Title 26
DEPARTMENT OF THE ENVIRONMENT

Subtitle 04 REGULATION OF WATER SUPPLY, SEWAGE DISPOSAL, SOLID WASTE, AND RECYCLABLE MATERIALS

26.04.02 Sewage Disposal and Certain Water Systems for Homes and Other Establishments in the Counties of Maryland Where a Public Sewage System is Not Available.

COMAR T. 26, Subt. 04, Ch. 02, Refs & Annos
Authority: Environment Article, §§*1-301, 1-404, 4-308, 9-101, 9-103, 9-201, 9-208,* 9-216, 9-217, *9-221,* 9-223, *9-223.1,* 9-252, *9-253, 9-255, 9-257, 9-261, 9-268,* 9-319, *9-333, 9-403, 9-404,* 9-510, *9-511, 9-512, 9-1104,* 9-1108, *9-1109, 9-1110, 9-1112, 9-1113, 9-1114, Title 9 Subtitle 11a, Title 9 Subtitle 14, 9-1605.2,* 10-103, 10-301, and 10-304, Annotated Code of Maryland

.01 Definitions.

A. The following terms have the meanings indicated.

B. Terms Defined.

(1) "Accessory dwelling unit" means a dwelling unit that:

(a) Is located on the same property as an existing dwelling unit;

(b) Does not exceed 75% of the total square footage of the existing dwelling unit;

(c) Is subordinate in use to the existing dwelling unit; and

(d) Is physically separate from the existing dwelling unit.

(2) "Accessory structure" means a building or structure that:

(a) Is located on the same property as an existing dwelling unit; and

(b) Is not a dwelling unit.

(3) "Approving Authority" means the Secretary of the Department or the Secretary's designee.

(4) "Aquifer" means an underground formation, group of formations, or part of a formation that has sufficient saturated permeable material to yield groundwater to a well or spring.

(5) "At-grade system" means an OSDS that uses a raised bed of drainfield gravel over the natural soil surface equally along the length of the drainfield gravel bed.

(6) "Bedroom" means a room or area in a structure used for sleeping.

(7) "Best Available Technology for Removal of Nitrogen" or "BAT" means a sewage treatment unit that the Department has approved as a best available technology to remove nitrogen from sewage.

(8) "Certified service provider" means an individual who is certified by the Department to perform operation and maintenance on BAT systems.

(9) "Chemical toilet" means a device that receives nonwater-carried human waste in a deodorizing and liquefying chemical in a watertight tank.

(10) "Commercial facility" means a building or structure that generates non-industrial, non-domestic sewage.

(11) "Community sewerage system" means a "treatment works" as defined in 33 U.S.C. § 1292, whether publicly or privately owned, that serves two or more properties.

(12) "Composting toilet" means a self-contained system for sewage consisting of a composter with a separate toilet fixture.

(13) "Confined aquifer" means an aquifer that is:

(a) Bounded above and below by beds of distinctly lower permeability than that of the aquifer itself; and

(b) Contains groundwater under pressure greater than that of the atmosphere.

(14) "Contamination" means the introduction into water of any substance, which may transfer infectious agents or other foreign substances (organic, inorganic, radiological, or biological), in concentrations which may constitute a health hazard or impair the usefulness of the water.

(15) "Controlling authority" has the meaning stated in COMAR 26.04.05.

(16) "Conventional OSDS" means an on-site sewage disposal system that includes a sewage treatment unit with a standard trench, a deep trench, a seepage pit, a sand mound system, or an at-grade system.

(17) "County Plan" has the meaning stated in Environment Article, Title 9, Subtitle 5, Annotated Code of Maryland.

(18) "Critical Area" has the meaning stated in Natural Resources Article, Title 8, Subtitle 18, Annotated Code of Maryland.

(19) "Deep trench" means a soil absorption system with a trench that:

(a) Is 2-3 feet wide;

(b) Meets the depth requirements specified by the Approving Authority;

(c) Has sufficient sidewall absorption as determined by the Approving Authority; and

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(d) Is level at the bottom.

(20) "Design flow" means the maximum, estimated daily volume of sewage that may enter an OSDS in a 24-hour period as determined by the Approving Authority using guidance established by the Department.

(21)"Department" means the Department of the Environment.

(22) "Domestic sewage" means sewage that has less than:

(a) 300 mg/l biological oxygen demand (BOD); and

(b) 300 mg/l total suspended solids (TSS).

(23) "Downgradient" means an area that is topographically lower in elevation than a specified reference point.

(24) "Drainfield gravel" means river gravel or crushed stone that is:

(a) Between 0.75 and 2.5 inches in diameter;

(b) Free of fines, particulates, sand, soil, clay, crushed concrete, limestone, or detritus; and

(c) Thoroughly washed as determined by the Approving Authority.

(25) "Drainage way" means a concave landscape feature or constructed device that:

(a) Conveys surface drainage; and

(b) Is not hydraulically connected with groundwater or surface water.

(26) "Dwelling unit" means a self-contained living space for one or more individuals that includes permanent, dedicated provisions for sanitation, cooking, eating, and sleeping.

(27) "Effluent" means sewage that is discharged to a soil absorption system following treatment from a sewage treatment unit.

(28) "Failing OSDS" has the meaning stated in Environment Article, §9-101, Annotated Code of Maryland.

(29) "Fall line" means the contact between the unconsolidated sediments of the coastal plain physiographic province and the crystalline rocks of the Maryland Piedmont physiographic province (see the map of Maryland Physiographic Provinces and Their Divisions in this chapter), and is approximated by the line connecting the numerous waterfalls and rapids in adjacent streams.

(30) "Fill material" means soil or other geological material that has been displaced from its natural position or its natural state.

(a) "Fill material" includes excavated matter, compacted matter, or matter that is brought from one location to another.

(31) "Floatable home" means any structure or device, whether self-propelled or not, which:

(a) Has one or more toilets or privies;

(b) Is capable of floating on water; and

(c) Is not a vessel.

(32) "Flood plain soils" means the soils that are listed in the soil survey as either having a flood hazard or being susceptible to flooding.

(33) "Grease interceptor" means a sewage treatment unit designed to collect and retain grease and fatty substances normally found in kitchen or similar wastes.

(34) "Groundwater" means underground water in a zone of saturation.

(35) "Holding tank" means a watertight receptacle which is used, or intended to be used, for the collection and temporary storage of sewage before disposal as approved by the Department.

(36) "Liquid waste hauler" means a person that cleans and empties sewage treatment units, holding tanks, seepage pits, privies, portable units that contain septage, pump-out stations, or any other facility or device regulated by this chapter.

(37) "Lot of record" means a legally established property that was:

(a) Created through a subdivision pursuant to:

(i) COMAR 26.04.03 and applicable local law; or

(ii) The applicable State and local laws in effect at the time of the approval; and

(b) Approved by the Approving Authority pursuant to:

(i) This chapter and COMAR 26.04.04; or

(ii) The applicable State and local laws in effect at the time of the approval; and

(c) Shown a plat signed by the Approving Authority that is recorded in land records.

(38) "Membrane bioreactor" or "MBR" is a sewage treatment unit that combines the biological-activated sludge process and the membrane filtration process and that is capable of reducing the 5 day biochemical oxygen demand (BOD5), total nitrogen (TN), and total suspended solids (TSS) concentrations in effluent to less than 1 mg/l of TSS, less than 3 mg/l of TN, and less than 3 mg/l of BOD5.

(39) "Mobile home" has the meaning stated in COMAR 10.16.02.01-1.

(40) "Motor vehicle" has the meaning stated in Transportation Article, Title 11, Subtitle 1, Annotated Code of Maryland.

(41) "Non-conventional OSDS" means an on-site sewage disposal system not described in this chapter that is undergoing evaluation by the Department.

(42) "Non-domestic sewage" means sewage that has more than:

(a) 300 mg/l biological oxygen demand (BOD); or

(b) 300 mg/l total suspended solids (TSS).

(43) "On-site sewage disposal" means the disposal of effluent into the soil.

(44) "On-site sewage disposal system" or "OSDS" means a sewage treatment unit, collection system, soil absorption system, sewage disposal area, and related appurtenances.

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(a) "On-site sewage disposal system" or "OSDS" includes a:

(i) Conventional OSDS;

(ii) Non-conventional OSDS;

(iii) At-grade system;

(iv) Septic system; and

(v) Sand mound system.

(45) "Percolation test" means a procedure used to determine the rate of movement of water through soil at the depth of installation of a proposed on-site sewage disposal system.

(46) "Permeability" means the capability of a soil, rock, aquifer, or confining bed to transmit waters or air.

(47) "Person" means the federal government, the State, a county, municipal corporation, or other political subdivision of the State, or their units, or an individual, receiver, trustee, guardian, executor, administrator, fiduciary, or representative, or a partnership, firm, association, public or private corporation, or another entity.

(48) "Pollution" means any contamination or other alteration of the physical, chemical, or biological properties of any ground or surface waters of this State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance onto the ground surface or into any waters of this State that will render the ground or waters harmful or detrimental to:

(a) Public health, safety, or welfare;

(b) Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses;

(c) Livestock, wild animals, or birds; or

(d) Fish or other aquatic life.

(49) "Potable water" means water which is free from substances or agents which may cause disease or harmful physiological effects, and which complies with the requirements of COMAR 26.04.01 and 26.04.04.

(50) "Portable unit" means a transportable, self-contained potable water supply or sewage collection device.

(a) "Portable unit" includes a water buffalo, a mobile water storage tank or trailer, a chemical toilet, a restroom mounted on a trailer, or a similar device.

(b) "Portable unit" does not include a motor vehicle that is used solely for the delivery of potable water or the transportation of sewage.

(51) "Public water system" has the meaning stated in Environment Article, Title 9, Subtitle 4, Annotated Code of Maryland.

(52) "Pump-out station" means a stationary or transportable system to remove sewage from a motor vehicle, a vessel, or a floatable home that uses a watertight tank and a pump or suction device to remove sewage.

(a) "Pump-out station" does not include a septage hauler.

(53) "Privy" means a watertight tank, pit, or receptacle with an opening to directly receive non-water-carried human waste.

(54) "Reuseable diverted water" has the meaning stated in Environment Article, §9-1113, Annotated Code of Maryland

(55) "Sand mound system" means an on-site sewage disposal system utilizing a raised bed of sand fill with a distribution system constructed to distribute effluent equally into the sand fill.

(56) "Seepage pit" means a soil absorption system with a porous vertical wall lining designed to introduce effluent underground.

(57) "Septage" means any liquid or solid material pumped or removed from a portable unit, sewage treatment unit, at-grade system, seepage pit, privy, pump-out station, septage hauler, or holding tank.

(58) "Septage hauler" means:

(a) A motor vehicle with a watertight tank and a pump or suction device that is designed to receive and transport septage for disposal; or

(b) A motor vehicle transporting a portable unit that contains septage.

(i) "Septage hauler" includes a vacuum truck, septic truck, honey wagon, or vessel with a watertight tank and a pump or suction device to remove sewage.

(59) "Septic tank" means a sewage treatment unit that receives sewage from a building sewer to settle and digest organic matter by anaerobic bacterial action while also separating and storing fats, oils, and grease.

(60) "Sewage" means:

(a) Water-carried domestic, commercial, industrial, or other waste; or

(b) Human or animal excreta.

(i) "Sewage" includes septage and effluent.

(ii) "Sewage" does not include reuseable diverted water that is used as authorized in Environment Article, §9-1113, Annotated Code of Maryland, and the regulations adopted by the Department pursuant to that statute.

(61) "Sewage disposal area" means an established area on a property that is approved by the Approving Authority for the exclusive purpose of on-site sewage disposal based on a site evaluation.

(62) "Sewage treatment unit" means a watertight device designed to receive sewage and to provide treatment to reduce organic and inorganic matter.

(a) "Sewage treatment unit" includes a grease interceptor, septic tank, BAT, MBR, aerobic treatment unit, or any other approved device.

(63) "Sewerage system" has the meaning stated in Environment Article, Title 9, Subtitle 2, Annotated Code of Maryland.

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(a) "Sewerage system" includes an OSDS, a holding tank, a composting toilet, a pump-out station, a portable unit that is designed to receive sewage, a privy, and any device or container that is used to collect or treat sewage.

(b) "Sewerage system" does not include a marine sanitation device that is regulated by Natural Resources Article, Title 8, Subtitle 7, Annotated Code of Maryland.

(64) "Shared facility" has the meaning stated in COMAR 26.04.05.01.

(65) "Site evaluation" means the inventory and review of all site characteristics pertinent to on-site sewage disposal systems, including topography, geology, surface and subsurface drainage, seasonal high-water table, drinking water sources and wells, proximity to waters of the State, soil evaluation tests, and percolation tests.

(66) "Soil absorption area" means the location within a sewage disposal area that is used to attenuate effluent into the soil.

(67) "Soil absorption system" means a system of distribution piping and related appurtenances that are designed to disperse effluent in a soil absorption area.

(68)"Soil evaluation" means a description of the physical properties of a soil including color, texture, structure, limiting horizons, and percolation rates.

(69) "Soil survey" means the scientific inventory of soil maps, soil unit descriptions, classification in the national system, and interpretation for use, as conducted by the National Cooperative Soil Survey by the United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Maryland Agricultural Experiment Station.

(70) "Standard trench" means a soil absorption system where only the bottom area is used to calculate the absorption area.

(71) "Stream" means a perennial or intermittent watercourse of groundwater origin.

(72) "Subsurface sewage disposal" means a process of on-site sewage disposal in which effluent is distributed underground in a sewage disposal area through a soil absorption system.

(73) "Unconfined aquifer" means an aquifer not bounded above by a bed of distinctly lower permeability than that of the aquifer itself and containing groundwater under pressure approximately equal to that of the atmosphere.

(a) "Unconfined aquifer" includes a water table aquifer.

(74) "Unconsolidated material" means uncemented soil and sediment that does not exceed:

(a) 70 percent coarse fragments (greater than 2 millimeters) by weight; or

(b) 50 percent coarse fragments (greater than 2 millimeters) by volume as estimated by visual comparison with a standard chart.

(75) "Vessel" has the meaning stated in Natural Resources Article, Title 8, Subtitle 7 of the Annotated Code of Maryland.

(76) "Waters of the State" or "waters of this State" has the meaning stated in Environment Article, Title 9, Subtitle 1, Annotated Code of Maryland.

(77) "Water supply well" means a well that supplies water for human consumption with or without treatment.

(78) "Well" means a hole that extends more than 20 feet underground to explore for groundwater, to obtain or monitor groundwater, or to inject water into any underground formation from which groundwater may be produced or to transfer heat to or from the ground or groundwater.

.02 Incorporation by Reference.

A. In this chapter, the following documents are incorporated by reference.

B. Documents Incorporated.

(1) ASTM Standard C1227; and

(2) NSF/ANSI Standard 41: Non-Liquid Saturated Treatment Systems.

.03 General Provisions

A. Except as authorized in this chapter or as otherwise authorized by the Department, a person may not:

(1) Treat, store, hold, transport, convey, discharge, or dispose of sewage;

(2) Place or suffer the placement, leaking, pooling, or surfacing of sewage on the ground surface;

(3) Construct, install, modify, repair, replace, extend, abandon, or remove an OSDS, sewage treatment unit, soil absorption system, or sewage disposal area;

(4) Install, operate, modify, replace, extend, abandon, or remove a holding tank, pump-out station, privy, or portable unit; or

(5) Change the character or volume of sewage entering an OSDS, pump-out station, holding tank, or privy.

B. Except as authorized by the Department, the Approving Authority may not issue a permit to construct, install, modify, or expand an OSDS, holding tank, or privy to serve a property that:

(1) Is connected to a community sewerage system; or

(2) Could be connected to a community sewerage system that is adequate and economically available as determined by the Department or the Approving Authority.

C. Water Under Pressure.

(1) Except as provided in .09 of this chapter, a building, structure, floatable home, or mobile home served by water under pressure shall be served by:

(a) A community sewerage system;

(b) An OSDS as authorized in this chapter; or

(c) A shared facility with a controlling authority that is approved by the Department and the Approving Authority.

(2) A building or structure that is not served by water under pressure shall have a method of sewage disposal that is approved pursuant to this chapter or otherwise approved by the Department.

D. A person may not cause, facilitate, contribute to, suffer, or fail to abate:

(1) Persistent, repeated, or ongoing smells or odors;

(2) Contamination;

(3) Pollution; or

(4) A nuisance.

E. Water Tightness.

(1) The Department or the Approving Authority may require any tank or other device that stores or is intended to store sewage be tested for water tightness in accordance with ASTM Standard C1227.

(2) A test for water tightness shall be performed as directed by the Department or the Approving Authority, as applicable.

(3) The Department or the Approving Authority shall:

(a) Supervise the test for water tightness; and

(b) Determine whether a tank is watertight based on the results of the test.

(4) The Approving Authority or the Department may require a tank or device that fails a test for water tightness to be repaired, removed, abandoned, or replaced within a reasonable timeframe as determined by the Approving Authority or the Department.

F. The Approving Authority or the Department may deny a permit or approval under this chapter if the Approving Authority or the Department determines that issuance of permit or approval may be prejudicial to health or the environment.

G. Shared Facilities.

(1) A person may not operate a shared facility unless they are approved as a controlling authority by the Approving Authority and the Department pursuant to COMAR 26.04.05.

(2) A person may not connect to a shared facility unless the Department determines that the shared facility is in compliance with COMAR 26.04.05.

H. Serving Two or More Buildings.

(1) Except as authorized by the Approving Authority, an OSDS may not serve more than one building.

(2) A person that owns or operates an OSDS that meets the criteria for a shared facility shall comply with COMAR 26.04.05.

I. Sewerage System Problems.

(1) The Department or the Approving Authority may order the owner or operator of a sewerage system to change the sewerage system's mode of operation if the Department or the Approving Authority determines that the sewerage system is causing or contributing to:

(a) Pollution;

(b) Contamination;

(c) A menace to health or comfort; or

(d) A nuisance.

(2) If the Department determines that a sewerage system meets the criteria in §I(1) of this regulation and the problem is not or cannot be corrected by changing the sewerage system's mode of operation, the Department may order the owner or operator of the sewerage system to:

(a) Alter the sewerage system;

(b) Abandon the sewerage system as directed by the Department and install a new sewerage system acceptable to the Department; or

(c) Abandon the sewerage system as directed by the Department and connect to a community sewerage system that the Department determines is adequate and economically available to the property where the sewerage system is located.

(3) The Department may order the owner or operator of a property where a sewerage system is located to connect to a community sewerage system and abandon the sewerage system as directed by the Department if the Department determines that the sewerage system:

(a) Is prejudicial to health or the environment; or

(b) Could become prejudicial to health or the environment.

J. A person may not install a new or replacement pipe that connects a building, structure, floatable home, or mobile home to an OSDS or a community sewerage system unless the piping includes a tracer wire or equivalent technology that makes the piping detectable or locatable.

K. The Department or the Approving Authority may test any sewage or septage to determine the adequacy of a sewerage system.

L. Abandonment.

(1) A person shall abandon an OSDS in accordance with this section if the OSDS is:

(a) Not in use; and

(b) Not planned for future use as determined by the Approving Authority.

(2) An OSDS shall be abandoned by:

(a) Removing and disposing of all septage in the OSDS in accordance with Regulation .09 of this chapter;

(b) Except as authorized in §L(3) of this regulation, filling the sewage treatment unit with clean fill; and

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(c) Filing a written abandonment report with Approving Authority with the information required by the Approving Authority.

(3) The Approving Authority may require additional or alternative methods of abandonment besides the methods required in §L(2) of this regulation if the Approving Authority determines that:

(a) Site conditions make filling the sewage treatment unit with clean fill impracticable;

(b) The OSDS has additional components or areas that need to be abandoned; or

(c) Alterative abandonment methods are necessary to protect the environment or public health.

.04 Site Evaluations.

A. Approval.

(1) A site evaluation must meet the requirements of this regulation.

(2) Except as provided in §A(3) of this regulation, a person shall obtain an approved site evaluation from the Approving Authority to establish a sewage disposal area that meets the requirements of §§H-I of this regulation.

(3) A person who applies for a site evaluation to replace or repair a failing OSDS is not subject to §H of this regulation.

(4) A person shall obtain an approved sewage disposal area under this regulation before applying for a permit under Regulation .08 of this chapter.

B. Site Evaluation Criteria.

(1) *A site evaluation shall use soil information from the National Resource Conservation Service (NRCS) Soil Data Mart, a part of the National Soil Information System.*

(2) The Approving Authority shall consider the following criteria for each site evaluation:

(a) The general topography, geology, soil classification, and hydrology;

(b) Surface and subsurface drainage conditions;

(c) Soil descriptions, test results, and boring logs;

(d) Requirements for seasonal testing; and

(e) The performance of existing OSDSs and wells in the area and the potential impact of the proposed sewage disposal area on these systems.

(3) The applicant shall submit a scaled drawing to the Approving Authority for each property where a new site evaluation is proposed with the following information:

(a) The property's boundaries;

(b) Topography;

(c) The location of each existing or proposed:

(i) Building;

(ii) Structure;

(iii) Well on the property where the sewage disposal area is proposed and within 100 feet of that property; and

(iv) OSDS on the property where the sewage disposal area is proposed and within 100 feet of that property; and

(d) Soil type(s);

(e) The proposed use(s) of the property;

(f) Any previous soil test results;

(g) Any environmental factors that may affect on-site sewage disposal or potable water supplies; and

(h) Any other information requested by the Approving Authority.

(4) The applicant shall submit a drawing to the Approving Authority for each property where a replacement OSDS is proposed to repair a failing OSDS and a sewage disposal area is not currently established with the following information:

(a) The property's boundaries;

(b) The location(s) of each existing:

(i) Building;

(ii) Structure;

(iii) Well on the property where the sewage disposal area is proposed and within 100 feet of that property;

(iv) OSDS on the property where the sewage disposal area is proposed and within 100 feet of that property; and

(c) Any other information requested by the Approving Authority.

C. Performance of Site Evaluations.

(1) The Approving Authority shall perform or supervise the performance of:

(a) Each site evaluation; and

(b) Each percolation test.

(2) A site evaluation shall:

(a) Be performed in accordance with criteria established by the Department;

(b) For an OSDS that is not a sand mount system or an at-grade system, include one or more excavated test pits, percolation tests, and other pertinent observations as determined by the Approving Authority based on:

(i) The location, character, and layout of the proposed sewage disposal area;

(ii) Changes in soil texture or structure;

(iii) Limiting geologic conditions;

(iv) Design flow; and

(v) Other relevant factors as determined by the Approving Authority; and

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(c) For a sand mound system or an at-grade system, include two or more excavated test pits, percolation tests, and other pertinent observations as determined by the Approving Authority based on:

(i) The location, character, and layout of the proposed sewage disposal area;

(ii) Changes in soil texture or structure;

(iii) Limiting geologic conditions;

(iv) Design flow; and

(v) Other relevant factors as determined by the Approving Authority; and

(d) For each sewage disposal area with carbonate rock, include four or more treatment zone observation test pits, excavated perpendicular to the bed rock ridges;

(e) Include additional soil testing as determined by the Approving Authority; and

(f) Describe each limiting horizon that may restrict the vertical flow of effluent in the soil treatment zone within 2 feet of the infiltrative surface.

(3) Timeframe for Performance.

(a) A site evaluation, percolation test, and any other test required by the Approving Authority under this regulation in an area where the soil survey maps, soil borings, site conditions, or historical data indicate moderate or severe limitations based on seasonally perched or seasonally high water tables shall be performed at the time of the year when the highest water table is present at the proposed sewage disposal area as determined by the Approving Authority.

(b) All tests shall be conducted at the depth and in the soil intended to be used for the proposed sewage disposal area.

(4) The Approving Authority may not approve a percolation test that exceeds any of the following percolation rates after pre-wetting:

(a) Except as approved under Regulation .05[sand mounds] of this chapter, a percolation rate of greater than 30 minutes per inch;

(b) A percolation rate faster than 2 minutes per inch for a property located:

(i) West of the fall line; or

(ii) East of the fall line if the Approving Authority determines that groundwater is not adequately protected; or

(c) A percolation rate of between two and five minutes per inch if the Approving Authority determines that groundwater is not adequately protected.

D. Post-Evaluation Survey.

(1) An applicant for a site evaluation other than a repair or replacement of a failing OSDS shall submit a post-evaluation survey to Approving Authority that meets the requirements in §D of this regulation.

(2) A post-evaluation survey shall:

(a) Be performed by a licensed surveyor;

(b) Include the following information drawn to scale:

(i) The location of each OSDS on the property where the sewage disposal area is proposed and within 100 feet of that property;

(ii) The location of each well on the property where the sewage disposal area is proposed and within 100 feet of that property;

(iii) The location of each percolation test performed on the property;

(iv) The proposed sewage disposal area;

(v) Landscape features and relevant site characteristics; and

(vi) Any additional information requested by the Approving Authority.

(3) Timeframe.

(a) A post-evaluation survey shall be submitted to the Approving Authority within six months after completion of the last percolation test on the property where the sewage disposal area is proposed unless the Approving Authority grants an extension.

(b) The Approving Authority may extend the timeframe to submit a post-evaluation by not more than two years after the timeframe in §D(3)(a) of this regulation has elapsed.

(c) A post-evaluation survey is invalid if it is submitted after the timeframe in §D(3)(a)-(b) of this regulation.

(4) Survey Approval.

(a) The Approving Authority shall approve a post-evaluation survey that meets the requirements of §D of this regulation within 30 days of receipt.

(b) An approval shall include the following information:

(i) Design flow;

(ii) Soil loading rate;

(iii) Maximum excavation depth, if applicable;

(iv) Minimum fill depth, if applicable; and

(v) Maximum amount of side wall, if applicable.

(c) An approval under this subsection shall be valid for 20 years if no changes occur from the conditions of the approved post-evaluation survey.

E. Soil Treatment Zones.

(1) A conventional OSDS may not be approved where there is less than 4 feet of unsaturated, unconsolidated material sufficient to attenuate effluent below the bottom of the soil treatment zone except as provided in §E(2) of this regulation and Regulation .05[sand mounds] of this chapter.

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(2) In the coastal plain province where 4 feet of unsaturated, unconsolidated material sufficient to attenuate effluent below the bottom of the soil treatment zone is not available, the Approving Authority may identify areas where soil treatment zones may use less than 4 feet of unsaturated soil if the aquifer:

(a) Is Type III pursuant to COMAR 26.08.02.09B; or

(b) Has limited potential to serve as a drinking water source and meets one or more of the following conditions:

(i) Insufficient potable water to serve as a year-round supply due to seasonally fluctuating water tables;

(ii) Interconnection with tidewater such that if pumped for water supply, brackish water or saltwater intrusion into the aquifer has or would occur; or

(iii) Is already polluted.

(3) Each area designated under §E(2) of this regulation shall:

(a) Be delineated in a groundwater protection report prepared by the county government or its representative that:

(i) Is approved by the county health department;

(ii) Included in the County Plan approved by the Department;

(iii) Establishes density, design, and construction requirements to minimize degradation of aquifers designated for discharge and justifies any variances to §E(3)(b)-(g) of this regulation;

(b) Have a quantitatively and qualitatively superior potable water supply available from one or more deeper confined aquifers that are separated from the disposal aquifer by a confining aquiclude;

(c) Include appropriate protective measures by the Approving Authority to ensure that the aquifer designated for waste disposal is not currently used for potable water supply and will not be used for potable water supply in the future; and

(d) Not contaminate:

(i) A Type I or II aquifer, pursuant to COMAR 26.08.01-.04; or

(ii) Any aquifer used for potable water supply; and

(e) Be located 100 feet or more from any well in a confined aquifer.

(4) A property served by a soil treatment zone under §E(2) of this regulation shall be two or more acres in size unless the property is already improved.

(5) A property served by a soil treatment zone under §E(2) of this regulation that directly penetrates groundwater may not be approved in an area that exceeds a density of 160 dwellings or their equivalent per square mile.

F. Valley and Ridge Physiographic Province.

(1) The Department may require co-review for an application under this regulation for a property that:

(a) Is located in the Valley and Ridge physiographic province of the State as shown in Regulation .13 of this chapter; and

(b) Has fewer than 4 feet of unsaturated, unconsolidated soil sufficient to attenuate effluent in the proposed sewage disposal area.

(2) The Department will provide training and assistance to the Approving Authority upon request.

(3) The Approving Authority may not approve an OSDS or site evaluation for a property that:

(a) Is located in a limestone or dolomite area of the Valley and Ridge physiographic province;

(b) Has fewer than 4 feet of unsaturated, unconsolidated soil sufficient to attenuate effluent in the proposed sewage disposal area; and

(c) Is new development.

G. Setback and Disturbance.

(1) A sewage disposal area and OSDS:

(a) Shall meet all physical and distance requirements outlined in this regulation, exclusive of easements, rights-of-way, buildings, and any other permanent or physical objects; and

(b) May not be disturbed by earth moving, compaction, tree removal, or grading after approval by the Approving Authority without prior authorization from the Approving Authority.

(2) The Approving Authority shall revoke an approval under this chapter if a sewage disposal area or OSDS is:

(a) Altered, changed, or disturbed during or after approval; and

(b) Experiences adverse impacts that prevent installation as-approved.

H. Properties Recorded Before or After November 17, 1985.

(1) The owner of a property that was recorded in land records on or before November 17, 1985 may request the Department to apply the requirements of §H(1) of this regulation to an application for that property if the property meets the following requirements:

(a) The property is a lot of record;

(b) The sewage disposal area is sufficiently sized to accommodate an initial OSDS and one replacement OSDS for the design flow from the primary dwelling unit, including any accessory structures with plumbing;

(c) The sewage disposal area is the same size or larger than the sewage disposal area that was approved when the lot of record was recorded;

(d) Except as approved in regulation .02H of this chapter, each additional dwelling unit has adequate area to support an OSDS and one replacement OSDS that is sufficient for the design flow; and

(e) The sewage disposal area is located:

(i) On the lot of record that the OSDS will serve; or

(ii) Located on a valid, recorded easement with the lot of record as the dominant estate.

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(2) A property that was recorded in land records after November 17, 1985 shall meet all of the following requirements:

(a) The property is a lot of record;

(b) The sewage disposal area is at least 10,000 square feet and sufficiently sized to accommodate an initial OSDS and two replacement OSDSs for the design flow from the primary dwelling unit, including any accessory structures with plumbing;

(c) Except as approved in regulation .02H of this chapter, each additional dwelling unit has adequate area to support an OSDS and two replacement OSDSs that are sufficient for the design flow; and

(d) The sewage disposal area is located on:

(i) The lot of record that the OSDS will serve; or

(ii) A valid, recorded easement with the lot of record as the dominant estate.

I. Non-Residential On-Site Sewage Disposal.

(1) An on-site sewage disposal area for a non-residential use shall be sized using:

(a) The design flow; and

(b) The soil loading rate.

(2) The design flow for a non-residential use shall be determined using:

(a) The Department's guidance;

(b) Best available water usage information; or

(c) Water meter data from comparable facilities over a 12-month period.

J. Flood Plain Soils and Steep Slopes.

(1) An OSDS may not be located in:

(a) Flood plain soils; or

(b) A slope that exceeds 25 percent grade.

(2) A replacement area for an OSDS may not be located in an area that meets any of the criteria in §J(1) of this regulation.

K. An OSDS and all replacement areas shall meet all of the following horizontal separation distances or any greater distance(s) determined by the Approving Authority:

Feature	***Minimum Separation Distance***
(1) A slope that equals or exceeds 25 percent grade	*25 feet*
(2) A spring	*100 feet*
(3) A drainage way or a gulley	*25 feet*
(4) Flood plain soil	*25 feet*
(5) A rock outcrop	*25 feet*
(6) An elevation of a spillway crest water level in a water supply reservoir	*300 feet*
(7) A stream bank that is 3,000 feet or less upstream from a water intake on a water supply reservoir or any intake on a stream that is used as a potable water supply	*200 feet*
(8) A stream bank that is greater than 3,000 feet upstream from a water intake on a water supply reservoir or an intake on a stream that is used as a potable water supply	*100 feet*

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(9) A water body that does not serve as a potable water supply, including an intermittent or perennial stream	*100 feet*
(10) A water supply well in an unconfined aquifer	*100 feet*
(11) A water supply well in a confined aquifer	*50 feet*
(12) A sink hole underlain by karst topography	*100 feet*
(13) A building foundation or a structure that requires permanent footings	*10 feet*
(14) A swimming pool	*10 feet*

L. Minimum Size.

(1) A property shall have a minimum area of 2 acres and a minimum width of 175 feet if it is located within:

(a) 2,500 feet of the normal water level of an existing or proposed water supply reservoir, measured horizontally;

(b) A 5,000-foot radius upstream from a water intake on a stream used as potable water supply source; or

(c) A 5,000-foot radius of a water intake located within a reservoir.

(2) An OSDS located above a dam that forms a water supply reservoir may not be located within 300 feet, measured horizontally, from the elevation of the dam's spillway crest.

M. The Approving Authority may approve a written application for a variance from the requirements listed in §L of this regulation if the application meets the following requirements:

(1) The variance is for the purpose of clustering lots as provided under local law;

(2) The number of clustered lots under two acres does not exceed the number of lots that would have been approvable under §K of this regulation; and

(3) The variance does not allow the transfer of density units or development rights to a subdivision located within 2,500 feet of a water supply reservoir.

N. Water Supply Wells.

(1) Except as provided in §N(2) or (3) of this regulation, an OSDS shall be located downgradient from an existing or proposed water supply well in an unconfined aquifer.

(2) An OSDS may be located upgradient from an existing or proposed water supply well if the Approving Authority determines that the OSDS meets the following requirements:

(a) The distance between the sewage disposal area and the nearest downgradient water supply well is greater than 200 feet;

(b) The average slope between the sewage disposal area and the nearest downgradient water supply well is less than 25% grade;

(c) The OSDS will receive only domestic sewage;

(d) The soils in the sewage disposal area meet the criteria in this regulation; and

(e) The water supply well meets the requirements in COMAR 26.04.04.

(3) The Department may grant a variance to locate an OSDS upgradient from an existing or proposed water supply well if the Approving Authority:

(a) Recommends that the variance be approved; and

(b) Provides justification supporting the recommendation as protective of public health and the environment as determined by the Department.

O. Except as authorized by the Department, the Approving Authority may not require a site evaluation unless water under pressure will be used for sanitary purposes.

.05 Design and Construction of Conventional OSDSs.

A. A conventional OSDS shall be designed using a soil loading rate and design flow that is approved by the Approving Authority consistent with this chapter.

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B. Effluent may not be discharged to an approved sewage disposal area until it receives adequate treatment from a sewage treatment unit that meets the requirements of this chapter.

C. Sewage Treatment Units.

(1) A sewage treatment unit approved after [the effective date of this chapter] shall have:

(a) Watertight risers that are at least three inches above grade;

(b) Watertight lids that are:

(i) Tamper-proof; and

(ii) Child-resistant; and

(c) A safety screen or safety net.

(2) The Approving Authority may approve a deviation from the requirement that risers be located at least three inches above grade as required in §C(1)(a) of this regulation.

D. Grease Interceptors.

(1) The owner of a food service facility or an establishment that discharges grease shall:

(a) Pre-treat sewage to remove grease through a grease interceptor before the sewage enters a septic tank, BAT, MBR, aerobic treatment unit, or any other approved device;

(b) Maintain the grease interceptor in accordance with the manufacturer's specifications; and

(c) Ensure that the grease interceptor is serviced regularly by a licensed liquid waste hauler.

(2) A grease interceptor shall be sized to:

(a) Provide at least 30 minutes of retention time for the maximum sewage flow during peak usage; and

(b) Have a minimum capacity of 1,000 gallons.

E. Non-domestic sewage shall be treated to meet the standards for domestic sewage before it is discharged to a soil absorption system.

F. Septic tank size shall be determined using the chart below:

Bedrooms	Septic Tank Capacity (gallons)	Design Flow (gallons/day)
Up to 2	1,000	300
3	1,000	450
4	1,500	600
5	1,500	750
6	2,000	900
7	2,000	1,050

G. Design flows for accessory structures with plumbing shall be determined by the Approving Authority based on the proposed usage.

H. A septic tank in an OSDS without BAT serving a non-residential use shall:

(1) Be at least 1,000 gallons; and

(2) Meet the following criteria, as applicable:

(a) Design flow up to 1,500 gallons per day: septic tank volume shall be 1.5 times the design flow; and

(b) Design flow of 1,500 gallons per day or more: septic tank volume shall be 1,125 gallons + 0.75 times the design flow.

I. A septic tank in an OSDS with a BAT unit shall be sized in accordance with the manufacturer's recommendations by the:

(1) Manufacturer of the BAT unit; or

(2) Designer of the BAT unit.

J. A septic tank shall:

(1) Have two or more compartments; or

(2) Be installed in a series of two or more septic tanks.

K. A septic tank shall be:

(1) Top seamed;

(2) Installed with an effluent filter in the outlet baffle;

(3) Water-tight; and

(4) Subject to a test for watertightness if requested by the Approving Authority.

L. Pump Chambers and Equipment.

(1) A pump chamber shall be sized to meet all of the following requirements:

(a) Ensure that all sewage is stored below the invert elevation at all times; and

(b) Accommodate all of the following:

(i) Pump on a six-inch riser;

(ii) Maximum dose volume;

(iii) Six-inch separation between the pump operation sensor and the high-water alarm;

(iv) Volume stored between doses, if any; and

(v) The design flow above the high-water alarm.

(2) A person may not use the area above the invert elevation in calculating a pump chamber's storage capacity.

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(3) A pump shall be installed to allow sewage to drain back to the pumping chamber from the distribution system to prevent freezing.

(4) Except as authorized by the Approving Authority, a person may not use a check valve to meet the requirements in §L(3) of this regulation.

(5) A pump discharge pipe shall:

(a) Be no more than 12 inches vertical distance below the rim of the highest riser; and

(b) Have a suitable means of disconnection for pump replacement.

(6) A pump shall be fitted with a lifting rope or chain that meets all of the following requirements:

(a) Made from material that withstands the corrosive environment of the pump chamber;

(b) Securely affixed to the discharge pipe no more than 12 inches vertical distance below the rim of the highest riser.

(7) A pump must be resistant to the corrosive environment of the pump chamber.

(8) A pump intake and the floor of the pumping chamber shall be separated by six inches or more.

(9) A pump chamber shall be constructed and located to prevent the entry of surface water or groundwater into the pump chamber.

(10) The pumping system shall have a high-water alarm wired to a circuit that is separate from the pumping system.

(11) A person may not attach a float or a float tree to the discharge pipe.

(12) A float shall be mounted on a dedicated float tree or float bracket with mounting clips that withstand the corrosive environment of the pump chamber.

(13) A person may not attach an electrical junction box inside an access riser.

(14) A pump control sensor or float shall be installed in a location where it is not affected by flow entering a pump chamber.

(15) Event counters and elapsed time meters:

(a) Shall be installed on each non-conventional OSDS; and

(b) May be required on a conventional OSDS by the Approving Authority.

M. Design Flows for Commercial or Institutional Establishments.

(1) The Department shall provide guidance to estimate design flows.

(2) Applications for commercial or institutional establishments shall include a proposed design flow.

(3) The Approving Authority may approve a design flow based on:

(a) The Department's guidance;

(b) Actual flow measurements; or

(c) Actual flow for similar establishments.

(4) The design flow may not be less than 400 gallons per day for a commercial or institutional establishment.

(5) The Department may require an applicant to obtain an individual groundwater discharge permit if the applicant discharges or proposes to discharge:

(a) Non-domestic sewage; or

(b) Waste other than domestic sewage.

N. Except as provided in [cite to sections discussing at-grade systems and sand mounds], the maximum soil loading rates for onsite sewage disposal shall be:

Maximum Soil Loading Rates for OSDSs with a Design Flow up to 5,000 gallons per day	
Percolation test rate in minutes based on 1-inch drop after pre-wetting	*Maximum soil loading rate (gallons per day per square foot)*
2-5	*1.2*
6-15	*0.8*
16-30	*0.6*

Maximum Soil Loading Rates for OSDSs with Design Flow Equal to or Greater Than 5,000 Gallons Per Day

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Percolation test rate in minutes based on 1-inch drop after pre-wetting	*Maximum soil loading rate (gallons per day per square foot)*	*Maximum soil loading rate for effluent with BOD5 and TSS 30 mg/l or less* (gallons per day per square foot)*	*Maximum soil loading rate for MBR effluent* (gallons per day per square foot)*
2-5	*0.8*	*1.6*	*2.0*
6-15	*0.6*	*1.2*	*1.6*
16-30	*0.4*	*0.8*	1.2

**An individual groundwater discharge permit is required and advanced pretreatment employed.*

O. The soil absorption area for an OSDS shall be calculated by dividing the design flow by the soil loading rate.

P. Standard Trench System Design.

(1) The Approving Authority may approve a standard trench system that:

(a) Meets the requirements of this section;

(b) Has adequate treatment zone; and

(c) Has adequate soil absorption area.

(2) A standard trench shall meet all of the following requirements:

(a) Be between two and three feet wide;

(b) Be the depth specified by the Approving Authority;

(c) Have one perforated dispersal pipe that is:

(i) Covered with at least two inches of drainfield gravel that is then covered by non-woven geotextile fabric; and

(ii) Capped with soil to grade; and

(d) Be filled with six or more inches of drainfield gravel from the bottom of the trench to the dispersal pipe.

(3) The Approving Authority may allow the use of open chambers in lieu of drainfield gravel as required in §P(2)(c) of this regulation if the trench is:

(a) Excavated to a depth of four feet or fewer; and

(b) Six or more inches of open space are between the perforated pipe and the bottom of the trench.

(4) The Department may authorize alternative materials in lieu of drainfield gravel as required in §P(2)(c) of this regulation.

(5) Standard trench length = a / w

Where:

a = The soil absorption area required for the design as calculated pursuant to regulation §O of this regulation.

w = Width of trench in feet;

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(6) The minimum distance between each standard trench shall be at least:

(a) Six feet of undisturbed soil between two-foot wide trenches measured from the edge of each standard trench; and

(b) Nine feet of undisturbed soil between three-foot wide trenches measured from the edge of each standard trench.

(7) A standard trench shall be installed along the contour of the land at equal elevation and may not exceed 100 feet in length unless the design allows for pressure distribution or multiple distribution devices.

(8) A standard trench shall be as level as possible at the bottom of the trench with a tolerance of no more than four inches per 100 feet.

(9) A standard trench design with more than one trench for parallel, gravity distribution shall ensure that each trench is of equal length.

(10) A standard trench design with more than one trench that receives effluent by gravity shall use:

(a) A distribution box for parallel distribution; or

(b) Drop boxes for serial distribution.

(11) The Approving Authority may require each standard trench to have a vertical observation pipe that is:

(a) Four inches in width;

(b) Installed at a location specified by the Approving Authority;

(c) Extended from the bottom of the trench to the ground surface;

(d) Perforated within the entire length of stone;

(e) Constructed from Schedule 40 PVC, SDR 26 PVC, or other material specified by the Approving Authority; and

(f) Fitted with a removeable cap.

Q. Deep Trench System Design.

(1) The Approving Authority may approve a deep trench system that meets the requirements of this section and has adequate treatment zone and sufficient soils to allow the use of trench sidewall to meet the minimum absorptive area.

(2) Each deep trench shall meet all of the following requirements:

(a) Be excavated to:

(i) Between two and three feet wide; and

(ii) A depth specified by the Approving Authority; and

(b) Be as level as possible at the bottom of the trench with a tolerance of no more than four inches per 100 feet;

(c) Have one perforated dispersal pipe that is:

(i) No deeper than four feet within the trench;

(ii) Covered with two or more inches of drainfield gravel that is then covered by non-woven geotextile fabric; and

(iii) Capped with soil to grade; and

(d) Be filled with drainfield gravel from the bottom of the trench to the dispersal pipe;

(e) Be installed along the contour of the land at equal elevation and may not exceed 100 feet in length unless the design allows for pressure distribution or multiple distribution devices; and

(f) Include one or more vertical observation pipes that are:

(i) Four inches in width;

(ii) Installed at a location specified by the Approving Authority;

(iii) Extended from the bottom of the trench to the ground surface;

(iv) Perforated within the entire length of stone;

(v) Constructed from Schedule 40 PVC, SDR 26 PVC, or other material specified by the Approving Authority; and

(vi) Fitted with a removeable cap.

(3) The Department may authorize use of alternative materials in lieu of drainfield gravel as required in §Q(2)(c)(ii) and §R(2)(d) of this regulation.

(4) Deep trench length = [(w+2) / (w+1+2d)] x a / w

Where:

w = Width of trench in feet;

d = Depth of usable sidewall area on the basis of percolation tests, observation of the soil profile at various soil depths, and other hydrogeologic data as required by the Approving Authority; and

a = The soil absorption area required for the design as calculated pursuant to regulation §O of this regulation.

(5) Except as provided §Q(6) of this regulation, the depth of usable sidewall area in §Q(4) of this regulation may not exceed four feet.

(6) The Approving Authority may allow up to six feet of sidewall for OSDS repairs if:

(a) Space is limited; and

(b) There is adequate treatment zone.

(7) The minimum distance between each deep trench shall be two times the effective absorptive depth of drainfield gravel in the deepest trench or 18 feet, whichever is the lesser distance.

(8) The distance between each deep trench may not be less than 10 feet.

R. Seepage Pit System Design.

(1) The Approving Authority may approve a seepage pit system if:

(a) There is insufficient space on contour to allow for a standard trench design or a deep trench design;

(b) Sufficient soils are available to allow the use of sidewalls in determining minimum absorption area; and

(c) Adequate treatment zone is available.

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(2) The total depth of sidewall required for a cylindrical seepage pit system = a ÷ (p x π), where: a = soil absorption area required; p = pit diameter; and π = 3.14.

(3) The total depth of sidewall required for a square or rectangular seepage pit system = a ÷ (l x d x 4), where: a = soil absorption area required; l = length; d = depth.

(4) The total depth of required sidewall for a seepage pit system may be divided equally among two or more seepage pits if:

(a) Each seepage pit receives equal effluent flow from a distribution box; and

(b) The effluent receives appropriate treatment from a sewage treatment unit before it is distributed to a seepage pit.

(5) The minimum distance between seepage pits shall be equal to three or more times the diameter of the largest seepage pit in the seepage pit system as determined by the Approving Authority.

(6) Each seepage pit shall have an observation port that is constructed as required by the Approving Authority to allow accurate measurement of the depth of:

(a) The seepage pit; and

(b) Effluent levels within the seepage pit.

S. Large OSDS Design.

(1) A large OSDS is:

(a) Any OSDS with a design flow of 5,000 gallons per day or more; or

(b) Any property with a combined design flow of 5,000 gallons per day or more using any number or combination of OSDSs.

(4) An application for a large OSDS shall be submitted by the owner or agent of the owner of the property where the large OSDS is located to the Department and the Approving Authority.

(5) A large OSDS shall meet all of the following requirements:

(a) Use uniform low-pressure distribution with dosing and resting features;

(b) Have suitable sewage disposal area reserved for the installation of an initial and two replacement OSDSs that are sufficient to treat the design flow;

(c) Be designed and constructed for 150 percent of the design flow for the initial installation; and

(d) Have the following analyses performed by a qualified professional and submitted to the Approving Authority and the Department:

(i) A nitrogen balance analysis that demonstrates the nitrogen concentration at the property line or at any point adjacent to a water course does not exceed 10 mg per liter; and

(ii) A mounding analysis that estimates the 20-year mound height and demonstrates that it will maintain the minimum separation distance with the unsaturated soil treatment zone.

T. Maximum design flow shall be used as the basis for the sewage disposal area design regardless of the type of sewage treatment unit or disposal method proposed.

U. The Approving Authority may require greater soil absorption area than provided for in this regulation based on local conditions and experience.

V. Fill Material.

(1) Except as provided in §W of this regulation, an OSDS may not be installed in fill material.

(2) A soil absorption system shall be located ten or more feet from:

(a) Fill material; or

(c) An existing OSDS.

(3) Fill material may be placed over OSDS components as backfill.

W. Sand Mound System Design.

(1) Except as provided in §W(2) of this regulation, the property where a sand mound system is proposed shall meet all of the following requirements as determined by the Approving Authority:

(a) Groundwater shall be located at least two feet below the ground surface as measured during the period of the highest water table;

(b) Excessively permeable material or fractured bedrock shall be located at least two feet below the ground surface;

(c) A sewage disposal area shall have a slope of less than 12 percent; and

(d) Percolation rates measured after prewetting using a method that measures vertical permeability may not be:

(i) Faster than one inch per two minutes; or

(ii) Slower than one inch per 120 minutes.

(2) The Approving Authority may require the depth between the ground surface and groundwater, excessively permeable material, or fractured rock be greater than two feet to ensure proper operation of a sand mound system.

(3) Each permeability test for a sand mound system area shall be:

(a) Performed in the least permeable soil horizon within two feet from the ground surface; and

(b) Conducted with an apparatus that prevents horizontal movement of water.

(4) A design for a sand mound system shall meet all of the following requirements:

(a) The long axis and the trench or bed shall be perpendicular to the slope;

(b) All parts of a sound mound system shall meet the horizontal separation distances in Regulation .04J of this chapter;

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(c) The linear loading rate as determined by dividing the design flow by the length of the gravel bed may not exceed ten gallons per day per foot;

(d) Unless BAT is installed, sewage shall be pretreated with:

(i) A two-compartment septic tank; or

(ii) Two septic tanks in a series with an effluent filter installed in the outlet baffle of the second tank or compartment; and

(e) The distribution system shall:

(i) Be pressurized;

(ii) Be used with a minimum pressure of two feet of head at the distal end;

(iii) Be installed level on a bed with at least six inches of drainfield gravel below the distribution pipe; and

(iv) Have a minimum of two inches of drainfield gravel that is covered with a spun, non-woven geotextile filter fabric to prevent sand and fines from entering the drainfield gravel placed above the distribution pipe; and

(f) The trench or bed shall be level;

(g) The sand beneath a trench or bed shall be:

(i) Between 0.25 and 0.5 mm in size with a uniformity coefficient of 3.5 or less; or

(ii) Between 0.15 and 0.3 mm in size with a uniformity coefficient between 4 and 6 and contain less than 20 percent of material larger than 2.0 mm and less than five percent of material less than 0.053 mm; and

(h) Holes in the distribution lines shall be free of burrs and other protrusions;

(i) The area above the trench or bed shall be capped with at least 12 inches of finer-textured silt loam material;

(j) The top of a sand mound system shall be crowned to allow precipitation and snowmelt to run off;

(k) A sand mound system shall be covered with six inches of topsoil and seeded;

(l) A sand mound system's side slopes may not exceed a three to one grade;

(m) Settling problems shall be corrected; and

(n) Observation ports to measure effluent levels shall be installed:

(i) At the gravel and sand interface in the gravel bed or trench;

(ii) At the soil and sand interface beneath the gravel bed; and

(iii) At the soil and sand interface on the downslope side of the mound.

(5) A sand mound system shall be sized to meet all of the requirements in this sub-section.

(a) The bed or trenches may not absorb more than:

(i) 1.2 gallons per square foot per day based on the bottom area of the beds or trenches for sand meeting the specification set forth in §V(4)(k)(i) of this regulation; and

(ii) 1.0 gallons per square foot per day based on the bottom area of the beds or trenches for sand meeting the specification set forth in §V(4)(k)(ii) of this regulation.

(b) The basal area shall be sized to absorb effluent in accordance with the following:

(i) For a vertical percolation rate between two minutes per inch and 30 minutes per inch, not more than 1.2 gallons per square foot per day;

(ii) For a vertical percolation rate between 31 minutes per inch and 45 minutes per inch, not more than 0.75 gallons per square foot per day;

(iii) For a vertical percolation rate between 46 minutes per inch and 60 minutes per inch, not more than 0.5 gallons per square foot per day; or

(iv) For a vertical percolation rate between 61 minutes per inch and 120 minutes per inch, not more than 0.3 gallons per square foot per day.

(c) The basal area on a non-sloping site shall be limited to the area that is covered with sand.

(d) The basal area on a sloping site shall be limited to the area that is directly below the trenches or bed and the area downslope from the trenches or bed.

(e) The amount of sand fill below the trench or bed shall be a minimum of one foot.

(f) The total distance from the bottom of a trench or bed to the high-water table or fractured bedrock may not be less than four feet except when a lesser separation is approved pursuant to Regulation .04C(3)(a) of this chapter.

(g) Except as provided in §W(5)(h)-(i) of this regulation, a minimum 25-foot-wide area downslope from the sand mound system shall be designated on a plan as an area protected from compaction and grading and free of structures such as buildings and driveways.

(h) The Approving Authority may increase the size of the 25-foot-wide protected area in §W(5)(g) of this regulation if a limiting horizon may restrict the vertical flow of effluent through the soil beneath the sand mound.

(i) If a site where a sand mound system is proposed has little to no slope as determined by the Approving Authority, the 25-foot-wide protected area in §W(5)(g) of this regulation shall extend around the entire perimeter of the sand mound system.

(6) A site where a sand mound system is proposed shall meet all of the following requirements:

(a) The site may not be compacted by earthmoving or equipment;

(b) Grass and other vegetation shall be cut and removed;

(c) The soil shall be plowed or scarified to a minimum depth of eight inches perpendicular to the slope;

(d) Work may not be done during wet weather, wet soil conditions, freezing conditions, or thawing conditions;

(e) Trees shall be cut at ground level and the stumps left in place;and

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(f) Prior to construction, the Approving Authority may require that the sewage disposal area for the initial sand mound system, replacement sand mound systems, and the non-compaction buffer be staked with temporary fencing sufficient to protect these areas from storage of materials and construction activities.

(7) Certification of Installers.

(a) An applicant for certification as a sand mound system installer shall successfully complete a course of study and examination in the practice of construction of sand mound systems that is approved by the Department.

(b) The course of study and examination shall be given at least once each year by the Department or the Department's designee.

(c) The certification shall be valid for a period of five years and may be renewed if the installer complies with this chapter.

(d) The Department may withdraw an installer's certification for a violation of this chapter.

(8) Certified Installation.

(a) A sand mound system shall be installed by an individual who is certified by the Department under §W(7) of this regulation.

(b) An individual who installs a sand mound system shall be present during construction of the sand mound system.

X. At-Grade System Design.

(1) The property where an at-grade system is proposed shall meet all of the following requirements as determined by the Approving Authority:

(a) Groundwater shall be located at least four feet below the ground surface as measured during the period of the highest water table;

(b) Excessively permeable material or fractured bedrock shall be located at least four feet below the ground surface;

(c) The sewage disposal area shall have a slope of less than 12 percent; and

(d) Percolation rates measured after prewetting utilizing a method that measures vertical permeability may not be:

(i) Faster than one inch per two minutes; or

(ii) Slower than one inch per 120 minutes.

(2) Each permeability test for an at-grade system shall be:

(a) Performed within 30 inches from the ground surface in the least permeable soil horizon; and

(b) Conducted with an apparatus that prevents horizontal movement of water.

(3) A design for an at-grade system shall meet all of the following requirements:

(a) The long axis of the trench or bed shall be perpendicular to the slope;

(b) All parts of an at-grade system shall meet the horizontal separation distance in Regulation .04J of this chapter;

(c) The linear loading rate as determined by dividing the design flow by the length of the drainfield gravel bed may not exceed 9 gallons per day per foot;

(d) Unless BAT is installed, sewage shall be pretreated with:

(i) A two-compartment septic tank; or

(ii) Two septic tanks in series with an effluent filter installed in the outlet baffle of the second tank or compartment;

(e) The distribution system shall:

(i) Be pressurized

(ii) Have a minimum pressure of two feet of head at the distal end;

(iii) Installed level on a bed or in a series of trenches with at least 6 inches of drainfield gravel below the distribution pipe; and

(iv) Have a minimum of two inches of drainfield gravel that is covered with a spun, non-woven geotextile filter fabric to prevent fines from entering the drainfield gravel placed above the distribution pipe; and

(f) Holes in the distribution lines shall be free of burrs and other protrusions;

(g) An at-grade system shall be covered with 12 inches of topsoil and seeded;

(h) An at-grade system's side slopes may not exceed a three to one grade and shall extend a minimum distance of five feet from the gravel bed;

(i) The top of an at-grade system shall be crowned to allow precipitation and snowmelt to run off; and

(j) Settling problems shall be corrected.

(4) An at-grade system shall be sized to meet all of the following requirements:

(a) The effective drainfield gravel absorption area shall be sized to absorb effluent in accordance with the following:

(i) Two to 15 minutes per inch -- 0.8 gallons per day per square foot;

(ii) 16 to 30 minutes per inch -- 0.6 gallons per day per square foot;

(iii) 31 to 60 minutes per inch -- 0.4 gallons per day per square foot; or

(iv) 61 to 120 minutes per inch – 0.25 gallons per day per square foot; and

(b) Except as approved in Regulation .04C(3)(a) and.04D of this chapter, the total distance from the bottom of the trench or bed to the high-water table, excessively permeable material, and fractured bedrock may not be less than four feet;

(c) Except as provided in §X(4)(d)-(e) of this regulation, a minimum 25-foot-wide area downslope of the at-grade system shall be designated on a plan as an area protected from compaction and grading and shall remain free of structures such as buildings and driveways;

(d) The Approving Authority may increase the size of the 25-foot-wide protected area in §X(4)(c) of this regulation if a limiting horizon is present beneath the at-grade system; and

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(e) If a site where an at-grade system is proposed has little to no slope as determined by the Approving Authority, the 25-foot-wide protected area in §X(4)(c) of this regulation shall extend around the entire perimeter of the at-grade system.

(5) A site for an at-grade system shall meet all of the following preparation requirements:

(a) The site may not be compacted by earthmoving or other equipment;

(b) Grass and other vegetation is cut and removed;

(c) The soil shall be plowed or scarified to a minimum depth of eight inches perpendicular to the slope;

(d) Work may not be done during wet weather, wet soil conditions, freezing conditions, or thawing conditions; and

(e) Trees on the site shall be cut at ground level and the stumps left in place.

(6) Certification of Installers.

(a) An at-grade system shall be installed by an individual who is certified by the Department.

(b) An applicant for certification as an at-grade installer shall successfully complete a course of study and examination in the practice of construction of at-grade systems that is approved by the Department.

(c) The course of study and examination shall be given at least once each year by the Department or the Department's designee.

(d) The certification shall be valid for a period of five years and may be renewed prior to its expiration if the installer complies with this chapter.

(e) The Department may withdraw an installer's certification for a violation of this chapter.

(7) Certified Installation.

(a) An at-grade system shall be installed by an individual who is certified by the Department under §X(6) of this regulation.

(b)An individual who installs an at-grade system shall be present during construction of the at-grade system.

.06 Non-Conventional OSDSs.

A. A person may not construct a non-conventional OSDS without a construction permit issued pursuant to this regulation.

B. A person may not utilize a non-conventional OSDS without an operating permit issued pursuant to regulation .08G of this chapter.

C. A non-conventional OSDS may not be used to support the subdivision of land pursuant to COMAR 26.04.03 except to support a use that the Department determines is essential to the public.

D. The Department and the Approving Authority may allow a property to be served by a non-conventional OSDS if:

(1) A community sewerage system is not available;

(2) A conventional OSDS design cannot alleviate a problem or provide the best method of correction; and

(3) The property to be served is:

(a) A lot of record; and

(b) Already improved; and

(4) The Department determines that a non-conventional OSDS will be protective of public health and the environment.

E. Non-Conventional OSDS Design.

(1) A non-conventional OSDS shall be designed by an individual with adequate experience in examining soil properties and hydrogeologic conditions related to on-site sewage disposal as determined by the Department and shall be a:

(a) Professional Engineer;

(b) Licensed Environmental Health Specialist; or

(c) Other qualified individual as determined by the Department.

(2) An individual who is approved to design a non-conventional OSDS shall submit a preliminary design that includes a hydrogeologic report based on a site evaluation as required in Regulation .04 of this chapter for the property where the non-conventional OSDS is proposed to the Department and the Approving Authority for review.

(3) Upon approval of the preliminary design and hydrogeologic report by the Department and the Approving Authority, the individual who is approved to design a non-conventional OSDS shall:

(a) Develop a complete design for the proposed non-conventional OSDS; and

(b) Submit the complete design for the proposed non-conventional OSDS to the Department and the Approving Authority with any additional information required by the Department or the Approving Authority for review and approval.

F. The Department and the Approving Authority may reduce a soil treatment zone to two-feet for an application to install a non-conventional OSDS if the Department and the Approving Authority determine that:

(1) A four-foot unsaturated, unconsolidated, soil treatment zone is not available;

(2) The two-foot soil treatment zone is:

(a) Unsaturated; and

(b) Unconsolidated; and

(3) Adequate pre-treatment of sewage will occur to reduce the concentration of:

(a) Pathogens;

(b) Biochemical oxygen demand;

(c) Total suspended solids; and

(d) Total nitrogen;

(4) Pressurized distribution of effluent will occur; and

(5) Public health and the environment will be protected.

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G. The Department and the Approving Authority may not approve a permit to construct a non-conventional OSDS until the owner of the property where the non-conventional OSDS is proposed:

(1) Submits an operation and maintenance manual for the non-conventional OSDS that is acceptable to the Department and the Approving Authority;

(2) Submits a fully executed maintenance agreement with a qualified contractor to maintain the non-conventional OSDS for its anticipated service life to the Department and the Approving Authority;

(3) Receives an operating permit from the Approving Authority that meets the requirements of .07G of this chapter; and

(4) Records a notice in land records for the property where the non-conventional OSDS is proposed that the property is:

(a) Served by a non-conventional OSDS that requires special operation and maintenance by a contractor that is acceptable to the Department and the Approving Authority;

(b) Subject to monitoring and recordkeeping requirements as determined by the Department and the Approving Authority; and

(c) Subject to entry for inspection of the non-conventional OSDS and any records related to it during ordinary business hours by the Department, the Approving Authority, or their authorized representatives.

H. The Approving Authority may not approve an alteration, expansion, or change in use that would cause or contribute to an increase in design flow or increase the strength of sewage from a building served by a non-conventional OSDS.

.07 Best Available Technology for Removal of Nitrogen (BAT).

A. A person may not install, or have installed, a new or replacement OSDS without BAT if:

(1) The OSDS is in the Critical Area;

(2) The OSDS has a design flow that equals or exceeds 5,000 gallons per day; or

(3) The Approving Authority otherwise determines that BAT is necessary to protect public health or waters of the State.

B. A property owner shall maintain a BAT system through one of the following measures:

(1) An operation and maintenance by a responsible management entity that is:

(a) Approved by the Department; and

(b) Established by the Approving Authority or local government;

(2) An operating permit issued by the Approving Authority under regulation .07G of this chapter; or

(3) Inspection and maintenance by a certified service provider at least once per year.

C. All BAT systems sold in the State shall include a minimum two-year operation and maintenance contract and a minimum two-year warranty, which shall be in effect at the point of initial installation.

D. Certified Service Providers.

(1) The Department shall maintain a list of certified service providers.

(2) An individual may become certified if the individual completes and passes a course of study on operation and maintenance of BAT systems that is approved by the Department.

(3) The Department may revoke a certified service provider's certification for a violation of this chapter.

(4) A certified service provider shall report on inspection, operation, and maintenance activities to the Department, or the Department's designee, in a manner acceptable to the Department on a yearly basis prior to the yearly anniversary of the date of installation.

(5) A certified service provider shall have a certificate of qualification from the manufacturer or vendor of the BAT system being serviced.

(6) A property owner may apply for certification as a certified service provider to maintain their BAT system subject to the requirements of this regulation.

E. A certified service provider who is certified by the manufacturer shall be present on the property while a BAT system is installed.

F. Within 1 month after completing an installation, a person installing a BAT system shall report to the Department, or the Department's designee, the address and date of completion of the BAT installation and the type of BAT installed in a manner acceptable to the Department.

G. A BAT system with a design flow less than 1,500 gallons per day may only be installed if the BAT system is approved by the Department.

H. A BAT system with a design flow greater than 1,500 gallons per day may only be installed if the BAT system is:

(1) Individually engineered for the site;

(2) Approved by the Department or the Department's designee; and

(3) Is designed to meet groundwater discharge permit limits, if applicable.

I. A person shall construct a BAT system:

(1) In a manner acceptable to the Department and the Approving Authority; and

(2) Using materials acceptable to the Department and the Approving Authority.

J. The Department may grant a variance to the requirements of §A of this regulation if:

(1) The Approving Authority recommends the variance; and

(2) The applicant demonstrates that extremely low, variable, or sporadic wastewater flow will result in malfunctioning of the BAT system.

.08 Permits.

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A. Permits and Land Evaluations.

(1) A county or municipality may not issue a building permit or a use permit until the requirements of this regulation are met, as applicable.

(2) The permits required by this regulation are in addition to any approval to subdivide land pursuant to COMAR 26.04.03.

B. A person shall obtain a construction permit from the Approving Authority under this regulation before performing any of the following activities:

(1) Constructing, installing, modifying, replacing, or extending an OSDS, sewage treatment unit, soil absorption system, or sewage disposal area;

(2) Changing the character or volume of sewage entering an OSDS, sewage treatment unit, soil absorption system, or sewage disposal area.

C. Approval and Denial.

(1) The Approving Authority may issue a construction permit under this regulation if:

(a) The application meets the requirements of this regulation;

(b) The proposed activity meets the requirements of this chapter;

(c) The proposed activity will occur safely in a manner that is protective of public health and the environment;

(d) The proposed activity will occur on a property that has a safe and adequate supply of potable water through a:

(i) Public water system;

(ii) Water supply well located on the same property or a valid, recorded easement with the property served as the dominant estate; or

(iii) Shared facility that meets the requirements of COMAR 26.04.05; and

(e) The proposed activity will not cause pollution or contamination;

(f) The proposed activity is consistent with the County Plan;

(g) The OSDS has received an Individual Groundwater Discharge Permit under §K of this regulation, if applicable; and

(h) The proposed activity is otherwise consistent with applicable law.

(2) If the Approving Authority denies an application, the Approving Authority shall notify the applicant in writing within 30 days as to the reason(s) for denial.

D. An application for a construction permit under this regulation must:

(1) Be authorized by the owner of the property where the proposed activity will occur;

(2) Be submitted by a person who is authorized by the State Board of On-Site Wastewater Professionals;

(3) Be submitted to the Approving Authority in the form required by the Approving Authority;

(4) Be for a property that is a lot of record; and

(5) Include the following:

(a) A to-scale site plan that depicts the locations of the proposed sewage disposal area, the boundaries of the property where the OSDS is proposed, existing and proposed OSDS(s) on the property or within 100 feet of the property line, existing and proposed wells on the property or within 100 feet of the property line, and proposed percolation test location(s);

(c) The proposed OSDS design, including the method(s) of sewage treatment;

(d) Information concerning existing or proposed OSDS(s) or well(s) located on the property or within 100 feet of the property line;

(e) Existing and proposed improvement(s) on the property; and

(f) Any additional information requested by the Approving Authority.

E. The Approving Authority may require:

(1) For an existing OSDS, an inspection report from a person acceptable to the Approving Authority;

(2) A meeting prior to commencing an approved activity;

(3) Advanced notice up to 2 business days prior to commencing an approved activity;

(4) Installation, inspection, and approval of an OSDS before a building permit or a use permit may be issued; and

(5) An operating permit for an OSDS, grease interceptor, holding tank, pump-out station, portable unit, or privy.

F. An application for an operating permit must:

(1) Be authorized by the owner of the property where the proposed activity will occur;

(2) Be submitted to the Approving Authority in the form required by the Approving Authority; and

(3) Be for a property that is a lot of record.

G. An operating permit:

(1) Is issued at the discretion of the Approving Authority; and

(2) Shall meet all of the following requirements:

(a) Designate the property owner as the permittee;

(b) Establish specific operational requirements for each OSDS governed by the permit;

(c) Require the property owner to notify any purchaser of an interest in the property regulated by the permit that the property is subject to the operating permit;

(d) Be transferable to a new owner of the property if the new owner meets the requirements of the operating permit and this chapter as determined by the Approving Authority;

(e) Provide a right of entry for the Department, the Approving Authority, or their authorized agents to inspect the OSDS and any records related to the OSDS;

(f) Require the permittee to comply with this chapter;

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(g) For a non-conventional OSDS:

(i) Specify the information that the property owner must submit to the Approving Authority;

(ii) Require the property owner to submit the information in §G(2)(g)(i) of this regulation to the Approving Authority on an annual basis.

H. A person may not utilize an OSDS subject to an operating permit issued by the Approving Authority except in compliance with the operating permit.

I. The Approving Authority shall oversee compliance with operating permits issued under §G of this regulation and shall submit the data received to the Department annually in the format specified by the Department.

J. Covering or Using an OSDS.

(1) A person may not cover or use any portion of an OSDS until the Approving Authority or the Department has inspected and approved the OSDS.

(2) A permittee shall protect an excavated area to prevent injury or harm to persons and wildlife.

(3) A permittee shall backfill an excavated area as soon as possible after the Approving Authority inspects and approves an OSDS.

K. Building Permits and Use Permits.

(1) New Construction. A person may not construct, occupy, or use a building, structure, mobile home, or floatable home until the Approving Authority determines that the building, structure, mobile home, or floatable home:

(a) Meets all applicable setback requirements in .04J [setback requirements];

(b) If served by a community sewerage system:

(i) Has an approved allocation from the community sewerage system that is sufficient to meet the total, anticipated flow; and

(ii) Is consistent with the County Plan; or

(c) If served by a proposed OSDS, the proposed OSDS:

(i) Has received a permit under this regulation:

(ii) Is sized appropriately for the proposed design flow based on 150 gallons per bedroom, per day;

(iii) Meets sewage disposal area requirements in Regulation .05 of this chapter [sewage disposal area requirements];

(iv) Meets septic reserve area requirements in Regulation .04 of this chapter;

(v) Is located on the same property as the building, structure, mobile home, or floatable home to be served or is identified on a valid, recorded easement with the property to be served as the dominant estate; and

(vi) Is consistent with the County Plan.

(d) Meets the requirements of COMAR 26.04.04.02-1D, if applicable.;

(2) Existing Buildings or Structures. A person may not alter, modify, or expand a building, structure, mobile home, or floatable home until the Approving Authority determines that the building, structure, mobile home, or floatable home:

(a) Meets all applicable setback requirements in .04J [setback requirements];

(b) If served by a community sewerage system:

(i) Has an approved allocation from the community sewerage system that is sufficient to meet the total, anticipated flow; and

(ii) Is consistent with the County Plan; or

(c) If served by an OSDS, the OSDS:

(i) Can safely handle the existing sewage flow in accordance with this chapter;

(ii) Can safely handle any increase in flow in accordance with §G(4) of this regulation;

(iii) Meets sewage disposal area requirements in Regulation .05 of this chapter [sewage disposal area requirements];

(iv) Meets the requirements of §G(3) of this regulation, if applicable;

(v) Is located on the same property as the building, structure, mobile home, or floatable home to be served or is identified on a valid, recorded easement with the property to be served as the dominant estate; and

(vi) Is consistent with the County Plan.

(d) Meets the requirements of COMAR 26.04.04.03-1D, if applicable.;

(3) The Approving Authority may require an applicant under §G(2) of this regulation to provide an OSDS inspection report that:

(a) Is prepared by a person that is acceptable to the Approving Authority;

(b) Is consistent with the protocols for property transfer inspection;

(c) Is based on an inspection conducted in the last 12 months; and

(d) Verifies there is an adequate treatment zone and sewage disposal area that meets the requirements of .04 of this chapter.

(4) The Approving Authority may not require expansion of an existing OSDS under §G(2) of this regulation for an anticipated increase of less than 25% of total, enclosed living space, provided that:

(a) The requirements of §G(3) of this regulation are met, if applicable; and

(b) The strength of the sewage will not change.

(5) The Approving Authority shall require the expansion or replacement, as applicable, of an existing OSDS under §G(2) of this regulation by 100 gallons for each 25% increase beyond existing, total, enclosed living space.

(6) In making determinations under §G(2) of this regulation, the Approving Authority shall consider the:

(a) Total amount of existing and proposed enclosed living space; and

(b) Changes that may affect the volume or character of the sewage.

(7) In making determinations under §G(2) of this regulation, the Approving Authority may not consider the number of existing or proposed bedrooms.

(8) A county or municipality may not issue a building permit until the requirements in §G(1)-(7) of this regulation are met, as applicable.

(9) A county or municipality may not issue a use permit until the Approving Authority determines that the property where the use is proposed meets the requirements in §G of this regulation, as applicable.

L. A construction permit issued under this regulation shall be:

(1) Valid for up to 2 years from the date of issuance or renewal;

(2) Renewable by the Approving Authority, subject to any additional testing or evaluation as required by the Approving Authority;

(3) Rendered invalid if the Approving Authority determines that grading, soil compaction, or changes in drainage have adversely affected the sewage disposal area; and

(4) [Placeholder for permit transferability - TBD].

M. Third-Party Management.

(1) A county or municipality may establish a responsible entity to manage, operate, or maintain an OSDS.

(2) An entity established under .07I(1) of this regulation shall meet the requirements for a controlling authority in COMAR 26.04.05 if the OSDS is a shared facility.

N. A permit shall include a statement that septic tanks, grease interceptors, BAT, MBR, and other sewage treatment units must be pumped at an adequate frequency to ensure that septage does not discharge, leak, or overflow to the ground surface or to waters of the State.

O. Individual Groundwater Discharge Permits.

(1) A person may not receive a construction permit under this regulation until the person obtains an individual Groundwater Discharge Permit from the Department pursuant to this section.

(2) The owner of an OSDS shall obtain an Individual Groundwater Discharge Permit from the Department if the OSDS meets any of the following criteria:

(a) A design flow of 10,000 gallons per day or more; or

(b) A design flow of 5,000 gallons per day or more that uses MBR or other treatment to achieve effluent levels at or below 30 mg/l BOD5 and 30 mg/l TSS 30 shall obtain an individual groundwater discharge permit from the Department.

(3) The Department may require the owner of an OSDS that meets any of the following requirements to obtain an Individual Groundwater Discharge Permit from the Department:

(a) A design flow between 5,000 and 9,999 gallons per day;

(b) A design flow of 1,500 gallons per day or more that receives non-domestic sewage; or

(c) Specific project characteristics warrant additional monitoring, controls, or special requirements as determined by the Department.

.09 Special Methods of Sewage Collection and Disposal.

A. Except as authorized by the Department of Health in COMAR 10.15.03, a person may not utilize, operate, or make available a portable unit to allow, support, or facilitate:

(1) The occupation or use of a new building or structure;

(2) The occupation or use of a modification, alteration, extension, or expansion of an existing building or structure; or

(3) A change in use.

B. A person may not utilize, operate, or make available a portable unit for longer than 3 days within a 60-day period without authorization from the Approving Authority.

C. The Approving Authority may require a permit to utilize, operate, or make available a portable unit, privy, or pump-out station.

D. The Approving Authority may inspect a portable unit, privy, pump-out station, composting toilet, or holding tank and issue an order to require corrective action to address a violation of this chapter within a reasonable time.

E. An owner or operator of a property where a portable unit, privy, pump-out station, or holding tank is located shall ensure that each portable unit, privy, pump-out station, and holding tank at the property meets the following requirements:

(1) Is subject to an enforceable maintenance agreement with an appropriately qualified third party to perform regular maintenance in accordance with manufacturer specifications, to replenish supplies, and to ensure clean and sanitary conditions as determined by the Approving Authority;

(2) Is pumped by a licensed septage hauler, if applicable, to prevent overflows, backups, odors, or unsanitary conditions as determined by the Approving Authority;

(3) Is supplied with an appropriate number of handwashing or sanitization stations, if applicable, that are maintained in a clean and sanitary condition as determined by the Approving Authority; and

(4) Receives potable water, if applicable, at a frequency necessary to maintain adequate water pressure with a backflow prevention device to protect the safety and potability of the stored water and the appropriate functioning of each connected device as determined by the Approving Authority.

F. A person may not build, construct, install, or modify a privy or have a privy constructed, built, installed, or modified unless the Approving Authority determines that the privy will:

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(1) Contain all sewage in a watertight tank with a minimum 1,000-gallon capacity;
(2) Prevent insects, animals, and other potential vectors from gaining access to any sewage;
(3) Prevent odors and other nuisances; and
(4) Meet the requirements of this regulation.

G. A chemical toilet shall be:
(1) Made from impervious materials;
(2) Vented to the outside air above the roof line of a structure housing them; and
(3) Supplied with an adequate amount of the chemical agent that reduces and deodorizes the tank contents.

H. Pump-Out Stations.
(1) Pump-out stations shall:
(a) Be constructed in accordance with applicable federal, State, and local laws, ordinances, and regulations;
(b) Be maintained in accordance with manufacturer specifications and this chapter;
(c) Meet the requirements of §E(1)-(2) of this regulation;
(d) Be operable and available to the public or authorized licensees, as applicable; and
(e) Meet any other requirements established by the Approving Authority.
(2) All sewage collected by a pump-out station shall be stored in one or more tanks that are:
(a) Watertight;
(b) Constructed of materials and in a manner acceptable to the Approving Authority;
(c) Designed in accordance with the Department's guidance for design flow; and
(d) Outfitted with a high-water alarm that is:
(i) Installed on a float tree; and
(ii) Equipped with a visible and audible alarm that activates when the tank reaches 75% capacity.

I. The owner, operator, or licensee of a holding tank, privy, pump-out station, or portable unit that contains septage shall ensure that the contents are removed and disposed of in accordance with Regulation .10 of this chapter.

J. Holding Tank Restrictions.
(1) Except as provided in §M of this regulation, a person may not build, construct, install, operate, or utilize a holding tank or have a holding tank built, installed, operated, or utilized to allow, support, or facilitate:
(a) The occupation or use of a new building or structure;
(b) An increase in sewage flow from the current design flow;
(c) The occupation or use of a property that is already connected to a community sewerage system;
(d) The occupation or use of a property that an adequate community sewerage system is economically available to serve as determined by the Approving Authority; or
(e) A change in use.
(2) Except as provided in §M of this regulation, a person may not have a holding tank built, installed, operated, or utilized to allow, support, or facilitate any of the activities identified in §J(1) of this regulation.

K. Holding Tank Prohibitions.
(1) A person may not build, construct, install, operate, or utilize a holding tank without a permit issued by the Approving Authority or the Department subject to the requirements of this regulation.
(2) The Approving Authority may not issue a permit for a holding tank if any of the criteria in §J of this regulation are met.

L. The Approving Authority may issue a permit for a holding tank if the Approving Authority determines that:
(1) The existing OSDS that serves the building where the holding tank is proposed:
(a) Has failed and cannot be repaired or replaced; or
(b) Is detrimental to health or the environment and cannot be repaired or replaced; and
(2) The building to be served has a metered water supply and the building:
(a) Is legally occupied;
(b) Could be legally occupied; or
(c) Was legally occupied until a fire, natural disaster, foreclosure, or similar extenuating circumstance occurred that prevented legal occupancy within 7 years prior to the date of application as determined by the Approving Authority; and
(3) The property owner meets the requirements in §E(1)-(2) of this regulation; and
(4) The holding tank will:
(a) Have a minimum capacity of at least 7 days of historical design flow as determined by the Approving Authority;
(b) Be watertight; and
(c) Be outfitted with a high-water alarm that is:
(i) Installed on a float tree; and
(ii) Equipped with a visible and audible alarm that activates when the tank reaches 75% capacity; and
(5) The property owner signs and records an enforceable agreement in land records between the property owner, the Approving Authority, and the Department that requires the owner of the property to:
(a) Maintain the holding tank in accordance with this chapter;
(b) Connect all buildings served by potable water under pressure on the property to a community sewerage system if the Approving Authority determines that a community sewerage system is:
(i) Adequate; and
(ii) Economically available; and

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(c) Disconnect and abandon the holding tank as directed by the Approving Authority if the criteria in §L(4)(b) of this regulation are met.

M. The Department may approve a holding tank for an essential public service building if:

(1) The property is not already connected to a community sewerage system;

(2) An adequate community sewerage system is not economically available to serve the property;

(3) An OSDS cannot be installed, repaired, or replaced to serve the building;

(4) The holding tank will:

(a) Have a minimum capacity of at least seven days of historical design flow as determined by the Department;

(b) Be watertight; and

(c) Be outfitted with a high-water alarm that is:

(i) Installed on a float tree; and

(ii) Equipped with a visible and audible alarm that activates when the tank reaches 75% capacity; and

(5) The criteria in §E(1)-(2) of this regulation are met; and

(6) The property owner signs and records an enforceable agreement in land records between the property owner, any successors in interest, and the Department that requires the owner of the property to:

(a) Maintain the holding tank in accordance with this chapter;

(b) Connect all buildings served by potable water under pressure on the property to a community sewerage system if the Department determines that a community sewerage system is:

(i) Adequate; and

(ii) Economically available; and

(c) Disconnect and abandon the holding tank as directed by the Department if the criteria in §M(6)(b) of this regulation are met.

N. A vessel shall store and dispose of sewage through one or more of the following methods:

(1) A marine sanitation device that is installed, operated, and maintained in accordance with Natural Resources Article, Title 8, Subtitle 7, Annotated Code of Maryland, and the regulations established under that Subtitle;

(2) A pump-out station or septage hauler that is approved under this chapter; or

(3) An alternative method of sewage disposal that is approved by the Department.

O. A floatable home shall store and dispose of sewage as required in §N of this regulation.

P. Motor Vehicles.

(1) A motor vehicle that stores sewage shall do so in a watertight tank.

(2) A person may not remove sewage from a motor vehicle except through an approved pump-out station or septage hauler.

Q. A person may not install a composting toilet or have a composting toilet installed unless:

(1) The Approving Authority approves the composting toilet;

(2) The composting toilet meets the standards of NSF/ANSI Standard 41: Non-Liquid Saturated Treatment Systems;

(3) The sewage from the composting toilet is disposed of:

(a) In accordance with a discharge permit issued by the Department; or

(b) In an OSDS that meets the requirements of this chapter; and

(4) The property is not already connected to a community sewerage system;

(5) An adequate community sewerage system is not economically available to serve the property;

(6) The building where the composting toilet is proposed:

(a) Is legally occupied;

(b) Could be legally occupied; or

(c) Was legally occupied until a fire, natural disaster, foreclosure, or similar extenuating circumstance occurred that prevented legal occupancy within 7 years prior to the date of application as determined by the Approving Authority; and

(7) All other sewage generated by the property where the composting toilet is proposed will be disposed of in accordance with this chapter.

.10 Septage.

A. The owner, operator, or licensee of an OSDS, portable unit, pump-out station, privy, holding tank, or grease interceptor shall ensure that all septage from the OSDS, portable unit, pump-out station, privy, holding tank, or grease interceptor is:

(1) Removed properly to prevent a violation of this chapter or a threat to health or the environment; and

(2) Disposed of in compliance with State and local requirements at a facility that is licensed by the Department under Environment Article, Title 9, Subtitle 3, Annotated Code of Maryland.

B. A person may not operate as a liquid waste hauler without a permit from the Approving Authority issued pursuant to this regulation.

C. A liquid waste hauler shall:

(1) Remove and transport all septage safely to prevent a violation of this chapter or a menace to public health or comfort;

(2) Dispose of all septage in compliance with State and local requirements at a facility that is licensed by the Department under Environment Article, Title 9, Subtitle 3, Annotated Code of Maryland;

(3) Be subject to inspection by the Approving Authority or the Department;

(4) Retain all records related to the removal, transportation, or disposition of septage for at least 3 years and make them available to the Approving Authority or the Department upon request;

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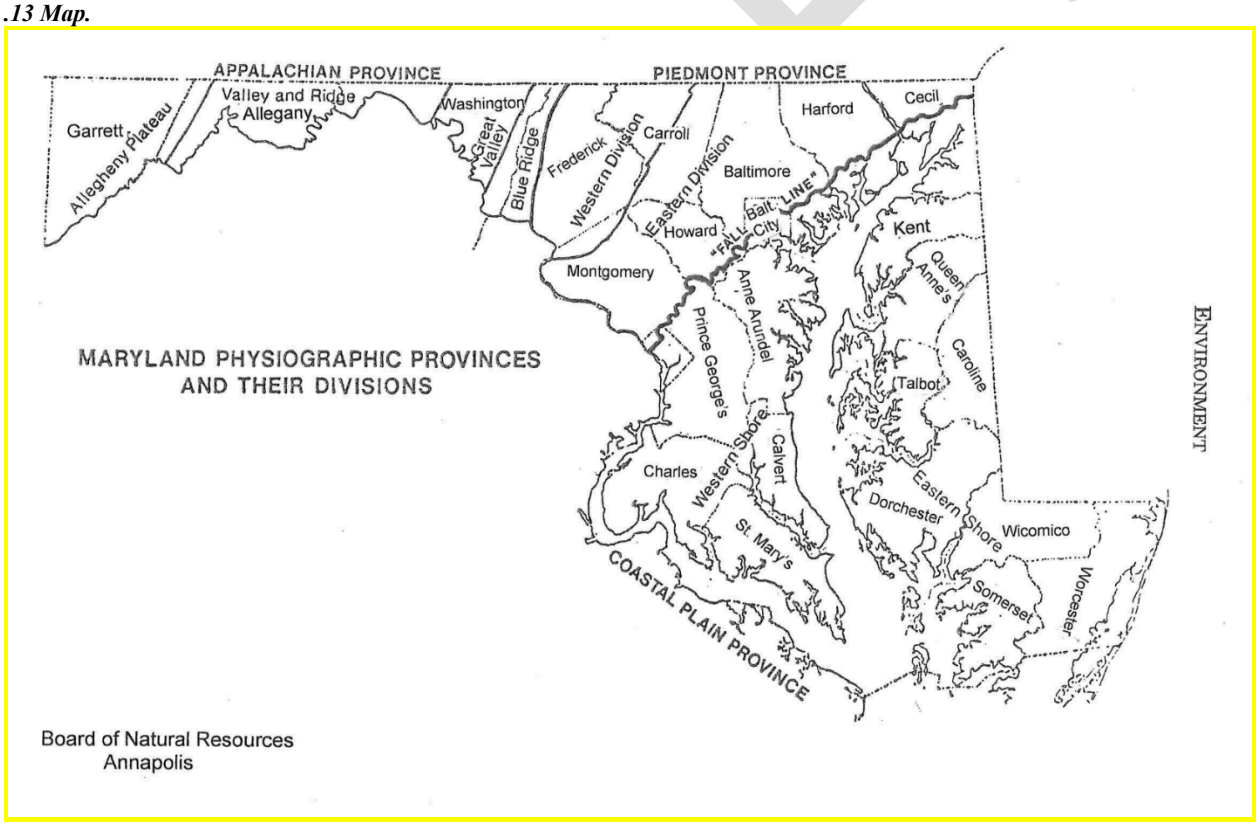
(5) Use only a septage hauler for the removal or transportation of septage that is:
(a) Maintained in:
(i) Clean and sanitary condition; and
(ii) Good working order in accordance with manufacturer specifications; and
(b) Identified as a septage hauler with:
(i) The name of the liquid waste hauler legibly lettered on both sides of the septage hauler with the lettering at least 3 inches in height; and
(ii) The words "Sewage Only" lettered on the rear of the septage hauler at least 4 inches in height; and
(c) Approved by the Approving Authority.
(6) Operate subject to an annual permit issued by the Approving Authority.

.11 Variances.
A. The Department may grant variances to area, well siting, distance, and slope requirements of this chapter upon the recommendation of the Approving Authority provided that the public health is protected.
B. The Department may grant variances to tank and pump chamber sizing if:
(1) The design flow equals or exceeds 1,500 gallons per day; and
(2) The property use is commercial.

.12 Appeal.
A. A person aggrieved by a final decision of the Approving Authority or the Department under this chapter has the right to a contested case hearing to appeal the final decision in accordance with the Administrative Procedure Act and other applicable statutes and regulations.
B. All appeals shall be filed with the Director of the Department's Water and Science Administration within 30 days after notification of the final decision by the Approving Authority or the Department, as applicable.

.13 Map.



Title 26
DEPARTMENT OF THE ENVIRONMENT

Subtitle 04 REGULATION OF WATER SUPPLY, SEWAGE DISPOSAL, SOLID WASTE, AND RECYCLABLE MATERIALS

26.04.04 Well Construction.

Authority: Environment Article, §§*1-301, 1-404, 9-201, 9-208, 9-221, 9-223, 9-223.1, 9-252, 9-255, 9-257, 9-261, 9-4a-02, 9-4a-04, 9-510, 9-511, 9-512,* 9-1305-9-1305.1, Annotated Code of Maryland.

.02 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1)—(10) (text unchanged)

(11) *"Cistern" means a tank that stores rainwater for household or other purposes.*

(12) **[**(11) "Confined aquifer" means an aquifer that is bounded above and below by beds of distinctly lower permeability than that of the aquifer itself and contains ground water under pressure greater than that of the atmosphere. This term is synonymous with the term "artesian aquifer".**]** *"Confined aquifer" means an aquifer that is:*

(a) Bounded above and below by beds of distinctly lower permeability than that of the aquifer itself; and

(b) Contains groundwater under pressure greater than that of the atmosphere.

(13) **[**(12)**]** *"Community water system" has the meaning stated in Environment Article, Title 9, Subtitle 4, Annotated Code of Maryland.*

(14)—(15) **[**(13)—(14)**]** (text unchanged)

(16) **[**(14)**]** *"County Plan" has the meaning stated in Environment Article, Title 9, Subtitle 5, Annotated Code of Maryland.*

(___) "Floatable home" means any structure or device, whether self-propelled or not, which:

(a) Has one or more toilets or privies;

(b) Is capable of floating on water; and

(c) Is not a vessel.

(___) "Mobile home" has the meaning stated in COMAR 10.16.02.01-1.

(17)—(40) **[**(15)—(37)**]** (text unchanged)

(41) "Public water system" has the meaning stated in Environment Article, Title 9, Subtitle 4, Annotated Code of Maryland.

(42)—(48) **[**(38—44)**]** (text unchanged)

(49) "Water supply system" has the meaning stated in Environment Article, Title 9, Subtitle 2, Annotated Code of Maryland.

(a) "Water supply system" includes a water supply well and a public water system.

(50)—(51) **[**(45)—(46)**]** (text unchanged)

.02-1 Requirements.

A. Except as authorized by this chapter or otherwise authorized by the Department, a person may not construct, install, alter, modify, extend, abandon, or remove a well.

B. A person may not use a cistern as a source of potable water.

C. A person may not construct, install, alter, modify, or extend a dug well as a source of potable water.

D. Building Permits and Use Permits.

(1) New Construction. A person may not construct, occupy, or use a building, structure, mobile home, or floatable home that will be served by water under pressure until the Approving Authority:

(a) Determines that the property has an approved allocation from a public water system that is:

(i) Consistent with the County Plan;

(ii) Sufficient to meet the anticipated demand for potable water; and

(iii) Issues a permit under COMAR 26.04.02.08, if applicable; or

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(b) Issues a permit under this chapter for a water supply well to serve the proposed construction that:

(i) Meets the requirements of this chapter;

(ii) Is consistent with the County Plan;

(iii) Is located on the same property as the building, structure, mobile home, or floatable home to be served or is identified on a valid, recorded easement with the property to be served as the dominant estate; and

(iv) Issues a permit under COMAR 26.04.02.08, if applicable.

(3) Alteration, Modification, or Expansion. A person may not alter, modify, or expand a building, structure, mobile home, or floatable home served by water under pressure until the Approving Authority issues a permit under COMAR 26.04.02.08, if applicable, and:

(a) Determines that the property has an approved allocation from a public water system that is:

(i) Consistent with the County Plan; and

(ii) Sufficient to meet the anticipated demand for potable water; or

(b) Determines that there is an existing water supply well to serve the proposed construction that:

(i) Meets the requirements of this chapter;

(ii) Is consistent with the County Plan;

(iii) Is sufficient to meet the anticipated demand for potable water; and

(iv) Is located on the same property as the building, structure, mobile home, or floatable home to be served or is identified on a valid, recorded easement with the property to be served as the dominant estate; or

(c) Issues a permit under this chapter for a water supply well to serve the proposed construction that:

(i) Meets the requirements of this chapter;

(ii) Is consistent with the County Plan; and

(iii) Is located on the same property as the building or structure to be served or is identified on a valid, recorded easement with the property to be served as the dominant estate.

(4) A county or municipality may not issue a building permit until the requirements in §D(1)-(3) of this regulation are met, as applicable.

(5) A county or municipality may not issue a use permit until the Approving Authority determines that the property where the use is proposed has a source of potable water supply that:

(a) Is sufficient to meet the anticipated demand for potable water; and

(b) Meets the requirements of this chapter.

A person may not construct, alter, modify, or expand a building or structure served by a water supply well until the Approving Authority:

(a) Determines that the water supply well can handle:

(i) The existing demand for potable water in accordance with this chapter;

(ii) Any reasonably foreseeable increase in demand for potable water; and

(b) Issues a permit under COMAR 26.04.02.04, if applicable.

(2) In evaluating applications under §D(1) of this regulation, the Approving Authority may require the applicant to submit the following information from one or more qualified individuals that are acceptable to the Approving Authority:

(a) A well yield test report;

(b) Water quality test reports; and

(c) Detailed information and documentation concerning the construction of the existing well.

(3) A person may not construct, alter, modify, or expand a building or structure that will be served by a water supply well until the Approving Authority issues a permit under this chapter for a water supply well to serve the proposed construction.

E. A permittee shall grout any portion of a water supply well that taps a confined aquifer beneath a disposal aquifer identified in COMAR 26.04.02.05.

F. Except as authorized by the Department, the Approving Authority may not issue a permit to construct, install, modify, or expand a water supply well to serve a property that:

(1) Is already connected to a public water system; or

(2) Could be connected to a community water system that is adequate and economically available to the property as determined by the Department or the Approving Authority.

G. Water Supply Well Problems.

(1) The Department may order the owner or operator of a water supply well to change the water supply well's mode of operation if the Department determines that the water supply well is causing or contributing to:

(a) Pollution;

(b) Contamination;

(c) A menace to health or comfort; or

(d) A nuisance.

(2) If the Department determines that a water supply well meets the criteria in §G(1) of this regulation and the problem is not or cannot be corrected by changing the water supply well's mode of operation, the Department may order the owner or operator of the water supply well to:

(a) Alter the water supply well;

(b) Abandon the water supply well as directed by the Department and install a new water supply well acceptable to the Department; or

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(c) Abandon the water supply well as directed by the Department and connect to a community water system that the Department determines is adequate and economically available to the property where the water supply well is located.

(3) The Department may order the owner or operator of a property where a water supply well is located to connect to a community water system and abandon the water supply well as directed by the Department if the Department determines that the water supply well:

(a) Is prejudicial to health or the environment; or

(b) Could become prejudicial to health or the environment.

H. A person may not install a new or replacement pipe that connects a building or structure to a water supply well or a public water system unless the piping includes a tracer wire or equivalent technology that makes the piping detectable or locatable.

I. The Department or the Approving Authority may test any potable water to determine the adequacy of a water supply well.

J. Well Testing for Residential Rental Properties.

(1) A person that owns a residential rental property that is served by a water supply well shall comply with Environment Article, Title 9, Subtitle 4a, Annotated Code of Maryland and §K of this regulation.

(2) A sample collected under §J of this regulation shall be:

(a) Taken from each water supply well that serves the residential rental property before any treatment occurs;

(b) Collected by a Department-certified sampler and maintained as directed by a water quality laboratory that is certified by the Department in accordance with Environment Article, Title 9, Subtitle 10, Annotated Code of Maryland;

(c) Submitted to a water quality laboratory that is certified by the Department in accordance with Environment Article, Title 9, Subtitle 10, Annotated Code of Maryland; and

(d) Tested in accordance with a test method approved by the U.S. Environmental Protection Agency for:

(i) Total coliform in accordance with Regulation .30D(1) of this chapter;

(ii) Nitrate-nitrogen in accordance with Regulation .30D(2) of this chapter;

(iii) Turbidity in accordance with Regulation .30D(2) of this chapter; and

(iv) Any other contaminant specified by the Approving Authority if the Approving Authority has reason to believe that the contaminant may be present in amounts that may be adverse to human health.

(3) The harmful level of turbidity is any exceedance of the levels established in Regulation .16E(5) of this chapter.

(4) The harmful level of total coliform is any level above zero.

(5) The harmful level of nitrate-nitrogen is 10 milligrams per liter.

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