



The Individual Sewage Disposal Facilities Code

Division of Environmental Health
Fairfax County Health Department

ARTICLE

1

General Provisions.

Section 68.1-1-1. - Title.

This Chapter shall be known and cited as "The Individual Sewage Disposal Facilities Code" of Fairfax County, Virginia. (35-03-68.)

Section 68.1-1-2. - Purpose.

This Chapter shall be applied to protect public health and the environment through locating, designing, inspecting, and approving functional individual sewage disposal facilities and the licensing/registration of sewage disposal facility contractors, sewage handlers, and system maintenance providers. (35-03-68.)

Section 68.1-1-3. - Penalties.

It shall be unlawful for a person to fail to comply with any provision of this Chapter. A person who violates any provision of this Chapter by doing a prohibited act or failing to perform a required act or by failing to perform permitted acts in the prescribed manner shall be deemed guilty of a Class 2 misdemeanor. Each day any violation of this Chapter shall constitute a separate offence. (35-03-68.)

Section 68.1-1-4. - Adoption of the Commonwealth of the Virginia State Board of Health Sewage Handling & Disposal Regulations.

Parts I through V, inclusive, and all forms and appendices of the Commonwealth of Virginia State Board of Health, Sewage Handling & Disposal Regulations, hereafter, referred to as the "Regulations", including the modifications of the Regulations that are set out in Section 68.1-1-6, are hereby adopted and incorporated in their entirety into this Chapter as if fully set forth herein. In the event of conflict or inconsistency between this Chapter and the Sewage Handling & Disposal Regulations, the provisions of this Chapter shall control. When used in the Sewage Handling & Disposal Regulations, the term "Health Authority" shall mean the Director, as defined in Section 68.1-1-5 of this Chapter. (35-03-68.)

Section 68.1-1-5. - Definitions. [See section "12 VAC 5-610-120. Definitions."]

Section 68.1-1-6. - Modifications to Sewage Handling and Disposal Regulations.

The following sections of the Commonwealth of Virginia State Board of Health Sewage Handling and Disposal Regulations, as incorporated into the Fairfax County Code are adopted with the following changes:



Title 12. HEALTH
STATE BOARD OF HEALTH

Title of Regulation: **12 VAC 5-610-10 et seq. Sewage Handling and Disposal Regulations.**

Statutory Authority: §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Effective Date: July 1, 2000.

12 VAC 5-610-10. (Repealed.)

12 VAC 5-610-20. Purpose of regulations.

This chapter has been promulgated by the State Board of Health to:

1. Assure that all sewage is handled and disposed of in a safe and sanitary manner;
2. Guide the State Health Commissioner in his determination of whether a permit for handling or disposing of sewage should be issued or denied; and
3. Guide the owner in the requirements necessary to secure a permit for handling and disposing of sewage.

12 VAC 5-610-30. Relationship to Virginia Joint Sewerage Regulations.

This chapter is supplemental to the current Virginia Sewerage Regulations, or their successor, which were adopted jointly by the State Board of Health and the Department of Environmental Quality pursuant to § 62.1-44.19 of the Code of Virginia. This chapter addresses the handling and disposal of sewage not regulated by a Virginia Pollutant Discharge Elimination System (VPDES) Permit.

12 VAC 5-610-40. Administration of regulations.

This chapter is administered by the following:

1. State Board of Health. The State Board of Health, hereinafter referred to as the board, has the responsibility to promulgate, amend, and repeal regulations necessary to ensure the safe and sanitary handling and disposal of sewage.
2. State Health Commissioner. The State Health Commissioner, hereinafter referred to as the commissioner, is the chief executive officer of the State Department of Health. The commissioner has the authority to act, within the scope of regulations promulgated by the board, for the board when it is not in session. The commissioner may delegate his powers under this chapter with the exception of his power to issue orders under § 32.1-26 of the Code of Virginia and 12 VAC 5-610-170 B. The commissioner has final authority to adjudicate contested decisions of subordinate delegated powers under this section prior to appeal of such decisions to the circuit court.
3. State Department of Health. The State Department of Health, hereinafter referred to as the department, is designated as the primary agent of the commissioner for the purpose of administering this chapter.



4. District or local health departments. The district or local health departments are responsible for implementing and enforcing the operational activities as required by this chapter.

12 VAC 5-610-50. Sewage Handling and Disposal Advisory Committee.

The commissioner shall appoint a Sewage Handling and Disposal Advisory Committee consisting of 16 appointed members and five ex officio members. The commissioner shall appoint to the Sewage Handling and Disposal Advisory Committee one individual each from the following: a member of the Virginia Society of Professional Engineers; a member of the Consulting Engineers Council of Virginia; a member of the Virginia Association of Professional Soil Scientists; a member of the Home Builders Association of Virginia; a member of the Virginia Association of Counties; a member of the Virginia Municipal League; a member of the Virginia Association of Realtors; a member of the Virginia Section, America Institute of Professional Geologists; a member of the Virginia Well Drillers Association; a member of the Virginia Water Environment Association; a faculty member of a Virginia state university or college whose principal field of teaching is soil science; a member of the Virginia Environmental Health Association; a member of the Virginia Wastewater Association; a member of the Virginia Coalition of Environmental Associations and two citizens at large. Ex officio members shall consist of the Director, Division of Wastewater Engineering; an environmental engineer from Chesapeake Bay Local Assistance Department; a person with nonpoint source experience from the Department of Conservation and Recreation; Director, Bureau of Applied Technology, Department of Environmental Quality; and the Director, Division of Onsite Sewage; and Water Services; or their designees. The chairman shall be designated by the commissioner.

Appointed members shall serve at the discretion of the commissioner with terms being two years in duration. The Sewage Handling and Disposal Advisory Committee shall make recommendations to the commissioner regarding sewage handling and disposal policies, procedures and programs of the department. The committee shall meet at least annually. The committee shall establish its rules of order.

12VAC5-610-60. The State Health Department Sewage Handling and Disposal Appeals Review Board.

There is established within the Department of Health under § 32.1-166.1 the Sewage Handling and Disposal Appeals Review Board, hereinafter referred to as the Appeals Review Board.

12 VAC 5-610-70. Grandfather clause.

A. Any owner of a grandfathered lot may submit an application for a construction permit according to the procedure in 12 VAC 5-610-250. The local health department may perform a site and soil evaluation in accordance with Part III (12 VAC 5-610-450 et seq.) of this chapter and a permit shall be issued for a system which complies to the greatest extent possible with this chapter provided that the site and soil conditions would not preclude the successful operation of the system. Whenever the site and soil conditions on a grandfathered lot do not substantially comply with the requirements in Part IV (12 VAC 5-610-591 et seq.) of this chapter for a septic tank effluent system, secondary treatment will be required in the system design. In no case may the separation distance between the subsurface absorption system and a drinking water supply be less than the separation distance established in the regulations in effect at the time the grandfathered lot was approved (subdivision approval) or when the first permit was issued for the grandfathered lot.



B. Certification letters may not be issued in lieu of permits under the grandfather clause.

C. All permits issued under the grandfather clause which do not substantially comply with the provisions of this chapter shall be considered conditional permits in accordance with 12 VAC 5-610-250 J. A statement approved by the division shall be recorded and indexed in the grantor index of the land records of the circuit court having jurisdiction over the site of the sewage treatment and disposal system. The statement shall indicate that the permit is issued under the grandfather clause and that the site and soil conditions do not substantially comply with the current regulations and may contain such other information as the division deems appropriate to serve notice to future owners of the unique nature of grandfathered lots.

D. Within 18 months of July 1, 2000, any owner of a lot for which a certification letter or subdivision approval was issued after November 1, 1982, may submit an application for a construction permit according to the procedures in 12 VAC 5-610-250. Such application shall be subject to the permitting requirements of the regulations under which the certification letter or subdivision approval was issued.

12 VAC 5-610-75. Permits valid on the effective date of this chapter.

Sewage disposal system construction permits which are valid on July 1, 2000, shall be automatically renewed on a one-time basis. Each permit thus renewed shall have an expiration date 18 months from the expiration date shown on the face of the permit. Such permits may be converted to certification letters only if they substantially comply with the current provisions of this chapter.

12 VAC 5-610-80. Sewerage systems and/or treatment works required.

A. The discharge of untreated sewage onto the land or into the waters of the Commonwealth is prohibited.

B. No owner, person, or occupant shall discharge treated or untreated sewage onto the land, into the soil or into the waters of the Commonwealth without a valid permit from the commissioner or, as appropriate, a certificate issued by the Department of Environmental Quality in accordance with Title 62.1 of the Code of Virginia.

C. All buildings, residences, and structures designed for human occupancy, employment or habitation and other places where humans congregate shall be served by an approved sewerage system and/or treatment works. An approved sewerage system or treatment works is a system for which a certificate to operate has been issued jointly by the department and the Department of Environmental Quality or a system which has been issued a separate permit by the commissioner.

12 VAC 5-610-90. (Repealed.)

12 VAC 5-610-100. Right of entry.

The commissioner or his designee shall have the right to enter any property to assure compliance with this chapter in accordance with the provisions of § 32.1-25 of the Code of Virginia.



12 VAC 5-610-110. (Repealed.)

12 VAC 5-610-120. Definitions.

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

“Administrative Authority” means the Fairfax County Director of Health Services or the duly authorized representative.

“Agent” means a legally authorized representative of the owner.

“Alluvial soil” means a soil developing from recently deposited alluvium and exhibiting essentially no horizon development or modification of the recently deposited materials.

“Alluvium” means mineral materials, either weathered or unweathered, that are transported by flowing water and deposited or redeposited in a flood-plain or marine terrace.

“Alternative System” means any approved ground absorption sewage treatment and disposal system other than an approved septic tank system.

“Aquifer” means water-bearing portion of a geologic formation that transmits water.

“ASTM” means American Standards of Testing and Measurement.

“Authorized System” means water carried disposal to an individual sewage disposal system approved by the Administrative Authority.

“Board of Supervisors” means the Board of Supervisors of Fairfax County, Virginia.

“Building Official” shall mean that individual, or his duly appointed representative, appointed by the Director, Department of Public Works and Environmental Services, charged with the administration and enforcement of the Virginia Uniform Statewide Building Code and the Code of the County of Fairfax, Building, Electrical, Mechanical, and Plumbing and Gas Provisions.

“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.

“Colluvial soil” means a soil developing from recently deposited colluvium and exhibiting essentially no horizon development or modification of the recently deposited materials.

“Colluvium” means an accumulation of soil material, or a mixture of stone fragments and soil material, deposited at the base of slopes or in depressional areas, primarily by gravity.

“Commissioner” means the State Health Commissioner or his subordinate who has been delegated powers in accordance with subdivision 2 of 12 VAC 5-610-40.

“Cr horizon” means weathered or soft bedrock and is used to indicate root restrictive layers of bedrock or saprolite.



"Dilution area" means the land immediately adjacent to and down gradient, in the direction of ground water flow, from a mass sewage disposal system, which is provided for the purpose of diluting nitrogen, or other nutrients occurring in wastewater, with ambient ground water, in order to assure compliance with nutrient standards contained in this chapter.

"Director" means the Director of Fairfax County Department of Health Services or the designee of the Director.

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

"Division" means the Division of Onsite Sewage and Water Services, Office of Environmental Health Services, State Health Department or its administrative successor.

"Existing construction" (with failing sewage disposal systems) means an existing structure where the sewage disposal system serving the structure has failed or is currently in violation of state law or regulations and requires correction.

"Experimental or special design system" means treatment and disposal methods, processes, and equipment, which (i) are not covered by criteria in Part IV of the Regulations and which (ii) in principal and/or application are new or unconventional and (iii) are not approved by the Administrative Authority.

"General approval" means approval granted to systems which are proven and tested in accordance with Article 2 (12 VAC 5-610-441 et seq.) of Part II of this chapter.

"Grandfathered lot" means:

1. Any lot upon which no permit has been issued and which is in a subdivision approved by the department prior to July 1, 2000, in accordance with a local subdivision ordinance. Individual lots may or may not have been evaluated; or
2. Any lot, parcel, or portion thereof with a previously issued permit or a specific written approval (not including a certification letter) from the department.

"Gray color" means a chroma-2 or less on the Munsell Color Chart.

"Impervious strata" means soil or soil materials with an estimated or measured percolation rate in excess of 120 minutes per inch.

"Individual sewage disposal system" means a complete system for collection, treatment, and disposal of sewage designed not to result in a point source discharge.

"Installed, repaired, expanded, approved and standard" means in accordance with the specifications and standards established within this Article.

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



“Malfunction” means when an individual sewage disposal system no longer performs its design function, including but not limited to events when effluent surfaces on the ground surface, backs up into the building sewer line or pollutes the ground water.

"Mass sewage disposal system" means a sewage disposal system or systems which will discharge effluent to a single absorption area or multiple absorption areas with or without combined flows, such that the loading rate applied to any acre, as determined by the department, exceeds 1,200 gallons per day.

"Mineral soil" means a soil consisting predominantly of, and having its properties determined predominantly by, mineral matter. A mineral soil usually contains less than 20% organic matter, but it may contain an organic surface layer up to 12 inches thick.

"New construction" means construction of a building for which a building permit is required.

"Office" means the Office of Environmental Health Services, State Health Department.

"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.

“Percolation test” means a water test at a depth of the proposed soil absorption system to determine the rate that water will permeate the soil under saturated conditions as described in Appendix G of the Regulations.

"Person" means an individual, corporation, partnership, association or any other legal entity.

“Portable or temporary toilet” means a non-water-carriage device, housed in a structure manufactured as a single unit that affords privacy to the user, is easily transported, and contains a vault for the temporary collection and storage of human excrement.

“Previously issued permit” means any permit issued prior to July 1, 2000, and in accordance with the regulations in effect at the time the permit was issued. There is no distinction between an expired permit and one that has been continually renewed.

“Privy” means an earth pit or vault for receiving non-water carried human wastes.

"Pump and haul" means any unusual circumstance wherein sewage is permitted to be transported by vehicle to a point of disposal. The term “pump and haul” includes all facilities and appurtenances necessary to collect and store the sewage for handling by a contractor having a valid sewage handling permit.

“Pump-out” means the removal of the contents of a septic tank or other pretreatment system by a licensed sewage handler.

“Receiving Area” means the area adjacent to and down slope from the absorption area, which will absorb lateral flow of sewage effluent. The area may vary in size depending on the degree of slope, soil texture, permeability, topographical features, and linear loading rates for the design of the proposed system.



"Rock" or "bedrock" means continuous, coherent, lithologic material that has relative hardness depending on the degree of weathering. Bedrock has characteristics such as strike, dip, jointing, and lithological compositions. Structure and water movement are rock controlled. Bedrock grinds with an auger, and mechanical penetration is more difficult or prevented as the material gets harder.

"Sand filter" means a secondary sewage treatment device or structure, constructed at, above or below the surface of the ground, for removing solid or colloidal material of a type that is not removed by sedimentation in the pretreatment system.

"Saprolite" means material weathered from igneous or metamorphic rock, without soil structure, and with remnant structure and fabric of the parent rock which is soft in place and can be penetrated easily with an auger.

"Secondary effluent" means effluent treated to reduce five-day biochemical oxygen demand to 30 mg/l or less, total suspended solids to 30 mg/l or less, and fats, oils, and grease to less than 5 mg/l.

"Septic tank effluent" means effluent characterized by a five-day biochemical oxygen demand between 120 and 200 mg/l; total suspended solids between 70 and 150 mg/l; fats, oils, and grease of 30 mg/l or less; and having no other toxic, hazardous, or constituents not routinely found in residential wastewater flows.

"Septic tank system" means a subsurface wastewater system consisting of a settling tank and a subsurface disposal field.

"Septage" means the mat of grease and scum on the surface of septic tanks, the accumulated sludge at the bottom of tanks and the sewage present at the time of pumping.

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

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

"Sewage handler" means any person who removes or contracts to remove and transports by vehicle the contents of any septic tank, sewage treatment plant, privy, holding tank, portable toilet or any sewage, septage or sewage sludges which have been processed to meet acceptable treatment standards as defined in this chapter or the Sewage Regulations (12 VAC 5-580-10 et seq.).

"Sewage handling" means the vehicular conveyance of sewage (See "Transportation" in § 32.1-163 of the Code of Virginia).

"Sewerage system" means pipe lines 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.

"Sewage treatment works" means any device or system used in the storage, treatment, disposal or reclamation 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 an integral part of the treatment process or used for ultimate disposal of residues or effluent resulting from such treatment.

"Shrink-swell soils" means soils with horizons that contain montmorillonite and other clays that excessively shrink upon drying and swell upon wetting.

"Sink hole" means a depression in the topography without a surface outlet for drainage from the low point. Sink holes are common in areas containing limestone and generally result from the collapse of solution cavities.

"Soil" means the weathered mineral and organic fraction of the earth's regolith, which is less than or equal to 2.0 mm in size as observed in place. Soil comprises sands, silts or clays or combinations of these textured components and may contain larger aggregate materials such as gravel, cobbles, stones or channers or precipitates from aqueous solution. Soil includes the A, O, B, C, and E horizons.

"Soil evaluation" means an evaluation of both the surface characteristics and the soil profiles on a proposed site for an individual sewage disposal system or treatment works to determine its suitability for the proposed use. Surface evaluation shall include such characteristics as landscape position, degree of slope, surface drainage patterns, indications of disturbance, stoniness, etc. Soil profile descriptions shall include such factors as color, texture, consistency, depth to rock, seasonal and permanent water tables, internal drainage restrictions, etc.

"Soil horizon" means a layer of soil or soil material approximately parallel to the land surface and different from adjacent genetically related layers in physical, chemical, and biological properties or characteristics such as color, structure, texture, consistency, kinds and numbers of organisms present, degree of acidity or alkalinity, etc.

"Subdivision" means multiple building lots derived from a parcel or parcels of land.

"Subsurface soil absorption" means a process which utilizes the soil to treat and dispose of effluent from a treatment works. (Also see "Subsurface drainfield" in § 32.1-163 of the Code of Virginia).

"Subsurface soil absorption pit" means a system comprised of round, square, or rectangular excavations that are greater than 36 inches in width or diameter installed within the soil and designed to accommodate treated sewage from a treatment works.

"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 effluent resulting from such treatment.

12 VAC 5-610-130. Compliance with Virginia Administrative Process Act.

The provisions of the Virginia Administrative Process Act of the Code of Virginia shall govern the promulgation and administration of this chapter and shall be applicable to the appeal of any case decision based upon this chapter.



12 VAC 5-610-140. (Repealed.)

12 VAC 5-610-150. (Repealed.)

12VAC5-610-160. Emergency order or rule.

If an emergency exists the commissioner may issue an emergency order or rule as is necessary for preservation of public health, safety, and welfare. The emergency order or rule shall state the reasons and precise factual basis upon which the emergency rule or order is issued. The emergency order or rule shall state the time period for which it is effective.

12 VAC 5-610-170. Enforcement of regulations.

All sewage handling and disposal facilities shall be constructed and operated in compliance with the requirements as set forth in this chapter. The commissioner may enforce this chapter through any means lawfully available.

A. Notice. Subject to the exceptions indicated below whenever the commissioner or the district or local health department has reason to believe a violation of any of these regulations has occurred or is occurring, the alleged violator shall be notified. Such notice shall be made in writing, shall be delivered personally or sent by certified mail, shall cite the regulation or regulations that are allegedly being violated, shall state the facts which form the basis for believing the violation has occurred or is occurring, shall include a request for a specific action by the recipient by a specified time and shall state the penalties associated with such violations (See § 32.1-27 of the Code of Virginia). When the commissioner deems it necessary he may initiate criminal prosecution or seek civil relief through mandamus or injunctive relief prior to giving notice.

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

1. The immediate cessation or correction, or both, of the violation;
2. The acquisition or use of additional land, equipment, supplies or personnel to assure that the violation does not recur;
3. The submission of a plan to prevent future violations to the commissioner for review and approval;
4. The submission of an application for a variance; and
5. Any other corrective action deemed necessary for proper compliance with the regulations.

C. Hearing before the issuance of an order. Before the issuance of an order described in subsection B of this section, a hearing must be held with at least 30 days notice to the affected owner of the time, place and purpose thereof, for the purpose of adjudicating the alleged violation or violations of this chapter. The procedure at the hearing shall be in accordance with 12 VAC 5-610-200 B and with §§ 9-6.14:11 and 9-6.14:12 of the Code of Virginia.



D. Order; when effective. All orders shall become effective not less than 15 days after mailing a copy thereof by certified mail to the last known address of the owner violating this chapter. Violation of an order is a misdemeanor. (See § 32.1-27 of the Code of Virginia.)

E. Compliance with effective orders. The commissioner may enforce all orders. Should any owner fail to comply with any order, the commissioner may:

1. Apply to an appropriate court for an injunction or other legal process to prevent or stop any practice in violation of the order;
2. Seek mandamus against any owner that is a municipal corporation;
3. Request the Attorney General to bring an action for civil penalty;
4. Request the Commonwealth's Attorney to bring a criminal action.

F. Not exclusive means of enforcement. Nothing contained in this section shall be interpreted to require the commissioner to issue an order prior to seeking enforcement of any regulations or statute through an injunction, mandamus or criminal prosecution.

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

12 VAC 5-610-180. (Repealed.)

12 VAC 5-610-190. Variances.

The commissioner may grant a variance to this chapter; however, minor deviations to the criteria contained in Part IV (12 VAC 5-610-591 et seq.) or Part V (12 VAC 5-610-660 et seq.) of this chapter may be granted in accordance with 12 VAC 5-610-280 C. The commissioner shall follow the appropriate procedures set forth in this section in granting a variance.

A. Definition of a variance. A variance is a conditional waiver of a specific regulation which is granted to a specific owner relating to a specific situation or facility and may be for a specified time period.

B. Requirements for a variance. The commissioner may grant a variance if a thorough investigation reveals that the hardship imposed (may be economic) by this chapter outweighs the benefits that may be received by the public and that the granting of such variance does not subject the public to unreasonable health risks.

C. Application for a variance. Any owner who seeks a variance shall apply in writing for a variance. The application shall be sent to the appropriate district and local health department for review and forwarding to the commissioner. The application shall include:

1. A citation to the regulation from which a variance is requested;
2. The nature and duration of the variance requested;



3. Any relevant analytical results including results of relevant tests conducted pursuant to the requirements of this chapter;
4. The hardship imposed by the specific requirement of this chapter;
5. A statement of reasons why the public health and welfare would be better served if the variance were granted;
6. Suggested conditions that might be imposed on the granting of a variance that would limit the detrimental impact on the public health and welfare;
7. Other information, if any, believed pertinent by the applicant; and
8. Such other information as the local health department and the commissioner may require.

D. Evaluation of a variance application.

1. The commissioner shall act on any variance request submitted pursuant to subsection C of this section within 60 calendar days of receipt of the request.
2. In the commissioner's evaluation of a variance application, the commissioner shall consider the following factors:
 - a. The effect that such a variance would have on the operation of the sewage handling or disposal facility;
 - b. The cost and other economic considerations imposed by this requirement;
 - c. The effect that such a variance would have on protection of the public health;
 - d. Any relevant analytical results including results of relevant tests conducted pursuant to the requirements of this chapter;
 - e. The hardship imposed by enforcing the specific requirement of this chapter;
 - f. The applicant's statement of reasons why the public health and welfare would be better served if the variance were granted;
 - g. The suggested conditions that might be imposed on the granting of a variance that would limit the detrimental impact on the public health and welfare;
 - h. Other information, if any, believed pertinent by the applicant;
 - i. Such other information as the local health department and the commissioner may require; and
 - j. Such other factors as the commissioner may deem appropriate.

E. Disposition of a variance request.

1. The commissioner may reject any applicant for a variance by sending a rejection notice to the applicant. The rejection notice shall be in writing and shall state reasons for the rejection. The application may petition for a hearing within 30 calendar days to challenge the rejection pursuant to 12 VAC 5-610-200.



2. If the commissioner proposes to grant a variance request submitted pursuant to subsection C of this section, the applicant shall be notified in writing of this decision. Such notice shall identify the variance, sewage handling or disposal facility covered, and shall specify the period of time for which the variance will be effective and any conditions imposed pursuant to issuing the variance. The effective date of a variance shall be 15 calendar days following its issuance.

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

F. Posting of variances. All variances granted to any sewage handling or disposal facility are nontransferable. Each variance shall be attached to the permit to which it is granted. Each variance is revoked when the permit to which it is attached is revoked.

12 VAC 5-610-200. Hearing types.

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

A. Informal hearings. An informal hearing is a meeting with the district or local health department with the district or local health director presiding and held in conformance with § 9-6.14:11 of the Code of Virginia. The district or local health department shall consider all evidence presented at the meeting which is relevant to the issue in controversy. Presentation of evidence, however, is entirely voluntary. The district or local health department shall have no subpoena power. No verbatim record need be taken at the informal hearing. The local or district health director shall review the facts presented and based on those facts render a decision. A written copy of the decision and the basis for the decision shall be sent to the appellant within 15 work days of the hearing unless the parties mutually agree to a later date in order to allow the department to evaluate additional evidence. If the decision is adverse to the interests of the appellant, an aggrieved appellant may request an adjudicatory hearing pursuant to 12 VAC 5-610-200 B.

B. Adjudicatory hearing for appeals of denials of sewage system construction permits. The adjudicatory hearing is a formal, public adjudicatory proceeding before the commissioner, the Sewage Handling and Disposal Appeal Review Board or a designated hearing officer, and held in conformance with § 9-6.14:12 of the Code of Virginia. An adjudicatory hearing includes the following features:

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

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

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

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



5. Subpoena. Pursuant to § 9-6.14:13 of the Code of Virginia, the commissioner, Sewage Handling and Disposal Appeal Board, or hearing officer may issue subpoenas on behalf of themselves for the attendance of witnesses and the production of books, papers, maps or other materials. Failure to appear or to testify or to produce materials without adequate excuse may be reported by the commissioner to the appropriate circuit court for enforcement.
6. Judgment and final order. The commissioner may designate a hearing officer or subordinate to conduct the hearing as provided in § 9-6.14:12 of the Code of Virginia, and to make written recommended findings of fact and conclusions of law to be submitted for review and final decision by the commissioner. The final decision of the commissioner shall be reduced to writing and will contain the explicit findings of fact upon which his decision is based. A certified copy of the decision shall be delivered to the affected owner. Notice of a decision will be served upon the parties and become a part of the record. Service may be by personal service or certified mail, return receipt requested.

12VAC5-610-210. Request for hearing.

The commissioner or any person or owner injured by alleged violation of this chapter may request a hearing of one of the types listed by sending the request in writing to the district or local health department. The request for hearing shall cite the reason or reasons for the hearing request and shall cite the section or sections of this chapter involved.

12VAC5-610-220. Hearing as a matter of right.

Any person or owner whose rights, duties, or privileges have been, or may be affected by any decision of the board or its subordinates in the administration of this chapter shall have a right to both informal and adjudicatory hearings. The commissioner may require participation in an informal hearing before granting the request for a full adjudicatory hearing.

Exception. No person other than an owner shall have the right to an adjudicatory hearing to challenge the issuance of either a construction permit or operation permit unless the person can demonstrate at an informal hearing that the minimum standards contained in these regulations have not been applied and that he will be injured in some manner by the issuance of the permit.

12 VAC 5-610-230. Appeal.

A. Any appeal from a denial of a construction permit for a sewage disposal system must be made in writing and received by the department within 30 days of the date of receipt of notice of the denial.

B. Any request for hearing on the denial of an application for a variance pursuant to 12 VAC 5-610-170 E 1 must be made in writing and received within 30 days of receipt of the denial notice.

C. Any request for a variance must be made in writing and received by the department prior to the denial of the sewage disposal system permit, or within 30 days after such denial.

D. In the event a person applies for a variance within the 30-day period provided by subsection C of this section, the date for appealing the denial of the permit, pursuant to subsection B of this section, shall commence from the date on which the department acts on the request for a variance.



- E. Pursuant to the Administrative Process Act (§ 9-6.14:1 et seq. of the Code of Virginia), an aggrieved owner may appeal a final decision of the commissioner or Appeal Review Board to an appropriate circuit court.

12VAC5-610-240. Permits; general.

No person or owner shall construct, operate, expand or modify a sewage disposal or handling system without a written permit from the commissioner.

A. Sewage disposal permits. No person or owner shall cause or allow the construction, expansion or modification of a sewage disposal system without the written construction permit from the commissioner which authorizes the construction or modifications. Furthermore, no person or owner shall cause or permit any sewage disposal system constructed after the effective date of this chapter to be operated without a written operation permit issued by the commissioner which authorizes the operation of the sewage disposal system, and/or nonpublic drinking water system (see 12VAC5-610-340). Conditions may be imposed on the issuance of any permit and no sewage disposal system shall be constructed, modified or operated in violation of these conditions.

B. Sewage handling permits. Any person who removes or contracts to remove and transport by vehicle the contents of any septic tank, sewage treatment plant, privy, holding tank, portable toilet, or any sewage septage or sewage sludges from any other device shall be deemed an owner and shall have a written sewage handling permit issued by the commissioner.

C. Fees. A fee, in accordance with the fee schedule established in Section 68.1-9-1, shall be paid to the County of Fairfax at the time of any application. A separate fee shall be imposed when an applicant requests a change in the approved location of the individual sewage disposal system. No fee shall be required for the repair or replacement of an existing malfunctioning system. A construction permit issued pursuant to this Section shall be valid for a period of 18 months and may be revalidated in writing by the Administrative Authority with the imposition of an additional fee.

D. When site conditions change or the needs of an applicant change such that a new site evaluation must be conducted, a new application and a site development plan review fee, in accordance with the fee schedule established in Section 68.1-9-1, is required.

E. The presence of sewage disposal systems that utilize a device for treating sewage to secondary effluent standards or better shall be recorded for the property in the Grantor Index of the land records maintained by the Fairfax County Circuit Court.

Exception. No such permit is required for the handling of sewage from (1) a holding tank on a vehicle or vessel by the owner of such vehicle or vessel or (2) the removal of screenings, sludges, grit, etc. from a sewage treatment plant by the owner or employees of such sewage treatment facilities.

12 VAC 5-610-250. Procedures for obtaining a construction permit for a sewage disposal system.

Construction permits are issued by the commissioner but all requests for a sewage disposal construction permit shall be directed initially to the district or local health department.



A. Type I. A Type I sewage disposal system is an individual sewage disposal system incorporating a septic tank and subsurface soil absorption (septic tank-subsurface drainfield) serving a single residence. The submission of an application is all that is normally necessary to initiate procedure for obtaining a permit under this subsection. If after a site investigation, it is determined that pumping, enhanced flow distribution (see 12 VAC 5-610-930 A) or low pressure distribution (see 12 VAC 5-610-940) is necessary, the system shall be considered a Type II system.

B. Type II. A Type II sewage disposal system is a sewage disposal system incorporating a septic tank and subsurface soil absorption system which serves a commercial or other establishment, more than a single family dwelling unit, or where pumping, enhanced flow distribution (see 12 VAC 5-610-930 A) or low pressure distribution (see 12 VAC 5-610-940) is necessary. The procedure for obtaining a permit includes the following steps:

1. The submission of an application;
2. A preliminary conference as necessary; and
3. The submission of informal plans, specifications, design criteria, and other data, as may be required by the district or local health department. Depending on the size and complexity of the system, the submission of formal plans and specifications may be required.

C. Type III. A Type III sewage disposal system includes sewage disposal systems other than a septic tank subsurface soil absorption system, and subsurface soil absorption systems, regardless of design, with design flows greater than 1,000 gpd. The procedure for obtaining a permit under this subsection includes the following steps:

1. The submission of an application;
2. A preliminary conference; and
3. The submission of formal plans, specifications and design criteria. Other supporting data may be required on a case-by-case basis.

When high strength wastes are proposed for subsurface disposal, the treatment methodology shall comply with the requirements found in 12 VAC 5-580-10 et seq. of the Sewage Regulations.

D. Type IV-Privies. The submission of an application is all that is normally necessary to initiate the procedure for obtaining a permit under this section.

E. Application. All applications for any type sewage disposal system shall be made on an application form provided by the district or local health department and approved by the department.

F. Preliminary conference. A preliminary conference with the district or local health department is held for Type II and Type III systems. When a Type III system for septage disposal is planned, the conference shall be with the department. At such conference the owner and/or his agent shall be prepared to set forth the sewage disposal problems and the proposed solution in such a manner to support his conclusions and recommendations.



G. Formal plans.

1. All formal plans for sewage disposal systems shall bear a suitable title showing the name of the owner and shall show the scale in feet, a graphical scale, the north point, date, and the name of the licensed professional engineer by or under whom prepared. The cover sheet and each plan sheet shall bear the same general title identifying the overall sewage disposal project and each shall be numbered. Appropriate subtitles should be included on the individual sheets.

The plans shall be clear and legible. They shall be drawn to a scale which will permit all necessary information to be plainly shown. The size of the plans should be no larger than 30 inches by 48 inches. Data used should be indicated. Location, when made, shall be shown on the plans. Logs of test borings shall be given either on plans or in the specifications.

Detailed plans shall consist of plan views, elevations, sections, and supplementary views which together with the specifications and general layouts provide the working information for the contract and construction of the work, including dimensions and relative elevations of structures, the location and outline form of equipment, the location and size of piping, water levels, ground elevations, and erosion control abatement facilities.

2. Geographical and other features. Topography, elevations (contour lines), existing or proposed streets and all bodies of water, ditches, buildings, springs, cisterns and wells within 100 feet horizontally of the proposed sewage disposal system site and/or well, a water mounding analysis showing the impact of the proposed sewage system on ground water and all property lines shall be clearly shown.

3. General layout. The general layout shall show the following:

- a. Test borings, ground water elevation (if observed), and soil profiles;
- b. Size and location of sewage disposal systems;
- c. Schematic flow diagram showing the flow through the various disposal system units;
- d. Piping; and
- e. Hydraulic profile showing the flow of sewage.

4. Detailed plans. Detailed plans shall show the following:

- a. Location, dimensions and elevations of existing or proposed system facilities;
- b. Pertinent data concerning the rated capacity of pumps, blowers, motors and other mechanical devices. All or part of such data may be included in the specifications by suitable reference on the plans;
- c. Average and maximum hydraulic flow in profile; and
- d. Adequate description of any features not otherwise covered by the specifications.

H. Formal specifications. Complete technical specifications for the construction of the sewage disposal system and all appurtenances shall accompany the plans. The specifications accompanying construction



drawings shall include, but not be limited to, all construction information not shown on the drawings, which is necessary to inform the builder in detail of the design requirements as to the quality of material workmanship and fabrication of the project, type, size, strength, operating characteristics, and rating of equipment; allowable infiltration, machinery, valves, piping, and jointing of pipe, electrical apparatus, wiring and meters; operating tools and construction materials; special filter materials such as stone, sand, gravel or slag; miscellaneous appurtenances; chemicals when used; instructions for testing materials and equipment as necessary to meet design standards and operating test for the complete works and component units.

I. Special requirements for certain sewage disposal systems. A construction permit for a single sewage disposal system proposed to serve a dwelling unit with multiple living units or multiple dwelling units on a single lot shall be issued only to a single owner. The owner shall provide legal documentation to assure operation and the maintenance of the system for the expected life of the living units or dwellings.

J. Construction permit with conditions.

1. Definition: "Conditional construction permit" means a permit authorizing the installation of a septic tank subsurface soil absorption system which does not fully conform to the criteria in Part V (12 VAC 5-610-660 et seq.) of this chapter pertaining to septic tank size, subsurface soil absorption system size and certain ground water table conditions as indicated by soil evaluation, but which, under the conditions to which the permit is subject, can be reasonably expected to function without danger to public health.

2. The purpose of this section is to allow for the issuance of conditional construction permits. Procedures for obtaining a conditional construction permit are the same as those contained in subsections A, B, C and D of this section.

3. Conditional construction permits may be issued for any one or more of the following use conditions when satisfactory substantiation is provided by the applicant:

- a. Reduced water flow based on permanent water saving plumbing devices;
- b. Limitations on the number of persons occupying the dwelling or using the facility served by the proposed septic tank system;
- c. Intermittent or seasonal use of the dwelling or facility served by the septic tank system; and
- d. Temporary use of the septic tank system for a specified time period not to exceed one year. Such permits may be renewable when the commissioner determines there is a good cause for renewal.

4. Criteria.

- a. The septic tank and/or drainfield size may be reduced based on the use conditions contained in subdivision 3 a, b, c, or d of this subsection.
- b. In areas with seasonal fluctuating water table(s), where the seasonally high water table would cause failure if the system were to be used continuously, septic tank systems may be installed when the period of use of the septic tank system coincides with the period when the ground water



table, as indicated by free water, is at its lowest level. Acceptable separation distances to free standing ground water are the same as those found in Tables 4.3 and 4.4 of this chapter.

c. Because of the increased risk of failure, a conditional permit shall not be issued, in an area with a seasonally fluctuating water table if the proposed absorption area is within 200 feet of a shellfish growing area, recreational waters or a public water supply impoundment.

5. The district or local health department shall affix to the conditional construction permit a clear and concise statement relating the conditions and circumstances which formed the basis for issuing the conditional permit as well as the owner's obligations under the permit.

6. The holder of any conditional construction permit shall have the permit recorded and indexed in the grantor index under the holder's name in the land records of the clerk of the circuit court having jurisdiction over the site of the septic tank system. District or local health departments shall be provided with certification that the conditional septic tank system permit has been recorded in the land records of the circuit court. The conditional permit shall become effective one day after the district or local health department receives notification of recordation. The district or local health department shall advise the local building official that conditional septic tank system permits are not valid without certification that the permits have been properly recorded as required and shall forthwith notify the local building official when the conditional permit becomes effective. Final approval of the construction of the septic tank subsurface soil absorption system shall not be given until or unless the system is constructed in accordance with the conditions of the permit. The operation permit will be issued in accordance with 12 VAC 5-610-340.

7. As per § 32.1-164.1 of the Code of Virginia, the holder of the permit and any subsequent holders of the permit shall be bound by the conditions stated in the permit unless the holder or subsequent holder obtains an additional permit for modification or alteration of the septic tank system to meet any new use conditions.

12 VAC 5-610-255. Certification letters.

A. An applicant for a sewage disposal system who does not intend to build within 18 months of application shall apply for a certification letter. The process shall be the same as for a system application made in accordance with 12 VAC 5-610-250. The fees charged for a certification letter shall be the same as prescribed in § 32.1-164 C of the Code of Virginia.

B. Certification letters indicate that a site is suitable for an onsite sewage treatment and disposal system and do not need to indicate the type of system for which the site is suitable.

C. Certification letters do not expire and shall convey with the land in the event the property is sold between the time the certification letter is issued and a construction permit is requested.

D. Certification letters may be converted to a construction permit by making application to the local health department in accordance with 12 VAC 5-610-250 and paying any required fees. Note, however, no additional fee shall be charged when a certification letter is converted to a construction permit within 18 months of the date the letter was issued.

E. Formal plans and specifications are not required in order to obtain a certification letter unless said plans and specifications are necessary to determine the appropriateness of a site for a sewage disposal



system. Depending upon the type and complexity of the system to be permitted, formal plans and specifications may be required.

F. Certification letters shall be issued only for conventionally approved systems. Certification letters shall not be issued for experimental or provisionally approved systems because there is no assurance that said system will successfully complete the required testing and demonstration and, hence, may not be available when the property owner wishes to convert the letter to a construction permit. Further, no certification letter shall be issued for a conditional permit pursuant to 12 VAC 5-610-250 J.

12 VAC 5-610-260. Requirements for the submission of formal plans, specifications and other data.

A. In accordance with the provisions of Title 54.1 of the Code of Virginia, all formal drawings, specifications, reports, and other documents submitted for approval shall be prepared by or under the supervision of a licensed professional engineer. The front cover of each set of drawings, of each copy of data and each copy of the specifications submitted shall bear the original imprint of the seal and signature of the licensed professional engineer by or under whom prepared. In addition each drawing submitted shall bear an imprint or a legible facsimile of such seal.

B. If revisions to the formal plans, specifications or documents are necessitated, a letter will be sent to the engineer outlining the revisions and requesting submission of the revised documents within 30 calendar days.

12 VAC 5-610-270. Approval of formal plans.

Final, complete and detailed plans and specifications submitted in accordance with the provisions of 12 VAC 5-610-250 and 12 VAC 5-610-260 will be reviewed by the district or local health department as appropriate as soon as practicable upon receipt. Such plans will be approved if they demonstrate compliance with the criteria set forth in Part V (12 VAC 5-610-660 et seq.) of this chapter, and if the sewage disposal system will be able to function properly. A set of approved plans will be returned to the owner.

12 VAC 5-610-280. Issuance of the construction permit.

A. A construction permit may be issued by the commissioner after approval of the application submitted under 12 VAC 5-610-250 A and D.

B. A construction permit may be issued by the commissioner after approval of the application and plans and specifications submitted under 12 VAC 5-610-250 B and C. Such approvals shall include applicable requirements of the Department of Environmental Quality in accordance with § 32.1-164.3 of the Code of Virginia.

C. Exception.

1. If compliance with the criteria contained in Part IV (12 VAC 5-610-591 et seq.) or Part V (12 VAC 5-610-660 et seq.) of this chapter imposes economic or other conditions that are not justified by the health considerations upon which the criteria are based, a construction permit may be issued for the disposal system design which substantially complies with the criteria set forth in Part IV or V of this chapter.



2. When issuing a construction permit for repair of an existing failing sewage disposal system for an occupied structure with indoor plumbing, the criteria contained in Parts IV and V of this chapter shall be complied with to the greatest extent possible. However, it is not necessary to substantially comply with all of the requirements in those parts of this chapter with the exception of the setback distances for shellfish waters or drinking water wells, unless the system is already closer in which case the corrected system shall not be closer than the existing system. Furthermore, when it can be documented that compliance with those parts creates an economic hardship, the district health director or the district environmental health manager may waive the requirements for pretreating the effluent. All corrections must be of such a nature that they can reasonably be expected to reduce the risk to public health caused by the malfunctioning systems.

12 VAC 5-610-290. Denial of a construction permit.

A. If it is determined that the proposed design is inadequate or that soil, geological or other conditions are such to preclude safe and proper operation of a proposed sewage disposal system or that the installation of the system would create an actual or potential health hazard or nuisance, the permit shall be denied and the owner shall be notified in writing of the basis for the denial. The notification shall also state that the owner has the right to appeal the denial.

B. Construction permits may be denied for new construction to be served by a public water supply system which has reached its permitted capacity.

12 VAC 5-610-300. Voidance revalidation, and revocation of construction permits with and without conditions.

A. Null and void. All sewage disposal construction permits are null and void when (i) conditions such as house location, sewage system location, sewerage system location, well location, topography, drainage ways, or other site conditions are changed from those shown on the application; (ii) conditions are changed from those shown on the construction permit; or (iii) more than 18 months elapse from the date the permit was issued. Reapplication for the purposes of having an expired permit reissued shall be the responsibility of the owner, and such reapplication shall be handled as an initial application and comply fully with 12 VAC 5-610-250.

B. Revalidation. Except as provided in 12 VAC 5-610-70, construction permits shall be revalidated if more than 18 months have elapsed since issuance of the construction permit and construction has not commenced. The district or local health department shall revalidate the permit if the permit had been previously issued in accordance with this chapter and the site conditions are the same as shown on the application and construction permit. Exception. This subsection is inapplicable to a Type III septage disposal facility.

C. Revocation. The commissioner may revoke a construction permit or inspection statement for any of the following reasons:

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



12VAC5-610-310. Revisions of approved plans.

Any deviation from approved plans and specifications affecting capacity, hydraulic conditions, operating units or the functioning of the sewage disposal system must be approved by the bureau before such changes are made. Revised plans and specifications shall be submitted in time to permit the review and approval of such plans and specifications before any construction work which will be affected by the changes is begun.

12VAC5-610-320. Inspection and correction.

No part of any installation shall be covered with earth or used until inspected, corrections made, if necessary, and approved by the district or local health department or unless expressly authorized by the district or local health department. Any part of an installation which has been covered prior to approval shall be uncovered upon direction of the district or local health department. There shall be no fee assessed for a compliance inspection. In the event that a compliance inspection reveals major deficiencies that require a re-inspection or a compliance inspection is cancelled by the person installing or repairing the sewage disposal system with less than 24 hours notice, the person installing or repairing the sewage disposal system shall pay a re-inspection fee in accordance with the fee schedule established in Section 68.1-9-1 prior to the re-inspection being performed. No re-inspection fee will be assessed for minor deficiencies or deficiencies not due to contractor fault.

12 VAC 5-610-330. Statements required upon completion of construction.

A. Statement from a licensed professional engineer on a project where the submission of formal plans and specifications are required. Upon completion of the construction or modifications of such sewage disposal system, the owner shall submit to the district or local health department a statement signed by a licensed professional engineer stating that the construction work was completed substantially in accordance with approved plans and specifications revised only in accordance with the provisions of 12 VAC 5-610-310. This statement shall be based upon inspections of the sewage disposal system during and after construction or modifications that are adequate to assure the accuracy of the statement.

B. Statement from the sewage disposal system contractor. Upon completion of the construction or modification of a sewage disposal system, the owner shall submit to the district or local health department a statement signed by the contractor that the construction work was completed in accordance with the construction permit, and when appropriate the plans and specifications approved for the project and substantially in accordance with Part V (12 VAC 5-610-660 et seq.) of this chapter.

12 VAC 5-610-340. Issuance of the operation permit.

Upon satisfactory completion of the requirements of 12 VAC 5-610-320 and 12 VAC 5-610-330 the commissioner shall issue an operation permit. The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair or replace any sewage disposal system that ceases to operate as defined in the operation permit and in 12 VAC 5-610-350.



12VAC5-610-350. Failure of a sewage disposal system.

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 these regulations. Pollution of the groundwater or backup of sewage into plumbing fixtures may also indicate system failure.

12 VAC 5-610-360. Review of subdivision plats for individual sewage disposal systems when required by local ordinance.

A. The intent of this section is to assure that adequate information is supplied to the district or local health department to determine if any or all proposed lots contain a suitable area and reserve area for onsite sewage disposal systems prior to recordation of the subdivision plat. This section shall not be construed to restrict the department in rendering preliminary opinions in accordance with local ordinances prior to recordation. The information requested herein is supplemental to the information which may be required by local subdivision ordinances.

B. A subdivision plat or a subsection of a subdivision plat submitted to the district or local health department for review of onsite sewage disposal systems shall show at a minimum the location of the proposed onsite sewage disposal systems and the reserve absorption areas if required by Part V (12 VAC 5-610-660 et seq.) of this chapter, 12 VAC 5-610-710 for the onsite sewage disposal systems and the location of the water supply system on each lot, if applicable. Each plat or subsection of a subdivision plat shall be accompanied by specific soil information for each lot (absorption area and reserve area) in accordance with Article 1 (12 VAC 5-610-450 et seq.) of Part III of this chapter. If not provided by the local subdivision ordinance, the district or local health department may require the plat to show streets, utilities, storm drainage, water supplies, easements, lot lines and original topographic contour lines by detail survey or other information as required. For suggested contour interval and scale see APPENDIX L.

C. No department employee shall sign or indicate approval for onsite sewage disposal systems on a subdivision plat or subsection of a subdivision plat for recordation until a sewage disposal site(s), including reserve area when required in accordance with 12 VAC 5-610-710, has been identified, approved or disapproved and recorded on each lot of the subdivision plat on file with the district or local health department. The plat on file with the district or local health department shall be reconciled with the plat to be recorded. The recorded plat shall reference the plat on file with the department. The signature of a department employee on a recorded subdivision plat or subsection of a subdivision plat does not imply or connote that any lot(s) identified as approved shall be issued a sewage disposal construction permit unless all conditions and circumstances, such as but not limited to landscaping, contained in the original approval exist at the time of application for a sewage disposal construction permit.

D. Before building construction begins on a lot within the subdivision, the property owner shall obtain a valid building permit from the Fairfax County Department of Public Works and Environmental Services.



12 VAC 5-610-370. (Repealed.)

12 VAC 5-610-380. Procedures for obtaining a sewage handling permit.

A. Sewage handling permits are issued by the commissioner. (See 12 VAC 5-610-240 B.) Applications for such permits shall be directed to the district or local health department. The procedure for obtaining sewage handling permits includes the following:

1. Application;
2. Conference;
3. Scheduling of equipment for initial inspection; and
4. Approval of disposal site or sites.

B. Application. An application for a sewage handling permit shall be made to the local or district health department on a form provided by the department.

C. Conference. A conference will be held with the district or local department for the purpose of discussing the methods and equipment utilized in the handling of sewage.

D. Initial equipment inspection. The owner shall make arrangements with the district or local health department at a suitable time for inspecting the sewage handling equipment.

E. Approval of disposal site or sites.

1. An approved sewerage system or treatment works is a system for which a certificate to operate has been issued jointly by the department and the Department of Environmental Quality or a system which has been issued a separate permit by the commissioner. When the applicant is not the owner of the approved sewerage system or treatment works, the applicant shall append a statement from the owner of the approved sewerage system or treatment works to the application stating that the applicant may discharge septage and/or sewage. The statement shall include the quantity per day and point of discharge as indicated on the application to the approved sewerage system or treatment works.

2. If the disposal site is not an approved sewerage system or treatment works, each disposal site shall be considered a special facility (see 12 VAC 5-610-590 B) and shall be inspected and approved or disapproved on a case-by-case basis by the district or local health department and the bureau in accordance with 12 VAC 5-610-250 C.

12 VAC 5-610-390. Issuance of sewage handling permit.

The commissioner shall issue a sewage handling permit upon satisfactory completion of the procedures outlined in 12 VAC 5-610-380 and compliance with the criteria contained in Article 2 (12 VAC 5-610-560 et seq.) of Part III and Articles 8 (12 VAC 5-610-1020 et seq.) and 9 (12 VAC 5-610-1080 et seq.) of Part V of this chapter.

12VAC5-610-400. Revocation of sewage handling permits.

A. Each permit shall be for a time period not to exceed 12 months.



- B. Each permit may be revoked when conditions are changed from those shown in the application.
- C. Each permit may be revoked when there is a potential or real health hazard associated with the sewage handling operation.

12VAC5-610-410. Special permits for pump and haul of sewage.

A special permit for a definite time period issued by the commissioner is required for pump and haul. (See Part III, Article 2 of this chapter.)

Exception.

- 1. No such special permit is required for pump and haul associated with pump out facilities at marinas or other places where boats are moored which are authorized by the Rules and Regulations Governing Sewerage and Sanitary Facilities at Marinas and Other Places Where Boats are Moored.
- 2. Where pump and haul is a maintenance requirement of an approved sewage disposal system such as pumping septage from a septic tank or periodic pumping of a holding privy, no such separate special permit is required.

12 VAC 5-610-420. Procedure for obtaining a pump and haul permit.

- A. An owner who seeks a pump and haul permit shall follow the following steps:
 - 1. Application;
 - 2. Conference;
 - 3. Plans, specifications, and other data as may be required;
 - 4. Securing a contract with a sewage handling contractor having a valid sewage handling permit;
 - 5. Submission of a detailed construction schedule for completion of the permanent receiving facilities; and
 - 6. Bonding.
- B. Application. An application shall be made through the district or local health department on a form provided by the department.
- C. Conference. A conference is necessary with the district or local health department for the purpose of discussing the reasons for pump and haul and the methods and equipment to be utilized in the pump and haul operation.
- D. Plans and specifications. Plans and specifications in sufficient detail shall be provided, when required, to show the sewage collection and holding facilities. See 12 VAC 5-610-250 C and E for further details relating to plans and specifications.
- E. Contract with a sewage handling contractor. The owner shall secure and maintain a contract with a sewage handling contractor having a valid sewage handling permit. The contract shall be for a period of time sufficient to complete the construction necessary to alleviate the need for pump and haul.



The contract shall contain at a minimum, the following conditions:

1. Duration of contract;
2. Pumping schedule;
3. Availability of equipment;
4. Emergency response capability;
5. Disposal site, including limitations, utilized by the contractor; and
6. The contractor shall maintain and submit records on a monthly basis to the owner and the department. The records shall indicate the date, time and volume of each load, the disposal site or sites utilized and overflows or spillage.

F. Submission of detailed construction schedules. A detailed construction schedule shall show at a minimum, initial construction date and date of completion. Progress reports shall be submitted monthly.

G. Bonding. The commissioner may require any owner holding or applying for a permit issued pursuant to this section to post a bond with surety approved by the commissioner for the purpose of insuring continuation of the pump and haul operation for the specified time period contained in the pump and haul permit. Such bond shall be forfeited if the owner ceases to continue the pump and haul operation before the need for pump and haul has been alleviated. The forfeited bond shall be expended as necessary to restore and maintain the pump and haul operation for the permitted time period. Forfeiture of the bond shall not relieve the permit holder of any other legal obligations set forth in this chapter. No bond shall be required of a government entity holding a permit in accordance with 12 VAC 5-610-594.B.1.

12 VAC 5-610-430. Issuance of a construction permit for storage facilities associated with the pump and haul of sewage.

A construction permit shall be issued by the commissioner after completion of the requirements contained in 12 VAC 5-610-420 and, Article 7 (12 VAC 5-610-990 et seq.) of Part V of this chapter.

12 VAC 5-610-440. Issuance of the special pump and haul permit.

After concurrence of the local political subdivision and upon satisfactory completion of the requirements set forth in 12 VAC 5-610-420, 12 VAC 5-610-430, Article 4 (12 VAC 5-610-598 et seq.) of Part IV and Article 7 (12 VAC 5-610-990 et seq.) of Part V of this chapter, and if the commissioner determines that issuance of the pump and haul permit is in the best interest of public health, a permit shall be issued.



PART II.

Article 2.

Systems with Experimental or Provisional Approval.

12 VAC 5-610-441. Special permits for experimental methods, process and equipment.

A. New construction. Sewage treatment and disposal methods, processes, and equipment which (i) are not covered by criteria in Part V (12 VAC 5-610-660 et seq.) of this chapter and (ii) in principle and/or application are new or unconventional are subject to a special permitting procedure in lieu of that set forth in 12 VAC 5-610-250. All applications for such processes, methods, and equipment shall be made to the division through the district or local health department. Any system that the Regulations regard as experimental shall not be considered for new construction unless a generally approved sewage disposal system, as described in the Regulations, with 100% reserve is approved as backup.

1. Submission of data on experimental methods, processes, and equipment. The policy of the division is to encourage the development of any new methods, processes, and equipment which appear to have application for the treatment and disposal of sewage; however, new developments shall have been thoroughly tested in a full scale or representative pilot system utilizing this process and equipment. Results of this testing must be submitted to the division. The testing required on new developments will generally follow the following guidelines:

- a. All procedures used in validating the process shall be conducted under the supervision of a faculty member in an appropriate program of an accredited college or university, a licensed professional engineer experienced in the field of sanitary engineering, or by a testing firm acceptable to the division.
- b. The tests shall be performed under maximum design conditions and over extended periods of time in the geographical area of the proposed installation.
- c. The data shall be from a continuous operation of a full scale or pilot installation treating or conveying the type of sewage to be handled.
- d. Flow measuring equipment shall be provided and total flow shall be recorded daily.
- e. The minimum sampling and analysis program will be established by the division in accordance with the process under investigation.
- f. All analyses will be made in accordance with Standard Methods for the Examination of Water and Wastewater, 1992 (American Public Health Association), or analytical methods approved by the division.
- g. The sampling shall establish the impact of the experimental sewage treatment and disposal methods, processes, or equipment on ground water and public health.
- h. The application shall identify and suggest operation and maintenance guidelines for the process or components of the process.



2. Detailed plans must be submitted showing how, in case of noncompliance, the method, equipment or process will be converted to or replaced with a proven system. In order to assure that funds are available to convert or replace the experimental method, equipment or process with a proven system, bonding or other assurances shall be provided. A proven system shall be a Type I, II, or III system, a point source discharge system or connection to an existing approved sewerage system or treatment works. The application for the experimental system shall be accompanied by one of the following: (i) a Virginia Pollution Discharge Elimination System (VPDES) permit, or (ii) a General Permit Registration Statement issued by the Department of Environmental Quality and a construction permit for an alternative discharging sewage treatment system issued by the commissioner, or (iii) certification from the owner of the existing sewage system or treatment works that connection is available, or (iv) a valid construction permit for a Type I, II, or III system.

3. Issuance of a construction permit. After review of the plans and testing data by the division and approval of a proven system (see subdivision 2 of this subsection), the commissioner shall issue a construction permit in accordance with the procedures in 12 VAC 5-610-250 if reasonably satisfied that the method, process, or equipment will provide satisfactory sewage disposal.

4. Issuance of an experimental operation permit. Upon completion of construction or modification, a permit to operate for a definite period of time will be issued for the operation of the experimentally approved methods, processes and equipment. The number of experimental systems of similar design characteristics to be installed for an evaluation period shall be determined by the division and where soil dependent systems are utilized, the number shall be limited to not more than four for each physiographic province (see Appendix K). There shall be no limit on the number of experimental systems allowed to be installed when an approved back-up system is constructed in accordance with subdivision 2 of this subsection and plumbing is provided to the back-up system. In this instance, a flow diversion valve shall be installed to divert wastewater flow between the two systems as necessary. The experimental permit to operate the experimental system shall require that the evaluation period be a minimum of 18 months and no longer than 36 months, under design conditions, and the holder of the experimental operation permit shall submit reports on operation during the evaluation period as required by the division.

5. Issuance of an operation permit. The commissioner shall issue an operation permit upon expiration of the experimental permit if, on the basis of testing during that period, the division finds that the experimental method, processes or equipment provides satisfactory sewage disposal. If these conditions are not met, then the commissioner shall issue an order which will require the owner to alter the sewage disposal system in a manner that will enable the conditions to be met.

B. Existing construction. Sewage treatment and disposal methods, processes and equipment (i) are not covered by the criteria in Part V (12 VAC 5-610-660 et seq.) of this chapter and (ii) in principle and/or application are new or unconventional may be utilized where a conventional sewage disposal system serving an occupied dwelling has failed and it is not possible to provide an alternate sewage disposal system having a discharge to state waters. The procedures for obtaining a permit for such systems shall generally follow those set forth in subsection A of this section with the following exceptions:

1. The detailed plans required need not show how in case of nonacceptance the sewage disposal system will be converted to or replaced with a proven process nor are bonds or assurances required;
2. More than four permits for soil dependent experimental systems of similar design characteristics may be issued per physiographic province; and



3. If the disposal system fails to work satisfactorily on a year-round basis, further correction to the system may be required.

C. Issuance of design and construction criteria. When sewage treatment and disposal methods, processes or equipment have demonstrated satisfactory performance and operational competence to the satisfaction of the commissioner, by completing the experimental process or by similar rigorous testing in other states or countries, provisional system approval shall be granted and design and construction criteria shall be developed in accordance with this article. If the wastewater to be treated is substantially different in flow or characteristics from one which was used during testing, the commissioner shall require the issuance of an experimental operating permit and further testing conducted until operational competence is demonstrated. The criteria shall include, at a minimum, the siting criteria, design and construction standards, performance, monitoring and service requirements of the methods, processes and equipment.

12 VAC 5-610-442. Provisionally approved systems; overview.

A. Sewage treatment and disposal systems, methods, processes, technology and equipment that are not covered by criteria in Part V (12 VAC 5-610-660 et seq.) of this chapter and have not received general approval for use under the provisions of this chapter may be eligible for provisional approval. Depending upon the complexity of the system, method, process, technology or equipment, provisional approval may be granted requiring individual applications for either a Type II or Type III system, as described in 12 VAC 5-610-250. After the evaluation period described in 12 VAC 5-610-447, a provisionally approved system may be given general approval and be incorporated into this chapter.

B. The purpose of the provisional approval process is to use, evaluate, and develop criteria for the use of new and innovative technology. The evaluation process allows the department a realistic amount of time, under varied field conditions, to develop and refine siting, construction, operation and maintenance criteria applicable to conditions and uses occurring in Virginia. During this evaluation period, residents of the Commonwealth have the benefit of the systems and the department can review, evaluate, revise and refine all aspects of criteria related to the system.

12 VAC 5-610-443. Applying for provisional approval.

A. Applications for provisional approval shall be made in writing to the division and shall request provisional approval for a specific system, technology, method or process. The application shall comply with 12 VAC 5-610-250 regarding the submission of detailed plans and specifications.

B. The application shall include the following:

1. A description of the system's operation including the accepted scientific and engineering principles upon which the system technology, method or process is based.
2. A description of the site criteria required for successful operation of the system.
3. Design criteria for sizing the system to meet all relevant site conditions and waste flow characteristics.
4. Construction procedures for successfully installing a system.



5. Operation criteria and maintenance requirements for the successful use of the system over the life expectancy of the system.

6. Proposed performance standards that the system is expected to meet to determine the success or failure of the system.

7. Documentation giving factual evidence of the principles upon which the system is based demonstrating the capacity for satisfactory performance and operational competency for treating and disposing of effluent. Such evidence must include sufficient basic and applied research to demonstrate that experimental status should be waived. Provisional approval of a product is principally intended to provide a method of full-scale system demonstration; however, limited applied research may be required when in the exclusive opinion of the department, the information obtained from applied research is necessary to the evaluation and decision-making process. Systems, technologies, methods, or processes which have not demonstrated sufficient basic and applied research to support the principles or theory of operation shall be considered experimental.

8. Documentation of at least 50 comparable systems of identical design and capacity having been installed in Virginia or elsewhere. Only systems installed under similar soil and site conditions (if applicable) to the site and soil conditions for which approval is sought in Virginia shall be considered. Additionally, the wastewater flows, strength and other characteristics shall be documented and be similar in both the demonstration systems and the proposed use in the provisional application.

9. Data indicating that the 50 systems identified in subdivision 8 of this subsection have provided both treatment and disposal no worse than a conventional septic tank-drainfield system over a period of time not less than three years.

10. Test results and certifications must be conducted by an accredited college or university, the National Sanitation Foundation, entities accredited by the American National Standards Institute, or other testing groups that may be acceptable to the division as being impartial and competent in testing or evaluating wastewater treatment and disposal methods.

C. An application submitted according to this section and containing the information required by subsections A and B of this section shall be considered a completed application.

12 VAC 5-610-444. Evaluation process for provisional system applications.

A. Preliminary evaluation. Upon receiving an application, the division shall review it for completeness. The division shall request additional information from the applicant if the application does not contain all of the requested information. Once the application is complete, the division shall prepare a summary and a preliminary evaluation of the proposal.

B. Division evaluation and recommendation. The division shall evaluate all completed applications and make a recommendation to the commissioner concerning the application. The recommendation, if favorable, shall include proposed criteria for installing, operating and maintaining the system. The division shall consider the following information which shall be provided by the manufacturer or other interested party:

1. Whether the demonstrations and test results required by 12 VAC 5-610-443 B will provide sufficient scientific evidence to support the proposed theory of operation and that the application of



the theory is appropriate for proposed uses without posing an undue risk to public health and ground water.

2. The impact of the system on ground water and public health.
3. The operation of the system in other states. The division may solicit evaluations and comments from health officials in other states or countries where the system, method, process, equipment or technology has been used.
4. A review of the appropriate manufacturer's or the distributor's records relating to system maintenance and user complaints. Failure to maintain accurate and up-to-date records of maintenance actions and customer complaints may delay or prevent completing a review.
5. A review of any sample results which may be collected from or around any of the systems.
6. The practicability of preventative maintenance and the frequency of the required maintenance.
7. Other information as deemed appropriate by the division which relates to evaluating the effect of the system, method or process on ground water or public health.

C. Decision by commissioner. In making a decision, the commissioner shall review the recommendations of the division and the comments and recommendations made by the advisory committee. The commissioner may elect to approve or deny the application, or approve the application with conditions or with requirements for additional testing. The commissioner's provisional approval shall set forth the criteria for filing an application (i.e., Type II or Type III system), installing, operating, maintaining and testing the provisionally approved system. The commissioner's approval shall indicate that the provisional approval may be modified as set forth in 12 VAC 5-610-447 C.

D. During the first year of provisional system approval, a maximum of 100 permits may be issued for a provisionally approved system. When 50 or more systems have been installed, operated, reviewed by the division and found to be demonstrating satisfactory performance and operational competency, the division may allow additional permits to be issued, up to 1,000 systems during the first five years. No single increment of additional permits may exceed 500 additional systems and a satisfactory review must be made by the division prior to any additional release of permits. Further, at least 12 months must elapse between permit releases to assure adequate time passes for potential problems to develop and be discovered by the division.

12 VAC 5-610-445. Appeals.

A. Denial of provisional status. Pursuant to the Administrative Process Act (§ 9-6.14:1 et seq. of the Code of Virginia), any aggrieved applicant seeking provisional approval for a specific type of system may appeal the final case decision of the commissioner by requesting an adjudicatory hearing.

B. Denial of an applicant for use of a provisionally approved system. Aggrieved applicants who have been denied use of a system having provisional approval may request a hearing in accordance with 12 VAC 5-610-210.

12VAC 5-610-446. Permits for constructing and operating provisionally approved systems.

A. Construction permit application. Homeowners can apply for a construction permit to install a provisionally approved system in the same manner provided for in 12 VAC 5-610-



250 for Type II or Type III systems depending upon the nature of the provisional approval granted by the commissioner. Appeals from the denial of a permit application for a provisionally approved system shall conform to the requirements of 12 VAC 5-610-210. Provisionally approved systems shall not be considered for new construction unless a generally approved sewage disposal system, as described in the Regulations, with 100% reserve is approved as backup.

B. Operation permit status. Homeowners installing a provisionally approved system in accordance with the construction permit issued by the commissioner and provisional siting, design and construction criteria for that system shall be issued an operation permit. Such operation permit shall be valid until the system ceases to operate in a safe and sanitary manner, as determined by the department. The validity of any individual operation permit issued for a system having provisional approval shall not be dependent upon ultimate approval or denial of that specific type of provisionally approved system for general approval under this chapter.

C. Recordation. All permits for provisionally approved systems shall be recorded with the clerk of the circuit court in the jurisdiction where the system is permitted, in accordance with 12 VAC 5-610-250 J 6.

D. Repair area. A 100% repair area, meeting or exceeding the requirements of this chapter, or an approved discharge permit shall be identified prior to permitting a site for a provisional system. The repair area shall be reserved for the exclusive use of the repair system. A 100% repair area meeting the requirements of the provisional approval shall be considered adequate toward meeting this repair area provision.

E. Maintenance. Whenever deemed appropriate by the commissioner, the department shall require operation and maintenance procedures and schedules appropriate for the method proposed.

12 VAC 5-610-447. Evaluation period for provisionally approved systems.

A. Evaluation criteria. Prior to receiving general approval and being incorporated into this chapter, systems with provisional approval shall be evaluated for not less than five years. The division should conduct an annual review of systems with provisional approval. The review, at a minimum, should be based on the following information submitted by the manufacturer; however, nothing shall prevent the department from verifying, augmenting or otherwise collecting additional information on the performance and operation of the system.

1. A field review of a sample of the systems installed. The sample shall include a representation of systems of newer and older installations and systems installed under different site and system limitations. System limitations will frequently be unique to each system and therefore the criteria used to select systems of different manufacturers will vary according to the nature and design of the system. The division shall determine the sample size to be evaluated and the criteria for sample selection.
2. Interviews with a sample of system owners to determine customer satisfaction and customer opinions. This sample may or may not be the same as the sample of systems reviewed under subdivision 1 of this subsection.



3. A review of the manufacturer's or the distributor's records relating to system maintenance and customer complaints. Failure to maintain accurate and up-to-date records of maintenance actions and customer complaints may delay or prevent completing a product review.

4. A review of any sample results which may be collected from or around any of the systems.

5. Other information as deemed appropriate by the division which relates to evaluating the effect of the system, method or process on ground water or public health.

B. Tracking of site locations. The manufacturer shall submit to the department records on the numbers, locations and operation of all provisionally approved systems on a quarterly basis not later than the 15th day of the month following the quarter.

C. Revisions to provisional approval. During the period of provisional approval, the department may revise any aspect of the site, soil and design requirements for that system based on experience gained during the use of the systems. The department shall work with the applicant to revise the approval by agreement, but shall not be prohibited from doing so without the consent of the applicant if warranted by health or environmental concerns. The revised provisional approval shall apply to any systems for which an application is filed after the revision is made.

12 VAC 5-610-448. General approval of provisionally approved systems.

A. After the evaluation period specified in 12 VAC 5-610-447 is completed, site selection design and construction criteria shall be developed when the commissioner is satisfied that the sewage treatment and disposal system, method, process or equipment has demonstrated operational competency and satisfactory performance equal to or better than that of a gravity flow septic tank drainfield absorption system. Initially these criteria shall be implemented by policy and shall grant the status of general approval to the system or process and shall not limit the number of systems allowed. Subsequently, at the discretion of the department, criteria for the approved system shall be incorporated into this chapter in accordance with the Virginia Administrative Process Act (§ 9-6.14:1 et seq. of the Code of Virginia). The criteria shall include, at a minimum, the site conditions necessary for permitting a system, design considerations, installation criteria, performance, monitoring and service requirements of the methods, processes and equipment.

B. After the evaluation period specified in 12 VAC 5-610-447 is completed, site selection and design and construction criteria required in Part V (12 VAC 5-610-660 et seq.) of this chapter shall not be developed if the commissioner concludes that the sewage treatment and disposal system, method, process or equipment has not demonstrated satisfactory performance and operational competency equal to or better than that of a gravity flow septic tank-drainfield absorption system. The provisional system approval may be extended or rescinded for any system failing to show equivalency with a gravity flow septic tank-drainfield absorption system. After the provisional approval for a system has been rescinded, any future applications for systems utilizing the same design shall be denied. However, this provision shall not be used to prevent systems of similar design which have been modified in a manner which can reasonably be expected to overcome the previously identified deficiencies to be considered under the experimental requirements of this chapter.

12 VAC 5-610-449. (Reserved.)



PART III.

Article 1.

GENERAL CRITERIA AND METHODS FOR CONDUCTING SITE EVALUATIONS.

12 VAC 5-610-450. General.

Soil evaluation for a subsurface soil absorption system shall follow a systematic approach including consideration of physiographic province, topography, available area, degree of slope, and soil profile (thickness of each horizon, color, permeability, and texture). The evaluation is intended to document sufficient information to conclude whether or not the site can accommodate an onsite sewage treatment and dispersal system listed in Part IV (12 VAC 5-610-591 et seq.) of this chapter. The topography, available area, seasonal water table, drinking water supplies, bodies of water, shellfish growing areas, soil horizon, depth, rate of absorption, or combination of any of the above shall be considered in such evaluation. A percolation test may be required as a prerequisite to the issuance of a permit. When the district or local health department questions the estimated percolation rate, the district or local health department may require a percolation test. Percolation tests shall be analyzed as only one of many criteria in determining soil suitability for absorption of treated sewage.

12VAC5-610-460. Site and structure identification.

A site plan (sketch) showing dimensions of property, proposed and/or existing structure or structures, driveways, underground and overhead utilities on the property and adjacent sewage disposal systems, bodies of water, drainage ways, agricultural drain tile, wells, cisterns, and springs for a minimum of 200 feet radius of the center of the proposed building or drainfield is necessary in order to evaluate the suitability of a subsurface soil absorption system for that site. In addition, for new construction, the boundary of the lot and building site shall be staked. As a minimum, prior to issuance of the construction permit the perimeter of the soil absorption area site or sites shall be shown on a copy of a surveyed plat of the property. When a parcel of land consisting of a single lot is involved on which an onsite sewage disposal system is proposed to be located and is not directly influenced by the off site location of any sewage disposal system, well, body of water, etc., the requirement for the surveyed plat may be waived by the district or local health department.

12 VAC 5-610-470. Physical features.

A. Physical features including soil features, slope, depth of rock, the location of rock outcrops, drainage ways, marshes, swamps, sink holes, flood plains, artificial drainage systems, and various structures and topographic features found in Tables 4.1 through 4.4 shall be fully and accurately documented in writing as part of the site and soil evaluation.

B. Drainage way. A drainage way is a concave portion of the landscape in which surface water or rain water run-off gathers intermittently to flow to a lower elevation.

C. Fill material. Fill material means soil transported and deposited by man as well as soil recently transported and deposited by natural erosion forces. Recent natural soil transportation and deposit is evidenced by one or more of the following.

1. No or indistinct soil horizons;



2. Depositional stratification;
3. Presence of a buried organic layer; and
4. Position in the landscape.

D. Minimum depth to seasonal water table. As used herein, "seasonal water table" means that portion of the soil profile where a color change has occurred in the soil as a result of saturated soil conditions or where soil concretions have formed. Typical colors are gray mottlings, solid gray or black. The depth in the soil at which these conditions first occur is termed "seasonal water table."

E. Artificial drainage. Where soils are artificially drained, soil coloration may no longer be an accurate indicator of the position of the seasonal water table. Three types of artificial drainage systems which are generally considered are as follows:

1. A water table depressor system of buried conduits, i.e., agricultural drainage tile;
2. A lateral ground water movement interceptor is a buried conduit for the purpose of intercepting lateral ground water movement, i.e., a French drain; and
3. Open ditches with the bottom elevation of the ditch below the seasonal water table.

12 VAC 5-610-480. Soil profiles and patterns.

A. General. The purpose of determining the soil profiles and patterns is to identify the soil characteristics that affect installation of a subsurface soil absorption system.

B. Soil profile. A soil profile is a vertical section of the soil throughout all its horizons.

C. Profile holes.

1. Acceptable equipment.

a. Auger. An auger is defined as a mechanical device which is used to remove a soil sample for evaluation. Devices utilizing the Archimedes screw principle are prohibited because they blend and mast the true soil characteristics.

b. Other equipment. Other equipment may be used in addition to an auger to expose the soil profile as long as it does not mask or blend the true soil characteristics.

2. General location of profile holes. Profile holes to determine design requirements shall be located in the area that is unrestricted by the criteria contained in Part IV (12 VAC 5-610-591 et seq.) of this chapter and Table 4.2. Additional profile holes outside the unrestricted area may be required to make a complete evaluation of the site.

3. Depth of profile hole. The minimum depth of the profile hole shall be five feet unless prevented or made unnecessary by some physical feature of the soil such as gray coloration, rock or when a potential horizon is found at a lesser depth. Where a potential soil horizon is considered for use, the soil evaluation shall be extended below the potential horizon to assure that there is no interference with seasonal water table, rock or impervious strata (See Tables 4.3 and 4.4 of this chapter).



4. Number and location of profile holes. A minimum of five holes is necessary to determine the design requirements of an area for the placement of absorption trenches. Where there is uniform topography and the profile holes exhibit a uniform profile, a minimum of three holes is necessary. The size of the area investigated shall be based on the soil texture group encountered. As a minimum, holes shall be placed to be representative of the area under consideration for placement of the absorption trenches.

If more than one area is required in which to install the absorption trenches, each area shall be evaluated as described above. If any proposed absorption trench site is found unacceptable due to soil conditions, the site shall have been evaluated with a minimum of three holes which characterize the soil problem or problems and support the reasons for rejection. The actual area and number of holes to be investigated may be more than described above and shall be determined on a case-by-case basis.

5. In situations where a large area is to be evaluated, where the soil is highly variable, where the profile must be exposed below five feet or where the soil is "tight" (dense or compact) and/or rocky, the district or local health department may require that the owner have the soil profile in selected areas exposed by the digging of trenches, auger holes or pits. The actual area and number of holes to be investigated shall be determined on a case-by-case basis.

D. Soil profile documentation. Soil profiles shall be determined and a record made in writing of each boring. Additional documentation may be required by the district or local health department.

12 VAC 5-610-490. Characteristics of soils that determine suitability.

A. Color. Color is a key indication of the suitability of a soil.

1. Red and yellow mottlings may indicate slow internal drainage and may indicate a seasonal water table.
2. Gray and/or gray mottlings indicate seasonal water tables for at least three weeks duration.
3. Black appearance may be due to organic matter which has accumulated due to poor soil drainage.

B. Texture. The term texture refers to the relative proportion of various size groups of individual soil grains in a mass of soil. Specifically it refers to the proportion of sand, silt, and clay.

1. Soil Classification. For the purpose of this chapter soils have been categorized into four groups based on texture as follows:

- a. Texture Group I - sand and loamy sand;
- b. Texture Group II - sandy loam, loam, and sandy clay loam. Texture Group II soils are subdivided into Texture Group IIa and IIb soils. Texture Group IIa soils consist of sandy loam soils with percolation rates less than 31 minutes per inch and no structure development. The remainder of soils within this texture group are Texture Group IIb soils;
- c. Texture Group III - silt loam, clay loam, silty clay loam; and
- d. Texture Group IV - sand clay, silty clay and clay.



2. The soil texture shall be estimated by field testing. The field test that shall be applied is contained in APPENDIX F and is entitled "Field Guide to Soil Texture Classes." Laboratory estimation of texture by sieve and sedimentation analysis may be substituted for the field test at the owner's request and expense. Samples shall be collected by the laboratory under supervision of the district or local health department.

C. Permeability. The term permeability pertains to the characteristics of the soil that enable water or air to move through its pores. The permeability of a soil profile may be limited by the presence of one nearly impermeable horizon, even though the others are permeable.

1. Estimated rates. The soil classifications contained in subdivision B 1 of this section have been assigned the following estimated rates in minutes per inch for the purpose of design. These rates may be modified when experience has shown that because of soil structure the texture group has a demonstrated rate different from that assigned.

- a. Texture Group I - up to 16;
- b. Texture Group IIa - 17 to 30;
- c. Texture Group IIb - 31 to 45;
- d. Texture Group III - 46 to 90; and
- e. Texture Group IV - equal to or greater than 91.

2. Percolation tests. When the estimated percolation rates are in question, percolation tests may be performed, however, the district or local health department may require percolation tests to determine "measured" percolation rates.

a. Requirements. Percolation tests are to be performed under the supervision of the district or local health department. Test holes shall be located at points and depths selected and/or approved by the district or local health department. A minimum of three holes representative of the absorption area are required. When the results of the individual test holes have a spread of more than 30 minutes/inch, five holes with at least one hole in the center of the proposed absorption area are required. Records of all percolation tests performed shall be attached to the application (See APPENDIX G).

b. Procedure. All percolation tests shall be performed in accordance with the procedure contained in APPENDIX G.

c. Records. Data on swelling, saturation and measurement of the percolation rate shall be recorded on forms provided by the district or local health department; examples of these forms are contained in APPENDIX G.

d. Interpretation of percolation test results. The absorption area shall be based on the average percolation rate measured in the test holes. The average percolation rate shall be computed by determining the percolation rate (minutes/inch) for each hole and averaging those values. When the percolation rate for an individual hole is in excess of 240 minutes/inch, the area represented may be retested one time and the most favorable rate used to calculate the percolation rate.



e. Unsatisfactory absorption rate. Soils having an estimated or measured percolation rate or equivalent, greater than 120 minutes/inch are unsatisfactory for installation of absorption systems.

D. Soil restrictions. A soil restriction is a feature in the soil that impedes the percolation of water. Restrictions generally consist of a layer of soil horizon within a soil that is firmly compacted or is very rich in clay. Soils containing restrictions may require verification of the percolation rate by percolation tests. Examples of restrictions are listed below.

1. Pans. The term pans include hard pans, fragipans, clay pans, plowpans, traffic pans, iron pans, and plinthic horizons.
2. Stoniness. The term stoniness pertains to the relative proportions of stones present in a soil. Stoniness reduces the soil volume for absorption, and therefore, may require a larger subsurface soil absorption field than would be indicated by soil texture.

E. Soil concretions. Soil concretions as hard grains, pellets, or nodules from concentrations of compounds in the soil that cement the soil grains together. Concretions are indicative of slow percolation rates, restrictions, and/or seasonal water tables.

F. Shrink-swell soils. Shrink-swell soils may exhibit satisfactory percolation rates when dry and therefore must be thoroughly wetted before a percolation test is performed.

12 VAC 5-610-500. Availability of suitable soils.

Sufficient suitable soils shall be available to install the subsurface soil absorption system and reserve area. Design criteria for subsurface soil absorption systems are contained in Article 5 (12 VAC 5-610-900 et seq.) of Part V of this chapter and reserve area requirements are contained in 12 VAC 5-610-710.

12 VAC 5-610-510. (Repealed.)

12 VAC 5-610-520. (Repealed.)

12 VAC 5-610-530. (Repealed.)

12 VAC 5-610-540. (Repealed.)

12 VAC 5-610-550. (Repealed.)

Article 2.

Sewage Handling and Septage Management.

12 VAC 5-610-560. Sewage handling; general.

A. In accordance with 12 VAC 5-610-240 B, a sewage handler shall have a written sewage handling permit issued by the commissioner.

B. It is the obligation of every sewage handler to assure that the sewage, sludge or septage handled are transported and disposed of in a safe and sanitary manner in conformance with this chapter. Treatment and management of sewage and sewage sludge are regulated by the Sewage Regulations (12 VAC 5-580-10 et seq.).



C. All sewage handling equipment in contact with sewage shall be washed in such a manner and location that the wastewater from washing it is conveyed to an approved sewerage system or treatment works.

D. Disposal of sewage sludges or septage into bodies of water or streams is prohibited.

E. Sewage handlers written report. Sewage handlers shall provide the Administrative Authority with a written log of all tanks in the County from which they have removed septage. This log shall be submitted monthly to the Administrative Authority and shall include:

- **Company name and license number**
- **Truck number**
- **Date pumped**
- **Owner's name**
- **Street address of the property served**
- **Number of gallons pumped**
- **Fairfax County property identification number**
- **Disposal site**

12 VAC 5-610-570. (Repealed).

12 VAC 5-610-580. Septage management; general.

Ultimate management of septage generally falls into one of two categories, landfilling or land spreading. Landfilling requires that the septage be stabilized and dewatered to increase solids content nearly fivefold to avoid leaching problems. Land spreading of both stabilized and unstabilized septage is permissible under controlled conditions for agricultural purposes. The preferred methods for septage disposal are disposal in an approved sewage treatment plant or stabilization and subsequent disposal by land application or landfilling in accordance with the Biosolids Use Regulations (12 VAC 5-585-10 et seq.).

12VAC5-610-590. Acceptable disposal sites.

A. Sewerage system or treatment works. Any sewerage system or treatment works for which a certificate to operate has been issued jointly by the department and State Water Control Board or a system which has been issued a separate permit by the commissioner is considered an approved disposal site for vehicular transported sewage sludge or septage provided permission is obtained from the owner of the sewerage system or treatment works and the department and the State Water Control Board, as applicable, determine that the disposal of the sewage sludge or septage will not overload the facility.

B. Special facility. A special facility is a treatment works especially designed and constructed for the stabilization or disposal of septage including land as well as physical works. All special facilities are Type III sewage disposal systems (see 12VAC5-610-250 C). Industrial waste sludges and sludges containing



chemical concentrations in violation of state hazardous waste regulations and applicable federal regulations shall not be placed in a special facility.

Exception: Special facilities related to lime stabilization or direct injection may not require formal plans and specifications to be submitted.

C. Processes which may be utilized in special facilities designed for stabilization of septage.

1. The following processes are described with associated criteria in the Commonwealth of Virginia Sewerage Regulations, State Department of Health, State Water Control Board, February 1977 (Sewerage Regulations, 12VAC5-580-10 et seq):

- a. Aerobic digestion;
- b. Anaerobic digestion;
- c. Chemical oxidation; and
- d. Incineration.

2. The following processes are described in Article 9 of this chapter:

- a. Anaerobic lagooning; and
- b. Lime stabilization.

3. Other processes may be considered on a case-by-case basis if supported by operating and test data satisfactory to the department.

D. Land as a special facility for ultimate disposal of septage.

1. Landfilling. Prior to landfilling, septage must be stabilized and dewatered. All landfilling operations utilizing septage must be in conformance with the regulations of the Commonwealth of Virginia Department of Waste Management governing disposal of solid waste.

2. Land spreading. For the purpose of this chapter land spreading is the controlled uniform application of either dewatered or undewatered septage to the land surface for ultimate disposal. Land spreading shall be accomplished in such a manner so as not to adversely affect future agricultural use of the land. All land spreading operations must take into consideration such factors as application rates, potential runoff of contaminants from the septage applied to soils, groundwater contamination, proximity to residences and people and other public health considerations. All land spreading operations require site specific management criteria and approval.

a. Stabilized septage may be disposed of by land spreading in accordance with the provisions of applicable portions of 12VAC5-580-720 of the Sewerage Regulations and any applicable federal regulations, except where stated in this chapter.

b. Unstabilized septage may be disposed of by land spreading in accordance with the provisions of subsection E, the Code of Virginia and any applicable federal regulations.



E. Land spreading of unstabilized septage. General. Land spreading of unstabilized septage via shallow injection plowing is permissible (see 12VAC5-610-560 D). Injection plowing is a technique which employs a device which injects septage into a cavity created below the ground surface with positive closure of the injection swath. Injection plowing shall be accomplished with a narrow shank injector at a depth between 6 and 12 inches. The injection device and any associated prime mover shall be equipped with high flotation tires so as not to damage the physical characteristics of the soil in relation to agricultural practices. All land spreading operations for unstabilized septage shall provide for:

1. Storage during periods when weather, soil conditions or cropping conditions do not allow for injection;
2. Sampling and monitoring of the septage before land spreading for quality control as may be requested;
3. Record keeping and reporting for quality control;
4. Controlled access to the public for 12 months;
5. No grazing for at least one month following the date of each injection by farm animals whose products are consumed by humans;
6. Compliance with applicable portions of 12VAC5-580-720 of the Sewerage Regulations except where stated in this chapter; and
7. Limiting the application rate so as not to exceed ½ acre-inches (13,600 gal./acre) at one time due to the low solids content and excessive hydraulic loading by septage.

F. Special facility operation.

1. Records and reports shall be kept in a manner satisfactory to the department. As a minimum, the records shall reflect the quantity of septage (gallons) discharged into the special facility daily, the quantity (gallons) removed daily for land application, the land application site, and for anaerobic lagoons, the date the last load was discharged into the anaerobic lagoon. Reports shall be submitted to the department on a quarterly basis (See APPENDIX H).
2. Sampling and analyses requirements for special facilities are as follows:
 - a. Anaerobic lagoon. In accordance with the provisions of 12VAC5-580-720 of the Sewerage Regulations.
 - b. Lime stabilization of domestic septage. The origin and the pH of each load must be determined and recorded by the hauler prior to land application. However, periodic sampling and analyses may be required by the department on a case-by-case basis (See paragraph F 1 of this section).
 - c. Shallow injection of unstabilized septage. Generally no sampling and analyses will be required by the department. The origin of each load must be determined and recorded by the hauler prior to injection. However, periodic sampling and analyses may be required by the department on a case by case basis.
3. An operations and maintenance manual shall be prepared for the septage stabilization facility and shall contain, as a minimum the following information:



- a. Site security methods to prevent unauthorized entry.
 - b. Procedures to maintain the appropriate records.
 - c. Site management procedures including all-weather access road and ground maintenance.
 - d. Methods and equipment utilized for placing septage into and removing septage from, the lagoon facility, mixing facility or storage facility as applicable.
 - e. Plan for land application of septage and/or other disposal methods.
 - f. Methods for odor control which may include both physical methods such as lagoon depth control and the use of appropriate chemicals.
 - g. Methods and procedures for monitoring characteristics of the septage and groundwater quality.
4. The site and physical works shall be maintained in a condition free from tall grass and weed overgrowth and rodent harborage.
 5. When an anaerobic lagoon is utilized for stabilization its contents shall not be removed for land application until a time period of at least 90 days has elapsed from the time the last load of septage has been discharged into the lagoon.

G. Special facility abandonment. In the event a septage stabilization facility ceases to operate, it shall be the responsibility of the owner to abandon the facility properly. The following steps are required.

1. The owner shall notify the department at least 30 days in advance that the facility is to be abandoned;
2. The contents of the facility shall be disposed of in an approved manner under the supervision of the department; and
3. The structure shall be dismantled and the site returned approximately to its natural contours.



PART IV.

GENERAL CRITERIA FOR THE SELECTION OF A WASTEWATER TREATMENT AND DISPOSAL SYSTEM BASED ON SITE CONDITIONS.

Article 1.

Site Limitations.

12 VAC 5-610-591. Overview.

The intent of this part is to provide guidance on how to match various treatment and dispersal systems to site-specific conditions in order to construct a safe, proper, and adequate sewage system for the site under consideration. Article 1 (12 VAC 5-610-591 et seq.) identifies site conditions which limit or prohibit the use of onsite systems. Article 2 (12 VAC 5-610-594 et seq.) establishes criteria for the use of systems that rely on naturally occurring undisturbed soils to treat and disperse effluent, with or without pretreatment. Article 3 (12 VAC 5-610-597 et seq.) establishes criteria for the use of systems which rely on fill soils to accomplish treatment prior to dispersal.

12 VAC 5-610-592. Setback distances.

A. Septic tanks, other tanks, and header line setback distances. The minimum separation distances between septic tanks, pump chambers, aerobic pretreatment devices (including sand filters, biofilters, and aerobic treatment units), header lines, and similar devices as determined by the department, and various structures and topographic features are contained in Table 4.1 entitled Minimum Separation Distances for Pretreatment Units, Conveyance Lines, and Header Lines.

B. Manifolds. Manifolds shall not pass closer than 50 feet to any drinking water source unless pressure tested in place at pump shut-off head. Under no circumstances shall a manifold come within 10 feet of a drinking water source.

C. Absorption area. The absorption area is the soil medium beginning at the interface between the soil and the gravel, sand, or other point of effluent application, which is utilized for dispersal of the effluent. The absorption area includes the infiltrative surface in the absorption trench, or the point of effluent application, and the soil between and around the effluent distribution system. Setback distance to various structures and topographic features and an absorption area are contained in Table 4.2.

12 VAC 5-610-593. Physical features.

Physical features, landscape position and soil characteristics affect the ability of soil-based systems to treat and disperse effluent. In order to correctly select and place a sewage system in the environment such that public health and the environment are protected, it is necessary to understand and consider the local hydrologic conditions, the regional geology, and the nature of the soils occurring on the site being evaluated. At a minimum, the following features shall be considered:

1. Marshes and swamps. Placement of subsurface soil absorption systems on or in swamps and marshes is prohibited.
2. Seasonal water table. A vertical separation distance between the point of effluent application and a seasonal water table shall be maintained which reflects the quality of the effluent and the receiving



environment. Minimum vertical separation distances may be found in Articles 2 (12 VAC 5-610-594 et seq.) and 3 (12 VAC 5-610-597 et seq.) of this part and Tables 4.3 and 4.4.

3. Slope. Subsurface soil absorption trench systems shall not be placed on slopes greater than 25 percent. Criteria for other types of onsite systems are contained in Tables 4.3 and 4.4.

4. Drainage ways. Subsurface soil absorption systems shall not be placed at a position in a drainage way subject to intermittent flooding.

5. Fill material. Placement of subsurface soil absorption systems in fill materials is generally prohibited except in three specific situations. The Wisconsin Mound system is considered a fill system as is the sand-on-sand system. These systems are governed by criteria found in 12 VAC 5-610-960, 12 VAC 5-610-965, and Table 4.4. Fill material consisting of colluvial soil derived from sandstone (noncarbonaceous) in the mountainous area may be considered on a case-by-case basis for placement of subsurface soil absorption systems.

6. Sink holes. Placement of a subsurface soil absorption system at the low point of a sink hole is prohibited. For set back distance see Table 4.2.

7. Flood plains. Subsurface soil absorption systems shall not be placed in flood plains subject to annual or more frequent sustained (24 hours) flooding.

8. Alluvial and colluvial deposits. Placement of subsurface soil absorption areas in alluvial and colluvial deposits with shallow depths, extended periods of saturation, or possible flooding is prohibited.

9. Shrink-swell soils. When soils containing horizons with shrink-swell characteristics (see definitions in 12 VAC 5-610-120) have been identified, they shall be rejected for use for subsurface soil absorption systems.

10. Soil restrictions. Soil restrictions in themselves may form the basis for outright rejection of the site.

11. Free standing water. The presence of free standing water in a profile hole may be grounds for rejection of the site.

Article 2.

Systems Using Naturally Occurring Undisturbed Soil.

12 VAC 5-610-594. In-ground systems.

A. An in-ground system is a system, which utilizes a natural, undisturbed soil horizon to treat and disperse effluent where the infiltrative surface is placed 22 inches or more beneath the original surface of the ground. In-ground systems include, but are not limited to, conventional septic tank drainfield systems, chamber systems, alternative aggregate systems, enhanced flow systems, and pressure dosed systems.



B. Septic tank effluent. Septic tank effluent may be utilized in an in-ground system when all of the site and soil criteria of this subsection are met. Also see Table 4.3.

1. Horizon. The soil horizon(s) for the 18 inches immediately below the installation depth shall not show the presence of any limiting factor. Limiting factors include bedrock, seasonal or permanent water table, pans, or other impervious strata.
2. Separation distances. Table 4.2 contains the minimum setback distances between an absorption field and various structures or topographic features.
3. Estimated or measured infiltration rates. The estimated or measured infiltration rate shall not exceed 120 minutes per inch within any part of the sidewall area of the trench or within 18 inches of the infiltrative interface where effluent encounters undisturbed soil.

C. Soil criteria when utilizing secondary effluent. Secondary effluent may be utilized in an in-ground system when all of the criteria of this subsection are met. Also see Table 4.3.

1. Horizon. The soil horizon(s) for the 12 inches immediately below the installation depth shall not show the presence of any limiting factor. Limiting factors include bedrock, seasonal or permanent water table, pans or other impervious strata.
2. Separation distances. Table 4.2 contains the minimum setback distances between an absorption field and various structures or topographic features.
3. Estimated or measured infiltration rates. The estimated or measured infiltration rate shall not exceed 120 minutes per inch within the sidewall area of the trench, if any, or within 12 inches of the infiltrative interface where effluent encounters undisturbed soil.

12 VAC 5-610-596. Shallow-placed systems.

A. Shallow-placed systems are systems, which utilize a natural, undisturbed soil horizon to treat and disperse effluent where the infiltrative surface is placed at a depth greater than or equal to 6 inches but less than 22 inches from the original soil surface. Also see Table 4.3. Shallow-placed systems may use the system designs similar to in-ground systems; however, timed dosing shall be used to disperse the effluent.

B. Septic effluent prohibited. Septic tank effluent is prohibited for use in shallow-placed systems because of the increased likelihood for human and vector contact with effluent.

C. Soil criteria when utilizing secondary effluent. Secondary or better effluent may be utilized in an shallow-placed system when all of the criteria in this subsection are met. Also see Table 4.3.

- 1. Soil texture. In order to assure effluent dispersal under adverse conditions while maintaining adequate treatment capacity, shallow-placed systems installed shallower than 12 inches are limited to Texture Group I and II soils. Any soil texture group may be utilized for absorption trench systems installed between 12 and 22 inches.**
2. Limiting features. A minimum of 12 inches of soil is required beneath the trench bottom or infiltrative surface before encountering soils with a seasonal or permanent water table. Additionally, to assure adequate hydraulic dispersal capacity, bedrock and impervious strata may not occur within 18 inches of the trench bottom.



3. Separation distances. Table 4.2 contains the minimum setback distances between an absorption field and various structures or topographic features.

D. Site Evaluation.

- 1. All proposed shallow-type onsite sewage disposal systems must be evaluated during months that meet or exceed the long-term monthly composite average rainfall from Washington Dulles International Airport and Ronald Reagan Washington National Airport.**
- 2. When water table monitoring wells are required as part of the site evaluation, the wells must be monitored during months that meet or exceed the long-term monthly composite average rainfall from Washington Dulles International Airport and Ronald Reagan Washington National Airport.**
- 3. Hydraulic conductivity testing shall be required for proposed installation depths of less than 18 inches in conjunction with the standard soil profile hole evaluations. Proposed installation depths of 18 inches or greater may be evaluated by percolation testing as described by Appendix G of the Regulations.**
- 4. A soil test pattern consisting of a minimum of 16 profile holes on 25 foot centers within a 100 foot X 100 foot grid area must be bored at a depth of 2 feet greater than the recommended/estimated installation depth of the absorption trench/bed zone when evaluating sites for surface bed installations or shallow placed systems. Peat filtration module bed areas do not require this soil test pattern but will be evaluated on a case-by-case basis for the number of test holes required.**
- 5. A minimum of 5 hydraulic conductivity test sites or percolation holes are required per site. Any portion of the site area will be void if any of the hydraulic conductivity test sites or percolation holes exceed a percolation rate of 120 minutes per inch for installations equal to or greater than 12 inches and 45 minutes per inch for installations less than 12 inches.**

E. Site Protection.

- 1. Sites being considered for a shallow-type onsite sewage disposal system shall not be disturbed prior to the site evaluation. Site disturbance includes but is not limited to grading, filling, tree or shrub removal, and vehicular or equipment traffic.**
- 2. The approved absorption, reserve, and receiving areas must be placed into an onsite sewage protection area to be delineated on all plats and permits.**
- 3. The approved areas must be properly protected after the sites have been approved. This may include but is not limited to staking/flagging the perimeter of the test sites or installing any appropriate barrier to prevent vehicular traffic. Sites may be deemed unacceptable if compromised by vehicular traffic, grading, filling, etc.**
- 4. The owner or agent is responsible for assuring that the approved test site remains protected prior to and during construction or development of the site.**



5. The permit for shallow onsite sewage disposal systems shall be a "Conditional Permit" due to unique maintenance requirements specific to these systems. "Conditional Permits" and associated plats must be recorded for the property in the Grantor Index of the land records maintained by the Fairfax County Circuit Court.

F. Site Development.

1. The Fairfax County Health Department shall conduct a site inspection to confirm conditions in the immediate installation area(s) before construction is initiated on the shallow-type onsite sewage disposal system.

2. No construction shall be allowed during wet periods when the surface area of the shallow-type onsite sewage disposal system is moderately to excessively wet as determined by the Administrative Authority.

3. Shallow-type onsite sewage disposal system absorption areas shall have a minimum of 12 inches of cover and be stabilized with a grass sod cover unless installed in a wooded location.

G. Site Maintenance.

1. After the shallow-type onsite sewage disposal system has been installed and approved, it is the owner's responsibility to maintain and protect the system.

2. In cases of system malfunction, a written repair permit is required from the Fairfax County Health Department. No work is to be initiated without prior authority from the Fairfax County Health Department and the manufacturer/distributor of the pretreatment equipment.

3. Lawn sprinklers or similar type of water distribution systems shall not be installed on or closer than 10 feet from any portion of the shallow-type onsite sewage disposal systems.

4. The system designer or engineer shall provide an operations and maintenance manual with system design plans and specification and a completion statement to the Administrative Authority and to the property owner.

**Table 4.1.
Minimum Separation Distances for Pretreatment Units, Conveyance Lines, and Header Lines.**

Structure or Topographic Features	Minimum Horizontal Distance
Property Lines	10
Building Foundations	10
Basements	20
Drinking Water Wells (all classes)	50
Cisterns (Bottom Elevation Lower than Ground Surface in Area of Pretreatment Unit)	100



Shellfish Waters	70
Natural Lakes & Impounded Waters and Streams	50
Developed Springs (when the spring is down slope)	100
Drainage Ditches:	
Ditch Bottoms above Seasonal Water Table	10
Ditch Bottom below Seasonal Water Table and Ditch Normally Contains Water	50
Lateral Ground Water Movement Interceptor	50
Low Point of Sink Holes When Placed within the Bowl of the Sink Hole	100
Swimming Pools	20
Utility Lines	10

**Table 4.2.
Minimum Separation Distances.**

Structure or Topographic Features	Soil Texture Group	Minimum Distance (Ft) from Bottom or Sidewall of Subsurface Soil Absorption System Trench	
		Vertical	Horizontal
Property Lines	I, II, III, IV	----	10
Building Foundations	I, II, III, IV	----	10
Basements	I, II, III, IV	----	20
Drinking Water Wells			
Class I & II	I, II, III, IV	----	100
Class III	I, II, III, IV	----	100
Cisterns (Bottom Elevation Lower Than Ground Surface in Area of Subsurface Soil Absorption System)	I, II, III, IV	----	100
Shellfish Waters	I, II, III, IV	----	70
Natural Lakes & Impounded Waters	I, II, III, IV	----	50
Streams	I, II, III, IV	----	50 ^a
Developed Springs (Up slope)			



	I, II, III, IV	----	200 ^e
Rock and Rock Outcropping	I		2
Rock and Rock Outcropping	II, III, IV	1.5	1.5
Pans and Impervious Strata	I, II, III, IV	1.5	1.5
Drainage Ditches:			
Ditch Bottoms above Seasonal Water Table	I, II, III, IV	----	10
Ditch Bottom below Seasonal Water Table and Ditch Normally	I	----	70 ^a
	II	----	70 ^a
Contains Water	III	----	50 ^a
	IV	----	50 ^a
Water Table Depressor System	I	6 ^b	70
	II	3 ^b	70
	III	2 ^b	50
	IV	2	50
Lateral Ground Water	I	----	70 ^c 10 ^d
Movement Interceptor	II	----	70 ^c 10 ^d
	III	----	50 ^c 10 ^d
	IV	----	50 ^c 10 ^d
Low Point of Sink Holes When Placed within the Bowl of the Sink Hole	I, II, III, IV	----	100
Utility Lines	I, II, III, IV	----	10
Irrigation Lines	I, II, III, IV	----	10

^aThe set back distance may be reduced to 10 feet in Group III and IV soils and 20 feet in Group I and II soils if the subsurface soil absorption system is designed to produce unsaturated flow condition in the soil.

^bVertical Distance to the invert of the drain tile in the water table depressor system.

^cAbsorption trench up slope from interceptor.

^dAbsorption trench down slope from interceptor.

^eArc of 180 degree up slope of spring and 100 ft. down slope.



**Table 4.3.
Summary of Separation Distances between Systems Using Naturally Occurring Undisturbed Soils and Limiting Site Factors.**

Site Factor	In-Ground System ¹		Shallow-placed System ¹	
	Septic Tank Effluent	Secondary Effluent	Septic Tank Effluent	Secondary Effluent
Bed Rock	18"	12"	n/a	18"
Restriction	18"	12"	n/a	18"
Shrink-Swell Soil	18"	12"	n/a	18"
Slope	25%	25%	n/a	25%
Perc Rate	5-120 mpi	5-120 mpi	n/a	5-45 mpi
Water Table	18"	12"	n/a	12"

¹ The separation distances for in-ground and shallow-placed systems are measured from the trench bottom or other infiltrative interface vertically down to listed site factor.

**Table 4.4.
Summary of Separation Distances between Fill Systems and Limiting Site Factors.**

Site Factor	Elevated Sand Mound		Sand-on-Sand System ²		Noncarbonaceous Mountain Colluvium	
	Septic Tank Effluent	Secondary Effluent	Septic Tank Effluent	Secondary Effluent	Septic Tank Effluent	Secondary Effluent
Bed Rock	24" ¹	24" ¹	60"	60"	18"	12"
Restriction	24"	12"	30"	24"	18"	12"
Shrink-Swell Soil	24"	12"	40"	30"	18"	12"
Slope	25%	25%	5%	5%	25%	25%
Perc Rate	5-120 mpi	5-120 mpi	5-30 mpi	5-30 mpi	5-120 mpi	5-120 mpi
Water Table	24"	10"	18"	12"	18"	12"

¹ 24 inches refers to creviced bedrock. This distance may be reduced to 12 inches when noncreviced bedrock is encountered. See the Wisconsin Mound Soil Absorption System Siting, Design, and Construction Manual, January 1990.

² The separation distance for sand-on-sand systems is measured from the ground surface vertically down to the listed site factor.

Article 3.

Systems Using Fill Material.

12 VAC 5-610-597. Fill systems.

A. Fill systems are systems where the infiltrative surface and some portion of the treatment medium is comprised of fill material and not a naturally occurring undisturbed soil. Fill systems may be located in-ground, shallow-placed, or above ground. Fill systems addressed in these regulations are the Wisconsin Mound system, the noncarbonaceous mountain colluvium system, and the sand-on-sand system.

B. Elevated Sand Mounds. Septic tank effluent may be utilized with elevated sand mounds. Pretreatment shall be required when effluent strength exceeds residential strength wastewater and may



be required where hydrologic conditions meet the minimum criteria contained in this chapter. For the purpose of siting an elevated sand mound, the criteria in Table 4.4 shall apply. For the purposes of establishing minimum setback distances between an elevated sand mound and various structures or topographic features, the mound shall be considered an absorption field and distances shown in Table 4.2 utilized.

C. Sand-on-sand systems. Sand-on-sand is a process of modifying a soil absorption system site using fill material which is similar in texture to the original, naturally occurring material. Filling is accomplished in accordance with 12 VAC 5-610-965.

1. Criteria for utilizing septic effluent. Septic tank effluent may be utilized with sand-on-sand systems. For the purpose of siting a sand-on-sand system, the criteria in Table 4.4 shall apply. Sand-on-sand systems may be utilized with septic tank effluent when the following criteria are met:

- a. Soil texture. In order to assure effluent dispersal under adverse conditions, while maintaining adequate treatment capacity, shallow-placed systems are limited to Texture Group I and IIa soils. The use of Texture Group IIb, III and IV soils for sand-on-sand systems is prohibited.
- b. Soil structure. Sand-on-sand is restricted to soils classified as entisols (i.e., a young soil with no horizon development) and which have a texture of sand, loamy sand, coarse sandy loam, or sandy loam texture.
- c. Depth of soil. A minimum of 18 inches of naturally occurring undisturbed soil, measured from the ground surface, is required before encountering soils with bedrock, or a seasonal or permanent water table. Additionally, to assure adequate hydraulic dispersal capacity, no restrictive horizons may occur within 30 inches of the ground surface.
- d. Separation distances. Table 4.2 contains the minimum setback distances between an absorption field and various structures or topographic features.
- e. Estimated or measured infiltration rates. When siting a sand-on-sand system, the estimated or measured infiltration rate shall not exceed 30 minutes per inch within the sidewall area of the trench or within 18 inches of the infiltrative interface where effluent encounters undisturbed soil.
- f. Slope. Sand-on-sand is prohibited where the slope of the original site exceeds 5%.

2. Criteria for utilizing secondary effluent.

- a. Depth of soil. A minimum of 12 inches of soil, measured from the ground surface, is required before encountering bedrock, or a seasonal or permanent water table. Additionally, to assure adequate hydraulic dispersal capacity, no restrictive horizons may occur within 24 inches of the ground surface.
- b. Separation distances. Table 4.2 contains the minimum setback distances between an absorption field and various structures or topographic features.
- c. Estimated or measured infiltration rates. The estimated or measured infiltration rate shall not exceed 30 minutes per inch within the sidewall area of the trench, if any, or within 18 inches of the infiltrative interface where effluent encounters undisturbed soil.



D. Fill systems in mountain colluvium. The criteria for conventional, in-ground trench systems contained in Table 4.3 shall be complied with to the greatest extent possible. However, fill material consisting of colluvial soil derived from sandstone (noncarbonaceous) in the mountainous area may be considered on a case-by-case basis for placement of subsurface soil absorption systems.

Article 4.

Pump and Haul of Sewage.

12 VAC 5-610-598. General.

Pump and haul pertains to an unusual circumstance wherein sewage is permitted to be transported by vehicle to a point of disposal. Pump and haul includes all facilities and appurtenances necessary to collect and store the sewage for handling by a contractor having a valid sewage handling permit.

12 VAC 5-610-599. Permanent pumping and hauling.

Pumping and hauling on a permanent basis is prohibited unless done under the auspices and supervision of a government entity as provided for in 12 VAC 5-610-599.3 (see subdivision 2 of 12 VAC 5-610-410 for exception). Pumping and hauling for over one year shall be considered as a permanent pumping and hauling operation.

12 VAC 5-610-599.1. Emergency pumping and hauling.

When serious malfunctioning of an existing sewage disposal system, sewerage system or treatment works occurs, pumping and hauling may be authorized for a definite time period until the malfunctioning system can be reconstructed or repaired.

12 VAC 5-610-599.2. Temporary pumping and hauling.

Temporary pumping and hauling may be permitted under the following conditions:

1. It must be demonstrated that the temporary pumping and hauling of sewage is not the usual practice in order to permit premature and unplanned real estate or commercial development in an area where sewerage facilities do not exist;
2. Construction of an approved sewerage system or treatment works is actively in progress with personnel and machinery at work in the particular area. Bonding, cash escrow or other assurances shall be required to guarantee completion of the sewerage system and/or treatment works;
3. The completion of the sewerage system or treatment works is assured and a completion date within the definition of temporary pumping and hauling has been set; and
4. Any and all delays from the anticipated completion date shall be reported immediately by the holder of the pump and haul permit to the district or local health department. Delays not resulting from circumstances beyond the control of the holder of the pump and haul permit shall be grounds for revocation of the pump and haul permit.



12 VAC 5-610-599.3. Permanent pump and haul.

Permanent pumping and hauling of sewage may be permitted under the following conditions:

1. That the government entity enter into a contract with the department setting forth that the government entity will provide pump and haul services, either directly or through a private contractor holding a sewage handling permit, to the home(s), commercial establishment(s) or occupied structure(s) for the period the occupied structure is utilized or until connection can be made to an approved sewerage facility;
2. Upon completion of the contract between the department and the government entity, the commissioner shall issue a single pump and haul permit to the government entity. A separate construction permit shall be issued to the government entity for each sewage storage facility. The sewage storage facility(s) shall be designed and constructed in accordance with Article 7 (12 VAC 5-610-990 et seq.) of Part V of this chapter; and
3. When the government entity provides the sewage pump and haul services, it shall conform to the conditions contained in 12 VAC 5-610-380 and Article 8 (12 VAC 5-610-1020 et seq.) of Part V of this chapter.

Article 5.

Installation of Residential Sewage Disposal Systems in Political Subdivisions Having Soil Drainage Management Contracts with the State Health Department.

12VAC5-610-600. General.

It is the policy of the department to grant sewage disposal system permits for private residential systems utilizing subsurface soil absorption whenever such permits can be granted without endangering public health. Many soils are limited in their ability to accept sewage by high seasonal water tables. Some soils can accept sewage when an adequate local plan for soil drainage exists. When a political subdivision enters into a Soil Drainage Management Contract with the department and subsequently develops Soil Drainage Management Plan(s) in an area in which soils respond to artificial drainage and the plan is acceptable to the department, the department will consider the approval of subsurface soil absorption systems in soils that were previously unacceptable because of high seasonal water tables.

12VAC5-610-610. Definitions.

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

"Soil Drainage Management Contract (SDMC)" means a contract between the department and the political subdivision for the development, operation, maintenance, and enforcement of all soil drainage management plans within the political subdivision.

"Soil Drainage Management Plan (SDMP)" means a plan approved by the commissioner, pursuant to 12VAC5-610-630 below, meeting the criteria set forth in 12VAC5-610-640 below.



12 VAC 5-610-620. Applicability.

This article shall be applicable only in those political subdivisions which enter into Soil Drainage Management Contracts with the department.

12VAC5-610-630. Procedures for entry into or withdrawal from a Soil Drainage Management Contract (SDMC).

A. Entry.

1. Any political subdivision in the Commonwealth may at any time apply to the department through the district or local health department for entry into an SDMC with the department. The application shall contain the following minimum elements:

a. A proposed contract between the department and the political subdivision; and

b. Drafts of all ordinances, required easements, or other legal documents which the political subdivision proposes to adopt as a portion of the SDMC including a local ordinance requiring the holder of a sewage disposal construction permit issued in conjunction with the SDMC to have the permit recorded in the land records of the circuit court having jurisdiction.

2. The department shall, within 60 days of the submission of an application for entry into an SDMC, evaluate the application and propose to the political subdivision any suggestions for modification to the SDMC.

3. The political subdivision may review the department's suggested modifications and resubmit a revised application within such time as the political subdivision elects.

4. The department shall accept or reject entry into an SDMC within 90 days of receipt of the final application from a political subdivision.

5. Upon rejection by the department of a final application for entry into an SDMC, the political subdivision may appeal the department's decision to the appropriate circuit court. The Virginia Administrative Process Act, §9-6.14:1et seq., shall apply to such an appeal.

B. Withdrawal.

1. If the department determines that a political subdivision is failing to abide by the terms set forth in its SDMC with the department, the department may withdraw from the contract.

2. The department shall, within 60 calendar days of its proposed withdrawal from an SDMC notify the political subdivision of the department's intent.

3. The political subdivision may apply to the department for a hearing upon the proposed withdrawal. Such hearing shall be held in accordance with the provisions governing case decisions contained within the Virginia Administrative Process Act.

4. Within 30 calendar days after such hearing, the department shall notify the political subdivision whether the department will withdraw from the SDMC.



5. A decision by the department to withdraw from an SDMC may be appealed to the appropriate circuit court pursuant to the provisions of the Virginia Administrative Process Act.

6. If withdrawal occurs, continued maintenance of all SDMP's shall be the responsibility of the political subdivision in areas where permits were issued in accordance with this chapter.

12VAC5-610-640. Minimum standards for Soil Drainage Management Plans.

A. Every SDMP offered in conjunction with a SDMC shall meet the following minimum standards for surface and groundwater management.

B. The SDMP shall provide for:

1. Positive surface grading in the area of a dwelling and subsurface soil absorption area at a minimum of 0.5%;

2. Drainage ditches for diverting surface water and for lowering the seasonal groundwater table which shall:

a. Completely surround the subsurface soil absorption system;

b. Have a minimum grade of 0.2%;

c. Be located 70 feet, \pm 10 feet from the drainfield; and

d. Have the invert of the ditch placed in a Group I, II or III soil at an elevation so that the normal water surface in the ditch is at least six inches below the invert of the trench of the subsurface soil absorption system;

3. A French drain on one side in lieu of an open drainage ditch on one of the four sides;

4. Diversion ditches or swales shall be:

a. Required where adjacent property is equal to or higher in elevation than the proposed site and the adjacent property may be expected to discharge water onto the proposed site;

b. Designed to meet such site specific individual requirements as the department determines to be necessary;

5. A receiving stormwater and groundwater drainage system which is adequate in capacity so that waters from a proposed site shall be conveyed to it in accordance with the political subdivision's criteria;

6. Diversion ditches, where required, or other ditches to transport stormwater and/or groundwater from a site to a receiving body in accordance with the political subdivision's criteria;

7. Ditches to remain open and not be piped and covered unless approved by appropriate local government official, such approval to be granted only with the concurrence of the department;

8. Only appurtenances to the subsurface soil absorption system shall be constructed within the confines of the perimeter ditches required in paragraph B 2 a, above, except where a French drain is provided on one side; and



9. Lots which shall be a minimum of three acres in size not including swamps or marshland.

12 VAC 5-610-650. Department procedures relating to subsurface soil absorption system applications in SDMC counties and cities.

A. All applications for subsurface soil absorption systems will be evaluated based on the criteria contained in this part. When the site is limited only by a high seasonal water table and/or surface runoff, the department shall require that a satisfactory SDMP be in place and functioning satisfactorily before issuance of a construction permit. Typed on the construction permit will be the following statement which shall be signed by the applicant:

I understand that this soil has severe limitations for the disposal of septic effluent. With the aforementioned drainage measures the health department expects reasonable serviceability, however, it may malfunction during extreme conditions.

I understand and acknowledge the above and agree to install and maintain the drainage measures.

Signed

Date

B. Soils to be considered shall demonstrate their ability to be artificially drained and shall fall generally into Texture Group I, II, or III.

C. The SDMP and site specific drainage system or systems shall be certified, supervised, maintained, and prepared by or under the direct supervision of a professional engineer licensed in Virginia who is a full-time employee of the political subdivision. In addition, the political subdivision shall have the manpower or other capability to maintain the applicable conditions of the SDMP. This certification shall become a part of the subsurface soil absorption system permit.

D. Proper easements shall be provided for drainage to assure access for proper maintenance.

E. Political subdivisions shall assure proper installation and maintenance of the stormwater and ground water drainage system or systems.

F. The department retains the right to reject any SDMP if in the opinion of the department the SDMP proposed will result in a nuisance or health hazard condition.



PART V.

DESIGN AND CONSTRUCTION CRITERIA.

12VAC5-610-660. General.

The criteria contained in this section shall apply to all onsite sewage disposal systems. Deviations from these criteria may be considered by the district or local health department on a case-by-case basis.

12 VAC 5-610-670. Sewage flows.

The sewage disposal system for a dwelling greater than 7,500 square feet of building area, excluding the garage, shall be designed as a pumping system utilizing flow equalization by time dosing with the flow equalization zones equal to twice the daily design flow, a septic tank sized 50% larger than the design described in section 12 VAC 5-610-815, and the installation of a flow measurement device. Subsurface soil absorption systems shall be designed on the basis of the sewage flows tabulated in Table 5.1.

Table 5.1.
Sewage Flows.

Discharge Facility	Design Unit	Flow (gpd)	BOD (#/day)	S.S. (#/day)	Flow Duration (Hour)
Dwelling ¹	per person total	75	0.2	0.2	24
Food preparation		15			
Toilet facilities		20			
Bathing facilities		20			
Handwashing facilities		5			
Laundering		15			
Schools with shower and cafeteria	per person	16	0.04	0.04	8
Schools without showers and with or without cafeteria	per person	10	0.025	0.025	8
Boarding schools	per person	75	0.2	0.2	16
Motels at 65 gals/person (rooms only)	per person	130	0.26	0.26	24
Trailer courts	per person	75	0.2	0.2	24
Restaurants	per seat	50	0.2	0.2	16
Interstate or through highway restaurants	per seat	100-180	0.7	0.7	16
Interstate rest areas	per person	5	0.01	0.01	24
Service stations	per vehicle serviced	10	0.01	0.01	16



Factories & office buildings	per person per 8-hr shift	15-35	0.03-0.07	0.03-0.07	operating period
Shopping centers	per 1,000 sq. ft. of ultimate floor space	200-300	0.1	0.1	12
Hospitals	per bed	300	0.6	0.6	24
Nursing homes	per bed	200	0.3	0.3	24
Homes for the aged	per bed	100	0.2	0.2	24
Doctor's office in medical center	per 1,000 sq. ft.	500	0.1	0.1	12
Laundromats, 9 to 12# machines	per machine	500	0.3	0.03	16
Community colleges	per student and faculty	15	0.03	0.03	12
Swimming pools	per swimmer	10	0.001	0.001	12
Theaters, drive-in type	per car	5	0.01	0.01	4
Theaters, auditorium type	per seat	5	0.01	0.01	12
Picnic areas	per person	5	0.01	0.01	12
Camps, resort day and night with limited plumbing	per campsite	50	0.05	0.05	24
Luxury camps with flush toilets	per camp site	100	0.1	0.1	24
Dump station	per camp site	50	0.05	0.05	24

¹ For all dwelling units the design shall be based on two persons per bedroom.

12VAC5-610-680. Water saving plumbing devices.

Water saving plumbing devices are encouraged to lengthen the life of the subsurface soil absorption system. However, water saving plumbing devices such as low flush toilets and inserts in showers shall not be considered in reducing the size of the absorption area.

12 VAC 5-610-690. Recycle and reuse systems.

Recycle and reuse systems are methods, processes and equipment in which sewage is restored to a condition suitable for reuse. When recycle and reuse systems are utilized in conjunction with toilet wastes only, an approved method of sewage disposal shall be provided to properly dispose of sewage generated via handwashing and other related sanitation activities. All recycle and reuse systems shall provide for an approved method of sewage disposal to handle excess sewage generated within the system. These systems are considered experimental unless they have been previously deemed to be satisfactory in accordance with the provisions of 12 VAC 5-610-441 and/or as a minimum have been certified by the National Sanitation Foundation as meeting the current Standard 41 as determined by the bureau. Water recycle and reuse systems intended to produce water for other than toilet flush water are considered experimental and shall comply with the provisions of 12 VAC 5-610-441. All proposals for recycle and reuse systems shall be submitted to the bureau through the district or local health department.



12 VAC 5-610-700. Site preparation and alteration.

A. Preservation of soil structure. The preservation of the original structure of the soil in the area selected for placement of the absorption trenches is essential to maintaining the percolative capacity of the soil.

1. Prohibition on construction. Subsurface soil absorption systems shall not be constructed in Texture Group III and IV soils during periods of wet weather when the soil is sufficiently wet at the depth of installation to exceed its plastic limit. For the purpose of this chapter, the plastic limit of a soil shall be considered to have been exceeded when the soil can be rolled between the palms of the hands to produce threads 1/8 inch in diameter without breaking apart and crumbling.
2. Soil compaction. Special caution shall be taken in allowing wheeled and tracked vehicles to traverse the area selected for placement of the absorption systems before, during and after construction of the trenches, especially during wet weather. Precaution is especially important where Texture Group III and IV soils are involved. Alteration of soil structure by movement of vehicles may be grounds for rejection of the site and/or system or revocation of the permit.
3. Soil smearing. Excavating equipment utilized to construct the absorption system shall be so designed as not to compress or smear the sidewalks or bottom of the system. Excessive smearing of the usable absorption trench sidewalls or bottom during construction may result in irreversible damage to the soil infiltrative surface and may be grounds for rejection of the site and/or system.

B. Removal of vegetation. Vegetation such as maple, cottonwood, willows and other plant species with extremely hydrophilic (water loving) root systems shall be removed for a minimum of 10 feet from the actual absorption areas. Other trees should be removed from the absorption area.

C. Grading.

1. Pregrading. The proposed site for the subsurface soil absorption system shall not be graded until the district or local health department has completed the site evaluation contained in Article 1 (12 VAC 5-610-450 et seq.) of Part III of this chapter.
2. Interim grading. Interim grading means site grading during or immediately preceding the construction of the absorption system. Any such grading shall be done in accordance with the conditions contained in the construction permit. The district or local health department may require notification upon completion of the interim grading but before actual installation of the absorption system.
3. Final grading. Final grading of the absorption area site for diversion of surface water (e.g., crowning) for the purpose of eliminating surface water from flowing or ponding on the site, preparation for seeding, etc. shall be accomplished to avoid damaging the absorption area. Prior to grading, the distribution box, pretreatment unit and absorption area shall be clearly staked.

D. Drainage.

1. Surface water. The area surrounding the absorption area shall be graded to divert surface water from the absorption area site. The absorption area site shall also be graded to eliminate the ponding of water.



2. Roof drains, basement sump discharges (nonsewage), floor drains, footing drains, etc., are prohibited from being connected to the sewage disposal system and shall be directed away from the absorption area site in a manner to preclude water flow into, through or over the site. Discharge of sewage into a basement sump collecting water from floor drains, storm water, etc., is prohibited.

3. Lateral ground water movement interceptors (LGMI, e.g., French drains) may be required to divert ground water movement away from the absorption area site. The LGMI shall be placed perpendicular to the general slope of the land and generally parallel to the absorption trenches. A tight drain from the LGMI shall be constructed to discharge into a natural or manmade drainage way.

E. Protection of subsurface soil absorption system.

1. No structure, including but not limited to deck, patio, driveway, or parking lot shall be placed over the subsurface absorption system. This prohibition does not apply to forcemains, conveyance line(s), or building sewer(s) properly protected as determined by the Administrative Authority.

2. The onsite sewage disposal system is an integral part of the principal use of the property and, therefore shall be located on the same lot as the principal use and within a zoning district that permits the principal use served by the system in accordance with the Fairfax County Zoning Ordinance.

3. Where the sewer line from the building to the pretreatment unit or the conveyance line is to be placed underneath a state road or in a Virginia Department of Transportation right-of-way, the requirement for a recorded easement in perpetuity can be waived for that portion of the system located underneath the road or in the right-of-way. In its place, the applicant shall obtain the appropriate permit or permits from the Department of Transportation to construct the sewer or conveyance line in its right-of-way. The construction permit for the sewage disposal system shall not be issued until the applicant provides the local health department with a copy of the permit issued by the Department of Transportation. Under no circumstances shall the pretreatment unit, the distribution box, or the soil absorption portion of the system be installed in the Department of Transportation right-of-way.

4. The following site protection activities shall be implemented for the following type systems:

a. **Raised Filter Bed Systems. Do not disturb in any manner the designated Raised Filter Bed Systems area (including mantle area) by clearing or by the operation of any equipment or vehicles. Any work under consideration on the Raised Filter Bed Systems site(s), whether to be done directly or indirectly, must first be reviewed and approved by the Fairfax County Health Department.**

b. **Low Pressure Distribution. Do not disturb in any manner the designated LPD area(s) by clearing or by the operation of any equipment or vehicles during wet weather. No site preparation or construction work should occur in the designated LPD area(s) if the soil is wet. The use of heavy equipment in the LPD area(s) is not allowed unless authorized by the Fairfax County Health Department.**



- c. **Wisconsin Mound.** Do not disturb in any manner the designated mound area(s) 75 feet directly below the mound sites by clearing or by the operation of any equipment or vehicles. If the owner/developer is considering changes to the site(s), they must notify the Fairfax County Health Department and receive the proper authorization before initiating any work. Any work under consideration on the mound site(s), directly or indirectly, must first be reviewed and approved by the Fairfax County Health Department.
- d. **Peat Filtration.** Do not disturb in any manner the designated peat filtration areas by clearing or by the operation of any equipment or vehicles. Any work under consideration on the peat filtration site(s), directly or indirectly, must first be reviewed and approved by the Fairfax County Health Department.

F. Preplacement and post-placement of utilities. Subsurface soil absorption systems shall not be placed in an underground utility easement. No buried public or private utility service (e.g., water lines, electrical lines, gas lines, etc.) shall traverse the subsurface soil absorption system area nor shall the buried service be closer than 10 feet to the system.

12VAC5-610-710. Reserve absorption area sites.

All lots established after August 1, 2003, within Fairfax County are required to provide a minimum reserve area equaling at least 100% of the required absorption area except for a replacement or repair of an existing malfunctioning septic system if space is unavailable.

12VAC5-610-720. General.

Sewers referred to in this section are watertight, smooth bore, rigid conduits which convey sewage from a building drain to a pretreatment unit and are not to be confused with public sewers addressed in the Sewerage Regulations. (See 12VAC5-580-10 et seq.)

12VAC5-610-730. Minimum size.

Sewers shall have a minimum internal diameter (ID) of four inches. Larger sewers may be required depending on projected flows.

12 VAC 5-610-740. Slope.

The minimum slope for four-inch sewers is 1¼ inches per 10 feet, and for a six-inch sewer is ¾ inches per 10 feet.

12VAC5-610-750. Materials.

All sewers shall be of cast iron (CI) pipe not less than service weight, schedule 40 plastic pipe, extra strength vitrified clay or other acceptable materials to be evaluated on a case-by-case basis. Bituminous fiber pipe is prohibited. Sewers passing under driveways shall be heavy duty CI or schedule 40 plastic pipe, or other acceptable material to be evaluated on a case-by-case basis.

12VAC5-610-760. Sewer appurtenances.

A. Joints. Sewer joints shall be of the compression type except that plastic pipe may be welded sleeve or chemically fused.



B. Adapters. Joining of pipes of different sizes and/or material shall be accomplished by use of a manufactured adapter specifically designed for that purpose.

C. Bends. The building sewer shall have a straight alignment where possible. When a straight alignment is not possible ells not exceeding 45 degrees shall be used.

D. Cleanouts. Cleanouts shall be brought to the ground surface and shall be provided every 50 feet to 60 feet along the length of the building sewer. Cleanouts shall be brought to the ground surface for access.

12VAC5-610-770. Sewer construction.

A. Location. Sewers passing within 50 feet of a nonpublic drinking water supply well or other nonpublic drinking water supply source shall have special construction and pipe materials to provide adequate protection. Special construction constitutes water pipe meeting AWWA specifications, pressure tested (10 feet of water) in place without leakage prior to backfilling. However, under no circumstances shall a sewer come within 10 feet of a nonpublic drinking water supply source.

B. Above grade installation. Sewers constructed above grade shall be adequately supported and protected against freezing. When plastic pipe is used for above grade installation the pipe must be protected against ultraviolet radiation, i.e. shielded against sunlight.

C. Bedding. All sewers shall be bedded to supply uniform support along the length of the sewer.

D. Backfilling and tamping. Sewer trenches shall be backfilled with suitable material free of large stones and clumps of earth and tamped to prevent movement of the sewer as soon as possible after the installation of the sewer has been approved.

12VAC5-610-780. General.

As used in this article, "pretreatment" refers to treatment works designed to prepare sewage for disposal in a soil medium.

12VAC5-610-790. Types.

Three general types of pretreatment systems are described herein. They are as follows:

- A. Biological;
- B. Physical; and
- C. Chemical.

12 VAC 5-610-800. Aerobic biological systems.

Aerobic biological treatment systems will be considered on a case-by-case basis at the request of the owner. These systems shall meet the applicable criteria contained in 12 VAC 5-640-360 of the Alternative Discharging Sewage Treatment Regulations for Individual Single Family Dwellings or 12 VAC 5-580-770 of the Sewerage Regulations (12 VAC 5-580-10 et seq.) or criteria developed by a testing laboratory or agency approved by the division. Where an activated sludge process is used to produce a secondary effluent, provisions shall be made to protect the drainfield from bulking solids. Use of an aerobic



pretreatment system shall not result in the reduction of the absorption area requirements contained in Article 5 (12 VAC 5-610 900 et seq.) of this chapter.

12 VAC 5-610-810. Anaerobic biological systems.

Septic tanks are the most commonly used pretreatment systems and under normal circumstances are the most inexpensive units that give acceptable results with a minimum of maintenance.

The preferred material for use in constructing septic tanks is concrete. Other materials may be considered on a case-by-case basis. All materials must be resistant to corrosion, both chemical and electrolytic, and must have sufficient structural strength to contain sewage and resist lateral compressive and bearing loads.

12 VAC 5-610-815. Septic tank design.

A. Tank capacity. The minimum hydraulic detention time shall be 48 hours based on daily design flow. In no case shall the septic tank capacity be less than 750 gallons. Table 5.2 contains the minimum required septic tank capacities for dwelling units.

Table 5.2.
Septic Tank Capacities for Dwelling Units.

No. of Bedrooms	Approximate Tank Volume in Gallons
1	750
2	750
3	900
4	1200
5	1500

B. Tank dimensions. Septic tanks shall be rectangular in plan, cross-section and longitudinal view. The length to liquid depth to width ratio should be approximately equal or greater than 2 to 1 to 1 (2:1:1) and less than or equal to 3 to 1 to 1 (3:1:1). In no case shall the liquid depth be less than four feet or greater than eight feet. A minimum of one foot free board shall be provided. Inlet and outlet structures shall be placed on the longitudinal axis of the tank. Typical tank dimensions are found in Table 5.3.

Table 5.3.
Typical Septic Tank Dimensions in Feet.

Approximate Gallons	Length	Width	Liquid Depth	Freeboard
750	7	3.5	4	1
900	8	4	4	1
1200	9	4.5	4	1
1500	9.5	5	4.7	1



C. Inlet-outlet structure.

1. General. The inlet and outlet structures shall function as a baffle. The invert of the inlet structure shall be greater than one inch but less than two inches higher than the invert of the outlet structure with the tank installed. The inlet structure shall extend six to eight inches below and eight to 10 inches above the normal liquid level. The outlet structure shall extend below the normal liquid surface to a distance of 35 to 40% of the liquid depth and eight to 10 inches above the normal liquid level. The inlet and outlet structures shall have an open space not less than four inches by four inches in cross-section or four inches in diameter.

2. Materials. All materials used for inlet and outlet structures shall have long term resistance to chemical and electrolytic corrosion. When pipe tees are used as inlet and outlet structures, the material shall be compatible with the material used in the sewer.

D. Top access and watertightness. All septic tanks shall be watertight and shall be provided with a watertight top. As a minimum, access manholes shall be provided over the inlet and outlet structures and shall have a minimum open space of 18 inches by 18 inches. The maximum coverage over a septic tank shall not exceed 48 inches. An access manhole shall be brought to within 20 inches of the final grade at the inlet lid and to the final grade at the outlet lid. Each pre-cast concrete tank shall be embossed or stenciled with the name of the manufacturer and the liquid capacity in gallons in four-inch or large size letters and numbers on the top of the tank or the inlet end of the tank above the inlet opening. Manhole covers shall restrict surface water entry.

E. Construction of septic tanks. The contractor and/or manufacturer shall design and construct the septic tank to withstand the lateral and bearing loads to which the septic tank is expected to be subjected. A top-seam septic tank shall be utilized whenever watertable soils are present at the installation depth of the septic tank.

F. Placement of septic tanks. The precast septic tank shall be bedded with at least six inches of sand or fine gravel where rock or other undesirable conditions are encountered. The tank shall be placed level. Where excavation is required, the hole shall be sufficiently large to permit placement of the tank. Backfilling the excavation for all septic tanks shall be done in layers with sufficient tamping to avoid settling. Backfill material shall be free of large stones and debris.

12 VAC 5-610-817. Maintenance.

A. In order to encourage proper maintenance and reduce the likelihood of solids being discharged to an absorption field, all septic tanks constructed after July 1, 2000, shall be designed to have an effluent filter as provided for in subsection C of this section, or be designed for reduced maintenance as provided for in subsection D of this section.

B. Inspection port. An inspection port is a three-inch or larger port pipe or structure which allows access to the septic tank for the purpose of measuring sludge and scum accumulation. The inspection port shall terminate at or above grade and be designed to allow an inspection of sludge buildup in the septic tank. The inspection port shall be constructed of schedule 40 PVC pipe, or its equivalent, and shall be fitted with a watertight threaded cap. The recommended location of the inspection port shall be in or near the manhole cover on the inlet side of the septic tank away from the inlet tee. Other locations may be approved by the district health department on a case-by-case basis.



C. Effluent filters. An effluent filter is a device which has one or more of the following purposes: (i) to manage solids to provide greater service life to a pump or other components of an onsite system; (ii) to manage the total suspended solids (TSS) passed to the absorption field, potentially enhancing absorption field life; or (iii) some other purpose recognized as beneficial by the department.

1. All effluent filters shall be designed to improve the quality of effluent leaving the tank in a manner which is consistent with their purpose.
2. Septic tank outlet filters shall be constructed from a material which resists the corrosive nature of the environment within a septic tank.
3. A tamper proof child resistant at-grade access port shall be provided to assure the filter can be readily maintained as necessary.

D. Reduced maintenance septic tanks. Septic tanks which are sized 30% larger than shown in Table 5.3 and which are baffled such that the first compartment is nominally the volume required in Table 5.3 shall be considered to be a reduced maintenance septic tank.

E. Any systems that utilize a device for treating sewage to secondary effluent standards or better shall have a monitoring and maintenance contract with a service provider authorized by the sewage disposal system treatment plant manufacturer to perform such maintenance and is accredited by the National Sanitation Foundation or hold a Class IV Wastewater Works Operator's license issued by the Board for Waterworks and Wastewater Works. Such maintenance and monitoring contracts shall be required for the life of the system.

F. Pump-Out. All individual sewage treatment and disposal systems not requiring a Virginia Pollutant Discharge Elimination System (VPDES) permit shall have pump-out of the septic tank accomplished a minimum of once every five years.

G. Pump-Out Notification. The owner of any individual sewage treatment and disposal system shall notify the Administrative Authority in writing within ten days after the pretreatment system (septic tank) and/or distribution box(es) are pumped for any reason. The written notification shall contain:

- Owner's name
- Owner's phone number
- Street address of the property
- Owner's mailing address if different from the property
- Fairfax County property identification number
- Date the tank was pumped
- Number of gallons pumped
- Name of the sewage handler



The owner may accomplish this notification by providing to the Administrative Authority a copy of a form provided to the owner by the sewage handler if the form contains the required information.

H.Failure to accomplish pump-out.

1. After receipt of a written notice of violation, it is unlawful for the owner or other person or persons to fail to accomplish pump-out of the disposal system as required in this section within 30 days.
2. If the written notice is undeliverable, or in the case of an absentee owner who cannot be notified, or if after receipt of the written notice the owner fails to accomplish pump-out as required in this section, the Administrative Authority may request the Director of Public Works and Environmental Services to accomplish the pump-out, regardless of whether the premises are occupied. If the owner, occupant, or other person responsible for the premises denies free access for this purpose, the Administrative Authority may proceed after obtaining a warrant. Cost and expenses incurred by the Administrative Authority in accomplishing the pump-out shall be assessed against the owner of the property and shall be recoverable from the owner in the same way as taxes and levies.

12 VAC 5-610-820. Miscellaneous.

A. Multiple septic tanks in series. The required volume for a septic tank may be satisfied by the utilization of two septic tanks in series; however, the first septic tank in series shall equal to 1/2 to 2/3 the required total volume.

B. Physical and/or chemical systems. Physical or chemical systems, or both, utilized as pretreatment for subsurface disposal of sewage shall meet the applicable criteria contained in 12 VAC 5-580-930 through 12 VAC 5-580-960 of the Sewerage Regulations.

C. Water stop. A water stop is a method for sealing the annular space around a conduit or pipe, or both, for the purpose of preventing infiltration or exfiltration, or both. Conduits or pipes passing through the walls of a pretreatment unit shall be provided with a water stop.

12VAC5-610-830. (Repealed.)

12VAC5-610-840. (Repealed.)

12VAC5-610-850. General.

For the purpose of this chapter an "effluent conveyance system" is defined as the piping, mechanical equipment and appurtenances utilized to transport effluent from a pretreatment system to a point where the flow is split for distribution to a subsurface soil absorption system.

12VAC5-610-860. Conveyance methods.

Three basic methods utilized to convey effluent are:

1. Gravity;
2. Pumping; and



3. Dosing siphons.

12VAC5-610-870. Gravity effluent mains.

A. Size. Mains transporting effluent by gravity shall have a minimum internal diameter of four inches.

B. Slope. Gravity mains shall have a slope of not less than six inches per 100 feet.

C. Materials. Gravity mains spanning disturbed soil shall meet the material specifications contained in 12VAC5-610-750. The mains shall meet the specifications until placed two feet in undisturbed soil or until termination in a structure. The remaining gravity mains shall have a minimum crush strength of 1500 pounds per foot and may be constructed of cast iron, plastic, vitrified clay or other material resistant to the corrosive action of sewage. All gravity mains shall be watertight, smooth bore, rigid conduits.

D. Appurtenances.

1. Joints. Gravity mains shall have joints of the compression type with the exception of plastic mains which may be welded sleeve or chemically fused.

2. Adapters. Joining of mains of different size and/or material shall be accomplished by use of a manufactured adapter specifically designed for that purpose.

3. Valves. Valves shall be constructed of materials resistant to the corrosive action of sewage. Valves placed below ground level shall be provided with a valve box and a suitable valve stem so that it may be operated from the ground surface.

E. Flow diversion devices. Flow diversion is a technique for increasing the useful life of an absorption area. Flow diversion provides for diversion of flow to two alternate equally sized absorption areas whose sum meets the area requirement in 12 VAC 5-610-950 B with a rest period of approximately one year for recovery of each absorption area. These devices shall meet the material requirements contained in paragraph D 3 of this section. There shall be a flow diversion valve, approved by the Administrative Authority, located between the septic tank and the distribution boxes, except for repair situations when installation of a valve is not feasible and for any other approved system for which the use of a valve would adversely affect the design of the system, as determined by the Administrative Authority. The owner of any individual sewage disposal system equipped with a flow diversion valve shall turn the valve every twelve months to allow the yearly resting of half of the absorption field.

F. Construction. Construction standards for gravity effluent mains are the same as those for house sewers and are found in 12VAC5-610-770.

12 VAC 5-610-880. Pumping.

A. Force mains.

1. Velocity. At pumping capacity, a minimum self-scouring velocity of two feet per second shall be maintained. A velocity of eight feet per second should not be exceeded.



2. Air relief valve. Air relief valves shall be placed at high points in the force main, as necessary, to relieve air locking.
3. Bedding. All force mains shall be bedded to supply uniform support along their length.
4. Protection against freezing. Force mains shall be placed deep enough to prevent freezing.
5. Location. Force mains shall not pass closer than 50 feet to any drinking water source unless pressure tested in place at pump shut-off head. Under no circumstances shall a force main come within 10 feet of a nonpublic drinking water source.
6. Materials of construction. All pipe used for force mains shall be of the pressure type with pressure type joints.
7. Anchors. Force mains shall be sufficiently anchored within the pump station and throughout the line length. The number of bends shall be as few as possible. Thrust blocks, restrained joints and/or tie rods shall be provided where restraint is needed.
8. Backfilling and tamping. Force main trenches shall be backfilled and tamped as soon as possible after the installation of the force main has been approved. Material for backfilling shall be free of large stones and debris.

B. Pumping station and pumps.

1. Sizing. Pumping station wet wells shall provide at least one quarter (1/4) day storage above the high level alarm set point. Actual volume between high and low level limits is determined on a case-by-case basis depending on the objective of pumping: (i) when low pressure dosing is utilized see 12 VAC 5-610-940 A for sizing requirements; (ii) when pumping to a gravity distribution box the wet well shall be sized to provide a working volume between 1/4 the daily flow and the daily flow; (iii) when pumping for the purpose of enhancing flow distribution (see 12 VAC 5-610-930 A) the working volume of the wet wall shall be 0.6 of the volume of the percolation piping.
2. Materials. Materials for construction of pumping stations are the same as for septic tanks (see 12 VAC 5-610-810). All materials and equipment utilized in pumping stations shall be unaffected by the corrosive action of sewage.
- 3. Access. An access manhole terminating at least 12 inches above the ground surface shall be provided. The manhole shall have a minimum width dimension of 30 inches and shall be provided with a shoebox type cover adequately secured.**
4. Construction. Pumping stations constructed of precast or poured in place concrete shall conform with the construction requirements contained in 12 VAC 5-610-815 E. When precast concrete pipe is utilized for a pumping station, the pipe shall be placed on and bonded to a concrete pad at least six inches thick and having a width at least one foot greater than the diameter of the pipe. All pumping stations shall be watertight. All conduits entering or leaving the pumping stations shall be provided with a water stop. The influent pipe shall enter the pumping station at an elevation at least one inch higher than the maximum water level in the wet well (total usable volume).
5. Installation. Placement of pumping stations shall conform to the requirements for placement of septic tanks contained in 12 VAC 5-610-815 F.



6. Pumps. All pumps utilized shall be of the open face centrifugal type designed to pump sewage. Pumps utilized for the sole purpose of pumping effluent to a higher elevation shall have a capacity of 2.5 times the average daily flow in gallons per minute but not less than 40 gallons per minute at the system head. Pumps utilized for the purpose of enhancing flow distribution (See 12 VAC 5-610-930 A) shall have a minimum capacity of 40 gallons per minute at system head per 1,200 linear feet of percolation piping. All pumps shall be installed on a 4-inch pedestal or block to keep out sludge. Pumps discharging to a low-pressure distribution system shall be sized in accordance with 12 VAC 5-610-940 A. Dual alternating pumps are required on all systems. Each pump shall be so placed that under normal start conditions it shall be subjected to a positive suction head. Each pump shall have its own separate suction line. Suitable shutoff valves shall be provided on the discharge lines and suction lines (if provided) for normal pump isolation. A check valve shall be placed in the discharge line between the pump and the shutoff valve. When the pump discharge is at a lower elevation than the high liquid level in the pump station, an antisiphon device shall be provided on the pump discharge. Pumps shall be piped so that they can be removed for servicing without having to dewater the wet well. All pumps used for secondary or better treated effluent may be of the open face centrifugal type or turbine type pumps that are rated for the effluent quality. Pumps utilized must have a minimum capacity of 21 gallons per minute and a maximum capacity of 80 gallons per minute at system head.

7. Controls. Each pumping station shall be provided with controls for automatically starting and stopping the pumps based on water level. When float type controls are utilized, they shall be placed so as to be unaffected by the flow entering the wet well. Provisions shall be made for automatically alternating the pumps. The electrical motor control center and master disconnect switch shall be placed in a secure location above grade and remote from the pump station. Each motor control center shall be provided with a manual override switch.

8. Alarms. A high water alarm with remote sensing and electrical circuitry separate from the motor control center circuitry shall be provided. The alarm shall be audiovisual and shall alarm in an area where it may be easily monitored. When multiple pumps are utilized, an additional audiovisual alarm shall be provided to alarm when a pump motor fails to start on demand.

9. Ventilation. Positive ventilation shall be provided at pumping stations when personnel are required to enter the station for routine maintenance.

a. Wet wells. Ventilation may be either continuous or intermittent. Ventilation, if continuous, shall provide at least 12 complete air changes per hour; if intermittent, at least 30 complete air changes per hour. Such ventilation shall be accomplished by mechanical means.

b. Dry wells. Ventilation may be either continuous or intermittent. Ventilation, if continuous, shall provide at least six complete air changes per hour; if intermittent, at least 30 complete air changes per hour. Such ventilation shall be accomplished by mechanical means.

10. Effluent Flows. All pumping systems shall require an effluent flow measurement device.



12 VAC 5-610-890. Siphons.

A. Use. Intermittent dosing siphons have two major uses:

1. Low pressure dosing of subsurface soil absorption systems (see 12 VAC 5-610-940); or
2. To provide more uniform distribution of effluent to large or multiple sectioned subsurface soil absorption systems which split the flow 12 or more times or contain 1200 linear feet or more of percolation piping (see 12 VAC 5-610-930 A and B).

B. Materials. Materials for construction of dosing siphon chambers are the same as for septic tanks (see 12 VAC 5-610-810).

C. Number and sizing. Dosing siphons discharging to subsurface soil absorption systems shall have an average discharge rate greater than 2.5 times the average daily influent flow in gallons per minute but not less than 70 gallons per minute per 1200 linear feet of percolation lines. Twin alternating siphons are required where the system to be dosed exceeds 1800 linear feet in accordance with 12 VAC 5-610-930 B. The volume of the dosing chamber shall equal 0.6 the volume of the percolation piping for enhanced flow distribution. Actual dosing chamber volume is determined on a case-by-case basis where low pressure distribution is utilized (see 12 VAC 5-610-940 A).

D. Access. The siphon chamber shall terminate at or above the ground surface. The top of the chamber shall be removable to an extent to allow access for maintenance, repairs and removal of the siphon components.

E. Construction. Dosing chambers constructed of precast or poured in place concrete shall conform with the construction requirements contained in 12 VAC 5-610-815 E.

F. Force mains. Force mains used in conjunction with siphons shall meet the applicable criteria contained in 12 VAC 5-610-880 A.

12VAC5-610-900. General.

Subsurface soil absorption systems are sewage disposal systems which utilize the soil to further treat and dispose of effluent from a treatment works in a manner that does not result in a point source discharge and does not create a nuisance, health hazard or ground or surface water pollution.

12VAC5-610-910. Scope.

For the purpose of this chapter, a "subsurface soil absorption system" shall refer to that part of a sewage disposal system beginning at the flow splitting device and extending through the absorption area or areas.

12VAC5-610-920. Distribution methods.

The term distribution methods refers to the piping, flow splitting devices, gravel, and other appurtenances beginning at the point of flow splitting and ending at the soil-gravel or sand interface. Two basic methods are considered:

A. Gravity; and



B. Pressure.

12 VAC 5-610-930. Gravity distribution.

Gravity distribution is the conveyance of effluent from a distribution box or distribution manifold through the percolation lines at less than full flow conditions. Flow to the initial distribution box may be initiated by pump, siphon or gravity. Flow to the distribution manifold may be initiated by pump or siphon.

A. Enhanced flow distribution. Enhanced flow distribution is the initiation of the effluent flow to the distribution box or distribution manifold by pump or siphon for the purpose of assuring more uniform flow splitting to the percolation lines. Enhanced flow distribution shall be provided on systems where the flow is split more than 12 times. When utilizing a flow diversion valve, if the system contains more than 1200 linear feet of percolation lines per half, distribution shall be by means of a distribution manifold. For the purpose of this chapter, enhanced flow distribution is considered to produce unsaturated soil conditions.

B. System size. Distribution systems containing 1800 or more linear feet of percolation piping shall be split into multiple systems containing a maximum of 1200 linear feet of percolation piping per system.

C. Distribution boxes. The distribution box is a device for splitting flow equally by gravity to points in the system. Improperly installed distribution boxes are a cause for absorption field malfunction.

1. Materials. The preferred material for use in constructing distribution boxes is concrete (3000 psi). Other materials may be considered on a case-by-case basis. All materials must be resistant to both chemical and electrolytic corrosion and must have sufficient structural strength to contain sewage and resist lateral compressive and bearing loads.

2. Design. Each distribution box shall be designed to split the influent flow equally among the multiple effluent ports. All effluent ports shall be at the same elevation and be of the same diameter. The elevation of the effluent ports shall be at a lower elevation than the influent port. The placement of the influent ports shall be such as to prevent short circuiting unless baffling is provided to prevent short circuiting. The minimum inside width of a gravity flow distribution box shall be equal to or greater than 12 inches. The inside bottom shall be at least four inches below the invert of the effluent ports and at least five inches below the invert of the influent port. A minimum of eight inches freeboard above the invert of the effluent piping shall be provided. The distribution box shall be fitted with a watertight, removable lid for access.

3. Installation. The hole for placement of the distribution box shall be excavated to undisturbed soil. The distribution box shall be placed in the excavation and stabilized. The preferred method of stabilizing the distribution box is to bond the distribution box to a four inch poured in place Portland cement concrete pad with dimensions six inches greater than the length and width dimensions of the distribution box. The box shall be permanently leveled and checked by water testing. Conduits passing through the walls of a distribution box shall be provided with a water stop.

D. Lead or header lines. Header or lead lines are watertight, rigid lines that convey effluent from a distribution box to another box or to the percolation piping.

1. Size. The lead or header lines shall have an internal diameter of four inches.



2. Slope. Minimum slope shall be two inches per 100 feet.
3. Materials. The lead or header lines shall have a minimum crush strength of 1500 pounds per foot and may be constructed of cast iron, plastic, vitrified clay or other material resistant to the corrosive action of sewage.
4. Appurtenances.
 - a. Joints. Lead or header lines shall have joints of the compressions type with the exception of plastic lead or header lines which may be welded sleeve, chemically fused or clamped (noncorrosive) flexible sleeve.
 - b. Adapters. Joining of lead or header lines of different size and/or material shall be accomplished by use of a manufactured adapter specifically designed for the purpose.
 - c. Valves. Valves shall be constructed of materials resistant to the corrosive action of sewage. Valves placed below ground level shall be provided with a valve box and a suitable valve stem so that it may be operated from the ground surface.

5. Construction.

- a. Bedding. All lead or header lines shall be bedded to supply uniform support and maintain grade and alignment along the length of the lead or header lines. Special care shall be taken when using semirigid pipe.
- b. Backfilling and tamping. Lead and header lines shall be backfilled and tamped as soon as possible after the installation of the lead or header lines has been approved. Material for backfilling shall be free of large stones and debris.
6. Termination. Header or lead lines shall extend for a minimum distance of two feet into the absorption trenches.

E. Gravity percolation lines. Gravity percolation lines are perforated or open joint pipes that are utilized to distribute the effluent along the length of the absorption trenches.

1. Size. All gravity percolation lines shall have an internal diameter of four inches.
2. Slope. The slope of the lines shall be uniform and shall not be less than two inches or more than four inches per 100 feet.
3. Design. Effluent shall be split by the distribution system so that all gravity percolation lines installed shall receive an equal volume of the total design effluent load per square foot of trench, i.e., the fraction of the flow received by each percolation line divided by the length of the gravity percolation lines shall be equal for all gravity percolation lines in a system.
4. Length. No individual gravity percolation line shall exceed 100 feet in length.
5. Materials.
 - a. Clay. Clay tile shall be extra-strength and meet current ASTM standards for clay tile.



b. Perforated plastic drainage tubing. Perforated plastic drainage tubing shall meet ASTM standards. At not greater than 10 feet intervals the pipe shall be plainly marked, embossed or engraved thereby showing the manufacturer's name or hallmark and showing that the product meets a bearing load of 1,000 lb. per foot. In addition, a painted or other clearly marked line or spot shall be marked at not greater than 10 feet intervals to denote the top of the pipe.

The tubing shall have three holes, 1/2 to 3/4 inch in diameter evenly spaced and placed within an arc of 130 degrees, the center hole being directly opposite the top marking.

Spacing of each set of three holes shall be at four inch intervals along the tube. If there is any break in the continuity of the tubing, an appropriate connection shall be used to join the tubing.

6. Installation

a. **Crushed stone or gravel.** Clean gravel or crushed stone having a size range from 1/2 inch to 1 1/2 inches shall be utilized to bed the gravity percolation lines.

Minimum depth of gravel or crushed stone beneath the percolation lines shall be eight inches. Clean course silica sand (does not effervesce in the presence of dilute hydrochloric acid) may be substituted for the first two inches (soil interface) of the required eight inches of gravel beneath the percolation lines. The absorption trench shall be backfilled to a depth of two inches over the gravity percolation lines with the same gravel or crushed stone. Clean sand, gravel, or crushed stone shall be free of fines, clay, and organic materials.

b. Grade boards and/or stakes. Grade boards and/or stakes placed in the bottom or sidewalls of the absorption trench shall be utilized to maintain the grade on the gravel for placement of the gravity percolation lines. Grade stakes shall not be placed on centers greater than 10 feet.

c. **Placement and alignment.** Perforated gravity percolation piping shall be placed so that the center hole is in the horizontal plane and interfaces with the minimum eight inches of graded gravel. When open joint piping is utilized the upper half of the top of the 1/4-inch open space shall be covered with tar paper or building paper to block the entrance of fines into the pipe during the backfilling operation. All gravity percolating piping shall be placed in the horizontal center of the absorption trench and shall maintain a straight alignment and uniform grade.

d. **Backfilling.** After the placement of the gravity percolation piping, the absorption trench shall be backfilled evenly with crushed stone or gravel to a depth of two inches over the piping. Untreated building paper or other suitable material shall be placed at the interface of the gravel and soil to prevent migration of fines to the trench bottom. A minimum of 12 inches and a maximum of 20 inches of clean backfill shall be placed over the gravel.

12 VAC 5-610-940. Low pressure distribution.

Low pressure distribution is the conveyance of effluent through the pressure percolation lines at full flow conditions into the absorption area with the prime motive force being a pump or siphon. Low pressure systems are limited to a working pressure of from one to four feet of head at the distal end of



the pressure percolation lines. For the purpose of this chapter low pressure distribution is considered to provide unsaturated soil conditions.

A. Dosing cycle. Systems shall be designed so that the effluent volume applied to the absorption area per dosing cycle is from seven to 10 times the volume of the distribution piping, however, the volume per dosing cycle should not result in a liquid depth in the absorption trench greater than two inches.

B. Manifold lines. Manifold lines are watertight lines that convey effluent from the initial point of flow splitting to the pressure percolation lines.

1. Size. The manifold line shall be sized to provide a minimum velocity of two feet per second and a maximum velocity of eight feet per second.

2. Materials. All pipe used for manifolds shall be of the pressure type with pressure type joints.

3. Bedding. All manifolds shall be bedded to supply uniform support along its length.

4. Backfilling and tamping. Manifold trenches shall be backfilled and tamped as soon as possible after the installation of the manifold has been approved. Material for backfilling shall be free of large stones and debris.

5. Valves. Globe valves for throttling and check valves to prevent backflow are required wherever necessary. Each valve shall be supplied with a valve box terminating at the ground surface. A flow diversion valve shall not be used on a low pressure distribution system.

C. Pressure percolation lines. Pressure percolation lines are perforated pipes utilized to distribute the flow evenly along the length of the absorption trench.

1. Size. Pressure percolation lines should normally have a 1-1/4 inch inside diameter.

2. Hole size. Normal hole size shall be 3/16 inch to 1/4 inch.

3. Hole placement. Center to center hole separation shall be between three and five feet.

4. Line length. Maximum line length from manifold should not exceed 50 feet.

5. Percent flow variation. Actual line size, hole size and hole separation shall be determined on a case-by-case basis based on a maximum flow variation of 10% along the length of the pressure percolation lines.

6. Materials and construction. The preferred material is plastic, either PVC or ABS, designed for pressure service. The lines shall have burr free and counter sunk holes (where possible) placed in a straight line along the longitudinal axis of the pipe. Joining of pipes shall be accomplished with manufactured pressure type joints.

7. Installation.

a. Crushed stone or gravel. Clean gravel or crushed stone having a size range from 1/2 inch to 3/4 inch shall be utilized to bed the pressure percolation lines. Minimum depth of gravel or crushed stone beneath the percolation lines shall be 8-1/2 inches. Clean course silica sand (does



not effervesce in the presence of dilute hydrochloric acid) may be substituted for the first two inches (soil interface) of the required 8-1/2 inches of gravel beneath the pressure percolation lines. The absorption trench shall be backfilled to a depth of two inches over the pressure percolation lines with the same gravel or crushed stone. Clean sand, gravel or crushed stone shall be free of fines, clay and organic materials.

b. Grade boards and/or stakes. Grade boards and/or stakes placed in the bottom or sidewalls of the absorption trench shall be utilized to maintain the gravel level for placement of the pressure percolation lines. Grade stakes shall not be placed on centers greater than 10 feet.

c. Placement and alignment. Pressure percolation lines shall be placed so that the holes face vertically downward. All pressure percolation piping shall be placed at the same elevation, unless throttling valves are utilized, and shall be level. The piping shall be placed in the horizontal center of the trench and shall maintain a straight alignment. Normally the invert of the pressure percolation lines shall be placed at least 8½ inches above the trench bottom. However, under no circumstance shall the invert of the pressure percolation lines be placed closer than 16½ inches to the seasonal water table as defined in 12 VAC 5-610-950 A 3. When the invert of the pressure percolation lines must be placed at an elevation greater than 8½ inches above the trench bottom, landscaping over the absorption area may be required to provide the two inches of gravel and minimum 12 inches of fill over the pressure percolation lines required in subdivision 7a of this subsection.

d. Backfilling. After placement of the pressure percolation piping the absorption trench shall be backfilled evenly with crushed stone or gravel to a depth of two inches over the opening. Untreated building paper or other suitable material shall be placed at the interface of the gravel and soil to prevent migration of fines to the trench bottom. A minimum of 12 inches and a maximum of 20 inches of clean backfill shall be placed over the gravel.

8. Appurtenances. The distal (terminal) end of each pressure percolation lines shall be fitted with a vertical riser and threaded cap extending to the ground surface. Systems requiring throttling valves will be supplied with couplings and threaded riser extensions at least four feet long so that the flow may be adjusted in each line.

12 VAC 5-610-950. Absorption area design.

A. The absorption area is the undisturbed soil medium beginning at the soil gravel or sand interface which is utilized for absorption of the effluent. The absorption area includes the infiltrative surface in the absorption trench and the soil between and around the trenches.

B. Suitability of soil horizon. The absorption trench bottom shall be placed in the soil horizon or horizons with an average estimated or measured percolation rate less than 120 minutes per inch. Soil horizons are to be identified in accordance with 12 VAC 5-610-480. The soil horizon must meet the following minimum conditions:

1. It shall have an estimated or measured percolation rate equal to or less than 120 minutes per inch.



2. The soil horizon or horizons shall be of sufficient thickness so that at least 12 inches of absorption trench sidewall is exposed to act as an infiltrative surface; and
3. If no single horizon meets the conditions in subdivision 2 of this subsection, a combination of adjacent horizons may be utilized to provide the required 12-inch sidewall infiltrative surface. However, no horizon utilized shall have an estimated or measured percolation rate greater than 120 minutes/inch.

C. Placement of absorption trenches below soil restrictions. Placement of the soil absorption trench bottom below soil restrictions as defined in 12 VAC 5-610-490 D, whether or not there is evidence of a perched water table as indicated by free standing water or gray mottlings or coloration, requires a special design based on the following criteria:

1. The soil horizon into which the absorption trench bottom is placed shall be a Texture Group I, II or III soil or have an estimated or measured percolation rate of less than 91 minutes per inch.
2. The soil horizon shall be a minimum of three feet thick and shall exhibit no characteristics that indicate wetness or restriction of water movement. The absorption trench bottom shall be placed so that at least two feet of the soil horizon separates the trench bottom from the water table and/or rock. At least one foot of the absorption trench side wall shall penetrate the soil horizon.
3. A lateral ground water movement interceptor (LGMI) shall be placed upslope of the absorption area. The LGMI shall be placed perpendicular to the general slope of the land. The invert of the LGMI shall extend into, but not through, the restriction and shall extend for a distance of 10 feet on either side of the absorption area (See 12 VAC 5-610-700 D 3).
4. Pits shall be constructed to facilitate soil evaluations as necessary.

D. Sizing of absorption trench area.

1. Required area. The total absorption trench bottom area required shall be based on the average estimated or measured percolation rate for the soil horizon or horizons into which the absorption trench is to be placed. If more than one soil horizon is utilized to meet the sidewall infiltrative surface required in subsection B of this section, the absorption trench bottom area shall be based on the average estimated or measured percolation rate of the "slowest" horizon. The trench bottom area required in square feet per 100 gallons (Ft²/100 Gals) of sewage applied for various soil percolation rates is tabulated in Table 5.4. The area requirements are based on the equation:

$$\log y = 2.00 + 0.008 (x)$$

where $y = \text{Ft}^2/100 \text{ Gals}$

$x = \text{Percolation rate in minutes/inch}$

Notwithstanding the above, the minimum absorption area for single family residential dwellings shall be 400 square feet.

2. Area reduction. See Table 5.4 for percent area reduction when low pressure distribution is utilized. A reduction in area shall not be permitted when flow diversion is utilized with low pressure distribution.



E. Minimum cross section dimensions for absorption trenches.

1. Depth. The minimum trench sidewall depth as measured from the surface of the mineral soil shall be 22 inches when placed in a landscape with a slope less than 10 percent. The installation depth shall be measured on the downhill side of the absorption trench. When the installation depth is less than 22 inches, the depth shall be measured from the lowest elevation in the microtopography. All systems shall be provided with at least 12 inches of cover to prevent frost penetration and provide physical protection to the absorption area. Where additional soil cover must be provided to meet this minimum, it must be added after the construction of the absorption area, and it must be crowned to provide positive drainage away from the absorption area. The minimum trench depth shall be increased by at least five inches for every 10 percent increase in slope. Sidewall depth is measured from the ground surface on the downhill side of the trench. Any septic system with trench sidewall depths greater than 120" shall utilize a device for treating sewage to secondary effluent standards or better.

2. Width. All absorption trenches utilized with gravity distribution shall have a width of 24 inches. All absorption trenches utilized with low-pressure distribution shall have a width of 24 inches.

F. Lateral separation of absorption trenches. In no case shall the center to center distance be less than 72 inches.

24 Inch Wide Trenches	
Slope (%)	Horizontal Separation Distance (inches)
0-19	72
20-25	84

G. Slope of absorption trench bottoms.

- Gravity distribution. The bottom of each absorption trench shall have a uniform slope not less than two inches or more than four inches per 100 feet.
- Low pressure distribution. The bottom of each absorption trench shall be uniformly level to prevent ponding of effluent.

H. Placement of absorption trenches in the landscape.

- The absorption trenches shall be placed on contour.
- When the ground surface in the area over the absorption trenches is at a higher elevation than any plumbing fixture or fixtures, sewage from the plumbing fixture or fixtures shall be pumped.



I Lateral ground water movement interceptors. Where subsurface, laterally moving water is expected to adversely affect an absorption system, a lateral ground water movement interceptor (LGMI) shall be placed upslope of the absorption area. The LGMI shall be placed perpendicular to the general slope of the land. The invert of the LGMI shall extend into, but not through, the restriction and shall extend for a distance of 10 feet on either side of the absorption area.

Table 5.4.
Area Requirements for Absorption Trenches.

Percolation Rate (Minutes/Inch)	Area Required (Ft ² /100 Gals)		Area Required (Ft ² /Bedroom)	
	Gravity	Low Pressure Distribution	Gravity	Low Pressure Distribution
5	110	110	165	165
10	120	120	180	180
15	132	132	198	198
20	146	146	218	218
25	158	158	237	237
30	174	164	260	255
35	191	170	286	260
40	209	176	314	264
45	229	185	344	279
50	251	193	376	293
55	275	206	412	309
60	302	217	452	325
65	331	228	496	342
70	363	240	544	359
75	398	251	596	375
80	437	262	656	394
85	479	273	718	409
90	525	284	786	424
95	575	288	862	431
100	631	316	946	473
105	692	346	1038	519
110	759	379	1138	569
115	832	416	1248	624
120	912	456	1368	684

J. Controlled blasting. When rock or rock outcroppings are encountered during construction of absorption trenches the rock may be removed by blasting in a sequential manner from the top to remove the rock. Percolation piping and sewer lines shall be placed so that at least one foot of compacted clay soil lies beneath and on each side of the pipe where the pipe passes through the area blasted. The area blasted shall not be considered as part of the required absorption area.



12 VAC 5-610-960. Elevated sand mound.

A. An elevated sand mound is a soil absorption system that incorporates low pressure distribution and sand filtration to produce treated sewage prior to absorption in the natural underlying soil. The elevated sand mound utilizes less gross soil area than most other soil absorption systems.

B. Mound systems are considered Type III systems (see 12 VAC 5-610-250 C).

C. Mound systems shall be designed and constructed in accordance with the Wisconsin Mound Soil Absorption System Siting, Design and Construction Manual prepared by the Small Scale Waste Management Project, School of Natural Resources, College of Agricultural and Life Sciences, University of Wisconsin-Madison dated January 1990.

D. The manual referred to in subsection C of this section shall be used for the designated construction of elevated sand mounds. The following criteria are required for all elevated sand mound systems in addition to the requirements found in the manual.

1. The construction permit shall require permanent water saving devices; however, there shall be no corresponding reduction in the basal area. The construction permit shall be recorded and indexed in the grantor index under the holder's name in the land records of the clerk of the circuit court having jurisdiction over the site of the sewage disposal system pursuant to 12 VAC 5-610-250 J.
2. The proposed mound site shall be fenced, roped or otherwise secured, and marked, to prevent damage by vehicular traffic. Activities on the mound site shall be severely limited in order to protect it to the greatest extent possible.
3. Formal plans and specifications, prepared by a licensed professional engineer in accordance with 12 VAC 5-610-250 G, shall be required and must be approved by the health department prior to any site-disturbing activities.
4. The local health department shall be notified at least 48 hours before any work begins on the site, including delivery of materials. The mound must be constructed during dry weather and soil conditions. The contractor shall schedule a conference with the local health department to review the plans and specifications prior to beginning any phase of construction, including delivery of materials.
5. Wooded sites shall not be used unless it is shown by the applicant that the wooded site is the only site available, and if the applicant can demonstrate that the site can be properly prepared (plowed). If a wooded site is used, trees shall be removed by cutting them off at ground level, leaving the stumps in place. The cut trees shall be removed using methods that do not require driving equipment over the mound site and that do not result in the removal of any soil from the site. Larger basal areas may be required on wooded sites.
6. When the depth to a restriction, shrink-swell soils or a water table is less than 24 inches, pretreatment sufficient to produce a secondary quality effluent may be used to reduce these distances as shown in Table 4.4.



12 VAC 5-610-965. Sand-on-sand.

A. Sand-on-sand is a process of modifying a soil absorption system site using fill material which is similar in texture to the original, naturally occurring material. Filling is accomplished in a manner which allows for adequate treatment and disposal of effluent, protection from frost and traffic damage, and does not promote the creation of restrictive horizons. Sand-on-sand systems are considered Type II systems and are used to overcome limitations encountered with certain high water table soils. A detailed description of the siting criteria used for sand-on-sand systems is found in 12 VAC 5-610-597.

B. Site preparation. All surface vegetation and organic matter, including but not limited to grass, shrubs, trees, leaf litter, branches, limbs, and tree stumps shall be removed. Special consideration shall be given to site preparation to avoid soil compaction and other damage which may create discontinuities and restrictive horizons when the fill material is placed on the site.

C. Fill material. Fill material may be added to such a site and used for residential onsite wastewater disposal for flows up to 1,000 G.P.D. on sites meeting the criteria established in 12 VAC 5-610-597 provided that:

1. The fill material used is the same texture as the underlying material;
2. The coarse fragment content of the fill material is neither greater than 10% by volume nor noncarbonaceous and inorganic material greater than two mm in size;
3. The fill material is placed in such a manner as to prevent the formation of any restrictive horizons;
4. The fill material covers an area 10 feet greater in all horizontal dimensions than the soil absorption system;
5. The sides of the filled area are sloped at not greater than 1:10 (rise:run);
6. The fill material provides at least six inches of cover over all portions of the system; and
7. The fill material is stabilized to prevent surface erosion.

D. Application rate. All sand-on-sand systems shall be designed on a 30 mpi loading rate and shall use a method of pressure distribution which achieves unsaturated flow conditions.

E. Fill depth. All sand-on-sand systems utilizing gravel trench designs shall have a minimum of 25 inches of fill over the original site.

F. System placement. The drainfield trenches shall be placed so that there is six inches of fill, or more, beneath the trench bottom and six inches of fill over the trenches.

G. The remaining design and construction criteria for sand-on-sand systems are the same as for the design and construction of a similar system in original undisturbed soils.

12VAC5-610-970. General.

A privy is a nonwater carriage device for temporary storage or permanent disposal of human excreta. The privy shall not be used as the receptacle of any water carriage wastes.



12 VAC 5-610-980. Types.

A. Privies are divided into two categories, those that function as disposal facilities and those that function merely as holding facilities with ultimate disposal of the contents at another facility via pump and haul.

B. Disposal privies.

1. Pit privy.

a. Description. A pit privy consists of a lined earthen pit with a suitable rodent and insect proof structure and pit vent stack. The structure shall be provided with self-closing lid or lids on the seat riser. The pit privy is located exterior to a dwelling.

b. Location. Required separation distances from various structures and topographic features are the same as for subsurface soil absorption systems and may be found in Table 4.2. The bottom of the pit privy shall be at least two feet above the seasonal water table and any rock. Location of pit privies shall also comply with 12 VAC 5-610-593 1 through 6 and 10.

c. Utilization. The Uniform Statewide Building Code of Virginia normally prohibits the installation of pit privies at new homes. In case of hardship, unsuitable soil conditions or temporary recreational use, a privy can sometimes be constructed after obtaining the approval of the building official with the approval of the department. A sewage disposal system meeting the requirements of 12 VAC 5-610-250 A and B shall be provided to treat other sewage (wastewater) generated from activities such as laundering, bathing, handwashing, and cooking. Pit privies utilized at existing dwellings should be abandoned within one year of the availability of sanitary sewers. Proper abandonment consists of removing the structure and covering the pit with at least two feet of soil. Pit privies are an acceptable means of sewage disposal at isolated areas such as primitive camping areas, public boat launching areas, recreation areas, state parks and wilderness areas where pressurized water systems are not provided.

2. Incinerator toilets.

a. Description. Incinerator toilets are devices that utilize electrical energy or burning gas to incinerate human excreta deposited directly into them. They function both as toilet and disposal facility and produce an inert ash. Incinerator toilets are located in the interior of a dwelling.

b. Utilization. In addition to the conditions stated in subdivision 1 c of this subsection for pit privies, incinerator toilets shall not be utilized where they are subjected to frequent use and/or peak loading conditions.

c. Certification. All incinerator toilets must be certified by the National Sanitation Foundation as meeting the current Standard 41.

3. Composting toilets.

a. Description. Composting toilets are devices which incorporate an incline plane, baffles or other suitable devices onto which human excreta is deposited for the purpose of allowing aerobic decomposition of the excreta. The decomposing material is allowed to accumulate to form a



humus type material. These units serve as both toilet and disposal devices. Composting toilets are located interior to a dwelling.

b. Utilization. In addition to the conditions stated in subdivision 1 c of this subsection for pit privies, all materials removed from a composting privy shall be buried. Compost material shall not be placed in vegetable gardens or on the ground surface.

c. Certification. All composting toilets must be certified by the National Sanitation Foundation as meeting the current Standard 41.

C. Holding privies.

1. General. Due to the nature of these devices, i.e., they require routine pump and haul, special care shall be taken in selecting these devices for use. These devices are satisfactory for use at mass gatherings, transient worker populations, construction sites, recreation areas, etc.

2. Vault privy.

a. Description. A vault privy is similar to a pit privy except that, instead of an earthen pit, a water and corrosion proof containment vessel (vault) is provided. The vault shall be provided with access for periodic removal of the vault contents.

b. Location. Vault privies shall be located to prevent contamination of ground water or surface water. The elevation of the top of the vault or access port shall be placed two feet above the annual flood elevation. Separation distances from structures and topographic features will be determined on a case-by-case basis.

c. Utilization. Vault privies are an acceptable method of holding human excreta where ground water, surface water or other conditions prohibit the installation of other approved sewerage facilities. The conditions contained in subdivision B 1 c of this section shall be met.

3. Portable privies.

a. Description. A portable privy is a type of vault privy that is generally manufactured as a single unit and is easily transported.

b. Location. Location of portable privies should be determined on a case-by-case basis under the supervision of the district or local health department.

c. Utilization. Portable privies are normally used in association with mass gatherings, construction sites, etc., where temporary facilities are required.

d. Numbers required.

(1) When portable privies are used at mass gatherings, one privy per 100 persons shall be provided as a minimum.

(2) When portable privies are used at construction sites or transient worker locations, one privy per 25 persons shall be provided as a minimum.



e. Pumping. The containment vessel of the portable privies shall be pumped as often as necessary to prevent overflow. It is recommended that they be pumped when 2/3 full.

12VAC5-610-990. General.

Storage facilities associated with pump and haul operations permitted under 12VAC5-610-420 shall meet the criteria contained herein.

12VAC5-610-1000. Location.

The storage facilities shall be accessible by an all weather road of suitable carrying capacity to handle a fully loaded tank truck. Sufficient all weather surface area with appropriate carrying capacity shall be provided for maneuvering the tank truck.

12VAC5-610-1010. Design.

A. Capacity. Temporary storage facilities shall have sufficient capacity to store the projected flow for 48 hours.

B. Materials. The materials utilized shall be resistant to the corrosive action of sewage and shall be capable of withstanding the internal and external loads placed upon it.

C. Watertightness. The storage facility shall be watertight.

D. Access. The storage facility shall be easily accessible for the removal of the sewage. An access manhole with minimum dimensions of 18 inches by 18 inches terminating at or above the ground surface shall be provided. The storage facility shall be a closed containment vessel and all access ports shall be provided with removable covers.

E. Venting. Adequate venting shall be provided in all storage facilities.

F. Level Alarm. All facilities shall be provided with an audiovisual alarm to be activated when the storage facility is $\frac{3}{4}$ full. Audiovisual alarms shall alarm at two locations, one that is manned 24 hours per day and the other at the site of the storage facility where the storage facility receives sewage on a 24-hour basis. When sewage flow is intermittent only one alarm at the storage facility is required.

12VAC5-610-1020. General.

All vehicles utilized to transport sewage shall be kept in a clean and sanitary condition.

12VAC5-610-1030. Vehicle identification.

The name, address, and telephone number of the owner shall be displayed on each side of the vehicle in letters at least four inches high. In addition, the sewage handling permit number shall be displayed immediately beneath the owner's name and address and in plain sight.

12VAC5-610-1040. Sewage containment vessel (tank).

The tank in which the sewage is to be transported shall be fully enclosed and watertight. All inlets and outlets to the tank shall be secured and made watertight during transit. The tank shall be secured to the truck.



12VAC5-610-1050. Pumps.

When a pump is utilized to transfer sewage, the pump shall be watertight and properly valved and/or capped to prevent spillage during transport.

12VAC5-610-1060. Valves.

All valves shall be watertight.

12VAC5-610-1070. Hoses.

Suction and discharge hoses shall be watertight and provisions shall be made for carrying the hose in a manner to prevent leakage.

Section 12 VAC 5-610-1080. "Anaerobic lagooning of septage" is not adopted.

Section 12 VAC 5-610-1090. "Lime stabilization of septage" is not adopted.

Section 12 VAC 5-610-1100. "Storage facilities for unstabilized septage" is not adopted.

12VAC5-610-1110. General.

A dump station is a facility for receiving sewage from a recreational vehicle. The dump station shall be connected to an approved sewerage system or treatment works.

12VAC5-610-1120. Location.

The relationship of a dump station to structures and topographic features shall be in accordance with Table 4.4 and 12VAC5-610-470 A, C, F, and G. Dump stations shall be at least 50 feet from any habitation or camp site.

12VAC5-610-1130. Design.

A dump station shall consist of the following features:

- A. A four inch sewer pipe trapped below the frost line and connected to an approved sewerage system.
- B. The sewer inlet shall be surrounded by a concrete pad sloped to drain to the sewer inlet. The pad shall have minimum dimensions of 60 inches by 36 inches by six inches thick. The sewer inlet shall be at least six inches below the lip of the pad and located not more than $\frac{1}{4}$ the length from one end of the pad. The end of the pad where the sewer inlet is located shall be curbed with a four inch curb.
- C. The sewer inlet shall be fitted with a fly tight cover.
- D. A water supply properly protected against cross connection and backflow shall be provided to facilitate washdown of the pad area. The water outlet shall be posted with a sign stating "Notice: Unsafe Water Outlet. This water for washdown purposes only".
- E. The sewer line shall meet the material and construction specifications contained in Part V, Article 2 of this chapter.



Section 12 VAC 5-610-1140. "General" is not adopted. (35-03-68; 24-09-68)

12 VAC 5-610-1150. (Repealed.)

Appendix A. (Repealed.)

Appendix B. (Repealed.)

Appendix C. (Repealed.)

Appendix D. (Repealed.)

Appendix E. (Repealed.)

Appendix M. (Repealed.)

Appendix N. (Repealed.)

Appendix O. (Repealed.)

FORMS

Application for a Sewage Disposal System Construction Permit, C.H.S. 200

Sewage Disposal System Construction Permit, C.H.S. 202A

Schematic Drawing of Sewage Disposal System and Topographic, C.H.S. 202B

Application for Sewage Handling Permit, B.W.E. 23-1.

Application for Pump and Haul, B.W.E. 25-1.

Pump and Haul Storage Facility Construction Permit, B.W.E. 26-1.

Soil Evaluation Form, C.H.S. 201

Soils Evaluation Percolation Test Data.

Completion Statement, C.H.S. 204

DOCUMENTS INCORPORATED BY REFERENCE

Standard Methods for the Examination of Water and Wastewater, American Public Health Association, American Waterworks Association, Water Pollution Control Federation, 1992.

Methods for Determination of Inorganic Substances in Environmental Samples, United States Environmental Protection Agency, August 1993.

Wisconsin Mound Soil Absorption System Siting, Design and Construction Manual, College of Agricultural and Life Sciences, University of Wisconsin-Madison, January 1990.



Chapter 613 Regulations for Alternative Onsite Sewage Systems

Part I General

12VAC5-613-10. Definitions.

The following words and terms used in this chapter shall have the following meanings. Terms not defined in this chapter shall have the meanings prescribed in Chapter 6 (§ 32.1-163 et seq.) of Title 32.1 of the Code of Virginia or in 12VAC5-610 unless the plain reading of the language requires a different meaning.

"Alternative onsite sewage system," "AOSS," or "alternative onsite system" means a treatment works that is not a conventional onsite sewage system and does not result in a point source discharge.

"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.

"Biochemical oxygen demand, five-day" or "BOD5" means the quantitative measure of the amount of oxygen consumed by bacteria while stabilizing, digesting, or treating biodegradable organic matter under aerobic conditions over a five-day incubation period; BOD5 is expressed in milligrams per liter (mg/l).

"Board" means the State Board of Health.

"Chesapeake Bay Watershed" means the following Virginia river basins: Potomac River Basin (see 9VAC25-260-390 and 9VAC25-260-400), James River Basin (see 9VAC25-260-410, 9VAC25-260-415, 9VAC25-260-420, and 9VAC25-260-430), Rappahannock River Basin (see 9VAC25-260-440), Chesapeake Bay and small coastal basins (see 9VAC25-260-520, Section 2 through Section 3g), and the York River Basin (see 9VAC25-260-530).

"Conventional onsite sewage system" means a treatment works consisting of one or more septic tanks with gravity, pumped, or siphoned conveyance to a gravity distributed subsurface drainfield.

"Department" means the Virginia Department of Health.

"Direct dispersal of effluent to ground water" means 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.

"Disinfection" means a process used to destroy or inactivate pathogenic microorganisms in wastewater to render them non-infectious.

"Dissolved oxygen" or "DO" means the concentration of oxygen dissolved in effluent, expressed in mg/l or as percent saturation, where saturation is the maximum amount of oxygen that can theoretically be dissolved in water at a given altitude and temperature.

"Division" means the Division of Onsite Sewage and Water Services, Environmental Engineering, and Marina Programs within the department

"Effluent" means sewage that has undergone treatment.



"General approval" means that a treatment unit has been evaluated in accordance with the requirements of this chapter and 12VAC5-610 and approved for TL-2 or TL-3 in accordance with this chapter.

"GPD/sf" means gallons per day per square foot.

"Ground water" means any water, except capillary moisture, beneath the land surface in the zone of saturation or beneath the bed of any stream, lake, reservoir, or other body of surface water wholly or partially within the boundaries of this Commonwealth, whatever the subsurface geologic structure in which such water stands, flows, percolates, or otherwise occurs. Ground water includes a seasonal or perched water table.

"High-level disinfection" means a disinfection method that results in a fecal coliform concentration less than or equal to 2.2 colonies/100 ml. Chlorine disinfection requires a minimum total residual chlorine (TRC) concentration at the end of a 30 minute contact time of 1.5 mg/l. Ultraviolet disinfection requires a minimum dose of 50,000 μ W-sec/cm². Influent turbidity to the disinfection unit shall be less than or equal to 2 Nephelometric turbidity units (NTU) on average.

"Ksat" means saturated hydraulic conductivity.

"Large AOSS" means an AOSS that serves more than three attached or detached single-family residences with a combined average daily sewage flow greater than 1,000 GPD or a structure with an average daily sewage flow in excess of 1,000 GPD.

"Limiting feature" means a feature of the soil that limits or intercepts the vertical movement of water, including seasonal, perched or permanent water table, pans, soil restrictions, and pervious or impervious bedrock.

"Local health department" means the local health department having jurisdiction over the AOSS.

"Maintenance" means performing adjustments to equipment and controls and in-kind replacement of normal wear and tear parts such as light bulbs, fuses, filters, pumps, motors, or other like components. Maintenance includes pumping the tanks or cleaning the building sewer on a periodic basis. Maintenance shall not include replacement of tanks, drainfield piping, and distribution boxes or work requiring a construction permit and an installer.

"MGD" means million gallons per day.

"MPI" means minutes per inch.

"Operate" means the act of making a decision on one's own volition to (i) place into or take out of service a unit process or unit processes or (ii) make or cause adjustments in the operation of a unit process at a treatment works.

"Operation" means the biological, chemical, and mechanical processes of transforming sewage or wastewater to compounds or elements and water that no longer possess an adverse environmental or health impact.

"Operator" means any individual employed or contracted by any owner who is licensed or certified under Chapter 23 (§ 54.1-2300 et seq.) of Title 54.1 of the Code of Virginia as being qualified to operate, monitor and maintain an alternative onsite sewage system.



"Organic loading rate" means the biodegradable fraction of chemical oxygen demand (BOD, biodegradable fats, oils, and grease and volatile solids) delivered to a treatment component in a specified time interval expressed as mass per time or area; examples include pounds per day, pounds per cubic foot per day (pretreatment), or pounds per square foot per day (infiltrative surface or pretreatment). For a typical residential system, these regulations assume that biochemical loading (BOD5) equals organic loading.

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

"pH" means the measure of the acid or base quality of water that is the negative log of the hydrogen ion concentration.

"Pollution" means such alteration of the physical, chemical, or biological properties of any state waters as will or is likely to create a nuisance or render such waters (i) harmful or detrimental or injurious to the public health, safety, or welfare or to the health of animals, fish, or aquatic life; (ii) unsuitable with reasonable treatment for use as present or possible future sources of public water supply; or (iii) unsuitable for recreational, commercial, industrial, agricultural, or other reasonable uses. Pollution shall include any discharge of untreated sewage into state waters.

"Point source discharge" means any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water run-off.

"Project area" means one or more recorded lots or a portion of a recorded lot owned by the owner of an AOSS or controlled by easement upon which an AOSS is located or that is contiguous to a soil treatment area and that is designated as such for purposes of compliance with the performance requirements of this chapter. In the case of an AOSS serving multiple dwellings, the project area may include multiple recorded lots as in a subdivision.

"Project area boundary" or "project boundary" means the physical limits of the three-dimensional length, width, and depth of the project area, whereby each dimension is identified as follows: (i) the horizontal component is the length and width of the project area; (ii) the upper vertical limit is the ground surface in and around the AOSS; and (iii) the lower vertical limit is the limiting feature.

"Renewable operating permit" means an operation permit that expires and must be revalidated at a predetermined frequency or schedule in accordance with this chapter.

"Reportable incident" means one or more of the following: an alarm event lasting more than 24 hours; an alarm event that reoccurs; any failure to achieve one or more performance requirements; removal of solids; replacement of media; or replacement of any major component of the system including electric and electronic components, pumps, blowers, and valves. The routine cleaning of effluent filters is not a reportable incident.



"Saturated hydraulic conductivity" means a quantitative measure of a saturated soil's capacity to transmit water when subjected to a hydraulic gradient.

"Settleable solids" means a measure of the volume of suspended solids that will settle out of suspension within a specified time, expressed in milliliters per liter (ml/l).

"Sewage Handling and Disposal Regulations" means 12VAC5-610 or its successor.

"Small AOSS" means an AOSS that serves no more than three attached or detached single-family residences with a combined average flow of less than or equal to 1,000 GPD, or a structure with an average daily sewage flow of less than or equal to 1,000 GPD.

"Soil treatment area" means the physical location in the naturally occurring soil medium where final treatment and dispersal of effluent occurs.

"Standard disinfection" means a disinfection process that results in a fecal coliform concentration of less than or equal to 200 colonies/100 ml. Chlorine disinfection requires a minimum TRC concentration at the end of a 30 minute contact time of 1.0 mg/l. Influent TSS to the disinfection unit shall average 30 mg/l or less.

"Standard engineering practice" means the care, diligence, competence, and judgment that a reasonably prudent and experienced professional engineer licensed in the Commonwealth of Virginia would exercise given the circumstances, including site and soil conditions, of a particular AOSS design.

"State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.

"Subsurface drainfield" means a system installed within the soil and designed to accommodate treated sewage from a treatment works.

"Surface waters" means: (i) all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; (ii) all interstate waters, including interstate wetlands; (iii) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds and the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (a) that are or could be used by interstate or foreign travelers for recreational or other purposes; (b) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (c) that are used or could be used for industrial purposes by industries in interstate commerce; (iv) all impoundments of waters otherwise defined as surface waters under this definition; (v) tributaries of waters identified in clauses (i) through (iv) of this definition; (vi) the territorial sea; and (vii) wetlands adjacent to waters (other than water that are themselves wetlands) identified in clauses (i) through (vi) of this definition.

"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.

"Total residual chlorine" or "TRC" means a measurement of the combined available chlorine and the free available chlorine available in a sample after a specified contact time.



"Total suspended solids" or "TSS" means a measure of the mass of all suspended solids in a sample typically measured in milligrams per liter (mg/l).

"Treatment level 2 effluent" or "TL-2 effluent" means secondary effluent as defined in 12VAC5-610-120 that has been treated to produce BOD5 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 BOD5 and TSS concentrations equal to or less than 10 mg/l each.

"Treatment unit" or "treatment system" means a method, technique, equipment, or process other than a septic tank or septic tanks used to treat sewage to produce effluent of a specified quality before the effluent is dispersed to a soil treatment area.

"Turbidity" means a measurement of the relative clarity of effluent as a result of the presence of varying amounts of suspended organic and inorganic materials or color.

"Vertical separation" means the vertical distance between the point of effluent application to the soil or the bottom of a trench or other excavation and a limiting feature of the soil treatment area such as seasonal high ground water, bedrock, or other restriction.

"Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas .

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-20. Purpose and authority.

A. Pursuant to the requirements of §§ 32.1-12 , 32.1-163.6, and 32.1-164 of the Code of Virginia, the board has promulgated this chapter to:

1. Establish a program for regulating the operation and maintenance of alternative onsite sewage systems;
2. Establish performance requirements for alternative onsite sewage systems;
3. Establish horizontal setbacks for alternative onsite sewage systems that are necessary to protect public health and the environment;
4. Discharge the board's responsibility to supervise and control the safe and sanitary collection, conveyance, transportation, treatment, and disposal of sewage by onsite sewage systems and treatment works as they affect the public health and welfare;
5. Protect the quality of surface water and ground water;
6. Guide the commissioner in determining whether a permit or other authorization for an alternative onsite sewage system shall be issued or denied; and



7. Inform owners, applicants, onsite soil evaluators, system designers, and other persons of the requirements for obtaining a permit or other authorization for an AOSS.

B. The division may, as it deems necessary, develop best management practices for the purposes of recognizing acceptable methods to reduce pollution from AOSSs.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-30. Applicability and scope.

A. As provided in this section, this chapter governs the design, construction, and operation of AOSSs.

B. Part II of this chapter, Performance Requirements, applies only to AOSSs with applications filed on or after December 7, 2011.

C. Any AOSS with an application filed prior to December 7, 2011, is subject to the performance requirements contained in the regulations in effect at the time the system was permitted or the performance requirements contained in the operation permit.

D. Small AOSSs designed, constructed, permitted, and operated in accordance with this chapter; the prescriptive design, location, and construction criteria of 12VAC5-610-20; and the policies and procedures of the department are presumed to comply with the ground water quality requirements of 12VAC5-613-90 A.

E. Part III of this chapter, Operation and Maintenance Requirements, shall apply to all AOSSs, including those with applications filed prior to December 7, 2011.

F. Requirements for renewable operation permits contained in this chapter shall apply only to AOSSs with applications filed on or after December 7, 2011.

G. The laboratory sampling requirements of this chapter apply only to AOSSs with applications filed on or after December 7, 2011.

H. Any AOSS with an application filed prior to December 7, 2011, is subject to the laboratory sampling requirements contained in the regulations in effect at the time the system was permitted or the sampling requirements contained in the operation permit.

I. AOSSs designed pursuant to § 32.1-163.6 of the Code of Virginia are subject to the following requirements:

1. Performance requirements of this chapter unless waived pursuant to 12VAC5-613-210;
2. Horizontal setback requirements of this chapter;
3. Operation, maintenance, inspection, and sampling requirements of this chapter; and
4. Standard engineering practice.



J. Dispersal of treated or untreated sewage to a wetland that is subject to permitting by the Virginia Department of Environmental Quality pursuant to the requirements of Title 62.1 of the Code of Virginia is specifically excluded from this chapter.

K. Spray irrigation systems are subject to permitting by the Virginia Department of Environmental Quality and are specifically excluded from this chapter.

L. Treatment units for small AOSSs that are recognized by the department as generally approved for TL-2 or TL-3 as of December 7, 2011, shall retain such status for a period of five years from December 7, 2011, after which the units shall be evaluated pursuant to the requirements of this chapter.

M. After December 7, 2011, new applications for general approval for TL-2 or TL-3 shall be subject to the requirements of this chapter. The department may continue to evaluate any treatment unit for small AOSSs that is undergoing evaluation as of December 7, 2011, using the protocol in place on the date of application for general approval.

N. The additional nutrient requirements for AOSSs in the Chesapeake Bay watershed contained in 12VAC5-613-90 D shall take effect on December 7, 2013.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-40. Relationship to other regulations.

A. This chapter is supplemental to 12VAC5-610 (Sewage Handling and Disposal Regulations).

B. 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 under this chapter.

C. In any case where there is a conflict between this chapter and the Sewage Handling and Disposal Regulations, this chapter shall control.

D. This chapter supersedes Table 5.4 of the Sewage Handling and Disposal Regulations for all AOSSs designed to disperse TL-2 or TL-3 effluent. Table 5.4 of the Sewage Handling and Disposal Regulations (12VAC5-610-950) shall govern the design of any AOSS designed to disperse septic tank effluent to the soil treatment area unless waived pursuant to 12VAC5-613-210.

E. All plans and specifications for AOSSs shall be properly sealed by a professional engineer licensed in the Commonwealth pursuant to Title 54.1 of the Code of Virginia unless such plans are prepared pursuant to an exemption from the licensing requirements of Title 54.1 of the Code of Virginia. All AOSS designs prepared by a professional engineer shall be reviewed by the department pursuant to § 32.1-163.6 of the Code of Virginia unless otherwise designated in writing by the professional engineer.

F. When AOSS designs are prepared pursuant to an exemption from the licensing requirements of Title 54.1 of the Code of Virginia, the designer shall provide a certification statement in a form approved by the division identifying the specific exemption under which the plans and specifications were prepared and certifying that the designer is authorized to prepare such plans pursuant to the exemption.



G. Each application under § 32.1-163.6 of the Code of Virginia shall include a site and soil characterization report using the Field Book for Describing and Sampling Soils, Version 2.0, National Soil Survey Center, Natural Resources Conservation Service, U.S. Department of Agriculture, September 2002. The report may contain such information that the designer deems appropriate; however, it must describe the following minimum attributes of the site of the proposed soil treatment area:

1. Depth to limiting features, seasonal or perched water tables, pans, restrictions, or pervious or impervious bedrock;
2. Slope of the project area;
3. Ksat or percolation rate at the proposed installation depth and at depths below the soil treatment area to demonstrate compliance with this chapter. Ksat or percolation rate may be estimated for small AOSSs. The Ksat or percolation rate must be measured using an appropriate device for large AOSSs;
4. Landscape or landform; and
5. Project area along with those physical features in the vicinity of the proposed AOSS normally associated with plans for onsite sewage systems; such physical features include streams, bodies of water, roads, utilities, wells and other drinking water sources, existing and proposed structures, and property boundaries.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-50. Violations and enforcement.

A. Subject to the limitations of 12VAC5-613-30.B, failure by any owner of an AOSS to achieve one or more performance requirements prescribed by this chapter or specified for the AOSS shall be a violation of this chapter.

B. Failure by any owner to comply with the conditions of an operation permit shall be a violation of this chapter.

C. Failure by any owner to accomplish any mandated visit, operation, maintenance, repair, monitoring, sampling, reporting, or inspection requirement prescribed by this chapter shall be a violation of this chapter.

D. Failure by any owner to follow the approved operation and maintenance manual (O&M manual) shall be deemed a violation of this chapter when such failure results in the failure to achieve one or more performance requirements prescribed by this chapter.

E. Failure by any operator to perform any mandated activity in accordance with 12VAC5-613-110, 12VAC5-613-120, 12VAC5-613-180, or 12VAC5-613-190 shall be a violation of this chapter.

F. Nothing in this chapter shall be construed to limit the authority of the board, the commissioner, or the department to enforce this chapter or to enforce the requirements of 12VAC5-610.



G. In accordance with the Sewage Handling and Disposal Regulations and § 32.1-25 of the Code of Virginia, the commissioner may take such samples and conduct such monitoring, including ground water samples and monitoring, that he deems necessary to enforce this chapter.

H. The board, commissioner, and department may use any lawful means to enforce this chapter including voiding a construction or operation permit, imposition of civil penalties, or criminal prosecution pursuant to § 32.1-27 of the Code of Virginia.

I. Except when there is additional evidence that an AOSS has failed to achieve one or more of the performance requirements of this chapter or when a licensed operator has filed a report indicating that an AOSS cannot be returned to normal function via routine maintenance, the department shall not rely solely on the results of an individual grab sample to establish the factual basis for a violation of this chapter.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-60. Operation permits and land records.

A. The department shall not issue an operation permit for an AOSS until the property owner has recorded an instrument that complies with § 15.2-2157 E of the Code of Virginia in the land records of the circuit court having jurisdiction over the site of the AOSS. The local health department shall receive legal documentation indicating that the instrument has been duly recorded before issuance of the operation permit.

B. When all or part of the project area is to be used in the management of nitrogen from a large AOSS, the property owner or the owner of the AOSS shall record legal documentation in the land records of the circuit court having jurisdiction over the site of the AOSS. Such documentation shall contain assurances that the land area will be protected and preserved in accordance with the management methods established by the designer. The local health department shall receive legal documentation indicating that the instrument has been duly recorded before issuance of the operation permit.

C. All large AOSSs and any AOSS permitted pursuant to 12VAC5-613-90 C shall be subject a renewable operating permit. Such permits shall be issued for a period of five years. The owner of the AOSS shall apply for a new permit at least 180 days prior to the expiration date.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-70. General approval testing and evaluation.

The division shall develop a protocol to verify the expected performance of treatment units of small AOSSs that meet TL-2 or TL-3 effluent quality. The protocol to evaluate and test field performance of TL-3 treatment units shall include the following minimum requirements:

1. The manufacturer shall evaluate at least 20 treatment units installed in the Commonwealth of Virginia for single family residences occupied full-time, year-round throughout the testing and evaluation period;



2. The manufacturer shall provide the division with quarterly results of influent and effluent samples measuring, at a minimum, BOD and TSS for each installed treatment unit;
3. Operation and maintenance shall be performed on each treatment unit during the evaluation period in accordance with the provisions of this chapter; and
4. An independent third party with no stake in the outcome of the approval process shall oversee and administer the testing and evaluation protocol. Examples of an independent third party include faculty members in an appropriate program of an accredited college or university, a licensed professional engineer experienced in the field of environmental engineering, or a testing firm that is acceptable to the division.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

Part II

Performance Requirements

12VAC5-613-80. Performance requirements; general.

All AOSS designed, constructed, and operated pursuant to this chapter shall comply with the following performance requirements unless waived pursuant to 12VAC5-613-210:

1. The presence of raw or partially treated sewage on the ground's surface or in adjacent ditches or waterways is prohibited;
2. The exposure of insects, animals, or humans to raw or partially treated sewage is prohibited;
3. The backup of sewage into plumbing fixtures is prohibited;
4. The direct dispersal of effluent into ground water shall comply with 12VAC5-613-90 C;
5. All treatment units and treatment systems shall be designed for the anticipated receiving wastewater characteristics and peak flow;
6. Dosing of the treatment unit or treatment system shall accommodate the design peak flow within the treatment unit's rated capacity;
7. The AOSS shall be designed so that all components are of sufficient structural integrity to minimize the potential of physical harm to humans and animals;
8. The conveyance system for any AOSS shall be designed and installed with sufficient structural integrity to resist inflow and infiltration and to maintain forward flow;
9. The AOSS shall be designed to minimize noise, odor, or other nuisances at the property boundary;
10. Maximum trench bottom hydraulic loading rates for pressure-dosed systems using TL-2 and TL-3 effluent are found in Table 1 and are to be used as follows:



- a. The designer is responsible for reducing loading rates according to the features and properties of the soils in the soil treatment area as well as for reducing loading rates for other types of dispersal;
- b. Adherence to the maximum trench bottom hydraulic loading rate criteria herein does not assure or guarantee that other performance requirements of this chapter, including effluent dispersal or ground water quality, will be met. It is the designer's responsibility to ensure that the proposed design is adequate to achieve all performance requirements of this chapter;
- c. Trench bottom hydraulic loading rates for pressure-dosed systems shall not exceed the values in Table 1;
- d. Hydraulic loading rates shall be incrementally reduced from the TL-2 values in Table 1 when a treatment unit or system is not designed to achieve TL-2 or TL-3. In such cases, the designer shall, for monitoring purposes, specify the effluent quality of the treatment unit. If the specified BOD5 exceeds 60 mg/l, the designer shall use loading rates for septic tank effluent;
- e. Trench bottom hydraulic loading rates for gravity dosed systems shall be reduced from the values in Table 1; and
- f. Area hydraulic loading rates for systems such as drip dispersal, pads, and mounds shall be reduced from the values in Table 1 and shall reflect standard engineering practice.

Table 1
Maximum Pressure-Dosed Trench Bottom Hydraulic Loading Rates

Percolation Rate (MPI)	Saturated hydraulic conductivity (cm/day)	TL-2 Effluent (gpd/sf)	TL-3 Effluent (gpd/sf)
≤15	> 17	1.8	3.0
15 to 25	15 to 17	1.4	2.0
>25 to 45	10 to < 15	1.2	1.5
>45 to 90	4 to < 10	0.8	1.0
>90	< 4	0.4	0.5

11. Septic tank effluent may only be discharged to a soil treatment area when the vertical separation to a limiting feature consists of at least 18 inches of naturally-occurring, in-situ soil. AOSSs designed to disperse septic tank effluent require at least 12 inches of soil cover over the soil treatment area;

12. Whenever the depth to a permeability limiting feature on the naturally occurring site is less than 18 inches as measured from the ground surface, whenever the treatment works does not provide at least 18 inches of vertical separation to a permeability limiting feature, or whenever the design is for a large AOSS, then the following shall apply:



- a. The designer shall demonstrate that (i) the site is not flooded during the wet season, (ii) there is a hydraulic gradient sufficient to move the applied effluent off the site, and (iii) water mounding will not adversely affect the functioning of the soil treatment area or create ponding on the surface;
- b. For large AOSSs, the department may require the owner to monitor the degree of saturation beneath the soil treatment area to verify that water mounding is not affecting the vertical separation; and
- c. For any system in which artificial drainage is proposed as a method to meet the requirements of this chapter, the designer shall provide calculations or other documentation sufficient to demonstrate the effectiveness of the proposed drainage.

13. The following minimum effluent quality shall be met for the described vertical separation to limiting feature as measured from the point of effluent application or the bottom of the trench or other excavation:

Table 2
Minimum Effluent Requirements for Vertical Separation to Limiting Features

Vertical Separation	Minimum Effluent Quality
≥18" (requires naturally occurring, undisturbed soils)	Septic
<18" to 12" (requires minimum 6" of naturally occurring, undisturbed soils)	TL-2
0" to <12"	TL-3 and standard disinfection*

*Note: Where direct dispersal of effluent to ground water occurs, effluent quality shall be governed by 12VAC5-613-90 C.

14. The designer shall specify methods and materials that will achieve the performance requirements of this chapter whenever sand, soil, or soil-like material is used to increase the vertical separation.

15. All treatment units or treatment systems shall prevent the bulking of solids to the treatment area.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-90. Performance requirements; ground water protection.

A. The AOSS shall not pose a greater risk of ground water pollution than systems otherwise permitted pursuant to 12VAC5-610. After wastewater has passed through a treatment unit or septic tank and through the soil in the soil treatment area, the concentration of fecal coliform organisms shall not exceed 2.2 cfu/100 ml at the lower vertical limit of the project area boundary.

B. Each large AOSS shall comply with TN limit of 5 mg/l at the project area boundary. Prior to the issuance of a construction permit, the designer shall demonstrate compliance with this requirement through modeling or other calculations. Such demonstration may incorporate multiple nitrogen removal methods such as pretreatment, vegetative uptake (only for AOSSs with shallow soil treatment areas),



denitrification, and other viable nitrogen management methods. Ground water and other monitoring may be required at the department's discretion.

C. AOSSs with direct dispersal of effluent to ground water are subject to the following requirements:

1. If the concentration of any constituent in ground water is less than the limits set forth at 9VAC25-280, the natural quality for the constituent shall be maintained; natural quality shall also be maintained for all constituents not set forth in 9VAC25-280. If the concentration of any constituent in ground water exceeds the limit in the standard for that constituent, no addition of that constituent to the naturally occurring concentration shall be made. The commissioner shall consult with the Department of Environmental Quality prior to granting any variance from this subsection.

2. Ground water and laboratory sampling in accordance with 12VAC5-613-100 G.

3. The treatment unit or system shall comply with the following at a minimum:

a. The effluent quality from the treatment unit or system shall be measured prior to the point of effluent application to the soil treatment area and shall be as follows: BOD5 and 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 TN concentration of less than 5 mg/l;

b. High level disinfection is required; and

c. Treatment systems shall incorporate filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 NTU prior to disinfection.

4. Gravity dispersal to the soil treatment area is prohibited.

5. Loading rates to the soil treatment area shall not exceed the loading rates in Table 1 of this section.

6. A renewable operating permit shall be obtained and maintained in accordance with 12VAC5-613-60 C.

7. The designer shall provide sufficient hydrogeologic analysis to demonstrate that a proposed AOSS will function as designed for the life of the structure served without degradation of the soil treatment area. This shall include a determination of ground water flow direction and rate.

D. The following additional nutrient requirements apply to all AOSSs in the Chesapeake Bay Watershed:

1. All small AOSSs shall provide a 50% reduction of TN as compared to a conventional gravity drainfield system; compliance with this subdivision may be demonstrated through the following:

a. Compliance with one or more best management practices recognized by the division such as the use of a NSF 245 certified treatment; or

b. Relevant and necessary calculations provided to show one or both of the following:

(1) Effluent TN concentration of 20 mg/l measured prior to application to the soil dispersal field; or



(2) A mass loading of 4.5 lbs N or less per person per year at the project boundary provided that no reduction for N is allotted for uptake or denitrification for the dispersal of effluent below the root zone (>18 inches below the soil surface).

2. All large AOSSs up to and including 10,000 gallons per day shall provide a 50% reduction of TN at the project boundary as compared to a conventional gravity drainfield system. Compliance with this subdivision may be demonstrated as follows:

a. A demonstrated effluent quality of less than or equal to 20 mg/l TN measured prior to application to the soil treatment area; or

b. In situ monitoring of the treatment works within 24 vertical inches of the point of effluent application to the soil treatment area to demonstrate the effluent leaving the treatment works has a TN concentration of less than or equal to 20 mg/l. The designer shall identify an intermediate compliance point within the treatment system and a corresponding TN concentration for use in the event that a representative in situ sample cannot be obtained. The intermediate compliance point and the corresponding TN concentration for use must be approved by the department and shall be conditions of the operation permit.

The AOSS operation permit shall be conditioned upon compliance with the constituent concentrations approved pursuant to this subdivision.

3. All large AOSSs over 10,000 gallons per day shall comply with the following TN requirements:

a. A demonstrated effluent quality of less than or equal to 8 mg/l TN measured prior to application to the soil treatment area; or

b. In situ monitoring of the treatment works within 24 vertical inches of the point of effluent application to the soil treatment area to demonstrate the effluent leaving the treatment works has a TN concentration of less than or equal to 5 mg/l. The designer shall identify an intermediate compliance point within the treatment system and a corresponding TN concentration for use in the event that a representative in situ sample cannot be obtained. The intermediate compliance point and the corresponding TN concentration for use must be approved by the department and shall be conditions of the operation permit.

The AOSS operation permit shall be conditioned upon compliance with the constituent concentrations approved pursuant to this subdivision.

4. For direct dispersal of effluent to groundwater in the Chesapeake Bay Watershed, TN concentration shall be less than or equal to 3 mg/l and total phosphorus concentration shall be less than or equal to 0.3 mg/l.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011; Errata, 28:8 VA.R. 762 December 19, 2011.

12VAC5-613-100. Performance requirements; laboratory sampling and monitoring.

A. Laboratory sampling is not required for any small AOSS with an installed soil treatment area that is sized for septic tank effluent and complies with the requirements of 12VAC5-610 for septic tank effluent.



B. All effluent samples must be taken at the end of all treatment, prior to the point where the effluent is discharged to the soil treatment area unless changed pursuant to 12VAC5-613-90 or 12VAC5-613-210. The designer shall identify the sampling points. When required, the sampling point for chlorine disinfection shall be at the end of the chlorine contact tank if TRC is to be used to measure compliance.

C. All sampling and monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency unless other procedures have been specified in this chapter.

D. The owner of each small AOSS must ensure that an initial grab sample of the effluent from the treatment unit is collected within 180 days of system operation. The sample must be analyzed in accordance with 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency within the first 180 days of operation. Thereafter, if the treatment unit has received general approval, a grab sample is required once every five years. Samples shall be analyzed for BOD5 and, if disinfection is required, fecal coliform. Treatment units utilizing chlorine disinfection may alternatively sample for TRC instead of fecal coliform. Sample results shall be submitted to the local health department by the 15th of the month following the month in which the sample was taken.

E. For small AOSSs that utilize a treatment unit that has not received general approval, in addition to the initial sample required by subsection D of this section, four additional grab samples of the effluent from the treatment unit shall 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. Sample results shall be submitted to the local health department by the 15th of the month following the month in which the sample was taken. After two years of sampling in accordance with this subsection, the owner may submit a request to the department to reduce the sampling frequency to once every five years. The department shall grant such requests if the mean of five or more consecutive samples complies with the applicable performance requirements of this chapter.

F. Sampling and monitoring requirements for AOSS treatment systems with flows greater than 1,000 GPD are contained in Table 3:

Table 3
Sampling and Monitoring for Large AOSSs

PLANT SIZE	>2.0 MGD	>1.0 - to 2.0 MGD	> 100,000 GPD to 1.0 MGD	> 40,000 GPD to 100,000 GPD	>10,000 GPD to 40,000 GPD	>1,000 GPD to 10,000 GPD
Flow	Totalizing, Indicating, & Recording	Measured	Measured or Estimate			
BOD ₅ , TSS	24-HC* 1/day	24-HC 5 days/wk	8-HC 3 days/wk	4-HC 1 day/wk	Grab quarterly	Grab 1/yr
Total Nitrogen	24-HC weekly	24-HC weekly	8-HC monthly	4-HC quarterly	Grab quarterly	Grab 1/yr
TRC, End of Contact Tank**	Grab daily	Grab daily	Grab weekly	Grab weekly	Grab weekly	Grab 1/yr
Fecal Coliform***	Grab weekly	Grab weekly	Grab monthly	Grab monthly	Grab quarterly	Grab 1/yr

*HC – hourly, flow weighted composite samples

**if disinfection required and chlorine used

***if disinfection required and a disinfectant other than chlorine used



G. Systems with direct dispersal to ground water as described in 12VAC5-613-90 C shall comply with the following:

1. Small AOSS treatment systems:

- a. Shall incorporate a method to remotely monitor the operation of treatment units and processes, including the status of the disinfection unit, and automatically notify the operator and local health department if an alarm condition occurs;
- b. Shall be sampled quarterly in accordance with 12VAC5-613-90 C and as defined in the renewable operating permit; and
- c. No treatment units or systems shall be deemed generally approved.

2. Large AOSSs must be continuously monitored for the proper operation of all treatment units. If the wastewater treatment works is not manned 24 hours a day, telemetry shall be provided that monitors all critical systems, including turbidity into the disinfection unit and the functionality of the disinfection unit, and notifies the operator and local health department if an alarm condition occurs.

- a. Treatment works with a design flow of less than 40,000 GPD shall be sampled at least monthly in accordance with 12VAC5-613-90 C and as defined in the renewable operating permit.
- b. Treatment works with a design flow of 40,000 GPD or greater shall be sampled at the frequency specified in Table 3 of this section. Total phosphorus and other limited parameters not listed in Table 3 of this section shall be conducted at a frequency defined in the renewable operating permit. The treatment works must comply with the continuous operability requirements of a Reliability Class I rating as described in 9VAC25-790. Appropriate backup power sources, equipment redundancy, and failsafe modes must be in place.

3. Ground water monitoring is required for all large AOSSs with direct dispersal of effluent to the ground water and such monitoring shall be conducted in accordance with the renewable operating permit.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011; Errata, 28:6 VA.R. 641 November 21, 2011.

12VAC5-613-110. Performance requirements; field measurements, sampling, and observations.

A. For treatment units or treatment systems with flows greater than 1,000 GPD and less than or equal to 40,000 GPD, the following parameters shall be evaluated or tested when applicable: flow, pH, TRC, DO, odor, turbidity (visual), and settleable solids.

B. For treatment systems with flows greater than 40,000 GPD, the operator shall follow the operational and control testing requirements of the O&M manual.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.



Part III

Operation and Maintenance Requirements

12VAC5-613-120. Operator responsibilities.

A. Whenever an operator performs a visit that is required by this chapter or observes a reportable incident, he shall document the results of that visit in accordance with 12VAC5-613-190 or as otherwise specified in the operation permit.

B. Whenever an operator performs a visit that is required by this chapter, he shall do so in such a manner as to accomplish the various responsibilities and assessments required by this chapter through visual or other observations and through laboratory and field tests that are required by this chapter or that he deems appropriate.

C. Each operator shall keep an electronic or hard copy log for each AOSS for which he is responsible. The operator shall provide a copy of the log to the owner. In addition, the operator shall make the log available to the department upon request. At a minimum, the operator shall record the following items in the log:

1. Results of all testing and sampling;
2. Reportable incidents;
3. Maintenance, corrective actions, and repair activities that are performed other than for reportable incidents;
4. Recommendations for repair and replacement of system components;
5. Sludge or solids removal; and
6. The date reports were given to the owner.

D. When performing activities pursuant to a visit that is required by this chapter, the operator is responsible for the entire AOSS, including treatment components and soil treatment area components and the operator shall follow the approved O&M manual.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-130. Sludge and solids removal.

Any person who pumps or otherwise removes sludge or solids from any septic tank or treatment unit of an AOSS shall file a report with the appropriate local health department on a form approved by the division.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.



12VAC5-613-140. Owner responsibilities.

It is the owner's responsibility to do the following:

1. Have the AOSS operated and maintained by an operator;
2. Have an operator visit the AOSS at the frequency required by this chapter;
3. Have an operator collect any samples required by this chapter;
4. Keep a copy of the log provided by the operator on the property where the AOSS is located in electronic or hard copy form, make the log available to the department upon request, and make a reasonable effort to transfer the log to any future owner;
5. Follow the O&M manual and keep a copy of the O&M manual in electronic or hard copy form for the AOSS on the property where the AOSS is located, make the O&M manual available to the department upon request, and make a reasonable effort to transfer the O&M manual to any future owner; and
6. Comply with the onsite sewage system requirements contained in local ordinances adopted pursuant to the Chesapeake Bay Preservation Act (§ 10.1-2100 et seq. of the Code of Virginia) and the Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC10-20) when an AOSS is located within a Chesapeake Bay Preservation Area.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-150. Operator requirements for AOSS with flows up to 40,000 GPD, minimum frequency of visits.

The owner of each AOSS shall have that AOSS visited by an operator in accordance with Table 4.

Table 4
Minimum Operator Visit Frequency for AOSSs up to 40,000 GPD

Avg. Daily Flow	Initial Visit	Regular visits following initial visit
≤1,000 GPD	Within 180 calendar days of the issuance of the operation permit	Every 12 months
>1,000 GPD to 10,000 GPD	First week of actual operation	Quarterly
>10,000 GPD to 40,000 GPD	First week of actual operation	Monthly

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-160. Operator requirements for systems with flows greater than 40,000 GPD.

A. AOSSs with average daily flows greater than 40,000 GPD shall be attended by a licensed operator and manned in accordance with the recommendations specified in the Sewage Collection and Treatment Regulations for sewage treatment works (9VAC25-790).



B. When the operating staff cannot be physically present at the treatment works site during the designated manning hours, then the operating staff shall have a method in place for an operator to respond to the operation and maintenance needs of the treatment works within the timeframe provided by the O&M manual or as otherwise directed by the department.

C. Attendance by the operator pursuant to this section shall not be waived.

D. The department may reduce operator or staffing requirements when automatic monitoring, telemetry, or other electronic monitoring or process controls are employed. All reductions must be approved by the division director.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-170. Operation and maintenance manual.

A. This chapter outlines the minimum requirements for operation, maintenance, sampling, and inspection of AOSSs. Operation, maintenance, sampling, and inspection schedules for some AOSSs may exceed these minimum requirements, in which case the designer is responsible for determining such additional requirements based upon the proposed use, design flow, project area, loading rates, nitrogen removal, treatment level, and other factors.

B. Prior to the issuance of an operation permit, the owner shall ensure that an O&M manual is submitted to the local health department for approval.

C. The O&M manual shall be easily understood by any potential owner and shall include the following minimum items:

1. Basic information on the AOSS design including treatment unit capacity, installation depth, pump operating conditions, a list of the components comprising the AOSS, a dimensioned site layout, sampling locations, and contact information for replacement parts for each unit process;
2. A list of any control functions and how to use them;
3. All operation, maintenance, sampling, and inspection schedules for the AOSS, including any requirements that exceed the minimum requirements of this chapter;
4. The performance (laboratory) data sampling and reporting schedule;
5. The limits of the AOSS design and how to operate the system within those design limits;
6. For systems with flows greater than 40,000 GPD, the O&M manual shall include operational and control testing recommendations that shall be based upon 9VAC25-790-970; and
7. Other information deemed necessary or appropriate by the designer.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.



12VAC5-613-180. Mandatory visits; inspection requirements.

When an operator is required to make a visit to an AOSS the operator shall, at a minimum, accomplish the following:

1. Inspect all components of the AOSS and conduct field measurements, sampling, and other observations required by this chapter, the O&M manual, or deemed necessary by the operator to assess the performance of the AOSS and its components.
2. Review and evaluate the operation of the AOSS, perform routine maintenance, make adjustments, and replace worn or dysfunctional components with functionally equivalent parts such that the system can reasonably be expected to return to normal operation.
3. If the AOSS is not functioning as designed or in accordance with the performance requirements of this chapter and, in the operator's professional judgment, cannot be reasonably expected to return to normal operation through routine operation and maintenance report immediately to the owner the remediation efforts necessary to return the AOSS to normal operation.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

12VAC5-613-190. Reports.

When required to file a report, the operator shall complete the report in a form approved by the division. In accordance with § 32.1-164 H of the Code of Virginia, the operator shall file each report using a web-based system and pay the required fee. The operator may, solely at his own discretion, file reports in addition to those required by this chapter. Each report shall be filed by the 15th of the month following the month in which the visit occurred and shall include the following minimum elements:

1. The name and license number of the operator;
2. The date and time of the report;
3. The purpose of the visit, such as required visit, follow-up, or reportable incident;
4. A summary statement stating whether:
 - a. The AOSS is functioning as designed and in accordance with the performance requirements of this chapter;
 - b. After providing routine operation and maintenance, the operator believes the AOSS will return to normal operation; or
 - c. The system is not functioning as designed or in accordance with the performance requirements of this chapter and additional actions are required by the owner to return the AOSS to normal operation;
5. All maintenance performed or adjustments made, including parts replaced;
6. The results of field measurements, sampling, and observations;



7. The name of the laboratory that analyzed samples, if appropriate; and
8. A statement certifying the date the operator provided a copy of the report in electronic or hard copy form to the owner.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.

Part IV

Horizontal Setback Requirements

12VAC5-613-200. Horizontal setback requirements.

AOSSs designed pursuant to § 32.1-163.6 of the Code of Virginia are subject to the following horizontal setbacks that are necessary to protect public health and the environment:

1. The horizontal setback distances as found in 12VAC5-610 that apply to public and private drinking water sources of all types, including wells, springs, reservoirs, and other surface water sources, except that in cases where an existing sewage system is closer to a private drinking water source, the AOSS shall be no closer to the drinking water source than the existing sewage system;
2. The horizontal setback distances that apply to shellfish waters as found in 12VAC5-610;
3. The horizontal setback distances that apply to sink holes as found in 12VAC5-610;
4. A five foot horizontal separation to a wetland that is subject to permitting by the Virginia Department of Environmental Quality pursuant to the requirements of Title 62.1 of the Code of Virginia; and
5. Unless the AOSS complies with the ground water protection requirements of 12VAC5-613-90.C, a horizontal separation between the soil treatment area and any drainage trench or excavation that comes within six inches vertically of ground water shall be as follows:
 - a. AOSSs utilizing septic tank effluent shall be subject to a horizontal separation contained in 12VAC5-610;
 - b. AOSSs utilizing TL-2 or TL-3 (without disinfection) shall be subject to a horizontal separation of 20 feet; and
 - c. AOSSs utilizing TL-3 with disinfection shall be subject to a horizontal separation of 10 feet.

Statutory Authority §§ 32.1-12 and 32.1-164 of the Code of Virginia.
Historical Notes
Derived from Virginia Register Volume 28, Issue 5, eff. December 7, 2011.



Part V

Waivers from Certain Performance Requirements

12VAC5-613-210. Waivers from certain performance requirements.

A. A professional engineer designing a treatment works pursuant to § 32.1-163.6 of the Code of Virginia may deviate from the design criteria in subdivisions 10, 11, and 13 of 12VAC5-613-80 and from the laboratory sampling location specified in 12VAC5-613-100 B through F in accordance with this part.

B. Designs pursuant to this part shall at a minimum be substantiated by:

1. Documentation from applicable engineering standards, texts, or other publications;
2. Relevant peer-reviewed research; or
3. Regulations or technical guidance from other states or the U.S. Environmental Protection Agency.

C. The soil treatment area shall be adequately sized to accommodate the hydraulic and organic capacity of the underlying soil to be used;

D. Sampling and monitoring pursuant to 12VAC5-613-100 B through F may be accomplished either in situ, immediately beneath the soil treatment area and within 24 inches of the point of effluent application, or within the treatment system at a point identified by the design engineer.

1. The professional engineer shall provide a sampling and monitoring plan to demonstrate that the design complies with the water quality standards in 12VAC5-613-90.
2. For in situ monitoring, the design engineer shall specify locations within the soil treatment area's zone of influence (i.e., mounding) where samples representative of the effluent quality being achieved by the treatment works can be collected. Monitoring wells or lysimeters shall be located at least six inches above any seasonal or permanent water table. Monitoring may be conducted using sampling wells, lysimeters, or other methods approved by the department. Suction lysimeters may not be used for fecal coliform monitoring.
3. The design engineer shall identify an intermediate compliance point (or points) within the treatment system along with corresponding constituent concentrations (e.g., BOD₅, fecal coliforms) for use if in situ monitoring is not desired or if an in situ sample cannot be obtained for any reason. The intermediate compliance point and the corresponding constituent concentrations shall be approved by the department. The AOSS operation permit shall be conditioned upon compliance with the constituent concentrations approved pursuant to this subdivision.

E. The following additional performance requirements shall apply to in situ monitoring:

1. BOD₅ less than or equal to 5 mg/l.
2. Fecal coliforms less than or equal to 2.2 col/100 ml.

F. The frequency of sampling shall be in accordance with 12VAC5-613-100.



ARTICLE	Use of Existing Individual Sewage
2	Disposal Systems.

Section 68.1-2-1. - Approved method of disposal of sanitary sewage required for all houses, public buildings, etc.

A. It is unlawful for any person to use or occupy, or allow to be used or occupied, any house, warehouse, public building or other structure used for human habitation, employment, recreation or gathering, unless or until such house, building or structure is supplied or equipped with a method for disposal of sewage approved by the Administrative Authority.

B. It is unlawful for any person to replace or repair, or allow to be replaced or repaired, any individual sewage disposal system or any part thereof in any manner to improve its operating condition when it has become malfunctioning and/or insanitary unless a construction permit for such replacement or repair is issued by the Administrative Authority.

C. No privies shall be authorized for buildings constructed after September 1, 1966, except as provided in Subsection (E).

D. Any system with a point source discharge or permanent pump and haul facility shall be abandoned and connection made to a public sewerage system within 6 months of when such public sewerage system becomes available, or within 6 months of adoption of this chapter if the public sewerage system is available, within 300 feet, measured along a street, alley, or easement, of the building or structure served by a system with a point source discharge or permanent pump and haul facility and a connection may be made lawfully thereto.

E. If an occupied single-family dwelling, which is supplied with a privy or other authorized means of non-water-carried disposal of human waste, is damaged by fire or any other cause to an extent in excess of 50 percent of the physical value of the structure before the damage was incurred as determined by the Building Official, and if there is no possibility of installing an approved, water-carried, on-site sewage disposal system and provided sanitary sewer is not available, the Building Official, if so requested by the property owner or his representative by an application for reconstruction filed pursuant to Section 103.2 of the Virginia Uniform Statewide Building Code (2000 edition), may permit the use of a pit privy or other authorized means of non-water-carried disposal of human waste, provided the Administrative Authority shall approve the design and location of such sanitary facilities prior to the issuance of any building permits. A complete soils evaluation shall be made to determine the suitability (or nonsuitability) of the soil for an on-site sewage disposal system.

F. An individual sewage disposal system or other treatment works must be abandoned in its entirety upon connection to a public sewerage system. (35-03-68.)



Section 68.1-2-2. - General.

If an existing individual sewage disposal system or treatment works has been in use more than 3 years, or is not functioning properly as determined by the Administrative Authority, it may not be connected to a new dwelling or other new structure to serve as the initial primary sewage disposal system. If a system that has been in use for less than 3 years is to be connected to a new dwelling or other new structure as the primary sewage disposal system a reserve area equal to 100 percent of the primary sewage disposal system shall be provided. (35-03-68.)

Section 68.1-2-3. - Inspection of individual sewage disposal systems by Administrative Authority.

A. The Administrative Authority is hereby authorized to inspect any individual sewage disposal system maintained on any premises in the County, including any building or structure thereon, for the purpose of ascertaining whether or not such systems are operating or constructed satisfactorily. If any such system is found to be malfunctioning or improperly constructed, the Administrative Authority shall notify the owners of the premises served thereby to comply with the provisions of Section 68.1-2-1

B. If any person refuses to allow the Administrative Authority to enter the premises or any building or structure thereon where any individual system of sewage disposal is maintained or should be provided, the Administrative Authority may proceed after obtaining an inspection warrant.

C. The Administrative Authority is required to review all building permit applications for all structural additions or modifications including, but not limited to decks, porches, sheds, outbuildings, garages, retaining walls, and grading plans for structures or properties served by an individual on-site sewage disposal system. Structural modifications and additions will be evaluated as to their limitations to the sewage disposal system and their potential impact on or interference with the proper functioning and/or maintenance of the sewage disposal system. A fee will be assessed, in accordance with the fee schedule established in Section 68.1-9-1, for the review and evaluation of the building permit. (35-03-68.)

ARTICLE	Expansion/Addition to an Existing Structure.
3	

Section 68.1-3-1. - General.

A dwelling that is to be expanded by more than 50 percent of the original square footage, excluding garage, shall require a new drainfield area be established. (35-03-68.)



Section 68.1-4-1. – General.

Subsurface soil absorption pits shall not be used for the disposal of sewage for any lots or parcels for which an application for soil study, site plan or preliminary subdivision plat is filed after January 1, 1992, except as set forth herein. Use of subsurface soil absorption pits may be permitted with pretreatment tanks only when such use is necessary because of soil and site conditions, to replace or repair an existing on-site sewage disposal system that has become malfunctioning or insanitary and when such use is acceptable to the Administrative Authority. Subsurface soil absorption pits shall not be installed when conditions permit the installation of other approved systems. (35-03-68)

Section 68.1-4-2. – Design.

- A. Minimum horizontal distances. In addition to the requirements in Table III, each subsurface soil absorption pit shall be separated from other subsurface soil absorption pits by a distance equal to 3 times the diameter or width of such pits. The requirement of the preceding sentence shall not apply to any subsurface soil absorption pit with a 7-foot or greater diameter or width. For such pits, the minimum separation distance shall be 20 feet.
- B. Absorption area. Effective absorption areas shall be provided in 4 or more subsurface soil absorption pits, except as may be determined by the Administrative Authority. Substrata and ground water conditions at the proposed site shall be explored to a depth of at least 4 feet below bottom of the proposed subsurface soil absorption pit system. The Administrative Authority may require soil percolation testing. The area requirements for subsurface absorption pits shall be the same as for subsurface absorption trenches, except the area shall be calculated as the side wall area. Percolation rates over 30 minutes per/inch shall be unsuitable for subsurface soil absorption pits. The amount of area provided by each different stratum shall be prorated according to its actual or estimated percolation rate.
- C. Grout. Subsurface soil absorption pits which penetrate a soil restriction as described in 12-VAC-5-610-490 shall have an effective grout seal placed at or below the soil restriction such that the grout seal and soil restriction form a continuous impervious layer over the filter material. Subsurface soil absorption pits which are required to be grouted shall be excavated by a boring method and shall not exceed 4 feet in diameter.
- D. Slope. Subsurface soil absorption pits shall not be installed on slopes that exceed 25 percent.
- E. Grading. Final grading shall be such that surface drainage will be directed away from the subsurface soil absorption pits.
- F. Lining. The lining shall be reinforced concrete casing or other material approved by the Administrative Authority. The annular space between the lining and the earth wall shall be filled with filter material to the elevation of the inlet. The filter material shall be ½ to 2 inches in diameter. The filter material shall be covered with untreated building paper, or other suitable material prior to covering the earth to prevent infiltration of earth into the filter material. The top shall be 12 to 20 inches below the ground surface.



Table III Subsurface Soil Absorption Pits						
Minimum Horizontal Distance(ft)	Wells ¹ Shallow ²	Wells ¹ Deep ²	Streams	Trees	Property Lines	Basements & Cellars
10				X	X	
20						X
50			X			
150		X				
200	X					

1. A well located down slope from soil absorption pits may require a greater separation distance as may be determined by the Administrative Authority.
2. Wells 50 feet deep or less.
3. Wells over 50 feet deep.

ARTICLE

5

**Annual Registration Requirements for
Persons Installing or Repairing
Individual Sewage Disposal Systems.**

Section 68.1-5-1. - Annual Registration Required.

It shall be unlawful for any person to install, repair or alter an individual sewage disposal system without being annually registered with the Fairfax County Health Department. However, such registration shall not be required to install, repair or alter an individual sewage disposal system which serves a single-family dwelling occupied by the owner for residential purposes, including accessory buildings, provided the installation, repair or alterations are performed by the owner. (35-03-68.)

Section 68.1-5-2. - Permit Required.

Contractors performing individual sewage disposal system work shall be responsible that required permits are obtained, that the laws of the County and State are complied with and that all work is performed in accordance with the conditions and the terms of such permits. (35-03-68.)



Section 68.1-5-3. - Information Required.

The Administrative Authority is authorized to require any applicant for annual registration as required by Section 68.1-5-1, to provide sufficient information to determine the propriety of issuing such registration. (35-03-68.)

Section 68.1-5-4. - Compliance with Code.

Nothing contained in this Article shall excuse any applicant from compliance with all other applicable provisions of this Code, and the Commonwealth of Virginia State Board of Health Sewage Handling & Disposal Regulations or the Virginia Board for Contractors Rules and Regulations, Department of Professional And Occupational Regulation. (35-03-68.)

Section 68.1-5-5. - Application Form; Contents; Fee.

A. Application. Application for registration to engage in the business of sewage disposal system contractor shall be made to the Administrative Authority in writing on forms furnished by the Administrative Authority. The applicant on any such forms shall give the following information:

1. Name, trade name, or other aliases if operating under any name other than an individual name, the name of the owner and principal officer.
2. Home address.
3. Business address.
4. Local address.

B. Fee. A fee will be assessed, in accordance with the fee schedule established in Section 68.1-9-1. (35-03-68.)

Section 68.1-5-6. - Application processing.

Upon receipt of a properly completed application from an eligible person accompanied by the processing fee required by Section 68.1-9-1 and proof of registration with the Office of Assessments for a Business Professional and Occupational License, if required, the applicant may be annually registered by the Administrative Authority. If the Administrative Authority is not satisfied that the applicant has complied with all requirements, the Administrative Authority shall so advise the applicant, stating the reasons therefor. (35-03-68.)

Section 68.1-5-7. - Issuance; Form; Contents.

Any registration issued pursuant to this Article shall be on a form prescribed and furnished by the Administrative Authority. The registration shall bear a statement in the nature of a disclaimer of any implied warranty by the County of any work performed by a registered contractor. (35-03-68.)

Section 68.1-5-8. - Expiration; Renewal.

Registration under this Chapter shall be for one year commencing January 1 and expiring on December 31. Registration may be renewed upon payment of the annual fee and submission of required application before December 31 provided no previous registration has been suspended or revoked, no outstanding



fees exist, and further provided that the applicant has complied with the terms of this Article. (35-03-68; 24-09-68.1.)

Section 68.1-5-9. - Suspension or revocation of Registration.

The Administrative Authority may suspend or revoke the registration of any contractor for any violation of Part V of the Standards of Practice and Conduct of the Virginia Board for Contractors Rules and Regulations. (35-03-68.)

Section 68.1-5-10. - Notice of Denial, Suspension or Revocation of Registration; Contents; Service.

A. Whenever the Administrative Authority proposes to deny, suspend or revoke the registration provided for in this Article, the Administrative Authority shall cause written notice thereof to be served on the registrant which shall include the following:

1. Statement of facts: It shall state generally the facts, which constitute the basis for the proposed action.
2. Designation of violation: It shall specify, where applicable, each section of this Article or other laws which have been violated or not complied with.
3. Proposed action: It shall state the action proposed to be taken.
4. Appeals procedures: It shall recite the appeal provision of the State Regulations, the time within which such appeal may be filed and the effective date of the denial, suspension or revocation in the event of no appeal.

B. Such notice shall be deemed properly served when a copy is personally served on the registrant or when a copy is sent by certified mail, postage prepaid, to the address on the registration application. (35-03-68.)

ARTICLE 6	Spray Irrigation Sewage Disposal Systems.
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Section 68.1-6-1. - General.

The use of spray irrigation sewage disposal system is prohibited except for repair situations to existing septic systems when all other avenues of repair have been considered and deemed unacceptable by the Administrative Authority. (35-03-68.)

Section 68.1-6-2. - Conditions.

The following conditions must be met in addition to the provisions detailed by the State Health Department.



- A. The minimum size lot for consideration is 5 acres.
- B. A pump chamber must have a minimum storage capacity of four times the average estimated daily flow above the high water/alarm float to assure adequate flow equalization to avoid demand dosing on down days due to component breakage or extreme cold.
- C. Effluent must be sprayed only between the hours of 10:00 p.m. and 6:00 a.m. Spraying will be postponed if at the absorption area effluent runs-off, puddles, or is not adequately accepted by the ground surface.
- D. A fence of adequate height and construction must be erected around the perimeter of the active spray zone(s). (35-03-68.)

ARTICLE

7

Drip Irrigation Sewage Disposal Systems.

Section 68.1-7-1. - General.

The use of drip disposal sewage disposal systems as outlined by the State Health Department may be used for new or repair construction. (35-03-68.)

Section 68.1-7-2. - Conditions.

The following conditions must be met in addition to the provisions detailed by the State Health Department.

- A. The minimum depth for the drip tubing must be 6 inches into undisturbed soil. Additional clean fill, not original soil from the test site, may be used to maintain a uniform cover of 20 inches over the drip tubing because of irregular topography and/or local permafrost conditions.
- B. Septic tank effluent is prohibited for use in drip disposal sewage disposal systems.
- C. All sites being considered for drip disposal must have a "Statement of Acceptability" from the manufacturer of the system for the soil and other conditions pertinent to the site(s) to support a drip disposal system. This must be submitted prior to or with the plans for the system.
- D. All plats showing proposed or final approved sites to be developed on drip disposal must have the following statement:

"Approved absorption area for drip disposal sewage system, which will be installed at a depth of _____ inches must be properly protected from vehicular and equipment traffic and unauthorized grading/excavating. The perimeter of the absorption area(s) must be secured by an appropriate barrier for that site prior to, during, and after construction of the system. Evidence of any alteration to the site without prior notification and approval by the Fairfax County Health Department may be justification to void the site's approval." (35-03-68.)



ARTICLE

8

Chambered Sewage Disposal Systems.

Section 68.1-8-1. - General.

Chambered sewage disposal systems as approved by the State Health Department may be used for new construction or as a repair/replacement to an existing malfunctioning septic system. (35-03-68.)

Section 68.1-8-2. - Conditions.

The following conditions must be met in addition to the provisions detailed by the State Health Department.

- A. A flow diversion valve is required.
- B. No reduction in square footage on the absorption area shall be permitted.
- C. The maximum amount of soil backfill shall not exceed manufactures specifications.
- D. A minimum depth of backfill soil shall be 12 inches.
- E. All absorption trenches utilized with chambered systems shall have a width of 24 inches.
- F. Each lateral shall require installation of an inspection port as determined by the Administrative Authority. (35-03-68.)

ARTICLE

9

Fee Schedule.

Section 68.1-9-1. - General.

This fee schedule establishes fees for services provided by Fairfax County and are separate from, and in addition to, fees that are, or may be, required by the Commonwealth of Virginia.

- A. Individual Sewage Disposal System Application:
 - 1. **New construction\$200.00**
 - 2. **Expansion125.00**
 - 3. **Change in approved location130.00**



B. Written Evaluation of Existing Individual Sewage Disposal System200.00

C. License Fee:

1. For persons installing or repairing individual Sewage Disposal systems:

a. Application150.00

b. Renewal after January 31200.00

2. For sewage handlers:

a. Renewal Application with on vehicle710.00

b. Each additional vehicle360.00

c. Renewal after January 31:

i. Application with one vehicle865.00

ii. Each additional vehicle550.00

Note: License fees for new sewage handler applications received on or after the following dates may be prorated as indicated:

January 1 Required Fee

April 1 Three-quarters of Required Fee

July 1 One-half of Required Fee

October 1 One-quarter of Required Fee

3. For Soil Consultants:

a. Application150.00

b. Late renewal fee after January 31200.00

D. Permit Fee:

1. For persons providing portable toilets:

a. Initial application75.00

b. Renewal application60.00

c. Renewal after January 3185.00

E. Plan Review:

1. Site Development review85.00

2. Building Permit review75.00



3. Alternative System review200.00

F. Re-inspection Fee100.00

(35-03-68; 24-09-68.1.)



Fairfax County Code, Chapter 68.1: The Individual Sewage Disposal Facilities Code

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