

3701-28-01      **Definitions.**

- (A) "Alter or alteration" means to make a change in the type of construction or configuration of a private water system, including without limitation,
  - (1) Adding or changing the design of continuous disinfection, water treatment, or methane treatment device or a cyst reduction filter;
  - (2) Converting a well with a buried seal to a well with a pitless adapter or well house installation;
  - (3) Extending a distribution system to a dwelling or dwellings;
  - (4) Disconnecting the water source from a service line going to one or more service connections including when connecting to a public water supply;
  - (5) Converting a well that uses a well pit to a well with a pitless adapter or well house type of construction; extending the casing above ground; deepening a well; or repairing, extending, or replacing any portion of the inside or outside casing or wall, or the walls of a spring or cistern, that extend below ground level;
  - (6) Conversion of a permitted test well to a private water system.
- (B) "ANSI" means the American national standards institute.
- (C) "API" means the American petroleum institute.
- (D) "Annular space" means the space between a borehole wall and the casing or casing coupling of a well, the space between a casing pipe and liner pipe, or the space between a temporary casing and a permanent casing.
- (E) "Aquifer" means a consolidated or unconsolidated geologic formation or series of formations that are hydraulically interconnected and that have the ability to receive, store, or transmit water.
- (F) "ASTM" means the American society for testing and materials.
- (G) "Bentonite" means a plastic, colloidal clay which has an extensive ability to absorb water and swell in volume, and which is composed predominantly of sodium montmorillonite.
- (H) "Bentonite grout" means a slurry of bentonite and water which has a minimum solids concentration of twenty per cent or bentonite in a pelletized, granular, or coarse grade form.
- (I) "Board of health" means the board of health of a city or general health district created by or under the authority of Chapter 3709. of the Revised Code, the authority having the duties of a board of health in any city as authorized under section 3709.05 of the Revised Code, or the authorized representative of such a board or authority.

- (J) "Building" means any structure as defined in section 3781.06 of the Revised Code.
- (K) "Cartridge filter" means a replaceable whole house in-line nominal or absolute device designed to remove small particles and microorganisms where;
- (1) "Nominal filter" is a filter capable of removing approximately eighty-five percent of particles of the designed pore size.
  - (2) "Absolute filter" is a filter capable of removing ninety-nine and ninety-five hundredths percent of particles of the designed pore size.
- (L) "Casing" means an impervious watertight durable primary or secondary pipe that is permanently placed in a well and is used to prevent the walls from caving, exclude surface drainage, undesirable water or other fluids, or unwanted or harmful materials from a well.
- (1) "Primary casing" means casing that is placed in the upper most portion of the borehole and may terminate below or extend above the natural ground surface.
  - (2) "Secondary casing" means a second string of smaller diameter casing that is installed within the primary casing, is grouted in place, and may terminate below or extend above the natural ground surface.
- (M) "CFU" means the number of bacteria colony forming units, or colonies, or individual bacteria that can be counted or estimated in a membrane filter or MMO/MUG multiple well coliform test.
- (N) "Cistern" means a private water system that uses rainwater collected from a roof or other rain collection device as a source of water.
- (O) "Coarse grade bentonite" means bentonite that has been crushed to a size of three-eighths to three-quarters of an inch.
- (P) "Coliform bacteria" means all of the aerobic and facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within forty-eight hours at thirty-five degrees Celsius.
- (Q) "Conductor pipe" or "tremie pipe" means a pipe of sufficient diameter used to place approved materials into the annular space of a well.
- (R) "Conductor pipe-pumped" means pressure grouting with a conductor pipe that is lowered to the bottom of the annular space with grout pumped from the bottom up in a continuous operation. The end of the conductor pipe remains submerged and full of grout at all times.
- (S) "Confined aquifer" means an aquifer bounded above and below by beds of distinctly lower permeability than that of the aquifer itself, and which contains ground water under pressure greater than that of the atmosphere.

- (T) "Confluent growth" means a continuous bacterial growth, covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.
- (U) "Consolidated" means lithified geologic formation materials. In Ohio these materials constitute formations such as sandstone, dolomite, limestone, shale, siltstone and coal.
- (V) "Contaminant" means any biological, chemical, physical, or radiological constituent in water that is or may become injurious to public health, safety or welfare.
- (W) "Contamination" means the presence of any contaminant into the private water system or ground water which renders the water unfit for human consumption.
- (X) "Continuous disinfection" means the whole- house treatment processes that include chlorination, iodination, ozonation, and ultraviolet light to destroy or inactivate disease causing microorganisms to make the source water acceptable for human consumption.
- (Y) "Cyst reduction" means the treatment process of filtration or ultraviolet light disinfection to reduce or destroy protozoa and their cyst, including but not limited to giardia species, cryptosporidia species, and amebic species to a log four number.
- (Z) "Department" means the department of health of the state of Ohio.
- (AA) "Develop or development" means to physically remove fine materials and sediment generated during construction of the well, by means including but not limited to surging, air surging or lifting, over pumping, backwashing, high velocity jetting or bailing of the completed well.
- (BB) "Director or director of health" means the director of the department of health of the state of Ohio and includes any authorized representative of the director.
- (CC) "Disinfect or disinfection" means the addition or use of chlorine or other disinfectant or process to the private water system to neutralize or destroy the growth of harmful bacteria.
- (DD) "Diversion ditch" means a shallow ditch, swale, earthen embankment, or other excavation to divert surface water away from a water source or supply.
- (EE) "Drive point well" means a small diameter well that has an one quarter inch to two inch diameter pipe constructed in unconsolidated material using a hardened drive point and screen.
- (FF) "Drive shoe" means a manufactured hardened steel collar with a beveled cutting edge that is attached to the lower end of a steel casing by threading or welding to protect the casing as it is driven.
- (GG) "Dry pour" means the placement of coarse grade bentonite into the annular space of a well or to seal a well by pouring using methods specified in rule 3701-28-09 and rule 3701-28-16 of the Administrative Code.

- (HH) "Dry hole" means an open borehole or cased borehole that does not produce water in sufficient quantity and that can not be modified with a low yield pump and storage reservoir, or combined with another water source to produce water for the intended use.
- (II) "Dwelling unit or house" means the place which is occupied by a person or persons as their primary residence or secondary seasonal residence.
- (JJ) "Floodplain or special flood hazard area" means the land in the floodplain subject to a one percent or greater chance of flooding in any given year. Special flood hazard areas are designated by the federal emergency management agency on flood insurance rate maps, flood insurance studies, flood boundary and floodway maps and flood hazard boundary maps as zones A, AE, AH, AO, A1-30, and A99. Special flood hazard areas may also refer to areas that are flood prone and designated from other federal state or local sources of data including but not limited to historical flood information reflecting high water marks, previous flood inundation areas, and flood prone soils associated with a watercourse as defined in Chapter 1521. of the Revised Code.
- (KK) "Flood way" as defined in section 1521 of the Revised Code means the channel of a river or other watercourse and the adjacent land areas that have been reserved in order to pass the base flood discharge. A floodway is typically determined through a hydraulic and hydrologic engineering analysis such that the cumulative increase in the water surface elevation of the base flood discharge is no more than a designated height. The floodway is an extremely hazardous area, and is usually characterized by any of the following: moderate to high velocity flood waters, high potential for debris and projectile impacts, and moderate to high erosion forces.
- (LL) "Formation" means a rock unit distinguished from adjacent deposits by a common characteristic.
- (MM) "Formation stabilizer or filter pack" means siliceous, well-rounded, clean and uniform sand or gravel that is free of contaminants and foreign matter, properly sized, washed and disinfected and placed between the borehole wall and the well screen to prevent formation material from entering through the screen and to stabilize the borehole.
- (NN) "Granular bentonite" means bentonite that has been processed to coarse granular particles ranging in size from eight to thirty mesh.
- (OO) "Ground water" means all water occurring in an aquifer.
- (PP) "Grout" means the materials set forth in or approved under paragraphs (F), (G), and (H) of rule 3701-28-09 of the Administrative Code.
- (QQ) "Grout displacement method" means placing a calculated volume of grout sufficient to fill the annular space plus fifteen percent extra grout into the borehole through a conductor pipe. A drillable plug is then attached to the bottom of the permanent casing and the permanent casing is lowered through the grout into the borehole allowing the grout to be forced up the annular space.

If necessary, pressure is applied to the top of the casing to hold it in place until the grout is set.

- (RR) "Grout shoe-continuous injection method" means pressure grouting by using a grout shoe with a check valve installed in the bottom of the permanent well casing and connected by a conductor pipe to the surface through which grout is pumped until the entire annular space is filled with grout. The conductor pipe is removed, the permanent casing set at the bottom of the borehole, and the grout allowed to set until cured.
- (SS) "Halliburton method" means pressure grouting by filling the casing and annular space with water, mud or a bentonite slurry and using a single plug or double plugs inserted watertight into the bottom or top of the permanent casing through which a calculated volume of grout sufficient to fill the annular space and the bottom ten feet of casing is pumped with a conductor pipe through a watertight seal. The grout is then displaced by using water pressure or pressure from the drill stem to advance the plug or plugs. Pressure is maintained in the casing until the grout has set.
- (TT) "Hauled water storage tank" means any tank used to store potable water for use as a private water supply delivered by a registered water hauler from an approved public water source.
- (UU) "Health District" means a city or general health district as created by or under the authority of section 3709.01 of the Revised Code.
- (VV) "High background count" or "HBC" means that the total number of bacterial colonies exceeds two hundred on a forty-seven millimeter diameter membrane filter used for coliform detection.
- (WW) "Human consumption" means the ingestion or absorption of water or water vapor as the result of drinking, cooking, dishwashing, hand washing, bathing, showering, oral hygiene, or other domestic uses such as flushing toilets and doing laundry.
- (XX) "Hydrostatic head" means the height of the free surface of a body of water above a given subsurface point or a reflection of the ground water level plus the pressure head.
- (YY) "Liner" means a removable pipe installed within a permanent well casing and may extend into the borehole to support the walls of the borehole through consolidated formations in the event of a collapse.
- (ZZ) "NSF" means the national sanitation foundation.
- (AAA) "Nominal diameter or nominal pipe size" means the inside diameter of pipe for pipe sizes one-inch through twelve inches in diameter and means the outside pipe diameter for pipe sizes greater than twelve inches in diameter.
- (BBB) "One hundred year flood" means a flood having a one percent chance of being equaled or exceeded in any given year.

- (CCC) "One hundred year flood plain" means a portion of a designated flood plain that may be inundated by a one hundred year flood.
- (DDD) "Oversized or enlarged borehole" means a borehole larger in diameter than the well casing pipe.
- (EEE) "Packer" means a rubber or inflatable device used to temporarily or permanently seal off a portion of the borehole, annular space or well casing.
- (FFF) "Pathogenic microorganism" means water borne pathogens as determined by the director to be either a:
- (1) "Primary pathogenic microorganism" which can cause disease in otherwise healthy people with exposure and dose and includes but is not limited to escherichia coli, enterococci or coliphage;
  - (2) "Opportunistic pathogen" is a commonly occurring microorganism found in water wells or a rare microorganism that does not normally cause disease in otherwise healthy people but can cause disease in sensitive populations including immune compromised individuals, infants, and the elderly.
- (GGG) "Peak demand" means the maximum potential water usage from the water source, based on an estimated seventy gallons per person per day or the estimated number of usable water fixtures running at full flow or the maximum pump capacity, if the pump limits the potential peak demand.
- (HHH) "Person" includes the state, a political subdivision, individual, corporation, business trust, estate, trust, partnership, association, or any legal entity defined as a person under section 1.59 of the Revised Code.
- (III) "Pitless adapter" means an assembly of parts which permits water to pass through the casing or extension thereof; provides access to the well and to the parts of the water system within the well; and provides for the transportation of the water and the protection of the well and water therein from surface or near surface contaminants.
- (JJJ) "Pitless unit" means an assembly which extends the upper end of casing to above grade and prevents the entrance of contaminants into the well, to conduct water from the well, to protect water from freezing or extremes of temperature and to allow access to the well and components of the pumping equipment.
- (KKK) "Point of discharge" means the jurisdictional end of a private water system where the water from a private water system can be sampled immediately before it enters the plumbing jurisdiction. The point of discharge includes the sampling port immediately before, at, or after the pressure tank where no required treatment exists. Where continuous disinfection or water treatment is required on the private water system the point of discharge is the sampling port immediately after the retention tank, treatment media tank, or mixing tank for chemical disinfectant or the sampling port immediately after the ultraviolet light device.
- (LLL) "Potable water" means water which is satisfactory for all drinking, culinary, and domestic purposes; including flushing toilets and doing laundry.

(MMM) "Powdered bentonite" means sodium bentonite with or without polymer added used in drilling fluid.

(NNN) "Pressure grouting" means any of the following methods of placing a grout slurry into a well or the annular space of a well:

- (1) Conductor pipe-pumped
- (2) Grout shoe – continuous injection
- (3) Well seal with conductor pipe- pumped
- (4) Halliburton method
- (5) Grout displacement method.

(OOO) "Primary maximum contaminant level" or "MCL" means the maximum permissible level of a contaminant in water as established by the United States environmental protection agency and adopted by the Ohio environmental protection agency for public water systems and used as guidelines for private water systems.

(PPP) "Private water system" means any water system, other than a public water supply system, for the provision of water for human consumption, if the system has fewer than fifteen service connections and does not regularly serve an average of at least twenty-five individuals daily at least sixty days each year. A private water system includes any:

- (1) Well, spring, cistern, pond, or hauled water and;
- (2) Any equipment for the collection, distribution, transportation, filtration, disinfection, treatment, or storage of water extending from and including the source of the water to the point of discharge from any pressure tank or other storage vessel;
- (3) To the point of discharge from the water pump where no pressure tank or other storage vessel is present;
- (4) To the point where the distribution line enters the foundation of the building or dwelling, where the pressure tank is outside of the building or dwelling;
- (5) Or, in the case of multiple service connections serving more than one dwelling, to the point of discharge from each service connection where the service connection enters the foundation of the dwelling.
- (6) A private water system does not include the water service line extending from the point of discharge to a structure except when the water service line extends to another dwelling or building.
- (7) "Single family dwelling" means a private water system source serving only one dwelling

- (8) "Non single family" means a private water system source serving more than one family dwelling, a multi-unit dwelling, small manufactured home park, or transient locations including but not limited to, a small church, small business, or bed- and- breakfast.
- (9) A private water system includes public water systems that are defined as exempt in section 6109.02 of the Revised Code and use hauled water storage tanks for the only source of water.
- (10) A private water system also includes auxiliary water sources that enter a structure to supplement flushing toilets or laundry washing.
- (QQQ) "Private water systems contractor" or "contractor" means a person who is registered as a private water systems contractor in accordance with rule 3701-28-18 of the Administrative Code that constructs or develops a well for use as or as a part of a private water system or otherwise constructs a private water system, installs pumping equipment for a private water system, alters a private water system, repairs a private water system, seals a private water system, or performs any combination of those activities for hire; or, who inspects or evaluates private water systems for hire.
- (RRR) "Public water supply system" has the same meaning as in division (A) of section 6109.01 of the Revised Code.
- (SSS) "Registered contractor", "registered water systems contractor" or registrant means a person who is registered as a water systems contractor in accordance with division (B) (3) of section 3701.344 of the Revised Code and Chapter 3701-28 of the Administrative Code.
- (TTT) "Repair" means any work performed on a private water system for the purpose of servicing or replacing with a like component such as replacing a submersible pump with a submersible pump and changing from a jet pump to a submersible pump or submersible pump to a jet pump or other configuration of pumping equipment. Repair includes, without limitation, servicing or replacing pumps or pumping equipment, filtration or disinfection equipment, storage or pressure tanks, belts, couplings, switches, or fuses, and all well caps. Repair does not include an alteration to the casing or wall of a water well or the walls of a spring box, hauled water storage tank, or cistern.
- (UUU) "Right-of-way" means a general term denoting land, property, or the interest therein, usually in the configuration of a strip, acquired for or devoted to transportation purposes. When used in this context, right-of-way includes the roadway, shoulders or berm, ditch, and slopes extending to the right-of-way limits under the control of the state or local authority.
- (VVV) "Saline water" is water with total dissolved solids (TDS) between one thousand milligrams per liter and thirty-five thousand milligrams per liter or specific conductivity between one thousand five hundred micro siemens per centimeter and fifty-four thousand micro siemens per centimeter obtain by multiplying the TDS by one and five tenths where;

- (1) Slightly saline water has TDS from one thousand milligrams per liter to three thousand milligrams per liter or multiplied by one and five tenths for micro siemens per centimeter;
  - (2) Moderately saline water has TDS from three thousand milligrams per liter to ten thousand milligrams per liter or multiplied by one and five tenths for micro siemens per centimeter;
  - (3) Highly saline water has TDS from ten thousand milligrams per liter to thirty-five thousand milligrams per liter or multiplied by one and five tenths for micro siemens per centimeter;
  - (4) Brine water has a TDS greater than thirty-five thousand milligrams per liter or greater than thirty-five thousand milligrams per liter multiplied by one and five tenths for micro siemens per centimeter.
- (WWW) "Seal" means to close or properly abandon a well, cistern or hauled water storage tank or to close a portion of a well or the annular space of a well.
- (XXX) "Service connection" means that point at which the private water system enters any structure used for agricultural purposes, building, or dwelling or camp or multiple housing unit. Where no structure is used for agricultural purposes, no building, or no dwelling exists, each water outlet shall be considered a service connection.
- (YYY) "Service line or water service line" means the piping that carries water from a well, cistern, hauled water storage tank, spring, or pond to the service connection(s) and the other components of the private water system to the point of discharge.
- (ZZZ) "Shale trap" means a conical shaped rubber packer that is attached to the bottom of the casing to seal the annular space and prevent grout from entering the open borehole or screened area of the well.
- (AAAA) "Source" means the site from which water is obtained for the purpose of supplying water to a private water system. Source includes a well, pond, spring box, cistern tank, hauled water storage tank or water hauler.
- (BBBB) "Spring" means a private water system where ground water flows naturally from rock or soil onto the land surface or into a body of water or a shallow aquifer that is intercepted at a depth of ten feet or less.
- (CCCC) "Standard weight pipe" or "standard weight" means a class of pipe weight designated by ANSI which is equivalent to schedule forty for nominal pipe sizes ranging from one-eighth of an inch to ten inches in diameter, and varies with pipe dimension for greater pipe diameters.
- (DDDD) "Static water level" means the level of the water when measured from the established ground surface to the water surface in a well that is neither being pumped nor under the influence of pumping, or that is flowing under artesian pressure.
- (EEEE) "Surface water" means:

- (1) All water which is open to the atmosphere and subject to surface runoff, or
  - (2) Ground water under the direct influence of water which is open to the atmosphere or subject to surface runoff, as indicated by ;
    - (a) Significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as giardia lamblia or cryptosporidium, or
    - (b) The presence of biological contamination significant to human health, or
    - (c) Improper well construction or inadequate sanitary isolation radius; or
    - (d) Significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions.
- (FFFF) "Temporary casing" means durable pipe placed or driven into a borehole to maintain an open annular space around the permanent casing during the construction of a well. If temporary casing is left in place, it becomes permanent casing and is subject to the requirements of permanent casing in this chapter.
- (GGGG) "Turbidity" means having sediment or particles stirred up or suspended in the water, reducing the clarity. Turbidity is an expression of the optical properties of a sample that causes light rays to be scattered and absorbed rather than transmitted in straight lines through the sample. Turbidity is caused by the presence of suspended or dissolved matter such as clay, silt, minerals, and microorganisms measured using nephelometric turbidity units (NTU).
- (HHHH) "Test well or test hole" means any excavation, regardless of design or method of construction, done for the purpose of determining the most suitable site for removing ground water from an aquifer for use in a private water system and is regarded as new well construction.
- (IIII) "Thermoplastic" means polyvinyl chloride plastic (PVC) or acrylonitrile butadiene styrene (ABS).
- (JJJJ) "Total dissolved solids or salts (TDS)" is a measure of all constituents dissolved in water. The inorganic anions dissolved in water includes carbonates, chlorides, sulfates and nitrates. The inorganic cations include sodium, potassium, calcium and magnesium.
- (KKKK) "Unconsolidated" means geologic formations composed of materials that are loose and not lithified.
- (LLLL) "Water hauler" means a contractor that is in the business of hauling potable water from a public water supply to a private water system that includes on-site hauled water tanks, cisterns, and supplemental water reservoirs for wells, ponds, and springs, and to public water system hauled water storage tanks defined as exempt in section 6109.02 of the Revised Code.
- (MMMM) "Water treatment" means for the purposes of this chapter continuous disinfection, continuous filtration, cartridge filtration when used in conjunction

with ultraviolet light disinfection and continuous pond filtration, cyst reduction filtration, and devices designed for the removal of chemical contaminants. Unless installed prior to an ultraviolet light treatment device, water treatment does not include the installation of devices to treat aesthetic conditions such as hardness, iron, and hydrogen sulfide.

(NNNN) "Well" means any excavation greater than ten feet below the ground surface regardless of design or method of construction that is done or used for any of the following purposes:

- (1) Removing ground water for the provision of water for human consumption;  
or
- (2) Determining the quality, quantity, or level of ground water in or the stratigraphy of an aquifer, excluding borings for instrumentation in dams, dikes or levees or highway embankments.

(OOOO) "Well cap" or "cap" means a manufactured device used to enclose the atmospheric termination of the well casing.

(PPPP) "Well screen" or "screen" means a manufactured intake structure with uniform openings used in unconsolidated formations designed to retain the aquifer formation, prevent collapse of the borehole adjacent to the screen, and accommodate a yield adequate for the intended use of the well.

(QQQQ) "Well seal with conductor pipe-pumped" means pressure grouting by setting the permanent casing just above the bottom of the borehole and filling the casing and annular space with water, drilling mud or a bentonite slurry. Conductor pipe is then set inside the casing to the bottom of the borehole either through a watertight well seal or packer. Grout is pumped into the annular space displacing all other fluids in the annular space and the permanent casing set in place.

(RRRR) "Well vent or vent" means a manufactured screened opening in a well seal or cap or located at the end of an extension above flood level to allow atmospheric pressure to be maintained in the well.

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