

## **WATER SUPPLY REGULATIONS:**

### **Section 1: Authority and Purpose**

- 1.1** The Board of Selectmen of the Town of Windham, N. H. acting under R.S.A Chapter 147 Section I, and by any other power thereto enabling and acting hereunder and in accordance therewith, has, in the interest of and for the preservation of the public health, duly made and adopted the following rules and regulations.
- 1.2** The word "well" as used in these regulations, shall include any pit, pipe, excavation, casing, drill hole or other source of water to be used for any purpose of supplying water in Windham, N.H.
- 1.3** The words "water system" as used in these regulations, shall include pipes, valves, fittings, tanks, pumps, motors, switches, controls and appurtenances installed or used for the purpose of storage, distribution, filtration, treatment or purification of water for any use whether or not inside a building.
- 1.4** The words "Potable Water" as used in these regulations shall mean: Water that is safe and fit for human consumption as defined by the New Hampshire Department of Environmental Services.

### **Section 2: Wells**

- 2.1** No well shall be constructed until the Health Officer has issued a permit. For each well constructed after the effective date of these regulations there shall be:
  - a) A well construction permit application;
  - b) A well construction permit;
  - c) A water quality analysis;
  - d) A well certificate of compliance;
  - e) A well driller's log report.
- 2.2** No permit shall be issued except to persons licensed under RSA 482-B unless a statutory exemption is applicable.
- 2.3** The well contractor shall observe reasonable sanitary measures and precautions in the performance of his work in order to prevent pollution or contamination of the well. Disinfection procedures should be followed as outlined in the Department of Environmental Services Environmental Fact Sheet WD-WSEB-1-2.
- 2.4** There shall be a separate well for each dwelling or a connection to an approved well system. The Health Officer may allow more than one dwelling to be served by a single well if said well complies with the well yield requirements and State of New Hampshire community well requirements.

**2.5** All wells must be a minimum of 75 feet from all leaching fields, set back 25 feet from surface water or drainage culverts, and set back 50 feet from all lot lines. If placement is necessary within 50 feet, but no closer than 20 feet, a "standard release form" is required to be signed by the owner and given to the DES, the Health Officer and the registry of deeds (see RSA.485-A: 30-b). Well easements on adjacent land or dedicated open space can be substituted for a well release. The well location shall be shown on a sketch plan, which shall show the distance from at least two permanent landmarks.

**2.6** Drilled Wells:

2.6.1 A six-inch (6") casing of seventeen pound per foot pipe shall be required.

2.6.2 This casing shall be set sufficiently into solid bedrock to act as a seal to keep out surface water; a minimum of ten feet (10') shall be considered sufficient.

2.6.3 The Health Officer shall not allow a drilled well closer than 75 feet of a leaching system without a formal waiver hearing and approval from the Board of Health.

**2.7** Point wells and dug wells:

2.7.1 Setbacks for point or dug wells shall be as required in section 2.5.

2.7.2 Point wells shall follow the well design guidelines outlined in the NH Environmental Services Fact Sheet WD-WSEB-1-6 as amended.

2.7.3 Dug Wells shall follow the well design guidelines outlined in the NH Environmental Services Fact Sheet WD-WSEB-1-4 as amended.

**2.8** Every well must supply adequate potable water for the purpose for which it is intended and shall provide satisfactory \*evidence of continuing capability to do so. The following are guidelines for what will be considered satisfactory and may be varied by the Health Officer in cases where there is otherwise demonstrated an adequate supply of water for the purpose for which the well is intended. All drinking water wells shall meet the acceptable levels for EPA primary safe drinking water.

\*The well construction details and pump test results must be documented and provided to the Town on a form available from the Windham Health Department.

The pump test must be overseen and documented by a licensed water well contractor or licensed pump installer, or a licensed geologist or professional engineer with appropriate qualifications. If a well fails to meet the required pumping rate and performance standards, the Health Department may allow the additional water volume needed to be met by adding a water storage tank to the domestic water system.

**2.9** All wells shall be tested for contaminants from the latest recommended “Standard Analysis” list from the New Hampshire Department of Environmental Services.

Each well shall be tested at the wellhead prior to allowing the building framing to begin. The well is required to be tested again prior to occupancy at the kitchen faucet for any parameters that failed to meet the recommended levels. The copper and the lead test shall only be done during the second water quality test. The required minimum parameters to be tested are; Arsenic, Bacteria, Chloride, Copper (nonflushed), Nitrate, Nitrite, Hardness, Iron, Sodium, Lead (nonflushed), Manganese, Fluoride, pH. All drinking water wells shall be tested to the NH DES recommended standard analysis for drinking water. The tested parameters shall meet the acceptable levels for EPA primary safe drinking water. All tested parameters shall be disclosed to the purchaser of a property prior to closing.

**2.10** Required, additional Test Parameters;

VOCs (solvents and hydrocarbons) (special bottle required)

Radon (special bottle required)

Analytical Gross alpha (AGA), All drinking water wells shall be tested for the NHDES recommended standard analysis for drinking water standards. The tested parameters shall meet the acceptable levels for EPA primary safe drinking water. All tested parameters shall be disclosed to the purchaser of a property prior to closing.

**Section 3: Well Yield**

**3.1** WELL YIELD TEST REQUIREMENT - The supply well must be able to provide 960 gallons over a four-hour period. This volume can be met by a combination of the aquifer yield to the well and water storage within the well borehole. Considering the available well storage volume, the minimum well recovery rate (aquifer yield) must be calculated using the following equation:

**3.2** Minimum Required GPM =  $\frac{960 \text{ gallons} - \text{Available Storage Volume}}{240 \text{ minute}}$

240 minute

**3.3** Available Storage Volume = [(Pump Depth -- 20 feet) – DEPTH TO STATIC Water LEVEL Depth] X 1.5 gallons/foot:

**3.4** This equation assumes a well diameter of 6-inches. If the well is another diameter, use one of the following values in the Available Storage Volume equation:

- 3-inch = 0.4 gallons/foot
- 4-inch = 0.7 gallons/foot
- 5-inch = 1.0 gallons/foot
- 7-inch = 2.0 gallons/foot

8-inch = 2.6 gallons/foot

- 3.5 Upon completion of the drilling and development of the well, the well must be pumped with a submersible pump located at the likely depth the permanent well pump would be set and at least 25 feet above the bottom of the well.
- 3.6 The determination of the usable well yield must be performed by completing a pump test up to four hours in duration.
- 3.7 The pumping level must always be at least 20 feet above the pump intake during the pump test.
- 3.8 The pump test can be terminated in less than four hours if the water level draw down rate is measured as less than 1 -inch per MINUTE FOR at least a 30-minute period and the pumping rate being maintained is no less than four gallons per minute.
- 3.9 Upon completion of the pump test, the water level must recover within 24 hours to at least 85 percent of the static water level measured prior to commencement of the pump test. The pumping Test Log shall be signed and submitted to the Health Officer for review and approval.
- 3.10 The Well must have a minimum aquifer Yield of no less than 2 gallon per minute.
- 3.11 Some common statistics for sample a six-inch diameter well:

GPM	Required Storage	÷1.5 = Well Depth	+ safety factor = Required Well Depth
2	480	320	365 + depth to swl
2.5	360	240	285 + depth to swl
3	240	160	205 + depth to swl

Where swl = static water Level

**Section 4: Water Systems**

- 4.1. There shall be a separate water system for each dwelling, and it shall not be constructed or materially altered hereafter until the Health Officer has given a permit. The Health Officer will require a description of the installation with each application for such permit. Emergency work for repairs or service of existing equipment not amounting to substantial renovation or overhaul may be done without a permit.
- 4.2. The electric supply lines from the house to the well pit or pitless adapter shall be enclosed in a 160 lb. pressure pipe, said pipe to be of the same size as the water supply pipe.
- 4.3. All pumps, motors and tanks shall be placed on a suitable foundation and all equipment and parts of the system that may require adjustment-or service shall be made readily accessible.

- 4.4. Pump house, pump or pipe pits and wells shall be designed and constructed so as to prevent flooding and otherwise to prevent the entrance of pollution or contamination.
- 4.5. The Health Officer shall require the installation of all necessary switches, controls and devices and the satisfactory performance pressure and operating test of the system before final approval and the test must demonstrate that the system will deliver adequate pressure and volume consistent with the well and the well requirements. The Health Officer must be given reasonable notice of when the installation is ready for inspection.

**Section 5: Certificate of Occupancy**

- 5.1 No certificate of occupancy can be issued until all the provisions of these regulations have been met. The required inspections and these regulations cannot be construed as a guarantee by the Town of Windham or its agents that the water system will function satisfactorily.

**Section 6: Waivers**

- 6.1 Waivers may be granted only as follows: The 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).

**Section 7: Unconstitutionality Clause**

- 7.1 So far as the Board of Health may provide, each section of these rules and regulations shall be construed as separate to the end that if any section, item, sentence, clause or phrase shall be held invalid for any reason, the remainder of these rules and regulations shall continue in full force and effect.

**Section 8: Effective Date**

- 8.1 These regulations shall take effect upon approval by the Board of Selectmen, publication and being recorded by the Town Clerk, Town of Windham, N.H.

Approved: April 3, 2006

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**Galen Stearns**

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**Alan Carpenter**

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**Roger Hohenberger**

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**Margaret Crisler**

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**Dennis Senibaldi**  
Board of Selectmen