



City of Gloucester **Board of Health** Regulations

Onsite Wastewater Regulations

Adopted
August 3, 2000

Revised
5/11/06
6/05/08



Public Health
Prevent. Promote. Protect.

Gloucester Health Department

ONSITE WASTEWATER REGULATIONS

AUTHORITY AND PURPOSE

The Board of Health of the City of Gloucester, Massachusetts, acting under the authority of the General Laws of the State of Massachusetts, Chapter 111, section 31, has made and adopted the following regulations in the interest of and for the preservation of the public health, in addition to all Laws of the Commonwealth of Massachusetts and City of Gloucester relating to Public Health.

It is the intention of these regulations to supplement Title 5 of the State Environmental Code, 310 CMR 15.00. These septic regulations are intended to amend or repeal certain Board of Health regulations adopted prior to revisions of Title 5; to re-organize previous regulations; and to adopt new regulations. These regulations were adopted after public hearings demonstrated that 310 CMR 15.000 et. seq. was not sufficient to protect the public health in Gloucester. These regulations were adopted by majority vote at a public hearing on August 3, 2000 and become effective immediately upon adoption.

The Gloucester Board of Health adopted these regulations because the unique conditions in Gloucester require a more stringent standard than found in Title 5 (310 CMR 15.000). These conditions include shallow depth to bedrock, rapidly percolating soils, high ground water tables, extensive fresh water and salt water wetlands, fractured bedrock, many old septic systems which fail inspection criteria in Title 5, shellfish resources and private drinking water wells.

1. DISPOSAL SYSTEM INSTALLER'S PERMIT

1.1 Application for initial certification shall include three letters of reference, copies of licenses from other Massachusetts communities, copies of vehicle registration, copies of heavy equipment operators license, and proof of possession of at least \$100,000 of general liability insurance. Initial certification for a license to install or repair any individual sewage disposal system or component of said system will require a 70% score on a written and field examination, prepared by the Gloucester Board of Health, which assesses the ability to read plans, know the sections of regulations which pertain to septic system construction, and to use field survey equipment.

1.2. A Disposal Systems Installer's Permit shall rest with an individual, not with a company.

1.3 The licensed installer shall be on-site for all scheduled construction inspections and shall maintain the construction permit and a copy of the approved plan on site at all times.

2. DESIGN REQUIREMENTS

2.1 The restrictive distances listed in Table 1 shall be regarded as minimum distances. The septic system design shall clearly indicate which restrictive distances or other criteria in Title 5 and the Gloucester Septic Regulations are not met by the proposed septic system.

2.2 One set of plans, at a minimum, shall bear an original stamp and signature of the septic system designer and be submitted to this office with other copies of plans which may bear a reproduced stamp and signature.

2.3 An individual subsurface sewage treatment/disposal/holding system and all its component parts, including any required fill shall be on the same lot as the facility which it serves, unless: the design is for a shared septic system as provided for in Title 5, or a permanently recorded easement has been provided to allow access for operation and maintenance in an area 10' beyond the septic system.

2.4 Septic system plans which propose use of a holding tank shall require approval of the Board of Health at a public hearing.

2.5 Upgrades within the Critical Buffer Zone of the Wastewater Management Plan shall be reviewed using the same standards as new construction.

2.6 For septic system upgrades as defined in Title 5, review by the Septic Review Subcommittee of the Board of Health will occur and no public hearing will be required unless requested by the Subcommittee due to a unique situation or is required by other regulations. If no public hearing is required for reasons specified in Title 5 or in these regulations, an application which incorporates a DEP-approved treatment device will be automatically approved.

The applicant may appeal the decision of the Septic Review Subcommittee to the Board of Health by requesting variances from these regulations.

2.7 The Septic Review Subcommittee shall consist of at least two Board of Health members appointed by the Chair.

2.8 The fee for septic system plan review shall be paid upon initial submission and for every second revision thereafter.

2.9 Prior to scheduling of soil evaluation for the site, approval must be obtained from the Conservation Commission.

2.10 Applications using a treatment device shall include a copy of the approval document issued by the Massachusetts Department of Environmental Protection.

3. SEPTIC SYSTEM CONSTRUCTION

3.1 No Disposal System Construction Permit shall be issued until all necessary documentation has been submitted, including any needed maintenance agreements, easements, deed restrictions, or approvals from the Department of Environmental Protection.

3.2 Inspections by the Health Department must occur to demonstrate proper construction of the septic system. The components to be inspected vary depending on the site and type of septic system to be installed and will be provided to the installer at the time of issuance of a Disposal System Construction Permit. These will include, at a minimum: watertightness of tanks; removal of soil in disposal area; location and elevation of disposal area; and testing and operation of treatment device, floats and alarms (if present).

3.3 The licensed Disposal Systems Installer shall provide at least one working day notice to the Gloucester Health Department for a requested inspection date.

4. POST CONSTRUCTION REQUIREMENTS

4.1 The septic system designer shall submit required as-built plans and a signed Certificate of Compliance within 30 days of completion of the final inspection by the Board of Health. If more than two (2) as-built plans or Certificates of Compliance are outstanding, a thirty day notice will be sent indicating that no further septic system designs will be accepted for review until all outstanding as-built plans and/or Certificates of Compliance have been submitted.

4.2 The septic system installer shall complete final grading or other construction and submit the required signed Certificate of Compliance within 30 days of completion of the final inspection by the Board of Health. If more than two (2) Certificates of Compliance are outstanding, a thirty day notice will be sent indicating no further Disposal Systems Construction Permits will be issued until all outstanding Certificates of Compliance have been submitted.

5. MAINTENANCE REQUIREMENTS

5.1 Those persons performing maintenance and monitoring for advanced treatment septic system technologies as provided in Title 5 shall be licensed by the Board of Health.

5.2 All septic systems utilizing pressure distribution of the effluent must be maintained for the life of the septic system. A valid contract with a minimum length of two years must be on file at the Gloucester Board of Health and must be renewed at least sixty (60) days prior to expiration. Maintenance shall be performed by a Class 2 Wastewater Treatment Plant Operator or a licensed Disposal Systems Installer.

5.3 All septic systems shall have a Function Check performed at a minimum of once every 3.5 years unless standards in Title 5 are more strict (such as for shared septic systems). A Function Check shall be performed each time a septic system is pumped. The Board of Health shall have the right to require pumping or completion of a Function Check more often if necessary to protect public health or the environment.

5.4 Function checks shall consist of: pumping of the unit if a cesspool; pumping of the septic tank if sludge and scum levels exceed the levels in Title 5; an inspection for the presence and soundness of sanitary tees, baffles or effluent filters; determination of the sewage level in the tank or cesspool; determination of the structural integrity of the tank or cesspool; and surface reconnaissance for breakout or ponding.

5.5 Licensed septic haulers must utilize a Function Check form each time a pumpout or Function Check is performed. Submission must be made within 30 days of commencement of pumping or Function Check unless the presence of ponding or breakout is observed in which instance the form must be submitted within 48 hours of commencement of work.

6. STANDARDS FOR CLEAN-UP OF EXISTING SEPTIC SYSTEMS (CITY OF GLOUCESTER WASTEWATER MANAGEMENT PLAN)

6.1 Administration of the Wastewater Management Plan

6.1.1 In selected areas of the City, the Board of Health will work to actively seek those on-site septic disposal systems that are failing to protect public health, safety, and/or the environment and to have those systems upgraded. These selected areas or "Priority Drainage Areas" (PDA's) include those drainage areas known to be associated with septic system related water pollution (Appendix A). It is the intent of the Board of Health to perform these investigations proactively so as to remove pollution sources causing threats to public health, safety, and/or the environment.

6.1.2 To ensure that the public is adequately informed about these regulations, the Board of Health shall communicate with the public about its activities through mailings, neighborhood meetings, and/or local media.

6.1.3 The provisions of these regulations shall not limit the authority of the Board of Health or its agents to require inspection of on-site systems as it deems necessary.

6.2 Inspections

- 6.2.1 In order to determine whether an on-site system located in a Priority Drainage Area (PDA) is in compliance with the standards of these regulations, a two-tiered, iterative process will be utilized. Inspections will first be required for those on-site systems located within 50 feet or less from the edge of a wetland, waterway, or storm drain. (This 50 foot area will hereafter be referred to as the “Critical Buffer Zone” or CBZ. On-site systems located within the CBZ will hereafter be referred to as “In the Critical Buffer Zone” or ICBZ.) If pollution in a PDA is not abated to the standards listed in Section 6.2.1c, inspections will be required for on-site systems located more than 50 feet from the edge of a wetland, waterway, or storm drain (hereafter referred to as “Out of the Critical Buffer Zone” or OCBZ.)
- a) Cesspool ICBZ Automatic Upgrades: Properties served by a single cesspool located ICBZ are required to upgrade.
 - b) ICBZ Inspections: On-site septic systems (other than single cesspools) located ICBZ must be inspected according to the standards of Title 5 and local regulations. ICBZ inspections require a deep hole test to determine the estimated seasonal high groundwater (ESHGW).
 - c) Within each PDA, when all inspections and subsequent upgrades of ICBZ septic systems have been completed, water samples will be regularly collected from receiving water (see section 6.3). If sample data within a PDA indicates that the septic-related pollution has not been abated to National Shellfish Sanitation Program (NSSP) standards for conditionally approved or approved areas, then OCBZ inspections (see Section 6.2.1d) will be required for those sub-watersheds of the PDA that exhibit septic-related pollution.
 - d) OCBZ Inspections: If ICBZ septic system upgrades do not abate septic system-related pollution in a PDA, (see standards in Section 6.2.1c) inspections will be ordered for on-site systems located OCBZ within the sub-watershed of the PDA that exhibits septic system-related pollution. OCBZ inspections will occur according to the standards of Title 5.
- 6.2.2 Within a PDA, ICBZ inspection order letters will be sent at the same time as ICBZ cesspool upgrade letters. Inspections will be due 60 days from the date of the order letter. Cesspool upgrades will be due 2 years from the date of the order letter. If the ICBZ inspection results in a “failed” septic system, upgrades will be due two years and 60 days from the date the ICBZ inspection order letter was sent. Any person may be granted up to 60 additional days to have an inspection performed provided satisfactory information is provided to the Board of Health documenting a particular hardship.

- 6.2.3 All septic systems in the City are subject to Title 5 inspections when a Function Check shows a potential problem with an on-site system, even when a valid inspection is on file. A valid inspection is explained in Title 5.
- 6.2.4 All septic systems in the City are subject to Title 5 inspections for the purpose of title transfer, except if there is a valid inspection on file. A valid inspection is explained in Title 5.
- 6.2.5 If a Title 5 inspection is occurring for the purpose of title transfer and the system is located ICBZ of any PDA, a deep hole test to determine Estimated Seasonal High Ground Water will be required before the system can “pass” the Title 5 inspection.
- 6.2.6 Forty-eight hour verbal notice must be provided by the septic system inspector to the Board of Health prior to the commencement of an official inspection performed pursuant to 310 CMR 15.00 et. Seq. or these regulations
- 6.2.7 Within ten working days after the receipt of an Inspection Report, the Board of Health shall review the inspection findings to determine whether compliance with Title 5 or local regulations exists. A notice of satisfactory inspection or an Order to Comply will then be issued unless additional site visits or information is necessary.

6.3 Water Quality Monitoring

- 6.3.1 After all ICBZ upgrades within a PDA are completed, water quality monitoring will occur biweekly over a 15 month period. If any sub-watersheds within the PDA exhibit septic system-related pollution then OCBZ inspections will occur for those sub-watersheds.
- 6.3.2 All subwatersheds that are not currently PDA's or sewerred will be monitored for water quality. (See Table 2 for a list of the areas potentially to be monitored.) New PDA's will be created if water quality results indicate that pollution of human origin exists. Water quality data will be collected biweekly for a 12 month period. When a surface stream or storm drain included in this monitoring program exceeds the National Shellfish Sanitation Program (NSSP) standards described in section 6.3.4 and the pollution is determined to be of human origin, the area drained by that stream or storm drain shall be included as a new PDA. The creation of new PDA's shall be jointly determined by the Board of Health and DEP. All newly created PDA's will undergo the iterative inspection and upgrade process outlined in section 6.2.1 above.

6.3.3 The methodology for water quality sampling is as follows: Shoreline surveys will be done first to determine precise discharge points for sampling locations. Water samples will be tested for fecal coliform and optical brightener. Visual observations such as flows, animal activity, algae, or other evidence of nutrient loading will be made. The number of days since the last rain event and the amount of rain in inches will be recorded.

6.3.4 The NSSP clean water shellfish standard is as follows: fecal coliform median or geometric mean most probable number (MPN) of the water may not exceed 14 per 100 ml and not more than 10 percent of the samples may exceed a MPN of 43 per 100 ml for a 5-tube decimal dilution test.

7. SEPTAGE HAULING LICENSES and SEPTAGE TRANSFER LOCATIONS

7.1 Any facility used for the transfer of septage from one transportation vehicle to another transportation vehicle shall be licensed pursuant to Massachusetts General Laws Chapter 111, section 143. In addition, notification of all abutters to the property proposed to be so utilized shall occur ten (10) days prior to the scheduled public hearing. Such notification shall include the nature of the application, the date, time and location of the public hearing, and the address, telephone number and e-mail address of the Health Department. Spill containment measures and source/destination logs must be maintained on site.

7.2 Transfer from or to a permanent structure for holding or storage shall not be permitted.

7.3 Copies of vehicles registration and proof of insurance shall be required for issuance of annual license for each vehicle.

8. PRETREATMENT OR INNOVATIVE/ALTERNATIVE SEPTIC SYSTEMS

(Revised July 15, 2008 per Board of Health meeting of June 4, 2008)

8.1 All Operation and Maintenance (O&M) providers of pretreatment, also known as Innovative/Alternative septic systems (hereafter called I/A systems) must submit Alarm Event Reports to the Health Department whenever responding to such an event.

8.2 I/A systems, including Remedial, General, Provisional, and Piloting Use, upon their approval by the Mass DEP require routine operation and maintenance. The Gloucester Board of Health requires that O&M be performed 3 (three) months apart (quarterly) within the calendar year, beginning at the first quarter after system start-up. In addition, I/A systems approved by Mass DEP for Remedial-Use are required to have quarterly effluent testing, performed within a minimum of 12 consecutive months from time of installation.

- 8.3 Effluent testing results must include Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), pH, and if required, Total Nitrogen (TN).
- 8.4 A property owner may petition the Board of Health Septic Subcommittee for a reduction in effluent and/or operations and maintenance testing. To be eligible for this reduction, an I/A system must have 4 (four) consecutive quarters of monitoring with the results averaging at or under 30 mg/L for both BOD and TSS, and 19 mg/L for TN when required. (See table 3.0 for detail).
- a) Where annual sampling has been permitted, should the concentration of either BOD or TSS in any given effluent sample exceed 30 mg/L, or (if required) 19 mg/L for TN, the system must be sampled again within 45 days and the results submitted to the Gloucester Health Department. If the second sample meets requirements, a return to the reduced effluent monitoring schedule may be allowed. If not, quarterly effluent monitoring must be resumed till such time as 4 (four) passing, consecutive quarters of monitoring are once again established.
 - b) A property owner requesting a reduction in effluent testing for I/A systems within the Gloucester regulated setback to a drinking water well, surface water supply, or an Area of Critical Environmental Concern (ACEC), even if not required as part of the system's Board of Health approval, *must also provide 2 (two) consecutive quarters of monitoring results demonstrating the system meets the 19 mg/L for TN requirement.*
 - c) All I/A systems, where testing for TN has been required, may apply to the Board of Health Septic Subcommittee for a reduction in testing frequency (See Table 3.0). To qualify, property owners must present 4 (four) consecutive quarters of monitoring results demonstrating the system does not exceed the limit of 19 mg/L for TN.
 - d) For all I/A systems serving properties that fall under the "*Rules and Regulations Governing the Subdivision of Land in Gloucester*" where the Board of Health and/or Planning Board approval included the use of I/A systems, the Board of Health Septic Subcommittee shall determine whether a reduction to the State levels for operations and maintenance and effluent testing may be allowed. Such properties must present passing effluent testing results as described within Section 8.3, inclusive.
 - e) All I/A septic systems serving more than 2 (two) condominium units are not allowed a reduction in effluent testing.

- f) Owners of a seasonal dwelling (those occupied no more than 6 months out of the year) with an I/A system may petition the Health Department for a reduction in O&M to a minimum of twice per year (biannually). If seasonal dwelling property utilizes a remedial I/A system, the owner may petition the Septic Subcommittee for a reduction in effluent testing to a minimum of once per year (annually).

Seasonal dwellings where TN sampling has been required, must present 4 (four) consecutive sampling results that do not exceed the 19mg/L for TN limit, as well as those for BOD and TSS, within the periods of time that the dwelling is occupied.

9. VARIANCES

9.1 Variances to these local regulations shall be granted for seriously aggrieved parties by the Board of Health when, in its opinion:

- a. The person requesting a variance has established that enforcement of the provision of these regulations from which a variance is sought would be manifestly unjust, considering all the relevant facts and circumstances of the individual case; and
- b. The person requesting a variance has established that a level of public health and environmental protection, that is at least equivalent to that provided under these regulations, can be achieved without strict application of the provision of the 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.

9.2 Every request for a variance shall be made in writing and shall state the specific variance(s) sought and the reasons therefore. The request for variance must indicate the current property owner.

9.3 No variance request shall be heard except after the applicant has notified all abutters by certified mail at his own expense at least ten days before the Board of Health meeting at which the variance request will be on the agenda. The notification shall state the specific variance(s) sought and the reasons therefore, shall indicate the date, place and time of the hearing, and shall indicate that the abutter may view the proposal at the Board of Health during regular business hours. For variances involving drinking water wells, the notice shall indicate specifically which parcel(s) have a well which is within the setback of the proposed septic system.

9.4 Cancellation of a public hearing shall require re-notification of abutters as described in Section 9.3

Table 1

<u>Resource</u>	<u>Septic Tank, Holding Tank, or other watertight units, excluding piping (feet)</u>	<u>Leach Facility (feet)</u>
1. Water Supply, Water Supply Tributary, or Bordering Vegetated Wetland thereto	400	400
2. Habitable or Occupiable Space as defined in Massachusetts Building Code (All setbacks to be measured from closest vertical portion of the building)		20
3. Accessory Buildings which contain no Habitable or Occupiable space as defined in Massachusetts Building Code (All setbacks to be measured from closest vertical portion of the building)		10
4. Downgradient subsurface drain discharging directly to Resource Areas (*)		50
5. Potable Water Well		150
6. Resource Area, Coastal (*)	100	200
7. Resource Area, Freshwater (*)	100	100

(*) as defined in the Massachusetts Wetlands Protection Act and/or the City of Gloucester Wetlands Ordinance

Table 2. List of Sampling Sites to be Monitored for Water Quality

Site #	Site Name	Site Code	Geographic Location
1	Niles Pond Ambient	NP	Ambient water from Niles Pond at the causeway.
2	Niles Beach Culvert 1	NB1	The culverted flow entering Niles Beach through the seawall - furthest from Eastern Point Boulevard.
3	Niles Beach Culvert 2	NB2	The culverted flow entering Niles Beach through the seawall – closest to Eastern Point Boulevard.
4	Norman’s Woe Cove	NW	The surface stream entering Norman’s Woe Cove below Hesperus Avenue.
5	West Pond Brook	WP	The surface stream entering the rocky intertidal zone at the end of Shore Road.
6	Shore Road Culvert	SR	The culverted flow entering rocky intertidal zone near Shore Road in vicinity of 201 Hesperus Avenue.
7	Magnolia Avenue	MA	The culverted flow entering an upland wetland behind 54 Magnolia Avenue.
8	Kettle Cove Brook	KC	The surface stream flowing beyond the Gloucester Border after Kettle Cove Industrial Park.
9	Wolf Trap Brook	WT	The surface stream flowing beyond the Gloucester Border after Cape Ann Industrial Park.
10	Farm Creek	FM	The City of Gloucester (as opposed to the Town of Essex) portion of the surface water drainage basin of Farm Creek.

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11	Atlantic Road and Grapevine Road	AG	The outfall from the stream at the corner of Atlantic and Grapevine Roads.
12	Hesperus Avenue, white	HW	The white storm water discharge pipe at the bottom of Hesperus Ave.
13	Hesperus Avenue, green	HG	The green storm water discharge pipe at the bottom of Hesperus Ave.

TABLE 3 – Possible Reductions in Requirements for O&M and Effluent Testing

I/A System Type/Use	Gloucester O&M and Effluent Testing Requirements	Mass DEP O&M and Effluent Testing Requirements	Possible Reductions in Requirements for O&M and Effluent Testing
Piloting	Per DEP Approval	Per DEP Approval	None
Provisional	Per DEP Approval	Per DEP Approval	None
General	Quarterly O&M and Effluent testing	Annual (1X per year) O&M and Effluent Testing	Can request reduction to Mass DEP requirements (pH, TSS and BOD still needed)
Remedial	Quarterly O&M and Effluent testing	Bi-Annual (2X per year) O&M and Effluent Testing	Can request reduction to Mass DEP requirements (pH, TSS and BOD still needed)
I/A w/ Nitrogen Testing Required	As per local permit or, at minimum, 2X over 6 months if within Gloucester setbacks to water supplies, wells or ACEC	As required for environmentally sensitive areas or per technology (i.e. re-circulating sand filters, etc)	Reduction requests entertained on a case-by-case basis to minimum of 1X per year
Subdivisions with I/A System	4X per year O&M and effluent testing, regardless of type	1X per year O&M and effluent testing for General system 2X per year O&M and effluent testing for Remedial system	Can request reduction to Mass DEP requirements (pH, TSS and BOD still needed)
Condos of 2 or more units with I/A System	Quarterly O&M and Effluent Testing	Quarterly O&M and effluent Testing	None
Seasonal with I/A System	Bi-Annual (2X per year) O&M and Effluent Testing	1X per year O&M and effluent testing for General system, 2X per year O&M and effluent testing for Remedial system	Can request reduction to Mass DEP requirements (pH, TSS and BOD still needed)

APPENDIX A
PRIORITY DRAINAGE AREAS (PDA'S)

Currently Defined PDA's and Proposed Order of Investigation

1. The area of Magnolia draining through the municipal storm drain system which discharges via two outfalls at Magnolia Beach.
2. The surface water drainage basin of Walker Creek
3. The surface water drainage basin of the Little River
4. The surface water drainage basin of Rust Island
5. The surface water drainage basin of Jones River
6. The surface water drainage basin of Pearce's Island
7. The surface water drainage basin of Freshwater Cove

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