within public water supply system sanitary easements must be constructed to public well standards pursuant to 30 TAC Chapter 290.

(d) Casing the well

(1) The driller casing a well shall install a watertight pipe, temporarily or permanently to maintain the hole sidewalls against caving, advance the borehole, and in conjunction with cementing and/or bentonite grouting, confine the groundwater to their respective aquifer or zone of origin, to prevent surface contaminant infiltration.

(2) The following casing materials must be used:

(A) Plastic casing--National Sanitation Foundation (WSF-WC) or American Society of Testing Material (ASTM) F-480 minimum SDR 26 approved water well casing;

(B) Steel casing--New ASTM A-53Grade or better, and have a minimum weight and thickness of American National Standards Institute (ANSI) schedule 10;

(C) Monitoring wells may use other materials, such as flouropolymer (Teflon), glass fiber reinforced epoxy, or various stainless steel alloys;

(e) Annular Seal. The annular space to a minimum of ten (10) feet shall be three (3) inches larger in diameter than the casing and filled from ground level to a depth of not less than ten (10) feet below the land surface or well head with cement slurry, bentonite grout, or eight (8) feet solid column of granular sodium bentonite topped with a two (2) foot cement atmospheric barrier, except in the case of monitoring, dewatering, piezometer, and recovery wells when the water to be monitored, recovered, or dewatered is located at a more shallow depth. In that situation, the cement slurry, or bentonite column shall only extend down to the level immediately above the monitoring, recovery or dewatering level.

(f) Surface Completion

(1) In all wells where plastic casing is used, except when a steel or polyvinyl chloride (PVC) sleeve or pitless adapter, as described in subsection (g) is used, a concrete slab or sealing block shall be placed above the cement slurry around the well at the ground surface.

(2) The slab or block shall extend laterally at least two (2) feet from the well in all directions and have a minimum thickness of four (4) inches and should be separated from the well casing by a plastic or mastic coating or sleeve to prevent bonding of the slab to the casing.

(3) The surface of the slab shall be sloped to drain away from the well.

(4) The top of the casing shall extend a minimum of twelve (12) inches above the land surface except in the case of monitoring wells when it is impractical or unreasonable to extend the casing above the ground. Monitoring wells shall be placed in a waterproof vault, the rim of which extends two (2) inches above the ground surface and a sloping cement slurry shall be placed a minimum of twelve (12) inches from the edge of the vault and two (2) feet below the base of the vault between the casing and the wall of the borehole so as to prevent surface pollutants from entering the monitoring well. The well casing shall have a locking cap that will prevent pollutants from entering the well. The annular space of the monitoring well shall be sealed with an impervious bentonite or similar material from the top of the interval to be tested to the cement slurry below the vault of the monitoring well.

(5) The well casing of a temporary monitoring well shall have a locking cap and the annular space shall be sealed from zero (0) to one (1) foot below ground level with an impervious bentonite or similar material; and after forty-eight (48) hours, the well must be completed in accordance with this section or plugged in accordance with §76.104.

(6) The annular space of a closed loop geothermal well used to circulate water or other fluids shall be backfilled to the total depth with impervious bentonite or similar material, closed loop injection well where there is no water or only one zone of water is encountered you may use sand, gravel or drill cuttings to back fill up to ten (10) feet from the surface. The top ten (10) feet shall be filled with impervious bentonite or similar materials and shall meet the standards pursuant to Texas Commission on Environmental Quality 30 TAC Chapter 331.

(g) Alternative Surface Completion. In wells where a steel or PVC sleeve is used:

(1) The steel sleeve shall be a minimum of 3/16 inches in thickness and shall be a minimum of twenty-four (24) inches in length. The plastic sleeve shall be a minimum of Schedule 80 sun resistant or SDR 17 sun resistant and be twenty-four (24) inches in length, and either sleeve used shall extend twelve (12) inches into the cement, except when steel casing or a pitless adapter as described in paragraph(2) is used. The casing shall extend to a minimum of twelve (12) inches above the land surface, and the steel/plastic sleeve shall be two (2) inches larger in diameter than the plastic casing being used and filled entirely with cement; or

(2) A slab or block as described in subsection (f) is required above the cement slurry except when steel casing or a pitless adapter is used. Pitless adapters may be used in such wells, provided that:

(A) the adapter is welded to the casing or fitted with another suitably effective seal;

(B) the annular space between the borehole and the casing is filled with cement to a depth not less than twenty (20) feet below the adapter connection; and

(C) in lieu of cement, the annular space may be filled with a solid column of granular sodium bentonite to a depth of not less than twenty (20) feet below the adapter connection.

(h) Unless waived in writing by the landowner, a new, repaired or reconditioned well or pump installation or repair on a well that is used to supply water for human consumption, shall be properly disinfected, as described in §76.108(b) or (c) as appropriate.

76.101. Technical Requirements--Standards of Completion for Water Wells Encountering Water Injurious to Vegetation, Land or Other Water. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) Upon encountering water injurious to vegetation, land, or other water, a driller or installer shall:

(1) comply with notification requirements of §1901.254 and §1902.252 of the Code; and

(2) as quickly as possible, plug, repair or properly complete the well pursuant to the standards adopted by the commission in order to avoid injury or pollution.

(b) The driller may, subject to the consent of the landowner or person having the well drilled, make the well into a completed monitoring well or into a well otherwise producing injurious water in accordance with §76.102.

(c) If a driller encounters injurious water and the well is not plugged or made into a completed monitoring well producing injurious water, the driller shall ensure that the well drilled, deepened or altered is completed as quickly as possible as follows:

(1) When injurious water is encountered in a water well, the injurious water shall be sealed off and confined to the zone(s) of origin. It is a defense to prosecution for violation of this section that the driller reasonably was not aware of having encountered injurious water.

(2) When injurious water is encountered in a zone overlying fresh water, the driller shall case the water well from the production zone back to the land surface to ensure the protection of water quality.

(3) The annular space between the casing and the wall of the borehole shall be pressure grouted with positive displacement technique or the well is tremie pressured filled provided the annular space is three inches larger than the casing with cement or bentonite grout from the production zone to the land surface to ensure the protection of groundwater. Bentonite grout may not be used if a water zone contains chlorides above one thousand five hundred (1,500) parts per million (milligrams per liter) or if hydrocarbons are present.

(4) When injurious water is encountered in a zone underlying a fresh water zone, the part of the wellbore opposite the injurious water zone shall be filled with pressured cement or bentonite grout to the bottom of the production zone to prevent the entrance of the injurious water into the water well. Bentonite grout may not be used if a water zone contains chlorides above one thousand five hundred (1,500) parts per million (milligrams per liter) or if hydrocarbons are present.

(5) For class V injection wells that encounter injurious water, the driller must comply with applicable requirements of the Texas Commission on Environmental Quality 30 TAC, Chapter 331.

(d) Upon encountering water that may not be injurious to vegetation, land or other water but has the potential to cause pollution if commingled with fresh water or water from a different production zone, a driller or installer shall, as soon as possible, notify the landowner, or person having the well drilled, and ensure that the water is sealed off and confined to the zone of origin.

76.102. Technical Requirements--Standards for Wells Producing Water Injurious to Vegetation, Land or Other Water. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) Wells completed to produce injurious water shall be cased to prevent the mixing of water or constituent zones.

(b) The annular space between the casing and the wall of the borehole shall be pressured grouted with cement or bentonite grout to the land surface. Bentonite grout may not be used if a water zone contains chloride water above one thousand five hundred (1,500) parts per million (milligrams per liter) or if hydrocarbons are present.

(c) Wells producing injurious water shall be completed in such a manner that will not allow injurious fluids to flow onto the land surface.

76.103. Technical Requirements--Re-completions. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

The landowner shall have the continuing responsibility of ensuring that a well does not allow the commingling of injurious water with fresh water through the wellbore to other porous strata.

(1) If a well allows the commingling of injurious water and fresh water or the unwanted loss of water, and the casing in the well cannot be removed and the well re-completed in accordance with the applicable rules, the casing in the well shall be perforated and squeeze cemented in a manner that will prevent the commingling or loss of water. If such a well has no casing then the well shall be cased and cemented, or plugged in a manner that will prevent commingling or loss of water.

(2) The executive director may direct the landowner to take proper steps to prevent the commingling of injurious water with fresh water, or the unwanted loss of water.

76.104. Technical Requirements--Standards for Capping and Plugging of Wells and Plugging Wells that Penetrate Injurious Water Zones. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective December 1, 2006, 31 TexReg 9604; amended effective March 1, 2013, 38 TexReg 1142; amended effective September 15, 2014, 39 TexReg 7090)*

(a) All wells which are required to be plugged or capped under Texas Occupations Code, Chapters 1901 and 1902 or this chapter shall be plugged and capped in accordance with the following specifications and in compliance with the local groundwater conservation district rules or incorporated city ordinances:

(1) all removable casing shall be removed from the well;

(2) any existing surface completion shall be removed;

(3) the entire well pressure filled via a tremie pipe with cement from bottom up to the land surface;

(4) In lieu of the procedure in paragraph (3), the well shall be pressure filled via a tremie tube with clean bentonite grout of a minimum 9.1 pounds per gallon weight followed by a cement plug extending from land surface to a depth of not less than two (2) feet, or if the well to be plugged has one hundred 100 feet or less of standing water the entire well may be filled with a solid column of 3/8 inch or larger granular sodium bentonite hydrated at frequent intervals while strictly adhering to the manufacturers' recommended rate and method of application. If a bentonite grout is used, the entire well from not less than two (2) feet below land surface may be filled with the bentonite grout. The top two (2) feet above any bentonite grout or granular sodium bentonite shall be filled with cement as an atmospheric barrier. Bentonite grout may not be used if a water zone contains chlorides above 1500 ppm or if hydrocarbons are present.

(5) Undesirable water or constituents shall be isolated from the fresh water zone(s) with cement plugs and the remainder of the wellbore filled with neat cement or clean bentonite grout of a minimum 9.1 weight followed by a cement plug extending from land surface to a depth of not less than two (2) feet.

(b) Large hand dug and bored wells 36-inches or greater in diameter to one hundred (100) feet in depth may be plugged by back filling with compacted clay or caliche to surface. All removable debris shall be removed from the well. If the well contains standing water, it shall be chlorinated by adding chlorine bleach at a rate of one (1) gallon of bleach for every five hundred (500) gallons of standing water. The backfill material shall be mounded above the surrounding surface to compensate for settling.

(c) Wells which do not encounter groundwater (dry holes) may be plugged by backfilling with drill cuttings from total depth to the surface. The backfill material shall be mounded above the surrounding surface to compensate for settling.

(d) A non-deteriorated well which contains casing in good condition and is beneficial to the landowner can be capped with a covering capable of preventing surface pollutants from entering the well and sustaining weight of at least four hundred (400) pounds and constructed in such a way that the covering cannot be easily removed by hand.

(e) For the purpose of plugging a well, any licensee or landowner can remove the pump.

76.105. Technical Requirements--Standards for Water Wells (Drilled before June 1, 1983). *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective December 1, 2006, 31 TexReg 9604; amended effective March 1, 2013, 38 TexReg 1142)*

(a) Wells drilled prior to June 1, 1983, unless abandoned, shall be grandfathered from this chapter without further modification unless the well is found to be a threat to public health and safety or to groundwater quality. A threat to public health and safety or to groundwater quality shall include, but is not limited to the following:

(1) annular space around the well casing is open at or near the land surface;

(2) an unprotected opening into the well casing that is above ground level;

(3) top of well casing below known flood level and not appropriately sealed;

(4) deteriorated well casing allowing commingling of aquifers or zones of water of different quality;

(5) water wells with the well head below ground level unless the department grants a variance; and

(6) water wells located within fifty (50) feet of a source of contamination which affects the quality of water

produced by the well.

(b) If the annular space around the well casing is not adequately sealed as set forth in this section, it shall be the responsibility of each licensed driller or licensed pump installer to inform the landowner that the well is considered to be a deteriorated well and must be recompleted when repairs are made to the pump or well in accordance with this chapter, and the following specifications.

(1) The well casing shall be excavated to a minimum depth of four (4) feet and the annular space shall be filled from ground level to a depth of not less than four (4) feet below the land surface with cement. In areas of shallow, unconfined groundwater aquifers, the cement need not be placed below the static water level. In areas of shallow, confined groundwater aquifers having artesian head, the cement need not be placed below the top of the water bearing strata.

(2) A cement slab or sealing block shall be placed above the cement around the well at the ground surface except when a pitless adapter as described in §76.100(c)(2) or a steel or plastic sleeve as described in §76.100(c)(1) is used.

(A) The slab or block shall extend laterally at least two (2) feet from the well in all directions and have a minimum thickness of four inches.

(B) The surface of the slab shall be sloped to drain away from the well.

(C) The top of the casing shall extend a minimum of twelve 12 inches above ground level or thirty six 36 inches above known flood prone areas and unprotected openings into the well casing that is above ground shall be sealed water tight.

(3) If deteriorated well casing is allowing commingling of aquifers or zones of water of different quality and causing degradation of any water including groundwater, the well shall be plugged according to §76.104 or repaired. Procedures for repairs shall be submitted to the department for approval prior to implementation.

(c) Well covers shall be capable of supporting a minimum of four hundred 400 pounds and constructed in such a way that they cannot be easily removed by hand.

(d) This section shall not apply to a public water supply system well.

76.106. Technical Requirements--Water Distribution and Delivery Systems. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective March 1, 2013, 38 TexReg 1142)*

(a) The licensee shall inform the landowner and well owner that the landowner and well owner are responsible for complying with the rules and regulations under the standards set forth in this chapter.

(b) A buried discharge line between the pump discharge and the pressure tank or pressure system in any installation, including a deep well turbine or a submersible pump, shall not be under negative pressure at any time. With the exception of jet pumps, a check valve or an air gap shall be installed in a water line between the well casing and the pressure tank. Either a check valve or an air gap, as applicable, shall be required on all irrigation well pumps whenever a pump is installed or repaired. All wells shall have either a check valve, or an air gap as applicable.

(c) Wells shall be vented with watertight joints except as provided by subsection (b).

(1) Watertight joints, where applicable pursuant to the provisions of this rule, shall terminate at least two (2) feet above the regional flood level or one (1) foot above the established ground surface or the floor of a pump room or well room, whichever is higher.

(2) The casing vent shall be screened and point downward.

(3) Vents may be offset provided they meet the provisions of this rule.

(4) Toxic or flammable gases, if present, shall be vented from the well. The vent shall extend to the outside atmosphere above the roof level at a point where the gases will not produce a hazard.

76.107. Technical Requirements--Chemical Injection, Chemigation, and Foreign Substance Systems. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective March 1, 2013, 38 TexReg 1142)*

(a) All irrigation distribution systems or water distribution systems into which any type of chemical (except disinfecting agents) or other foreign substances will be injected into the water pumped from water wells shall be equipped with an in-line, automatic quick-closing check valve capable of preventing pollution of the ground water. The required equipment shall be installed on all systems whenever a pump is installed or repaired, or at the time of a chemical injection, Chemigation or foreign substance unit is added to a water delivery system, if the well has a chemical injection, Chemigation, or foreign substance unit in the delivery system. The type of check valve installed shall meet the specifications listed in subsections (b) - (h).

(b) The body of the check valve shall be constructed of cast iron, stainless steel, cast aluminum, cast steel, or of a material and design that provides a sturdy integrity to the unit and is resistant to the foreign substance being injected. All materials shall be corrosion resistant or coated to prevent corrosion. The valve working pressure rating shall exceed the highest pressure to which the valve will be subjected.

(c) The check valve shall contain a suitable automatic, quick-closing and tight-sealing mechanism designed to close at the moment water ceases to flow in the downstream or output direction. The device shall, by a mechanical force greater than the weight of the closing device, provide drip-tight closure against reverse flow. Hydraulic backpressure from the system does not satisfy this requirement.

(d) The check valve construction should allow for easy access for internal and external inspection and maintenance. All internal parts shall be corrosion resistant. All moving parts shall be designed to operate without binding, distortion, or misalignment.

(e) The check valve shall be installed in accordance with the manufacturer's specifications and maintained in a working condition during all times in which any fertilizer, pesticide, chemical, animal waste, or other foreign substance is injected into the water system. The check valve shall be installed between the pump discharge and the point of chemical injection or foreign substance injection.

(f) A vacuum-relief device shall be installed between the pump discharge and the check valve in such a position and in such a manner that insects, animals, floodwater, or other pollutants cannot enter the well through the vacuum-relief device. The vacuum-relief device may be mounted on the inspection port as long as it does not interfere with the inspection of other anti-pollution devices.

(g) An automatic low pressure drain shall also be installed between the pump discharge and the check valve in such a position and in such a manner that any fluid which may seep toward the well around the flapper will automatically flow out of the pump discharge pipe. The drain must discharge away from rather than flow into the water supply. The drain must not collect on the ground surface or seep into the soil around the well casing.

(1) The drain shall be at least three-quarter (3/4) inch in diameter and shall be located on the bottom of the horizontal pipe between the pump discharge and the check valve.

(2) The drain must be flush with the inside surface of the bottom of the pipe unless special provisions, such as a dam made downstream of the drain, forces seepage to flow into the drain.

(3) The outside opening of the drain shall be at least two (2) inches above the grade.

(h) An easily accessible inspection port shall be located between the pump discharge and the check valve, and situated so the automatic low-pressure drain can be observed through the port and the flapper can be physically manipulated.

(1) The port shall allow for visual inspection to determine if leakage occurs past the flapper, seal, seat, and/or any other components of the checking device.

(2) The port shall have a minimum four (4) inch diameter orifice or viewing area. For irrigation distribution systems with pipe lines too small to install a four-inch diameter inspection port, the check valve and other anti-pollution devices shall be mounted with quick disconnects, flange fittings, dresser couplings, or other fittings that allow for easy removal of these devices.

(i) Any check valve not fully meeting the specifications set forth in this section may on request to the executive director be considered for a variance.

76.108. Technical Requirements--Pump Installation. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective March 1, 2013, 38 TexReg 1142)*

(a) During any repair or installation of a water well pump, the licensed installer shall make a reasonable effort to maintain the integrity of ground water and to prevent contamination by elevating the pump column and fittings, or by other means suitable under the circumstances.

(b) This section shall include every type of connection device, including but not limited to, flange connections, hose-clamp connections, and other flexible couplings. Except as provided by this chapter, a pump shall be constructed so that no unprotected openings into the interior of the pump or well casing exist.

(1) A hand pump, hand pump head, stand, or similar device shall have a spout, directed downward.

(2) A power driven pump shall be attached to the casing or approved suction or discharge line by a closed connection. For the purposes of this section a closed connection is defined to be a sealed connection.

(c) The provisions of this section relating to the requirement of closed connections shall not apply to the following types of pumps and pumping equipment:

(1) sucker rod pumps and windmills; and

(2) hand pumps.

(d) A new, repaired, or reconditioned well, or pump installation or repair on a well used to supply water for human consumption shall be properly disinfected. The landowner may waive the disinfection process by submitting a written request to the driller or pump installer.

76.109. Technical Requirements--Variances--Alternative Procedures. *(Effective January 3, 1999, 23 TexReg 13059; section repealed effective November 8, 2001, 26 TexReg8814; new section effective November 8, 2001, 26 TexReg 8814; amended effective December 1, 2003, 28 TexReg 10468; amended effective March 1, 2013, 38 TexReg 1142)*

(a) If the party having the well drilled, deepened or altered, the licensed well driller, or the party, landowner or person drilling or plugging the well, finds any of the procedures prescribed by §§76.100 - 76.105 inapplicable, unworkable, or inadequate, combinations of the prescribed procedures or alternative procedures may be employed, provided that the proposed alternative procedures will prevent injury and pollution. The department will not grant a variance based solely on cost, aesthetics, or for a well head to be placed below ground level.

(b) Written proposals to use combinations of prescribed procedures or alternative procedures shall be considered application for a variance and must be submitted to the department for review prior to their implementation, and also provide a copy of the variance to the local groundwater conservation district.

(c) If a written variance request is not submitted prior to construction and the licensee or landowner or the designated agent believes a request is justified, such written request shall be submitted to the department and a copy of the variance provided to the local groundwater conservation district as soon as possible following completion of the well.

(d) This section shall not apply to a public water system well.

76.110. Appeals--Variances. *(Effective November 8, 2001, 26 TexReg 8814; amended effective March 1, 2013, 38 TexReg 1142)*

(a) Appeal of staff decision disapproving a variance or waiver application shall be submitted to the executive director and a copy of the appeal provided to the local groundwater conservation district within 14 days of notification of staff decision.

(b) The Executive Director shall determine whether or not to uphold the disapproval of the variance.

(c) The party making the appeal shall be advised in writing of the executive director's determination.

76.111. Memorandum of Understanding between the Texas Department of Licensing and Regulation and the Texas Commission on Environmental Quality. *(New section effective December 1, 2003, 28 TexReg 10468; repealed effective February 1, 2005, 30 TexReg 389; new section effective February 1, 2005, 30 TexReg 389; amended effective March 1, 2013, 38 TexReg 1142)*

(a) Recitals.

(1) Pursuant to Senate Bill 279 (78th Legislature, 2003), §19.015, which created §1901.257(b), Texas Occupations Code, the Texas Department of Licensing and Regulation (TDLR) and the Texas Commission on Environmental Quality (TCEQ) shall enter into a Memorandum of Understanding (MOU) to coordinate the efforts of the TDLR, the field offices of the TCEQ, and groundwater conservation districts (GCDs), relating to investigative procedures for referrals of complaints regarding abandoned and/or deteriorated wells.

(2) Pursuant to Senate Bill 279 (78th Legislature, 2003), §19.015, which created §1901.257(c), Texas Occupations Code, GCDs in which an abandoned and/or deteriorated well is located shall join the Memorandum of Understanding adopted under §1901.257(b). In addition, GCDs may enforce compliance with Texas Occupations Code, §1901.255 related to abandoned and/or deteriorated wells located in the boundaries of the district.

(3) Pursuant to Texas Occupations Code, §1901.255 and §1901.257(b) and (c), and in compliance with authority granted by the Interagency Cooperation Act, Texas Government Code Annotated, §771.003, the TDLR and TCEQ enter into this MOU to coordinate efforts related to investigative procedures for referrals of complaints regarding abandoned and/or deteriorated wells. Each GCD in which an abandoned and/or deteriorated well is located is required by Texas Occupations Code, §1901.257(c) to join this MOU. Such joinder is established by submission to the TDLR at P.O. Box 12157, Austin, Texas 78711, of a copy of appropriate GCD Board action indicating that the GCD has joined this MOU and understands its responsibilities under the MOU and Chapter 1901 of the Texas Occupations Code.

(b) TDLR Responsibilities.

(1) Investigate abandoned and/or deteriorated well complaints, including referrals received from the TCEQ regional field offices, unless the complaint is being investigated by a GCD in coordination with TDLR staff.

(2) Enforce compliance with Texas Occupations Code, §1901.255 related to persons possessing abandoned and/or deteriorated wells.

(3) Coordinate investigation and enforcement efforts with appropriate GCD for any complaints regarding wells located within the boundaries of a GCD.

(4) When abandoned and/or deteriorated wells are observed while conducting field investigations inside the boundaries of a GCD, a reasonable effort to obtain the landowners' name, mailing address, and latitude and longitude of the well shall be made, and such information shall be referred to the General Manager of the appropriate GCD for investigation and possible enforcement action to assure compliance with Texas Occupations Code, §1901.255 related to persons possessing abandoned and/or deteriorated wells.

(5) When an abandoned and/or deteriorated well complaint is received, TDLR will determine if the well is located within a GCD boundary and provide a referral to the General Manager of the appropriate GCD for investigation and possible enforcement action to assure compliance with Texas Occupations Code, §1901.255 related to persons possessing abandoned and/or deteriorated wells.

(6) Provide training and technical assistance to GCD staff and TCEQ Field Operations staff on field recognition of an abandoned and/or deteriorated well.

(7) Annually report to TCEQ the status of all complaints provided to the TDLR under this MOU and the number of wells closed as a result of TCEQ abandoned and/or deteriorated well complaint referrals.

(c) TCEQ Responsibilities.

(1) When suspected abandoned and/or deteriorated wells are observed by Field Operations staff while conducting field investigations, information to allow for identification of the well, which may include: the landowners' name, physical address, and latitude and longitude of the well; shall be referred to the TDLR Compliance Division, Water Well Driller/Pump Installer Section. TCEQ field operation staff shall make a reasonable effort to obtain information needed for the identification of any abandoned and/or deteriorated well.

(2) Provide updated list of GCDs as they are confirmed, including boundaries and the name and address of district contacts such as the General Manager.

(d) GCD Responsibilities.

(1) When a GCD receives a referral from the TDLR of an abandoned and/or deteriorated well, the GCD shall respond within 14 calendar days informing the TDLR as to whether the GCD will investigate the referral.

(2) After the GCD has been notified by the TDLR or becomes aware of an abandoned and/or deteriorated well, the GCD may:

(A) investigate the complaint of an abandoned and/or deteriorated well within the boundaries of the GCD; and

(B) enforce compliance with Texas Occupations Code, §1901.255 related to landowners that have an abandoned and/or deteriorated well located on their property.

(3) A GCD that performs an investigation related to an abandoned and/or deteriorated well referred to the GCD by TDLR shall notify the TDLR regarding the disposition of the investigation.

(4) Any GCD enforcement under Texas Occupations Code, §1901.255 and §1901.256, may be coordinated with the TDLR.

(5) A GCD may communicate with the TDLR regarding any phase of the investigation or enforcement action.

(e) Referral and Investigation Requirements.

(1) For the purposes of this MOU, a "referral" shall constitute information gathered, compiled, and forwarded to the TDLR. Written referrals via email or letter shall utilize the appropriate form, provided by TDLR, and document information on the abandoned and/or deteriorated well, which may include:

(A) the name of landowner possessing the abandoned and/or deteriorated well;

(B) the physical address of said landowner;

(C) the latitude and longitude of the abandoned and/or deteriorated well; and

(D) if possible, a photograph of the well.

(2) Following the receipt of a referral from TCEQ, the TDLR will begin landowner notification procedures or follow up investigation or, if the well is inside the boundaries of a GCD, provide a referral to the General Manager of the corresponding GCD for investigation and possible enforcement action to assure compliance with Texas Occupations Code, §1901.255 related to persons possessing abandoned and/or

deteriorated wells.

(3) Referrals to TDLR should be sent to: Water Well Driller/Pump Installer Section, Compliance Division, TDLR; Phone: (512) 463-7880; Fax: (512) 463-8616; Email: waterwell@license.state.tx.us.

(f) Term. The term of this MOU shall be from the date both the TDLR and TCEQ adopt the MOU by rule. The TCEQ or TDLR may for any reason terminate this MOU upon thirty days' notice to the other agency.

(g) Severability. Should any provision of this MOU be held to be null, void, or for any reason without force or effect, such provision shall be construed as severable from the remainder of this document and shall not affect the validity of all other provisions, which shall remain in full force and effect.

(h) Amendment. This MOU may be amended through rulemaking proposal and adoption at any time by mutual consent of the TCEQ and the TDLR.