

**Virginia Department of Health
Private Well Regulations Workgroup
Meeting Summary**

Date: February 27, 2018
Time: 10:00 am to 2:00 pm
Location: James Madison Building
5th Floor Main Conference Room
109 Governor Street
Richmond, Virginia 23219

In Attendance:

Anthony Creech, VDH OEHS
Bennett Ragnauth, VDH ODW
Scott Bruce, DEQ
Ronald Helmick, VWWA
John Danielson, VWWA
Jon Richardson, VDH
Scott Fincham, Loudoun County

Administrative

1. Welcome
2. Introduction of Workgroup Members

Mr. Creech informed committee that NOIRA is still at Secretary of Health and Human Resources pending submission to the Governor and then outlined the primary goals of revision:

- Integrate current industry standards
- Improve consistency with other regulations
- Render a performance standard rather than a prescriptive standard for a finished private well
- Modify language to remove masculine pronouns
- Address grammatical and/or spelling issue in existing regulations

Major Issues Discussion

Review Draft Changes to Sections 10, 30, 60, 360, 380, 400, 410, 420, 430, 435, and 450 of Private Well Regulations, as presented in DRAFT PWR Revision Dated 2.27.2018.

The following changes to the draft changes were made based on committee discussion:

12VAC5-630-10 Definitions.

Definitions of “confined aquifer,” “perched groundwater,” and “unconfined aquifer,” modified to replace “impermeable formation” with “aquitard or aquiclude”

Confining layer definition added: “a formation exhibiting little to no permeability or hydraulic conductivity such that water does not pass through the layer (aquiclude) or the rate of vertical movement is very slow (aquitard).”

Exploration well and test well definitions combined: “a well drilled for exploratory or information gathering purposes, for example, to determine if a proposed water supply will meet intended quality or quantity requirements or to test geologic and hydraulic properties of an aquifer. Unless excluded by 12VAC5-630-30.B, or permitted under another program, an exploration and test well is a private well.”

12VAC5-630-30 Purpose and Applicability of Regulations

The committee discussed whether Exploration and Test Wells should be excluded, and agreed that they should not, but that regulatory language should clarify that Exploration and Test Wells not otherwise excluded or regulated (e.g., as observation/monitoring wells) are Private Wells.

12VAC5-630-60 Relationship to Department of Environmental Quality

Scott Bruce passed message that DEQ desires strong and clear language in PWR relative to wells installed in Groundwater Management Areas.

12VAC5-630-240 Issuance of Construction Permit

Committee discussed application of “no closer than” repair/replacement requirement similar to that in Sewage Handling and Disposal Regulations

12VAC5 -630-380 Well Location

Proposed 12VAC5-630-380.D.2.d. deleted to remove mature trees as issue, on the basis that “mature trees” is difficult to define, and that land clearing is covered in proposed 12VAC5-630-380.D.2.c.

12VAC5-630-400 Materials

Question arose relative to use of galvanized steel; however, list of acceptable standards includes standards that incorporate galvanized steel pipe.

12VAC5-630-400 G modified to read “Water used during well construction shall be obtained from a suitable source or the well being constructed. *A suitable source means a potable water source, or, when a potable water source is not available, a water source that is disinfected using compounds meeting NSF/ANSI Standard 60 environmental specifications.*”

12VAC5-630-410 Construction; General

12VAC5-630.410.A.2 – section modified to clarify that annular space shall be large enough on all sides of the casing in the interval to be grouted to accommodate a tremie pipe

The references to sieve analysis removed from proposed section, with the following exception added to 12VAC5-630-410.A.4 - . “If a screen is used in a well, the selection of the interval or intervals to be screened shall be determined based on an evaluation of the driller’s log and representative formation material samples collected during advancement of the well bore. At the discretion of the owner, owner’s agent, and/or water well system provider, or if required as condition of a permit issued by a regulatory agency, supplemental information obtained from a sieve analysis of collected representative samples, geologist’s log and/or by electrical resistivity geophysical logging conducted prior to installation of the well casing may also be evaluated to determine selection of screen interval or intervals.”

12VAC5-630-410.B.6.b – second sentence deleted regarding installation methodology for plastic casing, on the basis that the Water Well Service Provider has discretion on the means and methods of casing installation and has responsibility to replace casing damaged during installation prior to completing the well.

12VAC5-630-410.B.8.b – second sentence deleted regarding specified deviation from vertical, and first sentence amended to clarify that casing shall be sufficiently straight to allow installation and operation of a pump suitable to the intended purpose of the well. The 2/3 times smallest inside casing per 100 feet applies when line shaft turbine type of pump is used, which is no longer generally the case for private wells.

12VAC5-630-410.C.1 – wording changed from prevent cascading water to “minimize” cascading waters. Some wells near Fall Line in Virginia exhibit rapid drawdown when pumped and cascading water through screen is a factor of geology as opposed to well construction.

12VAC5-630-410.C.3 – subsections a and b deleted as uniformity coefficients are inapplicable without sieve analysis.

12VAC5-630-410.C.4 – word “closed” in first sentence replaced with “configured.”

12VAC5-630-410.E.5.b. – proposed section modified to state that bentonite chips or pellets shall not be placed by free-fall.

12VAC5-630-430 Disinfection

The proposed section was modified to provide the choice of disinfection by existing 100 mg/L chlorine solution for 24 hours OR through use of contact units.

12VAC5-630-440 – Information to be Reported

Committee held general discussion of timeliness of GW-2 form submission. VDH to look into requirement of electronic submission to Virginia Hydro.

12VAC5-630-450 – Abandonment

12VAC5-630-450.D.5.b.(6) modified to allow for pouring of grout into well if well is pumped dry or after tremie pipe is used to grout well up to water line.

Virginia Administrative Code
Title 12. Health
Agency 5. Department of Health
Chapter 630. Private Well Regulations **(DRAFT 03.01.2018)**

Part I
General Framework for Regulations
Article 1
Definitions

12VAC5-630-10. Definitions.

The following words and terms, when used in this chapter, shall have the following meanings unless the context clearly indicates otherwise.

"Abandoned well" means a private well whose pump has been disconnected for reasons other than repair or replacement, or whose use has been discontinued or pronounced abandoned by the owner. A temporarily abandoned well is a well that is intended to be returned to service as a source of water at some future time. A permanently abandoned well is a well that is not intended to be ~~used. any future time.~~ Abandoned wells must meet the requirements of [12VAC5-630-450](#).

"Agent" means a legally authorized representative of the owner.

"Agricultural operation" means any operation devoted to the bona fide production of crops, or animals, or fowl, including but not limited to the production of fruits and vegetables of all kinds; meat, dairy, and poultry products; nuts, tobacco, nursery and floral products; and the production and harvest of products from silviculture activity.

"Annular space" means the space between the bore hole wall and the outside of a water well casing pipe, or between a casing pipe and a liner pipe.

"Aquifer" means a geologic formation, group of formations, or part of a formation, that has the capability to store and/or transmits water in sufficient quantity to constitute a usable supply source.

"Bedrock" means ~~any solid rock underlying soil, sand, or clay.~~ the solid, potentially fractured and fissured, rock formations that occur beneath soils, underlying sediment deposits, or weathered materials.

"Bioretention Pond" means a best management practice structure engineered for the purpose of reducing the pollutant load in storm water runoff to surface water and groundwater systems.

"Biosolids" means solid, semisolid, or liquid materials removed from municipal sewage and treated to be suitable for recycling as fertilizer.

"Board" means the State Board of Health

"Bored well" means a well that is excavated by means of a soil auger (hand or power) as distinguished from a well which is drilled, driven, dug, or jetted.

"Casing" means a cylindrical device (typically steel, plastic, or concrete) that is installed in a well to maintain the well opening and to provide a seal.

"Cathodic protection well" means a well constructed to house devices to minimize electrolytic corrosion of metallic pipelines, tanks, and other facilities in contact with the ground.

"Clean fill" means any combination of undisturbed soil and natural earth material, commercially available quarried sand or gravel product, and cuttings from the well being constructed, provided that such materials are not contaminated media.

"Closed-loop ground-source heat pump well" means a well consisting of a sealed loop of plastic pipe buried vertically beneath the earth's surface to allow heat transfer between the fluid in the pipe and the earth. Horizontal closed-loop ground source heat pump pipe configurations not installed in wells, including those which may intercept shallow groundwater, are excluded.

"Coliform" means a broad group of naturally occurring bacteria species found in soils and rocks. Coliform bacteria are more prevalent in near-surface soils, and their presence in well water may indicate possible presence of more harmful pathogens.

"Collapsing material" means any soil or gravel material which collapses upon itself forming a seal with the casing and leaves no voids around the casing.

"Commercially dependent well" means a well that is the sole source of water for a commercial facility that requires the water from the well for continued operation. Examples include wells serving an ice plant, a car wash facility, irrigation for commercial nurseries, or agricultural wells that provide water for livestock or irrigation.

"Commissioner" means the State Health Commissioner or his-a subordinate who has been delegated powers in accordance with [12VAC5-630-90](#) B of this chapter.

"Confined aquifer" means an aquifer that is confined by an overlying impermeable formation, aquitard or aquiclude, and in which the groundwater is under greater pressure than atmospheric pressure.

"Confining layer" means a formation exhibiting little to no permeability or hydraulic conductivity such that water does not pass through the layer (aquiclude) or the rate of vertical movement is very slow (aquitard).

"Consolidated rock" means a formation consisting entirely of a natural rock formation that contains no soil and does not collapse against the well casing.

"Construction of wells" means acts necessary to construct ~~private~~-wells, including the location of ~~private~~-wells, ~~the boring, digging, drilling, or otherwise excavating of a well hole and the installation of casing with or without well screens, or well curbing.~~

"Contaminated media" means soil, sediment, dredged material, and/or debris that, as a result of a release or human use, has absorbed or adsorbed physical, chemical or radiological substances at concentrations above those consistent with nearby or undisturbed soil or natural earth materials.

"Controlled low strength material (flowable fill)" means a slurry comprised of cement, water, and fine aggregate or filler (including coal ash, foundry sand, quarry fines, and/or baghouse dust).

"Cuttings" means the solid material, saturated or unsaturated, removed from a borehole drilled by rotary, percussion, or auger methods.

"Deep well ejector pump system" means a well that utilizes a casing adapter and a deep well ejector. These wells must maintain a constant vacuum to operate.

"Department" means the Virginia Department of Health

"Dewatering well" means a ~~driven~~-well constructed for the sole purpose of lowering the water table and kept in operation for a period of 60 days or less. Dewatering wells are used to allow construction in areas where a high water table hinders or prohibits construction and are always temporary in nature.

"Disinfection" means the destruction of all pathogenic organisms.

"Division" means the Division of On-Site Sewage and Water Services, Environmental Engineering, and Marina Programs within the Virginia Department of Health.

"District health department" means a consolidation of local health departments as authorized in § 32.1-31 C of the Code of Virginia.

"Drilled shallow well suction pump system" means a drilled well two inches or less in diameter that utilizes an offset pump to draw water from the well through the casing. These wells must maintain a constant vacuum in order to operate.

"Drilled well" means a well that is excavated wholly or in part by means of a drill (either

percussion or rotary) which operates by cutting or abrasion.

"Driven well" means a well that is constructed by driving a pipe, at the end of which there is a drive point and screen, without the use of any drilling, boring or jetting device.

"Dug well" means a well that is excavated by means of picks, shovels, or other hand tools, or by means of a power shovel or other dredging or trenching machinery, as distinguished from a bored, drilled, driven, or jetted well.

"Effluent" means water that flows from a wastewater treatment system after it has been treated.

"Emergency well replacement" means the replacement of an existing private drinking water well, heat pump well, or commercially dependent well that has failed to deliver the water needed for its intended use. Such failure requires the drilling of a new well or extensive modifications to the existing well. The replacement of failed noncommercial irrigation wells, and other types of private wells are not considered emergencies.

"Exploration or test well" means a well drilled for exploratory or information gathering purposes, for example, to determine if a proposed water supply will meet intended quality or quantity requirements or to test geologic and hydraulic properties of an aquifer. Unless excluded by 12VAC5-630-30.B, or permitted under another program, an exploration and test well is a private well.

"Gravel pack" means sand or gravel placed outside a well screen in a well to assist the flow of water into the well screen and to inhibit clogging of the screen.

"Ground-water" means any water, except capillary moisture, beneath the land surface in the zone of saturation or beneath the bed of any stream, lake, reservoir or other body of surface water ~~within the boundaries of this Commonwealth~~, whatever may be the subsurface geologic structure in which such water stands, flows, percolates, or otherwise occurs.

"Groundwater Management Area" means a geographically defined groundwater area in which the State Water Control Board has deemed the levels, supply or quality of groundwater to be adverse to public welfare, health, and safety (9VAC25-600-10 et seq).

"Grout" means any stable, impervious bonding material, reasonably free of shrinkage, which is capable of providing a watertight seal in the annular spaces of a water well throughout the depth required, to protect against the intrusion of objectionable matter.

"Injection well" means a well constructed for the purpose of injecting any material or substance which flows or moves, whether in semisolid, liquid, sludge, gas or any other form or state (excluding drilling mud and authorized well construction/abandonment fluids), into the ground.

"Jetted well" means a well that is excavated using water pumped under pressure through a special washing point to create a water jet which cuts, abrades, or erodes material to form the well.

"Karst" means a terrain, generally underlain by limestone, in which the topography is chiefly formed by the dissolving of rock, and which is commonly characterized by channels, furrows, closed depressions, subterranean drainage, and caves.

"Lead free" means the following:

1. When used with respect to solders and flux, refers to solder and flux containing not more than 0.2% flux.
2. When used with respect to pipes, pipe fittings, plumbing fittings, and plumbing fixtures, refers to the weighted average of wetted surfaces of pipes, pipe fittings, plumbing fittings, and plumbing fixtures containing no more than 0.25% lead.

"Local health department" means the department established in each city and county in accordance with § 32.1-30 of the Code of Virginia.

"Noncollapsing material" means soil or gravel material which can maintain an open bore hole long enough to grout the annular space between a well and the bore hole. For the purpose of this chapter, soil or gravel material which collapsed upon itself but created voids around the casing is considered noncollapsing material.

"Observation or monitoring well" means a well constructed to measure hydrogeologic parameters, such as the fluctuation of water levels, or for monitoring the quality of ground water, or for both purposes.

"Owner" means any person, who owns, leases, or proposes to own or lease a private well.

"Perched groundwater" means groundwater that occurs locally above the main body of groundwater, and is separated from it by discontinuous confining units.

"Person" means any and all persons, including individuals, firms, partnerships, associations, public or private institutions, municipalities or political subdivisions, governmental agencies, or private or public corporations organized under the law of this Commonwealth or any other state or country.

"Pollutant" means substances including solid waste, sewage, effluent, radioactive materials, petroleum products, manufactured chemical products, and industrial byproducts which can detrimentally affect the quality of water.

"Potable" means water of a quality suitable for human consumption.

"Private well" means any water well constructed for a person on land which is owned or

leased by that person and is usually intended for household, ground water source heat pump, agricultural use, industrial use, or other nonpublic water well.

“Reclaimed water” means treated wastewater that can be used for beneficial purposes, determined by the degree of treatment achieved.

“Remediation well” means an observation or monitoring well in use for recovery or treatment of one or more pollutants.

"Replacement well" means a well being constructed to take the place of an existing well that is being taken out of service and is being abandoned.

"Sanitary survey" means an investigation of any condition that may affect public health.

"Screen" means the intake section of a well casing that obtains water from an unconsolidated aquifer providing for the water to flow freely and adding structural support to the bore hole. Screens are used to increase well yield or prevent the entry of sediment, or both.

"Sewage" means water carried and nonwater carried human excrement, kitchen, laundry, shower, bath, or lavatory wastes separately or together with such underground, surface, storm and other water and liquid industrial wastes as may be present from residences, buildings, vehicles, industrial establishments or other places.

"Sewage disposal system" means a sewerage system or treatment works designed not to result in a point source discharge.

"Sewer" means any sanitary or combined sewer used to convey sewage or municipal or industrial wastes.

"Sewerage system" means pipelines or conduits, pumping stations and force mains and all other construction, devices and appliances appurtenant thereto, used for the collection and conveyance of sewage to a treatment works or point of ultimate disposal.

“Substantial compliance” means compliance with the substantial or essential requirements of this chapter that satisfies its purpose or objective even though some formal requirements may not be fully met.

"Subsurface soil absorption" means a process which utilizes the soil to treat and dispose of sewage effluent.

"Treatment works" means any device or system used in the storage, treatment, disposal or reclamation of sewage or combinations of sewage and industrial wastes, including but not limited to pumping, power and other equipment and appurtenances, septic tanks, and any works, including land, that are or will be (i) an integral part of the

treatment process or (ii) used for the ultimate disposal of residues or effluents resulting from such treatment.

“Tremie pipe” means a tube through which grout is placed by gravity feed or pumping. The pipe is placed at the lowermost part of the well feature being grouted (inner casing or annular space) and the bottom of the pipe remains submerged in grout as the pipe is raised in order to prevent uneven distribution or bridging.

“Unconfined aquifer” means an aquifer with no confining unit between the water table and the ground surface above, with the possible exception of a discontinuous confining unit forming a perched groundwater layer.

“Undisturbed soil and natural earth materials” means unconsolidated mineral and organic material on the immediate surface of the Earth that developed naturally on the property on which it originates.

"Variance" means a conditional waiver of a specific regulation which is granted to a specific owner relating to a specific situation or facility and may be for a specified time period.

“Water quality” means the chemical, physical, bacteriological, and radiological characteristics of water with respect to its suitability for a particular purpose.

"Water table" means the uppermost surface of ground-water saturation in an unconfined aquifer. The level in the saturated zone at which the pressure is equal to atmospheric pressure.

"Water well" or "well" means any artificial opening or artificially altered natural opening, however made, by which ground water is sought or through which ground water flows under natural pressure or is intended to be artificially drawn; provided this definition shall not include wells drilled for the following purposes: (i) exploration or production of oil or gas, (ii) building foundation investigation and construction, (iii) elevator shafts, (iv) grounding of electrical apparatus, or (v) the modification or development of springs.

“Water well system provider” means the entity which provides the installation of a water well system, including the construction of a water well and the installation of pumps.

“Well bore” means a vertical hole advanced into the earth, however created, by a water well system provider, in which a well is constructed.

"Yield" means the quantity of water, usually measured in volume of water per unit time, which may flow or which may be pumped, from a well or well field.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 1.1, eff. April 1, 1992.

Article 2
General Provisions

12VAC5-630-20. Authority for Regulations.

Title 32.1 of the Code of Virginia, and specifically §§ 32.1-12 and 32.1-176.4, provide that the State Board of Health (Board) has the duty to protect the public health and to ensure that ground-water resources are not adversely affected by the construction and location of private wells. In order to discharge this duty, the Board is empowered to supervise and regulate the construction and location of private wells within the Commonwealth.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 1.3, eff. April 1, 1992.

12VAC5-630-30. Purpose and Applicability of Regulations.

A. Purpose. These regulations have been promulgated by the ~~State Board of Health~~ to:

1. Ensure that all private wells are located, constructed and maintained in a manner which does not adversely affect ground-water resources, or the public welfare, safety and health;

2. Guide the ~~State Health~~ Commissioner in ~~his determination determining of~~ whether a permit for construction of a private well should be issued or denied;

3. Guide the owner or ~~his the owner's~~ agent in the requirements necessary to secure a permit for construction of a private well; and

4. Guide the owner or ~~his the owner's~~ agent in the requirements necessary to secure an inspection statement following construction.

5. Guide the owner or the owner's agent in the requirements necessary to abandon a private well (temporarily or permanently) when the well is not in use.

B. Applicability. These regulations apply to all owners of a private well as defined in 12VAC5-630-10. The following wells are excluded from the requirements of this chapter:

1. Wells constructed as a groundwater source for a waterworks as regulated by 12VAC5-590.

2. Wells constructed for the purpose of exploration or production of oil or gas.
3. Wells constructed for the purpose of building, roadway or other geotechnical foundation investigation, design or construction, provided that the well, including an unimproved bore hole, is promptly abandoned in such a manner as to prevent it from being a channel of vertical movement of surface water or a source of contamination into the ground.
4. Wells constructed for the purpose of an elevator shaft.
5. Wells constructed for the purpose of constructing an extensometer or similar scientific instrument.
6. Wells constructed for the purpose of grounding of electrical apparatus.
7. Wells constructed for the purpose of the modification or development of springs.
8. Wells constructed for the purpose of underground injection as regulated by 40 CFR Part 144.
9. Wells constructed for the purpose of the observation or monitoring of groundwater elevation or quality, except as governed by 12VAC5-630-420.B. and C.
10. Bore holes, including direct push bore holes and hand tool made bore holes, advanced for the purpose of collecting soil or groundwater samples for analysis with or without temporary installation of casing/screen, provided that the bore hole is promptly abandoned in such a manner as to prevent it from being a channel of vertical movement of surface water or a source of contamination into the ground.
11. Wells constructed for the purpose of construction dewatering, provided that the well is abandoned within 60 days of construction by the removal of the well point, well casing, screening and other appurtenances associated with the construction and operation of the well and completion of abandonment in such a manner as to prevent it from being a channel of vertical movement of surface water or a source of contamination into the ground.
12. Wells constructed to provide cathodic protection, provided that the well is abandoned after use in such a manner as to prevent it from being a channel of vertical movement of surface water or a source of contamination into the ground.

Statutory Authority
§§ 32.1-12 and 32.1-176 of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 1.3, eff. April 1, 1992.

12VAC5-630-40. Relationship to Virginia Sewage Handling and Disposal Regulations.

This chapter supersedes ~~12VAC5-610-1150 of the Virginia Sewage Handling and Disposal Regulations, and 12VAC5-610-1140~~ B and C of the Virginia Sewage Handling and Disposal Regulations which address private wells, and were adopted by the ~~State Board of Health~~ pursuant to Title 32.1 of the Code of Virginia.

Statutory Authority
§§ 32.1-12 and 32.1-176 of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 1.4, eff. April 1, 1992.

12VAC5-630-50. Relationship to the State Water Control Board.

This chapter is independent of all regulations promulgated by the State Water Control Board. ~~Based on withdrawal amount,~~ Ground-water users located in a ground-water management area may be required to obtain a permit from the State Water Control Board in addition to obtaining a permit from the Department ~~of Health~~. In addition to the reporting requirements contained in this chapter, Title 62.1-258 of the Code of Virginia requires that all private wells constructed in a groundwater management area be registered by the water well system provider with the State Water Control Board within 30 days of completion of construction.

Statutory Authority
§§ 32.1-12 and 32.1-176 of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 1.5, eff. April 1, 1992.

12VAC5-630-60. Relationship to the Department of Environmental Quality, ~~Waste Management Division~~.

This chapter establishes minimum standards for the protection of public health and ground-water resources. Observation wells, monitoring wells, and remediation wells constructed under the supervision of the Virginia Department of Environmental Quality, ~~Waste Management Division~~, are governed by 12VAC5-630-420. Private wells constructed in Groundwater Management Areas are subject to requirements in 9VAC25-610, including a Groundwater Withdrawal Permit if the well withdraws over 300,000 gallons of groundwater in a calendar month.

Statutory Authority
§§ 32.1-12 and 32.1-176 of the Code of Virginia.
Historical Notes

Derived from VR355-34-100 § 1.6, eff. April 1, 1992.

12VAC5-630-70. Relationship to the Uniform Statewide Building Code.

This chapter is independent of and in addition to the requirements of the Uniform Statewide Building Code. All persons required to obtain a well permit by this chapter shall furnish a copy of the permit to the local building official, upon request, when making application for a building permit. Prior to obtaining an occupancy permit, an applicant shall furnish the local building official with a copy of the inspection statement demonstrating the water supply has been inspected, sampled and tested (when applicable), and approved by the district or local health department.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 1.7, eff. April 1, 1992.

12VAC5-630-80. Relationship to the Department of Professional and Occupational Regulation.

Individuals shall be licensed in accordance with § [54.1-4100-1103](#) and [54.1-1129.1](#) of the Code of Virginia when involved in the construction, repair or alteration of a private well, any contractor constructing a water well to reach ground water shall possess, as a minimum, a valid Class B contractors license.

Statutory Authority

§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 1.8, eff. April 1, 1992.

12VAC5-630-90. Administration of Regulations.

This chapter is administered by the following:

A. The ~~State Board of Health, hereinafter referred to as the board,~~ has the responsibility to promulgate, amend, and repeal regulations necessary to ensure the proper location, construction, repair and abandonment and location of private wells.

B. The ~~State Health Commissioner, hereinafter referred to as the commissioner,~~ is the chief executive officer of the ~~State Department of Health~~. The ~~e~~Commissioner has the authority to act, within the scope of regulations promulgated by the ~~b~~Board, and for the ~~B~~board when it is not in session. The ~~e~~Commissioner may delegate ~~his~~ powers under this chapter in writing to any subordinate, with the exception of (i) ~~his the~~ power to issue variances under § [32.1-12](#) of the Code of Virginia and [12VAC5-630-170](#) , (ii) ~~his the~~ power to issue orders under § [32.1-26](#) of the Code of Virginia and [12VAC5-630-140](#) and [12VAC5-630-150](#) B and (iii) the power to revoke permits or inspection statements

under [12VAC5-630-290](#), which may only be delegated pursuant to § [32.1-22](#) of the Code of Virginia.

The eCommissioner has final authority to adjudicate contested case decisions of subordinates delegated powers under this section prior to appeal of such case decisions to the circuit court.

C. The ~~State~~ Department ~~of Health hereinafter referred to as department~~ is designated as the primary agent of the eCommissioner for the purpose of administering this chapter.

D. The district or local health departments are responsible for implementing and enforcing the regulatory activities required by this chapter.

Statutory Authority
§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 1.9, eff. April 1, 1992.

12VAC5-630-100. Right of Entry and Inspections.

In accordance with the provisions of §§ [32.1-25](#) and [32.1-12](#) and [32.1-176.6](#) of the Code of Virginia, the eCommissioner or ~~his~~ the Commissioner's designee shall have the right to enter any property to ensure compliance with this chapter.

Statutory Authority
§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 1.10, eff. April 1, 1992.

Part II Procedural Regulations Article 1 Procedures

12VAC5-630-110. Compliance with the Administrative Process Act.

The provisions of the Virginia Administrative Process Act (§ 9-6.14:1 et seq. of the Code of Virginia) shall govern the promulgation and administration of this chapter and shall be applicable to the appeal of any case decision based upon this chapter.

Statutory Authority
§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 2.1, eff. April 1, 1992.

12VAC5-630-120. Powers and Procedures of Regulations Not Exclusive.

The **e**Commissioner may enforce this chapter through any means lawfully available.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.2, eff. April 1, 1992.

12VAC5-630-130. [Reserved]

12VAC5-630-140. Emergency Order.

If an emergency exists the **e**Commissioner or the Commissioner's designee may issue an emergency order as is necessary for preservation of public health, safety, and welfare or to protect ground water resources. The emergency order shall state the reasons and precise factual basis upon which the emergency order is issued. The emergency order shall state the time period for which it is effective. Emergency orders will be publicized in a manner deemed appropriate by the **e**Commissioner. The provisions of 12VAC5-630-150 C and D shall not apply to emergency orders issued pursuant to this section.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.4, eff. April 1, 1992.

12VAC5-630-150. Enforcement of Regulations.

A. Notice. Subject to the exceptions below, whenever the **e**Commissioner or the **e**District or **l**ocal health department has reason to believe a violation of any of this chapter has occurred or is occurring, the alleged violator shall be notified. Such notice shall be made in writing, shall be delivered personally or sent by certified mail, shall cite the regulation or regulations that are allegedly being violated, shall state the facts which form the basis for believing the violation has occurred or is occurring, shall include a request for a specific action by the recipient by a specified time and shall state the penalties associated with such violation. When the commissioner deems it necessary, he may initiate criminal prosecution or seek civil relief through mandamus or injunction prior to giving notice.

B. Orders. Pursuant to the authority granted in § 32.1-26 of the Code of Virginia, the **e**Commissioner may issue orders to require any owner, or other person, to comply with the provisions of this chapter. The order shall be signed by the **e**Commissioner and may require:

1. The immediate cessation and correction of the violation;

2. Appropriate remedial action to ensure that the violation does not recur;
3. The submission of a plan to prevent future violations to the [eCommissioner](#) for review and approval;
4. The submission of an application for a variance; or
5. Any other corrective action deemed necessary for proper compliance with the chapter.

C. Hearing before the issuance of an order. Before the issuance of an order described in [12VAC5-630-150](#) , a hearing must be held, with at least 30 days notice by certified mail to the affected owner or other person of the time, place and purpose thereof, for the purpose of adjudicating the alleged violation or violations of this chapter. The procedures at the hearing shall be in accordance with [12VAC5-630-180](#) A or B of this chapter and with §§ 9-6.14:11 through 9-6.14:14 of the Code of Virginia.

D. Order; when effective. All orders issued pursuant to [12VAC5-630-150](#) shall become effective not less than 15 days after mailing a copy thereof by certified mail to the last known address of the owner or person violating this chapter. Violation of an order is a Class 1 misdemeanor. See § [32.1-27](#) of the Code of Virginia.

E. Compliance with effective orders. The [eCommissioner](#) may enforce all orders. Should any owner or other person fail to comply with any order, the [eCommissioner](#) may:

1. Apply to an appropriate court for an injunction or other legal process to prevent or stop any practice in violation of the order;
2. Commence administrative proceedings to suspend or revoke the construction permit;
3. Request the Attorney General to bring an action for civil penalty, injunction, or other appropriate remedy; or
4. Request the Commonwealth's Attorney to bring a criminal action.

F. Not exclusive means of enforcement. Nothing contained in [12VAC5-630-140](#) or [12VAC5-630-150](#) shall be interpreted to require the [eCommissioner](#) to issue an order prior to commencing administrative proceedings or seeking enforcement of any regulations or statute through an injunction, mandamus or criminal prosecution.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.5, eff. April 1, 1992.

12VAC5-630-160. Suspension of Regulations During Disasters.

If in the case of a man-made or natural disaster, the eCommissioner finds that certain regulations cannot be complied with and that the public health is better served by not fully complying with this chapter, ~~he the Commissioner~~ may authorize the suspension of the application of the chapter for specifically affected localities and institute a provisional regulatory plan until the disaster is abated.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.6, eff. April 1, 1992.

12VAC5-630-170. Variances.

~~Only t~~The eCommissioner ~~or the deputy commissioners~~ may grant a variance to this chapter. ~~(See §§ 32.1-12 and 32.1-22 of the Code of Virginia and 12VAC5-630-90 B.)~~ The eCommissioner ~~or the deputy commissioners~~ shall follow the appropriate procedures set forth in this subsection in granting a variance.

A. Requirements for a variance. The eCommissioner may grant a variance if a thorough investigation reveals that the hardship imposed (may be economic) by this chapter outweighs the benefits that may be received by the public. ~~Further, and that~~ the granting of such a variance ~~shall~~ does not subject the public to unreasonable health risks or jeopardize ground-water resources.

Exception: The eCommissioner shall not grant a variance for an improperly located Class IV well that was located pursuant to an express Class IV permit, as described under 12VAC5-630-260 and 12VAC5-630-270-, if the improper location of the well is a result of the failure by the owner, ~~his the owner's~~ agent, or the well driller to provide complete or accurate information on the site plan submitted with the application or to install the well in accordance with the permit.

B. Application for a variance. Any owner who seeks a variance shall apply in writing within the time period specified in 12VAC5-630-210 B. The application shall be signed by the owner, ~~addressed~~ and sent to the eCommissioner ~~at the State Department of Health in Richmond~~. The application shall include:

1. A citation to the section from which a variance is requested;
2. The nature and duration of the variance requested;
3. Any relevant analytical results including results of relevant tests conducted pursuant to the requirements of this chapter.

45. The hardship imposed by the specific requirement of this chapter.

5. A statement of reasons why the public health and welfare would be better served if the variance were granted.

6. Suggested conditions that might be imposed on the granting of a variance that would limit the detrimental impact on the public health and welfare or ground water resources;

7.6. Other information, if any, believed pertinent by the applicant; and

8.7. Such other information as the ~~district or~~ local health department or eCommissioner may require.

C. Evaluation of a variance application.

1. The eCommissioner shall act on any variance request submitted pursuant to [12VAC5-630-170 B](#) within 60 calendar days of receipt of the request.

2. In the evaluation of a variance application, the eCommissioner shall consider the following factors:

a. The effect that such a variance would have on the construction, location, or operation of the private well.

b. The cost and other economic considerations imposed by this requirement;

c. The effect that such a variance would have on protection of the public health;

d. The effect that such a variance would have on protection of ground-water resources; ~~and~~

e. Any relevant analytical results including results of relevant tests conducted pursuant to the requirements of this chapter.

f. The hardship imposed by enforcing the specific requirements of this chapter.

g. The applicant's statement of reasons why the public health and welfare would be better served if the variance were granted.

h. The suggested conditions that might be imposed on the granting of a variance that would limit the detrimental impact on the public health and welfare.

i. Other information, if any, believed pertinent by the applicant.

ej. Such other factors as the eCommissioner may deem appropriate.

D. Disposition of a variance request.

1. The eCommissioner may deny any application for a variance by sending a denial notice to the applicant by certified mail. The notice shall be in writing and shall state the reasons for the denial. The applicant may petition for a hearing within 30 calendar days to challenge the denial pursuant to 12VAC5-630-180.

2. If the eCommissioner proposes to grant a variance request submitted pursuant to 12VAC5-630-170 B, the applicant shall be notified in writing of this decision. Such notice shall identify the variance, private well covered, and shall specify the period of time for which the variance will be effective. The effective date of a variance shall be as stated in the variance.

3. No owner may challenge the terms or conditions set forth in the variance after 30 calendar days have elapsed from the effective date of the variance.

E. Posting of variances. All variances granted to any private wells are ~~nontransferable from owner to owner unless otherwise stated~~. Each variance shall be attached to the permit to which it is granted. Each variance is revoked when the permit to which it is attached is revoked.

F. Hearings on disposition of variances. Subject to the time limitations specified in 12VAC5-630-210, hearings on denials of an application for a variance or on challenges to the terms and conditions of a granted variance may be held pursuant to 12VAC5-630-180 A or B, except that informal hearings under 12VAC5-630-180 A shall be held by the eCommissioner or ~~his~~ the Commissioner's designee.

Statutory Authority
§§ 32.1-12 and 32.1-176 of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 2.7, eff. April 1, 1992.

12VAC5-630-180. Hearing Types.

Hearings before the eCommissioner or the eCommissioner's designees shall include any of the following forms depending on the nature of the controversy and the interests of the parties involved.

A. Informal hearings. An informal hearing is a meeting with a district or local health department with the district or local health director presiding and held in conformance with § 9-6.14:11 of the Code of Virginia. The district or local health department shall consider all evidence presented at the meeting which is relevant to the issue in controversy. Presentation of evidence, however, is entirely voluntary. The district or local health department shall have no subpoena power. No verbatim record need be taken at the informal hearing. The local or district health director shall review the facts presented and based on those facts render a decision. A written copy of the decision and the basis for the decision shall be sent to the appellant within 15 work days of the

hearing, unless the parties mutually agree to a later date in order to allow the department to evaluate additional evidence. If the decision is adverse to the interests of the appellant, an aggrieved appellant may request an adjudicatory hearing pursuant to [12VAC5-630-180](#) B below.

B. Adjudicatory hearing. The adjudicatory hearing is a formal, public adjudicatory proceeding before the eCommissioner, or a designated hearing officer, and held in conformance with § 9-6.14:12 of the Code of Virginia. An adjudicatory hearing includes the following features:

1. Notice. Notice which states the time and place and the issues involved in the prospective hearing shall be sent to the owner or other person who is the subject of the hearing. Notice shall be sent by certified mail at least 15 calendar days before the hearing is to take place.

2. Record. A record of the hearing shall be made by a court reporter. A copy of the transcript of the hearing, if transcribed, will be provided within a reasonable time to any person upon written request and payment of the cost.

3. Evidence. All interested parties may attend the hearing and submit oral and documentary evidence and rebuttal proofs, expert or otherwise, that are material and relevant to the issues in controversy. The admissibility of evidence shall be determined in accordance with § 9-6.14:12 of the Code of Virginia.

4. Counsel. All parties may be accompanied by and represented by counsel and are entitled to conduct such cross examination as may elicit a full and fair disclosure of the facts.

5. Subpoena. Pursuant to § 9-6.14:13 of the Code of Virginia, the commissioner or hearing officer may issue subpoenas on behalf of himself or any person or owner for the attendance of witnesses and the production of books, papers or maps. Failure to appear or to testify or to produce documents without adequate excuse may be reported by the commissioner to the appropriate circuit court for enforcement.

6. Judgment and final order. The eCommissioner may designate a hearing officer or subordinate to conduct the hearing as provided in § 9-6.14:12 of the Code of Virginia, and to make written recommended findings of fact and conclusions of law to be submitted for review and final decision by the commissioner. The final decision of the eCommissioner shall be reduced to writing and will contain the explicit findings of fact upon which ~~his~~ the Commissioner's decision is based. Certified copies of the decision shall be delivered to the owner affected by it. Notice of a decision will be served

upon the parties and become a part of the record. Service may be by personal service or certified mail return receipt requested.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.8, eff. April 1, 1992.

12VAC5-630-190. Request for Hearing.

A request for an informal hearing shall be made by sending the request in writing to the district or local health department. A request for an adjudicatory hearing shall be made in writing and directed to the ~~e~~Commissioner ~~at the State Department of Health in Richmond~~. Requests for hearings shall cite the reason(s) for the hearing request and shall cite the section(s) of this chapter involved.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.9, eff. April 1, 1992.

12VAC5-630-200. Hearing As A Matter of Right.

Any owner or other person whose rights, duties, or privileges have been, or may be affected by any decision of the ~~b~~Board or its subordinates in the administration of this chapter shall have a right to both informal and adjudicatory hearings. The ~~e~~Commissioner may require participation in an informal hearing before granting the request for a full adjudicatory hearing. Exception: No person other than an owner shall have the right to an adjudicatory hearing to challenge the issuance of either a construction permit or inspection statement unless the person can demonstrate at an informal hearing that the minimum standards contained in this chapter have not been applied and that he will be injured in some manner by the issuance of the permit or that ground water resources will be damaged by the issuance of the permit.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.10, eff. April 1, 1992.

12VAC5-630-210. Appeals.

Any appeal from a denial, revocation, or voidance of a construction permit for a private well must be made in writing and received by the department within ~~6~~30 days of the date of the denial.

- A. Any request for hearing on the denial of an application for a variance pursuant to [12VAC5-630-170](#) D 1 must be made in writing and received within ~~6~~30 days of receipt of the denial notice.

- B. Any request for a variance must be made in writing and received by the department prior to the denial of the private well permit, or within ~~6~~30 days after such denial.
- C. In the event a person applies for a variance within the ~~6~~30-day period provided by subsection B above, the date for appealing the denial of the permit, pursuant to subsection A above, shall commence from the date on which the department acts on the request for a variance.
- D. Pursuant to the Administrative Process Act (§ 9-6.14:1 et seq. of the Code of Virginia) an aggrieved ownerparty may appeal a final decision of the eCommissioner to an appropriate circuit court.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.11, eff. April 1, 1992.

12VAC5-630-220. Permits and Inspection Statement; General.

All private wells shall be constructed and located in compliance with the requirements as set forth in this chapter.

A. Except as provided in [12VAC5-630-220](#) B below, after the effective date of this chapter, no person shall construct, alter, rehabilitate, abandon or extend a private well, or allow the construction, alteration, rehabilitation, abandonment or extension of a private well, without a written construction permit from the eCommissioner. Conditions may be imposed on the issuance of any permit and no private well shall be constructed or modified in violation of those conditions. The replacement of a well pump, or the replacement of a well seal or cap with an equivalent well seal or cap, shall not be considered a well modification.

~~B. No permit shall be required for the construction, operation, or abandonment of dewatering wells. Furthermore, dewatering wells are exempted from the construction requirements found in 12VAC5-630-410. All dewatering wells shall be abandoned within 60 days of construction. Abandonment in this case means the removal of the well point, well casing, screening, and other appurtenances associated with the construction and operation of the well.~~

CB. Except as provided in [12VAC5-630-320](#), no person shall place a private well in operation, or cause or allow a private well to be placed in operation, without obtaining a written inspection statement pursuant to [12VAC5-630-310](#) and [12VAC5-630-330](#).

DC. Except as provided in [12VAC5-630-270](#), [12VAC5-630-290](#) and [12VAC5-630-300](#), construction permits for a private well shall be deemed valid for a

period of 5418 months from the date of issuance, with provision for one (1) 18 month renewal.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.12, eff. April 1, 1992.

12VAC5-630-230. Procedures for Obtaining a Construction Permit for a Private Well.

Construction permits are issued by the authority of the eCommissioner. All requests for a private well construction permit shall be by written application, signed by the owner or his-the owner's agent, and shall be directed to the district or local health department. All applications shall be made on an application form provided by the district or local health department and approved by the eCommissioner.

An application shall be deemed completed upon receipt by the district or local health department of a signed and dated application, together with the appropriate fee, containing the following information:

1. The property owner's name, address, and telephone number;
2. The applicant's name, address, and phone number (if different from subdivision 1 above);
3. A statement signed by the property owner, or his-the property owner's agent, granting the Health Department access to the site for the purposes of evaluating the suitability of the site for a well and allowing the department access to inspect the well after it is installed;
4. A statement signed by the property owner, or the property owner's agent, indicating whether the adjacent property is used for an agricultural operation.
5. Information required per 12VAC5-630-380.D, if necessary
46. A site plan showing the proposed well site, property boundaries, accurate locations of actual or proposed sewage disposal systems, recorded easements, and other sources of contamination within 100 feet of the proposed well site, and at the option of the applicant a proposed well design; and
57. When deemed necessary because of geological or other natural conditions, plans and specifications detailing how the well will be constructed.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.13, eff. April 1, 1992.

12VAC5-630-240. Issuance of the Construction Permit.

A. A construction permit shall be issued to the owner by the ~~e~~C Commissioner no later than 60 days after receipt of a complete and approvable application submitted under [12VAC5-630-230](#). If applicable, the applicant shall comply with [12VAC5-630-340](#) prior to issuance of the permit.

B. If compliance with the criteria contained in Part III (12VAC5-630-350 et seq) of this chapter imposes an economic hardship or other conditions that are not justified by the health considerations upon which the criteria are based, a construction permit may be issued for the well which substantially complies with this chapter. If it is not possible to site a replacement well in accordance with Table 3.1 when an existing well being replaced also does not comply with Table 3.1 and when there is no other available water source, the replacement well shall be permitted to be located no closer to the source(s) of contamination than the existing well. The district or local health department shall affix to the construction permit a clear and concise statement relating conditions and circumstances which formed the basis for issuing the permit.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.14, eff. April 1, 1992.

12VAC5-630-250. Emergency Procedures.

Applications for replacement wells that meet the definition of an emergency well replacement ([12VAC5-630-10](#)) shall have priority over normal applications for private well permits. Emergency procedures are as follows:

A. Drinking water wells. In the event a private drinking water well has failed and must be replaced, the local health department will conduct a sanitary survey of the property and surrounding area to determine the most suitable location. If a site is found that meets the minimum site requirements of this chapter, including the minimum separation distances contained in Table 3.1 and [12VAC5-630-380 F](#), the local health department will issue a permit for that site. If a site cannot be located that meets the minimum separation distances listed in Table 3.1 and [12VAC5-630-380 F](#), the local health department shall identify a site that complies with the minimum separation distances to the greatest extent possible. However, the replacement well shall not be located closer to any source of contamination than the existing well it is replacing. Replacement drinking water wells must meet the sampling requirements of [12VAC5-630-370 D](#) and E.

B. Heat pump wells or commercially dependent wells. If a heat pump well or commercially dependent well must be replaced, the applicant shall propose a replacement site based on the technical requirements of the heat pump system

or commercial establishment. The local health department will conduct a sanitary survey of the property and surrounding area to determine if the site meets the minimum site requirements of this chapter including the minimum separation distances contained in Table 3.1 and [12VAC5-630-380 F](#). If the site meets the minimum requirements of this chapter, the local health department will issue a permit for that site. If a site cannot be located that meets the minimum separation distances listed in Table 3.1 and [12VAC5-630-380 F](#), the local health department shall identify a site that complies with the minimum separation distances to the greatest extent possible. However, the replacement well shall not be located closer to any source of contamination than the existing well it is replacing. If the replacement heat pump well or commercially dependent well must be placed closer to a sewage disposal system (but no closer than the existing well it is replacing) the well shall be sampled for fecal coliforms. If fecal coliforms are present in the sample and further investigation reveals that the groundwater is contaminated, the well shall be abandoned.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.15, eff. April 1, 1992.

12VAC5-630-260. Express Class IV Construction Permits.

If a Class IV well is proposed for property that does not have an onsite sewage disposal system, either active or inactive, an application may be made for an express Class IV construction permit. An application for an express Class IV construction permit shall be made on a form provided by the district or local health department and approved by the [eCommissioner](#).

An application shall be deemed completed upon receipt by the district or local health department of a signed and dated application, together with the appropriate fee, containing the following information:

1. The property owner's name, address, telephone number, and personal signature. The owner's signature will acknowledge that the permit will be issued without the benefit of a site visit by the local health department prior to the issuance of the construction permit; that the permit is being issued based upon the information provided on the accompanying site plan; that the property owner also acknowledges that if the well is found not to comply with the minimum separation distances or any other provision of this chapter, the well must be abandoned at the direction of the local or district health director; and that a variance will not be considered if the improper location of the well is a result of the failure by the owner, ~~his~~ [the owner's](#) agent, or the [water well driller-system provider](#) to provide complete or accurate information on the site plan submitted with the application or to install the well in accordance with the permit.

2. Address and directions to the property;
3. The proposed use of the well;
4. The name, address, telephone number, ~~Class B (minimum) license number~~water well system provider, and signature of the water well driller system provider who is to construct the well;
5. A statement signed by the property owner (and not ~~his~~the owner's agent) granting the department access to the site for the purposes of inspecting the property and the well during and after its installation until the well is approved by the department or any required abandonment is completed; and
6. A site plan showing the proposed well site, property boundaries, recorded easements, and accurate locations of actual or proposed sources of contamination (including, but not limited to those listed in Table 3.1) within 100 feet of the proposed well site, and at the option of the applicant a proposed well design. If the proposed well site is located on or at the base of sloping topography, the minimum separation distances shown on the site plan for any sources of contamination within a 60 degree arc slope of the proposed well site must be increased 25 feet for every 5.0% slope.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.16, eff. April 1, 1992.

12VAC5-630-270. Issuance of Express Class IV Construction Permits and Final Inspection.

A. Issuance of express Class IV construction permit. Upon receipt of a complete and approvable application, as defined in [12VAC5-630-260](#), by a local or district health department with multiple ~~sanitarians~~environmental health specialists, the department shall exercise all due diligence to issue a permit either on the date of receipt or the following business day. If the local or district office has only one assigned ~~sanitarian~~environmental health specialist, the local or district department will exercise all due diligence to issue the permit as soon as possible. Failure by the department to issue the permit within the specified time does not authorize the construction of the well without a permit. If applicable, the applicant shall comply with [12VAC5-630-340](#) prior to the issuance of the permit.

B. Validity of express Class IV construction permits. Express Class IV construction permits shall only be valid for a period of 30 days from the date of issuance.

C. Inspection. If, upon inspection of the well, it is found that the well location does not comply with the minimum separation distances or any other provision of this chapter, no inspection statement shall be issued and the well shall be immediately abandoned by the property owner in accordance with [12VAC5-630-450](#) upon notification and direction by the local or district health director. The eCommissioner shall not grant a variance if the improper location of the well is a result of the failure by the owner, ~~his~~ the owner's agent, or the water well driller system provider to provide complete or accurate information on the site plan submitted with the application or to install the well in accordance with the permit.

The construction of the well shall also comply with this chapter.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.17, eff. April 1, 1992.

12VAC5-630-271. Express Geothermal Well Permits.

- A. The issuance of an express geothermal permit is contingent upon proper registration and payment of application fees and applies to the construction of wells used solely for a closed loop geothermal heating system.
- B. A single application and a single fee are required for any geothermal well system. The fee is the same as for a single private well. A registration statement for closed loop construction permitting shall be made on a form provided and approved by the division. The registration shall include the following information:
 1. The property owner's name, address, and telephone number;
 2. The address of and directions to the property;
 3. The proposed use of the well;
 4. The name, address, telephone number, and contractor license number of the water well driller system provider;
 5. A statement signed by the property owner granting the department access to the site for the purpose of inspecting the property and the well during and after the well installation until the well is approved by the department or any required corrections are made;
 6. A site plan, drawn to scale, showing the proposed well site or sites, property boundaries, recorded easements, and accurate locations of actual or proposed sources of contamination (including but not limited to those listed in

Table 3.1 of [12VAC5-630-380](#)) within 100 feet of the proposed well site or sites; and

7. A statement signed by the licensed [water well driller-system provider](#) that the location and construction of the well or wells will comply with the requirements of this chapter.

- C. A single application fee is required for any geothermal well system, regardless of the number of wells included in the system. The fee is the same as for a single private well.

Statutory Authority

§ [32.1-176.4](#) of the Code of Virginia.

Historical Notes

Derived from [Volume 28, Issue 22](#), eff. August 16, 2012.

12VAC5-630-272. Issuance of Express Geothermal Well Construction Permit, Inspection, and Final Approval.

- A. Issuance of the express geothermal well permit. Upon receipt of a complete registration statement and the appropriate fee, the department will acknowledge receipt of the registration statement and issue the permit with a copy given to the contractor. The construction of the geothermal heating system may begin immediately upon submission of a complete registration statement and counter-signature denoting receipt by the department.
- B. Inspection. The department, at its sole discretion, may inspect the closed-loop geothermal well any time after acceptance of the registration statement until after the installation is approved. If, upon inspection of the well, it is found that the well location does not comply with the minimum separation distances or any other provision of this chapter, no inspection statement shall be issued until the deficiencies have been corrected.
- C. C. Final approval. Upon receipt of the Uniform Water Well Completion Report, as required in [12VAC5-630-440](#), and completion of any inspections deemed necessary to ensure compliance with this chapter, or unless the department has evidence to indicate that the well is not in compliance with the requirements of this chapter, the local health department will provide the owner with a statement that the wells are approved for use.

Statutory Authority

§ [32.1-176.4](#) of the Code of Virginia.

Historical Notes

Derived from [Volume 28, Issue 22](#), eff. August 16, 2012.

12VAC5-630-280. Denial of a Construction Permit.

If it is determined that the proposed design is inadequate or that site, geological,

hydrological, or other conditions exist that do not comply with this chapter or would preclude the safe and proper operation of a private well system, or that the installation of the well would create an actual or potential health hazard or nuisance, or the proposed design would adversely impact the ground water resource, the permit shall be denied and the owner shall be notified in writing, by certified mail, of the basis for the denial. The notification shall also state that the owner has the right to appeal the denial.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.18, eff. April 1, 1992.

12VAC5-630-290. Revocation of Construction Permits or Inspection Statements.

The Commissioner or the Commissioner's designee may revoke a construction permit or inspection statement for any of the following reasons:

1. Failure to comply with the conditions of the permit;
2. Violation of any of this chapter for which no variance has been issued;
3. Facts become known which reveal that a potential health hazard would be created or that the ground water resources may be adversely affected by allowing the proposed well to be installed or completed.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.19, eff. April 1, 1992.

12VAC5-630-300. Voidance of Construction Permits.

Null and void. All well construction permits are null and void when (i) conditions such as house location, sewage system location, sewerage system location, topography, drainage ways, or other site conditions are changed from those shown on the application, (ii) conditions are changed from those shown on the construction permit, or (iii) more than ~~54~~18 months elapse from the date the permit was issued or renewed. Reapplication for the purposes of having an expired permit reissued shall be the responsibility of the owner, and such reapplication shall be handled as an initial application and comply fully with [12VAC5-630-230](#).

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.20, eff. April 1, 1992.

12VAC5-630-310. Statement Required Upon Completion of Construction.

~~Upon~~ Within 30 days of completion of the construction, alteration, rehabilitation, abandonment or extension of a private well, the ~~owner or agent~~ water well system provider shall ~~submit to~~ furnish the district or local health department a completed uniform water well completion report. ~~The uniform water well completion report shall be statement, signed by the contractor, upon the form set out in 12VAC5-630-490, signed by the water well system provider, stating~~ that the well was installed, constructed, or abandoned in accordance with the permit, and further that the well complies with all applicable state and local regulations, ordinances and laws.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.21, eff. April 1, 1992.

12VAC5-630-320. Inspection and Correction.

No well shall be placed in operation, except for the purposes of testing the mechanical soundness of the system, until inspected by the district or local health department, corrections are made if necessary, and the owner has been issued an inspection statement by the district or local health department.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.22, eff. April 1, 1992.

12VAC5-630-330. Issuance of the Inspection Statement.

Upon satisfactory completion of the requirements of [12VAC5-630-310](#), [12VAC5-630-320](#), [12VAC5-630-370](#), [12VAC5-630-430](#) and [12VAC5-630-440](#), the ~~e~~Commissioner shall issue an inspection statement to the owner. The issuance of an inspection statement does not denote or imply any warranty or guarantee of the water quality or quantity by the department or that the private well will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair, replace, or to comply with the requirements to abandon any private well.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.23, eff. April 1, 1992.

12VAC5-630-340. Requirement for Easement.

Whenever a private well subject to this chapter is proposed to be installed on property other than the owner's, an easement in perpetuity shall be recorded with the clerk of the

circuit court prior to issuance of a construction permit. The easement shall be of sufficient area to permit access, construction, placement of the water line, and maintenance of the well.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 2.24, eff. April 1, 1992.

Part III
Design and Construction Criteria
Article 1
General Requirements

12VAC5-630-350. General.

This chapter does not apply to private wells constructed, altered, rehabilitated or extended prior to the effective date of these regulations unless the well construction is modified or expanded after the effective date of these regulations.

The class of well to be constructed shall be determined by the local or district health department or the division.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 3.1, eff. April 1, 1992.

12VAC5-630-360. Classes of Water Wells.

The following classes of private wells are established for purposes of this chapter. These classes are in addition to those established in the current Commonwealth of Virginia Waterworks Regulations ([12VAC5-590-10](#) et seq.) and are intended for use for private well systems:

1. Class III - Private wells constructed to be used as a source of drinking water. There are three subclasses:
 - a. Class IIIA - Drilled wells in which the annular space around the casing is grouted to a minimum depth of 20 feet.
 - (1) The well shall be drilled and cased to a depth of at least 100 feet.
 - (2) The cased drill hole shall pass through at least 50 feet of collapsing material such as caving sand, gravel or other material that will collapse against the casing.

- b. Class IIIB - Drilled wells in which the casing is installed to a minimum depth of 50 feet and the annular space around the casing is grouted to at least 50 feet.
 - c. Class IIIC - Drilled, bored, driven or jetted wells other than Class IIIA and Class IIIB.
2. Class IV – Private wells constructed for any purpose other than use as a source of drinking water. There are three subclasses:

a. Class IVA - Drilled wells in which the annular space around the casing is grouted to a minimum depth of 20 feet.

(1)The well shall be drilled and cased to a depth of at least 100 feet.

(2) The cased drill hole shall pass through at least 50 feet of collapsing material such as caving sand, gravel or other material that will collapse against the casing.

b. Class IVB - Drilled wells in which the casing is installed to a minimum depth of 50 feet and the annular space around the casing is grouted to at least 50 feet.

c. Class IVC - Drilled, bored, driven or jetted wells other than Class IVA and Class IVB.

A Class IV well may be converted to a corresponding Class III well if it meets the construction standards as set forth in this chapter and the water quality standards set forth in 12VAC5-630-370.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 3.2, eff. April 1, 1992.

12VAC5-630-370. ~~Water Quality and Quantity.Deleted~~

~~A. Class IV wells exempt. The water quality requirements contained in this section apply only to Class III private wells. Class IV private wells (wells not constructed as a source of drinking water) are not subject to any quality requirements. These regulations contain no well yield requirements. See 12VAC5-630-460 for suggested minimum well yields for residential supplies.~~

~~B. Sample tap. A sample tap shall be provided at or near the water entry point into the system so that samples may be taken directly from the source; this requirement may be met by utilizing the first tap on a line near where the plumbing enters the house (may be a hose bib), provided the tap precedes any water treatment devices.~~

~~C. Disinfection. The entire water system including the well shall be disinfected prior to use (12VAC5-630-430 and 12VAC5-630-470).~~

~~D. Sampling. After operating the well to remove any remaining disinfectant, a sample of the water from the well shall be collected for bacteriological examination. The sample may be collected by the owner, well driller, or other person in accordance with procedures established by the department and provided the sample is submitted to a private laboratory certified by the Department of General Services, Division of Consolidated Laboratory Services, for analysis.~~

~~E. Test interpretation. A Class III private well shall be considered satisfactory if the water sample(s) test(s) negative for coliform organisms as described in subdivision 1 or 2 below. Sources with positive counts shall be tested as described in subdivision 3 below to determine if the water supply is amenable to continuous disinfection (chlorination). Samples that exhibit confluent growth shall be considered inconclusive and another sample shall be collected.~~

~~1. Where a private well has no unsatisfactory water sample within the previous 12 months, one water sample which tests negative for coliform bacteria shall be considered satisfactory for coliform organisms.~~

~~2. Where a private well has had one or more positive water samples within the past 12 months for coliform bacteria, at least two consecutive samples must be collected and found negative for coliform organisms before the supply may be considered satisfactory for coliform organisms. The samples must be collected at least 24 hours apart and the well may not be disinfected between samples.~~

~~3. When a private well does not test satisfactory for coliform organisms continuous disinfection may be recommended to the homeowner if the water supply is found to be suitable for continuous disinfection. A minimum of 10 samples shall be collected and tested for total coliform using an MPN methodology. The geometric mean of the samples shall be calculated and if the result is less than 100 organisms per 100 ml, the supply shall be considered satisfactory for continuous disinfection.~~

~~F. Water treatment. If tests indicate that the water is unsatisfactory and no other approvable source is available, adequate methods of water treatment shall be applied and demonstrated to be effective pursuant to 12VAC5-630-370 E 3 prior to the issuance of an inspection statement. The district or local health department shall be consulted when treatment is necessary.~~

Statutory Authority
§§ 32.1-12 and 32.1-176 of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 3.3, eff. April 1, 1992.

12VAC5-630-380. Well Location.

The well shall be sited for the protection of public health and the aquifer, with appropriate consideration given to distance from potential contamination sources; vulnerability to known or suspected natural risks (e.g., flooding); property boundaries; potential for interference with other wells, surface water flows, and environmentally important waters including wetlands and springs; potential for interference with utilities; accessibility for drilling rigs and support equipment; logistics associated with infrastructure, and safety of public and well construction personnel.

A. Sanitary survey. Any obvious source of toxic or dangerous substances within 200 feet of the proposed private well shall be investigated as part of the sanitary survey ~~by the district or local health department.~~ Sources of contamination may include, but are not limited to, items listed in Table 3.1 ~~;~~ abandoned wells, pesticide treated soils, underground petroleum or chemical storage tanks, drums, totes, or other bulk storage containers (whether underground or above ground,); and other sources of physical, chemical or biological contamination. If the source of contamination could affect the well adversely, and or preventive measures are not available to protect ~~the~~ ground-water, the well shall be prohibited. The minimum separation distance between a private well and structures, topographic features, or sources of pollution shall comply with the minimum distances shown in Table 3.1. ~~Where the minimum separation distances for a Class IV well cannot be met, a permit may be issued under this chapter for a well meeting all of the criteria in 12VAC5-630-400 and 12VAC5-630-410 and the separation distance requirements for either a Class IIIA or IIIB well, without deviation, and such Class IV well shall not be required to meet the water quality requirements of 12VAC5-630-370.~~

TABLE 3.1 DISTANCES (IN FEET) BETWEEN A WELL AND A STRUCTURE OR TOPOGRAPHIC FEATURE

Structure or Topographic Feature	Class IIIC or IV	Class IIIA or B
Building foundation	10	10
Building foundation (termite treated)	50 ¹	50 ¹
House sewer line	50 ²	50 ²
Sewer main, including force mains	50 ³	50 ³
Pretreatment system (e.g. septic tank, aerobic unit, etc.)	50	50
Sewage disposal system or other contaminant source (e.g., drainfield, underground storage tank, barnyard, hog	100	50

lot, etc.)		
Cemetery	100	50
Sewage Dump Station	100	50 ¹

¹See 12VAC5-630-380

²Private wells shall not be constructed within 50 feet of a house sewer line except as provided below. Where special construction and pipe materials are used in a house sewer line to provide adequate protection, and the well is cased and grouted to the water bearing formation, all classes of private wells may be placed as close as 10 feet to the house sewer line. Special construction for house sewer lines constitutes cast iron pipe with water-tight caulked joints or mechanical joints using neoprene gaskets, or solvent welded Schedule 40 or better polyvinyl chloride (PVC) pipe. It is the responsibility of the applicant to provide documentation from the contractor that such construction and pipe materials have been installed. In no case shall a private well be placed within 10 feet of a house sewer line.

³Private wells shall not be constructed within 50 feet of a sewer main except as provided below. Where special construction and pipe materials are used in a sewer main to provide adequate protection, and the well is cased and grouted to the water bearing formation, Class III wells may be placed as close as 35 feet to a sewer main and Class IV wells as close as 10 feet. Special construction for sewer mains constitutes ductile iron pipe with water-tight joints, solvent welded Schedule 40 or better polyvinyl chloride (PVC) pipe (SDR 35 plastic PVC with neoprene gaskets). It is the responsibility of the applicant to provide documentation from the local building official or sanitary district that such construction and pipe materials have been installed. In no case shall a Class III well be placed within 35 feet of a sewer main. Likewise, in no case shall a Class IV well be placed within 10 feet of a sewer main.

Structure or Topographic Feature	Minimum Separation Distance				Exceptions
	Class IIIA/B	Class IIIC	Class IV A/B	Class IVC	
<u>BUILDING FOUNDATION</u>					
(a) <u>Not treated with a termiticide</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>None</u>
(b) <u>Constructed in 2000 or later and treated with a termiticide</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>Minimum separation distance can be 10 feet for Class IV wells if withdrawing from a confined aquifer and the well is cased and grouted 20 feet or into the first confining layer, whichever is deeper. However, Class IV wells cannot be converted to Class III wells if the 20 foot separation distance is not met.</u>
(c) <u>Constructed earlier than 2000 and treated with a termiticide</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>Minimum separation distance can be 10 feet for Class IV wells if withdrawing from a confined aquifer and the well is cased and grouted 20 feet or into the first confining layer, whichever is deeper. However, Class IV wells</u>

<u>Structure or Topographic Feature</u>	<u>Minimum Separation Distance</u>				<u>Exceptions</u>
	<u>Class IIIA/B</u>	<u>Class IIIC</u>	<u>Class IVA/B</u>	<u>Class IVC</u>	
					<u>cannot be converted to Class III wells if the 50 foot separation distance is not met.</u>
<u>HOUSE SEWER LINE</u>					
(a) <u>Constructed of cast iron pipe with water-tight caulked joints; mechanical joints using neoprene gaskets; or solvent welded Schedule 40 or better PVC pipe – provided the well is cased and grouted to water bearing formation</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>None</u>
(b) <u>Other or unknown construction; or if well is not cased and grouted to water bearing formation</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>None</u>
<u>SEWER MAIN, INCLUDING FORCE MAIN</u>					
(a) <u>Constructed of ductile iron pipe with water-tight joints; solvent welded Schedule 40 or better PVC (SDR-35 plastic PVC with neoprene gaskets) – provided the well is cased and grouted to water bearing formation</u>	<u>35</u>	<u>35</u>	<u>35</u>	<u>35</u>	<u>None</u>
(b) <u>Other or unknown construction; or if well is not cased and grouted to water bearing formation</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>None</u>
<u>SEWERAGE SYSTEM</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>None</u>
<u>PRETREATMENT SYSTEM</u> (e.g., septic tank, aerobic unit, etc.)	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>None</u>
<u>ACTIVE SEWAGE DISPOSAL SYSTEM OR OTHER CONTAMINANT SOURCE</u> (e.g., drainfield, petroleum storage tank, barnyard, landfill, animal lot, etc.)	<u>50</u>	<u>100</u>	<u>50</u>	<u>100</u>	<u>None</u>
<u>PERMANENTLY ABANDONED SEWAGE DISPOSAL SYSTEMS</u>	<u>35</u>	<u>35</u>	<u>35</u>	<u>35</u>	<u>None</u>
<u>RECLAIMED WATER DISTRIBUTION PIPELINE</u>	<u>50</u>	<u>50</u>	<u>None</u>	<u>None</u>	<u>35 ft (Class III) – if RWDP is constructed of water pipe material in accordance with AWWA specifications and pressure tested in place without leakage prior to backfilling. The hydrostatic test shall be conducted in accordance with the AWWA standard (ANSI/AWWA C600-05, current version) for the pipe material, with a minimum test pressure of 30 psi.</u> <u>Class IV wells cannot be converted to Class III wells if Class III separation distance requirements are not met.</u>
<u>BIOSOLIDS APPLICATION SITES</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>None</u>
<u>UNLINED BIORETENTION POND</u>	<u>50</u>	<u>50</u>	<u>None</u>	<u>None</u>	<u>Class IV wells cannot be converted to Class III wells if Class III separation distance requirements are not met</u>
<u>CEMETERY</u>	<u>50</u>	<u>100</u>	<u>50</u>	<u>100</u>	<u>None</u>
<u>SEWAGE DUMP STATION</u>	<u>50</u>	<u>100</u>	<u>50</u>	<u>100</u>	<u>None</u>

<u>Structure or Topographic Feature</u>	<u>Minimum Separation Distance</u>				<u>Exceptions</u>
	<u>Class IIIA/B</u>	<u>Class IIIC</u>	<u>Class IVA/B</u>	<u>Class IVC</u>	
<u>PROPERTY LINE</u> (a) <u>All properties except as described below</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>None</u>
(b) <u>With an adjacent property of three acres or larger used for an agricultural operation as defined in Code of Virginia § 3.2-300.</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>Exemption for reduced distance applies if the adjacent property owner grants written permission for construction within 50 feet of the property line, or if it is certified that no other site on the property complies with the regulations for construction of a private well.</u>
<u>OVERHEAD OR BURIED UTILITY LINES</u> (electric, telephone, gas, water, fiber optic, etc).	<u>There is no minimum separation distance between a private well and a utility line established by this chapter. The minimum separation distance may be established by the individual utility provider or local ordinance. Distance from overhead utilities (relative to drilling equipment) may also be subject to OSHA requirements.</u>				
<u>WELLS NOT SUBJECT TO MINIMUM SEPARATION DISTANCE REQUIREMENTS</u>	<u>Class IV closed loop ground source heat pump wells grouted the entire depth are not subject to minimum separation distance requirements</u>				

B. Downslope siting of wells from potential sources of pollution. Special precaution shall be taken when locating a well within a 60 degree arc directly downslope from any part of any existing or intended onsite sewage disposal system or other known source of pollution identified in 12VAC5-630-380.A, including Table 3.1, including, but not limited to, buildings subject to termite or vermin treatment, or used to store polluting substances or storage tanks or storage areas for petroleum products or other deleterious substances. The minimum separation distance shall be: (i) increased by 25 feet for every 5.0% of slope; or (ii) an increase shall be made to the minimum depth of grout and casing in the amount of five feet for every 5.0% of slope.

C. Sites in swampy areas, low areas, or areas subject to floodingregular accumulation of standing water. No private well covered by this chapter shall be located in areas subject to the collection of pollutants such as swampy areas, low areas, or areas subject to floodingregular accumulation of standing water. Wells located in flood plains shall be adequately constructed so as to preclude the entrance of surface water during flood conditions. At a minimum, such construction will include extending the well terminus 18 inches above the annual flood level and grading to provide positive drainage ten feet in all directions. Other requirements may be made as determined on a case-by-case basis by the division.

D. Property lines. ~~There is no minimum separation distance between a private well and a property line established by this chapter.~~ The owner is responsible for establishing a separation distance from property lines such that the construction and location of the well will be on the owner's property and comply with any local ordinances. No private well shall be constructed within 5 feet of a property line. For properties adjoining properties of three acres or larger used for an agricultural operation, no private well

shall be constructed within 50 feet of the property line except as exempted by the following: (i) the owner of the adjacent property that is used for an agricultural operation may grant written permission for construction of a well within 50 feet of the property line; or (ii) certification is provided that no other site on the property complies with this chapter. Prior to permitting a well within 50 feet of a property line with an adjacent property of three acres or larger that is used for an agricultural operation, the owner or owner's agent shall submit one of the following documents to the district or local health department to qualify as an exemption:

1. A notarized letter from the adjacent property owner granting permission to construct a well within 50 feet of the property line. Such statement shall be recorded and indexed in the land records of the circuit court having jurisdiction over the property where the well is to be located.
2. A certification statement from a licensed onsite soil evaluator or professional engineer that no other well location on the property complies with this chapter. Reasons that a well location on a property may not comply with this chapter include:
 - a. The property is not large enough to allow a location of a well 50 feet or more from the property line. In such instance, the well should be located at the greatest distance from the property line consistent with this chapter.
 - b. The location of a well 50 feet or more from the property line results in separation distance requirements identified on Table 3.1 and in 12VAC5-630-380.B not being achievable on the property, provided that required separation distances can be achieved if the well is located less than 50 feet from the property line. In such instance, the well should be located at the greatest distance from the property line consistent with this chapter. Further, well owners shall not be obligated to undertake otherwise optional actions, such as substitution of an alternative onsite sewage system in place of a conventional system where a conventional system is suitable, solely to comply with the requirement to maintain a 50 feet separation distance from an adjoining property of three acres or larger used for an agricultural operation.
 - c. The location is inaccessible to well drilling equipment as a result of topography, surface water, structures, overhead or buried utilities or other obstacle.

Other reasons that a well located greater than 50 feet from the property line may not comply with this chapter may be considered by the Division on a case by case basis.

E. Utility lines. There is no minimum separation distance between a private well and utility lines (electric, gas, water, cable, etc.). The minimum separation distance may,

however, be established by the individual utility company, ~~or~~ local ordinance, or by OSHA or related safety standard.

EF. Permanently abandoned sewage disposal systems. No private well shall be constructed within 35 feet of a permanently abandoned sewage disposal system. The following criteria is to determine if a sewage disposal system is considered permanently abandoned.

1. The drainfield is no longer connected to a structure or other sewage source.
2. The drainfield has been inactive for at least 24 consecutive months.
3. The septic tank and distribution box shall be pumped, limed, crushed, and either filled with an inert material or removed from the site.
4. The owner of the abandoned drainfield provides a notarized statement that the above conditions exist and that the drainfield will not be reactivated. Such statement shall be recorded and indexed in the grantor index of the land records of the circuit court having jurisdiction over the site where the sewage system is located.
5. The local health department verifies that the above conditions exist.

F. Pesticide and ~~t~~Termite treatment.

1. No Class III private well shall be placed closer than ~~50-20~~ feet from a ~~building~~the foundation of a building constructed in 2000 or later that has been chemically treated with ~~any a~~ termiticide ~~or other pesticide~~.
2. No Class III private well shall be placed closer than 50 feet from the foundation of a building constructed prior to 2000 that has been chemically treated with a termiticide.
3. No Class IV ~~C~~ private well shall be placed closer than ~~50-20~~ feet to the foundation of a building ~~foundation~~ constructed in 2000 or later, or closer than 50 feet to the foundation of a building constructed prior to 2000, that has been chemically treated with ~~any a~~ termiticide ~~or other pesticide~~ except as provided below. Further, no termiticides or other pesticides shall be applied within five feet of an open water supply trench. A Class IV ~~C~~ well may be placed as close as 10 feet to a ~~chemically~~ termiticide treated foundation if the following criteria are met:
 - a. The aquifer from which the water is withdrawn must be a confined aquifer (i.e., there must be an impermeable stratum overlying the water bearing formation).

b. The well must be cased and grouted a minimum of 20 feet or into the first confining layer between the ground surface and the water bearing formation from which water is withdrawn, whichever is greater. When the first confining layer is encountered at a depth greater than 20 feet, the well shall be cased and grouted to the first confining layer between the ground surface and the water bearing formation from which water is withdrawn.

c. The material overlaying the confined aquifer must be collapsing material.

e.d. The well shall not be converted to a Class IIIC well.

G. Reclaimed Water Distribution Pipeline. No Class III private well shall be placed closer than 50 feet from a reclaimed water distribution pipeline. This separation distance can be reduced to 35 feet provided that the reclaimed water distribution pipeline is constructed from a water pipe material in accordance with AWWA specifications and pressure tested in place without leakage prior to backfilling. The hydrostatic test shall be conducted in accordance with the AWWA standard (ANSI/AWWA C-600-05, as updated) for the pipe material, with a minimum test pressure of 30 psi. Class IV wells are not subject to a separation distance from a reclaimed water distribution pipeline; however, Class IV wells shall not be converted to a Class III well if the Class III well separation distance is not met.

GH. Exception for closed-loop ground-source heat pump wells. Closed-loop ground-source heat pump wells, depending upon construction, may not have to comply with the minimum separation distances for Class IV wells listed in Table 3.1. If the well is grouted 20 feet, the minimum separation distances must comply with those listed for Class IV C wells. If the well is grouted a minimum of 50 feet, the separation distances shall be those listed for Class IIIA-IVA or IIIB-IVB wells. If the well is grouted the entire depth of the well, the well does not have to comply with the minimum separation distances contained in Table 3.1.

I. Biosolids Application Site. No private well shall be placed closer than 100 feet from land on which biosolids are applied.

J. Bioretention Pond. No Class III private well shall be placed closer than 50 feet from an unlined bioretention pond. Class IV wells are not subject to a separation distance from an unlined bioretention pond; however, Class IV wells shall not be converted to a Class III well if the Class III well separation distance from an unlined bioretention pond is not met. Placement of a private well near a lined bioretention pond is not subject to a minimum separation distance.

12VAC5-630-390. Site Protection.

- A. No objects, articles, or materials of any kind which are not essential to the operation of the well shall be placed or stored in a well, well house, on the well head or well pump or water treatment system, or within close proximity to them.
- B. Fencing of an area around the well, or the placement of other barriers or restrictions, may be required as a condition of the permit under certain circumstances, such as to prohibit livestock access to the well head or to prohibit vehicles from damaging or polluting the area around the well head.
- C. The area around the well shall be graded to divert surface water away from the well.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 3.5, eff. April 1, 1992.

12VAC5-630-400. Materials.

A. General. All materials used in private wells shall be lead free, approved by the National Sanitation Foundation or equivalent for water well use, have long-term resistance to corrosion and sufficient strength to withstand hydraulic, lateral and bearing loads.

B. Drilling Fluids. Drilling fluids used for well bore stabilization and well development – including additives, alkalinity agents, foaming agents, lost circulation materials, lubricants, shale/clay stabilizers, viscosifiers, weighting agents, wetting agents, and thinners/dispersants – shall meet NSF/ANSI Standard 60 environmental specifications.

BC. Casing. Materials used for casing shall be watertight and shall consist of wrought iron, concrete tile, clay tile, steel, stainless steel, fiberglass, or plastic, all designed for water well use. ~~or other suitable materials as determined by the division. The division shall maintain a list of approved casing materials. The thickness of casing shall be selected to resist the force imposed during installation and which can be expected after installation.~~

1. Driven casings shall consist of ductile iron, steel or stainless steel and shall be equipped with a suitable drive boot.

2. Casings used for Class IIIA or IIIB wells and Class IVA or IVB wells shall be steel, stainless steel or plastic. Casings used for bored Class IIIC and IVC wells shall be concrete.

- a. Steel Casing. Steel casing shall meet one of the following standards (current version).

<u>Type of Steel Casing</u>	<u>Acceptable Standards</u>
<u>Carbon Steel</u>	<u>ASTM A589-89a; A53-90b; A139 Grade B API Spec, 5L and 5LS</u>
<u>Copper Bearing Steel</u>	<u>ASTM A139, Grade B</u>
<u>High-Strength Low-Alloy</u>	<u>ASTM A606 Type 4</u>
<u>Stainless Steel</u>	<u>ASTM A312, A778, A409</u>

b. Plastic Casing. Plastic casing shall meet the following standard (current version)

<u>Type of Plastic Casing</u>	<u>Acceptable Standards</u>
<u>Thermoplastic Polyvinyl Chloride</u>	<u>ASTM F480</u>

c. Fiberglass casing. Fiberglass casing shall be NSF 61 potable water approved.

d. Concrete Casing. Concrete casing shall meet one of the following standards (current version).

<u>Type of Concrete Casing</u>	<u>Acceptable Standards</u>
<u>Concrete Pipe</u>	<u>ASTM C14, C76</u>

3. Other casing materials may be approved by the Division on a case-by-case basis. Review and approval shall be based on whether the proposed material can consistently be expected to meet the intent of casing expressed in 12VAC5-630-410.B. The proposed material must be an industry acceptable material used for the purpose of casing water wells.

CD. Screens. Where utilized, screens shall be ~~constructed~~ factory manufactured of stainless steel, plastic or other suitable materials designed to allow passage of water from the aquifer and to provide structural support sufficient to stabilize the borehole. ~~as determined by the division~~ Screens shall be designed to have sufficient tensile, collapse, and compression strength to withstand physical loading it will be exposed to during installation, completion, development and operational conditions. Screens shall be constructed of materials which will not be damaged by ~~any~~ chemical or corrosive action of the ground water or future cleaning operations. Additionally, screens shall be constructed of materials which will not degrade ground-water quality. Allowable screen types include wire wrap, louvered, bridge slot, and factory slotted.

1. Other screen types may be approved the Division on a case-by-case basis. Review and approval shall be based on whether the proposed material can consistently be expected to meet the intent of casing expressed in this 12VAC5-630-400.D. The proposed material must be an industry acceptable material used for the purpose of screening water wells.

DE. Joints. Joints shall be watertight and mechanically sound. Welded joints shall have smooth interior surfaces and shall be welded in accordance with acceptable welding

practice-Grout. The grouting material used shall meet the appropriate specification listed below:

1. Neat cement grout shall consist of cement and water with not more than six gallons of water per bag (94 pounds) of cement.

2. Bentonite clay may be used in conjunction with neat Portland cement to form a grouting mixture. The bentonite used must be specifically recommended by the manufacturer as being suitable for use as a well grout material and cannot exceed 6.0% by weight of the mixture.

3. Bentonite clay used for grouting shall be sodium bentonite with a minimum of 20% clay solids by weight of water. The bentonite clay shall be specifically recommended by the manufacturer for use as a grouting material.

Exception: (i) When exceptional conditions require the use of a less fluid grout, to bridge voids, a mixture of cement, sand and water in the proportion of not more than two parts by weight of sand to one part of cement with not more than six gallons of clean water per bag of cement may be used if approved by the district or local health department, or (ii) for bored wells only, a concrete (1-part sand, 1-part cement, 2-parts pea gravel mix with all aggregates passing a ½-inch sieve) grout with not more than six gallons of clean water per bag of cement may be used provided a minimum three-inch annular space is available and its use approved by the district or local health department.

4. Other materials. Other grouting materials may be approved by the division on a case by case basis. Review and approval shall be based on whether the proposed material can consistently be expected to meet the intent of grouting expressed in 12VAC5-630-410 E 2. The proposed material must be an industry acceptable material used for the purpose of grouting water wells.

EF. Gravel and Sand. Gravel and sand utilized for gravel-filter packed wells shall be uniformly graded, cleaned, washed, disinfected and of a suitable size, well rounded, acid resistant, and have as high a silica content as possible.

G. Water. Water used during well construction shall be obtained from a suitable source or the well being constructed. A suitable source means a potable water source, or, when a potable water source is not available, water taken from another source then disinfected using compounds meeting NSF/ANSI Standard 60 environmental specifications.

H. Disinfection Products. Compounds used in the disinfection of completed wells shall meet NSF/ANSI Standard 60 environmental specifications.

Derived from VR355-34-100 § 3.6, eff. April 1, 1992.

12VAC5-630-410. Construction; General.

Private wells shall be constructed using the criteria described in this section. Private wells constructed in Groundwater Management Areas and subject to Groundwater Withdrawal Permits issued by the Department of Environmental Quality under 9VAC25-610 et seq are subject to additional conditions, particularly with respect to screen and filter pack selection and configuration and grouting.

A. Well Bore. Wells placed in water bearing formations are typically constructed in well bores advanced by one of the following methods: cable tool, rotary (air or mud), bore/auger, jetted, or driven. The method of advancement of the well bore into which the private well is constructed shall be determined by the water well system provider relative to local geologic and aquifer conditions.

1. With the exception of driven wells, the well bore shall be large enough to accommodate the well casing and screen with sufficient annular space on all sides of the casing in the interval to be grouted to accommodate a tremie pipe, or sounding tube.

2. Drilling fluids used to stabilize the well bore shall be maintained within limits that will allow their complete removal from the water produced from the well, and shall not damage the capacity, efficiency and quality of the well.

3. Representative samples of formation materials shall be collected during well bore advancement with sufficient frequency to allow for preparation of the driller's log (GW-2) of the type of rock or soil encountered.

4. If a screen is used in a well, the selection of the interval or intervals to be screened shall be determined based on an evaluation of the driller's log and representative formation material samples collected during advancement of the well bore. At the discretion of the owner, owner's agent, and/or water well system provider, or if required as condition of a permit issued by a regulatory agency, supplemental information obtained from a sieve analysis of collected representative samples, geologist's log and/or by electrical resistivity geophysical logging conducted prior to installation of the well casing may also be evaluated to determine selection of screen interval or intervals.

B. Casing.

Requirements pertaining to well casing are to ensure that the casing will perform the functions for which it is designed; i.e., to maintain the hole by preventing its walls from collapsing, to provide a channel for the conveyance of water, and to protect the quality of the water withdrawn from the well. The surrounding native material shall be stabilized before installation of casing and until completion of grout placement.

1. Class IIIA and IVA wells shall be cased to a depth of at least 100 feet.

2. Class IIIB and IVB wells shall be cased to a depth of at least 50 feet.

3. Except as provided in subdivisions a through e below, all Class IIIC and IVC wells shall be cased to a minimum depth of 20 feet or terminated not less than one foot in bedrock when bedrock is encountered at a depth less than 20 feet.

a. When in collapsing material, the casing shall terminate in the aquifer but in no instance be less than 20 feet.

b. Where an aquifer is encountered at less than 20 feet, Class IV wells may be cased to within one foot of the water bearing strata. In the instance of Class IV wells the intent of this chapter is to protect ground water quality, and not to ensure a potable water supply.

Exception: Class IVC wells placed closer than ~~50 feet~~ the applicable Table 3.1 allowed separation distance from a building foundation treated with a ~~chemical~~ termiticide ~~or other pesticide~~ shall comply with the minimum casing depth requirements of 12VAC5-630-380 F 32.

c. Alternate casing depths may be accepted for bored wells when the only aquifer lies between 11 and 20 feet provided the casing is placed within one foot of the aquifer and must not be less than 10 feet in depth from the ground surface.

d. Class III-C driven wells shall be cased to the water bearing strata; however, in no case less than 10 feet. No minimum casing requirements apply to Class IVC driven wells except that in order to protect ground-water they shall be capable of meeting the minimum grouting requirements as described in subdivision ~~C-5-e~~ E 2 of this section.

e. Closed-loop ground-source heat pump wells do not have to be cased.

4. When casing is terminated in bedrock, the well casing shall be sealed at the termination of the casing using a mechanical seal or packer.

5.4-Extension of casing above ground surface. All private well casings shall be extended at least 12 inches above ground or at least 12 inches above a concrete floor in well house with a gravity flow drain. The following wells are exempted from this requirement; however, their location shall be permanently marked for easy location in the future:

a. Drilled shallow well suction pump systems that will not operate unless a vacuum is maintained. The casings for these wells are also the suction lines through which water is drawn.

b. Deep well ejector pump systems that utilize a casing adaptor and must maintain a vacuum to operate.

- c. Closed-loop ground-source heat pump wells.
- d. Heat pump return wells that are completely sealed.

56. Casing Installation. The casing shall be mechanically centered in the well bore. When the casing length is less than forty (40) feet, a minimum of two centralizers shall be used. Professional judgement shall be used in all cases for the placement and spacing of centralizers.

- a. Steel casing can be lowered, jacked, driven, or rotated into place. The placement method shall not compromise the alignment or structural integrity of the casing.
- b. Plastic or fiberglass casing shall be lowered under suspension in tension into a predrilled hole.

~~—All steel casings shall meet or exceed the material specifications found in 12VAC5-630-480~~

~~67. Casing Joining. No plastic well casing shall be installed which will exceed 80% of its RHCP (resistance to hydraulic collapse pressure). When experience has shown, in the division's opinion, that the prevailing geologic conditions are subject to collapse or shifting, or where heavy clay or unstable backfill materials occur, plastic well casings may not exceed 50% of the RHCP rating. It shall be the responsibility of the well driller to submit calculations to the division demonstrating that individual well casings do not exceed these ratings. All joints shall be compatible with casing material, specific to the task, and be watertight under normal operating conditions, with watertight joints above the screened interval.~~

- a. Steel Casing. Steel casing shall be joined by
 - 1) Welding. Casing may be joined by welding, with or without well collars. Each weld joint shall be continuous, of proper thickness to provide adequate strength and corrosion resistance over the life of the well. Welding materials shall be compatible with the casing material being joined, or
 - 2) Threaded and coupled, or
 - 3) Flush-threaded, or
 - 4) Spline-locking
- b. Thermoplastic Casing. Thermoplastic casing sections shall be joined in a manner that does not damage the surface of the casing by:
 - 1) Solvent welding in accordance with ASTM F480, or
 - 2) Threaded and coupled, or
 - 3) Flush threaded, or
 - 4) Spline locking
- c. Fiberglass casing sections shall be joined following the manufacturer's directions.

d. Sections of screen to casing, and screen to screen, shall be continuously joined as described in 12VAC5-630-410.A.6.a through c.

8. Plumbness and Alignment

a. General. Plumbness is the measurement of the horizontal deviation of the well centerline from a true vertical centerline delineated as an imaginary line between the ground surface and the center of the earth. Alignment is the horizontal deviation between the actual well centerline and a straight line.

b. Requirements. The casing shall be sufficiently straight that it will not interfere with the installation and operation of a pump suitable for the intended purpose of the well.

BC. Screens. When used for the prevention of entry of foreign materials, screens shall be free of rough edges, irregularities, or other defects. A positive watertight seal between the screen and the casing shall be provided when appropriate.

1. Length and positioning. The length and positioning of screens shall be determined to obtain the maximum efficiency of the well, and to minimize cascading water. Current and future aquifer conditions and design capacity should be taken into consideration in deciding screen length.

2. Diameter. The screen diameter shall be such that the axial velocity does not exceed five (5) ft/sec.

3. Slot Size Selection. Screen slot size selection shall be based on representative samples collected from the water bearing formation material in the withdrawal interval. Consideration shall be given to making aperture openings as wide as practicable, with even spacing and sufficient open area to facilitate development, reduce biofouling, facilitate production of water, and maintain the entrance velocity at a rate which provides laminar flow.

4. Bottom Completion. The bottom of the screen, or deepest screen in the case of multiple screens, shall be configured to reduce the possibility of native formation or well construction materials heaving up the center of the screen. A closed bottom may not be required for screens installed in some formation materials. Types of bottom completions include:

- a. Bottom plate, point, or cap made of the same material joined as described in Methods of Casing Joining, or
- b. Self-closing valve, or
- c. Cement plug, or
- d. Sump assembly

D. Filter Pack. If a filter pack is required, the filter pack material shall be sized based on representative samples of the water bearing formation in the withdrawal interval. The

filter pack shall be placed in the annular space adjacent to the well screens by a method that prevents bridging and creates uniform placement. Acceptable methods of filter pack placement are (i) poured from surface with direct circulation or reversed circulation, or (ii) using tremie pipe or feed tube with direct or reverse circulation. The filter pack shall extend above the top of the screen to a height to be determined by the water well service provider as sufficient to compensate for settling that may occur during development and operation of the well.

1. Screen and filter pack material may be used as a formation stabilizer when water is withdrawn from poorly consolidated rock subject to disintegration and caving when the well is pumped. Formation stabilizer material shall be at least as coarse as the formation native material, and shall be designed to allow for the passage of fines into the well during development.

CE. Grouting.

1. General. All private wells shall be grouted. It is preferred that no openings are made in the side of the well casing.

2. Purpose. The annular space between the casing and well bore is one of the principal avenues through which undesirable water and contaminants may gain access to a well. The goal of grouting a well is to preclude the entrance of undesirable water and contaminants. Therefore, the annular space shall be filled with a neat cement grout, a mixture of bentonite and neat cement, or bentonite clay grout specifically approved by the manufacturer for use as a grouting material. Based on the well casing material and native geology, grout material shall be selected by the water well service provider to minimize potential for spidering, cracking, or separation of grout from the well casing.

3. Specifications. The grouting material used shall meet the appropriate specification listed below:

a. Neat cement grout shall consist of cement and water with not more than six gallons of water per bag (94 pounds) of cement.

b. Bentonite clay may be used in conjunction with neat Portland cement to form a grouting mixture. The bentonite used must be specifically recommended by the manufacturer as being suitable for use as a well grout material and cannot exceed 6.0% by weight of the mixture.

c. Bentonite clay used for grouting shall be sodium bentonite with a minimum of 20% clay solids by weight of water. The bentonite clay shall be specifically recommended by the manufacturer for use as a grouting material.

Exception: (i) When exceptional conditions require the use of a less fluid grout, to bridge voids, a mixture of cement, sand and water in the proportion of not more than two parts by weight of sand to one part of cement with not more than six gallons of

~~clean water per bag of cement may be used if approved by the district or local health department, or (ii) for bored wells only, a concrete (1-1-2 mix with all aggregates passing a ½-inch sieve) grout with not more than six gallons of clean water per bag of cement may be used provided a minimum three-inch annular space is available and its use approved by the district or local health department.~~

3. In cases where an open ~~borehole-well bore~~ has been drilled below the depth to which the casing is to be grouted, the lower part of the hole must be backfilled, or a packer must be set in the hole, to retain the slurry at the desired depth. Backfilling the hole with gravel and capping with sand is an acceptable practice. Material ordinarily sold as plaster or mortar sand is usually satisfactory; more than half the sand should be of grain sizes between 0.012 inches and 0.024 inches.

~~4. Other materials. Other grouting materials may be approved by the division on a case by case basis. Review and approval shall be based on whether the proposed material can consistently be expected to meet the intent of grouting expressed in 12VAC5-630-410 C 2. The proposed material must be an industry acceptable material used for the purpose of grouting water wells.~~

~~45-~~Depth.

a. All Class IIIA and IVA wells shall be grouted to a minimum depth of 20 feet.

b. All Class IIIB and IVB wells shall be grouted to a minimum depth of 50 feet.

c. All Class IIIC and Class-IVC wells shall be grouted to a minimum depth of 20 feet when the casing depth is equal to or greater than 20 feet. When the casing depth is less than 20 feet, the casing shall be grouted in accordance with this subsection, from the lower terminus of the casing to the surface.

Exception: Class IVC wells placed closer than 50 feet the applicable Table 3.1 separation distance from a building foundation treated with a ~~chemical~~ termiticide ~~or other pesticide~~ shall comply with the minimum grouting depth requirements of 12VAC5-630-380 F 23.

d. Alternate grouting depths may be accepted for bored wells when the only aquifer suitable for a private well lies between 11 and 20 feet provided the grouting shall terminate at least one foot above the aquifer but must not be less than 10 feet in depth from the ground surface.

e. Driven wells shall be grouted to a minimum depth of five feet by excavating an oversize hole at least four inches in diameter larger than the casing and pouring an approved grout mixture into the annular space.

65. Installation. Grout shall be installed by one of the following methods.

a. Grouting with cement or grout slurry. Grout shall be installed by means of a grout pump or a tremie pipe from the bottom of the annular space upward in one operation until the annular space is filled, ~~whenever the grouting depth exceeds 20 feet. Pouring of grout is acceptable for drilled wells whenever grouting depth does not exceed 20 feet.~~ Pouring of grout is acceptable for bored wells whenever the grouting depth does not exceed 30 feet provided there is a minimum of a 3-inch annular space. Grouting shall be brought to the ground surface and flared to provide a one-foot radius around the casing at least six inches thick. However, whenever pitless adapters are used, the grout shall terminate at the base of the pitless adapter. When an outer casing is necessary to construct a new well, where possible, the outer casing shall be pulled simultaneously with the grouting operation or grouted inside and outside if to be left in place.

b. Grouting with bentonite chips or pellets. In cases where the annular space is at least four inches greater than the outside diameter of the casing or coupling, bentonite chips or pellets may be used. Adequate annular spacing and use of centralizers is critical to this method and professional judgement shall be used to ensure adequate space for the placement of the chips or pellets. The placement of bentonite chips or pellets shall be accomplished via a rigid tremie pipe having an interior diameter at least four times the size of the pellet or chip. Frequent measurement to confirm placement and depth shall occur when bentonite chips or pellets are used. Bentonite chips or pellets shall not be placed by free-fall.

76. Annular space. ~~The clear annular space around the outside of the casing and the well bore shall be at least 1.5 inches on all sides except for Class IIIC and IVC~~ bored wells ~~which~~ shall have at least a 3-inch annular space.

DE. Additional casing and grouting. When a well is to be constructed within 100 feet of a subsurface sewage disposal system, which has been or is proposed to be installed at a depth greater than five feet below the ground surface, the casing and grouting of the water well shall be increased to maintain at least a 15-foot vertical separation between the trench bottom and the lower terminus of the casing and grouting.

EG. Well head.

1. General. No open wells or well heads or unprotected openings into the interior of the well shall be permitted. Prior to the ~~driller-water well system provider~~ leaving the well construction site, the owner shall have the ~~driller-water well system provider~~ protect the bore hole by installing a cover adequate to prevent accidental contamination.

2. Mechanical well seals. Mechanical well seals (either sanitary well seals or pitless adapters) shall be used on ~~all Class III and IV~~ wells and shall be water and air tight except as provided in [12VAC5-630-410 F 4](#).

3. Other. Wells greater than eight inches in diameter shall be provided with a watertight overlapping (shoebox) type cover, constructed of reinforced concrete or steel.

FH. Appurtenances passing through casing.

1. General. All openings through well casings shall be provided with a positive water stop.

2. Pitless well adapters. ~~Pitless well adapters shall be subject to approval by the division. All pitless adapters shall be installed according to the manufacturers recommendations. When used, pitless units and pitless adapters shall be attached to the casing by threading, welding, or compression connection in a manner that will make the connection watertight. If an access port is installed, it must be watertight.~~

3. Sanitary well seals. ~~Sanitary well seals shall be subject to approval by the division.~~ All sanitary well seals shall be installed according to the manufacturers recommendations.

4. Venting. Venting, ~~where necessary as determined by the district health department,~~ shall be provided in such a manner as to allow for the passage of air, but not water, insects, or foreign materials, into the well.

I. Well development. All private wells shall be developed. Well development is the process of applying mechanical energy (e.g., surging, flushing, pumping, jetting, airlifting) and/or chemicals to make the well hydraulically efficient and prevent the pumping of fines. Development removes drilling fluids and formation damage materials caused by the drilling process, removes formation fines near the wellbore, and reduces turbidity.

1. Chemical development. If bentonite or polymers are used in the drilling process, chlorine and dispersants shall be used to break down polymers and disperse clays and silts to aid development.

2. Completion of development. Given the variability associated with individual wells and site-specific formation conditions, the completion of development shall be subject to the determination by the water well system provider that yield, specific capacity, and sand content goals have been achieved.

3. Disinfection required by 12VAC5-630-430 and water quality testing required by 12VAC5-630-435 shall not be conducted on a well which is not developed.

4. Performance testing (pump or aquifer test) shall not be conducted on a well which is not developed.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 3.7, eff. April 1, 1992.

12VAC5-630-420. Observation, Monitoring, and Remediation Wells.

A. Except as provided in subsections B and C of this section, observation-~~and~~ monitoring, and remediation wells are exempted from this chapter.

B. Observation or monitoring wells shall be constructed in accordance with the requirements for private wells if they are to remain in service after the completion of the ground water study.

C. Observation, ~~or~~ monitoring and remediation wells shall be ~~properly permanently~~ abandoned in accordance with [12VAC5-630-450](#) within 90 days of cessation of use. Unless specifically allowed under terms of a permit issued by the DEQ, temporary abandonment of observation or monitoring wells shall not occur.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 3.8, eff. April 1, 1992.

12VAC5-630-430. Disinfection.

All ~~Class III~~ private wells shall be disinfected before placing the well(s) in service.

A. Methodology Disinfection shall be accomplished by one of the following methods.

1. Maintaining a 100 mg/l solution of chlorine in the well for 24 hours utilizing the dosage rates set forth in [12VAC5-630-470](#).
2. Application of a quantity of water/chlorine solution to ensure a minimum of 50 to 200 mg/L of available chlorine throughout the well and immediate formation materials. Disinfection contact time shall be established on the basis of contact units, which are calculated as mg/L chlorine multiplied by hours of exposure. Contact time shall equate to a minimum of 1000 contact units (e.g., 50 mg/L chlorine x 20 hours = 1000 contact units; 200 mg/L chlorine x 5 hours = 1000 contact units, etc.).

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 3.9, eff. April 1, 1992.

12VAC5-630-435. Water Quality ~~and Quantity~~.

A. Class IV wells exempt. The water quality requirements contained in this section apply only to Class III private wells. Class IV private wells (wells not constructed as a source of drinking water) are not subject to any water quality requirements. ~~These regulations contain no well yield requirements. See [12VAC5-630-460](#) for suggested minimum well yields for residential supplies.~~

B. Conversion of Class IV well to Class III potable well. In order to convert and existing Class IV to a Class III well, the owner shall provide the following information to the local health department.

1. A complete application indicating the intent to convert the well classification.
2. A copy of the existing uniform water well completion report documenting that the well meets Class IIIA, Class IIIB, or Class IIIC construction standards in accordance with this chapter.
3. Confirmation that the well meets separation distance criteria for Class III wells listed on Table 3.1.
4. A negative bacteria water sample in accordance with E, F, and G below.

BC. Sample tap. A sample tap shall be provided at or near the water entry point into the system so that samples may be taken directly from the source; this requirement may be met by utilizing the first tap on a line near where the plumbing enters the house (may be a hose bib), provided the tap precedes any water treatment devices.

CD. Disinfection. The entire water system including the well shall be disinfected prior to use (~~12VAC5-630-430 and 12VAC5-630-470~~).

DE. Sampling. After operating the well to remove any remaining disinfectant, a sample of the water from the well shall be collected for bacteriological examination and total residual chlorine. The sample may be collected by the owner, water well drillers/system provider, or other person in accordance with procedures established by the department and provided the sample is submitted to a private laboratory certified-accredited by the Department of General Services, Division of Consolidated Laboratory Services, for analysis.

EF. Test interpretation. A Class III private well shall be considered satisfactory if the water sample(s) test(s) negative for coliform organisms as described in subdivision 1 or 2 below. Sources with positive counts shall be tested as described in subdivision 3 below to determine if the water supply is amenable to continuous disinfection (~~chlorination~~). Samples that exhibit confluent growth shall be considered inconclusive and another sample shall be collected.

1. Where a private well has no unsatisfactory water sample within the previous 12 months, one water sample which tests negative for coliform bacteria shall be considered satisfactory for coliform organisms.

2. Where a private well has had one or more positive water samples within the past 12 months for coliform bacteria, at least two consecutive samples must be collected and found negative for coliform organisms before the supply may be considered satisfactory

for coliform organisms. The samples must be collected at least 24 hours apart and the well may not be disinfected between samples.

3. When a private well does not test satisfactory for coliform organisms continuous disinfection may be recommended to the homeowner if the water supply is found to be suitable for continuous disinfection. A minimum of 10 samples shall be collected and tested for total coliform using an MPN methodology. The geometric mean of the samples shall be calculated and if the result is less than 100 organisms per 100 ml, the supply shall be considered satisfactory for continuous disinfection.

FG. Water treatment. If tests indicate that the water ~~is unsatisfactory~~ samples test positive for coliform organisms and do not meet the standards described in 12VAC5-630-435 and no other ~~approvable~~ approved source is available, adequate methods of water treatment shall be applied. The treatment device shall be and demonstrated to be effective pursuant to 12VAC5-630-370-435 E-F 3 prior to the issuance of an inspection statement. The district or local health department shall be consulted when treatment is necessary.

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 3.3, eff. April 1, 1992.

12VAC5-630-440. Information to Be Reported.

The following documents shall accompany the completion, repair, or abandonment of a private well.

1. A copy of a Uniform Water Well Completion Report (see [12VAC5-630-490](#)) shall be provided to the district or local health department within 30 days of the completion of the well or completion of alterations thereto.

2. Section § 62.1-258 of the Code of Virginia requires that private wells constructed in a Groundwater Management Area be registered with the State Water Control Board by the certified water well system provider within 30 days of the completion of well construction.

3. When abandoning a private well, notification shall be provided to the district or local health department within 30 days of the abandonment of the well. Notification of abandonment shall be recorded on a copy of the original Uniform Water Well Completion Report obtained from the Local Health Department. Other sources which may be able to provide a copy of the Water Well Completion Report include the well/property owner, DEQ, DGMR, USGS, and Certified Water Well System Providers. If the original Uniform Water Well Completion Report cannot be obtained, or does not exist due to the age of the well, a GW-5 well abandonment report shall be used in its place.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 3.10, eff. April 1, 1992.

12VAC5-630-450. Well Abandonment.

A. ~~Well abandonment is governed jointly by the Department of Environmental Quality and the Department of Health pursuant to § 62.1-44.92(6) of the Ground Water Act of 1973 (Repealed). In addition, the~~ The abandonment of any private well governed by this chapter, or any private well abandoned as a condition of a permit issued under this chapter, shall be administered by the Department ~~of Health~~ in conformance with this section.

B. Prohibited materials. The following materials, even if classifiable as clean fill or beneficial use byproducts in other applications, shall not be used as clean fill or grout in any well abandonment procedure:

1. Contaminated media
2. Non-manufactured gravel, brick, broken concrete, crushed glass, porcelain, and/or road pavement, except as these materials are present as incidental constituents of undisturbed soil or natural earth materials.
3. Controlled low strength material (flowable fill).

C. Temporary abandonment. A temporarily abandoned well is a well that is intended to be returned to service as a source of water at some future time, such as a well serving an unoccupied dwelling. A temporarily abandoned well shall be sealed with a water-tight cap or well head seal. Such a well shall be maintained so that it will not be a source or channel for contamination to ground water during temporary abandonment.

~~GD.~~ Permanent abandonment. A permanently abandoned well is a well that is not intended to be used again. The object of proper permanent abandonment is to prevent contamination from reaching ground water resources via any component of the well, including casing, annular space, and the borehole in which the well is constructed. Permanently abandoned wells, with the exception of bored wells abandoned per the methods identified in 12VAC5-630-450.D.5.a and 12VAC5-630-450.D.5.b(3) shall no longer be classified as wells. A permanently abandoned well shall be abandoned in the following manner:

- All casing material may be salvaged.
- Before the well is ~~plugged~~abandoned, it shall be checked from land surface to the entire depth of the well to ascertain freedom from obstructions that may interfere with ~~plugging (sealing)~~abandonment operations.

3. The well shall be thoroughly chlorinated, using dosage rates in 12VAC5-630-430, prior to ~~plugging (sealing)abandonment~~.

4. Grout used in well abandonment shall conform to 12VAC5-630-400.E.

45. Bored wells, rock or brick-lined wells, and uncased wells shall be abandoned using one of the following methods.

- a. Clean Fill Method. Bored, rock or brick-lined and uncased wells abandoned using this method shall remain designated as wells with respect to the siting of onsite sewage treatment system components per the requirements of 12VAC5-610 and 12VAC5-613.

The well shall be backfilled with clean fill to the water level. A two foot- thick ~~bentonite~~-plug of grout shall be placed immediately above the water level. Clean fill shall be placed on top of the bentonite plug and brought up to at least five feet from the ground surface. The top five feet of the well casing below ground, if present, shall be removed from the bore hole. ~~If~~ an open annular space is present around the well casing, the annular space shall be filled with grout to the maximum depth possible, but not less than or equal to 20 feet. A one-foot-thick ~~cement or bentonite~~-grout plug that completely fills the bore void space shall be placed a minimum of five feet from the ground surface. The remaining space shall be filled with clean fill which is mounded a minimum of one foot above the surrounding ground surface. When the well is fewer than 25 feet deep, this procedure shall be followed to the greatest extent possible, including removing at a minimum the top five feet of casing below ground and grouting the open annular space as described above. Bored wells or uncased wells abandoned in this manner shall be treated as wells with respect to siting of onsite sewage treatment system components per the requirements of 12VAC5-610 and 12VAC5-613 and/or determining the minimum separation distance to sources of contamination listed in Table 3.1. The location of these wells shall be permanently marked for future ~~location~~reference.

- b. Grout abandonment method.

At a minimum, the top five feet of well casing below ground, if present, shall be removed from the bore hole.

(1) If a continuous annular space is present around the well casing, the annular space shall be filled with grout, using a tremie pipe, to the maximum depth possible, but not less than 20 feet.

(2) If an annular space is present but not continuous, materials shall be completely removed from the annular space to the maximum depth possible, but not less than 20 feet, and the annual space shall be filled with grout, using a tremie pipe.

- (3) If an annular space is present but not continuous, but cannot be cleared sufficiently for the annular space to be filled with grout to a depth not less than 20 feet, then the abandoned well shall be treated as a well with respect to siting of onsite sewage treatment system components per the requirements of 12VAC5-610 and 12VAC5-613, regardless of the materials used to fill the well.
- (4) If existing well documentation (GW-2) indicates that the annular space is filled with grout to a minimum depth of 20 feet, the condition of the grout shall be confirmed by visual observation of the top of the grout following removal of the top five feet of well casing below ground. If the grout appears intact, no further confirmation of grout condition shall be required and abandonment shall proceed. If the grout condition appears compromised under visual examination, then the requirements of 12VAC5-630-450.D.5.b.(2) or 12VAC5-630-450.D.5.b.(3) shall apply.
- (5) Uncased wells must prevent no impediment to being completely filled with grout in order to be abandoned using this method.
- (6) Once the annular space is addressed, the well may be pumped dry and completely filled with grout poured from the surface. If the well is not pumped dry, grout shall be placed by introduction through a tremie pipe to above the water level, with grout above the water level placed by tremie pipe or poured from the surface. The placement of grout in the well bore shall completely fill the bore void space to within a minimum of five feet from the ground surface. The well shall be capped with clean fill which is mounded a minimum of one foot above the surrounding ground surface. When the well is fewer than 25 feet deep, this procedure shall be followed to the greatest extent possible, including removing at a minimum the top five feet of casing below ground and cleaning and/or grouting the open annular space as described above.

56. Drilled Wells-wells, including observation and monitoring wells, constructed in collapsing material shall be completely filled with grout ~~or clay slurry~~ by introduction through a tremie pipe initially extending to the bottom of the well. ~~Such pipe shall be raised, but remain submerged in grout, as the well is filled.~~ The well shall be capped with clean fill which is mounded a minimum of one foot above the surrounding ground surface.

67. Wells-Drilled wells, including observation and monitoring wells, constructed in consolidated rock formations or which penetrate zones of consolidated rock shall be filled with grout by introduction through a tremie pipe initially extending to the bottom of the well. At the discretion of the water well service provider, the well may be filled with sand or gravel opposite the zones of consolidated rock. The top of the sand or gravel fill shall be at least five feet below the top of the consolidated rock and at least 20 feet below land surface. The remainder of the well shall be filled with grout ~~or clay slurry~~ by

introduction through a tremie pipe initially extending to the top of fill. The well shall be capped with clean fill which is mounded a minimum of one foot above the surrounding ground surface.

78. Other abandonment procedures may be approved by the division on a case by case basis.

89. Test and exploration wells shall be abandoned in such a manner to prevent the well from being a channel for the vertical movement of water or a source of contamination to ground water. Drill cuttings used in the abandonment of test and exploration wells shall be placed so that bridging does not occur.

910. When bored or drilled wells are ~~bored-advanced~~ and a water source is not found, and the casing has not been placed in the bore hole, the bore-hole ~~may~~ shall be abandoned by backfilling with the ~~bore spoils~~ cuttings and/or clean fill to at least five feet below the ground surface. A two-foot-thick ~~bentonite grout~~ plug of grout shall be placed at a minimum of five feet from the ground surface. The remainder of the bore hole shall be filled with the ~~bore spoils~~ cuttings and/or clean fill.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100 § 3.11, eff. April 1, 1992.

12VAC5-630-460. Water System Yields for Residential Use Wells.

A. All drinking water systems that utilize one or more Class III wells shall be capable of supplying water in adequate quantity for the intended usage. All such systems, with a capacity less than three gallons per minute, shall have a capacity to produce and store 150 gallons per bedroom per day and be capable of delivering a sustained flow of five gallons per minute per connection. Systems with a capacity of three gallons per minute or more do not require additional storage.

B. The certified water well systems provider shall certify the storage capacity and the yield of the well on the Uniform Water Well Completion Report.

Statutory Authority

§ 32.1-176.4 of the Code of Virginia.

Historical Notes

Derived from Volume 28, Issue 22, eff. August 16, 2012.

12VAC5-630-470. Chlorination Dosage Rates.

Casing Diameter (Inches)	Volume per 100 feet (Gallons)	70% Sodium Hypochlorite (Oz. Dry Wt.)	5% Sodium Hypochlorite (Liquid Meas.)
2	16	0.5	4 oz.
4	65	2	18 oz.
6	147	4	40 oz.

8	261	6	4.25 pts.
10	408	8	7 pts.
12	588	12	10 pts.
16	1045	20	2 gal.
20	1632	32	3.3 gal.
24	2350	48	4.67 gal.
30	3672	70	7.3 gal.
36	5288	101	10.5 gal.

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100, Appendix II; eff. April 1, 1992.

12VAC5-630-480. ~~Well Casing Specifications~~[Deleted].

Steel Casings				
Nom. Size (inches)	Weight (lbs./ft.)	Thickness (inches)	External Diameter	Internal Diameter
4	10.79	.188	4.5	4.026
6	13.00	.188	6.625	6.25
8	24.70	.277	8.625	8.071
10	31.20	.279	10.75	10.192

Statutory Authority

§§ 32.1-12 and 32.1-176 of the Code of Virginia.

Historical Notes

Derived from VR355-34-100, Appendix III; effective April 1, 1992.

12VAC5-630-490. Forms

The Local Health Department shall maintain the following records, as applicable.

Application for Sewage System – Water Supply, AOSE Form D (version current at time of application).

Application for Express Class IV Well Construction Permit (version current at time of application).

Record of Inspection – Private Water Supply System.

GW-2 Uniform Water Well Completion Report (version current at time of application).

Registration Statement for Express Geothermal Well Permit (version current at time of application).

GW-5 Well Abandonment Form (if no GW-2 Form available).

Statutory Authority

§§ [32.1-12](#) and [32.1-176](#) of the Code of Virginia.
Historical Notes
Derived from VR355-34-100 § 3.10, eff. April 1, 1992.

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