3745-9-01 **Well standard definitions.**

Except as otherwise noted, the definitions in rule 3745-81-01 of the Administrative Code shall apply to this chapter.

(A)

(1) "Abandoned well" means a well, test hole, or dry hole whose use has been permanently discontinued. A properly abandoned well has been sealed as defined in paragraph (S)(1) of this rule. An improperly abandoned well has not been sealed as defined in paragaph (S)(1) of this rule.

(2) "Alter" or "alteration" means to make a substantial change in construction or configuration of a public water system, including without limitation: changing well pump design capacity; converting a well with a buried seal to a well with a pitless adapter or well house installation; converting a well that uses a well pit to a well with a pitless adapter or well house type of construction; deepening a well; installing a liner; or modifying, extending or replacing any portion of the casing or borehole.

(3) "API" means American petroleum institute.

(4) "ANSI" means American national standards institute.

(5) "Anticipated permanent design pumping rate" means the rate at which the public water system anticipates pumping water from the well during normal operation using the permanent well pump.

(6) "ASTM" means the American society for testing materials.

(7) "AWWA" means American water works association.

(B)

(1) "Bentonite" means a plastic, colloidal clay which has an extensive ability to absorb water and swell in volume, and which is composed predominantly of the mineral sodium montmorillonite.

(2) "Brine" means water that has a total dissolved solids concentration greater than thirty-five thousand milligrams per liter, or greater than thirty-five thousand milligrams per liter multiplied by one and five tenths microsiemens per centimeter. [Comment: Thirty-five thousand parts per million or ppm total dissolved solids is seawater.]

(C)

(1) "Casing" means an impervious durable pipe that is placed in a well and is used to prevent the walls from caving, and to exclude surface drainage, undesirable water or other fluids, or unwanted or harmful materials from a well. Casing includes pipe used for both primary or production casing, and secondary or surface casing.

(2) "Coarse grade bentonite" means bentonite that has been crushed to a size of three-eighths to three-quarters of an inch.

(3) "Conductor pipe--gravity" means allowing cement grout to flow by gravity through a funnel or hopper connected to a conductor pipe.

(4) "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.

(5) "Construction and demolition debris facility" means as defined in rule 3745-500-02 of the Administrative Code.

(D)

(1) "Develop" or "development" means to physically remove, or the process of removing, all fine materials and sediment generated during construction of the well, by means including but not limited to surging, air surging or lifting, overpumping, backwashing, high velocity jetting or bailing of the completed well.

(2) "Drinking water source protection area" means the surface and subsurface area surrounding a public water supply well, which will provide water from an aquifer to the well within five years as delineated or endorsed by the agency under Ohio's source water assessment and protection programs.

(3) "Drive shoe" means a hardened steel collar with a beveled cutting edge that is attached to the lower end of a casing by threading or welding to protect the casing as it is driven.

(4) "Drop pipe" means a pipe or pipes within a well casing which conducts water from the well to the pitless adapter or pitless unit.

(5) "Dry hole" means a well that does not produce water in sufficient quantity for the intended use.

(6) "Dug well" means a well consisting of a large diameter hole, deeper than it is wide, constructed into the ground, usually by hand, but if by mechanical means, by methods other than drilling, jetting, auguring or boring, and within which the side walls are supported by stone, brick, tiles or other similar materials.

(E) "Effective grain size" means the ninety per cent retained size of a sediment as determined from a grain size analysis.

(F)

(1) "FEMA" means federal emergency management agency.

(2) "Floodplain" means the area adjoining any river, stream, watercourse or lake that has been or may be covered by flood water.

(3) "Floodway" means the channel of a river or stream, and those portions of the floodplain adjoining the channel required to carry the flood discharge.

(4) "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 placed between the borehole wall and the well screen to prevent formation material from entering through the screen and to stabilize the borehole.

(G)

(1) "Granular bentonite" means bentonite that has been processed to coarse granular particles ranging in size from thirty-three to ninety-three thousandths of an inch.

(2) "Grout" means a slurry of cement, bentonite, clay or other impervious material that is used to seal a well, test hole, dry hole or annular space. Grout specifications for sealing are in rule 3745-9-07 of the Administrative Code.

(3) "Grout displacement" method means placing a calculated volume of grout sufficient to fill the annular space plus fifteen per cent extra grout into the

borehole through a conductor pipe. The grout is then pressurized to force the grout into the annular space.

(4) "Grout shoe--continuous injection" 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.

(H)

(1) "Human or animal waste management facility" means any of the following:

(a) A class I, II, or III compost facility as defined in rule 3745-560-02 of the Administrative Code.

(b) A regional sewage sludge storage facility and other bulk storage facility for non-exceptional quality biosolids as defined in rule 3745-40-01 of the Administrative Code.

(c) A manure storage or treatment facility, fabricated manure storage structure, manure storage pond, or manure treatment lagoon as defined in rule 901:10-1-01 of the Administrative Code.

(d) A wastewater treatment facility as defined in rule 3745-33-01 of the Administrative Code, or storage facility as defined in rule 3745-42-13 of the Administrative Code.

(2) "Hydrofracturing" means a method of well development where pressurized water is injected into a well in order to increase the aquifer productivity by artificially creating or modifying existing fissures and fractures within the aquifer unit.

(I) "Inner management zone" means the surface and subsurface area within a drinking water source protection area for a public water supply system using ground water surrounding a public water supply well that will provide water to the well within one year as delineated or endorsed by the agency under Ohio's source water assessment and protection programs.

(J) [Reserved.]

(K) [Reserved.]

(L)

(1) "Land application area", for the purposes of this chapter, means any of the following:

(a) A beneficial use site or area used for field storage for non-exceptional quality biosolids as defined in rule 3745-40-01 of the Administrative Code.

(b) A land application area, staging area or stockpiling area as defined in rule 901:10-1-01 of the Administrative Code.

(c) A wastewater land application area as defined in rule 3745-42-13 of the Administrative Code.

(2) "Landfill" means a sanitary landfill, industrial waste landfill or residual waste landfill as defined in rule 3745-27-01 or 3745-30-01 of the Administrative Code.

(3) "Lead free" means the same as defined in section 6109.10 of the Revised Code.

(4) "Liner" means a well casing installed within another well casing. A liner may include a perforated section that extends into the open portion of a borehole to support the walls of the borehole and allow movement of ground water into the well.

(M)

(1) "Monitoring well" means an excavation by digging, boring, drilling, driving or other method that is done or used to extract samples of ground water or for the purpose of determining the quality, quantity or level of ground water.

(2) "Monofill" means a scrap tire monofill as defined in rule 3745-27-01 of the Administrative Code.

(N)

(1) "Nonpotable well" means any well described in section 6111.42 of the Revised

Code that is not used for the provision of water for human consumption. Nonpotable wells include, but are not limited to, wells used to provide water for irrigation, non-contact cooling water, water for use in commerical and industrial processes, and water for use in open-loop geothermal heating and cooling systems.

(2) "NSF" means the national sanitation foundation.

(O) "One hundred year floodplain" means a portion of a designated floodplain that may be inundated by a flood having a one per cent chance of being equaled or exceeded in any given year.

(P)

(1) "Packer" means a rubber or inflatable device used to temporarily or permanently seal off a portion of the borehole, annular space or well casing.

(2) "Pelletized bentonite" means bentonite that has been processed into pellets or tablets that have a diameter of one fourth to one half inch.

(3) "Permanent design pumping rate" means the nominal capacity of the installed pump, per the manufacturer's specifications.

(4) "Pitless adapter" means an assembly of parts which will permit 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.

(5) "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.

(6) "Point well" means a well with casing with an integral screen and drive point that is installed by driving or jetting.

(7) "Pressure grouting" means any of the following methods of placing a grout slurry into a well or the annular space of a well: conductor pipe-pumped; grout shoe-continuous injection; well seal with conductor pipe-pumped; and,

grout displacement method.

(8) "Private water system" means the same as defined in division (A) of section 3701.344 of the Revised Code.

(9) "Public entity" means the federal government, the state, any political subdivision and any agency, institution or instrumentality thereof.

(10) "Public water system well" means a well, except a monitoring well, for use by a public water system.

(Q) "Qualified ground water professional" means a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has at least five years relevant experience in ground water hydrology and related fields to enable that individual to make sound professional judgments regarding ground water resources; water well construction, testing and development; and identification and migration of contaminants.

(R)

(1) "Radial collector well" means a water collector that is constructed as a dug well that has been sunk as a caisson. Screens are installed radially and approximately horizontally from the caisson into the aquifer.

(2) "Repair" means any work performed on a well for the purpose of servicing or replacing a component with a comparable component. Repair includes, without limitation, servicing pumps or pumping equipment, and couplings. Repair does not include a modification to the casing or wall of a well.

(S)

(1) "Seal" means to close a portion of or the entirety of a well, test hole or dry well for the purposes of closing the annular space of a well or permanently discontinuing (abandoning) use.

(2) "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.

(3) "Soil absorption system" means the final treatment component of an onsite

sewage treatment system that utilizes absorption and adsorption to treat and disperse the treated sewage into subsurface soils.

(4) "Source water assessment and protection program" means Ohio EPA's program based on the Safe Drinking Water Act (or SDWA) as amended in 1996.

(5) "Specific capacity" means the rate of discharge of a water well per unit of drawdown, commonly expressed in gallons per minute per foot. It varies with duration of discharge and the pumping rate.

(6) "Standard dimension ratio (SDR)" means the ratio of average outside pipe diameter to minimum pipe wall thickness.

(7) "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.

(8) "Susceptibility" is the likelihood for the source of water used by a public water system to become contaminated, as determined through the source water assessment and protection program.

(T)

(1) "Test hole" means any excavation, regardless of design or method of construction, for the purpose of determining the most suitable site for removing ground water from an aquifer.

(2) "Thermoplastic" means polyvinyl chloride (PVC) or acrylonitrile butadiene styrene (ABS).

(U) "Uniformity coefficient" means a ratio of the sieve-size opening that will pass sixty per cent of a representative sample of the filter material divided by the sieve-size opening that will pass ten per cent of the material.

(V) [Reserved.]

(W)

(1) "Well" means any excavation by digging, boring, drilling, driving or other method for the purpose of removing ground water from an aquifer, except a

private water system well or a monitoring well.

(2) "Well cap" or "cap" means a device used to enclose the atmospheric termination of the well casing, and a device that covers and encloses the upper termination of a pitless unit or the well casing and provides protection to the top, exposed portion of the well casing by being tamper resistant, forming a protective cover from the elements, and being resistant to the entry of vermin or contaminants.

(3) "Well house" or "pumphouse" means a building designed and constructed solely to house pumping and water system equipment.

(4) "Well screen" or "screen" means a manufactured intake structure with uniform openings 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.

(5) "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.

(6) "Well vent" or "vent" means a screened opening in a well seal or cap to allow atmospheric pressure to be maintained in the well.

(X) [Reserved.]

(Y) [Reserved.]

(Z) [Reserved.]

(AA) Referenced materials. This chapter includes references to certain subject matter or materials. The text of the referenced materials is not included in the rules contained in this chapter. Information on the availability of the referenced materials as well as the date of and the particular edition or version of the material is included in this rule. For materials subject to change, only the specific version specified in this rule are referenced. Material is referenced as it exists on the effective date of this rule. Except for subsequent annual publication of existing (unmodified) Code of Federal

Regulation compilations, any amendment or revision to a referenced document is not referenced unless and until this rule has been amended to specify the new dates.

(1) Availability. The referenced materials are available as follows:

(a) "American National Standards/American Water Works Association" (ANSI/AWWA). A copy may be obtained from "AWWA Bookstore, 6666 W. Quincy Avenue, Denver, CO, 80235," (303) 794-7711, www.awwa.org. The standards are available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215."

(b) "American National Standards/National Sanitation Foundation" (ANSI/NSF). A copy may be obtained from "NSF International, 789 N. Dixboro Road, P.O. Box 130140, Ann Arbor, MI 48105," (734) 769-8010, www.nsf.org. The standards are available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215."

(c) "American Petroleum Institute" (API). A copy may be obtained from "API, 1220 L Street NW, Washington, DC 20005-4070," (202) 682-8000, www.api.org. The standards are available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215."

(d) "American Society for Testing Materials" (ASTM). Information and copies of documents may be obtained by writing to: "ASTM International, 100 Bar Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania 19426-2959." These documents are also available for purchase at www.astm.org. ASTM documents are also available for inspection and use at most public libraries and "The State Library of Ohio."

(e) "American Welding Association" (AWS). A copy may be obtained from "American Welding Society, 8669 Northwest 36 Street, #130, Miami, FL, 33166-6672," (305) 443-9353, www.aws.org. The standards are available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215."

(f) Federal Register. Information and copies may be obtained by writing to: "Superintendent of Documents, Attn: New Orders, PO Box 371954, Pittsburgh, PA 15250-7954." Online access to the Federal Register is

available at https://www.govinfo.gov/app/collection/FR/. A copy of the Federal Register is also available for inspection and use at most public libraries and "The State Library of Ohio."

(g) "Method 533: Determination of Per- and Polyflouroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry." A copy may be obtained from "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215," (614) 644-2752,www.epa.gov.

(h) "Method 537.1: Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)." A copy may be obtained from "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215," (614) 644-2752,www.epa.gov.

(i) "Ohio EPA Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring." A copy may be obtained from "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215," (614) 644-2752, www.epa.ohio.gov. The document is available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215."

(j) The "State of Ohio Regulations and Technical Guidance For Sealing Unused Water Wells and Boreholes." A copy may be obtained from "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215," (614) 644-2752, www.epa.ohio.gov. The document is available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215."]

(k) United States Code (USC). Information and copies may be obtained by writing to: "Superintendent of Documents, Attn: New Orders, PO Box 371954, Pittsburgh, PA 15250-7954." The full text of the United States Code is also available in electronic format at https://www.govinfo.gov/app/collection/uscode/. The USC compilations are also available for inspection and use at most public libraries and "The State Library of Ohio."

(l) "Water System Council" (WSC). A copy may be obtained from "Water Systems Council, 1101 30th Street NW, Suite 500, Washington, DC,

20007," (202) 625-4387, www.watersystemscouncil.org. This document is available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215."

(2) Referenced materials:

(a) "ANSI/AWWA C219, Bolted, Sleeve-Type Couplings for Plain-End Pipe," August 1, 2017.

(b) "ANSI/NSF 14, Plastics Piping System Components and Related Materials," June 22, 2020.

(c) "ANSI/NSF 60, Drinking Water Treatment Chemicals - Health Effects," November 4, 2020.

(d) "ANSI/NSF 61, Drinking Water System Components - Health Effects," May 9, 2020.

(e) "API 5L, Specification for Line Pipe," forty-sixth edition, effective date November 1, 2018.

(f) "API RP 5B1, Gauging and Inspection of Casing, Tubing, and Line Pipe Threads," fifth edition, October 1999.

(g) "ASTM A53, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless," approved July 15, 2020.

(h) "ASTM A106, Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service," approved November 26, 2019.

(i) "ASTM A500, Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes," approved January 21, 2021.

(j) "ASTM A589, Standard Specification for Seamless and Welded Carbon Steel Water-Well Pipe," approved October 2, 2018.

(k) "ASTM C150-00, Standard Specification for Portland Cement," approved August 12, 2021.

(l) "ASTM F480-00, Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 And SCH 80," approved September 1, 2020.

(m) "AWS D10.12M, Guide for Welding Mild Steel Pipe," approved in 2000.

(n) "AWS D1.1, Structural Welding Code-Steel," approved in 2020.

(o) "AWWA A100, Water Wells," effective date July 1, 2020.

(p) "AWWA C206, Field Welding of Steel Water Pipe," effective date April 1, 2017.

(q) "AWWA C654, Disinfection of Wells," effective date July 1, 2013.

(r) "Safe Drinking Water Act" (SWDA). 88 Stat. 1660 (1974), Title 42 U.S.C. 300(f), as amended by the "Safe Drinking Water Act Amendments of 1977," 91 Stat. 1393, 42 U.S. C. 300(f), the "Safe Drinking Water Act Amendments of 1986," 100 Stat. 642, 42 U.S.C. 300(f), and the "Safe Drinking Water Act Amendments of 1996," 110 Stat. 1613, 42 U.S.C. 300(f), and regulations adopted under those acts.

(s) "Ohio EPA Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring," published in February 1995 and as amended through April 2015.

(t) The "State of Ohio Regulations and Technical Guidance For Sealing Unused Water Wells and Boreholes," March 2015.

(u) "WSC PAS-97, Performance Standards and Recommended Installation Procedures for Sanitary Water Well Pitless Adapters, Pitless Units, and Well Caps," approved in 2019.

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