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**COMMONWEALTH OF MASSACHUSETTS**

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# PRIVATE WELL GUIDELINES

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### RELATION TO SURFACE WATER AND WETLANDS

Private water supply wells should be located at least 25 feet, laterally, from the normal high water mark of any lake, pond, river, stream, ditch, or slough. Additionally, it should be noted that land use within 100 feet of a wetland or within the 100-year floodplain of any river or stream is regulated under Chapter 131, Section 40, of the Massachusetts General Laws and 310 CMR 10.00, "Wetlands Protection." Prior to constructing a private water supply in these areas, approval must be obtained from the local Conservation Commission. Where possible, private water systems should be located in areas above the 100-year floodplain. When a well must be located in an area subject to flooding, special protection should be provided, as is discussed in the section entitled "Wellhead Completion" (page 59).

### REQUIREMENTS OF THE STATE ENVIRONMENTAL CODE. TITLE 5

Pursuant to Chapter 21, Section 13, of the Massachusetts General Laws, the Department of Environmental Protection promulgated 310 CMR 15.00, "Minimum Requirements for the Subsurface Disposal of Sanitary Sewage, State Environmental Code, Title 5." These regulations provide minimum standards for the location, design, construction, and operation of subsurface sanitary sewage disposal systems that discharge less than 10,000 gallons per day.

It should be noted that the standards presented in the current version of Title 5 were developed primarily to protect public health against pathogenic viruses and bacteria. Local hydrogeologic conditions may require more stringent regulations. Boards of Health have the authority to strengthen Title 5 by implementing appropriate and reasonable local regulations.

Under Title 5, surface water supplies (reservoirs) or tributaries to reservoirs, including open and subsurface drains must be located a minimum of:

- (1) 50 feet from a septic tank
- (2) 100 feet from a leaching facility
- (3) 100 feet from a privy

According to Title 5, these distances "shall be measured from the average of the mean annual flood elevation in inland areas and from mean high water in coastal areas." It should also be noted that for (2) and (3), above. Title 5 states that "100 feet is a minimum acceptable distance and no variance shall be granted for a lesser distance except with prior written approval of the Department of Environmental Protection".

Title 5 also requires that a well or suction line or well be located a minimum of:

- (1) 10 feet from a building sewer constructed of durable corrosion resistant material with watertight joints, or 50 feet from a building sewer constructed of any other type of pipe
- (2) 50 feet from a septic tank
- (3) 100 feet from a leaching field
- (4) 100 feet from a privy

For (3) and (4) above, Title 5 notes that "100 feet is a minimum acceptable distance and no variance shall be granted for a lesser distance except with prior written approval of the Department of Environmental Protection."

In regard to pressurized water supply lines. Title 5 states that "it is suggested that the disposal facilities be installed at least 10 feet from and 18 inches below water supply lines. Wherever sewer lines must cross water supply lines, both pipes shall be constructed of class 150 pressure pipe and should be pressure tested to assure watertightness."

Part II of Title 5 includes procedures for obtaining a variance. Generally, the local Board of Health may grant a variance but there are also specific requirements for which Title 5 expressly states that only the Department of Environmental Protection (Waste Water Management Program) may grant variances. In order to grant a variance, however, it is important to have site specific hydrogeologic information submitted which documents that adequate protection can be provided without complying with the standards required by Title 5. All variances granted by the local Board of Health must be sent to the DEP for review. The DEP has the authority to overrule the Board of Health's decision.

### **ADDITIONAL CONSIDERATIONS**

Several states have regulations pertaining to the location of a well in relation to a number of specified potential sources of contamination. The following examples indicate the range of minimum lateral distances required: (1) petroleum storage tanks; 20 feet to 50 feet, (2) stables, barnyards, feedlots, manure piles, and manure storage tanks; 50 feet to 100 feet. These distances may be used as guidance for locating a well but it is not recommended that they be adopted as regulations because the potential hazard to a well depends on site specific hydrogeology. For example, consideration should be given to the direction of ground-water flow and the location of any groundwater discharge to a surface water body. Where possible, wells should be located upgradient of potential sources of contamination. Wells should not be located between a potential source of contamination and an area where groundwater discharges to the land surface. Other considerations for locating a well include the permeability, transmissivity, and composition of the subsurface geologic materials. It should be kept in mind that contaminants can be transported great distances through fractured bedrock and groundwater flow in the overburden may not be in the same direction as in the bedrock.