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Municipality: Town of Hatfield
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Title: Proposed Hatfield Zoning Amendment –
Water Supply Protection District
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Abstract

This zoning amendment delineates the boundaries of the Water Supply Protection District and specifies what uses are prohibited or restricted inside of the district, such as the prohibition of a certain percentage of impervious surface. The requirements for obtaining special permits, which may only be granted provided that no adverse effect on water quality or quantity occurs, are also described.

Resource

Dated: 1-16-02

Section 3.7

Water Supply Protection District

A. Purpose of District

To promote the health, safety and welfare of the community by protecting and preserving the surface and groundwater resources of the Town and the region from any use of land or buildings which may reduce the quality of its water resources.

B. Definitions

1. Aquifer: Geologic formation composed of rock or sand and gravel that contains significant amounts of potentially recoverable potable water.
2. Groundwater: All water found beneath the surface of the ground.
3. Primary Aquifer Recharge Area: Areas which are underlain by sands and gravels (surficial geologic deposits including glaciofluvial or lacustrine stratified drift deposits, alluvium or swamp deposits) and in which the prevailing direction of groundwater flow is toward the area of influence of public water supply wells. Hatfield wells (Omasta and Running Gutter Brook) draw from a confined or artesian

aquifer, (overlain by a clay layer) and contact areas between the upper and lower aquifers, and between the lower aquifer and bedrock.

4. Watershed: Lands lying adjacent to water courses and surface water bodies which create the catchment or drainage areas of such water courses and bodies.

5. Secondary Recharge Area: Areas where surface run-off flows towards the Primary Recharge Area and contributes water to a public well.

6. Leachable Wastes: Waste materials including solid wastes, sludge and pesticide and fertilizer wastes capable of releasing water-borne contaminants to the environment.

7. Impervious Surfaces: Materials or structures on or above the ground that do not allow precipitation to infiltrate the underlying soil.

8. Trucking Terminal: Business which services or repairs commercial trucks which are not owned by the business.

9. Hazardous Waste: A waste which is hazardous to human health or the environment. Hazardous wastes have been designated by the U.S. Environmental Protection Agency under 40 CFR 250 and the Regulations of the Massachusetts Hazardous Waste Management Act, Massachusetts General Laws, Chapter 21C.

10. Zone A: the land area between the surface water source and the upper boundary of the bank, the land area within a 400 foot lateral distance from the upper boundary of the bank of a Class A surface water source, and the land area within a 200 foot lateral distance from the upper boundary of the bank of a tributary or associated surface water body.

11. Zone II: The area of an aquifer that contributes water to a well. The boundaries are determined by a hydrogeologic study.

C. Scope of Authority

The Water Supply Protection District is an overlay district and shall be superimposed on the other districts established by this bylaw. All regulations of the Town of Hatfield Zoning Bylaw applicable to such underlying districts shall remain in effect, except that where the Water Supply Protection District imposes additional regulations, such regulations shall prevail.

D. District Delineation

1. The Water Supply Protection District is herein established to include all lands within the Town of Hatfield lying within the primary and secondary recharge areas of groundwater aquifers and the watershed areas of the Town (Running Gutter Brook) Reservoir and the Mountain Street Reservoir, which now or may in the future

provide public water supply. The map entitled "Hatfield Water Supply Protection District", Town of Hatfield, on file with Town Clerk, delineates the boundaries of the district.

2. Where the bounds delineated are in doubt or in dispute, the burden of proof shall be upon the owner(s) of the land in question to show where they should properly be located. At the request of the owner(s), the Town may engage a professional hydrogeologist to determine more accurately the location and extent of an aquifer or primary recharge area, and may charge the owner(s) for all or part of the cost of the investigation.

E. Prohibited Uses

The following uses are prohibited within the entire Water Supply Protection District unless otherwise noted.

1. Business and industrial uses, not agricultural, which manufacture, use, process, store, or dispose of hazardous materials or wastes subject to MGL 21C and 310 CMR 30.000 as amended as a principal activity, including but not limited to metal plating, chemical manufacturing, wood preserving, furniture stripping, dry cleaning, and auto body repair, or which involve on-site disposal of process waste waters, except for the following:

- (a) very small quantity generators of hazardous waste, as defined by 310 CMR 30.00 as amended;
- ~~(b) household hazardous waste collection centers or events operated pursuant to 310 CMR 30.390 as amended;~~
- (c) ~~waste oil retention facilities required by M.G.L. C.21, §52A, and;~~
- (d) treatment works approved by the Massachusetts Department of Environmental Protection designed in accordance with 314 CMR 5.00 for the treatment of contaminated ground or surface waters.

2. Trucking terminals, bus terminals, car washes, commercial outdoor washing of vehicles, motor vehicle gasoline sales, automotive service and repair shops.

3. Solid waste landfills, landfills receiving only wastewater residuals and/or septage, dumps, auto recycling, auto graveyards, junk and salvage yards.

4. All underground storage tanks.

5. Outdoor storage of salt, de-icing materials, fertilizers, pesticides, or herbicides

6. Dumping or disposal on the ground, in water bodies, in residential septic systems or in other drainage systems of any toxic chemical, including but not limited to septic system cleaners which contain toxic chemicals such as methylene chloride and 1-1-1 trichlorethane, and other household hazardous wastes. (See list of prohibited chemicals at the Board of Health or Town Clerk's office).

7. commercial fuel oil storage and sales;

8. petroleum, fuel oil and heating oil bulk stations and terminals, including, but not limited to, those listed under Standard Industrial Classification (SIC) Codes 5171 and 5983. SIC Codes are established by the U.S. Office of Management and Budget and may be determined by referring to the publication, Standard Industrial Classification Manual and any subsequent amendments thereto;
9. storage of sludge and septage, as defined in 310 CMR 32.05, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31;
10. treatment or disposal works subject to 314 CMR 5.00 for wastewater other than sanitary sewage. This prohibition includes, but is not limited to, treatment or disposal works related to activities under the Standard Industrial Classification (SIC) Codes set forth in 310 CMR 15.004(6) (Title 5), 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 and operated in compliance with 314 CMR 5.05(3) or 5.05 (13); and
 - (c) publicly owned treatment works, or POTWs.
11. Within the Zone A and Zone II of the Water Supply Protection District, stockpiling and disposal of snow or ice removed from highways and streets located outside of the Zone A or Zone II that contains sodium chloride, calcium chloride, chemically treated abrasives or other chemicals used for snow and ice removal.
12. Treatment or disposal works subject to 314 CMR 3.00 and 5.00 within the Zone A and Zone II of the Water Supply Protection District, except the following:
 - (a) The replacement or repair of an existing treatment or disposal works that will not result in a design capacity greater than the design capacity of the existing treatment or disposal works;
 - (b) Treatment or disposal works for sanitary sewage if necessary to treat existing sanitary sewage discharges in non-compliance with Title 5, 310 CMR 15.00, provided the facility owner demonstrates to the Massachusetts Department of Environmental Protection's satisfaction that there are no feasible siting locations outside of the Zone A. Any such facility shall be permitted in accordance with 314 CMR 5.00 and shall be required to disinfect the effluent. The Department of Environmental Protection may also require the facility to provide a higher level of treatment prior to discharge.
 - (c) Treatment works approved by the Massachusetts Department of Environmental Protection designed for the treatment of contaminated ground or surface waters and operated in compliance with 314 CMR 5.05(3) or 5.05(13).
 - (d) Discharge by public water system of water incidental to water treatment processes.

13. In the Zone A of the Water Supply Protection District, facilities, that through their acts or processes, generate, treat, store or dispose of hazardous wastes that are subject to M.G.L. c. 21C and 310 CMR 30.000, except for the following:
 - (a) very small quantity generators of hazardous waste, as defined by 310 CMR 30.00 as amended;
 - (b) treatment works approved by the Massachusetts Department of Environmental Protection designed in accordance with 314 CMR 5.00 for the treatment of contaminated ground or surface waters;
14. cemeteries (human and animal) and mausoleums within the Zone A and Zone II of the Water Supply Protection District;
15. solid waste combustion facilities or handling facilities as defined at 310 CMR 16.00 within the Zone A and Zone II of the Water Supply Protection District;
16. Sand and gravel operations within the Zone A and Zone II of the Water Supply Protection District.
17. In the Zone A of the Water Supply Protection District, the rendering impervious of more than 15% of any lot, or more than 20% with artificial recharge or 2,500 square feet of any lot, whichever is greater.
18. No stabling, hitching, standing, feeding or grazing of livestock or other domestic animals shall be located, constructed, or maintained within 100 feet of the bank of a surface water source or tributary thereto.

F. Restricted Uses

1. Outside of Zone A and Zone II, excavation for removal of earth, sand, gravel and other soils is permitted, but shall not extend closer than five (5) feet above the historic high ground- water table (as determined from monitoring wells and historical water table fluctuation data prepared by the United States Geological Survey). A monitoring well shall be installed by the property owner to verify groundwater elevations. This section shall not apply to excavations incidental to permitted uses, including but not limited to providing for the installation or maintenance of structural foundations, freshwater ponds, utility conduits or on-site sewage disposal or wetland restoration work conducted in accordance with a valid Order of Conditions issued pursuant to M.G.L. c. 131 § 40..
 - a. Access road(s) to extractive operation sites shall include a gate or other secure mechanism to restrict public access to the site.
 - b. Upon completion of earth removal operations, all altered areas shall be restored with topsoil and vegetative plantings. All fine materials, such as clays and silts, removed as part of the earth removal operation and leftover as by-products, shall be disposed of off-site to prevent damage to aquifer recharge characteristics.

2. Sodium chloride for ice control shall be used at the minimum salt to sand ratio which is consistent with the public highway safety requirements, and its use shall be eliminated on roads which may be closed to the public in winter.
3. Storage of sodium chloride, chemically treated abrasives, sanding materials or other chemicals used for the removal of ice and snow on roads, shall be within a structure designed to prevent the generation and escape of contaminated runoff or leachate.
4. Fertilizers, pesticides, herbicides, lawn care chemicals or other leachable materials shall be used with manufacturer's label instructions and all other necessary precautions to minimize adverse impacts on surface and groundwater. The storage of commercial fertilizers and soil conditioners shall be within structures designed to prevent the generation and escape of contaminated run-off or leachate. All new permanent animal manure storage areas shall be covered and/or contained in accordance with the specifications of the Natural Resource Conservation Service to prevent the generation and escape of contaminated run-off or leachate.
5. Above-ground storage of liquid hazardous material as defined in M.G.L.c.21E, or liquid propane or liquid petroleum products, except for the following:
 - (a) The storage is incidental to:
 1. normal household use, outdoor maintenance, or the heating of a structure;
 2. use of emergency generators;
 3. a response action conducted or performed in accordance with M.G.L.c.21E and 310 CMR 40.000 and which is exempt from a groundwater discharge permit pursuant to 314 CMR 5.05(14); and
 - (b) The storage is within container(s) or above-ground tank(s) within a building, or outdoors in covered container(s) or above-ground tank(s) in an area that has a containment system designed and operated to hold either 10% of the total possible storage capacity of all containers, or 110% of the largest container's storage capacity, whichever is greater. However, these storage requirements do not apply to the replacement of existing tanks or systems for the keeping, dispensing or storing of gasoline provided the replacement is performed in accordance with applicable state and local requirements;
6. On-site sewage disposal systems shall not be installed in areas where soil percolation rates are faster than two minutes per inch without additional measures imposed by the Board of Health. (See Board of Health Regulations). All on-site subsurface sewage disposal systems, as defined in 310 CMR 15.000 (Title 5), shall be in compliance with the requirements of 310 CMR 15.000.

G. Drainage

1. For commercial and industrial uses, to the extent feasible, run-off from impervious surfaces shall be recharged on the site by being diverted toward areas covered with vegetation for surface infiltration. Dry wells shall be preceded by oil, grease, and sediment traps to facilitate removal of contamination. All recharge areas shall be permanently maintained in full working order by the owner(s).

H. Special Permit Uses

1. Uses Allowed by Special Permit

The following uses may be allowed by Special Permit obtained from the Planning Board:

- a. Commercial and industrial uses which are allowed in the underlying district;
- b. Any enlargement, intensification or alteration of an existing commercial or industrial use;
- c. The rendering impervious of greater than 15% of any lot or 2,500 square feet whichever is greater, provided that the project is not located within the Zone A and a system for artificial recharge of precipitation is developed. The management of stormwater and any artificial recharge systems developed shall be designed so as not to result in the degradation of groundwater.
 - (i) For commercial uses, a stormwater management plan shall be developed which provides for the artificial recharge of precipitation to groundwater, such that post-development recharge is equivalent to pre-existing conditions to the maximum extent practicable. Recharge shall be attained through site design that incorporates natural drainage patterns and vegetation, and through the use of stormwater infiltration basin, infiltration trenches, porous pavement or similar systems. All infiltration practices shall be preceded by oil, grease, and sediment traps or other best management practices to facilitate removal of contamination.
 - (ii) For residential uses, recharge shall be attained through site design that incorporates natural drainage patterns and vegetation. To the maximum extent practicable, stormwater runoff from rooftops, driveways, roadways and other impervious surfaces shall be routed through areas of natural vegetation and/or devices such as infiltration basins, infiltration trenches or similar systems.

Infiltration practices shall be utilized to reduce runoff volume increases to the maximum extent practicable as determined in accordance with infiltration standards and specifications established by the Soil Conservation Service. A combination of successive practices may be used to achieve the desired control requirements. Justification shall be provided by the person developing land for rejecting each practice based on site conditions. Any and all recharge areas shall

be permanently maintained in full working order by the owner. Provisions for maintenance shall be described in the stormwater management plan.

2. Requirements for Special Permit in the Water Supply Protection District

The applicant shall file seven (7) copies of a site plan prepared by a qualified professional with the Planning Board. The Planning Board shall forward one copy of the complete application to the Water Department for review and comment. The site plan shall at a minimum include the following information where pertinent.

a. A complete list of chemicals, pesticides, fuels and other potentially hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use.

b. Those businesses using or storing such hazardous materials shall file a hazardous materials management plan with the Planning Board, Hazardous Materials Coordinator, Fire Chief, Water Department and Board of Health which shall include:

(1) 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 clean-up procedures.

(2) Provisions for indoor, secured storage of hazardous materials and wastes with impervious floor surfaces.

(3) Evidence of compliance with the Regulations of the Massachusetts Hazardous Waste Management Act 310 CMR 30, including obtaining an EPA identification number from the Mass. Department of Environmental Protection.

c. Drainage recharge features and provisions to prevent loss of recharge.

d. Provisions to control soil erosion and sedimentation, soil compaction, and to prevent seepage from sewer pipes.

3. Additional Procedures for Special Permit in the Water Supply District

a. The Planning Board shall follow all special permit procedures contained in Section 5.1.

b. The Planning Board may grant the required special permit only upon finding that the proposed use meets the following standards and those specified in Section 5.1 of this bylaw. The proposed must:

(1) in no way, during the construction or thereafter, adversely effect the existing or potential quality or quantity of water that is available in the Water Supply Protection District, and;

(2) be designed to avoid substantial disturbance of the soils, topography, drainage, vegetation and other water-related natural characteristics of the site to be developed.

c. The Planning Board shall not grant a special permit under this section unless the petitioner's application materials include, in the Board's opinion, sufficiently detailed, definite and credible information to support positive findings in relations to the standards given in this section.

I. Non-conforming Use

Non-conforming uses which were lawfully existing, begun or in receipt of a building or special permit prior to the first publication of notice of public hearing for this bylaw may be continued. Such non-conforming uses may be extended or altered, as specified in M.G.L. Ch. 40a, Sec. 6, provided that there is a finding by the Planning Board that such change does not increase the danger of surface or groundwater pollution from such use.