

WELL LOCATION

Any person intending to have a private well constructed should identify all potential sources of contamination which exist within 200 feet of the site. Where possible, a well should be located upgradient of all potential sources of contamination and should be as far removed from potential sources of contamination as the general layout of the premises and surroundings permit.

In selecting a well location, all OSHA and Dig Safe requirements must be taken into consideration. Dig Safe should be contacted at least three days before drilling begins. Additionally, every well should be located so that it will be reasonably accessible with proper equipment for repair, maintenance, testing, and inspection.

The well should be completed in a water bearing formation that will produce the required quantity of water under normal operating conditions without adversely impacting adjacent wells. Water quantity considerations are discussed in the section entitled "Water Quantity" (page 47).

RELATION TO PROPERTY LINES AND BUILDINGS

Private water supply wells should be located at least 10 feet from all property lines. The center line of a well should, if extended vertically, clear any projection from an adjacent structure by at least 5 feet.

RELATION TO ROADS AND RIGHTS-OF-WAY

All private water supply wells should be located a minimum of 25 feet from the normal driving surface of any roadway or a minimum of 15 feet from the road right-of-way, whichever is greater. Additionally, it should be noted that the "Rights-of-Way Management" regulations (333 CMR 11.00) include procedures and requirements for marking and recording the location of private drinking water supplies which are within 100 feet of any right-of-way. Private drinking water supplies that are marked and recorded in accordance with the aforementioned regulations are protected by restrictions on the use of herbicides for maintaining rights-of-way. Uniform standard signs for marking water supplies have been produced and are currently available from the Department of Agricultural Resources (DAR).

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 and Alteration" (page 59).

REQUIREMENTS OF THE STATE ENVIRONMENTAL CODE TITLE 5

Pursuant to Chapter 21A, Section 13, of the Massachusetts General Laws, MassDEP 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.

Title 5 requires that a potable well or suction line is 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

Title 5 also requires that irrigation wells be located a minimum of 25 feet from a leaching field, and 10 feet from a septic tank.

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 MassDEP."

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 MassDEP (Wastewater 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 MassDEP for review. MassDEP has the authority to overrule the Board of Health's decision.

SETBACK DISTANCES

These distances may be used as guidance for locating a potable well and they may be adopted in the local regulation because of the potential hazard to a well. Lesser setback distances may be applied for non-potable wells in accordance with Title 5 regulations.

Consideration should also 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.

The following table contains the minimum lateral setback distances in feet :

Land Use	Setback in feet
Property Line	10
Public/Private Roadway	25
Right Of Way	15
Sewer line/septic tank*	50
Leaching field or drywell*	100
Stable, barnyard, manure storage	100
Aboveground fuel storage or pesticide tank	100
Underground fuel storage or pesticide tank	250
Surface water, wetlands**	25

*Setbacks required by Title 5

**Referral of well location to local Conservation Commission for approval required if proposed within 100 feet of surface water regulated under the Wetlands Protection Act.

Table 1 : Lateral Setback Distances