

**Virginia Department of Health (VDH)  
Sewage Handling and Disposal Advisory Committee (SHADAC)  
March 20, 2014 – Meeting Summary**

**List of attendees at central location:**

Advisory Committee Members

Jeff Walker	Mike Lynn	Robert Lee
James Hall	Dr. James Pyne	David Fridley
Curtis Moore	Dwayne Roadcap	Valerie Rourke
Ray Freeland		

VDH Staff and Guest

Lance Gregory	Rob Charnley	Jim Slusser
Bob Marshall	Cody Vigil	Mike Burch
Scott Currie	John Ewing	Jim Bowles
Erik Johnston	Eric Aschenbach	Dave Tiller
Todd Grubbs		

**List of attendees at remote location:**

Advisory Committee Members

Dr. John Galbraith

**Administrative**

1. Welcome.

Chairman Day was unable to attend. Mrs. Rourke volunteered to sit as acting chair. Mr. Walker sat in for Matt Tolley as the representative for the Virginia Association of Professional Soil Scientist (VAPSS).

2. Approve agenda.

There were no changes to the agenda.

3. Review and approve minutes from October 29, 2013 meetings.

Several comments were submitted on the draft summary. Mr. Gregory stated that he would make the necessary updates and submit the revised summary to SHADAC members for review.

**Old Business**

1. Update on the motion to create a policy regarding authority of local ordinances in light of Attorney General's opinion.

Mr. Roadcap commented on the agencies current policy and reiterated that VDH would not value judge local ordinances. If state rules are adhered, and local ordinance is not met, the procedure is to send a denial letter that asserts the state rules are met but not the local ordinance. The denial letter should provide the method to appeal the decision under local procedure. Ideally the denial would have a signature from a state employee and a county employee signature. However, this may not always be possible.

Mr. Pinnix commented that the intent of the SHADAC's request was not for VDH to value judge local ordinances, and that the SHADAC requested to outline the administrative process. Mr. Pinnix voiced concern that in some cases no appeal process is provided.

Mr. Walker stated that he felt the issue dealt with VDH employees enforcing local ordinances.

Mrs. Rourke suggested drafting a formal request and submitting it to the agency for a response, to possibly facilitate further investigation.

Mr. Lee stated he did not believe that to be the role of the SHADAC. The SHADAC has advised the agency of the problem, and it's up to the agency how they respond to that issue.

Mrs. Rourke agreed with Mr. Lee's comment and noted that the agency and the SHADAC may not always agree on what is the appropriate action to take.

Mr. Walker commented that he believes it is possible for the committee to request an interpretation from the Office of the Attorney General (OAG).

Mr. Lee made a motion to advise VDH to draft written guidance regarding local ordinances and how they are handled in permitting by the agency.

Mr. Pinnix seconded the motion.

Mr. Moore commented that it seems the agency has a policy; the policy just needs to be put in writing.

Mr. Pinnix stated that he believes the process Mr. Roadcap described is reasonable, it just needs to be memorialized in writing.

All SHADAC members voted in favor of the motion.

2. SHIFT.

Mr. Roadcap informed the SHADAC that the final report for the Safety and Health in Facilitating a Transition (SHIFT) came out in January (the final report can be found at <http://www.vdh.virginia.gov/EnvironmentalHealth/Onsite/SHIFT/links.htm>). The final report has seven recommendations based on consensus of the SHIFT committee. During the SHIFT process, the agency announced it was going to move forward with standardizing work product expectations to the greatest extent possible, and that VDH would also try to develop a disclosures document. VDH has drafted print forms in the VENIS database system that mirror private sector forms, and VDH is currently working on the disclosures document. Danna Revis, Training Coordinator for the Office of Environmental Health Services (OEHS), is nearing completion of a training program for creating to-scale drawings. Hopefully, the training would be ready soon, and Ms. Revis might make it available to the private sector.

Mr. Roadcap also commented on House Bill 409, which was a request for the agency to reinstate some of the work that was done during the SHIFT. House Bill 409 was tabled, but VDH expects to receive a letter from the committee chairman to move forward on the recommendations from the SHIFT.

Mr. Pinnix asked Mr. Roadcap to elaborate on the agencies plans for standardization of work product.

Mr. Roadcap stated that the agency is working on standardizing forms, scale drawing, system/pump curves, and revisions to GMP 126.B.

Mr. Walker commented that onsite soil evaluators (OSE) complete designs under an exemption to engineering, and contractors should not modify specified products in those designs. He stated that the Health, Welfare and Institutions (HWI) committee discussed areas in which VDH is competing with the private sector, and his expectation is that VDH would report to HWI on those areas.

Mr. Roadcap commented that VDH is duty bound to enforce the minimum standards of the regulations.

Mr. Walker stated that the Attorney General needs to look at where VDHs ministerial duty ends and the licensure requirements of VDH staff begin.

Mr. Lynn made a motion to move to the next agenda item.

Mr. Pinnix objected, stating there is a distinction between doing a ministerial duty as a VDH employee and completing a design under a DPOR license.

Mr. Moore voiced concern that contractors do not have design authority. If a contractor selects a pump for a VDH design, the contractor may select the pump based on economic circumstances. Mr. Moore added that VDH may not want to allow contractors to make that decision.

Mr. Roadcap stated that one of his goals is to bring any proposed changes forward to the SHADAC for comment before it goes into place.

### 3. Evaluation and design of private wells; request for industry improvements.

During the previous SHADAC meeting Larry Hall, a well driller in Virginia, brought forward concerns regarding the private well program. Mr. Gregory asked the SHADAC for assistance in addressing those concerns. Several SHADAC members agreed to participate in a small workgroup. Several meetings were held to discuss solutions to the following issues: standards for locating private wells, procedures for shifting well locations, the accuracy and precision of design drawings, and creation of a specific private well construction page that could be included in design packages.

Mr. Gregory stated that final recommendations of the workgroup are under review. He added that much of the discussion dealt with training needs and that workgroup members may provide joint training based on the final recommendations. Training could focus on the use of well areas versus well points, and the need for well drillers to obtain the entire permit package, among other topics.

Mrs. Rourke asked whether the workgroup's focus was on private or public wells.

Mr. Gregory stated the group only discussed private wells. Public wells are regulated by the Office of Drinking Water.

Mr. Walker asked for copies of the example drawings provided by Larry Hall at the previous SHADAC meeting. He also commented that Appendix L of the regulations includes recommendations for contour intervals and scale for drawings.

Mr. Pinnix asked for an explanation of the well permitting process and the obligations of the owner, well driller, and the designer during that process.

Mr. Gregory stated that for private sector designs with combined applications, the permit letter applies to both the onsite sewage system and the well. He added that the workgroup did discuss the need to clarify roles and expectations through the well permitting process.

Mr. Walker commented that the complete package must be given to well driller, and that the designer must work with the drillers to find a site that is water producing for the client to be satisfied.

Mr. Gregory commented that the Virginia Environmental Health Association, the Virginia Water Well Association, Home Builder Association of Virginia, and the Virginia Onsite Wastewater

Recycling Association were represented on the workgroup. The workgroup will bring final recommendations forward to the SHADAC before moving forward.

Mr. Walker commented that the Virginia Association of Professional Soil Scientist is willing to participate in similar workgroups in the future.

#### 4. Nitrogen BMP policy.

Mr. Gregory stated Guidance, Memorandum and Policy (GMP) 156 was issued on December 12, 2013. GMP 156 includes discussion regarding the use of nitrogen reduction Best Management Practices (BMPs) for small alternative onsite sewage systems (AOSS) and identifies multiple BMPs. Some modifications to the BMPs are pending; reduction in mound height, cover over shallow systems, and soil criteria. A testing protocol is being developed for treatment units based on the EPA BMP document and recommendations from a stakeholder group.

Mr. Pinnix commented that VDH is enforcing the nitrogen BMP policy as regulations. He voiced concern of a potential regulatory problem. Mr. Pinnix stated that authority to design onsite sewage systems comes from several different areas under the Code of Virginia, including the exemption to the practice of engineering. He stated he believes that nowhere in the Regulations for Alternative Onsite Sewage Systems (12VAC5-613, the AOSS Regulations) does it discuss designs under Va. Code Section 32.1-163.5; it only discusses designs under Va. Code Section 32.1-163.6. His understanding is that the nitrogen BMP policy discusses performance requirements, and that only a professional engineer (PE) can design under performance requirements contained in the AOSS Regulations.

#### 5. Emergency Regulations for Gravelless Material and Drip Dispersal.

Mr. Gregory provided an update on the emergency regulations for gravelless material and drip dispersal, and the process moving forward with final regulations. He stated that VDH must produce proposed regulations within 180 days following the end of the public comment period, which ended on February 26, 2014. Given the time needed for internal review and processing, OEHS would need to produce a draft proposal by early April. Mr. Gregory stated that he would like to have the SHADAC or the technical advisory committees (TACs) reconvene on April 3, 2014, to discuss the public comments and any possible revisions to the emergency regulations.

Mr. Walker recommended that TACs be reconvened.

Mrs. Rourke agreed that it would be best to use the TACs.

VDH agreed to reconvene the TACs.

Mr. Walker asked for further explanation regarding the expiration of permits issued under the rescinded GMPs.

Mr. Gregory commented that designs under GMPs 127 and 135 are still valid as they comply with the emergency regulations. Substitutions in accordance with rescinded GMP 116 do not comply with the emergency regulations.

Mr. Walker voiced concern that GMP 135.A allows VDH staff to layout systems for certification letters that they could not design for a permit.

#### 6. Peat disposal policy.

Mr. Gregory commented that an update to the peat disposal policy was sent to DEQ for concurrence. Once that occurs, the policy will be sent to VDH upper management for review. The draft policy reverses an earlier decision and identifies peat replacement as maintenance. The draft policy also requires that the activities associated with peat replacement be reported through the operation and maintenance website. The draft policy allows onsite disposal of spent peat under certain conditions, with a permit.

Mr. Walker asked when the policy would be finalized.

Mr. Roadcap stated that VDH is awaiting comments from DEQ before moving the policy forward through management review.

Mrs. Rourke commented that she would make sure DEQ is aware of the review request.

Mr. Moore asked whether there was a decision on the ability of VDH employees to perform site evaluation for onsite disposal.

Mr. Roadcap recommended that Mr. Moore contact Dr. Marcia Degen.

Mr. Walker asked whether onsite disposal would require a new application.

Mr. Moore stated that he believes the policy considers the application a repair.

Mr. Fridley asked whether the policy requires an inspection following the disposal activity.

Mr. Walker asked whether onsite disposal could be conducted within an onsite sewage system easement.

Mr. Moore commented that he believes the workgroup separated the removal and disposal of the peat. Removal was considered maintenance, but disposal was considered as a permitted activity. Additionally he believes the workgroup decided that the peat had to be disposed of on the property from which it was generated.

#### 7. Direct dispersal policy and 12VAC5-613-90.D.1.b and 90.D.4.

Mr. Gregory provided the SHADAC a draft direct dispersal policy. He commented that the draft policy was sent to DEQ for comment, and has not gone through management review. VDH has received several variance requests regarding direct dispersal of effluent to groundwater for

repairs and voluntary upgrades where the existing system results in direct dispersal of septic tank effluent. Designers and operators have commented that the requirements of 12VAC5-613-90.C are too costly, resulting in the variance request.

Mr. Walker asked if these request typically came from Eastern Virginia.

Mr. Roadcap confirmed that the requests were coming from Eastern Virginia where there are tens of thousand of properties that would fall within the policy. The initial thought was that designers could build out of direct dispersal. However, VDH has found that is not always the case. Additionally, some owners choose to take a waiver, but that waiver does not apply to operational requirements. The policy is based on the Commissioners response to previous variance request.

Mr. Walker asked if the draft policy included any economic means test.

Mr. Roadcap stated that this is not the case.

Mr. Walker asked whether there is any data on impacts to private wells when waivers are requested to allow septic tank effluent to be installed with direct dispersal.

Mr. Rourke commented that the Department of Environmental Quality (DEQ) is doing more to evaluate the state's groundwater character and quality, but she does not believe they have concentrated much on the upper unconfined aquifers.

Mr. Walker commented that the policy makes since, and asked that VDH take into consideration that the designer is not allowed to pollute groundwater. Mr. Walker voiced concerned regarding possible environmental contamination.

Mrs. Rourke commented that she believes the draft policy should be modified to show that the policy is primarily applicable to the eastern part of the state where a direct discharge system is not available.

Mr. Fridley commented that the Code of Virginia allows owners to request a waiver from all treatment. He asked whether Mr. Walker is concerned that systems installed under such waivers may be putting the designer at risk.

Mr. Walker asked how the waiver process affects the general public even though the Code allows it.

Dr. Pyne voiced concern that the draft policy could create a number of potential conflicts.

## **New Business**

1. Proposal to rescind GMP 122.

Mr. Grubbs commented that the policy is no longer necessary.

There were no comments from the SHADAC on rescinding GMP 122.

2. Revisions to GMP 155 – voluntary upgrades.

Mr. Tiller stated that VDH is proposing a revision to GMP 155 that would add a requirement for a site visit by a VDH employee. He asked the SHADAC for their thoughts on the proposal.

Mr. Lynn commented his understanding is that the private sector has to be involved in issuing a voluntary upgrade. He asked whether VDH ever gets involved.

Mr. Fridley commented that VDH is frequently involved where the systems is moving water slowly, and the owner asked VDH to make improvements such as adding new trenches.

Mr. Pinnix asked what happens if the existing system results in direct dispersal of septic tank effluent (STE). He stated that he believes direct dispersal of STE is a failure and requires a repair application. Additionally, if there is effluent above the normal level in the distribution box, it should be a repair.

Mr. Lynn asked what is the difference between a modification permit, where the owner is increasing the capacity of the system, and a voluntary upgrade.

Mr. Pinnix asked what are the benefits provided by a voluntary upgrade. He added that VDH has a lot of latitude when issuing repair permits.

Mr. Tiller commented that the policy came about to resolve issues where a system is not backing up in the plumbing or on the ground surface, the owner wants to sell the home, but the inspector will not pass the system inspection. VDH could not invoke the repair clause if the system was not failing. Voluntary upgrades allow VDH to invoke the repair clause, and benefit the owner because the waiver is perpetual.

Mr. Pinnix commented his understanding is that statutory waivers are recorded with the land record, but a repair permit can be issued without the statutory waiver. He also voiced concern regarding the indemnity clauses in the voluntary upgrade release form, and recommend striking that language from the release.

Mr. Fridley reiterated Mr. Tiller's initial question; should VDH make a site visit? Mr. Fridley was in favor of the proposal.

Mr. Marshall commented on the need for accredited inspectors.

Mr. Moore commented that a voluntary upgrade cannot be used to increase the number of bedrooms. Additionally, someone has to make the determination that it reduces the threat to public health. Mr. Moore stated he believes it is the agencies responsibility to investigate the threat.

Mr. Lynn asked why an owner is required to hold VDH harmless just to do something that is in the regulations.

Mr. Walker voiced concern that some voluntary upgrades only involve adding an effluent filter.

Mr. Tiller commented that if VDH is going out on the site, the owner would describe the nature of the upgrade they are seeking.

Mr. Moore stated that VDH always has the ability to go out to the site, but to mandate that it is required may be unnecessary. He suggested asking the designer to specify why the owner is seeking the upgrade and swear on their license that it is not a repair.

Mr. Lee commented that there needs to be a distinction between adding a new component verses replacing an existing component.

Mr. Pinnix commented that his understanding is that the intent of voluntary upgrades is to allow improvements to existing systems that are not required.

Mr. Tiller reiterated his initial question: should VDH go out to the property? He stated the issue is the system may be failing, but the request is for a voluntary upgrade to receive a waiver that will transfer with the property.

Mr. Moore suggested that the applicant or designer state whether the system is failing.

Mr. Tiller stated that GMP 128 covers repair waivers while GMP 155 covers voluntary upgrade waivers. He noted that both waivers are covered in the same part of the code. He asked whether combining those policies (GMP 128 and GMP 155) would simplify the program.

Mr. Moore commented that having them in the same document might help to clarify the options.

Mr. Fridley commented that one waiver transfers with ownership of the system and the other does not. One waiver is for a failure, while the other is for voluntary upgrades. Other than those differences the waivers are the same.

Mr. Moore voiced concern that some people may misconstrue the policy.

Mr. Walker suggested limiting voluntary upgrades to improving the quality of effluent.

Mrs. Rourke commented users of VDH guidance documents tend to appreciate fewer guidance documents, and recommended combining the policies.

Dr. Pyne voiced concern over the total number of policies and the ability of the average person to understand the program.

Mr. Pinnix suggested writing the policy for the target audience to cut down on the length of policy documents.

### 3. GPS policy.

Mr. Aschenbach provided the SHADAC with a copy of the draft GPS policy. He stated that VDH has received a lot of request internally, and from other agencies, to collect data points for sewage systems and wells. This draft policy sets basic guidelines for what VDH would like to see when collecting this data. OEHS believes this data will be useful for planning purposes for VDH, as well as being beneficial for other departments and agencies.

Mr. Lee asked whether VDH is looking for the septic tank and drainfield.

Mrs. Rourke asked whether the policy is just for drinking water wells.

Mr. Bowles commented the policy is for private wells.

Mr. Walker asked how this data will be used.

Mr. Aschenbach stated that one use would be for providing data on the Chesapeake Bay Total Maximum Daily Load (TMDL).

Mr. Walker commented that he believes the data needs to be collected under the auspice of a surveyor, or include a disclosure document that the data was not collected surveyors.

Mr. Bowles and Mr. Aschenbach explained that OEHS wants to create the policy before districts purchased equipment.

Mr. Lynn asked whether the private sector is required to collect this data.

Mr. Bowles commented that one issue is that VDH can't control the level of accuracy provided by the private sector. While submission of that information is encouraged, VDH will need to do some form of verification of that data.

Mr. Marshall commented that VDH could get this data from the as-built drawings if contractors provide the appropriate data.

Mr. Lee commented that VDH or the private sector could collect necessary points using a cell phone. He added the data will be used for the Chesapeake Bay and other applications where the difference of several yards will not be significant.

Mrs. Rourke commented that VDH wouldn't need to question the quality of the information from the private sector if a specific standard is established.

Mr. Bowles stated that the policy will be sent out for comment, but OEHS needs comments back quickly.

4. Regulations Development and Next Steps

a. AOSE Regulations – 12VAC5-615

Mr. Roadcap commented that VDH received a number of comments on the proposal to rescind the AOSE Regulations. The agency does not have authority to administer these regulations, and will moving forward with the process.

b. Discharge System Regulations – 12VAC5-640

Mr. Roadcap stated that OEHS is trying to get on the Board of Health's June meeting schedule to discuss final adoption of the amend regulations.

c. Fee Regulations – 12VAC5-620

Mr. Bowles stated that VDH received several comments during the latest public comment period. OEHS is working on addressing those comments as part of the final adoption process.

d. Emergency Regulations for Gravelless Material and Drip Dispersal – 12VAC5-610

Covered under previous discussion.

e. Civil Penalty Regulations – 12VAC5-650

Mr. Roadcap commented that the agency is in the process of determining how to implement the Civil Penalty Regulations.

Mr. Walker commented that the AOSE Regulations should be carried over to policy or other regulations.

Mr. Pinnix moved to adjourn.

Mrs. Rourke seconded the motion.

**Adjourn**

**Appendix A**  
**Virginia Department of Health**  
**Sewage Handling and Disposal Advisory Committee Meeting**  
**Agenda**

Date: March 20, 2014

Time: 10 am to 2 pm

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

**Administrative (20 minutes)**

1. Welcome. (5 minutes)
2. Approve agenda. (5 minutes)
3. Review and approve minutes from October 29, 2013 meetings. (10 minutes)

**Old Business (30 minutes)**

1. Update on the motion to create a policy regarding authority of local ordinances in light of Attorney General's opinion. (5 minutes / Roadcap)
2. SHIFT. (15 minutes / Roadcap and Gregory)
  - a. Final report recommendations.
  - b. VDH process to implement consensus recommendation.
3. Evaluation and design of private wells; request for industry improvements. (10 minutes / Gregory)
4. Nitrogen BMP policy (10 minutes / Roadcap)

**Break (10 minutes)**

**Resume Old Business (30 minutes)**

5. Gravelless material policy. (10 minutes / Gregory)
6. Peat disposal policy. (10 minutes / Gregory)
7. Direct dispersal policy and 12VAC5-613-90.D.1.b and 90.D.4. (10 minutes / Gregory)

**New Business (30 minutes)**

1. Proposal to rescind GMP 122. (10 minutes / Grubbs)
2. GPS policy. (10 minutes / Bowles and Aschenbach)
3. Revisions to GMP 155 – voluntary upgrades. (10 minutes / Tiller)

**Break (30 minutes)**

**Resume New Business (50 minutes)**

4. Regulations Development and Next Steps (50 minutes)
  - f. AOSE Regulations – 12VAC5-615 (10 minutes / Roadcap)
  - g. Discharge System Regulations – 12VAC5-640 (10 minutes / Roadcap)
  - h. Fee Regulations – 12VAC5-620 (10 minutes / Bowles)
  - i. Emergency Regulations for Gravelless Material and Drip Dispersal – 12VAC5-610 (10 minutes / Gregory)
  - j. Civil Penalty Regulations – 12VAC5-650 (10 minutes / Bolling)

**Break (5 minutes)**

5. Construction permits for long-term development – phased construction (15 minutes / Bolling)
6. Minimum expectations regarding site evaluations for component replacements. (15 minutes / Roadcap)
7. Legislative update and other upcoming items for OEHS. (5 minutes)
  - a. Bills from 2014 General Assembly Session. (Roadcap)
  - b. SHADAC appointments. (Gregory)
  - c. GMP 52.A revision. (Gregory)
  - d. Well abandonment setback policy. (Gregory)
  - e. GMP 147 field testing of past approvals. (Roadcap)
  - f. Ksat Manual. (Conta)
  - g. Cr project. (Conta)
  - h. Safe, Adequate and Proper policy. (Bolling)

**Adjourn**



# COMMONWEALTH of VIRGINIA

Department of Health

P O BOX 2448

Richmond, VA 23218

Marissa Levine, MD, MPH  
Interim State Health Commissioner

TTY 7-1-1 OR  
1-800-828-1120

March XX, 2014

**TO:** District Health Directors and Environmental Health Managers

**THROUGH:** Marissa Levine, MD, MPH  
Interim State Health Commissioner

**THROUGH:** Allen Knapp, Director  
Office of Environmental Health Services

**FROM:** Dwayne Roadcap, Director  
Division of Onsite Sewage, Water Services, Environmental  
Engineering and Marina Programs

**SUBJECT:** GUIDANCE MEMORANDUM AND POLICY **XXX**  
Protocol to Obtain General Approval for Nitrogen Reducing Treatment Units

**Purpose:** 12VAC 5-613-90.D of the *Alternative Onsite Sewage System Regulations* (12VAC 5-613, the *AOSS Regulations*) took effect on December 7, 2013. Section 90.D applies to alternative onsite sewage systems (AOSS) located in the Chesapeake Bay watershed for which (1) a construction permit application is submitted on or after December 7, 2013, or (2) an application for reissuance of a renewable operating permit is submitted on or after December 7, 2013. This section of the regulation does not apply to conventional onsite wastewater treatment systems.

The *AOSS Regulations* encourage the use of Best Management Practices (BMPs) for small AOSSs (less than or equal to 1,000 gallons per day (gpd) design flow) and directs the Division to 'recognize' BMPs. GMP 156 describes the recognized BMPs. One of the BMPs is use of a Generally Approved Proprietary Total Nitrogen (TN) Reducing Unit (50%). 'Generally Approved' TN reducing units are identified under GMP 156 on an interim basis through June 7, 2014. The interim approvals will be replaced with a permanent listing based on the protocol included in this guidance document.

This guidance was developed based on input from stakeholder meetings held September 25 and October 9, 2013. The purpose of those meetings was to gain input from interested parties on the main components of the protocol. A summary of the meetings is posted on Town Hall

[http://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\Meeting\58\20423\Minutes\\_VDH\\_20423\\_v1.pdf](http://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\Meeting\58\20423\Minutes_VDH_20423_v1.pdf). This guidance describes the protocol for obtaining General Approval of a TN reducing treatment unit with design flows less than or equal to 1,000 gpd.

**Applicability:** This protocol applies only to treatment units with a design flow of less than or equal to 1,000 gpd. All units seeking approval under this protocol must also be 'Generally Approved' for a minimum treatment level of TL-2. The purpose of this protocol is to identify proprietary treatment units that are capable of providing a 50% reduction in total nitrogen, or better, prior to effluent application to a soil dispersal field.

**Definitions:**

"Best management practice" means a conservation or pollution control practice approved by the division, such as wastewater treatment units, shallow effluent dispersal fields, saturated or unsaturated soil zones, or vegetated buffers, that manages nutrient losses or other potential pollutant sources to minimize pollution of water resources.

"Total nitrogen" or "TN" means the measure of the complete nitrogen content of wastewater including all organic, inorganic, and oxidized forms expressed in mg/l as nitrogen.

"Treatment level 2 effluent" or "TL-2 effluent" means secondary effluent as defined in 12VAC5-610-120 that has been treated to produce BOD<sub>5</sub> and TSS concentrations equal to or less than 30 mg/l each.

"Treatment level 3 effluent" or "TL-3 effluent" means effluent that has been treated to produce BOD<sub>5</sub> and TSS concentrations equal to or less than 10 mg/l each.

**General Description of Protocol:** The protocol is a two step process. Step One establishes the probability that the unit will function satisfactorily in the field based on third party testing under controlled conditions and an engineering analysis. Submittal requirements include documentation of the successful completion of a third party standard test protocol for total nitrogen (TN) reduction which documents a 50% or greater reduction of TN. ANSI/NSF 245 is an example of an acceptable testing protocol. Additionally the manufacturer must submit an engineering certification, basic design information, and an operation and maintenance manual. Units that have completed Step One will be listed as 'Evaluation Ongoing' on the VDH website if they have entered into an Agreement to complete Step Two. Step Two is successful completion of a field test protocol. Once Step Two is successfully completed, the unit will be considered fully approved and will be listed as 'Generally Approved' for 50% TN reduction on the VDH website. Alternatively, a manufacturer may submit existing field data for consideration to meet the requirements of Step Two.

**Detailed Description of Protocol:**

**A. Evaluation Ongoing (Step One):** The manufacturer must submit a written request to the Division asking that their specific unit(s) and model(s) be considered for listing under this policy. An application form (Attachment A) is provided to aid in the submittal process. To be considered for listing, the following information must be submitted electronically:

1. A description of the treatment unit, how it works, and a list of all models numbers with design flows to be considered.
2. Plans and specifications of the treatment units.
3. An operation and maintenance manual for the listing technology. The manual must contain the following minimum elements:
  - a. A list of any control functions for the treatment unit and how to use them;
  - b. A list of operation and maintenance activities with a recommended schedule for each activity. Include any recommended process control testing;
  - c. Alkalinity requirements and options for homeowner to provide alkalinity;
  - d. The expected use and design limits for the treatment unit; and
  - e. Other information as deemed necessary and appropriate.

The manual is not intended to be fully compliant with 12 VAC 5-613-170 and is only for the purposes of the listing.

4. Written certification from a Virginia-licensed engineer that:
  - a. In his professional opinion, the treatment unit can be expected to produce end-of-pipe effluent that will meet the 50% nitrogen reduction treatment expectations of this policy; and
  - b. The submitted operation and maintenance manual contains the minimum requirements in section A.3. above and, in his professional opinion, the manual accurately reflects the services and maintenance needs of the proprietary product.
5. A copy of the third party certification used to validate the 50% TN reduction capability of the treatment unit. The certification must include the paired influent/effluent TN concentrations of all samples collected during the test period in an Excel spreadsheet.

ANSI/NSF 245 is one example of a third party certification program that certifies a 50% percent TN reduction through a treatment unit. There are other test protocols that measure influent and effluent TN, but they do not have pass/fail criteria for TN reduction. The data produced from the EN-12566-3 (European), BNQ 3680-910 (Canadian), and EPA's ETV protocol may be submitted for consideration. All influent and effluent TN data from the study must be submitted. The mean of the paired data sets will be used to assess the ability of the unit to meet a 50% TN reduction standard. Other third party data sets will be considered on a case by case basis. Approvals from other states with supporting documentation will also be considered.

6. The manufacturer must either:

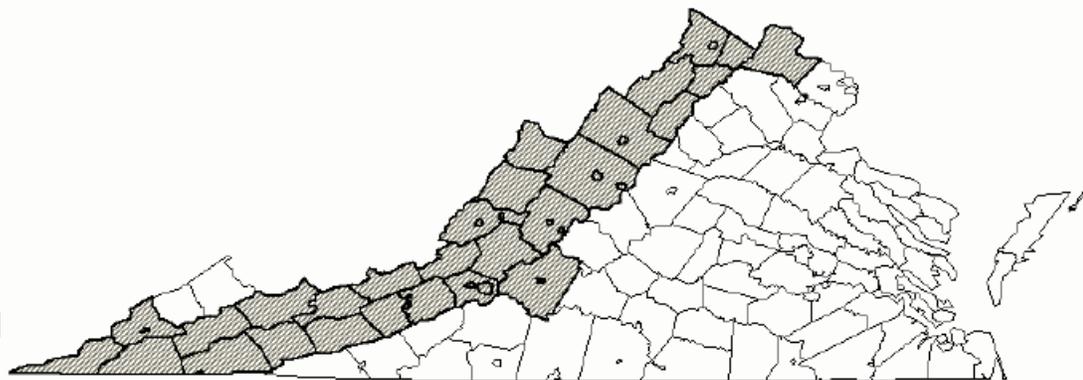
- a. Submit existing data from a field evaluation that minimally complies with the field testing requirements of section B. Field Testing, or
- b. Submit a signed Agreement (Attachment B) and supporting information that commits the manufacturer to conducting field testing in Virginia in accordance with the requirements section B. Field Testing.

**B. Field Testing (Step Two):** Field Testing can be completed by following the protocol described here. Alternatively, the manufacturer may submit existing TN reduction data from a similar study that was conducted in a similar climate.

### 1. Field Testing

- a. *Identification of Units:* Sampled systems must be residential systems serving residences that are occupied year round. A minimum of 20 systems are to be sampled if grab samples are collected for TN analysis. A minimum of 12 systems are to be sampled if 24 hour composite (24HC) samples are collected for TN analysis.

At least 25% of the systems must be located in the non-carbonaceous (non-karst) geologic areas identified in Figure 1.



Karst Counties of Virginia (in gray)

Figure 1. ([www.dcr.virginia.gov/natural\\_heritage/karsthme.shtml](http://www.dcr.virginia.gov/natural_heritage/karsthme.shtml))

A list of the sites used for testing must be provided to the Division which identifies the location, the number of bedrooms in the residence, and the unit installed.

Manufacturers are encourage to test at sites that are fully compliant with the TN reduction requirements by installing a BMP from GMP 156 that does not rely on a treatment unit removing 50% or better of the TN. If a unit is installed at a site that is not already fully regulatory compliant, then a Backup Plan shall be submitted. The Backup

Plan must describe how the site will be made regulatory compliant should the unit fail the protocol and identify the responsible party.

*Question: What if a designer wants to use a treatment unit that is in 'Evaluation Ongoing'? Are there sampling or other requirements?*

*Answer: Until a unit is 'Generally Approved', it is considered 'Non-Generally Approved'. For compliance with the TN limits, an engineer may use a non-generally approved treatment system in accordance with Appendix D of GMP 156.*

- b. *Sampling Frequency, Duration, and Reporting:* Each unit is to be tested quarterly for at least one year. Quarters are defined as January/February/March, April/May/June, July/August/September, and October/November/December. Data from each quarter are to be reported by the fifteenth of the month following the end of the quarter, i.e. April 15, July 15, October 15, and January 15. Samples are to be collected for consecutive quarters. If the system is found to be malfunctioning at a sampling event, the sample is still to be collected, but the manufacturer may resample within 30 days. The malfunction and all data must be reported to VDH.

The manufacturer will have three years to complete the field testing.

c. *Parameters*

1) *Influent Testing:*

Recommended influent parameters: BOD<sub>5</sub>, TSS, pH, alkalinity, TKN

Required influent parameters: None

Influent testing is recommended to verify that the treatment unit is receiving residential strength wastewater. Influent sampling is required for justification to remove a site from the test group if non-residential activity, such as a daycare, is suspected.

If no influent samples are collected, then the influent will be assumed to have a default concentration of 60 mg/l TN. (Manufacturers are cautioned that the influent TN may be higher than 60 mg/l, but unless influent samples are collected to demonstrate otherwise, the assumption will be that it is 60 mg/l.) Therefore, unless paired influent/effluent TN concentrations are provided, the effluent TN concentration must be 30 mg/l or less to demonstrate a 50% TN removal.

2) *Effluent Testing:*

Recommended effluent parameters: BOD<sub>5</sub>, TSS, dissolved oxygen, effluent temperature

Required effluent parameters: TN (organic-N, ammonia-N, nitrite-N + nitrate-N), alkalinity, pH, flow

Flow may be estimated from water meter readings, pump run time meters, pump run counter, number of persons in the household, or other method detailed in the Quality Assurance/Quality Control Plan (QA/QC Plan).

- d. *Analysis of Parameters:* All required parameters except flow, must comply with 40 CFR 136 for proper sample collection, preservation, holding times, and analytical method. Use of a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory is recommended. See <http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification2/tabid/1503/Default.aspx> for list of Virginia Environmental Laboratory Accreditation Program (VELAP) accredited laboratories. Chain of custody must be maintained for each sampling event and provided with the quarterly report.

A QA/QC Plan must be submitted that includes information on the collection, transport, and handling of samples.

The method detection level must be reported for the required parameter analyses. For the purposes of data manipulation, values below the method detection level will be treated as one-half the method detection level.

- e. *Third Party Oversight:* The manufacturer shall contract with a third party to oversee the study design, sample collection and analysis, and data reporting. The third party may be a professional engineer licensed in the state of Virginia, a university professor, or other suitable third party. The third party shall be named prior to the signing of the Agreement with VDH. A copy of the contract between the Manufacturer and third party is to be submitted with the Agreement. The contract shall describe the duties of each party.

## 2. Pass/Fail Criteria

- a. *Failure to Complete Field Testing:* If the testing is not complete within three years of the date of the signed Agreement, the unit will be removed from the VDH website listing. If any test units were installed without fully compliant BMPs, then those sites must be modified in accordance with the Backup Plans identified in section B.1.a above to fully comply with the BMP requirements of 12 VAC 5-613-90.D.1. If an individual site is compliant based on data collected, the owner may seek approval under the 'non-generally approved' protocol of Appendix D of GMP 156.

A manufacturer who fails to complete the test within 3 years will not be relisted. However, the manufacturer may continue to test the unit if the unit is installed at a fully compliant site. The manufacturer may then submit the field data for consideration for General Approval at a later date. Explanation for the initial failure and subsequent success, such as modifications to the unit's design, must be provided.

- b. *Criteria for Passing:* The percent TN removal will be calculated for each sampling event by the following formula:

$$\frac{\text{Influent TN} - \text{Effluent TN}}{\text{Influent TN}} \times 100 = \text{Percent TN Removal}$$

Sampling events for each site shall be averaged to obtain a mean percent TN removal for that site, and those means shall then be averaged to determine the mean TN removal for the entire test. The test mean TN removal must be greater than or equal to 50% to 'pass' the protocol. Models that 'pass' the protocol will be listed as 'Generally Approved' for 50% TN reduction.

Units that do not pass the protocol will be delisted. Any units installed at non-BMP compliant sites must be modified in accordance with the Backup Plan identified in B.1.a to be fully compliant with 12 VAC 5-613-90.D.1.

If a unit at an individual site produced samples that indicated 50% or greater removal of TN, the owner may petition to be considered under the 'non-generally approved' protocol of Appendix D of GMP 156.

A manufacturer may petition VDH to have the unit relisted and redo the field testing. Reasons for VDH to consider relisting include (1) modifications to the unit that will improve the likelihood that the unit will comply; (2) laboratory errors; or (3) other causes or conditions that would have caused the initial field testing to be compromised.

### **C. Submittal of Existing Field Data**

The field testing does not have to be completed in Virginia. VDH will review field test data in an Excel spreadsheet from other states that minimally complies with the field testing requirements in this document provided the following are true:

1. The data were collected from sites similar to Virginia with regard to climate.
2. The data were collected from single family home residences that were occupied year round.
3. The data were collected for one year (minimum) from twelve systems (24HC sampling for influent and effluent TN) or twenty systems (grab sampling for influent and effluent TN). An assumed influent of 60 mg/l TN may only be used for data sets collected in the last five years.
4. Data were collected by a third party and followed 40 CFR 136 for sample collection, preservation, holding times, and analytical methods. Chain of custody must be provided.
5. All data associated with a given study are submitted.
6. The study report is provided.
7. The data demonstrate compliance with the Pass Criteria outlined in B.2.b. above.

**Attachment A**  
**Application for Listing**

The following application is to be used to request listing of a treatment unit under one of two categories:

- **Evaluation Completed - Generally Approved**  
Submittals under this category must submit existing field data for consideration along with the initial information required for listing.
- **Evaluation Ongoing - Intent to Field Test**  
Submittals under this category must submit the initial information required for listing plus the required information to initiate field testing.

The application and requested submittals must be complete for VDH to process the application.

DRAFT 030314

**Virginia Department of Health  
Office of Environmental Health Services**



**Technology Listing Application and Checklist**

**N REDUCING WASTEWATER TREATMENT TECHNOLOGY LISTING**

Please supply all requested information (form will expand as information is entered). Incomplete applications will be returned to the applicant.

Product Identification (Name and Model(s)): Is the Unit Generally Approved for TL 2 Treatment in Virginia?: <input type="checkbox"/> Yes <input type="checkbox"/> No Is the Unit Generally Approved for TL 3 Treatment in Virginia?: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Application Request (Check One): <input type="checkbox"/> Evaluation Completed – Required field data set included <input type="checkbox"/> Evaluation Ongoing – Required data set not included. Intention to field test.	
<b>APPLICANT CONTACT INFORMATION</b> Name and Title: Signature and Date: <hr style="width: 100%;"/> Address: Telephone: Email:	<b>CERTIFYING VIRGINIA ENGINEER INFORMATION</b> Name: Company Name: Address: Telephone: Email:

**All must submit the following electronically: (see section A of GMP XXX for details)**

- Description of unit, how it works, list of all models and design flows to be considered
- Technical plans and specifications for the product(s) proposed for listing
- Operation and Maintenance (O&M) Manual
- Copy of the third party certification for N reduction with paired influent/effluent data in Excel spreadsheet
- Virginia-licensed P.E. certification for treatment unit and O&M Manual

**If you checked 'Evaluation Completed' above, include the following information.**

- Field data set - minimum of 20 units (grab sampling) or 12 units (24HC sampling) sampled quarterly for one year. **Electronic submittal (Excel format) is required. All data must be from units serving residences with year-round occupancy. All data must be submitted.**
- Discussion of data set validity, including data source(s), verification of independent 3<sup>rd</sup> party sample collection, sampling protocol, sample analytical methods, unit maintenance, justification for data exclusion, etc.

**If you checked 'Evaluation Ongoing' above, the following information must be included.**

- A Signed VDH Manufacturer Agreement – “Memorandum of Understanding and Agreement”
- Copy of third party contract for sample collection and analysis
- Quality Assurance/Quality Control Plan
- If partial data set included, discussion of data set validity, including data source(s), verification of 3<sup>rd</sup> party sample collection, sampling protocol, sample analytical methods, unit maintenance, justification for data exclusion, etc. **All data must be from units serving residences with year-round occupancy.**

**Submit completed form with all attachments to:** Marcia Degen, Ph.D., P.E.  
 Marcia.Degen@vdh.virginia.gov  
 Onsite Water and Sewage, Marina, and Engineering Programs  
 Virginia Department of Health, 5<sup>th</sup> floor  
 109 Governor St.  
 Richmond VA 23219

**Attachment B**  
**Memorandum of Understanding and Agreement**

The attached Agreement and required information must be submitted for those manufacturers intending to initiate field testing.

DRAFT 030314



# COMMONWEALTH of VIRGINIA

Department of Health

P O BOX 2448

Richmond, VA 23218

Marissa Levine, MD, MPH  
Interim State Health Commissioner

TTY 7-1-1 OR  
1-800-828-1120

## Memorandum of Understanding and Agreement

This Memorandum of Understanding and Agreement made this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, is by and between the Commissioner of Health, with delegated authority to the Director of the Division of Onsite Sewage, Water Services, Environmental Engineering, and Marina Programs (the Division or Division Director) and \_\_\_\_\_, the “Manufacturer.”

The Manufacturer agrees to test and evaluate the efficacy of \_\_\_\_\_, also known as the “Treatment Device or Unit” in accordance with the evaluation protocol set forth below and in Guidance, Memoranda and Policy #XXX or its successor policy. The Manufacturer and the Division agree to:

1. Complete an evaluation (as described in this Agreement and GMP #XXX or its successor) of a minimum 12 (24-hour composite samples collected) or 20 (grab samples collected) Treatment Units located and installed in the Commonwealth of Virginia within three years of the date this Agreement is executed. The Manufacturer must conclude the evaluation on or before \_\_\_\_\_, \_\_\_\_\_. The Treatment Units will be jointly selected and agreed upon by the Manufacturer and Division.
  - i. Each of the Treatment Units selected for evaluation must be designed and used for a single-family residential dwelling with a design flow less than or equal to 1,000 GPD, used as expected for a permanently occupied home for 12 months.
  - ii. No evaluation or testing will be accepted for seasonal occupancy or seasonal rental use.
  - iii. The Manufacturer will contact the Division when a viable Treatment Unit for evaluation is installed. Upon notice by the Manufacturer, the Division will confirm whether the Treatment Unit will be selected for testing.
  - iv. The Manufacturer will maintain an electronic database of Treatment Units selected for evaluation and report the database, along with associated influent and effluent results quarterly, as described in paragraph v., to the Division. The Manufacturer will retain copies of the Chain of Custody forms for sample collection, transport, and measurements and provide them to the Division within five days of submitting the quarterly database report.
  - v. The Manufacturer will hire and use a third party, as described in this section and accepted by the Division, to collect a minimum of four consecutive quarterly influent and effluent samples for 12

months from each of the 12 (composite samples) or 20 (grab samples) Treatment Units. Quarters shall run from January 1 to March 31, April 1 to June 30, July 1 to September 30, and October 1 to December 31. All procedures to collect, transport, and measure samples, with proper chain of custody, must be conducted under the supervision of a suitable third party such as a faculty member in an appropriate program of an accredited college or university, a Virginia licensed professional engineer experienced in the field of environmental engineering, or by a testing firm acceptable to and pre-approved by the Division.

- vi. Failure of the manufacturer to report in accordance with section iv above or failure of the manufacturer to make progress toward the goal as evidenced by the installation and monitoring of the units, may result in the termination of this Agreement.
2. The Manufacturer will provide a copy of the contract with the third party to the Division. The contract must describe the duties to be performed by both the third party and the Manufacturer. A Quality Assurance and Quality Control (QA/QC) plan must also be provided to the Division drafted jointly by the Manufacturer and the third party. The QA/QC plan will include information on the collection, transport and handling of samples and must be satisfactory to the Division.

The contract must specify when sample measurements will be sent to the Division and that all persons used to collect, transport, or test samples will be properly trained to perform the corresponding tasks. The contract must be provided at the time this Agreement is completed and must be acceptable to the Division. The contract becomes an addendum to this Agreement.

- i. The third party is \_\_\_\_\_  
(contact information) \_\_\_\_\_  
\_\_\_\_\_
- ii. If requested by the Division, the Manufacturer agrees that the third party will provide at least 72 hours notice before collecting samples and allow for joint collection with the Division, or its designee upon request.
- iii. The Manufacturer agrees to place and assure that at least two inspection and sampling ports are available to allow the third party to adequately sample influent and effluent. Each inspection and sampling port must be located to accurately characterize the influent and effluent generated.
- iv. The Manufacturer agrees to test and report influent and effluent results as described above for pH, alkalinity, TN (organic-N, ammonia-N, nitrite-N+nitrate-N) and flow. Flow is to be estimated. The manufacturer may choose to not collect influent data. In that case, the assumed influent value will be 60 mg/l total nitrogen.

On occasion, influent data that reflects the wastewater characteristics produced by the residential dwelling is not practical to collect. In such case, the Manufacturer will report influent from the recirculation tank.

If the influent does not reflect the average or normal values for residential wastewater, then the Division may require additional testing or eliminate that specific residence from consideration as

part of the evaluation. Influent data must be collected in order to eliminate a specific residence from the evaluation.

3. Hire and use a lab accepted by the Division to perform measurements using the *Standard Methods for the Examination of Water and Wastewater* for influent and effluent, in accordance with 40 CFR 136. Composite or grab samples for TN (organic-N, ammonia-N, nitrite-N+nitrate-N), and alkalinity are acceptable depending on the number of systems tested.

The certified lab(s) are: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Maintain an electronic database or spreadsheet of all system installations, and report the database to the Director of the Division by the 15<sup>th</sup> day of January, April, July, and October of each year the evaluation continues. The spreadsheet report will include the following information:
  - i. Sample results for influent and effluent.
  - ii. Interim observations about the Treatment Unit's performance with respect to the pass/fail criteria.
  - iii. List of all installations where the site is not regulatory compliant (i.e. the design does not comply with N reduction requirements of 12 VAC 5-613-90.D.1) A description of the Backup Plan and responsible party for implementing plan must be provided.
5. The pass/fail criteria for effluent will be as follows as described in GMP **XXX**.

The percent reduction for total nitrogen for each paired influent/effluent sample at a site will be calculated. If no influent sample is collected, an influent of 60 mg/l total nitrogen will be assumed. The average reduction for each test site will be calculated. The average total nitrogen reduction for all test sites will be calculated from the individual unit means. If the average percent reduction of total nitrogen is equal to or greater than 50%, the unit will be passed.

6. In return for the above considerations, the Division agrees to maintain a list of Treatment Units installed in Virginia and their sampling results. Upon conclusion of the testing and evaluation in accordance with this Agreement, the Division will render a case decision regarding whether the Treatment Unit has met the effluent performance expectations.
7. This Agreement may be amended by mutual consent of the parties. The Agreement may be terminated by either party.
8. The undersigned agree to the Conditions of this Agreement.

\_\_\_\_\_  
Dwayne Roadcap, Director  
On Behalf of the State Health Commissioner

\_\_\_\_\_  
Manufacturer

**APPENDIX A – Modification Date: February 21, 2014**  
**Interim List of Treatment Units**  
**50 Percent TN Reduction**

Modifications in **BOLD**

Manufacturer/Unit	Listing Type	Listing Basis	TL2 or TL3 Approved	Listing Expiration Date
<b>Anua – Platinum</b> <ul style="list-style-type: none"> <li>• <b>P6 (300 gpd)</b></li> <li>• <b>P8 (375 gpd)</b></li> <li>• <b>P10 (525 gpd)</b></li> <li>• <b>P12 (600 gpd)</b></li> </ul>	<b>Interim</b>	<b>EN 12566-3</b>	<b>TL2</b>	<b>June 7, 2014</b>
<b>Anua- Puraflo DN (recirculating filter)</b> <ul style="list-style-type: none"> <li>• <b>P120Dn*1A (pad 120 gpd/module)</b></li> <li>• <b>P120Dn*1B (other dispersal 120 gpd/module)</b></li> </ul>	<b>Interim</b>	<b>NSF 245 (NC State)</b>	<b>TL2</b>	<b>June 7, 2014</b>
AquaKlear <ul style="list-style-type: none"> <li>• AK6S245C/450, 600,750</li> <li>• AK10S245C (1,000)</li> <li>• AK6S245F (1,000)</li> </ul>	Interim	NSF 245 – Gulf Coast Testing Center	TL2	June 7, 2014
<b>Aquapointe</b> <ul style="list-style-type: none"> <li>• <b>Bioclere 16/12-350 (400 gpd)</b></li> <li>• <b>Bioclere 16/15 (600 gpd)</b></li> </ul>	<b>Interim</b>	<b>ETV Data(flow based on ETV test)</b>	<b>TL2</b>	<b>June 7, 2014</b>
Cajun Aire Advanced Poly 500	Interim	NSF 245	TL-2	June 7, 2014
Biomicrobics <ul style="list-style-type: none"> <li>• BioBarrier® MBR 0.5-N</li> <li>• BioBarrier® MBR 1.0-N</li> <li>• MicroFast 0.5</li> <li>• MicroFast 0.625</li> <li>• MicroFast 0.75</li> <li>• MicroFast 0.9</li> <li>• MicroFast 1.5</li> </ul>	Interim	NSF 245	Micro-Fast TL-3 Bio-Barrier-TL-2	June 7, 2014
Biomicrobics <ul style="list-style-type: none"> <li>• Retrofast 0.25</li> <li>• Retrofast 0.375</li> </ul>	Interim	MD BAT Program	No general approvals	June 7, 2014
Bionest <ul style="list-style-type: none"> <li>• OT-100</li> <li>• OT-40</li> <li>• OT-45</li> <li>• OT-50</li> <li>• OT-55</li> <li>• OT-60</li> <li>• OT-70</li> <li>• OT-75</li> </ul>	Interim	NSF 245	TL-2	June 7, 2014
Clearstream <ul style="list-style-type: none"> <li>• 500D</li> <li>• 600D</li> <li>• 750D</li> <li>• 800D</li> <li>• 1000D</li> </ul>	Interim	NSF 245 –Gulf Coast Testing Center	TL-2	June 7, 2014
Delta – Ecopod <ul style="list-style-type: none"> <li>• E50-N</li> <li>• E60-N</li> <li>• E75-N</li> <li>• E100-N</li> </ul>	Interim	NSF 245	TL-2 (Evaluation Ongoing for TL-3)	June 7, 2014
Ecological Tanks <ul style="list-style-type: none"> <li>• Aqua-Aire AA500-35NR</li> </ul>	Interim	NSF 245	TL2	June 7, 2014

<ul style="list-style-type: none"> <li>• Aqua-Safe AS600+4NR w/EZ top</li> </ul>				
<p><b>Ecological Tanks</b></p> <ul style="list-style-type: none"> <li>• Aqua-Safe AS500, AS500L</li> <li>• Aqua-Safe AS600, AS600L</li> <li>• Aqua-Safe AS750</li> <li>• Aqua-Safe AS800L (800 gpd)</li> <li>• Aqua-Safe AS1000</li> </ul> <p>For Clarity, the following combinations are available</p> <p>AS500 + 5 pre Duo (500 gal. pre-tank)  AS500L + 5 pre Duo (500 gal. pre-tank)  AS500 + 3 pump Duo (300 gal. pump tank)  AS500L + 3 pump Duo (300 gal. pump tank)  AS500 +5 pump Duo (500 gal. pump tank)  AS500L + 5 pump Duo (500 gal. pump tank)</p> <p>AS600 + 5 pre Duo (500 gal. pre-tank)  AS600L + 5 pre Duo (500 gal. pre-tank)  AS600 + 3 pump Duo (300 gal. pump tank)  AS600L + 3 pump Duo (300 gal. pump tank)  AS600 +5 pump Duo (500 gal. pump tank)  AS600L + 5 pump Duo (500 gal. pump tank)  AS500 5+5 Trio (500 gal pre-tank and 500 gal. pump tank)  AS500L 5+5 Trio (500 gal. pre-tank and 500 gal. pump tank)</p> <p>AS600 5+5 Trio (500 gal. pre-tank and 500 gal. pump tank)  AS600L 5+5 Trio (500 gal. pre-tank and 500 gal. pump tank)  AS600NR 5+5 Trio (500 gal. pre-tank and 500 gal. pump tank)  AS600NR 5+75 Trio (500 gal. pre-tank and 750 gal. pump tank)</p>	Interim	NSF 40 N Data	TL3	June 7, 2014
<p>EZ Treat</p> <ul style="list-style-type: none"> <li>• #600</li> <li>• #1200</li> </ul>	Interim	VA Data	TL2 (Evaluation Ongoing for TL-3)	June 7, 2014
<p><b>Flugelin, LLC DBA Pekasys</b></p> <ul style="list-style-type: none"> <li>• PSB1-4 (CRB1-400)</li> <li>• PSB1-5 (CRB1-500)</li> <li>• PSB1-6 (CRB1-600)</li> <li>• PSB1-7 (CRB1-700)</li> <li>• PSB2-8 (CRB1-800)</li> <li>• PSB2-9 (CRB1-900)</li> </ul>	Interim	NSF 245	TL2	June 7, 2014
<p>Hoot</p> <ul style="list-style-type: none"> <li>• ANR-450</li> </ul>	Interim	NSF 245	TL-2	June 7, 2014
<p>Norweco</p> <ul style="list-style-type: none"> <li>• Hydro-Kinetic 600 FEU</li> <li>• Singulair Green TNT-500</li> <li>• Singulair TNT-500, 750, 1000</li> </ul>	Interim	NSF 245	TL-2	June 7, 2014
<p>Orengo</p> <ul style="list-style-type: none"> <li>• AX20 (N) 600 gpd</li> </ul>	Interim	MD BAT Program	TL3	June 7, 2014

<ul style="list-style-type: none"> <li>• AX20RT (N) 600 gpd</li> <li>• AX25RT (N) 625 gpd</li> </ul>				
Quanics – Biocoir <ul style="list-style-type: none"> <li>• ATS-4-BC (ATS-SCAT-4-BC-400)</li> <li>• ATS-6-BC (ATS-SCAT-6-BC-650)</li> <li>• ATS-8-BC (ATS-SCAT-8-BC-1000)</li> </ul>	Interim	NSF 40 N data	TL3	June 7, 2014
Quanics – Aerocell <ul style="list-style-type: none"> <li>• ATS-4-AC</li> <li>• ATS-6-AC</li> <li>• ATS-8-AC</li> </ul>	Interim	NSF 245 (2006 )	TL2	June 7, 2014
Septi-Tech <ul style="list-style-type: none"> <li>• N-M400D</li> <li>• N-M550D</li> <li>• N-M750D</li> </ul>	Interim	NSF 245	TL-2	June 7, 2014

This list is based on NSF 245, Maryland's website for Best Available technology

([http://www.mde.state.md.us/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Pages/Water/cbwrf/osds/brf\\_bat.aspx](http://www.mde.state.md.us/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Pages/Water/cbwrf/osds/brf_bat.aspx)), and other data sources that have been submitted for consideration. Manufacturers should contact Marcia Degen, Technical Services Manager, at [Marcia.Degen@vdh.virginia.gov](mailto:Marcia.Degen@vdh.virginia.gov) to be considered for the interim list. The list will be updated as needed. **Note that only the main model from the NSF 245 list is provided in most cases and not all the variations (concrete, poly, etc.) for brevity sake. All models certified under NSF 245 are BMP compliant for flows ≤ 1,000 gpd.** See the NSF 245 listings at <http://info.nsf.org/Certified/Wastewater/Listings.asp?TradeName=&Standard=245> and <http://www.gulfcoasttesting.com/Company/PublicList> for the complete list.

**Prepared By:**  
Lance Gregory  
Environmental Health Coordinator  
Division of Onsite Sewage and Water Services

**Created:**  
March 17, 2014  
**Last Revised:**  
March 17, 2014

## **The Emergency Regulations for Gravelless Material and Drip Dispersal (12VAC5-610) Frequently Asked Questions**

### **General**

**Question:** *Why did VDH develop regulations rather than modify the existing GMPs?*

**Answer:** Chapter 202 of the 2013 Acts of Assembly ([House Bill 1726](#)) required the Board of Health to promulgate regulations for chambers and bundled expanded polystyrene effluent distribution systems. Furthermore, the bill required that the regulations be enacted within 280 days, which prompted the Board of Health to use the emergency rulemaking process authorized by the Administrative Process Act.

**Question:** *When do the emergency regulations go into effect?*

**Answer:** The emergency regulations for gravelless material and drip dispersal and Guidance Memorandum and Policy (GMP) [135.A](#) became effective on January 2, 2014.

### **Gravelless Material – General**

**Question:** *Do the emergency regulations apply to permits issued prior to the effective date for the emergency regulations?*

**Answer:** When gravelless material is installed in lieu of gravel and pipe, the installation must comply with the emergency regulations regardless of whether the permit was issued before or after the effective date of the emergency regulations. GMP 116, GMP 127, and GMP 135 were rescinded on January 2, 2014, and are no longer applicable.

**Question:** *Can gravelless material be used for commercial designs?*

**Answer:** Yes. Limitations contained in previous GMPs to only use gravelless material for systems serving single-family dwellings or duplex dwellings, not exceeding six bedrooms total, were not carried over to the emergency regulations or GMP 135.A.

**Question:** *Are professional engineers (PE) required to follow the minimum sizing criteria for gravelless material contained in revised Table 5.4?*

**Answer:** Conventional onsite sewage systems (COSS) using gravelless material, designed pursuant to Va. Code Section 32.1-163.5, must be sized (at a minimum) in accordance with revised Table 5.4 of the emergency regulations. Alternative onsite sewage systems (AOSS) using gravelless material, designed pursuant to Va. Code Section 32.1-163.5, must comply with

the Regulations for Alternative Onsite Sewage Systems (12VAC5-613). COSS and AOSS using gravelless material, designed by PEs pursuant to Va. Code Section 32.1-163.6 must: 1) comply with standard engineering practice, 2) comply with applicable performance requirements established by the Board of Health, 3) comply with those horizontal setback requirements necessary to protect public health and the environment, and 4) must reflect the degree of skill and care ordinarily exercised by licensed members of the engineering profession. (Also see [GMP #146](#))

### **Gravelless Material – VDH OSE Permit Statement**

**Question:** *If the property owner does not want to use a gravelless material, are VDH OSEs still required to include the gravelless material statement on the permit?*

**Answer:** Yes.

**Question:** *To clarify, private OSEs and PEs have the discretion to allow or disallow the use of gravelless material at minimum sizing contained in the emergency regulations; VDH OSEs do not?*

**Answer:** Correct. VDH employees have a ministerial duty to approve materials that meet minimum regulatory requirements. While GMP 135.A does require that a statement be included on all VDH OSE permits allowing the use of gravelless material, the VDH OSE is tasked with determining the appropriate method by which gravelless material should be installed, at minimum regulatory sizing, based on their professional judgment.

### **Gravelless Material – Largest Gross Available Area Sizing**

**Question:** *If the largest gross available absorption area is based on gravelless material sizing, are VDH OSEs required to design a system to minimum gravelless material sizing contained in revised Table 5.4?*

**Answer:** Yes. The method for determining the largest gross available absorption area is outlined in GMP 135.A, Appendix C.

**Question:** *Can VDH OSEs specify which gravelless material to use?*

**Answer:** VDH OSEs must allow the use of gravelless material from the list of approved gravelless materials (see <http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/gmp/gravellessMateriallist>). VDH OSEs must only allow the use of gravelless material on the approved list. If an owner wishes to use a particular product from the approved list, then the VDH OSE can make a note of the owner's preference; however, any gravelless material on the approved list is acceptable. VDH OSEs must confirm at the time of construction inspection whether the installed gravelless material is on the approved list.

**Question:** *Can gravelless material be installed 1 for 1 in lieu of gravel and pipe?*

**Answer:** 1 for 1 replacement of gravelless material in lieu of gravel and pipe is permissible. Private OSEs and PEs can specify the use of gravelless material at sizing greater than the

minimum requirements contained in the emergency regulations (e.g. 1 for 1). VDH OSEs must issue construction permits for gravelless material (and gravel) on the minimum sizing of Table 5.4.

**Question:** *At the bottom of the flow chart for construction permits (see GMP 135.A, Appendix C) it states that VDH is to deny a permit if there is not sufficient area for a primary area using gravelless material and a reserve area using gravelless material, TL-2, or TL-3. What does this mean?*

**Answer:** The flow chart should include the caveat “if applicable” regarding the reserve area. If the primary absorption area requires pre-treatment or pressure distribution for a construction permit, then VDH staff must include the need for supporting work from the private sector in its denial letter. VDH does not offer design services for alternative onsite sewage systems.

**Question:** *Does Appendix C of GMP 135.A apply to both new construction and repairs?*

**Answer:** Yes. Additionally, the gravelless material statement for VDH OSE construction permits, shown in the footnote on page 2 of GMP 135.A, applies to new construction and repairs.

**Question:** *Do the sizing requirements for gravelless materials contained in the emergency regulations override previous GMPs and manufacturer sizing charts?*

**Answer:** Yes. GMP 116, GMP 127 and GMP 135 are rescinded. Revised product manuals containing sizing charts can be found [here](#).

**Question:** *Can gravelless material, sized in accordance with minimum area requirements contained in Table 5.4, be used in combination with conditional permits which reduce the design sewage flow (i.e. water saving plumbing devices, limitation on the number of persons occupying the dwelling).*

**Answer:** Yes

## **Gravelless Material – Approved Gravelless Materials**

**Question:** *Are manufacturers still required to provide a warranty for gravelless material?*

**Answer:** No.

**Question:** *Are tire chips considered gravelless material?*

**Answer:** Tire chips are not an approved gravelless material and must be used on a 1 for 1 replacement of gravel in accordance with [GMP 91.A](#).

**Question:** *Are the Eljen Mantis models approved for TL-2?*

**Answer:** Eljen has two types of models approved for use in Virginia. The Eljen Mantis models are approved for use as gravelless material only. The Eljen GSF models are approved for TL-2.

### **Gravelless Material – Used in Lieu of Gravel and Pipe**

**Question:** *When gravelless material is used in lieu of gravel and pipe, is the owner still required to maintain the total area (“footprint”) required for the gravel and pipe system?*

**Answer:** No. This requirement was not carried over from previous GMPs into the emergency regulations or GMP 135.A. GMP 135.A discusses the option to shift the reserve area into the undisturbed portion of the primary when gravelless material is used in lieu of gravel and pipe.

**Question:** *When gravelless material is used in lieu of gravel and pipe, do we still have to maintain at least 90% of the longest permitted gravel and pipe trench length?*

**Answer:** No. This requirement was not carried over from previous GMPs into the emergency regulations or GMP 135.A. When gravelless material is used in lieu of gravel and pipe at minimum regulatory sizing contained in Table 5.4, it is at the professional discretion of the certifying OSE or PE to specify how gravelless material will be used within the approved primary absorption area. For example, if the gravel and pipe design calls for 4 trenches, 100 feet long, the certifying OSE or PE will determine if gravelless material is installed with 3 trenches, 100 feet long, or 4 trenches, 75 feet long (assumes texture group I, II, or III soils).

### **Gravelless Material – Enhanced Flow**

**Question:** *The emergency regulations require open-bottom gravelless material to contain 10 feet of percolation pipe when using enhanced flow distribution. However, standard pump dosing can result in a larger pump volume and/or pump rate than an enhanced flow pump dose. Are open-bottom gravelless materials required to contain 10 feet of percolation pipe anytime the dose volume and rate is equal to, or greater than, an enhanced flow dosing volume and pump rate?*

**Answer:** The Emergency Regulations require open-bottom gravelless material, such as chambers, to contain a percolation pipe that extend a minimum of 10 feet from the trench intersection with the header line when enhanced flow distribution is required by the regulations (e.g. flow is split more than 12 times, etc.). If enhanced flow distribution is not required, then the 10 feet of percolation pipe is not required, even if the dosing volume or doing rate is equal to, or greater than, an enhanced flow dosing volume or pump rate.

**Question:** *Can you use enhanced flow with chambers? They do not have a 4" pipe as part of the material.*

**Answer:** While open-bottom gravelless material do not typically contain a 4" pipe, the 10 foot section can be installed within the open-bottom gravelless material trench and tied into the header line at the end cap so that enhanced flow can be used.

## **Gravelless Material - Installation**

**Question:** *Are gravelless material trenches installed level, or do they require the same fall as a gravel and pipe trench?*

**Answer:** The bottom of each gravelless material trench shall have a uniform slope not less than two inches or more than four inches per 100 feet, as required for gravel and pipe trenches, unless a specific deviation to this requirement is granted for the specific gravelless material. Such deviations would be address in the manufacturer's approved design and installation manual.

**Question:** *Are contractors still required to provide a Notice of Substitution and as-built drawing when installing gravelless material?*

**Answer:** No.

**Question:** *Can an installer use gravelless material in lieu of gravel and pipe, at the minimum sizing allowed by the emergency regulations, without receiving approval from VDH?*

**Answer:** Construction permits issued by VDH OSEs allow the use of any gravelless material on VDH's approved list, as allowed by the regulations. Just as the contractor can use any gravel material (sedimentary, igneous, or metamorphic) that meets the requirements of the regulations, the contractor can use any approved gravelless material. The contractor has permission to use any gravel or gravelless product that is approved for use by virtue of the construction permit. The regulations require the certifying OSE to inspect the system's construction in accordance with the construction permit and the plans and specifications from the designer. Pursuant to GMP 135.A, construction permits issued by VDH OSEs will allow the use of gravelless material in accordance with the regulations. . The VDH OSE must specify the manner in which gravelless material is used before the contractor installs gravelless material. If the contractor wants to use a different configuration than prescribed in VDH's construction permit, then the contractor should contact the local health department.

## **Drip Dispersal – General**

**Question:** *Why were the requirements for slope correction contained in GMP 107 not carried over to the emergency regulations?*

**Answer:** A slope correction is not necessary. In developing the emergency regulations, stakeholders and experts in design reported that landscape linear loading rate is the critical design component, not slope.



# COMMONWEALTH of VIRGINIA

Department of Health  
P O BOX 2448  
Richmond, VA 23218

Marissa Levine, MD, MPH  
Interim State Health Commissioner

TTY 7-1-1 OR  
1-800-828-1120

April XX, 2014

**TO:** District Health Directors and Environmental Health Managers

**THROUGH:** Marissa Levine, MD, MPH  
Interim State Health Commissioner

**THROUGH:** Allen Knapp, Director  
Office of Environmental Health Services

**FROM:** Dwayne Roadcap, Director  
Division of Onsite Sewage, Water Services, Environmental  
Engineering and Marina Programs

**SUBJECT:** GUIDANCE MEMORANDUM AND POLICY 143A

**I. Purpose:** Identify a safe, sanitary, and cost efficient method of disposing of spent peat media.

**II. Background:** Peat is an organic material that is used as a wastewater treatment media in proprietary fixed film, single pass media filters. Peat treatment systems are capable of producing an effluent quality of 10 mg/l BOD<sub>5</sub> and 10 mg/l TSS with a reduced fecal coliform count of <2,000 col/100 ml. See GMP 147 or its successor for a listing of peat systems generally approved to the 10 mg/l BOD<sub>5</sub> and TSS standard.

A recent study by Virginia Tech (2013. W. L. Daniels, K. Haering, G. Evanylo, and J. Burger. "Final Cumulative Report: Ecoflo Spent Peat Project" Virginia Tech, Blacksburg VA) analyzed six spent peat samples for bacteriological and chemical constituents. See Attachment A. Table 1.1 below summarizes the results. (Note the study also evaluated the effect of composting the spent peat on the quality of the product. Composting of peat is not directly addressed in this policy as it would require permitting from the Department of Environmental Quality.) The spent peat samples comply with the Class A biosolids pathogen requirements of less than 1,000 Most Probable Number (MPN) per gram of total solids (dry weight basis) and <3 MPN salmonella/4 grams (9 VAC 25-32-675.A.3.a).

Table 1.2 from the same study identifies the chemical composition of the spent peat samples. A second manufacturer, Anua, also provided data on spent peat media in Attachment B. Both sets

of data indicate that spent peat media is below the ceiling concentrations for land applied biosolids found in Table 2 in 9 VAC 25-32-356 by at least a factor of 10.

**Table 1.1.** Results of pathogen and carbon/nitrogen analysis for six spent peat samples and VT compost subsequently made from those six peat samples.

Analyte	Spent Peat Sample Number						
	# 1	# 2	# 3	# 4	# 5	# 6	VT Compost
<i>Salmonella</i>	ND*	ND	ND	ND	ND	ND	ND
<i>E. coli</i> (MPN/g <sup>†</sup> )	109	120	129	154	114	163	ND
C (%)	45.1	45.4	43.2	44.9	43.8	40.8	36.5
N (%)	1.2	1.4	1.4	1.5	1.3	1.2	3.3
C:N ratio	36	32	31	29	34	35	11

\*ND: None Detected

†Most Probable Number (of bacterial colonies) per g.

**Table 1.2.** Results of elemental analysis for six spent peat samples and the VT Compost (VT) made from a blend of the six spent peat samples.

Elements	Detect. Limit	Spent Peat Sample Number						
		# 1	# 2	# 3	# 4	# 5	# 6	VT Compost
----- mg/ kg -----								
Nitrogen (Kjeldahl)	100	14,400	15,200	10,000	15,800	14,300	11,000	39,100
Phosphorus	10	1100	700	1200	1100	2600	1500	9600
Potassium	100	400	700	500	500	500	500	17900
Sulfur	100	4300	5700	4800	6600	7500	5300	7400
Calcium	100	24,300	22,000	31,800	20,700	72,500	33,500	44,200
Magnesium	100	3400	4400	2600	1500	7700	6900	6900
Sodium	100	600	4200	4600	3500	900	2600	5600
Iron	1	1610	1460	1300	1500	3440	8690	18000
Aluminum	10	1560	650	920	1490	5480	3310	2090
Manganese	1	69	68	39	77	43	1290	795
Copper	1	75	66	215	425	202	45	497
Zinc	1	41	133	186	263	115	187	509
Cadmium	1	BDL*	BDL	BDL	BDL	BDL	BDL	BDL
Chromium	5	12	BDL	9	13	12	17	26
Nickel	5	7	BDL	9	6	6	10	16
Lead	5	BDL	BDL	8	8	6	BDL	BDL
Arsenic	1	BDL	BDL	1.1	1.5	1.3	BDL	2.3
Mercury	0.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Selenium	1	1	3	2.5	1.4	1.3	1.1	2.4
Molybdenum	5	BDL	BDL	BDL	BDL	BDL	BDL	12

\*BDL: Below Detection Limit

The peat media used in residential wastewater treatment systems has a life expectancy between seven and 15 years. This varies, dependent on the use of the system and maintenance. Generally, as the number of people served by a peat system increases and the level of system maintenance decreases, the life of the peat media is expected to decline faster. With time, all peat will break down to the point where it is no longer effective in treating wastewater. The spent peat media must be removed and properly disposed in a safe and sanitary manner and fresh media must be installed to maintain the treatment efficiency of the system.

**III. Permitting:** The replacement of peat is considered maintenance and a repair permit is only required for onsite disposal of peat as noted sections V and VI below. The ability of a given proprietary treatment unit to produce the required effluent quality is dependent on proper replacement of the proprietary media. The maintenance report shall provide sufficient information to explain the method of peat dewatering, peat removal, any stabilization activities, the final disposal of the peat media, and the source of the replacement peat. All work under this policy must be performed by the properly licensed onsite wastewater professionals. Licensed professionals are encouraged to follow the manufacturers' recommendations for properly removing the peat from the treatment units. Typically the peat is removed by hand or with a vacuum truck which is permitted to handle sewage/septage. When removing by hand, the flow to the peat unit is often cut off 24 to 72 hours prior to the removal of the peat to allow for drainage which improves handling. The units are generally drained to the septic tank or other treatment unit. A shovel or pitchfork is used to remove the peat in the hand removal method.

**IV. Coordination with other Agencies:** Concurrence with this policy was obtained from the Department of Environmental Quality's Office of Waste Permitting and Compliance and Office of Land Application on **March X, 2014.**

**V. Disposal Options:** The following options are available for disposal of spent peat media for small alternative onsite sewage systems (AOSS) as defined in 12 VAC 5-613:

- A. Transport of the spent media to a landfill.
- B. Disposal of the spent media on site where it was generated when soil and site conditions allow.
- C. Composting or land application in accordance with a Virginia Pollutant Abatement (VPA) permit through the Department of Environmental Quality

Options A (landfill) and C (permitted activity through DEQ) are also applicable to large AOSSs. Onsite disposal of spent peat media for large AOSSs will be considered on a case by case basis.

A. Landfilling

The available data suggest that spent peat media from residential applications is safe to landfill, provided that the media is sufficiently dewatered. Based on the currently available information, VDH believes that the spent media from residential applications is safe to dispose of in solid waste landfills provided that:

1. The spent media is removed by a properly licensed individual.

2. The manufacturer's instructions regarding acceptable peat removal methods are followed.
3. The spent media is mixed with hydrated lime at a nominal rate of 1 lbs. of lime per 0.9-1.0 cubic feet of media. For currently approved systems this requirement equals approximately one 50 lb bag of lime per Purafo module, three 50 lb bags of lime for an STB 500 Premier Tech container or four 50 lb bags of lime per STB 650 container. The spent media and lime are to be thoroughly combined to ensure contact and exposure of the peat to the lime.
4. The spent media does not exhibit free liquid when it is placed in a landfill. If there is any question about the moisture content of the material, the EPA Paint Filter Liquids Test (Method 9095B) should be conducted. To make the field implementation of the test more practical, a one half cup (4 oz, 113.4 gr., or 118 ml.) volume of spent media may be used where a 100 gr. or 100 ml. sample is called for in section 6.0 of the EPA Paint Filter Test.

When material is encountered that will not pass the EPA Paint Filter Test the spent media must be dewatered prior to disposing in a landfill. Dewatering may occur either on site or off site, but must be done in a manner that does not allow either direct or indirect human exposure to the spent media. When spent media is dewatered on site, the media must be held in an enclosed container that restricts contact by humans or vectors. Additionally, the container used to drain the media must be located in compliance with the setback distances for Pretreatment Units specified in Table 4.1 of the *Sewage Handling and Disposal Regulations*. Liquids leaching from the container must be collected and delivered to a permitted treatment system (septic tank or treatment unit) in a sanitary manner.

Nothing in this policy mandates that a landfill must accept spent peat media. Licensed professionals are encouraged to check with a potential receiving landfill prior to delivering the spent media to be sure the landfill will accept it.

Dewatered and limed peat is considered solid waste. The dewatered, limed peat must be transported to the landfill in closed containers with no leakage.

#### B. Onsite Disposal

Spent media may be disposed of in a trench or other excavation constructed on the site where it was generated. Offsite in-ground disposal is not allowed by this policy. Onsite disposal is allowed when the following site and design conditions are met.

1. The location of the trench/excavation complies with all setbacks for drainfields in Table 4.2 of the *Sewage Handling and Disposal Regulations* (12 VAC 5-610).
2. The disposal trench/excavation does not impact existing site drainage and is not located in areas subject to annual or more frequent flooding with flooding duration of 24 hours or more. Drainage ways, swales, and the low point of sinkholes should be avoided.

3. The trench/excavation is at least 6 feet horizontally from the dispersal area of the AOSS.
4. The bottom of the trench/excavation is six inches or more above a seasonal water table or permeability limiting feature. Fill may not be used to create the required vertical separation.
5. The manufacturer's instructions regarding acceptable peat removal methods are followed.
6. The spent media is placed in the trench/excavation and mixed with hydrated lime at the same ratio as in V.A.3. above. (The peat may be mixed in the treatment unit prior to transfer to the excavation if allowed by the manufacturer.)
7. The peat/lime mixture is compacted to no more than 6 inch lifts and backfilled with at least six inches of soil. The total thickness of the peat in a trench/excavation should be no more than one foot after compaction. Subsidence will likely occur as the peat degrades. The soil over the peat should be slightly mounded to facilitate runoff and offset subsidence. The disturbed area shall be seeded and mulched.

The owner shall submit a repair permit application in accordance with 12 VAC 5-610 with supporting documentation from a licensed onsite sewage professional that documents the depth to limiting features with at least two soil borings. A site sketch shall be provided which indicates the location and extent of the peat disposal area and confirms proper horizontal and vertical separation distances as indicated above. The licensed professional will provide a description of the intended peat removal, lime application, and disposal procedures. If the original construction permit for the facility has an approved peat disposal site that has not been modified, no additional permit is required.

C. Disposal through a DEQ VPA Permit

Those interested in composting or land application of the spent peat should contact the Department of Environmental Quality to obtain the proper permits.

**VI. Abandonment of Peat Treatment Systems:**

A. Abandonment with Removal of Peat

An owner may desire to take the peat treatment system offline and replace it with a new treatment unit or system. When a peat treatment unit is to be taken offline for any reason, the peat unit shall be properly abandoned/closed as follows:

1. Peat shall be removed in accordance with the manufacturer's instructions and disposed in accordance with one of the alternatives listed above.
2. Mechanical, electrical, and removable tank components such as lids, tipping pans, etc, shall be removed and salvaged or disposed as solid waste.

3. Plastic tanks should be removed and disposed as solid waste, but may be abandoned in place. Concrete tanks are normally abandoned in place. When a concrete or plastic tank is abandoned in place, the tank top and sides shall be removed or reduced so that they are below the surface of the soil. It is recommended that the sides be broken to at least one foot below the surface of the soil so as to not interfere with homeowner use of the site. The bottom of the tank shall be broken so it cannot hold water.
4. The tank site shall be backfilled with soil, gravel, or sand and compacted in lifts. The area shall be crowned and seeded for stabilization.

The owner shall submit a repair permit application in accordance with 12 VAC 5-610 with supporting documentation from a licensed onsite sewage professional that documents the intended peat removal method, lime application, and disposal procedure. If onsite disposal of the peat is intended see V.B above. The triangulated location of the abandoned tank must be provided to VDH for inclusion in the file on that property.

#### B. Abandonment with Onsite Disposal of Peat

If the bottom of the peat containment structure is located six (6) or more inches above a limiting feature, the licensed onsite professional may opt to leave the peat in the containment structure for disposal by abandonment. This option may be used when the following conditions are met.

1. The separation distance between the bottom of the tank and the limiting feature shall be verified through boreholes.
2. The peat unit shall be allowed to drain in accordance with the manufacturer's instructions which generally involve cutting flow to the system and allowing the free water to drain for 24 to 72 hours. The free water must be drained to the septic tank or treatment unit.
3. Mechanical, electrical, and removable tank components such as lids, tipping pans, etc, shall be removed and salvaged or disposed as solid waste.
4. Hydrated lime shall be mixed with the peat as detailed in section V.A.3.
5. When a concrete or plastic tank is abandoned in place, the tank top and sides shall be removed or reduced so that they are below the surface of the soil. It is recommended that the sides be broken to at least one foot below the surface of the soil so as to not interfere with homeowner use of the site. The bottom of the tank shall be broken so it cannot hold water.
6. The tank site shall be backfilled with soil, gravel, or sand and compacted in lifts. The area shall be crowned and seeded for stabilization.

The owner shall submit a repair permit application in accordance with 12 VAC 5-610 with supporting documentation from a licensed onsite sewage professional that documents the depth to limiting features through a minimum of two soil borings. A site sketch will be provided that

triangulates the location of the abandoned tank for inclusion in the file for that property. The licensed professional will provide a description of the intended peat dewatering, lime application, and disposal procedures.

Other abandonment procedures may be considered by the Division on a case-by-case basis if the peat cannot be removed due to site conditions such as, but not limited to, limited access or safety concerns.

DRAFT

Date, 2014

**TO:** District Health Directors and Environmental Health Managers  
Office of Environmental Health Services Staff  
VPI/SU Soil Scientists  
Professional Engineers and Onsite Soil Evaluators

**THROUGH:** Marissa J. Levine, MD, MPH  
Interim State Health Commissioner

**THROUGH:** Allen Knapp, Director  
Office of Environmental Health Services

**FROM:** Dwayne Roadcap, Director  
Division of Onsite Sewage, Water Services, Environmental  
Engineering and Marina Programs

**SUBJECT:** GUIDANCE MEMORANDUM AND POLICY 157

**Purpose:** To establish criteria for granting variances to 12VAC5-613-90.C, and 12VAC5-613-90.D.4.

**Scope:** This policy applies to repairs and voluntary upgrades of existing onsite sewage systems with flows less than or equal to 1,000 gallons per day, that result in the “direct dispersal of effluent to groundwater.”

**Background:** The Regulations for Alternative Onsite Sewage Systems (12VAC5-613-10 et seq.; “the AOSS Regulations”) define an alternative onsite sewage system (“AOSS”) design as constituting the “direct dispersal of effluent to groundwater” (“direct dispersal”) when such a design utilizes “less than six inches of vertical separation between the point of effluent application or the bottom of a trench or other excavation and ground water.” When a design constitutes direct dispersal, the requirements of 12VAC5-613-90.C apply. For AOSS with flows less than 1000 gallons per day (“GPD”), those requirements can be summarized as follows:

1. 12VAC5-613-90.C.1 requires compliance with the groundwater anti-degradation standard set forth in 9VAC25-280;

2. 12VAC5-613-90.C.2 requires quarterly sampling and remote monitoring of the treatment works (this requirement is derived from 12VAC5-610-100.G);
3. 12VAC5-613-90.C.3 requires treatment of wastewater that produces an effluent that complies with the following prior to application to the soil: Biochemical Oxygen Demand (“BOD<sub>5</sub>”) and Total Suspended Solid (“TSS”) concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2.2 col/100 ml as a geometric mean with no sample exceeding 14 col/100 ml; and total nitrogen (“TN”) concentration of less than 5 mg/l; high level disinfection; and filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 Nephelometric turbidity units prior to disinfection;.
4. 12VAC5-613-90.C.4 contains a prohibition on gravity dispersal into the soil treatment area;
5. 12VAC5-613-90.C.5 requires loading rates to comply with Table 1 of the AOSS Regulations;
6. 12VAC5-613-90.C.6 requires a renewable operating permit to be obtained; and
7. 12VAC5-613-90.C.7 requires the designer to provide a hydrogeologic analysis of the receiving groundwater.

Additionally, 12VAC5-613-90.D.4 requires designs for direct dispersal located in the Chesapeake Bay Watershed to be capable of producing TN concentrations less than or equal to 3 mg/l and total phosphorus concentrations less than or equal to 0.3 mg/l. 12VAC5-613-200.5 requires designs to meet certain horizontal setbacks between the soil treatment area and any drainage trench or excavation that comes within six inches vertically of ground water if such designs do not comply with the direct dispersal requirements in 12VAC5-610-90.C.

Prior to the adoption of the AOSS Regulations (and their predecessor, The Emergency Regulations for Alternative Onsite Sewage Systems), the safe and sanitary collection, conveyance, transportation, treatment, and disposal of sewage by onsite sewage systems were governed solely by the Sewage Handling and Disposal Regulations (12VAC5-610-20 et seq.; “SHDR”). The concept of an onsite sewage system resulting in direct dispersal was never anticipated, contemplated or sanctioned by the agency during development, adoption or implementation of the current version of the SHDR, which took effect on July 1, 2000. However, older systems that predated the current SHDR may have been installed under conditions that constitute direct dispersal; the majority of these older systems were installed without the addition of any effluent treatment beyond a septic tank.

In 2008, the General Assembly passed legislation ([House Bill 1166](#)) which required the agency to accept treatment works designs from professional engineers (“PE”) which deviated from the construction criteria of the SHDR, as long as the designs satisfied horizontal setbacks and performance requirements established by the Board of Health (“the Board”), among other criteria.<sup>1</sup> The Board originally adopted performance requirements for AOSS treatment works

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<sup>1</sup> The legislation is codified in §32.1-163.6 of the Code of Virginia. The relevant piece of the legislation states the following: “Notwithstanding other provisions of this chapter, for purposes of permit approval, the Board, Commissioner, and Department of Health shall accept treatment works designs from individuals licensed as professional engineers pursuant to Chapter 4 (§ [54.1-400](#) et seq.) of Title 54.1. The designs shall (i) be compliant

designs in the Emergency Regulations for Alternative Onsite Sewage Systems (“the Emergency Regulations”), which took effect on April 7, 2010 and expired on October 7, 2011. The Emergency Regulations did not contain specific performance requirements for direct dispersal designs, but simply required that any AOSS design where the vertical separation to limiting features was less than 12 inches incorporate TL-3 and disinfection.<sup>2</sup>

The corollary was that PEs could propose AOSS designs which constituted direct dispersal and the agency was required to accept and approve such designs so long as the design incorporated TL-3 and disinfection. The agency was amenable to this course of action in most instances where the proposal was to repair or upgrade an existing onsite sewage system because the proposals frequently: a. involved repairing or upgrading a system that predated the current SHDR and already resulted in direct dispersal; b. resulted in a significant improvement in the effluent quality of the onsite sewage system such that the state of the receiving groundwater would be improved; and c. in the case of repairs, mitigated a public health threat as the existing failing onsite sewage system potentially resulted in raw or partially treated sewage discharging into groundwater.

However, the agency found such AOSS designs for new construction to be problematic and inadequate to protect groundwater resources. In new construction situations, the proposal would necessarily create a new discharge to groundwater which would potentially run afoul of the Commonwealth’s Anti-Degradation of Groundwater Policy administered by the Department of Environmental Quality (9VAC25-280-30). In addition, unlike with repairs, such proposals would not result in the improvement of an existing discharge or the mitigation of a public health threat. Thus, during the development of the permanent AOSS Regulations, the agency, in consultation with the Department of Environmental Quality, established specific performance and operational requirements for direct dispersal so as to protect groundwater resources.

The Board adopted the AOSS Regulations with the specific direct dispersal requirements; the AOSS Regulations took effect on December 7, 2011. The performance and operational requirements for direct dispersal designs are set forth in 12VAC5-613-90.C, 12VAC5-610-100.G and 12VAC5-613-90.D.4. While the AOSS Regulations do not specifically distinguish between new construction and repairs of failing onsite sewage under 12VAC5-610-280.C.2 and voluntary upgrades under Va. Code Section [32.1-164.1:3](#) for purposes of complying with the requirements of direct dispersal, the policy of the agency is to encourage the upgrade of the effluent quality of existing groundwater discharges so that the state of the receiving groundwater is improved. Therefore, this policy is intended to allow for variances to the requirements of 12VAC5-613-

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with standard engineering practice and performance requirements established by the Board and those horizontal setback requirements necessary to protect the public health and the environment, (ii) reflect that degree of skill and care ordinarily exercised by licensed members of the engineering profession practicing at the time of performance, (iii) be appropriate for the particular soil characteristics of the site, and (iv) ensure that the treatment works will meet or exceed the discharge, effluent, and surface and ground water quality standards for systems otherwise permitted pursuant to the regulations implementing this chapter.”

<sup>2</sup> "Treatment level 3 effluent" or "TL-3 effluent" means “effluent that has been treated to produce BOD<sub>5</sub> and TSS concentrations equal to or less than 10 mg/l each” (12VAC5-613-10). “Disinfection” means “a process used to destroy or inactivate pathogenic microorganisms in wastewater to render them non-infectious” (12VAC5-613-10).

90.C, 12VAC5-613-90.D.4, 12VAC5-610-100.G, and 12VAC5-613-200.5 for repairs and upgrades of onsite sewage systems subject to the terms and conditions herein.

It is important to understand two additional programmatic elements before discussing the specific terms and conditions to allow for variances from the requirements of direct dispersal. These two elements are waivers pursuant to Va. Code Section 32.1-164.1:1 and voluntary upgrades.

In 2004, the General Assembly of Virginia approved legislation ([House Bill 930](#)) which amended Va. Code Section [32.1-164.1:1](#) to allow owners that repair their onsite sewage system to request a waiver from requirements for treatment beyond the level provided by the existing system, or requirements for pressure dosing, provided the original system was not installed illegally. Such waivers become null and void upon sale of the property. More details on House Bill 930 and repair waivers can be found in Guidance, Memorandum, and Policies (GMP) [128](#).

In 2011, the General Assembly of Virginia approved legislation ([House Bill 1626](#)) which again amended Va. Code Section [32.1-164.1:1](#) and added Va. Code Section [32.1-164.1:3](#) to allow for the voluntary upgrade of onsite sewage systems and alternative discharging sewage systems. Local health departments occasionally receive requests to upgrade systems that are not “failing” in order to enhance performance or extend the life of the systems. However, prior to the enactment of this legislation, VDH was unable to issue permits for many of these voluntary upgrades as the sites did not meet current regulatory requirements and the repair clause (see 12VAC5-610-280.C.2) could not be invoked because the system did not meet the definition of a failing system.

Under Va. Code Section 32.1-164.1:3, any owner that desires to voluntarily upgrade an onsite sewage system or alternative discharging sewage system must file an application for a construction permit to improve the system in accordance with the repair clause, provided such an upgrade is for the purpose of reducing threats to public health, or to ground or surface waters.

As amended, Va. Code Section 32.1-164.1:1 allows owners that voluntarily upgrade their system to request a waiver from requirements for treatment beyond the level provided by the existing system, or requirements for pressure dosing, similar to waivers granted to repair failing systems. However, unlike waivers granted to repair failing systems, waivers granted for voluntary upgrades do not become null and void upon sale of the property. More details on House Bill 1626 and voluntary upgrades can be found in [GMP 155](#).

The agency realizes the necessity to streamline and expedite the processing of AOSS repair and voluntary upgrade proposals. For one, the agency is under a statutory mandate to process and approve or disapprove engineered treatment works ( $\leq 1,000$  GPD) designs under Va. Code Section 32.1-163.6 within twenty-one (21) days of submission. In addition, failing systems may constitute an imminent threat to public health and the environment as it frequently results in raw or partially treated sewage infiltrating and potentially contaminating the groundwater. Due to this public health threat, it is critical for the agency to expedite the review process in order to install a repair as soon as practicable. This policy is intended to streamline the decision-making

process by authorizing local health departments<sup>3</sup>, in consultation with the Office of Environmental Health Services (“OEHS”) technical services engineering staff, to grant variances to the direct dispersal requirements of 12VAC5-613-90.C, 12VAC5-613-90.D.4, 12VAC5-613-100.G, and 12VAC5-613-200.5 when a repair or voluntary upgrade proposal for a small AOSS complies with the terms and conditions of this policy for small systems ( $\leq 1,000$  gpd) producing residential strength effluent.

**Authority:** Va. Code Section 32.1-12 provides the Board with the authority to make, adopt, promulgate and enforce regulations and provide for reasonable variances and exemptions there from. Va. Code Section 32.1-20 vests the State Health Commissioner (“Commissioner”) with all the authority of the Board when it is not in session, subject to such rules and regulations as may be prescribed by the Board. 12VAC5-610-190 provides the Commissioner with the authority to grant variances from the AOSS Regulations.<sup>4</sup> 12VAC5-610-40.2 provides the Commissioner with the authority to delegate her powers to issue variances under the AOSS Regulations. The local health department, in consultation with the OEHS technical services engineering staff, is hereby delegated with the authority to grant variances from the requirements of 12VAC5-613-90.C, 12VAC5-613-90.D.4, 12VAC5-613-100.G and 12VAC5-613-200.5 for repair and voluntary upgrade proposals that fully comply with the terms and conditions of this policy.

**Procedure:** A designer, with the affirmative consent of the owner, is responsible for submitting a repair or voluntary upgrade proposal that results in direct dispersal to the local health department pursuant to the AOSS Regulations, and this policy. The cover page of the proposal shall specify that the proposal is submitted pursuant to this policy (GMP 157). If the designer has not indicated on the cover page that he or she is seeking review pursuant to this policy, then the proposal shall be reviewed for compliance with all applicable laws and regulations. When the local health department receives a proposal pursuant to this policy, it should review the proposal within three working days and also forward the proposal to the technical services engineering staff as soon as practicable for their review. If the local health department, in consultation with the technical services staff, determines that the proposal complies with the requirements of this policy, then the local health department shall issue a construction permit with the appropriate variance letter set forth in Appendix A attached to it. If the proposal fails to comply with the AOSS Regulations or this policy and the designer fails to modify the proposal to comport to the AOSS Regulations or this policy within the review timeframes set forth in the Code of Virginia, then the technical services staff shall recommend to the local health department that the construction permit be denied and the permit shall be denied accordingly. The denial should advise the owner of his/her right to appeal the denial.

**Criteria:** There are four possible scenarios for submitting a variance proposal under this policy: 1) repairs without a request for a waiver pursuant to Va. Code Section 32.1-164.1:1, 2) repairs with a request for a waiver pursuant to Va. Code Section 32.1-164.1:1, 3) voluntary upgrades

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<sup>3</sup> “Local Health Department” means the local health department having jurisdiction over the AOSS (12VAC5-613-10).

<sup>4</sup> 12VAC5-613-40.A provides that the AOSS Regulations are supplemental to the Sewage Handling and Disposal Regulations. 12VAC5-613-40.B provides that “all procedures pertaining to enforcement, minimum requirements for filing applications, and processing of applications, including appeals and case decisions contained in the Sewage Handling and Disposal Regulations shall apply to the permitting of AOSSs.”

without a request for a waiver pursuant to Va. Code Section 32.1-164.1:1, and 4) voluntary upgrades with a request for a waiver pursuant to Va. Code Section 32.1-164.1:1. The applicability of certain requirements for direct dispersal differs depending upon the specific scenario. Therefore, the terms and conditions also differ. A flow path for reviewing the different scenarios is provided in Appendix B.

### **Scenario #1: Repair without a request for a waiver.**

In this scenario an existing onsite sewage system is failing and the owner is compelled to correct the malfunction (see 12VAC5-610-350). The failing system serves a facility that produces residential strength effluent, and has a sewage flow of less than or equal to 1000 GPD. The owner submits an application, with an accompanying evaluation and design from a private sector designer, to repair the failing system by installing an AOSS that results in direct dispersal. The cover page of the proposal states that the design is being submitted pursuant to this policy. Additionally, the owner has elected not to request, or is not eligible for, a waiver pursuant to Va. Code Section 32.1-164.1:1.

The local health department, in consultation with OEHS technical service engineer staff, shall grant the owner a variance from the provisions of 12VAC5-613-90.C.2-3, 12VAC5-613-90.C.6-7, and 12VAC5-613-90.D.4 (if applicable) provided:

1. The site and soil evaluation included with the proposal shows that the existing onsite sewage disposal system to be repaired results in direct dispersal as defined in 12VAC5-613-10.
2. The proposal is submitted pursuant to Va. Code Section 32.1-163.6.
3. The designer certifies that there are no viable regulatory compliant options on the property that would not result in direct dispersal. However, this requirement is waived if the proposal does not involve replacing or modifying the existing dispersal field.
4. At a minimum, the AOSS is designed to incorporate TL-3 effluent with disinfection.<sup>5</sup>
5. Loading rates to the soil treatment area of the proposed design do not exceed the loading rates in Table 1 and comply with 12VAC5-613-80.10 of the AOSS Regulations.
6. The proposed design does not utilize gravity dispersal to the soil treatment area. However, this requirement is waived if the repair or voluntary upgrade proposal doesn't involve replacing or modifying the dispersal field.

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<sup>5</sup> Table 2 of the AOSS Regulations requires TL-3 with disinfection whenever there is less than 12 inches of vertical separation from the point of effluent application or the bottom of the trench or other excavation to a limiting feature. Research indicates that pathogens and fecal organisms can travel great distances in unsaturated soil columns, thus generating the need for effective disinfection. As such, the incorporation of a minimum TL-3 with disinfection in accordance with Table 2 of the AOSS Regulations is a requirement for all designs with less than 12 inches of vertical separation to groundwater. This policy does not purport to grant a variance from such requirement. However, when a waiver is granted pursuant to Va. Code Section 32.1-164.1:1, the owner cannot be compelled to install TL-3 with disinfection.

7. The proposed design provides a 50% reduction of total nitrogen as compared to a conventional gravity drainfield system by using a nitrogen reducing unit approved by VDH.
8. The design complies with all applicable performance requirements set forth in 12VAC5-613-80.
9. If there is a drinking water source within 200 feet down slope of the absorption area (either proposed or existing if reconnecting to the existing absorption area), the proposal incorporates redundant disinfection using a minimum ultraviolet dose of 50,000 microwatt-seconds per centimeter squared and chlorine disinfection or the proposal complies with the requirements for high level disinfection as described in 12 VAC 5-613-90.C.3.b. and c.
10. The design complies with the horizontal setbacks contained in 12VAC5-613-200 to the greatest extent possible, but is no closer to a drinking water source, shellfish waters, sink hole, or wetland than the existing sewage system.

In this scenario, the variance shall stipulate that the AOSS meet the laboratory sampling and monitoring requirements set forth in 12VAC5-613-100.E, be inspected by a licensed operator at least annually, and meet the operation and maintenance requirements pertaining to small AOSS set forth in Part III of the AOSS Regulations.<sup>6</sup>

When an existing onsite sewage systems results in direct dispersal and the owner requests a repair to improve the effluent quality of such systems, the repair is deemed to comply with the groundwater anti-degradation requirements set forth in 12VAC5-613-90.C.1. As such, a variance to 12VAC5-613-90.C.1 is not necessary for this scenario.

When an owner requests a repair in accordance with the terms and conditions of this scenario, the repair is deemed to comply with the ground water protection requirements of 12VAC5-613-90.C. As such, a variance to 12VAC5-613-200.5 is not necessary for this scenario.

Variations granted under this scenario result in:

1. A variance from the treatment requirements of 12VAC5-613 90.C.3 and 90.D.4 (if applicable).
2. A variance from groundwater and laboratory sampling in 12VAC5-613 90.C.2.
3. A variance from the renewable operating permit in 12VAC5-613-90.C.6.
4. A variance from the hydrogeological analysis in 12VAC5-613-90C.7.
5. The treatment level of TL-3 and disinfection being established for the site and transfers with sale of the property.

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<sup>6</sup> 12VAC5-613-100.E requires that, in addition to the initial grab sample, four additional grab samples be collected, analyzed and submitted to the department within the first two years of operation and annually thereafter. The interval for collecting the samples shall not be less than quarterly or more than semiannually. After two years of sampling, the owner may submit a request to the department to reduce the sampling frequency to once every five years. The department shall grant such request if the mean of five or more consecutive samples complies with the applicable performance requirements of the AOSS Regulations. Samples shall be analyzed for BOD<sub>5</sub> and fecal coliform.

6. Sampling for BOD<sub>5</sub> and fecal coliform will be conducted in accordance with 12VAC5-613-100.E.

**Scenario #2: Repair with a request for a waiver.**

In this scenario an existing onsite sewage system is failing and the owner is compelled to correct the malfunction (see 12VAC5-610-350). The failing system serves a facility that produces residential strength effluent, and has a sewage flow of less than or equal to 1000 GPD. The owner submits an application, with an accompanying evaluation and design from a private sector designer, to repair the failing system by installing an AOSS that results in direct dispersal. The cover page of the proposal states that the design is being submitted pursuant to this policy. Additionally, the owner has elected to request, and is eligible for, a waiver pursuant to Va. Code Section 32.1-164.1:1.

The local health department, in consultation with OEHS technical service engineer staff, shall grant the owner a variance from the provisions of 12VAC5-613-90.C.2, and 12VAC5-613-90.C.6-7 provided:

1. The application complies with the requirements of GMP 128 (or successor policy) for repair waivers pursuant to Va. Code 32.1-164.1:1.
2. The site and soil evaluation included with the proposal shows that the existing onsite sewage disposal system to be repaired result in direct dispersal as defined in 12VAC5-613-10.
3. The designer certifies that there are no viable regulatory compliant options on the property that would not result in the direct dispersal of effluent to groundwater. However, this requirement is waived if the proposal does not involve replacing or modifying the dispersal field.
4. Loading rates to the soil treatment area of the proposed design do not exceed the loading rates in Table 1 and comply with 12VAC5-613-80.10 of the AOSS Regulations.
5. The design complies with the horizontal setbacks contained in 12VAC5-613-200 to the greatest extent possible, but is no closer to a drinking water source, shellfish waters, sink hole, or wetland than the existing sewage system.

In this scenario, if the proposal incorporated a generally approved treatment unit, the variance shall stipulate that the AOSS meet the laboratory sampling and monitoring requirements set forth in 12VAC5-613-100.D, be inspected by a licensed operator at least annually, and meet the operation and maintenance requirements pertaining to small AOSS set forth in Part III of the AOSS Regulations.<sup>7</sup> If the proposal incorporates a non-generally approved treatment unit, the variance shall stipulate that the AOSS meet the laboratory sampling and monitoring requirements set forth in 12VAC5-613-100.E, be inspected by a licensed operator at least annually, and meet the operation and maintenance requirements pertaining to small AOSS set forth in Part III of the AOSS Regulations.

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<sup>7</sup> 12VAC5-613-100.D requires that, in addition to the initial grab sample, a grab samples be collected, analyzed and submitted to the department once every five years.

When an existing onsite sewage system results in direct dispersal and the owner requests a repair to improve the effluent quality of such systems, the repair is deemed to comply with the groundwater anti-degradation requirements set forth in 12VAC5-613-90.C.1. As such, a variance to 12VAC5-613-90.C.1 is not necessary for this scenario.

When an owner requests a waiver pursuant to Va. Code Section 32.1-164.1:1, the owner cannot be compelled to install treatment beyond the level provided by the existing system or new requirements for pressure dosing. Therefore, variances from 12VAC5-613-90.C.3-4, and 12VAC5-613-90.D.4 (if applicable) are not necessary for this scenario.

When an owner requests a repair in accordance with the terms and conditions of this scenario, the repair is deemed to comply with the ground water protection requirements of 12VAC5-613-90.C. As such, a variance to 12VAC5-613-200.5 is not necessary for this scenario.

Variances granted under this scenario result in:

1. A variance from groundwater and laboratory sampling in 12VAC5-613 90.C.2
2. A variance from the renewable operating permit in 12VAC5-613-90.C.6
3. A variance from the hydrogeological analysis in 12VAC5-613-90C.7
4. Sampling requirements are tied to the treatment level installed.
5. The variance is null and void upon transfer of the property as the treatment waiver will be null and void.

### **Scenario #3: Voluntary upgrade without a request for a waiver.**

In this scenario the existing onsite sewage system is functioning properly. The existing system serves a facility that produces residential strength effluent, and has a sewage flow of less than or equal to 1000 GPD. The owner submits an application, with an accompanying evaluation and design from a private sector designer, to voluntarily upgrade the system by installing an AOSS that results in direct dispersal. An analysis of how the upgrade improves the existing condition must be included with the submittal. The cover page of the proposal states that the design is being submitted pursuant to this policy. Additionally, the owner has elected not to request, or is not eligible for, a waiver pursuant to Va. Code Section 32.1-164.1:1.

The local health department, in consultation with OEHS technical service engineer staff, shall grant the owner a variance from the provisions of 12VAC5-613-90.C.2-3, 12VAC5-613-90.C.6-7, and 12VAC5-613-200.5 provided:

1. The application complies with the requirements of [GMP 155](#) (or successor policy) for voluntary upgrades.
2. The site and soil evaluation included with the proposal shows that the existing onsite sewage disposal system to be upgraded result in direct dispersal as defined in 12VAC5-613-10.
3. The proposal is submitted pursuant to Va. Code Section 32.1-163.6.

4. The designer certifies that there are no viable regulatory compliant options on the property that would not result in the direct dispersal. However, this requirement is waived if the proposal does not involve replacing or modifying the dispersal field.
5. At a minimum, the AOSS is designed to incorporate TL-3 effluent with disinfection.
6. Loading rates to the soil treatment area of the proposed design do not exceed the loading rates in Table 1 and comply with 12VAC5-613-80.10 of the AOSS Regulations.
7. The proposed design does not utilize gravity dispersal to the soil treatment area. However, this requirement is waived if the proposal does not involve replacing or modifying the dispersal field.
8. The proposed design provides a 50% reduction of total nitrogen as compared to a conventional gravity drainfield system by using a nitrogen reducing unit approved by VDH.
9. The design complies with all applicable performance requirements set forth in 12VAC5-613-80.
10. If there is a drinking water source within 200 feet down slope of the absorption area (either proposed or existing if reconnecting to the existing absorption area), the proposal incorporates redundant disinfection using a minimum ultraviolet dose of 50,000 microwatt-seconds per centimeter squared and chlorine disinfection or the proposal complies with the requirements for high level disinfection as described in 12 VAC 5-613-90.C.3.b. and c.
11. The design complies with the horizontal setbacks contained in 12VAC5-613-200 to the greatest extent possible, but is no closer to a drinking water source, shellfish waters, sink hole, and wetland than the existing sewage system.

In this scenario, the variance shall stipulate that the AOSS meet the laboratory sampling and monitoring requirements set forth in 12VAC5-613-100.E, be inspected by a licensed operator at least annually, and meet the operation and maintenance requirements pertaining to small AOSS set forth in Part III of the AOSS Regulations.

When an existing onsite sewage systems results in direct dispersal and the owner requests a voluntary upgrade to improve the effluent quality of such systems, the voluntary upgrade is deemed to comply with the groundwater anti-degradation requirements set forth in 12VAC5-613-90.C.1. As such, a variance to 12VAC5-613-90.C.1 is not necessary for this scenario.

When an owner requests a voluntary upgrade in accordance with the terms and conditions of this scenario, the voluntary upgrade is deemed to comply with the ground water protection requirements of 12VAC5-613-90.C. As such, a variance to 12VAC5-613-200.5 is not necessary for this scenario.

Variations granted under this scenario result in:

1. A variance from the treatment requirements of 12VAC5-613 90.C.3 and 90.D.4
2. A variance from groundwater and laboratory sampling in 12VAC5-613 90.C.2
3. A variance from the renewable operating permit in 12VAC5-613-90.C.6
4. A variance from the hydrogeological analysis in 12VAC5-613-90C.7

5. The treatment level of TL-3 and disinfection being established for the site.
6. Sampling for BOD<sub>5</sub> and fecal coliform will be conducted in accordance with 12VAC5-613-100.E.

#### **Scenario #4: Voluntary upgrade with a request for a waiver.**

In this scenario the existing onsite sewage system is functioning properly. The existing system serves a facility that produces residential strength effluent, and has a sewage flow of less than or equal to 1000 GPD. The owner submits an application, with an accompanying evaluation and design from a private sector designer, to voluntarily upgrade the system by installing an AOSS that results in direct dispersal. The cover page of the proposal states that the design is being submitted pursuant to this policy. Additionally, the owner has elected to request, and is eligible for, a waiver pursuant to Va. Code Section 32.1-164.1:1.

The local health department, in consultation with OEHS technical service engineer staff, shall grant the owner a variance from the provisions of 12VAC5-613-90.C.2, and 12VAC5-613-90.C.6-7 provided:

1. The application complies with the requirements of GMP 155 (or successor policy) for voluntary upgrades.
2. The site and soil evaluation included with the proposal shows that the existing onsite sewage disposal system to be upgraded result in direct dispersal as defined in 12VAC5-613-10.
3. The designer certifies that there are no viable regulatory compliant options on the property that would not result in the direct dispersal. However, this requirement is waived if the proposal does not involve replacing or modifying the dispersal field.
4. Loading rates to the soil treatment area of the proposed design do not exceed the loading rates in Table 1 and comply with 12VAC5-613-80.10 of the AOSS Regulations.
5. The design complies with the horizontal setbacks contained in 12VAC5-613-200 to the greatest extent possible, but is no closer to a drinking water source, shellfish waters, sink hole, or wetland than the existing sewage system.

In this scenario, if the proposal incorporated a generally approved treatment unit, the variance shall stipulate that the AOSS meet the laboratory sampling and monitoring requirements set forth in 12VAC5-613-100.D, be inspected by a licensed operator at least annually, and meet the operation and maintenance requirements pertaining to small AOSS set forth in Part III of the AOSS Regulations. If the proposal incorporates a non-generally approved treatment unit, the variance shall stipulate that the AOSS meet the laboratory sampling and monitoring requirements set forth in 12VAC5-613-100.E, be inspected by a licensed operator at least annually, and meet the operation and maintenance requirements pertaining to small AOSS set forth in Part III of the AOSS Regulations.

When an existing onsite sewage system results in direct dispersal and the owner requests a voluntary upgrade to improve the effluent quality of such systems, the voluntary upgrade is

deemed to comply with the groundwater anti-degradation requirements set forth in 12VAC5-613-90.C.1. As such, a variance to 12VAC5-613-90.C.1 is not necessary for this scenario.

When an owner requests a wavier pursuant to Va. Code Section 32.1-164.1:1, the owner cannot be compelled to install treatment beyond the level provided by the existing system or new requirements for pressure dosing. Therefore, variances from 12VAC5-613-90.C.3-4, and 12VAC5-613-90.D.4 (if applicable) are not necessary for this scenario.

When an owner requests a voluntary upgrade in accordance with the terms and conditions of this scenario, the voluntary upgrade is deemed to comply with the ground water protection requirements of 12VAC5-613-90.C. As such, a variance to 12VAC5-613-200.5 is not necessary for this scenario.

Nothing contained in this policy shall be construed to prohibit an applicant from seeking a variance pursuant to 12VAC5-610-190. In addition, nothing in this policy shall be construed to prohibit an applicant from seeking a waiver from treatment or pressure dosing pursuant to Va. Code Section 32.1-164.1:1 or to require an applicant to seek a waiver from treatment or pressure dosing pursuant to Va. Code Section 32.1-164.1:1.

Variances granted under this scenario result in:

1. A variance from groundwater and laboratory sampling in 12VAC5-613 90.C.2
2. A variance from the renewable operating permit in 12VAC5-613-90.C.6
3. A variance from the hydrogeological analysis in 12VAC5-613-90C.7
4. The sampling frequency is tied to the treatment level installed.

**Appendix A: Variance Letters**  
**Scenario #1: Repair without a request for a waiver.**

<date>

**Certified Mail**

<owner's name>

<owner's address>

<city>, <state> <zip>

Dear Mr./Mrs. <owner's last name>:

RE: <county/zip>, <tax map/GPIN number>, <property address>, Variance request for repair

I am responding to your request for a variance from 12VAC5-613-90.C.2-3, and 12VAC5-613-90.C.6-7 <, and 12VAC5-613-90.D.4 if applicable> of the Regulations for Alternative Onsite Sewage Systems (12VAC5-613, "the AOSS Regulations").

<sup>1</sup> The AOSS Regulations establish performance and operational requirements for AOSS that disperse effluent (or partially treated sewage) directly into groundwater. Direct dispersal to groundwater presents a significant public health concern because viruses and bacteria can be easily transported in saturated soil conditions, possibly affecting nearby drinking water supplies or shellfish waters. A number of diseases can occur if effluent is not properly treated and dispersed, including shigellosis, hepatitis, gastroenteritis, and cholera.

Your existing sewage system disperses <septic tank effluent, TL-2 effluent, TL-3 effluent without disinfection> directly into the watertable. On <date of application>, you requested a construction permit to install a repair that would also directly disperse to groundwater, but instead of discharging <septic tank effluent, TL-2 effluent, TL-3 effluent without disinfection>, you proposed to discharge TL-3 effluent with disinfection. In the application, your designer stated that you wanted a variance from the treatment and operational requirements for direct dispersal pursuant to Guidance, Memorandum, and Policy (GMP) 157.

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<sup>1</sup> 12VAC5-613-90.C.1 requires compliance with the groundwater anti-degradation standard set forth in 9VAC25-80; 12VAC5-613-90.C.2 requires quarterly sampling and remote monitoring of the treatment works (this requirement is derived from 12VAC5-613-100.G); 12VAC5-613-90.C.3 requires treatment of effluent capable of producing Biochemical Oxygen Demand – five day ("BOD<sub>5</sub>") and Total Suspended Solid ("TSS") concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2.2 col/100 ml as a geometric mean with no sample exceeding 14 col/100 ml; total nitrogen ("TN") concentration of less than 5 mg/l; high level disinfection; and filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 Nephelometric turbidity units prior to disinfection; 12VAC5-613-90.C.4 contains a prohibition on gravity dispersal into the soil treatment area; 12VAC5-613-90.C.5 requires loading rates to comply with Table 1 of the Regulations; 12VAC5-613-90.C.6 requires a renewable operating permit; 12VAC5-613-90.C.7 requires the designer to provide a hydrogeologic analysis of the receiving groundwater; and 12VAC5-613-90.D.4 requires designs for direct dispersal within the Chesapeake Bay Watershed to be capable of producing TN concentrations less than or equal to 3 mg/l and total phosphorus concentrations less than or equal to 0.3 mg/l.

I have reviewed your proposed design and found the design complies with the terms and conditions of GMP 157. Pursuant to GMP 157, I am granting you a variance, on behalf of the State Health Commissioner, to 12VAC5-613-90.C.2-3 and 12VAC5-613-90.C.6-7 <and 12VAC5-613-90.D.4 if applicable> of the AOSS Regulations.<sup>2</sup> You are not required to sample quarterly, remotely monitor your repair, or receive a renewable operating permit. However, you must sample the AOSS for BOD5 and fecal coliforms in accordance with 12VAC5-613-100.E, which describes the sampling frequency for a non-generally approved treatment device. 12VAC5-613-100.E requires that, in addition to the initial grab sample, four additional grab samples be collected, analyzed and submitted to the department within the first two years of operation and annually thereafter. The interval for collecting the samples shall not be less than quarterly or more than semiannually. After five sampling events have occurred, you may submit a request to the <local> Health Department to reduce the sampling frequency to once every five years. The <local> Health Department shall grant such a request if the mean of five or more consecutive samples complies with the applicable performance requirements of the AOSS Regulations. You must also have an operator annually report on the system's function, which all AOSS owners must do.

This variance is effective 15 days from your receipt of this letter and construction permit. This variance is not transferable to any other sewage system design, and becomes null and void if the construction permit expires. If you install the repair, then this variance remains in effect as long as the repair does not fail.<sup>3</sup>

If you wish to challenge the conditions set forth in this variance, then please contact Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental Engineering, and Marina Programs, within 30 days of your receipt of this letter. Mr. Roadcap can be reached at 109 Governor Street, 5<sup>th</sup> Floor, Richmond, Virginia 23219, or (804) 864-7458. If you have other questions, please contact me at <telephone number>.

Sincerely,

<EHS name>

<EHS title>

cc: <Health Director>  
<Environmental Health Manager>  
Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental Engineering, and Marina Programs

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<sup>2</sup> 12VAC5-613-100.G.1 is incorporated by reference in 12VAC5-613-90.C.2.

<sup>3</sup> 12VAC5-610-350 states that for the purpose of requiring correction of a malfunctioning sewage disposal system the presence of raw or partially treated sewage on the ground's surface or in adjacent ditches or waterways or exposure to insects, animals or humans is prima facie evidence of such system failure and is deemed a violation of the regulations. Backup of sewage into plumbing fixtures may also indicate system failure.

## Scenario #2: Repair with a request for a waiver.

<date>

### Certified Mail

<owner's name>  
<owner's address>  
<city>, <state> <zip>

Dear Mr./Mrs. <owner's last name>:

RE: <county/zip>, <tax map/GPIN number>, <property address>, Variance request for repair

I am responding to your request for a variance from 12VAC5-613-90.C.2, and 12VAC5-613-90.C.6-7 of the Regulations for Alternative Onsite Sewage Systems (12VAC5-613, "the AOSS Regulations").<sup>4</sup> The AOSS Regulations establish performance and operational requirements for AOSS that disperse effluent (or partially treated sewage) directly into groundwater. Direct dispersal to groundwater presents a significant public health concern because viruses and bacteria can be easily transported in saturated soil conditions, possibly affecting nearby drinking water supplies or shellfish waters. A number of diseases can occur if effluent is not properly treated and dispersed, including shigellosis, hepatitis, gastroenteritis, and cholera.

Your existing sewage system disperses <septic tank effluent, TL-2 effluent, TL-3 effluent, TL-3 effluent with disinfection> directly into the watertable. On <date of application>, you requested a construction permit to install a repair that would also directly disperse to groundwater, but instead of discharging <septic tank effluent, TL-2 effluent, TL-3 effluent, TL-3 effluent with disinfection>, you proposed to discharge <TL-2 effluent, TL-3 effluent, TL-3 effluent with disinfection>. In the application, your designer stated that you wanted a variance from the hydrogeologic analysis and operational requirements for direct dispersal pursuant to Guidance, Memorandum, and Policy (GMP) 157. Additionally, you have requested a waiver

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<sup>4</sup> 12VAC5-613-90.C.1 requires compliance with the groundwater anti-degradation standard set forth in 9VAC25-80; 12VAC5-613-90.C.2 requires quarterly sampling and remote monitoring of the treatment works (this requirement is derived from 12VAC5-613-100.G); 12VAC5-613-90.C.3 requires treatment of effluent capable of producing Biochemical Oxygen Demand – five day ("BOD<sub>5</sub>") and Total Suspended Solid ("TSS") concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2.2 col/100 ml as a geometric mean with no sample exceeding 14 col/100 ml; total nitrogen ("TN") concentration of less than 5 mg/l; high level disinfection; and filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 Nephelometric turbidity units prior to disinfection; 12VAC5-613-90.C.4 contains a prohibition on gravity dispersal into the soil treatment area; 12VAC5-613-90.C.5 requires loading rates to comply with Table 1 of the Regulations; 12VAC5-613-90.C.6 requires a renewable operating permit; 12VAC5-613-90.C.7 requires the designer to provide a hydrogeologic analysis of the receiving groundwater; and 12VAC5-613-90.D.4 requires designs for direct dispersal within the Chesapeake Bay Watershed to be capable of producing TN concentrations less than or equal to 3 mg/l and total phosphorus concentrations less than or equal to 0.3 mg/l.

from the <treatment, pressure dosing, treatment and pressure dosing> requirements for direct dispersal pursuant to Va. Code Section 32.1-164.1:1.

I have reviewed your proposed design and found the design complies with the terms and conditions of GMP 157. Pursuant to GMP 157, I am granting you a variance, on behalf of the State Health Commissioner, to 12VAC5-613-90.C.2 and 12VAC5-613-90.C.6-7 of the AOSS Regulations.<sup>5</sup> You are not required to sample quarterly, remotely monitor your repair, or receive a renewable operating permit. However, you must sample the AOSS for BOD<sub>5</sub> <and fecal coliforms (if design calls for disinfection)> in accordance with <**Generally Approved System** 12VAC5-613-100.D, which describes the sampling frequency for generally approved treatment devices. 12VAC5-613-100.D requires an initial sample to be collected within 180 days of system operation. Thereafter, a sample is required once every five years, which provides assurance that your system continues to function as designed.> <**Non-Generally Approved System** 12VAC5-613-100.E, which describes the sampling frequency for a non-generally approved treatment device. 12VAC5-613-100.E requires that, in addition to the initial grab sample, four additional grab samples be collected, analyzed and submitted to the department within the first two years of operation and annually thereafter. The interval for collecting the samples shall not be less than quarterly or more than semiannually. After a minimum of five sampling events, you may submit a request to the <local> Health Department to reduce the sampling frequency to once every five years. The <local> Health Department shall grant such request if the mean of five or more consecutive samples complies with the applicable performance requirements of the AOSS Regulations.> You must also have an operator annually report on the system's function, which all AOSS owners must do.

This variance is effective 15 days from your receipt of this letter and upon issuance of the construction permit. The construction permit can be issued after you record the waiver. A release and hold harmless agreement must also be executed. This variance is not transferable to any other sewage system design, and becomes null and void if the construction permit expires. If you install the repair, then this variance remains in effect as long as the repair does not fail.<sup>6</sup>

If you wish to challenge the conditions set forth in this variance, then please contact Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental Engineering, and Marina Programs, within 30 days of your receipt of this letter. Mr. Roadcap can be reached at 109 Governor Street, 5<sup>th</sup> Floor, Richmond, Virginia 23219, or (804) 864-7458. If you have other questions, please contact me at <telephone number>.

Sincerely,

<EHS name>

<EHS title>

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<sup>5</sup> 12VAC5-613-100.G.1 is incorporated by reference in 12VAC5-613-90.C.2.

<sup>6</sup> 12VAC5-610-350 states that for the purpose of requiring correction of a malfunctioning sewage disposal system the presence of raw or partially treated sewage on the ground's surface or in adjacent ditches or waterways or exposure to insects, animals or humans is prima facie evidence of such system failure and is deemed a violation of the regulations. Backup of sewage into plumbing fixtures may also indicate system failure.

cc: <Health Director>  
<Environmental Health Manager>  
Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental  
Engineering, and Marina Programs

DRAFT

### Scenario #3: Voluntary upgrade without a request for a waiver.

<date>

#### Certified Mail

<owner's name>

<owner's address>

<city>, <state> <zip>

Dear Mr./Mrs. <owner's last name>:

RE: <county/zip>, <tax map/GPIN number>, <property address>, Variance request for voluntary upgrade

I am responding to your request for a variance from 12VAC5-613-90.C.2-3, and 12VAC5-613-90.C.6-7 <, and 12VAC5-613-90.D.4 if applicable> of the Regulations for Alternative Onsite Sewage Systems (12VAC5-613, "the AOSS Regulations").<sup>7</sup> The AOSS Regulations establish performance and operational requirements for AOSS that disperse effluent (or partially treated sewage) directly into groundwater. Direct dispersal to groundwater presents a significant public health concern because viruses and bacteria can be easily transported in saturated soil conditions, possibly affecting nearby drinking water supplies or shellfish waters. A number of diseases can occur if effluent is not properly treated and dispersed, including shigellosis, hepatitis, gastroenteritis, and cholera.

Your existing sewage system disperses <septic tank effluent, TL-2 effluent, TL-3 effluent without disinfection> directly into the watertable. On <date of application>, you requested a construction permit to install a voluntary upgrade that would also directly disperse to groundwater, but instead of discharging <septic tank effluent, TL-2 effluent, TL-3 effluent without disinfection>, you proposed to discharge TL-3 effluent with disinfection. In the application, your designer stated that you wanted a variance from the treatment and operational requirements for direct dispersal pursuant to Guidance, Memorandum, and Policy (GMP) 157.

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<sup>7</sup> 12VAC5-613-90.C.1 requires compliance with the groundwater anti-degradation standard set forth in 9VAC25-80; 12VAC5-613-90.C.2 requires quarterly sampling and remote monitoring of the treatment works (this requirement is derived from 12VAC5-613-100.G); 12VAC5-613-90.C.3 requires treatment of effluent capable of producing Biochemical Oxygen Demand – five day ("BOD<sub>5</sub>") and Total Suspended Solid ("TSS") concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2.2 col/100 ml as a geometric mean with no sample exceeding 14 col/100 ml; total nitrogen ("TN") concentration of less than 5 mg/l; high level disinfection; and filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 Nephelometric turbidity units prior to disinfection; 12VAC5-613-90.C.4 contains a prohibition on gravity dispersal into the soil treatment area; 12VAC5-613-90.C.5 requires loading rates to comply with Table 1 of the Regulations; 12VAC5-613-90.C.6 requires a renewable operating permit; 12VAC5-613-90.C.7 requires the designer to provide a hydrogeologic analysis of the receiving groundwater; and 12VAC5-613-90.D.4 requires designs for direct dispersal within the Chesapeake Bay Watershed to be capable of producing TN concentrations less than or equal to 3 mg/l and total phosphorus concentrations less than or equal to 0.3 mg/l.

I have reviewed your proposed design and found the design complies with the terms and conditions of GMP 157. Pursuant to GMP 157, I am granting you a variance, on behalf of the State Health Commissioner, to 12VAC5-613-90.C.2-3 and 12VAC5-613-90.C.6-7 <and 12VAC5-613-90.D.4 if applicable> of the AOSS Regulations.<sup>8</sup> You are not required to sample quarterly, remotely monitor your repair, or receive a renewable operating permit. However, you must sample the AOSS in accordance with 12VAC5-613-100.E, which describes the sampling frequency for a non-generally approved treatment device. 12VAC5-613-100.E requires that, in addition to the initial grab sample, four additional grab samples be collected, analyzed and submitted to the department within the first two years of operation and annually thereafter. The interval for collecting the samples shall not be less than quarterly or more than semiannually. After two years of sampling, you may submit a request to the <local> Health Department to reduce the sampling frequency to once every five years. The <local> Health Department shall grant such request if the mean of five or more consecutive samples complies with the applicable performance requirements of the AOSS Regulations. You must also have an operator annually report on the system's function, which all AOSS owners must do.

This variance is effective 15 days from your receipt of this letter and construction permit. A release and hold harmless agreement must also be executed. This variance is not transferable to any other sewage system design, and becomes null and void if the construction permit expires. If you install the voluntary upgrade, then this variance remains in effect as long as the voluntary upgrade does not fail.<sup>9</sup>

If you wish to challenge the conditions set forth in this variance, then please contact Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental Engineering, and Marina Programs, within 30 days of your receipt of this letter. Mr. Roadcap can be reached at 109 Governor Street, 5<sup>th</sup> Floor, Richmond, Virginia 23219, or (804) 864-7458. If you have other questions, please contact me at <telephone number>.

Sincerely,

<EHS name>

<EHS title>

cc: <Health Director>

<Environmental Health Manager>

Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental Engineering, and Marina Programs

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<sup>8</sup> 12VAC5-613-100.G.1 is incorporated by reference in 12VAC5-613-90.C.2.

<sup>9</sup> 12VAC5-610-350 states that for the purpose of requiring correction of a malfunctioning sewage disposal system the presence of raw or partially treated sewage on the ground's surface or in adjacent ditches or waterways or exposure to insects, animals or humans is prima facie evidence of such system failure and is deemed a violation of the regulations. Backup of sewage into plumbing fixtures may also indicate system failure.

## Scenario #4: Voluntary upgrade with a request for a waiver.

<date>

### Certified Mail

<owner's name>

<owner's address>

<city>, <state> <zip>

Dear Mr./Mrs. <owner's last name>:

RE: <county/zip>, <tax map/GPIN number>, <property address>, Variance request for voluntary upgrade

I am responding to your request for a variance from 12VAC5-613-90.C.2, and 12VAC5-613-90.C.6-7 of the Regulations for Alternative Onsite Sewage Systems (12VAC5-613, “the AOSS Regulations”).<sup>10</sup> The AOSS Regulations establish performance and operational requirements for AOSS that disperse effluent (or partially treated sewage) directly into groundwater. Direct dispersal to groundwater presents a significant public health concern because viruses and bacteria can be easily transported in saturated soil conditions, possibly affecting nearby drinking water supplies or shellfish waters. A number of diseases can occur if effluent is not properly treated and dispersed, including shigellosis, hepatitis, gastroenteritis, and cholera.

Your existing sewage system disperses <septic tank effluent, TL-2 effluent, TL-3 effluent, TL-3 effluent with disinfection> directly into the watertable. On <date of application>, you requested a construction permit to install a voluntary upgrade that would also directly disperse to groundwater, but instead of discharging <septic tank effluent, TL-2 effluent, TL-3 effluent, TL-3 effluent with disinfection>, you proposed to discharge <TL-2 effluent, TL-3 effluent, TL-3 effluent with disinfection>. In the application, your designer stated that you wanted a variance from the hydrogeologic analysis and operational requirements for direct dispersal pursuant to Guidance, Memorandum, and Policy (GMP) 157. Additionally, you have

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<sup>10</sup> 12VAC5-613-90.C.1 requires compliance with the groundwater anti-degradation standard set forth in 9VAC25-80; 12VAC5-613-90.C.2 requires quarterly sampling and remote monitoring of the treatment works (this requirement is derived from 12VAC5-613-100.G); 12VAC5-613-90.C.3 requires treatment of effluent capable of producing Biochemical Oxygen Demand – five day (“BOD<sub>5</sub>”) and Total Suspended Solid (“TSS”) concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2.2 col/100 ml as a geometric mean with no sample exceeding 14 col/100 ml; total nitrogen (“TN”) concentration of less than 5 mg/l; high level disinfection; and filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 Nephelometric turbidity units prior to disinfection; 12VAC5-613-90.C.4 contains a prohibition on gravity dispersal into the soil treatment area; 12VAC5-613-90.C.5 requires loading rates to comply with Table 1 of the Regulations; 12VAC5-613-90.C.6 requires a renewable operating permit; 12VAC5-613-90.C.7 requires the designer to provide a hydrogeologic analysis of the receiving groundwater; and 12VAC5-613-90.D.4 requires designs for direct dispersal within the Chesapeake Bay Watershed to be capable of producing TN concentrations less than or equal to 3 mg/l and total phosphorus concentrations less than or equal to 0.3 mg/l.

requested a waiver from the <treatment, pressure dosing, treatment and pressure dosing> requirements for direct dispersal pursuant to Va. Code Section 32.1-164.1:1.

I have reviewed your proposed design and found the design complies with the terms and conditions of GMP 157. Pursuant to GMP 157, I am granting you a variance, on behalf of the State Health Commissioner, to 12VAC5-613-90.C.2 and 12VAC5-613-90.C.6-7 of the AOSS Regulations.<sup>11</sup> You are not required to sample quarterly, remotely monitor your repair, or receive a renewable operating permit. However, you must sample the AOSS in accordance with <**Generally Approved System** 12VAC5-613-100.D, which describes the sampling frequency for generally approved treatment devices. 12VAC5-613-100.D requires an initial sample to be collected within 180 days of system operation. Thereafter, a sample is required once every five years, which provides assurance that your system continues to function as designed.> <**Non-Generally Approved System** 12VAC5-613-100.E, which describes the sampling frequency for a non-generally approved treatment device. 12VAC5-613-100.E requires that, in addition to the initial grab sample, four additional grab samples be collected, analyzed and submitted to the department within the first two years of operation and annually thereafter. The interval for collecting the samples shall not be less than quarterly or more than semiannually. After two years of sampling, you may submit a request to the <local> Health Department to reduce the sampling frequency to once every five years. The <local> Health Department shall grant such request if the mean of five or more consecutive samples complies with the applicable performance requirements of the AOSS Regulations.> You must also have an operator annually report on the system's function, which all AOSS owners must do.

This variance is effective 15 days from your receipt of this letter and upon issuance of the construction permit. The construction permit can be issued after you record the waiver. A release and hold harmless agreement must also be executed. This variance is not transferable to any other sewage system design, and becomes null and void if the construction permit expires. If you install the voluntary upgrade, then this variance remains in effect as long as the voluntary upgrade does not fail.<sup>12</sup>

If you wish to challenge the conditions set forth in this variance, then please contact Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental Engineering, and Marina Programs, within 30 days of your receipt of this letter. Mr. Roadcap can be reached at 109 Governor Street, 5<sup>th</sup> Floor, Richmond, Virginia 23219, or (804) 864-7458. If you have other questions, please contact me at <telephone number>.

Sincerely,

<EHS name>

<EHS title>

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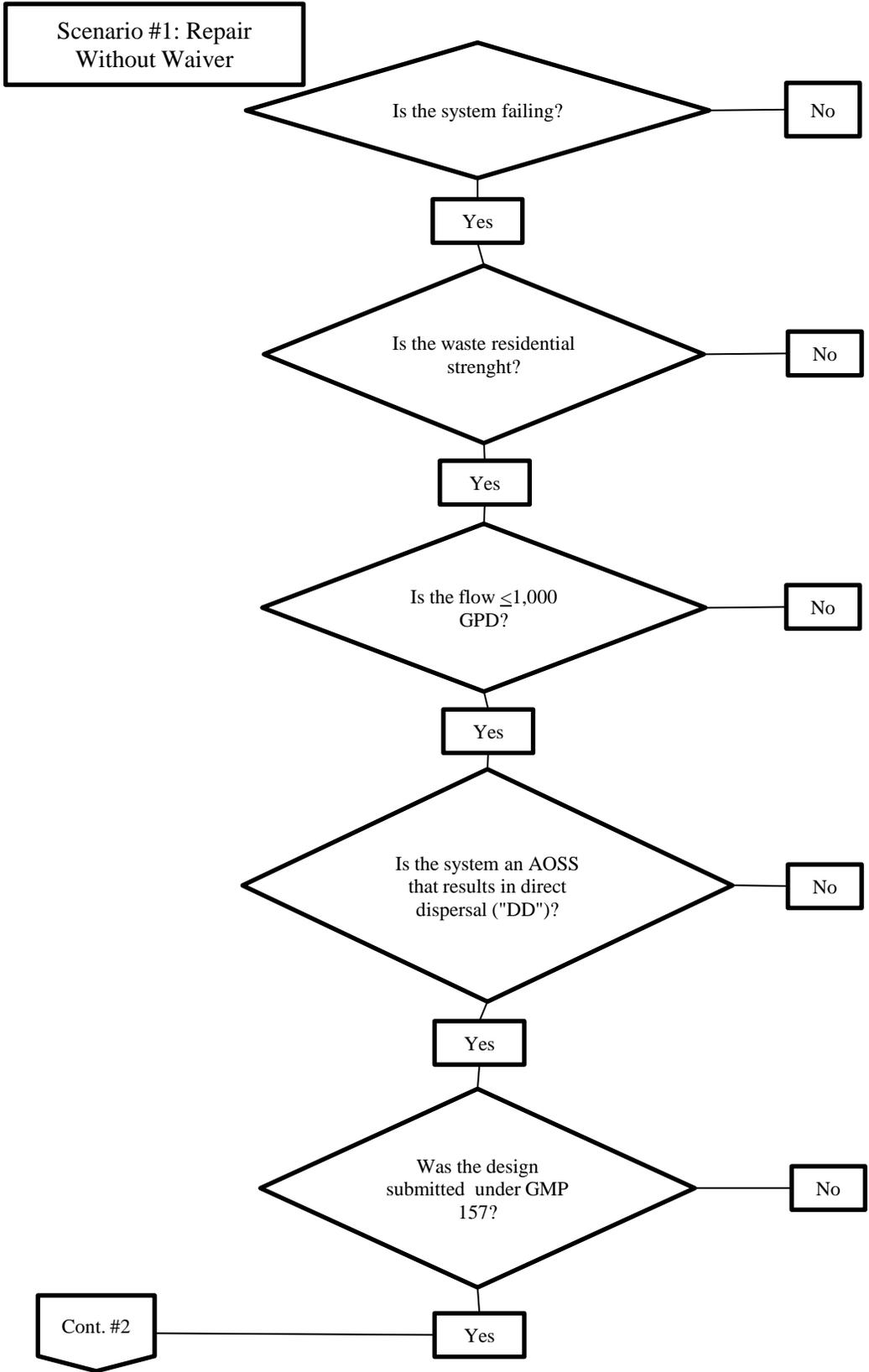
<sup>11</sup> 12VAC5-613-100.G.1 is incorporated by reference in 12VAC5-613-90.C.2.

<sup>12</sup> 12VAC5-610-350 states that for the purpose of requiring correction of a malfunctioning sewage disposal system the presence of raw or partially treated sewage on the ground's surface or in adjacent ditches or waterways or exposure to insects, animals or humans is prima facie evidence of such system failure and is deemed a violation of the regulations. Backup of sewage into plumbing fixtures may also indicate system failure.

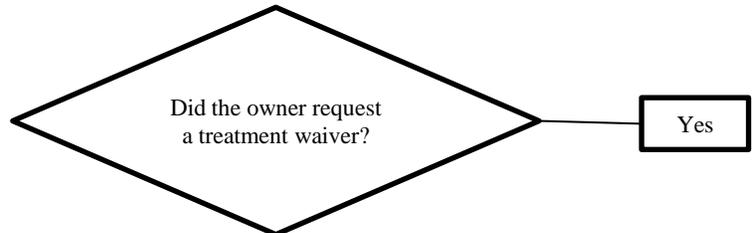
cc: <Health Director>  
<Environmental Health Manager>  
Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental  
Engineering, and Marina Programs

DRAFT

### Appendix B: Scenario Flow Paths

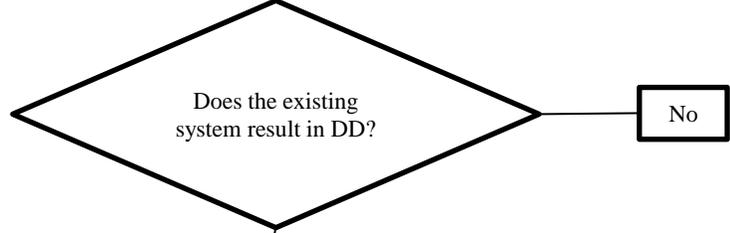


#2



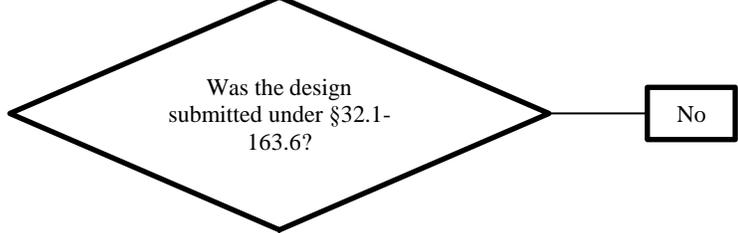
Yes

No



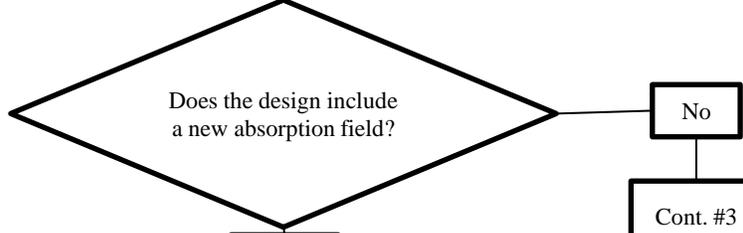
No

Yes



No

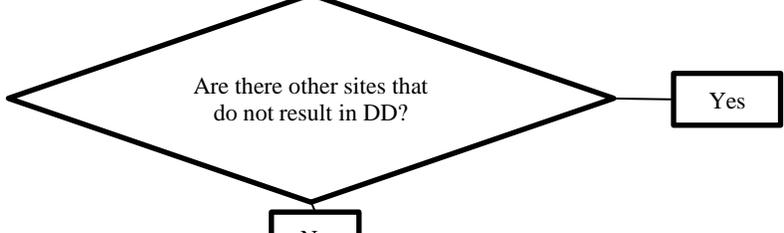
Yes



No

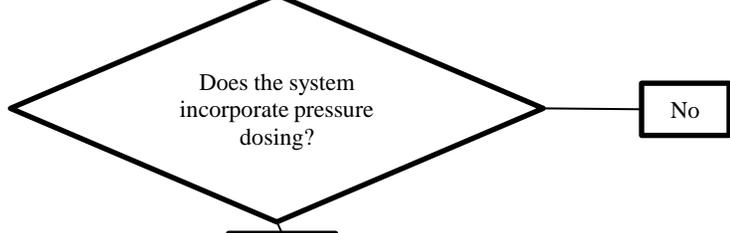
Cont. #3

Yes



Yes

No

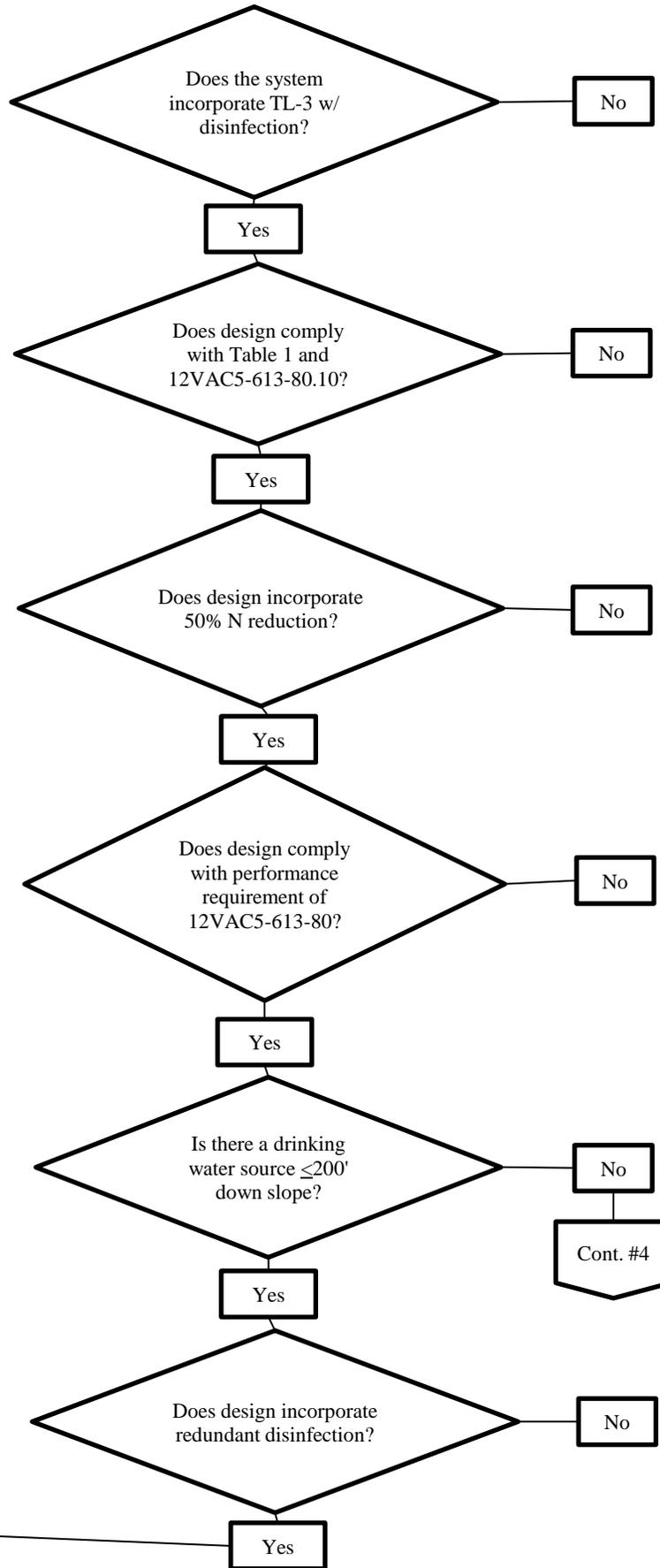


No

Cont. #3

Yes

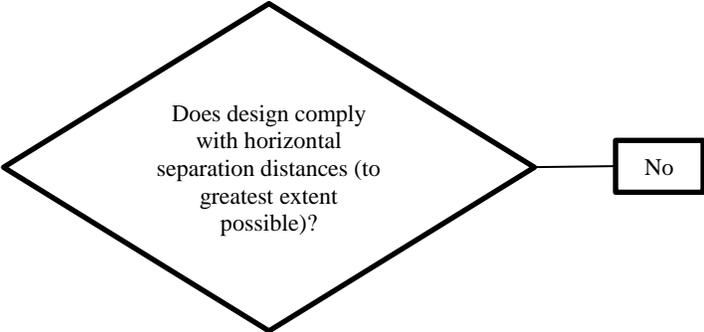
#3



Cont. #4

Cont. #4

#4



No

Yes

Yes

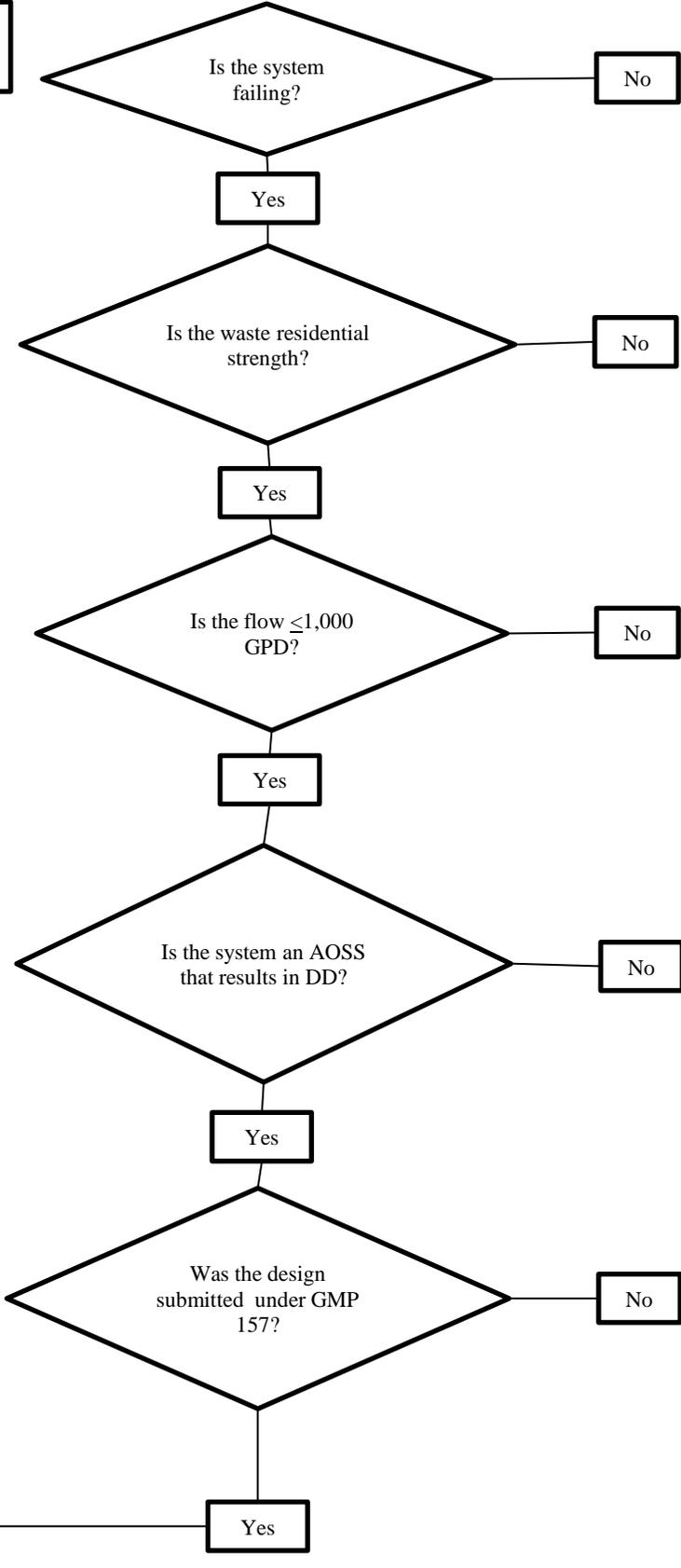


No

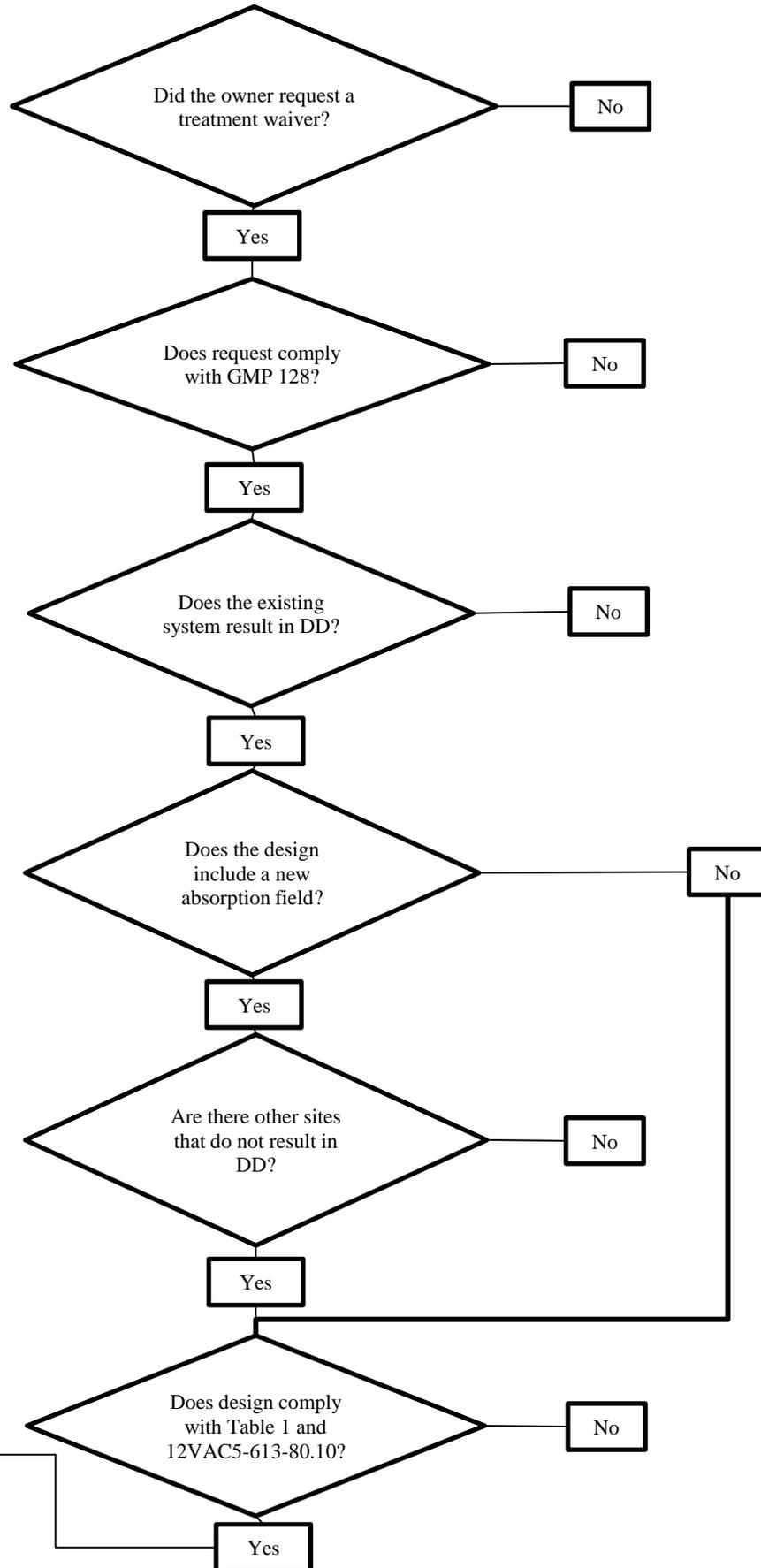
Grant variance to 90.C.2-3, 90.C.6-7, and 90.D.4. Require sampling in accordance with 100.E, and annual inspection.

Grant variance to 90.C.2-3, and 90.C.6-7. Require sampling in accordance with 100.E, and annual inspection.

Scenario #2: Repair With Waiver

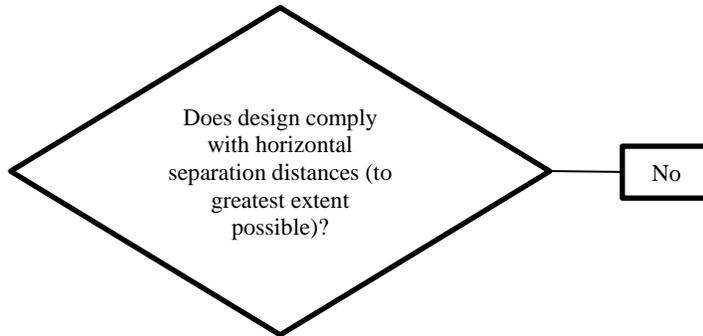


#5



Cont. #6

#6



No

Yes

Yes

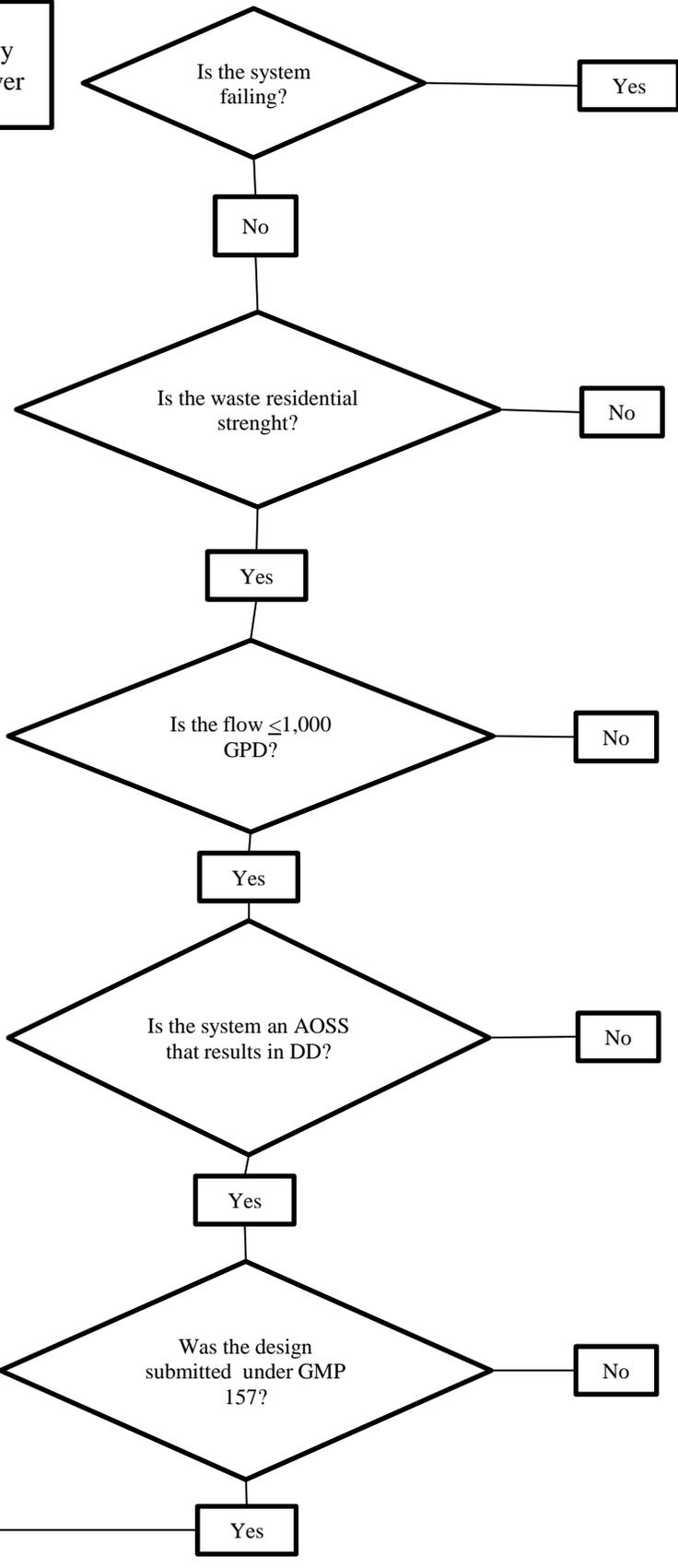


No

Grant variance to 90.C.2, and 90.C.6-7. Require sampling in accordance with 100.D, and annual inspection.

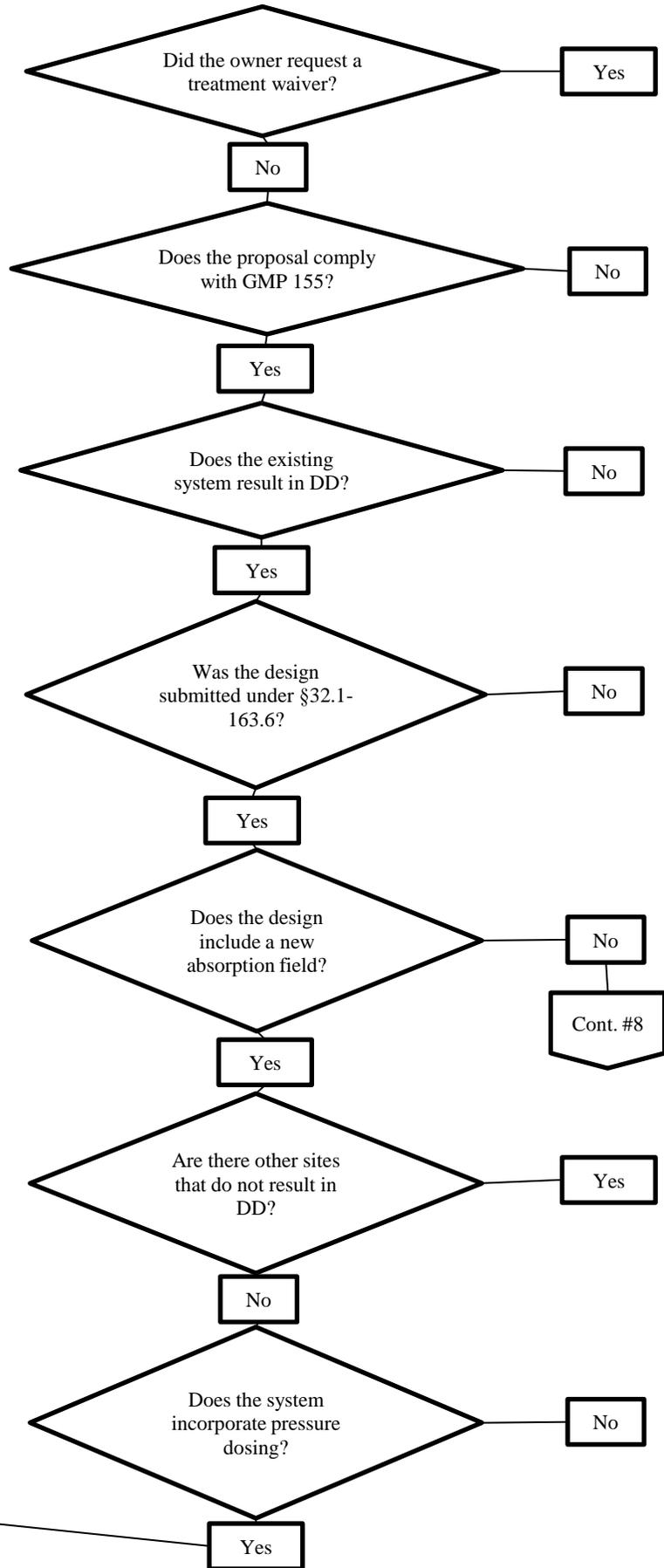
Grant variance to 90.C.2, and 90.C.6-7. Require sampling in accordance with 100.E, and annual inspection.

Scenario #3: Voluntary Upgrade Without Waiver



Cont. #7

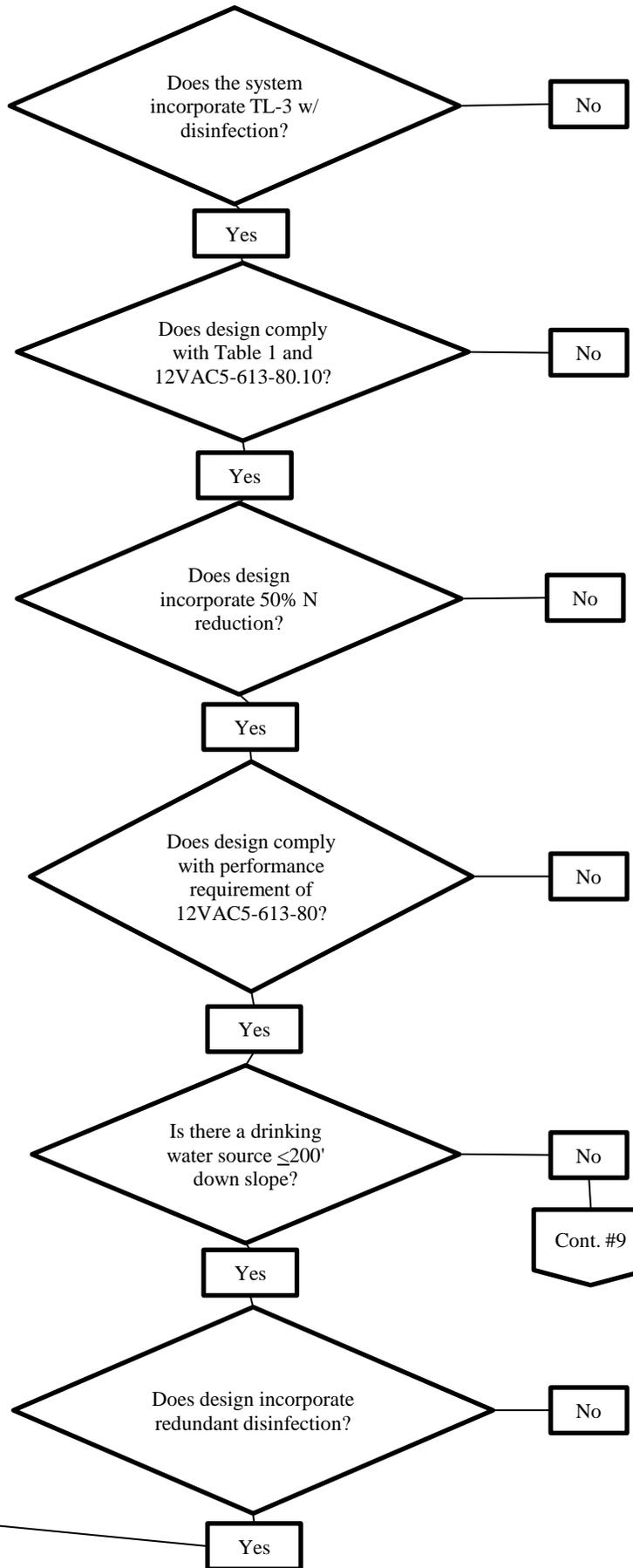
#7



Cont. #8

Cont. #8

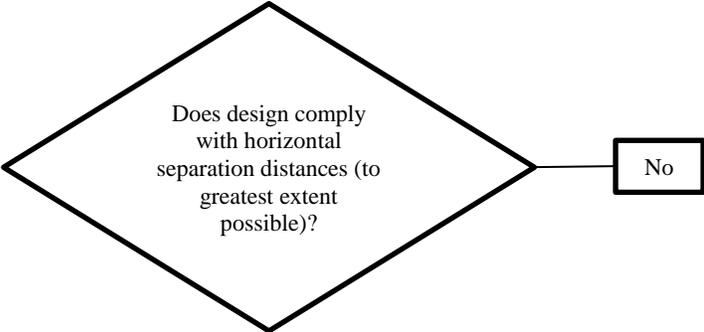
#8



Cont. #9

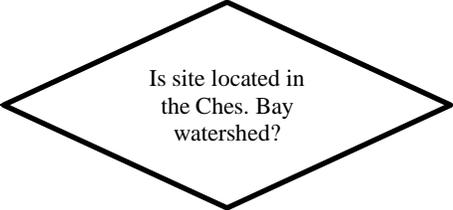
Cont. #9

#9



No

Yes



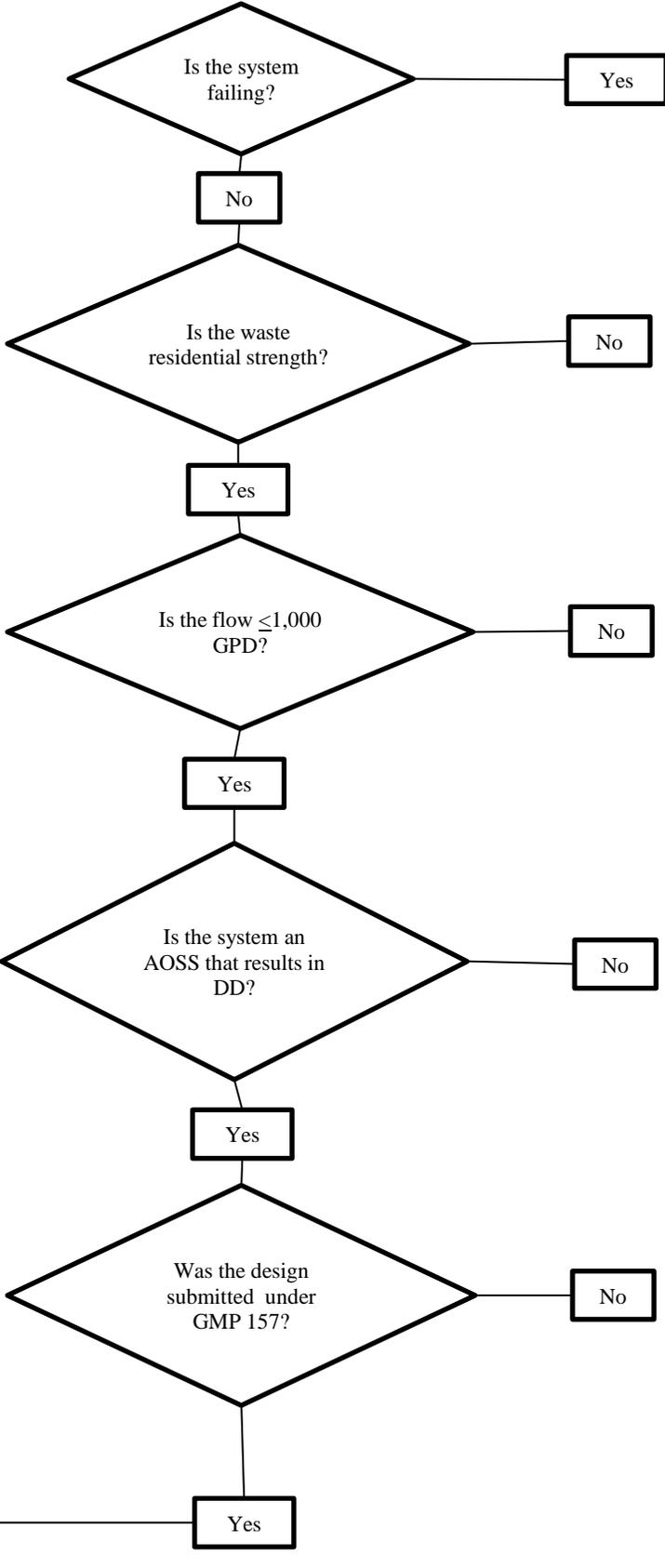
Yes

No

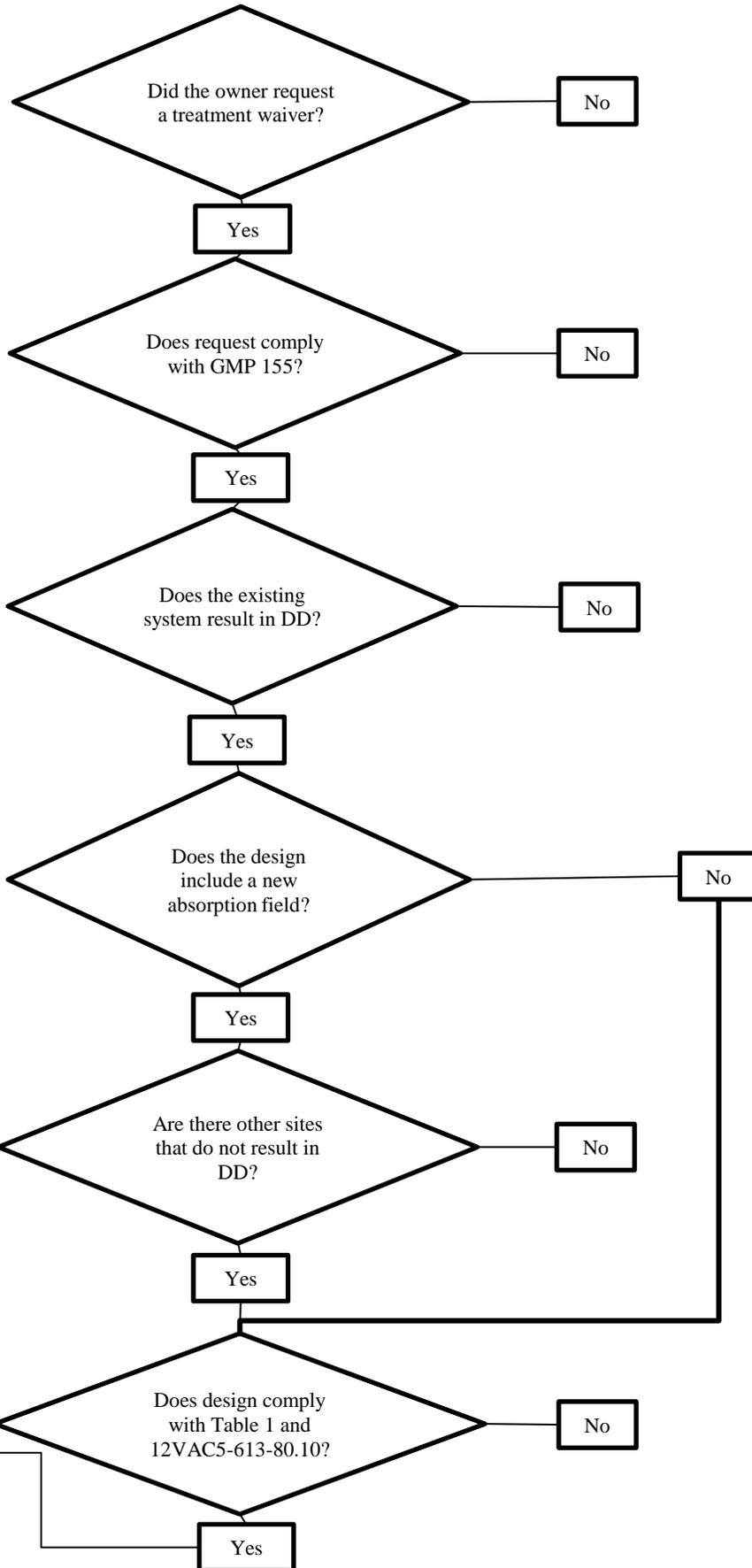
Grant variance to 90.C.2-3, 90.C.6-7, and 90.D.4. Require sampling in accordance with 100.E, and annual inspection.

Grant variance to 90.C.2-3, and 90.C.6-7. Require sampling in accordance with 100.E, and annual inspection.

Scenario #4:  
Voluntary Upgrade  
With Waiver

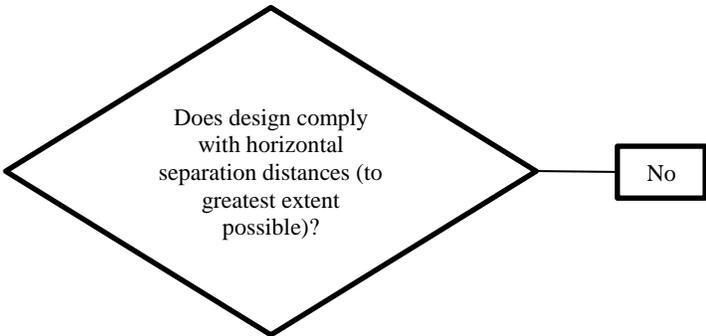


#10



Cont. #11

#11



No

Yes

Yes



No

Grant variance to 90.C.2, and 90.C.6-7. Require sampling in accordance with 100.D, and annual inspection.

Grant variance to 90.C.2, and 90.C.6-7. Require sampling in accordance with 100.E, and annual inspection.

**Date:** March 7, 2014

**To:** District Health Directors  
District Environmental Health Managers

**GMP 157**

**From:** Allen Knapp, Director  
Office of Environmental Health Services

**Through:** Robert W. Hicks, Deputy Commissioner  
Community Health Services

**Subject:** Collection of Global Positioning System Data for Onsite Sewage Disposal Systems,  
Alternative Discharge Systems, and Private Wells

**Scope:** All onsite sewage disposal systems, alternative discharge systems and private wells either currently in use or approved for use by VDH.

**Policy:** The local health department will obtain and record, in VENIS, GPS coordinates for all onsite sewage disposal systems, alternative discharge systems and private wells that are in use or are approved for use. "Approved for use" in this context means that an Operation Permit has been issued for a sewage disposal system or the well has been approved for use. The policy also applies to any onsite sewage disposal system, alternative discharge system, and private well that is currently being used.

**Procedures:**

1. Data collection

The local health department is responsible for ensuring that data meeting the minimum requirements listed below is collected for each sewage disposal system and/or private well approved for use by that department. The data should be collected after installation, to ensure that the coordinates accurately reflect the installed, rather than the permitted,

location. Local health departments are encouraged to work with private sector professionals to obtain the data with completion statements and records of inspection.

Local health departments will begin collecting the required coordinates for any sewage disposal system or private well approved on or after the effective date of this memorandum. For sewage systems and private wells already in existence, for which no data is available in VENIS, local health departments will collect the coordinates at the time of the next visit to the property where the system and/or well is located. For example, if the local health department makes a visit to a property for a “safe, adequate and proper” determination, the coordinates of the sewage system and/or well should be collected during that visit. The use of computer mapping websites (e.g., GetLatLong, iTouchMap, Google) is permissible for temporarily identifying the location of sewage systems and private wells already in existence (including Legacy Systems) when staff know a site visit is not planned for the foreseeable future. **Coordinates identified in this manner should be field-verified with a GPS unit at the next site visit.** Field-verified data should be used to over-write previously collected data; we do not need to keep both sets of coordinates. Keep in mind that the aerial imagery used by mapping websites may not be current and the resolution may not provide adequate detail to clearly identify the points of interest.

As a *minimum*, coordinates for the following points will be collected and recorded in VENIS:

- a. For an onsite sewage disposal system, the center of the absorption area.
- b. For an alternative discharge system, the outfall of the discharge.
- c. For a private well, the well head.

## 2. Data quality and accuracy

At a minimum, the data shall be collected with a GPS unit that has a Wide Area Augmentation System (WAAS) enabled receiver. The WAAS signal is a type of real-time correction with fixed reference stations/satellites that helps improve the accuracy of your location. It should be available in most locations in Virginia, and GPS units should receive this signal automatically. However, if the particular GPS unit in use does not read this signal by default, make sure this feature is turned on in the option settings. Most GPS units contain at least a 12-channel receiver. A GPS unit with more channels is not necessarily more accurate, but it may obtain a quicker fix on your location and hold satellite signals better. If data collection is to be done in hilly terrain or under tree canopy, a GPS unit with a protruding or external antenna may improve satellite reception. The horizontal reference datum (or simply ‘datum’) should be set to NAD83 when collecting data. Verify the datum setting of the GPS unit prior to collecting data. Some GPS units may default to another setting when powered-down or when batteries are

replaced. Data should be collected in the decimal degree format (e.g. dd.ddddd or 76.12345) and must include at least five decimal places for latitude and longitude. It is acceptable to collect more than five decimal places if the GPS unit can accurately make the determination, or if the district chooses to perform post-processing differential correction of the data.

### 3. Data recordation

The GPS coordinates identified in item 1 above shall be entered into VENIS on the appropriate sewage component (for absorption area or discharge point) or on the design tab for a private well. Enter the data in an un-projected, decimal-degree latitude and longitude format. Only numbers will be permitted in the data fields and the position relative to the Equator and Prime Meridian will be handled internally by VENIS (e.g. N, W, “-“, etc.). Check the “verified” box when the data has been field verified (as opposed to having been collected using a web-based program). The data entered here will be used by OEHS for mapping data, and will be shared with other users both inside and outside of the agency.

If local health departments wish to obtain additional GPS coordinates (e.g. for a treatment unit, absorption area corners, etc.) they may do so. The additional coordinates can be recorded in VENIS for the applicable component shown on the “installed” tab. In addition, an additional set of coordinates to locate the property can be entered on the physical location.

Project 2718 - Proposed

DEPARTMENT OF HEALTH  
Update regulations to reflect changes in the Code of VA

CHAPTER 620  
REGULATIONS GOVERNING APPLICATION FEES FOR CONSTRUCTION PERMITS FOR  
ONSITE SEWAGE DISPOSAL SYSTEMS, ALTERNATIVE DISCHARGE SYSTEMS, AND  
PRIVATE WELLS

Part I  
Definitions

**12VAC5-620-10. Definitions.**

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

"Active application" means (1) an application which not been withdrawn from consideration by the applicant and for which the Department has not issued a construction permit, a certification letter or a letter of denial or (2) a permit which has been denied and for which a request for refund of the application fee has not been approved by the Department and less than 12 months have elapsed since the date the letter of denial was received by the owner.

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

"Alternative discharging system" means any device or system that results in a point source discharge of treated sewage for which the board may issue a permit authorizing construction and operation when the system is regulated by the State Water Control Board pursuant to a general Virginia Pollutant Discharge Elimination System permit for an individual single family dwelling with flows less than or equal to 1,000 gallons per day.

"Board" means the State Board of Health.

"Certification letter" means a letter issued by the commissioner in lieu of a construction permit, which identifies a specific site and recognizes the appropriateness of the site for an onsite wastewater disposal system.

"Commissioner" means the State Health Commissioner.

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

"Decommission" means to permanently seal an existing private well in accordance with the requirements of the Private Well Regulations.

"Department" means the Virginia Department of Health.

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

"Family" means the economic unit which shall include the owner, the spouse of the owner, and any other person actually and properly dependent upon or contributing to the family's income for subsistence. A husband and wife who have been separated and are not living together, and who are not dependent on each other for support, shall be considered separate family units. The family unit, which is based on cohabitation, is considered to be a separate family unit for determining if an application fee ~~is waivable~~ may be waived. The ~~cohabiting~~ cohabiting partners and any children shall be considered a family unit.

"Fee schedule" means a listing by item of the fees to be charged by the department for processing applications and for other services rendered by the department.

"Income" means total cash receipts of the family before taxes from all sources. These include money wages and salaries before any deductions, but do not include food or rent in lieu of wages. These receipts include net receipts from nonfarm or farm self-employment (e.g., receipts from the family's own business or farm after deductions for business or farm expenses.) They include regular payments from public assistance (including Supplemental Security Income), social security or railroad retirement, unemployment and worker's compensation, strike benefits from union funds, veterans' benefits, training stipends, alimony, child support, and military family allotments or other regular support from an absent family member or someone not living in the household; private pensions, government employee pensions, and regular insurance or annuity payment; and income from dividends, interest, rents, royalties, or periodic receipts from estates or trusts. These receipts further include funds obtained through college work study programs, scholarships, and grants to the extent said funds are used for current living costs. Income does not include the value of food stamps, WIC checks, fuel assistance, money borrowed, tax refunds, gifts, lump sum settlements, inheritances or insurance payments, withdrawal of bank deposits, earnings of minor children, money received from the sale of property. Income also does not include funds derived from college work study programs, scholarships, loans, or grants to the extent such funds are not used for current living costs.

"Minor modification of an existing sewage disposal system" means an alteration that is not a repair or routine maintenance, does not result in an increase in treatment level or volume of the system, and does not require evaluation of the soil conditions prior to issuance of a permit. Minor modifications include but are not limited to relocation of a system component or an additional plumbing connection to the system that does not increase the actual or estimated flow of the system.

Comment [i1]: Is there a better definition?

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

"Owner" means the Commonwealth or any of its political subdivisions, including sanitary districts, sanitation district commissions and authorities, any individual, any group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association which owns or proposes to own a sewerage system or treatment works or any person who owns, leases, or proposes to own or lease a private well ~~or~~ an onsite sewage disposal system, or ~~both~~ an alternative discharging system.

"Person" means the Commonwealth or any of its political subdivisions, including sanitary districts, sanitation district commissions and authorities, any individual, any group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association which owns or proposes to own a sewerage system, treatment works or private well.

"Principal place of residence" means the dwelling unit, single family dwelling, or mobile home where the owner lives.

"Private well" means any water well constructed for a person on land which is owned or leased by that person and is usually intended for household, groundwater source heat pump, agricultural use, industrial use, use as an observation or monitoring well, or other nonpublic water well. A dewatering well, for the purposes of this chapter, is not a private well.

~~"Repair of a failing onsite sewage disposal system" means the construction of an onsite sewage disposal system or parts thereof to correct an existing and failing sewage disposal system for an occupied structure with indoor plumbing.~~

"Repair" means the construction or replacement of all or parts of a sewage disposal system or private well to correct a failing, damaged, or improperly functioning system or well when such construction or replacement is required by the board's regulations.

"Replacement of a private well" means the construction of a private well to be used in lieu of an existing private well.

"Review Board" means the State Sewage Handling and Disposal Appeals Review Board.

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

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

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

"Voluntary upgrade" means a change to or replacement of an existing nonfailing onsite or alternative discharging sewage disposal system, without an increase in the permitted volume or strength of the sewage, in accordance with the regulations for repairing failing systems.

Comment [12]: Do we have a definition of "voluntary upgrade" elsewhere?

"Well" means any artificial opening or artificially altered natural opening, however made, by which groundwater is sought or through which groundwater flows under natural pressure or is intended to be artificially drawn; provided this definition shall not include wells drilled for the purpose of exploration or production of oil or gas, for building foundation investigation and construction, elevator shafts, grounding of electrical apparatus, or the modification or development of springs.

#### Part II

##### General Information

#### **12VAC5-620-20. Authority for regulations. (Repealed.)**

~~Sections 32.1-164#C and 32.1-176.4#B of the Code of Virginia provide that the State Board of Health has the power to prescribe a reasonable fee to be charged for filing an application for an onsite sewage disposal system permit and a reasonable fee to be charged for filing an application for a private well construction permit.~~

#### Part II

##### General Information

#### **12VAC5-620-30. Purpose of regulations.**

The board has promulgated these regulations to:

- ~~1. Establish a fee for filing an application for a permit to construct an onsite sewage disposal system or for the construction of a private well; and~~ Establish a procedure for determining the fees for services provided by the department for onsite sewage systems, alternative discharge systems, and private wells;
- ~~2. Establish a procedure for the waiver of fees for an owner whose income of his family is at or below the federal poverty guidelines established by the United States Department of Health and Human Services, or when the application is for a pit privy, the replacement of a private well, or the repair of a failing onsite sewage disposal system.~~

2. Establish procedures for the refund of fees; and

3. Establish procedures for the waiver of fees.

**12VAC5-620-40. Compliance with the Administrative Process Act.**

The provisions of the Virginia Administrative Process Act (§ ~~9-6.14~~ 2.2-4000 et. seq. of the Code of Virginia) shall govern the promulgation and administration of these regulations and shall ~~be applicable to the appeal of any case decision based upon~~ govern the decisions of cases under this chapter.

**12VAC5-620-50. Powers and procedures of regulations not exclusive.**

The ~~Commissioner~~ commissioner may enforce these regulations through any means lawfully available.

Part III

Fees

**12VAC5-620-70. Application Establishing fees.**

~~A. A fee of \$50 shall be charged to the owner for filing an application for an onsite sewage disposal system permit with the department. The fee shall be paid to the Virginia Department of Health by the owner or his agent at the time of filing the application and the application shall not be processed until the fee has been collected. Applications shall be limited to one site specific proposal. When site conditions change, or the needs of an applicant change, or the applicant proposes and requests another site be evaluated, and a new site evaluation is conducted, a new application and fee is required.~~

~~B. A fee of \$25 shall be charged to the owner for filing an application for the construction of a private well with the department. The fee shall be paid to the Virginia Department of Health by the owner or his agent at the time of filing the application and the application shall not be processed until the fee has been collected. Applications shall be limited to one site specific proposal. When site conditions change, or the needs of an applicant change or the applicant proposes and requests another site be evaluated, and a new site evaluation is conducted, a new application and fee is required.~~

~~C. A person seeking revalidation of a construction permit for an onsite sewage disposal system shall file a completed application and shall pay a fee of \$50.~~

~~D. A person seeking revalidation of a permit for the construction of a private well shall file a completed application and shall pay a fee of \$25.~~

A. The commissioner shall establish a schedule of fees to be charged by the department for services related to construction, maintenance, and repair or replacement of onsite sewage disposal systems, alternative discharge systems, and private wells and for appeals before the Review Board.

B. In establishing fees, the commissioner shall consider the actual or estimated average cost to the agency of delivering each service included in the schedule of fees.

C. The fees shall be the maximum allowable fees as established by the Code of Virginia or the appropriation act except that the fee for an application for a permit to make minor modifications of existing systems shall be 50% of the application fee for an onsite sewage disposal system construction permit.

D. The fee for filing an application for an administrative hearing before the Review Board shall be \$135.

**12VAC5-620-75. Fee remittance; application completeness.**

A. Each applicant shall remit any required application fee to the department at the time of making application. In any case where an application fee is required, including requests for

**Comment [13]:** This was added in response to comment from DPB that the regulations need to set a specific amount, and if that was to change, then the regulations will need to be revised to reflect such changes.

hearings before the Review Board, the application will be deemed to be incomplete and will not be accepted or processed until the fee is paid.

B. The owner of a newly installed alternative discharge system shall pay the installation inspection fee prior to the required department inspection.

C. The owner of an alternative discharge system shall pay the monitoring fee to the department for monitoring inspections conducted by the department that are mandated by 12VAC5-640. The department shall waive the monitoring fee when it conducts a monitoring inspection that is not mandated by 12VAC5-640.

**12VAC5-620-80. Waiver of fees.**

A. An owner whose ~~income of his~~ family income is at or below the ~~1988~~ 2013 Poverty Income Guidelines ~~For All for the 48 Contiguous States (Except Alaska and Hawaii) and The the~~ District of Columbia established by the Department of Health and Human Services, ~~53 FR 4213 (1988)~~ 78 FR 5182 (January 24, 2013), or any successor guidelines, shall not be charged a fee for ~~filing an application for an onsite sewage disposal system permit or a private well construction permit pursuant to this chapter.~~

B. Any person applying for a permit to construct a pit privy shall not be charged a fee for filing the application.

C. Any person applying for a permit ~~to construct an onsite sewage disposal system~~ to repair ~~a failing an~~ onsite sewage disposal system or alternative discharging system shall not be charged a fee for filing the application.

D. Any person applying for a construction permit for the replacement of a private well ~~shall not may~~ be charged a fee for filing the application. Any application fee paid for a construction permit for a replacement well shall be refunded in full upon receipt by the department of a Uniform Water Well Completion Report, pursuant to 12VAC5-630-310, indicating that the well that was replaced has been permanently and properly abandoned or decommissioned.

E. Any person applying for a permit to properly and permanently abandon or decommission an existing well on property that is his principle place of residence shall not be charged a fee for filing the application.

F. Any person who applies to renew a construction permit for an onsite sewage disposal system, alternative discharge system, or private well shall not be charged a fee for filing the application, provided that:

1. The site and soil conditions upon which the permit was issued have not changed;
2. The legal ownership of the property has not changed;
3. A building permit for the facility to be served by the sewage system or well has been obtained or construction of the facility has commenced;
4. No previous renewal of the permit has been granted; and
5. The expiration date of the renewed permit shall be the date 18 months following the expiration date of the original permit.

G. Any person whose application for a ~~certification letter or for a~~ permit to construct an onsite sewage disposal system, alternative discharging system, or private well is denied ~~may file one subsequent application for the same site-specific construction permit for which the application fee shall be waived, provided that:~~

1. The subsequent application is filed within 90 days of receiving the notice of denial for the first application;
2. The denial is not currently under appeal; and
3. The application fee for the first application has not been refunded.

**12VAC5-620-90. Refunds of application fee.**

~~An application fee shall be refunded to the owner (or agent, if applicable) if the department denies a permit on his land on which the owner seeks to construct his principal place of residence. Such fee shall not be refunded by the department until final resolution of any appeals made by the owner from the denial.~~

A. An applicant for a construction permit or certification letter whose application is denied may apply for a refund of the application fee. The application fee shall be refunded to the owner or agent, if applicable, if the department denies an application for the land upon which the owner intends to build his principal place of residence. When the application was made for both a sewage disposal system and a private well, both fees may be refunded at the owner's request.

B. An applicant for a construction permit or a certification letter may request a refund of the application fee if the applicant voluntarily withdraws his application before the department issues the requested permit. The application fee will be refunded if the application is withdrawn before the department makes a site visit for the purpose of evaluating the application.

C. An applicant who has paid an application fee for a replacement well shall be refunded the application fee in full upon receipt by the department of a Uniform Water Well Completion Report, pursuant to 12VAC5-630-310, showing that the well that was replaced has been properly and permanently abandoned or decommissioned.

D. All applications for refunds must be made to the department no later than 12 months following the date upon which the applicant receives notification that his application for a construction permit or certification letter has been denied, within 12 months following the date upon which his application was withdrawn, or within 12 months following the date upon which any appeals of the denial of the application have been concluded.

E. All applications for refunds shall be made in writing in a form approved by the department.

F. Denials of applications may be appealed only when the applicant has a currently active application before the department, including payment of any required application fee.

**12VAC5-620-100. Determining eligibility for waiver based on family income.**

A. An owner seeking a waiver of an application fee shall request the waiver on the application form. The department will require information as to income, family size, financial status and other related data. The department shall not process the application until final resolution of the eligibility determination for waiver.

B. It is the owner's responsibility to furnish the department with the correct financial data in order to be appropriately classified according to income level and to determine eligibility for a waiver of an application fee. The owner shall be required to provide written verification of any employment and/or non-employment income such as check stubs, written letter from an employer, W-2 forms, or other documentation acceptable to the department in order to provide documentation for the application.

C. The proof of income must reflect current income ~~which that~~ is expected to be available during the next 12-month period. Proof of income must include, where applicable, ~~Name name~~ name of employer, amount of gross earnings, and pay period for stated earnings. If no pay stub is submitted, a written statement must include the name, address, telephone number, and title of person certifying the income.



NFWF



## Chesapeake Bay Stewardship Fund

### Request for Proposals

**Proposal Due Date: Thursday, May 15<sup>th</sup>, 2014 (midnight)**

The National Fish and Wildlife Foundation (NFWF) is soliciting proposals to restore the habitats and water quality of the Chesapeake Bay and its tributary rivers and streams. The Chesapeake Bay Stewardship Fund (CBSF) will award approximately **\$8 million - \$10 million in grants** in partnership with the Chesapeake Bay Program. Major funding for the Stewardship Fund comes from the Environmental Protection Agency, Natural Resources Conservation Service, Forest Service, Altria Group, CSX, Shell, and Alcoa Foundation.

Grants will be awarded in two categories:

**Small Watershed Grants (SWGs)** of \$20,000 to \$200,000 each will be awarded to nonprofit organizations and local governments working to protect and improve local waters that contribute to the overall health of the Chesapeake Bay, while building citizen-based resource stewardship. These grants require minimum matching contributions valued at 25% of total project costs or 50% of the grant request. **All 2014 SWG grants must be completed on or before March 30, 2016.**

**Innovative Nutrient and Sediment Reduction Grants (INSRGs)** of \$200,000 to \$500,000 each will be awarded to nonprofit organizations, local governments, universities and state agencies to demonstrate innovative approaches to accelerate adoption of the most cost effective and sustainable nutrient and sediment pollution load reductions to the Chesapeake Bay. These grants encourage non-Federal matching contributions valued at 50% of total project costs (i.e., 1:1 ratio). **All 2014 INSRG grants must be completed on or before September 30, 2016.**

#### **CBSF CONSERVATION OBJECTIVES**

##### **Restore and protect vital habitats**

- ✓ Restore forests (esp., riparian forested buffers) to improve water quality and wildlife habitat.
- ✓ Restore eroding streambanks to reduce sediment pollution and improve in-stream fish habitat.
- ✓ Restore and enhance wetlands to maximize benefits for wildlife habitat and water quality.
- ✓ Preserve forests, riparian corridors, wetlands and farmland that are vital for protecting water quality and wildlife habitat.
- ✓ Create fish passages to provide access to up-stream habitat for fish target species (esp., river herring, American shad, American eel).
- ✓ Restore sustainable populations of native oysters.

##### **Improve conservation on private lands**

- ✓ Reduce nutrient and sediment runoff and restore wetlands, streams, and riparian forested buffers on working forests and farms.
- ✓ Reduce nutrient and sediment runoff from residential and commercial properties.

##### **Improve urban stormwater management**

- ✓ Store, treat and infiltrate stormwater runoff through management practices such as bioretention and rain water harvesting.

All grant proposals **MUST** address at least one of the **CBSF Conservation Objectives** (see box.) In addition, INSRG proposals **MUST** accelerate reductions of nutrient and sediment pollution to the Chesapeake Bay.

NFWF will host a webinar for applicants on **Wednesday, April 2nd** to review this Request for Proposals and respond to questions. Applicants are strongly encouraged to participate, and can register for the webinar by following this link: <https://www1.gotomeeting.com/register/170358872>

**Priority Funding Strategies.** Priority for both SWG and INSRG will be given to projects that successfully address at least one of the following three strategies.

**1. Targeted River and Watershed Restoration.** NFWF will invest in 17 targeted watersheds where opportunities exist to simultaneously achieve measurable water quality, habitat restoration and species recovery goals (see “Targeted Rivers” map). Targeted species include Eastern Brook Trout, river herring and native oysters. Targeted River Restoration proposals must achieve the “CBSF Conservation Objectives” in regions shown on the map and that implement the following strategies:

- Improve adoption of riparian complex management that restores and protects headwater systems, including the floodplain, wetlands, and springs that provide baseline flows and water quality critical for Eastern Brook Trout and habitat.
- Improve and retrofit of fish passages in areas that are under increasing pressure for forest and habitat fragmentation, e.g. headwater systems in the Marcellus shale- or AMD area of the Chesapeake Bay basin.
- Leverage funding through land conservation and retirement programs, including USDA’s Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), and Wetland’s Reserve Program (WRP), by providing outreach and technical assistance to landowners to renew or enter into new contracts to retire riparian forested buffers and wetlands from agricultural production. Projects should identify imbalances in sign-up and available cost-share, and use grant funding to meet excess demand or to generate new demand, as needed. Wherever practicable, proposals should seek to extend term contracts into perpetual easements. Opportunities to leverage land conservation or retirement efforts with the implementation of new conservation practices, such as the establishment or expansion of riparian forested buffers under CREP, are encouraged.
- Provide enhanced technical assistance in farm communities where targeted environmental compliance activities may generate increased interest in conservation practices.
- Identify and implement opportunities to accelerate nutrient and sediment reductions on working lands protected under Federal, state and local agricultural land preservation programs.

In addition, NFWF is seeking proposals that implement the following watershed-specific strategies:

- **Choptank and Nanticoke River Basins:** Demonstrate and deploy innovative market-based opportunities for alternative uses of poultry litter, incorporating evaluation of environmental performance monitoring and economic assessment where appropriate. Projects that address whole farm or watershed-scale nutrient balance and that support improved and integrated infrastructure for farms and local communities that result in improved water quality and/or additional revenue generating potential are encouraged. Restore native oyster populations and oyster reef ecosystems in Cox Creek and the Little Choptank and Tred Avon Rivers and restore fish passage in the upper Nanticoke watershed. Projects that successfully integrate multiple conservation objectives for watershed-scale improvements in water quality and habitat restoration and protection are encouraged.
- **Juniata River Basin:** Apply new models for the delivery of technical assistance to Plain Sect and other underserved agricultural producers in the region. Examples include the use of shared staffing and collaboration on program delivery and improving coordinated teams of technical assistance providers that include private- and nongovernmental sectors. Leverage in-stream, riparian, and floodplain habitat enhancements (including livestock exclusion and riparian forested buffers) with uplands nutrient and sediment load reductions, including manure injection, precision rotational grazing, and barnyard improvements.

- **Shenandoah River Valley and Upper Potomac Basins:** Accelerate the pace of livestock exclusion fencing in conjunction with more comprehensive grazing management systems including precision rotational grazing with the goal to approach 100% livestock exclusion paired with riparian forested buffers. Accelerate adoption of dairy manure injection technology while fostering sustained conservation tillage practices, especially through collaboration with custom operators and through innovations in cost-share and financing approaches. Projects that document and demonstrate improvements in stream health are encouraged.
- **Virginia’s Middle Peninsula and Northern Neck:** Improve flood risk mitigation and water quality through the application of innovative approaches to retrofit existing stormwater ditch networks and install new stormwater management infrastructure. Accelerate the protection of coastlines vulnerable to erosion through the creation and protection of living shorelines. Projects should seek to engage local governments and elected officials in communicating restoration needs, defining project objects, and broadcasting project benefits to local communities.

All Targeted River Restoration projects should support the implementation of existing watershed management plans that have a clear baseline for water quality, habitat and species conditions and specific restoration goals. Applicants also should have a track record of implementation success and the local capacity to implement projects on a scale that will result in measureable and observable improvements to local rivers, streams and their habitats.

**2. Green Infrastructure in Urban Landscapes.** NFWF will invest in projects that build local government capacity for green infrastructure and accelerate adoption of green infrastructure practices on private lands.

- **Local Government Capacity: MS4 Communities.** Help local governments and community organizations integrate “green” solutions into capital programs for parks, schools, transportation and community redevelopment. Projects should demonstrate how local governments can integrate green infrastructure restoration, protection and maintenance into existing budgets and programs across multiple departments (e.g., public works, parks and recreation, emergency management, education, transportation). Grants will fund local governments and communities to review budgets, permitting processes, work flows and program delivery to systematically incorporate strategies to store, infiltrate and filter stormwater, and/or to restore floodplains and streambanks into capital improvement and maintenance programs. Examples include:

- Train facilities managers and grounds maintenance crews in how to use urban nutrient management, subsoiling and other beneficial landscaping techniques;
- When maintenance is planned for sewer lines and other utilities, create opportunities to stabilize streambanks and restore floodplains;
- During road and sidewalk resurfacing projects, install bioretention cells in tree boxes and medians, and replace impervious surfaces with porous concrete;

<u>What is Green Infrastructure?</u>
Green infrastructure is an approach to wet weather management that is cost-effective, sustainable, and environmentally friendly. Green Infrastructure management approaches and technologies infiltrate, evapotranspire, capture and reuse stormwater to maintain or restore natural hydrologies.
The preservation and restoration of natural landscape features (such as forests, floodplains and wetlands) are critical components of green stormwater infrastructure. By protecting these ecologically sensitive areas, communities can improve water quality while providing wildlife habitat and opportunities for outdoor recreation.
On a smaller scale, green infrastructure practices include rain gardens, porous pavements, green roofs, infiltration planters, trees and tree boxes, and rainwater harvesting for non-potable uses such as toilet flushing and landscape irrigation.

- During construction and redevelopment of affordable housing, maximize beneficial landscaping (trees, native plants, rain gardens); and/or
- Incorporate innovative stormwater technologies (bioretention, green roofs, rainwater harvesting) into modernization plans for public facilities such as schools, parks and recreation facilities, fire houses and police departments.
- **Local Government Capacity: Non-MS4 Communities.** Assist local governments in the demonstration and development of projects and programs that mitigate stormwater impacts in high-growth, non-MS4 communities. Proposals should specifically address barriers to stormwater management in communities not experiencing regulatory or compliance pressures, including education for local decision-makers, developing appropriate staffing and resource strategies (i.e. shared staffing, cross-municipality delivery models), and moderate and large-scale demonstration sites for communicating benefits of improved stormwater that provide a “proof of concept” for green infrastructure.
- **Residential and Commercial Properties.** Increase adoption of green infrastructure practices on residential and commercial properties in targeted communities. Projects should strategically target audiences that move beyond the “early adopters” and may include:
  - Partnerships between local watershed restoration groups and local governments to design and deliver homeowner green infrastructure programs supported by long-term, sustainable sources of public and/or private financing.
  - Programs to promote **urban nutrient management** to reduce runoff from lawns and landscaping, delivered in coordination with established urban nutrient management guidelines (<http://chesapeakestormwater.net/wp-content/uploads/downloads/2013/06/CBP-APPROVED-FINAL-UNM-EXPERT-PANEL-REPORT-062413.pdf>). Where applicable, programs should also be delivered in coordination with the primary state urban nutrient management agency.
  - Efforts to re-forest urban and suburban lands by converting “**turf to trees**”; and/or
  - Incentive programs for landowners to implement practices that **retain stormwater on-site** through stormwater management practices such as bioretention and rain water harvesting.
- **Anacostia River Revitalization:** NFWF is seeking proposals for a special initiative to promote green infrastructure and urban stream restoration in the Anacostia River watershed. Preference will be given to projects that are prioritized in restoration and watershed plans approved and adopted by the D.C. government, Prince George’s and Montgomery Counties, the state of Maryland, and their stakeholders. Anacostia River projects should seek to
  - Improve water quality and restore habitat in the Anacostia River watershed and its tributaries;
  - Emphasize the neighborhood benefits of watershed restoration to local economic development, public health, livability and as a community asset;
  - Engage, employ and educate local residents and businesses; and,
  - Connect the public to the Anacostia and its tributaries through enhanced outdoor recreation and volunteer opportunities.

All Green Infrastructure projects must result in quantifiable reductions in the volume of stormwater runoff, and nutrient and sediment loads delivered to the Chesapeake Bay. Projects also should be able to characterize any cost savings realized from this approach, including from economies of scale, from changing project designs to perform multiple functions, and from leveraging investments by others (e.g., utilities, department of transportation, developers, etc.).

**3. Innovation on Crosscutting Issues.** NFWF will invest in innovative methods and new technologies that hold the promise to drive down costs, expand the effectiveness of restoration practices and accelerate the pace of recovery. NFWF is seeking the following innovative proposals:

- Implement innovative strategies to: drive down the cost of wetland, forest buffer and stream restoration; increase performance in delivering water quality results; and/or accelerate implementation of high-impact restoration activities. Competitive projects will document existing barriers to accelerated implementation and discuss how the project directly addresses those barriers. Priority will be given to restoration on lands that are permanently or semi-permanently protected.
- Find market-based solutions to resolve challenges associated with managing manure in regions with phosphorous-saturated soils. Increase adoption of under-utilized manure management practices at the farm scale and especially in agricultural communities where farm-to-farm adoption will be enhanced through proof of concept and economic and technical support (e.g. custom operators).
- Support intergovernmental collaboration among local governments and partners to realize efficiencies in achieving water quality targets. Projects may include shared staffing and collaboration on program delivery, as well as joint restoration strategies to implement larger-scale restoration that benefits multiple downstream jurisdictions.
- Create processes and infrastructure to support new or evolving trading and offset programs that effectively engage the private sector in restoration activities that reduce costs and accelerate the pace of recovery. Strategies and programs that attract private capital investment to finance the up-front costs of restoration are encouraged.
- Implement under-utilized and/or innovative practices that, according to the updated Chesapeake Conservation Effects Assessment Project (<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/ceap/?cid=stelprdb1240074>), constitute “under-treated” regions, and will increase the number of participants in Farm Bill programs and significantly increase the number of cropland acres that have conservation treatments.
- Identify new stormwater management technologies that can drive down urban restoration costs and help communities achieve water quality standards. For proven stormwater management technologies, demonstrate innovative implementation approaches, that will significantly increase adoption and drive down per unit cost, including workforce development, outreach approaches, and engagement of underserved communities. Priority will be assigned to projects that include baseline data on practice adoption and seek to achieve aggressive implementation targets, as measured by a minimum 50% of landowners engaging in best management practices at the community or small watershed scale.
- Demonstrate and deploy new techniques and technologies to improve the speed and accuracy of residential stormwater best management practice verification systems.
- Apply new tools and models for assessing behavior changes and adoption conservation measures, including the use of community-based social marketing and community-based participatory research to identify the local barriers to adoption and develop delivery programs that specifically address those barriers.

Innovation projects should seek to affirm the proof of concept and are encouraged to include all environmental and economic monitoring, assessment, and evaluation to draw meaningful conclusions about program or technology effectiveness, and to include written case studies documenting the results.

\* \* \* \* \*

## GUIDELINES FOR IMPLEMENTATION GRANTS

- Projects must be implemented entirely within the Chesapeake Bay watershed, which includes portions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia, and all of the District of Columbia. Organizations located outside the Chesapeake Bay watershed may apply if their projects will be conducted entirely within the watershed.
- All proposals MUST address at least one of the CBSF Conservation Objectives, and be able to demonstrate significant, measurable outputs and outcomes that will help to achieve the objectives of the *Chesapeake Bay Executive Order: Strategy for Protecting and Restoring the Chesapeake Bay Watershed*. For more information about the Executive Order, visit: <http://executiveorder.chesapeakebay.net/>
- INSRG proposals MUST be able to demonstrate reductions of nutrient and sediment pollution to the Chesapeake Bay. Proposals should include scientifically credible estimates of both short-term and long-term nutrient and/or sediment reductions expected as a result of the project, as well as interim measures used to calculate nutrient reductions such as: acres of wetlands enhanced, acres of forest restored, miles of riparian forested buffer or stream bank restored, acres treated by stormwater BMPs, etc.
- Successful applicants should ensure that BMPs implemented as a result of the project support applicable WIP goals and milestones for restoring the Chesapeake Bay to the greatest extent possible (<http://www.chesapeakebay.net/about/programs/watershed>) and will be required to report applicable BMPs to the appropriate state reporting entity. At the time of award, NFWF will provide successful applicants with guidance on the appropriate reporting contacts in each jurisdiction, format for BMP reporting, and timelines for reporting project-level accomplishments.
- For stream restoration projects, significant, measurable outputs and monitoring performance standards should be tied to stream functions following guidelines presented in “*A Function-based Framework for Stream Assessment and Restoration Projects*” (Harman et al, 2012). A copy of this document can be downloaded from: <http://www.fws.gov/chesapeakebay/streampub.html>. The functions to be assessed will be based on the project goals and objectives. However, the minimum functions that should be assessed include: floodplain connectivity, lateral stability, riparian vegetation, and sediment transport. It is strongly encouraged that documentation of stream functions follow Table 11.1 Functional Lift Determination example in the *Framework Document*.
- Due to accelerated timelines project completion, applicants will be required to provide sufficient documentation that the project has received all necessary permits and clearances to comply with any Federal, state or local requirements at the time of project application. Where projects involve work in the waters of the United States, NFWF requires that grantees provide certification from the U.S. Army Corps of Engineers and appropriate state agency representatives that the project has received all necessary permits.
- If projects involve significant environmental monitoring or data collection/generation, applicants will be asked to develop Quality Assurance Project Plans (QAPPs) as part of their grant. Applicants should budget time and resources to complete this task if appropriate. For more information about NFWF’s Quality Assurance process, visit [www.nfwf.org/chesapeake/qualityassurance](http://www.nfwf.org/chesapeake/qualityassurance)
- Eligible applicants include: non-profit 501(c) organizations (e.g., watershed organizations, homeowners associations, environmental organizations, private schools, etc.), local governments and agencies (e.g., counties, townships, cities, boroughs, conservation districts, planning districts, utility districts, public schools), state government agencies and academic institutions.

- Individuals, federal government agencies and for-profit firms are **not** eligible for implementation grants.
- Projects must engage local partners to ensure the long-term sustainability of the project, as well as its integration into local programs and policies. In most cases these partners will include: local government agencies (e.g., departments of planning, zoning, public works, environment, conservation districts, school districts, etc.), local watershed groups, and community leaders.
- Projects must be technically sound and feasible and carried out by qualified individuals and organizations. Applicants are encouraged to provide documentation of technical assistance either received or committed to by appropriate state and federal agencies, academics and consultants. (Technical assistance is available through the Stewardship Fund. For more information, visit [www.nfwf.org/chesapeake/technicalassistance](http://www.nfwf.org/chesapeake/technicalassistance).)
- Grantees must contribute **non-Federal matching funds and in-kind services** valued at a minimum of 25 percent of total project costs. For INSRG, preference will be given to proposals that have matching contributions valued at 50 percent of total project costs or greater (i.e., 1:1 ratio). Applicants are encouraged to show federal partner contributions as well, although these contributions may not count toward the minimum match. Match should be calculated as a percentage of the total project costs, where the grant request plus the match equals the total project costs.
- Grantees may only use grant funds for indirect costs if 1) the grantee organization has a federally-approved indirect rate; AND, indirect costs do not exceed 15 percent of the total direct costs as defined in the Federally Negotiated Indirect Rate Agreement (even when the federally-approved rate is greater than 15 percent).
- Projects must be ready to begin implementation within six months of the grant award.
- SWGs must be completed within 18 months of grant award, and INSRGs must be completed within two years of grant award.
- All applicants with active grants from NFWF must be in good standing in terms of reporting requirements, expenditure of funds, and QAPPs (if required).

#### **INELIGIBLE USES OF GRANT FUNDS**

- ✗ Neither grant funds nor matching contributions may be used to support political advocacy, lobbying or litigation.
- ✗ Grantees may not use grant funds to support ongoing efforts to comply with legal requirements, including permit conditions, mitigation and settlement agreements. However, grant funds may be used to support projects that enhance or improve upon existing baseline compliance efforts. Grant funds also may be used to develop or inform the development of cost-effective programs to implement MS4 permit requirements.

#### **EVALUATION CRITERIA FOR IMPLEMENTATION GRANTS**

Proposals will be reviewed, evaluated, and scored based on ***the extent to which*** they meet the following criteria:

- **Environmental Results (25 points)** - Project restores and/or protects the water quality and living resources of the Chesapeake Bay and its tributaries, and contributes toward meeting water quality targets expressed in Chesapeake Bay TMDL Watershed Implementation Plans (WIPs).
- **Priority Strategies (15 points)** - Project addresses one or more of the Priority Funding Strategies.
- **Partnership (15 points)** - An appropriate partnership exists to implement the project and the project is supported by a strong local partnership that will sustain it after the life of the grant.

- **Transferability (15 points)** - Project has potential and plan to transfer lessons learned to other communities within the Chesapeake Bay region and/or to be integrated into government programs and policies (e.g., state and Federal cost share, MS4 program delivery, etc.).
- **Work Plan (15 points)** Project is technically sound and feasible, and the proposal sets forth a clear, logical and achievable work plan.
- **Budget (15 points)** - The budget is cost-effective, reasonable, and leverages other partner contributions.

## HOW TO APPLY FOR A GRANT

1. Go to [www.nfwf.org/easygrants](http://www.nfwf.org/easygrants) to register in our Easygrants online system. (If you already are a registered user, use your existing login.) Enter your applicant information.
2. Select a “Funding Opportunity” from the list of options. Use the following guidance to determine whether you should select “Chesapeake Bay Small Watershed Grants 2014” or “Chesapeake Bay Innovative Nutrient and Sediment Reduction 2014”.
  - Will your project accelerate reductions of nutrient and sediment pollution to the Chesapeake Bay during over the life of the grant?
  - Are you seeking more than \$200,000 in grant funds?
  - Do you have matching contributions from your organization and project partners roughly equal to the amount of grant funds you are seeking?

If you can answer “yes” to each of these questions, then select “Chesapeake Bay Innovative Nutrient and Sediment Reduction 2014”. If the answer to any one of these questions is “no”, then select “Chesapeake Bay Small Watershed Grants 2014”.

3. Follow the instructions in Easygrants to complete your application. Once you get started, you may save your application in progress and return another time to complete and submit it.
4. Refer to the [Chesapeake Implementation Grant Tip Sheet](#) for quick reference while you are working through your application. It may be downloaded at [www.nfwf.org/chesapeake](http://www.nfwf.org/chesapeake). For Easygrants technical support please contact our helpdesk at [Easygrants@nfwf.org](mailto:Easygrants@nfwf.org) or call 202-595-2497. Please include your name, login ID, e-mail address, phone number, and a description of the issue. Helpdesk hours are 9:00 AM to 5:00 PM EST, Monday through Friday.

Proposals are due on Thursday, May 15<sup>th</sup> and must be submitted through NFWF’s online application at [www.nfwf.org/easygrants](http://www.nfwf.org/easygrants).

## IMPORTANT DATES

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| ✓ Wednesday, April 2 <sup>nd</sup> | Webinar for Potential Applicants    |
| ✓ Thursday, May 15 <sup>th</sup>   | All Proposals Due                   |
| ✓ Early August                     | Anticipated announcement of awards* |

*\*Please do not contact the Foundation regarding the status of your proposal until after the announcement date.*

For additional information, please contact Jake Reilly ([jake.reilly@nfwf.org](mailto:jake.reilly@nfwf.org)), Elizabeth Nellums ([elizabeth.nellums@nfwf.org](mailto:elizabeth.nellums@nfwf.org)), or Mark Melino ([mark.melino@nfwf.org](mailto:mark.melino@nfwf.org)) via e-mail or by phone at (202) 857-0166.