

**Virginia Department of Health (VDH)  
Private Well Regulations Workgroup  
June 27, 2017, Meeting Summary**

**Meeting Location:**

James Madison Building  
5th Floor Main Conference Room  
109 Governor Street  
Richmond, Virginia 23219

Remote Locations: None; however, the meeting was open using WebEx  
(<https://virginiatech.webex.com/virginiatech/lr.php?RCID=03d0f7e087291c5f6850a1a8bb2354e1>)

**List of Attendees:**

Private Well Regulations Workgroup Members

Wayne Fenton – Virginia Water Well Association  
Dennis Duty – Manufacturer  
Scott Fincham – Virginia Association of Counties  
Scott Bruce – Virginia Department of Environmental Quality  
Greg Hudson – Private OSE/PE  
Erin Ling – Virginia Household Water Quality Program (WebEx)  
John Danielson – Virginia Water Well Association

VDH Staff and Members of the Public

Lance Gregory – VDH  
Anthony Creech – VDH

**Administrative**

1. Welcome and Travel Reimbursements.

Mr. Creech welcomed the workgroup, thanked the members for their participation and distributed travel reimbursements to workgroup members.

2. Introduction of Workgroup Members.

Workgroup members introduced themselves.

3. Approve agenda.

The workgroup reviewed and approved the agenda (Attachment A).

4. Review Summary from March 30, 2017 meeting.

The workgroup reviewed the summary from the March 30, 2017, meeting (Attachment B); there were no edits.

### **General Information**

1. Purpose of the Private Well Regulations Workgroup.

Mr. Creech reiterated the purpose of the workgroup is to assist VDH in developing proposed revisions to the Private Well Regulations (12VAC5-630-10 et. seq., the Regulations).

2. Ground rules for workgroup meetings.

Mr. Creech reiterated the ground rules for the workgroup as discussed during the August 4, 2016, meeting.

### **Discussion**

#### Draft Notice of Intended Regulatory Action

Mr. Creech shared a draft Notice of Intended Regulatory Action (NOIRA) (Attachment C) for workgroup review, and informed the workgroup that this would be the final opportunity for edits prior to formal submission of the NOIRA. The purpose of the review was to get attendee input to ensure that the NOIRA adequately covered issues identified during previous meetings. This is necessary to provide assurance that the public is advised of the scope of regulatory changes anticipated to be submitted to the Virginia Register of Regulations.

Based on this discussion, no revisions to the draft NOIRA were proposed.

### **Group Discussion/Exercises**

Mr. Creech provided five group discussion exercises addressing:

- Revision of 12VAC5-630-30 to include the applicability of the regulations to clarify well types not included in the regulation.
- Establishment of a separation distance from property lines
- Revision to the format of Table 3.1
- Determining whether an abandonment procedure for bored wells can be established such that the abandoned well is no longer subject to the separation distance criteria in Table 3.1
- Determining a definition of clean fill

Copies of the work exercises with a summary of votes taken are attached (Attachment D). A copy of the PowerPoint presentation summarizing the issues is attached (Attachment E).

## **Next Steps**

1. Workgroup members were encouraged to provide OEHS (Mr. Creech and/or Mr. Gregory) with additional comments on the NOIRA or the exercises by email or verbally by Close of Business July, 2017.
2. OEHS will submit Draft NOIRA for processing (Staff, VDH Commissioner, etc.) with goal of having it placed on the agenda of the Board of Health meeting on September 7, 2017.
3. OEHS will continue to draft proposed changes to Private Well Regulations based on June 27, 2017, workgroup discussion and subsequent comments

## **Adjourn**

## **ATTACHMENT A**

### **Virginia Department of Health Private Well Regulations Workgroup Draft Agenda**

Date: June 27, 2017  
Time: 12:00 pm to 4:00 pm  
Location: James Madison Building  
5th Floor Main Conference Room  
109 Governor Street  
Richmond, Virginia 23219

To Participate Remotely via WebEx

[Add to Calendar](#)

<https://virginiatech.webex.com/virginiatech/j.php?mtid=m3b59c78408e268d492e5b42b3616f78c>

Or dial 1-855-749-4750 and use Access Code 649 958 556

#### **Administrative (20 minutes)**

5. Welcome and Travel Reimbursements. (5 minutes)
6. Introduction of Workgroup Members. (5 minutes)
7. Approve agenda. (5 minutes)
8. Review Summary from March 30, 2017, meeting. (5 minutes)

#### **General Information (10 minutes)**

3. Purpose of the Private Well Regulations Workgroup. (5 minutes)
4. Ground rules for workgroup meetings. (5 minutes)

#### **Review draft Notice of Intended Regulatory Action. (10 minutes)**

#### **Major Issues Discussion (60 minutes)**

1. Exempted Well Types
2. Separation Distance from Property Line

#### **Break (10 minutes)**

#### **Major Issues Discussion (60 Minutes)**

3. Table 3.1 Format
4. Bored Well Abandonment
5. Clean Fill

**Next Steps (15 minutes)**

1. Discuss next steps. (15 minutes)

**Adjourn**

## **ATTACHMENT B**

### **Virginia Department of Health (VDH) Private Well Regulations Workgroup March 30, 2017, Meeting Summary**

#### **Meeting Location:**

James Madison Building  
5th Floor Main Conference Room  
109 Governor Street  
Richmond, Virginia 23219

Remote Locations:      Fairfax County Health Department  
10777 Main Street  
Fairfax, Virginia 22030

Frederick/Winchester Environmental Health  
107 North Kent Street, Suite 201  
Winchester, Virginia 22601

Montgomery County Health Department  
210 South Pepper Street – Suite A  
Christiansburg, Virginia 24073

Prince William County Health Department  
8470 Kao Circle  
Manassas, Virginia 20110

#### **List of Attendees:**

##### Private Well Regulations Workgroup Members

Wayne Fenton – Virginia Water Well Association  
Dennis Duty – Manufacturer  
Scott Fincham – Virginia Association of Counties  
Scott Bruce – Virginia Department of Environmental Quality  
Greg Hudson – Private OSE/PE  
Erin Ling – Virginia Household Water Quality Program (Christiansburg/Remote)  
John Danielson – Virginia Water Well Association  
Bob Marshall – Private OSE/PE (Winchester/Remote)  
Dr. Alison Ansher – (Prince William/Remote)  
Josh Anderson – (Prince William/Remote)  
Patrick Jones – (Prince William/Remote)  
Marty Thomas – (Fairfax/Remote)  
Adrian Joye – (Fairfax/Remote)  
Kevin Crisler – (Fairfax/Remote)  
Eric Hoppis – (Fairfax/Remote)  
Marty Shannon – (Fairfax/Remote)

VDH Staff and Members of the Public

Lance Gregory – VDH  
Anthony Creech – VDH

Jay Conta – VDH  
Todd Grubbs – VDH

Drew Hammond - VDH

**Administrative**

9. Welcome and Travel Reimbursements.

Mr. Gregory welcomed the workgroup, thanked the members for their participation and distributed travel reimbursements to workgroup members.

10. Introduction of Workgroup Members.

Mr. Gregory introduced Mr. Creech to the attendees as the OEHS's new Private Well Program Manager. Workgroup members then introduced themselves.

11. Approve agenda.

The workgroup reviewed and approved the agenda.

12. Review Summary from December 8, 2016 meeting.

The workgroup reviewed the summary from the December 8, 2016, meeting; there were no edits.

**General Information**

5. Purpose of the Private Well Regulations Workgroup.

Mr. Gregory reiterated the purpose of the workgroup is to assist VDH in developing proposed revisions to the Private Well Regulations (12VAC5-630-10 et. seq., the Regulations).

6. Ground rules for workgroup meetings.

Mr. Gregory reiterated the ground rules for the workgroup as discussed during the August 4, 2016, meeting.

**Discussion**

Draft Notice of Intended Regulatory Action

Mr. Gregory shared a draft Notice of Intended Regulatory Action (NOIRA) (Attachment A) for workshop review. The purpose of the review was to get attendee input to ensure that the NOIRA adequately covered issues identified during previous meetings. This is necessary to provide

assurance that the public is advised of the scope of regulatory changes anticipated to be submitted to the Virginia Register of Regulations.

Based on this discussion, the following revisions to the draft NOIRA were proposed.

#### Substance

- Change the first bullet under substantive amendments to “consider changes and additions to definitions...”
- Revise the fourth bullet under substantive amendments to replace the reference to the Waterworks Regulations with “other regulations and industry standards.”
- Revise the second to last bullet under substantive amendments to replace “chlorination” with “disinfection.”
- Add a bullet under substantive amendments to address the January 27, 2017, recommendation from the Office of the Attorney General that the Private Well Regulation be amended so that the statutory requirements with respect to the construction permits are applied to private dewatering wells (Attachment B).
- Revise the first bullet under new provisions to allow for new definitions (i.e., not limit new definitions to just clean fill)
- Revise the fifth bullet under new provisions to include address minimum permeability requirements
- Add a bullet under new provisions to provide for addition of new well classes (e.g., close loop geothermal, dewatering, other).

VDH personnel will revise the draft NOIRA based on the discussion and present to the workgroup at or before the next workgroup meeting for approval to submit to the Registrar of Regulations.

#### **Small Group Discussion**

During previous workgroup meetings several issues were identified and summarized in table format. After dividing into small groups, each issue was briefly discussed by a designated small group and recommendations made. The small groups were encouraged to use the current Private Well Regulations and 2003 draft regulation changes (never formalized) (Attachment C) as resources for discussion and recommendations. A summary of the Small Group Discussion recommendations is included in Table 1.

#### **Next Steps**

4. Workgroup members will review the Draft NOIRA and the Summary of Issues (Table 1) and are encouraged to provide OEHS (Mr. Gregory and/or Mr. Creech) with additional comments by email by Close of Business April 13, 2017.
5. OEHS will revise Draft NOIRA based on March 30, 2017, workgroup discussion and subsequent comments
6. OEHS will draft proposed changes to Private Well Regulations based on March 30, 2017, workgroup discussion and subsequent comments



## Adjourn

### Virginia Department of Health Private Well Regulations Workgroup Tentative Agenda

Date: March 30, 2017  
Time: 10 am to 2 pm  
Primary Location: James Madison Building  
5th Floor Main Conference Room  
109 Governor Street  
Richmond, Virginia 23219

Remote Locations: Fairfax County Health Department  
10777 Main Street  
Fairfax, Virginia 22030

Frederick/Winchester Environmental Health  
107 North Kent Street, Suite 201  
Winchester, Virginia 22601

Montgomery County Health Department  
210 South Pepper Street – Suite A  
Christiansburg, Virginia 24073

Prince William County Health Department  
8470 Kao Circle  
Manassas, Virginia 20110

#### **Administrative (20 minutes)**

13. Welcome and Travel Reimbursements. (5 minutes)
14. Introduction of Workgroup Members. (5 minutes)
15. Approve agenda. (5 minutes)
16. Review Summary from December 8, 2016 meeting. (5 minutes)

#### **General Information (10 minutes)**

7. Purpose of the Private Well Regulations Workgroup. (5 minutes)
8. Ground rules for workgroup meetings. (5 minutes)

#### **Discussion (40 minutes)**

1. Review draft Notice of Intended Regulatory Action. (40 minutes)

#### **Break (10 minutes)**

#### **Small Group Discussion (60 minutes)**

1. Small group discussion issue #1. (20 minutes)

2. Small group discussion issue #2. (20 minutes)
3. Small group discussion issue #3. (20 minutes)

**Break (5 minutes)**

**Reporting Back and Workgroup Discussion (60 minutes)**

1. Small group #1 recommendations. (10 minutes)
2. Small group #2 recommendations. (10 minutes)
3. Small group #3 recommendations. (10 minutes)
4. Small group #4 recommendations. (10 minutes)
5. Small group #5 recommendations. (10 minutes)
6. Small group #6 recommendations. (10 minutes)

**Break (10 minutes)**

**Next Steps (15 minutes)**

2. Discuss next steps. (15 minutes)

**Adjourn**

**TABLE 1 – SMALL GROUP DISCUSSION**

Black Font: Recommendation from previous Private Well Regulation Workgroup discussions

Red Font: Recommendation from Small Group Discussion 3.30.2017

ISSUE	SMALL GROUP Scott Fincham, John Danielson, Drew Hammond	NOTE
<p><b>Abandonment</b></p> <p>Relaxing standards to encourage abandonment/reduce cost</p> <p>2003 – abandonment of test and exploration wells.</p> <p>Clarify/revise abandonment requirements.</p>	<p><b>Recommendation</b></p> <p>Suggest no change to regulations.</p> <p>Could reduce or waive the fee for well abandonment.</p> <p>Promote the assistance for abandonment (any programs to assist, James City County example)</p> <p>Treat as any other private well, abandon as you would any other drinking water well.</p> <ul style="list-style-type: none"> <li>• Pumpable grout with tremie line or pourable (chips) from surface.</li> <li>• Need to require pumping water out first, prior to abandonment.</li> </ul> <p>Consider allowing pouring grout material into a bore hole that is greater than 20 inches (may be a different limit), when all the water is pumped from the well.</p>	<p>See section <a href="#">450</a>.</p>
<p><b>Consistency with Other Agencies/Offices/Regulations</b></p> <p>Siting a well downslope of a septic system.</p> <p>Needs to agree with onsite regulations as far as force mains.</p> <p>Consistency with other, sometime more stringent, regulations (e.g. Ground Water Management Areas – screening and GPS requirements).</p>	<p><b>Recommendation</b></p> <ul style="list-style-type: none"> <li>• Private Well Regulations are the most stringent.</li> </ul> <p>Keep PWR as is and suggest revising the SHDRs to improve consistency</p> <p>Keep PWR and make SHDR conform</p> <ul style="list-style-type: none"> <li>• DEQ reporting requirements for UWWCR/GW2.</li> <li>• See draft revisions to section 50.</li> </ul> <p>Clarify that the UWWCR/GW2 form is now required and take the old form out of the reg.</p> <p>Add chapter to 12VAC5-630 to add Relationship to DEQ to address groundwater withdrawal permitting to make sure wells in GWWAs conform to DEQ additional requirements for gravel pack, GPS, and performance testing.</p>	<p>See section <a href="#">380.B</a>.</p> <p>n/a</p>

**TABLE 1 – SMALL GROUP DISCUSSION**

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ISSUE	SMALL GROUP Jay Conta, Dennis Duty, Wayne Fenton	NOTE
<p><b>Consistency with Other Agencies/Offices/Regulations</b></p> <p>Regulations of dewatering wells.</p> <p>Regulations of observation and monitoring wells.</p>	<p><b>Recommendation</b></p> <ul style="list-style-type: none"> <li>• See comment from OAG.</li> <li>• General Permit.</li> <li>• Create new classification (e.g. Class V) with no setback, no casing &amp; grouting requirement.</li> </ul> <p>Recommend dewatering wells fall under construction site permitting; there should be abandonment procedures; and separation distances should be addressed.</p> <ul style="list-style-type: none"> <li>• Creating a definition of “direct push wells”.</li> <li>• Create a definition of “environmental sampling well”.</li> <li>• Delete the definition of “observation and monitoring wells”.</li> <li>• Exempt all wells installed under the pervuew of DEQ.</li> </ul> <p>Temporary wells should have abandonment requirements.</p>	
ISSUE	SMALL GROUP Fairfax	NOTE
<p><b>Construction Standards</b></p> <p>Separate construction standards based on geology.</p> <p>Revised standards for wells in low areas.</p>	<p><b>Recommendation</b></p> <ul style="list-style-type: none"> <li>• Add geologic parameters (e.g. first confining layer) with numeric minimum.</li> <li>• Stainless steel or plastic casing in Coastal Plain.</li> <li>• 2003 – require screens for wells withdrawing water from a sand aquifer.</li> <li>• 2003 – disallow gravel pack in sand aquifer wells.</li> <li>• Standards for mechanical seals/packers in bedrock.</li> <li>• See draft section 400.B.3</li> </ul> <p>Agree that standard for mechanical seal and packer at bedrock, should be approve product by Division.</p> <ul style="list-style-type: none"> <li>• No well in areas subject to flooding, but then establish a standard. Should be 100 year flood plain, annual flood plain meaning unclear</li> </ul>	<p>See section <a href="#">400.C</a> <a href="#">410.B.410.C</a>.</p> <p>See section <a href="#">380.C</a>.</p>

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ISSUE	SMALL GROUP Prince William	NOTE
<p><b>Construction Standards</b></p> <p>Increasing casing and grout requirement for Class III A to 100 feet for both to reduce setbacks.</p> <p>Revisit construction standards exemptions for Class IIIC and Class IV wells.</p>	<p><b>Recommendation</b></p> <ul style="list-style-type: none"> <li>• Agree with proposed change in 2003 of full grouting of casing.  <b>Increase of casing and grout, if it is safe to increase setback, no issue</b>  <b>May also want to have standard for IVA if we are going to convert.</b></li> <li>• Agree with 2003 proposed changes.</li> <li>• Requiring at least 20 feet of casing and grout for all Class IIIC and IV wells.</li> </ul> <p><b>Agree with 2003 proposed changes.</b></p>	<p>See section <a href="#">410</a>.</p> <p>See section <a href="#">410</a>.</p>
ISSUE	SMALL GROUP Bob Marshall	NOTE
<p><b>Construction Standards</b></p> <p>2003 – product approvals for well caps; can we use NSF or equivalent to cover all product approvals.</p> <p>Grout materials cannot contain CCP (fly ash).</p> <p>Alternate grouting procedures for closed-loop geothermal.</p>	<p><b>Recommendation</b></p> <ul style="list-style-type: none"> <li>• See draft section 400.A.</li> <li>• See section 410.B.6.</li> </ul> <p><b>Think would help group understand would be referencing any applicable national standards; create a matrix to show national standards for each component, and find which are equivalent to existing components.</b></p> <p><b>Gives bases for determination of suitability.</b></p> <p><b>Not sure we have a good handle on the decomposition of coal ash, even in corrosive environments.</b></p> <p><b>Think it goes back to the fly ash to improve thermal properties.</b></p> <p><b>In some areas they pour pea gravel in the bases. Maybe that is allowable?</b></p> <p><b>In the NOIRA there was a comment about inconsistency between in public comment.</b></p>	<p>See section <a href="#">380.G</a>.</p>
ISSUE	SMALL GROUP Erin Ling	NOTE
<p><b>Construction Standards</b></p> <p>2003 – require above grade casing.</p> <p>2003 – eliminate wrought iron and clay tile as approved casing material, add fiberglass.</p>	<p><b>Recommendation</b></p> <p><b>No changes to what was in proposed language for that one</b></p> <p><b>Need to look at whether there would be a content requirement for fiberglass well casing.</b></p>	

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ISSUE	SMALL GROUP Todd Grubbs, Greg Hudson, and Scott Bruce	NOTE
<p><b>Regulatory Oversight</b></p> <p>Driller notification to LHD for well construction.</p>	<p><b>Recommendation</b></p> <ul style="list-style-type: none"> <li>Require notification of grouting schedule; VDH will inspect a given percentage of grouting.</li> <li>Not suitable for districts with high numbers of well installations.</li> <li>Notification only. Don't hold up process waiting on local health department.</li> </ul> <p>Recommend that notification be pulled into the regulations from Policy, specifically that drillers should give 24 hour notification for beginning construction, for grouting, and when well is ready for final inspection. All notifications will not hold the driller up, if VDH doesn't come out they can keep moving forward.</p> <p>Address whether notification to be allowable through email.</p> <p>For DEQ, if I really want to be involved then it falls to me as the regulator to show up.</p>	<p>n/a</p>
<p><b>Separation Distances</b></p> <p>Separation to private sewer lines/lift stations that connect to municipal system is discussed in footnote.</p> <p>Separation distance to lines carrying reuse water (i.e. partially treated waste)</p>	<p><b>Recommendation</b></p> <p>Clarification of water-bearing formation is necessary for consistent implementation.</p> <p>Lift station setback should be equivalent to that of "pretreatment system."</p> <p>Private sewer lines - utilize existing setbacks</p> <p>Take information in the footnotes and put it in the table to avoid confusion</p> <p>Use current separation distances for sewer mains and sewer lines.</p> <p>Check DEQ regarding setback in their regulations for reuse water from existing wells</p>	<p>NOTE</p>
<p><b>Separation Distances</b></p> <p>Separation distance from above/below ground fuel storage tanks.</p>	<p><b>Recommendation</b></p> <p>Recommend use of 2003 revisions.</p>	<p>NOTE</p>

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2003 proposed reduced setbacks from Class III wells to termite treated foundations.

Recommend to go with the 2003 revisions.  
Agree with the 25 ft separation for IIIB wells

Recommended separation distance from utility lines; no including sewer and water utilities.

- 10 feet if area permits.
- Require utility lines to be marked at time of application. Should be noted on construction permit.
- Reference OSHA and utility regulations/requirements.

See section [380.E](#).

ISSUE	SMALL GROUP Erin Ling	NOTE
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**Water Quality**

**Recommendations**

Improve upon the water quality parameters in section 370 (e.g. North Carolina sampling requirements).

- Additional parameters, nitrogen, lead, chloride.
- Require residual chlorine test, or specify a length of time following disinfection prior to testing.  
Lead would be a challenge, but could have a requirement to test for pH  
New lead free components are not leaching, so if that is required then lead may not be an issue.  
We don't find much nitrate over 10 ppm, only 2-3%, would recommend homeowner test but not in the regulations.  
Propensity to corrode, specifically in the Piedmont and shallow wells in the Coastal Plain.  
Could VDH put out some protocols and recommendations,

See section [370](#).

ISSUE	SMALL GROUP Bob Marshall	NOTE
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**Water Quality**

**Recommendation**

Improve procedures regarding chlorination; chlorination related to pH.

- Define type of chlorine; define when and where to disinfect during drilling (e.g. issue with rotary drilling mud thickening) or homeowner perspective.
  - See draft revisions to section 370.
- Jeff Walker sent a list of chemicals approved in Minnesota, some materials are chlorinated compounds but not approved for well disinfection, think that is a good recommendation.  
Think we need to break this out between when the driller leaves the site

n/a

**TABLE 1 – SMALL GROUP DISCUSSION**

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and when the wells is started up. Possible there is not house there when the well is completed. Pipes can have coliform counts from handling.

Develop sampling protocols for private wells.

- Yes.

n/a

2003 – other methods of disinfection approve by LHD; what are the other methods that were considered.

ISSUE	SMALL GROUP Jay Conta, Dennis Duty, Wayne Fenton	NOTE
<b>Water Quality</b>	<b>Recommendation</b>	

Requirements for quality of water used in well construction process.

- See draft section 400.I  
 Recommend using the 2003 Section 400.I  
 If the well is for public use (e.g. fewer than 15 connections), recommend compliance with Waterworks Regulation criteria

ISSUE	SMALL GROUP Fairfax	NOTE
<b>Water Quantity</b>	<b>Recommendation</b>	

How is well yield actually estimated?

When a well is drilled, then yield is estimated, should be a standard procedure. Especially when you get to three gallons a minute or less. Or is the certification statement good enough.

See section [460](#).

ISSUE	SMALL GROUP Prince William	NOTE
<b>Geothermal Wells</b>	<b>Recommendation</b>	

Create a definition of “geothermal well”.

- Already have a definition of closed loop; do we need a definition of open loop.

We agree that if we are going to allow open loop, then we need a definition.

Requiring permanent marking of closed loop geothermal wells.

Good idea, especially those not grouted the entire depth (GPS or same as abandoned well)

ISSUE	SMALL GROUP Todd Grubbs, Greg Hudson, and Scott Bruce	NOTE
<b>Definitions</b>	<b>Recommendation</b>	

Draft definition of “clean fill”.

Recommend that a definition be included.  
 Avoid the word permeable in relation to clean fill.



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Draft definition of “lead free”.

See draft definition and section 400.A

We recommend getting input from Kelsey Pieper input

ISSUE	SMALL GROUP Scott Fincham, John Danielson, Drew Hammond	NOTE
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**Licensure**

**Recommendation**

Recognition of licensure.

See draft revisions to section 80.

Simplify, instead of spelling out individual contractors.

Suggest regs address water well pump contractor; not only water well system provider as entities involved in the construction, repair, or alteration of a water well who shall be licensed in accordance with §54.1-1103 and 54.1-1129.1 of the Code of Virginia.

ISSUE	SMALL GROUP Fairfax	NOTE
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**Substantial compliance.**

**Recommendation**

Substantial compliance.

See draft revisions to section 240.

Feel that either needs to be defined, or just go through the variance procedure. Too fuzzy for consistency across districts. If it doesn't meet the regs there is a variance process.

ISSUE	SMALL GROUP Prince William	NOTE
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**Class IV Wells**

**Recommendation**

New classifications of Class IV wells.

See draft revisions to section 360 and section 410.

Touch on that with first group. Makes for an easier conversion.

Converting a Class IV to a Class III.

See draft revisions to sections 360 and 370.

Need to be consistent with construction standards.

Just say in the future if you submit a Bac T test for a Class IV then it becomes a Class III

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ISSUE	SMALL GROUP Bob Marshall	NOTE
<p><b>Separation Distance</b> Standards for separation distance from permanently abandoned onsite sewage systems. Incorporation of setback from agricultural properties.</p>	<p><b>Recommendation</b> See draft revisions to Table 3.1 and section 380.F. <b>You have a protocol to follow, but not a statewide uniform protocol. Defining is a good thing.</b> See draft definition of agricultural operation and draft revisions to section 380.D. <b>Setback was based on overspray for pesticide applications. Follow setbacks in the table.</b></p>	
ISSUE	SMALL GROUP Erin Ling	NOTE
<p><b>Abandonment</b> Revised well abandonment procedures.  Reducing separation distance from onsite sewage system to abandoned wells</p>	<p><b>Recommendation</b> See draft section 450. <b>No comments. Define temporary abandonment.</b> See draft section 450.</p>	

## ATTACHMENT C



[townhall.virginia.gov](http://townhall.virginia.gov)

### Notice of Intended Regulatory Action (NOIRA) Agency Background Document

<b>Agency name</b>	Virginia Department of Health
<b>Virginia Administrative Code (VAC) citation(s)</b>	12 VAC 5-630
<b>Regulation title(s)</b>	Private Well Regulations ("the Regulations")
<b>Action title</b>	Amend 12VAC5-630
<b>Date this document prepared</b>	

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 17 (2014) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

### Subject matter and intent

*Please describe briefly the subject matter, intent, and goals of the planned regulatory action.*

The Private Well Regulations (the Regulations) establish the minimum location and construction for private wells installed in the Commonwealth. On August 17, 2016, the Virginia Department of Health (the Department) began the process to conduct a periodic review of the Private Well Regulations. The Department also formed a Private Well Regulations Workgroup in August 2016. The purpose of the workgroup was to assist the Department in the development of proposed revisions to the Regulations. The intent of this planned regulatory action is to explore

amendments to the Regulations based on comments received during the periodic review process, comments received from the Private Well Regulations Workgroup, and current industry standards.

The Department has not made significant revisions to the Regulations since their adoption in 1990. The goal of the planned regulatory action is to ensure the regulations are protective of public health and the environment, to address changes in current standards and practices, to clarify regulatory language, and to improve consistency with other regulations related to private wells and groundwater resources.

## Legal basis

*Please identify the (1) the agency (includes any type of promulgating entity) and(2) the state and/or federal legal authority for the proposed regulatory action, including the most relevant citations to the Code of Virginia or General Assembly chapter number(s), if applicable. Your citation should include a specific provision, if any, authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency's overall regulatory authority.*

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Section 32.1-12 of the Code of Virginia permits the State Board of Health (the Board) to make, adopt, promulgate and enforce such regulations and provide for reasonable variances and exemptions therefrom as may be necessary to carry out the provisions of Title 32.1 of the Code of Virginia. Section 32.1-176.4 requires the Board to adopt regulations pertaining to the location and construction of private wells in the Commonwealth.

## Purpose

*Please describe the specific reasons why the agency has determined that the proposed regulatory action is essential to protect the health, safety, or welfare of citizens. In addition, please explain any potential issues that may need to be addressed as the regulation is developed.*

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The Department has not made significant revisions to the Regulations since their adoption in 1990. There have been significant advancements in the private well industry since that time. New information and research has also improved understanding of risk to public health and groundwater resources not addressed by the Regulations. Stakeholders have also identified inconsistencies between the Regulations and other regulations related to private wells and groundwater resources. The amendments to the Regulations will propose private well location and construction criteria which recognize current industry standards, improve consistency with other regulations, and improve protection of public health and groundwater resources. Without the proposed amendments, Virginians will not benefit from more current and up to date research and industry practices. Additionally, inconsistencies between the Regulations and other regulation related to private wells and groundwater resources will persist.

## Substance

*Please briefly identify and explain the new substantive provisions that are being considered, the substantive changes to existing sections that are being considered, or both.*

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The following substantive amendments are being considered to the existing regulatory language:

- Consider changes to definitions as necessary for consistency with the Code of Virginia, other regulations related to private wells and groundwater resources, and current industry standards.
- Revise administrative processes to reflect current law and improve consistency with other Department regulations.
- Clarify grout materials and procedures approved for well abandonment.
- Improve consistency between the Regulations and the other regulations and industry standards regarding well abandonment protocols.
- Revise the separation distance requirements between sources of contamination and wells abandoned in accordance with the Regulations.
- Improve consistency between the Regulations and other regulations (e.g. the Sewage Handling and Disposal Regulations [12VAC5-610]) which establish minimum separation distance from private wells.
- Improve consistency between private well construction reporting requirements in the Regulations and well construction and reporting requirements in the Groundwater Withdrawal Regulations (9VAC25-600).
- Remove or revise references to obsolete or repealed regulations and laws.
- Revise separation distance requirements for Class IV wells based on depth of casing and grout.
- Revised current construction standard exemptions for Class IIIC and Class IV wells.
- Clarify disinfection procedures.
- Clarify standards for yield and storage requirements.

The following new provisions are being considered:

- Develop additional definitions as necessary for consistency with the Code of Virginia, other regulations related to private wells and groundwater resources, and current industry standards.
- Revise Private Well Classification System so that Class IV well construction standards mirror Class III wells
- Identify/clarify reasonable exemptions from the Regulations (e.g., underground injection wells).
- Clarify primacy relative to observation wells.
- Establish minimum private well construction criteria based on geologic conditions, such as requiring a mechanical seal at the termination of well casing into bedrock.
- Require that all private well components meet national lead-free standards.
- Establish a standard procedure for converting existing Class IV wells to Class III wells.

- Establish criteria to recognize nationally recognized standards and certifications (e.g., AWWA, ASTM, NSF) for approval of private well components (including, but not limited to, standard methods, materials, products, analytical, & permeability standards).
- Establish a minimum separation distance from utilities and property lines.
- Establish a minimum separation distance from permanently abandoned onsite sewage systems, reuse water lines, and possible other sources of contamination.
- Improve water sampling criteria, such as requiring a sample for residual chlorine in combination with bacteriological samples.
- Establish quality standards for water used during well construction.

## Alternatives

*Please describe any viable alternatives to the proposal considered and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the action. Also, include discussion of less intrusive or less costly alternatives for small businesses, as defined in § 2.2-4007.1 of the Code of Virginia, of achieving the purpose of the regulation.*

Section 32.1-176.4 requires the Board to adopt regulations pertaining to the location and construction of private wells in the Commonwealth. There is one other alternative to the proposed action: maintain the Regulations as currently adopted. However, this is not a viable alternative. This regulatory action is necessary in order for the Regulations to recognize current industry standards, improve consistency with other regulations, and improve protection of public health and groundwater resources. Without the proposed amendments, Virginians will not benefit from more current and up to date research and industry practices. Additionally, inconsistencies between the Regulations and other regulation related to private wells and groundwater resources will persist. This proposed action is less intrusive to small businesses, namely water well system providers, as it provides an opportunity to incorporate current industry standards into the Regulations. The proposed action would also provide an opportunity to clarify areas of inconsistency and ambiguity which currently lead to requests for approval from Division staff or variance requests to the State Health Commissioner, which can delay permitting actions.

## Public participation

*Please indicate whether the agency is seeking comments on the intended regulatory action, including ideas to assist the agency in the development of the proposal and the costs and benefits of the alternatives stated in this notice or other alternatives. Also, indicate whether a public hearing is to be held to receive comments. Please include one of the following choices: 1) a panel will be appointed and the agency's contact if you're interested in serving on the panel is \_\_\_\_\_; 2) a panel will not be used; or 3) public comment is invited as to whether to use a panel to assist in the development of this regulatory proposal.*

The agency is seeking comments on this regulatory action, including but not limited to: ideas to be considered in the development of this proposal, the costs and benefits of the alternatives stated in this background document or other alternatives, and the potential impacts of the regulation.

The agency is also seeking information on impacts on small businesses as defined in § 2.2-4007.1 of the Code of Virginia. Information may include: projected reporting, recordkeeping, and other administrative costs; the probable effect of the regulation on affected small businesses; and the description of less intrusive or costly alternatives for achieving the purpose of the regulation.

Anyone wishing to submit comments may do so via the Regulatory Town Hall website (<http://www.townhall.virginia.gov>), or by mail, email, or fax to **Anthony Creech, Environmental Health Coordinator, 109 Governor Street, Richmond, Virginia 23219, (804) 864-7470 (phone), (804) 864-7475 (fax), [Anthony.Creech@vdh.virginia.gov](mailto:Anthony.Creech@vdh.virginia.gov)**. Written comments must include the name and address of the commenter. In order to be considered, comments must be received by midnight on the last day of the public comment period.

A public hearing will not be held following the publication of the proposed stage of this regulatory action. A panel will be appointed and the agency's contact if you're interested in serving on the panel is Anthony Creech, Environmental Health Coordinator, 109 Governor Street, Richmond, Virginia 23219, (804) 864-7470 (phone), (804) 864-7475 (fax), [Anthony.Creech@vdh.virginia.gov](mailto:Anthony.Creech@vdh.virginia.gov).

### Periodic review and small business impact review report of findings

*If this NOIRA is the result of a periodic review/small business impact review, use this NOIRA to report the agency's findings. Please (1) summarize all comments received during the public comment period following the publication of the Notice of Periodic Review and (2) indicate whether the regulation meets the criteria set out in Executive Order 17 (2014), e.g., is necessary for the protection of public health, safety, and welfare, and is clearly written and easily understandable. In addition, as required by 2.2-4007.1 E and F, please include a discussion of the agency's consideration of: (1) the continued need for the regulation; (2) the nature of complaints or comments received concerning the regulation from the public; (3) the complexity of the regulation; (4) the extent to which the regulation overlaps, duplicates, or conflicts with federal or state law or regulation; and (5) the length of time since the regulation has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the regulation.*

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#### Summary of Periodic Review by the Office of Attorney General

In accordance with Code of Virginia § 2.2-4017 and Executive Order 17 (2014), the Office of the Attorney General (OAG) conducted a periodic review of the Private Well Regulations. In a January 27, 2017, memorandum to the Commissioner of the Department, the OAG offered opinion that certain exemptions from regulatory requirements provided to dewatering wells in the existing regulations are not supported under the statutory authority given in the Code of Virginia § 32.1-176.4(A) and 32.1-176.5(A). The OAG therefore recommends that the regulation be amended so that statutory requirements with respect to construction permits are applied to private dewatering wells.

Summary of Public Comments Received during the Periodic Review period.

<b>Commenter</b>	<b>Comment</b>	<b>Department Response</b>
John Sawdy	Incorporate revised setback distances from abandoned bored and uncased wells to proposed onsite sewage system, including onsite sewage system using pre-treatment.	Currently, the Regulations require that abandoned bored or uncased wells be treated as wells with respect to determining the minimum separation distance to sources of contamination (e.g. 100 feet from onsite sewage systems). Section 12VAC5-630-450.C.7 allows the Division of Onsite Sewage and Water Services, Environmental Engineering, and Marina Programs to approve other abandonment methods which can allow for reducing the separation distance from abandoned wells. The agency is considering revising separation distance requirements from bored and uncased wells to proposed onsite sewage systems to incorporate standards currently used by Division staff when evaluating request under 12VAC5-630-450.C.7.
John Sawdy	Establish a guideline for inspection and testing of private wells for real-estate transactions.	The Code of Virginia only provides the Department with authority to regulate the location and construction of private wells. Ongoing operation, maintenance, and sampling are at the discretion of the well owner. However, the Department provides guidance on its website relative to this issue, and is happy to discuss ways to improve available information for existing and proposed private well owners regarding best practices for ongoing operation, maintenance, and sampling.
Anonymous	There is no required horizontal separation distance from a drilled well abandoned in accordance with the Regulations to a source of contamination, regardless of whether the casing is pulled. There is no required horizontal separation distance from a source of contamination to an uncased closed-loop geothermal well grouted from bottom to top. However, if the closed-loop geothermal well is	Section 12VAC5-630-380.G provides horizontal separation distance exception for closed-loop geothermal wells. If the well is grouted to 20 feet, the minimum separation distance for Class IV wells applies. If the well is grouted to 50 feet, the separation distance for Class IIIA or IIIB wells apply. If the well is grouted the entire depth, the well does not have to comply with the minimum separation distance contained in Table 3.1. These exceptions do not specify whether the geothermal well is cased or uncased. If a



	<p>cased, it must meet the horizontal separation distances in Table 3.1. There is no construction difference between an abandoned drilled well that is cased and a closed-loop geothermal well that is cased, but there is a separation distance requirement for the closed-loop geothermal well.</p>	<p>geothermal well is grouted the entire depth, there is no separation distance, regardless of whether the well is cased or uncased. If cased, the well would need to be grouted both in the annular space and inside the casing.</p>
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The Regulations are necessary for the protection of public health, safety, and welfare, and are clearly written and easily understandable. The Department has considered the continued need for the Regulations and determined that the minimum location and construction criteria for private wells are necessary to protect public health and groundwater resources, such as minimum grouting requirement which preclude the entrance of undesirable water and contaminants. While the Regulations are necessary, the Department has received numerous requests to update the Regulations to address changes in current standards and practices, to clarify regulatory language, and to improve consistency with other regulations related to private wells and groundwater resources. The Department has not undertaken a complete review of the Regulations since their adoption in 1990. During that time there have been numerous advancements in the materials and equipment used to construct private wells. While the Regulations are not necessarily complex, the growing overlap with other regulations continues to increase. Primary areas of overlap are with regulations regarding the construction of onsite sewage systems and regulations for groundwater withdrawal permitting in groundwater management areas. While not overlapping, the Waterworks Regulations establish a similar set of location and construction criteria for wells used for public water supplies (waterworks). Improving consistency between the Regulations and other regulations related to private wells and groundwater resources is one of the primary goals of this intended regulatory action.

## ATTACHMENT D

# PRIVATE WELL REGULATIONS WORKGROUP

## MAJOR ISSUES DISCUSSION

### 1. Definitions of Well Types to be Exempted from Private Well Regulations

Discussion: The current regulation in various sections provides full or partial exemption of observation and monitoring wells, dewatering wells, and wells constructed for oil and gas, building foundation and construction, elevator shafts, grounding of electrical apparatus, and modification and development of springs.

The Office of the Attorney General has rendered opinion that the current Private Well Regulation's exclusion of dewatering wells from permitting requirements is inconsistent with the Code of Virginia. The exclusion of observation and monitoring wells – as being more appropriately managed under DEQ supervision – has a long and complex history, but the current Private Well Regulation is confusing on the issue.

Finally, there are other types of wells (e.g., injection wells, Geoprobe™ type temporary wells) which are not mentioned at all.

Proposed Solution: § 32.1-12 of the Code of Virginia states “The Board may adopt, promulgate, and enforce such regulations and **provide for reasonable variances and exemptions** therefrom as may be necessary to carry out the provisions of this title and other laws of the Commonwealth administered by it, the Commissioner or the Department.”

In other words, the process of making and revising VDH regulations includes provision for identifying reasonable exemptions. The OAG opinion regarding dewatering wells is because dewatering wells were not identified as exempted in the existing regulation.

It is proposed that the workgroup consider expansion of 12VAC5-630-30 from “Purpose of Regulations” to “Purpose and Applicability of Regulations,” with the following addition:

- B. Applicability. The requirements of this chapter 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:
- a. Wells constructed for the purpose of exploration or production of oil or gas.
  - b. Wells constructed for the purpose of building foundation investigation, design or construction.

- c. Wells constructed for the purpose of an elevator shaft.
- d. Wells constructed for the purpose of constructing an extensometer or similar scientific instrument.
- e. Wells constructed for the purpose of grounding of electrical apparatus.
- f. Wells constructed for the purpose of the modification or development of springs.
- g. Wells constructed for the purpose of underground injection as regulated by 40 CFR Part 144.
- h. Wells constructed under the regulatory policies of the Virginia Department of Environmental Quality for the purpose of the observation, monitoring, or remediation of groundwater elevation and/or quality, except as governed by 12VAC5-630-420.B and C. This includes temporary boreholes constructed for the purpose of collecting soil or groundwater samples for analysis, provided that they are promptly abandoned in such a manner as to prevent them from being a channel of vertical movement of surface water or a source of contamination to groundwater.
- i. 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.
- j. Cathodic protection wells

# PRIVATE WELL REGULATIONS WORKGROUP

## MAJOR ISSUES DISCUSSION

### 1. EXERCISE: Definitions of Well Types to be exempted from Private Well Regulations

Question	Yes	No
Do you agree with the creation of an Applicability Section in the regulation which classifies well types to be exempted wholly or in part from the Private Well Regulations?	8	0
If you disagree, do you have another suggestion as to how to address well exemptions?		
Should the following wells be exempted from the Private Well Regulations?	Yes	No
Oil and Gas exploration and production	8	0
Building Foundation Investigation, Design, or Construction	7	1
Elevator Shaft	8	0
Extensometer or Similar Scientific Instrument	8	0
Grounding of Electrical Apparatus	8	0
Modification or Development of Springs	8	0
Underground Injection	8	0
Observation, Monitoring, or Remediation	7	1
Construction Dewatering	7	1
Cathodic Protection	8	0
Provide your reasoning for any "NO" votes		
-Geotech boreholes intersecting aquifer should be grouted by regulations		
-Observation/monitoring: grouted/sealed after use as (means) to ensuring surface water avenue to subsurface		
-Dewatering: large diameter wells (other than well points) should be grouted/sealed after use to ensure no		

**potential contaminants to aquifers**

**-All wells should be regulated by some authority (EPA-DEQ-VDH-or Engineers). All water injection from geothermal has to be permitted.**

**-Conditional on exempted wells being regulated by other agencies when they affect groundwater during or after use.**

**Identify any OTHER classifications of wells you think should be exempted**

# PRIVATE WELL REGULATIONS WORKGROUP

## MAJOR ISSUES DISCUSSION

### 2. Separation Distance from Property Line

Discussion: The current Private Well Regulations do not specify a separation distance from a property line, except as follows:

- It is the well owner's responsibility to keep on the correct side of the line and to adhere to local ordinances.
- § 32.1-176.5:2 of the Code of Virginia states that "No private well shall be constructed within 50 feet of the property line with an adjacent property of three acres or larger that is used for an agricultural operation, as defined in § 3.2-300. The following shall be exempt: (i) the owner of the adjacent property that is used for an agricultural operation may grant written permission for construction within 50 feet of the property line; or (ii) certification that no other site on the property complies with the Board's regulations for the construction of a private well."

("Agricultural operation" means any operation devoted to the bona fide production of crops, or animals, or fowl including 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).

OEHS believes that there is merit to establishing a separation distance for all property lines, not just those with an adjacent property of  $\geq 3$  acres used for agriculture. Further, even though it is established in code, we question the usefulness of a policy of obtaining written permission from a third party otherwise unrelated to the private well applicant.

Proposed Solution: It is proposed that the workgroup consider the establishment of a 50 foot separation distance from the property line for construction of all private wells, with an exception when it is certified that no other site complies with the siting criteria, in which case it must be located as far from the property line as possible.

# PRIVATE WELL REGULATIONS WORKGROUP

## MAJOR ISSUES DISCUSSION

### 2. EXERCISE: Separation Distance from Property Line

Question	Yes	No
Do you support the establishment of a 50 foot separation distance between a private well and a property line?	1	6
<p>If you do not support a 50 foot separation distance between a private well and a property line, do you support another separation distance? <u>  6  </u> Yes <u>  1  </u> No</p> <p>Provide distance and rationale.</p> <p>5 feet (to be consistent with onsite regs) – 2 votes</p> <p>10 feet – 2 votes</p> <p>Other comments</p> <ul style="list-style-type: none"> <li>- Increase casing for wells close to PL</li> <li>- Site specific, size of lot, topography of site, access by drill equipment</li> <li>- Should be site by site and a common sense issue</li> <li>- Setback conditions could cause safety issues with overhead powerlines or other unforeseen issues, future access, clearing road and site</li> </ul>		
<p>The Code of Virginia does not specify who is eligible to provide certification that no other site on the property complies with the Board’s regulations for the construction of a private well.</p> <p>Who should be allowed to provide this certification? (You may check more than one)</p>		
Well Owner		1
Onsite System Service Provider		5

Professional Soil Scientist	3
Professional Geologist	1
Professional Engineer	4
Driller	5
Anybody can submit, the supporting documentation will determine the merits	1

Comments

- OSE and PE for all. Driller for Express Permits

- Need Driller and Professional



# PRIVATE WELL REGULATIONS WORKGROUP

## MAJOR ISSUES DISCUSSION

### **3. Making Table 3.1 More User Friendly**

Discussion: During prior meetings of the Private Well Regulations Workgroup, it has been suggested that the Table 3.1 listing of separation distances is too complicated and relies too heavily on footnotes. At least one workgroup member suggested replacing Table 3.1 with straight narrative.

However, there is an obligation in drafting regulations to make them as readily understandable as possible, and tables represent a well-known and long standing method of presenting information simply and economically.

Proposed Solution: The following table presents one method to provide more “narrative” style information in a table form.

The purpose of this exercise is to evaluate the table FORMAT. Don't get caught up in the individual separation distances – they will be discussed separately

**Draft Table 3.1 Distances (in feet) between a well and a structure or topographic feature**

Structure or Topographic Feature	Minimum Separation Distance	Exception
Building Foundation (no termite treatment or treated with a borate based termiticide)	10 feet – all well classifications	None
Building Foundation (treated with chlorine based termiticide, termite treatment is known to have occurred but the termiticide used is not known, or it is not known whether termite treatment occurred). <b>Subsequent treatment with a borate based termiticide does not reduce this separation distance.</b>	50 feet – all well classifications	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
House Sewer Line 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	10 feet – all well classifications	None
House Sewer Line (Other or unknown construction; or if well is not cased and grouted to water bearing formation)	50 feet – all well classifications	None
Sewer Main, including force main 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	35 feet – all well classifications	None
Sewer Main, including force main (Other or unknown construction; or if well is not cased and grouted to water bearing formation)	50 feet – all well classifications	None
Sewerage System	50 feet – all well classifications	None
Pretreatment System (e.g., septic tank, aerobic unit, etc.)	50 feet – all well classifications	None
Active sewage disposal system or other contaminant source (e.g., drainfield, petroleum storage tank, barnyard, landfill, hog lot, etc.)	50 feet – Class IIIA, IIIB, IVA, IVB 100 feet – Class IIIC and IVC	None
Permanently abandoned sewage disposal systems	35 feet	None
Reclaimed Water Distribution Pipeline	50 feet – Class III No minimum separation distance applies to Class IV wells	Minimum separation distance can be 35 feet (Class III wells) 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, effective December 1, 2005) for the pipe material, with a

Structure or Topographic Feature	Minimum Separation Distance	Exception
		minimum test pressure of 30 psi.
Cemetery	50 feet – Class IIIA, IIIB, IVA, IVB 100 feet – Class IIIC and IVC	None
Sewage Dump Station	50 feet – Class IIIA, IIIB, IVA, IVB 100 feet – Class IIIC and IVC	None
Property Line	50 feet – all well classifications	Exemption for construction within 50 feet of the property line if it is certified that no other site on the property complies with the regulations for construction of a private well. In such cases, the well shall be constructed as far from the property line as feasible. See 12VAC5-630-380.D
Overhead or buried Utility Lines (electric, telephone, gas, water, fiber optic, etc).	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 buried and overhead utilities (relative to drilling equipment) may also be subject to OSHA or related safety requirements.	
<b>Wells not subject to minimum separation distance requirements</b>	<i>Class IV closed loop ground source heat pump wells grouted the entire depth are not subject to minimum separation distance requirements</i>	

# PRIVATE WELL REGULATIONS WORKGROUP

## MAJOR ISSUES DISCUSSION

### 3. EXERCISE: Making Table 3.1 More User Friendly

Rank the Revised Table 3.1 Format	Same	Better	Worse
Appearance		7	
Easiness to Understand	.5	6.5	
Demonstrates necessary setback by well classification	.5	6.5	
What DON'T you like about this table format?			
What information could be added to make it easier to understand? <ul style="list-style-type: none"><li>- Use BOLD font to make Column 1 titles stand out</li><li>- Divide middle column into IIIA/B, IIIC, IVA/B and IVC columns to make it easier to understand</li></ul>			



# PRIVATE WELL REGULATIONS WORKGROUP

## MAJOR ISSUES DISCUSSION

### 4. Well Abandonment for Bored Wells

Discussion: There are three primary purposes for well abandonment – (A) public safety, (B) elimination of a pathway of surface contaminants to groundwater, and (C) prevention of hydraulic communication between water bearing zones.

Public safety (e.g., trips, falls, Baby Jessica down the well) is addressed by any abandonment method that fills the borehole up, and aquifer cross-connection is generally not a factor for bored wells. So the real issue for a bored well is to ensure that a well abandonment method mitigates a pathway for contaminants to groundwater.

12VAC5-630-450.C.4 provides a method for abandoning bored wells intended to be less expensive than completely filling the well with cement grout. However, wells abandoned in this manner “shall be treated as wells with respect to determining the minimum distance to sources of contamination.”

This is currently addressed in guidance with the “enhanced” abandonment method, which allows for reduction but not elimination of separation distances.

Looking at federal, industry, and other states’ guidelines, it *appears* that Virginia may be the only state (certainly one of a small group) which identifies a properly abandoned bored well as a well with respect to separation distances. This appears to be attributable to the pathway presented via the annular space (which may not be fully addressed during well abandonment) in conjunction with the reality that bored wells are generally shallow. The most common potential contaminant for private wells is onsite system effluent. In theory even a disinfected and entirely grouted bored well abandonment could give effluent a pathway to groundwater via the annular space.

Group discussion questions:

Question	Yes	No
1. Is an abandoned private well a <u>source</u> of (as opposed to pathway for) contamination?	1	7
2. Does a bored well that is abandoned by the existing 12VAC5-630-450.C.4. method represent a significant pathway for surface contaminants to reach groundwater?	6	2
3. Does a bored well that is abandoned by being disinfected and fully grouted represent a significant pathway for surface contaminants to reach groundwater?	4	4

<p>4. Do you support the elimination of separation distances from a source of contamination for either classification of abandoned bored well?  12VAC5-630-450.C.4. Method  Disinfected and fully grouted</p>	<p>6  _____</p>	<p>2  _____</p>
<p>5. Do you support a reduction of separation distances from a source of contamination for either classification of abandoned bored well?  12VAC5-630-450.C.4. Method  Disinfected and fully grouted</p>	<p>7  _____</p>	<p>1  _____</p>
<p>6. If you answered “yes” to 5, describe:</p> <ul style="list-style-type: none"> <li>- If we have a bored well where we know that the annular space is grouted to 20’, or the well can be grouted to 20’ during abandonment, then I would support a 0’ setback (same as drilled well)</li> <li>- If either of these two factors is unknown, I think we should maintain a reasonable separation</li> <li>- Attention should be paid to use of site such as gas station, etc.</li> <li>- For drainfields that close there should be minimum vertical separation distance between bottom of plug overlapping annulus and depth of drainfield, especially if well not properly grouted</li> <li>- If it is properly abandoned and fully grouted, in my opinion the ground around the well would probably be more porist (porous) than the grouted well.</li> <li>- Site specific – attempt to pull casing/tile – grout annular space – 20 foot depth</li> </ul> <p>EXAMPLE: The following suggestion was received from a Health Department District Office:</p> <ol style="list-style-type: none"> <li>1. If bored well is completely filled with one of these: cement or bentonite grout, bentonite (dry) plug, 1-1-2 cement/concrete grout (no aggregate larger than 2”) - maintain a conventional drainfield ≥20 ft. away.</li> <li>2. If bored well is completely filled with one of these: cement or bentonite grout, bentonite (dry) plug, 1-1-2 cement/concrete grout (no aggregate larger than 2”) - maintain an alternative drainfield ≥10 ft. away.</li> <li>3. If bored well is abandoned using the bentonite/cement plug method - maintain a conventional drainfield ≥50 ft. away.</li> <li>4. If bored well is abandoned using the bentonite/cement plug method - maintain an alternative drainfield ≥25 ft. away.</li> </ol>		

Your name (optional): \_\_\_\_\_

# PRIVATE WELL REGULATIONS WORKGROUP

## MAJOR ISSUES DISCUSSION

### 5. Definition of Clean Fill

Discussion: Clean fill is a commonly used material in well abandonment; however, there is no definition of clean fill in the current Private Well Regulations (PWR). A definition should be included in the revised regulation.

One goal associated with revision of the PWR is to avoid potential confusion by standardizing definitions with those in other regulations. For example, a definition of “lead free” in the PWR should be consistent (identical) by that used in the Office of Drinking Water’s Waterworks Regulation. This is an important factor in determining a definition of clean fill.

Searching other Virginia agencies and other states, there are many, conflicting, ways that clean fill is categorized. The DEQ currently does not have a definition of clean fill. However, the Solid Waste Management Regulations exempt “using rocks, brick, block, dirt, broken concrete, crushed glass, porcelain, and road pavement as clean fill” from definition as solid waste (9VAC20-81-95.D.11.). The DEQ has suggested defining clean fill in the revised PWR based on this language. With respect to well abandonment, however, there is an obvious challenge to including “rocks, brick, block, dirt, broken concrete, crushed glass, porcelain, and road pavement” as acceptable materials.

VDEQ’s Contaminated Media Statewide Variance Guidance addresses various beneficial applications of contaminated soil and debris. The guidance does not define clean fill. It does define contaminated media as “soil, sediment, and dredged material that, as a result of release or human usage, has absorbed or adsorbed physical, chemical, or radiological substances at concentrations above those consistent with nearby undisturbed soils or natural earth materials.”

#### Proposed solutions:

##### **Option One**

1. Define clean fill in PWR as “any combination of undisturbed soil and natural earth material, and/or rocks, brick, block, dirt, broken concrete, crushed glass, porcelain and road pavement, as exempted from definition of solid waste under 9VAC20-81-95.” (this incorporates the DEQ solid waste regulation guidance)
2. Define contaminated media in PWR as “soil, sediment, and dredged material that, as a result of release or human usage, has absorbed or adsorbed physical, chemical, or radiological substances are concentrations above those consistent with nearby undisturbed soils or natural earth materials.” (same wording as DEQ guidance)



3. Define undisturbed soil and natural earth materials as “unconsolidated mineral and organic material on the immediate surface of the Earth that can be reasonably concluded to have developed naturally on the property where it originates.”
4. Add a section to the Well Abandonment section of the PWR (12VAC5-630-450) saying

The following materials, even if classifiable as clean fill in other applications, shall not be used as clean fill in any well abandonment procedure:

- Contaminated media
- Gravel, rock, 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.

#### **Option Two**

Define clean fill in PWR as “any combination of undisturbed soil and natural earth material, and/or rocks, brick, block, dirt, broken concrete, crushed glass, porcelain and road pavement, as exempted from definition of solid waste under 9VAC20-81-95. For purposes of well abandonment, clean fill shall not include (i) contaminated media or (ii) rocks, brick, block, broken concrete, porcelain or road pavement, except as these materials are present as incidental constituents of undisturbed soil or natural earth materials.”

Include definitions of “contaminated media” and “undisturbed soil or natural earth materials” in PWR.

Choose:

0 Option One (you are invited to mark-up suggested changes)

2 Option Two (you are invited to mark-up suggested changes)

2 Other (describe below)

#### **COMMENTS**

Based on group discussion, it was felt that the proposed solutions are unnecessarily complicated, and that manufactured sand & gravel, quarry source materials, and engineered fill, should be allowed.

Suggested definition to eliminate the reference to Solid Waste regulations

**ATTACHMENT E**

PowerPoint Presentation