

SECTION 15: AQUIFER PROTECTION DISTRICT

15.10 Purpose: The purpose of this section is:

- a. To preserve and protect the groundwater resources of the Town of Bridgewater;
- b. To protect, preserve and maintain the existing and potential groundwater supply and surface water quality to present and future residents of the Town;
- c. To prevent pollution of ground and surface water and water supplies;
- d. To assure continued availability of the water supply of the Town;
- e. To promote and protect the public health, safety and general welfare;

15.20 Establishment of the Aquifer Protection District:

There are hereby established within the Town, certain Aquifer Protection Districts, consisting of the aquifer itself, the land above the aquifer, and the aquifer's most significant recharge areas. An Aquifer Protection District shall be considered as overlaying other zoning districts and shall be so identified on the Zoning Map of the Town of Bridgewater. Any uses permitted in the portions of the districts so overlaid shall be permitted subject to all the provisions of the Aquifer Protection District.

15.30 Definitions:

For the purposes of this section, the following words and phrases shall have the following meanings:

- AQUIFER:** Geologic formation composed of rock, sand, or gravel that contains significant amounts of potentially recoverable water.
- IMPERVIOUS SURFACE:** Material or structure on, above, or below the ground that does not allow precipitation or surface water to penetrate directly into the soil.
- MINING:** The removal or relocation of geological materials such as topsoil, sand, gravel, metallic ores, or bedrock.
- RECHARGE AREAS:** Areas that collect precipitation or surface water and carry it to aquifers. Recharge areas may include areas designated as Zone I, Zone II, or Zone III.

TOXIC OR HAZARDOUS MATERIAL:

Any substance or mixture of physical, chemical, or infectious characteristics posing a significant, actual, or potential hazard to water supplies or other hazards to human health if such substance or mixture were discharged to land or water of the Town of Bridgewater. Toxic or hazardous materials include, without limitation, synthetic organic chemicals, petroleum products, heavy metals, radioactive or infectious wastes, acids and alkalis, and all substances defined as Toxic or Hazardous under Massachusetts General Laws (M.G.L.) Chapter 21C and 21E and 310 C.M.R. 30.00, and also include such products as solvents and thinners in quantities greater than normal household use.

ZONE I:

The protective radius required around a public water supply well or wellfield.

ZONE II:

The area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at safe yield, with no recharge from precipitation). It is bounded by the groundwater divides which result from pumping the well and by the contact of the aquifer with less permeable materials such as till or bedrock. In some cases, streams or lakes may act as recharge boundaries. In all cases, Zone II shall extend up gradient to its point of intersection with prevailing hydrogeologic boundaries (a groundwater flow divide a contact with till or bedrock, or a recharge boundary).

ZONE III:

The land area beyond the area of Zone II from which surface water and groundwater drain into Zone II. The surface drainage areas as determined by topography is commonly coincident with the groundwater drainage area and will be used to delineate Zone III. In some locations, where surface and groundwater drainage are not coincident, Zone III shall consist of both the surface drainage and the groundwater drainage areas.

15.40 Use Regulations:

15.41 Prohibited Uses: In those portions of the Town within Aquifer Protection District, the following activities are prohibited as a principal or accessory use unless otherwise noted. Where lawfully existing, such uses may continue but not expanded, or altered without obtaining a special permit under Paragraphs 15.42 and 15.50.

- i. landfills and open dumps as defined in 310 C.M.R. 19.006;
- ii. storage of liquid petroleum products, except the following:
 - a. normal household use, outdoor maintenance and heating or a structure;
 - b. waste oil retention facilities required by statute, rule, or regulation; provided that such storage, listed in items a. and b. above, is in free-standing containers within buildings or above ground with secondary containment adequate to contain a spill the size of the container's total storage capacity;
- iii. gasoline service station;
- iv. landfilling of sludge or septage as defined in 310 C.M.R. 32.05;
- v. storage of sludge and septage, unless such storage is in compliance with 310 C.M.R. 32.31;
- vi. storage of deicing chemicals unless such storage, including loading areas, is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
- vii. storage of animal manure in quantities greater than one (1) cubic yard unless covered or contained in accordance with the specifications of the United States Soil Conservation Service;
- viii. facilities that generate, treat, store or dispose of hazardous waste subject to M.G.L. 21C and 310 C.M.R. 30.000, except the following:
 - a. very small quantity generators as defined under 310 C.M.R. 30.000;
 - b. household hazardous waste centers and events under 310 C.M.R. 30.390;
 - c. waste oil retention facilities required by M.G.L., Chapter 21, Section 52A;
 - d. water remediation treatment works approved by D.E.P. for the treatment of contaminated ground or surface waters;
- ix. automobile graveyards and junkyards, as defined in M.G.L., Chapter 140B, Section 1 and repair shops except for those shops deemed to be very small quantity generators as defined under 310 C.M.R. 30.000;

- x. treatment of disposal works for non-sanitary wastewaters that are subject to 314 C.M.R. 5.00, except the following:
 - a. the replacement or repair of an existing system(s) that will not result in a design capacity greater than the design capacity of the existing system(s); and
 - b. treatment works approved by the Massachusetts Department of Environmental Protection designed for the treatment of contaminated ground or surface waters;
- xi. storage of hazardous materials, as defined in M.G.L., Chapter 21E, unless in a free standing container within a building or above ground with adequate secondary containment adequate to contain a spill the size of the container's total storage capacity;
- xii. stockpiling and disposal of snow and ice containing deicing chemicals if bought in from outside the district;
- xiii. storage of commercial fertilizers, as defined in M.G.L., Chapter 128, Section 64, unless such storage is within a structure designated to prevent the generation and escape of contaminated runoff or leachate;
- xiv. the use of septic system cleaners which contain toxic or hazardous chemicals;
- xv. the application of fertilizers and pesticides, including herbicide, insecticides, fungicides, and rodenticides, unless in accordance with State and Federal standards;
- xvi. earth removal, consisting of the removal of soil, loam, gravel or any other earth material (including mining activities) to within six (6) feet of maximum high groundwater, unless otherwise stated herein, as determined from monitoring wells in accordance with the provisions of the Earth Removal By-Law of the Town, except excavations for building foundations, approved roads, utility works, or exempted agricultural uses. Properties which have received approval under the Earth Removal By-Law for such activities before the effective date of this provision, shall not be excavated to within four (4) feet of maximum high groundwater;
- xvii. stormwater drainage systems serving nonresidential lots unless said systems are designed to recharge outflow in a manner that will not degrade existing groundwater quality and to meet other overall objectives of the standards set forth in Section 15.43 of this by-law.

15.42 Uses and Activities Requiring a Special Permit; The following uses and activities are permitted only upon the issuance of a Special Permit under such conditions as may be required by the Special Permit Granting Authority (SPGA) as identified under Section 15.51:

- i. expansion or alteration of existing uses that do not conform to the Aquifer Protection District;
- ii. the construction of dams or other water control devices, ponds, pools or other changes in waterbodies or courses, created for swimming, fishing, or other recreational uses or drainage improvements. Such activities shall not adversely affect water quality or quantity;
- iii. the construction of dams or other water control devices, ponds, pools or other changes in waterbodies or courses, created for agricultural uses which do not constitute normal maintenance or emergency practices under State and Federal laws. Such activities shall not adversely affect water quality or quantity;
- iv. any use that will render impervious more than 2,500 square feet of any lot containing 10,000 square feet of land or less. Said lot must be provided with a stormwater drainage system designed in accordance with standards set forth under Section 15.43 of the by-law. In addition, elements of the drainage system serving said lot may be located on adjacent or nearby land within the same watershed, if so authorized by the SPGA, under the following conditions:
 - a. the overall recharge characteristics of the watershed under consideration will not be altered;
 - b. the land to be utilized shall remain as part of the proposed use in perpetuity or until its use as a recharge area is not required to meet the requirements of this by-law;
 - c. recharge areas authorized under this provision shall not be utilized by any additional parties for similar use unless so authorized by the SPGA in accordance with the standards stated herein;
- v. any lot containing a land area greater than 10,000 square feet but less than or equal to 43,560 square feet whose percentage of impervious area would exceed the maximum allowed under the following:

$$\text{Maximum percent} = 0.5745 (\text{lot area}) - 3,244.9$$

Example: $0.5745 (21,000 \text{ s.f.}) - 3,244.9 = 8,819.6 \text{ s.f.}$

An impervious area exceeding 8,820 square feet (rounded to the nearest foot) for this size lot would require a special permit.

Said lot must be provided with a stormwater drainage system in accordance with the standards set forth in Section 15.43 of this by-law. In addition, elements of the stormwater drainage system may be located on adjacent or nearby land within the same watershed in accordance with the conditions stated in paragraph iv above;

- vi. any use that will render impervious more than 50% of a lot containing more than 43,560 square feet in land area. Said lot must be provided with a stormwater drainage system designed in accordance with standards set forth in Section 15.43 of this by-law. The stormwater drainage system serving said lot must be located entirely within the lot;
- vii. relief from the provisions of this by-law in cases where the location of the Aquifer Protection District boundary in relation to a particular parcel is in doubt. The burden of proof shall be upon the owner(s) of the land in question to show where the bounds should be properly located. If it may be demonstrated to the SPGA, with reasonable degree of scientific certainty, that the boundary line upon the owner(s) property may warrant revisions, then at the request of the owner(s), the Town may engage a professional engineer, hydrologist, geologist or soil scientist to determine more accurately the boundaries of the district with respect to individual parcels of land. Based upon the outcome of said dispute resolution, if it is determined that the original line serves as a correct approximation of the Zone II boundary or that the owner(s)' parcel in question is to be more greatly affected, the Town may charge the owner(s) for all or part of the cost of the investigation. For disputes arising from the boundaries of the Zone II, as defined herein, the determination of its location shall be based on criteria set forth in 310 C.M.R. 22.00 and in the D.E.P.'s Guidelines and Policies for Public Water Systems.

15.43 Performance Standards for Stormwater Drainage Systems

- i. outflow of a stormwater drainage system will not degrade existing groundwater quality.
- ii. for non-residential uses, recharge shall be by stormwater infiltration basins or similar systems covered with natural vegetation.
- iii. drywells may be allowed as an alternative provided that the volume to be recharged is pretreated by means of open swales, detention areas or other similar filtration devices acceptable to the SPGA.

- iv. for all non-residential uses, all such basins and wells shall be preceded by oil, grease and sediment traps to facilitate removal of contamination.
- v. any and all recharge areas shall be permanently maintained in full working order by the owner of the lots on which they are located.

15.50 PROCEDURES FOR ISSUANCE OF SPECIAL PERMIT

15.51 The Special Permit Granting Authority (SPGA) under this by-law shall be the Planning Board. The SPGA shall hold a hearing, in conformity with the provision of M.G.L., Chapter 40A, Section 9.

15.52 The applicant shall file six (6) copies of a site plan and attachments. The site plan and its attachments shall be prepared in accordance with the rules and regulations adopted by the SPGA and shall at a minimum include the following information where pertinent:

- i. a complete list of chemicals, pesticides, herbicides, fertilizers, fuels, and other potentially hazardous materials to be used or stored on the premises in quantities greater than those reasonably associated with normal household use;
- ii. for those activities using or storing such hazardous materials, a hazardous materials management plan shall be prepared and filed with the Hazardous Materials Coordinator, Fire Chief, and Board of Health. The plan shall include:
 - a. provisions to protect against the discharge of hazardous materials or wastes to the environment due to spillage, accidental damage, corrosion, leakage, or vandalism, including spill containment and cleanup procedures;
 - b. provisions for indoor, secured storage of hazardous materials and wastes with impervious floor surfaces;
 - c. evidence of compliance with the Regulations of the Massachusetts Hazardous Waste Management Act 310 C.M.R., including obtaining an E.P.A. identification number from the Massachusetts Department of Environmental Protection;
- iii. subsurface excavations or test borings shall be performed so as to demonstrate maximum seasonal high water elevations and direction of groundwater flow. The SPGA may require, as a condition of any approval, that the owner install and maintain wells for the purposes of monitoring groundwater quality;

- 15.53 Upon receipt of the special permit application, the SPGA shall transmit one copy to the Board of Health, the Conservation Commission and the Water and Sewer Commission for their written recommendations. Failure of any one of said agencies to respond in writing within thirty-five (35) days of receiving a copy of the application shall be deemed a positive recommendation by that agency. The SPGA shall not act upon an application within said 35 day period.
- 15.54 The Special Permit shall be granted if the SPGA determines, in consideration of written recommendations offered by the Board of Health, the Conservation Commission, the Water and Sewer Commission and other agencies designated by the SPGA, that the intent of this by-law as well as any regulations or guidelines adopted by the SPGA are met. The SPGA shall not grant a Special Permit under this section unless the petitioner's application includes sufficiently detailed, definite, and credible information to support positive findings in relation to standards given in this section. The SPGA shall document the basis for any departures from the recommendations of the other Town Boards or agencies in its decision.