

LEVERETT BOARD OF HEALTH

CHAPTER 218 - SEWER SYSTEMS, INDIVIDUAL

218-1 Authority: These regulations are enacted by the Board of Health under the authority which includes but is not limited to one or more of the following: MGL Ch. 111, sections 31, 122, 187, 188, 310 CMR 11.02 and 310 CMR 15.000 (Title 5).

218-2 Purpose:

These Regulations of the Leverett Board of Health are enacted for the purpose of protection of the citizens of the Town of Leverett and also the protection of the environment. As a minimum code, Title 5 is incomplete and ambiguous in certain specifications and silent on other topics. Accordingly, local Board of Health regulations are necessary to assure more complete protection from sewage overflow to the ground surface, which is a source of filth and disease, and also to assure more complete protection from potential pollution of ground water, wells, surface waters, wetland complexes, and certain geologic and water-bearing deposits. Local regulations are also necessary for purposes of efficient administration and management, as well as for additional guidance in the process of construction and repair of septic systems. These regulations do not conflict with Title 5, but rather complement them, and provide additional guidance and protection.

The Town of Leverett relies upon on-site subsurface sewage disposal systems for the disposal of sewage in 100% of the town. The Town of Leverett derives 100% of its water supply from ground water, which supplies both the public water systems and individual on-site wells. A significant portion of the Town of Leverett is within the recharge areas for public water supply wells of the Town of Sunderland and other important potential groundwater supply areas.

218-3 Relationship to 310 CMR 15.00, Title 5 of the Environmental Code: These regulations must be read together with 310 CMR 15.000 (Title 5), which contains many other provisions and requirements relevant to onsite sewage disposal systems. The provisions of Title 5 shall govern, except where more stringent standards are set by these regulations.

218-3.1 Applicability to Repair of Existing Systems: The Board of Health recognizes that some existing on-site disposal systems were installed prior to current codes, and that site conditions may not permit upgrade of failing systems to full compliance with current standards. It is in the interest of protection of the public health and environment, to upgrade existing failing on-site sewage disposal systems to the maximum extent feasible. Therefore, except as otherwise stated in these regulations, the design standards herein shall apply to repair and upgrade of existing on-site sewage disposal systems, but not increase in design flow, to the maximum extent feasible. The provisions of 310 CMR 15.404 & 405 will be used as guidance in determining maximum feasible compliance. The Board of Health may permit a repair that provides maximum feasible compliance with this code without a public hearing or issuance of a variance under section 218-10. However, no waiver of horizontal setback distances from an abutting lot line or from a potable water supply source on abutting property shall be permitted unless a variance is granted by the Board of Health under section 218-10 of this code.

218-4 Site Evaluation and Description: Site evaluation shall be conducted in accordance with 310 CMR 15.100 (Title 5). Soil profiles shall show the surface elevation and the high groundwater elevation at all test sites. If morphological indication of the high groundwater elevation is not evident in the observation holes, the high groundwater elevation shall be determined by other methods as specified in 310CMR15.103(3). For determination of the high groundwater elevation, Board of Health may require any of the methods described in 310CMR15.103(3).

In order to comply with section 218-8.5c, additional observation holes shall be done, if directed by the Board of Health or its Agent, to determine whether or not the high groundwater is within 24 inches of the ground surface within 25 feet of the proposed soil absorption system. The "B" horizon shall be evaluated sufficiently to determine whether or not it is suitable for use.

The general direction of groundwater movement and the basis for that determination shall be clearly shown on the report of soil evaluation and on the system plans.

A member of the Leverett Board of Health or its Agent shall be present at all percolation tests or soil evaluations to be used in the design or repair of a subsurface disposal system. A copy of the completed percolation test and soil evaluation forms shall be filed with the Board of Health by the soil evaluator within 60 days of the evaluation or testing. Failure to file the soil evaluation report within 60 days will invalidate the evaluation.

No soil absorption system for new construction or increase in flow shall be constructed in any area where the high groundwater elevation (estimated or observed) is within 24 inches or less of the existing ground surface.

Mapping of existing and proposed ground contours shall be included with system design and shall extend a minimum of 40 feet from the proposed system, reserve area, and any associated grading, or to a greater extent as needed to adequately evaluate hydrologic and topographic conditions on the site.

218-5 Required Upland Area for Groundwater Recharge: In application of the nitrogen loading limitations of 310 CMR 15.214(2), the Board of Health will not consider impervious areas, or Bordering Vegetated Wetlands and Land Under Water, as defined under 310 CMR 10.00 as land area available for groundwater recharge. The applicant shall provide sufficient mapping of impervious areas, wetlands, and water bodies on the site to demonstrate that adequate pervious upland area is present to meet nitrogen loading limitations. The Board of Health may require the applicant to provide a Determination of Applicability or Order of Resource Area Delineation from the Leverett Conservation Commission to confirm the mapped wetland resource areas. Where the applicant demonstrates by a preponderance of credible evidence that the wetland resource area in question provides primarily for groundwater recharge rather than discharge, such areas may be considered as land available for groundwater recharge. Deed restrictions on abutting property or an overall subdivision plan may also be considered by the Board of Health in evaluating the adequacy of the upland recharge area. This provision shall not apply to repair, increase in flow, or new construction, on a lot recorded at the registry of deeds or approved by the Leverett Planning Board, prior to the effective date of these regulations.

218-6 Horizontal Setbacks:

218-6.1 Well setbacks in highly permeable soils: In the Aquifer Protection District, or where the percolation rate is two (2) minutes per inch or less, the distance between a soil absorption system and a potable water supply well shall be 150 feet or greater.

218-6.2 Property Line setbacks: All septic tanks, soil absorption systems (primary and reserve), pump chambers, distribution boxes and piping shall be located at least 25 feet from an abutting lot line or public roadway layout line.

218-7 Vertical Separation: The standards in Section 218-7 apply to soil absorption systems discharging septic tank effluent directly to a soil absorption system, without additional treatment. For systems using a recirculating sand filter, or using alternative technology providing equivalent removal of Total Suspended Solids and Biochemical Oxygen Demand and approved by the Department of Environmental Protection in accordance with 310CMR15.280 through 289, designed vertical separation distances shall be as permitted by 310CMR15 or by the applicable DEP approval letter.

218-7.1 Depth to water table in the Aquifer Protection District: In the Aquifer Protection District, the minimum vertical separation between the bottom of the soil absorption system and the high groundwater elevation shall be five (5) feet except where pressure distribution is used.

218-7.2 Depth to Bedrock in highly permeable soils: In the Aquifer Protection District, or where the percolation rate is two (2) minutes per inch or less, the minimum vertical separation between the bottom of the soil absorption system and underlying bedrock (ledge) shall be five (5) feet.

218-8 Design Standards- All systems:

218-8.0 System Venting: All soil absorption systems that rely on gravity distribution shall be vented. The venting shall be accomplished by manifolding the distal ends of the distribution laterals to a vent pipe.

218-8.1 Maximum Vertical Loading Rate: Soil absorption systems discharging septic tank effluent without advanced treatment shall be configured such that the vertical loading rate (daily flow volume / bottom area) is no greater than 2 inches (5 cm) per day, or 1.25 gpd/sf of bottom area.

218-8.2 Effluent Filters: A septic tank outlet filter approved by DEP shall be installed on all new single compartment septic tanks whether for new construction or upgrade of an existing system. If an existing single compartment tank is to be used in a repaired system, an effluent filter shall be installed unless the applicant demonstrates to the Board of Health that installation of a filter is impractical. Effluent filters are not required on dual compartment tanks unless pressure distribution is used.

218-8.3 Speed Levelers: All distribution boxes with multiple outlets receiving gravity flow shall be equipped with "speed levelers" or equivalent devices to facilitate adjustment in order to maintain equal distribution. Distribution boxes and piping shall be leveled prior to installation of speed levelers. After installation of speed levelers, outlets shall again be adjusted for equal distribution.

218-8.4 Septic Tanks & Pump Chambers: All septic tanks, tight tanks, pump chambers, and grease traps constructed with field-assembled seams more than 12" below the top, shall be tested for water tightness in the presence of a member of the Leverett Board of Health or its Agent.

218-8.5 Site Hydrology/Hydraulics:

a. Soil absorption systems shall be configured to spread the effluent across the groundwater gradient and along the groundwater contours with the long axis of the system generally perpendicular to the general direction of groundwater flow. The maximum effective width of the soil absorption system in the general direction of groundwater flow shall be 12 feet. This requirement may be waived by the Board of Health provided that the proposed design demonstrates maximum feasible compliance with this provision.

b. Site topography and/or proposed grading shall assure that there is no depression that could pond surface runoff within 50 feet of the proposed soil absorption system.

c. The high groundwater elevation within 25 feet down-gradient of the proposed soil absorption system shall be more than 24 inches below the finished ground surface. Soils within 25 feet down-gradient of the system shall be evaluated to sufficient depth to assure that this requirement will be met if directed by the Board of Health or its Agent. Fill may be used as necessary to meet this requirement, provided that the setback from a property line is in accordance with section 219-9.1 of these regulations.

218-8.6 System access for pumping:

Septic Tanks and pump chambers shall be located to be accessible to septage pumping equipment. Unless otherwise approved by the Board of Health, they shall be within 100 feet horizontally and 15 feet vertically (to the bottom of the tank) of a driveway, street, or other all-weather truck access.

218-8.7 Effective leaching area: All soil absorption systems in Leverett shall be sized using the long term acceptance rates as specified in 310 CMR 15.242 LTAR – Effluent Loading Rates, except when the system is preceded by a secondary treatment unit with General Use Certification that allows for a 50% reduction in effective leaching area, in which case DEP certified loading rates may apply, but no additional reduction in leaching area is allowed based on the certification “effective leaching areas” of the soil absorption system in itself.

The use of “effective leaching areas” or equivalent language as listed in any innovative/alternative system that results in a smaller total leaching area than would be calculated using 310 CMR 15.242 is prohibited, except when the soil absorption system is preceded by a secondary treatment unit with General Use Certification that allows for a 50% reduction in effective leaching area.

Innovative/alternative systems that are approved by the Massachusetts Department of Environmental Protection may be used provided that the total leaching area is calculated based on the physical dimensions of the product and that the area meets the required area as calculated in 310 CMR 15.242.

The use of “effective leaching areas” (or equivalent language) without secondary treatment is permitted for system repairs provided that the designer demonstrates that a conventionally sized system using pipe and stone cannot physically fit on the property.

218-9 Design Standards -Mounded Systems: This subsection applies to any soil absorption system constructed in fill for the purpose of providing the required depth to high groundwater elevation. No soil absorption system for new construction or increased flow shall be constructed where the high groundwater elevation (estimated or observed) is within 24 inches or less of the existing ground surface.

218-9.1 Limit on extent of fill: No fill, including final cover, shall be placed within 10 feet of an abutting property line, public roadway layout line, or private right-of-way. This setback may be reduced to 5 feet where the property boundary in question has been surveyed and marked by a Massachusetts Registered Land Surveyor, where the surveyed property boundary is shown on the system plan, and where the design shows that the fill will not impact surface drainage onto or from the abutting property

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Retaining walls or other impervious barriers used to limit the extent of fill shall not extend below an elevation 12 inches above the high groundwater elevation.

218-9.2 High Groundwater Elevation less than 48 inches from the surface: On a site where the high groundwater elevation is less than 48 inches below the existing ground surface, the system shall comply with at least one of requirements (a.) through (e.) below.

a. The system shall use pressure distribution in accordance with 310 CMR 15.254(2), except that for systems with design flow of 2000 gallons per day or greater, the dosing interval shall be controlled by both time and volume, with a design based on:

1. Minimum time between doses: 2 hours
2. Minimum single dose volume: 5 times the distribution pipe network volume, plus the volume required to initially charge the system if it drains back.
3. Maximum single dose volume: 0.2 inches over the bottom area of the Soil Absorption System. Pump chambers shall be sized to equalize flow over a 1 day period, with an additional 1 day reserve capacity.

OR

b. Where gravity distribution is used, an additional one (1) foot of vertical separation from the bottom of the soil absorption system to the high groundwater elevation shall be provided in addition to the separation distances required by 310 CMR 15 and section 218-7 above.

OR

c. Horizontal separation distance from the soil absorption system to any potable water supply wells, and to water-bodies, drains, and streams down-gradient of the proposed system, shall be increased by 50% from the separation distances required by 310 CMR 15 and section 218-6 above. Horizontal separation from property lines shall be 75 feet, except in the Aquifer Protection District, where the horizontal separation distance to a property line shall be 100 feet. The Board of Health may require a deed restriction to be placed on the property to assure setbacks are maintained.

OR

d. The soil absorption system is preceded by a secondary treatment unit with General Use Certification that allows for a 50% reduction in effective leaching area.

OR

e. A humus/composting/waterless toilet system shall be provided in accordance with 310CMR15.289(3), and there will be no black-water discharge to the soil absorption system. Grey Water disposal shall be designed to comply with Title 5 standards.

218-10 Variances from the Leverett Code, Chapter 218, “Sewer Systems, Individual”: The Board of Health may vary the application of any provisions of this Chapter with respect to any particular case when, in its opinion:

(a) the enforcement thereof would do manifest injustice AND,

(b) in the case of repairs, the applicant requesting the variance has established that the proposed design provides maximum feasible compliance with the Board’s regulations. The provisions of 310 CMR 15.404 & 405 will be used as guidance in the Board’s decision.

(c) in the case of new construction, the applicant requesting the variance has established that a level of environmental protection that is at least equivalent to that provided under the provision of the local regulation can be achieved without strict application of the provision of the local regulation from which a variance is sought. With regard to variances for new construction, enforcement of the provision from which a variance is sought must be shown to deprive the applicant of substantially all beneficial use of the subject property in order to be manifestly unjust.

218-10.1 Requests for Variance: All requests for variances shall be in writing and state the specific local regulation from which a variance is sought, the reason for the variance, a statement of how the criteria in 218-10 above are met, and engineering plans for the proposed disposal system. Four (4) complete sets of the request, exhibits, and plan shall be submitted. Requested variances from this code and from Title 5 shall be listed on the engineering plans for the system. No request shall be considered complete until the applicant has submitted and the Board has accepted a Disposal System Construction Permit application, with appropriate fees.

218-10.2 Public Hearing: No later than the next regularly scheduled meeting following receipt of the complete request for variance, the Board of Health will determine a location, date, and time for a public hearing on the matter and will then notify the applicant. The Board will hold a public hearing to consider the request within 30 days after the meeting at which the request was accepted and the hearing scheduled. After hearing testimony at the public hearing, the Board may continue the hearing to a specified date and time in order to obtain additional information to inform its decision.

218-10.3 Notification:

218-10.3.1 For Repair or Replacement of Existing Systems: Where a variance is requested regarding setbacks from a property line or an abutter's potable water supply source, the applicant shall provide notification of the requested variance to the affected abutters, with a copy provided to the Board of Health. Abutter notification shall be sent or delivered at least 7 days prior to the public hearing, by certified mail, by certificate of mailing, or by receipted hand delivery. The abutter notification shall state the owner's name and address, the address or location of the property, the specific provisions of each local regulation from which a variance is sought, and the location, date, and time of the public hearing. Prior to opening of the public hearing, the applicant shall provide the Board of Health with a list of notified abutters, a copy of the assessors map with subject properties and abutters identified, and proof of notification in the form of copies of post office receipts for mailing or receipts for hand delivery. Notice of the public hearing shall be posted by the Board of Health at least 10 days in advance of the public hearing on the Town Hall Bulletin Board and shall be filed by the Board of Health with the Town Clerk.

218-10.3.2 For New Construction or Increase in Flow: At least 14 days prior to the hearing, the applicant shall publish, at the applicant's expense, a legal notice of the public hearing in two newspapers of general circulation in the town, one time in each newspaper. One week later, the applicant shall again publish the legal notices, one time in each newspaper. At least 10 days prior to the public hearing, the applicant shall provide notification of the requested variance to all direct abutters to the site, and to the owners of any land within 100 feet of the property line of the subject property including land separated from that subject property by a public or private street or a body of water. This notification shall be by certified mail, certificate of mailing, or receipted hand delivery. The legal notice and abutter notifications shall state the owner's name and address, address or location of the property, the specific provisions of each local regulation from which a variance is sought, a contact from whom to obtain copies of the request, exhibits, and plans (at cost), and the location, date, and time of the public hearing. Prior to opening of the public hearing, the applicant shall provide the Board of Health with a list of those required to be notified as specified above, certified by the Town of Leverett Board of Assessors, with proof of notification in the form of copies of post office receipts for mailing or receipts for hand delivery, with a copy of the notification, and with proof of legal notice in the form of actual copies of the published notices. Notice of the public hearing shall be posted by the Board of Health at least 10 days in advance of the public hearing on the Town Hall Bulletin Board and shall be filed by the Board of Health with the Town Clerk. A copy of the request, exhibits, and plans, will be available for public review at the office of the Town Clerk during normal business hours.

218-10.4 Decision: The Board shall issue its decision in writing. The decision shall contain a list of all findings of the Board used to grant or deny the variance and any conditions pertaining to a grant of variance. A copy of each variance decision shall be filed by the Board of Health with the Town Clerk and posted on the Town Hall Bulletin Board for 30 days following its issuance.

218-10.5 Constructive Approval: An application for a variance for a residential facility of 2 dwelling units or less shall be deemed constructively approved if the Board of Health does not act upon it within 45 days after the close of the public hearing on the matter.

218-11 Review by Outside Consultant:

1. If, after receiving an application, the Board of Health determines that in order to deliberate and decide any issue raised by an application or petition it requires technical advice unavailable from municipal employees, it may employ outside consultants in accordance with the provisions of MGL Chapter 44, Section 53G. The Board of Health may require that the applicant pay a reasonable consultant fee for the employment of outside consultants chosen by the BOH.
2. All fees assessed pursuant to this section shall be reasonable in light of:
 - (a) the complexity of the proposed project as a whole;
 - (b) the complexity of particular technical issues;
 - (c) the size and character of the site;
 - (d) the projected construction costs, and
 - (e) fees charged by similar consultants in the area.
3. If the applicant fails to pay the consultant fee within ten days of receiving written notification of the selection of consultant, the Board of Health may deny the permit, approval or other relief requested.
4. Prior to paying the consultant fee, the applicant may appeal the selection of the consultant to the Selectboard.
 - (a) 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.
 - (b) The minimum qualifications shall consist either of 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.
 - (c) The required time limits for action upon the application by the Board of Health shall be extended by the duration of the appeal. In the event that no decision is made by the Selectboard within one month following the filing of the appeal, the selection made by the Board of Health shall stand.
 - (d) The appeal shall not preclude further judicial review, if otherwise permitted by law, on the grounds provided for in this regulation.
5. Each consultant fee shall be deposited in a special account established by the municipal treasurer pursuant to MGL Chapter 44, Section 53G.
 - (a) Funds from the special account may be expended only for the purposes described in Section 2, above.

- (b) Within 30 days of the completion of the project or of such time as the applicant formally withdraws the proposal, the applicant shall receive a final report of funds in the special account and shall be paid any unspent excess in the account, including accrued interest.
- (c) 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. This report shall be published in the town annual report. The municipal accountant shall submit annually a copy of said report to the director of the bureau of accounts.

218-12 Title 5 Inspections:

All Title 5 system inspections under 310 CMR 15.301 shall be witnessed by a member of the Leverett Board of Health or its Agent. If inspection shows distribution box outlets not to be level, corrective action shall be taken immediately by installation of “speed levelers” or other measures as approved by the Board of Health witness.

218-13 Sub-grade Inspection:

The system designer shall inspect the excavation for the system prior to installation of stone, sand fill, or other system components to verify design grade and soil conditions. The designer shall not certify compliance in accordance with 310 CMR 15.021 unless the sub-grade inspection was done and conditions were found to be in compliance with 310 CMR 15.000 and Town of Leverett Board of Health regulations.

If groundwater was encountered in the excavation, the designer’s certification shall so note. The designer’s certification shall also mean that the fill was placed without compaction or siltation that would inhibit the movement of water.

218-14 Fees: The Board of Health may assess fees for permits, licenses, inspections, and oversight services issued or performed by the Board or its representatives in the execution of its responsibilities. A schedule of fees shall be maintained by the Board of Health and may be amended from time to time.

218-15 Transition Rule: If requested by the applicant, a Disposal System Construction Permit and system plan filed within 30 days after the effective date of these regulations may be considered under the rules in effect prior to the effective date of these regulations, provided that the soil evaluation for the system was done prior to the effective date of these regulations.

218-16 Severability: If any section, paragraph, sentence, clause or phrase of these regulations shall be deemed invalid by a court of competent jurisdiction, such decision shall not affect the remaining provisions of these regulations, which shall remain in full force and effect and, to this end, the provisions of these regulations are hereby declared severable.

218-17 Effective Date: These amended regulations were adopted by vote of the Board of Health of the Town of Leverett at a public meeting held on December 16, 2013, the effective date of these amended regulations. A public hearing on the amended regulations was held on June 24, 2013. First publication of notice of public hearing was made June 10, 2013 in the Daily Hampshire Gazette and in the Greenfield Recorder, and second notification was made on June 17, 2013 in the Daily Hampshire Gazette and in the Greenfield Recorder.