

Utah County Health Department

Health Regulation 16-01
Approval of Nonpublic Water Systems

Adopted by the Utah County Board of Health

Date: 03-28-2016

Under Authority of Utah Code 26A-1-121

Utah Code Annotated, 1953, as amended

1.0 PURPOSE

The purpose of this regulation is to ensure that nonpublic water systems are properly constructed to provide a potable water supply to the user(s); to ensure that all private wells and springs are located, constructed, developed and maintained in a manner which does not adversely affect public health and the environment; to regulate the use of nonpublic water systems and private water production wells within the Utah County Health Department's jurisdiction; and to provide standards for abandonment of private wells.

- 1.1 Protect and promote the public health, safety and welfare;
- 1.2 Protect and prevent contamination of the aquifer;
- 1.3 Prevent the spread of disease;
- 1.4 Prevent the creation of nuisances;
- 1.5 Prevent groundwater pollution; and provide standards when approval of a water supply is required.

2.0 TITLE AND APPLICABILITY

- 2.1 These standards shall be known as the Approval of Nonpublic Water Systems, hereinafter referred to as "This regulation."
- 2.2 This regulation shall govern the approval of nonpublic drinking water systems serving 1-7 lots or fewer than 25 persons per day, and any nonpublic drinking water system not regulated by Utah Administrative Code R309-100.
- 2.3 Any subdivision exceeding 7 lots or 25 persons per day is subject to Utah Administrative Code R309-100.
- 2.4 This regulation establishes definitions, sets administrative requirements, and sets potable water supply and quality requirements.
- 2.5 This regulation shall apply to all drinking water systems in Utah County.

3.0 DEFINITIONS

For the purpose of this regulation and unless defined in other sections, these terms, phrases, and words shall have the following meanings:

- 3.1 Annular Space: The space between the borehole wall and the outside of a water well casing pipe.
- 3.2 Aquifer: An underground geologic formation that contains and transmits groundwater.
- 3.3 Approval Letter: Letter issued by the Utah County Health Department indicating that the requirements in this regulation have been satisfied.
- 3.4 Board of Health: The Utah County Board of Health.
- 3.5 Concentrated Sources of Pollution: Sources that include, but are not limited to septic tanks, drain field systems, drain lines, ordinary sewer lines, garbage dumps, pit privies, pesticide or hazardous waste disposal storage

locations, feedlots, and anywhere animals congregate causing an accumulation of waste.

- 3.6 Construction of Well: Acts necessary to construct private wells, including the locating, boring, digging, drilling, or otherwise excavating of a well hole and the installation of casing with or without well screens, and well curbing.
- 3.7 Department: The Utah County Health Department.
- 3.8 Director: The Environmental Health Director of the Utah County Health Department or authorized representative.
- 3.9 Grout: A fluid mixture of Portland cement or bentonite with water of a consistency that can be forced through a pipe and placed as required. Various additives such as sand, bentonite, and hydrated lime may be included in the mixture to meet different requirements.
- 3.10 Grouted Well: A well with the following construction: The annular space between the drilled hole and the well casing shall be grouted or otherwise sealed to eliminate water of questionable quality from seeping alongside the casing into the water bearing aquifer. Such grouting shall be at least two inches thick, and extend a minimum of 30 feet below the surface into an effective geologic seal. The well casing shall extend to an elevation greater than the maximum floodwater elevation, but not less than 18 inches above the surrounding ground. (Casings terminated in underground vaults may be approved on a case-by-case basis.)
- 3.11 Individual Wastewater and Drinking Water Approval: A permit to construct an individual wastewater treatment system with an approved on-site supply of potable water.
- 3.12 Letter of Approval: A letter issued by the Utah County Health Department stating that the nonpublic drinking water source meets the requirements of this regulation.

- 3.13 Owner: Any person who alone, jointly or severally with others who:
- A. Has legal title to any premises, dwelling, or dwelling unit, with or without accompanying actual possession thereof, or
 - B. Has charge, care or control of any premises, dwelling, or dwelling unit, as legal or equitable owner, agent of the owner, lessee, or is an executor, administrator, trustee, or guardian of the estate of the owner.
- 3.14 Non-Community Water System (NCWS): A public water system that is not a community water system. There are two types of NCWS's: transient and non-transient.
- 3.15 Non-Transient Non-Community Water System (NTNCWS): A public water system that regularly serves at least 25 of the same nonresidential persons per day for more than six months per year. Examples of such systems are those serving the same individuals (industrial workers, school children, church members) by means of a separate system.
- 3.16 Nonpublic Water System: Any potable water system which is not subject to the regulations of the Utah Drinking Water Board.
- 3.17 Peak Instantaneous Flow Conditions: The sum of peak flows for indoor use, outdoor use, and fire flow requirements in accordance with the State of Utah Rules for Public Drinking Water Systems.
- 3.18 Person: Any individual, public or private corporation and its officers, partnership, association, firm, trustee, executor of an estate, the state or its departments, institution, bureau, agency, county, city, political subdivision, or any legal entity recognized by law.

- 3.19 Pollution: Such contamination or other alteration of the physical, chemical or biological properties of any waters of the state or such discharge of any liquid, gaseous or solid substance into any waters of the state as will create a nuisance or render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.
- 3.20 Potable Water: Water which is satisfactory for drinking, culinary, and domestic purposes and meets the requirements stated in these rules.
- 3.21 Potential Contamination Source: Any facility, site or use that employs an activity or procedure which may potentially contaminate ground water, whether it currently does or not.
- 3.22 Private Water Production Well: A privately owned well constructed to supply water for any purpose which has been approved by the state engineer (such as irrigation, stock water, domestic, commercial, industrial, etc.).
- 3.23 Private Spring: Any spring constructed and developed for a person that is intended as a source of drinking water or water for household culinary use and is not intended for use by a public water system.
- 3.24 Private Well: Any water well constructed for a person that is intended as a source of drinking water or water for household culinary use and is not intended for use by a public water system.
- 3.25 Public Water System: A system, either publicly or privately owned, providing water through constructed conveyances for human consumption and other domestic uses, which:
- (a) Has at least 15 service connections
- OR

(b) Serves an average of at least 25 individuals daily at least 60 days out of the year

(c) includes collection, treatment, storage, or distribution facilities under the control of the operator and used primarily in connection with the system.

All public water systems are further categorized into three different types:

- i. Community (CWS),
- ii. Non-transient non-community (NTNCWS), and
- iii. Transient non-community (TNCWS).

These categories are important with respect to required monitoring and water quality testing found in R309-205 and R309-210 (see also 3.31).

3.26 Recreational Property: Property that is primarily intended for recreational use and is not occupied on a year-round basis.

3.27 Satisfactory Bacteriologic Sample: A water sample that tests negative for coliform organisms or other indicator organisms. Samples shall be analyzed by a National Environmental Laboratory Accreditation Program or a Laboratory certified by the Utah Department of Environmental Quality.

3.28 Shall: A mandatory term.

3.29 UngROUTED Well: A well that does not meet the criteria for a grouted well as defined in 3.9.

3.30 Spring: A water source issuing from the ground, fed by precipitation traveling from a higher elevation through natural soil.

3.31 Transient Non-Community Water System (TNCWS): A non-community public water system that does not serve 25 of the same nonresident persons per day for more than six months

per year. Examples of such systems include RV parks, diners or convenience stores where the permanent nonresident staff number less than 25, but the number of people served exceeds 25.

- 3.32 Individual Wastewater Disposal Treatment Permit: A permit to construct an onsite wastewater treatment system issued by the Department.
- 3.33 Water System: All lands, property, rights, rights-of-way, easements and related facilities owned by a single entity, which are deemed necessary or convenient to deliver drinking water from source to the service connection of a consumer(s). This includes all water rights acquired in connection with the system, all means of conserving, controlling and distributing drinking water, including but not limited to: diversion or collection works, springs, wells, treatment plants, pumps, lift stations, service meters, mains, hydrants, reservoirs, tanks and associated appurtenances within the property or easement boundaries under the control of or controlled by the entity owning the system.
- 3.34 Well: Any excavation that is drilled, cored, bored, driven, dug, fitted, or otherwise constructed and the intended use of the excavation is to acquire groundwater.

4.0 AUTHORITY

- 4.1 It is the responsibility of the Utah County Health Department to provide nonpublic water protection standards for the citizens of Utah County as legislated under Section 26A-1-106 and 26A-1-108 of the Utah Code Annotated, 1953 as amended.

- 4.2 The Utah County Board of Health is authorized to make standards and regulations pursuant to subsection 26A-1-121(1) of the Utah Code Annotated, 1953 as amended.
- 4.3 The Utah County Board of Health is authorized to establish and collect fees pursuant to Section 26A-1-114 of the Utah Code Annotated, 1953 as amended, and Utah County Code 10-2-5(8) (A) .
- 4.4 The Department may deny approval if it appears that the operation of the nonpublic water system will not comply with this regulation.

5.0 PROHIBITIONS

- 5.1 It shall be unlawful to install, construct, or place into use any nonpublic water system without an approval letter issued by the Department.
- 5.2 It shall be unlawful to expand a building or dwelling, change the use of real property, or convey real property without a review of the nonpublic water system by the Department.
- 5.3 It shall be unlawful to use or maintain any nonpublic water system that is not adequately functioning. Nonpublic water systems shall be maintained in good working order. There shall be no activities or conditions allowed which would interfere with the proper operation of a nonpublic water system.

6.0 GENERAL POWERS AND DUTIES

The Department, through the Division of Environmental Health, shall be responsible for the administration of this regulation and any other powers vested in it by law and shall:

- 6.1 Require the submission of reports, plans and specifications for any use of individual water systems as necessary to implement the provisions, requirements, and standards of this regulation.
- 6.2 Charge fees to the owner(s) for all inspections and services necessary for the enforcement of this regulation. Fees shall be paid to the Department prior to the inspection or service. Fees shall be set and adjusted as needed by the Utah County Board of Health.
- 6.3 Issue approval letters as necessary to implement the provisions, requirements and standards of this regulation.
- 6.4 Make inspections of public or private property and issue orders as necessary to affect the purposes of this regulation.
 - (i) Access for inspections and samples will be upon request of property representative.
- 6.5 Take samples and make analysis of soils, waters and other materials as necessary to affect the purposes of this regulation.
- 6.6 Review and comment on any proposed contract or agreement between any district, city, county, governmental unit, or person for the use of individual water systems within the jurisdiction of the department.
- 6.7 Perform any and all acts permitted by the law that are necessary for the successful enforcement of this regulation.
- 6.8 Department will require notification of the well drilling and well development process, and may request to be present during any of the above processes.

7.0 EMERGENCY ORDER

7.1 If the Department finds that an emergency requiring immediate action to protect the public's health, safety, or wellbeing, the Director may issue an order declaring the existence of an emergency and requiring that remedial action be taken. The order shall be effective immediately. Upon application to the Department, the recipient of the order shall be granted a hearing before the Director within 48 hours. On the basis of the hearing, and not more than 24 hours after the adjournment of the hearing, the Director shall continue, modify, or revoke the order.

8.0 APPROVED POTABLE WATER SUPPLY REQUIRED

8.1 No person shall occupy, lease or permit the occupancy of any building or structure within the jurisdiction of the Department, and no individual onsite wastewater permit or drinking water approval shall be issued for a property:

A. Unless the building will connect to a public water system that is rated as "Approved" or "Corrective Action" by the Utah Department of Environmental Quality (DEQ). Documentation must be provided by DEQ stating that the public water system has the capacity and that the water system agrees to provide the connection. Connections will not be allowed to a public water system that does not have an approved rating.

OR

B. Unless the building or structure is properly equipped with a nonpublic water system approved by the Department.

8.2 Proposed subdivisions shall have an adequate and safe water supply throughout the subdivision.

A. When a public water system is available and is reasonable to connect to, the sub-divider shall provide the piped, public water supply to the property line of every lot in any subdivision. The water system shall meet all applicable state and local laws.

B. When a public water system is not available, the source of potable water may be approved only upon proof of adequate water rights, availability, quantity, and flow as determined by the applicable planning agency. The water quality of a minimum one water source within the subdivision must meet the Safe Drinking Water Standards as outlined in this regulation. Water quality shall be proven by samples taken by Utah County Health Department or a third party approved by Utah County Health Department, and have a complete chemical analysis performed by a laboratory certified by the National Environmental Laboratory Accreditation Program or by the Utah Department of Environmental Quality and approved by the Department.

8.3 Proposed subdivisions with source water that exceeds the maximum contaminant levels outlined in this regulation shall:

A. Each proposed lot within the subdivision shall have a water source in place that meets the Safe Drinking Water Standards as outlined in this regulation; or

B. For any water source not meeting the Safe Drinking Water Standards as outlined in this regulation, a qualified engineer licensed in the State of Utah shall indicate water sources for individual lots will be capable of meeting water quality standards. The

engineer must submit a report indicating the potential source water on each lot is utilizing the same aquifer as the developed source water. The report must include predictions and supporting information. Report must indicate compliance with 11.0.

9.0 PLAN APPROVAL FOR NONPUBLIC SYSTEMS

9.1 The Department shall approve the location of wells prior to drilling.

9.2 Where a nonpublic water system is proposed as a water supply, evidence of a valid water right, as issued by the Division of Water Rights, shall be provided to the Department.

9.3 Plans submitted for review must be drawn to scale (1"=8', 16', etc., but not to exceed 1"=30'), or dimensions indicated. Plan information that may be required is as follows:

- A. Direction of north
- B. Lot size and dimensions
- C. Location and dimensions of paved and unpaved driveways, roadways, and parking areas
- D. Location and explanation of type of dwelling to be served
- E. Location, type, the depth of all existing and proposed nonpublic water supply sources within 200 feet of onsite wastewater systems, and of all existing or proposed public water supply sources within 1500 feet of onsite wastewater systems
- F. GPS coordinates of the proposed well
- G. Any potential contamination source

- 9.4 Plans and specifications for development and construction of the new nonpublic water system, or as-built of the existing nonpublic water system including any proposed alteration to the existing nonpublic water system, in accordance with Construction Standards of Section 12.0 and 13.0 of this rule.
- 9.5 Evidence that a potential contamination source does not exist within the protection zone for the well or spring as specified in 3.21 and 13.2 of this regulation
- 9.6 The construction of nonpublic water systems shall be in accordance with the current plumbing code as adopted by the State of Utah and/or the local jurisdiction.
- 9.7 Upon issuance of the Letter of Approval, each homeowner will then be responsible to ensure nonpublic water quality standards are met, unless otherwise specified in this regulation.

10.0 QUALITY REQUIREMENTS FOR NONPUBLIC WATER SYSTEMS

10.1 Source water shall comply with all primary drinking water standards as set forth by the United States Environmental Protection Agency in order to meet the requirements for a non-public water system. At a minimum all potential contaminants listed in Table 1 shall be tested.

10.2 Prior to approval, the following information shall be provided to the Department and must receive satisfactory review:

- A. An initial (within 2 years of date requesting plan approval) chemical analysis of the water that meets the following requirements as specified in Table 1,

which are the Maximum Contaminant Levels for inorganic chemicals allowed by the Department.

TABLE 1		
INORGANIC ***	MAXIMUM CONTAMINANT LIMIT	UNITS
Fluoride	4	mg/L
Nitrate	10	mg/L
Nitrite	1	mg/L
*Sulfate	1000	mg/L
**Total Dissolved Solids (TDS)	2000	mg/L
Turbidity	5	NTU
METALS ***		
Arsenic	0.01	mg/L
Barium	2	mg/L
Cadmium	0.005	mg/L
Chromium	0.1	mg/L
Lead	0.015	mg/L
Mercury	0.002	mg/L
Selenium	0.019	mg/L
Silver	0.1	mg/L
THALLIUM	0.0002	mg/L
MICROBIOLOGY ****		
Chlorine Residual	Absent	mg/L
Coliform	Absent	Org/100 mL
E. Coli	Absent	Org/100 mL

* Sulfate levels over 500 mg/l may cause gastric distress in some people.

** If TDS is greater than 1000mg/L, the supplier shall satisfactorily demonstrate that no better water is available.

*** Must comply with section 11.0 if any Maximum Contaminant Level is exceeded in order to have source water approval from the department.

**** Source water microbiology levels must meet standards set in Table 1. Section 11 does not apply to these contaminants.

B. Samples shall be collected by the Department, or a third party approved by Utah County Health Department, for analysis after the water source has been continuously pumped for 24 hours and has no residual chlorine present. (Analyses shall be performed by a laboratory certified by the National Environmental Laboratory Accreditation Program or the Utah Department of Environmental Quality and approved by the Department. All associated fees shall be the sole responsibility of the owner(s) requesting the service.)

C. A satisfactory bacteriological sample taken from the water system within the last six months.

11.0 EXCEEDING THE MAXIMUM CONTAMINANT LIMIT

An alternative non-public drinking water system shall only receive an approval letter if all of the applicable following requirements are met:

11.1 A filtration/treatment system designed and stamped by a professional engineer licensed in the State of Utah. The engineering of the filtration/treatment system must provide proof that it is capable of producing water that meets primary drinking water standards derived from the EPA. The filtration/treatment system must be designed in a fashion that all water entering the home will pass through the filtration/treatment system.

11.2 The owner agrees to submit proof that water meets the standards of this regulation to the Utah County Health Department after filtration/treatment system is functional.

Proof shall conform to the requirements for sampling and testing as contained in this regulation. Water quality standards shall be met prior to an Approval Letter being issued and signature of pre-final approval form or equivalent.

- 11.3 The owner agrees to enter into a maintenance agreement for a minimum of three years with a maintenance company that complies with the manufacturers' recommended maintenance schedule.
- 11.4 The owner records notice on the property title and a note on the effected lot within the plat and/or buildable parcel showing that the drinking water does not meet primary drinking water standards derived from the EPA and requires a functional filtration/treatment system to meet safe drinking water standards.
- 11.5 If drinking water for a business is supplied by a nonpublic drinking water source, the owner must agree to annual sampling of the drinking water system. The sample results must indicate that water quality standards as stated in this regulation are being met. Sampling will be performed at the owner's expense and in compliance with the sampling and testing standards of this regulation. Complete records of all maintenance and sampling related to the filtration/treatment system shall be made available to the Utah County Health Department upon request.
- 11.6 The onsite wastewater system must be designed to accommodate the water demands of the filtration/treatment system.

12.0 WELL CONSTRUCTION STANDARDS FOR NON-PUBLIC WATER SYSTEMS

If properly developed, water from wells may be suitable for potable use without prior treatment. A determination as to whether treatment may be required can only be made after the source has been developed and evaluated. Construction and development requirements for nonpublic water systems shall be as follows:

- 12.1 The well shall be developed by a certified well driller and drilling procedures shall meet the requirements of the Utah State Division of Water Rights.
- 12.2 Wells shall be grouted to a minimum of 30 feet in depth or pass through an effective geologic seal between the ground surface and the water bearing aquifer.
- 12.3 Well casing material and thickness shall meet the requirements of the State of Utah, Water Well Administrative Rules for Water Well Drillers, R655-4.
- 12.4 Water not meeting the requirements of the Utah Division of Drinking Water shall not be introduced into a well during the drilling operation.
- 12.5 The well casing shall extend to an elevation greater than the 25-year floodwater elevation, but not less than 18 inches above the surrounding ground.
- 12.6 After drilling is completed, the well shall be pumped free of all sediments and then disinfected by the introduction of sufficient chlorine solution into the well to produce a chlorine residual of at least 50 mg/L. After the chlorine solution has remained in the well for at least eight hours, it shall be pumped out and the well water tested for bacteriological purity or repeated treatment and testing to ensure satisfactory bacteriological purity. Concentrated chlorine solution is harmful to fish and other aquatic wildlife and shall not be discharged to any waterways

unless the chlorine solution is first neutralized.

Alternative methods of disinfection may be approved by the Department.

12.7 A sealed cover shall be installed at the upper terminal of the casing that will prevent the entrance of contamination.

12.8 All wells must be a minimum 95 feet from any property line.

13.0 SPRING CONSTRUCTION AND DEVELOPMENT STANDARDS FOR NON PUBLIC WATER SYSTEMS

Springs vary greatly in their characteristics and they should be observed for some time prior to development to determine any flow and quality variations.

13.1 The spring collection device, whether it be collection tile, perforated pipe, imported gravel, infiltration box or tunnels must be covered with a minimum of ten feet of impervious soil cover. Such cover shall extend a minimum of 15 feet in all directions horizontally from the spring collection device;

A. When it is not possible to achieve the ten feet of impervious soil cover, an acceptable alternative will be the use of an impermeable liner that is acceptable for contact with potable water. There shall be a minimum of two feet of soil cover above the liner.

B. All junction boxes or collection boxes shall comply with the State of Utah Rules for Public Drinking Water Systems for access manholes, air vents, and overflow piping. All lids for spring boxes shall have a gasket and the chamber adequately vented. Each spring collection area shall be provided with at least one access box to permit spring inspection and testing. Access to the spring collection box shall be locked.

C. The spring collection area shall be surrounded by a fence located a distance of at least 50 feet uphill from all collection devices on land at an elevation equal to or higher than the collection device, and a distance of at least 15 feet downhill from all collection devices on land at an elevation lower than the collection device. The elevation datum to be used is the surface elevation at the point of collection. The fence shall be at least stock tight. Within the fenced area, all vegetation that has a deep root system shall be removed. In remote areas where no grazing or public access is possible, the fencing requirement may be waived by the department, but vegetation that has a deep root system shall still be removed from the immediate area of the spring collection device(s).

D. A diversion channel capable of diverting all anticipated surface water runoff away from the spring area must be constructed and should be located immediately inside the fenced area.

E. The spring shall be developed in such a manner as to minimize the possibility of excess spring water ponding within the collection area. Where ponding of spring water is unavoidable, the excess shall be collected by shallow piping or land drain and routed beyond the immediate collection area.

13.2 To ensure that a nonpublic spring source is protected from concentrated sources of chemical or biological pollution, all land at elevations equal to or higher than and within 200 feet horizontally in all directions from the spring source shall be protected. All land at an elevation lower

than and within 100 feet horizontal to the spring sources shall be protected.

A. The nonpublic water system owner(s) shall own the land for the spring and spring protection zone. Owner(s) must also agree not to locate or allow concentrated sources of pollution within it.

B. The owner shall record notice of such restriction(s) on the title of the property.

C. The nonpublic water system owner(s) shall be responsible for the monitoring and enforcement of the protection zone.

14.0 VIOLATION

Any person who is found guilty of violating any of the provisions of these rules may be subject to 154.1 and 154.2.

14.1 Each day such violation is committed or permitted to continue shall constitute a separate violation, unless the responsible party is legitimately attempting to correct the deficient condition(s).

14.2 The county attorney may initiate legal action, civil or criminal, requested by the Director to abate any condition that exists in violation of this regulation.

15.0 EXISTING NON-PUBLIC WATER SOURCES

Any non-public water system existing prior to 4-12-2016 is excluded from this regulation, provided that there are no additional connections or additions to the home that will change the structural footprint of the home.

16.0 CONFLICT

In any case where a provision of this regulation is found to be in conflict with a provision of any ordinance or local law, or with a provision of any statute, rule, or order of the State of Utah, the provision which established the higher standard for the promotion of the health, welfare, and safety of the citizens of Utah County shall prevail. In any case where a provision of this regulation is found to be in conflict with a provision of any other ordinance or local law existing on the effective date of this local law, or with a provision of any statute, rule, or order of the State of Utah, which established a lower standard for the promotion of the health, welfare, and safety of the citizens of the municipality, the provisions of this local law shall be deemed to prevail.

17. SEVERABILITY

If any provision, clause, sentence, or paragraph of this regulation or the application thereof to any person or circumstances shall be held to be invalid, such invalidity shall not affect the other provisions or applications of this regulation. The valid part of any clause, sentence, or paragraph of this regulation shall be given independence from the invalid provisions or application and to this end the provisions of this regulation are hereby declared to be severable.

18. AUTHORITY AND EFFECTIVE DATE

This regulation is adopted under the authority of Title 26A, Local Health Authorities. Enforcement of this regulation is under the authority of 26A-1-114, Utah Code Annotated, 1953, as

amended. This regulation shall become effective 15 days after their enactment by the Utah County Board of Health

ADOPTED BY UTAH COUNTY BOARD OF HEALTH,

this 28 day of March, 2016.

Signed: Clyde H. Wilson
Title: Chairman, Utah County Board of Health.