

Proposed Amendments to Chapter 175 Zoning Relative to the Aquifer Protection Overlay District

Proposed additions to the May 10, 2004 Ordinance are underlined;
Proposed deletions are ~~struck through~~.

1. Amend Section 175-7. Definitions by adding the following definitions in proper alphabetical order in Sub-section A:

HYDROGEOLOGIST, QUALIFIED – Any person certified in New Hampshire as a Licensed Professional Geologist pursuant to NHRSA 310-A:125. The Planning Board, at its discretion, may accept as a Qualified Hydrogeologist any person possessing similar credentials from any other state.

SEASONAL HIGH WATER TABLE - The highest level of the groundwater table during the wettest season of the year, usually in the spring.

TREATED SOILS: soils decontaminated by a treatment process and certified for distribution and use as soil under NH Env-Wm 3203.11, having originally been contaminated with liquids or materials not regulated by the State of New Hampshire as hazardous waste defined under NH Env-Wm 2603.01.

2. Amend Section 175-7. Definitions by revising the following definitions in Sub-section A. to read as shown:

AQUIFER PROTECTION DISTRICT – The recharge area of designated aquifers. The "Aquifer Protection District" is shown on an overlay to the Official Zoning Map of the ~~town~~ Town and is described in detail in Section 175-85 of this Ordinance.

LEACHABLE WASTES – Waste materials, including but not limited to solid wastes, sewage sludge and agricultural wastes, that are capable of ~~releasing contaminants to the surrounding environment~~ leaching contaminants to groundwater or surface water sources.

TOXIC OR HAZARDOUS MATERIAL – Any substance or mixture of such physical, chemical or infectious characteristics as to pose a significant actual or potential hazard to water supplies or other hazard to human health ~~if such substance or mixture were discharged to land or waters of this town.~~ "Toxic or hazardous materials" include, ~~without limitation~~ but are not limited to: _____; volatile organic chemicals _____; petroleum products; _____; heavy metals _____; radioactive materials; ~~or infectious materials or wastes~~; acids _____; and alkalis _____; ~~and include, without limitation,~~ _____ products such as pesticides, herbicides, solvents and thinners; and or such other substances as defined in New Hampshire ~~Water Supply and Pollution Control~~ Department of Environmental Services Rules Section ~~WS 410.04(1)~~ Env-Wm-400, in New Hampshire Solid Waste Rule ~~He-P 1901.03 (v)~~ Env-

1 Wm 100 and in the Code of Federal Regulations 40 CFR 261, as amended. The more-
2 restrictive rules shall apply in all cases. ~~Wastes such as, but not limited to, toxic or~~
3 ~~poisonous types, flammable or reactive solvents, oils or corrosive oils generated by the~~

4 The following commercial activities are presumed to be use toxic or hazardous materials
5 and/or to generate wastes containing toxic or hazardous materials, unless and except to
6 the extent that anyone engaging in such an activity can demonstrate the contrary to the
7 satisfaction of the Planning Board. In all cases the burden of proof shall rest with the
8 applicant:

9 A. Airplane, boat and motor vehicle service and repair, including gasoline
10 stations.

11 B. Chemical and ~~bacteriological~~ biological laboratory operations.

12 C. Dry cleaning.

13 D. Electronic circuit manufacturing.

14 E. Metal plating, finishing and polishing.

15 F. Motor and machinery service and assembly.

16 G. Painting, wood preserving and furniture stripping.

17 H. Pesticide and herbicide application.

18 I. Photographic processing.

19 J. Printing.

20 K. Any other commercial or industrial activity which, in the judgment of the
21 Planning Board, typically uses toxic or hazardous materials or produces
22 wastes containing toxic or hazardous materials.

23 L. Storage and/or distribution of chemicals or any other hazardous materials used
24 in any of the above activities.

25
26 **3. Amend Article XIV Aquifer Protection Overlay District as follows:**

27
28 **ARTICLE XVI**

29 **AQUIFER PROTECTION OVERLAY DISTRICT**

30
31 **175-84. Authority and Purpose.**

32 Pursuant to RSA 674:16-21, the Town of Durham adopts an Aquifer Protection Overlay
33 District and accompanying regulations in order to protect, preserve and maintain existing and
34 potential groundwater supplies and related groundwater recharge areas within the town. The
35 objectives of the Aquifer Protection Overlay District are:

36 A. To protect the public health and general welfare of the citizens of Durham.

37 B. To prevent development and land use practices that ~~would~~ could potentially contaminate
38 or reduce the rate of recharge of ~~the~~ identified aquifers.

- 1 C. To provide for future growth and development of the town, in accordance with the Master
2 Plan, by ensuring the future availability of safe public and private water supplies.
- 3 D. To ~~encourage~~ permit uses that can appropriately and safely be located in the aquifer
4 recharge areas.

5 **175-85. District Boundaries.**

6 **A. Location.**

- 7 1. The Aquifer Protection Overlay District is defined as the area shown on the map
8 entitled "Aquifer Protection District" and is hereby adopted as part of the Official
9 Zoning Map of the Town of Durham. The Aquifer Protection Overlay District includes
10 the area delineated by the 1988-89 United States Geological Survey aquifer delineation
11 studies, as amended or updated, ~~or~~ and other site-specific engineering studies.
- 12 2. The Aquifer Protection Overlay District is a zoning overlay district which imposes
13 additional requirements and restrictions to those of the underlying district. In all cases,
14 the more restrictive requirements shall apply.

15 **B. Appeals.**

- 16 1. When the actual boundary of the Aquifer Protection Overlay District is in dispute by
17 any landowner or abutter actually affected by said boundary or the location of the
18 boundary is challenged by an applicant, an abutter, a landowner, the Code Enforcement
19 Officer, the Conservation Commission, or the Planning Board, petition shall be made,
20 in writing, by the challenger to the Zoning Administrator. ~~;~~ The Zoning Administrator
21 Planning Board, at the landowner's/abutter's expense and request, may shall engage a
22 professional geological or hydrologist Qualified Hydrogeologist to prepare a report
23 addressing the location and extent of the aquifer and recharge area relative to the
24 property in question, and the location of the overlay district boundary. The cost for the
25 review shall be born by the challenger unless the Planning Board determines that the
26 review is in the general public interest and the cost should therefore be born by the
27 Town. Any appeals must address a minimum of five (5) acres or an entire lot,
28 whichever is lesser in area. This report shall include but not be limited to the
29 following:
- 30 a. A two-foot-interval topographic layout prepared by a registered land surveyor of
31 the ~~subdivision and/or area to be developed~~ property(s) in question.
- 32 b. A high-intensity soils map of the ~~subdivision and/or area to be developed~~
33 property(s) in question prepared by a Certified Soil Scientist qualified in
34 hydrologic studies, including a written report of ~~his/her~~ the scientist's on-site field
35 inspection and test boring data, for all test borings and test pits taken. The
36 professional seal of the Certified Soil Scientist shall be affixed to all maps and
37 reports submitted.
- 38 c. The Aquifer Protection Overlay District boundary shall be overlaid on the plat,
39 and the newly proposed boundary location shall be indicated on the same plat by a
40 broken line.
- 41 d. Evidence derived from a pumping test(s) ~~or~~ and a sufficient number of test
42 borings, test pits, observation wells and groundwater elevations to clearly
43 demonstrate that the area in question does not meet the definition of an "Aquifer"
44 or "Aquifer Recharge Area" as defined under Article II of this ordinance. All
45 evidence must be gathered in accordance with Section 175-87.

- 1 e. Any additional mapping, hydrogeologic reports or information which becomes
2 available as a result of recent or ongoing scientific investigation(s) of the locations
3 and extent of aquifers performed by this United States Geological Survey, New
4 Hampshire State agencies or boards, the Town of Durham or agents of any of the
5 above.
- 6 2. The Planning Board may, based upon any findings or reports submitted under this
7 section, recommend to the Town Council of the Town of Durham adjust that the
8 boundary or area designation of the Aquifer Protection Overlay District be adjusted
9 to more correctly define the aquifer(s) and recharge area(s) on a site-specific, case-by-
10 case basis. In all cases the burden of proof shall rest with the applicant or property
11 owner.

12 **175-86. Use Regulations.**

- 13 A. **Minimum lot size.** The minimum lot size shall be governed by the dimensional controls
14 outlined in the applicable zoning district.
- 15 B. **Maximum lot coverage.** Within the Aquifer Protection Overlay District, no more than
16 twenty-five percent (~~25-20~~%) of a lot used for residential or commercial purposes shall be
17 rendered impervious to groundwater infiltration.
- 18 C. **Site drainage.** All runoff from impervious surfaces, except roof and exterior foundation
19 drains, shall be directed into an underground storm sewer system and directed to a
20 detention/holding pond outside of the aquifer and aquifer recharge area. ~~This includes roof~~
21 ~~and foundation drains, if present. The design and the construction of~~ Any detention or
22 holding pond must be located down the potentiometric gradient from any existing or
23 potential Town well(s) and in the location where anticipated pumping will not so reverse
24 the gradient that infiltrating water from the basin is drawn back into the well(s). flow of
25 the path of the water flowing in the aquifer, and the design The design and the
26 construction of any detention or holding pond must be approved by the Public Works
27 Department and approved by the Town Council the Planning Board.
- 28 D. **Use of deicing chemicals.** There shall be minimal use of road salt or other deicing
29 chemicals on all public and private roads and parking lots within the district. ~~The use of~~
30 ~~These chemicals shall be free of sodium and chloride to the greatest extent possible.~~
- 31 E. **Prohibited uses.** The following uses shall not be permitted in the Aquifer Protection
32 Overlay District ~~and the secondary recharge area~~, except where permitted to continue as a
33 nonconforming use as allowed by 175-86.G.:
- 34 1. Disposal of all solid waste either by stockpiling, landfilling or through injection wells
35 that disposes waste into the ground.
 - 36 2. All on-site handling, disposal, storage, processing or recycling of toxic or hazardous
37 ~~toxic~~ materials.
 - 38 3. Disposal of liquid or leachable wastes from all residential, commercial or industrial
39 systems.
 - 40 4. Subsurface storage of petroleum and other refined petroleum products, ~~except as~~
41 ~~regulated by the New Hampshire Water Supply and Pollution Control Commission~~
42 ~~(WS 411, Control of Nonresidential Underground Storage and Handling of Oil and~~
43 ~~Petroleum Liquids). The placement of residential tanks underground for the storage of~~
44 ~~petroleum and other refined petroleum products shall not be allowed unless in~~
45 ~~conformance with New Hampshire State guidelines applicable to commercial uses.~~

- 1 5. All industrial uses.
- 2 6. ~~Outdoor unenclosed or uncovered~~ Storage of road salt and other deicing chemicals.
- 3 7. Dumping of snow containing deicing chemicals brought from outside of the Aquifer
- 4 Protection Overlay District.
- 5 8. Commercial animal feedlots where animals are kept.
- 6 9. Automotive service and repair shops, and junk- and salvage yards.
- 7 ~~10. Injection wells that dispose of waste in the ground.~~
- 8 ~~11.10.~~ Mining of land, unless it is incidental to a permitted use; sand and gravel
- 9 excavation and other mining that is permitted, provided that such excavation or mining
- 10 is not carried out within eight (8) vertical feet of the seasonal high-water table and that
- 11 periodic inspections are made by the planning staff or its agent to determine
- 12 compliance.
- 13 11. Dumping, spreading or any other application or use of treated soils or sludge from a
- 14 sewage treatment plant.

15 F. **Permitted uses.** The following uses are permitted, provided that they are conducted in

16 accordance with the purposes and intent of this Article:

- 17 1. All uses permitted in the underlying zoning district, regulated as Conditional Uses
- 18 pursuant to Article VII. There must also be an approved hookup to the town's ~~water~~
- 19 ~~and sewer system s~~ and the installation of an underground storm sewer system in
- 20 accordance with Subsection C above.
- 21 2. Maintenance and repair of any existing structure in conformance with the regulations
- 22 of this Article.
- 23 ~~3. The expansion of a nonconforming use as long as it complies with the nonconforming~~
- 24 ~~use section of this chapter.~~
- 25 ~~43.~~ Farming, gardening, nursery, forestry, harvesting, grazing and recreational uses,
- 26 provided that fertilizers, pesticides and other management practices are deemed safe by
- 27 the Strafford County Conservation District. These uses of land in the Aquifer
- 28 Protection Overlay District ~~and the secondary recharge area~~ must not cause
- 29 groundwater contamination that is deemed harmful to the aquifer, as determined by the
- 30 Town of Durham and its consultants.

31 G. **Nonconforming uses.** Any nonconforming use may continue and may be maintained, and

32 repaired ~~and improved~~, unless such use is determined to be a ~~n imminent-potential hazard~~

33 to water quality within the underlying aquifer, public health and safety by the Town

34 Council or the Health Officer.

35 **175-87. Hydrogeologic Study.**

36 Within the Aquifer Protection Overlay District, a hydrogeologic study shall be required for

37 any proposal for a conservation subdivision or for any developments that requires site plan

38 review involving the subdivision of ten (10) lots or greater and for all appeals of the District

39 boundaries pursuant to Section 175-85.B.

40 A. **Standards.** Hydrogeologic studies shall be performed by a Qualified Hydrogeologist.

41 These studies shall be sufficiently detailed to evaluate the development's impacts to

42 groundwater within the parcel to be developed and the surrounding land. All

43 hydrogeologic studies shall include at least the following:

- 1 1. An adequate number of subsurface borings in order to determine the site geology and
2 stratigraphy. Boring requirements are as follows:
 - 3 a. For sites up to thirty (30) acres, the parcel shall contain a minimum of one (1)
4 boring per three (3) acres, with a minimum of three (3) borings for a site. For sites
5 greater than thirty (30) acres, additional borings of at least one (1) per ten (10)
6 acres are required.
 - 7 b. At least twenty (20) percent of the borings shall be sampled utilizing the split-
8 spoon sampling technique.
 - 9 c. ~~At least~~ Not less than twenty-five (25) percent of the borings but at least one (1)
10 boring shall be dug to bedrock.
- 11 2. Identification of water table contours and groundwater flow directions, with water
12 table measurements using a series of shallow observation wells screened at the water
13 table. The number of observation wells required shall be the same as the number of
14 borings required.
- 15 3. Water quality sampling and analysis to determine existing conditions, measuring the
16 following parameters: nitrate-nitrogen (NO₃-N), ammonia-nitrogen (NH₃-N), pH and
17 specific conductance. An analysis of at least the following additional parameters shall
18 be conducted on one strategically selected sample: arsenic, radon, sodium, chloride,
19 iron, manganese, copper, lead, and mercury.
- 20 4. An analysis of cumulative impact nitrogen loading employing a saturation build-out
21 model. The analysis shall include verification that the development will not cause the
22 nitrate-nitrogen (NO₃-N) concentration to exceed five (5) milligrams per liter in the
23 groundwater at the down-gradient property boundary.

24 **175-88. Design and Performance Standards.**

- 25 A. **Nitrate loading.** No development shall cause the nitrate-nitrogen (NO₃-N) concentration
26 to exceed five (5) milligrams per liter in the groundwater beyond the site.
- 27 B. **Safeguards.** Provision shall be made to protect against toxic or hazardous material
28 discharge or loss resulting from corrosion, accidental damage, spillage or vandalism
29 through measures such as spill control provisions in the vicinity of chemical- or fuel-
30 delivery points, secured storage areas for toxic or hazardous materials and indoor storage
31 provisions for ~~corrodable~~ corrodible or dissolvable materials. For operations which allow
32 the evaporation of toxic or hazardous materials into the interior of any structure, a closed
33 vapor recovery system shall be provided for each such structure to prevent discharge of
34 contaminated condensate into the groundwater.
- 35 C. **Location.** Where the premises are partially outside of the Aquifer Protection Overlay
36 District, potential pollution sources such as on-site waste-disposal systems shall be located
37 outside and ~~on the downgrade~~ down gradient of the Aquifer Protection Overlay District
38 zone to the extent feasible.

39 **175-89. Administration.**

40 The provisions of the Aquifer Protection Overlay District shall be administered by Zoning
41 Administrator together with the planning staff and the Durham Town Council. All
42 development proposals shall require a Conditional Use Permit pursuant to Article VII of this
43 ordinance if located in the Aquifer Protection Overlay District ~~and the secondary recharge~~
44 ~~area~~, in accordance with the rules and regulations of this chapter. Such review and approval
45 shall precede the issuance of any building permit by the Town of Durham.