



Rules of
Department of Natural Resources
Division 23—Well Installation
Chapter 1—Definitions, Variances, and Permitting
Requirements

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**Title 10—DEPARTMENT OF
NATURAL RESOURCES**

Division 23—Well Installation

**Chapter 1—Definitions, Variances, and
Permitting Requirements**

10 CSR 23-1.010 Definitions

PURPOSE: This rule defines terms used in 10 CSR 23 that are not defined in section 256.603, RSMo.

(1) Terms beginning with the letter A.

(A) Act means Missouri Water Well Drillers' Act, sections 256.600–256.640, RSMo, under which these rules are promulgated.

(B) Action level means the maximum permissible concentration of a contaminant in water pursuant to 10 CSR 60-2. Action levels are used for contaminants that do not have established maximum contaminant levels.

(C) Alluvium means clay, silt, sand, gravel, or similar unconsolidated material deposited by a stream or body of running water.

(D) Annular space means the space between two (2) cylindrical objects one (1) of which surrounds the other, such as the space between a borehole and a casing pipe or between a casing pipe and liner pipe.

(E) Applicant means any person who applies for a well, heat pump, monitoring well, or pump installation contractor permit pursuant to the law.

(F) Apprentice means any person who has been issued an apprentice permit who, under the supervision of a permitted nonrestricted well or pump installation contractor, is obtaining the knowledge, skills, and abilities necessary to apply for a non-restricted permit.

(G) Approval date means the date the record is reviewed and approved compliant with the construction requirements, not to be confused with certification or registration date.

(H) Aquifer means water-bearing geologic material that transmits water in sufficient quantities to supply a well.

(I) Augered well means a well that is drilled by the rotation of a cylindrical tool.

(2) Terms beginning with the letter B.

(A) Bedrock means a general term for the solid rock that underlies soil or other unconsolidated surficial material.

(B) Bentonite means any type of sodium bentonitic clay used in well construction, or plugging of wells, which swells or expands when water is added.

(C) Bentonite slurry means a mixture of sodium bentonite and water that has a solids content of at least twenty percent (20%).

(3) Terms beginning with the letter C.

(A) Casing means an impervious durable pipe placed in a well to prevent the borehole from collapsing and to prevent contaminants from entering the well.

(B) Cement slurry means mixture of cement and water that consists of one (1) ninety-four pound (94 lb.) bag of portland cement to six (6) gallons of water. Up to six percent (6%) bentonite may be used as an additive.

(C) Certification number means a number assigned to a record certifying compliance with 10 CSR 23 and sections 256.600–256.640, RSMo.

(D) Charitable or Benevolent Organization Water System means a public water system that exclusively serves a charitable or benevolent organization pursuant to section 640.116, RSMo.

(E) Chlorination means the use of chlorine to disinfect or sterilize wells, pumps, storage tanks, or piping systems.

(F) Clean fill means uncontaminated inert solid material such as pea gravel, sand, drill cuttings, and agricultural lime.

(G) Completion date means the date the work, subject to these rules, is complete as follows:

1. For installation of water wells, the date the well has casing set and grouted and the well is drilled to total depth;

2. For pump installation, the date the pump is set and pump or service truck leaves the site;

3. For installation of heat pump systems, the date the last well in the well field has been drilled and grouted;

4. For installation of monitoring wells, the date when the well has the riser, screen, and surface completion installed;

5. For plugging of temporary monitoring wells, the date the first well is plugged; or

6. For plugging of water, monitoring, heat pump, and test hole wells, the date the well is plugged.

(H) Construction foundation data means wells or borings drilled in the construction phase of piers, shafts, caissons, mini-piles, soil and rock anchors, soil and rock grouting procedures on surface water containment structures, pressure relief wells, roads, buildings, parking lots, or any drilling within the footprint of a proposed structure.

(I) Contaminant means any physical, chemical, biological, or radiological substance or matter in water that exceeds the maximum contaminant level or action level.

(J) Cuttings means geologic material displaced from the borehole during drilling.

(4) Terms beginning with the letter D.

(A) Demolition landfill has the same meaning as defined in section 260.200, RSMo.

(B) Department means the Missouri Department of Natural Resources, which includes the director thereof, or the person or division or program within the department delegated the authority to render the decision, order, determination, finding, or other action that is subject to review by the Administrative Hearing Commission.

(C) Director means the director of the Missouri Department of Natural Resources, or an authorized representative, who carries out the administrative functions of these rules on behalf of the department.

(D) Direct-push well means a monitoring well that is installed by pushing or hammering drive rods as opposed to drilling or augering. Direct-push wells tend to be smaller in diameter than their conventionally drilled counterparts leading to differences in annular space, casing, and sealing dimensions. Various screening or data collection devices, such as a cone penetrometer or lysimeter can be used in a direct-push well.

(E) Disinfection means the use of a chemical to sterilize wells, pumps, storage tanks, or piping systems.

(F) Domestic well means a private water supply well equipped with a pump that does not have the capacity to produce seventy (70) gallons or more of water per minute at the surface and that has three (3) or less service connections. A domestic well is not limited to residential usage.

(G) Drive shoe means the fittings placed at the bottom of the permanent metal casing which enables the driller to more efficiently drive the casing through the borehole and into solid rock.

(H) Dry hole means a well that was drilled and does not produce sufficient quantities of water for the intended use of the well.

(5) Terms beginning with the letter E.

(A) Extraction well means a monitoring well from which fluid or other media is extracted to clean, treat, or prevent contamination of groundwater as part of the remediation of a site. These include, but are not limited to, the following: wells serving pump and treat systems, including multi-well systems; wells to capture a contaminant plume or alter the direction or magnitude of groundwater movement; and other associated wells. Passive and active methane wells that terminate within landfill trash are exempted from these rules but are regulated by the Missouri Solid Waste Management Program. Passive and active methane and leachate extraction wells that are located outside of trash or



extend through trash into the underlying bedrock formations are regulated under these rules.

(6) Terms beginning with the letter (F). *(Reserved)*

(7) Terms beginning with the letter (G).

(A) Gas-migration well means a monitoring well that is designed for the sampling, detection, and analysis of a gas or a vapor that is potentially present or migrating away from a contaminant source.

(B) Geologic material means all earthen materials penetrated in drilling a well, such as alluvium, bedrock, glacial drift, residuum, and soil.

(C) Geotechnical well or boring means a monitoring well used to collect or evaluate subsurface data to determine the properties of geologic materials such as type, chemical composition, compressibility, strength, or structure. This does not include geotechnical borings for construction foundation data.

(D) Glacial drift (unconsolidated) means all rock material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by the ice or running water emanating from the glacier.

(E) Gravity grouting method means the process of pouring grout into the annular space or borehole without the use of a tremie pipe.

(F) Ground surface means the actual finished surface grade surrounding the well casing. This includes the natural ground surface, artificial fill, or hard surface such as concrete.

(G) Groundwater means any water beneath the surface of the ground.

(H) Grout means cement, bentonite, or other approved material used to seal the annular space or plug a well.

(8) Terms beginning with the letter H.

(A) Heat pump or geothermal well means any well constructed to use the heat exchange properties of either groundwater or geologic material penetrated in the well. Closed-loop horizontal heat pump systems installed in trenches or pits ten feet (10') or less in depth are exempt from these rules. Heat pump or geothermal systems that use surface water are exempt from these rules.

(B) High yield bedrock well means a water supply well drilled into bedrock aquifers that is equipped with a pump that has the capacity to produce seventy (70) or more gallons of water per minute to the surface and does not supply water to a public water system. These wells are also subject to major water user reporting requirements pursuant to sections

256.400–256.433, RSMo.

(C) High yield unconsolidated material well means a water supply well drilled into alluvial or glacial drift aquifers and is equipped with a pump that has the capacity to produce seventy (70) or more gallons of water per minute and does not supply water to a public water system. These wells are also subject to major water user reporting requirements pursuant to sections 256.400–256.433, RSMo.

(9) Terms beginning with the letter I.

(A) Impact Area means an area that contains contaminant(s) of one (1) or more of the following: lead, cadmium, chlorinated volatile organic compounds (VOCs) including trichloroethylene (TCE), TCE degradation products, or other contaminants pursuant to 10 CSR 60-4.

(B) Inactive well means a well not currently operational that is not in a state of disrepair and does not present a threat to groundwater.

(C) Incomplete well means a well that was abandoned during construction with or without casing and is susceptible to surface contamination.

(D) Injection well means a monitoring well into which fluid or other media is injected to clean, treat, or prevent contamination of groundwater.

(10) Terms beginning with the letter J. *(Reserved)*

(11) Terms beginning with the letter K. *(Reserved)*

(12) Terms beginning with the letter L.

(A) Liner means plastic or steel pipe which is smaller in diameter than the casing.

(13) Terms beginning with the letter M.

(A) Major reconstruction means the alteration or repair of any well that changes the original specifications such as depth of the well, liner installation, and/or replacing or extending the well casing above ground surface.

(B) Major water user has the same meaning as defined in section 256.400, RSMo.

(C) Maximum contaminant level means the maximum permissible concentration of a contaminant in drinking water pursuant to 10 CSR 60-2.

(D) Monitoring well means a well that is ten feet (10') or greater in depth and is constructed during assessment, characterization, and/or remediation of a site to obtain site-specific water quality, contaminant movement, or geologic or hydrologic data such as direct-push wells, extraction wells, gas-

migration wells, geotechnical wells or borings, injection wells, observation wells, piezometers, soil borings, and subsurface penetrations associated with field screening devices such as cone penetrometers and lysimeters.

(E) Multifamily well means a well that has no more than eight (8) connections, has a pumping capacity of less than seventy gallons per minute (<70 gpm), and serves fewer than twenty five (25) individuals on average. A multifamily well may be used to serve a charitable or benevolent organization pursuant to section 640.116, RSMo.

(14) Terms beginning with the letter N.

(A) Nested well means a cluster of two (2) or more single riser limited-interval monitoring wells installed at different depths in a single borehole with a grout seal separating each screened interval.

(B) Nominal diameter means the standard size for casing. Depending on the wall thickness, the inside diameter of the casing may be less than or greater than the number indicated.

(C) Nontransient noncommunity water system means a public water system as defined in 10 CSR 60-2.

(15) Terms beginning with the letter O.

(A) Observation well means any monitoring well in which the screen intersects a water table, for the specific purpose of determining either the elevation of the water table or the physical, chemical, biological, or radiological properties of groundwater. However, observation wells constructed in the tank pit and used as a part of an underground storage tank leak detection system are excluded from this definition.

(B) Open-hole completion means a monitoring well cased through all overburden material and upper water producing zones, completed in bedrock, with no well screen or filter pack.

(C) Open-hole grouting method means the process in which grout is introduced into the borehole by gravity or pumping through a tremie pipe before the casing is installed. The casing is lowered into the grout column to provide an annular seal.

(D) Open-loop heat pump water supply well means a well drilled to supply water for the purpose of heat transfer.

(E) Open-loop heat pump water return well means a well drilled to receive water from an open-loop heat pump water supply well that has passed through the heat pump machine.

(F) Ozark Confining Unit means low permeability bedrock that includes the Northview Formation, the Chattanooga Shale, and the



upper thirty feet (30') of the Cotter Dolomite that serves as a natural barrier to groundwater mixing between the upper and lower aquifer.

(16) Terms beginning with the letter P.

(A) Packer means a rubber or neoprene collar (boot) installed on the casing or liner to hold the grout material in the annular space.

(B) Permittee means a person who is permitted as a well, heat pump, monitoring well, or pump installation contractor pursuant to the provision of the law and these rules.

(C) Piezometer means a monitoring well used to measure the pressure of a fluid or the degree of compressibility of a substance when subjected to pressure or used to collect water samples for laboratory analysis. It is most commonly a small diameter well used to measure the hydraulic head of groundwater in subsurface water-bearing zones. Piezometers used to monitor the structural integrity of dams are exempt from the requirements of this rule.

(D) Pilot hole means a narrow hole drilled into the subsurface to facilitate the insertion of a larger drill bit or other boring tool and primarily used to site a location for a public well.

(E) Pitless adapter means a device for above or below ground discharge designed for attachment to one (1) or more openings through a well casing and constructed to prevent the entrance of contaminants into the well.

(F) Pitless unit means an assembly with a cap that extends from the upper end of the well casing to above ground surface and is constructed to prevent the entrance of contaminants into the well.

(G) Plastic means a thermoplastic pipe or casing material composed of either polyvinyl chloride (PVC) or acrylonitrile-butadiene-styrene (ABS).

(H) Point of entry means the point where the main water supply line—

1. Connects the well to the pressure system and includes the pressure switch inside the structure or building being served; or

2. Enters the structure or building being served if connection from the pressure switch is located outside the structure or building being served.

(I) Positive displacement grouting method means the process in which grout in slurry form is poured into the well casing, which is suspended above the bottom of the hole, followed by a drillable plug. The plug is pushed to the bottom of the casing, forcing the grout from the bottom of the casing into the annular space. The casing is then lowered into the bottom of the borehole.

(J) Potable water means water that is safe

for human consumption pursuant to 10 CSR 60.

(K) Pressure grouting method means the process in which grout is forced through the well casing followed by water so that the grout returns under pressure to the surface through the annular space. The grout is then allowed to cure following manufacturer's specifications before drilling resumes.

(L) Pressure tank or hydropneumatic tank means a closed water storage container constructed to operate under a designed pressure rating to modulate the water system pressure within a selected pressure range.

(M) Primary contractor means a person engaged for compensation in the business of the construction, alteration, major reconstruction, pump service, or plugging of any well or directs or supervises these activities. The primary contractor is equally responsible for the work performed by the installation contractor, including, but not limited to, the submittal of all forms and fees.

(N) Public water system has the same meaning as defined in section 640.102, RSMo.

(O) Public water supply well means a well that is constructed to supply water to a public water system.

(P) Public well pump means a pump that is installed in a public water supply well to provide water to a public water system.

(Q) Pump and pumping equipment means any equipment or materials used or intended for use in withdrawing or obtaining groundwater. This includes water distribution lines from the well and equipment from the well through the pressure system. This does not include buckets or bailers that are lowered into the well for the purpose of retrieving water in water wells. This also does not include sampling, development, maintenance, or testing equipment used or inserted into monitoring wells.

(R) Pump installation machine means any vehicle, hoist, or machine used to install or remove pumps or liners from wells.

(17) Terms beginning with the letter Q. (*Reserved*)

(18) Terms beginning with the letter R.

(A) Residuum means a product formed from the in-place disintegration and decomposition of bedrock.

(B) Reverse tremie grouting method means the process in which a tremie pipe is set to within twenty feet (20') of the bottom of the well bore; the lower ten feet to twenty feet (10' to 20') of tremie pipe is perforated; cement grout is poured from the surface, forcing water downward and into the tremie

pipe; and the water discharges to the surface. This method primarily is used for well plugging.

(C) Riser pipe means the pipe extending from the well screen into the surface completion of a monitoring well.

(19) Terms beginning with the letter S.

(A) Sanitary landfill has the same meaning as defined in section 260.200, RSMo.

(B) Screen means a filtering device used to keep sediment from entering a well.

(C) Septic tank means a watertight tank of durable materials through which wastewater flows.

(D) Service connection means a supply line from the well for the purpose of conveying water to a point of use that is connected to one (1) single family dwelling and includes additional water hookups for any outbuildings. If the outbuildings are dwellings for persons or additional businesses then they are considered additional service connections.

(E) Service vehicle means any rig, pump truck, or dedicated vehicle used to perform work that is regulated by 10 CSR 23.

(F) Sewer line means a pipe or conduit carrying wastewater to an ultimate point for treatment or discharge.

(G) Shallow monitoring means obtaining groundwater samples from a monitoring well within five feet (5') of ground surface.

(H) Site means a designated area on which a well or wells are drilled or are going to be drilled.

(I) Soil boring means a monitoring well used to sample or test the soil strata to determine soil properties such as type, chemical composition, compressibility, strength, structure, or concentration of contaminants.

(J) Solid waste disposal area has the same meaning as defined in section 260.200, RSMo.

(K) Special waste landfill has the same meaning as defined in Solid Waste Management Regulations 10 CSR 80-2.010.

(L) State of disrepair means a well that is unable to produce water to the ground surface or transport water to a point of use or poses a contamination risk to the groundwater. It does not mean a well that is waiting for pump installation or a well that has been approved by the department for temporary dormancy. See Inactive Well 10 CSR 23-1.010(9)(A).

(M) Static water level means the level of water measured from ground surface in a well that is not being affected by withdrawal of water.

(N) Subsurface disposal field, drainfield, percolation system, or tile absorption field means a system composed of open jointed tile, plastic lines, or lines composed of other



material buried in shallow trenches or beds through which sewage or wastewater is disposed.

(O) Suction line means a pipe or line connected to the inlet side of a pump or pumping equipment.

(P) Surface water means water that rests or flows on the surface of the ground.

(20) Terms beginning with the letter T.

(A) Temporary monitoring well means a monitoring well used for field screening purposes that is plugged within thirty (30) days of being installed.

(B) Test hole means a hole drilled for the exploration of minerals or for geologic data that is not associated with the remediation or associated environmental characterization of a site. This includes stratigraphic holes drilled to obtain geologic information for structural studies or seismic shot holes.

(C) Transient noncommunity water system means a public water system as defined in 10 CSR 60-2.

(D) Tremie pipe means a conductor pipe, hose, or tubing used in the down hole placement of grout.

(E) Tremie grouting method means the process in which a small diameter pipe is inserted in the annular space or borehole to the depth of the zone to be sealed and grout is emplaced through the tremie pipe by gravity.

(F) Tremie pressure grouting method means the process in which a small diameter pipe is inserted in the annular space or borehole to the depth of the zone to be sealed and grout is emplaced by pumping with a grout pump from the bottom to the top of the zone to be sealed.

(21) Terms beginning with the letter U.

(A) Unconsolidated material means sediment that is loosely arranged or unstratified, or whose particles are not cemented together, occurring either at the surface or at depth, and does not include residuum.

(B) Utility waste landfill has the same meaning as defined in section 260.200, RSMo.

(22) Terms beginning with the letter V.

(A) Variance means a modification to any provision of 10 CSR 23 pursuant to 10 CSR 23-1.040.

(B) Vertical closed-loop heat pump well means the borehole perpendicular to the horizon deeper than ten feet (10') into which a closed-loop pipe is placed for the purpose of heat transfer.

(23) Terms beginning with the letter W.

(A) Wastewater means water or other liq-

uids that carry or contain pollutants or water contaminants from any source including sewage and gray water.

(B) Water Well Drillers Fund means Groundwater Protection Fund.

(C) Well certification means the assignment by the department of a certification number to the well after fulfillment of the requirements set forth in 10 CSR 23-2.020.

(D) Well drilling machine means any machine or device used for the construction or modification of a well and includes, but is not limited to, drill rigs and direct push machines. This excludes trenching machines in heat pump applications.

(E) Well registration means the assignment by the department of a registration number to the well after fulfillment of the requirements set forth in 10 CSR 23-2.020.

(F) Well seal means a device or method used to protect a well casing or water system from the entrance of any external pollutant at the point of entrance into the casing.

(G) Well vent means an outlet at the upper terminal of a well casing to allow equalization of air pressure in the well and escape of toxic or flammable gasses when present.

(24) Terms beginning with the letter X. *(Reserved)*

(25) Terms beginning with the letter Y.

(A) Yield or production means the quantity of water per unit of time which may flow or be pumped from a well under specified conditions.

(26) Terms beginning with the letter Z. *(Reserved)*

AUTHORITY: sections 256.603 and 256.626, RSMo 2016. Original rule filed April 2, 1987, effective July 27, 1987. Emergency amendment filed Nov. 16, 1993, effective Dec. 11, 1993, expired April 9, 1994. Amended: Filed Aug. 17, 1993, effective March 10, 1994. Amended: Filed July 13, 1994, effective Jan. 29, 1995. Amended: Filed Nov. 1, 1995, effective June 30, 1996. Amended: Filed June 27, 2018, effective Feb. 28, 2019.*

**Original authority: 256.603, RSMo 1985, amended 1991 and 256.626, RSMo 1985, amended 1991.*

10 CSR 23-1.020 Application to All Wells (Rescinded August 30, 2018)

AUTHORITY: sections 256.615, 256.620 and 256.626, RSMo Cum. Supp. 1991. Original rule filed April 2, 1987, effective July 27, 1987. Emergency amendment filed Nov. 16,

1993, effective Dec. 11, 1993, expired April 9, 1994. Amended: Filed Aug. 17, 1993, effective March 10, 1994. Rescinded: Filed Dec. 29, 2017, effective Aug. 30, 2018.

10 CSR 23-1.030 Types of Wells (Rescinded February 28, 2019)

AUTHORITY: sections 256.606 and 256.626, RSMo 1994. Original rule filed April 2, 1987, effective July 27, 1987. Emergency amendment filed Nov. 16, 1993, effective Dec. 11, 1993, expired April 9, 1994. Amended: Filed Aug. 17, 1993, effective March 10, 1994. Amended: Filed July 13, 1994, effective Jan. 29, 1995. Amended: Filed Nov. 1, 1995, effective June 30, 1996. Rescinded: Filed June 27, 2018, effective Feb. 28, 2019.

10 CSR 23-1.040 Variances

PURPOSE: This rule gives the timeframe and procedure for submitting a request for a variance to the department.

(1) When strict applicability of any provision of these rules presents practical difficulties or unusual hardships, the department, in a specific instance, may modify the application of those provisions consistent with the general purpose of these rules and the law. The department may then impose certain conditions as are necessary to protect the groundwater of the state and health, safety, and general well-being of persons using or potential users of the groundwater supply.

(2) Requests for variances shall—

(A) Be submitted on a form provided by the department at least forty-eight (48) hours prior to any regulated work being performed, except as provided in 10 CSR 23-1.040(4);

(B) State the nature and reason the variance is being sought; and

(C) Include at a minimum the proposed well depth, desired yield, casing type and depth, method of construction and grouting, geologic conditions likely to be encountered, a GPS location of the well, and possible sources of contamination.

(3) The department will state the reason for the approval or denial and will notify the requestor of approval or denial of the variance. Construction or modification of the well may not begin without department approval of the variance.

(4) Verbal approval for a variance may be granted on a case-by-case basis for which



advanced notice could not be provided. The department will notify the requestor of approval or denial of the variance request.

(5) Approved variance requests will be provided with a number by the department that shall be included on the well certification or registration report form when it is submitted to the department.

AUTHORITY: sections 256.606 and 256.626, RSMo 2016. Original rule filed April 2, 1987, effective July 27, 1987. Amended: Filed Aug. 17, 1993, effective March 10, 1994. Amended: Filed Nov. 1, 1995, effective June 30, 1996. Amended: Filed June 27, 2018, effective Feb. 28, 2019.*

**Original authority: 256.606, RSMo 1991 and 256.626, RSMo 1985, amended 1991.*

10 CSR 23-1.050 Permittee Qualifications, Testing Procedures, and Permit Application

PURPOSE: This rule establishes criteria and application procedures for permitting water well, heat pump, monitoring well, and pump installation permittees.

(1) Restricted Permit.

(A) To apply for a restricted permit as a water well, heat pump, monitoring well, or pump installation contractor an applicant shall—

1. Submit a complete permit testing application and corresponding fee;
2. Pass the applicable restricted permit test(s) (open book) with a minimum score of seventy percent (70%); and
3. Submit a complete permit application and the corresponding fee.

(B) After approval of the permit application, the department will issue the restricted permit. A permit may be denied if the applicant has unresolved violations.

(2) Non-Restricted Permit. See 10 CSR 23-1.050(7) for adding a permit type to an existing permit and 10 CSR 23-1.105 for reinstatement of an expired permit.

(A) To apply for a non-restricted permit as a water well, heat pump, monitoring well, or pump installation contractor an applicant shall—

1. Complete the apprenticeship program pursuant to 10 CSR 23-1.050(3);
2. Submit a complete permit testing application and corresponding fee;
3. Pass the applicable non-restricted permit test(s) (closed book) with a minimum score of seventy percent (70%);

4. Submit a complete permit application and the corresponding fee; and

5. If applicable pursuant to 10 CSR 23-1.050(3)(L) or 10 CSR 23-1.050(7) the apprenticeship program may be waived.

(B) After approval of the permit application, the department will issue the non-restricted permit. A permit application may be denied if the applicant has unresolved violations. After resolution of violations, the department may require prenotification pursuant to 10 CSR 23-1.050(6).

(3) Apprenticeship Program.

(A) To apply for a permit as an apprentice water well, heat pump, monitoring well, or pump installation contractor an applicant shall—

1. Submit a complete testing application and corresponding fee;
2. Pass the applicable apprentice permit test(s) (open book) with a minimum score of seventy percent (70%);

3. Submit a complete apprentice permit application, signed by a responsible party who will be responsible for the apprenticeship;

4. The responsible party shall be a non-restricted permit holder holding the same type of permit for which the apprentice is applying. A non-restricted permittee may not serve as an apprentice's responsible party for a period of one (1) year from the date of resolution of any enforcement action taken by the department (includes, but is not limited to, settlement agreements, orders, consent judgments, suspension, or revocation); and

5. After approval of the permit application, the department will issue the apprentice permit.

(B) The apprenticeship period is two (2) years.

(C) The applicant shall complete work for the applicable permit type and sign the appropriate certification or registration form on a minimum of—

1. Water Well Permit - Twenty-five (25) different domestic or multifamily water well installations or ten (10) different high yield bedrock or public wells;

2. Pump Installation Permit - Twenty-five (25) different domestic or multifamily pump installations or ten (10) different high yield or public well pump installations;

3. Heat Pump Installation Permit - Ten (10) different heat pump system installations;

4. Monitoring Well Permit - Twenty (20) different monitoring wells or twenty (20) different temporary monitoring well sites.

A. Test Hole Only Endorsement - Twenty (20) different test holes; and

5. Plugging abandoned wells for the applicable type of permit may count for up to ten percent (10%) of the required installations.

(D) The responsible party for the apprentice or another non-restricted permit holder for the applicable permit type shall oversee the apprentice's work on site, sign the certification or registration form as the installation contractor, and submit the form and appropriate fee.

(E) Once the number of installations pursuant to 10 CSR 23-1.050(3)(C) have been completed, the apprentice may work independently for the remainder of the two (2) year apprenticeship provided the responsible party continues to sign certification and registration forms as installation contractor along with the apprentice.

(F) The apprenticeship period may be reduced if the required number of installations pursuant to 10 CSR 23-1.050(3)(C) are met and proof of financial responsibility are provided for the remainder of the apprenticeship period pursuant to 10 CSR 23-1.050(5).

(G) An apprentice may transfer the apprenticeship to another company by submitting a new apprenticeship application to the department with a non-restricted permittee signing as the responsible party.

(H) An apprentice can be permitted under more than one (1) company if the apprentice submits the appropriate application and fee for each permit type and a non-restricted permittee from each company signs as the responsible party. Apprentices will be issued separate permit numbers for each permit type.

(I) At the end of the two (2) year period, the apprentice may apply to extend the apprenticeship on a year-by-year basis if the number of installations has not been met. If an application to extend the apprenticeship is not received, the apprentice permit will not be renewed.

(J) If an apprentice cancels the apprenticeship, they may reapply within five (5) years. If the application is approved, the apprentice will be reinstated at the same status as at the point of cancellation.

(K) Proof of work performed in other states by an apprentice will be evaluated on a case-by-case basis for meeting the requirements of 10 CSR 23-1.050(3)(C).

(L) Applicants who are permitted in another state may request an exemption to the apprenticeship program provided they—

1. Submit proof of a valid permit and supporting documentation that includes, at a minimum, a copy of current license or permit, examples of well records, and contact



information for the regulatory agency that issued the permit (same type of permit(s) only); and

2. Submit proof of financial responsibility pursuant to 10 CSR 23-1.050(5) for a period of two (2) years; and

3. Complete one (1) year of prenotification pursuant to 10 CSR 23-1.050(6).

(4) Testing.

(A) Applicants may retake the test one (1) time on the last test date. All subsequent test attempts shall be a minimum of thirty (30) days from the initial test date.

(B) An applicant may withdraw a testing application by notifying the department a minimum of ten (10) days in advance. Testing application fees are non-refundable; however, tests may be rescheduled up to two (2) times without cancellation of the application and forfeiture the corresponding fee.

(5) Financial Responsibility.

(A) Proof of financial responsibility pursuant to section 256.616, RSMo, when applicable, may be in the form of a surety bond, certificate of deposit (CD), or irrevocable letter of credit. The bond, CD, or letter of credit shall—

1. Be submitted to the department in the amount of twenty-five thousand dollars (\$25,000);

2. Be made payable to Missouri Department of Natural Resources;

3. Be issued by an institution authorized to issue such bonds in this state;

4. Be irrevocable letter of credit or automatically renewable (CD) for time frame covering the apprenticeship;

5. Have any interest on CDs made payable to the permittee; and

6. Be held for a period of two (2) years from the permit issue date.

(B) If the bond, CD, or letter of credit is cancelled by the issuing agent, the permittee shall submit new proof of financial responsibility within thirty (30) days of cancellation, or the permit will be suspended until proof of financial responsibility is restored.

(C) If the department finds that the contractor has outstanding administrative violations set forth in the Missouri Well Construction Rules, the department will notify the permittee that the bond, CD, or letter of credit will continue to be held as a condition of permit renewal for an additional two (2) years if the permittee does not resolve outstanding violations. Within thirty (30) days of notification of an outstanding administrative violation by the department the permittee is responsible for ensuring that the bond, CD, or letter of credit is valid for another two (2)

years or the permit will be subject to enforcement action, which may include suspension or revocation.

(6) Prenotification. Notice shall be given twenty four (24) hours in advance for any regulated work requiring prenotification. Prenotification shall include work to be performed, owner name, address, GPS location, and date work will begin. The prenotification requirement will be effective for one (1) year from the permit issue date unless otherwise directed by the department.

(7) Adding permit types.

(A) Current Missouri permit holders, with the exception of pump installation permit holders, may apply to add additional permit types by doing the following:

1. Complete apprenticeship program pursuant to 10 CSR 23-1.050(3) or submit proof of financial responsibility pursuant to 10 CSR 23-1.050(5) and complete one (1) year of prenotification pursuant to 10 CSR 23-1.050(6);

2. Submit a complete permit testing application and corresponding fee;

3. Pass the applicable restricted (open book) and nonrestricted (closed book) permit test(s) with minimum scores of seventy percent (70%); and

4. Submit a complete permit application and the corresponding fee.

(B) Any well installation permit holder may add a pump installation permit without completion of 10 CSR 23-1.050(5)(A).

(C) Pump installation permit holders shall complete the apprentice program to add additional permit types.

AUTHORITY: sections 256.606, 256.607, 256.611, 256.613, and 256.626, RSMo 2016. Original rule filed April 2, 1987, effective July 27, 1987. Emergency amendment filed Nov. 16, 1993, effective Dec. 11, 1993, expired April 9, 1994. Amended: Filed Aug. 17, 1993, effective March 10, 1994. Amended: Filed July 13, 1994, effective Jan. 29, 1995. Amended: Filed Nov. 1, 1995, effective June 30, 1996. Amended: Filed July 30, 2008, effective Feb. 28, 2009. Amended: Filed Sept. 15, 2011, effective April 30, 2012. Amended: Filed June 27, 2018, effective Feb. 28, 2019. ***

**Original authority: 256.606, RSMo 1991; 256.607, RSMo 1985, amended 1991; 256.611, RSMo 1985, amended 1991; 256.613, RSMo 1991; and 256.626, RSMo 1985, amended 1991.*

***Pursuant to Executive Orders 20-04, 20-10, and 20-12, 10 CSR 23-1.050, paragraph (2)(A)3. was suspended from April 8, 2020 through December 30, 2020.*

10 CSR 23-1.060 Application for a Permit
(Rescinded February 28, 2019)

AUTHORITY: sections 256.606, 256.607, 256.611, 256.613, and 256.626, RSMo 2000. Original rule filed April 2, 1987, effective July 27, 1987. Emergency amendment filed Nov. 16, 1993, effective Dec. 11, 1993, expired April 9, 1994. Amended: Filed Aug. 17, 1993, effective March 10, 1994. Amended: Filed Nov. 1, 1995, effective June 30, 1996. Amended: Filed July 30, 2008, effective Feb. 28, 2009. Rescinded: Filed June 27, 2018, effective Feb. 28, 2019.

10 CSR 23-1.070 Permit Review Procedures
(Rescinded March 10, 1994)

10 CSR 23-1.075 Disciplinary Action

PURPOSE: This rule outlines the disciplinary action process.

(1) The department may cause an investigation to be made upon receipt of information concerning alleged violations of sections 256.600 to 256.640, RSMo, and implementing regulations or any standard, limitation, or order pursuant thereto and may cause to be made any other investigations consistent with the purposes of sections 256.600 to 256.640, RSMo.

(2) If an investigation discloses that a violation of sections 256.600 to 256.640, RSMo, or implementing regulations exists, the department may issue an order requiring the remediation or abatement of the specified condition(s). The order will specify the violations of sections 256.600 to 256.640, RSMo, or implementing regulations or any standard, limitation, or order pursuant thereto or any term or condition violated.

(3) As a condition of any disciplinary action or order, the department will specify corrective actions and require that those actions be scheduled so that department staff can be present while the specified corrections are performed.

(4) A suspended permittee may be reinstated after the department approves that the terms and conditions, upon which the suspension order was based, have been corrected. The reinstated permittee may be placed on a period of probation as determined by the department.



(5) A permittee who has had a permit revoked may reapply for a permit pursuant to 10 CSR 23-1.050 as a new applicant and provide performance bond or irrevocable letter of credit pursuant to section 256.616, RSMo. The department will determine whether the person should be issued a new permit. In no case will a new permit be issued sooner than one (1) year after the revocation has taken effect.

AUTHORITY: sections 256.606, 256.623, 256.626, 256.630, and 621.250, RSMo 2016. Emergency rule filed Nov. 16, 1993, effective Dec. 11, 1993, expired April 9, 1994. Original rule filed Aug. 17, 1993, effective March 10, 1994. Amended: Filed Nov. 1, 1995, effective June 30, 1996. Amended: Filed Sept. 14, 2006, effective March 30, 2007. Amended: Filed Jan. 11, 2013, effective Aug. 30, 2013. Amended: Filed June 27, 2018, effective Feb. 28, 2019.*

**Original authority: 256.606, RSMo 1991; 256.623, RSMo 1985, amended 1991; 256.626, RSMo 1985, amended 1991; 256.630, RSMo 1985, amended 1991; and 621.250, RSMo 2005, amended 2008, 2011, 2012, 2013, 2015.*

10 CSR 23-1.080 Denial of Application (Rescinded February 28, 2019)

AUTHORITY: sections 256.606, 256.611 and 256.626, RSMo Cum. Supp. 1991. Original rule filed April 2, 1987, effective July 27, 1987. Amended: Filed Aug. 17, 1993, effective March 10, 1994. Rescinded: Filed June 27, 2018, effective Feb. 28, 2019.

10 CSR 23-1.090 Permits

PURPOSE: This rule explains permit expectations to construct, repair, or plug a well.

(1) General Permit Requirements.

(A) A non-restricted permit is required to drill, construct, repair, reconstruct, plug, or install pumps or pumping equipment in a well.

(B) All non-restricted permits are valid for plugging wells, except monitoring wells. Monitoring wells shall be plugged by a monitoring well installation permittee.

(C) Restricted permits are required for persons who contract or sub-contract work regulated by Missouri Well Construction Rules.

(D) Restricted permits are required for persons to be a primary contractor and/or on-site drilling supervisor.

(E) All permits issued pursuant to these rules will expire one (1) year after issuance.

(F) Permit card(s) shall be carried by the

permittee and machine and vehicle cards shall be placed in each registered vehicle.

(2) Permit Types.

(A) A water well permit is valid for drilling, repairing, reconstructing, and plugging wells that produce water for human consumption, animal, industrial or irrigation purposes, and open-loop supply and return heat pump wells.

(B) A monitoring well permit is valid for drilling, coring, reconstructing, and plugging monitoring wells.

(C) A test hole endorsement is valid for drilling, coring, or plugging of wells in the explorations for minerals or for geologic data.

(D) A heat pump permit is valid for drilling, plugging, and repairing of heat pump wells (excluding open-loop heat pump and water return wells) and construction of trenched systems and installation of loops used in heat pump systems.

(E) A pump permit is valid for installation and removal of pumps, liner installation, and for installation of pumps in extraction monitoring wells.

(3) Landowners may construct or plug a well on their own property pursuant to section 256.607(2), RSMo.

AUTHORITY: sections 256.606, 256.607, 256.613, 256.615, and 256.626, RSMo 2016. Original rule filed April 2, 1987, effective July 27, 1987. Emergency rescission and emergency rule filed Nov. 16, 1993, effective Dec. 11, 1993, expired April 9, 1994. Rescinded and readopted: Filed Aug. 17, 1993, effective March 10, 1994. Amended filed July 13, 1994, effective Jan. 29, 1995. Amended: Filed Nov. 1, 1995, effective June 30, 1996. Amended: Filed June 27, 2018, effective Feb. 28, 2019.*

**Original authority: 256.606, RSMo 1991; 256.607, RSMo 1985, amended 1991; 256.613, RSMo 1991; 256.615, RSMo 1991; and 256.626, RSMo 1985, amended 1991.*

10 CSR 23-1.100 Permit Renewal (Rescinded March 10, 1994)

10 CSR 23-1.105 Permit Renewal

PURPOSE: This rule outlines the procedure for renewing a permit.

(1) The permittee shall submit the appropriate renewal fee prior to the expiration date of the permit.

(2) Any permit renewal submitted after the expiration date will be assessed a late fee pursuant to 10 CSR 23-2.010(F).

(3) Reinstatement of an expired permit. An expired permit may be reinstated only for the permit type previously held.

(A) For reinstatement less than one (<1) year from expiration date.

1. Submit applicable permit application and fee.

(B) For reinstatement one or more (≥1) year from expiration date.

1. Submit a complete testing application and corresponding fee.

2. Pass the applicable restricted permit test(s) (open book) and/or non-restricted permit test(s) (closed book) with a minimum score of seventy percent (70%).

3. Submit a complete permit application and corresponding fee.

4. Provide proof of completion of the required installations for the applicable permit type pursuant to 10 CSR 23-1.050(3)(C); or submit proof of financial responsibility pursuant to 10 CSR 23-1.050(5) and complete one (1) year of prenotification pursuant to 10 CSR 23-1.050(6).

(4) The permittee shall resolve any outstanding violations prior to permit reinstatement or renewal unless a schedule to remedy the violations has been approved in advance by the department.

(5) Any permittee who changes companies or wishes to cancel a permit shall notify the department.

AUTHORITY: sections 256.606, 256.607, 256.611, and 256.626, RSMo 2016. Original rule filed Aug. 17, 1993, effective March 10, 1994. Amended: Filed Nov. 1, 1995, effective June 30, 1996. Amended: Filed June 27, 2018, effective Feb. 28, 2019.*

**Original authority: 256.606, RSMo 1991; 256.607, RSMo 1985, amended 1991; 256.611, RSMo 1985, amended 1991; and 256.626, RSMo 1985, amended 1991.*

10 CSR 23-1.110 Permitting of Partnerships, Corporations and Business Associations

(Rescinded March 10, 1994)

10 CSR 23-1.120 Suspension or Revocation of Permit

(Rescinded March 10, 1994)

**10 CSR 23-1.130 Reinstatement**

(Rescinded February 28, 2019)

AUTHORITY: sections 256.606, 256.616, 256.626 and 256.630, RSMo Cum. Supp. 1991. Original rule filed April 2, 1987, effective July 27, 1987. Emergency amendment filed Nov. 16, 1993, effective Dec. 11, 1993, expired April 9, 1994. Amended: Filed Aug. 17, 1993, effective March 10, 1994. Rescinded: Filed June 27, 2018, effective Feb. 28, 2019.

10 CSR 23-1.140 Vehicle and Machine Registration

PURPOSE: This rule describes the registration process for drill rigs, direct push machine, pump installation trucks, and service vehicles.

(1) All well drilling and pump installation machines and service vehicles shall be registered with the department.

(2) To register vehicles and machines, a complete vehicle registration shall be submitted along with the appropriate fee pursuant to 10 CSR 23-2.010. A registration card will be issued for each vehicle and machine and shall be carried in each vehicle and machine at all times and be subject to inspection by the department. The card expires one (1) year from the date of issue.

(3) Notice of a change in ownership or the purchase of a vehicle and/or machine shall be provided to the department within thirty (30) days and submit a new application form and the appropriate fee. A new vehicle or machine card will be issued.

(4) A permittee shall place in a conspicuous location on both sides of each vehicle or machine the words MO PERMIT and the permit numbers not less than three inches (3") high and one and one-half inches (1 1/2") wide in a contrasting color to the background of the vehicle or machine. Permit number shall be placed on the vehicle or machine within sixty (60) days of receiving the vehicle or machine registration card.

AUTHORITY: sections 256.606, 256.617, and 256.626, RSMo 2016.* Original rule filed April 2, 1987, effective July 27, 1987. Amended: Filed Aug. 17, 1993, effective March 10, 1994. Amended: Filed June 27, 2018, effective Feb. 28, 2019.

*Original authority: 256.606, RSMo 1991; 256.617, RSMo 1985; and 256.626, RSMo 1985, amended 1991.

10 CSR 23-1.150 Well Drilling and Pump Installation Machine Registration

(Rescinded March 10, 1994)

10 CSR 23-1.155 Well Drilling and Pump Installation Machine Registration

(Rescinded February 28, 2019)

AUTHORITY: sections 256.606 and 256.626, RSMo Cum. Supp. 1991. Emergency rule filed Nov. 16, 1993, effective Dec. 11, 1993, expired April 9, 1994. Original rule filed Aug. 17, 1993, effective March 10, 1994. Rescinded: Filed June 27, 2018, effective Feb. 28, 2019.

10 CSR 23-1.160 Mail and Notification Procedures

PURPOSE: This rule informs permittees of notification procedures.

(1) Permittees shall notify the department of any change of business, residential, mailing, and electronic mailing addresses within thirty (30) days of change and accept all mail sent by the department.

(2) Regular and certified mail sent with proper postage to the last known address will be considered adequate notification of notice served.

(3) Refusal to accept mail is a violation of these rules and may result in disciplinary action.

AUTHORITY: section 256.600, RSMo 2016.* Original rule filed April 18, 1990, effective June 28, 1990. Amended: Filed Nov. 1, 1995, effective June 30, 1996. Amended: Filed June 27, 2018, effective Feb. 28, 2019.

*Original authority: 256.600, RSMo 1985.