

Chatham, Massachusetts
Sewage Discharge Permit Regulation
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Health Regulation
Adopted: 1989

CHATHAM BOARD OF HEALTH
SEWAGE DISCHARGE PERMIT
Regulation
BOH-4-88

Authority: These regulations are adopted by the Chatham Board of Health under the auspices of Massachusetts General Laws, Chapter 111, Section 31.

Effective Date: April 15, 1989

Purposes: To protect the groundwater from contamination which may result from residential and commercial development, including but not limited to, concentrated sewage disposal.

Applicability: MI proposed subsurface disposal systems or group of systems located on the lot(s) that they serve for a new or existing project* or development with a design sewage flow of 2,000 gallons per day or greater. (Subdivisions comprised of single-family house lots are exempt from this regulation.) A Sewage Discharge Permit acquired after approval by the Board of Health will be issued for all subsurface disposal systems with a sewage flow of 2000 gallons or greater.

Procedure: The Board of Health will issue a sewage discharge permit only after the applicant has met the following procedures and standards: The applicant(s) must demonstrate by written report (prepared by qualified professionals) to the satisfaction of the Board that drinking water standards (as well as 5 mg/I nitrogen) will be met at the down gradient property limit; and that surface water standards will be met at downgradient lakes and ponds (0.05 mg/I phosphorus) and in estuaries and salt ponds (0.50 mg/I nitrogen). This procedure shall be followed for all down gradient ponds, lakes, rivers, coastal waters and other water bodies in the Town of Chatham, including but not limited to, Muddy River, Crow's Pond, Ryder's Cove, Frost Fish Creek, Stage Harbor, Mitchell River, Mill Pond, Oyster River, Oyster Pond, Sulphur Springs, Buck's Creek, Taylor's Pond, Eel River, Cockle Cove Creek, Red River, Mill Pond (South Chatham), Goose Pond, Schoolhouse Pond, Stillwater Pond, Lover's Lake, White Pond, Ryder's Pond, Barclay's Pond, Perch Pond, Black Pond, Blue Pond and Emery Pond.

The written report shall be based upon the following scope of work:

- a. Geologic borings of location and number sufficient to demonstrate soil conditions and groundwater flow on the lot(s).

b. Water table map (one-foot interval contours) showing groundwater flow directions. The number and location of observation wells required for this map is to be determined on a case by case basis and shall be sufficient to determine which water bodies and wells are down gradient from the proposed discharge.

*Existing projects or developments will be subject to this regulation if, at any time, there is a change' resulting in an increase in sewage flow.

C. Projections of down gradient concentrations of nitrogen using the approved Board of Health Nitrogen loading formula (or other contaminants as requested by the Board of Health). Projections of downgradient water quality will be determined utilizing two-dimensional solute transport models and input variables approved by the Board of Health. If private or public wells are located downgradient within 2500 feet, a locus map and additional projections of water quality in the wells will be required. The currently approved model for this work is:

1. USGS Konikow and Bredehoeft (1979)

Currently approved input variables:

1. Transmissivity to be determined by on-site slug or pump test.
2. Aquifer thickness to be determined by on-site boring location of confining layers and estimated plume thickness.
3. Dispersivity 40 feet longitudinal/30 feet transverse.
4. Hydraulic gradient as determined by site-specific water table map.
5. No retardation factor.
6. Sewage flows as determined by Title V design flows.

Monitoring Requirements After Permitting:

Applicants who receive permits under this regulation shall install a minimum of three downgradient wells and one upgradient well on the property. Location, number of wells and monitoring well requirements (whether single well or clustered multi-level wells) will be approved by the Board of Health. Timing of installation and start of sampling will be determined by the Board of Health. Groundwater flow direction will be determined from site-specific observation wells. Wells shall be constructed, sampled and maintained as outlined in the Board of Health's guidelines entitled "Monitoring Well Design and Sampling Guidelines." Repair and maintenance of the wells shall be the responsibility of the property owner. The Board of Health shall be granted, through a easement on the deed, access to the monitoring wells. Groundwater samples using EPA methods will be obtained by a qualified professional following EPA or State Chain of Custody Procedures on a quarterly basis for five (5) years unless otherwise specified by the Board of Health. The frequency of sampling will be re-evaluated by the Board after the initial 5 years of sampling. Water samples will be tested by a state-certified laboratory quarterly for nitrate-nitrogen, ammonia-nitrogen, kjedahl nitrogen, total phosphorus, chlorides, specific

conductance and annually for volatile organic compounds (EPA Analytical Procedure 502) and any other parameters deemed necessary by the Board of Health. Results are to be reported to the Board of Health within ten working days of the completion of laboratory analysis and shall meet Massachusetts Class I groundwater standards and appropriate Federal and State advisory levels for organic chemicals at the downgradient property boundary. In the event that water quality standards are violated the following actions will be undertaken by the property owner(s):

- a. Report results to the Chatham Board of Health within 48 hours.
- b. Resample wells and retest within 5 days. If the results are still in violation, then the property owner(s) shall:
 1. Notify downgradient property owners within 48 hours.
 2. Decrease wastewater flows or increase level of treatment within 45 days.
 3. Initiate remedial clean-up actions as deemed necessary by the Board of Health.

Public Hearing: A minimum of one public hearing shall be held after the receipt of written report and related materials. The date and time of the hearing will be advertised in local newspapers to allow comments from the general public on the proposed project or development.

Variance: Variance from this regulation may be granted by the Board of Health only if the applicant can demonstrate to the satisfaction of the Board that: 1) enforcement thereof would do manifest injustice and/or would significantly impact the economic viability of an existing business and/or would deprive a landowner of all economically reasonable use of the lot(s) in question, and 2) that the installation of an on-site subsurface sewage disposal system, or systems, will not have a significant adverse effect on public and/or private drinking water resources, lakes, ponds, rivers, streams, salt ponds,, estuaries, or any other body of water.

In applying for a variance, the applicant shall be required to submit, but not be limited to, a geohydrological report as described above as well as a map of potential future well sites, present and future population density, and any other information deemed pertinent by the Board of Health.

A variance review fee may be assessed by the Board of Health, to retain the service(s) of an independent registered civil/sanitary engineer, and or environmental consultant, to conduct a review of the submitted variance. The fee will be determined by the Board, based on the complexity of the planned project and subsurface system or systems, and the time required to adequately review all plans and reports. The applicant will pay the fee after the Board has received copies of the written report and assessed the level of review required or at the date of the first Public Hearing, whichever comes first. Any unused portion of the fee will be refunded to the applicant after the review is completed.

Severability: Each of these regulations shall be construed as separate to the end that if any regulation or sentence, clause, or phrase thereof shall be held invalid for any reason, the

remainder of that regulation and all other regulations shall continue in full force.