

OREGON ADMINISTRATIVE RULES
CHAPTER 690, DIVISION 200 - WATER RESOURCES DEPARTMENT

**WELL CONSTRUCTION
AND MAINTENANCE**

DIVISION 200

INTRODUCTION

Basis For Regulatory Authority

690-200-005 (1) The right to reasonable control of the ground waters of the State of Oregon has been declared to belong to the public. Through the provisions of the Ground Water Act of 1955, ORS 537.505 to 537.795, the Water Resources Commission has been charged with the administration of the rights of appropriation and use of the ground water resources of the state and the prevention of waste and contamination of all underground waters. This is primarily accomplished by the licensing of well constructors and the promulgation of rules governing well construction, alteration, abandonment, maintenance and use. Ultimately the landowner of the property where the well is constructed is responsible for the condition of the well.

(2) The following rules apply to all wells which are constructed for the purpose of locating or obtaining water as defined in ORS 537.515(7). Holes which are drilled for elevator shafts, fence posts, power poles, cathode protection, storm water disposal, pits created by removal of rock for construction and sumps are exempt from these rules. When natural flow of water occurs in holes not regulated under these rules, the Water Resources Commission may regulate under separate rules or statutes to protect the ground water from contamination or waste.

(3) In addition to regulating new well construction, alteration, abandonment and maintenance actions, the Water Resources Commission may impose conditions upon the use of any existing well as may be necessary to prevent waste, undue interference with other wells or contamination. Where necessary, the Commission may order discontinuance of use and proper abandonment of any well to accomplish the same objectives.

(4) Except for the Commission's power to adopt rules, the Commission may delegate to the Water Resources Director the exercise or discharge in the Commission's name of any power duty or function of whatever character, vested in or imposed by law upon the Commission. The official act of the Director acting in the Commission's name and by the Commission's authority shall be considered to be an official act of the Commission. In these rules where it says Director, the Commission hereby delegates to the Director full authority to act in the Commission's name.

(5) Under the provisions of ORS 537.780, the Commission is authorized to adopt such procedural rules and regulations as deemed necessary to carry out its function in compliance with the Ground Water Law. In fulfillment of these responsibilities and to ensure the preservation of the public welfare, safety, and health, the Commission has established these rules and regulations as the minimum standards for the construction, alteration, abandonment and maintenance of wells in Oregon.

(6) The rules and regulations set forth herein shall become effective November 1, 1986.

NOTE: If a well is to be constructed to supply a public or community water system, refer to Table II of these rules for information regarding regulations pertaining to municipal, public, community, and public utility water supply systems.

Stat. Auth.: ORS Ch. 183, 536, 537 & 540

Hist.: WRD 3, f. & cf. 2-18-77; WRD 9-1978, f. 12-12-78, cf. 1-1-79; Amended & Renumbered from 690-60-005 by WRD 13-1986, f. 10-7-86, cf. 11-1-86

General Statement About the Standards

690-200-020 (1) The rules and regulations set forth herein provide the minimum standards for the construction, maintenance, and abandonment of wells. After the effective date of adoption of these rules and regulations, no well shall be constructed, altered, or abandoned contrary to the provision of these rules and regulations. Violation of these standards may result in enforcement under OAR Chapter 690, Division 225, including suspension or revocation of a constructor's license, imposition of civil penalties on the landowner or constructor, action on a bond, or other sanctions authorized by law.

(2) Every well shall be designed and constructed to adapt to the existing local geologic and ground water conditions at the well site and shall fully utilize every natural protection to the ground water supply. If prior to or during construction the well constructor becomes aware that adherence to the following minimum well standards will not prevent or eliminate ground water contamination, waste, or loss of artesian pressure, the constructor shall request and obtain written approval from the Director to use construction methods, materials or standards to prevent or eliminate the contamination, waste, or loss. The request shall be in writing and submitted to the Director. Written approval from the Director must be obtained prior to completion of the well.

Stat. Auth.: ORS Ch. 183, 536, 537 & 540

Hist.: WRD 9-1978, f. 12-12-78, cf. 1-1-79; Amended & Renumbered from 690-60-008 and 690-60-040 by WRD 13-1986, f. 10-7-86, cf. 11-1-86

Special Area Standards

690-200-025 If at any time, the Commission finds that different or supplemental standards are required for the safe development of ground water from any particular ground water aquifer or area, special area standards for the construction and maintenance of wells within such areas may be adopted as rules by the Commission. In the absence of such special area standards, these rules constitute the sole administrative standards of the Water Resources Department governing construction, alteration, and abandonment of wells.

Stat. Auth.: ORS Ch. 183, 536, 537, & 540

Hist.: WRD 9-1978, cf. 12-12-78, f. 1-1-79; Amended & Renumbered from 690-60-045 by WRD 13-1986, f. 10-7-86, cf. 11-1-86

Public Safety

690-200-030 No well shall be constructed, maintained, or abandoned in such a manner as to constitute a public health hazard or a menace to public safety.

Stat. Auth.: ORS Ch. 183, 536, 537 & 540

Hist.: WRD 3, f. & cf. 2-18-77; WRD 9-1978, f. 12-12-78, cf. 1-1-79; Renumbered from 690-60-010 by WRD 13-1986, f. 10-7-86, cf. 11-1-86

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Wells Cannot be Used For Disposal of Contaminants

690-200-040 No well shall be used as a disposal pit for sewage, industrial waste, or other materials that could contaminate the ground water supply.

Stat. Auth.: ORS Ch. 183, 536, 537 & 540
Hist.: WRD 9-1978, f. 12-12-78, ef. 1-1-79; Amended & Renumbered from 690-62-025 by WRD 13-19863, f. 10-7-86, ef. 11-1-86

Definitions

690-200-050 The following list of definitions apply to these rules for well construction and maintenance. Other rules of the Department may have different meanings for the same words.

(1) "Abandonment, permanent": means to remove a well from service by completely filling it in such a manner that vertical movement of water within the well bore and within the annular space surrounding the well casing, is effectively and permanently prevented.

(2) "Abandonment, temporary": means to remove a drilling machine from a well site prior to putting the well into service or returning it to service or subsequent to completing or altering a well, or to remove a well from service with the intent of using it in the future.

(3) "Access Port": means a minimum 3/4-inch tapped hole and plug or a 3/4-inch capped pipe welded onto the casing in the upper portion of a well casing to permit entry of water-level measuring devices into the well.

(4) "Airline": means a water level measuring device consisting of a pressure gauge attached to an airtight line or pipe within the well bore extending from land surface to below the pumping level to allow the water level to be computed by measuring the stable air pressure remaining in the line after completely purging water from within the line.

(5) "Altering a well" means the deepening, reaming, casing, re-casing, perforating, re-perforating, installation of liner pipe, packers, seals, and any other material change in the design or construction of a well.

(6) "Annular Space": means the cylindrical space between the drillhole wall and the outer well casing.

(7) "Aquifer": means a geologic formation, group of formations, or part of a formation that contains saturated and permeable material capable of transmitting water in sufficient quantity to supply wells or springs; the terms water-bearing zone or water-bearing stratum are synonymous with the term aquifer.

(8) "Artesian Aquifer": means an aquifer in which ground water is under sufficient head to rise above the level at which it was first encountered whether or not the water flows at land surface. If the water level stands above land surface the well is a flowing artesian well.

(9) "Bored Well": means a well constructed with the use of earth augers turned either by hand or by power equipment.

(10) "Buried Slab Type Well": means a dug well in which well casing is used to case the upper hole. A slab, sealed with cement grout, is placed between the upper hole and lower drill hole, and the remainder of the annulus is filled with concrete.

(11) "Casing": means the outer tubing, pipe, or conduit, welded or screw coupled, and installed in the borehole during or after drilling to support the sides of the well and prevent caving, to shut off water, gas, or contaminated fluids from entering the hole, and to prevent waste of ground water. The

term "Casing" does not include slotted or perforated pipe, well screens, or liner pipe.

(12) "Casing Seal": means the watertight seal established in the well bore between the well casing and the drillhole wall to prevent the inflow and movement of surface water or shallow ground water in the well annulus, or to prevent the outflow or movement of water under artesian or hydrostatic pressures.

(13) "Clay": means a fine-grained, inorganic material having plastic properties and with a predominant grain size of less than 0.005 mm.

(14) "Commission": means the Water Resources Commission.

(15) "Committee": means the Ground Water Advisory Committee created by ORS 536.090.

(16) "Community Well": means a well, whether publicly or privately owned, which serves or is intended to serve more than three residences for residences or other connections for the purpose of supplying water for drinking, culinary, or household uses.

(17) "Confining Formation": means the "impermeable" stratum immediately overlying an artesian (confined) aquifer.

(18) "Consolidated Formation": means materials that have become firm through natural rock-forming processes. It includes such materials as basalt, sandstone, hard claystone, conglomerate, and granite.

(19) "Contamination": means an impairment of water quality by chemicals, radionuclides, biologic organisms or other extraneous matter whether or not it affects the potential or intended beneficial use of water.

(20) "Department": means the Water Resources Department.

(21) "Director": means the Director of the Department or the Director's authorized deputies or officers.

(22) "Domestic Well": means a well used to serve no more than three residences for the purpose of supplying water for drinking, culinary, or household uses, and which is not used as a public water supply.

(23) "Drawdown": means the difference in vertical distance between the pumping level and the static water level in a well.

(24) "Drive Point Well": means a well constructed by driving into the ground a well-point fitted to the end of a pipe section or series of pipe sections.

(25) "Dug Well": means a well in which the excavation is made by the use of picks, shovels, spades or digging equipment such as backhoes, clam shell buckets, or sand buckets.

(26) "Figure": when used herein refers to an illustration and is made a part of the primary article and section by reference.

(27) "Filter Pack Well": means a well in which the area immediately surrounding the well screen or perforated pipe within the water-producing zone is filled with graded coarser material.

(28) "Ground Water Geologist": means an individual licensed by the state to practice geology.

(29) "Grout": means either approved cement or bentonite sealing material used to fill an annular space of a well.

(30) "Grout Pipe": means a pipe which is used to place grout at the bottom of the sealing interval of a well.

(31) "Hydrologist": means an individual who studies the properties, distribution, and circulation of water and is licensed by the state to practice engineering.

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(32) "Jetted Well": means a well in which the drillhole excavation is made by the use of a high velocity jet of water.

(33) "Leakage": means leakage of surface and/or subsurface water around the well casing.

(34) "Liner Pipe": means the inner tubing, pipe, or conduit installed inside the well casing or lower well bore, and used to protect against caving formations and is not permanently affixed to the drillhole wall or casing.

(35) "Lower Drillhole": means that part of the well bore extending below the surface seal interval in a well.

(36) "Mineralized Water": means any naturally occurring ground water containing an amount of dissolved chemical constituents limiting the beneficial uses to which the water may be applied.

(37) "Municipal or Quasi-Municipal Well": means a well owned by a municipality or nonprofit corporation that may be used as a community or public water supply.

(38) "Order": means any action satisfying the definition given in ORS Chapter 183 or any other action so designated in ORS Chapter 537.505 to 537.795.

(39) "Perched Ground Water": means ground water held above the regional or main water table by a less permeable underlying earth or rock material.

(40) "Permeability": means the ability of material to transmit fluid, usually described in units of gallons per day per square foot of cross-section area. It is related to the effectiveness with which pore spaces transmit fluids.

(41) "Person": includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the Federal Government and any agencies thereof.

(42) "Petcock Valve": is a valve used to contain pressure and when opened to drain the line or pipe.

(43) "Pitless Adaptor": means a commercially manufactured unit or device designed for attachment to one or more openings through a well casing, which will permit water service pipes to pass through the wall of a well casing or extension thereof and prevent entrance of contaminants into the well or water supply.

(44) "Pitless Unit": means a commercially manufactured unit extending the upper terminal of the well casing to above land surface, constructed and installed so as to prevent the entrance of contaminants into the well and to protect the ground water supply, conduct water from the well, and provide full access to the well and water system parts therein.

(45) "Porosity": means the ratio of the volume of voids in the geologic formation being drilled to the overall volume of the material without regard to size, shape, inter-connection, or arrangement of openings.

(46) "Potable Water": means water which is sufficiently free from biological, chemical, physical, or radiological impurities so that users thereof will not be exposed to or threatened with exposure to disease or harmful physiological effects and which has no taste or odor properties that would make it unpalatable to humans for drinking purposes.

(47) "Potentiometric Surface": means the level to which water will rise in tightly cased wells.

(48) "Pressure Grouting": means a process by which a cement grout is confined within the drillhole or casing by the use of retaining plugs in packers and by which sufficient pressure is applied to drive the grout slurry into the annular space or zone to be grouted.

(49) "Public-At-Large": means a person not actively engaged in the well industry.

(50) "Public Health Hazard": means a condition whereby there are sufficient types and amounts of biological, chemical, or physical, including radiological, agents relating to water which are likely to cause human illness, disorders, or disability. These include, but are not limited to pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes.

(51) "Public Well": means a well, whether publicly or privately owned other than a municipal well, where water is provided for or is available through the single user for public consumption including, but not limited to, a school, a farm labor camp, an industrial establishment, a recreational facility, a restaurant, a motel, or a group care home.

(52) "Pumping Level": means the level of the water surface in a well while it is being pumped or bailed.

(53) "Pump Test": means the procedure involving pumping water for a specified period of time to determine the yield characteristics of a well.

(54) "Refusal to Renew": means a provision in an order that prohibits renewal of a well constructor's license, for a specified term not to exceed one year from the expiration date of the current license.

(55) "Respondent": means the person against whom an enforcement action is taken.

(56) "Revoke": means termination of a well constructor's license.

(57) "Rough Drilling Log": means a record kept on the well site of the information needed to complete the well report for the well being constructed.

(58) "Sand": means a detrital material having a prevalent grain size ranging from 2 millimeters to 0.06 millimeters.

(59) "Silt": means an unconsolidated clastic sediment composed predominantly of particles between 0.06 and 0.005 mm in diameter.

(60) "Static Water Level": means the stabilized level or elevation of water surface in a well not being pumped.

(61) "Stratum": means a bed or layer of a formation that consists throughout of approximately the same type of consolidated or unconsolidated material.

(62) "Sump": means a hole dug to a depth of ten feet or less with a diameter greater than ten feet in which water is sought or encountered.

(63) "Suspension": means the temporary removal of the privilege to construct wells under an existing license for a period of time not to exceed one year.

(64) "Tremie Pipe": See Grout Pipe.

(65) "Unconsolidated Formation": means naturally occurring, loosely cemented, or poorly indurated materials including clay, sand, silt, and gravel.

(66) "Upper Drillhole": means that part of the well bore extending from land surface to the bottom of the surface seal interval.

(67) "Violation": means an infraction of any statute, rule, standard, order, license, compliance schedule, or any part thereof and includes both acts and omissions.

(68) "Water Level": See Static Water Level.

(69) "Water Table": means the upper surface of an unconfined water body, the surface of which is at atmospheric pressure and fluctuates seasonally. The water table is defined by the levels at which water stands in wells that penetrate the water body.

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(70) "Water Well": See Well.

(71) "Well": means any artificial opening or artificially altered natural opening, however made, by which ground water is sought or through which ground water flows under natural pressure, or is artificially withdrawn or injected. This definition shall not include a natural spring, or wells drilled for the purpose of exploration or production of oil or gas. Prospecting or exploration for geothermal resources as defined in ORS 522.005 or production of geothermal resources derived from a depth greater than 2,000 feet as

defined in ORS 522.055 is regulated by the Department of Geology and Mineral Industries.

(72) "Well Constructor": means any person who has a current, effective well constructor license issued in accordance with ORS 537.747(3).

(73) "Well Drilling Machine": means any power-driven percussion, rotary, boring, digging, or augering machine used in the construction or alteration of wells.

Stat. Auth.: ORS Ch. 183, 536, 537 & 540

Hist.: WRD 9, f. & ef. 12-9-77; WRD 9-1978, f. 12-12-78, ef. 1-1-79; WRD 12-1982, f. & ef. 12-14-82; Amended & Renumbered from 690-60-050 & 690-64-000 by WRD 13-1986, f. 10-7-86, ef. 11-1-86