

## CHAPTER 5

### PRIVATE WELLS

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- 5 **Purpose** The purpose of this regulation is to protect the Town of Norton's aquifers by requiring the proper location and installation of all private wells within the Town.
- 5.1 **Cross Connections** In accordance with 310 CMR 22.22, Cross Connections Distribution System Protection, Section (2)(j) "Cross connections between a public water system and a private well or individual water source serving residential dwellings used for potable or non-potable purposes are prohibited".
- 5.2 **Authority** These regulations are adopted by the Norton Board of Health, as authorized by MGL, Chapter III section 31. These regulations supersede all previous regulations adopted by the Board of Health pursuant to the construction of private wells.
- 5.3 **Registration** All private wells must be registered at the Board of Health office to allow the Board to maintain a database of all private wells throughout the Town and to take appropriate steps to protect the public health and safety.
- 5.4 **Licensing** The Board of Health has adopted the following licensing requirement.
- 5.4.a. **Well Drillers** No person shall engage in the business of constructing wells or decommissioning wells within the Town of Norton unless that person is registered with the Department Of Environmental Management, Division Of Water Resources in accordance with MGL Chapter 21 § 16.
- 5.4.b. **Reports** Within 30 days after completion of any well productive or non-productive, the Well Driller shall submit to the Board of Health the Well Completion Report required by the Division of Water Supply Protection of the Department of Conservation and Recreation. Well Completion Report forms are available from the Division of Water Supply Protection. Any driller who files a false report is subject to revocation of registration. The Well Completion Report required after completion of any well (productive or non-productive), or after plugging of an abandoned well, shall contain:
- i. The name and address of the owner of the well.
  - ii. The geographic location of the well (this shall be given accurately to enable easy plotting on a U. S. Geological Survey Topographic (1:25,000 scale) Map).
  - iii. Work performed (i.e., new installation, repair, abandonment).

- iv. Proposed use of well (if proposed use as public water supply other than municipal, describe public water supply classification under "other").
- v. Drilling method.
- vi. Drilling log describing the material penetrated, including:
  - A. Well depth.
  - B. Depth to refusal or bedrock.
  - C. Bedrock type.
  - D. Site sketch.
  - E. Date drilling completed.
  - F. Casing type, size and length.
  - G. Protective well seal.
  - H. Well screen type, slot size, length, and depth at which bottom of well screen is set.
  - I. Description of filter pack and grouting materials used.
  - J. Method of plugging an abandoned well.
  - K. Method used to test well yield including:
    - a. Date and length of time (in hours and minutes) well pumped.
    - b. Drawdown and recovery.
    - c. Well yield.
    - d. Static water level.
    - e. Pump description, depth and installer.

5.5 **Well Construction Permits** Any person engaged in the digging or drilling of private wells shall first obtain a permit from the Board of Health in accordance with the regulation. An application and fee, Appendix A, for a well construction permit shall be submitted to the Board of Health. The application will be submitted with a plan drawn to scale and prepared by a registered land surveyor showing the location of the proposed well, any existing or proposed structures, onsite systems, distance from lot lines, and the location of any neighboring wells or onsite systems as listed below within a radius of 200 feet. Failure to submit a suitable plan shall be a reason for rejection of the application and may at the discretion of the Board require a new submittal and fee.

5.6 **Well Locations**

The following minimum lateral distances shall apply to common sources of contamination listed:

| <u>Source of Contamination</u>  | <u>Minimum Lateral</u> |
|---------------------------------|------------------------|
| <u>Distances</u>                |                        |
| Subsurface disposal field ..... | 100 feet               |
| Cesspool, seepage pit.....      | 100 feet               |
| Septic tank .....               | 100 feet               |
| Distribution box.....           | 100 feet               |

|   |           |
|---|-----------|
| Structure.....  | 50 feet   |
| Grinder Pumps.....  | 100 feet  |
| Sewers (Cast iron with watertight joints, footing drains).....                        | 50 feet   |
| Hazardous waste site (commercial fuel tank, landfill, and storing of chemicals) ..... | 1000 feet |
| Junkyard.....   | 150 feet  |
| Domestic fuel tank .....  | 100 feet  |
| In ground swimming pool.....  | 25 feet   |
| Above ground swimming pool.....   | 10 feet   |

#### **OTHER APPLICABLE MINIMUM LATERAL DISTANCES**

|  |          |
|--|----------|
| Property line.....                     | 25 feet  |
| Potable or non-potable water well..... | 100 feet |

5.7 **Installation** Potable and non-potable wells shall be installed at the location shown on the approved plan submitted with the well permit application. A registered land surveyor shall stakeout the location of the well. The Board of Health reserves the right to withdraw the well installation permit or require a well, which is not installed in the approved location, to be abandoned.

5.8 **Water Quality Sampling** The well owner shall submit to the Board a Water Quality Report which shall include the information listed below. Failure to meet the parameters listed in the Tables 1 to 4 may require treatment. The Board of Health may require additional water quality testing as local conditions warrant if in the Board of Health's opinion, they are necessary to protect public health and welfare.

- i. Name, address and phone number or other contact information for the individual who performed the sampling (i.e., lab personnel, well owner, well owner's agent);
- ii. Where the sample was obtained (point-of-use or point-of-entry) and, if sampled, at the point-of-use, whether or not the system was flushed prior to sampling;
- iii. Type of water treatment used (chemical or special device e.g., disinfection, reverse osmosis unit, filter, etc.), if applicable;
- iv. Date and time of sample collection;
- v. Date and time sample received by the laboratory;
- vi. A copy of the laboratory's test results; and
- vii. A copy of the Chain of Custody.
- viii. For newly constructed wells or for real estate transfers water samples shall be collected from private drinking water wells and analyzed for the results shown in the tables at the end of this section.

5.9 **Yield Test** All wells shall be tested in accordance with the Commonwealth Of Massachusetts Department of Environmental

Protection Bureau of Resource Protection Private Well Guidelines, dated October 1989, Revised 2000, 2004, Updated 2008 to determine yield, and water level recovery. All test record and analysis of safe yield shall be submitted to the Norton Board of Health. Test pumping shall be conducted at a rate of at least equal to the pumping rate expected during normal well use. A licensed pump installer or well drilling contractor shall perform the pumping test. A minimum of 0.5 gallons per minute (gpm) yield shall be deemed acceptable. (0.5 gpm yields 720 gpd, DEP recommends 0.5 gpm. 1 gpm is 1440 gpd, 5 gpm is 7200 gpd).

- 5.10 **Well Water Testing** After the well has been completed and disinfected for use as a drinking water supply, or for irrigation, a water quality test shall be conducted. A water sample shall be collected either after purging three well volumes or following the stabilization of the pH, temperature and specific conductance in the pumped well. The water sample to be tested shall be collected at the pump discharge or from a disinfected tap in the pump discharge line. In no event shall a water treatment device be installed prior to sampling. A Mass. State Certified Laboratory shall conduct all well testing. For drinking water wells, a second well water test shall be conducted prior to occupation of the facility on a water sample collected from a faucet within the facility.
- 5.11 **Pump Installation** New or replacement water pumps shall be installed only by individual licensed by the Norton Board of Health. The installer shall complete an application for the license on a form obtainable from the Board of Health and submit the application and fee, Appendix A, to the Board. The installer shall demonstrate by completion of a questionnaire provided by the Board of Health knowledge in the installation of pumps and disinfecting drinking well waters. The pump installer is responsible for completing the Board of Health report within 30 days of installation for the well and all related piping, up to the supply side of the pressure tank.
- 5.12 **Temporary Cover** The well opening must be covered to prevent contamination of the well and to protect the public safety whenever there is an interruption in work on the well such as overnight shutdown, inclement weather, waiting periods required for the setting up of sealing materials, tests, installation of the pump, etc. A semi-permanent cover must be installed for interruptions of a week or longer. For steel cased well, a steel cover, tack welded to the top of the casing is adequate.
- 5.13 **Repair Or Deepening Of Wells** A permit from the Board of Health is required for any change or repair of a well. All the requirements included in these regulations shall apply.
- 5.14 **Non-Potable Water Wells** A well for non-potable use must meet the setback requirements of Title 5 and these regulations. A plan meeting all



the requirements of Sections 5.7 and 5.8 and showing the proposed connections to the non-potable well must be submitted to the Board of Health. All pumps shall be installed by a Norton Board of Health licensed pump installer.

- i. The water from a non-potable well must be tested for coli form bacteria not to exceed 0/100 ml at 35° C and Standard Plate count not to exceed 100/100 ml at 35° C.
- ii. All wells must have signs furnished by the Board of Health posted in clear view from the street stating Private Well Reg. #. The Board of Health will furnish the sign once the above requirements have been met.
- iii. Non-potable water cannot be connected to any structure that has potable water.

5.15 **Monitoring Wells** Monitoring wells may be required for groundwater testing purposes as determined by the Board. A permit shall be obtained from the Board Health prior to the construction of all monitoring wells. All testing data shall be submitted to the Board of Health within 30 days of collection.

5.16 **Private Well Near Utility Right Of Way** 330 CMR 11.04 (2) (C) restricts the use of herbicides in areas of rights-of-way within 100 feet of the private well.

5.17 **Abandonment** Abandoned wells shall be decommissioned by plugging in accordance with the DEP Bureau of Resource Protection Private Well Guidelines, dated October 1989, Revised 2000, 2004, Updated 2008. A licensed well driller must decommission any well that to be abandoned. A Well Abandonment permit shall be obtained by filing an application and fee, Appendix A, for an abandonment permit with the Board of Health.

5.18 **Private Well Inspection At Time Of Transfer** At the time of real estate transfer, a well inspection and water quality test in accordance with these regulations shall be performed. All private potable and non-potable wells on the property shall be located by a registered land surveyor and shown on the plan. The seller shall provide a copy of the plan showing the well location and test results to the Board of Health within 30 days after the inspection has been completed and to the buyer prior to the closing but in no case less than 24 hours prior to the closing.

5.19 **Violations** Failure to comply with provisions of this Regulation will result in the levy of fines of not less than \$100.00, but not more than \$1,000.00. Each day's failure to comply with the provisions of this Regulation shall constitute a separate violation.

Table 1. Well Testing Requirements for Private Wells

| Parameters                  | Recommended Concentration Limit | Recommended Sampling Frequency  |
|-----------------------------|---------------------------------|---|
| Antimony                    | 0.006 mg/l                      | Test private drinking water well initially for all compounds and then as required by the Board of Health.   |
| Arsenic                     | 0.010 mg/l                      |   |
| Asbestos                    | 7 million fibers/l              |   |
| Barium                      | 2 mg/l                          |   |
| Beryllium                   | 0.004 mg/l                      |   |
| Cadmium                     | 0.005 mg/l                      |   |
| Chromium (total)            | 0.1 mg/l                        |   |
| Cyanide (as free cyanide)   | 0.2 mg/l                        |   |
| Fluoride                    | 4 mg/l                          |   |
| Lead (action level)         | 0.015 mg/l                      |   |
| Copper (action level)       | 1.3 mg/l                        |   |
| Mercury                     | 0.002 mg/l                      |   |
| Nitrate (N)                 | 10 mg/l                         | <u>Note: Lots with onsite systems or in agricultural land should be monitored once every three years for Nitrate and Nitrite.</u><br><u>1. Test only if required by Board of Health</u> |
| Nitrite (N)                 | 1 mg/l                          |   |
| Total Nitrate & Nitrite (N) | 10 mg/l                         |   |
| Perchlorate <sup>1</sup>    | 0.0020 mg/l                     |   |
| Selenium                    | 0.05 mg/l                       |   |
| Sodium                      | 20 mg/l                         |   |
| Thallium                    | 0.002 mg/l                      |   |
| Turbidity                   | 1 ntu                           |   |

**Table 2. Well Testing Requirements for SOC in Private Wells**

| Parameter                                      | Recommended Concentration Limit | Recommended Sampling Frequency  |
|--|---------------------------------|---|
| Synthetic Organic Compounds (SOC) <sup>1</sup> |                                 | Test private drinking water wells initially using analytical method 505 or 508 and then as required by the Board of Health. The recommended screen won't provide analytical results for all of the SOC listed in the table. Testing for the remaining SOC should be considered if contaminants are detected in the initial testing. This approach is consistent with what Mass DEP requires for SOC monitoring at public water supplies. Owners of wells in agricultural areas are encouraged to conduct more frequent testing. |
| Alachlor                                       | 0.002 mg/l                      |   |
| Atrazine                                       | 0.003 mg/l                      |   |
| Benzo(a)pyrene                                 | 0.0002 mg/l                     |   |
| Carbofuran                                     | 0.04 mg/l                       |   |
| Chlordane                                      | 0.002 mg/l                      |   |
| Dalapon  | 0.2 mg/l                        |   |
| Di(2-ethylhexyl)adipate                        | 0.4 mg/l                        |   |
| Di(2-ethylhexyl) phthalate                     | 0.006 mg/l                      |   |
| Dinoseb  | 0.007 mg/l                      | If a private well owner decides to request laboratory analysis of all of the SOC listed in the Table, the owner should request that the laboratory include analytical results for other synthetic organic compounds that the laboratory may normally include with the analysis of the synthetic organic compounds listed in this table at no additional cost.   |
| 1,2-Dibromo-3-chloropropane (DBCP)             | 0.0002 mg/l                     |   |
| 2,4-D (2,4-Dichlorophenoxyacetic acid)         | 0.07 mg/l                       |   |
| Endrin   | 0.002 mg/l                      |   |
| Ethylene Dibromide (EDB)                       | 0.00002 mg/l                    |   |
| Heptachlor                                     | 0.0004 mg/l                     |   |
| Heptachlor epoxide                             | 0.0002 mg/l                     |   |
| Hexachlorocyclopentadiene                      | 0.001 mg/l                      |   |
| Lindane  | 0.002 mg/l                      |   |
| Methoxychlor                                   | 0.003 mg/l                      |   |
| Oxamyl(Vydate)                                 | 0.0002 mg/l                     |   |
| Polychlorinated biphenyls (PCBs)               | 0.04 mg/l                       |   |
| Pentachlorophenol                              | 0.002 mg/l                      |   |
| Picloram                                       | 0.2 mg/l                        |   |
| Simazine                                       | 0.4 mg/l                        |   |
| Toxaphene                                      | 0.007 mg/l                      |   |
| 2,4,5-TP (Silvex)                              | 0.02 mg/l                       |   |

<sup>1</sup> EPA granted MassDEP a statewide groundwater monitoring waiver for diquat, endothal, glyphosate, and 2,3,7,8-TCDD (dioxin). MassDEP recommends against requiring private well owners to analyze for these four compounds unless MassDEP indicates a need for testing at a specific location or area.

**Table 3. Well Testing Requirement for Private Wells**

| Parameter                            |  | Recommended Concentration Limit | Recommended Sampling Frequency  |
|--------------------------------------|--|---------------------------------|---|
| Bacteria                             |  |                                 | <p>Test initially and once every year, or as required by the Board of Health.</p> <p>Initial testing for <i>Cryptosporidium</i> and <i>Giardia lamblia</i> is only required if the source is surface water (e.g. spring) or a well located within 100 feet of a surface water body or is prone to flooding. The well should be tested after any flooding event in which the flood waters reach the well location, or as otherwise specified by the Board of Health.</p>   |
| Total Coli form Bacteria             |  | Positive sample                 |   |
| Enterococci                          |  | Positive sample                 |   |
| <i>Cryptosporidium</i>               |  | Positive sample                 |   |
| <i>Giardia lamblia</i>               |  | Positive sample                 |   |
| Radionuclides                        |  |                                 | <p>Test initially for radionuclides to determine future sampling frequency based upon the results. If the gross alpha result is greater than 15 pCi/l then uranium testing should be performed. If the gross alpha result is greater than 5 pCi/l then Radium-226 and Radium-228 testing should be performed.</p>   |
| Gross Alpha Activity                 |  | 15 pCi/l                        |   |
| Radium -226 & 228                    |  | 5 pCi/l                         |   |
| Uranium                              |  | 0.03 mg/l                       |   |
| Volatile Organic Compounds (VOC)     |  |                                 | <p>Test initially for VOC and then once every 10 years if no detects, or as otherwise required by the Board of Health. Owners of wells in industrial or densely developed residential areas are encouraged to conduct more frequent testing.</p> <p>MassDEP encourages owners to request that the laboratory include analytical results for other volatile organic compounds that the laboratory may normally include with the analysis of the volatile organic compounds listed in this table at no additional cost.</p> |
| Benzene                              |  | 0.005 mg/l                      |   |
| Carbon Tetrachloride                 |  | 0.005 mg/l                      |   |
| Dichloromethane (methylene chloride) |  | 0.005 mg/l                      |   |
| 1,2-Dichlorobenzene (o-DCB)          |  | 0.6 mg/l                        |   |
| 1,4-Dichlorobenzene (p-DCB)          |  | 0.005 mg/l                      |   |
| 1,2-Dichloroethane                   |  | 0.005 mg/l                      |   |
| 1,2-Dichloroethylene (cis)           |  | 0.07 mg/l                       |   |
| 1,2-Dichloroethylene (trans)         |  | 0.1 mg/l                        |   |
| 1,1-Dichloroethylene                 |  | 0.007 mg/l                      |   |
| 1,2-Dichloropropane                  |  | 0.005 mg/l                      |   |
| Ethylbenzene                         |  | 0.7 mg/l                        |   |
| Methyl Tertiary Butyl Ether (MTBE)   |  | 0.07 mg/l <sup>7</sup>          |   |
| Monochlorobenzene (chlorobenzene)    |  | 0.1 mg/l                        |   |
| Styrene                              |  | 0.1 mg/l                        |   |
| Tetrachloroethylene (PCE)            |  | 0.005 mg/l                      |   |
| Toluene                              |  | 1 mg/l                          |   |
| Trichloroethylene (TCE)              |  | 0.005 mg/l                      |   |
| 1,1,1-Trichloroethane (1,1,1-TCA)    |  | 0.2 mg/l                        |   |
| 1,2,4-Trichlorobenzene               |  | 0.07 mg/l                       |   |
| 1,1,2-Trichloroethane                |  | 0.005 mg/l                      |   |
| Vinyl Chloride (VC)                  |  | 0.002 mg/l                      |   |
| Xylenes (total)                      |  | 10 mg/l                         |   |

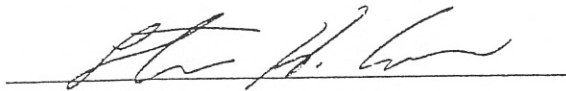


Table 4. Well Testing Requirement for Private Wells – Secondary Standards

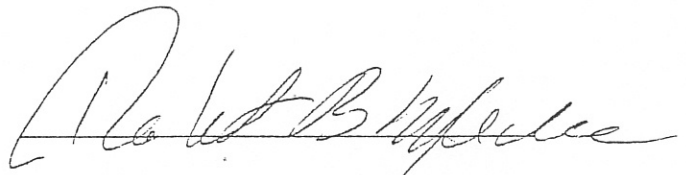
| Parameter              | Recommended Concentration Limit | Recommended Sampling Frequency   |
|------------------------|---------------------------------|--|
| Aluminum               | 0.05 to 0.2mg/l                 | Test well initially for these parameters and then once every 10 years or as otherwise required by the Board of Health.<br><br>TON: Threshold Odor Number |
| Chloride               | 250 mg/l                        |  |
| Color                  | 15 color units                  |  |
| Copper                 | 1 mg/l                          |  |
| Fluoride               | 2 mg/l                          |  |
| Foaming Agents         | 0.5 mg/l                        |  |
| Iron                   | 0.3 mg/l                        |  |
| Manganese              | 0.05 mg/l                       |  |
| Odor                   | 3 TON                           |  |
| pH                     | 6.5-8.5                         |  |
| Silver                 | 0.10 mg/l                       |  |
| Sulfate                | 250 mg/l                        |  |
| Total Dissolved Solids | 500 mg/l                        |  |
| Zinc                   | 5 mg/l                          |  |

# Board of Health Rules and Regulations

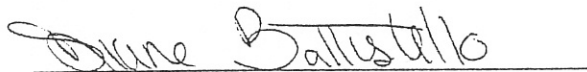
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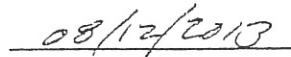
Steven H. Corr, P.E, Chairman



Robert B. Medeiros, Vice-Chairman



Diane Battistello, Clerk



Date