



Proposed Regulation Agency Background Document

Agency name	State Water Control Board
Virginia Administrative Code (VAC) citation	9 VAC 25 - 610
Regulation title	Ground Water Withdrawal Regulations
Action title	Amend the Ground Water Withdrawal Regulations
Date this document prepared	May 18, 2010

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 36 (2006) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

Brief summary

In a short paragraph, please summarize all substantive provisions of new regulations or changes to existing regulations that are being proposed in this regulatory action.

The regulations are being amended to be more consistent with current administrative and application processing practices of other water permit program regulations. This is needed since the regulations have not been revised in over a decade and agency practices have changed. The application requirements for different types of permits and situations have been separated in to different regulatory sections to provide more clarity concerning the requirements for complete applications. New sections have been added to address surface water and groundwater conjunctive use permits and supplemental drought relief permits. The water conservation and management plan section has been revised to specify the conservation measures and requirements that must be met, depending on the use of the groundwater. The regulations also now identify information to be provided to ensure that the need for the groundwater has been documented, and that alternatives to using groundwater have been investigated and considered. A section has been added that allows the agency to estimate an area of impact for mitigation of a small withdrawal based on available modeled information instead of requiring geotechnical investigations to occur. The regulations are also being revised to be consistent with current agency guidance concerning the 80% drawdown criteria evaluation. Additional permit conditions are being specified in the regulations that will be applicable to all permits which will clarify the requirements that groundwater withdrawers must meet.

Legal basis

Please identify the state and/or federal legal authority to promulgate this proposed regulation, including (1) the most relevant law and/or regulation, including Code of Virginia citation and General Assembly chapter number(s), if applicable, and (2) promulgating entity, i.e., the agency, board, or person. Describe the legal authority and the extent to which the authority is mandatory or discretionary.

The basis for this regulation is provided for in Sections 62.1-44.15(10) and § 62.1-256.8 of the Code of Virginia.

Purpose

Please explain the need for the new or amended regulation by (1) detailing the specific reasons why this regulatory action is essential to protect the health, safety, or welfare of citizens, and (2) discussing the goals of the proposal, the environmental benefits, and the problems the proposal is intended to solve.

The proposed amendments are necessary to protect the health, safety or welfare of citizens in both the Eastern Virginia and Eastern Shore Ground Water Management Areas in order to ensure the availability of ground water for current and future beneficial uses.

Ground water levels in parts of the coastal plain are declining to the point that they are nearing aquifer tops in a number of localities along the fall line. In addition, levels are declining generally throughout the rest of the coastal plain. The declines in ground water levels in the current Eastern Virginia Ground Water Management Area have created a situation in which many existing permitted users are unable to renew their withdrawal permits at permitted amounts when they exceed current use. Also, new or expanded applications are a challenge to permit. Withdrawing ground water to the point that it falls below the top of the aquifer can lead to subsidence or impair the aquifer's ability to store water in the future, potentially impacting the availability of ground water for existing users and severely compromising growth and development potential throughout the management area.

Over the years our understanding of the coastal plain aquifer system has changed. In addition, we need to address what constitutes an adequate margin of safety and what technical criteria are defensible for determining whether or not to issue a permit and for what amounts.

Substance

Please briefly identify and explain the new substantive provisions (for new regulations), the substantive changes to existing sections, or both where appropriate. (More detail about these changes is requested in the "Detail of changes" section.)

The regulations are being amended to be more consistent with other water permit program regulations. This is needed since the regulations have not been revised in many years. The application requirements for different types of permits and situations have been separated into different regulatory sections to provide more clarity concerning the requirements for complete applications. Previously, different types of permits were listed in one section, making the regulations confusing and difficult to use.

Throughout the regulation, the term "ground water" has been changed to the term "groundwater" to be consistent with common usage and terminology of the USGS. The terms "amend", "amended", and "amendment" have been changed to the terms "modify", "modified", and "modification" throughout the regulation to be consistent with the use of these terms in other water permit programs.

Preapplication meetings are now required prior to submitting a permit application for a withdrawal. This will reduce the number of revisions it takes for the applicant to achieve a complete application and will reduce the number of re-reviews required to be conducted by agency staff. A provision has been added to the regulations that would allow the agency the ability to not require information to be submitted by applicants as part of a permit application if the agency already has the same information in their possession and the information has not changed over the course of the previous permit term. This information would be discussed and validated at preapplication meetings.

New sections have been added to address surface water and groundwater conjunctive use permits and supplemental drought relief permits. Conjunctive use permits will address the balance between available surface water sources and the need to withdraw supplemental groundwater to meet water demand. A section has been added to the regulations to address the requirements for supplemental drought relief permits. Supplemental drought relief permits are permits to withdraw groundwater to meet human consumption after mandatory water use restrictions have been implemented.

The water conservation and management plan section has been revised to specify the conservation measures and requirements that must be met, depending on the use of the groundwater. This allows the agency to specify specific water conservation measures that must be addressed in water conservation and management plans for specific uses. Due to the finite nature of the groundwater resource, conservation measures are required to be implemented through the development of water conservation and management plans. Conservation measures of high volume water consumers on municipal and non-municipal public water supplies shall be discussed in plans to ensure that conservation measures are being implemented and applied. Water conservation and management plans will become an enforceable part of the permit.

The regulations also now identify information to be provided to ensure that the need for the groundwater has been documented, and that alternatives to using groundwater have been investigated and considered. Previously there was limited information provided to applicants concerning their justification of need. This section of the regulations should provide more consistency for applicants concerning the information they provide to justify their need to withdraw groundwater. Projected demand information developed as part of water supply plans developed to comply with 9 VAC 25-780 may be used to meet some of the justification of need requirements.

A section has been added to allow for the agency to estimate an area of impact of a small withdrawal based on information available instead of requiring geotechnical investigations to occur. Adding this approach will allow some applicants to accept a default area of impact in lieu of conducting geotechnical investigations. The geotechnical investigations add to the cost of applying for a groundwater withdrawal permit. Applicants will retain the ability to conduct geotechnical investigations in lieu of accepting the agency's default area of impact.

The regulations are also being revised to be consistent with current agency guidance concerning the 80% drawdown criteria evaluation. This change is needed because additional information concerning the geologic structure of the coastal plain aquifer system and its effects on evaluating withdrawal impacts have been discovered since the regulations were last updated.

For consistency, additional permit conditions are being specified in the regulations that will be applicable to all permits. These changes will provide the applicant with knowledge of minimum permit conditions that they will be required to comply with before they apply for a permit and will increase certainty to the regulated community.

Issues

Please identify the issues associated with the proposed regulatory action, including:

- 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions;*
- 2) the primary advantages and disadvantages to the agency or the Commonwealth; and*
- 3) other pertinent matters of interest to the regulated community, government officials, and the public.*

If the regulatory action poses no disadvantages to the public or the Commonwealth, please so indicate.

The primary advantage to the public will be that these regulations manage groundwater resources in order to maintain resource availability for future Virginians. There may be financial savings and processing time benefits for some applicants. There are no disadvantages to the public from managing the groundwater resource.

The primary advantage to the Commonwealth is that groundwater resources will be comprehensively managed. There are no disadvantages to the Commonwealth from managing the groundwater resource

This regulatory revision addresses conjunctive use systems as well as supplemental drought relief wells. These types of water uses are currently described in statute; however the regulatory revision provides details concerning the requirements for these permits. These regulations are important to all localities that are regulated by these regulations. With the expansion of the groundwater management area, which is regulated under a separate regulation, additional localities will be required to obtain groundwater withdrawal permits. These permits are issued based on demonstrated need for groundwater, require water conservation and mitigation of impacts, and specify maximum amounts of groundwater that may be withdrawn. All withdrawers of groundwater, unless exempted by statute, are required to obtain a permit, which places additional regulations on withdrawers of groundwater occurring within the management area.

Requirements more restrictive than federal

Please identify and describe any requirement of the proposal which are more restrictive than applicable federal requirements. Include a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements or no requirements that exceed applicable federal requirements, include a statement to that effect.

The management of groundwater resources is required by Virginia statute. There are no applicable federal requirements.

Localities particularly affected

Please identify any locality particularly affected by the proposed regulation. Locality particularly affected means any locality which bears any identified disproportionate material impact which would not be experienced by other localities.

The following localities are currently included in the Eastern Virginia Groundwater Management area:

the counties of Charles City, Isle of Wight, James City, King William, New Kent, Prince George, Southampton, Surry, Sussex, and York; the areas of Chesterfield, Hanover, and Henrico, counties east of Interstate 95; and the cities of Chesapeake, Franklin, Hampton, Hopewell, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.

The following additional localities are proposed for inclusion in the Eastern Virginia Groundwater Management Area by a separate regulatory action that is being processed concurrently with this regulatory revision: the counties of Caroline, Essex, Gloucester, King George, King and Queen, Lancaster, Mathews, Middlesex, Northumberland, Richmond, and Westmoreland, and the areas of Arlington, Fairfax, Prince William, Spotsylvania, and Stafford counties east of Interstate 95.

The following localities are currently included in the Eastern Shore Groundwater Management Area: Accomack and Northampton Counties.

All of the localities listed above are localities particularly affected by the regulations.

Public participation

Please include a statement that in addition to any other comments on the proposal, the agency is seeking comments on the costs and benefits of the proposal, the impacts on the regulated community and the impacts of the regulation on farm or forest land preservation.

In addition to any other comments, the board/agency is seeking comments on the costs and benefits of the proposal, the potential impacts of this regulatory proposal and any impacts of the regulation on farm and forest land preservation. Also, the agency/board is seeking information on impacts on small businesses as defined in § 2.2-4007.1 of the Code of Virginia. Information may include 1) projected reporting, recordkeeping and other administrative costs, 2) probable effect of the regulation on affected small businesses, and 3) description of less intrusive or costly alternative methods of achieving the purpose of the regulation.

Anyone wishing to submit written comments may do so at the public hearing or by mail, email or fax to Melissa Porterfield, Office of Regulatory Affairs, P.O. Box 1105, Richmond, VA 23218, phone: 804-698-4238, fax: 804-698-4346 email: Melissa.Porterfield@deq.virginia.gov . Comments may also be submitted through the Public Forum feature of the Virginia Regulatory Town Hall web site at www.townhall.virginia.gov. Written comments must include the name and address of the commenter. In order to be considered comments must be received by 5:00 p.m. on the date established as the close of the comment period.

A public hearing will be held and notice of the public hearing will appear on the Virginia Regulatory Town Hall website (www.townhall.virginia.gov) and can be found in the Calendar of Events section of the Virginia Register of Regulations. Both oral and written comments may be submitted at that time.

Economic impact

Please identify the anticipated economic impact of the proposed new regulations or amendments to the existing regulation. When describing a particular economic impact, please specify which new requirement or change in requirement creates the anticipated economic impact.

Projected cost to the state to implement and enforce the proposed regulation, including	No state impact is expected to address proposed changes in this regulation as they apply to existing
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(a) fund source / fund detail, and (b) a delineation of one-time versus on-going expenditures	regulated users.
Projected cost of the new regulations or changes to existing regulations on localities	It is anticipated that these changes will have a neutral economic impact on localities and may result in some savings. These savings may be realized from streamlining of some application processes and the institution of a pre-application meeting process. These changes are expected to reduce resubmission of duplicative information and reduce the potential for multiple revisions to applications documents.
Description of the individuals, businesses or other entities likely to be affected by the new regulations or changes to existing regulations	Any entity that withdraws 300,000 gallons of groundwater per month or more within a designated management area will be impacted by the regulations.
Agency’s best estimate of the number of such entities that will be affected. Please include an estimate of the number of small businesses affected. Small business means a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million.	<p>There are 394 known entities that are expected to be affected by this regulation including an estimated 111 entities expected to be subject to permitting in the expanded management area created by the companion regulation.</p> <p>The number of small businesses estimated to be impacted by the regulations is also estimated to be 111. This estimate was made by examining the database of reported users, the type of business activity associated with the water use and the amount of water used. We then cross referenced this list with the registered Limited Liability Corporations in the Virginia State Corporation Commission database.</p>
All projected costs of the new regulations or changes to existing regulations for affected individuals, businesses, or other entities. Please be specific and do include all costs. Be sure to include the projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses. Specify any costs related to the development of real estate for commercial or residential purposes that are a consequence of the proposed regulatory changes or new regulations.	Some savings may be realized from streamlining of application processes and the institution of a pre-application meeting process. These changes are expected to reduce resubmission of duplicative information and reduce the potential for multiple revisions to applications documents. Reporting is generally on monthly data reported on a quarterly basis. Reporting will be provided through on-line access by the time the regulation becomes effective which should eliminate the cost of postage.
Beneficial impact the regulation is designed to produce.	The regulation manages, in areas where the sustainability of the resource is threatened, groundwater resources to ensure that the resource is managed for all users.

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.

During the development of the proposal, the agency discussed with stakeholders if there were any alternatives that could be implemented to assist the regulated community with complying with the requirements of the regulations. This discussion led the agency to develop regulatory text to address specific users of groundwater. For example, the water conservation and management plan section of the regulation previously specified general requirements that needed to be addressed in plans. The proposed regulation now contains specific requirements for public water supplies to address in their plans. Commercial and industrial users are provided with different requirements concerning how they need to address water conservation in their plans. Agricultural users are provided with different requirements for their water conservation and management plans. The regulations also allow for agricultural users to provide irrigation plans required to meet other state requirements. By tailoring the requirements of the water conservation and management plans to the specific use, the agency is able to specify the conservation measures that need to be conducted and obtain conservation plans that are more reflective of the water use of the permittee.

Additionally stakeholders identified that aquifer tests were needed before some permits could be issued and that the costs of conducting these tests were burdensome for some smaller withdrawals. Aquifer tests identify the area of impact of a withdrawal. The regulations have been modified to allow the agency to identify an estimated area of impact when data available to the agency estimates that the area of impact will be less than 12 square miles. The applicant may choose to accept the estimated area of impact or may choose to conduct an aquifer test to determine the area of impact. This option will potentially reduce the costs associated with obtaining a permit for some smaller withdrawals.

Regulatory flexibility analysis

Please describe the agency's analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) the establishment of less stringent compliance or reporting requirements; 2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; 3) the consolidation or simplification of compliance or reporting requirements; 4) the establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the proposed regulation.

One alternative that was discussed with the GW RAP for inclusion in the regulations was a streamlined permit process. Since permits expire every 10 years, applicants are required to reapply for permits. A provision has been added to the regulations that would allow the agency the ability to not require information to be submitted by applicants as part of a permit application if the agency already has the same information in their possession and the information has not changed over the course of the permit. For example, if a completed GW 2 form was previously submitted for a well and the well had not been changed, the agency could waive the requirement for the applicant to resubmit the identical information as part of the permit application. This information would be discussed at a preapplication meeting that is held to assist the applicant with submitting a complete application. These changes will benefit all applicants, including those that are small businesses.

The agency considered alternative regulatory methods including 1) the establishment of less stringent compliance or reporting requirements; 2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; and 3) the consolidation or simplification of compliance or reporting requirements. The amount of groundwater withdrawn is required to be reported on an annual basis by a

separate regulation and revisions to these requirements were not considered since it is essential to monitor the withdrawals from aquifers throughout the state since groundwater is a finite resource.

In developing the proposed regulations, the agency considered alternative regulatory methods for small businesses. The agency identified that small businesses most likely to be potentially impacted by the regulations are those that utilize groundwater water for irrigation. The agency has developed the proposal to include specific requirements to be met for irrigation and agricultural uses. The water conservation and management plan requirements and the conjunctive use sections of the regulations are both examples of sections that address use of groundwater by users that are likely small businesses.

Public comment

Please summarize all comments received during public comment period following the publication of the NOIRA, and provide the agency response.

Commenter	Comment	Agency response
<i>Mr. David Bailey The Environmental Law Group</i>	Requested to be added to the agency mailing list and requested to participate on Regulatory Advisory Panel (RAP).	Mr. Bailey was considered for membership on the RAP and appointed to the RAP by the agency director and added to the agency mailing list.
<i>Steve Werner Draper Aden Associates</i>	Requested to participate on RAP.	Mr. Werner was appointed to the RAP as an alternate for Jesse Royall.
<i>Steve Werner Draper Aden Associates</i>	Questions the use of phrase "Geophysical investigation". Geophysics is a discipline of earth science involving the study of the Earth's subsurface by quantitative observation of its physical properties. Techniques such as electrical resistivity, magnetic and seismic surveys are used to characterize and evaluate subsurface conditions. With respect to ground water supply, geophysical well logging is a specific technology used to identify where to install well screens within an aquifer during well construction. It is suggested that the word "Aquifer" replace the word "Geophysical" in the first and last sentences of the definition of geophysical investigation.	The purpose of the investigation is to determine the subsurface conditions; therefore this definition is not being changed as suggested.
<i>Steve Werner Draper Aden Associates</i>	Define the term "Hydrogeology". Hydrogeology is the area of geology that deals with the occurrence, distribution, movement and chemistry of groundwater in the sediments and rocks of the Earth's crust.	The term "hydrogeology" is not used in the regulations, and therefore does not need to be defined in the regulations.

<p><i>Steve Werner Draper Aden Associates</i></p>	<p>Expenses associated with ground water withdrawal permits requirements are a financial hardship for a number of municipalities and service authorities. Sources of funding assistance need to be developed or identified. Specific concerns expressed with the following:</p> <ul style="list-style-type: none"> • Raising pumps to the top of the aquifer • Constructing new wells to develop water from a single aquifer rather than continued use of a well that is screen across several aquifers. • Installing one or more observation wells and performing an aquifer test • Installing research wells in multiple aquifers where additional hydraulic information is needed for the Coastal Plain Model. 	<p>Through water supply planning, localities identify and consider all options to them concerning water supplies which include surface water and groundwater supplies. The agency must protect, manage and limit withdrawals of groundwater in order to protect the resource and current users of the resource. The requirements specified by the commenter have been put in place to protect and manage the resource and have been established for specific reasons:</p> <ul style="list-style-type: none"> • The requirement for pumps to be at the top of the aquifer is to prevent dewatering of the aquifer. • A well screened across multiple aquifers may allow for water to travel between multiple aquifers, thereby impacting the quality of the water in the aquifer. • Monitoring wells or aquifer tests are sometimes needed to verify the modeled impact the withdrawal has on the aquifer. This is needed to assess mitigation responsibility and to prevent dewatering of the aquifer. • Monitoring wells are sometimes required to verify the actual conditions of the aquifer and are installed when there is uncertainty concerning the aquifer's ability to sustain the requested withdrawal. The alternative would be for the permit for the withdrawal to be denied.
<p><i>Steve Werner Draper Aden Associates</i></p>	<p>Raising pumps and developing ground water from a single aquifer may require another well to be constructed in order to contain current system capacity.</p>	<p>The requirement for pumps to be at the top of the aquifer prevents dewatering of the aquifer and protects the resource. The current and proposed regulations require pumps to be at the top of the aquifer.</p>
<p><i>Steve Werner Draper Aden Associates</i></p>	<p>Compliance costs can range from \$100,000 to \$200,000 and few municipalities have these revenues. These costs place a hardship on smaller community and private water systems.</p>	<p>As greater stress is placed on the aquifer system, greater documentation is necessary to ensure that proposed withdrawals can be sustained over the long term and this causes increased costs to some applicants in some parts of the coastal plain. The agency does not request all applicants incur these costs.</p>
<p><i>Steve Werner Draper Aden Associates</i></p>	<p>The permit process needs to be faster. Suggests there may be ways to improve the process by having a technical committee provide additional information or assistance with data input into the coastal plain model to expedite the modeling phase. A guidance document with checklist could be developed as well as a training workshop for the regulated</p>	<p>The agency has discussed with the RAP potential ways to streamline and improve the permit process and has revised the regulations to clarify requirements. The agency is aware that outreach and education will need to be conducted in the expanded Eastern Virginia Groundwater Management Area. This will be conducted in conjunction with these regulations becoming finalized.</p>

	community.	
<i>Steve Werner Draper Aden Associates</i>	Recommends DEQ develop an educational program to educate the public about ground water conditions and why proper management of this resource is important.	The agency is aware that outreach and education will need to be conducted in the expanded Eastern Virginia Groundwater Management Area. This will be conducted in conjunction with changes to these regulations becoming finalized.
<i>Beate Wright, Chair VA AWWA</i>	Recommended Mr. Ron Harris to serve on RAP to represent Va. Section of the American Water Works Association.	Mr. Harris was considered for membership on the RAP and appointed to the RAP by the agency director
<i>Mike Lang Assistant Director of Public Utilities</i>	Provide an "Applicant Liaison" or similar role to be a liaison between the applicant and the regulatory agency.	The proposed regulations now address pre-application meetings, the goal of which is to discuss the permit application requirements and other technical issues with the applicant concerning the proposed withdrawal prior to the applicant submitting an application. This meeting would include a representative from VDH if applicable to ensure that the applicant understands the regulatory requirements of the different agencies.
<i>Mike Lang Assistant Director of Public Utilities</i>	Institute a per gallon application fee surcharge on applicants and use the funds to pay the costs of agency associated with handling the oversight and maintenance of well nests that provides data on the impact of all withdrawals. This would encourage applicants to minimize the amount of the withdrawal requested and would also more closely relate the permit application fee to the amount of effort required by DEQ to issue a permit.	Fees for permit applications have been established by Statute based on the type of withdrawal. The agency is unable to implement the fee schedule suggested due to statutory limitations. State statute would need to be revised by the General Assembly to implement the fee structure suggested.
<i>Mike Lang Assistant Director of Public Utilities</i>	Provide standard pre-approved "per unit" withdrawal amounts for residential uses to equitably share water quality withdrawals across the social strata and establish per square foot rate" for various commercial users, with justification required for uses or amounts that fall outside of the specified categories.	The agency discussed including a default residential connection value for residential use in the regulations with the RAP and a decision was made to include a default gallon per day value in guidance instead of the regulations. This was due partially to potential variability between occupancy numbers per residential connection that may be experienced in rural vs. urban areas.
<i>Mike Lang Assistant Director of Public Utilities</i>	Further emphasize and incentivize the need for alternative water supplies. Mandate usage of water reuse and storm water capture for irrigation and industry whenever possible.	The regulations now include a section that specifically addresses the evaluation of alternative water supplies. This would include an evaluation of practicable water reuse opportunities.
<i>Mike Lang Assistant Director of Public Utilities</i>	Allow third party modeling. Due to the length of time it takes to perform modeling, DEQ should institute an approval or licensing process for	Third party modeling is currently allowed, however the cost of this modeling, if the applicant chooses to conduct it, is to be paid for by the applicant. The agency has recently

	third party modelers, share latest model data with them, and review modeling results prior to permit issuance.	started utilizing contractors to assist with conducting modeling to reduce the length of time required to process permits.
<i>Mike Lang Assistant Director of Public Utilities</i>	Reconciling the new hydrogeologic framework with current requirements to place all pumps above the aquifer top, which would combine the Upper, Middle and Lower Potomac Aquifers into a single unit, has many impacts on the water system including less available drawdown, and a lower pumping rate, redesign and replacement of well pumps, and upgrade of storage facilities. These changes will also increase the water holding time, which results in degradation of the disinfectant which requires more line flushing, which causes potable water to be wasted.	The agency is currently evaluating the differences between the VCP and RASA models. One difference between these models is the way the models evaluate the Potomac aquifer. The proposed regulations do not specify which model will be used to evaluate withdrawals. Any changes to which model will be used to evaluate withdrawals will be communicated to the regulated community. The proposed regulations also continue to specify that pumps must be placed at the top off the aquifer. The agency must consider the impact to the resource caused from the placement of pumps below the top of the aquifer and the risk of dewatering the aquifer.
<i>Addison Nottingham Eastern Shore Soil and Water Conservation District</i>	Suggested member of the Virginia Potato and Vegetable Grower's Association be appointed to the advisory panel	Mr. Lynn Gayle was appointed to the RAP by the agency director to represent the Virginia Potato and Vegetable Grower's Association.
<i>Brooks Smith on Behalf of Virginia Manufacturers Association (VMA) Hunton and Williams</i>	<ul style="list-style-type: none"> Requested Sheryl Raulston, International Paper be appointed to advisory panel. Asked DEQ to hold advisory committee meetings in locations east of Richmond. Requested to be copied on correspondence with advisory committee. 	<ul style="list-style-type: none"> Ms. Raulston was considered for membership on the RAP and appointed to the RAP by the agency director. Three of the RAP meetings were held at locations east of Richmond. Mr. Smith was added to the interested parties list for the groundwater withdrawal regulations.
<i>Lynton Land</i>	States that the 80% drawdown criterion should not be changed since it is accepted science.	The agency discussed with the RAP revising the 80% drawdown criteria and the regulations are being modified to be consistent with current agency guidance. The proposed regulations now remove the requirement for the evaluation to be considered at a point halfway between the proposed withdrawal site and the predicted one foot drawdown criteria.
<i>Lynton Land</i>	Believes that limiting ground water withdrawal permits for agricultural irrigation to withdrawals from the water table aquifer is unrealistic since water from the principal artesian aquifer cannot be used for large scale irrigation of cash crops because of its high salt content and	The regulations are not being modified to limit withdrawals for agricultural irrigation to the water table aquifer.

	alkaline nature	
<i>Lynton Land</i>	Believes that withdrawals from the artesian aquifer should be limited to essential, not just beneficial uses- residential use must take priority over all other uses.	The regulations do not distinguish between withdrawals from the confined or unconfined aquifers. The regulations continue to establish that human consumption is the highest priority for groundwater use. These regulations only address wells that withdraw greater than 300,000 gallons of groundwater per month, which excludes single family residence wells from these regulations.
<i>Lynton Land</i>	Encourages the eventual development of a regional management system that includes Maryland. Expanding the Eastern Virginia Coastal Plain is a step in the right direction.	The agency continues to dialogue with Maryland concerning groundwater withdrawals that impact aquifers beneath both states and agrees that expansion of the Eastern Virginia Groundwater Management Area is a step that needs to be taken to protect the resource.
<i>Lynton Land</i>	Supports mandating conservation measures to extend the life of the aquifer until alternative sources of water can be developed.	Water Conservation and Management Plans are required to be developed and implemented to limit the amount of groundwater that needs to be withdrawn.
<i>Lyn Neira Resident of Lancaster County</i>	Concerned with decline of ground water levels in aquifers and supports conservation of water	Due to declines in groundwater levels in aquifers, the agency is proposing to expand the Eastern Virginia Groundwater Management Area to include the entire coastal plain. This will allow the agency to better manage the groundwater resource and to require conservation of groundwater to occur.
<i>Lyn Neira Resident of Lancaster County</i>	Wants the state to retain control over regulation of groundwater, not the federal government.	The management of groundwater is a state function and there are no federal requirements for states to manage their groundwater resources.
<i>Gayl Fowler- SAIF Water Wells, Inc.</i>	Efforts to streamline application and recordkeeping processes are important to allow the general public and small businesses to function.	The proposed regulations contain a provision for the agency to allow applicants that are reapplying for a current permitted withdrawal to reference information submitted in previous permit applications that remains current and accurate in lieu of resubmitting information to the agency. The agency has also added a preapplication meeting section to the regulations that will occur to establish a dialogue between the agency and permittee concerning information that needs to be submitted.
<i>Gayl Fowler- SAIF Water Wells, Inc.</i>	Restrictions that move to dependence on the water table aquifer need careful consideration of their potential impact on various parts of the state.	The proposed regulations apply the same standards to withdrawals occurring from the water table aquifer and confined aquifers and do not establish a preferred aquifer for groundwater withdrawals to occur from.
<i>Gayl Fowler- SAIF Water Wells, Inc.</i>	Volunteered to serve on the advisory committee.	Rev. Fowler was considered for membership on the RAP and appointed to the RAP by the agency director.
<i>Frank Fletcher</i>	Concerned with accelerated rate of ground water withdrawal and the future increased needs of ground water. Water supply planning	The proposed regulations contain a detailed section that identifies information to be submitted to demonstrate that the groundwater withdrawal is needed and that alternate

	needs to address these issues.	sources of water are not available. Sources of water other than groundwater shall be considered for use before using groundwater.
<i>Anthony Creech Resource International</i>	Supports a scientific evaluation of the 80% drawdown criteria and revision of the criteria (increase or decrease)	The agency discussed with the RAP revising the 80% drawdown criteria and the regulations are being modified to be consistent with current agency guidance. The proposed regulations now remove the requirement for the evaluation to be considered at a point halfway between the proposed withdrawal site and the predicted one foot drawdown criteria.
<i>Anthony Creech Resource International</i>	Supports use of reclaimed water for non-potable uses but cautions that there is a vast difference in the available infrastructure within the coastal plain, and that it may be difficult to find a fair mechanism for requiring permit holders to use reclaimed water for non-agricultural irrigation.	The agency strongly supports the use of reclaimed water where practicable and has incorporated this evaluation into the regulations as part of the project need and alternatives section. Additionally, the regulations now also contain a definition of practicable which means available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes.
<i>Anthony Creech Resource International</i>	Urges caution regarding efforts to distinguish between “essential” and “beneficial” uses of water	The proposed regulations do not define essential use and retain the current definition of beneficial use that is contained in state statute.
<i>Anthony Creech Resource International</i>	Supports evaluating the classification of the water table aquifer as potentially exempt from the regulation since it has the least resource value as a potable water source	The agency discussed with the RAP the potential of not regulating the water table aquifer and some RAP members expressed concern with the impacts that may result from over pumping of the resource. The agency will continue to regulate withdrawals from the water table aquifer.
<i>Anthony Creech Resource International</i>	The costs of observation well nests should be more equitably distributed since the information obtained benefits all permit holders. Urges efforts to be made to recommend changes to the Virginia legislature and Governor to revise the permit fee structure or other similar mechanism.	The agency has provided information to the Water Commission concerning permit fee structures, which included fees based on withdrawal amounts. The fees associated with groundwater withdrawal permits are established in state statute and the agency is not able to revise the fee structure unless state statute is amended.
<i>Anthony Creech Resource International</i>	Suggests changing the terminology of “ground water” to “groundwater” to be consistent with common usage.	This change has been made in the proposed regulation.
<i>Anthony Creech Resource International</i>	Volunteered to serve on the advisory committee.	Mr. Creech was considered for membership on the RAP.
<i>Andrea Wortzel Coordinator, Mission H₂O</i>	Proposed changes to the regulations should be based on current, accurate data and information.	The RAP was provided with educational presentations concerning the conditions of Virginia’s groundwater at the beginning of the process to assist them with discussing various groundwater issues.
<i>Andrea Wortzel Coordinator,</i>	Technical capability must be available to ensure that changes	The changes proposed are necessary to update the regulations to be consistent with

<i>Mission H₂O</i>	made are necessary and will result in the improved management of groundwater within management areas.	current technical information and to improve the management of groundwater.
<i>Andrea Wortzel Coordinator, Mission H₂O</i>	Requested representation on RAP for <i>Mission H₂O</i> .	A representative of <i>Mission H₂O</i> was considered for membership on the RAP and appointed to the RAP by the agency director.
<i>Christopher F. Thomas, P.E. King George County Service Authority</i>	Clarification regarding existing wells and placement of the existing pumps is needed. Questions whether DEQ intends to have all existing pumps removed and replaced according to this section (9VAC 25-610-140, item 5.) This would have a significant economic impact on smaller utilities and could change the operational characteristics of the pump. Suggests that a provision could be provided that any new or replacement pumps will be set at the regulated levels.	The agency is not proposing to change the requirement for pump placement in these regulations. All pumps should be located at the top of the aquifer from which they withdraw groundwater from to prevent dewatering of the aquifer. Retrofitting of existing noncomplying pumps is needed to prevent dewatering from occurring.
<i>Christopher F. Thomas, P.E. King George County Service Authority</i>	The cost of application and compliance could severely impact smaller utilities. Aquifer modeling, well construction, metering and monitoring costs could significantly impact annual budgets and rates of service. Questions whether DEQ will propose any grants or other funding assistance.	DEQ does not currently have any grants available to provide to localities for groundwater withdrawal permits. Permit fees (established in a different regulation) are reduced for historical withdrawers applying for their first permit. Well construction costs and monitoring costs would be associated with installation and maintenance of any well within the state, not only those in the groundwater management area.
<i>Sarah Kadec James City County Citizens' Coalition (J4C)</i>	Supports the evaluation of the 80% drawdown criterion	The agency discussed with the RAP revising the 80% drawdown criteria and the regulations are being modified to be consistent with current agency guidance. The proposed regulations now remove the requirement for the evaluation to be considered at a point halfway between the proposed withdrawal site and the predicted one foot drawdown criteria.
<i>Sarah Kadec James City County Citizens' Coalition (J4C)</i>	Supports evaluating the appropriateness of prohibiting use of ground water for nonagricultural irrigation, including whether the use of reclaimed water should be required for any nonagricultural irrigation associated with a facility that has a ground water withdrawal permit.	The proposed regulations now include a project need and alternatives section which includes a requirement for the practicability of water reuse to be evaluated. The applicant must also demonstrate that the lowest quality water available to meet the needs of the project is being utilized, which is intended to preserve the highest quality groundwater for human consumption.
<i>Sarah Kadec James City County Citizens' Coalition (J4C)</i>	Supports evaluating the appropriateness of limiting ground water withdrawal permits to essential (as compared to beneficial) uses, including whether to define essential use.	The proposed regulations do not define essential use and retain the current definition of beneficial use that is contained in state statute.

<p><i>Sarah Kadec James City County Citizens' Coalition (J4C)</i></p>	<p>Supports evaluating the appropriateness of limiting ground water withdrawal permits for agricultural irrigation to withdrawals from the water table aquifer, including whether agricultural water table withdrawals should be exempt from permit requirements.</p>	<p>The regulations are not being modified to limit withdrawals for agricultural irrigation to the water table aquifer. Concerns were expressed concerning the water quantity and quality that could be withdrawn, as well as the impact this requirement would have on residential wells relying on the water table aquifer for drinking water.</p>
<p><i>Sarah Kadec James City County Citizens' Coalition (J4C)</i></p>	<p>Supports reconciling the new hydrogeologic framework of the Virginias Coastal Plain with current requirements to place all pumps above the aquifer tops.</p>	<p>The current regulations require pumps to be placed at the top of aquifers to prevent dewatering of aquifers and the proposed regulation does not change this requirement.</p>
<p><i>Hampton Roads Planning District Commission Directors of Utilities Committee</i></p>	<p>The regulations should state that human consumption is the highest priority water use</p>	<p>The current and proposed regulations do state that human consumption is the highest priority for groundwater use.</p>
<p><i>Hampton Roads Planning District Commission Directors of Utilities Committee</i></p>	<p>The Virginia Coastal Plain (VCP) groundwater model should be used to manage the Coastal Plain Aquifer System instead of the RASA model currently in use. VCP model should be adopted since it produces more accurate predictions of groundwater elevations.</p>	<p>The agency is currently evaluating the differences between the VCP and RASA model.</p>
<p><i>Hampton Roads Planning District Commission Directors of Utilities Committee</i></p>	<p>Suggests if DEQ has not completed a review of a withdrawal permit renewal within one year of the application submittal, then the renewal should be automatically renewed.</p>	<p>Applicants are required by statute to reapply for a permit. In the event a complete application for a renewal of an existing permitted withdrawal is received and unable to be acted on by the board, the permit shall not expire. The agency's review of a project is contingent upon receiving a complete application. The proposed changes do clarify the information that needs to be submitted in order to review and take action on a permit application.</p>
<p><i>Hampton Roads Planning District Commission Directors of Utilities Committee</i></p>	<p>Well withdrawal permits should be extended from a 10 year period to a 30 year period and withdrawal amounts should not be subject to reductions in that time period.</p>	<p>State statute limits permit terms to 10 years and the agency must adhere to state law. (62.1-266 C. of the Code of Virginia). The regulations continue to contain a provision to reopen a permit to revise the amount of groundwater approved to be withdrawn if groundwater reporting indicates the permittee is using less than 60% of the permitted withdrawal amount for a five-year period. This allows the agency to reallocate the water to other users when a projected need has not materialized.</p>
<p><i>Hampton Roads Planning District Commission Directors of Utilities Committee</i></p>	<p>The Virginia Department of Health (VDH) should manage the ground water withdrawal program since operating permits for water supply providers are issued by VDH. This consolidation would reduce the burden on the regulated community</p>	<p>The Department of Environmental Quality is the agency authorized by state statute to manage groundwater withdrawals within Virginia. The General Assembly would need to amend state statute to allow for another agency to manage groundwater resources.</p>

	and eliminate the need for coordination between DEQ and VDH.	
<i>Hampton Roads Planning District Commission Directors of Utilities Committee</i>	The permit program should offer conjunctive use permits as a new permit category to support ground water withdrawals that support surface water systems. The permits would give water providers the flexibility to maximize the available water resources with fewer restrictions than drought permits.	The regulations include a new section to address conjunctive use systems. A supplemental drought relief permit section has also been added and conjunctive use and supplemental drought relief permits have different requirements and restrictions.
<i>Martha Sydnor</i>	Supports measures to plan so that water is not wasted and is available for use by people.	The agency appreciates the concerns of the citizen and agrees that the regulations need to ensure that groundwater is being used efficiently and not being wasted.
<i>Jeffrey Walker, Chairman Eastern Shore of Virginia Groundwater Committee</i>	Requested Britt McMillan to be appointed to the RAP.	Mr. McMillan was considered for membership on the RAP and appointed to the RAP by the agency director.

Family impact

Please assess the impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

This regulation will have no affect on the institution of the family and family stability.

Detail of changes

Please detail all changes that are being proposed and the consequences of the proposed changes. If the proposed regulation is a new chapter, describe the intent of the language and the expected impact if implemented in each section. Please detail the difference between the requirements of the new provisions and the current practice or if applicable, the requirements of other existing regulations in place.

If the proposed regulation is intended to replace an emergency regulation, please list separately (1) all provisions of the new regulation or changes to existing regulations between the pre-emergency regulation and the proposed regulation, and (2) only changes made since the publication of the emergency regulation.

For changes to existing regulations, use this chart:

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change, rationale, and consequences
Throughout regulations			The term "ground water" is being changed to the term "groundwater" to be consistent with terminology established by USGS.
10		Definitions	Additional definitions were added to the regulations, including definitions of "agricultural use", "human consumption", "practicable", and "supplemental drought relief well". These additional definitions were added for clarity. Definitions being added are based on either federal definitions, definitions contained in other DEQ regulations, or state statute.
80		Declaration of groundwater management area	Citations included in this section are being revised to current references to state statute.
	85	Preapplication meeting	This section establishes a requirement for a preapplication meeting to occur prior to an application being submitted for a groundwater withdrawal. It also outlines the purpose of the meeting and issues to be discussed.
90		Application for a permit	This section has been amended to exclusively address historical withdrawals in a groundwater management area withdrawing prior to July 1, 1992. Previously multiple types of permits were described in this section. Each type of permit now has its own section of the regulation where application requirements are discussed. A detailed list of items needed for an application to be complete is identified in the section. The board also has the ability to not require submission of information if it has access to substantially identical information that remains accurate and relevant to the permit application.
	92	Application for a permit by existing users when a groundwater management area is declared or expanded on or after July 1, 1992.	This section has been added to address existing users when a groundwater management area is declared or expanded on or after July 1, 1992. A detailed list of items needed for an application to be complete is identified in the section. The board also has the ability to not require submission of information if it has access to substantially identical information that remains accurate and relevant to the permit application.

	94	Application for a new permit, expansion of an existing withdrawal or reapplication for a current permitted withdrawal.	This section has been added to address new permits, expansion of an existing withdrawal or reapplication for a current permitted withdrawal. A detailed list of items needed for an application to be complete is identified in the section. The board also has the ability to not require submission of information if it has access to substantially identical information that remains accurate and relevant to the permit application.
	96	Duty to reapply for a permit	These requirements were previously found in Section 90, however with the reorganization of the regulations, the duty to reapply requirements were moved to a stand alone section. Additionally a requirement has been added to allow for information submitted as part of a previous application that continues to be accurate to be referenced as part of the permit application. Language has also been added to allow for permits to be administratively continued if a complete application is filed in a timely manner.
	98	Incomplete or inaccurate applications	This section allows the board to return an incomplete application to an applicant and suspend processing of the application 180 days after an applicant is notified of a deficiency and fails to correct the deficiency.
100		Water conservation and management plans	The regulations now specify requirements for water conservation and management plans depending on the water use. This section provides more details to applicants concerning the specific items to be addressed in water conservation and management plans. Water Conservation and Management plans are an enforceable part of the permit.
	102	Evaluation of need for withdrawal and alternatives.	The regulations now identify specific information to be provided with the application to demonstrate the need for the groundwater requested and also requires alternative water supplies to be discussed.
	104	Surface water and groundwater conjunctive use systems	This section addresses the use of groundwater to supplement surface water supplies. It includes specific requirements for public water supplies and non-public water supplies to assist with demonstrating the amount of groundwater needed to supplement surface water sources during seasonal variations and demand changes.
	106	Supplemental drought relief	Applicants requiring groundwater during

		wells	periods of drought may request a permit to withdraw groundwater to meet human consumption needs. This section details all of the information needed as part of a complete application and the permit requirements that the withdrawal will be subject to, as well as the evaluation that will be conducted in conjunction with evaluating the requested withdrawal.
	108	Estimating area of impact for qualifying groundwater withdrawals	This section streamlines the permit process for smaller withdrawals in cases where the agency estimates the area of impact to be less than 12 square miles. The applicant may accept the estimated area of impact or may choose to conduct a geophysical evaluation to determine the area of impact. The area of impact is used to determine the area in which the applicant is responsible for mitigating impacts to other users.
110		Evaluation criteria for permit applications	Citations have been updated in this section. The section now clarifies the reason pumps are required to be placed no lower than the top of the uppermost confined aquifer that a well utilizes as a groundwater source or lower than the bottom of an unconfined aquifer that a well utilizes as a groundwater source. The 80% drawdown criteria has been modified to be consistent with current agency guidance which removes the evaluation occurring at the point that is halfway between the proposed withdrawal site and the predicted one foot drawdown contour. Human consumption is also specified as the highest priority use for groundwater withdrawals.
120		Public water supplies	Citations have been updated in this section
130		Conditions applicable to all groundwater permits	This section has been updated to be consistent with the requirements placed on other types of water permits. These conditions are now consistent with other water regulations.
140		Establishing applicable standards, limitations or other permit conditions	The permit conditions have been updated to clarify the requirements of the permit. Screened intervals of the wells authorized for use by the permit are to be specified and the permit shall prohibit withdrawals from wells not authorized in the permit. The section also reiterates as a permit condition that pumps are required to be placed no lower than the top of the uppermost confined aquifer that a well utilizes as a groundwater source or lower than the bottom of an

			unconfined aquifer that a well utilizes as a groundwater source. Permits may require implementation of water conservation and management plans.
150		Signatory requirements	This section has been updated to be consistent with the requirements placed on other types of water permits.
160		Draft permit	This section has been updated to clarify that a decision is made to deny a permit, not an application.
170		Application for a special exception.	The section is being modified to allow the board to return an incomplete application for a special exception to the applicant. This same ability is provided to the board for applications for a withdrawal in a previous section.
220		Establishing applicable standards, limitations or other special exception conditions	Citations have been updated in this section
240		Draft special exception	This section has been updated to clarify that a decision is made to deny a special exception, not an application.
250		Public notice of permit or special exception action and public comment period	The section has been updated to be consistent with the requirements placed on other types of water permits.
260		Public access to information	This section has been updated to be consistent with the requirements placed on other types of water permits.
270		Public comments and public hearing	This section has been updated to be consistent with the requirements placed on other types of water permits and public notice requirements.
280		Public notice of hearing	This section has been updated to be consistent with the requirements placed on other types of water permits and public notice requirements. The costs of public notice of the hearing shall be paid by the applicant.
Part IV		Permit and Special Exception Modification, Revocation and Denial	Throughout this part the terms "amend," "amended" and "amendment" have been replaced with the terms "modify", "modified" and "modification" which are terms commonly utilized in other water permit regulations.
300		Causes for revocation	The section has been modified to remove the requirement for a holder of a permit or special exception to agree to or request the revocation. The board has the authority to revoke a permit or special exception after public notice occurs.
330		Minor modification	A requirement for the agreement between the current and future permit holder to be notarized has been added. This provides certainty that both parties

			are aware of the pending transfer of the permit. The section also clarifies that the transfer notice must specify which party will be liable for compliance with the permit. The actual transfer date must be provided to the agency after the transfer occurs.
340		Denial of a permit or special exception	Specific reasons for denying a permit or special exception have been added to the regulations. This provides the applicant more certainty concerning reasons why the application may be denied. More details concerning the legal rights of the applicant are provided in this section.
400		Evaluation of regulation	This section is being repealed since it is no longer applicable. Evaluations of regulations are conducted as specified by governor's executive orders.

Acronyms and Definitions

Please define all acronyms used in the Agency Background Document. Also, please define any technical terms that are used in the document that are not also defined in the "Definition" section of the regulations.

- RAP- Regulatory Advisory Panel
- RASA- Regional Aquifer System Analysis
- USGS- Unites States Geological Survey
- VCP Virginia Coastal Plain
- VDH- Virginia Department of Health