

Land Use and Development Code Amendment: Aquifer Protection Overlay District

**Town of Gorham
Planning Board
January 8, 2024**

ITEM 2 - Land Use and Development Code Amendment – Discussion: proposed amendment to the Land Use and Development Code to implement an aquifer protection district consistent with the Town’s Comprehensive Plan.

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AMENDMENT TRACKING

DESCRIPTION	COMMENTS	STATUS
Town Council	Order #23-51	3/2023, 10/2023
TC Ordinance Committee		5/2023, 6/2023, 8/2023, 9/2023
Town Council	Order #23-166	11/2023
Planning Board		12/2023
Planning Board Ordinance Committee		1/2024

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1. OVERVIEW

The Town Council Ordinance Committee (TC OC) has recommended that Gorham adopt an aquifer protection ordinance. The TC OC reviewed the mapped aquifers in the town which show several areas of 10-50 Gallon per Minute (GPM) sand and gravel aquifers and small areas of high yield 50+ GPM sand and gravel aquifers in the South Gorham area. The TC OC worked with Town Staff to draft an aquifer protection ordinance for Gorham using the ordinance adopted by Scarborough, Maine as a model. The Planning Board referred this item to the Planning Board Ordinance Committee at its meeting on December 4, 2023.

The purpose of an aquifer protection ordinance is to protect valuable high yield groundwater resources where public water is not available. The properties that make sand and gravel aquifers valuable, and able to transmit water efficiently, also make them vulnerable to pollution. As with water, pollution can also migrate easily through a sand and gravel aquifer. Types of pollution that pose a threat are spilled petroleum, spilled commercial chemicals, winter maintenance chemicals (i.e., salt), malfunctioning septic systems, improperly handled agricultural products like fertilizer and pesticide, among others.

The proposed draft ordinance addresses several common groundwater pollution sources as follows:

- 1) ***Improperly functioning subsurface wastewater systems:*** Systems must follow updated plumbing codes; systems above capacity thresholds have nitrate criteria.
- 2) ***Leaking or spills of heating oil or similar product:*** Requires double-walled tanks or secondary containment, filter protection installed, outdoor tanks with light colors. Existing unprotected buried fuel line must be replaced prior to issuing permit or at time of property transfer.
- 3) ***Leakage of commercial chemicals or other petroleum products:***
 - a. Floor drains are prohibited where chemical products handled/stored. Other floor drains must be registered. Foundation drains/sump pumps for stormwater or groundwater are exempt.
 - b. Enhanced requirements for containment, storage, and automatic shutoff of fuel and hazardous chemicals for non-residential sites.
 - c. Spill Prevention Control and Countermeasures Plan (SPCCP) must be provided to Code Enforcement for sites with hazardous materials above specified thresholds.
 - d. Commercial vehicles must be parked on impervious surfaces, with exemptions (construction etc.)
 - e. Enhanced requirements for commercial vehicle fueling.
- 4) ***Improper application of agri-chemicals and fertilizers:*** References Best Management Practices established by Dept. of Agriculture and Maine Board of Pesticide Control above thresholds (660 gal of fuel, or 25 lbs. dry weight of hazardous chemicals)
- 5) ***Infiltration of untreated Stormwater runoff:*** Requires State of Maine Chapter 500 standards for projects in the Town's Urbanized Area for MS4 even for projects below Ch. 500 thresholds, Low Impact Development Standards from State of Maine Chapter 10 (see proposed draft ordinance), with annual inspection requirements.
- 6) ***Other provisions:*** Disposal of solid waste except brush and stumps, or storage of amounts of leachable waste greater than that associated with principal use of site.

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Applicability

The Town Council Ordinance Committee determined that the proposed overlay zone should apply to all “Significant sand and gravel aquifers” as identified by the Maine Geological Survey. The geographic area includes both lower yield 10-50 GPM aquifers and high yield 50+ GPM aquifers but does not include areas that have a public water supply.

The overlay zone is to be depicted on the “Official Zoning Map” for the town. The proposed overlay zone is shown in the attached map, *Attachment A*.

2. PROPOSED DRAFT ORDINANCE

CHAPTER 2, SECTION 2-19: AQUIFER PROTECTION OVERLAY DISTRICT

A. PURPOSE

The purpose of the Aquifer Protection Overlay District is to protect the quality of the groundwater in significant sand and gravel aquifers by managing land use activities and development that occurs in the areas located above these deposits. The standards focus on minimizing the potential for contamination of the groundwater from:

- improperly functioning subsurface wastewater disposal systems
- leakage or spillage of heating oil and equivalent products
- leakage or spillage of commercial chemicals and petroleum products
- improper application or use of agricultural chemicals and fertilizers
- the infiltration of “untreated” stormwater runoff from impervious surfaces

B. APPLICABILITY

The requirements of the Aquifer Protection Overlay District apply to all land use and development activities that are located above a “significant sand and gravel aquifer” as identified by the Maine Geological Survey, which do not have provision of a public water supply and are depicted on the “Official Zoning Map.” Where there is uncertainty about the boundary of the Overlay District, the burden of proof shall be on the owner(s) of the land in question to provide the Code Enforcement Officer with information from a qualified professional geologist, geotechnical engineer, or soil scientist as to the location of the aquifer to assist the Code Enforcement Officer in delineating the boundary of the Overlay District.

The requirements and standards of this overlay district apply in addition to and supplement the standards of the underlying zoning district in which the land is located as well as any other applicable standards of the Zoning Ordinance. If there is conflict between these standards and

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requirements and those of other provisions of the Zoning Ordinance or other Town ordinances, the more restrictive provisions apply.

C. PROHIBITED ACTIVITIES

The following uses of land and activities are prohibited within the Aquifer Protection Overlay District even if the use or activity is allowed in the underlying zone:

1. Disposal of solid waste (except brush and stumps), leachable wastes (except subsurface disposal of domestic-like wastewater as defined by the State of Maine), and sludge. This prohibition shall not apply to the land application of sewage sludge in accordance with Best Management Practices, including criteria for perfluorinated organic compounds and/or other hazardous materials content, as established by the Maine Department of Agriculture and/or Department of Environmental Protection.
2. The commercial storage of leachable waste or solid wastes in an amount greater than typically associated with the principal use of the site.

D. REQUIREMENTS APPLICABLE TO RESIDENTIAL AND NONRESIDENTIAL USES AND ACTIVITIES

The following requirements apply to all residential and nonresidential uses and activities within the Aquifer Protection Overlay District.

1. Standards for Subsurface Wastewater Disposal Systems

- a. All new or replacement subsurface wastewater disposal systems for residential and nonresidential uses shall conform to the Town of Gorham Wastewater Ordinance and the Maine Subsurface Wastewater Disposal Rules.
- b. Any property owner or applicant proposing to install a subsurface wastewater disposal system for either a residential or non-residential use that uses one or more septic tanks with a combined capacity of more than one thousand two hundred fifty (1,250) gallons or a system with a design capacity of more than two thousand (2,000) gallons per day must demonstrate that nitrate concentrations in the groundwater will not exceed five (5) mg/L at all property lines of the parcel. No building, plumbing, or other permit, or Planning Board or Code Enforcement Officer approval shall be issued until this requirement is met. The property owner or applicant subject to this requirement shall submit a hydrological analysis demonstrating compliance with this standard as part of any application for a permit or Planning Board approval.

2. Standards for Fuel Tanks and Fuel Supply Lines

- a. Any new or replacement tank for the storage of heating oil, kerosene, or other petroleum-based fuel for use on either a residential or non-residential site must be either a double-walled

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tank or be equipped with secondary containment meeting the Maine Department of Environmental Protection requirements for use in a “wellhead protection zone.”

b. Any new or replacement tank for the storage of heating oil, kerosene, or other petroleum-based fuel for use on either a residential or non-residential site that is located outside of a building or structure must be white or a light color and be equipped with a filter protector designed to protect the filter from damage if the filter is not otherwise protected from possible damage by its design or location in the installation.

c. Any existing unprotected buried fuel line must be replaced by a properly sleeved fuel line in accordance with state requirements prior to 1) the issuance of any plumbing, building, electrical, or other Town permit, or 2) the sale or transfer of the property to another party.

3. Standards for Floor Drains

a. Floor drains are not permitted in any area of a residential or non-residential building or site where chemical or petroleum products are used, handled, or stored.

b. Floor drains in other areas of the building or site must be registered with the State of Maine and a permit obtained if required. Proof of registration must be submitted prior to the issuance of any building or plumbing permit or any approval by the Planning Board or Code Enforcement Officer.

c. This provision does not apply to foundation drains, discharges of groundwater or stormwater from sump pumps, or similar uncontaminated discharges of groundwater or stormwater.

4. Standards for Stormwater Management

a. All new or expanded activity that requires site plan review must provide for the treatment of stormwater generated on the site.

b. This requirement for the treatment of stormwater can be met by one of the following:

1) Obtaining a stormwater permit from the Maine Department of Environmental Protection (DEP) in accordance with the Chapter 500 Stormwater Rules, or

2) If a state stormwater permit is not required, and a site is in the Town’s Urbanized MS4 Area, by submitting a stormwater management plan that either:

a) demonstrates compliance with the “basic standards” of Section 4 of Chapter 500 Stormwater Rules including the infiltration standards of Appendix D, and “the other applicable standards” of Section 5 of Chapter 500, or

b) provides for the treatment of 0.5 inches of stormwater runoff from ninety (90) percent of the impervious surfaces on the site and 0.2 inches of runoff from all disturbed pervious areas of the site using Low Impact Development (LID) practices as set forth

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in Chapter 10 of Volume III of the DEP BMP Technical Design Manual or other practices approved by the Planning Board.

- c. The owner or operator of any property that must provide for treatment of stormwater under a. must also provide for the annual inspection and repair/replacement of all stormwater facilities as provided for in the Gorham Stormwater Ordinance.

E. ADDITIONAL REQUIREMENTS FOR NON-RESIDENTIAL USES

Non-residential uses and activities other than commercial agriculture and commercial animal husbandry must conform to the following requirements. These requirements do not apply to home occupations or other non-residential activities conducted in conjunction with an allowed principal residential use.

1. The use, storage, and handling of chemical and petroleum products in quantities greater than normal household use in conjunction with non-residential use must conform to the following requirements. The storage of not more than six hundred sixty (660) gallons of fuel for heating and/or supply of an emergency generator or not more than twenty-five (25) gallons (or the dry weight equivalent) of other hazardous materials including fuel not for heating or generator supply shall be considered to be normal household use and is not subject to these requirements. Uses and activities in existence at the time of adoption of this provision that do not conform to these requirements may continue but must be brought into conformance with these requirements if:

- i) The entire building is renovated, or
- ii) The building is cumulatively enlarged by more than twenty (20) percent of the floor area or building volume existing as of April 1, 2011, or
 - iii) The amount of impervious surface on the parcel is cumulatively increased by more than twenty (20) percent of the impervious area existing as of April 1, 2011, or
 - iv) The use of property is changed, or
 - v) Facilities for the handling, use, or storage of chemical or petroleum products are modified, upgraded, or expanded. In this case, only the new or modified facilities are required to be brought into conformance unless provisions i, ii, iii, or iv apply.
- a. All chemical and petroleum products must be stored under cover and on an impervious surface without floor drains.
- b. Secondary containment must be provided for liquid chemical and petroleum products with the capacity to contain 110% of the maximum stored volume. Provisions must be made for the removal of precipitation from the containment structure unless the containment area is enclosed within a structure or completely covered by a roof.
- c. Tanks for liquid chemical and petroleum products must be equipped with automatic shutoff valves and high-level alarms.

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- d. Above-ground piping must be designed and located to prevent line breakage due to collisions including protection by bollards or similar devices that reduce the potential for the piping being struck.
- e. Containers and piping must be constructed of corrosion resistant materials.
- f. All containers and tanks for the storage of chemical and petroleum products must be labeled showing the contents.

The owner or operator of a facility that is subject to this section must prepare a Spill Prevention Control and Countermeasures Plan (SPCCP) meeting the requirements of the Maine Department of Environmental Protection and provide both the Code Enforcement Officer and Fire Department with a copy of the Plan. The SPCCP must include information on the procedures the Fire Department can use in the case of a fire to minimize leaching of chemicals to limit groundwater contamination.

2. Commercial vehicles including construction and other heavy equipment that are regularly parked or stored on the site of non-residential use must be parked on an impervious surface. This requirement does not apply to commercial vehicles that are parked in conjunction with allowed residential use or to commercial vehicles or equipment on a site during construction for which a permit or approval has been obtained from the Town.

3. All fueling or servicing of commercial vehicles or equipment on the site of non-residential use must either occur on an impervious surface or with appropriate spill/drip containment including the use of portable drip pans.

F. ADDITIONAL REQUIREMENTS FOR COMMERCIAL AGRICULTURAL OR COMMERCIAL ANIMAL HUSBANDRY USES

1. Any use of manure or agricultural fertilizers in conjunction with commercial agriculture or commercial animal husbandry use must be done in accordance with Best Management Practices established by the Maine Department of Agriculture.

2. The use of agricultural pesticides and herbicides must conform to the rules and regulations of the Maine Board of Pesticide Control.

3. The use, storage, and handling of chemical and petroleum products in quantities greater than normal household use must be done in accordance with Best Management Practices established by the Maine Department of Agriculture and/or Maine Department of Environmental Protection. The storage of not more than six hundred sixty (660) gallons of fuel for heating and/or supply of an emergency generator or not more than twenty-five (25) gallons (or the dry weight equivalent) of other hazardous materials including fuel not for heating or generator supply shall be considered to be normal household use and is not subject to these requirements.