

## **Chapter 217. SEWAGE DISPOSAL SYSTEMS**

The Board of Health (“Board”) adopted these Regulations for Sewage Disposal, Chapter 217, on July 15, 2013 to supplement 310 CMR 15.00, Title V of the State Environmental Code (“State Code”). Title V sets the minimum standards for the protection of public health through the administration of construction of sewage disposal facilities. The Town of Dover has recognized that there are conditions in the town which warrant additional consideration above that set under Title V in order to protect the health of the residents of Dover. Therefore, the Board of Health found it appropriate to adopt regulations containing requirements stricter than those contained in the State Code, pursuant to its authority under G.L. c. 111, § 31 and 310 CMR 15.003. These regulations were originally adopted in 1995 and have been amended from time to time since then.

### **GENERAL REFERENCES**

Groundwater Protection Districts — See Ch. [116](#).

Water — See Ch. [177](#).

Wetlands protection — See Ch. [181](#).

Manure — See Ch. [213](#).

Wells — See Ch. [233](#).

Wetlands protection rules and regulations — See Ch. [263](#).

### **§ 217-1. Establishment of standards.**

The State Environmental Code, Title 5, Minimum Requirements for the Subsurface Disposal of Sanitary Sewage (310 CMR 15.000) (“State Code”), will be enforced in the Town of Dover. Copies of the document can be purchased from the State House Book Store or viewed on line at the DEP website.

### **§ 217-2. Certain conditions require more stringent standards.**

There are specific identifiable conditions in Dover which require more stringent regulations in addition to the State Code to protect public health and the environment. The more stringent regulations are set forth in this document with paragraph and subparagraph numbering to correspond with the applicable State Code section (as the State Code existed at the time these regulations were adopted). If the State Code is revised such that paragraph numbering changes, reasonable judgment should be used to correlate these regulations with the appropriate provision of the revised State Code. If the revisions to the State Code make the meaning of any provision of these regulations unclear, or if a provision of the revised State Code is more stringent than the corresponding provision of these regulations, the revised State Code shall govern with respect to that provision.

### **§ 217-3. Reference to State Code; fees; modifications.**

**A.** To provide ready reference for residents in regard to proper use and maintenance of septic systems, these Dover regulations are keyed to the State Code.

B. Fees shall be set from time to time by the Board of Health (“Board”).

C. The Board hereby adopts the following amendments and revisions to the State Code, to be applied within the Town of Dover:

(1) Change 15.019, Disposal System Installer's Permit, to read as follows:

No person shall engage in the construction, upgrade or expansion of any on-site system without first obtaining a Disposal System Installer's Permit. Disposal System Installer's Permits shall be renewable annually and expire at the end of the year in which they are issued. Applicants shall submit 2 references and pass a qualifying exam. A grade of 75% must be achieved in order for a permit to be issued. If not, the applicant may retake the test after 20 working days have expired. All questions are related to Title V and the Town of Dover's more stringent regulations. If a permit is not renewed within 1 year of expiration, the exam will have to be taken again. Because of the importance of proper installation of Disposal Systems, during such installation, there must be at least 1 person at the site at all times with an Installer's Permit issued by the Board.

(2) In 15.020, Disposal System Construction Permits, insert after 15.020(5) the following:

(6) A Disposal System Construction Permit application includes 3 appointments with an agent of the Board. Such appointments may pertain to a review of the plans or to an on-site visit and inspections or to a consultation, or a combination of any of the above. Should additional appointments be needed to obtain application/plan/permit approval, they may be scheduled upon prepayment of the inspection fees as established by the Board. If ownership changes, existing permits are not transferable and the new owner(s) must take out a new permit and pay associated fees established by the Board.

(3) In 15.100, General Provisions, insert after 15.100(2) the following:

(3) The site examination shall be made to determine if the size of the lot is compatible with the proposed sewage disposal system and should be made with regards to the distances as outlined in 310 CMR 15.211 and the requirements of 310 CMR 15.220. The site examination shall not be made during the time the ground is covered by snow.

(4) In 15.102, Deep Observation Hole Test, insert after 15.102(5) the following:

(6) Soil evaluations to determine high groundwater levels may be done at any time of the year. The procedures described in 15.103 shall be followed, specifically (3) (a) “soil color using the Munsell System” and

(3) (b) observation of water levels in test pits and using a monitor well to determine an adjustment factor and the Frimpter Method when mottles are not present or their use is questionable. All groundwater levels measured are subject to a seasonal groundwater adjustment as accepted by the Board using current data from U.S. Geological Survey wells, reported on the USGS website (<http://waterdata.usgs.gov/nwis>) under "Current Conditions for Massachusetts – Groundwater." Wells used for adjustment factors determination must be acceptable to the Board and may be varied on a case by case basis. Specific guidance shall be requested from the Board on comparison wells to use before calculating adjustment factors.

Other adjustment values may be allowed or required by the Board on a case by case basis if supported by a preponderance of technical evidence to support such proposal by the design engineer or the Board.

A completed soil evaluation application shall consist of the application form, the required fee and a drawn-to-scale locus plan, no smaller than drawn on a scale of 50 feet to an inch, showing the proposed lot, the proposed location of the test holes and indicating generally the location of any water supplies, Zones I or II or Interim Wellhead Protection Areas (IWPAs), disposal systems or wetlands within 200 feet of the lot being tested as well as the distance to the nearest intersecting street. If there are no water supplies, Zones I, II or IWPAs, disposal systems or wetlands within that distance, it shall be so stated on the locus plan. In cases where wetlands are involved, a letter of approval must be received by the Board from the Conservation Commission prior to testing.

There shall be a minimum of 4 deep test pits evenly distributed within the limits of the proposed leaching area and integrated expansion area, plus any others that might be designated by the Board's Agent, either at the time of testing or during the plan review period. If ledge is encountered or indicated, additional pits must be dug to determine its limits. Deep test pits shall be dug to a minimum depth of 5 feet below the bottom of the proposed leaching area, and in no event less than 10 feet deep. Deeper test pits are recommended when groundwater adjustment factors are necessary. The results of the deep tests pits shall be shown in a graphical log format, showing soil strata with elevation and soils color.

Deep test pits shall be filled in as soon as the required or necessary information has been obtained to prevent accidents to children or animals. Should additional water observations be required, an acceptable alternative to re-digging the hole would be the installation of an open perforated pipe at least 4 inches in diameter. This pipe shall be capped at the top and mounded at the surface level to preclude the introduction of surface water.

- (7) Soils evaluation data is good indefinitely as long as a survey plan by a Registered Land Surveyor is provided with the soils evaluator report showing the location of the test pits on USGS datum. If a survey plan is not provided, the soils evaluation is good for two years from the date of the testing, after which the testing must be repeated.

(5) In 15-104, Percolation Testing, change 15.104 (6) to read as follows:

Percolation testing may be done at any time of the year, in conjunction with groundwater determinations, provided the soil to be tested is below the frozen soil layer.

(6) In 15.211, Minimum Setback Distances:

(a) Add the following to (1):

For up-grades, repairs, or building a new house on a previously developed lot, all setbacks shall meet Title V separation distances.

For new construction on a vacant lot, where no dwelling unit has previously existed, all parts of the proposed subsurface sewage disposal systems shall be not less than 100 feet from any open surface drain or any watercourse, including streams, brooks, ponds, swamps or other wetlands (as defined in MGL c. 131, § 40).

(b) Insert after 15.211(3) the following:

- (4) An individual sewage disposal system serving a single dwelling shall be located entirely within the bounds of the lot on which the dwelling is situated and cross no lot lines. Nitrogen loading calculations shall be within the same lot and cross no lot lines.

(7) In 15.220, Preparation of Plans and Specifications:

(a) Insert after 15.220(2) the following:

- a. A signed statement by the Engineer of record reporting the basis and calculations for the system design shall be included as well as the number of bedrooms and facilities to be installed which will discharge into the sewage disposal system. Plans shall include any additional details or notes requested by the Board or its Agent.
- b. Four copies of the sewage disposal system plan shall be submitted to the Board.

**(b)** Add after 15.220(4)(v) the following:

- w. The plan for the sewage disposal system shall include the existing and proposed spot elevations and contours of the final lot grades, bottom of test pit, water table or ledge, top and bottom of foundation and bottom of soil absorption system. Test pit data shall be shown in graphical format with elevations. A cross-section through the system from high to low elevation shall be shown.
- x. The plan shall include the invert elevations of the house sewer, inlet and outlet pipes of septic tank, inlet and outlet pipes of distribution box, and beginning and end of pipes in soil absorption system.

**(8)** In 15.221, General Construction Requirements for all Systems, add after 15.221(13) the following:

- (14) No septic system shall be installed until the major plumbing is in the house, unless this requirement is waived by the Board's Agent. Installation of septic systems is prohibited during the months of December, January and February. Any system already in progress prior to December 1 shall have all work, including all inspections, final grading, loaming and seeding, completed prior to the winter cutoff date of November 30. If circumstances such as freezing temperatures do not permit the application of loam and seed, the installer shall stabilize all sloped areas susceptible to soil erosion using hay, anchored filter fabric or jute mesh. This regulation may be waived by the Board or its Agent.
- (15) When no approved sanitary facilities exist on the site, all builders, contractors, owners or others must provide approved temporary facilities at their work site for the convenience of persons engaged in working on that site. It shall be properly maintained on the site from the first day of operation until final approval of the water supply and a certificate of compliance has been issued and permanent facilities can be used by the workers. This applies to all work sites that are engaged in the construction, including, but not limited to, new buildings, additions to existing structures, road construction, recreation areas and others at the discretion of the Board or its Agent.

**(9)** In 15.223, Septic Tanks, insert after 15.223(1)c the following:

- d. Garbage grinders are not recommended, but septic tanks shall have the capacities as described in 15.223(1), (2) and (3), whichever applies.

**(10)** In 15.240, Soil Absorption Systems:

**(a)** Insert after 15.240(1) the following:

- a. The construction of leaching facilities in fill placed directly on or close to ledge, hardpan, clay or other impervious material shall not be permitted. The construction of leaching facilities in clean granular fill shall be permitted in the following instances:
  1. Where the impervious material can be excavated to pervious material below (determined by a percolation test) and be replaced with clean fill and the underlying naturally occurring pervious strata is at least 4 feet thick.
  2. Where a depth of at least 4 feet of pervious material (determined by a percolation test) in natural soil can be maintained below the bottom of the leaching area. In no case will excavation into impervious material be allowed without penetrating into pervious material as in Subsection a above.
- b. No soil absorption system or alternative system for new construction on a previously undeveloped lot shall be installed in areas where the maximum seasonal high groundwater elevation (SHGW) occurring at any time is less than or equal to 3 feet below the existing natural ground surface (method of assessment 310 CMR 15.103). The Board may waive this requirement (and/or the maximum allowable percolation rate specified in § 217-3(C)(11) on a case by case basis if a site specific groundwater computer model analysis is submitted for review showing that, given site-specific conditions (percolation rate, soil depth, site slope, etc.), there is no significant risk (as determined by the Board or its Agent) of sewage breakout. The hydraulic condition model must begin with the seasonal high groundwater elevation, add the groundwater mound simulated for steady state (at least 10 years continuous) operation of the subject septic system's soil absorption system at permitted flow rates for Title V or Town of Dover for the particular site use and then add the 25-year rainfall event. To pass the evaluation and not be determined to pose a significant risk of sewage breakout, the final modeled high groundwater elevation must be shown to be at least one foot below the proposed surface topography at all locations on the subject lot and within 100 feet of the proposed soil absorption system. Additional distance may be required if site conditions warrant. The methodology used in this modeling must match that used by ESA in its April 13, 2004 report to the Board or an equivalent as approved by the Board's review consultant, whose review shall be paid for (per § 217-4) by the Applicant. Applicants are required to consult with the Board prior to submitting an application or calculations to establish criteria for this work.

Any site previously evaluated prior to the effective date of these revised regulations which was determined to be un-suitable for new construction due to groundwater less than 3 feet from the surface and/or percolation test rate over 25 MPI shall continue to be considered unsuitable for construction by the Board, until such time as a new application is filed which utilizes a computer model as described above to prove that a

sewage break-out does not occur.

Repairs or replacements of existing systems may be installed where 3 feet or less natural soil exists above the maximum groundwater level and no suitable alternate site exists, provided that Title V shall be applicable for determining maximum groundwater elevation for such systems.

- c. No subsurface sewage disposal system shall be constructed in any area which is subject to periodic flooding.
- d. Lowering the water table or dewatering the lot through the use of interceptor or curtain drains to permit marginal or unacceptable conditions to be improved to meet minimum requirements for the installation of subsurface sewage disposal systems is prohibited by the Board. The Board reserves the right to approve the installation of an interceptor drain for rehabilitation of an existing, failed system.

**(b)** Insert after 15.240(4) the following:

- a. For new construction on previously undeveloped lots, area requirements shall be increased by 50% in the event that garbage grinders are later installed against Board recommendations. For existing construction, if a system is upgraded without increasing the soil absorption system area by this additional 50%, a deed restriction prohibiting installation of a garbage grinder will be required.

**(c)** Change 15.240(7) to read as follows:

No driveway, parking area or turning area or other impervious area shall be located above a soil absorption system - reserve area included. The Board or its Agent may waive this requirement on a case by case basis.

**(d)** Insert after 15.241 the following:

All soils absorption systems shall be vented through the distribution pipe regardless of system location.

**(11)** In 15.245, Soil Absorption Siting Requirements, insert after 15.245(l) the following:

- a. The maximum allowable percolation rate for new construction on a previously undeveloped lot shall be 25 minutes per inch in order for soil to be considered suitable for the subsurface disposal of sewage. A rate exceeding 25 minutes per inch may be acceptable to the Board if it can be shown that sewage break-out will not occur. See section 10 b above and

the description of the basis for specific site analysis required.

**(12)** In 15.248, Reserve Area, insert after 15.248(2) the following:

- (3) For new construction on a previously undeveloped lot, a reserve area of at least equal capacity suitable for subsurface sewage disposal and upon which no permanent structure will be constructed shall be provided and designed for all sewage disposal systems. Limit of excavation must be completed if required by the Board or its Agent. For up-grades, a reserve area may be required on a case by case basis, by the Board or its Agent.

**(13)** In 15.251, Trenches:

**(a)** Insert after 15.251(l)(e) the following:

- f. Spacing. Trench spacing shall meet Title V unless the Board or its Agent determines that a greater distance is necessary.
- g. All soil absorption systems shall be vented, regardless of distribution pipe length.

**(14)** In 15.280, Alternative Systems, add the following:

The Board may establish any special conditions necessary to ensure adequate protection of public health and safety and the environment and to ensure appropriate evaluation and testing. Such conditions may include, without limitation: specification of site treatment or effluent characteristics; flow limitations; monitoring; testing; and reporting requirements; a requirement that a certified operator operate the system; or financial assurance mechanisms. The Board may also specify changes or modifications of requirements otherwise applicable to conventional systems that are appropriate for use of the alternative systems.

**(15)** In 15.290, Shared Systems, add the following to (3):

- a. The Board may establish any special conditions necessary to ensure adequate protection of public health and safety and the environment and to ensure appropriate evaluation and testing. Such conditions may include, without limitation: specification of site treatment or effluent characteristics; flow limitations; monitoring; testing; and reporting requirements; a requirement that a certified operator operate the system; or financial assurance mechanisms. The Board may also specify changes or modifications of requirements otherwise applicable to conventional systems that are appropriate for use of the shared systems.

**(16)** In 15.300, Purpose and General Provisions, insert after 15.300(5) the following:

- (6) Every owner or agent of a premises in which there are any private sewers, individual sewage disposal systems or other means of sewage disposal shall keep the sewers and disposal systems in proper operational condition and shall have such works cleaned or repaired at such time as ordered by the Board. If the owner or agent of the premises fails to comply with such order, the Board may cause the works to be cleaned or repaired and all expenses incurred to be paid by the owner. Sewage disposal works shall be maintained in a manner that will not create objectionable conditions or cause the works to become a source of pollution to any of the waters of the Commonwealth.

**(17)** In Subpart D: Inspection and Maintenance of Systems, insert the following:

15.301(5). Under this section, “Expansion of Use” shall include demolition of a structure and replacement with a new structure. The Board reserves the right to have the septic system brought into maximum feasible compliance with Title V as a requirement for issuance of a demolition or building permit.

15.301(10). Upon submission of the Title V Inspection Report (Report), a fee as determined by the Board shall also be submitted. Reports for vacant properties shall be considered as Requiring Further Evaluation by the Board and may require additional inspections. The Report shall be submitted to the Board as required by Title V, but at least 45 days before the sale of the property to allow review. Upon review of the Report, the Board reserves the right to request additional information or clarification as it deems necessary. If there are any questions, contact the Board, before performing the inspection or submission of the Report.

15.302(2)(e) 9.Evidence of concrete deterioration, for example spalling or crumbling, shall be considered as Requiring Further Evaluation the by Board and will require repairs to or replacement if the septic tank or pump chamber is determined to be structurally unsound.

15.302(2)(f) 5.Evidence of concrete deterioration, for example spalling, or crumbling, shall be considered as Requiring Further Evaluation by the Board and will require repairs to (if practical) or replacement of the distribution box.

15.302(4).The Board has determined that groundwater levels shall be determined by a Soils Evaluator, as part of the Inspection, if the septic system was installed prior to 1996 or no record of groundwater determination was made according to 15.103 Soil Profile by a Soil Evaluator. Prior to digging the test pit, a groundwater correction factor shall be determined (to assist with determination of test pit depth) based upon Board accepted comparison wells and the Frimpter method and applied to the test pit depth or observed water level results if NO “Mottling” was found. In any event, the test pit shall be dug at least 3 feet below the bottom of the soil absorption system where no “Mottling” is found or until groundwater is reached or the depth of the pit equals the correction factor. Test pit requirements may be waived, by the Board or its

Agent, if the landscape position (e.g. gravel bank high above observed water levels) indicates little chance for groundwater mounding or intrusion. The Soils Evaluator must submit the test pit log and correction factor calculations as part of the Report.

15.303(1). The Board has determined that privies, cesspools or “porous tanks” (cesspools converted to a so called septic tank by installing an inlet and/or outlet tee) do NOT protect the Public Health, Safety and Environment and their presence is considered an automatic failure criterion and requires up-grading of the system to a Title V compliant system.

15.303(1)(a)7. The bottom of the SAS MUST be above Mottling or any corrected water level for the system to be considered passing. Any system within 6 inches of mottling shall be considered as Requiring Further Evaluation by the Board and may require up-grading.

**(18)** In Subpart E: Procedures for Seeking and Receiving Local Upgrade Approvals and Variances from the Provisions of Subparts B and C of 310 CMR 15.000, add the following after 15.411(1)(b):

1. “Abutter” is defined as: any owner of land sharing a common boundary or corner of the site of the proposed activity in any direction within 300 feet of the site’s property lines or corners. This shall include, but is not limited to, land located directly across a street, way, creek, river, stream, brook, canal, rail road or trolley line (active or abandoned).

2. Variance Notification Process

a. Obtain a certified list of abutters from the Town of Dover Assessor. Verify accuracy of property ownership as property sale may have occurred within the preceding 12 months and records may not be up-to-date. The current land owner must be notified, by hand if necessary. All abutters must be notified by certified mail or Certificate of delivery by letter detailing the variances being requested.

b. Indicate the abutter’s property and subject site on the latest copy of the town Assessor’s maps.

c. Submit to the Board of Health, items 1 and 2 with the application for sewage disposal works permit together with the original receipts from the US Post Office for the certified mailing clearly noting tax map number on each receipt. On the tax map clearly note property addresses for each receipt.

d. At the start of the Public Hearing present a copy of the certified abutters list (item 1) and the original USPO return receipt cards (Green Cards) or USPO certificate of delivery to the Board of Health and clearly note any that have not been returned. If any have not been returned, the Board will determine whether or not the Public Hearing can proceed or must be rescheduled.

**§ 217-4. Recovery of consultant fees and costs.**

**A.** If the Board determines that the assistance of outside consultants is warranted to determine compliance with Title V and/or local bylaws or regulations (including criteria for a variance), the Board may hire outside consultants pursuant to M.G.L. c. 44, § 53G; c. 111, § 31, and this regulation. The hiring of outside consultants for this purpose shall proceed in accordance with this section.

**B.** In hiring outside consultants, the Board may engage engineers, planners, hydrologists, environmental consultants, attorneys or other appropriate professionals who can assist the Board in analyzing a project.

**C.** The reasonable costs for outside consultants will be borne by the applicant. The applicant and the Board shall work in good faith to agree upon the type and identity of outside consultants as well as the budget for their services. However, ultimate authority regarding the need for and identity of outside consultants (subject to the appeal procedure of Subsection **E.**, below) is retained solely by the Board and failure to cooperate with the Board on funding of outside consultants is grounds for denial of the application.

**D.** Any funds received by the Board to cover consultant review fees shall be deposited with the Treasurer of the Town of Dover, who shall set up a special account for this purpose pursuant to M.G.L. c. 44, § 53G. Expenditures from this account shall be made only in connection with the specific project for which a review fee has been or will be collected from the applicant. However, expenditures from this account may be made at the discretion of the Board in connection with the application for which they were collected without further appropriation.

**E.** Review fees may only be spent for services, rendered in connection with a specific application for which they were collected. Accrued interest may also be spent for this purpose. At the completion of the Board's review of an application and the issuance of a decision on the application, any excess amount remaining in the account after the payment of all fees and costs associated with outside consultants, including interest, attributable to a specific project shall be repaid to the applicant. A final report of said account shall be made available to the applicant.

**F.** The applicant may take an administrative appeal from the selection of the outside consultant to the Board of Selectmen within 10 days of the Board selection of that outside consultant. The grounds for such an appeal shall be limited to claims that the consultant selected has a conflict of interest or does not possess the minimum, required qualifications. Minimum qualifications shall consist of either an educational degree in or related to the field at issue or three or more years of practice in the field at issue or a related field. The required time limit for the Board action on the application shall be extended by the duration of the administrative appeal. In the event that no decision is made by the Board of Selectmen on the appeal within 1 month of filing the appeal, the selection of the outside consultant made by the Board shall stand. If the appeal is denied, the applicant must pay the consultant fee within 10 days of the denial of the appeal or the permit will automatically be denied.

Adopted 7-15-2013

G. The municipal accountant shall submit annually a report of the special account to the chief elected body and chief administrative official of the municipality for their review.