

## **WEST NEWBURY BOARD OF HEALTH REGULATIONS FOR CONSTRUCTION OF PRIVATE WELLS**

**Adopted as revised on \_\_\_\_\_, effective \_\_\_\_\_**

- I. Purpose: These regulations are intended to protect the public health and general welfare of the residents of the Town of West Newbury by ensuring that private wells producing water for human consumption and irrigation purposes are constructed in a manner, which will protect the groundwater resources and the quality of water obtained from these private wells.
  
- II. Water Supply
  - A. An approved water supply must be available for any new or rehabilitated building, prior to the issuance of a Building Permit.
  - B. The two acceptable supplies are:
    - a. Municipal water
      - 1. If municipal water is used it must be supplied by the municipal water mains.
      - 2. Unless outside circumstances prevent it, all new dwelling units and business establishments must connect to the municipal water system if it is available.
    - b. Well
      - 1. The well may or may not have a storage tank.
      - 2. The well shall conform to the conditions outlined below.
      - 3. A member of the Board or its designated agent shall witness that these conditions are met.
  
- III. Application procedure
  - A. Application for well and pump permit shall be filled out and paid for prior to well installation. A plan showing proposed well location must be provided with setback distances.
  - B. The Board of Health must be notified at least two days prior to the drilling of the well. The well rig shall be set up during the inspection, flow test and potability testing.
  - C. A potability test must be done according to the regulation below, and submitted to the Board of Health.
  
- IV. Water quality and flow
  - A. Flow test
    - a. Procedure
      - 1. The well shall be pumped initially at the highest sustainable rate to ensure removal of any fine loose material of silt or sand
      - 2. Flow rates:
        - Well depth up to 300 feet 5 gallons per minute
        - Well depth 400 feet, 3 gallons per minute
        - Well depth 500 feet, 2 gallons per minute
        - Well depth 600 feet, 1 gallon per minute, but needs to be conducted after a 500-gallon pump down.
      - 3. If the above rates can't be certified, then pumping at 5gpm for two (2) four-hour days will be required. This test shall be conducted by an independent contractor and results submitted to the Board.
    - b. Potability
      - 1. Required for the sign-off of a building permit and/or the connection to an existing home. Potability tests for bacteria, minerals, and VOC shall be submitted to the Board of Health as well as a certified plan showing the well location with setback distances or a letter confirming all local West Newbury well regulations are met.

2. Procedure  
The bacteriological, mineral and volatile organics tests shall be conducted at a Massachusetts State Water Testing approval laboratory and the results forwarded to the Board for verification and approval. The cost of these tests shall be borne by the applicant.
3. Bacteria  
The water quality shall be tested and required to meet the bacteriological standards of DEP Drinking Water Regulations (310 CMR 22.00). In particular, E. coliform bacteria are not to exceed 0 per 100 milliliters.
4. Mineral analysis  
A mineral analysis shall prove that the water meets the levels as outlined in the EPA secondary water standards, written in the federal Register Vol. 42 No. 62 3/31/77  
Nitrogen as nitrate, not to exceed 10 ppm  
Chloride, 250 ppm  
Iron, 3 ppm  
Manganese, 0.05 ppm
5. Volatile organic
  - a. EPA method 524 or its equivalent shall be used to measure levels of volatile organics, which must not exceed maximum levels allowed by 310 CMR 22.00.

V. Well installation

A. Location - The well **shall not be located:**

1. Within the foundation walls of the dwelling unless adequate provision is made for the complete removal and replacement of all components located within the casing.
2. Within 25' of a foundation if a drilled well.
3. Within any area which is polluted or subject to continuous or periodic flooding or standing water.
4. Less than ~~60 (sixty) feet~~ 50 feet from a septic tank, ~~or less than 110 (one hundred and ten) feet or~~ and less than 100 feet from a leaching field, bed, seepage pit, or dry well.
5. Less than 50 feet from ~~gravity~~ sewer lines, or 20 feet when the sewer line is cast iron encased in concrete, and in both cases, at least 2 feet above the sewer line.
6. Less than 50 feet from an abutter's property line or less than 40 feet from a public or private ways. At the discretion of the Board of Health and with the direct abutter's approval, these distances may be reduced. ~~to 25 feet.~~

B. The surface of the ground above and around the well shall be graded to drain the surface water away from the well.

C. Private wells drilled in bedrock shall be grouted from the top of the weathered rock interface to fifteen (15) feet into competent bedrock. Either neat cement grout or sand cement grout shall be used and it shall be emplaced using standard grouting techniques as described in the DEP Private Well Guidelines.

D. The upper opening of the casing shall protrude above the surrounding natural grade or floor of a well pit by a minimum of one foot. All private wells shall have a surface seal designed to eliminate the possibility of surface water flowing down the annular space between the well casing and the surrounding backfilled materials. The surface seal shall extend to a depth below the local frost line.

E. Where openings are provided in the casing, cap, or concrete cover for the entrance of pipes, pump or manholes, such openings shall be made water tight by appropriate seals acceptable to the Board of Health.

F. Where connections are to be made to wells below ground suitable National Sanitation Foundation approved pitless adapters shall be used.

G. When sand or silt is encountered in the water bearing formation, a suitable sand trap shall be installed in the line where it is accessible for maintenance.

- H. Where a storage tank is used, the tank will have a draw-down capacity of no less than the capacity of the pump. Minimum run time from start to stop will be no less than 60 seconds. It shall be equipped with a suitable pressure relief valve and a valve drain outlet at the lowest point. The tank shall be water tight, sound and corrosion resistant, and be capable of withstanding the maximum combination of loads imposed.
  - I. Where industrial and commercial facilities are to be operated from wells, a minimum of two pumping tests shall be made at two different times of the year, at least 4 months apart and not greater than 8 months apart, with varying static levels to establish a relationship between drawdown and effect on nearby wells, water levels, and pumping rate. A complete soil log for the entire depth of the well including blow counts or penetration speeds shall be furnished to permit evaluation of various strata which may require sealing.
- VI. The Board or its designated agent may require a different pumping or testing procedure when deemed necessary to assure accurate and reliable test results.
- VII. Severability  
Should any section, subsection, paragraph, sentence, or word of this regulation be declared invalid for any reason whatsoever, that decision shall not affect any other portion of this regulation, which shall remain in full force.
- VIII. Conflict of Regulations  
In any case where a provision of this regulation is found to be in conflict with a provision of any zoning, building, fire, safety, or health code of the Town of West Newbury or the Commonwealth of Massachusetts, the provision which in the judgment of the West Newbury Board of Health establishes the higher standard for the protection and promotion of the health and safety of the people shall prevail.
- IX. As-Built Plan  
A plot plan of the house lot showing locations of the well and septic system, and exact distances from reference points, must be supplied to the Board of Health prior to final acceptance.

Effective Date: \_\_\_\_\_ by vote of the West Newbury Board of Health:

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Robert P. Janes

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Blake Seale, Member

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Thomas Fahey, Member