

Topic:	Aquifer Protection; Overlay District
Resource Type:	Regulations
State:	New York
Jurisdiction Type:	Municipal
Municipality:	Town of Dover
Year (adopted, written, etc.):	1999
Community Type - applicable to:	Suburban; Rural
Title:	Town of Dover Aquifer Overlay District Ordinance
Document Last Updated in Database:	March 19, 2017

Abstract

The Town of Dover aquifer overlay district ordinance regulates activities by performance standards. These standards pertain to the use of fertilizers and pesticides, wastewater treatment systems, sediment generation, and the control of other chemicals that have the potential to adversely impact aquifers.

Resource

SECTION 4.4 AQUIFER OVERLAY DISTRICT (AQ)

(See TOWN OF DOVER, N.Y., ZONING art. IV, § 4.4 (1999).)

§ 4.4-1 Findings and Purpose

The [municipality] finds that its water supply is at risk from certain land uses and has therefore determined that special protection of the [municipality's] water supply is necessary to preserve its purity and quality. The aquifer recharge areas lie generally within the [municipality] limits and are concentrated, for the most part, in one valley. The purpose of these regulations is to protect groundwater resources that support both public water supplies and drinking water for private wells.

§ 4.4-2 Effect of District

Within the Aquifer Overlay District (AQ) as described in Section 4.4-3, all of the underlying land use district rules shall remain in effect except as specifically modified by this Section 4.4. In case of a conflict between this Section 4.4 and the underlying use regulations, the more restrictive shall control.

§ 4.4-3 Delineation and Description of the Aquifer Overlay District

The Aquifer Overlay District is divided into two Zones, the "Principal Aquifer Zone" (PAZ) and the "Upland Aquifer Zone" (UAZ), and shall include all land, existing structures, and improvements within the boundaries delineated on the Aquifer Overlay District Map. Because the recharge areas for many public water systems and private wells in the [municipality] overlap, the boundaries of the AQ are defined broadly to ensure maximum protection in applying these regulations.

- A. The PAZ includes the Valley Bottom Aquifer System as defined in Section 4.4-7, all locations within 150 vertical feet of the Wappinger group geologic formation (including mountainside areas on [municipality's] west valley wall, well penetrations, and quarry excavations), and additional existing and future wellhead protection areas surrounding community water systems within the Upland Aquifer Zone.
- B. The UAZ includes all upland portions of the [municipality] where runoff flows toward the PAZ either directly or via stream systems.
- C. Within both the PAZ and the UAZ any wells for identified and declared public water systems shall be protected by a circular wellhead buffer with a 200-foot radius. These areas shall be designated "Wellhead Buffers" and shall be protected as detailed below.

§ 4.4-4 General Provisions for the Aquifer Overlay District

- A. The manufacture, use, storage, or discharge of any products, materials, or by-products subject to these regulations (such as wastewater, solid waste, hazardous materials, or any pollutant) must conform to the requirements of these regulations.
- B. Any person or entity preparing an Environmental Assessment Form or an Environmental Impact Statement per 6 NYCRR Part 617 shall file a copy with the nearest public water system owners (as identified to the applicant by the Secretary of the [Municipality] Planning Board), the [Municipality] Planning Board, and the [Municipality] Conservation Advisory Commission.
- C. Any person who is responsible for a discharge of a hazardous substance, hazardous waste, petroleum product, or radioactive material shall immediately notify the [Municipality] Clerk of such discharge.

§ 4.4-5 Aquifer Overlay District Specific Regulations by Zone

A. Wellhead Buffers

- 1. Wellhead buffers at all public water systems, including community water systems, installed after the effective date of this Section 4.4 shall be protected and controlled through direct ownership of the land or through the acquisition of protective easements or other appropriate measures by the supplier of water in order to prevent contamination. Within wellhead buffers all systems, facilities, and activities are prohibited except for physical pumping and treatment facilities and controls. The wellhead buffer area shall not be used for any purpose other than

public water supply except when a permit has been issued by the appropriate local board for non-intrusive recreation uses such as hunting, fishing, picnicking, nature study, or hiking. The wellhead buffer area shall be posted prohibiting trespass for any purpose except as permitted in this Subsection (A).

2. The development of new water supply sources for public water systems installed and operated after the effective date of this Section 4.4 shall be designed, constructed, and maintained subject to the approval and enforcement authority of the Dutchess County Health Department, New York State Department of Environmental Conservation, and New York State Department of Health so as to eliminate the opportunity for pollution to enter the water sources.
3. The physical pumping facilities and controls for all public water systems shall be protected against damage from tampering by fencing or other enclosures or by their manner of construction and installation.

B. Principal Aquifer and Upland Aquifer Zones

1. Wastewater Treatment Systems

- a. All wastewater treatment systems, including residential septic systems for domestic use, which discharge to groundwater and receive wastewater without the admixture of industrial or other wastes as those terms are defined in 10 NYCRR Part 100 Sub-part 112.5 in quantities of less than 1,000 gallons per day, shall be designed, installed, and maintained in accordance with the standards established in 10 NYCRR Part 75 (Appendix 75A). The operation of these wastewater treatment systems shall also comply with all wastewater disposal standards promulgated by the Dutchess County Health Department where such standards are more stringent than those defined in 10 NYCRR Part 75 (Appendix 75A).
- b. All other wastewater treatment systems – including design, installation, and maintenance – are subject to and must comply with permits issued by the New York State Department of Environmental Conservation (NYS DEC).

2. Point Source Discharges

Point source discharges, other than discharges authorized by permits issued by New York State Department of Environmental Conservation, are prohibited.

3. Animal Waste, Fertilizer, and Pesticides

- a. The storage or stockpiling of manure and other animal waste for use in agricultural operations, agricultural use of fertilizers and land application of manure, and pesticide (including herbicide) storage and use shall comply – to the extent practicable – with the practices detailed in the most current versions of "Controlling Agricultural Non-point Source Water Pollution in New York State-A Guide to the Selection of Best Management Practices to Improve and Protect Water Quality" published by the Bureau of Technical Services and Research, Division of Water, or "Agricultural Management Practices Catalogue

for Non-point Source Pollution Prevention and Water Quality Protection in New York State." These documents are available for public inspection and reference at the office of the [Municipality] Clerk. Assistance in applying these standards is available from the Dutchess County Soil and Water Conservation District and the Natural Resources Conservation Service at the Dutchess County Farm and Home Center.

- b. Open storage of fertilizers is prohibited.
- c. Fertilizers, pesticides, and herbicides shall not be applied in a manner or at a rate which contributes to or causes a contravention of the water quality standards set forth in 6 NYCRR Parts 700-705.
- d. Pesticide storage and use (including herbicides) are subject to the approval of, and shall comply with the regulations of, the New York State Department of Environmental Conservation.
- e. Disposal of pesticides, including herbicides, is prohibited unless authorized by permit issued by the New York State Department of Environmental Conservation.
- f. Disposal of water used for pesticide make-up water or for washing of pesticide equipment is prohibited unless authorized by permit issued by the New York State Department of Environmental Conservation.
- g. Use of streams as sources of water or for the washing of equipment used in conjunction with pesticide or herbicide application is prohibited.
- h. Lawn chemicals (pesticides and herbicides) shall not be applied within 25 linear feet of any watercourse.
- i. Individuals responsible for oversight of the land uses on private lands are encouraged to consult with Dutchess County Soil and Water Conservation District and the Natural Resources Conservation Service for proper selection, implementation, and funding of Best Management Practices referred to in Subsection (3)(a) above.

4. Sediment Generation

- a. Farm tillage practices shall comply to the extent practicable with the most current versions of "Controlling Agricultural Non-point Source Water Pollution in New York State-A Guide to the Selection of Best Management Practices to Improve and Protect Water Quality," published by the Bureau of Technical Services and Research, Division of Water or "Agricultural Management Practices Catalogue for Nonpoint Source Pollution Prevention and Water Quality Protection in New York State, referred to in Subsection (3)(a) above.
- b. Land disturbing activities which may result in deterioration of the quality or quantity of private and public water supply sources – including but not limited to general construction, highway construction, access road construction, and maintenance – are prohibited except where measures have been put in place to manage stormwater runoff during and after construction and to prevent erosion and sediment production.
- c. Practices detailed in the most current edition of "Reducing the Impacts of Stormwater Runoff from New Development," published by the Bureau of Water

Quality Management, Division of Water, shall be followed to the greatest extent practicable.

- d. Site plans submitted to the [Municipality] Planning Board shall clearly describe all land disturbing activities and sediment reduction measures to be implemented during all phases of construction, and the plans for ground disturbance shall be in accordance with Section 65 of the [Municipality] Code and shall be approved by the [Municipality] Engineer before any construction is to begin or permit is issued.
- e. Individuals responsible for oversight of the land uses on private lands should consult with Dutchess County Soil and Water Conservation District and the Natural Resource Conservation Service for proper selection and implementation of Best Management Practices.

5. Petroleum Storage

- a. Aboveground or underground petroleum storage tanks – including design, installation, and maintenance – are subject to the approval of and must comply with the regulations of NYS DEC; and
- b. Abandoned aboveground or underground petroleum storage tanks must comply with the closure requirements of 6 NYCRR Part 613.9.
- c. Any storage tanks installed or replaced after the effective date of this article, where storage capacity is less than 1,100 gallons, must be above ground or fully visible for inspection within a basement or other interior space. Delivery lines must be as short as practicable and in good condition.
- d. Aboveground or underground petroleum storage tanks over 1,100 gallons and subject to NYS DEC regulations must comply with DEC's regulations, including those pertaining to berms, dikes, and other appropriate secondary containment construction to prevent the ingress of stored materials into the ground in the event of a tank leak or discharge.

6. Hazardous Substance Bulk Storage

The storage of hazardous substances in bulk must comply with the regulations set forth in 6 NYCRR Part 596 and permits, orders, and approvals issued pursuant thereto by the New York State Department of Environmental Conservation

7. Stockpiles

- a. Storage of chloride salts is prohibited except in structures designed to minimize contact with precipitation and constructed on low permeability pads designed to control seepage and runoff; and
- b. Storage of coal and/or cinders is prohibited except in structures designed to minimize contact with precipitation and constructed on low permeability pads designed to control seepage and runoff.

8. Chloride Salt Application

Deicing chloride salt use is restricted to the minimum amount needed for public safety as determined by the [Municipality] Highway Superintendent.

9. Construction and Closure of Wells

- a. Oil and gas well construction, use, maintenance, and abandonment are subject to the approval of and must comply with the regulations of the New York State Department of Environmental Conservation; and
- b. Water system and other well construction, maintenance, and abandonment are subject to the approval of and must comply with the regulations of the Dutchess County Health Department and the New York State Department of Health as set forth in standards and procedures contained in Section 5-1.22 of the State Sanitary Code and the New York State Department of Environmental Conservation under 6 NYCCR Part 601.

10. Cemeteries, Veterinary Hospitals and Offices, Funeral Parlors

All cemeteries, veterinary hospitals and offices, and funeral parlors shall be operated to prevent contamination of the public water supply per the New York State Environmental Conservation and Public Health laws.

§ 4.4-6 Inspection and Enforcement

The Code Enforcement Officer, or any persons charged with the maintenance or supervision of public water supply systems by their officers or their duly appointed representatives, shall make regular and thorough inspections of the identified protection zones to ascertain compliance with the rules and regulations set forth in this Section 4.4. It shall be the duty of such officials to cause copies of any rules and regulations violated to be served upon the persons found to be in violation, together with notices of such violations. If such persons served do not immediately comply with the rules and regulations, the Code Enforcement Officer or the [Municipality] Board shall take enforcement action as provided in Enforcement Section 8.4.

§ 4.4-7 Definitions of Terms Used in Aquifer Overlay District Regulations

Agricultural Associated Animal Waste - Manure obtained from agricultural activities.

Aquifer - A consolidated or unconsolidated geologic formation, group of formations, or part of a formation capable of yielding a significant or economically useful amount of groundwater to wells, springs, or infiltration galleries. Aquifer Overlay District: The areas delineated on the Aquifer Overlay District Map.

Aquifer Recharge Areas - Areas that have soils and geological features that are conducive to allowing significant amounts of surface water to percolate into groundwater.

Chloride Salt - Any bulk quantities of chloride compounds and other deicing compounds intended for application to roads, including mixes of sand and chloride compounds in any proportion where the chloride compounds constitute over eight percent of the mixture. A bulk quantity of chloride compounds means a quantity of one thousand pounds or more but does not include any chloride compounds in a solid form – including granules, which are packaged in waterproof bags or containers which do not exceed one hundred pounds each.

Community Water System - A public water system which serves at least five service connections used by year round residents or regularly serves at least 25 year-round residents.

Declared Wellhead - The exact, described location where a public water supply well can be accessed from the ground surface.

Discharge - Any intentional or unintentional action or omission resulting in the releasing, spilling, leaking, pumping, pouring, emitting, emptying, or dumping into the waters of the State or onto lands from which the discharged substances or materials might flow or drain into said waters, or into waters outside the jurisdiction of the State, when damage may result to the lands, waters, or natural resources within the jurisdiction of the State.

Fertilizers - Any commercially produced mixture generally containing phosphorous, nitrogen, and potassium which is applied to the ground to increase nutrients to plants.

Groundwater - Water contained in interconnected pores and fractures located below the water table in an unconfined aquifer or in a confined Aquifer.

Herbicides - Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed and being those substances defined as herbicides pursuant to Environmental Conservation Law Section 33-0101.

Manure - Animal feces and urine.

Non-Agricultural Associated Animal Waste - Manure obtained from non-agricultural industries.

Non-Community Water System - A public water system that is not a community water system.

Non-Point discharge - Discharges of pollutants not subject to State Pollutant Discharge Elimination System (“SPDES”) permit requirements.

Non-Transient Non-Community Water System - A public water system that is not a community water system but is a subset of a non-community water system that regularly serves at least 25 of the same persons, four or more hours per day, for four or more days per week, for 26 or more weeks per year.

Open Storage - The holding of a material in a way that the material is exposed to the elements of nature.

Pest - (1) Any insect, rodent, fungus, weed, or (2) any other form of terrestrial or aquatic plant or animal life or virus, bacteria or other micro-organism (except viruses, bacteria or micro-organisms on or in living man or other living animals) which the Commissioner of Environmental Conservation declares to be a pest as provided by Environmental Conservation Law Section 33-0101.

Pesticide - Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant, and being those substances defined as pesticides pursuant to Environmental Conservation Law Section 33-0101 et seq.

Point Source Discharge - Pollutants discharged from a point source as defined in Environmental Conservation Law Section 17-0105.

Pollutant - Any material or byproduct determined or suspected to be hazardous to human or environmental health. Principal Aquifer Zone: The area delineated as the Principal Aquifer Zone on the Aquifer Overlay District Map. Public Water Supply: The groundwater resources of the [municipality].

Public Water System - A community, non-community, or non-transient non-community water system which provides piped water to the public for human consumption, if such system has at least five service connections or regularly services an average of at least 25 individuals daily at least 60 days out of the year. Such term includes (1) collection, treatment, storage, and distribution facilities under control of the supplier of water or such system and used with such system; and (2) collection or pretreatment storage facilities not under such control which are used with such system.

Recyclable handling and recovery facility: A solid waste management facility, other than pickup and transfer vehicles, at which recyclable are separated from the solid waste stream or at which previously separated recyclable are collected for storage, and off-site shipment.

State Pollutant Discharge Elimination System or "SPDES" - The system established pursuant to Article 17 Title 8 of Environmental Conservation Law for issuance of permits authorizing discharges to the waters of the State of New York.

Storm Water Runoff Recharge Basins - A man-made device capable of retaining surface water runoff to induce groundwater infiltration.

Structure - A static construction of building materials affixed to the ground, such as a building, dam, display stand, gasoline pump, installed mobile home or trailer, reviewing stand, shed, sign, stadium, storage bin, or wall.

Supplier of Water - Any person who owns, operates, or formally takes part in the protection of a public or private water supply.

Upland Aquifer Zone - The area delineated as Upland Aquifer Zone on the Aquifer Overlay District Map.

Valley Bottom Aquifer System (VBAS) - The integrated aquifer system and its immediate recharge areas found in the valley bottom in the [municipality]. The VBAS includes the following:

- All locations where outcrops of the Wappinger group geologic formation are present at grade.
- All locations where the Wappinger group geologic formation is the first bedrock formation found under unconsolidated soil materials.
- All overburden soils (sand, gravel, clay, till, etc.) overlying the Wappinger group geologic formation.
- All locations which do not overlie the Wappinger group geologic formation but where moderately or highly permeable overburden soils ($K > 10^{-5}$ cm/sec), including stratified silt, sand, and/or gravel are hydraulically connected to, and contiguous to, overburden soils overlying the Wappinger group geologic formation.

Further explanation of the VBAS is published in a 1998 water resources report prepared for the [municipality] by The Chazen Companies.

Wappinger Group Geologic Formation - The Cambrian-Ordovician carbonate shelf sequence in the Hudson Valley, equivalent to the Stockbridge formation in Connecticut. The Wappinger group formation includes the Stissing Dolostone, the Pine Plains Formation, the Briarcliff Dolostone, the Halcyon Lake Formation, the Rochdale Limestone, and the Copake Limestone, or equivalent units to these same. As an easy geologic test, any rock formation which, when scraped, will provide bubbles in the presence of muriatic acid (0.1M HCl) is probably a member of the Wappinger group geologic formation.

Wastewater Treatment System - Any treatment plant, sewer, disposal field, lagoon, pumping station, septic system, collection and distribution pipes, on-site disposal systems and seepage units, constructed drainage ditch or surface water intercepting ditch, or other systems not specifically mentioned in this paragraph installed for the purpose of transport, treatment, neutralization, stabilization, storage, or disposal of wastewater.

Wastewater - Aqueous carried waste including, but not limited to, dredge spoil, solid waste, hazardous waste, incinerator ash and residue, seepage, garbage, refuse, sludge, chemical waste, infectious waste, biological material, radioactive materials, and heat as well as industrial, municipal, and agricultural waste.

Watercourse - Every spring, stream, wetland, marsh, water channel, or water body from which water may flow in the [municipality].

Watershed - That land area which contributes water to a specific stream, aquifer, or aquifer recharge area or portions thereof and which includes the Aquifer Overlay District Zones II and III.

Well - Any present or future artificial excavation used as a source of public or private water supply which derives water from the interstices of the rocks or soils which it penetrates including bored wells, drilled wells, driven wells, infiltration galleries, and trenches with perforated piping (but excluding ditches or tunnels) used to convey groundwater to the surface.

Wellhead Buffer Zone - The area within a radius of 200' from any identified or declared well within the Aquifer Overlay District.

Wellhead Protection Zone - A protective zone or region surrounding or near a wellhead through which aquifer recharge enters the subsurface and flows toward a public water system well. For purposes of this document, an area which allows normal infiltration equaling the daily water requirements of the water system may be considered an adequate wellhead protection zone.