

# TOWN OF BOLTON, MASSACHUSETTS

## WELL REGULATIONS

Revised: 11/14/99; 02/10/2004; 4/26/05; 8/9/11

### 1.0 Purpose and Authority

These regulations are intended to promote the public health and general welfare by ensuring that wells are constructed and maintained in a manner which will protect the quality and quantity of the groundwater derived from wells. These regulations are adopted by the authority of Chapter 111, Section 31, M.G.L.

The applicant should be aware of the obligation to comply with the requirements of Wetlands Protection Act MGL Chapter 131, Section 40 and the Town of Bolton By-Laws, Section 1.18: Wetlands By-Law.

### 1.1 Definitions

As used in these regulations, the following terms shall be defined and interpreted as follows:

- (1) Abandoned water well. A well that has not been used for a water supply for a period of one (1) year or more.
- (2) Agent. The Nashoba Associated Boards of Health (hereinafter referred to as Nashoba) serving as the agent for the Board of Health, as provided by Chapter 111, Section 27A.
- (3) Aquifer. A water bearing geologic formation that contains water in sufficient quantities to potentially supply a well for drinking water or other purposes.
- (4) Irrigation well. A well which is not connected to a domestic water supply line used or potentially used for human consumption.
- (5) Person. Means any agency or political subdivision of the federal government or state; any state, public or private corporation or authority; any interstate body, foreign nation, individual, trust, firm, joint stock company, partnership, association or other entity; any officer, employee or agent of such person; and any group of persons.
- (6) Potable water. Water that is satisfactory for drinking and for culinary and domestic purposes.
- (7) Pumps and pumping equipment. Any equipment or materials used or intended for use in withdrawing or obtaining groundwater, including, without limitation, pumps, seals and tanks, together with fittings and controls.
- (8) Regulating agency. The Town Board of Health through its agent, the Nashoba Associated Boards of Health.
- (9) Well. An excavation or opening into the ground made by digging, boring, drilling, driving, or other methods, for the purpose of providing a water source.

- (10) Well driller. Any person who is licensed by the Water Resources Commission (as defined by Chapter 620 of the Acts of 1956, as amended) to construct wells.
- (11) Well Seal. An approved arrangement or device used to cap a well or to establish and maintain a junction between the casing or curbing of a well and the piping or equipment installed therein. The purpose of function of which is to prevent pollutants from entering the well at the upper terminal.
- (12) Installer. Any person holding a license to install a Subsurface Disposal of Sanitary Sewage issued by Nashoba Associated Boards of Health.
- (13) Shallow well. A well to access the ground water aquifer not utilizing a well seal.

## **2.0 Requirement for Private Wells**

- (1) No well shall be deemed a source of water unless it is constructed in accordance with these regulations.
- (2) No well shall be destroyed except in accordance with these regulations.
- (3) For each well constructed after the effective dates of these regulations, there shall be:
  - (a) a well construction permit application;
  - (b) a well construction permit;
  - (c) a water quality analysis;
  - (d) a certificate of compliance with the terms of the permit;
  - (e) a well driller's report.
- (4) For each well destroyed after the effective date of these regulations, there shall be
  - (a) a well destruction permit application;
  - (b) a statement of well abandonment from the owner;
  - (c) a well destruction permit;
  - (d) a well driller's report of destruction.
  - (e) an installer's report of destruction for shallow wells only.
- (5) The Board of Health or its agent shall investigate violations of these regulations or of any permit issued and may take such actions as it may deem necessary for the protection of the public health and to restrain violations of these regulations.

## **3.0 Well Construction or Destruction Permits**

- (1) No person shall engage in the business of constructing or destroying a well within the Town under these regulations unless registered as a well driller with the Water Resources Commission, pursuant to 313CMR3.00.
- (2) An application for a well construction or destruction permit shall be submitted by the property owner, the well driller, his agent to Nashoba on a form furnished by Nashoba or the installer in the case of a shallow well destruction.

- (3) A well construction or destruction permit shall be obtained from Nashoba prior to the construction or destruction of any well. Nashoba may charge a fee for each well construction or destruction permit and said fee shall be paid to the Nashoba Associated Boards of Health prior to the permits issue.
- (4) A well construction or destruction permit shall expire if the work authorized by it is not completed within three (3) years of the date of issuance of the permit. The Bolton Board of Health may issue a one year extension to the permit upon written request of the permittee, filed before the expiration date, and documented showing of facts preventing the completion of the work within the timeframe of the original permit. Only one extension shall be granted.

**4.0 Well Construction Permit Requirements**

The following information shall be submitted by the property owner or the well driller or their agent with the well construction applications, prior to the issuance of a permit:

- (a) General location of the proposed well to include the location of at least one road intersection for reference;
- (b) A sketch of the expected construction of the well to include an approximation of the expected well depth;
- (c) A description of any possible source(s) of contamination within 500 feet of the proposed well location (see sect. 4.1.(1));
- (d) The well driller's name and certification number as it appears on the Water Resources Commission certificate.
- (e) Description of the prior/current land use in the vicinity of the proposed well location (i.e. agricultural, industrial, etc.)

For emergency repair, alteration, or replacement of an existing well the Board of Health or Nashoba may waive the requirement of these regulation for dwellings which were in existence prior to the effective date of this regulation.

**4.1 Well Location Requirements**

- (1) In establishing the location of a well, the well owner and/or the driller shall identify any and all sources of potential contamination (agricultural fields, animal feed lots, beauty salon, dry cleaner, funeral home, furniture stripper/refinisher, gasoline/service stations, fuel depot, automotive junk yard, railroad line or yard, etc.) which exist within 500 feet of the proposed well site.

The following minimum lateral distances from contamination shall apply with the granting of a variance under special condition:

Source of Contamination	Minimum Distance to well (feet)
Leaching facility (310CMR15.000)	100
Leaching facility (in soils with percolation rates two minutes per inch or less)	150(a)
Cesspool	100
Septic tank	50

Sewer line/ <u>force main</u>	50
Property line	50
Building footprint	20
Private driveway (10 feet with physical protection barrier from damage)	25
Public or private way, common driveway or shared driveway (20 feet with physical protection barrier from damage)	50
Easement if use is non-contaminating	15
Active or closed landfill	500
Hazardous waste spill site	400
Wetland, bordering vegetated wetland and surface water of any type (as defined in Title 5, 15.002 Definitions). Well head must be above potential high water.	25
Swimming pool, inground or above ground, to edge of a shallow well	25
Swimming pool, inground or above ground, to edge of a drilled well	10

- (a) If the well is drilled and located in soils other than two minutes per inch or less; or has an enhanced well seal, this distance may be reduced but never less than 100 feet.
- (2) Where, in the opinion of the town Board of Health or Nashoba, adverse condition exist, the above minimum distances may be increased or special means of protection may be required. These special requirements shall be added to the well construction permit by Nashoba.
- (3) The well shall be upgradient of sources of contamination when ever possible. The top of the well shall be higher than any surface of contamination and above any conditions of flooding by drainage or runoff from the surrounding land, unless otherwise adequately protected. If the well is proposed within or adjacent to a 100 year flood zone, the 100 year flood elevation must be supplied by the applicant or applicant's agent to confirm the wellhead is at least 24 inches above the 100 year flood elevation. A greater vertical offset will be required if accurate flood levels are not available.

#### 4.2 Well Construction Standards

- (1) Wells shall be constructed in compliance with the recommendations of the latest addition of the Manual of Individual Water Supply, U.S. Environmental Protection Agency (U.S. EPA), Water Supply Division (exception: springs shall not be used for the purpose of a potable water supply).
- (2) The annular space between the protective well casing and the wall of the drilled hole or the surface casing shall be effectively sealed. The seal is to protect against contamination by surface and/or shallow, subsurface waters. Advanced sealing technology may be required in high hazard situations.

- (3) The well casing shall be capped or covered with a sanitary well seal. Casings shall extend a minimum of 24 inches above the highest known flood levels or 18 inches above the ground surface in areas which are not subject to flooding. In addition all non-vent openings shall be sealed to exclude the intrusion of contaminants. Vent opening shall be of an approved type, complete with screening. A greater vertical offset will be required if accurate flood levels are not available.
- (4) When well screens are used, the screen length and opening size should be selected to ensure that the water supply will be free from silts and sands and other suspended solids.
- (5) Irrigation wells shall have no physical connection to any domestic water supply plumbing lines or pump equipment (e.g. no cross connections).
- (6) Pump suction lines (if used) shall not be closer than 100 feet from underground sewage leaching facilities or 50 feet from a septic tank (310CMR15.211). Pressure lines are considered preferable.
- (7) Well pits to house the pumping equipment or to permit accessibility to the top of a well shall not be permitted.
- (8) For all water (from other than an approved drinking water source) used in the drilling of a well shall be disinfected prior to being pumped into the drill hole. Disinfection may include the addition of chlorine bleach to the drilling fluid to obtain a concentration of chlorine at no less than 50 parts per million (50 ppm). (i.e. 3,000 gallon storage vessel-using 15% chlorine bleach (Clorox brand or equal) use + 1 gallon.
- (9) Water quantity requirements: The pumping test shall establish the wells capacity to produce the following volume of water over a period of 24 hours or less:

(Number of bedrooms plus one bedroom) X (110 gallons per bedroom X (a safety factor of 2) = Number of gallons required in 24 hours or less.

Following the pumping test, the well must be showed to recover to within eighty-five (85) percent of the original static level within a twenty-four (24) hour period.

#### **4.3 Disinfection and Other Sanitary Requirements**

All wells shall be disinfected following construction, rehabilitation, and well or pump repair, before the well is place into service. The well shall be pumped to waste (not to the septic system) until the water is as clear as possible. Thereafter the well and the pumping equipment (and plumbing, if installed) shall be disinfected with a solution containing at least 50 parts per million(ppm) of chlorine. The well shall remain in contact with the chlorine solution for a minimum of 24 hours before the well is pumped to waste (not the septic system) and the water found to be free of chlorine. (Information and instructions for the (disaffection) disinfection procedure is available from Nashoba)

#### 4.4 Water Sampling Procedure

- (1) Water sample(s) shall be collected by Nashoba. All water sample(s) shall be collected in an appropriate manner as to maintain the integrity of the sample collected. Collection of the sample(s) shall occur following the well development and the disaffection process for that well (see section 4.3). The water sample may be taken to a laboratory of Nashoba's choice unless the owner selects a specific laboratory, at which time the sample container may be sealed with a custody tag and be delivered to the owner selected testing laboratory by him/herself. The laboratory shall be required to notify Nashoba should the sample be received with a broken custody seal.
- (2) A representative water sample for laboratory analysis shall be collected at the pump discharge or from a tap in the pump discharge line. A representative sample shall constitute a sample collected after the removal of at least three standing volumes of water from the well or a minimum of 10-15 minutes of pumping from the well.
- (3) The sample(s) shall be analyzed for the following parameters at a minimum: Coliform bacteria, Arsenic, Lead, Sodium, Iron, Manganese, Copper, Magnesium, Color, Sulfate, Turbidity, Alkalinity, Chlorine, Chloride, Hardness, Ammonia, Nitrite, Nitrate, pH, Conductivity, Odor and Potassium. All analyses shall be performed in accordance with U.S. EPA methods or other approved methods for drinking water analysis.
- (4) Analytical tests such as volatile organic compounds (VOCs), pesticides, PCBs and inorganics (metals) other than those specified in 4.4(3), can be added or deleted, as public knowledge increases or at the request of the town Board of Health or Nashoba, when conditions may indicate the need(i.e. prior land use) for such testing. Samples which are to be analyzed for volatile organic compounds shall not contain air bubbles of any size.

#### 4.5 Water Quality

- (1) All analytical results shall be reviewed by Nashoba and an assessment of the suitability of that well for drinking water will be made. Nashoba will adhere to the current and applicable drinking water standards as detailed by the U.S. EPA and the State of Massachusetts Department of Environmental Protection (DEP). Approval of the results, by Nashoba, must be obtained in writing before the well shall be placed into service as a drinking water supply.
- (2) The water sample(s) shall be analyzed by a laboratory certified to perform drinking water analysis by the DEP for each parameter analyzed. A copy of the results shall be sent to both the town Board of Health and Nashoba. All fees for the water testing are the responsibility of the applicant and all fees shall be paid in full prior to the approval of the well permit.
- (3) As stated in section 4.4., Nashoba or the town Board of Health may require that additional chemical analysis be performed on the well water. Any such additional requirement shall specify which chemical constituents or chemical fraction (pesticide/PCB, extractables, etc..) shall be tested for.
- (4) No result shall exceed the current and applicable drinking water standards for a public water supply, as detailed by the U.S. EPA and/or DEP (40CFR141 and 310CMR22). Coliform results shall be zero colinies per 100 ml of sample or upon a positive result be followed by

two successive zero coliform results. Nashoba may also use professional judgment when assessing the results of the water well prior to approval of that well. When the results indicate a potential health hazard (i.e. possible gasoline contamination) Nashoba May at its discretion disapprove the well for use as a water supply. Remedial treatment equipment may be required to provide a satisfactory supply.

- (5) The Bolton Board of Health may require the collection and submittal of water quality testing for any property when in the opinion of the Board the water supply quality is suspect or potentially compromised.
- (6) Water test results are valid for 24 months from the sampling date.

#### **4.6 Well Completion Requirements**

- (1) Within 30 days after the completion of the construction of any well, the well driller/digger shall submit to Nashoba a report containing the following information:
  - (a) The name of the owner of the well;
  - (b) The address of the property serviced and/or the lot number as assigned by the Assessor's office;
  - (c) The depth, size and method of construction of the well;
  - (d) The static water level;
  - (e) The yield of the well after pumping;
  - (f) The well driller's log information.

The well driller's report shall be signed by an authorized representative and shall constitute a statement of compliance with all requirements of these regulations. This will satisfy the requirement of the certificate of compliance.

#### **5.0 Well Destruction**

A well that is abandoned shall be destroyed to protect the groundwater supply and to eliminate potential physical hazards. Wells shall be sealed with non-hazardous, impervious materials which shall be permanently in place. All exposed casing materials, pumping equipment, and distribution lines shall be removed. The excavation shall be returned to the existing grade of the surrounding land. A record of abandonment shall be kept in accordance with these regulations.

#### **5.1 Well Destruction Requirement**

- (1) The following information shall be submitted with each well destruction application, prior to the issuance of a permit:
  - (a) The specific location of the well to be destroyed;
  - (b) The design and construction of the well to be destroyed;
  - (c) A written statement from the owner that the well is abandoned;
- (2) Within 30 days after the destruction of any well, the well driller shall submit to Nashoba a report containing the following:
  - (a) The name of the owner of the well;
  - (b) The address of the property served;
  - (c) Method of sealing, including materials used;

- (d) Person or persons sealing the well and date of the sealing of the well
- (3) The well driller's report shall be signed by an authorized representative and shall constitute a statement of compliance with all requirements of these regulations. This will satisfy the requirement of the certificate of compliance.
- (4) A shallow well may be destroyed by a licensed installer.

## **6.0 Variances**

The Board will determine if a hearing is required based on negative impact to abutting properties and the Town as a whole. Written assent to a proposed project from potential affected abutters will be accepted. Otherwise, all variance requests shall require notification of the abutting property owners, and a public hearing. In the event of the subdivision of a parcel, the abutters of any lot of the subdivision are considered to be the abutters of the original parcel in addition to the owners of any lots already developed. This holds until all lots within the subdivision have been developed. Abutting properties are defined as all parcels and lots within 300' of the original parcel. This 300 foot requirement may be reduced by the Board based on the variance requested.

The applicant shall post a legal notice in a local newspaper a minimum of ten (10) days before the scheduled hearing date; the application shall bear the expenses of the posting. The notice shall state the date, time, and place of the hearing; the location and owners of the property, the local regulation for which the variance is requested, and, in the case of offset variances, the regulation and proposed distances. The applicant shall present proof of the hearing notice to the Board at the onset of the hearing.

In addition, a written notice of the variance hearing request and hearing date, time, place of hearing, the location and owners of the property and the local regulation(s) for which the variance is requested is to be sent to the abutters by registered or certified mail ten (10) days before the hearing date. The application shall present the mailing receipts to the Board of Health at the onset of the hearing. The notice shall include language that the abutter may attend the meeting in person or by mailing the Bolton Board of Health a letter of concern to be received by the Board prior to the hearing date and time.

## **7.0 Substantive Procedures**

Substantive Procedures shall be performed as specified in 105CMR400.1

## **8.0 Well Protection**

It is recommended that the use of herbicides and pesticides shall be avoided within a fifty (50) foot radius of any wellhead.

## **9.0 Severability**

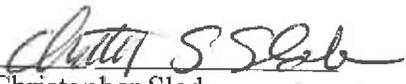
Each provision of this regulation shall be construed as separate to the end that, if any provision, or sentence, clause or phrase thereof, shall be held invalid for any reason, the remainder of that Section and all other sections shall continue in full force and effect.

**10.0 Effective Date**

This Amendment shall take effect upon its passage.

Bolton Board of Health

Date: Aug. 9, 2011

  
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Christopher Slade  
Chair

  
\_\_\_\_\_  
Laura Andrews  
Clerk

  
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Christopher Rogers  
Member

