

## 1.0 PURPOSE AND AUTHORITY

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

### 1.1 DEFINITIONS

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

- (1) **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.
- (2) **Agricultural Well** - A private well that is used strictly for *agricultural* use. An agricultural well cannot be used as potable drinking water supply. *These wells shall not be connected at any point in time to a dwelling or a building (?to a barn might need to be potable??) unless they meet the requirements of a private Drinking Water Well and have the Board's written approval.*
- (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 Wells** – *Wells used for the sole purpose of watering or irrigation. These wells shall not be connected at any point in time to a dwelling or a building unless they meet the requirements of a private Drinking Water Well and have the Board's written approval.*
- (5) **Person** - An individual, corporation, company, association, trust, or partnership.
- (6) **Potable water** - Water that is satisfactory for drinking and for culinary and domestic purposes. This water meets primary EPA regulations.
- (7) **Private well** - A water supply well supplying potable water which will not serve either a number of service connections or a number of individuals sufficient to qualify as a public water system as defined in 310 CMR 22.02. In this regulation, the term "well" refers to a private well unless otherwise stated.
- (7) **Pumps and pumping equipment** - Any equipment or materials used or intended for use in withdrawing or obtaining groundwater. Including, without limitation, seals and tanks together with fittings and controls.
- (8) **Regulating Agency** - The Town Board 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 water.
- (10) **Well driller and/or digger** - Any person who is licensed by the Water Resources Commission (as defined by 310 CMR 3.00) 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 or function of which is to prevent pollutants from entering the well at the

upper terminal.

## **2.0 REQUIREMENTS FOR PRIVATE WELLS**

**(1)** No private well constructed after the effective date of these regulations shall be deemed a source of potable water unless it is constructed in accordance with these regulations.

No well shall be destroyed except in accordance with these regulations.

**(2)** For each private 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 or digger's report.

**(3)** For each private 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 or digger's, or contractor's report of destruction.

**(4)** 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.

**(5)** Whosoever violates these regulations shall be punished by a fine of not more than \$500.00 dollars to, and for the use of, the Town in which the well is located.

## **3.0 WELL CONSTRUCTION PERMITS**

**(1)** No person shall engage in the business of constructing private wells within the Town under these regulations unless registered as a well driller/digger with the Water Resources Commission, pursuant to 313 CMR 3.00.

**(2)** An application for a well construction permit shall be submitted by the property owner, the well driller/digger or his agent to the Lunenburg Board of Health through its agent, Nashoba, on a form furnished by Nashoba.

**(3)** A well construction permit shall be obtained from the Lunenburg Board of Health through its agent, Nashoba, prior to the construction of any private well.

Nashoba shall charge a fee for each well construction permit and said fee shall be paid to the Nashoba Associated Boards of Health prior to the permits issue.

## **4.0 WELL CONSTRUCTION PERMIT REQUIREMENTS**

The following information shall be submitted by the property owner or the well driller/digger or their agent with the well construction application, 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 400 feet of the proposed well location (see sect. 4.1(1));
- (d) The well driller's/digger'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 (e.g. agricultural, industrial, etc.).

## **4.1 WELL LOCATION REQUIREMENTS**

(1) In establishing the location of a well, the well owner and/or the driller/digger, 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 400 feet of the proposed well site.

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

Source of Contamination	Minimum Distance (feet)
leaching facility (310CMR15.00)	100
cesspool	100
septic tank	50
sewer line	50
property line	50
public or private way, common drive, easement	50
active or closed landfill	400
hazardous waste spill site	400

(2) Where, in the opinion of the Town Board of Health or its Agent, adverse conditions exist, the above minimum distances may be increased or special means of protection may be required as ordered by the Board of Health. These special requirements shall be added to the well construction permit.

(3) The well shall be upgradient of sources of contamination whenever 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.

## **4.2 WELL CONSTRUCTION STANDARDS**

(1) Wells shall be constructed in compliance with the recommendations of the latest edition 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.

(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 openings shall be of an approved type, complete with screening.

(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) Well pumps and water storage equipment shall be selected to ensure that the water supply is to be adequate (a minimum of five gallons per minute (GPM) is recommended) over a sustained period of pumping. NOTE: The proper selection of the pump is important to protect against unnecessary wear on the equipment and to maintain a safe and adequate supply of water.

(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 (310 CMR 15.211).

(7) Well pits to house the pumping equipment or to permit accessibility to the top of a well shall not be permitted.

## **4.3 DISINFECTION AND OTHER SANITARY REQUIREMENTS**

All private wells shall be disinfected following construction, rehabilitation and well or pump repair, before the well is placed 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 to the septic system) and the water found to be free of chlorine. (Information and instructions for the 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 disinfection 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's 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 organics (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 its Agent, when conditions may indicate the need (e.g. prior land use) for such testing. Samples which are to be analyzed for volatile organic compounds shall not contain air bubbles of any size.
- (5) If a well must be tested for a Title 5 septic inspection, due to the proximity of a sewage disposal system, as outlined in 310 CMR 15.303 (c) 4, the sample must be collected by the Nashoba Board of Health, acting as agent for the Lunenburg Board of Health.

#### **4.5 WATER QUALITY**

- (1) All analytical results shall be reviewed by Nashoba acting for the Board of Health 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.

(3) As stated in section 4.4, the Town Board of Health or its Agent may require that additional chemical analysis be performed on the well water. Any such additional requirement shall specify which chemical constituents or chemical fractions (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). Requirements for wells contaminated with arsenic and lead detailed in Section 4.5 (5) of these Regulations. Coliform results shall be zero colonies per 100 ml of sample or upon a positive result be followed by two successive zero coliform results. The Board of Health and/or its Agent may also use professional judgment when assessing the results of the well water prior to approval of that well. When results indicate a potential health hazard (e.g. possible gasoline contamination) the Board of Health and/or its agent may at its discretion disapprove the well for use as a water supply.

(5) New or existing wells in which arsenic or lead levels are found to exceed maximum acceptable limits must be equipped with treatment device(s) which reduce concentration to acceptable levels in order to be certified as a primary water source except under the following conditions:

1. When test results from two additional, consecutive tests are within acceptable limits.
  - A. The second retest will not be taken until the results of the first are known and are acceptable.
  - B. If either the first or second retest fails, the well will be deemed unacceptable and must be treated to bring into compliance, or be abandoned and destroyed in accordance with Town of Lunenburg Well Regulations.

If treatment is found to be necessary, devices must be installed in such a fashion as to insure that each point within the building normally used to supply drinking water will be treated. This may be accomplished by means of a single unit to treat all water entering the building, or by means of individual units at each tap or drinking device.

The deed for the property, served by a well in which unacceptable levels of arsenic or lead are detected, shall contain wording that will serve to inform future owners of the untreated arsenic or lead level, the need for treatment equipment and maintenance of that treatment equipment. The manner in which the notification shall appear on the deed will be determined by whichever of the following conditions exist:

- a. New Construction - incorporated within the Deed.
- b. Preexisting Construction - by means of a marginal reference to the Deed, recorded with the Registrar of Deeds.

Proof of compliance must be provided to the Board of Health prior to certification of the well.

The following wording is the only wording acceptable to the Lunenburg Board of Health. Any alteration will result in non-certification of the well and other actions allowable by Law:

"Tests done in \_\_\_\_\_ indicated that the water from the existing well exceeded the maximum levels for \_\_\_\_\_ established by the Primary Drinking Water Regulations of the Commonwealth of Massachusetts. \_\_\_\_\_ level was \_\_\_\_\_ on \_\_\_\_\_. Subsequent test indicated a level of \_\_\_\_\_ on \_\_\_\_\_. "

Treatment devices have been installed and subsequent tests have shown that the \_\_\_\_\_ level has been reduced to acceptable standards. In order to insure that these quality standards will be continued to be met, these devices must be maintained by the owner of the premises. Periodic water quality testing is highly recommended."

#### **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 served 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/digger's log information.

The well driller's/digger'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.

#### **4.7 AGRICULTURAL WELL**

- (1) Continued use of a well that no longer qualifies as a potable water source as defined in these regulations for agricultural purposes only must be approved by the Lunenburg Board Health.
- (2) Well must be disconnected from the potable water system of the house.

(3) A description of the well location and the following wording must be added to the deed for the property:

The well located at (address) on the (location description) is for agricultural purposes only. Water from this well should not be consumed.

## **5.0 WELL DESTRUCTION**

(1) An application for a well destruction permit shall be submitted by the property owner, the well driller/digger or his agent to the Lunenburg Board of Health through it's agent, Nashoba, on a form furnished by Nashoba.

(2) A well destruction permit shall be obtained from Nashoba prior to the destruction of any private well.

(3) Nashoba shall charge a fee for each well destruction permit and said fee shall be paid to the Nashoba Associated Boards of Health prior to the permits issue.

(4) 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

### **5.0 A - ARTESIAN WELL DESTRUCTION**

1) No person shall engage in the business of destroying an artesian well within the Town under these regulations unless registered as a well driller/digger with the Water Resources Commission, pursuant to 313 CMR 3.00.

### **5.0 B - SHALLOW WELL - POINT WELL DESTRUCTION**

1) No person shall engage in the business of destroying a shallow or point well unless a permit has been obtained from the Lunenburg Board of Health through Nashoba Boards of Health. The method for destruction will be outlined on the permit.

## **5.1 WELL DESTRUCTION REQUIREMENTS**

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

Within 30 days after the destruction of any well, the well driller/digger, or contractor 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

The well driller's/digger'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.

## **6.0 VARIANCES**

(1) Variances may be granted only as follows: The town Board of Health may vary the application of these regulations with respect to any particular case when, in its opinion, the enforcement thereof would do manifest injustice, and the applicant has proven that the same degree of public health and environmental protection required under these regulations can be achieved without strict application of a particular provision(s).

(2) Variance requests shall be in writing to the Town Board of Health and include all the information/reasons and proposed measures necessary to assure the protection of the public health and environment. The town Board of Health shall grant, condition, or deny a variance in writing, and state the reasons for any denial.

## **7.0 SUBSTANTIVE PROCEDURES**

Substantive Procedures shall be performed as specified in 105 CMR 400.1

## **8.0 SEVERABILITY CLAUSE**

If any Title, regulation, paragraph, sentence, clause, phrase, or word of this regulation shall be declared invalid for any reason whatsoever, that decision shall not affect any other portion of this regulation, which shall remain in full force and effect and to this end the provisions of this regulation are hereby declared severable.

### ***IRRIGATION/AGRICULTURAL WELLS***

*7.1 Irrigation/agricultural wells are for the sole purpose of irrigation/agriculture and shall not be deemed or used as a potable water supply for human consumption. Continued use of a well for irrigation/agricultural purposes only, as defined by these regulations that no longer qualifies as a potable water source, must be approved by the Lunenburg Board of Health. An Irrigation/Agricultural Well shall include non-potable wells and wells for use as heat pumps or other heat exchange.*

*7.2 Irrigation/Agricultural wells shall not be connected to any dwelling unless they are approved as a Private Drinking Water Well by the Board. There shall be no possibility of a cross-connection with a drinking water supply line due to the location of the line from a non-potable well.*

*7.3 A plan must be submitted showing all structures, location of the proposed well, plumbing*

*connection plan (if any) and existing condition plan. Minimum distances are as follows:*

<i>Source</i>	<i>Minimum Distance</i>
<i>Septic System Leaching Area</i>	<i>50 feet</i>
<i>Septic System Tank/Sewer Line</i>	<i>25 feet</i>
<i>Property Line</i>	<i>25 feet</i>

- 7.4 *Well permits and completion reports are required for all Irrigation/Agricultural Wells.*
- 7.5 *Irrigation/Agricultural Wells must be clearly marked by an attached yellow metal tag identifying the well as an Agricultural/Irrigation Well and not a potable source of water.*
- 7.6 A description of the well location and the following wording must be added to the deed for the property:

The well located at (address) on the (location description) is for agricultural purposes only. Water from this well should not be consumed.

*It is suggested that Irrigation/Agricultural Wells be tested periodically for fecal and total coliform.*